

University of Dundee

## DOCTOR OF PHILOSOPHY

### A qualitative and quantitative analysis of the developing human lumbar vertebral column

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University of Dundee

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## One Way Analysis of Variance

26 January 2019 20:16:47

Data source: BV/TV in L1 Fetal

Normality Test (Shapiro-Wilk): Passed (P = 0.128)

Equal Variance Test (Brown-Forsythe): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:16:47

Data source: BV/TV in L1 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	32.478	31.090	33.865
1C	2	0	32.137	30.637	33.638
1S	2	0	33.432	33.284	33.580
2I	2	0	30.344	28.454	32.234
2C	2	0	28.582	26.783	30.381
2S	2	0	33.195	31.003	35.387
3I	2	0	33.056	31.609	34.502
3C	2	0	32.050	29.155	34.945
3S	2	0	33.868	31.513	36.222
4I	2	0	37.994	36.839	39.150
4C	2	0	34.796	31.207	38.386
4S	2	0	35.647	33.478	37.817
5I	2	0	42.169	41.919	42.419
5C	2	0	34.236	31.863	36.609
5S	2	0	43.743	41.734	45.752
6I	2	0	36.793	34.708	38.878
6C	2	0	36.852	34.193	39.512
6S	2	0	36.228	34.338	38.119
7I	2	0	35.362	32.589	38.135
7C	2	0	34.337	32.958	35.716
7S	2	0	34.466	34.113	34.819
8I	2	0	31.908	26.490	37.327
8C	2	0	33.200	32.463	33.936
8S	2	0	34.674	32.647	36.701
9I	2	0	36.325	33.128	39.523
9C	2	0	33.166	32.881	33.452
9S	2	0	34.884	32.824	36.945

H = 28.675 with 26 degrees of freedom. (P = 0.326)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.326)

## One Way Analysis of Variance

26 January 2019 20:17:39

Data source: SMI in L1 Fetal

Normality Test (Shapiro-Wilk): Passed (P = 0.319)

Equal Variance Test (Brown-Forsythe): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:17:39

Data source: SMI in L1 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	1.236	1.171	1.301
1C	2	0	1.065	0.906	1.223
1S	2	0	1.098	0.874	1.321
2I	2	0	1.201	1.177	1.224
2C	2	0	1.231	1.140	1.322
2S	2	0	1.208	1.175	1.242
3I	2	0	1.056	0.642	1.469
3C	2	0	1.033	0.921	1.145
3S	2	0	0.886	0.851	0.921
4I	2	0	0.960	0.842	1.078
4C	2	0	1.002	0.883	1.121
4S	2	0	1.050	0.959	1.141
5I	2	0	0.399	0.282	0.516
5C	2	0	0.160	-0.227	0.547
5S	2	0	0.354	0.203	0.505
6I	2	0	1.008	0.994	1.022
6C	2	0	0.852	0.775	0.929
6S	2	0	0.939	0.837	1.040
7I	2	0	1.091	0.961	1.221
7C	2	0	1.123	0.931	1.315
7S	2	0	1.126	1.096	1.156
8I	2	0	1.172	1.123	1.221
8C	2	0	-0.0788	-0.329	0.171
8S	2	0	0.649	0.550	0.748
9I	2	0	0.894	0.792	0.996
9C	2	0	1.105	1.067	1.143
9S	2	0	1.183	1.133	1.234

H = 37.846 with 26 degrees of freedom. (P = 0.063)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.063)

## One Way Analysis of Variance

26 January 2019 20:18:03

**Data source:** Tb.Th in L1 Fetal

**Normality Test (Shapiro-Wilk):** Passed (P = 0.063)

**Equal Variance Test (Brown-Forsythe):** Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:18:03

**Data source:** Tb.Th in L1 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	71.405	70.722	72.088
1C	2	0	78.614	69.771	87.458
1S	2	0	61.882	56.124	67.640
2I	2	0	81.836	81.237	82.435
2C	2	0	110.063	100.997	119.128
2S	2	0	76.119	68.828	83.411
3I	2	0	52.927	51.389	54.466
3C	2	0	72.209	68.238	76.180
3S	2	0	53.757	51.559	55.955
4I	2	0	88.348	83.681	93.014
4C	2	0	94.914	83.424	106.404
4S	2	0	83.361	74.368	92.353
5I	2	0	112.297	110.820	113.774
5C	2	0	124.465	111.593	137.336
5S	2	0	106.673	92.860	120.486
6I	2	0	89.162	81.755	96.569
6C	2	0	95.762	88.499	103.024
6S	2	0	81.877	72.780	90.975
7I	2	0	72.759	67.239	78.280
7C	2	0	78.965	74.806	83.125
7S	2	0	69.872	61.990	77.754
8I	2	0	82.157	78.372	85.942
8C	2	0	103.017	93.040	112.994
8S	2	0	82.033	76.517	87.549
9I	2	0	64.195	58.775	69.615
9C	2	0	71.740	61.300	82.180
9S	2	0	70.922	57.408	84.435

H = 43.370 with 26 degrees of freedom. (P = 0.018)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.018)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
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5C vs 3I	99.000	4.450	0.252	No
5C vs 3S	97.000	4.360	0.290	Do Not Test
5C vs 1S	87.000	3.910	0.531	Do Not Test
5C vs 9I	82.000	3.686	0.667	Do Not Test
5C vs 7S	71.000	3.191	0.893	Do Not Test
5C vs 1I	70.000	3.146	0.905	Do Not Test
5C vs 3C	70.000	3.146	0.905	Do Not Test
5C vs 7I	69.000	3.101	0.916	Do Not Test
5C vs 9C	67.000	3.011	0.936	Do Not Test
5C vs 9S	63.000	2.832	0.964	Do Not Test
5C vs 2S	59.000	2.652	0.982	Do Not Test
5C vs 7C	53.000	2.382	0.996	Do Not Test
5C vs 1C	52.000	2.337	0.997	Do Not Test
5C vs 2I	48.000	2.157	0.999	Do Not Test
5C vs 6S	46.000	2.068	1.000	Do Not Test
5C vs 8S	44.000	1.978	1.000	Do Not Test
5C vs 4S	44.000	1.978	1.000	Do Not Test
5C vs 8I	43.000	1.933	1.000	Do Not Test
5C vs 6I	32.000	1.438	1.000	Do Not Test
5C vs 4I	28.000	1.259	1.000	Do Not Test
5C vs 4C	24.000	1.079	1.000	Do Not Test
5C vs 6C	19.000	0.854	1.000	Do Not Test
5C vs 8C	10.000	0.449	1.000	Do Not Test
5C vs 5S	9.000	0.405	1.000	Do Not Test
5C vs 2C	6.000	0.270	1.000	Do Not Test
5C vs 5I	4.000	0.180	1.000	Do Not Test
5I vs 3I	95.000	4.270	0.333	Do Not Test
5I vs 3S	93.000	4.180	0.378	Do Not Test
5I vs 1S	83.000	3.731	0.640	Do Not Test
5I vs 9I	78.000	3.506	0.767	Do Not Test
5I vs 7S	67.000	3.011	0.936	Do Not Test
5I vs 1I	66.000	2.966	0.944	Do Not Test
5I vs 3C	66.000	2.966	0.944	Do Not Test
5I vs 7I	65.000	2.922	0.951	Do Not Test
5I vs 9C	63.000	2.832	0.964	Do Not Test
5I vs 9S	59.000	2.652	0.982	Do Not Test
5I vs 2S	55.000	2.472	0.993	Do Not Test
5I vs 7C	49.000	2.202	0.999	Do Not Test
5I vs 1C	48.000	2.157	0.999	Do Not Test
5I vs 2I	44.000	1.978	1.000	Do Not Test
5I vs 6S	42.000	1.888	1.000	Do Not Test
5I vs 8S	40.000	1.798	1.000	Do Not Test
5I vs 4S	40.000	1.798	1.000	Do Not Test
5I vs 8I	39.000	1.753	1.000	Do Not Test
5I vs 6I	28.000	1.259	1.000	Do Not Test
5I vs 4I	24.000	1.079	1.000	Do Not Test
5I vs 4C	20.000	0.899	1.000	Do Not Test
5I vs 6C	15.000	0.674	1.000	Do Not Test
5I vs 8C	6.000	0.270	1.000	Do Not Test
5I vs 5S	5.000	0.225	1.000	Do Not Test
5I vs 2C	2.000	0.0899	1.000	Do Not Test
2C vs 3I	93.000	4.180	0.378	Do Not Test
2C vs 3S	91.000	4.090	0.427	Do Not Test
2C vs 1S	81.000	3.641	0.693	Do Not Test
2C vs 9I	76.000	3.416	0.810	Do Not Test
2C vs 7S	65.000	2.922	0.951	Do Not Test

2C vs 1I	64.000	2.877	0.958	Do Not Test
2C vs 3C	64.000	2.877	0.958	Do Not Test
2C vs 7I	63.000	2.832	0.964	Do Not Test
2C vs 9C	61.000	2.742	0.974	Do Not Test
2C vs 9S	57.000	2.562	0.988	Do Not Test
2C vs 2S	53.000	2.382	0.996	Do Not Test
2C vs 7C	47.000	2.112	0.999	Do Not Test
2C vs 1C	46.000	2.068	1.000	Do Not Test
2C vs 2I	42.000	1.888	1.000	Do Not Test
2C vs 6S	40.000	1.798	1.000	Do Not Test
2C vs 8S	38.000	1.708	1.000	Do Not Test
2C vs 4S	38.000	1.708	1.000	Do Not Test
2C vs 8I	37.000	1.663	1.000	Do Not Test
2C vs 6I	26.000	1.169	1.000	Do Not Test
2C vs 4I	22.000	0.989	1.000	Do Not Test
2C vs 4C	18.000	0.809	1.000	Do Not Test
2C vs 6C	13.000	0.584	1.000	Do Not Test
2C vs 8C	4.000	0.180	1.000	Do Not Test
2C vs 5S	3.000	0.135	1.000	Do Not Test
5S vs 3I	90.000	4.045	0.452	Do Not Test
5S vs 3S	88.000	3.955	0.504	Do Not Test
5S vs 1S	78.000	3.506	0.767	Do Not Test
5S vs 9I	73.000	3.281	0.864	Do Not Test
5S vs 7S	62.000	2.787	0.969	Do Not Test
5S vs 1I	61.000	2.742	0.974	Do Not Test
5S vs 3C	61.000	2.742	0.974	Do Not Test
5S vs 7I	60.000	2.697	0.978	Do Not Test
5S vs 9C	58.000	2.607	0.985	Do Not Test
5S vs 9S	54.000	2.427	0.994	Do Not Test
5S vs 2S	50.000	2.247	0.998	Do Not Test
5S vs 7C	44.000	1.978	1.000	Do Not Test
5S vs 1C	43.000	1.933	1.000	Do Not Test
5S vs 2I	39.000	1.753	1.000	Do Not Test
5S vs 6S	37.000	1.663	1.000	Do Not Test
5S vs 8S	35.000	1.573	1.000	Do Not Test
5S vs 4S	35.000	1.573	1.000	Do Not Test
5S vs 8I	34.000	1.528	1.000	Do Not Test
5S vs 6I	23.000	1.034	1.000	Do Not Test
5S vs 4I	19.000	0.854	1.000	Do Not Test
5S vs 4C	15.000	0.674	1.000	Do Not Test
5S vs 6C	10.000	0.449	1.000	Do Not Test
5S vs 8C	1.000	0.0449	1.000	Do Not Test
8C vs 3I	89.000	4.000	0.478	Do Not Test
8C vs 3S	87.000	3.910	0.531	Do Not Test
8C vs 1S	77.000	3.461	0.789	Do Not Test
8C vs 9I	72.000	3.236	0.879	Do Not Test
8C vs 7S	61.000	2.742	0.974	Do Not Test
8C vs 1I	60.000	2.697	0.978	Do Not Test
8C vs 3C	60.000	2.697	0.978	Do Not Test
8C vs 7I	59.000	2.652	0.982	Do Not Test
8C vs 9C	57.000	2.562	0.988	Do Not Test
8C vs 9S	53.000	2.382	0.996	Do Not Test
8C vs 2S	49.000	2.202	0.999	Do Not Test
8C vs 7C	43.000	1.933	1.000	Do Not Test
8C vs 1C	42.000	1.888	1.000	Do Not Test
8C vs 2I	38.000	1.708	1.000	Do Not Test

8C vs 6S	36.000	1.618	1.000	Do Not Test
8C vs 8S	34.000	1.528	1.000	Do Not Test
8C vs 4S	34.000	1.528	1.000	Do Not Test
8C vs 8I	33.000	1.483	1.000	Do Not Test
8C vs 6I	22.000	0.989	1.000	Do Not Test
8C vs 4I	18.000	0.809	1.000	Do Not Test
8C vs 4C	14.000	0.629	1.000	Do Not Test
8C vs 6C	9.000	0.405	1.000	Do Not Test
6C vs 3I	80.000	3.596	0.719	Do Not Test
6C vs 3S	78.000	3.506	0.767	Do Not Test
6C vs 1S	68.000	3.056	0.926	Do Not Test
6C vs 9I	63.000	2.832	0.964	Do Not Test
6C vs 7S	52.000	2.337	0.997	Do Not Test
6C vs 1I	51.000	2.292	0.998	Do Not Test
6C vs 3C	51.000	2.292	0.998	Do Not Test
6C vs 7I	50.000	2.247	0.998	Do Not Test
6C vs 9C	48.000	2.157	0.999	Do Not Test
6C vs 9S	44.000	1.978	1.000	Do Not Test
6C vs 2S	40.000	1.798	1.000	Do Not Test
6C vs 7C	34.000	1.528	1.000	Do Not Test
6C vs 1C	33.000	1.483	1.000	Do Not Test
6C vs 2I	29.000	1.303	1.000	Do Not Test
6C vs 6S	27.000	1.214	1.000	Do Not Test
6C vs 8S	25.000	1.124	1.000	Do Not Test
6C vs 4S	25.000	1.124	1.000	Do Not Test
6C vs 8I	24.000	1.079	1.000	Do Not Test
6C vs 6I	13.000	0.584	1.000	Do Not Test
6C vs 4I	9.000	0.405	1.000	Do Not Test
6C vs 4C	5.000	0.225	1.000	Do Not Test
4C vs 3I	75.000	3.371	0.829	Do Not Test
4C vs 3S	73.000	3.281	0.864	Do Not Test
4C vs 1S	63.000	2.832	0.964	Do Not Test
4C vs 9I	58.000	2.607	0.985	Do Not Test
4C vs 7S	47.000	2.112	0.999	Do Not Test
4C vs 1I	46.000	2.068	1.000	Do Not Test
4C vs 3C	46.000	2.068	1.000	Do Not Test
4C vs 7I	45.000	2.023	1.000	Do Not Test
4C vs 9C	43.000	1.933	1.000	Do Not Test
4C vs 9S	39.000	1.753	1.000	Do Not Test
4C vs 2S	35.000	1.573	1.000	Do Not Test
4C vs 7C	29.000	1.303	1.000	Do Not Test
4C vs 1C	28.000	1.259	1.000	Do Not Test
4C vs 2I	24.000	1.079	1.000	Do Not Test
4C vs 6S	22.000	0.989	1.000	Do Not Test
4C vs 8S	20.000	0.899	1.000	Do Not Test
4C vs 4S	20.000	0.899	1.000	Do Not Test
4C vs 8I	19.000	0.854	1.000	Do Not Test
4C vs 6I	8.000	0.360	1.000	Do Not Test
4C vs 4I	4.000	0.180	1.000	Do Not Test
4I vs 3I	71.000	3.191	0.893	Do Not Test
4I vs 3S	69.000	3.101	0.916	Do Not Test
4I vs 1S	59.000	2.652	0.982	Do Not Test
4I vs 9I	54.000	2.427	0.994	Do Not Test
4I vs 7S	43.000	1.933	1.000	Do Not Test
4I vs 1I	42.000	1.888	1.000	Do Not Test
4I vs 3C	42.000	1.888	1.000	Do Not Test

4I vs 7I	41.000	1.843	1.000	Do Not Test
4I vs 9C	39.000	1.753	1.000	Do Not Test
4I vs 9S	35.000	1.573	1.000	Do Not Test
4I vs 2S	31.000	1.393	1.000	Do Not Test
4I vs 7C	25.000	1.124	1.000	Do Not Test
4I vs 1C	24.000	1.079	1.000	Do Not Test
4I vs 2I	20.000	0.899	1.000	Do Not Test
4I vs 6S	18.000	0.809	1.000	Do Not Test
4I vs 8S	16.000	0.719	1.000	Do Not Test
4I vs 4S	16.000	0.719	1.000	Do Not Test
4I vs 8I	15.000	0.674	1.000	Do Not Test
4I vs 6I	4.000	0.180	1.000	Do Not Test
6I vs 3I	67.000	3.011	0.936	Do Not Test
6I vs 3S	65.000	2.922	0.951	Do Not Test
6I vs 1S	55.000	2.472	0.993	Do Not Test
6I vs 9I	50.000	2.247	0.998	Do Not Test
6I vs 7S	39.000	1.753	1.000	Do Not Test
6I vs 1I	38.000	1.708	1.000	Do Not Test
6I vs 3C	38.000	1.708	1.000	Do Not Test
6I vs 7I	37.000	1.663	1.000	Do Not Test
6I vs 9C	35.000	1.573	1.000	Do Not Test
6I vs 9S	31.000	1.393	1.000	Do Not Test
6I vs 2S	27.000	1.214	1.000	Do Not Test
6I vs 7C	21.000	0.944	1.000	Do Not Test
6I vs 1C	20.000	0.899	1.000	Do Not Test
6I vs 2I	16.000	0.719	1.000	Do Not Test
6I vs 6S	14.000	0.629	1.000	Do Not Test
6I vs 8S	12.000	0.539	1.000	Do Not Test
6I vs 4S	12.000	0.539	1.000	Do Not Test
6I vs 8I	11.000	0.494	1.000	Do Not Test
8I vs 3I	56.000	2.517	0.991	Do Not Test
8I vs 3S	54.000	2.427	0.994	Do Not Test
8I vs 1S	44.000	1.978	1.000	Do Not Test
8I vs 9I	39.000	1.753	1.000	Do Not Test
8I vs 7S	28.000	1.259	1.000	Do Not Test
8I vs 1I	27.000	1.214	1.000	Do Not Test
8I vs 3C	27.000	1.214	1.000	Do Not Test
8I vs 7I	26.000	1.169	1.000	Do Not Test
8I vs 9C	24.000	1.079	1.000	Do Not Test
8I vs 9S	20.000	0.899	1.000	Do Not Test
8I vs 2S	16.000	0.719	1.000	Do Not Test
8I vs 7C	10.000	0.449	1.000	Do Not Test
8I vs 1C	9.000	0.405	1.000	Do Not Test
8I vs 2I	5.000	0.225	1.000	Do Not Test
8I vs 6S	3.000	0.135	1.000	Do Not Test
8I vs 8S	1.000	0.0449	1.000	Do Not Test
8I vs 4S	1.000	0.0449	1.000	Do Not Test
4S vs 3I	55.000	2.472	0.993	Do Not Test
4S vs 3S	53.000	2.382	0.996	Do Not Test
4S vs 1S	43.000	1.933	1.000	Do Not Test
4S vs 9I	38.000	1.708	1.000	Do Not Test
4S vs 7S	27.000	1.214	1.000	Do Not Test
4S vs 1I	26.000	1.169	1.000	Do Not Test
4S vs 3C	26.000	1.169	1.000	Do Not Test
4S vs 7I	25.000	1.124	1.000	Do Not Test
4S vs 9C	23.000	1.034	1.000	Do Not Test



4S vs 9S	19.000	0.854	1.000	Do Not Test
4S vs 2S	15.000	0.674	1.000	Do Not Test
4S vs 7C	9.000	0.405	1.000	Do Not Test
4S vs 1C	8.000	0.360	1.000	Do Not Test
4S vs 2I	4.000	0.180	1.000	Do Not Test
4S vs 6S	2.000	0.0899	1.000	Do Not Test
4S vs 8S	0.000	0.000	1.000	Do Not Test
8S vs 3I	55.000	2.472	0.993	Do Not Test
8S vs 3S	53.000	2.382	0.996	Do Not Test
8S vs 1S	43.000	1.933	1.000	Do Not Test
8S vs 9I	38.000	1.708	1.000	Do Not Test
8S vs 7S	27.000	1.214	1.000	Do Not Test
8S vs 1I	26.000	1.169	1.000	Do Not Test
8S vs 3C	26.000	1.169	1.000	Do Not Test
8S vs 7I	25.000	1.124	1.000	Do Not Test
8S vs 9C	23.000	1.034	1.000	Do Not Test
8S vs 9S	19.000	0.854	1.000	Do Not Test
8S vs 2S	15.000	0.674	1.000	Do Not Test
8S vs 7C	9.000	0.405	1.000	Do Not Test
8S vs 1C	8.000	0.360	1.000	Do Not Test
8S vs 2I	4.000	0.180	1.000	Do Not Test
8S vs 6S	2.000	0.0899	1.000	Do Not Test
6S vs 3I	53.000	2.382	0.996	Do Not Test
6S vs 3S	51.000	2.292	0.998	Do Not Test
6S vs 1S	41.000	1.843	1.000	Do Not Test
6S vs 9I	36.000	1.618	1.000	Do Not Test
6S vs 7S	25.000	1.124	1.000	Do Not Test
6S vs 1I	24.000	1.079	1.000	Do Not Test
6S vs 3C	24.000	1.079	1.000	Do Not Test
6S vs 7I	23.000	1.034	1.000	Do Not Test
6S vs 9C	21.000	0.944	1.000	Do Not Test
6S vs 9S	17.000	0.764	1.000	Do Not Test
6S vs 2S	13.000	0.584	1.000	Do Not Test
6S vs 7C	7.000	0.315	1.000	Do Not Test
6S vs 1C	6.000	0.270	1.000	Do Not Test
6S vs 2I	2.000	0.0899	1.000	Do Not Test
2I vs 3I	51.000	2.292	0.998	Do Not Test
2I vs 3S	49.000	2.202	0.999	Do Not Test
2I vs 1S	39.000	1.753	1.000	Do Not Test
2I vs 9I	34.000	1.528	1.000	Do Not Test
2I vs 7S	23.000	1.034	1.000	Do Not Test
2I vs 1I	22.000	0.989	1.000	Do Not Test
2I vs 3C	22.000	0.989	1.000	Do Not Test
2I vs 7I	21.000	0.944	1.000	Do Not Test
2I vs 9C	19.000	0.854	1.000	Do Not Test
2I vs 9S	15.000	0.674	1.000	Do Not Test
2I vs 2S	11.000	0.494	1.000	Do Not Test
2I vs 7C	5.000	0.225	1.000	Do Not Test
2I vs 1C	4.000	0.180	1.000	Do Not Test
1C vs 3I	47.000	2.112	0.999	Do Not Test
1C vs 3S	45.000	2.023	1.000	Do Not Test
1C vs 1S	35.000	1.573	1.000	Do Not Test
1C vs 9I	30.000	1.348	1.000	Do Not Test
1C vs 7S	19.000	0.854	1.000	Do Not Test
1C vs 1I	18.000	0.809	1.000	Do Not Test
1C vs 3C	18.000	0.809	1.000	Do Not Test

1C vs 7I	17.000	0.764	1.000	Do Not Test
1C vs 9C	15.000	0.674	1.000	Do Not Test
1C vs 9S	11.000	0.494	1.000	Do Not Test
1C vs 2S	7.000	0.315	1.000	Do Not Test
1C vs 7C	1.000	0.0449	1.000	Do Not Test
7C vs 3I	46.000	2.068	1.000	Do Not Test
7C vs 3S	44.000	1.978	1.000	Do Not Test
7C vs 1S	34.000	1.528	1.000	Do Not Test
7C vs 9I	29.000	1.303	1.000	Do Not Test
7C vs 7S	18.000	0.809	1.000	Do Not Test
7C vs 1I	17.000	0.764	1.000	Do Not Test
7C vs 3C	17.000	0.764	1.000	Do Not Test
7C vs 7I	16.000	0.719	1.000	Do Not Test
7C vs 9C	14.000	0.629	1.000	Do Not Test
7C vs 9S	10.000	0.449	1.000	Do Not Test
7C vs 2S	6.000	0.270	1.000	Do Not Test
2S vs 3I	40.000	1.798	1.000	Do Not Test
2S vs 3S	38.000	1.708	1.000	Do Not Test
2S vs 1S	28.000	1.259	1.000	Do Not Test
2S vs 9I	23.000	1.034	1.000	Do Not Test
2S vs 7S	12.000	0.539	1.000	Do Not Test
2S vs 1I	11.000	0.494	1.000	Do Not Test
2S vs 3C	11.000	0.494	1.000	Do Not Test
2S vs 7I	10.000	0.449	1.000	Do Not Test
2S vs 9C	8.000	0.360	1.000	Do Not Test
2S vs 9S	4.000	0.180	1.000	Do Not Test
9S vs 3I	36.000	1.618	1.000	Do Not Test
9S vs 3S	34.000	1.528	1.000	Do Not Test
9S vs 1S	24.000	1.079	1.000	Do Not Test
9S vs 9I	19.000	0.854	1.000	Do Not Test
9S vs 7S	8.000	0.360	1.000	Do Not Test
9S vs 1I	7.000	0.315	1.000	Do Not Test
9S vs 3C	7.000	0.315	1.000	Do Not Test
9S vs 7I	6.000	0.270	1.000	Do Not Test
9S vs 9C	4.000	0.180	1.000	Do Not Test
9C vs 3I	32.000	1.438	1.000	Do Not Test
9C vs 3S	30.000	1.348	1.000	Do Not Test
9C vs 1S	20.000	0.899	1.000	Do Not Test
9C vs 9I	15.000	0.674	1.000	Do Not Test
9C vs 7S	4.000	0.180	1.000	Do Not Test
9C vs 1I	3.000	0.135	1.000	Do Not Test
9C vs 3C	3.000	0.135	1.000	Do Not Test
9C vs 7I	2.000	0.0899	1.000	Do Not Test
7I vs 3I	30.000	1.348	1.000	Do Not Test
7I vs 3S	28.000	1.259	1.000	Do Not Test
7I vs 1S	18.000	0.809	1.000	Do Not Test
7I vs 9I	13.000	0.584	1.000	Do Not Test
7I vs 7S	2.000	0.0899	1.000	Do Not Test
7I vs 1I	1.000	0.0449	1.000	Do Not Test
7I vs 3C	1.000	0.0449	1.000	Do Not Test
3C vs 3I	29.000	1.303	1.000	Do Not Test
3C vs 3S	27.000	1.214	1.000	Do Not Test
3C vs 1S	17.000	0.764	1.000	Do Not Test
3C vs 9I	12.000	0.539	1.000	Do Not Test
3C vs 7S	1.000	0.0449	1.000	Do Not Test
3C vs 1I	0.000	0.000	1.000	Do Not Test

1I vs 3I	29.000	1.303	1.000	Do Not Test
1I vs 3S	27.000	1.214	1.000	Do Not Test
1I vs 1S	17.000	0.764	1.000	Do Not Test
1I vs 9I	12.000	0.539	1.000	Do Not Test
1I vs 7S	1.000	0.0449	1.000	Do Not Test
7S vs 3I	28.000	1.259	1.000	Do Not Test
7S vs 3S	26.000	1.169	1.000	Do Not Test
7S vs 1S	16.000	0.719	1.000	Do Not Test
7S vs 9I	11.000	0.494	1.000	Do Not Test
9I vs 3I	17.000	0.764	1.000	Do Not Test
9I vs 3S	15.000	0.674	1.000	Do Not Test
9I vs 1S	5.000	0.225	1.000	Do Not Test
1S vs 3I	12.000	0.539	1.000	Do Not Test
1S vs 3S	10.000	0.449	1.000	Do Not Test
3S vs 3I	2.000	0.0899	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 20:18:28

Data source: Tb.N in L1 Fetal

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:18:28

Data source: Tb.N in L1 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	0.00455	0.00440	0.00470
1C	2	0	0.00416	0.00350	0.00482
1S	2	0	0.00545	0.00492	0.00598
2I	2	0	0.00371	0.00345	0.00397
2C	2	0	0.00260	0.00255	0.00265
2S	2	0	0.00443	0.00372	0.00514
3I	2	0	0.00626	0.00580	0.00671
3C	2	0	0.00443	0.00427	0.00459
3S	2	0	0.00629	0.00611	0.00647
4I	2	0	0.00432	0.00396	0.00468
4C	2	0	0.00377	0.00293	0.00460
4S	2	0	0.00435	0.00362	0.00509
5I	2	0	0.00376	0.00368	0.00383
5C	2	0	0.00277	0.00267	0.00286
5S	2	0	0.00415	0.00380	0.00449
6I	2	0	0.00417	0.00359	0.00476
6C	2	0	0.00389	0.00332	0.00446
6S	2	0	0.00451	0.00377	0.00524
7I	2	0	0.00491	0.00416	0.00567
7C	2	0	0.00437	0.00396	0.00477
7S	2	0	0.00499	0.00448	0.00550
8I	2	0	0.00392	0.00308	0.00476
8C	2	0	0.00326	0.00287	0.00365
8S	2	0	0.00426	0.00373	0.00480
9I	2	0	0.00574	0.00476	0.00672
9C	2	0	0.00473	0.00400	0.00546
9S	2	0	0.00505	0.00438	0.00572

H = 33.717 with 26 degrees of freedom. (P = 0.142)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.142)

## One Way Analysis of Variance

26 January 2019 20:18:45

**Data source:** Tb.Sp in L1 Fetal

**Normality Test (Shapiro-Wilk):** Passed (P = 0.241)

**Equal Variance Test (Brown-Forsythe):** Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:18:45

**Data source:** Tb.Sp in L1 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	153.343	150.648	156.039
1C	2	0	177.623	146.094	209.151
1S	2	0	132.372	110.015	154.730
2I	2	0	196.274	179.660	212.888
2C	2	0	302.936	301.412	304.461
2S	2	0	161.841	128.015	195.668
3I	2	0	116.470	106.466	126.474
3C	2	0	162.701	138.864	186.537
3S	2	0	122.436	107.490	137.383
4I	2	0	157.696	143.568	171.823
4C	2	0	184.759	139.267	230.251
4S	2	0	156.244	126.846	185.642
5I	2	0	186.082	180.630	191.535
5C	2	0	318.316	288.475	348.158
5S	2	0	164.576	153.593	175.560
6I	2	0	166.653	141.284	192.022
6C	2	0	173.916	141.576	206.256
6S	2	0	150.768	123.878	177.658
7I	2	0	142.105	118.063	166.148
7C	2	0	153.336	134.860	171.811
7S	2	0	132.955	114.992	150.919
8I	2	0	216.303	147.323	285.283
8C	2	0	342.410	273.604	411.216
8S	2	0	188.736	154.108	223.363
9I	2	0	136.114	99.554	172.674
9C	2	0	148.142	120.510	175.773
9S	2	0	133.310	111.729	154.891

H = 30.590 with 26 degrees of freedom. (P = 0.244)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.244)

## One Way Analysis of Variance

26 January 2019 20:20:59

Data source: DA in L1 Fetal

Normality Test (Shapiro-Wilk): Passed (P = 0.854)

Equal Variance Test (Brown-Forsythe): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:20:59

Data source: DA in L1 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	0.357	0.314	0.400
1C	2	0	0.368	0.285	0.452
1S	2	0	0.372	0.309	0.435
2I	2	0	0.254	0.245	0.264
2C	2	0	0.326	0.323	0.329
2S	2	0	0.310	0.207	0.413
3I	2	0	0.434	0.392	0.477
3C	2	0	0.432	0.333	0.532
3S	2	0	0.393	0.388	0.399
4I	2	0	0.379	0.320	0.437
4C	2	0	0.584	0.566	0.602
4S	2	0	0.489	0.487	0.492
5I	2	0	0.266	0.206	0.326
5C	2	0	0.337	0.325	0.348
5S	2	0	0.398	0.328	0.469
6I	2	0	0.394	0.368	0.420
6C	2	0	0.515	0.461	0.569
6S	2	0	0.446	0.401	0.491
7I	2	0	0.460	0.433	0.486
7C	2	0	0.531	0.469	0.594
7S	2	0	0.517	0.492	0.542
8I	2	0	0.364	0.330	0.397
8C	2	0	0.308	0.275	0.340
8S	2	0	0.459	0.457	0.460
9I	2	0	0.409	0.337	0.481
9C	2	0	0.454	0.431	0.477
9S	2	0	0.450	0.442	0.457

H = 38.279 with 26 degrees of freedom. (P = 0.057)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.057)

## One Way Analysis of Variance

Thursday, September 27, 2018, 14:11:54

Data source: BV/TV in L3 Fetal

Normality Test (Shapiro-Wilk) Passed (P = 0.883)

Equal Variance Test: Passed (P = 0.190)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	3	0	27.395	3.294	1.902
1C	3	0	22.477	4.288	2.476
1S	3	0	21.893	4.107	2.371
2I	3	0	24.491	2.091	1.207
2C	3	0	21.197	4.452	2.570
2S	3	0	24.624	2.149	1.241
3I	3	0	21.061	2.393	1.382
3C	3	0	21.814	2.520	1.455
3S	3	0	22.697	0.859	0.496
4I	3	0	28.232	3.085	1.781
4C	3	0	27.249	2.415	1.394
4S	3	0	25.571	1.083	0.626
5I	3	0	34.810	3.759	2.170
5C	3	0	30.234	1.640	0.947
5S	3	0	33.399	1.682	0.971
6I	3	0	26.207	2.736	1.580
6C	3	0	25.894	3.365	1.943
6S	3	0	24.133	1.755	1.014
7I	3	0	28.177	2.295	1.325
7C	3	0	23.765	3.674	2.121
7S	3	0	26.161	4.852	2.801
8I	3	0	32.514	6.373	3.679
8C	3	0	26.845	4.552	2.628
8S	3	0	29.335	7.624	4.401
9I	3	0	23.995	3.397	1.961
9C	3	0	25.974	2.064	1.192
9S	3	0	23.697	2.459	1.420

Source of Variation	DF	SS	MS	F	P
Between Groups	26	1035.241	39.817	3.264	<0.001
Residual	54	658.769	12.199		
Total	80	1694.009			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 0.989

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

Comparison	Diff of Means	p	q	P	P<0.010
5I vs. 3I	13.749	27	6.818	0.003	Yes
5I vs. 2C	13.612	27	6.750	0.004	Yes
5I vs. 3C	12.995	27	6.444	0.007	Yes

5I vs. 1S	12.917	27	6.405	0.008	Yes
5I vs. 1C	12.333	27	6.116	0.015	No
5I vs. 3S	12.113	27	6.007	0.019	Do Not Test
5I vs. 9S	11.113	27	5.511	0.050	Do Not Test
5I vs. 7C	11.045	27	5.477	0.054	Do Not Test
5I vs. 9I	10.815	27	5.363	0.066	Do Not Test
5I vs. 6S	10.677	27	5.295	0.075	Do Not Test
5I vs. 2I	10.319	27	5.117	0.103	Do Not Test
5I vs. 2S	10.186	27	5.051	0.115	Do Not Test
5I vs. 4S	9.238	27	4.581	0.240	Do Not Test
5I vs. 6C	8.916	27	4.421	0.299	Do Not Test
5I vs. 9C	8.835	27	4.381	0.315	Do Not Test
5I vs. 7S	8.648	27	4.289	0.354	Do Not Test
5I vs. 6I	8.603	27	4.266	0.364	Do Not Test
5I vs. 8C	7.964	27	3.949	0.515	Do Not Test
5I vs. 4C	7.561	27	3.749	0.617	Do Not Test
5I vs. 1I	7.414	27	3.677	0.653	Do Not Test
5I vs. 7I	6.632	27	3.289	0.827	Do Not Test
5I vs. 4I	6.577	27	3.262	0.837	Do Not Test
5I vs. 8S	5.475	27	2.715	0.969	Do Not Test
5I vs. 5C	4.575	27	2.269	0.997	Do Not Test
5I vs. 8I	2.295	27	1.138	1.000	Do Not Test
5I vs. 5S	1.410	27	0.699	1.000	Do Not Test
5S vs. 3I	12.338	27	6.119	0.015	No
5S vs. 2C	12.202	27	6.051	0.017	Do Not Test
5S vs. 3C	11.585	27	5.745	0.032	Do Not Test
5S vs. 1S	11.506	27	5.706	0.034	Do Not Test
5S vs. 1C	10.922	27	5.416	0.060	Do Not Test
5S vs. 3S	10.702	27	5.307	0.073	Do Not Test
5S vs. 9S	9.703	27	4.811	0.170	Do Not Test
5S vs. 7C	9.634	27	4.778	0.179	Do Not Test
5S vs. 9I	9.404	27	4.664	0.213	Do Not Test
5S vs. 6S	9.267	27	4.595	0.235	Do Not Test
5S vs. 2I	8.908	27	4.417	0.300	Do Not Test
5S vs. 2S	8.775	27	4.352	0.327	Do Not Test
5S vs. 4S	7.828	27	3.882	0.549	Do Not Test
5S vs. 6C	7.505	27	3.722	0.630	Do Not Test
5S vs. 9C	7.425	27	3.682	0.651	Do Not Test
5S vs. 7S	7.238	27	3.589	0.696	Do Not Test
5S vs. 6I	7.192	27	3.567	0.707	Do Not Test
5S vs. 8C	6.554	27	3.250	0.842	Do Not Test
5S vs. 4C	6.150	27	3.050	0.905	Do Not Test
5S vs. 1I	6.004	27	2.977	0.923	Do Not Test
5S vs. 7I	5.222	27	2.590	0.982	Do Not Test
5S vs. 4I	5.167	27	2.562	0.984	Do Not Test
5S vs. 8S	4.064	27	2.015	0.999	Do Not Test
5S vs. 5C	3.165	27	1.569	1.000	Do Not Test
5S vs. 8I	0.885	27	0.439	1.000	Do Not Test
8I vs. 3I	11.453	27	5.680	0.036	Do Not Test
8I vs. 2C	11.317	27	5.612	0.041	Do Not Test
8I vs. 3C	10.700	27	5.306	0.073	Do Not Test
8I vs. 1S	10.621	27	5.267	0.079	Do Not Test
8I vs. 1C	10.038	27	4.978	0.130	Do Not Test
8I vs. 3S	9.817	27	4.868	0.155	Do Not Test
8I vs. 9S	8.818	27	4.373	0.319	Do Not Test
8I vs. 7C	8.749	27	4.339	0.333	Do Not Test



8I vs. 9I	8.520	27	4.225	0.382	Do Not Test
8I vs. 6S	8.382	27	4.156	0.414	Do Not Test
8I vs. 2I	8.023	27	3.979	0.501	Do Not Test
8I vs. 2S	7.890	27	3.913	0.534	Do Not Test
8I vs. 4S	6.943	27	3.443	0.764	Do Not Test
8I vs. 6C	6.620	27	3.283	0.829	Do Not Test
8I vs. 9C	6.540	27	3.243	0.844	Do Not Test
8I vs. 7S	6.353	27	3.150	0.876	Do Not Test
8I vs. 6I	6.308	27	3.128	0.883	Do Not Test
8I vs. 8C	5.669	27	2.811	0.956	Do Not Test
8I vs. 4C	5.265	27	2.611	0.980	Do Not Test
8I vs. 1I	5.119	27	2.539	0.986	Do Not Test
8I vs. 7I	4.337	27	2.151	0.998	Do Not Test
8I vs. 4I	4.282	27	2.123	0.999	Do Not Test
8I vs. 8S	3.179	27	1.577	1.000	Do Not Test
8I vs. 5C	2.280	27	1.131	1.000	Do Not Test
5C vs. 3I	9.174	27	4.549	0.251	Do Not Test
5C vs. 2C	9.037	27	4.481	0.276	Do Not Test
5C vs. 3C	8.420	27	4.175	0.405	Do Not Test
5C vs. 1S	8.342	27	4.137	0.423	Do Not Test
5C vs. 1C	7.758	27	3.847	0.567	Do Not Test
5C vs. 3S	7.538	27	3.738	0.622	Do Not Test
5C vs. 9S	6.538	27	3.242	0.844	Do Not Test
5C vs. 7C	6.470	27	3.208	0.856	Do Not Test
5C vs. 9I	6.240	27	3.094	0.893	Do Not Test
5C vs. 6S	6.102	27	3.026	0.911	Do Not Test
5C vs. 2I	5.743	27	2.848	0.950	Do Not Test
5C vs. 2S	5.610	27	2.782	0.960	Do Not Test
5C vs. 4S	4.663	27	2.312	0.996	Do Not Test
5C vs. 6C	4.341	27	2.152	0.998	Do Not Test
5C vs. 9C	4.260	27	2.112	0.999	Do Not Test
5C vs. 7S	4.073	27	2.020	0.999	Do Not Test
5C vs. 6I	4.028	27	1.997	1.000	Do Not Test
5C vs. 8C	3.389	27	1.681	1.000	Do Not Test
5C vs. 4C	2.985	27	1.480	1.000	Do Not Test
5C vs. 1I	2.839	27	1.408	1.000	Do Not Test
5C vs. 7I	2.057	27	1.020	1.000	Do Not Test
5C vs. 4I	2.002	27	0.993	1.000	Do Not Test
5C vs. 8S	0.899	27	0.446	1.000	Do Not Test
8S vs. 3I	8.274	27	4.103	0.439	Do Not Test
8S vs. 2C	8.138	27	4.035	0.472	Do Not Test
8S vs. 3C	7.521	27	3.729	0.627	Do Not Test
8S vs. 1S	7.442	27	3.691	0.646	Do Not Test
8S vs. 1C	6.858	27	3.401	0.782	Do Not Test
8S vs. 3S	6.638	27	3.292	0.826	Do Not Test
8S vs. 9S	5.638	27	2.796	0.958	Do Not Test
8S vs. 7C	5.570	27	2.762	0.963	Do Not Test
8S vs. 9I	5.340	27	2.648	0.977	Do Not Test
8S vs. 6S	5.202	27	2.580	0.983	Do Not Test
8S vs. 2I	4.844	27	2.402	0.993	Do Not Test
8S vs. 2S	4.711	27	2.336	0.995	Do Not Test
8S vs. 4S	3.764	27	1.866	1.000	Do Not Test
8S vs. 6C	3.441	27	1.706	1.000	Do Not Test
8S vs. 9C	3.361	27	1.666	1.000	Do Not Test
8S vs. 7S	3.174	27	1.574	1.000	Do Not Test
8S vs. 6I	3.128	27	1.551	1.000	Do Not Test

8S vs. 8C	2.490	27	1.235	1.000	Do Not Test
8S vs. 4C	2.086	27	1.034	1.000	Do Not Test
8S vs. 1I	1.940	27	0.962	1.000	Do Not Test
8S vs. 7I	1.158	27	0.574	1.000	Do Not Test
8S vs. 4I	1.103	27	0.547	1.000	Do Not Test
4I vs. 3I	7.172	27	3.556	0.712	Do Not Test
4I vs. 2C	7.035	27	3.489	0.743	Do Not Test
4I vs. 3C	6.418	27	3.183	0.865	Do Not Test
4I vs. 1S	6.340	27	3.144	0.878	Do Not Test
4I vs. 1C	5.756	27	2.854	0.949	Do Not Test
4I vs. 3S	5.536	27	2.745	0.965	Do Not Test
4I vs. 9S	4.536	27	2.249	0.997	Do Not Test
4I vs. 7C	4.468	27	2.215	0.998	Do Not Test
4I vs. 9I	4.238	27	2.101	0.999	Do Not Test
4I vs. 6S	4.100	27	2.033	0.999	Do Not Test
4I vs. 2I	3.741	27	1.855	1.000	Do Not Test
4I vs. 2S	3.608	27	1.789	1.000	Do Not Test
4I vs. 4S	2.661	27	1.320	1.000	Do Not Test
4I vs. 6C	2.339	27	1.160	1.000	Do Not Test
4I vs. 9C	2.258	27	1.120	1.000	Do Not Test
4I vs. 7S	2.071	27	1.027	1.000	Do Not Test
4I vs. 6I	2.026	27	1.005	1.000	Do Not Test
4I vs. 8C	1.387	27	0.688	1.000	Do Not Test
4I vs. 4C	0.983	27	0.488	1.000	Do Not Test
4I vs. 1I	0.837	27	0.415	1.000	Do Not Test
4I vs. 7I	0.0552	27	0.0274	1.000	Do Not Test
7I vs. 3I	7.116	27	3.529	0.725	Do Not Test
7I vs. 2C	6.980	27	3.461	0.756	Do Not Test
7I vs. 3C	6.363	27	3.155	0.874	Do Not Test
7I vs. 1S	6.284	27	3.116	0.886	Do Not Test
7I vs. 1C	5.700	27	2.827	0.953	Do Not Test
7I vs. 3S	5.480	27	2.718	0.969	Do Not Test
7I vs. 9S	4.481	27	2.222	0.998	Do Not Test
7I vs. 7C	4.412	27	2.188	0.998	Do Not Test
7I vs. 9I	4.182	27	2.074	0.999	Do Not Test
7I vs. 6S	4.045	27	2.006	0.999	Do Not Test
7I vs. 2I	3.686	27	1.828	1.000	Do Not Test
7I vs. 2S	3.553	27	1.762	1.000	Do Not Test
7I vs. 4S	2.606	27	1.292	1.000	Do Not Test
7I vs. 6C	2.283	27	1.132	1.000	Do Not Test
7I vs. 9C	2.203	27	1.092	1.000	Do Not Test
7I vs. 7S	2.016	27	1.000	1.000	Do Not Test
7I vs. 6I	1.970	27	0.977	1.000	Do Not Test
7I vs. 8C	1.332	27	0.661	1.000	Do Not Test
7I vs. 4C	0.928	27	0.460	1.000	Do Not Test
7I vs. 1I	0.782	27	0.388	1.000	Do Not Test
1I vs. 3I	6.334	27	3.141	0.878	Do Not Test
1I vs. 2C	6.198	27	3.073	0.899	Do Not Test
1I vs. 3C	5.581	27	2.768	0.962	Do Not Test
1I vs. 1S	5.502	27	2.729	0.968	Do Not Test
1I vs. 1C	4.918	27	2.439	0.991	Do Not Test
1I vs. 3S	4.698	27	2.330	0.995	Do Not Test
1I vs. 9S	3.699	27	1.834	1.000	Do Not Test
1I vs. 7C	3.630	27	1.800	1.000	Do Not Test
1I vs. 9I	3.401	27	1.686	1.000	Do Not Test
1I vs. 6S	3.263	27	1.618	1.000	Do Not Test

1I vs. 2I	2.904	27	1.440	1.000	Do Not Test
1I vs. 2S	2.771	27	1.374	1.000	Do Not Test
1I vs. 4S	1.824	27	0.904	1.000	Do Not Test
1I vs. 6C	1.501	27	0.745	1.000	Do Not Test
1I vs. 9C	1.421	27	0.705	1.000	Do Not Test
1I vs. 7S	1.234	27	0.612	1.000	Do Not Test
1I vs. 6I	1.189	27	0.589	1.000	Do Not Test
1I vs. 8C	0.550	27	0.273	1.000	Do Not Test
1I vs. 4C	0.146	27	0.0725	1.000	Do Not Test
4C vs. 3I	6.188	27	3.069	0.900	Do Not Test
4C vs. 2C	6.051	27	3.001	0.918	Do Not Test
4C vs. 3C	5.435	27	2.695	0.972	Do Not Test
4C vs. 1S	5.356	27	2.656	0.976	Do Not Test
4C vs. 1C	4.772	27	2.367	0.994	Do Not Test
4C vs. 3S	4.552	27	2.257	0.997	Do Not Test
4C vs. 9S	3.552	27	1.762	1.000	Do Not Test
4C vs. 7C	3.484	27	1.728	1.000	Do Not Test
4C vs. 9I	3.254	27	1.614	1.000	Do Not Test
4C vs. 6S	3.116	27	1.545	1.000	Do Not Test
4C vs. 2I	2.758	27	1.368	1.000	Do Not Test
4C vs. 2S	2.625	27	1.302	1.000	Do Not Test
4C vs. 4S	1.678	27	0.832	1.000	Do Not Test
4C vs. 6C	1.355	27	0.672	1.000	Do Not Test
4C vs. 9C	1.274	27	0.632	1.000	Do Not Test
4C vs. 7S	1.087	27	0.539	1.000	Do Not Test
4C vs. 6I	1.042	27	0.517	1.000	Do Not Test
4C vs. 8C	0.404	27	0.200	1.000	Do Not Test
8C vs. 3I	5.784	27	2.868	0.946	Do Not Test
8C vs. 2C	5.648	27	2.801	0.957	Do Not Test
8C vs. 3C	5.031	27	2.495	0.988	Do Not Test
8C vs. 1S	4.952	27	2.456	0.990	Do Not Test
8C vs. 1C	4.368	27	2.166	0.998	Do Not Test
8C vs. 3S	4.148	27	2.057	0.999	Do Not Test
8C vs. 9S	3.149	27	1.561	1.000	Do Not Test
8C vs. 7C	3.080	27	1.528	1.000	Do Not Test
8C vs. 9I	2.851	27	1.414	1.000	Do Not Test
8C vs. 6S	2.713	27	1.345	1.000	Do Not Test
8C vs. 2I	2.354	27	1.167	1.000	Do Not Test
8C vs. 2S	2.221	27	1.101	1.000	Do Not Test
8C vs. 4S	1.274	27	0.632	1.000	Do Not Test
8C vs. 6C	0.951	27	0.472	1.000	Do Not Test
8C vs. 9C	0.871	27	0.432	1.000	Do Not Test
8C vs. 7S	0.684	27	0.339	1.000	Do Not Test
8C vs. 6I	0.639	27	0.317	1.000	Do Not Test
6I vs. 3I	5.146	27	2.552	0.985	Do Not Test
6I vs. 2C	5.009	27	2.484	0.989	Do Not Test
6I vs. 3C	4.392	27	2.178	0.998	Do Not Test
6I vs. 1S	4.314	27	2.139	0.999	Do Not Test
6I vs. 1C	3.730	27	1.850	1.000	Do Not Test
6I vs. 3S	3.510	27	1.741	1.000	Do Not Test
6I vs. 9S	2.510	27	1.245	1.000	Do Not Test
6I vs. 7C	2.442	27	1.211	1.000	Do Not Test
6I vs. 9I	2.212	27	1.097	1.000	Do Not Test
6I vs. 6S	2.074	27	1.029	1.000	Do Not Test
6I vs. 2I	1.716	27	0.851	1.000	Do Not Test
6I vs. 2S	1.583	27	0.785	1.000	Do Not Test

6I vs. 4S	0.635	27	0.315	1.000	Do Not Test
6I vs. 6C	0.313	27	0.155	1.000	Do Not Test
6I vs. 9C	0.232	27	0.115	1.000	Do Not Test
6I vs. 7S	0.0451	27	0.0224	1.000	Do Not Test
7S vs. 3I	5.101	27	2.529	0.986	Do Not Test
7S vs. 2C	4.964	27	2.462	0.990	Do Not Test
7S vs. 3C	4.347	27	2.156	0.998	Do Not Test
7S vs. 1S	4.269	27	2.117	0.999	Do Not Test
7S vs. 1C	3.685	27	1.827	1.000	Do Not Test
7S vs. 3S	3.465	27	1.718	1.000	Do Not Test
7S vs. 9S	2.465	27	1.222	1.000	Do Not Test
7S vs. 7C	2.397	27	1.189	1.000	Do Not Test
7S vs. 9I	2.167	27	1.075	1.000	Do Not Test
7S vs. 6S	2.029	27	1.006	1.000	Do Not Test
7S vs. 2I	1.671	27	0.828	1.000	Do Not Test
7S vs. 2S	1.537	27	0.762	1.000	Do Not Test
7S vs. 4S	0.590	27	0.293	1.000	Do Not Test
7S vs. 6C	0.268	27	0.133	1.000	Do Not Test
7S vs. 9C	0.187	27	0.0928	1.000	Do Not Test
9C vs. 3I	4.914	27	2.437	0.991	Do Not Test
9C vs. 2C	4.777	27	2.369	0.994	Do Not Test
9C vs. 3C	4.160	27	2.063	0.999	Do Not Test
9C vs. 1S	4.082	27	2.024	0.999	Do Not Test
9C vs. 1C	3.498	27	1.735	1.000	Do Not Test
9C vs. 3S	3.278	27	1.625	1.000	Do Not Test
9C vs. 9S	2.278	27	1.130	1.000	Do Not Test
9C vs. 7C	2.210	27	1.096	1.000	Do Not Test
9C vs. 9I	1.980	27	0.982	1.000	Do Not Test
9C vs. 6S	1.842	27	0.913	1.000	Do Not Test
9C vs. 2I	1.483	27	0.736	1.000	Do Not Test
9C vs. 2S	1.350	27	0.670	1.000	Do Not Test
9C vs. 4S	0.403	27	0.200	1.000	Do Not Test
9C vs. 6C	0.0807	27	0.0400	1.000	Do Not Test
6C vs. 3I	4.833	27	2.397	0.993	Do Not Test
6C vs. 2C	4.696	27	2.329	0.995	Do Not Test
6C vs. 3C	4.079	27	2.023	0.999	Do Not Test
6C vs. 1S	4.001	27	1.984	1.000	Do Not Test
6C vs. 1C	3.417	27	1.695	1.000	Do Not Test
6C vs. 3S	3.197	27	1.585	1.000	Do Not Test
6C vs. 9S	2.197	27	1.090	1.000	Do Not Test
6C vs. 7C	2.129	27	1.056	1.000	Do Not Test
6C vs. 9I	1.899	27	0.942	1.000	Do Not Test
6C vs. 6S	1.761	27	0.873	1.000	Do Not Test
6C vs. 2I	1.403	27	0.696	1.000	Do Not Test
6C vs. 2S	1.270	27	0.630	1.000	Do Not Test
6C vs. 4S	0.322	27	0.160	1.000	Do Not Test
4S vs. 3I	4.511	27	2.237	0.997	Do Not Test
4S vs. 2C	4.374	27	2.169	0.998	Do Not Test
4S vs. 3C	3.757	27	1.863	1.000	Do Not Test
4S vs. 1S	3.679	27	1.824	1.000	Do Not Test
4S vs. 1C	3.095	27	1.535	1.000	Do Not Test
4S vs. 3S	2.875	27	1.426	1.000	Do Not Test
4S vs. 9S	1.875	27	0.930	1.000	Do Not Test
4S vs. 7C	1.807	27	0.896	1.000	Do Not Test
4S vs. 9I	1.577	27	0.782	1.000	Do Not Test
4S vs. 6S	1.439	27	0.713	1.000	Do Not Test

4S vs. 2I	1.080	27	0.536	1.000	Do Not Test
4S vs. 2S	0.947	27	0.470	1.000	Do Not Test
2S vs. 3I	3.563	27	1.767	1.000	Do Not Test
2S vs. 2C	3.427	27	1.699	1.000	Do Not Test
2S vs. 3C	2.810	27	1.393	1.000	Do Not Test
2S vs. 1S	2.731	27	1.354	1.000	Do Not Test
2S vs. 1C	2.147	27	1.065	1.000	Do Not Test
2S vs. 3S	1.927	27	0.956	1.000	Do Not Test
2S vs. 9S	0.927	27	0.460	1.000	Do Not Test
2S vs. 7C	0.859	27	0.426	1.000	Do Not Test
2S vs. 9I	0.629	27	0.312	1.000	Do Not Test
2S vs. 6S	0.491	27	0.244	1.000	Do Not Test
2S vs. 2I	0.133	27	0.0660	1.000	Do Not Test
2I vs. 3I	3.430	27	1.701	1.000	Do Not Test
2I vs. 2C	3.294	27	1.633	1.000	Do Not Test
2I vs. 3C	2.677	27	1.327	1.000	Do Not Test
2I vs. 1S	2.598	27	1.288	1.000	Do Not Test
2I vs. 1C	2.014	27	0.999	1.000	Do Not Test
2I vs. 3S	1.794	27	0.890	1.000	Do Not Test
2I vs. 9S	0.794	27	0.394	1.000	Do Not Test
2I vs. 7C	0.726	27	0.360	1.000	Do Not Test
2I vs. 9I	0.496	27	0.246	1.000	Do Not Test
2I vs. 6S	0.358	27	0.178	1.000	Do Not Test
6S vs. 3I	3.072	27	1.523	1.000	Do Not Test
6S vs. 2C	2.935	27	1.456	1.000	Do Not Test
6S vs. 3C	2.318	27	1.150	1.000	Do Not Test
6S vs. 1S	2.240	27	1.111	1.000	Do Not Test
6S vs. 1C	1.656	27	0.821	1.000	Do Not Test
6S vs. 3S	1.436	27	0.712	1.000	Do Not Test
6S vs. 9S	0.436	27	0.216	1.000	Do Not Test
6S vs. 7C	0.368	27	0.182	1.000	Do Not Test
6S vs. 9I	0.138	27	0.0684	1.000	Do Not Test
9I vs. 3I	2.934	27	1.455	1.000	Do Not Test
9I vs. 2C	2.797	27	1.387	1.000	Do Not Test
9I vs. 3C	2.180	27	1.081	1.000	Do Not Test
9I vs. 1S	2.102	27	1.042	1.000	Do Not Test
9I vs. 1C	1.518	27	0.753	1.000	Do Not Test
9I vs. 3S	1.298	27	0.644	1.000	Do Not Test
9I vs. 9S	0.298	27	0.148	1.000	Do Not Test
9I vs. 7C	0.230	27	0.114	1.000	Do Not Test
7C vs. 3I	2.704	27	1.341	1.000	Do Not Test
7C vs. 2C	2.567	27	1.273	1.000	Do Not Test
7C vs. 3C	1.950	27	0.967	1.000	Do Not Test
7C vs. 1S	1.872	27	0.928	1.000	Do Not Test
7C vs. 1C	1.288	27	0.639	1.000	Do Not Test
7C vs. 3S	1.068	27	0.530	1.000	Do Not Test
7C vs. 9S	0.0682	27	0.0338	1.000	Do Not Test
9S vs. 3I	2.636	27	1.307	1.000	Do Not Test
9S vs. 2C	2.499	27	1.239	1.000	Do Not Test
9S vs. 3C	1.882	27	0.933	1.000	Do Not Test
9S vs. 1S	1.804	27	0.895	1.000	Do Not Test
9S vs. 1C	1.220	27	0.605	1.000	Do Not Test
9S vs. 3S	1.000	27	0.496	1.000	Do Not Test
3S vs. 3I	1.636	27	0.811	1.000	Do Not Test
3S vs. 2C	1.499	27	0.744	1.000	Do Not Test
3S vs. 3C	0.882	27	0.438	1.000	Do Not Test

3S vs. 1S	0.804	27	0.399	1.000	Do Not Test
3S vs. 1C	0.220	27	0.109	1.000	Do Not Test
1C vs. 3I	1.416	27	0.702	1.000	Do Not Test
1C vs. 2C	1.279	27	0.634	1.000	Do Not Test
1C vs. 3C	0.662	27	0.328	1.000	Do Not Test
1C vs. 1S	0.584	27	0.290	1.000	Do Not Test
1S vs. 3I	0.832	27	0.413	1.000	Do Not Test
1S vs. 2C	0.695	27	0.345	1.000	Do Not Test
1S vs. 3C	0.0784	27	0.0389	1.000	Do Not Test
3C vs. 3I	0.754	27	0.374	1.000	Do Not Test
3C vs. 2C	0.617	27	0.306	1.000	Do Not Test
2C vs. 3I	0.137	27	0.0678	1.000	Do Not Test

A result of "Do Not Test" occurs for a comparison when no significant difference is found between two means that enclose that comparison. For example, if you had four means sorted in order, and found no difference between means 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed means is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the means, even though one may appear to exist.

## One Way Analysis of Variance

Thursday, September 27, 2018, 14:12:23

Data source: SMI in L3 Fetal

Normality Test (Shapiro-Wilk) Passed (P = 0.070)

Equal Variance Test: Passed (P = 0.252)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	3	0	1.636	0.0114	0.00656
1C	3	0	1.694	0.217	0.125
1S	3	0	1.745	0.0320	0.0185
2I	3	0	1.705	0.163	0.0944
2C	3	0	1.246	0.439	0.254
2S	3	0	1.472	0.463	0.267
3I	3	0	1.914	0.128	0.0739
3C	3	0	1.697	0.161	0.0928
3S	3	0	1.704	0.120	0.0695
4I	3	0	1.464	0.561	0.324
4C	3	0	1.259	0.369	0.213
4S	3	0	1.431	0.206	0.119
5I	3	0	0.603	0.797	0.460
5C	3	0	0.239	0.312	0.180
5S	3	0	0.520	0.633	0.365
6I	3	0	1.496	0.423	0.244
6C	3	0	1.385	0.446	0.258
6S	3	0	1.571	0.320	0.185
7I	3	0	1.459	0.308	0.178
7C	3	0	1.720	0.259	0.150
7S	3	0	1.467	0.397	0.229
8I	3	0	0.814	0.945	0.545
8C	3	0	0.101	0.392	0.226
8S	3	0	0.932	0.595	0.344
9I	3	0	1.800	0.254	0.147
9C	3	0	1.497	0.194	0.112
9S	3	0	1.670	0.252	0.146

Source of Variation	DF	SS	MS	F	P
Between Groups	26	18.479	0.711	4.235	<0.001
Residual	54	9.063	0.168		
Total	80	27.542			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 1.000

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

Comparison	Diff of Means	p	q	P	P<0.010
3I vs. 8C	1.812	27	7.662	<0.001	Yes
3I vs. 5C	1.675	27	7.081	0.002	Yes
3I vs. 5S	1.393	27	5.891	0.024	No

3I vs. 5I	1.311	27	5.542	0.047	Do Not Test
3I vs. 8I	1.100	27	4.650	0.217	Do Not Test
3I vs. 8S	0.981	27	4.149	0.417	Do Not Test
3I vs. 2C	0.668	27	2.823	0.954	Do Not Test
3I vs. 4C	0.655	27	2.768	0.962	Do Not Test
3I vs. 6C	0.529	27	2.235	0.997	Do Not Test
3I vs. 4S	0.482	27	2.039	0.999	Do Not Test
3I vs. 7I	0.455	27	1.923	1.000	Do Not Test
3I vs. 4I	0.450	27	1.903	1.000	Do Not Test
3I vs. 7S	0.447	27	1.888	1.000	Do Not Test
3I vs. 2S	0.441	27	1.865	1.000	Do Not Test
3I vs. 6I	0.418	27	1.768	1.000	Do Not Test
3I vs. 9C	0.417	27	1.761	1.000	Do Not Test
3I vs. 6S	0.342	27	1.447	1.000	Do Not Test
3I vs. 1I	0.277	27	1.172	1.000	Do Not Test
3I vs. 9S	0.244	27	1.031	1.000	Do Not Test
3I vs. 1C	0.220	27	0.930	1.000	Do Not Test
3I vs. 3C	0.217	27	0.916	1.000	Do Not Test
3I vs. 3S	0.210	27	0.888	1.000	Do Not Test
3I vs. 2I	0.209	27	0.883	1.000	Do Not Test
3I vs. 7C	0.193	27	0.817	1.000	Do Not Test
3I vs. 1S	0.169	27	0.713	1.000	Do Not Test
3I vs. 9I	0.114	27	0.482	1.000	Do Not Test
9I vs. 8C	1.698	27	7.180	0.001	Yes
9I vs. 5C	1.561	27	6.600	0.005	Yes
9I vs. 5S	1.279	27	5.409	0.061	Do Not Test
9I vs. 5I	1.197	27	5.061	0.113	Do Not Test
9I vs. 8I	0.986	27	4.168	0.409	Do Not Test
9I vs. 8S	0.867	27	3.668	0.658	Do Not Test
9I vs. 2C	0.554	27	2.342	0.995	Do Not Test
9I vs. 4C	0.541	27	2.287	0.996	Do Not Test
9I vs. 6C	0.415	27	1.754	1.000	Do Not Test
9I vs. 4S	0.368	27	1.557	1.000	Do Not Test
9I vs. 7I	0.341	27	1.441	1.000	Do Not Test
9I vs. 4I	0.336	27	1.421	1.000	Do Not Test
9I vs. 7S	0.333	27	1.406	1.000	Do Not Test
9I vs. 2S	0.327	27	1.384	1.000	Do Not Test
9I vs. 6I	0.304	27	1.286	1.000	Do Not Test
9I vs. 9C	0.303	27	1.280	1.000	Do Not Test
9I vs. 6S	0.228	27	0.966	1.000	Do Not Test
9I vs. 1I	0.163	27	0.690	1.000	Do Not Test
9I vs. 9S	0.130	27	0.549	1.000	Do Not Test
9I vs. 1C	0.106	27	0.448	1.000	Do Not Test
9I vs. 3C	0.103	27	0.434	1.000	Do Not Test
9I vs. 3S	0.0962	27	0.407	1.000	Do Not Test
9I vs. 2I	0.0950	27	0.402	1.000	Do Not Test
9I vs. 7C	0.0794	27	0.336	1.000	Do Not Test
9I vs. 1S	0.0546	27	0.231	1.000	Do Not Test
1S vs. 8C	1.644	27	6.949	0.002	Yes
1S vs. 5C	1.506	27	6.369	0.009	Yes
1S vs. 5S	1.225	27	5.178	0.092	Do Not Test
1S vs. 5I	1.142	27	4.830	0.165	Do Not Test
1S vs. 8I	0.931	27	3.937	0.522	Do Not Test
1S vs. 8S	0.813	27	3.437	0.766	Do Not Test
1S vs. 2C	0.499	27	2.111	0.999	Do Not Test
1S vs. 4C	0.486	27	2.056	0.999	Do Not Test



1S vs. 6C	0.360	27	1.523	1.000	Do Not Test
1S vs. 4S	0.314	27	1.326	1.000	Do Not Test
1S vs. 7I	0.286	27	1.210	1.000	Do Not Test
1S vs. 4I	0.282	27	1.190	1.000	Do Not Test
1S vs. 7S	0.278	27	1.175	1.000	Do Not Test
1S vs. 2S	0.273	27	1.153	1.000	Do Not Test
1S vs. 6I	0.250	27	1.055	1.000	Do Not Test
1S vs. 9C	0.248	27	1.049	1.000	Do Not Test
1S vs. 6S	0.174	27	0.735	1.000	Do Not Test
1S vs. 1I	0.109	27	0.459	1.000	Do Not Test
1S vs. 9S	0.0752	27	0.318	1.000	Do Not Test
1S vs. 1C	0.0514	27	0.217	1.000	Do Not Test
1S vs. 3C	0.0481	27	0.203	1.000	Do Not Test
1S vs. 3S	0.0416	27	0.176	1.000	Do Not Test
1S vs. 2I	0.0403	27	0.171	1.000	Do Not Test
1S vs. 7C	0.0247	27	0.105	1.000	Do Not Test
<b>7C vs. 8C</b>	<b>1.619</b>	<b>27</b>	<b>6.845</b>	<b>0.003</b>	<b>Yes</b>
7C vs. 5C	1.482	27	6.264	0.011	No
7C vs. 5S	1.200	27	5.073	0.111	Do Not Test
7C vs. 5I	1.118	27	4.725	0.194	Do Not Test
7C vs. 8I	0.906	27	3.832	0.575	Do Not Test
7C vs. 8S	0.788	27	3.332	0.810	Do Not Test
7C vs. 2C	0.474	27	2.006	0.999	Do Not Test
7C vs. 4C	0.462	27	1.951	1.000	Do Not Test
7C vs. 6C	0.335	27	1.418	1.000	Do Not Test
7C vs. 4S	0.289	27	1.222	1.000	Do Not Test
7C vs. 7I	0.261	27	1.106	1.000	Do Not Test
7C vs. 4I	0.257	27	1.086	1.000	Do Not Test
7C vs. 7S	0.253	27	1.071	1.000	Do Not Test
7C vs. 2S	0.248	27	1.048	1.000	Do Not Test
7C vs. 6I	0.225	27	0.950	1.000	Do Not Test
7C vs. 9C	0.223	27	0.944	1.000	Do Not Test
7C vs. 6S	0.149	27	0.630	1.000	Do Not Test
7C vs. 1I	0.0839	27	0.355	1.000	Do Not Test
7C vs. 9S	0.0505	27	0.213	1.000	Do Not Test
7C vs. 1C	0.0266	27	0.113	1.000	Do Not Test
7C vs. 3C	0.0233	27	0.0986	1.000	Do Not Test
7C vs. 3S	0.0168	27	0.0712	1.000	Do Not Test
7C vs. 2I	0.0156	27	0.0659	1.000	Do Not Test
<b>2I vs. 8C</b>	<b>1.603</b>	<b>27</b>	<b>6.779</b>	<b>0.003</b>	<b>Yes</b>
2I vs. 5C	1.466	27	6.198	0.012	Do Not Test
2I vs. 5S	1.184	27	5.007	0.124	Do Not Test
2I vs. 5I	1.102	27	4.659	0.214	Do Not Test
2I vs. 8I	0.891	27	3.766	0.608	Do Not Test
2I vs. 8S	0.772	27	3.266	0.836	Do Not Test
2I vs. 2C	0.459	27	1.940	1.000	Do Not Test
2I vs. 4C	0.446	27	1.885	1.000	Do Not Test
2I vs. 6C	0.320	27	1.352	1.000	Do Not Test
2I vs. 4S	0.273	27	1.156	1.000	Do Not Test
2I vs. 7I	0.246	27	1.040	1.000	Do Not Test
2I vs. 4I	0.241	27	1.020	1.000	Do Not Test
2I vs. 7S	0.238	27	1.005	1.000	Do Not Test
2I vs. 2S	0.232	27	0.982	1.000	Do Not Test
2I vs. 6I	0.209	27	0.885	1.000	Do Not Test
2I vs. 9C	0.208	27	0.878	1.000	Do Not Test
2I vs. 6S	0.133	27	0.564	1.000	Do Not Test

2I vs. 1I	0.0683	27	0.289	1.000	Do Not Test
2I vs. 9S	0.0349	27	0.147	1.000	Do Not Test
2I vs. 1C	0.0110	27	0.0466	1.000	Do Not Test
2I vs. 3C	0.00773	27	0.0327	1.000	Do Not Test
2I vs. 3S	0.00124	27	0.00524	1.000	Do Not Test
<b>3S vs. 8C</b>	<b>1.602</b>	<b>27</b>	<b>6.773</b>	<b>0.004</b>	<b>Yes</b>
3S vs. 5C	1.465	27	6.193	0.013	Do Not Test
3S vs. 5S	1.183	27	5.002	0.125	Do Not Test
3S vs. 5I	1.101	27	4.654	0.216	Do Not Test
3S vs. 8I	0.890	27	3.761	0.611	Do Not Test
3S vs. 8S	0.771	27	3.261	0.838	Do Not Test
3S vs. 2C	0.458	27	1.935	1.000	Do Not Test
3S vs. 4C	0.445	27	1.880	1.000	Do Not Test
3S vs. 6C	0.319	27	1.347	1.000	Do Not Test
3S vs. 4S	0.272	27	1.151	1.000	Do Not Test
3S vs. 7I	0.245	27	1.034	1.000	Do Not Test
3S vs. 4I	0.240	27	1.014	1.000	Do Not Test
3S vs. 7S	0.236	27	1.000	1.000	Do Not Test
3S vs. 2S	0.231	27	0.977	1.000	Do Not Test
3S vs. 6I	0.208	27	0.879	1.000	Do Not Test
3S vs. 9C	0.206	27	0.873	1.000	Do Not Test
3S vs. 6S	0.132	27	0.559	1.000	Do Not Test
3S vs. 1I	0.0671	27	0.284	1.000	Do Not Test
3S vs. 9S	0.0336	27	0.142	1.000	Do Not Test
3S vs. 1C	0.00978	27	0.0414	1.000	Do Not Test
3S vs. 3C	0.00649	27	0.0274	1.000	Do Not Test
<b>3C vs. 8C</b>	<b>1.596</b>	<b>27</b>	<b>6.746</b>	<b>0.004</b>	<b>Yes</b>
3C vs. 5C	1.458	27	6.166	0.013	Do Not Test
3C vs. 5S	1.177	27	4.975	0.131	Do Not Test
3C vs. 5I	1.094	27	4.626	0.225	Do Not Test
3C vs. 8I	0.883	27	3.734	0.625	Do Not Test
3C vs. 8S	0.765	27	3.233	0.848	Do Not Test
3C vs. 2C	0.451	27	1.907	1.000	Do Not Test
3C vs. 4C	0.438	27	1.853	1.000	Do Not Test
3C vs. 6C	0.312	27	1.319	1.000	Do Not Test
3C vs. 4S	0.266	27	1.123	1.000	Do Not Test
3C vs. 7I	0.238	27	1.007	1.000	Do Not Test
3C vs. 4I	0.233	27	0.987	1.000	Do Not Test
3C vs. 7S	0.230	27	0.972	1.000	Do Not Test
3C vs. 2S	0.225	27	0.950	1.000	Do Not Test
3C vs. 6I	0.201	27	0.852	1.000	Do Not Test
3C vs. 9C	0.200	27	0.846	1.000	Do Not Test
3C vs. 6S	0.126	27	0.532	1.000	Do Not Test
3C vs. 1I	0.0606	27	0.256	1.000	Do Not Test
3C vs. 9S	0.0271	27	0.115	1.000	Do Not Test
3C vs. 1C	0.00329	27	0.0139	1.000	Do Not Test
<b>1C vs. 8C</b>	<b>1.592</b>	<b>27</b>	<b>6.732</b>	<b>0.004</b>	<b>Yes</b>
1C vs. 5C	1.455	27	6.152	0.014	Do Not Test
1C vs. 5S	1.173	27	4.961	0.134	Do Not Test
1C vs. 5I	1.091	27	4.612	0.230	Do Not Test
1C vs. 8I	0.880	27	3.720	0.632	Do Not Test
1C vs. 8S	0.761	27	3.219	0.853	Do Not Test
1C vs. 2C	0.448	27	1.893	1.000	Do Not Test
1C vs. 4C	0.435	27	1.839	1.000	Do Not Test
1C vs. 6C	0.309	27	1.305	1.000	Do Not Test
1C vs. 4S	0.262	27	1.109	1.000	Do Not Test

1C vs. 7I	0.235	27	0.993	1.000	Do Not Test
1C vs. 4I	0.230	27	0.973	1.000	Do Not Test
1C vs. 7S	0.227	27	0.958	1.000	Do Not Test
1C vs. 2S	0.221	27	0.936	1.000	Do Not Test
1C vs. 6I	0.198	27	0.838	1.000	Do Not Test
1C vs. 9C	0.197	27	0.832	1.000	Do Not Test
1C vs. 6S	0.122	27	0.518	1.000	Do Not Test
1C vs. 1I	0.0573	27	0.242	1.000	Do Not Test
1C vs. 9S	0.0238	27	0.101	1.000	Do Not Test
<b>9S vs. 8C</b>	<b>1.568</b>	<b>27</b>	<b>6.631</b>	<b>0.005</b>	<b>Yes</b>
9S vs. 5C	1.431	27	6.051	0.017	Do Not Test
9S vs. 5S	1.149	27	4.860	0.158	Do Not Test
9S vs. 5I	1.067	27	4.512	0.265	Do Not Test
9S vs. 8I	0.856	27	3.619	0.682	Do Not Test
9S vs. 8S	0.738	27	3.119	0.885	Do Not Test
9S vs. 2C	0.424	27	1.793	1.000	Do Not Test
9S vs. 4C	0.411	27	1.738	1.000	Do Not Test
9S vs. 6C	0.285	27	1.205	1.000	Do Not Test
9S vs. 4S	0.239	27	1.009	1.000	Do Not Test
9S vs. 7I	0.211	27	0.892	1.000	Do Not Test
9S vs. 4I	0.206	27	0.872	1.000	Do Not Test
9S vs. 7S	0.203	27	0.858	1.000	Do Not Test
9S vs. 2S	0.197	27	0.835	1.000	Do Not Test
9S vs. 6I	0.174	27	0.737	1.000	Do Not Test
9S vs. 9C	0.173	27	0.731	1.000	Do Not Test
9S vs. 6S	0.0986	27	0.417	1.000	Do Not Test
9S vs. 1I	0.0334	27	0.141	1.000	Do Not Test
<b>1I vs. 8C</b>	<b>1.535</b>	<b>27</b>	<b>6.490</b>	<b>0.007</b>	<b>Yes</b>
1I vs. 5C	1.398	27	5.910	0.023	Do Not Test
1I vs. 5S	1.116	27	4.719	0.196	Do Not Test
1I vs. 5I	1.034	27	4.370	0.320	Do Not Test
1I vs. 8I	0.823	27	3.478	0.748	Do Not Test
1I vs. 8S	0.704	27	2.977	0.923	Do Not Test
1I vs. 2C	0.391	27	1.651	1.000	Do Not Test
1I vs. 4C	0.378	27	1.597	1.000	Do Not Test
1I vs. 6C	0.251	27	1.063	1.000	Do Not Test
1I vs. 4S	0.205	27	0.867	1.000	Do Not Test
1I vs. 7I	0.178	27	0.751	1.000	Do Not Test
1I vs. 4I	0.173	27	0.731	1.000	Do Not Test
1I vs. 7S	0.169	27	0.716	1.000	Do Not Test
1I vs. 2S	0.164	27	0.694	1.000	Do Not Test
1I vs. 6I	0.141	27	0.596	1.000	Do Not Test
1I vs. 9C	0.139	27	0.589	1.000	Do Not Test
1I vs. 6S	0.0652	27	0.276	1.000	Do Not Test
6S vs. 8C	1.470	27	6.214	0.012	No
6S vs. 5C	1.333	27	5.634	0.040	Do Not Test
6S vs. 5S	1.051	27	4.443	0.290	Do Not Test
6S vs. 5I	0.968	27	4.095	0.443	Do Not Test
6S vs. 8I	0.757	27	3.202	0.859	Do Not Test
6S vs. 8S	0.639	27	2.702	0.971	Do Not Test
6S vs. 2C	0.325	27	1.376	1.000	Do Not Test
6S vs. 4C	0.312	27	1.321	1.000	Do Not Test
6S vs. 6C	0.186	27	0.788	1.000	Do Not Test
6S vs. 4S	0.140	27	0.592	1.000	Do Not Test
6S vs. 7I	0.112	27	0.475	1.000	Do Not Test
6S vs. 4I	0.108	27	0.455	1.000	Do Not Test

6S vs. 7S	0.104	27	0.441	1.000	Do Not Test
6S vs. 2S	0.0989	27	0.418	1.000	Do Not Test
6S vs. 6I	0.0757	27	0.320	1.000	Do Not Test
6S vs. 9C	0.0743	27	0.314	1.000	Do Not Test
9C vs. 8C	1.396	27	5.900	0.023	Do Not Test
9C vs. 5C	1.258	27	5.320	0.072	Do Not Test
9C vs. 5S	0.977	27	4.129	0.427	Do Not Test
9C vs. 5I	0.894	27	3.781	0.601	Do Not Test
9C vs. 8I	0.683	27	2.888	0.942	Do Not Test
9C vs. 8S	0.565	27	2.388	0.993	Do Not Test
9C vs. 2C	0.251	27	1.062	1.000	Do Not Test
9C vs. 4C	0.238	27	1.007	1.000	Do Not Test
9C vs. 6C	0.112	27	0.474	1.000	Do Not Test
9C vs. 4S	0.0657	27	0.278	1.000	Do Not Test
9C vs. 7I	0.0382	27	0.161	1.000	Do Not Test
9C vs. 4I	0.0334	27	0.141	1.000	Do Not Test
9C vs. 7S	0.0300	27	0.127	1.000	Do Not Test
9C vs. 2S	0.0246	27	0.104	1.000	Do Not Test
9C vs. 6I	0.00148	27	0.00624	1.000	Do Not Test
6I vs. 8C	1.394	27	5.894	0.023	Do Not Test
6I vs. 5C	1.257	27	5.314	0.072	Do Not Test
6I vs. 5S	0.975	27	4.123	0.430	Do Not Test
6I vs. 5I	0.893	27	3.774	0.604	Do Not Test
6I vs. 8I	0.682	27	2.882	0.943	Do Not Test
6I vs. 8S	0.563	27	2.382	0.994	Do Not Test
6I vs. 2C	0.250	27	1.056	1.000	Do Not Test
6I vs. 4C	0.237	27	1.001	1.000	Do Not Test
6I vs. 6C	0.111	27	0.468	1.000	Do Not Test
6I vs. 4S	0.0642	27	0.271	1.000	Do Not Test
6I vs. 7I	0.0367	27	0.155	1.000	Do Not Test
6I vs. 4I	0.0320	27	0.135	1.000	Do Not Test
6I vs. 7S	0.0285	27	0.120	1.000	Do Not Test
6I vs. 2S	0.0231	27	0.0978	1.000	Do Not Test
2S vs. 8C	1.371	27	5.796	0.029	Do Not Test
2S vs. 5C	1.234	27	5.216	0.086	Do Not Test
2S vs. 5S	0.952	27	4.025	0.478	Do Not Test
2S vs. 5I	0.870	27	3.677	0.653	Do Not Test
2S vs. 8I	0.658	27	2.784	0.960	Do Not Test
2S vs. 8S	0.540	27	2.284	0.996	Do Not Test
2S vs. 2C	0.227	27	0.958	1.000	Do Not Test
2S vs. 4C	0.214	27	0.903	1.000	Do Not Test
2S vs. 6C	0.0875	27	0.370	1.000	Do Not Test
2S vs. 4S	0.0411	27	0.174	1.000	Do Not Test
2S vs. 7I	0.0136	27	0.0573	1.000	Do Not Test
2S vs. 4I	0.00884	27	0.0374	1.000	Do Not Test
2S vs. 7S	0.00534	27	0.0226	1.000	Do Not Test
7S vs. 8C	1.366	27	5.774	0.030	Do Not Test
7S vs. 5C	1.228	27	5.193	0.090	Do Not Test
7S vs. 5S	0.947	27	4.002	0.489	Do Not Test
7S vs. 5I	0.864	27	3.654	0.664	Do Not Test
7S vs. 8I	0.653	27	2.761	0.963	Do Not Test
7S vs. 8S	0.535	27	2.261	0.997	Do Not Test
7S vs. 2C	0.221	27	0.935	1.000	Do Not Test
7S vs. 4C	0.208	27	0.880	1.000	Do Not Test
7S vs. 6C	0.0821	27	0.347	1.000	Do Not Test
7S vs. 4S	0.0357	27	0.151	1.000	Do Not Test

7S vs. 7I	0.00821	27	0.0347	1.000	Do Not Test
7S vs. 4I	0.00350	27	0.0148	1.000	Do Not Test
4I vs. 8C	1.362	27	5.759	0.031	Do Not Test
4I vs. 5C	1.225	27	5.179	0.092	Do Not Test
4I vs. 5S	0.943	27	3.988	0.496	Do Not Test
4I vs. 5I	0.861	27	3.639	0.672	Do Not Test
4I vs. 8I	0.650	27	2.747	0.965	Do Not Test
4I vs. 8S	0.531	27	2.246	0.997	Do Not Test
4I vs. 2C	0.218	27	0.920	1.000	Do Not Test
4I vs. 4C	0.205	27	0.866	1.000	Do Not Test
4I vs. 6C	0.0786	27	0.332	1.000	Do Not Test
4I vs. 4S	0.0322	27	0.136	1.000	Do Not Test
4I vs. 7I	0.00471	27	0.0199	1.000	Do Not Test
7I vs. 8C	1.357	27	5.739	0.032	Do Not Test
7I vs. 5C	1.220	27	5.159	0.096	Do Not Test
7I vs. 5S	0.938	27	3.968	0.506	Do Not Test
7I vs. 5I	0.856	27	3.619	0.681	Do Not Test
7I vs. 8I	0.645	27	2.727	0.968	Do Not Test
7I vs. 8S	0.527	27	2.226	0.997	Do Not Test
7I vs. 2C	0.213	27	0.900	1.000	Do Not Test
7I vs. 4C	0.200	27	0.846	1.000	Do Not Test
7I vs. 6C	0.0739	27	0.312	1.000	Do Not Test
7I vs. 4S	0.0275	27	0.116	1.000	Do Not Test
4S vs. 8C	1.330	27	5.623	0.040	Do Not Test
4S vs. 5C	1.193	27	5.042	0.117	Do Not Test
4S vs. 5S	0.911	27	3.851	0.565	Do Not Test
4S vs. 5I	0.829	27	3.503	0.737	Do Not Test
4S vs. 8I	0.617	27	2.610	0.980	Do Not Test
4S vs. 8S	0.499	27	2.110	0.999	Do Not Test
4S vs. 2C	0.185	27	0.784	1.000	Do Not Test
4S vs. 4C	0.173	27	0.729	1.000	Do Not Test
4S vs. 6C	0.0464	27	0.196	1.000	Do Not Test
6C vs. 8C	1.284	27	5.427	0.059	Do Not Test
6C vs. 5C	1.146	27	4.846	0.161	Do Not Test
6C vs. 5S	0.865	27	3.655	0.664	Do Not Test
6C vs. 5I	0.782	27	3.307	0.820	Do Not Test
6C vs. 8I	0.571	27	2.414	0.992	Do Not Test
6C vs. 8S	0.453	27	1.914	1.000	Do Not Test
6C vs. 2C	0.139	27	0.588	1.000	Do Not Test
6C vs. 4C	0.126	27	0.533	1.000	Do Not Test
4C vs. 8C	1.157	27	4.893	0.149	Do Not Test
4C vs. 5C	1.020	27	4.313	0.344	Do Not Test
4C vs. 5S	0.738	27	3.122	0.884	Do Not Test
4C vs. 5I	0.656	27	2.774	0.961	Do Not Test
4C vs. 8I	0.445	27	1.881	1.000	Do Not Test
4C vs. 8S	0.327	27	1.381	1.000	Do Not Test
4C vs. 2C	0.0130	27	0.0548	1.000	Do Not Test
2C vs. 8C	1.144	27	4.839	0.163	Do Not Test
2C vs. 5C	1.007	27	4.258	0.368	Do Not Test
2C vs. 5S	0.725	27	3.067	0.900	Do Not Test
2C vs. 5I	0.643	27	2.719	0.969	Do Not Test
2C vs. 8I	0.432	27	1.826	1.000	Do Not Test
2C vs. 8S	0.314	27	1.326	1.000	Do Not Test
8S vs. 8C	0.831	27	3.513	0.732	Do Not Test
8S vs. 5C	0.694	27	2.932	0.933	Do Not Test
8S vs. 5S	0.412	27	1.741	1.000	Do Not Test

8S vs. 5I	0.329	27	1.393	1.000	Do Not Test
8S vs. 8I	0.118	27	0.500	1.000	Do Not Test
8I vs. 8C	0.712	27	3.012	0.915	Do Not Test
8I vs. 5C	0.575	27	2.432	0.992	Do Not Test
8I vs. 5S	0.294	27	1.241	1.000	Do Not Test
8I vs. 5I	0.211	27	0.893	1.000	Do Not Test
5I vs. 8C	0.501	27	2.120	0.999	Do Not Test
5I vs. 5C	0.364	27	1.539	1.000	Do Not Test
5I vs. 5S	0.0824	27	0.348	1.000	Do Not Test
5S vs. 8C	0.419	27	1.771	1.000	Do Not Test
5S vs. 5C	0.282	27	1.191	1.000	Do Not Test
5C vs. 8C	0.137	27	0.580	1.000	Do Not Test

A result of "Do Not Test" occurs for a comparison when no significant difference is found between two means that enclose that comparison. For example, if you had four means sorted in order, and found no difference between means 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed means is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the means, even though one may appear to exist.

## One Way Analysis of Variance

Thursday, September 27, 2018, 14:12:55

Data source: Tb.Th in L3 Fetal

Normality Test (Shapiro-Wilk) Passed (P = 0.135)

Equal Variance Test: Passed (P = 0.997)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	3	0	53.694	14.167	8.179
1C	3	0	62.811	3.344	1.930
1S	3	0	49.181	5.620	3.245
2I	3	0	62.707	11.091	6.403
2C	3	0	81.993	13.172	7.605
2S	3	0	65.369	12.827	7.406
3I	3	0	48.563	6.471	3.736
3C	3	0	64.063	7.299	4.214
3S	3	0	47.469	4.959	2.863
4I	3	0	68.908	13.770	7.950
4C	3	0	76.223	12.899	7.447
4S	3	0	64.576	16.054	9.269
5I	3	0	82.739	17.384	10.036
5C	3	0	97.876	21.487	12.406
5S	3	0	79.479	14.523	8.385
6I	3	0	66.435	8.819	5.091
6C	3	0	71.885	11.619	6.709
6S	3	0	61.672	12.652	7.305
7I	3	0	62.251	9.457	5.460
7C	3	0	61.899	3.950	2.280
7S	3	0	59.049	10.806	6.239
8I	3	0	74.637	10.939	6.316
8C	3	0	81.520	15.572	8.990
8S	3	0	69.121	8.743	5.048
9I	3	0	57.156	2.496	1.441
9C	3	0	61.428	5.808	3.353
9S	3	0	56.966	10.915	6.302

Source of Variation	DF	SS	MS	F	P
Between Groups	26	10776.441	414.479	3.104	<0.001
Residual	54	7210.165	133.522		
Total	80	17986.607			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 0.982

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

Comparison	Diff of Means	p	q	P	P<0.010
5C vs. 3S	50.407	27	7.556	<0.001	Yes
5C vs. 3I	49.313	27	7.392	<0.001	Yes
5C vs. 1S	48.696	27	7.299	0.001	Yes

5C vs. 1I	44.182	27	6.623	0.005	Yes
5C vs. 9S	40.910	27	6.132	0.014	No
5C vs. 9I	40.720	27	6.104	0.015	Do Not Test
5C vs. 7S	38.827	27	5.820	0.027	Do Not Test
5C vs. 9C	36.448	27	5.463	0.055	Do Not Test
5C vs. 6S	36.205	27	5.427	0.059	Do Not Test
5C vs. 7C	35.978	27	5.393	0.063	Do Not Test
5C vs. 7I	35.625	27	5.340	0.069	Do Not Test
5C vs. 2I	35.169	27	5.272	0.078	Do Not Test
5C vs. 1C	35.065	27	5.256	0.080	Do Not Test
5C vs. 3C	33.813	27	5.068	0.112	Do Not Test
5C vs. 4S	33.300	27	4.991	0.127	Do Not Test
5C vs. 2S	32.507	27	4.873	0.154	Do Not Test
5C vs. 6I	31.441	27	4.713	0.198	Do Not Test
5C vs. 4I	28.968	27	4.342	0.331	Do Not Test
5C vs. 8S	28.755	27	4.310	0.345	Do Not Test
5C vs. 6C	25.991	27	3.896	0.542	Do Not Test
5C vs. 8I	23.239	27	3.483	0.746	Do Not Test
5C vs. 4C	21.653	27	3.246	0.843	Do Not Test
5C vs. 5S	18.398	27	2.758	0.964	Do Not Test
5C vs. 8C	16.356	27	2.452	0.991	Do Not Test
5C vs. 2C	15.884	27	2.381	0.994	Do Not Test
5C vs. 5I	15.137	27	2.269	0.997	Do Not Test
5I vs. 3S	35.270	27	5.287	0.076	No
5I vs. 3I	34.176	27	5.123	0.102	Do Not Test
5I vs. 1S	33.558	27	5.030	0.119	Do Not Test
5I vs. 1I	29.045	27	4.354	0.327	Do Not Test
5I vs. 9S	25.773	27	3.863	0.559	Do Not Test
5I vs. 9I	25.583	27	3.835	0.573	Do Not Test
5I vs. 7S	23.690	27	3.551	0.714	Do Not Test
5I vs. 9C	21.311	27	3.194	0.861	Do Not Test
5I vs. 6S	21.067	27	3.158	0.873	Do Not Test
5I vs. 7C	20.840	27	3.124	0.884	Do Not Test
5I vs. 7I	20.488	27	3.071	0.899	Do Not Test
5I vs. 2I	20.032	27	3.003	0.917	Do Not Test
5I vs. 1C	19.928	27	2.987	0.921	Do Not Test
5I vs. 3C	18.676	27	2.799	0.958	Do Not Test
5I vs. 4S	18.163	27	2.723	0.968	Do Not Test
5I vs. 2S	17.370	27	2.604	0.981	Do Not Test
5I vs. 6I	16.304	27	2.444	0.991	Do Not Test
5I vs. 4I	13.831	27	2.073	0.999	Do Not Test
5I vs. 8S	13.618	27	2.041	0.999	Do Not Test
5I vs. 6C	10.854	27	1.627	1.000	Do Not Test
5I vs. 8I	8.102	27	1.214	1.000	Do Not Test
5I vs. 4C	6.516	27	0.977	1.000	Do Not Test
5I vs. 5S	3.260	27	0.489	1.000	Do Not Test
5I vs. 8C	1.219	27	0.183	1.000	Do Not Test
5I vs. 2C	0.746	27	0.112	1.000	Do Not Test
2C vs. 3S	34.523	27	5.175	0.093	Do Not Test
2C vs. 3I	33.430	27	5.011	0.123	Do Not Test
2C vs. 1S	32.812	27	4.918	0.143	Do Not Test
2C vs. 1I	28.299	27	4.242	0.375	Do Not Test
2C vs. 9S	25.027	27	3.751	0.616	Do Not Test
2C vs. 9I	24.837	27	3.723	0.630	Do Not Test
2C vs. 7S	22.943	27	3.439	0.765	Do Not Test
2C vs. 9C	20.565	27	3.083	0.896	Do Not Test



2C vs. 6S	20.321	27	3.046	0.906	Do Not Test
2C vs. 7C	20.094	27	3.012	0.915	Do Not Test
2C vs. 7I	19.741	27	2.959	0.927	Do Not Test
2C vs. 2I	19.285	27	2.891	0.942	Do Not Test
2C vs. 1C	19.182	27	2.875	0.945	Do Not Test
2C vs. 3C	17.929	27	2.688	0.972	Do Not Test
2C vs. 4S	17.417	27	2.611	0.980	Do Not Test
2C vs. 2S	16.624	27	2.492	0.989	Do Not Test
2C vs. 6I	15.557	27	2.332	0.995	Do Not Test
2C vs. 4I	13.084	27	1.961	1.000	Do Not Test
2C vs. 8S	12.872	27	1.929	1.000	Do Not Test
2C vs. 6C	10.108	27	1.515	1.000	Do Not Test
2C vs. 8I	7.356	27	1.103	1.000	Do Not Test
2C vs. 4C	5.770	27	0.865	1.000	Do Not Test
2C vs. 5S	2.514	27	0.377	1.000	Do Not Test
2C vs. 8C	0.473	27	0.0709	1.000	Do Not Test
8C vs. 3S	34.051	27	5.104	0.105	Do Not Test
8C vs. 3I	32.957	27	4.940	0.138	Do Not Test
8C vs. 1S	32.339	27	4.847	0.161	Do Not Test
8C vs. 1I	27.826	27	4.171	0.407	Do Not Test
8C vs. 9S	24.554	27	3.680	0.651	Do Not Test
8C vs. 9I	24.364	27	3.652	0.665	Do Not Test
8C vs. 7S	22.471	27	3.368	0.796	Do Not Test
8C vs. 9C	20.092	27	3.012	0.915	Do Not Test
8C vs. 6S	19.848	27	2.975	0.924	Do Not Test
8C vs. 7C	19.621	27	2.941	0.931	Do Not Test
8C vs. 7I	19.269	27	2.888	0.942	Do Not Test
8C vs. 2I	18.813	27	2.820	0.954	Do Not Test
8C vs. 1C	18.709	27	2.804	0.957	Do Not Test
8C vs. 3C	17.457	27	2.617	0.980	Do Not Test
8C vs. 4S	16.944	27	2.540	0.986	Do Not Test
8C vs. 2S	16.151	27	2.421	0.992	Do Not Test
8C vs. 6I	15.085	27	2.261	0.997	Do Not Test
8C vs. 4I	12.611	27	1.890	1.000	Do Not Test
8C vs. 8S	12.399	27	1.859	1.000	Do Not Test
8C vs. 6C	9.635	27	1.444	1.000	Do Not Test
8C vs. 8I	6.883	27	1.032	1.000	Do Not Test
8C vs. 4C	5.297	27	0.794	1.000	Do Not Test
8C vs. 5S	2.041	27	0.306	1.000	Do Not Test
5S vs. 3S	32.009	27	4.798	0.174	Do Not Test
5S vs. 3I	30.916	27	4.634	0.222	Do Not Test
5S vs. 1S	30.298	27	4.541	0.254	Do Not Test
5S vs. 1I	25.785	27	3.865	0.558	Do Not Test
5S vs. 9S	22.513	27	3.375	0.793	Do Not Test
5S vs. 9I	22.323	27	3.346	0.805	Do Not Test
5S vs. 7S	20.429	27	3.062	0.902	Do Not Test
5S vs. 9C	18.051	27	2.706	0.970	Do Not Test
5S vs. 6S	17.807	27	2.669	0.974	Do Not Test
5S vs. 7C	17.580	27	2.635	0.978	Do Not Test
5S vs. 7I	17.227	27	2.582	0.983	Do Not Test
5S vs. 2I	16.771	27	2.514	0.987	Do Not Test
5S vs. 1C	16.668	27	2.498	0.988	Do Not Test
5S vs. 3C	15.415	27	2.311	0.996	Do Not Test
5S vs. 4S	14.902	27	2.234	0.997	Do Not Test
5S vs. 2S	14.110	27	2.115	0.999	Do Not Test
5S vs. 6I	13.043	27	1.955	1.000	Do Not Test

5S vs. 4I	10.570	27	1.584	1.000	Do Not Test
5S vs. 8S	10.358	27	1.553	1.000	Do Not Test
5S vs. 6C	7.594	27	1.138	1.000	Do Not Test
5S vs. 8I	4.842	27	0.726	1.000	Do Not Test
5S vs. 4C	3.256	27	0.488	1.000	Do Not Test
4C vs. 3S	28.754	27	4.310	0.345	Do Not Test
4C vs. 3I	27.660	27	4.146	0.419	Do Not Test
4C vs. 1S	27.042	27	4.053	0.463	Do Not Test
4C vs. 1I	22.529	27	3.377	0.792	Do Not Test
4C vs. 9S	19.257	27	2.887	0.943	Do Not Test
4C vs. 9I	19.067	27	2.858	0.948	Do Not Test
4C vs. 7S	17.174	27	2.574	0.983	Do Not Test
4C vs. 9C	14.795	27	2.218	0.998	Do Not Test
4C vs. 6S	14.551	27	2.181	0.998	Do Not Test
4C vs. 7C	14.324	27	2.147	0.999	Do Not Test
4C vs. 7I	13.972	27	2.094	0.999	Do Not Test
4C vs. 2I	13.516	27	2.026	0.999	Do Not Test
4C vs. 1C	13.412	27	2.010	0.999	Do Not Test
4C vs. 3C	12.160	27	1.823	1.000	Do Not Test
4C vs. 4S	11.647	27	1.746	1.000	Do Not Test
4C vs. 2S	10.854	27	1.627	1.000	Do Not Test
4C vs. 6I	9.788	27	1.467	1.000	Do Not Test
4C vs. 4I	7.315	27	1.096	1.000	Do Not Test
4C vs. 8S	7.102	27	1.065	1.000	Do Not Test
4C vs. 6C	4.338	27	0.650	1.000	Do Not Test
4C vs. 8I	1.586	27	0.238	1.000	Do Not Test
8I vs. 3S	27.168	27	4.072	0.454	Do Not Test
8I vs. 3I	26.074	27	3.908	0.536	Do Not Test
8I vs. 1S	25.456	27	3.816	0.583	Do Not Test
8I vs. 1I	20.943	27	3.139	0.879	Do Not Test
8I vs. 9S	17.671	27	2.649	0.977	Do Not Test
8I vs. 9I	17.481	27	2.620	0.979	Do Not Test
8I vs. 7S	15.588	27	2.337	0.995	Do Not Test
8I vs. 9C	13.209	27	1.980	1.000	Do Not Test
8I vs. 6S	12.965	27	1.943	1.000	Do Not Test
8I vs. 7C	12.738	27	1.909	1.000	Do Not Test
8I vs. 7I	12.386	27	1.857	1.000	Do Not Test
8I vs. 2I	11.930	27	1.788	1.000	Do Not Test
8I vs. 1C	11.826	27	1.773	1.000	Do Not Test
8I vs. 3C	10.574	27	1.585	1.000	Do Not Test
8I vs. 4S	10.061	27	1.508	1.000	Do Not Test
8I vs. 2S	9.268	27	1.389	1.000	Do Not Test
8I vs. 6I	8.202	27	1.229	1.000	Do Not Test
8I vs. 4I	5.729	27	0.859	1.000	Do Not Test
8I vs. 8S	5.516	27	0.827	1.000	Do Not Test
8I vs. 6C	2.752	27	0.413	1.000	Do Not Test
6C vs. 3S	24.416	27	3.660	0.661	Do Not Test
6C vs. 3I	23.322	27	3.496	0.740	Do Not Test
6C vs. 1S	22.704	27	3.403	0.781	Do Not Test
6C vs. 1I	18.191	27	2.727	0.968	Do Not Test
6C vs. 9S	14.919	27	2.236	0.997	Do Not Test
6C vs. 9I	14.729	27	2.208	0.998	Do Not Test
6C vs. 7S	12.836	27	1.924	1.000	Do Not Test
6C vs. 9C	10.457	27	1.567	1.000	Do Not Test
6C vs. 6S	10.213	27	1.531	1.000	Do Not Test
6C vs. 7C	9.986	27	1.497	1.000	Do Not Test

6C vs. 7I	9.633	27	1.444	1.000	Do Not Test
6C vs. 2I	9.178	27	1.376	1.000	Do Not Test
6C vs. 1C	9.074	27	1.360	1.000	Do Not Test
6C vs. 3C	7.822	27	1.172	1.000	Do Not Test
6C vs. 4S	7.309	27	1.096	1.000	Do Not Test
6C vs. 2S	6.516	27	0.977	1.000	Do Not Test
6C vs. 6I	5.450	27	0.817	1.000	Do Not Test
6C vs. 4I	2.976	27	0.446	1.000	Do Not Test
6C vs. 8S	2.764	27	0.414	1.000	Do Not Test
8S vs. 3S	21.652	27	3.245	0.843	Do Not Test
8S vs. 3I	20.558	27	3.082	0.896	Do Not Test
8S vs. 1S	19.940	27	2.989	0.921	Do Not Test
8S vs. 1I	15.427	27	2.312	0.996	Do Not Test
8S vs. 9S	12.155	27	1.822	1.000	Do Not Test
8S vs. 9I	11.965	27	1.794	1.000	Do Not Test
8S vs. 7S	10.072	27	1.510	1.000	Do Not Test
8S vs. 9C	7.693	27	1.153	1.000	Do Not Test
8S vs. 6S	7.449	27	1.117	1.000	Do Not Test
8S vs. 7C	7.223	27	1.083	1.000	Do Not Test
8S vs. 7I	6.870	27	1.030	1.000	Do Not Test
8S vs. 2I	6.414	27	0.961	1.000	Do Not Test
8S vs. 1C	6.310	27	0.946	1.000	Do Not Test
8S vs. 3C	5.058	27	0.758	1.000	Do Not Test
8S vs. 4S	4.545	27	0.681	1.000	Do Not Test
8S vs. 2S	3.752	27	0.562	1.000	Do Not Test
8S vs. 6I	2.686	27	0.403	1.000	Do Not Test
8S vs. 4I	0.213	27	0.0319	1.000	Do Not Test
4I vs. 3S	21.439	27	3.214	0.855	Do Not Test
4I vs. 3I	20.345	27	3.050	0.905	Do Not Test
4I vs. 1S	19.728	27	2.957	0.928	Do Not Test
4I vs. 1I	15.214	27	2.281	0.996	Do Not Test
4I vs. 9S	11.942	27	1.790	1.000	Do Not Test
4I vs. 9I	11.752	27	1.762	1.000	Do Not Test
4I vs. 7S	9.859	27	1.478	1.000	Do Not Test
4I vs. 9C	7.481	27	1.121	1.000	Do Not Test
4I vs. 6S	7.237	27	1.085	1.000	Do Not Test
4I vs. 7C	7.010	27	1.051	1.000	Do Not Test
4I vs. 7I	6.657	27	0.998	1.000	Do Not Test
4I vs. 2I	6.201	27	0.930	1.000	Do Not Test
4I vs. 1C	6.097	27	0.914	1.000	Do Not Test
4I vs. 3C	4.845	27	0.726	1.000	Do Not Test
4I vs. 4S	4.332	27	0.649	1.000	Do Not Test
4I vs. 2S	3.539	27	0.531	1.000	Do Not Test
4I vs. 6I	2.473	27	0.371	1.000	Do Not Test
6I vs. 3S	18.966	27	2.843	0.951	Do Not Test
6I vs. 3I	17.872	27	2.679	0.973	Do Not Test
6I vs. 1S	17.254	27	2.586	0.982	Do Not Test
6I vs. 1I	12.741	27	1.910	1.000	Do Not Test
6I vs. 9S	9.469	27	1.419	1.000	Do Not Test
6I vs. 9I	9.279	27	1.391	1.000	Do Not Test
6I vs. 7S	7.386	27	1.107	1.000	Do Not Test
6I vs. 9C	5.007	27	0.751	1.000	Do Not Test
6I vs. 6S	4.764	27	0.714	1.000	Do Not Test
6I vs. 7C	4.537	27	0.680	1.000	Do Not Test
6I vs. 7I	4.184	27	0.627	1.000	Do Not Test
6I vs. 2I	3.728	27	0.559	1.000	Do Not Test

6I vs. 1C	3.624	27	0.543	1.000	Do Not Test
6I vs. 3C	2.372	27	0.356	1.000	Do Not Test
6I vs. 4S	1.859	27	0.279	1.000	Do Not Test
6I vs. 2S	1.066	27	0.160	1.000	Do Not Test
2S vs. 3S	17.900	27	2.683	0.973	Do Not Test
2S vs. 3I	16.806	27	2.519	0.987	Do Not Test
2S vs. 1S	16.188	27	2.427	0.992	Do Not Test
2S vs. 1I	11.675	27	1.750	1.000	Do Not Test
2S vs. 9S	8.403	27	1.260	1.000	Do Not Test
2S vs. 9I	8.213	27	1.231	1.000	Do Not Test
2S vs. 7S	6.320	27	0.947	1.000	Do Not Test
2S vs. 9C	3.941	27	0.591	1.000	Do Not Test
2S vs. 6S	3.697	27	0.554	1.000	Do Not Test
2S vs. 7C	3.470	27	0.520	1.000	Do Not Test
2S vs. 7I	3.118	27	0.467	1.000	Do Not Test
2S vs. 2I	2.662	27	0.399	1.000	Do Not Test
2S vs. 1C	2.558	27	0.383	1.000	Do Not Test
2S vs. 3C	1.306	27	0.196	1.000	Do Not Test
2S vs. 4S	0.793	27	0.119	1.000	Do Not Test
4S vs. 3S	17.107	27	2.564	0.984	Do Not Test
4S vs. 3I	16.013	27	2.400	0.993	Do Not Test
4S vs. 1S	15.395	27	2.308	0.996	Do Not Test
4S vs. 1I	10.882	27	1.631	1.000	Do Not Test
4S vs. 9S	7.610	27	1.141	1.000	Do Not Test
4S vs. 9I	7.420	27	1.112	1.000	Do Not Test
4S vs. 7S	5.527	27	0.828	1.000	Do Not Test
4S vs. 9C	3.148	27	0.472	1.000	Do Not Test
4S vs. 6S	2.904	27	0.435	1.000	Do Not Test
4S vs. 7C	2.678	27	0.401	1.000	Do Not Test
4S vs. 7I	2.325	27	0.348	1.000	Do Not Test
4S vs. 2I	1.869	27	0.280	1.000	Do Not Test
4S vs. 1C	1.765	27	0.265	1.000	Do Not Test
4S vs. 3C	0.513	27	0.0769	1.000	Do Not Test
3C vs. 3S	16.594	27	2.487	0.989	Do Not Test
3C vs. 3I	15.500	27	2.323	0.995	Do Not Test
3C vs. 1S	14.882	27	2.231	0.997	Do Not Test
3C vs. 1I	10.369	27	1.554	1.000	Do Not Test
3C vs. 9S	7.097	27	1.064	1.000	Do Not Test
3C vs. 9I	6.907	27	1.035	1.000	Do Not Test
3C vs. 7S	5.014	27	0.752	1.000	Do Not Test
3C vs. 9C	2.635	27	0.395	1.000	Do Not Test
3C vs. 6S	2.392	27	0.358	1.000	Do Not Test
3C vs. 7C	2.165	27	0.324	1.000	Do Not Test
3C vs. 7I	1.812	27	0.272	1.000	Do Not Test
3C vs. 2I	1.356	27	0.203	1.000	Do Not Test
3C vs. 1C	1.252	27	0.188	1.000	Do Not Test
1C vs. 3S	15.342	27	2.300	0.996	Do Not Test
1C vs. 3I	14.248	27	2.136	0.999	Do Not Test
1C vs. 1S	13.630	27	2.043	0.999	Do Not Test
1C vs. 1I	9.117	27	1.367	1.000	Do Not Test
1C vs. 9S	5.845	27	0.876	1.000	Do Not Test
1C vs. 9I	5.655	27	0.848	1.000	Do Not Test
1C vs. 7S	3.762	27	0.564	1.000	Do Not Test
1C vs. 9C	1.383	27	0.207	1.000	Do Not Test
1C vs. 6S	1.139	27	0.171	1.000	Do Not Test
1C vs. 7C	0.912	27	0.137	1.000	Do Not Test

1C vs. 7I	0.560	27	0.0839	1.000	Do Not Test
1C vs. 2I	0.104	27	0.0156	1.000	Do Not Test
2I vs. 3S	15.238	27	2.284	0.996	Do Not Test
2I vs. 3I	14.144	27	2.120	0.999	Do Not Test
2I vs. 1S	13.526	27	2.028	0.999	Do Not Test
2I vs. 1I	9.013	27	1.351	1.000	Do Not Test
2I vs. 9S	5.741	27	0.861	1.000	Do Not Test
2I vs. 9I	5.551	27	0.832	1.000	Do Not Test
2I vs. 7S	3.658	27	0.548	1.000	Do Not Test
2I vs. 9C	1.279	27	0.192	1.000	Do Not Test
2I vs. 6S	1.036	27	0.155	1.000	Do Not Test
2I vs. 7C	0.809	27	0.121	1.000	Do Not Test
2I vs. 7I	0.456	27	0.0683	1.000	Do Not Test
7I vs. 3S	14.782	27	2.216	0.998	Do Not Test
7I vs. 3I	13.688	27	2.052	0.999	Do Not Test
7I vs. 1S	13.071	27	1.959	1.000	Do Not Test
7I vs. 1I	8.557	27	1.283	1.000	Do Not Test
7I vs. 9S	5.285	27	0.792	1.000	Do Not Test
7I vs. 9I	5.095	27	0.764	1.000	Do Not Test
7I vs. 7S	3.202	27	0.480	1.000	Do Not Test
7I vs. 9C	0.824	27	0.123	1.000	Do Not Test
7I vs. 6S	0.580	27	0.0869	1.000	Do Not Test
7I vs. 7C	0.353	27	0.0529	1.000	Do Not Test
7C vs. 3S	14.429	27	2.163	0.998	Do Not Test
7C vs. 3I	13.336	27	1.999	1.000	Do Not Test
7C vs. 1S	12.718	27	1.906	1.000	Do Not Test
7C vs. 1I	8.205	27	1.230	1.000	Do Not Test
7C vs. 9S	4.933	27	0.739	1.000	Do Not Test
7C vs. 9I	4.743	27	0.711	1.000	Do Not Test
7C vs. 7S	2.849	27	0.427	1.000	Do Not Test
7C vs. 9C	0.471	27	0.0706	1.000	Do Not Test
7C vs. 6S	0.227	27	0.0340	1.000	Do Not Test
6S vs. 3S	14.202	27	2.129	0.999	Do Not Test
6S vs. 3I	13.109	27	1.965	1.000	Do Not Test
6S vs. 1S	12.491	27	1.872	1.000	Do Not Test
6S vs. 1I	7.978	27	1.196	1.000	Do Not Test
6S vs. 9S	4.706	27	0.705	1.000	Do Not Test
6S vs. 9I	4.516	27	0.677	1.000	Do Not Test
6S vs. 7S	2.622	27	0.393	1.000	Do Not Test
6S vs. 9C	0.244	27	0.0366	1.000	Do Not Test
9C vs. 3S	13.958	27	2.092	0.999	Do Not Test
9C vs. 3I	12.865	27	1.928	1.000	Do Not Test
9C vs. 1S	12.247	27	1.836	1.000	Do Not Test
9C vs. 1I	7.734	27	1.159	1.000	Do Not Test
9C vs. 9S	4.462	27	0.669	1.000	Do Not Test
9C vs. 9I	4.272	27	0.640	1.000	Do Not Test
9C vs. 7S	2.378	27	0.357	1.000	Do Not Test
7S vs. 3S	11.580	27	1.736	1.000	Do Not Test
7S vs. 3I	10.486	27	1.572	1.000	Do Not Test
7S vs. 1S	9.869	27	1.479	1.000	Do Not Test
7S vs. 1I	5.355	27	0.803	1.000	Do Not Test
7S vs. 9S	2.083	27	0.312	1.000	Do Not Test
7S vs. 9I	1.893	27	0.284	1.000	Do Not Test
9I vs. 3S	9.687	27	1.452	1.000	Do Not Test
9I vs. 3I	8.593	27	1.288	1.000	Do Not Test
9I vs. 1S	7.975	27	1.195	1.000	Do Not Test

9I vs. 1I	3.462	27	0.519	1.000	Do Not Test
9I vs. 9S	0.190	27	0.0285	1.000	Do Not Test
9S vs. 3S	9.497	27	1.424	1.000	Do Not Test
9S vs. 3I	8.403	27	1.260	1.000	Do Not Test
9S vs. 1S	7.785	27	1.167	1.000	Do Not Test
9S vs. 1I	3.272	27	0.490	1.000	Do Not Test
1I vs. 3S	6.225	27	0.933	1.000	Do Not Test
1I vs. 3I	5.131	27	0.769	1.000	Do Not Test
1I vs. 1S	4.513	27	0.677	1.000	Do Not Test
1S vs. 3S	1.711	27	0.257	1.000	Do Not Test
1S vs. 3I	0.618	27	0.0926	1.000	Do Not Test
3I vs. 3S	1.094	27	0.164	1.000	Do Not Test

A result of "Do Not Test" occurs for a comparison when no significant difference is found between two means that enclose that comparison. For example, if you had four means sorted in order, and found no difference between means 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed means is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the means, even though one may appear to exist.

## One Way Analysis of Variance

Thursday, September 27, 2018, 14:13:24

Data source: Tb.N in L3 Fetal

Normality Test (Shapiro-Wilk) Passed (P = 0.118)

Equal Variance Test: Passed (P = 0.982)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	3	0	0.00534	0.00148	0.000855
1C	3	0	0.00360	0.000847	0.000489
1S	3	0	0.00445	0.000684	0.000395
2I	3	0	0.00401	0.000893	0.000515
2C	3	0	0.00262	0.000624	0.000360
2S	3	0	0.00383	0.000533	0.000307
3I	3	0	0.00442	0.00101	0.000581
3C	3	0	0.00347	0.000781	0.000451
3S	3	0	0.00481	0.000501	0.000290
4I	3	0	0.00426	0.00119	0.000689
4C	3	0	0.00367	0.000854	0.000493
4S	3	0	0.00408	0.000743	0.000429
5I	3	0	0.00441	0.00146	0.000841
5C	3	0	0.00318	0.000618	0.000357
5S	3	0	0.00432	0.000987	0.000570
6I	3	0	0.00400	0.000737	0.000426
6C	3	0	0.00371	0.000976	0.000564
6S	3	0	0.00405	0.000993	0.000574
7I	3	0	0.00462	0.000977	0.000564
7C	3	0	0.00387	0.000832	0.000480
7S	3	0	0.00456	0.00127	0.000731
8I	3	0	0.00442	0.00116	0.000672
8C	3	0	0.00331	0.000179	0.000103
8S	3	0	0.00431	0.00125	0.000723
9I	3	0	0.00419	0.000439	0.000253
9C	3	0	0.00425	0.000465	0.000268
9S	3	0	0.00422	0.000557	0.000322

Source of Variation	DF	SS	MS	F	P
Between Groups	26	0.0000237	0.000000912	1.103	0.371
Residual	54	0.0000446	0.000000826		
Total	80	0.0000683			

The differences in the mean values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.371).

Power of performed test with alpha = 0.050: 0.089

The power of the performed test (0.089) is below the desired power of 0.800. Less than desired power indicates you are less likely to detect a difference when one actually exists. Negative results should be interpreted cautiously.

## One Way Analysis of Variance

Thursday, September 27, 2018, 14:13:54

Data source: Tb.Sp in L3 Fetal

Normality Test (Shapiro-Wilk) Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

Thursday, September 27, 2018, 14:13:54

Data source: Tb.Sp in L3 Fetal

Group	N	Missing	Median	25%	75%
1I	3	0	121.686	89.118	169.042
1C	3	0	188.164	143.576	235.869
1S	3	0	163.817	110.150	169.368
2I	3	0	154.940	137.434	205.504
2C	3	0	367.229	203.927	452.710
2S	3	0	188.364	138.997	200.961
3I	3	0	134.817	100.489	176.599
3C	3	0	188.706	150.364	242.512
3S	3	0	109.524	109.170	156.910
4I	3	0	136.383	133.987	194.140
4C	3	0	164.408	146.193	230.892
4S	3	0	159.031	139.165	187.153
5I	3	0	187.287	139.496	192.574
5C	3	0	264.402	237.228	319.575
5S	3	0	167.826	165.344	221.418
6I	3	0	149.205	143.244	180.000
6C	3	0	160.763	149.163	230.327
6S	3	0	152.297	126.912	199.716
7I	3	0	130.356	119.803	172.084
7C	3	0	174.242	125.794	204.397
7S	3	0	140.320	108.974	193.052
8I	3	0	172.247	135.661	182.425
8C	3	0	338.465	291.493	442.601
8S	3	0	143.900	143.008	285.912
9I	3	0	137.674	125.925	166.837
9C	3	0	155.217	130.999	162.155
9S	3	0	158.067	135.677	164.884

H = 37.320 with 26 degrees of freedom. (P = 0.070)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.070)



## One Way Analysis of Variance

Thursday, September 27, 2018, 14:14:22

Data source: DA in L3 Fetal

Normality Test (Shapiro-Wilk) Passed (P = 0.747)

Equal Variance Test: Passed (P = 0.497)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	3	0	0.297	0.111	0.0642
1C	3	0	0.264	0.135	0.0779
1S	3	0	0.396	0.0218	0.0126
2I	3	0	0.351	0.0839	0.0484
2C	3	0	0.261	0.0364	0.0210
2S	3	0	0.365	0.119	0.0687
3I	3	0	0.348	0.0145	0.00839
3C	3	0	0.375	0.0742	0.0428
3S	3	0	0.425	0.121	0.0700
4I	3	0	0.431	0.0647	0.0373
4C	3	0	0.474	0.0803	0.0464
4S	3	0	0.428	0.0296	0.0171
5I	3	0	0.391	0.0966	0.0558
5C	3	0	0.269	0.0643	0.0371
5S	3	0	0.371	0.0594	0.0343
6I	3	0	0.435	0.0269	0.0155
6C	3	0	0.499	0.0648	0.0374
6S	3	0	0.344	0.111	0.0642
7I	3	0	0.452	0.0585	0.0338
7C	3	0	0.510	0.0615	0.0355
7S	3	0	0.465	0.0201	0.0116
8I	3	0	0.410	0.103	0.0597
8C	3	0	0.324	0.142	0.0822
8S	3	0	0.393	0.0415	0.0240
9I	3	0	0.411	0.0222	0.0128
9C	3	0	0.397	0.0678	0.0391
9S	3	0	0.355	0.0688	0.0397

Source of Variation	DF	SS	MS	F	P
Between Groups	26	0.353	0.0136	2.158	0.009
Residual	54	0.340	0.00629		
Total	80	0.693			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.009).

Power of performed test with alpha = 0.050: 0.774

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

Comparison	Diff of Means	p	q	P	P<0.010
7C vs. 2C	0.249	27	5.438	0.058	No
7C vs. 1C	0.246	27	5.365	0.066	Do Not Test
7C vs. 5C	0.241	27	5.263	0.079	Do Not Test

7C vs. 1I	0.213	27	4.658	0.215	Do Not Test
7C vs. 8C	0.186	27	4.059	0.461	Do Not Test
7C vs. 6S	0.166	27	3.616	0.683	Do Not Test
7C vs. 3I	0.162	27	3.546	0.717	Do Not Test
7C vs. 2I	0.160	27	3.484	0.745	Do Not Test
7C vs. 9S	0.156	27	3.397	0.783	Do Not Test
7C vs. 2S	0.145	27	3.159	0.873	Do Not Test
7C vs. 5S	0.139	27	3.043	0.907	Do Not Test
7C vs. 3C	0.135	27	2.940	0.932	Do Not Test
7C vs. 5I	0.119	27	2.595	0.982	Do Not Test
7C vs. 8S	0.117	27	2.551	0.985	Do Not Test
7C vs. 1S	0.114	27	2.487	0.989	Do Not Test
7C vs. 9C	0.113	27	2.475	0.990	Do Not Test
7C vs. 8I	0.0996	27	2.176	0.998	Do Not Test
7C vs. 9I	0.0990	27	2.163	0.998	Do Not Test
7C vs. 3S	0.0849	27	1.855	1.000	Do Not Test
7C vs. 4S	0.0823	27	1.797	1.000	Do Not Test
7C vs. 4I	0.0795	27	1.736	1.000	Do Not Test
7C vs. 6I	0.0749	27	1.636	1.000	Do Not Test
7C vs. 7I	0.0581	27	1.268	1.000	Do Not Test
7C vs. 7S	0.0456	27	0.996	1.000	Do Not Test
7C vs. 4C	0.0363	27	0.793	1.000	Do Not Test
7C vs. 6C	0.0111	27	0.242	1.000	Do Not Test
6C vs. 2C	0.238	27	5.196	0.089	Do Not Test
6C vs. 1C	0.235	27	5.123	0.102	Do Not Test
6C vs. 5C	0.230	27	5.022	0.121	Do Not Test
6C vs. 1I	0.202	27	4.416	0.301	Do Not Test
6C vs. 8C	0.175	27	3.817	0.582	Do Not Test
6C vs. 6S	0.155	27	3.374	0.793	Do Not Test
6C vs. 3I	0.151	27	3.304	0.821	Do Not Test
6C vs. 2I	0.148	27	3.242	0.845	Do Not Test
6C vs. 9S	0.145	27	3.155	0.874	Do Not Test
6C vs. 2S	0.134	27	2.917	0.937	Do Not Test
6C vs. 5S	0.128	27	2.801	0.957	Do Not Test
6C vs. 3C	0.124	27	2.698	0.971	Do Not Test
6C vs. 5I	0.108	27	2.353	0.995	Do Not Test
6C vs. 8S	0.106	27	2.309	0.996	Do Not Test
6C vs. 1S	0.103	27	2.245	0.997	Do Not Test
6C vs. 9C	0.102	27	2.233	0.997	Do Not Test
6C vs. 8I	0.0886	27	1.934	1.000	Do Not Test
6C vs. 9I	0.0880	27	1.921	1.000	Do Not Test
6C vs. 3S	0.0739	27	1.613	1.000	Do Not Test
6C vs. 4S	0.0712	27	1.555	1.000	Do Not Test
6C vs. 4I	0.0684	27	1.495	1.000	Do Not Test
6C vs. 6I	0.0638	27	1.394	1.000	Do Not Test
6C vs. 7I	0.0470	27	1.026	1.000	Do Not Test
6C vs. 7S	0.0345	27	0.754	1.000	Do Not Test
6C vs. 4C	0.0252	27	0.551	1.000	Do Not Test
4C vs. 2C	0.213	27	4.646	0.219	Do Not Test
4C vs. 1C	0.209	27	4.572	0.243	Do Not Test
4C vs. 5C	0.205	27	4.471	0.280	Do Not Test
4C vs. 1I	0.177	27	3.865	0.558	Do Not Test
4C vs. 8C	0.150	27	3.266	0.836	Do Not Test
4C vs. 6S	0.129	27	2.824	0.954	Do Not Test
4C vs. 3I	0.126	27	2.753	0.964	Do Not Test
4C vs. 2I	0.123	27	2.691	0.972	Do Not Test

4C vs. 9S	0.119	27	2.605	0.981	Do Not Test
4C vs. 2S	0.108	27	2.366	0.994	Do Not Test
4C vs. 5S	0.103	27	2.250	0.997	Do Not Test
4C vs. 3C	0.0984	27	2.148	0.998	Do Not Test
4C vs. 5I	0.0825	27	1.802	1.000	Do Not Test
4C vs. 8S	0.0805	27	1.758	1.000	Do Not Test
4C vs. 1S	0.0776	27	1.694	1.000	Do Not Test
4C vs. 9C	0.0770	27	1.682	1.000	Do Not Test
4C vs. 8I	0.0633	27	1.383	1.000	Do Not Test
4C vs. 9I	0.0627	27	1.370	1.000	Do Not Test
4C vs. 3S	0.0486	27	1.062	1.000	Do Not Test
4C vs. 4S	0.0460	27	1.004	1.000	Do Not Test
4C vs. 4I	0.0432	27	0.944	1.000	Do Not Test
4C vs. 6I	0.0386	27	0.843	1.000	Do Not Test
4C vs. 7I	0.0218	27	0.476	1.000	Do Not Test
4C vs. 7S	0.00929	27	0.203	1.000	Do Not Test
7S vs. 2C	0.203	27	4.443	0.291	Do Not Test
7S vs. 1C	0.200	27	4.369	0.320	Do Not Test
7S vs. 5C	0.195	27	4.268	0.363	Do Not Test
7S vs. 1I	0.168	27	3.662	0.660	Do Not Test
7S vs. 8C	0.140	27	3.064	0.901	Do Not Test
7S vs. 6S	0.120	27	2.621	0.979	Do Not Test
7S vs. 3I	0.117	27	2.551	0.985	Do Not Test
7S vs. 2I	0.114	27	2.488	0.989	Do Not Test
7S vs. 9S	0.110	27	2.402	0.993	Do Not Test
7S vs. 2S	0.0991	27	2.163	0.998	Do Not Test
7S vs. 5S	0.0938	27	2.048	0.999	Do Not Test
7S vs. 3C	0.0891	27	1.945	1.000	Do Not Test
7S vs. 5I	0.0732	27	1.599	1.000	Do Not Test
7S vs. 8S	0.0712	27	1.555	1.000	Do Not Test
7S vs. 1S	0.0683	27	1.491	1.000	Do Not Test
7S vs. 9C	0.0677	27	1.479	1.000	Do Not Test
7S vs. 8I	0.0540	27	1.180	1.000	Do Not Test
7S vs. 9I	0.0534	27	1.167	1.000	Do Not Test
7S vs. 3S	0.0393	27	0.859	1.000	Do Not Test
7S vs. 4S	0.0367	27	0.802	1.000	Do Not Test
7S vs. 4I	0.0339	27	0.741	1.000	Do Not Test
7S vs. 6I	0.0293	27	0.640	1.000	Do Not Test
7S vs. 7I	0.0125	27	0.273	1.000	Do Not Test
7I vs. 2C	0.191	27	4.170	0.408	Do Not Test
7I vs. 1C	0.188	27	4.096	0.443	Do Not Test
7I vs. 5C	0.183	27	3.995	0.492	Do Not Test
7I vs. 1I	0.155	27	3.389	0.787	Do Not Test
7I vs. 8C	0.128	27	2.791	0.959	Do Not Test
7I vs. 6S	0.108	27	2.348	0.995	Do Not Test
7I vs. 3I	0.104	27	2.278	0.996	Do Not Test
7I vs. 2I	0.101	27	2.215	0.998	Do Not Test
7I vs. 9S	0.0975	27	2.129	0.999	Do Not Test
7I vs. 2S	0.0866	27	1.890	1.000	Do Not Test
7I vs. 5S	0.0813	27	1.775	1.000	Do Not Test
7I vs. 3C	0.0766	27	1.672	1.000	Do Not Test
7I vs. 5I	0.0607	27	1.326	1.000	Do Not Test
7I vs. 8S	0.0587	27	1.282	1.000	Do Not Test
7I vs. 1S	0.0558	27	1.218	1.000	Do Not Test
7I vs. 9C	0.0552	27	1.206	1.000	Do Not Test
7I vs. 8I	0.0415	27	0.907	1.000	Do Not Test

7I vs. 9I	0.0409	27	0.894	1.000	Do Not Test
7I vs. 3S	0.0269	27	0.586	1.000	Do Not Test
7I vs. 4S	0.0242	27	0.529	1.000	Do Not Test
7I vs. 4I	0.0214	27	0.468	1.000	Do Not Test
7I vs. 6I	0.0168	27	0.367	1.000	Do Not Test
6I vs. 2C	0.174	27	3.803	0.590	Do Not Test
6I vs. 1C	0.171	27	3.729	0.627	Do Not Test
6I vs. 5C	0.166	27	3.628	0.677	Do Not Test
6I vs. 1I	0.138	27	3.022	0.912	Do Not Test
6I vs. 8C	0.111	27	2.423	0.992	Do Not Test
6I vs. 6S	0.0907	27	1.981	1.000	Do Not Test
6I vs. 3I	0.0875	27	1.910	1.000	Do Not Test
6I vs. 2I	0.0846	27	1.848	1.000	Do Not Test
6I vs. 9S	0.0807	27	1.762	1.000	Do Not Test
6I vs. 2S	0.0697	27	1.523	1.000	Do Not Test
6I vs. 5S	0.0645	27	1.407	1.000	Do Not Test
6I vs. 3C	0.0598	27	1.305	1.000	Do Not Test
6I vs. 5I	0.0439	27	0.959	1.000	Do Not Test
6I vs. 8S	0.0419	27	0.915	1.000	Do Not Test
6I vs. 1S	0.0390	27	0.851	1.000	Do Not Test
6I vs. 9C	0.0384	27	0.839	1.000	Do Not Test
6I vs. 8I	0.0247	27	0.540	1.000	Do Not Test
6I vs. 9I	0.0241	27	0.527	1.000	Do Not Test
6I vs. 3S	0.0100	27	0.219	1.000	Do Not Test
6I vs. 4S	0.00740	27	0.162	1.000	Do Not Test
6I vs. 4I	0.00462	27	0.101	1.000	Do Not Test
4I vs. 2C	0.170	27	3.702	0.641	Do Not Test
4I vs. 1C	0.166	27	3.628	0.677	Do Not Test
4I vs. 5C	0.162	27	3.527	0.725	Do Not Test
4I vs. 1I	0.134	27	2.921	0.936	Do Not Test
4I vs. 8C	0.106	27	2.323	0.995	Do Not Test
4I vs. 6S	0.0861	27	1.880	1.000	Do Not Test
4I vs. 3I	0.0829	27	1.810	1.000	Do Not Test
4I vs. 2I	0.0800	27	1.747	1.000	Do Not Test
4I vs. 9S	0.0761	27	1.661	1.000	Do Not Test
4I vs. 2S	0.0651	27	1.422	1.000	Do Not Test
4I vs. 5S	0.0598	27	1.307	1.000	Do Not Test
4I vs. 3C	0.0551	27	1.204	1.000	Do Not Test
4I vs. 5I	0.0393	27	0.858	1.000	Do Not Test
4I vs. 8S	0.0373	27	0.814	1.000	Do Not Test
4I vs. 1S	0.0344	27	0.750	1.000	Do Not Test
4I vs. 9C	0.0338	27	0.738	1.000	Do Not Test
4I vs. 8I	0.0201	27	0.439	1.000	Do Not Test
4I vs. 9I	0.0195	27	0.426	1.000	Do Not Test
4I vs. 3S	0.00542	27	0.118	1.000	Do Not Test
4I vs. 4S	0.00278	27	0.0607	1.000	Do Not Test
4S vs. 2C	0.167	27	3.641	0.671	Do Not Test
4S vs. 1C	0.163	27	3.568	0.706	Do Not Test
4S vs. 5C	0.159	27	3.466	0.753	Do Not Test
4S vs. 1I	0.131	27	2.860	0.947	Do Not Test
4S vs. 8C	0.104	27	2.262	0.997	Do Not Test
4S vs. 6S	0.0833	27	1.819	1.000	Do Not Test
4S vs. 3I	0.0801	27	1.749	1.000	Do Not Test
4S vs. 2I	0.0772	27	1.687	1.000	Do Not Test
4S vs. 9S	0.0733	27	1.600	1.000	Do Not Test
4S vs. 2S	0.0623	27	1.361	1.000	Do Not Test

4S vs. 5S	0.0571	27	1.246	1.000	Do Not Test
4S vs. 3C	0.0524	27	1.143	1.000	Do Not Test
4S vs. 5I	0.0365	27	0.797	1.000	Do Not Test
4S vs. 8S	0.0345	27	0.753	1.000	Do Not Test
4S vs. 1S	0.0316	27	0.690	1.000	Do Not Test
4S vs. 9C	0.0310	27	0.678	1.000	Do Not Test
4S vs. 8I	0.0173	27	0.378	1.000	Do Not Test
4S vs. 9I	0.0167	27	0.365	1.000	Do Not Test
4S vs. 3S	0.00264	27	0.0576	1.000	Do Not Test
3S vs. 2C	0.164	27	3.584	0.699	Do Not Test
3S vs. 1C	0.161	27	3.510	0.733	Do Not Test
3S vs. 5C	0.156	27	3.409	0.779	Do Not Test
3S vs. 1I	0.128	27	2.803	0.957	Do Not Test
3S vs. 8C	0.101	27	2.204	0.998	Do Not Test
3S vs. 6S	0.0807	27	1.761	1.000	Do Not Test
3S vs. 3I	0.0775	27	1.691	1.000	Do Not Test
3S vs. 2I	0.0746	27	1.629	1.000	Do Not Test
3S vs. 9S	0.0706	27	1.542	1.000	Do Not Test
3S vs. 2S	0.0597	27	1.304	1.000	Do Not Test
3S vs. 5S	0.0544	27	1.188	1.000	Do Not Test
3S vs. 3C	0.0497	27	1.086	1.000	Do Not Test
3S vs. 5I	0.0339	27	0.740	1.000	Do Not Test
3S vs. 8S	0.0319	27	0.696	1.000	Do Not Test
3S vs. 1S	0.0289	27	0.632	1.000	Do Not Test
3S vs. 9C	0.0284	27	0.620	1.000	Do Not Test
3S vs. 8I	0.0147	27	0.321	1.000	Do Not Test
3S vs. 9I	0.0141	27	0.308	1.000	Do Not Test
9I vs. 2C	0.150	27	3.276	0.832	Do Not Test
9I vs. 1C	0.147	27	3.202	0.858	Do Not Test
9I vs. 5C	0.142	27	3.101	0.891	Do Not Test
9I vs. 1I	0.114	27	2.495	0.988	Do Not Test
9I vs. 8C	0.0869	27	1.897	1.000	Do Not Test
9I vs. 6S	0.0666	27	1.454	1.000	Do Not Test
9I vs. 3I	0.0634	27	1.384	1.000	Do Not Test
9I vs. 2I	0.0605	27	1.321	1.000	Do Not Test
9I vs. 9S	0.0565	27	1.235	1.000	Do Not Test
9I vs. 2S	0.0456	27	0.996	1.000	Do Not Test
9I vs. 5S	0.0403	27	0.881	1.000	Do Not Test
9I vs. 3C	0.0356	27	0.778	1.000	Do Not Test
9I vs. 5I	0.0198	27	0.432	1.000	Do Not Test
9I vs. 8S	0.0178	27	0.388	1.000	Do Not Test
9I vs. 1S	0.0148	27	0.324	1.000	Do Not Test
9I vs. 9C	0.0143	27	0.312	1.000	Do Not Test
9I vs. 8I	0.000597	27	0.0130	1.000	Do Not Test
8I vs. 2C	0.149	27	3.263	0.837	Do Not Test
8I vs. 1C	0.146	27	3.189	0.863	Do Not Test
8I vs. 5C	0.141	27	3.088	0.894	Do Not Test
8I vs. 1I	0.114	27	2.482	0.989	Do Not Test
8I vs. 8C	0.0863	27	1.884	1.000	Do Not Test
8I vs. 6S	0.0660	27	1.441	1.000	Do Not Test
8I vs. 3I	0.0628	27	1.371	1.000	Do Not Test
8I vs. 2I	0.0599	27	1.308	1.000	Do Not Test
8I vs. 9S	0.0559	27	1.222	1.000	Do Not Test
8I vs. 2S	0.0450	27	0.983	1.000	Do Not Test
8I vs. 5S	0.0397	27	0.868	1.000	Do Not Test
8I vs. 3C	0.0350	27	0.765	1.000	Do Not Test

8I vs. 5I	0.0192	27	0.419	1.000	Do Not Test
8I vs. 8S	0.0172	27	0.375	1.000	Do Not Test
8I vs. 1S	0.0142	27	0.311	1.000	Do Not Test
8I vs. 9C	0.0137	27	0.299	1.000	Do Not Test
9C vs. 2C	0.136	27	2.963	0.926	Do Not Test
9C vs. 1C	0.132	27	2.890	0.942	Do Not Test
9C vs. 5C	0.128	27	2.789	0.959	Do Not Test
9C vs. 1I	0.1000	27	2.183	0.998	Do Not Test
9C vs. 8C	0.0726	27	1.584	1.000	Do Not Test
9C vs. 6S	0.0523	27	1.141	1.000	Do Not Test
9C vs. 3I	0.0491	27	1.071	1.000	Do Not Test
9C vs. 2I	0.0462	27	1.009	1.000	Do Not Test
9C vs. 9S	0.0422	27	0.922	1.000	Do Not Test
9C vs. 2S	0.0313	27	0.684	1.000	Do Not Test
9C vs. 5S	0.0260	27	0.568	1.000	Do Not Test
9C vs. 3C	0.0213	27	0.466	1.000	Do Not Test
9C vs. 5I	0.00548	27	0.120	1.000	Do Not Test
9C vs. 8S	0.00347	27	0.0758	1.000	Do Not Test
9C vs. 1S	0.000547	27	0.0119	1.000	Do Not Test
1S vs. 2C	0.135	27	2.952	0.929	Do Not Test
1S vs. 1C	0.132	27	2.878	0.944	Do Not Test
1S vs. 5C	0.127	27	2.777	0.961	Do Not Test
1S vs. 1I	0.0994	27	2.171	0.998	Do Not Test
1S vs. 8C	0.0720	27	1.572	1.000	Do Not Test
1S vs. 6S	0.0517	27	1.129	1.000	Do Not Test
1S vs. 3I	0.0485	27	1.059	1.000	Do Not Test
1S vs. 2I	0.0457	27	0.997	1.000	Do Not Test
1S vs. 9S	0.0417	27	0.910	1.000	Do Not Test
1S vs. 2S	0.0308	27	0.672	1.000	Do Not Test
1S vs. 5S	0.0255	27	0.556	1.000	Do Not Test
1S vs. 3C	0.0208	27	0.454	1.000	Do Not Test
1S vs. 5I	0.00494	27	0.108	1.000	Do Not Test
1S vs. 8S	0.00293	27	0.0639	1.000	Do Not Test
8S vs. 2C	0.132	27	2.888	0.942	Do Not Test
8S vs. 1C	0.129	27	2.814	0.955	Do Not Test
8S vs. 5C	0.124	27	2.713	0.970	Do Not Test
8S vs. 1I	0.0965	27	2.107	0.999	Do Not Test
8S vs. 8C	0.0691	27	1.509	1.000	Do Not Test
8S vs. 6S	0.0488	27	1.066	1.000	Do Not Test
8S vs. 3I	0.0456	27	0.995	1.000	Do Not Test
8S vs. 2I	0.0427	27	0.933	1.000	Do Not Test
8S vs. 9S	0.0388	27	0.847	1.000	Do Not Test
8S vs. 2S	0.0278	27	0.608	1.000	Do Not Test
8S vs. 5S	0.0226	27	0.493	1.000	Do Not Test
8S vs. 3C	0.0178	27	0.390	1.000	Do Not Test
8S vs. 5I	0.00201	27	0.0439	1.000	Do Not Test
5I vs. 2C	0.130	27	2.844	0.950	Do Not Test
5I vs. 1C	0.127	27	2.770	0.962	Do Not Test
5I vs. 5C	0.122	27	2.669	0.975	Do Not Test
5I vs. 1I	0.0945	27	2.063	0.999	Do Not Test
5I vs. 8C	0.0671	27	1.465	1.000	Do Not Test
5I vs. 6S	0.0468	27	1.022	1.000	Do Not Test
5I vs. 3I	0.0436	27	0.952	1.000	Do Not Test
5I vs. 2I	0.0407	27	0.889	1.000	Do Not Test
5I vs. 9S	0.0368	27	0.803	1.000	Do Not Test
5I vs. 2S	0.0258	27	0.564	1.000	Do Not Test

5I vs. 5S	0.0205	27	0.449	1.000	Do Not Test
5I vs. 3C	0.0158	27	0.346	1.000	Do Not Test
3C vs. 2C	0.114	27	2.498	0.988	Do Not Test
3C vs. 1C	0.111	27	2.424	0.992	Do Not Test
3C vs. 5C	0.106	27	2.323	0.995	Do Not Test
3C vs. 1I	0.0786	27	1.717	1.000	Do Not Test
3C vs. 8C	0.0512	27	1.119	1.000	Do Not Test
3C vs. 6S	0.0310	27	0.676	1.000	Do Not Test
3C vs. 3I	0.0277	27	0.606	1.000	Do Not Test
3C vs. 2I	0.0249	27	0.543	1.000	Do Not Test
3C vs. 9S	0.0209	27	0.457	1.000	Do Not Test
3C vs. 2S	0.00999	27	0.218	1.000	Do Not Test
3C vs. 5S	0.00471	27	0.103	1.000	Do Not Test
5S vs. 2C	0.110	27	2.395	0.993	Do Not Test
5S vs. 1C	0.106	27	2.322	0.995	Do Not Test
5S vs. 5C	0.102	27	2.220	0.998	Do Not Test
5S vs. 1I	0.0739	27	1.614	1.000	Do Not Test
5S vs. 8C	0.0465	27	1.016	1.000	Do Not Test
5S vs. 6S	0.0262	27	0.573	1.000	Do Not Test
5S vs. 3I	0.0230	27	0.503	1.000	Do Not Test
5S vs. 2I	0.0202	27	0.441	1.000	Do Not Test
5S vs. 9S	0.0162	27	0.354	1.000	Do Not Test
5S vs. 2S	0.00529	27	0.115	1.000	Do Not Test
2S vs. 2C	0.104	27	2.280	0.996	Do Not Test
2S vs. 1C	0.101	27	2.206	0.998	Do Not Test
2S vs. 5C	0.0964	27	2.105	0.999	Do Not Test
2S vs. 1I	0.0687	27	1.499	1.000	Do Not Test
2S vs. 8C	0.0412	27	0.901	1.000	Do Not Test
2S vs. 6S	0.0210	27	0.458	1.000	Do Not Test
2S vs. 3I	0.0177	27	0.388	1.000	Do Not Test
2S vs. 2I	0.0149	27	0.325	1.000	Do Not Test
2S vs. 9S	0.0109	27	0.239	1.000	Do Not Test
9S vs. 2C	0.0935	27	2.041	0.999	Do Not Test
9S vs. 1C	0.0901	27	1.968	1.000	Do Not Test
9S vs. 5C	0.0855	27	1.866	1.000	Do Not Test
9S vs. 1I	0.0577	27	1.260	1.000	Do Not Test
9S vs. 8C	0.0303	27	0.662	1.000	Do Not Test
9S vs. 6S	0.0100	27	0.219	1.000	Do Not Test
9S vs. 3I	0.00682	27	0.149	1.000	Do Not Test
9S vs. 2I	0.00397	27	0.0867	1.000	Do Not Test
2I vs. 2C	0.0895	27	1.954	1.000	Do Not Test
2I vs. 1C	0.0861	27	1.881	1.000	Do Not Test
2I vs. 5C	0.0815	27	1.780	1.000	Do Not Test
2I vs. 1I	0.0538	27	1.174	1.000	Do Not Test
2I vs. 8C	0.0263	27	0.575	1.000	Do Not Test
2I vs. 6S	0.00606	27	0.132	1.000	Do Not Test
2I vs. 3I	0.00285	27	0.0622	1.000	Do Not Test
3I vs. 2C	0.0867	27	1.892	1.000	Do Not Test
3I vs. 1C	0.0833	27	1.819	1.000	Do Not Test
3I vs. 5C	0.0786	27	1.717	1.000	Do Not Test
3I vs. 1I	0.0509	27	1.112	1.000	Do Not Test
3I vs. 8C	0.0235	27	0.513	1.000	Do Not Test
3I vs. 6S	0.00321	27	0.0701	1.000	Do Not Test
6S vs. 2C	0.0834	27	1.822	1.000	Do Not Test
6S vs. 1C	0.0801	27	1.749	1.000	Do Not Test
6S vs. 5C	0.0754	27	1.647	1.000	Do Not Test

6S vs. 1I	0.0477	27	1.041	1.000	Do Not Test
6S vs. 8C	0.0203	27	0.443	1.000	Do Not Test
8C vs. 2C	0.0632	27	1.379	1.000	Do Not Test
8C vs. 1C	0.0598	27	1.306	1.000	Do Not Test
8C vs. 5C	0.0552	27	1.204	1.000	Do Not Test
8C vs. 1I	0.0274	27	0.599	1.000	Do Not Test
1I vs. 2C	0.0358	27	0.781	1.000	Do Not Test
1I vs. 1C	0.0324	27	0.707	1.000	Do Not Test
1I vs. 5C	0.0277	27	0.606	1.000	Do Not Test
5C vs. 2C	0.00801	27	0.175	1.000	Do Not Test
5C vs. 1C	0.00464	27	0.101	1.000	Do Not Test
1C vs. 2C	0.00336	27	0.0734	1.000	Do Not Test

A result of "Do Not Test" occurs for a comparison when no significant difference is found between two means that enclose that comparison. For example, if you had four means sorted in order, and found no difference between means 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed means is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the means, even though one may appear to exist.



## One Way Analysis of Variance

26 January 2019 20:35:52

Data source: BV/TV in L5 Fetal

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:35:52

Data source: BV/TV in L5 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	36.164	36.135	36.192
1C	2	0	30.294	28.038	32.549
1S	2	0	33.008	32.958	33.059
2I	2	0	31.421	31.190	31.653
2C	2	0	28.977	25.782	32.172
2S	2	0	31.997	31.160	32.833
3I	2	0	32.432	30.629	34.235
3C	2	0	29.621	28.256	30.985
3S	2	0	30.696	29.381	32.010
4I	2	0	36.628	35.884	37.372
4C	2	0	34.107	32.913	35.301
4S	2	0	36.997	35.027	38.967
5I	2	0	41.704	40.682	42.726
5C	2	0	36.592	35.949	37.235
5S	2	0	40.566	39.799	41.334
6I	2	0	37.802	36.954	38.650
6C	2	0	34.349	32.479	36.220
6S	2	0	35.282	33.326	37.239
7I	2	0	31.497	23.666	39.327
7C	2	0	32.529	31.775	33.284
7S	2	0	35.397	34.895	35.898
8I	2	0	41.751	41.276	42.227
8C	2	0	36.707	35.669	37.744
8S	2	0	39.449	34.822	44.077
9I	2	0	34.876	30.741	39.012
9C	2	0	27.069	26.935	27.203
9S	2	0	29.161	27.269	31.053

H = 40.158 with 26 degrees of freedom. (P = 0.038)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.038)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
5I vs 9C	95.000	4.270	0.333	No
5I vs 9S	85.000	3.820	0.586	Do Not Test

5I vs 3C	84.000	3.776	0.613	Do Not Test
5I vs 2C	82.000	3.686	0.667	Do Not Test
5I vs 3S	77.000	3.461	0.789	Do Not Test
5I vs 1C	76.000	3.416	0.810	Do Not Test
5I vs 2I	73.000	3.281	0.864	Do Not Test
5I vs 2S	68.000	3.056	0.926	Do Not Test
5I vs 3I	66.000	2.966	0.944	Do Not Test
5I vs 7C	61.000	2.742	0.974	Do Not Test
5I vs 1S	55.000	2.472	0.993	Do Not Test
5I vs 7I	54.000	2.427	0.994	Do Not Test
5I vs 4C	49.000	2.202	0.999	Do Not Test
5I vs 9I	46.000	2.068	1.000	Do Not Test
5I vs 6C	45.000	2.023	1.000	Do Not Test
5I vs 7S	39.000	1.753	1.000	Do Not Test
5I vs 6S	35.000	1.573	1.000	Do Not Test
5I vs 1I	29.000	1.303	1.000	Do Not Test
5I vs 5C	27.000	1.214	1.000	Do Not Test
5I vs 4I	27.000	1.214	1.000	Do Not Test
5I vs 4S	27.000	1.214	1.000	Do Not Test
5I vs 8C	27.000	1.214	1.000	Do Not Test
5I vs 8S	20.000	0.899	1.000	Do Not Test
5I vs 6I	19.000	0.854	1.000	Do Not Test
5I vs 5S	3.000	0.135	1.000	Do Not Test
5I vs 8I	0.000	0.000	1.000	Do Not Test
8I vs 9C	95.000	4.270	0.333	Do Not Test
8I vs 9S	85.000	3.820	0.586	Do Not Test
8I vs 3C	84.000	3.776	0.613	Do Not Test
8I vs 2C	82.000	3.686	0.667	Do Not Test
8I vs 3S	77.000	3.461	0.789	Do Not Test
8I vs 1C	76.000	3.416	0.810	Do Not Test
8I vs 2I	73.000	3.281	0.864	Do Not Test
8I vs 2S	68.000	3.056	0.926	Do Not Test
8I vs 3I	66.000	2.966	0.944	Do Not Test
8I vs 7C	61.000	2.742	0.974	Do Not Test
8I vs 1S	55.000	2.472	0.993	Do Not Test
8I vs 7I	54.000	2.427	0.994	Do Not Test
8I vs 4C	49.000	2.202	0.999	Do Not Test
8I vs 9I	46.000	2.068	1.000	Do Not Test
8I vs 6C	45.000	2.023	1.000	Do Not Test
8I vs 7S	39.000	1.753	1.000	Do Not Test
8I vs 6S	35.000	1.573	1.000	Do Not Test
8I vs 1I	29.000	1.303	1.000	Do Not Test
8I vs 5C	27.000	1.214	1.000	Do Not Test
8I vs 4I	27.000	1.214	1.000	Do Not Test
8I vs 4S	27.000	1.214	1.000	Do Not Test
8I vs 8C	27.000	1.214	1.000	Do Not Test
8I vs 8S	20.000	0.899	1.000	Do Not Test
8I vs 6I	19.000	0.854	1.000	Do Not Test
8I vs 5S	3.000	0.135	1.000	Do Not Test
5S vs 9C	92.000	4.135	0.402	Do Not Test
5S vs 9S	82.000	3.686	0.667	Do Not Test
5S vs 3C	81.000	3.641	0.693	Do Not Test
5S vs 2C	79.000	3.551	0.743	Do Not Test
5S vs 3S	74.000	3.326	0.847	Do Not Test
5S vs 1C	73.000	3.281	0.864	Do Not Test
5S vs 2I	70.000	3.146	0.905	Do Not Test

5S vs 2S	65.000	2.922	0.951	Do Not Test
5S vs 3I	63.000	2.832	0.964	Do Not Test
5S vs 7C	58.000	2.607	0.985	Do Not Test
5S vs 1S	52.000	2.337	0.997	Do Not Test
5S vs 7I	51.000	2.292	0.998	Do Not Test
5S vs 4C	46.000	2.068	1.000	Do Not Test
5S vs 9I	43.000	1.933	1.000	Do Not Test
5S vs 6C	42.000	1.888	1.000	Do Not Test
5S vs 7S	36.000	1.618	1.000	Do Not Test
5S vs 6S	32.000	1.438	1.000	Do Not Test
5S vs 1I	26.000	1.169	1.000	Do Not Test
5S vs 5C	24.000	1.079	1.000	Do Not Test
5S vs 4I	24.000	1.079	1.000	Do Not Test
5S vs 4S	24.000	1.079	1.000	Do Not Test
5S vs 8C	24.000	1.079	1.000	Do Not Test
5S vs 8S	17.000	0.764	1.000	Do Not Test
5S vs 6I	16.000	0.719	1.000	Do Not Test
6I vs 9C	76.000	3.416	0.810	Do Not Test
6I vs 9S	66.000	2.966	0.944	Do Not Test
6I vs 3C	65.000	2.922	0.951	Do Not Test
6I vs 2C	63.000	2.832	0.964	Do Not Test
6I vs 3S	58.000	2.607	0.985	Do Not Test
6I vs 1C	57.000	2.562	0.988	Do Not Test
6I vs 2I	54.000	2.427	0.994	Do Not Test
6I vs 2S	49.000	2.202	0.999	Do Not Test
6I vs 3I	47.000	2.112	0.999	Do Not Test
6I vs 7C	42.000	1.888	1.000	Do Not Test
6I vs 1S	36.000	1.618	1.000	Do Not Test
6I vs 7I	35.000	1.573	1.000	Do Not Test
6I vs 4C	30.000	1.348	1.000	Do Not Test
6I vs 9I	27.000	1.214	1.000	Do Not Test
6I vs 6C	26.000	1.169	1.000	Do Not Test
6I vs 7S	20.000	0.899	1.000	Do Not Test
6I vs 6S	16.000	0.719	1.000	Do Not Test
6I vs 1I	10.000	0.449	1.000	Do Not Test
6I vs 5C	8.000	0.360	1.000	Do Not Test
6I vs 4I	8.000	0.360	1.000	Do Not Test
6I vs 4S	8.000	0.360	1.000	Do Not Test
6I vs 8C	8.000	0.360	1.000	Do Not Test
6I vs 8S	1.000	0.0449	1.000	Do Not Test
8S vs 9C	75.000	3.371	0.829	Do Not Test
8S vs 9S	65.000	2.922	0.951	Do Not Test
8S vs 3C	64.000	2.877	0.958	Do Not Test
8S vs 2C	62.000	2.787	0.969	Do Not Test
8S vs 3S	57.000	2.562	0.988	Do Not Test
8S vs 1C	56.000	2.517	0.991	Do Not Test
8S vs 2I	53.000	2.382	0.996	Do Not Test
8S vs 2S	48.000	2.157	0.999	Do Not Test
8S vs 3I	46.000	2.068	1.000	Do Not Test
8S vs 7C	41.000	1.843	1.000	Do Not Test
8S vs 1S	35.000	1.573	1.000	Do Not Test
8S vs 7I	34.000	1.528	1.000	Do Not Test
8S vs 4C	29.000	1.303	1.000	Do Not Test
8S vs 9I	26.000	1.169	1.000	Do Not Test
8S vs 6C	25.000	1.124	1.000	Do Not Test
8S vs 7S	19.000	0.854	1.000	Do Not Test

8S vs 6S	15.000	0.674	1.000	Do Not Test
8S vs 1I	9.000	0.405	1.000	Do Not Test
8S vs 5C	7.000	0.315	1.000	Do Not Test
8S vs 4I	7.000	0.315	1.000	Do Not Test
8S vs 4S	7.000	0.315	1.000	Do Not Test
8S vs 8C	7.000	0.315	1.000	Do Not Test
8C vs 9C	68.000	3.056	0.926	Do Not Test
8C vs 9S	58.000	2.607	0.985	Do Not Test
8C vs 3C	57.000	2.562	0.988	Do Not Test
8C vs 2C	55.000	2.472	0.993	Do Not Test
8C vs 3S	50.000	2.247	0.998	Do Not Test
8C vs 1C	49.000	2.202	0.999	Do Not Test
8C vs 2I	46.000	2.068	1.000	Do Not Test
8C vs 2S	41.000	1.843	1.000	Do Not Test
8C vs 3I	39.000	1.753	1.000	Do Not Test
8C vs 7C	34.000	1.528	1.000	Do Not Test
8C vs 1S	28.000	1.259	1.000	Do Not Test
8C vs 7I	27.000	1.214	1.000	Do Not Test
8C vs 4C	22.000	0.989	1.000	Do Not Test
8C vs 9I	19.000	0.854	1.000	Do Not Test
8C vs 6C	18.000	0.809	1.000	Do Not Test
8C vs 7S	12.000	0.539	1.000	Do Not Test
8C vs 6S	8.000	0.360	1.000	Do Not Test
8C vs 1I	2.000	0.0899	1.000	Do Not Test
8C vs 5C	0.000	0.000	1.000	Do Not Test
8C vs 4I	0.000	0.000	1.000	Do Not Test
8C vs 4S	0.000	0.000	1.000	Do Not Test
4S vs 9C	68.000	3.056	0.926	Do Not Test
4S vs 9S	58.000	2.607	0.985	Do Not Test
4S vs 3C	57.000	2.562	0.988	Do Not Test
4S vs 2C	55.000	2.472	0.993	Do Not Test
4S vs 3S	50.000	2.247	0.998	Do Not Test
4S vs 1C	49.000	2.202	0.999	Do Not Test
4S vs 2I	46.000	2.068	1.000	Do Not Test
4S vs 2S	41.000	1.843	1.000	Do Not Test
4S vs 3I	39.000	1.753	1.000	Do Not Test
4S vs 7C	34.000	1.528	1.000	Do Not Test
4S vs 1S	28.000	1.259	1.000	Do Not Test
4S vs 7I	27.000	1.214	1.000	Do Not Test
4S vs 4C	22.000	0.989	1.000	Do Not Test
4S vs 9I	19.000	0.854	1.000	Do Not Test
4S vs 6C	18.000	0.809	1.000	Do Not Test
4S vs 7S	12.000	0.539	1.000	Do Not Test
4S vs 6S	8.000	0.360	1.000	Do Not Test
4S vs 1I	2.000	0.0899	1.000	Do Not Test
4S vs 5C	0.000	0.000	1.000	Do Not Test
4S vs 4I	0.000	0.000	1.000	Do Not Test
4I vs 9C	68.000	3.056	0.926	Do Not Test
4I vs 9S	58.000	2.607	0.985	Do Not Test
4I vs 3C	57.000	2.562	0.988	Do Not Test
4I vs 2C	55.000	2.472	0.993	Do Not Test
4I vs 3S	50.000	2.247	0.998	Do Not Test
4I vs 1C	49.000	2.202	0.999	Do Not Test
4I vs 2I	46.000	2.068	1.000	Do Not Test
4I vs 2S	41.000	1.843	1.000	Do Not Test
4I vs 3I	39.000	1.753	1.000	Do Not Test

4I vs 7C	34.000	1.528	1.000	Do Not Test
4I vs 1S	28.000	1.259	1.000	Do Not Test
4I vs 7I	27.000	1.214	1.000	Do Not Test
4I vs 4C	22.000	0.989	1.000	Do Not Test
4I vs 9I	19.000	0.854	1.000	Do Not Test
4I vs 6C	18.000	0.809	1.000	Do Not Test
4I vs 7S	12.000	0.539	1.000	Do Not Test
4I vs 6S	8.000	0.360	1.000	Do Not Test
4I vs 1I	2.000	0.0899	1.000	Do Not Test
4I vs 5C	0.000	0.000	1.000	Do Not Test
5C vs 9C	68.000	3.056	0.926	Do Not Test
5C vs 9S	58.000	2.607	0.985	Do Not Test
5C vs 3C	57.000	2.562	0.988	Do Not Test
5C vs 2C	55.000	2.472	0.993	Do Not Test
5C vs 3S	50.000	2.247	0.998	Do Not Test
5C vs 1C	49.000	2.202	0.999	Do Not Test
5C vs 2I	46.000	2.068	1.000	Do Not Test
5C vs 2S	41.000	1.843	1.000	Do Not Test
5C vs 3I	39.000	1.753	1.000	Do Not Test
5C vs 7C	34.000	1.528	1.000	Do Not Test
5C vs 1S	28.000	1.259	1.000	Do Not Test
5C vs 7I	27.000	1.214	1.000	Do Not Test
5C vs 4C	22.000	0.989	1.000	Do Not Test
5C vs 9I	19.000	0.854	1.000	Do Not Test
5C vs 6C	18.000	0.809	1.000	Do Not Test
5C vs 7S	12.000	0.539	1.000	Do Not Test
5C vs 6S	8.000	0.360	1.000	Do Not Test
5C vs 1I	2.000	0.0899	1.000	Do Not Test
1I vs 9C	66.000	2.966	0.944	Do Not Test
1I vs 9S	56.000	2.517	0.991	Do Not Test
1I vs 3C	55.000	2.472	0.993	Do Not Test
1I vs 2C	53.000	2.382	0.996	Do Not Test
1I vs 3S	48.000	2.157	0.999	Do Not Test
1I vs 1C	47.000	2.112	0.999	Do Not Test
1I vs 2I	44.000	1.978	1.000	Do Not Test
1I vs 2S	39.000	1.753	1.000	Do Not Test
1I vs 3I	37.000	1.663	1.000	Do Not Test
1I vs 7C	32.000	1.438	1.000	Do Not Test
1I vs 1S	26.000	1.169	1.000	Do Not Test
1I vs 7I	25.000	1.124	1.000	Do Not Test
1I vs 4C	20.000	0.899	1.000	Do Not Test
1I vs 9I	17.000	0.764	1.000	Do Not Test
1I vs 6C	16.000	0.719	1.000	Do Not Test
1I vs 7S	10.000	0.449	1.000	Do Not Test
1I vs 6S	6.000	0.270	1.000	Do Not Test
6S vs 9C	60.000	2.697	0.978	Do Not Test
6S vs 9S	50.000	2.247	0.998	Do Not Test
6S vs 3C	49.000	2.202	0.999	Do Not Test
6S vs 2C	47.000	2.112	0.999	Do Not Test
6S vs 3S	42.000	1.888	1.000	Do Not Test
6S vs 1C	41.000	1.843	1.000	Do Not Test
6S vs 2I	38.000	1.708	1.000	Do Not Test
6S vs 2S	33.000	1.483	1.000	Do Not Test
6S vs 3I	31.000	1.393	1.000	Do Not Test
6S vs 7C	26.000	1.169	1.000	Do Not Test
6S vs 1S	20.000	0.899	1.000	Do Not Test

6S vs 7I	19.000	0.854	1.000	Do Not Test
6S vs 4C	14.000	0.629	1.000	Do Not Test
6S vs 9I	11.000	0.494	1.000	Do Not Test
6S vs 6C	10.000	0.449	1.000	Do Not Test
6S vs 7S	4.000	0.180	1.000	Do Not Test
7S vs 9C	56.000	2.517	0.991	Do Not Test
7S vs 9S	46.000	2.068	1.000	Do Not Test
7S vs 3C	45.000	2.023	1.000	Do Not Test
7S vs 2C	43.000	1.933	1.000	Do Not Test
7S vs 3S	38.000	1.708	1.000	Do Not Test
7S vs 1C	37.000	1.663	1.000	Do Not Test
7S vs 2I	34.000	1.528	1.000	Do Not Test
7S vs 2S	29.000	1.303	1.000	Do Not Test
7S vs 3I	27.000	1.214	1.000	Do Not Test
7S vs 7C	22.000	0.989	1.000	Do Not Test
7S vs 1S	16.000	0.719	1.000	Do Not Test
7S vs 7I	15.000	0.674	1.000	Do Not Test
7S vs 4C	10.000	0.449	1.000	Do Not Test
7S vs 9I	7.000	0.315	1.000	Do Not Test
7S vs 6C	6.000	0.270	1.000	Do Not Test
6C vs 9C	50.000	2.247	0.998	Do Not Test
6C vs 9S	40.000	1.798	1.000	Do Not Test
6C vs 3C	39.000	1.753	1.000	Do Not Test
6C vs 2C	37.000	1.663	1.000	Do Not Test
6C vs 3S	32.000	1.438	1.000	Do Not Test
6C vs 1C	31.000	1.393	1.000	Do Not Test
6C vs 2I	28.000	1.259	1.000	Do Not Test
6C vs 2S	23.000	1.034	1.000	Do Not Test
6C vs 3I	21.000	0.944	1.000	Do Not Test
6C vs 7C	16.000	0.719	1.000	Do Not Test
6C vs 1S	10.000	0.449	1.000	Do Not Test
6C vs 7I	9.000	0.405	1.000	Do Not Test
6C vs 4C	4.000	0.180	1.000	Do Not Test
6C vs 9I	1.000	0.0449	1.000	Do Not Test
9I vs 9C	49.000	2.202	0.999	Do Not Test
9I vs 9S	39.000	1.753	1.000	Do Not Test
9I vs 3C	38.000	1.708	1.000	Do Not Test
9I vs 2C	36.000	1.618	1.000	Do Not Test
9I vs 3S	31.000	1.393	1.000	Do Not Test
9I vs 1C	30.000	1.348	1.000	Do Not Test
9I vs 2I	27.000	1.214	1.000	Do Not Test
9I vs 2S	22.000	0.989	1.000	Do Not Test
9I vs 3I	20.000	0.899	1.000	Do Not Test
9I vs 7C	15.000	0.674	1.000	Do Not Test
9I vs 1S	9.000	0.405	1.000	Do Not Test
9I vs 7I	8.000	0.360	1.000	Do Not Test
9I vs 4C	3.000	0.135	1.000	Do Not Test
4C vs 9C	46.000	2.068	1.000	Do Not Test
4C vs 9S	36.000	1.618	1.000	Do Not Test
4C vs 3C	35.000	1.573	1.000	Do Not Test
4C vs 2C	33.000	1.483	1.000	Do Not Test
4C vs 3S	28.000	1.259	1.000	Do Not Test
4C vs 1C	27.000	1.214	1.000	Do Not Test
4C vs 2I	24.000	1.079	1.000	Do Not Test
4C vs 2S	19.000	0.854	1.000	Do Not Test
4C vs 3I	17.000	0.764	1.000	Do Not Test

4C vs 7C	12.000	0.539	1.000	Do Not Test
4C vs 1S	6.000	0.270	1.000	Do Not Test
4C vs 7I	5.000	0.225	1.000	Do Not Test
7I vs 9C	41.000	1.843	1.000	Do Not Test
7I vs 9S	31.000	1.393	1.000	Do Not Test
7I vs 3C	30.000	1.348	1.000	Do Not Test
7I vs 2C	28.000	1.259	1.000	Do Not Test
7I vs 3S	23.000	1.034	1.000	Do Not Test
7I vs 1C	22.000	0.989	1.000	Do Not Test
7I vs 2I	19.000	0.854	1.000	Do Not Test
7I vs 2S	14.000	0.629	1.000	Do Not Test
7I vs 3I	12.000	0.539	1.000	Do Not Test
7I vs 7C	7.000	0.315	1.000	Do Not Test
7I vs 1S	1.000	0.0449	1.000	Do Not Test
1S vs 9C	40.000	1.798	1.000	Do Not Test
1S vs 9S	30.000	1.348	1.000	Do Not Test
1S vs 3C	29.000	1.303	1.000	Do Not Test
1S vs 2C	27.000	1.214	1.000	Do Not Test
1S vs 3S	22.000	0.989	1.000	Do Not Test
1S vs 1C	21.000	0.944	1.000	Do Not Test
1S vs 2I	18.000	0.809	1.000	Do Not Test
1S vs 2S	13.000	0.584	1.000	Do Not Test
1S vs 3I	11.000	0.494	1.000	Do Not Test
1S vs 7C	6.000	0.270	1.000	Do Not Test
7C vs 9C	34.000	1.528	1.000	Do Not Test
7C vs 9S	24.000	1.079	1.000	Do Not Test
7C vs 3C	23.000	1.034	1.000	Do Not Test
7C vs 2C	21.000	0.944	1.000	Do Not Test
7C vs 3S	16.000	0.719	1.000	Do Not Test
7C vs 1C	15.000	0.674	1.000	Do Not Test
7C vs 2I	12.000	0.539	1.000	Do Not Test
7C vs 2S	7.000	0.315	1.000	Do Not Test
7C vs 3I	5.000	0.225	1.000	Do Not Test
3I vs 9C	29.000	1.303	1.000	Do Not Test
3I vs 9S	19.000	0.854	1.000	Do Not Test
3I vs 3C	18.000	0.809	1.000	Do Not Test
3I vs 2C	16.000	0.719	1.000	Do Not Test
3I vs 3S	11.000	0.494	1.000	Do Not Test
3I vs 1C	10.000	0.449	1.000	Do Not Test
3I vs 2I	7.000	0.315	1.000	Do Not Test
3I vs 2S	2.000	0.0899	1.000	Do Not Test
2S vs 9C	27.000	1.214	1.000	Do Not Test
2S vs 9S	17.000	0.764	1.000	Do Not Test
2S vs 3C	16.000	0.719	1.000	Do Not Test
2S vs 2C	14.000	0.629	1.000	Do Not Test
2S vs 3S	9.000	0.405	1.000	Do Not Test
2S vs 1C	8.000	0.360	1.000	Do Not Test
2S vs 2I	5.000	0.225	1.000	Do Not Test
2I vs 9C	22.000	0.989	1.000	Do Not Test
2I vs 9S	12.000	0.539	1.000	Do Not Test
2I vs 3C	11.000	0.494	1.000	Do Not Test
2I vs 2C	9.000	0.405	1.000	Do Not Test
2I vs 3S	4.000	0.180	1.000	Do Not Test
2I vs 1C	3.000	0.135	1.000	Do Not Test
1C vs 9C	19.000	0.854	1.000	Do Not Test
1C vs 9S	9.000	0.405	1.000	Do Not Test

1C vs 3C	8.000	0.360	1.000	Do Not Test
1C vs 2C	6.000	0.270	1.000	Do Not Test
1C vs 3S	1.000	0.0449	1.000	Do Not Test
3S vs 9C	18.000	0.809	1.000	Do Not Test
3S vs 9S	8.000	0.360	1.000	Do Not Test
3S vs 3C	7.000	0.315	1.000	Do Not Test
3S vs 2C	5.000	0.225	1.000	Do Not Test
2C vs 9C	13.000	0.584	1.000	Do Not Test
2C vs 9S	3.000	0.135	1.000	Do Not Test
2C vs 3C	2.000	0.0899	1.000	Do Not Test
3C vs 9C	11.000	0.494	1.000	Do Not Test
3C vs 9S	1.000	0.0449	1.000	Do Not Test
9S vs 9C	10.000	0.449	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.



## One Way Analysis of Variance

26 January 2019 20:36:27

**Data source:** SMI in L5 Fetal

**Normality Test (Shapiro-Wilk):** Passed (P = 0.986)

**Equal Variance Test (Brown-Forsythe):** Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:36:27

**Data source:** SMI in L5 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	0.833	0.647	1.018
1C	2	0	1.207	1.016	1.398
1S	2	0	1.122	1.051	1.194
2I	2	0	1.066	1.031	1.101
2C	2	0	1.173	1.085	1.261
2S	2	0	1.207	1.194	1.221
3I	2	0	1.112	1.103	1.121
3C	2	0	1.159	0.984	1.334
3S	2	0	1.265	1.029	1.501
4I	2	0	1.104	0.847	1.360
4C	2	0	1.045	0.972	1.117
4S	2	0	0.993	0.982	1.004
5I	2	0	0.582	0.485	0.679
5C	2	0	0.434	0.287	0.581
5S	2	0	0.780	0.765	0.795
6I	2	0	0.996	0.948	1.043
6C	2	0	1.127	0.982	1.272
6S	2	0	1.121	1.113	1.129
7I	2	0	1.460	1.345	1.575
7C	2	0	1.148	1.107	1.189
7S	2	0	1.332	1.195	1.468
8I	2	0	0.896	0.573	1.219
8C	2	0	0.506	0.308	0.705
8S	2	0	0.719	0.690	0.748
9I	2	0	1.153	0.996	1.310
9C	2	0	1.200	1.050	1.349
9S	2	0	1.298	1.244	1.353

H = 35.438 with 26 degrees of freedom. (P = 0.102)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.102)

## One Way Analysis of Variance

26 January 2019 20:37:03

Data source: Tb.Th in L5 Fetal

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:37:03

Data source: Tb.Th in L5 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	60.928	60.682	61.175
1C	2	0	74.083	68.656	79.510
1S	2	0	58.222	54.369	62.075
2I	2	0	74.424	61.783	87.065
2C	2	0	100.166	93.694	106.638
2S	2	0	72.657	67.796	77.518
3I	2	0	57.261	49.158	65.363
3C	2	0	69.011	56.638	81.384
3S	2	0	60.148	51.064	69.231
4I	2	0	82.670	73.057	92.284
4C	2	0	92.065	87.939	96.190
4S	2	0	76.430	73.826	79.034
5I	2	0	101.269	90.923	111.616
5C	2	0	134.038	125.720	142.357
5S	2	0	104.963	98.023	111.902
6I	2	0	76.237	65.252	87.222
6C	2	0	90.363	80.888	99.838
6S	2	0	80.779	72.859	88.699
7I	2	0	62.522	53.441	71.602
7C	2	0	75.029	70.801	79.257
7S	2	0	70.661	61.129	80.192
8I	2	0	86.511	81.516	91.505
8C	2	0	114.182	101.325	127.040
8S	2	0	94.086	83.179	104.993
9I	2	0	59.612	51.544	67.679
9C	2	0	53.430	47.272	59.587
9S	2	0	58.878	53.212	64.544

H = 43.628 with 26 degrees of freedom. (P = 0.017)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.017)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
5C vs 9C	96.000	4.315	0.311	No
5C vs 3I	87.000	3.910	0.531	Do Not Test

5C vs 9S	86.000	3.865	0.558	Do Not Test
5C vs 1S	85.000	3.820	0.586	Do Not Test
5C vs 1I	84.000	3.776	0.613	Do Not Test
5C vs 9I	84.000	3.776	0.613	Do Not Test
5C vs 3S	82.000	3.686	0.667	Do Not Test
5C vs 7I	77.000	3.461	0.789	Do Not Test
5C vs 3C	65.000	2.922	0.951	Do Not Test
5C vs 7S	64.000	2.877	0.958	Do Not Test
5C vs 2S	60.000	2.697	0.978	Do Not Test
5C vs 2I	57.000	2.562	0.988	Do Not Test
5C vs 1C	56.000	2.517	0.991	Do Not Test
5C vs 7C	55.000	2.472	0.993	Do Not Test
5C vs 6I	53.000	2.382	0.996	Do Not Test
5C vs 4S	52.000	2.337	0.997	Do Not Test
5C vs 6S	43.000	1.933	1.000	Do Not Test
5C vs 4I	39.000	1.753	1.000	Do Not Test
5C vs 8I	31.000	1.393	1.000	Do Not Test
5C vs 6C	28.000	1.259	1.000	Do Not Test
5C vs 4C	24.000	1.079	1.000	Do Not Test
5C vs 8S	23.000	1.034	1.000	Do Not Test
5C vs 5I	16.000	0.719	1.000	Do Not Test
5C vs 2C	14.000	0.629	1.000	Do Not Test
5C vs 5S	10.000	0.449	1.000	Do Not Test
5C vs 8C	6.000	0.270	1.000	Do Not Test
8C vs 9C	90.000	4.045	0.452	Do Not Test
8C vs 3I	81.000	3.641	0.693	Do Not Test
8C vs 9S	80.000	3.596	0.719	Do Not Test
8C vs 1S	79.000	3.551	0.743	Do Not Test
8C vs 1I	78.000	3.506	0.767	Do Not Test
8C vs 9I	78.000	3.506	0.767	Do Not Test
8C vs 3S	76.000	3.416	0.810	Do Not Test
8C vs 7I	71.000	3.191	0.893	Do Not Test
8C vs 3C	59.000	2.652	0.982	Do Not Test
8C vs 7S	58.000	2.607	0.985	Do Not Test
8C vs 2S	54.000	2.427	0.994	Do Not Test
8C vs 2I	51.000	2.292	0.998	Do Not Test
8C vs 1C	50.000	2.247	0.998	Do Not Test
8C vs 7C	49.000	2.202	0.999	Do Not Test
8C vs 6I	47.000	2.112	0.999	Do Not Test
8C vs 4S	46.000	2.068	1.000	Do Not Test
8C vs 6S	37.000	1.663	1.000	Do Not Test
8C vs 4I	33.000	1.483	1.000	Do Not Test
8C vs 8I	25.000	1.124	1.000	Do Not Test
8C vs 6C	22.000	0.989	1.000	Do Not Test
8C vs 4C	18.000	0.809	1.000	Do Not Test
8C vs 8S	17.000	0.764	1.000	Do Not Test
8C vs 5I	10.000	0.449	1.000	Do Not Test
8C vs 2C	8.000	0.360	1.000	Do Not Test
8C vs 5S	4.000	0.180	1.000	Do Not Test
5S vs 9C	86.000	3.865	0.558	Do Not Test
5S vs 3I	77.000	3.461	0.789	Do Not Test
5S vs 9S	76.000	3.416	0.810	Do Not Test
5S vs 1S	75.000	3.371	0.829	Do Not Test
5S vs 1I	74.000	3.326	0.847	Do Not Test
5S vs 9I	74.000	3.326	0.847	Do Not Test
5S vs 3S	72.000	3.236	0.879	Do Not Test

5S vs 7I	67.000	3.011	0.936	Do Not Test
5S vs 3C	55.000	2.472	0.993	Do Not Test
5S vs 7S	54.000	2.427	0.994	Do Not Test
5S vs 2S	50.000	2.247	0.998	Do Not Test
5S vs 2I	47.000	2.112	0.999	Do Not Test
5S vs 1C	46.000	2.068	1.000	Do Not Test
5S vs 7C	45.000	2.023	1.000	Do Not Test
5S vs 6I	43.000	1.933	1.000	Do Not Test
5S vs 4S	42.000	1.888	1.000	Do Not Test
5S vs 6S	33.000	1.483	1.000	Do Not Test
5S vs 4I	29.000	1.303	1.000	Do Not Test
5S vs 8I	21.000	0.944	1.000	Do Not Test
5S vs 6C	18.000	0.809	1.000	Do Not Test
5S vs 4C	14.000	0.629	1.000	Do Not Test
5S vs 8S	13.000	0.584	1.000	Do Not Test
5S vs 5I	6.000	0.270	1.000	Do Not Test
5S vs 2C	4.000	0.180	1.000	Do Not Test
2C vs 9C	82.000	3.686	0.667	Do Not Test
2C vs 3I	73.000	3.281	0.864	Do Not Test
2C vs 9S	72.000	3.236	0.879	Do Not Test
2C vs 1S	71.000	3.191	0.893	Do Not Test
2C vs 1I	70.000	3.146	0.905	Do Not Test
2C vs 9I	70.000	3.146	0.905	Do Not Test
2C vs 3S	68.000	3.056	0.926	Do Not Test
2C vs 7I	63.000	2.832	0.964	Do Not Test
2C vs 3C	51.000	2.292	0.998	Do Not Test
2C vs 7S	50.000	2.247	0.998	Do Not Test
2C vs 2S	46.000	2.068	1.000	Do Not Test
2C vs 2I	43.000	1.933	1.000	Do Not Test
2C vs 1C	42.000	1.888	1.000	Do Not Test
2C vs 7C	41.000	1.843	1.000	Do Not Test
2C vs 6I	39.000	1.753	1.000	Do Not Test
2C vs 4S	38.000	1.708	1.000	Do Not Test
2C vs 6S	29.000	1.303	1.000	Do Not Test
2C vs 4I	25.000	1.124	1.000	Do Not Test
2C vs 8I	17.000	0.764	1.000	Do Not Test
2C vs 6C	14.000	0.629	1.000	Do Not Test
2C vs 4C	10.000	0.449	1.000	Do Not Test
2C vs 8S	9.000	0.405	1.000	Do Not Test
2C vs 5I	2.000	0.0899	1.000	Do Not Test
5I vs 9C	80.000	3.596	0.719	Do Not Test
5I vs 3I	71.000	3.191	0.893	Do Not Test
5I vs 9S	70.000	3.146	0.905	Do Not Test
5I vs 1S	69.000	3.101	0.916	Do Not Test
5I vs 1I	68.000	3.056	0.926	Do Not Test
5I vs 9I	68.000	3.056	0.926	Do Not Test
5I vs 3S	66.000	2.966	0.944	Do Not Test
5I vs 7I	61.000	2.742	0.974	Do Not Test
5I vs 3C	49.000	2.202	0.999	Do Not Test
5I vs 7S	48.000	2.157	0.999	Do Not Test
5I vs 2S	44.000	1.978	1.000	Do Not Test
5I vs 2I	41.000	1.843	1.000	Do Not Test
5I vs 1C	40.000	1.798	1.000	Do Not Test
5I vs 7C	39.000	1.753	1.000	Do Not Test
5I vs 6I	37.000	1.663	1.000	Do Not Test
5I vs 4S	36.000	1.618	1.000	Do Not Test

5I vs 6S	27.000	1.214	1.000	Do Not Test
5I vs 4I	23.000	1.034	1.000	Do Not Test
5I vs 8I	15.000	0.674	1.000	Do Not Test
5I vs 6C	12.000	0.539	1.000	Do Not Test
5I vs 4C	8.000	0.360	1.000	Do Not Test
5I vs 8S	7.000	0.315	1.000	Do Not Test
8S vs 9C	73.000	3.281	0.864	Do Not Test
8S vs 3I	64.000	2.877	0.958	Do Not Test
8S vs 9S	63.000	2.832	0.964	Do Not Test
8S vs 1S	62.000	2.787	0.969	Do Not Test
8S vs 1I	61.000	2.742	0.974	Do Not Test
8S vs 9I	61.000	2.742	0.974	Do Not Test
8S vs 3S	59.000	2.652	0.982	Do Not Test
8S vs 7I	54.000	2.427	0.994	Do Not Test
8S vs 3C	42.000	1.888	1.000	Do Not Test
8S vs 7S	41.000	1.843	1.000	Do Not Test
8S vs 2S	37.000	1.663	1.000	Do Not Test
8S vs 2I	34.000	1.528	1.000	Do Not Test
8S vs 1C	33.000	1.483	1.000	Do Not Test
8S vs 7C	32.000	1.438	1.000	Do Not Test
8S vs 6I	30.000	1.348	1.000	Do Not Test
8S vs 4S	29.000	1.303	1.000	Do Not Test
8S vs 6S	20.000	0.899	1.000	Do Not Test
8S vs 4I	16.000	0.719	1.000	Do Not Test
8S vs 8I	8.000	0.360	1.000	Do Not Test
8S vs 6C	5.000	0.225	1.000	Do Not Test
8S vs 4C	1.000	0.0449	1.000	Do Not Test
4C vs 9C	72.000	3.236	0.879	Do Not Test
4C vs 3I	63.000	2.832	0.964	Do Not Test
4C vs 9S	62.000	2.787	0.969	Do Not Test
4C vs 1S	61.000	2.742	0.974	Do Not Test
4C vs 1I	60.000	2.697	0.978	Do Not Test
4C vs 9I	60.000	2.697	0.978	Do Not Test
4C vs 3S	58.000	2.607	0.985	Do Not Test
4C vs 7I	53.000	2.382	0.996	Do Not Test
4C vs 3C	41.000	1.843	1.000	Do Not Test
4C vs 7S	40.000	1.798	1.000	Do Not Test
4C vs 2S	36.000	1.618	1.000	Do Not Test
4C vs 2I	33.000	1.483	1.000	Do Not Test
4C vs 1C	32.000	1.438	1.000	Do Not Test
4C vs 7C	31.000	1.393	1.000	Do Not Test
4C vs 6I	29.000	1.303	1.000	Do Not Test
4C vs 4S	28.000	1.259	1.000	Do Not Test
4C vs 6S	19.000	0.854	1.000	Do Not Test
4C vs 4I	15.000	0.674	1.000	Do Not Test
4C vs 8I	7.000	0.315	1.000	Do Not Test
4C vs 6C	4.000	0.180	1.000	Do Not Test
6C vs 9C	68.000	3.056	0.926	Do Not Test
6C vs 3I	59.000	2.652	0.982	Do Not Test
6C vs 9S	58.000	2.607	0.985	Do Not Test
6C vs 1S	57.000	2.562	0.988	Do Not Test
6C vs 1I	56.000	2.517	0.991	Do Not Test
6C vs 9I	56.000	2.517	0.991	Do Not Test
6C vs 3S	54.000	2.427	0.994	Do Not Test
6C vs 7I	49.000	2.202	0.999	Do Not Test
6C vs 3C	37.000	1.663	1.000	Do Not Test

6C vs 7S	36.000	1.618	1.000	Do Not Test
6C vs 2S	32.000	1.438	1.000	Do Not Test
6C vs 2I	29.000	1.303	1.000	Do Not Test
6C vs 1C	28.000	1.259	1.000	Do Not Test
6C vs 7C	27.000	1.214	1.000	Do Not Test
6C vs 6I	25.000	1.124	1.000	Do Not Test
6C vs 4S	24.000	1.079	1.000	Do Not Test
6C vs 6S	15.000	0.674	1.000	Do Not Test
6C vs 4I	11.000	0.494	1.000	Do Not Test
6C vs 8I	3.000	0.135	1.000	Do Not Test
8I vs 9C	65.000	2.922	0.951	Do Not Test
8I vs 3I	56.000	2.517	0.991	Do Not Test
8I vs 9S	55.000	2.472	0.993	Do Not Test
8I vs 1S	54.000	2.427	0.994	Do Not Test
8I vs 1I	53.000	2.382	0.996	Do Not Test
8I vs 9I	53.000	2.382	0.996	Do Not Test
8I vs 3S	51.000	2.292	0.998	Do Not Test
8I vs 7I	46.000	2.068	1.000	Do Not Test
8I vs 3C	34.000	1.528	1.000	Do Not Test
8I vs 7S	33.000	1.483	1.000	Do Not Test
8I vs 2S	29.000	1.303	1.000	Do Not Test
8I vs 2I	26.000	1.169	1.000	Do Not Test
8I vs 1C	25.000	1.124	1.000	Do Not Test
8I vs 7C	24.000	1.079	1.000	Do Not Test
8I vs 6I	22.000	0.989	1.000	Do Not Test
8I vs 4S	21.000	0.944	1.000	Do Not Test
8I vs 6S	12.000	0.539	1.000	Do Not Test
8I vs 4I	8.000	0.360	1.000	Do Not Test
4I vs 9C	57.000	2.562	0.988	Do Not Test
4I vs 3I	48.000	2.157	0.999	Do Not Test
4I vs 9S	47.000	2.112	0.999	Do Not Test
4I vs 1S	46.000	2.068	1.000	Do Not Test
4I vs 1I	45.000	2.023	1.000	Do Not Test
4I vs 9I	45.000	2.023	1.000	Do Not Test
4I vs 3S	43.000	1.933	1.000	Do Not Test
4I vs 7I	38.000	1.708	1.000	Do Not Test
4I vs 3C	26.000	1.169	1.000	Do Not Test
4I vs 7S	25.000	1.124	1.000	Do Not Test
4I vs 2S	21.000	0.944	1.000	Do Not Test
4I vs 2I	18.000	0.809	1.000	Do Not Test
4I vs 1C	17.000	0.764	1.000	Do Not Test
4I vs 7C	16.000	0.719	1.000	Do Not Test
4I vs 6I	14.000	0.629	1.000	Do Not Test
4I vs 4S	13.000	0.584	1.000	Do Not Test
4I vs 6S	4.000	0.180	1.000	Do Not Test
6S vs 9C	53.000	2.382	0.996	Do Not Test
6S vs 3I	44.000	1.978	1.000	Do Not Test
6S vs 9S	43.000	1.933	1.000	Do Not Test
6S vs 1S	42.000	1.888	1.000	Do Not Test
6S vs 1I	41.000	1.843	1.000	Do Not Test
6S vs 9I	41.000	1.843	1.000	Do Not Test
6S vs 3S	39.000	1.753	1.000	Do Not Test
6S vs 7I	34.000	1.528	1.000	Do Not Test
6S vs 3C	22.000	0.989	1.000	Do Not Test
6S vs 7S	21.000	0.944	1.000	Do Not Test
6S vs 2S	17.000	0.764	1.000	Do Not Test

6S vs 2I	14.000	0.629	1.000	Do Not Test
6S vs 1C	13.000	0.584	1.000	Do Not Test
6S vs 7C	12.000	0.539	1.000	Do Not Test
6S vs 6I	10.000	0.449	1.000	Do Not Test
6S vs 4S	9.000	0.405	1.000	Do Not Test
4S vs 9C	44.000	1.978	1.000	Do Not Test
4S vs 3I	35.000	1.573	1.000	Do Not Test
4S vs 9S	34.000	1.528	1.000	Do Not Test
4S vs 1S	33.000	1.483	1.000	Do Not Test
4S vs 1I	32.000	1.438	1.000	Do Not Test
4S vs 9I	32.000	1.438	1.000	Do Not Test
4S vs 3S	30.000	1.348	1.000	Do Not Test
4S vs 7I	25.000	1.124	1.000	Do Not Test
4S vs 3C	13.000	0.584	1.000	Do Not Test
4S vs 7S	12.000	0.539	1.000	Do Not Test
4S vs 2S	8.000	0.360	1.000	Do Not Test
4S vs 2I	5.000	0.225	1.000	Do Not Test
4S vs 1C	4.000	0.180	1.000	Do Not Test
4S vs 7C	3.000	0.135	1.000	Do Not Test
4S vs 6I	1.000	0.0449	1.000	Do Not Test
6I vs 9C	43.000	1.933	1.000	Do Not Test
6I vs 3I	34.000	1.528	1.000	Do Not Test
6I vs 9S	33.000	1.483	1.000	Do Not Test
6I vs 1S	32.000	1.438	1.000	Do Not Test
6I vs 1I	31.000	1.393	1.000	Do Not Test
6I vs 9I	31.000	1.393	1.000	Do Not Test
6I vs 3S	29.000	1.303	1.000	Do Not Test
6I vs 7I	24.000	1.079	1.000	Do Not Test
6I vs 3C	12.000	0.539	1.000	Do Not Test
6I vs 7S	11.000	0.494	1.000	Do Not Test
6I vs 2S	7.000	0.315	1.000	Do Not Test
6I vs 2I	4.000	0.180	1.000	Do Not Test
6I vs 1C	3.000	0.135	1.000	Do Not Test
6I vs 7C	2.000	0.0899	1.000	Do Not Test
7C vs 9C	41.000	1.843	1.000	Do Not Test
7C vs 3I	32.000	1.438	1.000	Do Not Test
7C vs 9S	31.000	1.393	1.000	Do Not Test
7C vs 1S	30.000	1.348	1.000	Do Not Test
7C vs 1I	29.000	1.303	1.000	Do Not Test
7C vs 9I	29.000	1.303	1.000	Do Not Test
7C vs 3S	27.000	1.214	1.000	Do Not Test
7C vs 7I	22.000	0.989	1.000	Do Not Test
7C vs 3C	10.000	0.449	1.000	Do Not Test
7C vs 7S	9.000	0.405	1.000	Do Not Test
7C vs 2S	5.000	0.225	1.000	Do Not Test
7C vs 2I	2.000	0.0899	1.000	Do Not Test
7C vs 1C	1.000	0.0449	1.000	Do Not Test
1C vs 9C	40.000	1.798	1.000	Do Not Test
1C vs 3I	31.000	1.393	1.000	Do Not Test
1C vs 9S	30.000	1.348	1.000	Do Not Test
1C vs 1S	29.000	1.303	1.000	Do Not Test
1C vs 1I	28.000	1.259	1.000	Do Not Test
1C vs 9I	28.000	1.259	1.000	Do Not Test
1C vs 3S	26.000	1.169	1.000	Do Not Test
1C vs 7I	21.000	0.944	1.000	Do Not Test
1C vs 3C	9.000	0.405	1.000	Do Not Test

1C vs 7S	8.000	0.360	1.000	Do Not Test
1C vs 2S	4.000	0.180	1.000	Do Not Test
1C vs 2I	1.000	0.0449	1.000	Do Not Test
2I vs 9C	39.000	1.753	1.000	Do Not Test
2I vs 3I	30.000	1.348	1.000	Do Not Test
2I vs 9S	29.000	1.303	1.000	Do Not Test
2I vs 1S	28.000	1.259	1.000	Do Not Test
2I vs 1I	27.000	1.214	1.000	Do Not Test
2I vs 9I	27.000	1.214	1.000	Do Not Test
2I vs 3S	25.000	1.124	1.000	Do Not Test
2I vs 7I	20.000	0.899	1.000	Do Not Test
2I vs 3C	8.000	0.360	1.000	Do Not Test
2I vs 7S	7.000	0.315	1.000	Do Not Test
2I vs 2S	3.000	0.135	1.000	Do Not Test
2S vs 9C	36.000	1.618	1.000	Do Not Test
2S vs 3I	27.000	1.214	1.000	Do Not Test
2S vs 9S	26.000	1.169	1.000	Do Not Test
2S vs 1S	25.000	1.124	1.000	Do Not Test
2S vs 1I	24.000	1.079	1.000	Do Not Test
2S vs 9I	24.000	1.079	1.000	Do Not Test
2S vs 3S	22.000	0.989	1.000	Do Not Test
2S vs 7I	17.000	0.764	1.000	Do Not Test
2S vs 3C	5.000	0.225	1.000	Do Not Test
2S vs 7S	4.000	0.180	1.000	Do Not Test
7S vs 9C	32.000	1.438	1.000	Do Not Test
7S vs 3I	23.000	1.034	1.000	Do Not Test
7S vs 9S	22.000	0.989	1.000	Do Not Test
7S vs 1S	21.000	0.944	1.000	Do Not Test
7S vs 1I	20.000	0.899	1.000	Do Not Test
7S vs 9I	20.000	0.899	1.000	Do Not Test
7S vs 3S	18.000	0.809	1.000	Do Not Test
7S vs 7I	13.000	0.584	1.000	Do Not Test
7S vs 3C	1.000	0.0449	1.000	Do Not Test
3C vs 9C	31.000	1.393	1.000	Do Not Test
3C vs 3I	22.000	0.989	1.000	Do Not Test
3C vs 9S	21.000	0.944	1.000	Do Not Test
3C vs 1S	20.000	0.899	1.000	Do Not Test
3C vs 1I	19.000	0.854	1.000	Do Not Test
3C vs 9I	19.000	0.854	1.000	Do Not Test
3C vs 3S	17.000	0.764	1.000	Do Not Test
3C vs 7I	12.000	0.539	1.000	Do Not Test
7I vs 9C	19.000	0.854	1.000	Do Not Test
7I vs 3I	10.000	0.449	1.000	Do Not Test
7I vs 9S	9.000	0.405	1.000	Do Not Test
7I vs 1S	8.000	0.360	1.000	Do Not Test
7I vs 1I	7.000	0.315	1.000	Do Not Test
7I vs 9I	7.000	0.315	1.000	Do Not Test
7I vs 3S	5.000	0.225	1.000	Do Not Test
3S vs 9C	14.000	0.629	1.000	Do Not Test
3S vs 3I	5.000	0.225	1.000	Do Not Test
3S vs 9S	4.000	0.180	1.000	Do Not Test
3S vs 1S	3.000	0.135	1.000	Do Not Test
3S vs 1I	2.000	0.0899	1.000	Do Not Test
3S vs 9I	2.000	0.0899	1.000	Do Not Test
9I vs 9C	12.000	0.539	1.000	Do Not Test
9I vs 3I	3.000	0.135	1.000	Do Not Test



9I vs 9S	2.000	0.0899	1.000	Do Not Test
9I vs 1S	1.000	0.0449	1.000	Do Not Test
9I vs 1I	0.000	0.000	1.000	Do Not Test
1I vs 9C	12.000	0.539	1.000	Do Not Test
1I vs 3I	3.000	0.135	1.000	Do Not Test
1I vs 9S	2.000	0.0899	1.000	Do Not Test
1I vs 1S	1.000	0.0449	1.000	Do Not Test
1S vs 9C	11.000	0.494	1.000	Do Not Test
1S vs 3I	2.000	0.0899	1.000	Do Not Test
1S vs 9S	1.000	0.0449	1.000	Do Not Test
9S vs 9C	10.000	0.449	1.000	Do Not Test
9S vs 3I	1.000	0.0449	1.000	Do Not Test
3I vs 9C	9.000	0.405	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 20:37:26

Data source: Tb.N in L5 Fetal

Normality Test (Shapiro-Wilk): Passed (P = 0.318)

Equal Variance Test (Brown-Forsythe): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:37:26

Data source: Tb.N in L5 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	0.00594	0.00592	0.00595
1C	2	0	0.00413	0.00353	0.00474
1S	2	0	0.00570	0.00531	0.00608
2I	2	0	0.00435	0.00358	0.00512
2C	2	0	0.00292	0.00242	0.00343
2S	2	0	0.00442	0.00424	0.00460
3I	2	0	0.00583	0.00469	0.00696
3C	2	0	0.00447	0.00347	0.00547
3S	2	0	0.00519	0.00462	0.00575
4I	2	0	0.00451	0.00389	0.00512
4C	2	0	0.00371	0.00342	0.00401
4S	2	0	0.00485	0.00443	0.00528
5I	2	0	0.00415	0.00383	0.00447
5C	2	0	0.00274	0.00262	0.00286
5S	2	0	0.00388	0.00369	0.00406
6I	2	0	0.00508	0.00424	0.00592
6C	2	0	0.00386	0.00325	0.00448
6S	2	0	0.00439	0.00420	0.00457
7I	2	0	0.00496	0.00443	0.00549
7C	2	0	0.00435	0.00401	0.00470
7S	2	0	0.00511	0.00435	0.00587
8I	2	0	0.00485	0.00451	0.00518
8C	2	0	0.00325	0.00297	0.00352
8S	2	0	0.00431	0.00332	0.00530
9I	2	0	0.00586	0.00576	0.00596
9C	2	0	0.00514	0.00457	0.00570
9S	2	0	0.00503	0.00422	0.00584

H = 34.789 with 26 degrees of freedom. (P = 0.116)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.116)

## One Way Analysis of Variance

26 January 2019 20:38:43

**Data source:** Tb.Sp in L5 Fetal

**Normality Test (Shapiro-Wilk):** Passed (P = 0.510)

**Equal Variance Test (Brown-Forsythe):** Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:38:43

**Data source:** Tb.Sp in L5 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	126.373	113.427	139.320
1C	2	0	170.768	143.226	198.310
1S	2	0	124.229	110.747	137.712
2I	2	0	171.231	136.442	206.019
2C	2	0	253.906	196.866	310.946
2S	2	0	159.900	150.335	169.465
3I	2	0	130.192	98.338	162.045
3C	2	0	164.547	127.317	201.777
3S	2	0	143.125	134.603	151.646
4I	2	0	153.137	131.890	174.385
4C	2	0	183.287	160.508	206.066
4S	2	0	147.190	127.584	166.797
5I	2	0	175.883	148.516	203.251
5C	2	0	307.835	263.349	352.320
5S	2	0	179.855	161.113	198.597
6I	2	0	135.905	109.823	161.988
6C	2	0	172.922	142.456	203.388
6S	2	0	152.310	144.304	160.315
7I	2	0	137.774	124.299	151.250
7C	2	0	168.076	145.053	191.099
7S	2	0	134.942	105.365	164.520
8I	2	0	136.370	119.273	153.467
8C	2	0	260.940	255.781	266.099
8S	2	0	186.033	122.652	249.414
9I	2	0	127.695	125.422	129.967
9C	2	0	156.800	116.524	197.075
9S	2	0	152.996	123.747	182.246

H = 25.968 with 26 degrees of freedom. (P = 0.465)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.465)

## One Way Analysis of Variance

26 January 2019 20:38:59

Data source: DA in L5 Fetal

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:38:59

Data source: DA in L5 Fetal

Group	N	Missing	Median	25%	75%
1I	2	0	0.335	0.307	0.363
1C	2	0	0.397	0.369	0.426
1S	2	0	0.394	0.382	0.405
2I	2	0	0.379	0.334	0.424
2C	2	0	0.318	0.310	0.327
2S	2	0	0.298	0.258	0.338
3I	2	0	0.381	0.356	0.406
3C	2	0	0.472	0.468	0.476
3S	2	0	0.396	0.352	0.440
4I	2	0	0.365	0.237	0.493
4C	2	0	0.480	0.455	0.504
4S	2	0	0.431	0.410	0.453
5I	2	0	0.315	0.211	0.419
5C	2	0	0.187	0.174	0.200
5S	2	0	0.190	0.189	0.190
6I	2	0	0.358	0.350	0.367
6C	2	0	0.452	0.402	0.502
6S	2	0	0.408	0.374	0.442
7I	2	0	0.368	0.354	0.382
7C	2	0	0.392	0.347	0.438
7S	2	0	0.466	0.440	0.492
8I	2	0	0.341	0.300	0.381
8C	2	0	0.304	0.247	0.361
8S	2	0	0.313	0.297	0.328
9I	2	0	0.447	0.279	0.614
9C	2	0	0.380	0.368	0.392
9S	2	0	0.485	0.467	0.504

H = 35.883 with 26 degrees of freedom. (P = 0.094)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.094)

## One Way Analysis of Variance

26 January 2019 20:47:05

Data source: BV/TV in L1 Perinate

Normality Test (Shapiro-Wilk): Passed (P = 0.070)

Equal Variance Test (Brown-Forsythe): Passed (P = 0.952)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	14	0	26.607	9.086	2.428
1C	14	0	25.211	9.717	2.597
1S	14	0	24.540	8.174	2.185
2I	14	0	27.114	9.473	2.532
2C	14	0	24.325	9.541	2.550
2S	14	0	26.095	9.750	2.606
3I	14	0	24.912	9.106	2.434
3C	14	0	23.739	10.261	2.742
3S	14	0	23.411	7.461	1.994
4I	14	0	29.394	9.312	2.489
4C	14	0	24.746	8.471	2.264
4S	14	0	25.380	7.304	1.952
5I	14	0	32.018	13.035	3.484
5C	14	0	30.587	13.448	3.594
5S	14	0	28.421	11.655	3.115
6I	14	0	28.637	10.070	2.691
6C	14	0	24.156	9.223	2.465
6S	14	0	25.540	8.465	2.262
7I	14	0	31.269	11.548	3.086
7C	14	0	22.244	8.824	2.358
7S	14	0	25.667	9.807	2.621
8I	14	0	30.230	11.406	3.048
8C	14	0	30.916	10.806	2.888
8S	14	0	27.101	9.711	2.595
9I	14	0	29.922	8.363	2.235
9C	14	0	22.097	7.950	2.125
9S	14	0	25.249	9.230	2.467

Source of Variation	DF	SS	MS	F	P
Between Groups	26	2973.316	114.358	1.194	0.238
Residual	351	33630.138	95.812		
Total	377	36603.454			

The differences in the mean values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.238).

Power of performed test with alpha = 0.050: 0.164

The power of the performed test (0.164) is below the desired power of 0.800. Less than desired power indicates you are less likely to detect a difference when one actually exists. Negative results should be interpreted cautiously.

## One Way Analysis of Variance

26 January 2019 20:47:44

Data source: SMI in L1 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:47:44

Data source: SMI in L1 Perinate

Group	N	Missing	Median	25%	75%
1I	14	0	1.612	1.199	1.781
1C	14	0	1.366	0.972	1.818
1S	14	0	1.636	1.426	1.884
2I	14	0	1.351	0.936	1.744
2C	14	0	1.294	0.789	1.527
2S	14	0	1.361	0.915	1.792
3I	14	0	1.399	1.307	1.806
3C	14	0	1.592	1.064	1.850
3S	14	0	1.613	1.472	1.814
4I	14	0	1.224	0.821	1.369
4C	14	0	1.591	1.195	1.729
4S	14	0	1.407	1.185	1.601
5I	14	0	1.080	0.462	1.639
5C	14	0	0.894	0.0770	1.290
5S	14	0	1.392	0.928	1.696
6I	14	0	1.160	0.938	1.451
6C	14	0	1.457	1.239	1.787
6S	14	0	1.470	1.131	1.629
7I	14	0	1.246	0.589	1.767
7C	14	0	1.869	1.336	2.064
7S	14	0	1.705	0.995	1.859
8I	14	0	1.194	0.589	1.710
8C	14	0	-0.0390	-0.788	1.060
8S	14	0	1.369	0.807	1.611
9I	14	0	1.302	1.143	1.504
9C	14	0	1.633	1.428	2.085
9S	14	0	1.663	1.305	1.774

H = 69.817 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
7C vs 8C	3018.000	7.382	0.007	Yes
7C vs 5C	2259.000	5.526	0.030	Yes

7C vs 5I	1879.000	4.596	0.196	No
7C vs 4I	1700.000	4.158	0.390	Do Not Test
7C vs 6I	1665.000	4.073	0.436	Do Not Test
7C vs 8I	1574.000	3.850	0.568	Do Not Test
7C vs 2C	1522.000	3.723	0.645	Do Not Test
7C vs 8S	1419.000	3.471	0.784	Do Not Test
7C vs 5S	1406.000	3.439	0.799	Do Not Test
7C vs 9I	1387.000	3.393	0.820	Do Not Test
7C vs 7I	1352.000	3.307	0.854	Do Not Test
7C vs 2I	1206.000	2.950	0.947	Do Not Test
7C vs 2S	1154.000	2.823	0.965	Do Not Test
7C vs 6S	1076.000	2.632	0.984	Do Not Test
7C vs 4S	1038.000	2.539	0.989	Do Not Test
7C vs 1C	1036.000	2.534	0.990	Do Not Test
7C vs 6C	778.000	1.903	1.000	Do Not Test
7C vs 3C	762.000	1.864	1.000	Do Not Test
7C vs 4C	726.000	1.776	1.000	Do Not Test
7C vs 1I	697.000	1.705	1.000	Do Not Test
7C vs 7S	685.000	1.676	1.000	Do Not Test
7C vs 3I	599.000	1.465	1.000	Do Not Test
7C vs 9S	518.000	1.267	1.000	Do Not Test
7C vs 1S	288.000	0.704	1.000	Do Not Test
7C vs 3S	278.000	0.680	1.000	Do Not Test
7C vs 9C	218.000	0.533	1.000	Do Not Test
<b>9C vs 8C</b>	<b>2800.000</b>	<b>6.849</b>	<b>0.007</b>	<b>Yes</b>
9C vs 5C	2041.000	4.992	0.092	No
9C vs 5I	1661.000	4.063	0.442	Do Not Test
9C vs 4I	1482.000	3.625	0.702	Do Not Test
9C vs 6I	1447.000	3.539	0.749	Do Not Test
9C vs 8I	1356.000	3.317	0.851	Do Not Test
9C vs 2C	1304.000	3.190	0.893	Do Not Test
9C vs 8S	1201.000	2.938	0.949	Do Not Test
9C vs 5S	1188.000	2.906	0.954	Do Not Test
9C vs 9I	1169.000	2.859	0.960	Do Not Test
9C vs 7I	1134.000	2.774	0.971	Do Not Test
9C vs 2I	988.000	2.417	0.995	Do Not Test
9C vs 2S	936.000	2.289	0.998	Do Not Test
9C vs 6S	858.000	2.099	1.000	Do Not Test
9C vs 4S	820.000	2.006	1.000	Do Not Test
9C vs 1C	818.000	2.001	1.000	Do Not Test
9C vs 6C	560.000	1.370	1.000	Do Not Test
9C vs 3C	544.000	1.331	1.000	Do Not Test
9C vs 4C	508.000	1.243	1.000	Do Not Test
9C vs 1I	479.000	1.172	1.000	Do Not Test
9C vs 7S	467.000	1.142	1.000	Do Not Test
9C vs 3I	381.000	0.932	1.000	Do Not Test
9C vs 9S	300.000	0.734	1.000	Do Not Test
9C vs 1S	70.000	0.171	1.000	Do Not Test
9C vs 3S	60.000	0.147	1.000	Do Not Test
<b>3S vs 8C</b>	<b>2740.000</b>	<b>6.702</b>	<b>0.007</b>	<b>Yes</b>
3S vs 5C	1981.000	4.846	0.123	Do Not Test
3S vs 5I	1601.000	3.916	0.528	Do Not Test
3S vs 4I	1422.000	3.478	0.780	Do Not Test
3S vs 6I	1387.000	3.393	0.820	Do Not Test
3S vs 8I	1296.000	3.170	0.899	Do Not Test
3S vs 2C	1244.000	3.043	0.929	Do Not Test

3S vs 8S	1141.000	2.791	0.969	Do Not Test
3S vs 5S	1128.000	2.759	0.972	Do Not Test
3S vs 9I	1109.000	2.713	0.977	Do Not Test
3S vs 7I	1074.000	2.627	0.984	Do Not Test
3S vs 2I	928.000	2.270	0.998	Do Not Test
3S vs 2S	876.000	2.143	0.999	Do Not Test
3S vs 6S	798.000	1.952	1.000	Do Not Test
3S vs 4S	760.000	1.859	1.000	Do Not Test
3S vs 1C	758.000	1.854	1.000	Do Not Test
3S vs 6C	500.000	1.223	1.000	Do Not Test
3S vs 3C	484.000	1.184	1.000	Do Not Test
3S vs 4C	448.000	1.096	1.000	Do Not Test
3S vs 1I	419.000	1.025	1.000	Do Not Test
3S vs 7S	407.000	0.996	1.000	Do Not Test
3S vs 3I	321.000	0.785	1.000	Do Not Test
3S vs 9S	240.000	0.587	1.000	Do Not Test
3S vs 1S	10.000	0.0245	1.000	Do Not Test
<b>1S vs 8C</b>	<b>2730.000</b>	<b>6.678</b>	<b>0.007</b>	<b>Yes</b>
1S vs 5C	1971.000	4.821	0.129	Do Not Test
1S vs 5I	1591.000	3.892	0.543	Do Not Test
1S vs 4I	1412.000	3.454	0.792	Do Not Test
1S vs 6I	1377.000	3.368	0.830	Do Not Test
1S vs 8I	1286.000	3.146	0.905	Do Not Test
1S vs 2C	1234.000	3.018	0.934	Do Not Test
1S vs 8S	1131.000	2.766	0.971	Do Not Test
1S vs 5S	1118.000	2.735	0.975	Do Not Test
1S vs 9I	1099.000	2.688	0.979	Do Not Test
1S vs 7I	1064.000	2.603	0.986	Do Not Test
1S vs 2I	918.000	2.245	0.998	Do Not Test
1S vs 2S	866.000	2.118	0.999	Do Not Test
1S vs 6S	788.000	1.927	1.000	Do Not Test
1S vs 4S	750.000	1.835	1.000	Do Not Test
1S vs 1C	748.000	1.830	1.000	Do Not Test
1S vs 6C	490.000	1.199	1.000	Do Not Test
1S vs 3C	474.000	1.159	1.000	Do Not Test
1S vs 4C	438.000	1.071	1.000	Do Not Test
1S vs 1I	409.000	1.000	1.000	Do Not Test
1S vs 7S	397.000	0.971	1.000	Do Not Test
1S vs 3I	311.000	0.761	1.000	Do Not Test
1S vs 9S	230.000	0.563	1.000	Do Not Test
9S vs 8C	2500.000	6.115	0.011	Yes
9S vs 5C	1741.000	4.259	0.338	Do Not Test
9S vs 5I	1361.000	3.329	0.846	Do Not Test
9S vs 4I	1182.000	2.891	0.956	Do Not Test
9S vs 6I	1147.000	2.806	0.967	Do Not Test
9S vs 8I	1056.000	2.583	0.987	Do Not Test
9S vs 2C	1004.000	2.456	0.993	Do Not Test
9S vs 8S	901.000	2.204	0.999	Do Not Test
9S vs 5S	888.000	2.172	0.999	Do Not Test
9S vs 9I	869.000	2.126	0.999	Do Not Test
9S vs 7I	834.000	2.040	1.000	Do Not Test
9S vs 2I	688.000	1.683	1.000	Do Not Test
9S vs 2S	636.000	1.556	1.000	Do Not Test
9S vs 6S	558.000	1.365	1.000	Do Not Test
9S vs 4S	520.000	1.272	1.000	Do Not Test
9S vs 1C	518.000	1.267	1.000	Do Not Test



9S vs 6C	260.000	0.636	1.000	Do Not Test
9S vs 3C	244.000	0.597	1.000	Do Not Test
9S vs 4C	208.000	0.509	1.000	Do Not Test
9S vs 1I	179.000	0.438	1.000	Do Not Test
9S vs 7S	167.000	0.408	1.000	Do Not Test
9S vs 3I	81.000	0.198	1.000	Do Not Test
3I vs 8C	2419.000	5.917	0.015	Yes
3I vs 5C	1660.000	4.060	0.443	Do Not Test
3I vs 5I	1280.000	3.131	0.909	Do Not Test
3I vs 4I	1101.000	2.693	0.979	Do Not Test
3I vs 6I	1066.000	2.607	0.985	Do Not Test
3I vs 8I	975.000	2.385	0.996	Do Not Test
3I vs 2C	923.000	2.258	0.998	Do Not Test
3I vs 8S	820.000	2.006	1.000	Do Not Test
3I vs 5S	807.000	1.974	1.000	Do Not Test
3I vs 9I	788.000	1.927	1.000	Do Not Test
3I vs 7I	753.000	1.842	1.000	Do Not Test
3I vs 2I	607.000	1.485	1.000	Do Not Test
3I vs 2S	555.000	1.358	1.000	Do Not Test
3I vs 6S	477.000	1.167	1.000	Do Not Test
3I vs 4S	439.000	1.074	1.000	Do Not Test
3I vs 1C	437.000	1.069	1.000	Do Not Test
3I vs 6C	179.000	0.438	1.000	Do Not Test
3I vs 3C	163.000	0.399	1.000	Do Not Test
3I vs 4C	127.000	0.311	1.000	Do Not Test
3I vs 1I	98.000	0.240	1.000	Do Not Test
3I vs 7S	86.000	0.210	1.000	Do Not Test
7S vs 8C	2333.000	5.707	0.021	Yes
7S vs 5C	1574.000	3.850	0.568	Do Not Test
7S vs 5I	1194.000	2.921	0.951	Do Not Test
7S vs 4I	1015.000	2.483	0.992	Do Not Test
7S vs 6I	980.000	2.397	0.995	Do Not Test
7S vs 8I	889.000	2.175	0.999	Do Not Test
7S vs 2C	837.000	2.047	1.000	Do Not Test
7S vs 8S	734.000	1.795	1.000	Do Not Test
7S vs 5S	721.000	1.764	1.000	Do Not Test
7S vs 9I	702.000	1.717	1.000	Do Not Test
7S vs 7I	667.000	1.631	1.000	Do Not Test
7S vs 2I	521.000	1.274	1.000	Do Not Test
7S vs 2S	469.000	1.147	1.000	Do Not Test
7S vs 6S	391.000	0.956	1.000	Do Not Test
7S vs 4S	353.000	0.863	1.000	Do Not Test
7S vs 1C	351.000	0.859	1.000	Do Not Test
7S vs 6C	93.000	0.227	1.000	Do Not Test
7S vs 3C	77.000	0.188	1.000	Do Not Test
7S vs 4C	41.000	0.100	1.000	Do Not Test
7S vs 1I	12.000	0.0294	1.000	Do Not Test
1I vs 8C	2321.000	5.677	0.022	Yes
1I vs 5C	1562.000	3.821	0.586	Do Not Test
1I vs 5I	1182.000	2.891	0.956	Do Not Test
1I vs 4I	1003.000	2.453	0.993	Do Not Test
1I vs 6I	968.000	2.368	0.996	Do Not Test
1I vs 8I	877.000	2.145	0.999	Do Not Test
1I vs 2C	825.000	2.018	1.000	Do Not Test
1I vs 8S	722.000	1.766	1.000	Do Not Test
1I vs 5S	709.000	1.734	1.000	Do Not Test

1I vs 9I	690.000	1.688	1.000	Do Not Test
1I vs 7I	655.000	1.602	1.000	Do Not Test
1I vs 2I	509.000	1.245	1.000	Do Not Test
1I vs 2S	457.000	1.118	1.000	Do Not Test
1I vs 6S	379.000	0.927	1.000	Do Not Test
1I vs 4S	341.000	0.834	1.000	Do Not Test
1I vs 1C	339.000	0.829	1.000	Do Not Test
1I vs 6C	81.000	0.198	1.000	Do Not Test
1I vs 3C	65.000	0.159	1.000	Do Not Test
1I vs 4C	29.000	0.0709	1.000	Do Not Test
4C vs 8C	2292.000	5.606	0.026	Yes
4C vs 5C	1533.000	3.750	0.629	Do Not Test
4C vs 5I	1153.000	2.820	0.965	Do Not Test
4C vs 4I	974.000	2.382	0.996	Do Not Test
4C vs 6I	939.000	2.297	0.998	Do Not Test
4C vs 8I	848.000	2.074	1.000	Do Not Test
4C vs 2C	796.000	1.947	1.000	Do Not Test
4C vs 8S	693.000	1.695	1.000	Do Not Test
4C vs 5S	680.000	1.663	1.000	Do Not Test
4C vs 9I	661.000	1.617	1.000	Do Not Test
4C vs 7I	626.000	1.531	1.000	Do Not Test
4C vs 2I	480.000	1.174	1.000	Do Not Test
4C vs 2S	428.000	1.047	1.000	Do Not Test
4C vs 6S	350.000	0.856	1.000	Do Not Test
4C vs 4S	312.000	0.763	1.000	Do Not Test
4C vs 1C	310.000	0.758	1.000	Do Not Test
4C vs 6C	52.000	0.127	1.000	Do Not Test
4C vs 3C	36.000	0.0881	1.000	Do Not Test
3C vs 8C	2256.000	5.518	0.031	Yes
3C vs 5C	1497.000	3.662	0.681	Do Not Test
3C vs 5I	1117.000	2.732	0.975	Do Not Test
3C vs 4I	938.000	2.294	0.998	Do Not Test
3C vs 6I	903.000	2.209	0.999	Do Not Test
3C vs 8I	812.000	1.986	1.000	Do Not Test
3C vs 2C	760.000	1.859	1.000	Do Not Test
3C vs 8S	657.000	1.607	1.000	Do Not Test
3C vs 5S	644.000	1.575	1.000	Do Not Test
3C vs 9I	625.000	1.529	1.000	Do Not Test
3C vs 7I	590.000	1.443	1.000	Do Not Test
3C vs 2I	444.000	1.086	1.000	Do Not Test
3C vs 2S	392.000	0.959	1.000	Do Not Test
3C vs 6S	314.000	0.768	1.000	Do Not Test
3C vs 4S	276.000	0.675	1.000	Do Not Test
3C vs 1C	274.000	0.670	1.000	Do Not Test
3C vs 6C	16.000	0.0391	1.000	Do Not Test
6C vs 8C	2240.000	5.479	0.033	Yes
6C vs 5C	1481.000	3.623	0.704	Do Not Test
6C vs 5I	1101.000	2.693	0.979	Do Not Test
6C vs 4I	922.000	2.255	0.998	Do Not Test
6C vs 6I	887.000	2.170	0.999	Do Not Test
6C vs 8I	796.000	1.947	1.000	Do Not Test
6C vs 2C	744.000	1.820	1.000	Do Not Test
6C vs 8S	641.000	1.568	1.000	Do Not Test
6C vs 5S	628.000	1.536	1.000	Do Not Test
6C vs 9I	609.000	1.490	1.000	Do Not Test
6C vs 7I	574.000	1.404	1.000	Do Not Test

6C vs 2I	428.000	1.047	1.000	Do Not Test
6C vs 2S	376.000	0.920	1.000	Do Not Test
6C vs 6S	298.000	0.729	1.000	Do Not Test
6C vs 4S	260.000	0.636	1.000	Do Not Test
6C vs 1C	258.000	0.631	1.000	Do Not Test
1C vs 8C	1982.000	4.848	0.123	No
1C vs 5C	1223.000	2.991	0.939	Do Not Test
1C vs 5I	843.000	2.062	1.000	Do Not Test
1C vs 4I	664.000	1.624	1.000	Do Not Test
1C vs 6I	629.000	1.539	1.000	Do Not Test
1C vs 8I	538.000	1.316	1.000	Do Not Test
1C vs 2C	486.000	1.189	1.000	Do Not Test
1C vs 8S	383.000	0.937	1.000	Do Not Test
1C vs 5S	370.000	0.905	1.000	Do Not Test
1C vs 9I	351.000	0.859	1.000	Do Not Test
1C vs 7I	316.000	0.773	1.000	Do Not Test
1C vs 2I	170.000	0.416	1.000	Do Not Test
1C vs 2S	118.000	0.289	1.000	Do Not Test
1C vs 6S	40.000	0.0978	1.000	Do Not Test
1C vs 4S	2.000	0.00489	1.000	Do Not Test
4S vs 8C	1980.000	4.843	0.124	Do Not Test
4S vs 5C	1221.000	2.987	0.940	Do Not Test
4S vs 5I	841.000	2.057	1.000	Do Not Test
4S vs 4I	662.000	1.619	1.000	Do Not Test
4S vs 6I	627.000	1.534	1.000	Do Not Test
4S vs 8I	536.000	1.311	1.000	Do Not Test
4S vs 2C	484.000	1.184	1.000	Do Not Test
4S vs 8S	381.000	0.932	1.000	Do Not Test
4S vs 5S	368.000	0.900	1.000	Do Not Test
4S vs 9I	349.000	0.854	1.000	Do Not Test
4S vs 7I	314.000	0.768	1.000	Do Not Test
4S vs 2I	168.000	0.411	1.000	Do Not Test
4S vs 2S	116.000	0.284	1.000	Do Not Test
4S vs 6S	38.000	0.0929	1.000	Do Not Test
6S vs 8C	1942.000	4.750	0.148	Do Not Test
6S vs 5C	1183.000	2.894	0.955	Do Not Test
6S vs 5I	803.000	1.964	1.000	Do Not Test
6S vs 4I	624.000	1.526	1.000	Do Not Test
6S vs 6I	589.000	1.441	1.000	Do Not Test
6S vs 8I	498.000	1.218	1.000	Do Not Test
6S vs 2C	446.000	1.091	1.000	Do Not Test
6S vs 8S	343.000	0.839	1.000	Do Not Test
6S vs 5S	330.000	0.807	1.000	Do Not Test
6S vs 9I	311.000	0.761	1.000	Do Not Test
6S vs 7I	276.000	0.675	1.000	Do Not Test
6S vs 2I	130.000	0.318	1.000	Do Not Test
6S vs 2S	78.000	0.191	1.000	Do Not Test
2S vs 8C	1864.000	4.559	0.209	Do Not Test
2S vs 5C	1105.000	2.703	0.978	Do Not Test
2S vs 5I	725.000	1.773	1.000	Do Not Test
2S vs 4I	546.000	1.336	1.000	Do Not Test
2S vs 6I	511.000	1.250	1.000	Do Not Test
2S vs 8I	420.000	1.027	1.000	Do Not Test
2S vs 2C	368.000	0.900	1.000	Do Not Test
2S vs 8S	265.000	0.648	1.000	Do Not Test
2S vs 5S	252.000	0.616	1.000	Do Not Test

2S vs 9I	233.000	0.570	1.000	Do Not Test
2S vs 7I	198.000	0.484	1.000	Do Not Test
2S vs 2I	52.000	0.127	1.000	Do Not Test
2I vs 8C	1812.000	4.432	0.259	Do Not Test
2I vs 5C	1053.000	2.576	0.987	Do Not Test
2I vs 5I	673.000	1.646	1.000	Do Not Test
2I vs 4I	494.000	1.208	1.000	Do Not Test
2I vs 6I	459.000	1.123	1.000	Do Not Test
2I vs 8I	368.000	0.900	1.000	Do Not Test
2I vs 2C	316.000	0.773	1.000	Do Not Test
2I vs 8S	213.000	0.521	1.000	Do Not Test
2I vs 5S	200.000	0.489	1.000	Do Not Test
2I vs 9I	181.000	0.443	1.000	Do Not Test
2I vs 7I	146.000	0.357	1.000	Do Not Test
7I vs 8C	1666.000	4.075	0.435	Do Not Test
7I vs 5C	907.000	2.219	0.999	Do Not Test
7I vs 5I	527.000	1.289	1.000	Do Not Test
7I vs 4I	348.000	0.851	1.000	Do Not Test
7I vs 6I	313.000	0.766	1.000	Do Not Test
7I vs 8I	222.000	0.543	1.000	Do Not Test
7I vs 2C	170.000	0.416	1.000	Do Not Test
7I vs 8S	67.000	0.164	1.000	Do Not Test
7I vs 5S	54.000	0.132	1.000	Do Not Test
7I vs 9I	35.000	0.0856	1.000	Do Not Test
9I vs 8C	1631.000	3.989	0.484	Do Not Test
9I vs 5C	872.000	2.133	0.999	Do Not Test
9I vs 5I	492.000	1.203	1.000	Do Not Test
9I vs 4I	313.000	0.766	1.000	Do Not Test
9I vs 6I	278.000	0.680	1.000	Do Not Test
9I vs 8I	187.000	0.457	1.000	Do Not Test
9I vs 2C	135.000	0.330	1.000	Do Not Test
9I vs 8S	32.000	0.0783	1.000	Do Not Test
9I vs 5S	19.000	0.0465	1.000	Do Not Test
5S vs 8C	1612.000	3.943	0.512	Do Not Test
5S vs 5C	853.000	2.086	1.000	Do Not Test
5S vs 5I	473.000	1.157	1.000	Do Not Test
5S vs 4I	294.000	0.719	1.000	Do Not Test
5S vs 6I	259.000	0.634	1.000	Do Not Test
5S vs 8I	168.000	0.411	1.000	Do Not Test
5S vs 2C	116.000	0.284	1.000	Do Not Test
5S vs 8S	13.000	0.0318	1.000	Do Not Test
8S vs 8C	1599.000	3.911	0.531	Do Not Test
8S vs 5C	840.000	2.055	1.000	Do Not Test
8S vs 5I	460.000	1.125	1.000	Do Not Test
8S vs 4I	281.000	0.687	1.000	Do Not Test
8S vs 6I	246.000	0.602	1.000	Do Not Test
8S vs 8I	155.000	0.379	1.000	Do Not Test
8S vs 2C	103.000	0.252	1.000	Do Not Test
2C vs 8C	1496.000	3.659	0.682	Do Not Test
2C vs 5C	737.000	1.803	1.000	Do Not Test
2C vs 5I	357.000	0.873	1.000	Do Not Test
2C vs 4I	178.000	0.435	1.000	Do Not Test
2C vs 6I	143.000	0.350	1.000	Do Not Test
2C vs 8I	52.000	0.127	1.000	Do Not Test
8I vs 8C	1444.000	3.532	0.753	Do Not Test
8I vs 5C	685.000	1.676	1.000	Do Not Test

8I vs 5I	305.000	0.746	1.000	Do Not Test
8I vs 4I	126.000	0.308	1.000	Do Not Test
8I vs 6I	91.000	0.223	1.000	Do Not Test
6I vs 8C	1353.000	3.309	0.854	Do Not Test
6I vs 5C	594.000	1.453	1.000	Do Not Test
6I vs 5I	214.000	0.523	1.000	Do Not Test
6I vs 4I	35.000	0.0856	1.000	Do Not Test
4I vs 8C	1318.000	3.224	0.883	Do Not Test
4I vs 5C	559.000	1.367	1.000	Do Not Test
4I vs 5I	179.000	0.438	1.000	Do Not Test
5I vs 8C	1139.000	2.786	0.969	Do Not Test
5I vs 5C	380.000	0.929	1.000	Do Not Test
5C vs 8C	759.000	1.857	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 20:48:18

Data source: Tb.Th in L1 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:48:18

Data source: Tb.Th in L1 Perinate

Group	N	Missing	Median	25%	75%
1I	14	0	92.188	79.366	97.422
1C	14	0	114.838	96.395	127.478
1S	14	0	82.584	70.928	88.983
2I	14	0	98.052	84.224	100.685
2C	14	0	128.285	111.190	149.715
2S	14	0	93.949	75.884	101.356
3I	14	0	84.352	74.079	90.642
3C	14	0	106.157	84.653	122.216
3S	14	0	81.852	71.983	87.423
4I	14	0	100.004	92.066	107.783
4C	14	0	114.488	100.007	122.420
4S	14	0	91.836	87.609	94.267
5I	14	0	113.009	88.302	127.777
5C	14	0	129.420	122.165	151.367
5S	14	0	106.808	89.674	130.628
6I	14	0	96.838	84.546	104.407
6C	14	0	110.365	98.763	122.648
6S	14	0	90.566	85.692	96.338
7I	14	0	98.598	83.645	108.920
7C	14	0	98.740	80.748	108.686
7S	14	0	84.221	75.742	94.858
8I	14	0	105.416	89.959	114.755
8C	14	0	129.724	114.359	152.537
8S	14	0	93.375	89.815	105.765
9I	14	0	92.796	84.468	103.605
9C	14	0	95.770	86.755	106.022
9S	14	0	83.893	77.258	94.665

H = 159.453 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
5C vs 3S	3675.000	8.989	0.006	Yes
5C vs 1S	3461.000	8.466	0.006	Yes

5C vs 3I	3337.000	8.162	0.006	Yes
5C vs 9S	3247.000	7.942	0.006	Yes
5C vs 7S	3188.000	7.798	0.006	Yes
5C vs 1I	2911.000	7.120	0.007	Yes
5C vs 4S	2794.000	6.834	0.007	Yes
5C vs 6S	2743.000	6.709	0.007	Yes
5C vs 2S	2668.000	6.526	0.008	Yes
5C vs 9I	2450.000	5.993	0.013	Yes
5C vs 2I	2339.000	5.721	0.021	Yes
5C vs 7C	2291.000	5.604	0.026	Yes
5C vs 9C	2255.000	5.516	0.031	Yes
5C vs 6I	2228.000	5.450	0.035	Yes
5C vs 8S	2211.000	5.408	0.039	Yes
5C vs 7I	2178.000	5.327	0.046	Yes
5C vs 4I	1981.000	4.846	0.123	No
5C vs 8I	1707.000	4.175	0.380	Do Not Test
5C vs 3C	1675.000	4.097	0.423	Do Not Test
5C vs 5S	1332.000	3.258	0.872	Do Not Test
5C vs 5I	1198.000	2.930	0.950	Do Not Test
5C vs 6C	1151.000	2.815	0.966	Do Not Test
5C vs 1C	1091.000	2.669	0.981	Do Not Test
5C vs 4C	912.000	2.231	0.999	Do Not Test
5C vs 2C	327.000	0.800	1.000	Do Not Test
5C vs 8C	216.000	0.528	1.000	Do Not Test
8C vs 3S	3459.000	8.461	0.006	Yes
8C vs 1S	3245.000	7.937	0.006	Yes
8C vs 3I	3121.000	7.634	0.007	Yes
8C vs 9S	3031.000	7.414	0.007	Yes
8C vs 7S	2972.000	7.270	0.007	Yes
8C vs 1I	2695.000	6.592	0.007	Yes
8C vs 4S	2578.000	6.306	0.009	Yes
8C vs 6S	2527.000	6.181	0.010	Yes
8C vs 2S	2452.000	5.998	0.013	Yes
8C vs 9I	2234.000	5.464	0.034	Yes
8C vs 2I	2123.000	5.193	0.061	No
8C vs 7C	2075.000	5.076	0.078	Do Not Test
8C vs 9C	2039.000	4.987	0.093	Do Not Test
8C vs 6I	2012.000	4.921	0.106	Do Not Test
8C vs 8S	1995.000	4.880	0.115	Do Not Test
8C vs 7I	1962.000	4.799	0.135	Do Not Test
8C vs 4I	1765.000	4.317	0.310	Do Not Test
8C vs 8I	1491.000	3.647	0.690	Do Not Test
8C vs 3C	1459.000	3.569	0.734	Do Not Test
8C vs 5S	1116.000	2.730	0.975	Do Not Test
8C vs 5I	982.000	2.402	0.995	Do Not Test
8C vs 6C	935.000	2.287	0.998	Do Not Test
8C vs 1C	875.000	2.140	0.999	Do Not Test
8C vs 4C	696.000	1.702	1.000	Do Not Test
8C vs 2C	111.000	0.272	1.000	Do Not Test
2C vs 3S	3348.000	8.189	0.006	Yes
2C vs 1S	3134.000	7.666	0.007	Yes
2C vs 3I	3010.000	7.363	0.007	Yes
2C vs 9S	2920.000	7.142	0.007	Yes
2C vs 7S	2861.000	6.998	0.007	Yes
2C vs 1I	2584.000	6.321	0.009	Yes
2C vs 4S	2467.000	6.034	0.012	Yes

2C vs 6S	2416.000	5.910	0.015	Yes
2C vs 2S	2341.000	5.726	0.020	Yes
2C vs 9I	2123.000	5.193	0.061	No
2C vs 2I	2012.000	4.921	0.106	Do Not Test
2C vs 7C	1964.000	4.804	0.134	Do Not Test
2C vs 9C	1928.000	4.716	0.158	Do Not Test
2C vs 6I	1901.000	4.650	0.178	Do Not Test
2C vs 8S	1884.000	4.608	0.192	Do Not Test
2C vs 7I	1851.000	4.528	0.221	Do Not Test
2C vs 4I	1654.000	4.046	0.452	Do Not Test
2C vs 8I	1380.000	3.376	0.827	Do Not Test
2C vs 3C	1348.000	3.297	0.858	Do Not Test
2C vs 5S	1005.000	2.458	0.993	Do Not Test
2C vs 5I	871.000	2.130	0.999	Do Not Test
2C vs 6C	824.000	2.016	1.000	Do Not Test
2C vs 1C	764.000	1.869	1.000	Do Not Test
2C vs 4C	585.000	1.431	1.000	Do Not Test
<b>4C vs 3S</b>	<b>2763.000</b>	<b>6.758</b>	<b>0.007</b>	<b>Yes</b>
<b>4C vs 1S</b>	<b>2549.000</b>	<b>6.235</b>	<b>0.010</b>	<b>Yes</b>
4C vs 3I	2425.000	5.932	0.014	Yes
4C vs 9S	2335.000	5.711	0.021	Yes
4C vs 7S	2276.000	5.567	0.028	Yes
4C vs 1I	1999.000	4.890	0.113	No
4C vs 4S	1882.000	4.603	0.194	Do Not Test
4C vs 6S	1831.000	4.479	0.240	Do Not Test
4C vs 2S	1756.000	4.295	0.320	Do Not Test
4C vs 9I	1538.000	3.762	0.621	Do Not Test
4C vs 2I	1427.000	3.490	0.774	Do Not Test
4C vs 7C	1379.000	3.373	0.828	Do Not Test
4C vs 9C	1343.000	3.285	0.862	Do Not Test
4C vs 6I	1316.000	3.219	0.884	Do Not Test
4C vs 8S	1299.000	3.177	0.897	Do Not Test
4C vs 7I	1266.000	3.097	0.917	Do Not Test
4C vs 4I	1069.000	2.615	0.985	Do Not Test
4C vs 8I	795.000	1.945	1.000	Do Not Test
4C vs 3C	763.000	1.866	1.000	Do Not Test
4C vs 5S	420.000	1.027	1.000	Do Not Test
4C vs 5I	286.000	0.700	1.000	Do Not Test
4C vs 6C	239.000	0.585	1.000	Do Not Test
4C vs 1C	179.000	0.438	1.000	Do Not Test
<b>1C vs 3S</b>	<b>2584.000</b>	<b>6.321</b>	<b>0.009</b>	<b>Yes</b>
1C vs 1S	2370.000	5.797	0.018	Yes
1C vs 3I	2246.000	5.494	0.032	Yes
1C vs 9S	2156.000	5.274	0.051	No
1C vs 7S	2097.000	5.129	0.069	Do Not Test
1C vs 1I	1820.000	4.452	0.251	Do Not Test
1C vs 4S	1703.000	4.166	0.386	Do Not Test
1C vs 6S	1652.000	4.041	0.454	Do Not Test
1C vs 2S	1577.000	3.857	0.563	Do Not Test
1C vs 9I	1359.000	3.324	0.848	Do Not Test
1C vs 2I	1248.000	3.053	0.927	Do Not Test
1C vs 7C	1200.000	2.935	0.949	Do Not Test
1C vs 9C	1164.000	2.847	0.962	Do Not Test
1C vs 6I	1137.000	2.781	0.970	Do Not Test
1C vs 8S	1120.000	2.740	0.974	Do Not Test
1C vs 7I	1087.000	2.659	0.981	Do Not Test



1C vs 4I	890.000	2.177	0.999	Do Not Test
1C vs 8I	616.000	1.507	1.000	Do Not Test
1C vs 3C	584.000	1.428	1.000	Do Not Test
1C vs 5S	241.000	0.589	1.000	Do Not Test
1C vs 5I	107.000	0.262	1.000	Do Not Test
1C vs 6C	60.000	0.147	1.000	Do Not Test
<b>6C vs 3S</b>	<b>2524.000</b>	<b>6.174</b>	<b>0.010</b>	<b>Yes</b>
6C vs 1S	2310.000	5.650	0.024	Yes
6C vs 3I	2186.000	5.347	0.044	Yes
6C vs 9S	2096.000	5.127	0.070	Do Not Test
6C vs 7S	2037.000	4.983	0.094	Do Not Test
6C vs 1I	1760.000	4.305	0.316	Do Not Test
6C vs 4S	1643.000	4.019	0.467	Do Not Test
6C vs 6S	1592.000	3.894	0.541	Do Not Test
6C vs 2S	1517.000	3.711	0.652	Do Not Test
6C vs 9I	1299.000	3.177	0.897	Do Not Test
6C vs 2I	1188.000	2.906	0.954	Do Not Test
6C vs 7C	1140.000	2.788	0.969	Do Not Test
6C vs 9C	1104.000	2.700	0.978	Do Not Test
6C vs 6I	1077.000	2.634	0.983	Do Not Test
6C vs 8S	1060.000	2.593	0.986	Do Not Test
6C vs 7I	1027.000	2.512	0.991	Do Not Test
6C vs 4I	830.000	2.030	1.000	Do Not Test
6C vs 8I	556.000	1.360	1.000	Do Not Test
6C vs 3C	524.000	1.282	1.000	Do Not Test
6C vs 5S	181.000	0.443	1.000	Do Not Test
6C vs 5I	47.000	0.115	1.000	Do Not Test
5I vs 3S	2477.000	6.059	0.012	Yes
5I vs 1S	2263.000	5.535	0.030	Yes
5I vs 3I	2139.000	5.232	0.056	No
5I vs 9S	2049.000	5.012	0.088	Do Not Test
5I vs 7S	1990.000	4.868	0.118	Do Not Test
5I vs 1I	1713.000	4.190	0.373	Do Not Test
5I vs 4S	1596.000	3.904	0.535	Do Not Test
5I vs 6S	1545.000	3.779	0.611	Do Not Test
5I vs 2S	1470.000	3.596	0.719	Do Not Test
5I vs 9I	1252.000	3.062	0.925	Do Not Test
5I vs 2I	1141.000	2.791	0.969	Do Not Test
5I vs 7C	1093.000	2.674	0.980	Do Not Test
5I vs 9C	1057.000	2.585	0.987	Do Not Test
5I vs 6I	1030.000	2.519	0.991	Do Not Test
5I vs 8S	1013.000	2.478	0.992	Do Not Test
5I vs 7I	980.000	2.397	0.995	Do Not Test
5I vs 4I	783.000	1.915	1.000	Do Not Test
5I vs 8I	509.000	1.245	1.000	Do Not Test
5I vs 3C	477.000	1.167	1.000	Do Not Test
5I vs 5S	134.000	0.328	1.000	Do Not Test
5S vs 3S	2343.000	5.731	0.020	Yes
5S vs 1S	2129.000	5.208	0.059	No
5S vs 3I	2005.000	4.904	0.110	Do Not Test
5S vs 9S	1915.000	4.684	0.168	Do Not Test
5S vs 7S	1856.000	4.540	0.217	Do Not Test
5S vs 1I	1579.000	3.862	0.560	Do Not Test
5S vs 4S	1462.000	3.576	0.730	Do Not Test
5S vs 6S	1411.000	3.451	0.793	Do Not Test
5S vs 2S	1336.000	3.268	0.868	Do Not Test

5S vs 9I	1118.000	2.735	0.975	Do Not Test
5S vs 2I	1007.000	2.463	0.993	Do Not Test
5S vs 7C	959.000	2.346	0.997	Do Not Test
5S vs 9C	923.000	2.258	0.998	Do Not Test
5S vs 6I	896.000	2.192	0.999	Do Not Test
5S vs 8S	879.000	2.150	0.999	Do Not Test
5S vs 7I	846.000	2.069	1.000	Do Not Test
5S vs 4I	649.000	1.587	1.000	Do Not Test
5S vs 8I	375.000	0.917	1.000	Do Not Test
5S vs 3C	343.000	0.839	1.000	Do Not Test
3C vs 3S	2000.000	4.892	0.113	No
3C vs 1S	1786.000	4.369	0.286	Do Not Test
3C vs 3I	1662.000	4.065	0.441	Do Not Test
3C vs 9S	1572.000	3.845	0.571	Do Not Test
3C vs 7S	1513.000	3.701	0.658	Do Not Test
3C vs 1I	1236.000	3.023	0.933	Do Not Test
3C vs 4S	1119.000	2.737	0.974	Do Not Test
3C vs 6S	1068.000	2.612	0.985	Do Not Test
3C vs 2S	993.000	2.429	0.994	Do Not Test
3C vs 9I	775.000	1.896	1.000	Do Not Test
3C vs 2I	664.000	1.624	1.000	Do Not Test
3C vs 7C	616.000	1.507	1.000	Do Not Test
3C vs 9C	580.000	1.419	1.000	Do Not Test
3C vs 6I	553.000	1.353	1.000	Do Not Test
3C vs 8S	536.000	1.311	1.000	Do Not Test
3C vs 7I	503.000	1.230	1.000	Do Not Test
3C vs 4I	306.000	0.748	1.000	Do Not Test
3C vs 8I	32.000	0.0783	1.000	Do Not Test
8I vs 3S	1968.000	4.814	0.131	Do Not Test
8I vs 1S	1754.000	4.290	0.323	Do Not Test
8I vs 3I	1630.000	3.987	0.486	Do Not Test
8I vs 9S	1540.000	3.767	0.618	Do Not Test
8I vs 7S	1481.000	3.623	0.704	Do Not Test
8I vs 1I	1204.000	2.945	0.947	Do Not Test
8I vs 4S	1087.000	2.659	0.981	Do Not Test
8I vs 6S	1036.000	2.534	0.990	Do Not Test
8I vs 2S	961.000	2.351	0.997	Do Not Test
8I vs 9I	743.000	1.817	1.000	Do Not Test
8I vs 2I	632.000	1.546	1.000	Do Not Test
8I vs 7C	584.000	1.428	1.000	Do Not Test
8I vs 9C	548.000	1.340	1.000	Do Not Test
8I vs 6I	521.000	1.274	1.000	Do Not Test
8I vs 8S	504.000	1.233	1.000	Do Not Test
8I vs 7I	471.000	1.152	1.000	Do Not Test
8I vs 4I	274.000	0.670	1.000	Do Not Test
4I vs 3S	1694.000	4.144	0.397	Do Not Test
4I vs 1S	1480.000	3.620	0.705	Do Not Test
4I vs 3I	1356.000	3.317	0.851	Do Not Test
4I vs 9S	1266.000	3.097	0.917	Do Not Test
4I vs 7S	1207.000	2.952	0.946	Do Not Test
4I vs 1I	930.000	2.275	0.998	Do Not Test
4I vs 4S	813.000	1.989	1.000	Do Not Test
4I vs 6S	762.000	1.864	1.000	Do Not Test
4I vs 2S	687.000	1.680	1.000	Do Not Test
4I vs 9I	469.000	1.147	1.000	Do Not Test
4I vs 2I	358.000	0.876	1.000	Do Not Test

4I vs 7C	310.000	0.758	1.000	Do Not Test
4I vs 9C	274.000	0.670	1.000	Do Not Test
4I vs 6I	247.000	0.604	1.000	Do Not Test
4I vs 8S	230.000	0.563	1.000	Do Not Test
4I vs 7I	197.000	0.482	1.000	Do Not Test
7I vs 3S	1497.000	3.662	0.681	Do Not Test
7I vs 1S	1283.000	3.138	0.907	Do Not Test
7I vs 3I	1159.000	2.835	0.963	Do Not Test
7I vs 9S	1069.000	2.615	0.985	Do Not Test
7I vs 7S	1010.000	2.470	0.993	Do Not Test
7I vs 1I	733.000	1.793	1.000	Do Not Test
7I vs 4S	616.000	1.507	1.000	Do Not Test
7I vs 6S	565.000	1.382	1.000	Do Not Test
7I vs 2S	490.000	1.199	1.000	Do Not Test
7I vs 9I	272.000	0.665	1.000	Do Not Test
7I vs 2I	161.000	0.394	1.000	Do Not Test
7I vs 7C	113.000	0.276	1.000	Do Not Test
7I vs 9C	77.000	0.188	1.000	Do Not Test
7I vs 6I	50.000	0.122	1.000	Do Not Test
7I vs 8S	33.000	0.0807	1.000	Do Not Test
8S vs 3S	1464.000	3.581	0.727	Do Not Test
8S vs 1S	1250.000	3.058	0.926	Do Not Test
8S vs 3I	1126.000	2.754	0.973	Do Not Test
8S vs 9S	1036.000	2.534	0.990	Do Not Test
8S vs 7S	977.000	2.390	0.996	Do Not Test
8S vs 1I	700.000	1.712	1.000	Do Not Test
8S vs 4S	583.000	1.426	1.000	Do Not Test
8S vs 6S	532.000	1.301	1.000	Do Not Test
8S vs 2S	457.000	1.118	1.000	Do Not Test
8S vs 9I	239.000	0.585	1.000	Do Not Test
8S vs 2I	128.000	0.313	1.000	Do Not Test
8S vs 7C	80.000	0.196	1.000	Do Not Test
8S vs 9C	44.000	0.108	1.000	Do Not Test
8S vs 6I	17.000	0.0416	1.000	Do Not Test
6I vs 3S	1447.000	3.539	0.749	Do Not Test
6I vs 1S	1233.000	3.016	0.935	Do Not Test
6I vs 3I	1109.000	2.713	0.977	Do Not Test
6I vs 9S	1019.000	2.493	0.992	Do Not Test
6I vs 7S	960.000	2.348	0.997	Do Not Test
6I vs 1I	683.000	1.671	1.000	Do Not Test
6I vs 4S	566.000	1.384	1.000	Do Not Test
6I vs 6S	515.000	1.260	1.000	Do Not Test
6I vs 2S	440.000	1.076	1.000	Do Not Test
6I vs 9I	222.000	0.543	1.000	Do Not Test
6I vs 2I	111.000	0.272	1.000	Do Not Test
6I vs 7C	63.000	0.154	1.000	Do Not Test
6I vs 9C	27.000	0.0660	1.000	Do Not Test
9C vs 3S	1420.000	3.473	0.783	Do Not Test
9C vs 1S	1206.000	2.950	0.947	Do Not Test
9C vs 3I	1082.000	2.647	0.982	Do Not Test
9C vs 9S	992.000	2.426	0.994	Do Not Test
9C vs 7S	933.000	2.282	0.998	Do Not Test
9C vs 1I	656.000	1.605	1.000	Do Not Test
9C vs 4S	539.000	1.318	1.000	Do Not Test
9C vs 6S	488.000	1.194	1.000	Do Not Test
9C vs 2S	413.000	1.010	1.000	Do Not Test

9C vs 9I	195.000	0.477	1.000	Do Not Test
9C vs 2I	84.000	0.205	1.000	Do Not Test
9C vs 7C	36.000	0.0881	1.000	Do Not Test
7C vs 3S	1384.000	3.385	0.823	Do Not Test
7C vs 1S	1170.000	2.862	0.960	Do Not Test
7C vs 3I	1046.000	2.559	0.988	Do Not Test
7C vs 9S	956.000	2.338	0.997	Do Not Test
7C vs 7S	897.000	2.194	0.999	Do Not Test
7C vs 1I	620.000	1.517	1.000	Do Not Test
7C vs 4S	503.000	1.230	1.000	Do Not Test
7C vs 6S	452.000	1.106	1.000	Do Not Test
7C vs 2S	377.000	0.922	1.000	Do Not Test
7C vs 9I	159.000	0.389	1.000	Do Not Test
7C vs 2I	48.000	0.117	1.000	Do Not Test
2I vs 3S	1336.000	3.268	0.868	Do Not Test
2I vs 1S	1122.000	2.744	0.974	Do Not Test
2I vs 3I	998.000	2.441	0.994	Do Not Test
2I vs 9S	908.000	2.221	0.999	Do Not Test
2I vs 7S	849.000	2.077	1.000	Do Not Test
2I vs 1I	572.000	1.399	1.000	Do Not Test
2I vs 4S	455.000	1.113	1.000	Do Not Test
2I vs 6S	404.000	0.988	1.000	Do Not Test
2I vs 2S	329.000	0.805	1.000	Do Not Test
2I vs 9I	111.000	0.272	1.000	Do Not Test
9I vs 3S	1225.000	2.996	0.938	Do Not Test
9I vs 1S	1011.000	2.473	0.993	Do Not Test
9I vs 3I	887.000	2.170	0.999	Do Not Test
9I vs 9S	797.000	1.949	1.000	Do Not Test
9I vs 7S	738.000	1.805	1.000	Do Not Test
9I vs 1I	461.000	1.128	1.000	Do Not Test
9I vs 4S	344.000	0.841	1.000	Do Not Test
9I vs 6S	293.000	0.717	1.000	Do Not Test
9I vs 2S	218.000	0.533	1.000	Do Not Test
2S vs 3S	1007.000	2.463	0.993	Do Not Test
2S vs 1S	793.000	1.940	1.000	Do Not Test
2S vs 3I	669.000	1.636	1.000	Do Not Test
2S vs 9S	579.000	1.416	1.000	Do Not Test
2S vs 7S	520.000	1.272	1.000	Do Not Test
2S vs 1I	243.000	0.594	1.000	Do Not Test
2S vs 4S	126.000	0.308	1.000	Do Not Test
2S vs 6S	75.000	0.183	1.000	Do Not Test
6S vs 3S	932.000	2.280	0.998	Do Not Test
6S vs 1S	718.000	1.756	1.000	Do Not Test
6S vs 3I	594.000	1.453	1.000	Do Not Test
6S vs 9S	504.000	1.233	1.000	Do Not Test
6S vs 7S	445.000	1.088	1.000	Do Not Test
6S vs 1I	168.000	0.411	1.000	Do Not Test
6S vs 4S	51.000	0.125	1.000	Do Not Test
4S vs 3S	881.000	2.155	0.999	Do Not Test
4S vs 1S	667.000	1.631	1.000	Do Not Test
4S vs 3I	543.000	1.328	1.000	Do Not Test
4S vs 9S	453.000	1.108	1.000	Do Not Test
4S vs 7S	394.000	0.964	1.000	Do Not Test
4S vs 1I	117.000	0.286	1.000	Do Not Test
1I vs 3S	764.000	1.869	1.000	Do Not Test
1I vs 1S	550.000	1.345	1.000	Do Not Test

1I vs 3I	426.000	1.042	1.000	Do Not Test
1I vs 9S	336.000	0.822	1.000	Do Not Test
1I vs 7S	277.000	0.678	1.000	Do Not Test
7S vs 3S	487.000	1.191	1.000	Do Not Test
7S vs 1S	273.000	0.668	1.000	Do Not Test
7S vs 3I	149.000	0.364	1.000	Do Not Test
7S vs 9S	59.000	0.144	1.000	Do Not Test
9S vs 3S	428.000	1.047	1.000	Do Not Test
9S vs 1S	214.000	0.523	1.000	Do Not Test
9S vs 3I	90.000	0.220	1.000	Do Not Test
3I vs 3S	338.000	0.827	1.000	Do Not Test
3I vs 1S	124.000	0.303	1.000	Do Not Test
1S vs 3S	214.000	0.523	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 20:48:43

Data source: Tb.N in L1 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:48:43

Data source: Tb.N in L1 Perinate

Group	N	Missing	Median	25%	75%
1I	14	0	0.00309	0.00248	0.00329
1C	14	0	0.00213	0.00178	0.00241
1S	14	0	0.00306	0.00235	0.00347
2I	14	0	0.00290	0.00231	0.00330
2C	14	0	0.00195	0.00140	0.00229
2S	14	0	0.00272	0.00217	0.00326
3I	14	0	0.00322	0.00220	0.00357
3C	14	0	0.00221	0.00191	0.00250
3S	14	0	0.00290	0.00238	0.00336
4I	14	0	0.00299	0.00265	0.00344
4C	14	0	0.00204	0.00194	0.00255
4S	14	0	0.00284	0.00260	0.00334
5I	14	0	0.00279	0.00225	0.00305
5C	14	0	0.00219	0.00165	0.00242
5S	14	0	0.00255	0.00213	0.00277
6I	14	0	0.00322	0.00256	0.00334
6C	14	0	0.00221	0.00185	0.00244
6S	14	0	0.00266	0.00249	0.00315
7I	14	0	0.00324	0.00263	0.00362
7C	14	0	0.00212	0.00182	0.00259
7S	14	0	0.00284	0.00246	0.00371
8I	14	0	0.00310	0.00226	0.00335
8C	14	0	0.00202	0.00162	0.00303
8S	14	0	0.00286	0.00224	0.00332
9I	14	0	0.00332	0.00282	0.00375
9C	14	0	0.00226	0.00169	0.00258
9S	14	0	0.00279	0.00262	0.00338

H = 84.272 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
9I vs 2C	2507.000	6.132	0.011	Yes
9I vs 5C	2093.500	5.121	0.071	No

9I vs 4C	2058.000	5.034	0.084	Do Not Test
9I vs 1C	2027.500	4.959	0.098	Do Not Test
9I vs 6C	2009.000	4.914	0.108	Do Not Test
9I vs 3C	1993.500	4.876	0.116	Do Not Test
9I vs 7C	1901.500	4.651	0.178	Do Not Test
9I vs 9C	1786.500	4.370	0.286	Do Not Test
9I vs 8C	1748.000	4.276	0.330	Do Not Test
9I vs 5S	1345.000	3.290	0.861	Do Not Test
9I vs 5I	942.000	2.304	0.997	Do Not Test
9I vs 6S	830.500	2.031	1.000	Do Not Test
9I vs 2S	762.000	1.864	1.000	Do Not Test
9I vs 8S	754.000	1.844	1.000	Do Not Test
9I vs 8I	690.500	1.689	1.000	Do Not Test
9I vs 2I	687.000	1.680	1.000	Do Not Test
9I vs 4S	678.000	1.658	1.000	Do Not Test
9I vs 9S	537.500	1.315	1.000	Do Not Test
9I vs 7S	514.000	1.257	1.000	Do Not Test
9I vs 1I	490.000	1.199	1.000	Do Not Test
9I vs 1S	488.500	1.195	1.000	Do Not Test
9I vs 3S	478.500	1.170	1.000	Do Not Test
9I vs 4I	465.000	1.137	1.000	Do Not Test
9I vs 3I	432.500	1.058	1.000	Do Not Test
9I vs 6I	371.000	0.907	1.000	Do Not Test
9I vs 7I	137.500	0.336	1.000	Do Not Test
7I vs 2C	2369.500	5.796	0.018	Yes
7I vs 5C	1956.000	4.784	0.139	Do Not Test
7I vs 4C	1920.500	4.698	0.163	Do Not Test
7I vs 1C	1890.000	4.623	0.187	Do Not Test
7I vs 6C	1871.500	4.578	0.203	Do Not Test
7I vs 3C	1856.000	4.540	0.217	Do Not Test
7I vs 7C	1764.000	4.315	0.311	Do Not Test
7I vs 9C	1649.000	4.033	0.459	Do Not Test
7I vs 8C	1610.500	3.939	0.514	Do Not Test
7I vs 5S	1207.500	2.954	0.946	Do Not Test
7I vs 5I	804.500	1.968	1.000	Do Not Test
7I vs 6S	693.000	1.695	1.000	Do Not Test
7I vs 2S	624.500	1.528	1.000	Do Not Test
7I vs 8S	616.500	1.508	1.000	Do Not Test
7I vs 8I	553.000	1.353	1.000	Do Not Test
7I vs 2I	549.500	1.344	1.000	Do Not Test
7I vs 4S	540.500	1.322	1.000	Do Not Test
7I vs 9S	400.000	0.978	1.000	Do Not Test
7I vs 7S	376.500	0.921	1.000	Do Not Test
7I vs 1I	352.500	0.862	1.000	Do Not Test
7I vs 1S	351.000	0.859	1.000	Do Not Test
7I vs 3S	341.000	0.834	1.000	Do Not Test
7I vs 4I	327.500	0.801	1.000	Do Not Test
7I vs 3I	295.000	0.722	1.000	Do Not Test
7I vs 6I	233.500	0.571	1.000	Do Not Test
6I vs 2C	2136.000	5.225	0.057	No
6I vs 5C	1722.500	4.213	0.361	Do Not Test
6I vs 4C	1687.000	4.126	0.407	Do Not Test
6I vs 1C	1656.500	4.052	0.448	Do Not Test
6I vs 6C	1638.000	4.007	0.474	Do Not Test
6I vs 3C	1622.500	3.969	0.496	Do Not Test
6I vs 7C	1530.500	3.744	0.632	Do Not Test

6I vs 9C	1415.500	3.462	0.788	Do Not Test
6I vs 8C	1377.000	3.368	0.830	Do Not Test
6I vs 5S	974.000	2.382	0.996	Do Not Test
6I vs 5I	571.000	1.397	1.000	Do Not Test
6I vs 6S	459.500	1.124	1.000	Do Not Test
6I vs 2S	391.000	0.956	1.000	Do Not Test
6I vs 8S	383.000	0.937	1.000	Do Not Test
6I vs 8I	319.500	0.782	1.000	Do Not Test
6I vs 2I	316.000	0.773	1.000	Do Not Test
6I vs 4S	307.000	0.751	1.000	Do Not Test
6I vs 9S	166.500	0.407	1.000	Do Not Test
6I vs 7S	143.000	0.350	1.000	Do Not Test
6I vs 1I	119.000	0.291	1.000	Do Not Test
6I vs 1S	117.500	0.287	1.000	Do Not Test
6I vs 3S	107.500	0.263	1.000	Do Not Test
6I vs 4I	94.000	0.230	1.000	Do Not Test
6I vs 3I	61.500	0.150	1.000	Do Not Test
3I vs 2C	2074.500	5.074	0.078	Do Not Test
3I vs 5C	1661.000	4.063	0.442	Do Not Test
3I vs 4C	1625.500	3.976	0.492	Do Not Test
3I vs 1C	1595.000	3.901	0.537	Do Not Test
3I vs 6C	1576.500	3.856	0.564	Do Not Test
3I vs 3C	1561.000	3.818	0.587	Do Not Test
3I vs 7C	1469.000	3.593	0.720	Do Not Test
3I vs 9C	1354.000	3.312	0.853	Do Not Test
3I vs 8C	1315.500	3.218	0.885	Do Not Test
3I vs 5S	912.500	2.232	0.999	Do Not Test
3I vs 5I	509.500	1.246	1.000	Do Not Test
3I vs 6S	398.000	0.974	1.000	Do Not Test
3I vs 2S	329.500	0.806	1.000	Do Not Test
3I vs 8S	321.500	0.786	1.000	Do Not Test
3I vs 8I	258.000	0.631	1.000	Do Not Test
3I vs 2I	254.500	0.623	1.000	Do Not Test
3I vs 4S	245.500	0.600	1.000	Do Not Test
3I vs 9S	105.000	0.257	1.000	Do Not Test
3I vs 7S	81.500	0.199	1.000	Do Not Test
3I vs 1I	57.500	0.141	1.000	Do Not Test
3I vs 1S	56.000	0.137	1.000	Do Not Test
3I vs 3S	46.000	0.113	1.000	Do Not Test
3I vs 4I	32.500	0.0795	1.000	Do Not Test
4I vs 2C	2042.000	4.995	0.092	Do Not Test
4I vs 5C	1628.500	3.983	0.488	Do Not Test
4I vs 4C	1593.000	3.897	0.540	Do Not Test
4I vs 1C	1562.500	3.822	0.585	Do Not Test
4I vs 6C	1544.000	3.777	0.612	Do Not Test
4I vs 3C	1528.500	3.739	0.635	Do Not Test
4I vs 7C	1436.500	3.514	0.763	Do Not Test
4I vs 9C	1321.500	3.232	0.880	Do Not Test
4I vs 8C	1283.000	3.138	0.907	Do Not Test
4I vs 5S	880.000	2.153	0.999	Do Not Test
4I vs 5I	477.000	1.167	1.000	Do Not Test
4I vs 6S	365.500	0.894	1.000	Do Not Test
4I vs 2S	297.000	0.726	1.000	Do Not Test
4I vs 8S	289.000	0.707	1.000	Do Not Test
4I vs 8I	225.500	0.552	1.000	Do Not Test
4I vs 2I	222.000	0.543	1.000	Do Not Test



4I vs 4S	213.000	0.521	1.000	Do Not Test
4I vs 9S	72.500	0.177	1.000	Do Not Test
4I vs 7S	49.000	0.120	1.000	Do Not Test
4I vs 1I	25.000	0.0612	1.000	Do Not Test
4I vs 1S	23.500	0.0575	1.000	Do Not Test
4I vs 3S	13.500	0.0330	1.000	Do Not Test
3S vs 2C	2028.500	4.962	0.098	Do Not Test
3S vs 5C	1615.000	3.950	0.507	Do Not Test
3S vs 4C	1579.500	3.863	0.560	Do Not Test
3S vs 1C	1549.000	3.789	0.605	Do Not Test
3S vs 6C	1530.500	3.744	0.632	Do Not Test
3S vs 3C	1515.000	3.706	0.655	Do Not Test
3S vs 7C	1423.000	3.481	0.779	Do Not Test
3S vs 9C	1308.000	3.199	0.890	Do Not Test
3S vs 8C	1269.500	3.105	0.915	Do Not Test
3S vs 5S	866.500	2.119	0.999	Do Not Test
3S vs 5I	463.500	1.134	1.000	Do Not Test
3S vs 6S	352.000	0.861	1.000	Do Not Test
3S vs 2S	283.500	0.693	1.000	Do Not Test
3S vs 8S	275.500	0.674	1.000	Do Not Test
3S vs 8I	212.000	0.519	1.000	Do Not Test
3S vs 2I	208.500	0.510	1.000	Do Not Test
3S vs 4S	199.500	0.488	1.000	Do Not Test
3S vs 9S	59.000	0.144	1.000	Do Not Test
3S vs 7S	35.500	0.0868	1.000	Do Not Test
3S vs 1I	11.500	0.0281	1.000	Do Not Test
3S vs 1S	10.000	0.0245	1.000	Do Not Test
1S vs 2C	2018.500	4.937	0.103	Do Not Test
1S vs 5C	1605.000	3.926	0.522	Do Not Test
1S vs 4C	1569.500	3.839	0.574	Do Not Test
1S vs 1C	1539.000	3.764	0.620	Do Not Test
1S vs 6C	1520.500	3.719	0.647	Do Not Test
1S vs 3C	1505.000	3.681	0.670	Do Not Test
1S vs 7C	1413.000	3.456	0.791	Do Not Test
1S vs 9C	1298.000	3.175	0.897	Do Not Test
1S vs 8C	1259.500	3.081	0.921	Do Not Test
1S vs 5S	856.500	2.095	1.000	Do Not Test
1S vs 5I	453.500	1.109	1.000	Do Not Test
1S vs 6S	342.000	0.837	1.000	Do Not Test
1S vs 2S	273.500	0.669	1.000	Do Not Test
1S vs 8S	265.500	0.649	1.000	Do Not Test
1S vs 8I	202.000	0.494	1.000	Do Not Test
1S vs 2I	198.500	0.486	1.000	Do Not Test
1S vs 4S	189.500	0.464	1.000	Do Not Test
1S vs 9S	49.000	0.120	1.000	Do Not Test
1S vs 7S	25.500	0.0624	1.000	Do Not Test
1S vs 1I	1.500	0.00367	1.000	Do Not Test
1I vs 2C	2017.000	4.934	0.104	Do Not Test
1I vs 5C	1603.500	3.922	0.524	Do Not Test
1I vs 4C	1568.000	3.835	0.577	Do Not Test
1I vs 1C	1537.500	3.761	0.622	Do Not Test
1I vs 6C	1519.000	3.716	0.649	Do Not Test
1I vs 3C	1503.500	3.678	0.672	Do Not Test
1I vs 7C	1411.500	3.453	0.793	Do Not Test
1I vs 9C	1296.500	3.171	0.898	Do Not Test
1I vs 8C	1258.000	3.077	0.922	Do Not Test

1I vs 5S	855.000	2.091	1.000	Do Not Test
1I vs 5I	452.000	1.106	1.000	Do Not Test
1I vs 6S	340.500	0.833	1.000	Do Not Test
1I vs 2S	272.000	0.665	1.000	Do Not Test
1I vs 8S	264.000	0.646	1.000	Do Not Test
1I vs 8I	200.500	0.490	1.000	Do Not Test
1I vs 2I	197.000	0.482	1.000	Do Not Test
1I vs 4S	188.000	0.460	1.000	Do Not Test
1I vs 9S	47.500	0.116	1.000	Do Not Test
1I vs 7S	24.000	0.0587	1.000	Do Not Test
7S vs 2C	1993.000	4.875	0.116	Do Not Test
7S vs 5C	1579.500	3.863	0.560	Do Not Test
7S vs 4C	1544.000	3.777	0.612	Do Not Test
7S vs 1C	1513.500	3.702	0.657	Do Not Test
7S vs 6C	1495.000	3.657	0.684	Do Not Test
7S vs 3C	1479.500	3.619	0.706	Do Not Test
7S vs 7C	1387.500	3.394	0.820	Do Not Test
7S vs 9C	1272.500	3.113	0.914	Do Not Test
7S vs 8C	1234.000	3.018	0.934	Do Not Test
7S vs 5S	831.000	2.033	1.000	Do Not Test
7S vs 5I	428.000	1.047	1.000	Do Not Test
7S vs 6S	316.500	0.774	1.000	Do Not Test
7S vs 2S	248.000	0.607	1.000	Do Not Test
7S vs 8S	240.000	0.587	1.000	Do Not Test
7S vs 8I	176.500	0.432	1.000	Do Not Test
7S vs 2I	173.000	0.423	1.000	Do Not Test
7S vs 4S	164.000	0.401	1.000	Do Not Test
7S vs 9S	23.500	0.0575	1.000	Do Not Test
9S vs 2C	1969.500	4.817	0.130	Do Not Test
9S vs 5C	1556.000	3.806	0.595	Do Not Test
9S vs 4C	1520.500	3.719	0.647	Do Not Test
9S vs 1C	1490.000	3.645	0.691	Do Not Test
9S vs 6C	1471.500	3.599	0.717	Do Not Test
9S vs 3C	1456.000	3.561	0.738	Do Not Test
9S vs 7C	1364.000	3.336	0.843	Do Not Test
9S vs 9C	1249.000	3.055	0.927	Do Not Test
9S vs 8C	1210.500	2.961	0.945	Do Not Test
9S vs 5S	807.500	1.975	1.000	Do Not Test
9S vs 5I	404.500	0.989	1.000	Do Not Test
9S vs 6S	293.000	0.717	1.000	Do Not Test
9S vs 2S	224.500	0.549	1.000	Do Not Test
9S vs 8S	216.500	0.530	1.000	Do Not Test
9S vs 8I	153.000	0.374	1.000	Do Not Test
9S vs 2I	149.500	0.366	1.000	Do Not Test
9S vs 4S	140.500	0.344	1.000	Do Not Test
4S vs 2C	1829.000	4.474	0.242	Do Not Test
4S vs 5C	1415.500	3.462	0.788	Do Not Test
4S vs 4C	1380.000	3.376	0.827	Do Not Test
4S vs 1C	1349.500	3.301	0.857	Do Not Test
4S vs 6C	1331.000	3.256	0.873	Do Not Test
4S vs 3C	1315.500	3.218	0.885	Do Not Test
4S vs 7C	1223.500	2.993	0.939	Do Not Test
4S vs 9C	1108.500	2.711	0.977	Do Not Test
4S vs 8C	1070.000	2.617	0.985	Do Not Test
4S vs 5S	667.000	1.631	1.000	Do Not Test
4S vs 5I	264.000	0.646	1.000	Do Not Test

4S vs 6S	152.500	0.373	1.000	Do Not Test
4S vs 2S	84.000	0.205	1.000	Do Not Test
4S vs 8S	76.000	0.186	1.000	Do Not Test
4S vs 8I	12.500	0.0306	1.000	Do Not Test
4S vs 2I	9.000	0.0220	1.000	Do Not Test
2I vs 2C	1820.000	4.452	0.251	Do Not Test
2I vs 5C	1406.500	3.440	0.799	Do Not Test
2I vs 4C	1371.000	3.354	0.836	Do Not Test
2I vs 1C	1340.500	3.279	0.865	Do Not Test
2I vs 6C	1322.000	3.234	0.880	Do Not Test
2I vs 3C	1306.500	3.196	0.891	Do Not Test
2I vs 7C	1214.500	2.971	0.943	Do Not Test
2I vs 9C	1099.500	2.689	0.979	Do Not Test
2I vs 8C	1061.000	2.595	0.986	Do Not Test
2I vs 5S	658.000	1.609	1.000	Do Not Test
2I vs 5I	255.000	0.624	1.000	Do Not Test
2I vs 6S	143.500	0.351	1.000	Do Not Test
2I vs 2S	75.000	0.183	1.000	Do Not Test
2I vs 8S	67.000	0.164	1.000	Do Not Test
2I vs 8I	3.500	0.00856	1.000	Do Not Test
8I vs 2C	1816.500	4.443	0.254	Do Not Test
8I vs 5C	1403.000	3.432	0.803	Do Not Test
8I vs 4C	1367.500	3.345	0.840	Do Not Test
8I vs 1C	1337.000	3.270	0.868	Do Not Test
8I vs 6C	1318.500	3.225	0.882	Do Not Test
8I vs 3C	1303.000	3.187	0.894	Do Not Test
8I vs 7C	1211.000	2.962	0.945	Do Not Test
8I vs 9C	1096.000	2.681	0.980	Do Not Test
8I vs 8C	1057.500	2.587	0.987	Do Not Test
8I vs 5S	654.500	1.601	1.000	Do Not Test
8I vs 5I	251.500	0.615	1.000	Do Not Test
8I vs 6S	140.000	0.342	1.000	Do Not Test
8I vs 2S	71.500	0.175	1.000	Do Not Test
8I vs 8S	63.500	0.155	1.000	Do Not Test
8S vs 2C	1753.000	4.288	0.324	Do Not Test
8S vs 5C	1339.500	3.276	0.865	Do Not Test
8S vs 4C	1304.000	3.190	0.893	Do Not Test
8S vs 1C	1273.500	3.115	0.913	Do Not Test
8S vs 6C	1255.000	3.070	0.924	Do Not Test
8S vs 3C	1239.500	3.032	0.932	Do Not Test
8S vs 7C	1147.500	2.807	0.967	Do Not Test
8S vs 9C	1032.500	2.526	0.990	Do Not Test
8S vs 8C	994.000	2.431	0.994	Do Not Test
8S vs 5S	591.000	1.446	1.000	Do Not Test
8S vs 5I	188.000	0.460	1.000	Do Not Test
8S vs 6S	76.500	0.187	1.000	Do Not Test
8S vs 2S	8.000	0.0196	1.000	Do Not Test
2S vs 2C	1745.000	4.268	0.333	Do Not Test
2S vs 5C	1331.500	3.257	0.872	Do Not Test
2S vs 4C	1296.000	3.170	0.899	Do Not Test
2S vs 1C	1265.500	3.095	0.918	Do Not Test
2S vs 6C	1247.000	3.050	0.928	Do Not Test
2S vs 3C	1231.500	3.012	0.935	Do Not Test
2S vs 7C	1139.500	2.787	0.969	Do Not Test
2S vs 9C	1024.500	2.506	0.991	Do Not Test
2S vs 8C	986.000	2.412	0.995	Do Not Test

2S vs 5S	583.000	1.426	1.000	Do Not Test
2S vs 5I	180.000	0.440	1.000	Do Not Test
2S vs 6S	68.500	0.168	1.000	Do Not Test
6S vs 2C	1676.500	4.101	0.421	Do Not Test
6S vs 5C	1263.000	3.089	0.919	Do Not Test
6S vs 4C	1227.500	3.002	0.937	Do Not Test
6S vs 1C	1197.000	2.928	0.950	Do Not Test
6S vs 6C	1178.500	2.883	0.957	Do Not Test
6S vs 3C	1163.000	2.845	0.962	Do Not Test
6S vs 7C	1071.000	2.620	0.984	Do Not Test
6S vs 9C	956.000	2.338	0.997	Do Not Test
6S vs 8C	917.500	2.244	0.998	Do Not Test
6S vs 5S	514.500	1.258	1.000	Do Not Test
6S vs 5I	111.500	0.273	1.000	Do Not Test
5I vs 2C	1565.000	3.828	0.581	Do Not Test
5I vs 5C	1151.500	2.817	0.966	Do Not Test
5I vs 4C	1116.000	2.730	0.975	Do Not Test
5I vs 1C	1085.500	2.655	0.982	Do Not Test
5I vs 6C	1067.000	2.610	0.985	Do Not Test
5I vs 3C	1051.500	2.572	0.988	Do Not Test
5I vs 7C	959.500	2.347	0.997	Do Not Test
5I vs 9C	844.500	2.066	1.000	Do Not Test
5I vs 8C	806.000	1.971	1.000	Do Not Test
5I vs 5S	403.000	0.986	1.000	Do Not Test
5S vs 2C	1162.000	2.842	0.962	Do Not Test
5S vs 5C	748.500	1.831	1.000	Do Not Test
5S vs 4C	713.000	1.744	1.000	Do Not Test
5S vs 1C	682.500	1.669	1.000	Do Not Test
5S vs 6C	664.000	1.624	1.000	Do Not Test
5S vs 3C	648.500	1.586	1.000	Do Not Test
5S vs 7C	556.500	1.361	1.000	Do Not Test
5S vs 9C	441.500	1.080	1.000	Do Not Test
5S vs 8C	403.000	0.986	1.000	Do Not Test
8C vs 2C	759.000	1.857	1.000	Do Not Test
8C vs 5C	345.500	0.845	1.000	Do Not Test
8C vs 4C	310.000	0.758	1.000	Do Not Test
8C vs 1C	279.500	0.684	1.000	Do Not Test
8C vs 6C	261.000	0.638	1.000	Do Not Test
8C vs 3C	245.500	0.600	1.000	Do Not Test
8C vs 7C	153.500	0.375	1.000	Do Not Test
8C vs 9C	38.500	0.0942	1.000	Do Not Test
9C vs 2C	720.500	1.762	1.000	Do Not Test
9C vs 5C	307.000	0.751	1.000	Do Not Test
9C vs 4C	271.500	0.664	1.000	Do Not Test
9C vs 1C	241.000	0.589	1.000	Do Not Test
9C vs 6C	222.500	0.544	1.000	Do Not Test
9C vs 3C	207.000	0.506	1.000	Do Not Test
9C vs 7C	115.000	0.281	1.000	Do Not Test
7C vs 2C	605.500	1.481	1.000	Do Not Test
7C vs 5C	192.000	0.470	1.000	Do Not Test
7C vs 4C	156.500	0.383	1.000	Do Not Test
7C vs 1C	126.000	0.308	1.000	Do Not Test
7C vs 6C	107.500	0.263	1.000	Do Not Test
7C vs 3C	92.000	0.225	1.000	Do Not Test
3C vs 2C	513.500	1.256	1.000	Do Not Test
3C vs 5C	100.000	0.245	1.000	Do Not Test

3C vs 4C	64.500	0.158	1.000	Do Not Test
3C vs 1C	34.000	0.0832	1.000	Do Not Test
3C vs 6C	15.500	0.0379	1.000	Do Not Test
6C vs 2C	498.000	1.218	1.000	Do Not Test
6C vs 5C	84.500	0.207	1.000	Do Not Test
6C vs 4C	49.000	0.120	1.000	Do Not Test
6C vs 1C	18.500	0.0453	1.000	Do Not Test
1C vs 2C	479.500	1.173	1.000	Do Not Test
1C vs 5C	66.000	0.161	1.000	Do Not Test
1C vs 4C	30.500	0.0746	1.000	Do Not Test
4C vs 2C	449.000	1.098	1.000	Do Not Test
4C vs 5C	35.500	0.0868	1.000	Do Not Test
5C vs 2C	413.500	1.011	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 20:49:00

Data source: Tb.Sp in L1 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:49:00

Data source: Tb.Sp in L1 Perinate

Group	N	Missing	Median	25%	75%
1I	14	0	211.823	193.440	221.315
1C	14	0	301.058	269.146	404.146
1S	14	0	199.275	192.007	261.022
2I	14	0	214.148	198.877	245.321
2C	14	0	402.318	370.016	526.117
2S	14	0	235.893	204.477	253.645
3I	14	0	202.420	183.707	235.401
3C	14	0	284.161	249.334	332.839
3S	14	0	209.971	191.013	224.210
4I	14	0	232.890	199.890	250.504
4C	14	0	288.030	248.278	325.667
4S	14	0	218.394	204.335	247.363
5I	14	0	233.086	200.533	263.174
5C	14	0	346.423	301.433	429.993
5S	14	0	256.659	221.292	274.401
6I	14	0	208.799	191.882	244.776
6C	14	0	279.906	250.214	316.082
6S	14	0	234.750	219.910	254.838
7I	14	0	203.457	172.114	238.883
7C	14	0	265.993	222.210	288.639
7S	14	0	214.043	181.928	241.814
8I	14	0	228.849	210.351	284.983
8C	14	0	417.833	351.020	634.847
8S	14	0	234.965	202.929	278.409
9I	14	0	194.624	182.157	254.530
9C	14	0	253.791	225.931	306.840
9S	14	0	217.806	185.180	236.826

H = 133.449 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 7I	3137.000	7.673	0.007	Yes
8C vs 9I	3067.000	7.502	0.007	Yes

8C vs 3S	2995.000	7.326	0.007	Yes
8C vs 3I	2959.000	7.238	0.007	Yes
8C vs 1I	2929.000	7.164	0.007	Yes
8C vs 1S	2875.000	7.032	0.007	Yes
8C vs 7S	2844.000	6.956	0.007	Yes
8C vs 9S	2810.000	6.873	0.007	Yes
8C vs 6I	2666.000	6.521	0.008	Yes
8C vs 2I	2530.000	6.188	0.010	Yes
8C vs 4I	2438.000	5.963	0.014	Yes
8C vs 4S	2389.000	5.844	0.016	Yes
8C vs 2S	2354.000	5.758	0.019	Yes
8C vs 8I	2225.000	5.442	0.036	Yes
8C vs 5I	2214.000	5.416	0.038	Yes
8C vs 6S	2132.000	5.215	0.058	No
8C vs 8S	2089.000	5.110	0.072	Do Not Test
8C vs 5S	1811.000	4.430	0.260	Do Not Test
8C vs 9C	1587.000	3.882	0.548	Do Not Test
8C vs 7C	1553.000	3.799	0.599	Do Not Test
8C vs 3C	1136.000	2.779	0.970	Do Not Test
8C vs 6C	1120.000	2.740	0.974	Do Not Test
8C vs 4C	1086.000	2.656	0.982	Do Not Test
8C vs 1C	865.000	2.116	0.999	Do Not Test
8C vs 5C	540.000	1.321	1.000	Do Not Test
8C vs 2C	135.000	0.330	1.000	Do Not Test
2C vs 7I	3002.000	7.343	0.007	Yes
2C vs 9I	2932.000	7.172	0.007	Yes
2C vs 3S	2860.000	6.996	0.007	Yes
2C vs 3I	2824.000	6.908	0.007	Yes
2C vs 1I	2794.000	6.834	0.007	Yes
2C vs 1S	2740.000	6.702	0.007	Yes
2C vs 7S	2709.000	6.626	0.007	Yes
2C vs 9S	2675.000	6.543	0.008	Yes
2C vs 6I	2531.000	6.191	0.010	Yes
2C vs 2I	2395.000	5.858	0.016	Yes
2C vs 4I	2303.000	5.633	0.024	Yes
2C vs 4S	2254.000	5.513	0.031	Yes
2C vs 2S	2219.000	5.428	0.037	Yes
2C vs 8I	2090.000	5.112	0.072	No
2C vs 5I	2079.000	5.085	0.076	Do Not Test
2C vs 6S	1997.000	4.885	0.114	Do Not Test
2C vs 8S	1954.000	4.780	0.140	Do Not Test
2C vs 5S	1676.000	4.100	0.421	Do Not Test
2C vs 9C	1452.000	3.552	0.743	Do Not Test
2C vs 7C	1418.000	3.468	0.785	Do Not Test
2C vs 3C	1001.000	2.448	0.994	Do Not Test
2C vs 6C	985.000	2.409	0.995	Do Not Test
2C vs 4C	951.000	2.326	0.997	Do Not Test
2C vs 1C	730.000	1.786	1.000	Do Not Test
2C vs 5C	405.000	0.991	1.000	Do Not Test
5C vs 7I	2597.000	6.352	0.009	Yes
5C vs 9I	2527.000	6.181	0.010	Yes
5C vs 3S	2455.000	6.005	0.013	Yes
5C vs 3I	2419.000	5.917	0.015	Yes
5C vs 1I	2389.000	5.844	0.016	Yes
5C vs 1S	2335.000	5.711	0.021	Yes
5C vs 7S	2304.000	5.636	0.024	Yes

5C vs 9S	2270.000	5.552	0.029	Yes
5C vs 6I	2126.000	5.200	0.060	No
5C vs 2I	1990.000	4.868	0.118	Do Not Test
5C vs 4I	1898.000	4.643	0.181	Do Not Test
5C vs 4S	1849.000	4.523	0.223	Do Not Test
5C vs 2S	1814.000	4.437	0.257	Do Not Test
5C vs 8I	1685.000	4.122	0.409	Do Not Test
5C vs 5I	1674.000	4.095	0.424	Do Not Test
5C vs 6S	1592.000	3.894	0.541	Do Not Test
5C vs 8S	1549.000	3.789	0.605	Do Not Test
5C vs 5S	1271.000	3.109	0.915	Do Not Test
5C vs 9C	1047.000	2.561	0.988	Do Not Test
5C vs 7C	1013.000	2.478	0.992	Do Not Test
5C vs 3C	596.000	1.458	1.000	Do Not Test
5C vs 6C	580.000	1.419	1.000	Do Not Test
5C vs 4C	546.000	1.336	1.000	Do Not Test
5C vs 1C	325.000	0.795	1.000	Do Not Test
1C vs 7I	2272.000	5.557	0.028	Yes
1C vs 9I	2202.000	5.386	0.040	Yes
1C vs 3S	2130.000	5.210	0.059	No
1C vs 3I	2094.000	5.122	0.070	Do Not Test
1C vs 1I	2064.000	5.049	0.082	Do Not Test
1C vs 1S	2010.000	4.917	0.107	Do Not Test
1C vs 7S	1979.000	4.841	0.125	Do Not Test
1C vs 9S	1945.000	4.758	0.146	Do Not Test
1C vs 6I	1801.000	4.405	0.270	Do Not Test
1C vs 2I	1665.000	4.073	0.436	Do Not Test
1C vs 4I	1573.000	3.848	0.569	Do Not Test
1C vs 4S	1524.000	3.728	0.642	Do Not Test
1C vs 2S	1489.000	3.642	0.692	Do Not Test
1C vs 8I	1360.000	3.327	0.847	Do Not Test
1C vs 5I	1349.000	3.300	0.857	Do Not Test
1C vs 6S	1267.000	3.099	0.917	Do Not Test
1C vs 8S	1224.000	2.994	0.939	Do Not Test
1C vs 5S	946.000	2.314	0.997	Do Not Test
1C vs 9C	722.000	1.766	1.000	Do Not Test
1C vs 7C	688.000	1.683	1.000	Do Not Test
1C vs 3C	271.000	0.663	1.000	Do Not Test
1C vs 6C	255.000	0.624	1.000	Do Not Test
1C vs 4C	221.000	0.541	1.000	Do Not Test
4C vs 7I	2051.000	5.017	0.088	No
4C vs 9I	1981.000	4.846	0.123	Do Not Test
4C vs 3S	1909.000	4.669	0.172	Do Not Test
4C vs 3I	1873.000	4.581	0.202	Do Not Test
4C vs 1I	1843.000	4.508	0.229	Do Not Test
4C vs 1S	1789.000	4.376	0.283	Do Not Test
4C vs 7S	1758.000	4.300	0.318	Do Not Test
4C vs 9S	1724.000	4.217	0.359	Do Not Test
4C vs 6I	1580.000	3.865	0.559	Do Not Test
4C vs 2I	1444.000	3.532	0.753	Do Not Test
4C vs 4I	1352.000	3.307	0.854	Do Not Test
4C vs 4S	1303.000	3.187	0.894	Do Not Test
4C vs 2S	1268.000	3.102	0.916	Do Not Test
4C vs 8I	1139.000	2.786	0.969	Do Not Test
4C vs 5I	1128.000	2.759	0.972	Do Not Test
4C vs 6S	1046.000	2.559	0.988	Do Not Test



4C vs 8S	1003.000	2.453	0.993	Do Not Test
4C vs 5S	725.000	1.773	1.000	Do Not Test
4C vs 9C	501.000	1.225	1.000	Do Not Test
4C vs 7C	467.000	1.142	1.000	Do Not Test
4C vs 3C	50.000	0.122	1.000	Do Not Test
4C vs 6C	34.000	0.0832	1.000	Do Not Test
6C vs 7I	2017.000	4.934	0.104	Do Not Test
6C vs 9I	1947.000	4.762	0.145	Do Not Test
6C vs 3S	1875.000	4.586	0.200	Do Not Test
6C vs 3I	1839.000	4.498	0.232	Do Not Test
6C vs 1I	1809.000	4.425	0.262	Do Not Test
6C vs 1S	1755.000	4.293	0.322	Do Not Test
6C vs 7S	1724.000	4.217	0.359	Do Not Test
6C vs 9S	1690.000	4.134	0.403	Do Not Test
6C vs 6I	1546.000	3.782	0.609	Do Not Test
6C vs 2I	1410.000	3.449	0.795	Do Not Test
6C vs 4I	1318.000	3.224	0.883	Do Not Test
6C vs 4S	1269.000	3.104	0.916	Do Not Test
6C vs 2S	1234.000	3.018	0.934	Do Not Test
6C vs 8I	1105.000	2.703	0.978	Do Not Test
6C vs 5I	1094.000	2.676	0.980	Do Not Test
6C vs 6S	1012.000	2.475	0.993	Do Not Test
6C vs 8S	969.000	2.370	0.996	Do Not Test
6C vs 5S	691.000	1.690	1.000	Do Not Test
6C vs 9C	467.000	1.142	1.000	Do Not Test
6C vs 7C	433.000	1.059	1.000	Do Not Test
6C vs 3C	16.000	0.0391	1.000	Do Not Test
3C vs 7I	2001.000	4.894	0.112	Do Not Test
3C vs 9I	1931.000	4.723	0.156	Do Not Test
3C vs 3S	1859.000	4.547	0.214	Do Not Test
3C vs 3I	1823.000	4.459	0.248	Do Not Test
3C vs 1I	1793.000	4.386	0.279	Do Not Test
3C vs 1S	1739.000	4.254	0.341	Do Not Test
3C vs 7S	1708.000	4.178	0.379	Do Not Test
3C vs 9S	1674.000	4.095	0.424	Do Not Test
3C vs 6I	1530.000	3.742	0.633	Do Not Test
3C vs 2I	1394.000	3.410	0.813	Do Not Test
3C vs 4I	1302.000	3.185	0.895	Do Not Test
3C vs 4S	1253.000	3.065	0.925	Do Not Test
3C vs 2S	1218.000	2.979	0.942	Do Not Test
3C vs 8I	1089.000	2.664	0.981	Do Not Test
3C vs 5I	1078.000	2.637	0.983	Do Not Test
3C vs 6S	996.000	2.436	0.994	Do Not Test
3C vs 8S	953.000	2.331	0.997	Do Not Test
3C vs 5S	675.000	1.651	1.000	Do Not Test
3C vs 9C	451.000	1.103	1.000	Do Not Test
3C vs 7C	417.000	1.020	1.000	Do Not Test
7C vs 7I	1584.000	3.875	0.553	Do Not Test
7C vs 9I	1514.000	3.703	0.657	Do Not Test
7C vs 3S	1442.000	3.527	0.756	Do Not Test
7C vs 3I	1406.000	3.439	0.799	Do Not Test
7C vs 1I	1376.000	3.366	0.831	Do Not Test
7C vs 1S	1322.000	3.234	0.880	Do Not Test
7C vs 7S	1291.000	3.158	0.902	Do Not Test
7C vs 9S	1257.000	3.075	0.923	Do Not Test
7C vs 6I	1113.000	2.722	0.976	Do Not Test

7C vs 2I	977.000	2.390	0.996	Do Not Test
7C vs 4I	885.000	2.165	0.999	Do Not Test
7C vs 4S	836.000	2.045	1.000	Do Not Test
7C vs 2S	801.000	1.959	1.000	Do Not Test
7C vs 8I	672.000	1.644	1.000	Do Not Test
7C vs 5I	661.000	1.617	1.000	Do Not Test
7C vs 6S	579.000	1.416	1.000	Do Not Test
7C vs 8S	536.000	1.311	1.000	Do Not Test
7C vs 5S	258.000	0.631	1.000	Do Not Test
7C vs 9C	34.000	0.0832	1.000	Do Not Test
9C vs 7I	1550.000	3.791	0.603	Do Not Test
9C vs 9I	1480.000	3.620	0.705	Do Not Test
9C vs 3S	1408.000	3.444	0.797	Do Not Test
9C vs 3I	1372.000	3.356	0.835	Do Not Test
9C vs 1I	1342.000	3.283	0.863	Do Not Test
9C vs 1S	1288.000	3.150	0.904	Do Not Test
9C vs 7S	1257.000	3.075	0.923	Do Not Test
9C vs 9S	1223.000	2.991	0.939	Do Not Test
9C vs 6I	1079.000	2.639	0.983	Do Not Test
9C vs 2I	943.000	2.307	0.997	Do Not Test
9C vs 4I	851.000	2.082	1.000	Do Not Test
9C vs 4S	802.000	1.962	1.000	Do Not Test
9C vs 2S	767.000	1.876	1.000	Do Not Test
9C vs 8I	638.000	1.561	1.000	Do Not Test
9C vs 5I	627.000	1.534	1.000	Do Not Test
9C vs 6S	545.000	1.333	1.000	Do Not Test
9C vs 8S	502.000	1.228	1.000	Do Not Test
9C vs 5S	224.000	0.548	1.000	Do Not Test
5S vs 7I	1326.000	3.243	0.877	Do Not Test
5S vs 9I	1256.000	3.072	0.923	Do Not Test
5S vs 3S	1184.000	2.896	0.955	Do Not Test
5S vs 3I	1148.000	2.808	0.967	Do Not Test
5S vs 1I	1118.000	2.735	0.975	Do Not Test
5S vs 1S	1064.000	2.603	0.986	Do Not Test
5S vs 7S	1033.000	2.527	0.990	Do Not Test
5S vs 9S	999.000	2.444	0.994	Do Not Test
5S vs 6I	855.000	2.091	1.000	Do Not Test
5S vs 2I	719.000	1.759	1.000	Do Not Test
5S vs 4I	627.000	1.534	1.000	Do Not Test
5S vs 4S	578.000	1.414	1.000	Do Not Test
5S vs 2S	543.000	1.328	1.000	Do Not Test
5S vs 8I	414.000	1.013	1.000	Do Not Test
5S vs 5I	403.000	0.986	1.000	Do Not Test
5S vs 6S	321.000	0.785	1.000	Do Not Test
5S vs 8S	278.000	0.680	1.000	Do Not Test
8S vs 7I	1048.000	2.563	0.988	Do Not Test
8S vs 9I	978.000	2.392	0.995	Do Not Test
8S vs 3S	906.000	2.216	0.999	Do Not Test
8S vs 3I	870.000	2.128	0.999	Do Not Test
8S vs 1I	840.000	2.055	1.000	Do Not Test
8S vs 1S	786.000	1.923	1.000	Do Not Test
8S vs 7S	755.000	1.847	1.000	Do Not Test
8S vs 9S	721.000	1.764	1.000	Do Not Test
8S vs 6I	577.000	1.411	1.000	Do Not Test
8S vs 2I	441.000	1.079	1.000	Do Not Test
8S vs 4I	349.000	0.854	1.000	Do Not Test

8S vs 4S	300.000	0.734	1.000	Do Not Test
8S vs 2S	265.000	0.648	1.000	Do Not Test
8S vs 8I	136.000	0.333	1.000	Do Not Test
8S vs 5I	125.000	0.306	1.000	Do Not Test
8S vs 6S	43.000	0.105	1.000	Do Not Test
6S vs 7I	1005.000	2.458	0.993	Do Not Test
6S vs 9I	935.000	2.287	0.998	Do Not Test
6S vs 3S	863.000	2.111	0.999	Do Not Test
6S vs 3I	827.000	2.023	1.000	Do Not Test
6S vs 1I	797.000	1.949	1.000	Do Not Test
6S vs 1S	743.000	1.817	1.000	Do Not Test
6S vs 7S	712.000	1.742	1.000	Do Not Test
6S vs 9S	678.000	1.658	1.000	Do Not Test
6S vs 6I	534.000	1.306	1.000	Do Not Test
6S vs 2I	398.000	0.974	1.000	Do Not Test
6S vs 4I	306.000	0.748	1.000	Do Not Test
6S vs 4S	257.000	0.629	1.000	Do Not Test
6S vs 2S	222.000	0.543	1.000	Do Not Test
6S vs 8I	93.000	0.227	1.000	Do Not Test
6S vs 5I	82.000	0.201	1.000	Do Not Test
5I vs 7I	923.000	2.258	0.998	Do Not Test
5I vs 9I	853.000	2.086	1.000	Do Not Test
5I vs 3S	781.000	1.910	1.000	Do Not Test
5I vs 3I	745.000	1.822	1.000	Do Not Test
5I vs 1I	715.000	1.749	1.000	Do Not Test
5I vs 1S	661.000	1.617	1.000	Do Not Test
5I vs 7S	630.000	1.541	1.000	Do Not Test
5I vs 9S	596.000	1.458	1.000	Do Not Test
5I vs 6I	452.000	1.106	1.000	Do Not Test
5I vs 2I	316.000	0.773	1.000	Do Not Test
5I vs 4I	224.000	0.548	1.000	Do Not Test
5I vs 4S	175.000	0.428	1.000	Do Not Test
5I vs 2S	140.000	0.342	1.000	Do Not Test
5I vs 8I	11.000	0.0269	1.000	Do Not Test
8I vs 7I	912.000	2.231	0.999	Do Not Test
8I vs 9I	842.000	2.060	1.000	Do Not Test
8I vs 3S	770.000	1.883	1.000	Do Not Test
8I vs 3I	734.000	1.795	1.000	Do Not Test
8I vs 1I	704.000	1.722	1.000	Do Not Test
8I vs 1S	650.000	1.590	1.000	Do Not Test
8I vs 7S	619.000	1.514	1.000	Do Not Test
8I vs 9S	585.000	1.431	1.000	Do Not Test
8I vs 6I	441.000	1.079	1.000	Do Not Test
8I vs 2I	305.000	0.746	1.000	Do Not Test
8I vs 4I	213.000	0.521	1.000	Do Not Test
8I vs 4S	164.000	0.401	1.000	Do Not Test
8I vs 2S	129.000	0.316	1.000	Do Not Test
2S vs 7I	783.000	1.915	1.000	Do Not Test
2S vs 9I	713.000	1.744	1.000	Do Not Test
2S vs 3S	641.000	1.568	1.000	Do Not Test
2S vs 3I	605.000	1.480	1.000	Do Not Test
2S vs 1I	575.000	1.406	1.000	Do Not Test
2S vs 1S	521.000	1.274	1.000	Do Not Test
2S vs 7S	490.000	1.199	1.000	Do Not Test
2S vs 9S	456.000	1.115	1.000	Do Not Test
2S vs 6I	312.000	0.763	1.000	Do Not Test

2S vs 2I	176.000	0.431	1.000	Do Not Test
2S vs 4I	84.000	0.205	1.000	Do Not Test
2S vs 4S	35.000	0.0856	1.000	Do Not Test
4S vs 7I	748.000	1.830	1.000	Do Not Test
4S vs 9I	678.000	1.658	1.000	Do Not Test
4S vs 3S	606.000	1.482	1.000	Do Not Test
4S vs 3I	570.000	1.394	1.000	Do Not Test
4S vs 1I	540.000	1.321	1.000	Do Not Test
4S vs 1S	486.000	1.189	1.000	Do Not Test
4S vs 7S	455.000	1.113	1.000	Do Not Test
4S vs 9S	421.000	1.030	1.000	Do Not Test
4S vs 6I	277.000	0.678	1.000	Do Not Test
4S vs 2I	141.000	0.345	1.000	Do Not Test
4S vs 4I	49.000	0.120	1.000	Do Not Test
4I vs 7I	699.000	1.710	1.000	Do Not Test
4I vs 9I	629.000	1.539	1.000	Do Not Test
4I vs 3S	557.000	1.362	1.000	Do Not Test
4I vs 3I	521.000	1.274	1.000	Do Not Test
4I vs 1I	491.000	1.201	1.000	Do Not Test
4I vs 1S	437.000	1.069	1.000	Do Not Test
4I vs 7S	406.000	0.993	1.000	Do Not Test
4I vs 9S	372.000	0.910	1.000	Do Not Test
4I vs 6I	228.000	0.558	1.000	Do Not Test
4I vs 2I	92.000	0.225	1.000	Do Not Test
2I vs 7I	607.000	1.485	1.000	Do Not Test
2I vs 9I	537.000	1.314	1.000	Do Not Test
2I vs 3S	465.000	1.137	1.000	Do Not Test
2I vs 3I	429.000	1.049	1.000	Do Not Test
2I vs 1I	399.000	0.976	1.000	Do Not Test
2I vs 1S	345.000	0.844	1.000	Do Not Test
2I vs 7S	314.000	0.768	1.000	Do Not Test
2I vs 9S	280.000	0.685	1.000	Do Not Test
2I vs 6I	136.000	0.333	1.000	Do Not Test
6I vs 7I	471.000	1.152	1.000	Do Not Test
6I vs 9I	401.000	0.981	1.000	Do Not Test
6I vs 3S	329.000	0.805	1.000	Do Not Test
6I vs 3I	293.000	0.717	1.000	Do Not Test
6I vs 1I	263.000	0.643	1.000	Do Not Test
6I vs 1S	209.000	0.511	1.000	Do Not Test
6I vs 7S	178.000	0.435	1.000	Do Not Test
6I vs 9S	144.000	0.352	1.000	Do Not Test
9S vs 7I	327.000	0.800	1.000	Do Not Test
9S vs 9I	257.000	0.629	1.000	Do Not Test
9S vs 3S	185.000	0.453	1.000	Do Not Test
9S vs 3I	149.000	0.364	1.000	Do Not Test
9S vs 1I	119.000	0.291	1.000	Do Not Test
9S vs 1S	65.000	0.159	1.000	Do Not Test
9S vs 7S	34.000	0.0832	1.000	Do Not Test
7S vs 7I	293.000	0.717	1.000	Do Not Test
7S vs 9I	223.000	0.545	1.000	Do Not Test
7S vs 3S	151.000	0.369	1.000	Do Not Test
7S vs 3I	115.000	0.281	1.000	Do Not Test
7S vs 1I	85.000	0.208	1.000	Do Not Test
7S vs 1S	31.000	0.0758	1.000	Do Not Test
1S vs 7I	262.000	0.641	1.000	Do Not Test
1S vs 9I	192.000	0.470	1.000	Do Not Test

1S vs 3S	120.000	0.294	1.000	Do Not Test
1S vs 3I	84.000	0.205	1.000	Do Not Test
1S vs 1I	54.000	0.132	1.000	Do Not Test
1I vs 7I	208.000	0.509	1.000	Do Not Test
1I vs 9I	138.000	0.338	1.000	Do Not Test
1I vs 3S	66.000	0.161	1.000	Do Not Test
1I vs 3I	30.000	0.0734	1.000	Do Not Test
3I vs 7I	178.000	0.435	1.000	Do Not Test
3I vs 9I	108.000	0.264	1.000	Do Not Test
3I vs 3S	36.000	0.0881	1.000	Do Not Test
3S vs 7I	142.000	0.347	1.000	Do Not Test
3S vs 9I	72.000	0.176	1.000	Do Not Test
9I vs 7I	70.000	0.171	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 20:49:30

Data source: DA in L1 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 20:49:30

Data source: DA in L1 Perinate

Group	N	Missing	Median	25%	75%
1I	14	0	0.427	0.367	0.460
1C	14	0	0.370	0.271	0.429
1S	14	0	0.375	0.330	0.426
2I	14	0	0.381	0.327	0.433
2C	14	0	0.250	0.195	0.306
2S	14	0	0.343	0.272	0.409
3I	14	0	0.376	0.323	0.430
3C	14	0	0.359	0.325	0.439
3S	14	0	0.407	0.329	0.450
4I	14	0	0.411	0.363	0.488
4C	14	0	0.392	0.347	0.405
4S	14	0	0.408	0.338	0.463
5I	14	0	0.351	0.280	0.401
5C	14	0	0.216	0.179	0.262
5S	14	0	0.338	0.294	0.435
6I	14	0	0.432	0.331	0.456
6C	14	0	0.406	0.359	0.423
6S	14	0	0.431	0.378	0.460
7I	14	0	0.412	0.389	0.452
7C	14	0	0.391	0.339	0.440
7S	14	0	0.422	0.382	0.452
8I	14	0	0.380	0.326	0.439
8C	14	0	0.259	0.178	0.324
8S	14	0	0.386	0.343	0.448
9I	14	0	0.443	0.336	0.467
9C	14	0	0.455	0.393	0.483
9S	14	0	0.432	0.388	0.471

H = 99.550 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
9S vs 5C	3165.000	7.742	0.006	Yes
9S vs 8C	2833.000	6.930	0.007	Yes

9S vs 2C	2567.000	6.279	0.009	Yes
9S vs 2S	1614.000	3.948	0.509	No
9S vs 5I	1588.000	3.884	0.547	Do Not Test
9S vs 5S	1315.000	3.217	0.885	Do Not Test
9S vs 1C	1297.000	3.172	0.898	Do Not Test
9S vs 1S	1253.000	3.065	0.925	Do Not Test
9S vs 3C	1233.000	3.016	0.935	Do Not Test
9S vs 4C	1178.000	2.881	0.957	Do Not Test
9S vs 3I	1106.500	2.707	0.977	Do Not Test
9S vs 2I	1008.000	2.466	0.993	Do Not Test
9S vs 8I	1007.000	2.463	0.993	Do Not Test
9S vs 8S	830.000	2.030	1.000	Do Not Test
9S vs 7C	816.000	1.996	1.000	Do Not Test
9S vs 6C	743.000	1.817	1.000	Do Not Test
9S vs 3S	676.000	1.654	1.000	Do Not Test
9S vs 6I	543.000	1.328	1.000	Do Not Test
9S vs 4S	515.000	1.260	1.000	Do Not Test
9S vs 7I	460.000	1.125	1.000	Do Not Test
9S vs 9I	457.000	1.118	1.000	Do Not Test
9S vs 4I	410.000	1.003	1.000	Do Not Test
9S vs 7S	329.000	0.805	1.000	Do Not Test
9S vs 1I	302.000	0.739	1.000	Do Not Test
9S vs 6S	242.500	0.593	1.000	Do Not Test
9S vs 9C	25.000	0.0612	1.000	Do Not Test
9C vs 5C	3140.000	7.681	0.007	Yes
9C vs 8C	2808.000	6.868	0.007	Yes
9C vs 2C	2542.000	6.218	0.010	Yes
9C vs 2S	1589.000	3.887	0.546	Do Not Test
9C vs 5I	1563.000	3.823	0.584	Do Not Test
9C vs 5S	1290.000	3.155	0.903	Do Not Test
9C vs 1C	1272.000	3.111	0.914	Do Not Test
9C vs 1S	1228.000	3.004	0.937	Do Not Test
9C vs 3C	1208.000	2.955	0.946	Do Not Test
9C vs 4C	1153.000	2.820	0.965	Do Not Test
9C vs 3I	1081.500	2.645	0.983	Do Not Test
9C vs 2I	983.000	2.404	0.995	Do Not Test
9C vs 8I	982.000	2.402	0.995	Do Not Test
9C vs 8S	805.000	1.969	1.000	Do Not Test
9C vs 7C	791.000	1.935	1.000	Do Not Test
9C vs 6C	718.000	1.756	1.000	Do Not Test
9C vs 3S	651.000	1.592	1.000	Do Not Test
9C vs 6I	518.000	1.267	1.000	Do Not Test
9C vs 4S	490.000	1.199	1.000	Do Not Test
9C vs 7I	435.000	1.064	1.000	Do Not Test
9C vs 9I	432.000	1.057	1.000	Do Not Test
9C vs 4I	385.000	0.942	1.000	Do Not Test
9C vs 7S	304.000	0.744	1.000	Do Not Test
9C vs 1I	277.000	0.678	1.000	Do Not Test
9C vs 6S	217.500	0.532	1.000	Do Not Test
6S vs 5C	2922.500	7.149	0.007	Yes
6S vs 8C	2590.500	6.336	0.009	Yes
6S vs 2C	2324.500	5.686	0.022	Yes
6S vs 2S	1371.500	3.355	0.836	Do Not Test
6S vs 5I	1345.500	3.291	0.860	Do Not Test
6S vs 5S	1072.500	2.623	0.984	Do Not Test
6S vs 1C	1054.500	2.579	0.987	Do Not Test

6S vs 1S	1010.500	2.472	0.993	Do Not Test
6S vs 3C	990.500	2.423	0.995	Do Not Test
6S vs 4C	935.500	2.288	0.998	Do Not Test
6S vs 3I	864.000	2.113	0.999	Do Not Test
6S vs 2I	765.500	1.872	1.000	Do Not Test
6S vs 8I	764.500	1.870	1.000	Do Not Test
6S vs 8S	587.500	1.437	1.000	Do Not Test
6S vs 7C	573.500	1.403	1.000	Do Not Test
6S vs 6C	500.500	1.224	1.000	Do Not Test
6S vs 3S	433.500	1.060	1.000	Do Not Test
6S vs 6I	300.500	0.735	1.000	Do Not Test
6S vs 4S	272.500	0.667	1.000	Do Not Test
6S vs 7I	217.500	0.532	1.000	Do Not Test
6S vs 9I	214.500	0.525	1.000	Do Not Test
6S vs 4I	167.500	0.410	1.000	Do Not Test
6S vs 7S	86.500	0.212	1.000	Do Not Test
6S vs 1I	59.500	0.146	1.000	Do Not Test
<b>1I vs 5C</b>	<b>2863.000</b>	<b>7.003</b>	<b>0.007</b>	<b>Yes</b>
1I vs 8C	2531.000	6.191	0.010	Yes
1I vs 2C	2265.000	5.540	0.029	Yes
1I vs 2S	1312.000	3.209	0.887	Do Not Test
1I vs 5I	1286.000	3.146	0.905	Do Not Test
1I vs 5S	1013.000	2.478	0.992	Do Not Test
1I vs 1C	995.000	2.434	0.994	Do Not Test
1I vs 1S	951.000	2.326	0.997	Do Not Test
1I vs 3C	931.000	2.277	0.998	Do Not Test
1I vs 4C	876.000	2.143	0.999	Do Not Test
1I vs 3I	804.500	1.968	1.000	Do Not Test
1I vs 2I	706.000	1.727	1.000	Do Not Test
1I vs 8I	705.000	1.724	1.000	Do Not Test
1I vs 8S	528.000	1.292	1.000	Do Not Test
1I vs 7C	514.000	1.257	1.000	Do Not Test
1I vs 6C	441.000	1.079	1.000	Do Not Test
1I vs 3S	374.000	0.915	1.000	Do Not Test
1I vs 6I	241.000	0.589	1.000	Do Not Test
1I vs 4S	213.000	0.521	1.000	Do Not Test
1I vs 7I	158.000	0.386	1.000	Do Not Test
1I vs 9I	155.000	0.379	1.000	Do Not Test
1I vs 4I	108.000	0.264	1.000	Do Not Test
1I vs 7S	27.000	0.0660	1.000	Do Not Test
<b>7S vs 5C</b>	<b>2836.000</b>	<b>6.937</b>	<b>0.007</b>	<b>Yes</b>
7S vs 8C	2504.000	6.125	0.011	Yes
7S vs 2C	2238.000	5.474	0.034	Yes
7S vs 2S	1285.000	3.143	0.906	Do Not Test
7S vs 5I	1259.000	3.080	0.921	Do Not Test
7S vs 5S	986.000	2.412	0.995	Do Not Test
7S vs 1C	968.000	2.368	0.996	Do Not Test
7S vs 1S	924.000	2.260	0.998	Do Not Test
7S vs 3C	904.000	2.211	0.999	Do Not Test
7S vs 4C	849.000	2.077	1.000	Do Not Test
7S vs 3I	777.500	1.902	1.000	Do Not Test
7S vs 2I	679.000	1.661	1.000	Do Not Test
7S vs 8I	678.000	1.658	1.000	Do Not Test
7S vs 8S	501.000	1.225	1.000	Do Not Test
7S vs 7C	487.000	1.191	1.000	Do Not Test
7S vs 6C	414.000	1.013	1.000	Do Not Test



7S vs 3S	347.000	0.849	1.000	Do Not Test
7S vs 6I	214.000	0.523	1.000	Do Not Test
7S vs 4S	186.000	0.455	1.000	Do Not Test
7S vs 7I	131.000	0.320	1.000	Do Not Test
7S vs 9I	128.000	0.313	1.000	Do Not Test
7S vs 4I	81.000	0.198	1.000	Do Not Test
<b>4I vs 5C</b>	<b>2755.000</b>	<b>6.739</b>	<b>0.007</b>	<b>Yes</b>
4I vs 8C	2423.000	5.927	0.014	Yes
4I vs 2C	2157.000	5.276	0.051	No
4I vs 2S	1204.000	2.945	0.947	Do Not Test
4I vs 5I	1178.000	2.881	0.957	Do Not Test
4I vs 5S	905.000	2.214	0.999	Do Not Test
4I vs 1C	887.000	2.170	0.999	Do Not Test
4I vs 1S	843.000	2.062	1.000	Do Not Test
4I vs 3C	823.000	2.013	1.000	Do Not Test
4I vs 4C	768.000	1.879	1.000	Do Not Test
4I vs 3I	696.500	1.704	1.000	Do Not Test
4I vs 2I	598.000	1.463	1.000	Do Not Test
4I vs 8I	597.000	1.460	1.000	Do Not Test
4I vs 8S	420.000	1.027	1.000	Do Not Test
4I vs 7C	406.000	0.993	1.000	Do Not Test
4I vs 6C	333.000	0.815	1.000	Do Not Test
4I vs 3S	266.000	0.651	1.000	Do Not Test
4I vs 6I	133.000	0.325	1.000	Do Not Test
4I vs 4S	105.000	0.257	1.000	Do Not Test
4I vs 7I	50.000	0.122	1.000	Do Not Test
4I vs 9I	47.000	0.115	1.000	Do Not Test
<b>9I vs 5C</b>	<b>2708.000</b>	<b>6.624</b>	<b>0.007</b>	<b>Yes</b>
9I vs 8C	2376.000	5.812	0.017	Yes
9I vs 2C	2110.000	5.161	0.065	Do Not Test
9I vs 2S	1157.000	2.830	0.964	Do Not Test
9I vs 5I	1131.000	2.766	0.971	Do Not Test
9I vs 5S	858.000	2.099	1.000	Do Not Test
9I vs 1C	840.000	2.055	1.000	Do Not Test
9I vs 1S	796.000	1.947	1.000	Do Not Test
9I vs 3C	776.000	1.898	1.000	Do Not Test
9I vs 4C	721.000	1.764	1.000	Do Not Test
9I vs 3I	649.500	1.589	1.000	Do Not Test
9I vs 2I	551.000	1.348	1.000	Do Not Test
9I vs 8I	550.000	1.345	1.000	Do Not Test
9I vs 8S	373.000	0.912	1.000	Do Not Test
9I vs 7C	359.000	0.878	1.000	Do Not Test
9I vs 6C	286.000	0.700	1.000	Do Not Test
9I vs 3S	219.000	0.536	1.000	Do Not Test
9I vs 6I	86.000	0.210	1.000	Do Not Test
9I vs 4S	58.000	0.142	1.000	Do Not Test
9I vs 7I	3.000	0.00734	1.000	Do Not Test
<b>7I vs 5C</b>	<b>2705.000</b>	<b>6.617</b>	<b>0.007</b>	<b>Yes</b>
7I vs 8C	2373.000	5.804	0.018	Yes
7I vs 2C	2107.000	5.154	0.066	Do Not Test
7I vs 2S	1154.000	2.823	0.965	Do Not Test
7I vs 5I	1128.000	2.759	0.972	Do Not Test
7I vs 5S	855.000	2.091	1.000	Do Not Test
7I vs 1C	837.000	2.047	1.000	Do Not Test
7I vs 1S	793.000	1.940	1.000	Do Not Test
7I vs 3C	773.000	1.891	1.000	Do Not Test

7I vs 4C	718.000	1.756	1.000	Do Not Test
7I vs 3I	646.500	1.581	1.000	Do Not Test
7I vs 2I	548.000	1.340	1.000	Do Not Test
7I vs 8I	547.000	1.338	1.000	Do Not Test
7I vs 8S	370.000	0.905	1.000	Do Not Test
7I vs 7C	356.000	0.871	1.000	Do Not Test
7I vs 6C	283.000	0.692	1.000	Do Not Test
7I vs 3S	216.000	0.528	1.000	Do Not Test
7I vs 6I	83.000	0.203	1.000	Do Not Test
7I vs 4S	55.000	0.135	1.000	Do Not Test
<b>4S vs 5C</b>	<b>2650.000</b>	<b>6.482</b>	<b>0.008</b>	<b>Yes</b>
4S vs 8C	2318.000	5.670	0.023	Yes
4S vs 2C	2052.000	5.019	0.087	Do Not Test
4S vs 2S	1099.000	2.688	0.979	Do Not Test
4S vs 5I	1073.000	2.625	0.984	Do Not Test
4S vs 5S	800.000	1.957	1.000	Do Not Test
4S vs 1C	782.000	1.913	1.000	Do Not Test
4S vs 1S	738.000	1.805	1.000	Do Not Test
4S vs 3C	718.000	1.756	1.000	Do Not Test
4S vs 4C	663.000	1.622	1.000	Do Not Test
4S vs 3I	591.500	1.447	1.000	Do Not Test
4S vs 2I	493.000	1.206	1.000	Do Not Test
4S vs 8I	492.000	1.203	1.000	Do Not Test
4S vs 8S	315.000	0.770	1.000	Do Not Test
4S vs 7C	301.000	0.736	1.000	Do Not Test
4S vs 6C	228.000	0.558	1.000	Do Not Test
4S vs 3S	161.000	0.394	1.000	Do Not Test
4S vs 6I	28.000	0.0685	1.000	Do Not Test
<b>6I vs 5C</b>	<b>2622.000</b>	<b>6.413</b>	<b>0.008</b>	<b>Yes</b>
6I vs 8C	2290.000	5.601	0.026	Yes
6I vs 2C	2024.000	4.951	0.100	Do Not Test
6I vs 2S	1071.000	2.620	0.984	Do Not Test
6I vs 5I	1045.000	2.556	0.989	Do Not Test
6I vs 5S	772.000	1.888	1.000	Do Not Test
6I vs 1C	754.000	1.844	1.000	Do Not Test
6I vs 1S	710.000	1.737	1.000	Do Not Test
6I vs 3C	690.000	1.688	1.000	Do Not Test
6I vs 4C	635.000	1.553	1.000	Do Not Test
6I vs 3I	563.500	1.378	1.000	Do Not Test
6I vs 2I	465.000	1.137	1.000	Do Not Test
6I vs 8I	464.000	1.135	1.000	Do Not Test
6I vs 8S	287.000	0.702	1.000	Do Not Test
6I vs 7C	273.000	0.668	1.000	Do Not Test
6I vs 6C	200.000	0.489	1.000	Do Not Test
6I vs 3S	133.000	0.325	1.000	Do Not Test
3S vs 5C	2489.000	6.088	0.011	Yes
3S vs 8C	2157.000	5.276	0.051	No
3S vs 2C	1891.000	4.625	0.186	Do Not Test
3S vs 2S	938.000	2.294	0.998	Do Not Test
3S vs 5I	912.000	2.231	0.999	Do Not Test
3S vs 5S	639.000	1.563	1.000	Do Not Test
3S vs 1C	621.000	1.519	1.000	Do Not Test
3S vs 1S	577.000	1.411	1.000	Do Not Test
3S vs 3C	557.000	1.362	1.000	Do Not Test
3S vs 4C	502.000	1.228	1.000	Do Not Test
3S vs 3I	430.500	1.053	1.000	Do Not Test

3S vs 2I	332.000	0.812	1.000	Do Not Test
3S vs 8I	331.000	0.810	1.000	Do Not Test
3S vs 8S	154.000	0.377	1.000	Do Not Test
3S vs 7C	140.000	0.342	1.000	Do Not Test
3S vs 6C	67.000	0.164	1.000	Do Not Test
6C vs 5C	2422.000	5.924	0.014	Yes
6C vs 8C	2090.000	5.112	0.072	Do Not Test
6C vs 2C	1824.000	4.462	0.247	Do Not Test
6C vs 2S	871.000	2.130	0.999	Do Not Test
6C vs 5I	845.000	2.067	1.000	Do Not Test
6C vs 5S	572.000	1.399	1.000	Do Not Test
6C vs 1C	554.000	1.355	1.000	Do Not Test
6C vs 1S	510.000	1.247	1.000	Do Not Test
6C vs 3C	490.000	1.199	1.000	Do Not Test
6C vs 4C	435.000	1.064	1.000	Do Not Test
6C vs 3I	363.500	0.889	1.000	Do Not Test
6C vs 2I	265.000	0.648	1.000	Do Not Test
6C vs 8I	264.000	0.646	1.000	Do Not Test
6C vs 8S	87.000	0.213	1.000	Do Not Test
6C vs 7C	73.000	0.179	1.000	Do Not Test
7C vs 5C	2349.000	5.746	0.020	Yes
7C vs 8C	2017.000	4.934	0.104	Do Not Test
7C vs 2C	1751.000	4.283	0.326	Do Not Test
7C vs 2S	798.000	1.952	1.000	Do Not Test
7C vs 5I	772.000	1.888	1.000	Do Not Test
7C vs 5S	499.000	1.221	1.000	Do Not Test
7C vs 1C	481.000	1.177	1.000	Do Not Test
7C vs 1S	437.000	1.069	1.000	Do Not Test
7C vs 3C	417.000	1.020	1.000	Do Not Test
7C vs 4C	362.000	0.885	1.000	Do Not Test
7C vs 3I	290.500	0.711	1.000	Do Not Test
7C vs 2I	192.000	0.470	1.000	Do Not Test
7C vs 8I	191.000	0.467	1.000	Do Not Test
7C vs 8S	14.000	0.0342	1.000	Do Not Test
8S vs 5C	2335.000	5.711	0.021	Yes
8S vs 8C	2003.000	4.899	0.111	Do Not Test
8S vs 2C	1737.000	4.249	0.343	Do Not Test
8S vs 2S	784.000	1.918	1.000	Do Not Test
8S vs 5I	758.000	1.854	1.000	Do Not Test
8S vs 5S	485.000	1.186	1.000	Do Not Test
8S vs 1C	467.000	1.142	1.000	Do Not Test
8S vs 1S	423.000	1.035	1.000	Do Not Test
8S vs 3C	403.000	0.986	1.000	Do Not Test
8S vs 4C	348.000	0.851	1.000	Do Not Test
8S vs 3I	276.500	0.676	1.000	Do Not Test
8S vs 2I	178.000	0.435	1.000	Do Not Test
8S vs 8I	177.000	0.433	1.000	Do Not Test
8I vs 5C	2158.000	5.279	0.051	No
8I vs 8C	1826.000	4.466	0.245	Do Not Test
8I vs 2C	1560.000	3.816	0.589	Do Not Test
8I vs 2S	607.000	1.485	1.000	Do Not Test
8I vs 5I	581.000	1.421	1.000	Do Not Test
8I vs 5S	308.000	0.753	1.000	Do Not Test
8I vs 1C	290.000	0.709	1.000	Do Not Test
8I vs 1S	246.000	0.602	1.000	Do Not Test
8I vs 3C	226.000	0.553	1.000	Do Not Test

8I vs 4C	171.000	0.418	1.000	Do Not Test
8I vs 3I	99.500	0.243	1.000	Do Not Test
8I vs 2I	1.000	0.00245	1.000	Do Not Test
2I vs 5C	2157.000	5.276	0.051	Do Not Test
2I vs 8C	1825.000	4.464	0.246	Do Not Test
2I vs 2C	1559.000	3.813	0.590	Do Not Test
2I vs 2S	606.000	1.482	1.000	Do Not Test
2I vs 5I	580.000	1.419	1.000	Do Not Test
2I vs 5S	307.000	0.751	1.000	Do Not Test
2I vs 1C	289.000	0.707	1.000	Do Not Test
2I vs 1S	245.000	0.599	1.000	Do Not Test
2I vs 3C	225.000	0.550	1.000	Do Not Test
2I vs 4C	170.000	0.416	1.000	Do Not Test
2I vs 3I	98.500	0.241	1.000	Do Not Test
3I vs 5C	2058.500	5.035	0.084	Do Not Test
3I vs 8C	1726.500	4.223	0.356	Do Not Test
3I vs 2C	1460.500	3.572	0.732	Do Not Test
3I vs 2S	507.500	1.241	1.000	Do Not Test
3I vs 5I	481.500	1.178	1.000	Do Not Test
3I vs 5S	208.500	0.510	1.000	Do Not Test
3I vs 1C	190.500	0.466	1.000	Do Not Test
3I vs 1S	146.500	0.358	1.000	Do Not Test
3I vs 3C	126.500	0.309	1.000	Do Not Test
3I vs 4C	71.500	0.175	1.000	Do Not Test
4C vs 5C	1987.000	4.860	0.120	Do Not Test
4C vs 8C	1655.000	4.048	0.450	Do Not Test
4C vs 2C	1389.000	3.398	0.818	Do Not Test
4C vs 2S	436.000	1.066	1.000	Do Not Test
4C vs 5I	410.000	1.003	1.000	Do Not Test
4C vs 5S	137.000	0.335	1.000	Do Not Test
4C vs 1C	119.000	0.291	1.000	Do Not Test
4C vs 1S	75.000	0.183	1.000	Do Not Test
4C vs 3C	55.000	0.135	1.000	Do Not Test
3C vs 5C	1932.000	4.726	0.155	Do Not Test
3C vs 8C	1600.000	3.914	0.529	Do Not Test
3C vs 2C	1334.000	3.263	0.870	Do Not Test
3C vs 2S	381.000	0.932	1.000	Do Not Test
3C vs 5I	355.000	0.868	1.000	Do Not Test
3C vs 5S	82.000	0.201	1.000	Do Not Test
3C vs 1C	64.000	0.157	1.000	Do Not Test
3C vs 1S	20.000	0.0489	1.000	Do Not Test
1S vs 5C	1912.000	4.677	0.170	Do Not Test
1S vs 8C	1580.000	3.865	0.559	Do Not Test
1S vs 2C	1314.000	3.214	0.886	Do Not Test
1S vs 2S	361.000	0.883	1.000	Do Not Test
1S vs 5I	335.000	0.819	1.000	Do Not Test
1S vs 5S	62.000	0.152	1.000	Do Not Test
1S vs 1C	44.000	0.108	1.000	Do Not Test
1C vs 5C	1868.000	4.569	0.206	Do Not Test
1C vs 8C	1536.000	3.757	0.624	Do Not Test
1C vs 2C	1270.000	3.106	0.915	Do Not Test
1C vs 2S	317.000	0.775	1.000	Do Not Test
1C vs 5I	291.000	0.712	1.000	Do Not Test
1C vs 5S	18.000	0.0440	1.000	Do Not Test
5S vs 5C	1850.000	4.525	0.222	Do Not Test
5S vs 8C	1518.000	3.713	0.651	Do Not Test

5S vs 2C	1252.000	3.062	0.925	Do Not Test
5S vs 2S	299.000	0.731	1.000	Do Not Test
5S vs 5I	273.000	0.668	1.000	Do Not Test
5I vs 5C	1577.000	3.857	0.563	Do Not Test
5I vs 8C	1245.000	3.045	0.929	Do Not Test
5I vs 2C	979.000	2.395	0.995	Do Not Test
5I vs 2S	26.000	0.0636	1.000	Do Not Test
2S vs 5C	1551.000	3.794	0.602	Do Not Test
2S vs 8C	1219.000	2.982	0.941	Do Not Test
2S vs 2C	953.000	2.331	0.997	Do Not Test
2C vs 5C	598.000	1.463	1.000	Do Not Test
2C vs 8C	266.000	0.651	1.000	Do Not Test
8C vs 5C	332.000	0.812	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:12:31

Data source: BV/TV in L3 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:12:31

Data source: BV/TV in L3 Perinate

Group	N	Missing	Median	25%	75%
1I	13	0	20.199	16.275	27.880
1C	13	0	20.443	15.063	28.816
1S	13	0	20.725	15.012	25.772
2I	13	0	24.281	18.228	30.967
2C	13	0	27.160	17.069	31.118
2S	13	0	24.391	16.259	30.967
3I	13	0	23.711	16.517	28.519
3C	13	0	21.702	15.965	31.170
3S	13	0	24.135	16.764	30.541
4I	13	0	25.040	19.728	29.609
4C	13	0	20.685	18.861	27.177
4S	13	0	25.240	19.380	30.840
5I	13	0	28.942	19.697	32.507
5C	13	0	25.223	20.424	34.532
5S	13	0	30.749	19.776	34.146
6I	13	0	25.668	20.664	30.186
6C	13	0	20.106	17.483	28.099
6S	13	0	24.900	19.090	30.451
7I	13	0	25.448	22.094	29.964
7C	13	0	20.296	15.166	22.883
7S	13	0	25.973	17.585	29.617
8I	13	0	28.137	19.602	32.863
8C	13	0	27.903	22.621	33.466
8S	13	0	23.664	18.715	29.139
9I	13	0	22.903	20.548	30.342
9C	13	0	17.419	14.656	27.201
9S	13	0	26.494	18.429	31.179

H = 26.450 with 26 degrees of freedom. (P = 0.439)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.439)

## One Way Analysis of Variance

26 January 2019 21:13:24

Data source: SMI in L3 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:13:24

Data source: SMI in L3 Perinate

Group	N	Missing	Median	25%	75%
1I	13	0	1.813	1.472	2.002
1C	13	0	1.620	1.327	2.028
1S	13	0	1.831	1.595	2.039
2I	13	0	1.593	1.205	1.699
2C	13	0	1.111	0.685	1.580
2S	13	0	1.572	1.115	1.814
3I	13	0	1.717	1.385	1.826
3C	13	0	1.647	0.823	1.880
3S	13	0	1.688	1.247	1.938
4I	13	0	1.417	1.099	1.744
4C	13	0	1.758	1.258	1.878
4S	13	0	1.539	1.088	1.661
5I	13	0	1.212	0.936	1.692
5C	13	0	0.718	0.407	1.393
5S	13	0	1.219	0.771	1.583
6I	13	0	1.367	1.042	1.650
6C	13	0	1.686	1.439	1.878
6S	13	0	1.439	1.088	1.630
7I	13	0	1.449	1.280	1.904
7C	13	0	1.750	1.600	2.309
7S	13	0	1.474	1.168	1.868
8I	13	0	1.251	0.853	1.696
8C	13	0	0.213	-0.265	0.457
8S	13	0	1.327	1.209	1.716
9I	13	0	1.601	1.104	1.835
9C	13	0	1.841	1.538	2.070
9S	13	0	1.460	1.137	1.755

H = 77.477 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
9C vs 8C	2819.000	7.705	0.006	Yes
9C vs 5C	2113.000	5.776	0.019	Yes

9C vs 2C	1670.000	4.565	0.207	No
9C vs 5S	1634.000	4.466	0.245	Do Not Test
9C vs 5I	1548.000	4.231	0.352	Do Not Test
9C vs 8S	1404.000	3.838	0.575	Do Not Test
9C vs 6I	1387.000	3.791	0.604	Do Not Test
9C vs 8I	1372.000	3.750	0.628	Do Not Test
9C vs 6S	1248.000	3.411	0.812	Do Not Test
9C vs 4I	1176.000	3.214	0.886	Do Not Test
9C vs 4S	1168.000	3.193	0.892	Do Not Test
9C vs 2I	1038.000	2.837	0.963	Do Not Test
9C vs 9S	982.000	2.684	0.979	Do Not Test
9C vs 3C	921.000	2.517	0.991	Do Not Test
9C vs 9I	913.000	2.496	0.992	Do Not Test
9C vs 2S	896.000	2.449	0.994	Do Not Test
9C vs 7S	888.000	2.427	0.994	Do Not Test
9C vs 7I	848.000	2.318	0.997	Do Not Test
9C vs 1C	655.000	1.790	1.000	Do Not Test
9C vs 3S	591.000	1.615	1.000	Do Not Test
9C vs 3I	542.000	1.481	1.000	Do Not Test
9C vs 6C	505.000	1.380	1.000	Do Not Test
9C vs 4C	500.000	1.367	1.000	Do Not Test
9C vs 1I	299.000	0.817	1.000	Do Not Test
9C vs 7C	122.000	0.333	1.000	Do Not Test
9C vs 1S	112.000	0.306	1.000	Do Not Test
<b>1S vs 8C</b>	<b>2707.000</b>	<b>7.399</b>	<b>0.007</b>	<b>Yes</b>
1S vs 5C	2001.000	5.469	0.034	Yes
1S vs 2C	1558.000	4.259	0.338	Do Not Test
1S vs 5S	1522.000	4.160	0.389	Do Not Test
1S vs 5I	1436.000	3.925	0.522	Do Not Test
1S vs 8S	1292.000	3.531	0.753	Do Not Test
1S vs 6I	1275.000	3.485	0.777	Do Not Test
1S vs 8I	1260.000	3.444	0.797	Do Not Test
1S vs 6S	1136.000	3.105	0.915	Do Not Test
1S vs 4I	1064.000	2.908	0.953	Do Not Test
1S vs 4S	1056.000	2.886	0.956	Do Not Test
1S vs 2I	926.000	2.531	0.990	Do Not Test
1S vs 9S	870.000	2.378	0.996	Do Not Test
1S vs 3C	809.000	2.211	0.999	Do Not Test
1S vs 9I	801.000	2.189	0.999	Do Not Test
1S vs 2S	784.000	2.143	0.999	Do Not Test
1S vs 7S	776.000	2.121	0.999	Do Not Test
1S vs 7I	736.000	2.012	1.000	Do Not Test
1S vs 1C	543.000	1.484	1.000	Do Not Test
1S vs 3S	479.000	1.309	1.000	Do Not Test
1S vs 3I	430.000	1.175	1.000	Do Not Test
1S vs 6C	393.000	1.074	1.000	Do Not Test
1S vs 4C	388.000	1.061	1.000	Do Not Test
1S vs 1I	187.000	0.511	1.000	Do Not Test
1S vs 7C	10.000	0.0273	1.000	Do Not Test
<b>7C vs 8C</b>	<b>2697.000</b>	<b>7.372</b>	<b>0.007</b>	<b>Yes</b>
7C vs 5C	1991.000	5.442	0.036	Yes
7C vs 2C	1548.000	4.231	0.352	Do Not Test
7C vs 5S	1512.000	4.133	0.403	Do Not Test
7C vs 5I	1426.000	3.898	0.539	Do Not Test
7C vs 8S	1282.000	3.504	0.768	Do Not Test
7C vs 6I	1265.000	3.458	0.790	Do Not Test



7C vs 8I	1250.000	3.417	0.809	Do Not Test
7C vs 6S	1126.000	3.078	0.922	Do Not Test
7C vs 4I	1054.000	2.881	0.957	Do Not Test
7C vs 4S	1046.000	2.859	0.960	Do Not Test
7C vs 2I	916.000	2.504	0.991	Do Not Test
7C vs 9S	860.000	2.351	0.997	Do Not Test
7C vs 3C	799.000	2.184	0.999	Do Not Test
7C vs 9I	791.000	2.162	0.999	Do Not Test
7C vs 2S	774.000	2.116	0.999	Do Not Test
7C vs 7S	766.000	2.094	1.000	Do Not Test
7C vs 7I	726.000	1.984	1.000	Do Not Test
7C vs 1C	533.000	1.457	1.000	Do Not Test
7C vs 3S	469.000	1.282	1.000	Do Not Test
7C vs 3I	420.000	1.148	1.000	Do Not Test
7C vs 6C	383.000	1.047	1.000	Do Not Test
7C vs 4C	378.000	1.033	1.000	Do Not Test
7C vs 1I	177.000	0.484	1.000	Do Not Test
<b>1I vs 8C</b>	<b>2520.000</b>	<b>6.888</b>	<b>0.007</b>	<b>Yes</b>
1I vs 5C	1814.000	4.958	0.099	No
1I vs 2C	1371.000	3.747	0.630	Do Not Test
1I vs 5S	1335.000	3.649	0.688	Do Not Test
1I vs 5I	1249.000	3.414	0.811	Do Not Test
1I vs 8S	1105.000	3.020	0.934	Do Not Test
1I vs 6I	1088.000	2.974	0.943	Do Not Test
1I vs 8I	1073.000	2.933	0.949	Do Not Test
1I vs 6S	949.000	2.594	0.986	Do Not Test
1I vs 4I	877.000	2.397	0.995	Do Not Test
1I vs 4S	869.000	2.375	0.996	Do Not Test
1I vs 2I	739.000	2.020	1.000	Do Not Test
1I vs 9S	683.000	1.867	1.000	Do Not Test
1I vs 3C	622.000	1.700	1.000	Do Not Test
1I vs 9I	614.000	1.678	1.000	Do Not Test
1I vs 2S	597.000	1.632	1.000	Do Not Test
1I vs 7S	589.000	1.610	1.000	Do Not Test
1I vs 7I	549.000	1.501	1.000	Do Not Test
1I vs 1C	356.000	0.973	1.000	Do Not Test
1I vs 3S	292.000	0.798	1.000	Do Not Test
1I vs 3I	243.000	0.664	1.000	Do Not Test
1I vs 6C	206.000	0.563	1.000	Do Not Test
1I vs 4C	201.000	0.549	1.000	Do Not Test
<b>4C vs 8C</b>	<b>2319.000</b>	<b>6.339</b>	<b>0.009</b>	<b>Yes</b>
4C vs 5C	1613.000	4.409	0.269	Do Not Test
4C vs 2C	1170.000	3.198	0.891	Do Not Test
4C vs 5S	1134.000	3.100	0.917	Do Not Test
4C vs 5I	1048.000	2.865	0.960	Do Not Test
4C vs 8S	904.000	2.471	0.993	Do Not Test
4C vs 6I	887.000	2.424	0.994	Do Not Test
4C vs 8I	872.000	2.383	0.996	Do Not Test
4C vs 6S	748.000	2.045	1.000	Do Not Test
4C vs 4I	676.000	1.848	1.000	Do Not Test
4C vs 4S	668.000	1.826	1.000	Do Not Test
4C vs 2I	538.000	1.471	1.000	Do Not Test
4C vs 9S	482.000	1.317	1.000	Do Not Test
4C vs 3C	421.000	1.151	1.000	Do Not Test
4C vs 9I	413.000	1.129	1.000	Do Not Test
4C vs 2S	396.000	1.082	1.000	Do Not Test

4C vs 7S	388.000	1.061	1.000	Do Not Test
4C vs 7I	348.000	0.951	1.000	Do Not Test
4C vs 1C	155.000	0.424	1.000	Do Not Test
4C vs 3S	91.000	0.249	1.000	Do Not Test
4C vs 3I	42.000	0.115	1.000	Do Not Test
4C vs 6C	5.000	0.0137	1.000	Do Not Test
<b>6C vs 8C</b>	<b>2314.000</b>	<b>6.325</b>	<b>0.009</b>	<b>Yes</b>
6C vs 5C	1608.000	4.395	0.275	Do Not Test
6C vs 2C	1165.000	3.184	0.895	Do Not Test
6C vs 5S	1129.000	3.086	0.920	Do Not Test
6C vs 5I	1043.000	2.851	0.961	Do Not Test
6C vs 8S	899.000	2.457	0.993	Do Not Test
6C vs 6I	882.000	2.411	0.995	Do Not Test
6C vs 8I	867.000	2.370	0.996	Do Not Test
6C vs 6S	743.000	2.031	1.000	Do Not Test
6C vs 4I	671.000	1.834	1.000	Do Not Test
6C vs 4S	663.000	1.812	1.000	Do Not Test
6C vs 2I	533.000	1.457	1.000	Do Not Test
6C vs 9S	477.000	1.304	1.000	Do Not Test
6C vs 3C	416.000	1.137	1.000	Do Not Test
6C vs 9I	408.000	1.115	1.000	Do Not Test
6C vs 2S	391.000	1.069	1.000	Do Not Test
6C vs 7S	383.000	1.047	1.000	Do Not Test
6C vs 7I	343.000	0.938	1.000	Do Not Test
6C vs 1C	150.000	0.410	1.000	Do Not Test
6C vs 3S	86.000	0.235	1.000	Do Not Test
6C vs 3I	37.000	0.101	1.000	Do Not Test
<b>3I vs 8C</b>	<b>2277.000</b>	<b>6.224</b>	<b>0.010</b>	<b>Yes</b>
3I vs 5C	1571.000	4.294	0.321	Do Not Test
3I vs 2C	1128.000	3.083	0.921	Do Not Test
3I vs 5S	1092.000	2.985	0.941	Do Not Test
3I vs 5I	1006.000	2.750	0.973	Do Not Test
3I vs 8S	862.000	2.356	0.996	Do Not Test
3I vs 6I	845.000	2.310	0.997	Do Not Test
3I vs 8I	830.000	2.269	0.998	Do Not Test
3I vs 6S	706.000	1.930	1.000	Do Not Test
3I vs 4I	634.000	1.733	1.000	Do Not Test
3I vs 4S	626.000	1.711	1.000	Do Not Test
3I vs 2I	496.000	1.356	1.000	Do Not Test
3I vs 9S	440.000	1.203	1.000	Do Not Test
3I vs 3C	379.000	1.036	1.000	Do Not Test
3I vs 9I	371.000	1.014	1.000	Do Not Test
3I vs 2S	354.000	0.968	1.000	Do Not Test
3I vs 7S	346.000	0.946	1.000	Do Not Test
3I vs 7I	306.000	0.836	1.000	Do Not Test
3I vs 1C	113.000	0.309	1.000	Do Not Test
3I vs 3S	49.000	0.134	1.000	Do Not Test
3S vs 8C	2228.000	6.090	0.011	Yes
3S vs 5C	1522.000	4.160	0.389	Do Not Test
3S vs 2C	1079.000	2.949	0.947	Do Not Test
3S vs 5S	1043.000	2.851	0.961	Do Not Test
3S vs 5I	957.000	2.616	0.985	Do Not Test
3S vs 8S	813.000	2.222	0.999	Do Not Test
3S vs 6I	796.000	2.176	0.999	Do Not Test
3S vs 8I	781.000	2.135	0.999	Do Not Test
3S vs 6S	657.000	1.796	1.000	Do Not Test

3S vs 4I	585.000	1.599	1.000	Do Not Test
3S vs 4S	577.000	1.577	1.000	Do Not Test
3S vs 2I	447.000	1.222	1.000	Do Not Test
3S vs 9S	391.000	1.069	1.000	Do Not Test
3S vs 3C	330.000	0.902	1.000	Do Not Test
3S vs 9I	322.000	0.880	1.000	Do Not Test
3S vs 2S	305.000	0.834	1.000	Do Not Test
3S vs 7S	297.000	0.812	1.000	Do Not Test
3S vs 7I	257.000	0.702	1.000	Do Not Test
3S vs 1C	64.000	0.175	1.000	Do Not Test
1C vs 8C	2164.000	5.915	0.015	Yes
1C vs 5C	1458.000	3.985	0.487	Do Not Test
1C vs 2C	1015.000	2.774	0.971	Do Not Test
1C vs 5S	979.000	2.676	0.980	Do Not Test
1C vs 5I	893.000	2.441	0.994	Do Not Test
1C vs 8S	749.000	2.047	1.000	Do Not Test
1C vs 6I	732.000	2.001	1.000	Do Not Test
1C vs 8I	717.000	1.960	1.000	Do Not Test
1C vs 6S	593.000	1.621	1.000	Do Not Test
1C vs 4I	521.000	1.424	1.000	Do Not Test
1C vs 4S	513.000	1.402	1.000	Do Not Test
1C vs 2I	383.000	1.047	1.000	Do Not Test
1C vs 9S	327.000	0.894	1.000	Do Not Test
1C vs 3C	266.000	0.727	1.000	Do Not Test
1C vs 9I	258.000	0.705	1.000	Do Not Test
1C vs 2S	241.000	0.659	1.000	Do Not Test
1C vs 7S	233.000	0.637	1.000	Do Not Test
1C vs 7I	193.000	0.528	1.000	Do Not Test
7I vs 8C	1971.000	5.387	0.040	Yes
7I vs 5C	1265.000	3.458	0.790	Do Not Test
7I vs 2C	822.000	2.247	0.998	Do Not Test
7I vs 5S	786.000	2.148	0.999	Do Not Test
7I vs 5I	700.000	1.913	1.000	Do Not Test
7I vs 8S	556.000	1.520	1.000	Do Not Test
7I vs 6I	539.000	1.473	1.000	Do Not Test
7I vs 8I	524.000	1.432	1.000	Do Not Test
7I vs 6S	400.000	1.093	1.000	Do Not Test
7I vs 4I	328.000	0.897	1.000	Do Not Test
7I vs 4S	320.000	0.875	1.000	Do Not Test
7I vs 2I	190.000	0.519	1.000	Do Not Test
7I vs 9S	134.000	0.366	1.000	Do Not Test
7I vs 3C	73.000	0.200	1.000	Do Not Test
7I vs 9I	65.000	0.178	1.000	Do Not Test
7I vs 2S	48.000	0.131	1.000	Do Not Test
7I vs 7S	40.000	0.109	1.000	Do Not Test
7S vs 8C	1931.000	5.278	0.051	No
7S vs 5C	1225.000	3.348	0.839	Do Not Test
7S vs 2C	782.000	2.137	0.999	Do Not Test
7S vs 5S	746.000	2.039	1.000	Do Not Test
7S vs 5I	660.000	1.804	1.000	Do Not Test
7S vs 8S	516.000	1.410	1.000	Do Not Test
7S vs 6I	499.000	1.364	1.000	Do Not Test
7S vs 8I	484.000	1.323	1.000	Do Not Test
7S vs 6S	360.000	0.984	1.000	Do Not Test
7S vs 4I	288.000	0.787	1.000	Do Not Test
7S vs 4S	280.000	0.765	1.000	Do Not Test

7S vs 2I	150.000	0.410	1.000	Do Not Test
7S vs 9S	94.000	0.257	1.000	Do Not Test
7S vs 3C	33.000	0.0902	1.000	Do Not Test
7S vs 9I	25.000	0.0683	1.000	Do Not Test
7S vs 2S	8.000	0.0219	1.000	Do Not Test
2S vs 8C	1923.000	5.256	0.053	Do Not Test
2S vs 5C	1217.000	3.326	0.847	Do Not Test
2S vs 2C	774.000	2.116	0.999	Do Not Test
2S vs 5S	738.000	2.017	1.000	Do Not Test
2S vs 5I	652.000	1.782	1.000	Do Not Test
2S vs 8S	508.000	1.389	1.000	Do Not Test
2S vs 6I	491.000	1.342	1.000	Do Not Test
2S vs 8I	476.000	1.301	1.000	Do Not Test
2S vs 6S	352.000	0.962	1.000	Do Not Test
2S vs 4I	280.000	0.765	1.000	Do Not Test
2S vs 4S	272.000	0.743	1.000	Do Not Test
2S vs 2I	142.000	0.388	1.000	Do Not Test
2S vs 9S	86.000	0.235	1.000	Do Not Test
2S vs 3C	25.000	0.0683	1.000	Do Not Test
2S vs 9I	17.000	0.0465	1.000	Do Not Test
9I vs 8C	1906.000	5.210	0.059	Do Not Test
9I vs 5C	1200.000	3.280	0.864	Do Not Test
9I vs 2C	757.000	2.069	1.000	Do Not Test
9I vs 5S	721.000	1.971	1.000	Do Not Test
9I vs 5I	635.000	1.736	1.000	Do Not Test
9I vs 8S	491.000	1.342	1.000	Do Not Test
9I vs 6I	474.000	1.296	1.000	Do Not Test
9I vs 8I	459.000	1.255	1.000	Do Not Test
9I vs 6S	335.000	0.916	1.000	Do Not Test
9I vs 4I	263.000	0.719	1.000	Do Not Test
9I vs 4S	255.000	0.697	1.000	Do Not Test
9I vs 2I	125.000	0.342	1.000	Do Not Test
9I vs 9S	69.000	0.189	1.000	Do Not Test
9I vs 3C	8.000	0.0219	1.000	Do Not Test
3C vs 8C	1898.000	5.188	0.061	Do Not Test
3C vs 5C	1192.000	3.258	0.872	Do Not Test
3C vs 2C	749.000	2.047	1.000	Do Not Test
3C vs 5S	713.000	1.949	1.000	Do Not Test
3C vs 5I	627.000	1.714	1.000	Do Not Test
3C vs 8S	483.000	1.320	1.000	Do Not Test
3C vs 6I	466.000	1.274	1.000	Do Not Test
3C vs 8I	451.000	1.233	1.000	Do Not Test
3C vs 6S	327.000	0.894	1.000	Do Not Test
3C vs 4I	255.000	0.697	1.000	Do Not Test
3C vs 4S	247.000	0.675	1.000	Do Not Test
3C vs 2I	117.000	0.320	1.000	Do Not Test
3C vs 9S	61.000	0.167	1.000	Do Not Test
9S vs 8C	1837.000	5.021	0.087	Do Not Test
9S vs 5C	1131.000	3.091	0.919	Do Not Test
9S vs 2C	688.000	1.881	1.000	Do Not Test
9S vs 5S	652.000	1.782	1.000	Do Not Test
9S vs 5I	566.000	1.547	1.000	Do Not Test
9S vs 8S	422.000	1.153	1.000	Do Not Test
9S vs 6I	405.000	1.107	1.000	Do Not Test
9S vs 8I	390.000	1.066	1.000	Do Not Test
9S vs 6S	266.000	0.727	1.000	Do Not Test

9S vs 4I	194.000	0.530	1.000	Do Not Test
9S vs 4S	186.000	0.508	1.000	Do Not Test
9S vs 2I	56.000	0.153	1.000	Do Not Test
2I vs 8C	1781.000	4.868	0.118	Do Not Test
2I vs 5C	1075.000	2.938	0.949	Do Not Test
2I vs 2C	632.000	1.727	1.000	Do Not Test
2I vs 5S	596.000	1.629	1.000	Do Not Test
2I vs 5I	510.000	1.394	1.000	Do Not Test
2I vs 8S	366.000	1.000	1.000	Do Not Test
2I vs 6I	349.000	0.954	1.000	Do Not Test
2I vs 8I	334.000	0.913	1.000	Do Not Test
2I vs 6S	210.000	0.574	1.000	Do Not Test
2I vs 4I	138.000	0.377	1.000	Do Not Test
2I vs 4S	130.000	0.355	1.000	Do Not Test
4S vs 8C	1651.000	4.513	0.227	Do Not Test
4S vs 5C	945.000	2.583	0.987	Do Not Test
4S vs 2C	502.000	1.372	1.000	Do Not Test
4S vs 5S	466.000	1.274	1.000	Do Not Test
4S vs 5I	380.000	1.039	1.000	Do Not Test
4S vs 8S	236.000	0.645	1.000	Do Not Test
4S vs 6I	219.000	0.599	1.000	Do Not Test
4S vs 8I	204.000	0.558	1.000	Do Not Test
4S vs 6S	80.000	0.219	1.000	Do Not Test
4S vs 4I	8.000	0.0219	1.000	Do Not Test
4I vs 8C	1643.000	4.491	0.235	Do Not Test
4I vs 5C	937.000	2.561	0.988	Do Not Test
4I vs 2C	494.000	1.350	1.000	Do Not Test
4I vs 5S	458.000	1.252	1.000	Do Not Test
4I vs 5I	372.000	1.017	1.000	Do Not Test
4I vs 8S	228.000	0.623	1.000	Do Not Test
4I vs 6I	211.000	0.577	1.000	Do Not Test
4I vs 8I	196.000	0.536	1.000	Do Not Test
4I vs 6S	72.000	0.197	1.000	Do Not Test
6S vs 8C	1571.000	4.294	0.321	Do Not Test
6S vs 5C	865.000	2.364	0.996	Do Not Test
6S vs 2C	422.000	1.153	1.000	Do Not Test
6S vs 5S	386.000	1.055	1.000	Do Not Test
6S vs 5I	300.000	0.820	1.000	Do Not Test
6S vs 8S	156.000	0.426	1.000	Do Not Test
6S vs 6I	139.000	0.380	1.000	Do Not Test
6S vs 8I	124.000	0.339	1.000	Do Not Test
8I vs 8C	1447.000	3.955	0.504	Do Not Test
8I vs 5C	741.000	2.025	1.000	Do Not Test
8I vs 2C	298.000	0.815	1.000	Do Not Test
8I vs 5S	262.000	0.716	1.000	Do Not Test
8I vs 5I	176.000	0.481	1.000	Do Not Test
8I vs 8S	32.000	0.0875	1.000	Do Not Test
8I vs 6I	15.000	0.0410	1.000	Do Not Test
6I vs 8C	1432.000	3.914	0.529	Do Not Test
6I vs 5C	726.000	1.984	1.000	Do Not Test
6I vs 2C	283.000	0.774	1.000	Do Not Test
6I vs 5S	247.000	0.675	1.000	Do Not Test
6I vs 5I	161.000	0.440	1.000	Do Not Test
6I vs 8S	17.000	0.0465	1.000	Do Not Test
8S vs 8C	1415.000	3.868	0.557	Do Not Test
8S vs 5C	709.000	1.938	1.000	Do Not Test

8S vs 2C	266.000	0.727	1.000	Do Not Test
8S vs 5S	230.000	0.629	1.000	Do Not Test
8S vs 5I	144.000	0.394	1.000	Do Not Test
5I vs 8C	1271.000	3.474	0.783	Do Not Test
5I vs 5C	565.000	1.544	1.000	Do Not Test
5I vs 2C	122.000	0.333	1.000	Do Not Test
5I vs 5S	86.000	0.235	1.000	Do Not Test
5S vs 8C	1185.000	3.239	0.878	Do Not Test
5S vs 5C	479.000	1.309	1.000	Do Not Test
5S vs 2C	36.000	0.0984	1.000	Do Not Test
2C vs 8C	1149.000	3.141	0.907	Do Not Test
2C vs 5C	443.000	1.211	1.000	Do Not Test
5C vs 8C	706.000	1.930	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:14:37

Data source: Tb.Th in L3 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:14:37

Data source: Tb.Th in L3 Perinate

Group	N	Missing	Median	25%	75%
1I	13	0	80.652	75.028	84.648
1C	13	0	90.975	81.599	98.623
1S	13	0	77.748	68.465	79.760
2I	13	0	86.934	78.746	95.934
2C	13	0	110.481	99.850	136.019
2S	13	0	90.299	76.419	97.512
3I	13	0	80.345	73.782	85.799
3C	13	0	99.448	89.475	110.373
3S	13	0	79.134	66.045	89.514
4I	13	0	89.985	83.799	94.060
4C	13	0	103.173	95.311	109.168
4S	13	0	90.240	79.914	95.073
5I	13	0	103.097	88.355	121.686
5C	13	0	122.129	111.604	137.523
5S	13	0	103.486	85.936	111.852
6I	13	0	90.021	83.827	93.799
6C	13	0	103.519	95.838	110.168
6S	13	0	87.113	80.572	96.626
7I	13	0	85.280	80.076	89.919
7C	13	0	90.863	81.904	97.273
7S	13	0	79.731	76.317	89.590
8I	13	0	93.855	86.757	103.133
8C	13	0	115.046	101.458	137.909
8S	13	0	93.046	82.763	98.661
9I	13	0	84.803	79.910	95.878
9C	13	0	89.955	79.855	96.578
9S	13	0	84.570	76.737	90.550

H = 138.077 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
5C vs 1S	3277.000	8.957	0.006	Yes
5C vs 1I	2939.000	8.033	0.006	Yes

5C vs 3S	2718.000	7.429	0.007	Yes
5C vs 3I	2693.000	7.361	0.007	Yes
5C vs 7S	2617.000	7.153	0.007	Yes
5C vs 7I	2395.000	6.546	0.008	Yes
5C vs 9S	2390.000	6.533	0.008	Yes
5C vs 9I	2186.000	5.975	0.013	Yes
5C vs 2I	2112.000	5.773	0.019	Yes
5C vs 2S	2110.000	5.767	0.019	Yes
5C vs 6S	2041.000	5.579	0.027	Yes
5C vs 4I	2026.000	5.538	0.029	Yes
5C vs 4S	2009.000	5.491	0.032	Yes
5C vs 6I	1886.000	5.155	0.066	No
5C vs 7C	1877.000	5.130	0.069	Do Not Test
5C vs 9C	1870.000	5.111	0.072	Do Not Test
5C vs 1C	1802.000	4.925	0.105	Do Not Test
5C vs 8S	1617.000	4.420	0.264	Do Not Test
5C vs 8I	1478.000	4.040	0.455	Do Not Test
5C vs 3C	1129.000	3.086	0.920	Do Not Test
5C vs 5S	1067.000	2.916	0.952	Do Not Test
5C vs 5I	992.000	2.711	0.977	Do Not Test
5C vs 4C	799.000	2.184	0.999	Do Not Test
5C vs 6C	732.000	2.001	1.000	Do Not Test
5C vs 2C	425.000	1.162	1.000	Do Not Test
5C vs 8C	225.000	0.615	1.000	Do Not Test
8C vs 1S	3052.000	8.342	0.006	Yes
8C vs 1I	2714.000	7.418	0.007	Yes
8C vs 3S	2493.000	6.814	0.007	Yes
8C vs 3I	2468.000	6.746	0.007	Yes
8C vs 7S	2392.000	6.538	0.008	Yes
8C vs 7I	2170.000	5.931	0.014	Yes
8C vs 9S	2165.000	5.918	0.015	Yes
8C vs 9I	1961.000	5.360	0.043	Yes
8C vs 2I	1887.000	5.158	0.065	No
8C vs 2S	1885.000	5.152	0.066	Do Not Test
8C vs 6S	1816.000	4.964	0.097	Do Not Test
8C vs 4I	1801.000	4.923	0.106	Do Not Test
8C vs 4S	1784.000	4.876	0.116	Do Not Test
8C vs 6I	1661.000	4.540	0.216	Do Not Test
8C vs 7C	1652.000	4.515	0.226	Do Not Test
8C vs 9C	1645.000	4.496	0.233	Do Not Test
8C vs 1C	1577.000	4.310	0.313	Do Not Test
8C vs 8S	1392.000	3.805	0.595	Do Not Test
8C vs 8I	1253.000	3.425	0.806	Do Not Test
8C vs 3C	904.000	2.471	0.993	Do Not Test
8C vs 5S	842.000	2.301	0.998	Do Not Test
8C vs 5I	767.000	2.096	1.000	Do Not Test
8C vs 4C	574.000	1.569	1.000	Do Not Test
8C vs 6C	507.000	1.386	1.000	Do Not Test
8C vs 2C	200.000	0.547	1.000	Do Not Test
2C vs 1S	2852.000	7.795	0.006	Yes
2C vs 1I	2514.000	6.872	0.007	Yes
2C vs 3S	2293.000	6.268	0.009	Yes
2C vs 3I	2268.000	6.199	0.010	Yes
2C vs 7S	2192.000	5.991	0.013	Yes
2C vs 7I	1970.000	5.385	0.041	Yes
2C vs 9S	1965.000	5.371	0.042	Yes



2C vs 9I	1761.000	4.813	0.131	No
2C vs 2I	1687.000	4.611	0.191	Do Not Test
2C vs 2S	1685.000	4.606	0.193	Do Not Test
2C vs 6S	1616.000	4.417	0.265	Do Not Test
2C vs 4I	1601.000	4.376	0.283	Do Not Test
2C vs 4S	1584.000	4.330	0.304	Do Not Test
2C vs 6I	1461.000	3.993	0.482	Do Not Test
2C vs 7C	1452.000	3.969	0.496	Do Not Test
2C vs 9C	1445.000	3.950	0.508	Do Not Test
2C vs 1C	1377.000	3.764	0.620	Do Not Test
2C vs 8S	1192.000	3.258	0.872	Do Not Test
2C vs 8I	1053.000	2.878	0.958	Do Not Test
2C vs 3C	704.000	1.924	1.000	Do Not Test
2C vs 5S	642.000	1.755	1.000	Do Not Test
2C vs 5I	567.000	1.550	1.000	Do Not Test
2C vs 4C	374.000	1.022	1.000	Do Not Test
2C vs 6C	307.000	0.839	1.000	Do Not Test
<b>6C vs 1S</b>	<b>2545.000</b>	<b>6.956</b>	<b>0.007</b>	<b>Yes</b>
6C vs 1I	2207.000	6.032	0.012	Yes
6C vs 3S	1986.000	5.428	0.037	Yes
6C vs 3I	1961.000	5.360	0.043	Yes
6C vs 7S	1885.000	5.152	0.066	No
6C vs 7I	1663.000	4.546	0.214	Do Not Test
6C vs 9S	1658.000	4.532	0.220	Do Not Test
6C vs 9I	1454.000	3.974	0.493	Do Not Test
6C vs 2I	1380.000	3.772	0.615	Do Not Test
6C vs 2S	1378.000	3.767	0.619	Do Not Test
6C vs 6S	1309.000	3.578	0.729	Do Not Test
6C vs 4I	1294.000	3.537	0.751	Do Not Test
6C vs 4S	1277.000	3.490	0.774	Do Not Test
6C vs 6I	1154.000	3.154	0.903	Do Not Test
6C vs 7C	1145.000	3.130	0.909	Do Not Test
6C vs 9C	1138.000	3.111	0.914	Do Not Test
6C vs 1C	1070.000	2.925	0.951	Do Not Test
6C vs 8S	885.000	2.419	0.995	Do Not Test
6C vs 8I	746.000	2.039	1.000	Do Not Test
6C vs 3C	397.000	1.085	1.000	Do Not Test
6C vs 5S	335.000	0.916	1.000	Do Not Test
6C vs 5I	260.000	0.711	1.000	Do Not Test
6C vs 4C	67.000	0.183	1.000	Do Not Test
<b>4C vs 1S</b>	<b>2478.000</b>	<b>6.773</b>	<b>0.007</b>	<b>Yes</b>
4C vs 1I	2140.000	5.849	0.016	Yes
4C vs 3S	1919.000	5.245	0.054	No
4C vs 3I	1894.000	5.177	0.063	Do Not Test
4C vs 7S	1818.000	4.969	0.096	Do Not Test
4C vs 7I	1596.000	4.362	0.289	Do Not Test
4C vs 9S	1591.000	4.349	0.295	Do Not Test
4C vs 9I	1387.000	3.791	0.604	Do Not Test
4C vs 2I	1313.000	3.589	0.723	Do Not Test
4C vs 2S	1311.000	3.583	0.726	Do Not Test
4C vs 6S	1242.000	3.395	0.819	Do Not Test
4C vs 4I	1227.000	3.354	0.836	Do Not Test
4C vs 4S	1210.000	3.307	0.854	Do Not Test
4C vs 6I	1087.000	2.971	0.943	Do Not Test
4C vs 7C	1078.000	2.947	0.947	Do Not Test
4C vs 9C	1071.000	2.927	0.950	Do Not Test

4C vs 1C	1003.000	2.742	0.974	Do Not Test
4C vs 8S	818.000	2.236	0.998	Do Not Test
4C vs 8I	679.000	1.856	1.000	Do Not Test
4C vs 3C	330.000	0.902	1.000	Do Not Test
4C vs 5S	268.000	0.733	1.000	Do Not Test
4C vs 5I	193.000	0.528	1.000	Do Not Test
<b>5I vs 1S</b>	<b>2285.000</b>	<b>6.246</b>	<b>0.009</b>	<b>Yes</b>
5I vs 1I	1947.000	5.322	0.046	Yes
5I vs 3S	1726.000	4.718	0.157	Do Not Test
5I vs 3I	1701.000	4.649	0.179	Do Not Test
5I vs 7S	1625.000	4.442	0.255	Do Not Test
5I vs 7I	1403.000	3.835	0.577	Do Not Test
5I vs 9S	1398.000	3.821	0.585	Do Not Test
5I vs 9I	1194.000	3.264	0.870	Do Not Test
5I vs 2I	1120.000	3.061	0.925	Do Not Test
5I vs 2S	1118.000	3.056	0.927	Do Not Test
5I vs 6S	1049.000	2.867	0.959	Do Not Test
5I vs 4I	1034.000	2.826	0.965	Do Not Test
5I vs 4S	1017.000	2.780	0.970	Do Not Test
5I vs 6I	894.000	2.444	0.994	Do Not Test
5I vs 7C	885.000	2.419	0.995	Do Not Test
5I vs 9C	878.000	2.400	0.995	Do Not Test
5I vs 1C	810.000	2.214	0.999	Do Not Test
5I vs 8S	625.000	1.708	1.000	Do Not Test
5I vs 8I	486.000	1.328	1.000	Do Not Test
5I vs 3C	137.000	0.374	1.000	Do Not Test
5I vs 5S	75.000	0.205	1.000	Do Not Test
5S vs 1S	2210.000	6.041	0.012	Yes
5S vs 1I	1872.000	5.117	0.071	No
5S vs 3S	1651.000	4.513	0.227	Do Not Test
5S vs 3I	1626.000	4.444	0.254	Do Not Test
5S vs 7S	1550.000	4.237	0.349	Do Not Test
5S vs 7I	1328.000	3.630	0.699	Do Not Test
5S vs 9S	1323.000	3.616	0.707	Do Not Test
5S vs 9I	1119.000	3.059	0.926	Do Not Test
5S vs 2I	1045.000	2.856	0.961	Do Not Test
5S vs 2S	1043.000	2.851	0.961	Do Not Test
5S vs 6S	974.000	2.662	0.981	Do Not Test
5S vs 4I	959.000	2.621	0.984	Do Not Test
5S vs 4S	942.000	2.575	0.987	Do Not Test
5S vs 6I	819.000	2.239	0.998	Do Not Test
5S vs 7C	810.000	2.214	0.999	Do Not Test
5S vs 9C	803.000	2.195	0.999	Do Not Test
5S vs 1C	735.000	2.009	1.000	Do Not Test
5S vs 8S	550.000	1.503	1.000	Do Not Test
5S vs 8I	411.000	1.123	1.000	Do Not Test
5S vs 3C	62.000	0.169	1.000	Do Not Test
3C vs 1S	2148.000	5.871	0.016	Yes
3C vs 1I	1810.000	4.947	0.101	Do Not Test
3C vs 3S	1589.000	4.343	0.298	Do Not Test
3C vs 3I	1564.000	4.275	0.330	Do Not Test
3C vs 7S	1488.000	4.067	0.439	Do Not Test
3C vs 7I	1266.000	3.460	0.789	Do Not Test
3C vs 9S	1261.000	3.447	0.796	Do Not Test
3C vs 9I	1057.000	2.889	0.956	Do Not Test
3C vs 2I	983.000	2.687	0.979	Do Not Test

3C vs 2S	981.000	2.681	0.980	Do Not Test
3C vs 6S	912.000	2.493	0.992	Do Not Test
3C vs 4I	897.000	2.452	0.993	Do Not Test
3C vs 4S	880.000	2.405	0.995	Do Not Test
3C vs 6I	757.000	2.069	1.000	Do Not Test
3C vs 7C	748.000	2.045	1.000	Do Not Test
3C vs 9C	741.000	2.025	1.000	Do Not Test
3C vs 1C	673.000	1.840	1.000	Do Not Test
3C vs 8S	488.000	1.334	1.000	Do Not Test
3C vs 8I	349.000	0.954	1.000	Do Not Test
8I vs 1S	1799.000	4.917	0.107	No
8I vs 1I	1461.000	3.993	0.482	Do Not Test
8I vs 3S	1240.000	3.389	0.821	Do Not Test
8I vs 3I	1215.000	3.321	0.849	Do Not Test
8I vs 7S	1139.000	3.113	0.914	Do Not Test
8I vs 7I	917.000	2.506	0.991	Do Not Test
8I vs 9S	912.000	2.493	0.992	Do Not Test
8I vs 9I	708.000	1.935	1.000	Do Not Test
8I vs 2I	634.000	1.733	1.000	Do Not Test
8I vs 2S	632.000	1.727	1.000	Do Not Test
8I vs 6S	563.000	1.539	1.000	Do Not Test
8I vs 4I	548.000	1.498	1.000	Do Not Test
8I vs 4S	531.000	1.451	1.000	Do Not Test
8I vs 6I	408.000	1.115	1.000	Do Not Test
8I vs 7C	399.000	1.091	1.000	Do Not Test
8I vs 9C	392.000	1.071	1.000	Do Not Test
8I vs 1C	324.000	0.886	1.000	Do Not Test
8I vs 8S	139.000	0.380	1.000	Do Not Test
8S vs 1S	1660.000	4.537	0.217	Do Not Test
8S vs 1I	1322.000	3.613	0.709	Do Not Test
8S vs 3S	1101.000	3.009	0.936	Do Not Test
8S vs 3I	1076.000	2.941	0.948	Do Not Test
8S vs 7S	1000.000	2.733	0.975	Do Not Test
8S vs 7I	778.000	2.127	0.999	Do Not Test
8S vs 9S	773.000	2.113	0.999	Do Not Test
8S vs 9I	569.000	1.555	1.000	Do Not Test
8S vs 2I	495.000	1.353	1.000	Do Not Test
8S vs 2S	493.000	1.348	1.000	Do Not Test
8S vs 6S	424.000	1.159	1.000	Do Not Test
8S vs 4I	409.000	1.118	1.000	Do Not Test
8S vs 4S	392.000	1.071	1.000	Do Not Test
8S vs 6I	269.000	0.735	1.000	Do Not Test
8S vs 7C	260.000	0.711	1.000	Do Not Test
8S vs 9C	253.000	0.692	1.000	Do Not Test
8S vs 1C	185.000	0.506	1.000	Do Not Test
1C vs 1S	1475.000	4.032	0.460	Do Not Test
1C vs 1I	1137.000	3.108	0.915	Do Not Test
1C vs 3S	916.000	2.504	0.991	Do Not Test
1C vs 3I	891.000	2.435	0.994	Do Not Test
1C vs 7S	815.000	2.228	0.999	Do Not Test
1C vs 7I	593.000	1.621	1.000	Do Not Test
1C vs 9S	588.000	1.607	1.000	Do Not Test
1C vs 9I	384.000	1.050	1.000	Do Not Test
1C vs 2I	310.000	0.847	1.000	Do Not Test
1C vs 2S	308.000	0.842	1.000	Do Not Test
1C vs 6S	239.000	0.653	1.000	Do Not Test

1C vs 4I	224.000	0.612	1.000	Do Not Test
1C vs 4S	207.000	0.566	1.000	Do Not Test
1C vs 6I	84.000	0.230	1.000	Do Not Test
1C vs 7C	75.000	0.205	1.000	Do Not Test
1C vs 9C	68.000	0.186	1.000	Do Not Test
9C vs 1S	1407.000	3.846	0.570	Do Not Test
9C vs 1I	1069.000	2.922	0.951	Do Not Test
9C vs 3S	848.000	2.318	0.997	Do Not Test
9C vs 3I	823.000	2.250	0.998	Do Not Test
9C vs 7S	747.000	2.042	1.000	Do Not Test
9C vs 7I	525.000	1.435	1.000	Do Not Test
9C vs 9S	520.000	1.421	1.000	Do Not Test
9C vs 9I	316.000	0.864	1.000	Do Not Test
9C vs 2I	242.000	0.661	1.000	Do Not Test
9C vs 2S	240.000	0.656	1.000	Do Not Test
9C vs 6S	171.000	0.467	1.000	Do Not Test
9C vs 4I	156.000	0.426	1.000	Do Not Test
9C vs 4S	139.000	0.380	1.000	Do Not Test
9C vs 6I	16.000	0.0437	1.000	Do Not Test
9C vs 7C	7.000	0.0191	1.000	Do Not Test
7C vs 1S	1400.000	3.827	0.582	Do Not Test
7C vs 1I	1062.000	2.903	0.954	Do Not Test
7C vs 3S	841.000	2.299	0.998	Do Not Test
7C vs 3I	816.000	2.230	0.999	Do Not Test
7C vs 7S	740.000	2.023	1.000	Do Not Test
7C vs 7I	518.000	1.416	1.000	Do Not Test
7C vs 9S	513.000	1.402	1.000	Do Not Test
7C vs 9I	309.000	0.845	1.000	Do Not Test
7C vs 2I	235.000	0.642	1.000	Do Not Test
7C vs 2S	233.000	0.637	1.000	Do Not Test
7C vs 6S	164.000	0.448	1.000	Do Not Test
7C vs 4I	149.000	0.407	1.000	Do Not Test
7C vs 4S	132.000	0.361	1.000	Do Not Test
7C vs 6I	9.000	0.0246	1.000	Do Not Test
6I vs 1S	1391.000	3.802	0.597	Do Not Test
6I vs 1I	1053.000	2.878	0.958	Do Not Test
6I vs 3S	832.000	2.274	0.998	Do Not Test
6I vs 3I	807.000	2.206	0.999	Do Not Test
6I vs 7S	731.000	1.998	1.000	Do Not Test
6I vs 7I	509.000	1.391	1.000	Do Not Test
6I vs 9S	504.000	1.378	1.000	Do Not Test
6I vs 9I	300.000	0.820	1.000	Do Not Test
6I vs 2I	226.000	0.618	1.000	Do Not Test
6I vs 2S	224.000	0.612	1.000	Do Not Test
6I vs 6S	155.000	0.424	1.000	Do Not Test
6I vs 4I	140.000	0.383	1.000	Do Not Test
6I vs 4S	123.000	0.336	1.000	Do Not Test
4S vs 1S	1268.000	3.466	0.787	Do Not Test
4S vs 1I	930.000	2.542	0.989	Do Not Test
4S vs 3S	709.000	1.938	1.000	Do Not Test
4S vs 3I	684.000	1.870	1.000	Do Not Test
4S vs 7S	608.000	1.662	1.000	Do Not Test
4S vs 7I	386.000	1.055	1.000	Do Not Test
4S vs 9S	381.000	1.041	1.000	Do Not Test
4S vs 9I	177.000	0.484	1.000	Do Not Test
4S vs 2I	103.000	0.282	1.000	Do Not Test

4S vs 2S	101.000	0.276	1.000	Do Not Test
4S vs 6S	32.000	0.0875	1.000	Do Not Test
4S vs 4I	17.000	0.0465	1.000	Do Not Test
4I vs 1S	1251.000	3.419	0.808	Do Not Test
4I vs 1I	913.000	2.496	0.992	Do Not Test
4I vs 3S	692.000	1.891	1.000	Do Not Test
4I vs 3I	667.000	1.823	1.000	Do Not Test
4I vs 7S	591.000	1.615	1.000	Do Not Test
4I vs 7I	369.000	1.009	1.000	Do Not Test
4I vs 9S	364.000	0.995	1.000	Do Not Test
4I vs 9I	160.000	0.437	1.000	Do Not Test
4I vs 2I	86.000	0.235	1.000	Do Not Test
4I vs 2S	84.000	0.230	1.000	Do Not Test
4I vs 6S	15.000	0.0410	1.000	Do Not Test
6S vs 1S	1236.000	3.378	0.826	Do Not Test
6S vs 1I	898.000	2.455	0.993	Do Not Test
6S vs 3S	677.000	1.850	1.000	Do Not Test
6S vs 3I	652.000	1.782	1.000	Do Not Test
6S vs 7S	576.000	1.574	1.000	Do Not Test
6S vs 7I	354.000	0.968	1.000	Do Not Test
6S vs 9S	349.000	0.954	1.000	Do Not Test
6S vs 9I	145.000	0.396	1.000	Do Not Test
6S vs 2I	71.000	0.194	1.000	Do Not Test
6S vs 2S	69.000	0.189	1.000	Do Not Test
2S vs 1S	1167.000	3.190	0.893	Do Not Test
2S vs 1I	829.000	2.266	0.998	Do Not Test
2S vs 3S	608.000	1.662	1.000	Do Not Test
2S vs 3I	583.000	1.594	1.000	Do Not Test
2S vs 7S	507.000	1.386	1.000	Do Not Test
2S vs 7I	285.000	0.779	1.000	Do Not Test
2S vs 9S	280.000	0.765	1.000	Do Not Test
2S vs 9I	76.000	0.208	1.000	Do Not Test
2S vs 2I	2.000	0.00547	1.000	Do Not Test
2I vs 1S	1165.000	3.184	0.895	Do Not Test
2I vs 1I	827.000	2.260	0.998	Do Not Test
2I vs 3S	606.000	1.656	1.000	Do Not Test
2I vs 3I	581.000	1.588	1.000	Do Not Test
2I vs 7S	505.000	1.380	1.000	Do Not Test
2I vs 7I	283.000	0.774	1.000	Do Not Test
2I vs 9S	278.000	0.760	1.000	Do Not Test
2I vs 9I	74.000	0.202	1.000	Do Not Test
9I vs 1S	1091.000	2.982	0.941	Do Not Test
9I vs 1I	753.000	2.058	1.000	Do Not Test
9I vs 3S	532.000	1.454	1.000	Do Not Test
9I vs 3I	507.000	1.386	1.000	Do Not Test
9I vs 7S	431.000	1.178	1.000	Do Not Test
9I vs 7I	209.000	0.571	1.000	Do Not Test
9I vs 9S	204.000	0.558	1.000	Do Not Test
9S vs 1S	887.000	2.424	0.994	Do Not Test
9S vs 1I	549.000	1.501	1.000	Do Not Test
9S vs 3S	328.000	0.897	1.000	Do Not Test
9S vs 3I	303.000	0.828	1.000	Do Not Test
9S vs 7S	227.000	0.620	1.000	Do Not Test
9S vs 7I	5.000	0.0137	1.000	Do Not Test
7I vs 1S	882.000	2.411	0.995	Do Not Test
7I vs 1I	544.000	1.487	1.000	Do Not Test

7I vs 3S	323.000	0.883	1.000	Do Not Test
7I vs 3I	298.000	0.815	1.000	Do Not Test
7I vs 7S	222.000	0.607	1.000	Do Not Test
7S vs 1S	660.000	1.804	1.000	Do Not Test
7S vs 1I	322.000	0.880	1.000	Do Not Test
7S vs 3S	101.000	0.276	1.000	Do Not Test
7S vs 3I	76.000	0.208	1.000	Do Not Test
3I vs 1S	584.000	1.596	1.000	Do Not Test
3I vs 1I	246.000	0.672	1.000	Do Not Test
3I vs 3S	25.000	0.0683	1.000	Do Not Test
3S vs 1S	559.000	1.528	1.000	Do Not Test
3S vs 1I	221.000	0.604	1.000	Do Not Test
1I vs 1S	338.000	0.924	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:14:59

Data source: Tb.N in L3 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:14:59

Data source: Tb.N in L3 Perinate

Group	N	Missing	Median	25%	75%
1I	13	0	0.00254	0.00217	0.00332
1C	13	0	0.00213	0.00173	0.00292
1S	13	0	0.00260	0.00208	0.00339
2I	13	0	0.00275	0.00239	0.00315
2C	13	0	0.00202	0.00155	0.00268
2S	13	0	0.00262	0.00225	0.00309
3I	13	0	0.00291	0.00219	0.00346
3C	13	0	0.00204	0.00174	0.00277
3S	13	0	0.00295	0.00244	0.00325
4I	13	0	0.00285	0.00233	0.00336
4C	13	0	0.00192	0.00176	0.00257
4S	13	0	0.00277	0.00231	0.00345
5I	13	0	0.00267	0.00219	0.00311
5C	13	0	0.00194	0.00164	0.00267
5S	13	0	0.00277	0.00211	0.00298
6I	13	0	0.00278	0.00254	0.00328
6C	13	0	0.00190	0.00177	0.00231
6S	13	0	0.00271	0.00235	0.00326
7I	13	0	0.00306	0.00242	0.00348
7C	13	0	0.00215	0.00156	0.00251
7S	13	0	0.00297	0.00239	0.00359
8I	13	0	0.00274	0.00206	0.00328
8C	13	0	0.00213	0.00155	0.00289
8S	13	0	0.00249	0.00213	0.00318
9I	13	0	0.00272	0.00246	0.00349
9C	13	0	0.00190	0.00175	0.00241
9S	13	0	0.00298	0.00238	0.00339

H = 53.999 with 26 degrees of freedom. (P = 0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
7I vs 6C	1553.000	4.245	0.345	No
7I vs 9C	1525.000	4.168	0.384	Do Not Test

7I vs 4C	1500.000	4.100	0.421	Do Not Test
7I vs 2C	1463.500	4.000	0.478	Do Not Test
7I vs 7C	1398.000	3.821	0.585	Do Not Test
7I vs 5C	1359.500	3.716	0.649	Do Not Test
7I vs 3C	1221.500	3.339	0.842	Do Not Test
7I vs 8C	1198.500	3.276	0.866	Do Not Test
7I vs 1C	1128.000	3.083	0.921	Do Not Test
7I vs 8S	628.000	1.717	1.000	Do Not Test
7I vs 5S	604.500	1.652	1.000	Do Not Test
7I vs 5I	557.000	1.522	1.000	Do Not Test
7I vs 1S	508.000	1.389	1.000	Do Not Test
7I vs 1I	505.000	1.380	1.000	Do Not Test
7I vs 2S	455.000	1.244	1.000	Do Not Test
7I vs 2I	429.500	1.174	1.000	Do Not Test
7I vs 8I	424.000	1.159	1.000	Do Not Test
7I vs 4S	377.500	1.032	1.000	Do Not Test
7I vs 6S	361.500	0.988	1.000	Do Not Test
7I vs 4I	335.000	0.916	1.000	Do Not Test
7I vs 6I	243.500	0.666	1.000	Do Not Test
7I vs 3I	221.500	0.605	1.000	Do Not Test
7I vs 9I	180.000	0.492	1.000	Do Not Test
7I vs 9S	129.000	0.353	1.000	Do Not Test
7I vs 7S	77.500	0.212	1.000	Do Not Test
7I vs 3S	71.000	0.194	1.000	Do Not Test
3S vs 6C	1482.000	4.051	0.449	Do Not Test
3S vs 9C	1454.000	3.974	0.493	Do Not Test
3S vs 4C	1429.000	3.906	0.534	Do Not Test
3S vs 2C	1392.500	3.806	0.594	Do Not Test
3S vs 7C	1327.000	3.627	0.701	Do Not Test
3S vs 5C	1288.500	3.522	0.758	Do Not Test
3S vs 3C	1150.500	3.145	0.906	Do Not Test
3S vs 8C	1127.500	3.082	0.921	Do Not Test
3S vs 1C	1057.000	2.889	0.956	Do Not Test
3S vs 8S	557.000	1.522	1.000	Do Not Test
3S vs 5S	533.500	1.458	1.000	Do Not Test
3S vs 5I	486.000	1.328	1.000	Do Not Test
3S vs 1S	437.000	1.194	1.000	Do Not Test
3S vs 1I	434.000	1.186	1.000	Do Not Test
3S vs 2S	384.000	1.050	1.000	Do Not Test
3S vs 2I	358.500	0.980	1.000	Do Not Test
3S vs 8I	353.000	0.965	1.000	Do Not Test
3S vs 4S	306.500	0.838	1.000	Do Not Test
3S vs 6S	290.500	0.794	1.000	Do Not Test
3S vs 4I	264.000	0.722	1.000	Do Not Test
3S vs 6I	172.500	0.472	1.000	Do Not Test
3S vs 3I	150.500	0.411	1.000	Do Not Test
3S vs 9I	109.000	0.298	1.000	Do Not Test
3S vs 9S	58.000	0.159	1.000	Do Not Test
3S vs 7S	6.500	0.0178	1.000	Do Not Test
7S vs 6C	1475.500	4.033	0.459	Do Not Test
7S vs 9C	1447.500	3.957	0.504	Do Not Test
7S vs 4C	1422.500	3.888	0.545	Do Not Test
7S vs 2C	1386.000	3.788	0.605	Do Not Test
7S vs 7C	1320.500	3.609	0.711	Do Not Test
7S vs 5C	1282.000	3.504	0.768	Do Not Test
7S vs 3C	1144.000	3.127	0.910	Do Not Test



7S vs 8C	1121.000	3.064	0.925	Do Not Test
7S vs 1C	1050.500	2.871	0.959	Do Not Test
7S vs 8S	550.500	1.505	1.000	Do Not Test
7S vs 5S	527.000	1.440	1.000	Do Not Test
7S vs 5I	479.500	1.311	1.000	Do Not Test
7S vs 1S	430.500	1.177	1.000	Do Not Test
7S vs 1I	427.500	1.169	1.000	Do Not Test
7S vs 2S	377.500	1.032	1.000	Do Not Test
7S vs 2I	352.000	0.962	1.000	Do Not Test
7S vs 8I	346.500	0.947	1.000	Do Not Test
7S vs 4S	300.000	0.820	1.000	Do Not Test
7S vs 6S	284.000	0.776	1.000	Do Not Test
7S vs 4I	257.500	0.704	1.000	Do Not Test
7S vs 6I	166.000	0.454	1.000	Do Not Test
7S vs 3I	144.000	0.394	1.000	Do Not Test
7S vs 9I	102.500	0.280	1.000	Do Not Test
7S vs 9S	51.500	0.141	1.000	Do Not Test
9S vs 6C	1424.000	3.892	0.542	Do Not Test
9S vs 9C	1396.000	3.816	0.589	Do Not Test
9S vs 4C	1371.000	3.747	0.630	Do Not Test
9S vs 2C	1334.500	3.648	0.689	Do Not Test
9S vs 7C	1269.000	3.469	0.785	Do Not Test
9S vs 5C	1230.500	3.363	0.832	Do Not Test
9S vs 3C	1092.500	2.986	0.940	Do Not Test
9S vs 8C	1069.500	2.923	0.951	Do Not Test
9S vs 1C	999.000	2.731	0.975	Do Not Test
9S vs 8S	499.000	1.364	1.000	Do Not Test
9S vs 5S	475.500	1.300	1.000	Do Not Test
9S vs 5I	428.000	1.170	1.000	Do Not Test
9S vs 1S	379.000	1.036	1.000	Do Not Test
9S vs 1I	376.000	1.028	1.000	Do Not Test
9S vs 2S	326.000	0.891	1.000	Do Not Test
9S vs 2I	300.500	0.821	1.000	Do Not Test
9S vs 8I	295.000	0.806	1.000	Do Not Test
9S vs 4S	248.500	0.679	1.000	Do Not Test
9S vs 6S	232.500	0.636	1.000	Do Not Test
9S vs 4I	206.000	0.563	1.000	Do Not Test
9S vs 6I	114.500	0.313	1.000	Do Not Test
9S vs 3I	92.500	0.253	1.000	Do Not Test
9S vs 9I	51.000	0.139	1.000	Do Not Test
9I vs 6C	1373.000	3.753	0.627	Do Not Test
9I vs 9C	1345.000	3.676	0.672	Do Not Test
9I vs 4C	1320.000	3.608	0.712	Do Not Test
9I vs 2C	1283.500	3.508	0.765	Do Not Test
9I vs 7C	1218.000	3.329	0.846	Do Not Test
9I vs 5C	1179.500	3.224	0.883	Do Not Test
9I vs 3C	1041.500	2.847	0.962	Do Not Test
9I vs 8C	1018.500	2.784	0.970	Do Not Test
9I vs 1C	948.000	2.591	0.986	Do Not Test
9I vs 8S	448.000	1.225	1.000	Do Not Test
9I vs 5S	424.500	1.160	1.000	Do Not Test
9I vs 5I	377.000	1.030	1.000	Do Not Test
9I vs 1S	328.000	0.897	1.000	Do Not Test
9I vs 1I	325.000	0.888	1.000	Do Not Test
9I vs 2S	275.000	0.752	1.000	Do Not Test
9I vs 2I	249.500	0.682	1.000	Do Not Test

9I vs 8I	244.000	0.667	1.000	Do Not Test
9I vs 4S	197.500	0.540	1.000	Do Not Test
9I vs 6S	181.500	0.496	1.000	Do Not Test
9I vs 4I	155.000	0.424	1.000	Do Not Test
9I vs 6I	63.500	0.174	1.000	Do Not Test
9I vs 3I	41.500	0.113	1.000	Do Not Test
3I vs 6C	1331.500	3.639	0.694	Do Not Test
3I vs 9C	1303.500	3.563	0.737	Do Not Test
3I vs 4C	1278.500	3.495	0.772	Do Not Test
3I vs 2C	1242.000	3.395	0.819	Do Not Test
3I vs 7C	1176.500	3.216	0.885	Do Not Test
3I vs 5C	1138.000	3.111	0.914	Do Not Test
3I vs 3C	1000.000	2.733	0.975	Do Not Test
3I vs 8C	977.000	2.670	0.981	Do Not Test
3I vs 1C	906.500	2.478	0.992	Do Not Test
3I vs 8S	406.500	1.111	1.000	Do Not Test
3I vs 5S	383.000	1.047	1.000	Do Not Test
3I vs 5I	335.500	0.917	1.000	Do Not Test
3I vs 1S	286.500	0.783	1.000	Do Not Test
3I vs 1I	283.500	0.775	1.000	Do Not Test
3I vs 2S	233.500	0.638	1.000	Do Not Test
3I vs 2I	208.000	0.569	1.000	Do Not Test
3I vs 8I	202.500	0.554	1.000	Do Not Test
3I vs 4S	156.000	0.426	1.000	Do Not Test
3I vs 6S	140.000	0.383	1.000	Do Not Test
3I vs 4I	113.500	0.310	1.000	Do Not Test
3I vs 6I	22.000	0.0601	1.000	Do Not Test
6I vs 6C	1309.500	3.579	0.728	Do Not Test
6I vs 9C	1281.500	3.503	0.768	Do Not Test
6I vs 4C	1256.500	3.434	0.801	Do Not Test
6I vs 2C	1220.000	3.335	0.844	Do Not Test
6I vs 7C	1154.500	3.156	0.903	Do Not Test
6I vs 5C	1116.000	3.050	0.928	Do Not Test
6I vs 3C	978.000	2.673	0.980	Do Not Test
6I vs 8C	955.000	2.610	0.985	Do Not Test
6I vs 1C	884.500	2.418	0.995	Do Not Test
6I vs 8S	384.500	1.051	1.000	Do Not Test
6I vs 5S	361.000	0.987	1.000	Do Not Test
6I vs 5I	313.500	0.857	1.000	Do Not Test
6I vs 1S	264.500	0.723	1.000	Do Not Test
6I vs 1I	261.500	0.715	1.000	Do Not Test
6I vs 2S	211.500	0.578	1.000	Do Not Test
6I vs 2I	186.000	0.508	1.000	Do Not Test
6I vs 8I	180.500	0.493	1.000	Do Not Test
6I vs 4S	134.000	0.366	1.000	Do Not Test
6I vs 6S	118.000	0.323	1.000	Do Not Test
6I vs 4I	91.500	0.250	1.000	Do Not Test
4I vs 6C	1218.000	3.329	0.846	Do Not Test
4I vs 9C	1190.000	3.253	0.874	Do Not Test
4I vs 4C	1165.000	3.184	0.895	Do Not Test
4I vs 2C	1128.500	3.085	0.920	Do Not Test
4I vs 7C	1063.000	2.906	0.954	Do Not Test
4I vs 5C	1024.500	2.800	0.968	Do Not Test
4I vs 3C	886.500	2.423	0.994	Do Not Test
4I vs 8C	863.500	2.360	0.996	Do Not Test
4I vs 1C	793.000	2.168	0.999	Do Not Test

4I vs 8S	293.000	0.801	1.000	Do Not Test
4I vs 5S	269.500	0.737	1.000	Do Not Test
4I vs 5I	222.000	0.607	1.000	Do Not Test
4I vs 1S	173.000	0.473	1.000	Do Not Test
4I vs 1I	170.000	0.465	1.000	Do Not Test
4I vs 2S	120.000	0.328	1.000	Do Not Test
4I vs 2I	94.500	0.258	1.000	Do Not Test
4I vs 8I	89.000	0.243	1.000	Do Not Test
4I vs 4S	42.500	0.116	1.000	Do Not Test
4I vs 6S	26.500	0.0724	1.000	Do Not Test
6S vs 6C	1191.500	3.257	0.872	Do Not Test
6S vs 9C	1163.500	3.180	0.896	Do Not Test
6S vs 4C	1138.500	3.112	0.914	Do Not Test
6S vs 2C	1102.000	3.012	0.935	Do Not Test
6S vs 7C	1036.500	2.833	0.964	Do Not Test
6S vs 5C	998.000	2.728	0.975	Do Not Test
6S vs 3C	860.000	2.351	0.997	Do Not Test
6S vs 8C	837.000	2.288	0.998	Do Not Test
6S vs 1C	766.500	2.095	1.000	Do Not Test
6S vs 8S	266.500	0.728	1.000	Do Not Test
6S vs 5S	243.000	0.664	1.000	Do Not Test
6S vs 5I	195.500	0.534	1.000	Do Not Test
6S vs 1S	146.500	0.400	1.000	Do Not Test
6S vs 1I	143.500	0.392	1.000	Do Not Test
6S vs 2S	93.500	0.256	1.000	Do Not Test
6S vs 2I	68.000	0.186	1.000	Do Not Test
6S vs 8I	62.500	0.171	1.000	Do Not Test
6S vs 4S	16.000	0.0437	1.000	Do Not Test
4S vs 6C	1175.500	3.213	0.886	Do Not Test
4S vs 9C	1147.500	3.137	0.908	Do Not Test
4S vs 4C	1122.500	3.068	0.924	Do Not Test
4S vs 2C	1086.000	2.968	0.943	Do Not Test
4S vs 7C	1020.500	2.789	0.969	Do Not Test
4S vs 5C	982.000	2.684	0.979	Do Not Test
4S vs 3C	844.000	2.307	0.997	Do Not Test
4S vs 8C	821.000	2.244	0.998	Do Not Test
4S vs 1C	750.500	2.051	1.000	Do Not Test
4S vs 8S	250.500	0.685	1.000	Do Not Test
4S vs 5S	227.000	0.620	1.000	Do Not Test
4S vs 5I	179.500	0.491	1.000	Do Not Test
4S vs 1S	130.500	0.357	1.000	Do Not Test
4S vs 1I	127.500	0.349	1.000	Do Not Test
4S vs 2S	77.500	0.212	1.000	Do Not Test
4S vs 2I	52.000	0.142	1.000	Do Not Test
4S vs 8I	46.500	0.127	1.000	Do Not Test
8I vs 6C	1129.000	3.086	0.920	Do Not Test
8I vs 9C	1101.000	3.009	0.936	Do Not Test
8I vs 4C	1076.000	2.941	0.948	Do Not Test
8I vs 2C	1039.500	2.841	0.963	Do Not Test
8I vs 7C	974.000	2.662	0.981	Do Not Test
8I vs 5C	935.500	2.557	0.988	Do Not Test
8I vs 3C	797.500	2.180	0.999	Do Not Test
8I vs 8C	774.500	2.117	0.999	Do Not Test
8I vs 1C	704.000	1.924	1.000	Do Not Test
8I vs 8S	204.000	0.558	1.000	Do Not Test
8I vs 5S	180.500	0.493	1.000	Do Not Test

8I vs 5I	133.000	0.364	1.000	Do Not Test
8I vs 1S	84.000	0.230	1.000	Do Not Test
8I vs 1I	81.000	0.221	1.000	Do Not Test
8I vs 2S	31.000	0.0847	1.000	Do Not Test
8I vs 2I	5.500	0.0150	1.000	Do Not Test
2I vs 6C	1123.500	3.071	0.923	Do Not Test
2I vs 9C	1095.500	2.994	0.939	Do Not Test
2I vs 4C	1070.500	2.926	0.950	Do Not Test
2I vs 2C	1034.000	2.826	0.965	Do Not Test
2I vs 7C	968.500	2.647	0.982	Do Not Test
2I vs 5C	930.000	2.542	0.989	Do Not Test
2I vs 3C	792.000	2.165	0.999	Do Not Test
2I vs 8C	769.000	2.102	1.000	Do Not Test
2I vs 1C	698.500	1.909	1.000	Do Not Test
2I vs 8S	198.500	0.543	1.000	Do Not Test
2I vs 5S	175.000	0.478	1.000	Do Not Test
2I vs 5I	127.500	0.349	1.000	Do Not Test
2I vs 1S	78.500	0.215	1.000	Do Not Test
2I vs 1I	75.500	0.206	1.000	Do Not Test
2I vs 2S	25.500	0.0697	1.000	Do Not Test
2S vs 6C	1098.000	3.001	0.938	Do Not Test
2S vs 9C	1070.000	2.925	0.951	Do Not Test
2S vs 4C	1045.000	2.856	0.961	Do Not Test
2S vs 2C	1008.500	2.757	0.972	Do Not Test
2S vs 7C	943.000	2.578	0.987	Do Not Test
2S vs 5C	904.500	2.472	0.993	Do Not Test
2S vs 3C	766.500	2.095	1.000	Do Not Test
2S vs 8C	743.500	2.032	1.000	Do Not Test
2S vs 1C	673.000	1.840	1.000	Do Not Test
2S vs 8S	173.000	0.473	1.000	Do Not Test
2S vs 5S	149.500	0.409	1.000	Do Not Test
2S vs 5I	102.000	0.279	1.000	Do Not Test
2S vs 1S	53.000	0.145	1.000	Do Not Test
2S vs 1I	50.000	0.137	1.000	Do Not Test
1I vs 6C	1048.000	2.865	0.960	Do Not Test
1I vs 9C	1020.000	2.788	0.969	Do Not Test
1I vs 4C	995.000	2.720	0.976	Do Not Test
1I vs 2C	958.500	2.620	0.984	Do Not Test
1I vs 7C	893.000	2.441	0.994	Do Not Test
1I vs 5C	854.500	2.336	0.997	Do Not Test
1I vs 3C	716.500	1.958	1.000	Do Not Test
1I vs 8C	693.500	1.896	1.000	Do Not Test
1I vs 1C	623.000	1.703	1.000	Do Not Test
1I vs 8S	123.000	0.336	1.000	Do Not Test
1I vs 5S	99.500	0.272	1.000	Do Not Test
1I vs 5I	52.000	0.142	1.000	Do Not Test
1I vs 1S	3.000	0.00820	1.000	Do Not Test
1S vs 6C	1045.000	2.856	0.961	Do Not Test
1S vs 9C	1017.000	2.780	0.970	Do Not Test
1S vs 4C	992.000	2.711	0.977	Do Not Test
1S vs 2C	955.500	2.612	0.985	Do Not Test
1S vs 7C	890.000	2.433	0.994	Do Not Test
1S vs 5C	851.500	2.327	0.997	Do Not Test
1S vs 3C	713.500	1.950	1.000	Do Not Test
1S vs 8C	690.500	1.887	1.000	Do Not Test
1S vs 1C	620.000	1.695	1.000	Do Not Test

1S vs 8S	120.000	0.328	1.000	Do Not Test
1S vs 5S	96.500	0.264	1.000	Do Not Test
1S vs 5I	49.000	0.134	1.000	Do Not Test
5I vs 6C	996.000	2.722	0.976	Do Not Test
5I vs 9C	968.000	2.646	0.983	Do Not Test
5I vs 4C	943.000	2.578	0.987	Do Not Test
5I vs 2C	906.500	2.478	0.992	Do Not Test
5I vs 7C	841.000	2.299	0.998	Do Not Test
5I vs 5C	802.500	2.194	0.999	Do Not Test
5I vs 3C	664.500	1.816	1.000	Do Not Test
5I vs 8C	641.500	1.753	1.000	Do Not Test
5I vs 1C	571.000	1.561	1.000	Do Not Test
5I vs 8S	71.000	0.194	1.000	Do Not Test
5I vs 5S	47.500	0.130	1.000	Do Not Test
5S vs 6C	948.500	2.593	0.986	Do Not Test
5S vs 9C	920.500	2.516	0.991	Do Not Test
5S vs 4C	895.500	2.448	0.994	Do Not Test
5S vs 2C	859.000	2.348	0.997	Do Not Test
5S vs 7C	793.500	2.169	0.999	Do Not Test
5S vs 5C	755.000	2.064	1.000	Do Not Test
5S vs 3C	617.000	1.686	1.000	Do Not Test
5S vs 8C	594.000	1.624	1.000	Do Not Test
5S vs 1C	523.500	1.431	1.000	Do Not Test
5S vs 8S	23.500	0.0642	1.000	Do Not Test
8S vs 6C	925.000	2.528	0.990	Do Not Test
8S vs 9C	897.000	2.452	0.993	Do Not Test
8S vs 4C	872.000	2.383	0.996	Do Not Test
8S vs 2C	835.500	2.284	0.998	Do Not Test
8S vs 7C	770.000	2.105	1.000	Do Not Test
8S vs 5C	731.500	1.999	1.000	Do Not Test
8S vs 3C	593.500	1.622	1.000	Do Not Test
8S vs 8C	570.500	1.559	1.000	Do Not Test
8S vs 1C	500.000	1.367	1.000	Do Not Test
1C vs 6C	425.000	1.162	1.000	Do Not Test
1C vs 9C	397.000	1.085	1.000	Do Not Test
1C vs 4C	372.000	1.017	1.000	Do Not Test
1C vs 2C	335.500	0.917	1.000	Do Not Test
1C vs 7C	270.000	0.738	1.000	Do Not Test
1C vs 5C	231.500	0.633	1.000	Do Not Test
1C vs 3C	93.500	0.256	1.000	Do Not Test
1C vs 8C	70.500	0.193	1.000	Do Not Test
8C vs 6C	354.500	0.969	1.000	Do Not Test
8C vs 9C	326.500	0.892	1.000	Do Not Test
8C vs 4C	301.500	0.824	1.000	Do Not Test
8C vs 2C	265.000	0.724	1.000	Do Not Test
8C vs 7C	199.500	0.545	1.000	Do Not Test
8C vs 5C	161.000	0.440	1.000	Do Not Test
8C vs 3C	23.000	0.0629	1.000	Do Not Test
3C vs 6C	331.500	0.906	1.000	Do Not Test
3C vs 9C	303.500	0.830	1.000	Do Not Test
3C vs 4C	278.500	0.761	1.000	Do Not Test
3C vs 2C	242.000	0.661	1.000	Do Not Test
3C vs 7C	176.500	0.482	1.000	Do Not Test
3C vs 5C	138.000	0.377	1.000	Do Not Test
5C vs 6C	193.500	0.529	1.000	Do Not Test
5C vs 9C	165.500	0.452	1.000	Do Not Test

5C vs 4C	140.500	0.384	1.000	Do Not Test
5C vs 2C	104.000	0.284	1.000	Do Not Test
5C vs 7C	38.500	0.105	1.000	Do Not Test
7C vs 6C	155.000	0.424	1.000	Do Not Test
7C vs 9C	127.000	0.347	1.000	Do Not Test
7C vs 4C	102.000	0.279	1.000	Do Not Test
7C vs 2C	65.500	0.179	1.000	Do Not Test
2C vs 6C	89.500	0.245	1.000	Do Not Test
2C vs 9C	61.500	0.168	1.000	Do Not Test
2C vs 4C	36.500	0.0998	1.000	Do Not Test
4C vs 6C	53.000	0.145	1.000	Do Not Test
4C vs 9C	25.000	0.0683	1.000	Do Not Test
9C vs 6C	28.000	0.0765	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:15:20

Data source: Tb.Sp in L3 Perinate

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:15:20

Data source: Tb.Sp in L3 Perinate

Group	N	Missing	Median	25%	75%
1I	13	0	223.115	196.931	284.295
1C	13	0	273.981	229.963	334.940
1S	13	0	222.019	176.327	267.274
2I	13	0	231.991	207.299	337.147
2C	13	0	355.248	319.312	477.843
2S	13	0	234.107	212.186	255.310
3I	13	0	205.349	194.512	240.925
3C	13	0	289.884	262.767	381.585
3S	13	0	216.960	181.090	245.763
4I	13	0	233.905	212.168	267.811
4C	13	0	292.912	246.401	335.631
4S	13	0	228.033	198.738	265.358
5I	13	0	242.181	216.794	270.701
5C	13	0	366.337	297.179	447.943
5S	13	0	246.074	219.298	287.207
6I	13	0	232.176	208.459	260.169
6C	13	0	286.827	252.469	338.866
6S	13	0	242.103	201.905	271.019
7I	13	0	212.367	185.772	231.388
7C	13	0	260.680	228.469	295.915
7S	13	0	206.717	189.367	243.951
8I	13	0	260.329	226.499	299.188
8C	13	0	517.962	361.052	660.036
8S	13	0	282.342	214.057	318.897
9I	13	0	219.061	189.599	267.507
9C	13	0	281.046	233.080	312.967
9S	13	0	206.488	193.174	246.931

H = 105.198 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 7I	2661.000	7.273	0.007	Yes
8C vs 3S	2617.000	7.153	0.007	Yes

8C vs 9S	2564.000	7.008	0.007	Yes
8C vs 3I	2518.000	6.883	0.007	Yes
8C vs 7S	2486.000	6.795	0.007	Yes
8C vs 1S	2297.000	6.278	0.009	Yes
8C vs 9I	2248.000	6.145	0.011	Yes
8C vs 1I	2247.000	6.142	0.011	Yes
8C vs 2S	2135.000	5.836	0.017	Yes
8C vs 6I	2116.000	5.784	0.018	Yes
8C vs 4S	2070.000	5.658	0.023	Yes
8C vs 4I	2051.000	5.606	0.026	Yes
8C vs 6S	1978.000	5.407	0.039	Yes
8C vs 2I	1958.000	5.352	0.043	Yes
8C vs 5I	1866.000	5.100	0.074	No
8C vs 5S	1747.000	4.775	0.141	Do Not Test
8C vs 8I	1606.000	4.390	0.277	Do Not Test
8C vs 7C	1449.000	3.961	0.501	Do Not Test
8C vs 8S	1423.000	3.890	0.544	Do Not Test
8C vs 1C	1354.000	3.701	0.658	Do Not Test
8C vs 9C	1219.000	3.332	0.845	Do Not Test
8C vs 4C	937.000	2.561	0.988	Do Not Test
8C vs 6C	902.000	2.465	0.993	Do Not Test
8C vs 3C	901.000	2.463	0.993	Do Not Test
8C vs 5C	542.000	1.481	1.000	Do Not Test
8C vs 2C	305.000	0.834	1.000	Do Not Test
2C vs 7I	2356.000	6.440	0.008	Yes
2C vs 3S	2312.000	6.319	0.009	Yes
2C vs 9S	2259.000	6.175	0.010	Yes
2C vs 3I	2213.000	6.049	0.012	Yes
2C vs 7S	2181.000	5.961	0.014	Yes
2C vs 1S	1992.000	5.445	0.036	Yes
2C vs 9I	1943.000	5.311	0.047	Yes
2C vs 1I	1942.000	5.308	0.048	Yes
2C vs 2S	1830.000	5.002	0.090	No
2C vs 6I	1811.000	4.950	0.100	Do Not Test
2C vs 4S	1765.000	4.824	0.129	Do Not Test
2C vs 4I	1746.000	4.772	0.142	Do Not Test
2C vs 6S	1673.000	4.573	0.205	Do Not Test
2C vs 2I	1653.000	4.518	0.225	Do Not Test
2C vs 5I	1561.000	4.267	0.334	Do Not Test
2C vs 5S	1442.000	3.941	0.513	Do Not Test
2C vs 8I	1301.000	3.556	0.740	Do Not Test
2C vs 7C	1144.000	3.127	0.910	Do Not Test
2C vs 8S	1118.000	3.056	0.927	Do Not Test
2C vs 1C	1049.000	2.867	0.959	Do Not Test
2C vs 9C	914.000	2.498	0.992	Do Not Test
2C vs 4C	632.000	1.727	1.000	Do Not Test
2C vs 6C	597.000	1.632	1.000	Do Not Test
2C vs 3C	596.000	1.629	1.000	Do Not Test
2C vs 5C	237.000	0.648	1.000	Do Not Test
5C vs 7I	2119.000	5.792	0.018	Yes
5C vs 3S	2075.000	5.672	0.023	Yes
5C vs 9S	2022.000	5.527	0.030	Yes
5C vs 3I	1976.000	5.401	0.039	Yes
5C vs 7S	1944.000	5.314	0.047	Yes
5C vs 1S	1755.000	4.797	0.136	No
5C vs 9I	1706.000	4.663	0.174	Do Not Test



5C vs 1I	1705.000	4.660	0.175	Do Not Test
5C vs 2S	1593.000	4.354	0.293	Do Not Test
5C vs 6I	1574.000	4.302	0.317	Do Not Test
5C vs 4S	1528.000	4.177	0.380	Do Not Test
5C vs 4I	1509.000	4.125	0.408	Do Not Test
5C vs 6S	1436.000	3.925	0.522	Do Not Test
5C vs 2I	1416.000	3.870	0.555	Do Not Test
5C vs 5I	1324.000	3.619	0.706	Do Not Test
5C vs 5S	1205.000	3.294	0.859	Do Not Test
5C vs 8I	1064.000	2.908	0.953	Do Not Test
5C vs 7C	907.000	2.479	0.992	Do Not Test
5C vs 8S	881.000	2.408	0.995	Do Not Test
5C vs 1C	812.000	2.219	0.999	Do Not Test
5C vs 9C	677.000	1.850	1.000	Do Not Test
5C vs 4C	395.000	1.080	1.000	Do Not Test
5C vs 6C	360.000	0.984	1.000	Do Not Test
5C vs 3C	359.000	0.981	1.000	Do Not Test
3C vs 7I	1760.000	4.811	0.132	No
3C vs 3S	1716.000	4.690	0.166	Do Not Test
3C vs 9S	1663.000	4.546	0.214	Do Not Test
3C vs 3I	1617.000	4.420	0.264	Do Not Test
3C vs 7S	1585.000	4.332	0.303	Do Not Test
3C vs 1S	1396.000	3.816	0.589	Do Not Test
3C vs 9I	1347.000	3.682	0.669	Do Not Test
3C vs 1I	1346.000	3.679	0.671	Do Not Test
3C vs 2S	1234.000	3.373	0.828	Do Not Test
3C vs 6I	1215.000	3.321	0.849	Do Not Test
3C vs 4S	1169.000	3.195	0.892	Do Not Test
3C vs 4I	1150.000	3.143	0.906	Do Not Test
3C vs 6S	1077.000	2.944	0.948	Do Not Test
3C vs 2I	1057.000	2.889	0.956	Do Not Test
3C vs 5I	965.000	2.638	0.983	Do Not Test
3C vs 5S	846.000	2.312	0.997	Do Not Test
3C vs 8I	705.000	1.927	1.000	Do Not Test
3C vs 7C	548.000	1.498	1.000	Do Not Test
3C vs 8S	522.000	1.427	1.000	Do Not Test
3C vs 1C	453.000	1.238	1.000	Do Not Test
3C vs 9C	318.000	0.869	1.000	Do Not Test
3C vs 4C	36.000	0.0984	1.000	Do Not Test
3C vs 6C	1.000	0.00273	1.000	Do Not Test
6C vs 7I	1759.000	4.808	0.133	Do Not Test
6C vs 3S	1715.000	4.688	0.167	Do Not Test
6C vs 9S	1662.000	4.543	0.215	Do Not Test
6C vs 3I	1616.000	4.417	0.265	Do Not Test
6C vs 7S	1584.000	4.330	0.304	Do Not Test
6C vs 1S	1395.000	3.813	0.590	Do Not Test
6C vs 9I	1346.000	3.679	0.671	Do Not Test
6C vs 1I	1345.000	3.676	0.672	Do Not Test
6C vs 2S	1233.000	3.370	0.830	Do Not Test
6C vs 6I	1214.000	3.318	0.850	Do Not Test
6C vs 4S	1168.000	3.193	0.892	Do Not Test
6C vs 4I	1149.000	3.141	0.907	Do Not Test
6C vs 6S	1076.000	2.941	0.948	Do Not Test
6C vs 2I	1056.000	2.886	0.956	Do Not Test
6C vs 5I	964.000	2.635	0.983	Do Not Test
6C vs 5S	845.000	2.310	0.997	Do Not Test

6C vs 8I	704.000	1.924	1.000	Do Not Test
6C vs 7C	547.000	1.495	1.000	Do Not Test
6C vs 8S	521.000	1.424	1.000	Do Not Test
6C vs 1C	452.000	1.235	1.000	Do Not Test
6C vs 9C	317.000	0.866	1.000	Do Not Test
6C vs 4C	35.000	0.0957	1.000	Do Not Test
4C vs 7I	1724.000	4.712	0.159	Do Not Test
4C vs 3S	1680.000	4.592	0.198	Do Not Test
4C vs 9S	1627.000	4.447	0.253	Do Not Test
4C vs 3I	1581.000	4.321	0.308	Do Not Test
4C vs 7S	1549.000	4.234	0.350	Do Not Test
4C vs 1S	1360.000	3.717	0.648	Do Not Test
4C vs 9I	1311.000	3.583	0.726	Do Not Test
4C vs 1I	1310.000	3.581	0.727	Do Not Test
4C vs 2S	1198.000	3.275	0.866	Do Not Test
4C vs 6I	1179.000	3.223	0.883	Do Not Test
4C vs 4S	1133.000	3.097	0.917	Do Not Test
4C vs 4I	1114.000	3.045	0.929	Do Not Test
4C vs 6S	1041.000	2.845	0.962	Do Not Test
4C vs 2I	1021.000	2.791	0.969	Do Not Test
4C vs 5I	929.000	2.539	0.989	Do Not Test
4C vs 5S	810.000	2.214	0.999	Do Not Test
4C vs 8I	669.000	1.829	1.000	Do Not Test
4C vs 7C	512.000	1.399	1.000	Do Not Test
4C vs 8S	486.000	1.328	1.000	Do Not Test
4C vs 1C	417.000	1.140	1.000	Do Not Test
4C vs 9C	282.000	0.771	1.000	Do Not Test
9C vs 7I	1442.000	3.941	0.513	Do Not Test
9C vs 3S	1398.000	3.821	0.585	Do Not Test
9C vs 9S	1345.000	3.676	0.672	Do Not Test
9C vs 3I	1299.000	3.551	0.743	Do Not Test
9C vs 7S	1267.000	3.463	0.788	Do Not Test
9C vs 1S	1078.000	2.947	0.947	Do Not Test
9C vs 9I	1029.000	2.813	0.966	Do Not Test
9C vs 1I	1028.000	2.810	0.967	Do Not Test
9C vs 2S	916.000	2.504	0.991	Do Not Test
9C vs 6I	897.000	2.452	0.993	Do Not Test
9C vs 4S	851.000	2.326	0.997	Do Not Test
9C vs 4I	832.000	2.274	0.998	Do Not Test
9C vs 6S	759.000	2.075	1.000	Do Not Test
9C vs 2I	739.000	2.020	1.000	Do Not Test
9C vs 5I	647.000	1.768	1.000	Do Not Test
9C vs 5S	528.000	1.443	1.000	Do Not Test
9C vs 8I	387.000	1.058	1.000	Do Not Test
9C vs 7C	230.000	0.629	1.000	Do Not Test
9C vs 8S	204.000	0.558	1.000	Do Not Test
9C vs 1C	135.000	0.369	1.000	Do Not Test
1C vs 7I	1307.000	3.572	0.732	Do Not Test
1C vs 3S	1263.000	3.452	0.793	Do Not Test
1C vs 9S	1210.000	3.307	0.854	Do Not Test
1C vs 3I	1164.000	3.182	0.895	Do Not Test
1C vs 7S	1132.000	3.094	0.918	Do Not Test
1C vs 1S	943.000	2.578	0.987	Do Not Test
1C vs 9I	894.000	2.444	0.994	Do Not Test
1C vs 1I	893.000	2.441	0.994	Do Not Test
1C vs 2S	781.000	2.135	0.999	Do Not Test

1C vs 6I	762.000	2.083	1.000	Do Not Test
1C vs 4S	716.000	1.957	1.000	Do Not Test
1C vs 4I	697.000	1.905	1.000	Do Not Test
1C vs 6S	624.000	1.706	1.000	Do Not Test
1C vs 2I	604.000	1.651	1.000	Do Not Test
1C vs 5I	512.000	1.399	1.000	Do Not Test
1C vs 5S	393.000	1.074	1.000	Do Not Test
1C vs 8I	252.000	0.689	1.000	Do Not Test
1C vs 7C	95.000	0.260	1.000	Do Not Test
1C vs 8S	69.000	0.189	1.000	Do Not Test
8S vs 7I	1238.000	3.384	0.824	Do Not Test
8S vs 3S	1194.000	3.264	0.870	Do Not Test
8S vs 9S	1141.000	3.119	0.912	Do Not Test
8S vs 3I	1095.000	2.993	0.939	Do Not Test
8S vs 7S	1063.000	2.906	0.954	Do Not Test
8S vs 1S	874.000	2.389	0.996	Do Not Test
8S vs 9I	825.000	2.255	0.998	Do Not Test
8S vs 1I	824.000	2.252	0.998	Do Not Test
8S vs 2S	712.000	1.946	1.000	Do Not Test
8S vs 6I	693.000	1.894	1.000	Do Not Test
8S vs 4S	647.000	1.768	1.000	Do Not Test
8S vs 4I	628.000	1.717	1.000	Do Not Test
8S vs 6S	555.000	1.517	1.000	Do Not Test
8S vs 2I	535.000	1.462	1.000	Do Not Test
8S vs 5I	443.000	1.211	1.000	Do Not Test
8S vs 5S	324.000	0.886	1.000	Do Not Test
8S vs 8I	183.000	0.500	1.000	Do Not Test
8S vs 7C	26.000	0.0711	1.000	Do Not Test
7C vs 7I	1212.000	3.313	0.852	Do Not Test
7C vs 3S	1168.000	3.193	0.892	Do Not Test
7C vs 9S	1115.000	3.048	0.928	Do Not Test
7C vs 3I	1069.000	2.922	0.951	Do Not Test
7C vs 7S	1037.000	2.834	0.963	Do Not Test
7C vs 1S	848.000	2.318	0.997	Do Not Test
7C vs 9I	799.000	2.184	0.999	Do Not Test
7C vs 1I	798.000	2.181	0.999	Do Not Test
7C vs 2S	686.000	1.875	1.000	Do Not Test
7C vs 6I	667.000	1.823	1.000	Do Not Test
7C vs 4S	621.000	1.697	1.000	Do Not Test
7C vs 4I	602.000	1.645	1.000	Do Not Test
7C vs 6S	529.000	1.446	1.000	Do Not Test
7C vs 2I	509.000	1.391	1.000	Do Not Test
7C vs 5I	417.000	1.140	1.000	Do Not Test
7C vs 5S	298.000	0.815	1.000	Do Not Test
7C vs 8I	157.000	0.429	1.000	Do Not Test
8I vs 7I	1055.000	2.884	0.957	Do Not Test
8I vs 3S	1011.000	2.763	0.972	Do Not Test
8I vs 9S	958.000	2.619	0.985	Do Not Test
8I vs 3I	912.000	2.493	0.992	Do Not Test
8I vs 7S	880.000	2.405	0.995	Do Not Test
8I vs 1S	691.000	1.889	1.000	Do Not Test
8I vs 9I	642.000	1.755	1.000	Do Not Test
8I vs 1I	641.000	1.752	1.000	Do Not Test
8I vs 2S	529.000	1.446	1.000	Do Not Test
8I vs 6I	510.000	1.394	1.000	Do Not Test
8I vs 4S	464.000	1.268	1.000	Do Not Test

8I vs 4I	445.000	1.216	1.000	Do Not Test
8I vs 6S	372.000	1.017	1.000	Do Not Test
8I vs 2I	352.000	0.962	1.000	Do Not Test
8I vs 5I	260.000	0.711	1.000	Do Not Test
8I vs 5S	141.000	0.385	1.000	Do Not Test
5S vs 7I	914.000	2.498	0.992	Do Not Test
5S vs 3S	870.000	2.378	0.996	Do Not Test
5S vs 9S	817.000	2.233	0.999	Do Not Test
5S vs 3I	771.000	2.107	0.999	Do Not Test
5S vs 7S	739.000	2.020	1.000	Do Not Test
5S vs 1S	550.000	1.503	1.000	Do Not Test
5S vs 9I	501.000	1.369	1.000	Do Not Test
5S vs 1I	500.000	1.367	1.000	Do Not Test
5S vs 2S	388.000	1.061	1.000	Do Not Test
5S vs 6I	369.000	1.009	1.000	Do Not Test
5S vs 4S	323.000	0.883	1.000	Do Not Test
5S vs 4I	304.000	0.831	1.000	Do Not Test
5S vs 6S	231.000	0.631	1.000	Do Not Test
5S vs 2I	211.000	0.577	1.000	Do Not Test
5S vs 5I	119.000	0.325	1.000	Do Not Test
5I vs 7I	795.000	2.173	0.999	Do Not Test
5I vs 3S	751.000	2.053	1.000	Do Not Test
5I vs 9S	698.000	1.908	1.000	Do Not Test
5I vs 3I	652.000	1.782	1.000	Do Not Test
5I vs 7S	620.000	1.695	1.000	Do Not Test
5I vs 1S	431.000	1.178	1.000	Do Not Test
5I vs 9I	382.000	1.044	1.000	Do Not Test
5I vs 1I	381.000	1.041	1.000	Do Not Test
5I vs 2S	269.000	0.735	1.000	Do Not Test
5I vs 6I	250.000	0.683	1.000	Do Not Test
5I vs 4S	204.000	0.558	1.000	Do Not Test
5I vs 4I	185.000	0.506	1.000	Do Not Test
5I vs 6S	112.000	0.306	1.000	Do Not Test
5I vs 2I	92.000	0.251	1.000	Do Not Test
2I vs 7I	703.000	1.922	1.000	Do Not Test
2I vs 3S	659.000	1.801	1.000	Do Not Test
2I vs 9S	606.000	1.656	1.000	Do Not Test
2I vs 3I	560.000	1.531	1.000	Do Not Test
2I vs 7S	528.000	1.443	1.000	Do Not Test
2I vs 1S	339.000	0.927	1.000	Do Not Test
2I vs 9I	290.000	0.793	1.000	Do Not Test
2I vs 1I	289.000	0.790	1.000	Do Not Test
2I vs 2S	177.000	0.484	1.000	Do Not Test
2I vs 6I	158.000	0.432	1.000	Do Not Test
2I vs 4S	112.000	0.306	1.000	Do Not Test
2I vs 4I	93.000	0.254	1.000	Do Not Test
2I vs 6S	20.000	0.0547	1.000	Do Not Test
6S vs 7I	683.000	1.867	1.000	Do Not Test
6S vs 3S	639.000	1.747	1.000	Do Not Test
6S vs 9S	586.000	1.602	1.000	Do Not Test
6S vs 3I	540.000	1.476	1.000	Do Not Test
6S vs 7S	508.000	1.389	1.000	Do Not Test
6S vs 1S	319.000	0.872	1.000	Do Not Test
6S vs 9I	270.000	0.738	1.000	Do Not Test
6S vs 1I	269.000	0.735	1.000	Do Not Test
6S vs 2S	157.000	0.429	1.000	Do Not Test

6S vs 6I	138.000	0.377	1.000	Do Not Test
6S vs 4S	92.000	0.251	1.000	Do Not Test
6S vs 4I	73.000	0.200	1.000	Do Not Test
4I vs 7I	610.000	1.667	1.000	Do Not Test
4I vs 3S	566.000	1.547	1.000	Do Not Test
4I vs 9S	513.000	1.402	1.000	Do Not Test
4I vs 3I	467.000	1.276	1.000	Do Not Test
4I vs 7S	435.000	1.189	1.000	Do Not Test
4I vs 1S	246.000	0.672	1.000	Do Not Test
4I vs 9I	197.000	0.538	1.000	Do Not Test
4I vs 1I	196.000	0.536	1.000	Do Not Test
4I vs 2S	84.000	0.230	1.000	Do Not Test
4I vs 6I	65.000	0.178	1.000	Do Not Test
4I vs 4S	19.000	0.0519	1.000	Do Not Test
4S vs 7I	591.000	1.615	1.000	Do Not Test
4S vs 3S	547.000	1.495	1.000	Do Not Test
4S vs 9S	494.000	1.350	1.000	Do Not Test
4S vs 3I	448.000	1.225	1.000	Do Not Test
4S vs 7S	416.000	1.137	1.000	Do Not Test
4S vs 1S	227.000	0.620	1.000	Do Not Test
4S vs 9I	178.000	0.487	1.000	Do Not Test
4S vs 1I	177.000	0.484	1.000	Do Not Test
4S vs 2S	65.000	0.178	1.000	Do Not Test
4S vs 6I	46.000	0.126	1.000	Do Not Test
6I vs 7I	545.000	1.490	1.000	Do Not Test
6I vs 3S	501.000	1.369	1.000	Do Not Test
6I vs 9S	448.000	1.225	1.000	Do Not Test
6I vs 3I	402.000	1.099	1.000	Do Not Test
6I vs 7S	370.000	1.011	1.000	Do Not Test
6I vs 1S	181.000	0.495	1.000	Do Not Test
6I vs 9I	132.000	0.361	1.000	Do Not Test
6I vs 1I	131.000	0.358	1.000	Do Not Test
6I vs 2S	19.000	0.0519	1.000	Do Not Test
2S vs 7I	526.000	1.438	1.000	Do Not Test
2S vs 3S	482.000	1.317	1.000	Do Not Test
2S vs 9S	429.000	1.173	1.000	Do Not Test
2S vs 3I	383.000	1.047	1.000	Do Not Test
2S vs 7S	351.000	0.959	1.000	Do Not Test
2S vs 1S	162.000	0.443	1.000	Do Not Test
2S vs 9I	113.000	0.309	1.000	Do Not Test
2S vs 1I	112.000	0.306	1.000	Do Not Test
1I vs 7I	414.000	1.132	1.000	Do Not Test
1I vs 3S	370.000	1.011	1.000	Do Not Test
1I vs 9S	317.000	0.866	1.000	Do Not Test
1I vs 3I	271.000	0.741	1.000	Do Not Test
1I vs 7S	239.000	0.653	1.000	Do Not Test
1I vs 1S	50.000	0.137	1.000	Do Not Test
1I vs 9I	1.000	0.00273	1.000	Do Not Test
9I vs 7I	413.000	1.129	1.000	Do Not Test
9I vs 3S	369.000	1.009	1.000	Do Not Test
9I vs 9S	316.000	0.864	1.000	Do Not Test
9I vs 3I	270.000	0.738	1.000	Do Not Test
9I vs 7S	238.000	0.651	1.000	Do Not Test
9I vs 1S	49.000	0.134	1.000	Do Not Test
1S vs 7I	364.000	0.995	1.000	Do Not Test
1S vs 3S	320.000	0.875	1.000	Do Not Test

1S vs 9S	267.000	0.730	1.000	Do Not Test
1S vs 3I	221.000	0.604	1.000	Do Not Test
1S vs 7S	189.000	0.517	1.000	Do Not Test
7S vs 7I	175.000	0.478	1.000	Do Not Test
7S vs 3S	131.000	0.358	1.000	Do Not Test
7S vs 9S	78.000	0.213	1.000	Do Not Test
7S vs 3I	32.000	0.0875	1.000	Do Not Test
3I vs 7I	143.000	0.391	1.000	Do Not Test
3I vs 3S	99.000	0.271	1.000	Do Not Test
3I vs 9S	46.000	0.126	1.000	Do Not Test
9S vs 7I	97.000	0.265	1.000	Do Not Test
9S vs 3S	53.000	0.145	1.000	Do Not Test
3S vs 7I	44.000	0.120	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:15:40

Data source: DA in L3 Perinate

Normality Test (Shapiro-Wilk): Passed (P = 0.221)

Equal Variance Test (Brown-Forsythe): Passed (P = 0.968)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	13	0	0.350	0.0918	0.0254
1C	13	0	0.308	0.0768	0.0213
1S	13	0	0.379	0.0740	0.0205
2I	13	0	0.376	0.0891	0.0247
2C	13	0	0.264	0.0895	0.0248
2S	13	0	0.334	0.0890	0.0247
3I	13	0	0.406	0.0822	0.0228
3C	13	0	0.342	0.0870	0.0241
3S	13	0	0.386	0.0824	0.0228
4I	13	0	0.413	0.102	0.0283
4C	13	0	0.368	0.0835	0.0232
4S	13	0	0.446	0.0690	0.0191
5I	13	0	0.359	0.0926	0.0257
5C	13	0	0.229	0.0747	0.0207
5S	13	0	0.356	0.0765	0.0212
6I	13	0	0.447	0.0581	0.0161
6C	13	0	0.351	0.0682	0.0189
6S	13	0	0.405	0.0744	0.0206
7I	13	0	0.418	0.0890	0.0247
7C	13	0	0.425	0.0831	0.0230
7S	13	0	0.448	0.0683	0.0190
8I	13	0	0.364	0.114	0.0316
8C	13	0	0.218	0.0870	0.0241
8S	13	0	0.373	0.0787	0.0218
9I	13	0	0.418	0.0569	0.0158
9C	13	0	0.396	0.0726	0.0201
9S	13	0	0.409	0.0581	0.0161

Source of Variation	DF	SS	MS	F	P
Between Groups	26	1.219	0.0469	7.090	<0.001
Residual	324	2.143	0.00661		
Total	350	3.363			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 1.000

All Pairwise Multiple Comparison Procedures (Holm-Sidak method):  
Overall significance level = 0.05

Comparisons for factor:

Comparison	Diff of Means	t	P	P<0.050
7S vs. 8C	0.231	7.231	<0.001	Yes
6I vs. 8C	0.230	7.203	<0.001	Yes

4S vs. 8C	0.228	7.150	<0.001	Yes
7S vs. 5C	0.219	6.871	<0.001	Yes
6I vs. 5C	0.218	6.843	<0.001	Yes
4S vs. 5C	0.217	6.790	<0.001	Yes
7C vs. 8C	0.207	6.495	<0.001	Yes
9I vs. 8C	0.200	6.281	<0.001	Yes
7I vs. 8C	0.200	6.276	<0.001	Yes
7C vs. 5C	0.196	6.135	<0.001	Yes
4I vs. 8C	0.196	6.135	<0.001	Yes
9S vs. 8C	0.192	6.005	<0.001	Yes
9I vs. 5C	0.189	5.921	<0.001	Yes
7I vs. 5C	0.189	5.916	<0.001	Yes
3I vs. 8C	0.188	5.907	<0.001	Yes
6S vs. 8C	0.187	5.863	<0.001	Yes
7S vs. 2C	0.185	5.785	<0.001	Yes
4I vs. 5C	0.184	5.775	<0.001	Yes
6I vs. 2C	0.184	5.757	<0.001	Yes
4S vs. 2C	0.182	5.703	<0.001	Yes
9S vs. 5C	0.180	5.645	<0.001	Yes
9C vs. 8C	0.178	5.595	<0.001	Yes
3I vs. 5C	0.177	5.547	<0.001	Yes
6S vs. 5C	0.176	5.503	<0.001	Yes
3S vs. 8C	0.169	5.290	<0.001	Yes
9C vs. 5C	0.167	5.235	<0.001	Yes
7C vs. 2C	0.161	5.048	<0.001	Yes
1S vs. 8C	0.161	5.045	<0.001	Yes
2I vs. 8C	0.158	4.962	<0.001	Yes
3S vs. 5C	0.157	4.930	<0.001	Yes
8S vs. 8C	0.155	4.874	<0.001	Yes
9I vs. 2C	0.154	4.835	<0.001	Yes
7I vs. 2C	0.154	4.830	<0.001	Yes
4C vs. 8C	0.151	4.730	0.001	Yes
4I vs. 2C	0.150	4.688	0.001	Yes
1S vs. 5C	0.149	4.685	0.001	Yes
2I vs. 5C	0.147	4.602	0.002	Yes
8I vs. 8C	0.146	4.574	0.002	Yes
9S vs. 2C	0.145	4.558	0.002	Yes
8S vs. 5C	0.144	4.513	0.003	Yes
3I vs. 2C	0.142	4.461	0.003	Yes
5I vs. 8C	0.142	4.440	0.004	Yes
6S vs. 2C	0.141	4.417	0.004	Yes
7S vs. 1C	0.141	4.405	0.004	Yes
6I vs. 1C	0.140	4.377	0.005	Yes
4C vs. 5C	0.139	4.369	0.005	Yes
5S vs. 8C	0.138	4.341	0.006	Yes
4S vs. 1C	0.138	4.323	0.006	Yes
8I vs. 5C	0.134	4.214	0.010	Yes
6C vs. 8C	0.134	4.188	0.011	Yes
1I vs. 8C	0.133	4.166	0.012	Yes
9C vs. 2C	0.132	4.148	0.013	Yes
5I vs. 5C	0.130	4.080	0.017	Yes
5S vs. 5C	0.127	3.981	0.025	Yes
3C vs. 8C	0.125	3.903	0.034	Yes
3S vs. 2C	0.123	3.844	0.042	Yes
6C vs. 5C	0.122	3.828	0.045	Yes
1I vs. 5C	0.121	3.805	0.049	Yes



7C vs. 1C	0.117	3.669	0.080	No
2S vs. 8C	0.117	3.659	0.083	No
1S vs. 2C	0.115	3.599	0.102	No
7S vs. 2S	0.114	3.573	0.111	No
6I vs. 2S	0.113	3.545	0.122	No
3C vs. 5C	0.113	3.543	0.123	No
2I vs. 2C	0.112	3.515	0.134	No
4S vs. 2S	0.111	3.491	0.145	No
9I vs. 1C	0.110	3.455	0.163	No
7I vs. 1C	0.110	3.450	0.165	No
8S vs. 2C	0.109	3.427	0.177	No
7S vs. 3C	0.106	3.329	0.240	No
4I vs. 1C	0.106	3.308	0.254	No
6I vs. 3C	0.105	3.301	0.259	No
2S vs. 5C	0.105	3.299	0.260	No
4C vs. 2C	0.105	3.283	0.272	No
4S vs. 3C	0.104	3.247	0.300	No
9S vs. 1C	0.101	3.178	0.362	No
8I vs. 2C	0.0998	3.128	0.411	No
3I vs. 1C	0.0983	3.081	0.459	No
7S vs. 1I	0.0978	3.066	0.474	No
7S vs. 6C	0.0971	3.043	0.498	No
6I vs. 1I	0.0969	3.038	0.503	No
6S vs. 1C	0.0969	3.037	0.503	No
6I vs. 6C	0.0962	3.015	0.526	No
5I vs. 2C	0.0955	2.993	0.550	No
4S vs. 1I	0.0952	2.984	0.559	No
4S vs. 6C	0.0945	2.961	0.584	No
5S vs. 2C	0.0923	2.894	0.660	No
7S vs. 5S	0.0922	2.891	0.662	No
6I vs. 5S	0.0913	2.863	0.692	No
7C vs. 2S	0.0905	2.836	0.721	No
1C vs. 8C	0.0902	2.826	0.730	No
4S vs. 5S	0.0896	2.809	0.747	No
7S vs. 5I	0.0891	2.791	0.764	No
9C vs. 1C	0.0883	2.768	0.786	No
6I vs. 5I	0.0882	2.764	0.789	No
6C vs. 2C	0.0875	2.742	0.809	No
1I vs. 2C	0.0867	2.719	0.829	No
4S vs. 5I	0.0864	2.710	0.836	No
7S vs. 8I	0.0848	2.657	0.878	No
6I vs. 8I	0.0839	2.629	0.897	No
9I vs. 2S	0.0837	2.622	0.900	No
7I vs. 2S	0.0835	2.618	0.903	No
7C vs. 3C	0.0827	2.592	0.917	No
4S vs. 8I	0.0822	2.576	0.926	No
7S vs. 4C	0.0798	2.502	0.959	No
4I vs. 2S	0.0790	2.476	0.967	No
6I vs. 4C	0.0789	2.474	0.967	No
1C vs. 5C	0.0787	2.466	0.969	No
3S vs. 1C	0.0786	2.464	0.970	No
3C vs. 2C	0.0784	2.456	0.971	No
4S vs. 4C	0.0772	2.420	0.980	No
9I vs. 3C	0.0759	2.378	0.987	No
7I vs. 3C	0.0757	2.374	0.988	No
7S vs. 8S	0.0752	2.358	0.990	No

9S vs. 2S	0.0748	2.346	0.991	No
6I vs. 8S	0.0743	2.330	0.992	No
7C vs. 1I	0.0743	2.329	0.992	No
7C vs. 6C	0.0736	2.307	0.994	No
4S vs. 8S	0.0726	2.276	0.996	No
7S vs. 2I	0.0724	2.270	0.996	No
3I vs. 2S	0.0717	2.249	0.997	No
6I vs. 2I	0.0715	2.242	0.997	No
4I vs. 3C	0.0712	2.232	0.998	No
1S vs. 1C	0.0708	2.219	0.998	No
2S vs. 2C	0.0706	2.212	0.998	No
6S vs. 2S	0.0703	2.204	0.998	No
4S vs. 2I	0.0698	2.188	0.999	No
7S vs. 1S	0.0697	2.186	0.999	No
6I vs. 1S	0.0689	2.158	0.999	No
7C vs. 5S	0.0687	2.154	0.999	No
2I vs. 1C	0.0681	2.135	0.999	No
9I vs. 1I	0.0675	2.116	1.000	No
7I vs. 1I	0.0673	2.111	1.000	No
4S vs. 1S	0.0671	2.105	1.000	No
9S vs. 3C	0.0671	2.102	1.000	No
9I vs. 6C	0.0668	2.093	1.000	No
7I vs. 6C	0.0666	2.088	1.000	No
7C vs. 5I	0.0656	2.055	1.000	No
8S vs. 1C	0.0653	2.047	1.000	No
3I vs. 3C	0.0639	2.005	1.000	No
4I vs. 1I	0.0628	1.969	1.000	No
6S vs. 3C	0.0625	1.961	1.000	No
4I vs. 6C	0.0621	1.946	1.000	No
7S vs. 3S	0.0619	1.941	1.000	No
9I vs. 5S	0.0619	1.940	1.000	No
9C vs. 2S	0.0618	1.936	1.000	No
7I vs. 5S	0.0618	1.936	1.000	No
7C vs. 8I	0.0613	1.921	1.000	No
6I vs. 3S	0.0610	1.913	1.000	No
4C vs. 1C	0.0607	1.903	1.000	No
4S vs. 3S	0.0593	1.860	1.000	No
9I vs. 5I	0.0587	1.841	1.000	No
9S vs. 1I	0.0587	1.839	1.000	No
7I vs. 5I	0.0586	1.837	1.000	No
9S vs. 6C	0.0579	1.816	1.000	No
4I vs. 5S	0.0572	1.794	1.000	No
7C vs. 4C	0.0563	1.765	1.000	No
8I vs. 1C	0.0558	1.748	1.000	No
3I vs. 1I	0.0556	1.742	1.000	No
3I vs. 6C	0.0548	1.719	1.000	No
9I vs. 8I	0.0545	1.707	1.000	No
7I vs. 8I	0.0543	1.702	1.000	No
6S vs. 1I	0.0542	1.698	1.000	No
4I vs. 5I	0.0541	1.695	1.000	No
9C vs. 3C	0.0540	1.692	1.000	No
6S vs. 6C	0.0534	1.675	1.000	No
9S vs. 5S	0.0531	1.664	1.000	No
7S vs. 9C	0.0522	1.637	1.000	No
3S vs. 2S	0.0520	1.631	1.000	No
7C vs. 8S	0.0517	1.621	1.000	No

5I vs. 1C	0.0515	1.613	1.000	No
6I vs. 9C	0.0513	1.609	1.000	No
3I vs. 5S	0.0500	1.567	1.000	No
9S vs. 5I	0.0499	1.565	1.000	No
4I vs. 8I	0.0498	1.560	1.000	No
4S vs. 9C	0.0496	1.555	1.000	No
9I vs. 4C	0.0495	1.552	1.000	No
7I vs. 4C	0.0494	1.547	1.000	No
7C vs. 2I	0.0489	1.533	1.000	No
6S vs. 5S	0.0486	1.523	1.000	No
5S vs. 1C	0.0483	1.514	1.000	No
3I vs. 5I	0.0468	1.467	1.000	No
7C vs. 1S	0.0463	1.450	1.000	No
2C vs. 8C	0.0461	1.446	1.000	No
9S vs. 8I	0.0456	1.430	1.000	No
9C vs. 1I	0.0456	1.429	1.000	No
6S vs. 5I	0.0454	1.423	1.000	No
9I vs. 8S	0.0449	1.408	1.000	No
9C vs. 6C	0.0449	1.406	1.000	No
4I vs. 4C	0.0448	1.405	1.000	No
7I vs. 8S	0.0448	1.403	1.000	No
3S vs. 3C	0.0443	1.387	1.000	No
1S vs. 2S	0.0442	1.386	1.000	No
1C vs. 2C	0.0440	1.380	1.000	No
7S vs. 6S	0.0436	1.368	1.000	No
6C vs. 1C	0.0434	1.362	1.000	No
6I vs. 6S	0.0428	1.340	1.000	No
1I vs. 1C	0.0427	1.339	1.000	No
3I vs. 8I	0.0425	1.333	1.000	No
7S vs. 3I	0.0422	1.324	1.000	No
9I vs. 2I	0.0421	1.319	1.000	No
7I vs. 2I	0.0419	1.315	1.000	No
2I vs. 2S	0.0416	1.303	1.000	No
6I vs. 3I	0.0413	1.296	1.000	No
6S vs. 8I	0.0411	1.289	1.000	No
4S vs. 6S	0.0410	1.286	1.000	No
9S vs. 4C	0.0407	1.275	1.000	No
4I vs. 8S	0.0402	1.261	1.000	No
9C vs. 5S	0.0400	1.254	1.000	No
4S vs. 3I	0.0396	1.242	1.000	No
9I vs. 1S	0.0394	1.236	1.000	No
7I vs. 1S	0.0393	1.231	1.000	No
7S vs. 9S	0.0391	1.227	1.000	No
8S vs. 2S	0.0388	1.215	1.000	No
7C vs. 3S	0.0384	1.205	1.000	No
6I vs. 9S	0.0382	1.199	1.000	No
3I vs. 4C	0.0376	1.178	1.000	No
4I vs. 2I	0.0374	1.173	1.000	No
9C vs. 5I	0.0368	1.155	1.000	No
4S vs. 9S	0.0365	1.145	1.000	No
1S vs. 3C	0.0364	1.142	1.000	No
6S vs. 4C	0.0362	1.134	1.000	No
9S vs. 8S	0.0361	1.131	1.000	No
3S vs. 1I	0.0359	1.125	1.000	No
3S vs. 6C	0.0352	1.102	1.000	No
7S vs. 4I	0.0350	1.097	1.000	No

4I vs. 1S	0.0348	1.090	1.000	No
2C vs. 5C	0.0347	1.086	1.000	No
3C vs. 1C	0.0343	1.076	1.000	No
4C vs. 2S	0.0342	1.071	1.000	No
6I vs. 4I	0.0341	1.069	1.000	No
2I vs. 3C	0.0338	1.059	1.000	No
9S vs. 2I	0.0333	1.043	1.000	No
3I vs. 8S	0.0330	1.034	1.000	No
9C vs. 8I	0.0326	1.020	1.000	No
4S vs. 4I	0.0324	1.015	1.000	No
9I vs. 3S	0.0316	0.991	1.000	No
6S vs. 8S	0.0316	0.990	1.000	No
7I vs. 3S	0.0315	0.986	1.000	No
8S vs. 3C	0.0310	0.971	1.000	No
9S vs. 1S	0.0306	0.959	1.000	No
7S vs. 7I	0.0305	0.955	1.000	No
7S vs. 9I	0.0303	0.950	1.000	No
3S vs. 5S	0.0303	0.950	1.000	No
3I vs. 2I	0.0302	0.946	1.000	No
6I vs. 7I	0.0296	0.927	1.000	No
6I vs. 9I	0.0294	0.922	1.000	No
8I vs. 2S	0.0292	0.915	1.000	No
6S vs. 2I	0.0288	0.902	1.000	No
7C vs. 9C	0.0287	0.900	1.000	No
1S vs. 1I	0.0281	0.880	1.000	No
4S vs. 7I	0.0279	0.873	1.000	No
4S vs. 9I	0.0277	0.869	1.000	No
9C vs. 4C	0.0276	0.865	1.000	No
3I vs. 1S	0.0275	0.862	1.000	No
1S vs. 6C	0.0273	0.857	1.000	No
3S vs. 5I	0.0271	0.850	1.000	No
4I vs. 3S	0.0269	0.844	1.000	No
2S vs. 1C	0.0266	0.832	1.000	No
4C vs. 3C	0.0264	0.827	1.000	No
6S vs. 1S	0.0261	0.818	1.000	No
2I vs. 1I	0.0254	0.796	1.000	No
5I vs. 2S	0.0249	0.781	1.000	No
2I vs. 6C	0.0247	0.773	1.000	No
7S vs. 7C	0.0235	0.736	1.000	No
9C vs. 8S	0.0230	0.721	1.000	No
3S vs. 8I	0.0228	0.716	1.000	No
9S vs. 3S	0.0228	0.714	1.000	No
6I vs. 7C	0.0226	0.708	1.000	No
8S vs. 1I	0.0226	0.708	1.000	No
1S vs. 5S	0.0225	0.704	1.000	No
9I vs. 9C	0.0219	0.686	1.000	No
8S vs. 6C	0.0219	0.685	1.000	No
5S vs. 2S	0.0218	0.682	1.000	No
7I vs. 9C	0.0217	0.682	1.000	No
8I vs. 3C	0.0214	0.671	1.000	No
4S vs. 7C	0.0209	0.655	1.000	No
9C vs. 2I	0.0202	0.633	1.000	No
7C vs. 6S	0.0202	0.632	1.000	No
2I vs. 5S	0.0198	0.621	1.000	No
3I vs. 3S	0.0197	0.617	1.000	No
1S vs. 5I	0.0193	0.605	1.000	No

7C vs. 3I	0.0187	0.588	1.000	No
6S vs. 3S	0.0183	0.573	1.000	No
4C vs. 1I	0.0180	0.564	1.000	No
3S vs. 4C	0.0179	0.561	1.000	No
9C vs. 1S	0.0175	0.550	1.000	No
4C vs. 6C	0.0173	0.541	1.000	No
4I vs. 9C	0.0172	0.540	1.000	No
5I vs. 3C	0.0171	0.537	1.000	No
8S vs. 5S	0.0170	0.533	1.000	No
6C vs. 2S	0.0169	0.530	1.000	No
2I vs. 5I	0.0166	0.522	1.000	No
1I vs. 2S	0.0162	0.507	1.000	No
7C vs. 9S	0.0156	0.490	1.000	No
1S vs. 8I	0.0150	0.471	1.000	No
5S vs. 3C	0.0140	0.438	1.000	No
8S vs. 5I	0.0138	0.434	1.000	No
9I vs. 6S	0.0133	0.418	1.000	No
3S vs. 8S	0.0133	0.417	1.000	No
7I vs. 6S	0.0132	0.413	1.000	No
9S vs. 9C	0.0131	0.410	1.000	No
8I vs. 1I	0.0130	0.409	1.000	No
4C vs. 5S	0.0124	0.389	1.000	No
2I vs. 8I	0.0124	0.387	1.000	No
8I vs. 6C	0.0123	0.386	1.000	No
9I vs. 3I	0.0119	0.374	1.000	No
7I vs. 3I	0.0118	0.369	1.000	No
7C vs. 4I	0.0115	0.360	1.000	No
5C vs. 8C	0.0115	0.360	1.000	No
3S vs. 2I	0.0105	0.329	1.000	No
1S vs. 4C	0.0101	0.316	1.000	No
3I vs. 9C	0.00997	0.313	1.000	No
9C vs. 3S	0.00971	0.304	1.000	No
8S vs. 8I	0.00955	0.299	1.000	No
4C vs. 5I	0.00924	0.290	1.000	No
6C vs. 3C	0.00911	0.286	1.000	No
9I vs. 9S	0.00882	0.277	1.000	No
5I vs. 1I	0.00875	0.274	1.000	No
7I vs. 9S	0.00867	0.272	1.000	No
4I vs. 6S	0.00866	0.271	1.000	No
6S vs. 9C	0.00857	0.269	1.000	No
1I vs. 3C	0.00838	0.263	1.000	No
5I vs. 6C	0.00802	0.251	1.000	No
3S vs. 1S	0.00782	0.245	1.000	No
3C vs. 2S	0.00778	0.244	1.000	No
8I vs. 5S	0.00745	0.234	1.000	No
2I vs. 4C	0.00741	0.232	1.000	No
4I vs. 3I	0.00725	0.227	1.000	No
7C vs. 7I	0.00697	0.218	1.000	No
7C vs. 9I	0.00682	0.214	1.000	No
5S vs. 1I	0.00559	0.175	1.000	No
1S vs. 8S	0.00547	0.172	1.000	No
4C vs. 8I	0.00495	0.155	1.000	No
5S vs. 6C	0.00486	0.152	1.000	No
9I vs. 4I	0.00467	0.146	1.000	No
8S vs. 4C	0.00460	0.144	1.000	No
7I vs. 4I	0.00452	0.142	1.000	No

9S vs. 6S	0.00451	0.141	1.000	No
8I vs. 5I	0.00429	0.134	1.000	No
4I vs. 9S	0.00415	0.130	1.000	No
5I vs. 5S	0.00316	0.0992	1.000	No
9S vs. 3I	0.00310	0.0973	1.000	No
2I vs. 8S	0.00281	0.0881	1.000	No
1S vs. 2I	0.00266	0.0834	1.000	No
7S vs. 4S	0.00260	0.0816	1.000	No
6I vs. 4S	0.00171	0.0537	1.000	No
3I vs. 6S	0.00141	0.0441	1.000	No
7S vs. 6I	0.000891	0.0279	1.000	No
6C vs. 1I	0.000728	0.0228	1.000	No
9I vs. 7I	0.000151	0.00473	0.996	No

## One Way Analysis of Variance

26 January 2019 21:19:41

Data source: BTVV in L5 Perinates

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:19:41

Data source: BTVV in L5 Perinates

Group	N	Missing	Median	25%	75%
1I	11	0	33.931	26.422	43.178
1C	11	0	27.505	26.156	39.504
1S	11	0	32.356	26.289	42.591
2I	11	0	39.957	27.593	45.517
2C	11	0	32.364	22.542	45.291
2S	11	0	31.918	26.252	43.303
3I	11	0	32.025	27.062	43.000
3C	11	0	27.430	25.020	40.408
3S	11	0	31.070	28.513	41.075
4I	11	0	35.121	30.818	43.954
4C	11	0	27.049	24.248	38.997
4S	11	0	35.253	32.539	44.478
5I	11	0	37.678	33.155	47.354
5C	11	0	35.314	28.021	45.678
5S	11	0	37.608	33.233	43.858
6I	11	0	32.564	31.433	45.653
6C	11	0	29.545	25.117	40.676
6S	11	0	37.073	35.097	42.351
7I	11	0	34.779	28.924	45.919
7C	11	0	27.350	19.485	37.915
7S	11	0	38.095	27.480	47.775
8I	11	0	32.714	29.604	49.234
8C	11	0	32.712	28.635	47.885
8S	11	0	36.482	33.848	43.659
9I	11	0	30.259	27.473	50.304
9C	11	0	27.008	22.226	43.318
9S	11	0	35.537	32.860	42.637

H = 32.981 with 26 degrees of freedom. (P = 0.163)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.163)

## One Way Analysis of Variance

26 January 2019 21:20:16

Data source: S M I in L5 Perinates

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:20:16

Data source: S M I in L5 Perinates

Group	N	Missing	Median	25%	75%
1I	11	0	1.178	0.533	1.595
1C	11	0	1.265	0.386	1.431
1S	11	0	1.342	0.714	1.572
2I	11	0	0.620	0.118	1.325
2C	11	0	0.617	0.0251	1.158
2S	11	0	1.033	0.331	1.486
3I	11	0	1.345	0.582	1.564
3C	11	0	1.278	0.337	1.631
3S	11	0	1.308	0.683	1.439
4I	11	0	0.969	0.248	1.168
4C	11	0	1.357	0.706	1.515
4S	11	0	0.841	0.307	1.103
5I	11	0	0.780	0.00936	1.078
5C	11	0	0.667	-0.0688	1.082
5S	11	0	0.759	0.0584	1.081
6I	11	0	1.081	0.181	1.388
6C	11	0	1.328	0.402	1.543
6S	11	0	0.809	0.628	0.899
7I	11	0	1.165	0.270	1.280
7C	11	0	1.301	1.010	1.706
7S	11	0	0.886	0.218	1.369
8I	11	0	0.929	-0.270	1.276
8C	11	0	0.122	-0.714	0.849
8S	11	0	0.679	0.243	1.551
9I	11	0	1.249	0.0471	1.440
9C	11	0	1.483	0.636	1.901
9S	11	0	1.094	0.554	1.440

H = 48.323 with 26 degrees of freedom. (P = 0.005)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.005)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
9C vs 8C	1577.000	5.537	0.030	Yes
9C vs 5I	1180.000	4.143	0.398	No



9C vs 5C	1156.000	4.059	0.444	Do Not Test
9C vs 5S	1005.000	3.528	0.755	Do Not Test
9C vs 2C	980.000	3.441	0.799	Do Not Test
9C vs 6S	968.000	3.398	0.818	Do Not Test
9C vs 8I	955.000	3.353	0.837	Do Not Test
9C vs 4S	894.000	3.139	0.907	Do Not Test
9C vs 2I	880.000	3.090	0.919	Do Not Test
9C vs 8S	833.000	2.925	0.951	Do Not Test
9C vs 4I	823.000	2.889	0.956	Do Not Test
9C vs 7S	769.000	2.700	0.978	Do Not Test
9C vs 7I	746.000	2.619	0.984	Do Not Test
9C vs 6I	684.000	2.401	0.995	Do Not Test
9C vs 9S	610.000	2.142	0.999	Do Not Test
9C vs 9I	599.000	2.103	1.000	Do Not Test
9C vs 2S	593.000	2.082	1.000	Do Not Test
9C vs 1I	375.000	1.317	1.000	Do Not Test
9C vs 3S	355.000	1.246	1.000	Do Not Test
9C vs 1C	333.000	1.169	1.000	Do Not Test
9C vs 1S	325.000	1.141	1.000	Do Not Test
9C vs 3C	269.000	0.944	1.000	Do Not Test
9C vs 3I	234.000	0.822	1.000	Do Not Test
9C vs 6C	226.000	0.793	1.000	Do Not Test
9C vs 4C	134.000	0.470	1.000	Do Not Test
9C vs 7C	74.000	0.260	1.000	Do Not Test
7C vs 8C	1503.000	5.277	0.051	No
7C vs 5I	1106.000	3.883	0.548	Do Not Test
7C vs 5C	1082.000	3.799	0.599	Do Not Test
7C vs 5S	931.000	3.269	0.868	Do Not Test
7C vs 2C	906.000	3.181	0.896	Do Not Test
7C vs 6S	894.000	3.139	0.907	Do Not Test
7C vs 8I	881.000	3.093	0.918	Do Not Test
7C vs 4S	820.000	2.879	0.958	Do Not Test
7C vs 2I	806.000	2.830	0.964	Do Not Test
7C vs 8S	759.000	2.665	0.981	Do Not Test
7C vs 4I	749.000	2.630	0.984	Do Not Test
7C vs 7S	695.000	2.440	0.994	Do Not Test
7C vs 7I	672.000	2.359	0.996	Do Not Test
7C vs 6I	610.000	2.142	0.999	Do Not Test
7C vs 9S	536.000	1.882	1.000	Do Not Test
7C vs 9I	525.000	1.843	1.000	Do Not Test
7C vs 2S	519.000	1.822	1.000	Do Not Test
7C vs 1I	301.000	1.057	1.000	Do Not Test
7C vs 3S	281.000	0.987	1.000	Do Not Test
7C vs 1C	259.000	0.909	1.000	Do Not Test
7C vs 1S	251.000	0.881	1.000	Do Not Test
7C vs 3C	195.000	0.685	1.000	Do Not Test
7C vs 3I	160.000	0.562	1.000	Do Not Test
7C vs 6C	152.000	0.534	1.000	Do Not Test
7C vs 4C	60.000	0.211	1.000	Do Not Test
4C vs 8C	1443.000	5.066	0.079	Do Not Test
4C vs 5I	1046.000	3.672	0.675	Do Not Test
4C vs 5C	1022.000	3.588	0.723	Do Not Test
4C vs 5S	871.000	3.058	0.926	Do Not Test
4C vs 2C	846.000	2.970	0.943	Do Not Test
4C vs 6S	834.000	2.928	0.950	Do Not Test
4C vs 8I	821.000	2.882	0.957	Do Not Test

4C vs 4S	760.000	2.668	0.981	Do Not Test
4C vs 2I	746.000	2.619	0.984	Do Not Test
4C vs 8S	699.000	2.454	0.993	Do Not Test
4C vs 4I	689.000	2.419	0.995	Do Not Test
4C vs 7S	635.000	2.229	0.999	Do Not Test
4C vs 7I	612.000	2.149	0.999	Do Not Test
4C vs 6I	550.000	1.931	1.000	Do Not Test
4C vs 9S	476.000	1.671	1.000	Do Not Test
4C vs 9I	465.000	1.633	1.000	Do Not Test
4C vs 2S	459.000	1.611	1.000	Do Not Test
4C vs 1I	241.000	0.846	1.000	Do Not Test
4C vs 3S	221.000	0.776	1.000	Do Not Test
4C vs 1C	199.000	0.699	1.000	Do Not Test
4C vs 1S	191.000	0.671	1.000	Do Not Test
4C vs 3C	135.000	0.474	1.000	Do Not Test
4C vs 3I	100.000	0.351	1.000	Do Not Test
4C vs 6C	92.000	0.323	1.000	Do Not Test
6C vs 8C	1351.000	4.743	0.150	Do Not Test
6C vs 5I	954.000	3.349	0.838	Do Not Test
6C vs 5C	930.000	3.265	0.869	Do Not Test
6C vs 5S	779.000	2.735	0.975	Do Not Test
6C vs 2C	754.000	2.647	0.982	Do Not Test
6C vs 6S	742.000	2.605	0.985	Do Not Test
6C vs 8I	729.000	2.559	0.988	Do Not Test
6C vs 4S	668.000	2.345	0.997	Do Not Test
6C vs 2I	654.000	2.296	0.998	Do Not Test
6C vs 8S	607.000	2.131	0.999	Do Not Test
6C vs 4I	597.000	2.096	1.000	Do Not Test
6C vs 7S	543.000	1.906	1.000	Do Not Test
6C vs 7I	520.000	1.826	1.000	Do Not Test
6C vs 6I	458.000	1.608	1.000	Do Not Test
6C vs 9S	384.000	1.348	1.000	Do Not Test
6C vs 9I	373.000	1.310	1.000	Do Not Test
6C vs 2S	367.000	1.288	1.000	Do Not Test
6C vs 1I	149.000	0.523	1.000	Do Not Test
6C vs 3S	129.000	0.453	1.000	Do Not Test
6C vs 1C	107.000	0.376	1.000	Do Not Test
6C vs 1S	99.000	0.348	1.000	Do Not Test
6C vs 3C	43.000	0.151	1.000	Do Not Test
6C vs 3I	8.000	0.0281	1.000	Do Not Test
3I vs 8C	1343.000	4.715	0.158	Do Not Test
3I vs 5I	946.000	3.321	0.849	Do Not Test
3I vs 5C	922.000	3.237	0.879	Do Not Test
3I vs 5S	771.000	2.707	0.977	Do Not Test
3I vs 2C	746.000	2.619	0.984	Do Not Test
3I vs 6S	734.000	2.577	0.987	Do Not Test
3I vs 8I	721.000	2.531	0.990	Do Not Test
3I vs 4S	660.000	2.317	0.997	Do Not Test
3I vs 2I	646.000	2.268	0.998	Do Not Test
3I vs 8S	599.000	2.103	1.000	Do Not Test
3I vs 4I	589.000	2.068	1.000	Do Not Test
3I vs 7S	535.000	1.878	1.000	Do Not Test
3I vs 7I	512.000	1.798	1.000	Do Not Test
3I vs 6I	450.000	1.580	1.000	Do Not Test
3I vs 9S	376.000	1.320	1.000	Do Not Test
3I vs 9I	365.000	1.281	1.000	Do Not Test

3I vs 2S	359.000	1.260	1.000	Do Not Test
3I vs 1I	141.000	0.495	1.000	Do Not Test
3I vs 3S	121.000	0.425	1.000	Do Not Test
3I vs 1C	99.000	0.348	1.000	Do Not Test
3I vs 1S	91.000	0.319	1.000	Do Not Test
3I vs 3C	35.000	0.123	1.000	Do Not Test
3C vs 8C	1308.000	4.592	0.198	Do Not Test
3C vs 5I	911.000	3.198	0.891	Do Not Test
3C vs 5C	887.000	3.114	0.913	Do Not Test
3C vs 5S	736.000	2.584	0.987	Do Not Test
3C vs 2C	711.000	2.496	0.992	Do Not Test
3C vs 6S	699.000	2.454	0.993	Do Not Test
3C vs 8I	686.000	2.408	0.995	Do Not Test
3C vs 4S	625.000	2.194	0.999	Do Not Test
3C vs 2I	611.000	2.145	0.999	Do Not Test
3C vs 8S	564.000	1.980	1.000	Do Not Test
3C vs 4I	554.000	1.945	1.000	Do Not Test
3C vs 7S	500.000	1.755	1.000	Do Not Test
3C vs 7I	477.000	1.675	1.000	Do Not Test
3C vs 6I	415.000	1.457	1.000	Do Not Test
3C vs 9S	341.000	1.197	1.000	Do Not Test
3C vs 9I	330.000	1.159	1.000	Do Not Test
3C vs 2S	324.000	1.138	1.000	Do Not Test
3C vs 1I	106.000	0.372	1.000	Do Not Test
3C vs 3S	86.000	0.302	1.000	Do Not Test
3C vs 1C	64.000	0.225	1.000	Do Not Test
3C vs 1S	56.000	0.197	1.000	Do Not Test
1S vs 8C	1252.000	4.396	0.275	Do Not Test
1S vs 5I	855.000	3.002	0.937	Do Not Test
1S vs 5C	831.000	2.917	0.952	Do Not Test
1S vs 5S	680.000	2.387	0.996	Do Not Test
1S vs 2C	655.000	2.300	0.998	Do Not Test
1S vs 6S	643.000	2.257	0.998	Do Not Test
1S vs 8I	630.000	2.212	0.999	Do Not Test
1S vs 4S	569.000	1.998	1.000	Do Not Test
1S vs 2I	555.000	1.949	1.000	Do Not Test
1S vs 8S	508.000	1.783	1.000	Do Not Test
1S vs 4I	498.000	1.748	1.000	Do Not Test
1S vs 7S	444.000	1.559	1.000	Do Not Test
1S vs 7I	421.000	1.478	1.000	Do Not Test
1S vs 6I	359.000	1.260	1.000	Do Not Test
1S vs 9S	285.000	1.001	1.000	Do Not Test
1S vs 9I	274.000	0.962	1.000	Do Not Test
1S vs 2S	268.000	0.941	1.000	Do Not Test
1S vs 1I	50.000	0.176	1.000	Do Not Test
1S vs 3S	30.000	0.105	1.000	Do Not Test
1S vs 1C	8.000	0.0281	1.000	Do Not Test
1C vs 8C	1244.000	4.367	0.287	Do Not Test
1C vs 5I	847.000	2.974	0.943	Do Not Test
1C vs 5C	823.000	2.889	0.956	Do Not Test
1C vs 5S	672.000	2.359	0.996	Do Not Test
1C vs 2C	647.000	2.271	0.998	Do Not Test
1C vs 6S	635.000	2.229	0.999	Do Not Test
1C vs 8I	622.000	2.184	0.999	Do Not Test
1C vs 4S	561.000	1.970	1.000	Do Not Test
1C vs 2I	547.000	1.920	1.000	Do Not Test

1C vs 8S	500.000	1.755	1.000	Do Not Test
1C vs 4I	490.000	1.720	1.000	Do Not Test
1C vs 7S	436.000	1.531	1.000	Do Not Test
1C vs 7I	413.000	1.450	1.000	Do Not Test
1C vs 6I	351.000	1.232	1.000	Do Not Test
1C vs 9S	277.000	0.972	1.000	Do Not Test
1C vs 9I	266.000	0.934	1.000	Do Not Test
1C vs 2S	260.000	0.913	1.000	Do Not Test
1C vs 1I	42.000	0.147	1.000	Do Not Test
1C vs 3S	22.000	0.0772	1.000	Do Not Test
3S vs 8C	1222.000	4.290	0.323	Do Not Test
3S vs 5I	825.000	2.896	0.955	Do Not Test
3S vs 5C	801.000	2.812	0.966	Do Not Test
3S vs 5S	650.000	2.282	0.998	Do Not Test
3S vs 2C	625.000	2.194	0.999	Do Not Test
3S vs 6S	613.000	2.152	0.999	Do Not Test
3S vs 8I	600.000	2.106	1.000	Do Not Test
3S vs 4S	539.000	1.892	1.000	Do Not Test
3S vs 2I	525.000	1.843	1.000	Do Not Test
3S vs 8S	478.000	1.678	1.000	Do Not Test
3S vs 4I	468.000	1.643	1.000	Do Not Test
3S vs 7S	414.000	1.453	1.000	Do Not Test
3S vs 7I	391.000	1.373	1.000	Do Not Test
3S vs 6I	329.000	1.155	1.000	Do Not Test
3S vs 9S	255.000	0.895	1.000	Do Not Test
3S vs 9I	244.000	0.857	1.000	Do Not Test
3S vs 2S	238.000	0.836	1.000	Do Not Test
3S vs 1I	20.000	0.0702	1.000	Do Not Test
1I vs 8C	1202.000	4.220	0.357	Do Not Test
1I vs 5I	805.000	2.826	0.965	Do Not Test
1I vs 5C	781.000	2.742	0.974	Do Not Test
1I vs 5S	630.000	2.212	0.999	Do Not Test
1I vs 2C	605.000	2.124	0.999	Do Not Test
1I vs 6S	593.000	2.082	1.000	Do Not Test
1I vs 8I	580.000	2.036	1.000	Do Not Test
1I vs 4S	519.000	1.822	1.000	Do Not Test
1I vs 2I	505.000	1.773	1.000	Do Not Test
1I vs 8S	458.000	1.608	1.000	Do Not Test
1I vs 4I	448.000	1.573	1.000	Do Not Test
1I vs 7S	394.000	1.383	1.000	Do Not Test
1I vs 7I	371.000	1.303	1.000	Do Not Test
1I vs 6I	309.000	1.085	1.000	Do Not Test
1I vs 9S	235.000	0.825	1.000	Do Not Test
1I vs 9I	224.000	0.786	1.000	Do Not Test
1I vs 2S	218.000	0.765	1.000	Do Not Test
2S vs 8C	984.000	3.455	0.792	Do Not Test
2S vs 5I	587.000	2.061	1.000	Do Not Test
2S vs 5C	563.000	1.977	1.000	Do Not Test
2S vs 5S	412.000	1.446	1.000	Do Not Test
2S vs 2C	387.000	1.359	1.000	Do Not Test
2S vs 6S	375.000	1.317	1.000	Do Not Test
2S vs 8I	362.000	1.271	1.000	Do Not Test
2S vs 4S	301.000	1.057	1.000	Do Not Test
2S vs 2I	287.000	1.008	1.000	Do Not Test
2S vs 8S	240.000	0.843	1.000	Do Not Test
2S vs 4I	230.000	0.807	1.000	Do Not Test

2S vs 7S	176.000	0.618	1.000	Do Not Test
2S vs 7I	153.000	0.537	1.000	Do Not Test
2S vs 6I	91.000	0.319	1.000	Do Not Test
2S vs 9S	17.000	0.0597	1.000	Do Not Test
2S vs 9I	6.000	0.0211	1.000	Do Not Test
9I vs 8C	978.000	3.434	0.802	Do Not Test
9I vs 5I	581.000	2.040	1.000	Do Not Test
9I vs 5C	557.000	1.956	1.000	Do Not Test
9I vs 5S	406.000	1.425	1.000	Do Not Test
9I vs 2C	381.000	1.338	1.000	Do Not Test
9I vs 6S	369.000	1.295	1.000	Do Not Test
9I vs 8I	356.000	1.250	1.000	Do Not Test
9I vs 4S	295.000	1.036	1.000	Do Not Test
9I vs 2I	281.000	0.987	1.000	Do Not Test
9I vs 8S	234.000	0.822	1.000	Do Not Test
9I vs 4I	224.000	0.786	1.000	Do Not Test
9I vs 7S	170.000	0.597	1.000	Do Not Test
9I vs 7I	147.000	0.516	1.000	Do Not Test
9I vs 6I	85.000	0.298	1.000	Do Not Test
9I vs 9S	11.000	0.0386	1.000	Do Not Test
9S vs 8C	967.000	3.395	0.819	Do Not Test
9S vs 5I	570.000	2.001	1.000	Do Not Test
9S vs 5C	546.000	1.917	1.000	Do Not Test
9S vs 5S	395.000	1.387	1.000	Do Not Test
9S vs 2C	370.000	1.299	1.000	Do Not Test
9S vs 6S	358.000	1.257	1.000	Do Not Test
9S vs 8I	345.000	1.211	1.000	Do Not Test
9S vs 4S	284.000	0.997	1.000	Do Not Test
9S vs 2I	270.000	0.948	1.000	Do Not Test
9S vs 8S	223.000	0.783	1.000	Do Not Test
9S vs 4I	213.000	0.748	1.000	Do Not Test
9S vs 7S	159.000	0.558	1.000	Do Not Test
9S vs 7I	136.000	0.477	1.000	Do Not Test
9S vs 6I	74.000	0.260	1.000	Do Not Test
6I vs 8C	893.000	3.135	0.908	Do Not Test
6I vs 5I	496.000	1.741	1.000	Do Not Test
6I vs 5C	472.000	1.657	1.000	Do Not Test
6I vs 5S	321.000	1.127	1.000	Do Not Test
6I vs 2C	296.000	1.039	1.000	Do Not Test
6I vs 6S	284.000	0.997	1.000	Do Not Test
6I vs 8I	271.000	0.951	1.000	Do Not Test
6I vs 4S	210.000	0.737	1.000	Do Not Test
6I vs 2I	196.000	0.688	1.000	Do Not Test
6I vs 8S	149.000	0.523	1.000	Do Not Test
6I vs 4I	139.000	0.488	1.000	Do Not Test
6I vs 7S	85.000	0.298	1.000	Do Not Test
6I vs 7I	62.000	0.218	1.000	Do Not Test
7I vs 8C	831.000	2.917	0.952	Do Not Test
7I vs 5I	434.000	1.524	1.000	Do Not Test
7I vs 5C	410.000	1.439	1.000	Do Not Test
7I vs 5S	259.000	0.909	1.000	Do Not Test
7I vs 2C	234.000	0.822	1.000	Do Not Test
7I vs 6S	222.000	0.779	1.000	Do Not Test
7I vs 8I	209.000	0.734	1.000	Do Not Test
7I vs 4S	148.000	0.520	1.000	Do Not Test
7I vs 2I	134.000	0.470	1.000	Do Not Test

7I vs 8S	87.000	0.305	1.000	Do Not Test
7I vs 4I	77.000	0.270	1.000	Do Not Test
7I vs 7S	23.000	0.0807	1.000	Do Not Test
7S vs 8C	808.000	2.837	0.963	Do Not Test
7S vs 5I	411.000	1.443	1.000	Do Not Test
7S vs 5C	387.000	1.359	1.000	Do Not Test
7S vs 5S	236.000	0.829	1.000	Do Not Test
7S vs 2C	211.000	0.741	1.000	Do Not Test
7S vs 6S	199.000	0.699	1.000	Do Not Test
7S vs 8I	186.000	0.653	1.000	Do Not Test
7S vs 4S	125.000	0.439	1.000	Do Not Test
7S vs 2I	111.000	0.390	1.000	Do Not Test
7S vs 8S	64.000	0.225	1.000	Do Not Test
7S vs 4I	54.000	0.190	1.000	Do Not Test
4I vs 8C	754.000	2.647	0.982	Do Not Test
4I vs 5I	357.000	1.253	1.000	Do Not Test
4I vs 5C	333.000	1.169	1.000	Do Not Test
4I vs 5S	182.000	0.639	1.000	Do Not Test
4I vs 2C	157.000	0.551	1.000	Do Not Test
4I vs 6S	145.000	0.509	1.000	Do Not Test
4I vs 8I	132.000	0.463	1.000	Do Not Test
4I vs 4S	71.000	0.249	1.000	Do Not Test
4I vs 2I	57.000	0.200	1.000	Do Not Test
4I vs 8S	10.000	0.0351	1.000	Do Not Test
8S vs 8C	744.000	2.612	0.985	Do Not Test
8S vs 5I	347.000	1.218	1.000	Do Not Test
8S vs 5C	323.000	1.134	1.000	Do Not Test
8S vs 5S	172.000	0.604	1.000	Do Not Test
8S vs 2C	147.000	0.516	1.000	Do Not Test
8S vs 6S	135.000	0.474	1.000	Do Not Test
8S vs 8I	122.000	0.428	1.000	Do Not Test
8S vs 4S	61.000	0.214	1.000	Do Not Test
8S vs 2I	47.000	0.165	1.000	Do Not Test
2I vs 8C	697.000	2.447	0.994	Do Not Test
2I vs 5I	300.000	1.053	1.000	Do Not Test
2I vs 5C	276.000	0.969	1.000	Do Not Test
2I vs 5S	125.000	0.439	1.000	Do Not Test
2I vs 2C	100.000	0.351	1.000	Do Not Test
2I vs 6S	88.000	0.309	1.000	Do Not Test
2I vs 8I	75.000	0.263	1.000	Do Not Test
2I vs 4S	14.000	0.0492	1.000	Do Not Test
4S vs 8C	683.000	2.398	0.995	Do Not Test
4S vs 5I	286.000	1.004	1.000	Do Not Test
4S vs 5C	262.000	0.920	1.000	Do Not Test
4S vs 5S	111.000	0.390	1.000	Do Not Test
4S vs 2C	86.000	0.302	1.000	Do Not Test
4S vs 6S	74.000	0.260	1.000	Do Not Test
4S vs 8I	61.000	0.214	1.000	Do Not Test
8I vs 8C	622.000	2.184	0.999	Do Not Test
8I vs 5I	225.000	0.790	1.000	Do Not Test
8I vs 5C	201.000	0.706	1.000	Do Not Test
8I vs 5S	50.000	0.176	1.000	Do Not Test
8I vs 2C	25.000	0.0878	1.000	Do Not Test
8I vs 6S	13.000	0.0456	1.000	Do Not Test
6S vs 8C	609.000	2.138	0.999	Do Not Test
6S vs 5I	212.000	0.744	1.000	Do Not Test

6S vs 5C	188.000	0.660	1.000	Do Not Test
6S vs 5S	37.000	0.130	1.000	Do Not Test
6S vs 2C	12.000	0.0421	1.000	Do Not Test
2C vs 8C	597.000	2.096	1.000	Do Not Test
2C vs 5I	200.000	0.702	1.000	Do Not Test
2C vs 5C	176.000	0.618	1.000	Do Not Test
2C vs 5S	25.000	0.0878	1.000	Do Not Test
5S vs 8C	572.000	2.008	1.000	Do Not Test
5S vs 5I	175.000	0.614	1.000	Do Not Test
5S vs 5C	151.000	0.530	1.000	Do Not Test
5C vs 8C	421.000	1.478	1.000	Do Not Test
5C vs 5I	24.000	0.0843	1.000	Do Not Test
5I vs 8C	397.000	1.394	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:21:26

Data source: TbTh in L5 Perinates

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:21:26

Data source: TbTh in L5 Perinates

Group	N	Missing	Median	25%	75%
1I	11	0	111.237	104.744	118.802
1C	11	0	130.352	123.131	136.470
1S	11	0	110.538	101.617	117.550
2I	11	0	117.543	114.297	126.053
2C	11	0	159.702	151.650	163.084
2S	11	0	118.733	109.657	123.533
3I	11	0	110.850	97.773	113.374
3C	11	0	131.139	119.338	138.647
3S	11	0	110.784	105.606	118.958
4I	11	0	116.328	110.219	132.396
4C	11	0	131.317	122.790	137.018
4S	11	0	122.555	114.901	126.303
5I	11	0	143.808	131.994	150.235
5C	11	0	148.828	145.675	181.435
5S	11	0	136.303	131.205	146.755
6I	11	0	116.736	111.527	123.887
6C	11	0	134.946	122.967	142.335
6S	11	0	123.434	113.611	128.140
7I	11	0	110.902	106.763	122.958
7C	11	0	122.244	114.474	130.321
7S	11	0	114.973	109.128	124.027
8I	11	0	124.898	119.565	137.916
8C	11	0	169.601	152.153	182.700
8S	11	0	131.038	120.741	139.155
9I	11	0	115.425	109.730	124.302
9C	11	0	127.081	119.050	142.908
9S	11	0	119.095	103.741	122.191

H = 147.111 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 3I	2472.000	8.679	0.006	Yes
8C vs 1I	2370.000	8.321	0.006	Yes



8C vs 3S	2298.000	8.068	0.006	Yes
8C vs 1S	2287.000	8.029	0.006	Yes
8C vs 7I	1958.000	6.874	0.007	Yes
8C vs 2S	1955.000	6.864	0.007	Yes
8C vs 9I	1934.000	6.790	0.007	Yes
8C vs 9S	1884.000	6.614	0.007	Yes
8C vs 7S	1881.000	6.604	0.007	Yes
8C vs 6I	1795.000	6.302	0.009	Yes
8C vs 2I	1756.000	6.165	0.010	Yes
8C vs 4I	1673.000	5.874	0.016	Yes
8C vs 6S	1622.000	5.695	0.022	Yes
8C vs 4S	1604.000	5.631	0.024	Yes
8C vs 7C	1468.000	5.154	0.066	No
8C vs 9C	1202.000	4.220	0.357	Do Not Test
8C vs 8I	1165.000	4.090	0.427	Do Not Test
8C vs 1C	1125.000	3.950	0.508	Do Not Test
8C vs 3C	1110.000	3.897	0.539	Do Not Test
8C vs 8S	1090.000	3.827	0.582	Do Not Test
8C vs 4C	985.000	3.458	0.790	Do Not Test
8C vs 6C	960.000	3.370	0.830	Do Not Test
8C vs 5S	724.000	2.542	0.989	Do Not Test
8C vs 5I	548.000	1.924	1.000	Do Not Test
8C vs 2C	296.000	1.039	1.000	Do Not Test
8C vs 5C	232.000	0.815	1.000	Do Not Test
5C vs 3I	2240.000	7.864	0.006	Yes
5C vs 1I	2138.000	7.506	0.007	Yes
5C vs 3S	2066.000	7.253	0.007	Yes
5C vs 1S	2055.000	7.215	0.007	Yes
5C vs 7I	1726.000	6.060	0.012	Yes
5C vs 2S	1723.000	6.049	0.012	Yes
5C vs 9I	1702.000	5.975	0.013	Yes
5C vs 9S	1652.000	5.800	0.018	Yes
5C vs 7S	1649.000	5.789	0.018	Yes
5C vs 6I	1563.000	5.487	0.033	Yes
5C vs 2I	1524.000	5.350	0.044	Yes
5C vs 4I	1441.000	5.059	0.080	No
5C vs 6S	1390.000	4.880	0.115	Do Not Test
5C vs 4S	1372.000	4.817	0.130	Do Not Test
5C vs 7C	1236.000	4.339	0.300	Do Not Test
5C vs 9C	970.000	3.405	0.814	Do Not Test
5C vs 8I	933.000	3.276	0.866	Do Not Test
5C vs 1C	893.000	3.135	0.908	Do Not Test
5C vs 3C	878.000	3.082	0.921	Do Not Test
5C vs 8S	858.000	3.012	0.935	Do Not Test
5C vs 4C	753.000	2.644	0.983	Do Not Test
5C vs 6C	728.000	2.556	0.989	Do Not Test
5C vs 5S	492.000	1.727	1.000	Do Not Test
5C vs 5I	316.000	1.109	1.000	Do Not Test
5C vs 2C	64.000	0.225	1.000	Do Not Test
2C vs 3I	2176.000	7.640	0.007	Yes
2C vs 1I	2074.000	7.281	0.007	Yes
2C vs 3S	2002.000	7.029	0.007	Yes
2C vs 1S	1991.000	6.990	0.007	Yes
2C vs 7I	1662.000	5.835	0.017	Yes
2C vs 2S	1659.000	5.824	0.017	Yes
2C vs 9I	1638.000	5.751	0.019	Yes

2C vs 9S	1588.000	5.575	0.027	Yes
2C vs 7S	1585.000	5.565	0.028	Yes
2C vs 6I	1499.000	5.263	0.052	No
2C vs 2I	1460.000	5.126	0.070	Do Not Test
2C vs 4I	1377.000	4.834	0.126	Do Not Test
2C vs 6S	1326.000	4.655	0.177	Do Not Test
2C vs 4S	1308.000	4.592	0.198	Do Not Test
2C vs 7C	1172.000	4.115	0.413	Do Not Test
2C vs 9C	906.000	3.181	0.896	Do Not Test
2C vs 8I	869.000	3.051	0.928	Do Not Test
2C vs 1C	829.000	2.910	0.953	Do Not Test
2C vs 3C	814.000	2.858	0.960	Do Not Test
2C vs 8S	794.000	2.788	0.969	Do Not Test
2C vs 4C	689.000	2.419	0.995	Do Not Test
2C vs 6C	664.000	2.331	0.997	Do Not Test
2C vs 5S	428.000	1.503	1.000	Do Not Test
2C vs 5I	252.000	0.885	1.000	Do Not Test
5I vs 3I	1924.000	6.755	0.007	Yes
5I vs 1I	1822.000	6.397	0.008	Yes
5I vs 3S	1750.000	6.144	0.011	Yes
5I vs 1S	1739.000	6.105	0.011	Yes
5I vs 7I	1410.000	4.950	0.100	No
5I vs 2S	1407.000	4.940	0.102	Do Not Test
5I vs 9I	1386.000	4.866	0.119	Do Not Test
5I vs 9S	1336.000	4.690	0.166	Do Not Test
5I vs 7S	1333.000	4.680	0.169	Do Not Test
5I vs 6I	1247.000	4.378	0.282	Do Not Test
5I vs 2I	1208.000	4.241	0.347	Do Not Test
5I vs 4I	1125.000	3.950	0.508	Do Not Test
5I vs 6S	1074.000	3.771	0.616	Do Not Test
5I vs 4S	1056.000	3.707	0.654	Do Not Test
5I vs 7C	920.000	3.230	0.881	Do Not Test
5I vs 9C	654.000	2.296	0.998	Do Not Test
5I vs 8I	617.000	2.166	0.999	Do Not Test
5I vs 1C	577.000	2.026	1.000	Do Not Test
5I vs 3C	562.000	1.973	1.000	Do Not Test
5I vs 8S	542.000	1.903	1.000	Do Not Test
5I vs 4C	437.000	1.534	1.000	Do Not Test
5I vs 6C	412.000	1.446	1.000	Do Not Test
5I vs 5S	176.000	0.618	1.000	Do Not Test
5S vs 3I	1748.000	6.137	0.011	Yes
5S vs 1I	1646.000	5.779	0.018	Yes
5S vs 3S	1574.000	5.526	0.030	Yes
5S vs 1S	1563.000	5.487	0.033	Yes
5S vs 7I	1234.000	4.332	0.303	Do Not Test
5S vs 2S	1231.000	4.322	0.308	Do Not Test
5S vs 9I	1210.000	4.248	0.343	Do Not Test
5S vs 9S	1160.000	4.073	0.436	Do Not Test
5S vs 7S	1157.000	4.062	0.442	Do Not Test
5S vs 6I	1071.000	3.760	0.622	Do Not Test
5S vs 2I	1032.000	3.623	0.703	Do Not Test
5S vs 4I	949.000	3.332	0.845	Do Not Test
5S vs 6S	898.000	3.153	0.903	Do Not Test
5S vs 4S	880.000	3.090	0.919	Do Not Test
5S vs 7C	744.000	2.612	0.985	Do Not Test
5S vs 9C	478.000	1.678	1.000	Do Not Test

5S vs 8I	441.000	1.548	1.000	Do Not Test
5S vs 1C	401.000	1.408	1.000	Do Not Test
5S vs 3C	386.000	1.355	1.000	Do Not Test
5S vs 8S	366.000	1.285	1.000	Do Not Test
5S vs 4C	261.000	0.916	1.000	Do Not Test
5S vs 6C	236.000	0.829	1.000	Do Not Test
6C vs 3I	1512.000	5.308	0.048	Yes
6C vs 1I	1410.000	4.950	0.100	No
6C vs 3S	1338.000	4.697	0.164	Do Not Test
6C vs 1S	1327.000	4.659	0.176	Do Not Test
6C vs 7I	998.000	3.504	0.768	Do Not Test
6C vs 2S	995.000	3.493	0.773	Do Not Test
6C vs 9I	974.000	3.420	0.808	Do Not Test
6C vs 9S	924.000	3.244	0.876	Do Not Test
6C vs 7S	921.000	3.233	0.880	Do Not Test
6C vs 6I	835.000	2.932	0.950	Do Not Test
6C vs 2I	796.000	2.795	0.968	Do Not Test
6C vs 4I	713.000	2.503	0.991	Do Not Test
6C vs 6S	662.000	2.324	0.997	Do Not Test
6C vs 4S	644.000	2.261	0.998	Do Not Test
6C vs 7C	508.000	1.783	1.000	Do Not Test
6C vs 9C	242.000	0.850	1.000	Do Not Test
6C vs 8I	205.000	0.720	1.000	Do Not Test
6C vs 1C	165.000	0.579	1.000	Do Not Test
6C vs 3C	150.000	0.527	1.000	Do Not Test
6C vs 8S	130.000	0.456	1.000	Do Not Test
6C vs 4C	25.000	0.0878	1.000	Do Not Test
4C vs 3I	1487.000	5.221	0.057	No
4C vs 1I	1385.000	4.862	0.119	Do Not Test
4C vs 3S	1313.000	4.610	0.192	Do Not Test
4C vs 1S	1302.000	4.571	0.205	Do Not Test
4C vs 7I	973.000	3.416	0.810	Do Not Test
4C vs 2S	970.000	3.405	0.814	Do Not Test
4C vs 9I	949.000	3.332	0.845	Do Not Test
4C vs 9S	899.000	3.156	0.903	Do Not Test
4C vs 7S	896.000	3.146	0.905	Do Not Test
4C vs 6I	810.000	2.844	0.962	Do Not Test
4C vs 2I	771.000	2.707	0.977	Do Not Test
4C vs 4I	688.000	2.415	0.995	Do Not Test
4C vs 6S	637.000	2.236	0.998	Do Not Test
4C vs 4S	619.000	2.173	0.999	Do Not Test
4C vs 7C	483.000	1.696	1.000	Do Not Test
4C vs 9C	217.000	0.762	1.000	Do Not Test
4C vs 8I	180.000	0.632	1.000	Do Not Test
4C vs 1C	140.000	0.492	1.000	Do Not Test
4C vs 3C	125.000	0.439	1.000	Do Not Test
4C vs 8S	105.000	0.369	1.000	Do Not Test
8S vs 3I	1382.000	4.852	0.122	Do Not Test
8S vs 1I	1280.000	4.494	0.234	Do Not Test
8S vs 3S	1208.000	4.241	0.347	Do Not Test
8S vs 1S	1197.000	4.202	0.366	Do Not Test
8S vs 7I	868.000	3.047	0.928	Do Not Test
8S vs 2S	865.000	3.037	0.931	Do Not Test
8S vs 9I	844.000	2.963	0.944	Do Not Test
8S vs 9S	794.000	2.788	0.969	Do Not Test
8S vs 7S	791.000	2.777	0.970	Do Not Test

8S vs 6I	705.000	2.475	0.993	Do Not Test
8S vs 2I	666.000	2.338	0.997	Do Not Test
8S vs 4I	583.000	2.047	1.000	Do Not Test
8S vs 6S	532.000	1.868	1.000	Do Not Test
8S vs 4S	514.000	1.805	1.000	Do Not Test
8S vs 7C	378.000	1.327	1.000	Do Not Test
8S vs 9C	112.000	0.393	1.000	Do Not Test
8S vs 8I	75.000	0.263	1.000	Do Not Test
8S vs 1C	35.000	0.123	1.000	Do Not Test
8S vs 3C	20.000	0.0702	1.000	Do Not Test
3C vs 3I	1362.000	4.782	0.140	Do Not Test
3C vs 1I	1260.000	4.424	0.263	Do Not Test
3C vs 3S	1188.000	4.171	0.383	Do Not Test
3C vs 1S	1177.000	4.132	0.403	Do Not Test
3C vs 7I	848.000	2.977	0.942	Do Not Test
3C vs 2S	845.000	2.967	0.944	Do Not Test
3C vs 9I	824.000	2.893	0.956	Do Not Test
3C vs 9S	774.000	2.717	0.976	Do Not Test
3C vs 7S	771.000	2.707	0.977	Do Not Test
3C vs 6I	685.000	2.405	0.995	Do Not Test
3C vs 2I	646.000	2.268	0.998	Do Not Test
3C vs 4I	563.000	1.977	1.000	Do Not Test
3C vs 6S	512.000	1.798	1.000	Do Not Test
3C vs 4S	494.000	1.734	1.000	Do Not Test
3C vs 7C	358.000	1.257	1.000	Do Not Test
3C vs 9C	92.000	0.323	1.000	Do Not Test
3C vs 8I	55.000	0.193	1.000	Do Not Test
3C vs 1C	15.000	0.0527	1.000	Do Not Test
1C vs 3I	1347.000	4.729	0.154	Do Not Test
1C vs 1I	1245.000	4.371	0.285	Do Not Test
1C vs 3S	1173.000	4.118	0.411	Do Not Test
1C vs 1S	1162.000	4.080	0.433	Do Not Test
1C vs 7I	833.000	2.925	0.951	Do Not Test
1C vs 2S	830.000	2.914	0.952	Do Not Test
1C vs 9I	809.000	2.840	0.963	Do Not Test
1C vs 9S	759.000	2.665	0.981	Do Not Test
1C vs 7S	756.000	2.654	0.982	Do Not Test
1C vs 6I	670.000	2.352	0.996	Do Not Test
1C vs 2I	631.000	2.215	0.999	Do Not Test
1C vs 4I	548.000	1.924	1.000	Do Not Test
1C vs 6S	497.000	1.745	1.000	Do Not Test
1C vs 4S	479.000	1.682	1.000	Do Not Test
1C vs 7C	343.000	1.204	1.000	Do Not Test
1C vs 9C	77.000	0.270	1.000	Do Not Test
1C vs 8I	40.000	0.140	1.000	Do Not Test
8I vs 3I	1307.000	4.589	0.199	Do Not Test
8I vs 1I	1205.000	4.231	0.352	Do Not Test
8I vs 3S	1133.000	3.978	0.491	Do Not Test
8I vs 1S	1122.000	3.939	0.514	Do Not Test
8I vs 7I	793.000	2.784	0.969	Do Not Test
8I vs 2S	790.000	2.774	0.971	Do Not Test
8I vs 9I	769.000	2.700	0.978	Do Not Test
8I vs 9S	719.000	2.524	0.990	Do Not Test
8I vs 7S	716.000	2.514	0.991	Do Not Test
8I vs 6I	630.000	2.212	0.999	Do Not Test
8I vs 2I	591.000	2.075	1.000	Do Not Test

8I vs 4I	508.000	1.783	1.000	Do Not Test
8I vs 6S	457.000	1.604	1.000	Do Not Test
8I vs 4S	439.000	1.541	1.000	Do Not Test
8I vs 7C	303.000	1.064	1.000	Do Not Test
8I vs 9C	37.000	0.130	1.000	Do Not Test
9C vs 3I	1270.000	4.459	0.248	Do Not Test
9C vs 1I	1168.000	4.101	0.421	Do Not Test
9C vs 3S	1096.000	3.848	0.569	Do Not Test
9C vs 1S	1085.000	3.809	0.593	Do Not Test
9C vs 7I	756.000	2.654	0.982	Do Not Test
9C vs 2S	753.000	2.644	0.983	Do Not Test
9C vs 9I	732.000	2.570	0.988	Do Not Test
9C vs 9S	682.000	2.394	0.995	Do Not Test
9C vs 7S	679.000	2.384	0.996	Do Not Test
9C vs 6I	593.000	2.082	1.000	Do Not Test
9C vs 2I	554.000	1.945	1.000	Do Not Test
9C vs 4I	471.000	1.654	1.000	Do Not Test
9C vs 6S	420.000	1.475	1.000	Do Not Test
9C vs 4S	402.000	1.411	1.000	Do Not Test
9C vs 7C	266.000	0.934	1.000	Do Not Test
7C vs 3I	1004.000	3.525	0.757	Do Not Test
7C vs 1I	902.000	3.167	0.900	Do Not Test
7C vs 3S	830.000	2.914	0.952	Do Not Test
7C vs 1S	819.000	2.875	0.958	Do Not Test
7C vs 7I	490.000	1.720	1.000	Do Not Test
7C vs 2S	487.000	1.710	1.000	Do Not Test
7C vs 9I	466.000	1.636	1.000	Do Not Test
7C vs 9S	416.000	1.460	1.000	Do Not Test
7C vs 7S	413.000	1.450	1.000	Do Not Test
7C vs 6I	327.000	1.148	1.000	Do Not Test
7C vs 2I	288.000	1.011	1.000	Do Not Test
7C vs 4I	205.000	0.720	1.000	Do Not Test
7C vs 6S	154.000	0.541	1.000	Do Not Test
7C vs 4S	136.000	0.477	1.000	Do Not Test
4S vs 3I	868.000	3.047	0.928	Do Not Test
4S vs 1I	766.000	2.689	0.979	Do Not Test
4S vs 3S	694.000	2.437	0.994	Do Not Test
4S vs 1S	683.000	2.398	0.995	Do Not Test
4S vs 7I	354.000	1.243	1.000	Do Not Test
4S vs 2S	351.000	1.232	1.000	Do Not Test
4S vs 9I	330.000	1.159	1.000	Do Not Test
4S vs 9S	280.000	0.983	1.000	Do Not Test
4S vs 7S	277.000	0.972	1.000	Do Not Test
4S vs 6I	191.000	0.671	1.000	Do Not Test
4S vs 2I	152.000	0.534	1.000	Do Not Test
4S vs 4I	69.000	0.242	1.000	Do Not Test
4S vs 6S	18.000	0.0632	1.000	Do Not Test
6S vs 3I	850.000	2.984	0.941	Do Not Test
6S vs 1I	748.000	2.626	0.984	Do Not Test
6S vs 3S	676.000	2.373	0.996	Do Not Test
6S vs 1S	665.000	2.335	0.997	Do Not Test
6S vs 7I	336.000	1.180	1.000	Do Not Test
6S vs 2S	333.000	1.169	1.000	Do Not Test
6S vs 9I	312.000	1.095	1.000	Do Not Test
6S vs 9S	262.000	0.920	1.000	Do Not Test
6S vs 7S	259.000	0.909	1.000	Do Not Test

6S vs 6I	173.000	0.607	1.000	Do Not Test
6S vs 2I	134.000	0.470	1.000	Do Not Test
6S vs 4I	51.000	0.179	1.000	Do Not Test
4I vs 3I	799.000	2.805	0.967	Do Not Test
4I vs 1I	697.000	2.447	0.994	Do Not Test
4I vs 3S	625.000	2.194	0.999	Do Not Test
4I vs 1S	614.000	2.156	0.999	Do Not Test
4I vs 7I	285.000	1.001	1.000	Do Not Test
4I vs 2S	282.000	0.990	1.000	Do Not Test
4I vs 9I	261.000	0.916	1.000	Do Not Test
4I vs 9S	211.000	0.741	1.000	Do Not Test
4I vs 7S	208.000	0.730	1.000	Do Not Test
4I vs 6I	122.000	0.428	1.000	Do Not Test
4I vs 2I	83.000	0.291	1.000	Do Not Test
2I vs 3I	716.000	2.514	0.991	Do Not Test
2I vs 1I	614.000	2.156	0.999	Do Not Test
2I vs 3S	542.000	1.903	1.000	Do Not Test
2I vs 1S	531.000	1.864	1.000	Do Not Test
2I vs 7I	202.000	0.709	1.000	Do Not Test
2I vs 2S	199.000	0.699	1.000	Do Not Test
2I vs 9I	178.000	0.625	1.000	Do Not Test
2I vs 9S	128.000	0.449	1.000	Do Not Test
2I vs 7S	125.000	0.439	1.000	Do Not Test
2I vs 6I	39.000	0.137	1.000	Do Not Test
6I vs 3I	677.000	2.377	0.996	Do Not Test
6I vs 1I	575.000	2.019	1.000	Do Not Test
6I vs 3S	503.000	1.766	1.000	Do Not Test
6I vs 1S	492.000	1.727	1.000	Do Not Test
6I vs 7I	163.000	0.572	1.000	Do Not Test
6I vs 2S	160.000	0.562	1.000	Do Not Test
6I vs 9I	139.000	0.488	1.000	Do Not Test
6I vs 9S	89.000	0.312	1.000	Do Not Test
6I vs 7S	86.000	0.302	1.000	Do Not Test
7S vs 3I	591.000	2.075	1.000	Do Not Test
7S vs 1I	489.000	1.717	1.000	Do Not Test
7S vs 3S	417.000	1.464	1.000	Do Not Test
7S vs 1S	406.000	1.425	1.000	Do Not Test
7S vs 7I	77.000	0.270	1.000	Do Not Test
7S vs 2S	74.000	0.260	1.000	Do Not Test
7S vs 9I	53.000	0.186	1.000	Do Not Test
7S vs 9S	3.000	0.0105	1.000	Do Not Test
9S vs 3I	588.000	2.064	1.000	Do Not Test
9S vs 1I	486.000	1.706	1.000	Do Not Test
9S vs 3S	414.000	1.453	1.000	Do Not Test
9S vs 1S	403.000	1.415	1.000	Do Not Test
9S vs 7I	74.000	0.260	1.000	Do Not Test
9S vs 2S	71.000	0.249	1.000	Do Not Test
9S vs 9I	50.000	0.176	1.000	Do Not Test
9I vs 3I	538.000	1.889	1.000	Do Not Test
9I vs 1I	436.000	1.531	1.000	Do Not Test
9I vs 3S	364.000	1.278	1.000	Do Not Test
9I vs 1S	353.000	1.239	1.000	Do Not Test
9I vs 7I	24.000	0.0843	1.000	Do Not Test
9I vs 2S	21.000	0.0737	1.000	Do Not Test
2S vs 3I	517.000	1.815	1.000	Do Not Test
2S vs 1I	415.000	1.457	1.000	Do Not Test

2S vs 3S	343.000	1.204	1.000	Do Not Test
2S vs 1S	332.000	1.166	1.000	Do Not Test
2S vs 7I	3.000	0.0105	1.000	Do Not Test
7I vs 3I	514.000	1.805	1.000	Do Not Test
7I vs 1I	412.000	1.446	1.000	Do Not Test
7I vs 3S	340.000	1.194	1.000	Do Not Test
7I vs 1S	329.000	1.155	1.000	Do Not Test
1S vs 3I	185.000	0.650	1.000	Do Not Test
1S vs 1I	83.000	0.291	1.000	Do Not Test
1S vs 3S	11.000	0.0386	1.000	Do Not Test
3S vs 3I	174.000	0.611	1.000	Do Not Test
3S vs 1I	72.000	0.253	1.000	Do Not Test
1I vs 3I	102.000	0.358	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:20:38

Data source: TbN in L5 Perinates

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:20:38

Data source: TbN in L5 Perinates

Group	N	Missing	Median	25%	75%
1I	11	0	0.00302	0.00280	0.00367
1C	11	0	0.00218	0.00206	0.00308
1S	11	0	0.00268	0.00261	0.00385
2I	11	0	0.00324	0.00251	0.00371
2C	11	0	0.00199	0.00164	0.00272
2S	11	0	0.00285	0.00239	0.00354
3I	11	0	0.00294	0.00266	0.00396
3C	11	0	0.00218	0.00205	0.00291
3S	11	0	0.00291	0.00264	0.00352
4I	11	0	0.00290	0.00269	0.00342
4C	11	0	0.00214	0.00201	0.00285
4S	11	0	0.00292	0.00263	0.00382
5I	11	0	0.00276	0.00236	0.00324
5C	11	0	0.00210	0.00192	0.00284
5S	11	0	0.00267	0.00248	0.00320
6I	11	0	0.00282	0.00248	0.00368
6C	11	0	0.00225	0.00209	0.00301
6S	11	0	0.00314	0.00274	0.00335
7I	11	0	0.00283	0.00271	0.00372
7C	11	0	0.00224	0.00168	0.00289
7S	11	0	0.00332	0.00252	0.00403
8I	11	0	0.00279	0.00236	0.00361
8C	11	0	0.00202	0.00187	0.00260
8S	11	0	0.00282	0.00258	0.00338
9I	11	0	0.00274	0.00247	0.00396
9C	11	0	0.00221	0.00179	0.00307
9S	11	0	0.00335	0.00285	0.00383

H = 93.463 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
9S vs 2C	1587.000	5.572	0.028	Yes
9S vs 8C	1553.000	5.452	0.035	Yes



9S vs 5C	1489.500	5.229	0.056	No
9S vs 4C	1386.000	4.866	0.119	Do Not Test
9S vs 6C	1250.000	4.389	0.278	Do Not Test
9S vs 9C	1241.500	4.359	0.291	Do Not Test
9S vs 3C	1240.000	4.353	0.293	Do Not Test
9S vs 7C	1227.500	4.310	0.314	Do Not Test
9S vs 1C	1195.000	4.195	0.370	Do Not Test
9S vs 5I	622.500	2.185	0.999	Do Not Test
9S vs 8I	564.000	1.980	1.000	Do Not Test
9S vs 5S	557.000	1.956	1.000	Do Not Test
9S vs 8S	418.000	1.468	1.000	Do Not Test
9S vs 2S	413.500	1.452	1.000	Do Not Test
9S vs 6I	346.500	1.216	1.000	Do Not Test
9S vs 4I	301.500	1.059	1.000	Do Not Test
9S vs 3S	256.500	0.901	1.000	Do Not Test
9S vs 1S	249.000	0.874	1.000	Do Not Test
9S vs 9I	245.500	0.862	1.000	Do Not Test
9S vs 2I	199.500	0.700	1.000	Do Not Test
9S vs 3I	199.000	0.699	1.000	Do Not Test
9S vs 4S	186.000	0.653	1.000	Do Not Test
9S vs 6S	163.000	0.572	1.000	Do Not Test
9S vs 7I	148.500	0.521	1.000	Do Not Test
9S vs 1I	114.500	0.402	1.000	Do Not Test
9S vs 7S	85.500	0.300	1.000	Do Not Test
7S vs 2C	1501.500	5.271	0.051	No
7S vs 8C	1467.500	5.152	0.066	Do Not Test
7S vs 5C	1404.000	4.929	0.105	Do Not Test
7S vs 4C	1300.500	4.566	0.207	Do Not Test
7S vs 6C	1164.500	4.088	0.428	Do Not Test
7S vs 9C	1156.000	4.059	0.444	Do Not Test
7S vs 3C	1154.500	4.053	0.447	Do Not Test
7S vs 7C	1142.000	4.009	0.473	Do Not Test
7S vs 1C	1109.500	3.895	0.540	Do Not Test
7S vs 5I	537.000	1.885	1.000	Do Not Test
7S vs 8I	478.500	1.680	1.000	Do Not Test
7S vs 5S	471.500	1.655	1.000	Do Not Test
7S vs 8S	332.500	1.167	1.000	Do Not Test
7S vs 2S	328.000	1.152	1.000	Do Not Test
7S vs 6I	261.000	0.916	1.000	Do Not Test
7S vs 4I	216.000	0.758	1.000	Do Not Test
7S vs 3S	171.000	0.600	1.000	Do Not Test
7S vs 1S	163.500	0.574	1.000	Do Not Test
7S vs 9I	160.000	0.562	1.000	Do Not Test
7S vs 2I	114.000	0.400	1.000	Do Not Test
7S vs 3I	113.500	0.398	1.000	Do Not Test
7S vs 4S	100.500	0.353	1.000	Do Not Test
7S vs 6S	77.500	0.272	1.000	Do Not Test
7S vs 7I	63.000	0.221	1.000	Do Not Test
7S vs 1I	29.000	0.102	1.000	Do Not Test
1I vs 2C	1472.500	5.170	0.064	Do Not Test
1I vs 8C	1438.500	5.050	0.082	Do Not Test
1I vs 5C	1375.000	4.827	0.128	Do Not Test
1I vs 4C	1271.500	4.464	0.246	Do Not Test
1I vs 6C	1135.500	3.987	0.486	Do Not Test
1I vs 9C	1127.000	3.957	0.504	Do Not Test
1I vs 3C	1125.500	3.951	0.507	Do Not Test

1I vs 7C	1113.000	3.908	0.533	Do Not Test
1I vs 1C	1080.500	3.793	0.602	Do Not Test
1I vs 5I	508.000	1.783	1.000	Do Not Test
1I vs 8I	449.500	1.578	1.000	Do Not Test
1I vs 5S	442.500	1.554	1.000	Do Not Test
1I vs 8S	303.500	1.066	1.000	Do Not Test
1I vs 2S	299.000	1.050	1.000	Do Not Test
1I vs 6I	232.000	0.815	1.000	Do Not Test
1I vs 4I	187.000	0.657	1.000	Do Not Test
1I vs 3S	142.000	0.499	1.000	Do Not Test
1I vs 1S	134.500	0.472	1.000	Do Not Test
1I vs 9I	131.000	0.460	1.000	Do Not Test
1I vs 2I	85.000	0.298	1.000	Do Not Test
1I vs 3I	84.500	0.297	1.000	Do Not Test
1I vs 4S	71.500	0.251	1.000	Do Not Test
1I vs 6S	48.500	0.170	1.000	Do Not Test
1I vs 7I	34.000	0.119	1.000	Do Not Test
7I vs 2C	1438.500	5.050	0.082	Do Not Test
7I vs 8C	1404.500	4.931	0.104	Do Not Test
7I vs 5C	1341.000	4.708	0.160	Do Not Test
7I vs 4C	1237.500	4.345	0.297	Do Not Test
7I vs 6C	1101.500	3.867	0.557	Do Not Test
7I vs 9C	1093.000	3.837	0.576	Do Not Test
7I vs 3C	1091.500	3.832	0.579	Do Not Test
7I vs 7C	1079.000	3.788	0.605	Do Not Test
7I vs 1C	1046.500	3.674	0.674	Do Not Test
7I vs 5I	474.000	1.664	1.000	Do Not Test
7I vs 8I	415.500	1.459	1.000	Do Not Test
7I vs 5S	408.500	1.434	1.000	Do Not Test
7I vs 8S	269.500	0.946	1.000	Do Not Test
7I vs 2S	265.000	0.930	1.000	Do Not Test
7I vs 6I	198.000	0.695	1.000	Do Not Test
7I vs 4I	153.000	0.537	1.000	Do Not Test
7I vs 3S	108.000	0.379	1.000	Do Not Test
7I vs 1S	100.500	0.353	1.000	Do Not Test
7I vs 9I	97.000	0.341	1.000	Do Not Test
7I vs 2I	51.000	0.179	1.000	Do Not Test
7I vs 3I	50.500	0.177	1.000	Do Not Test
7I vs 4S	37.500	0.132	1.000	Do Not Test
7I vs 6S	14.500	0.0509	1.000	Do Not Test
6S vs 2C	1424.000	4.999	0.091	Do Not Test
6S vs 8C	1390.000	4.880	0.115	Do Not Test
6S vs 5C	1326.500	4.657	0.176	Do Not Test
6S vs 4C	1223.000	4.294	0.321	Do Not Test
6S vs 6C	1087.000	3.816	0.588	Do Not Test
6S vs 9C	1078.500	3.786	0.606	Do Not Test
6S vs 3C	1077.000	3.781	0.610	Do Not Test
6S vs 7C	1064.500	3.737	0.636	Do Not Test
6S vs 1C	1032.000	3.623	0.703	Do Not Test
6S vs 5I	459.500	1.613	1.000	Do Not Test
6S vs 8I	401.000	1.408	1.000	Do Not Test
6S vs 5S	394.000	1.383	1.000	Do Not Test
6S vs 8S	255.000	0.895	1.000	Do Not Test
6S vs 2S	250.500	0.879	1.000	Do Not Test
6S vs 6I	183.500	0.644	1.000	Do Not Test
6S vs 4I	138.500	0.486	1.000	Do Not Test

6S vs 3S	93.500	0.328	1.000	Do Not Test
6S vs 1S	86.000	0.302	1.000	Do Not Test
6S vs 9I	82.500	0.290	1.000	Do Not Test
6S vs 2I	36.500	0.128	1.000	Do Not Test
6S vs 3I	36.000	0.126	1.000	Do Not Test
6S vs 4S	23.000	0.0807	1.000	Do Not Test
4S vs 2C	1401.000	4.919	0.107	Do Not Test
4S vs 8C	1367.000	4.799	0.135	Do Not Test
4S vs 5C	1303.500	4.576	0.203	Do Not Test
4S vs 4C	1200.000	4.213	0.361	Do Not Test
4S vs 6C	1064.000	3.736	0.637	Do Not Test
4S vs 9C	1055.500	3.706	0.655	Do Not Test
4S vs 3C	1054.000	3.700	0.658	Do Not Test
4S vs 7C	1041.500	3.657	0.684	Do Not Test
4S vs 1C	1009.000	3.542	0.748	Do Not Test
4S vs 5I	436.500	1.532	1.000	Do Not Test
4S vs 8I	378.000	1.327	1.000	Do Not Test
4S vs 5S	371.000	1.303	1.000	Do Not Test
4S vs 8S	232.000	0.815	1.000	Do Not Test
4S vs 2S	227.500	0.799	1.000	Do Not Test
4S vs 6I	160.500	0.563	1.000	Do Not Test
4S vs 4I	115.500	0.405	1.000	Do Not Test
4S vs 3S	70.500	0.248	1.000	Do Not Test
4S vs 1S	63.000	0.221	1.000	Do Not Test
4S vs 9I	59.500	0.209	1.000	Do Not Test
4S vs 2I	13.500	0.0474	1.000	Do Not Test
4S vs 3I	13.000	0.0456	1.000	Do Not Test
3I vs 2C	1388.000	4.873	0.117	Do Not Test
3I vs 8C	1354.000	4.754	0.147	Do Not Test
3I vs 5C	1290.500	4.531	0.220	Do Not Test
3I vs 4C	1187.000	4.167	0.385	Do Not Test
3I vs 6C	1051.000	3.690	0.665	Do Not Test
3I vs 9C	1042.500	3.660	0.682	Do Not Test
3I vs 3C	1041.000	3.655	0.685	Do Not Test
3I vs 7C	1028.500	3.611	0.710	Do Not Test
3I vs 1C	996.000	3.497	0.771	Do Not Test
3I vs 5I	423.500	1.487	1.000	Do Not Test
3I vs 8I	365.000	1.281	1.000	Do Not Test
3I vs 5S	358.000	1.257	1.000	Do Not Test
3I vs 8S	219.000	0.769	1.000	Do Not Test
3I vs 2S	214.500	0.753	1.000	Do Not Test
3I vs 6I	147.500	0.518	1.000	Do Not Test
3I vs 4I	102.500	0.360	1.000	Do Not Test
3I vs 3S	57.500	0.202	1.000	Do Not Test
3I vs 1S	50.000	0.176	1.000	Do Not Test
3I vs 9I	46.500	0.163	1.000	Do Not Test
3I vs 2I	0.500	0.00176	1.000	Do Not Test
2I vs 2C	1387.500	4.871	0.117	Do Not Test
2I vs 8C	1353.500	4.752	0.148	Do Not Test
2I vs 5C	1290.000	4.529	0.221	Do Not Test
2I vs 4C	1186.500	4.166	0.386	Do Not Test
2I vs 6C	1050.500	3.688	0.666	Do Not Test
2I vs 9C	1042.000	3.658	0.683	Do Not Test
2I vs 3C	1040.500	3.653	0.686	Do Not Test
2I vs 7C	1028.000	3.609	0.711	Do Not Test
2I vs 1C	995.500	3.495	0.772	Do Not Test

2I vs 5I	423.000	1.485	1.000	Do Not Test
2I vs 8I	364.500	1.280	1.000	Do Not Test
2I vs 5S	357.500	1.255	1.000	Do Not Test
2I vs 8S	218.500	0.767	1.000	Do Not Test
2I vs 2S	214.000	0.751	1.000	Do Not Test
2I vs 6I	147.000	0.516	1.000	Do Not Test
2I vs 4I	102.000	0.358	1.000	Do Not Test
2I vs 3S	57.000	0.200	1.000	Do Not Test
2I vs 1S	49.500	0.174	1.000	Do Not Test
2I vs 9I	46.000	0.161	1.000	Do Not Test
9I vs 2C	1341.500	4.710	0.160	Do Not Test
9I vs 8C	1307.500	4.590	0.198	Do Not Test
9I vs 5C	1244.000	4.367	0.287	Do Not Test
9I vs 4C	1140.500	4.004	0.476	Do Not Test
9I vs 6C	1004.500	3.527	0.756	Do Not Test
9I vs 9C	996.000	3.497	0.771	Do Not Test
9I vs 3C	994.500	3.492	0.774	Do Not Test
9I vs 7C	982.000	3.448	0.795	Do Not Test
9I vs 1C	949.500	3.334	0.844	Do Not Test
9I vs 5I	377.000	1.324	1.000	Do Not Test
9I vs 8I	318.500	1.118	1.000	Do Not Test
9I vs 5S	311.500	1.094	1.000	Do Not Test
9I vs 8S	172.500	0.606	1.000	Do Not Test
9I vs 2S	168.000	0.590	1.000	Do Not Test
9I vs 6I	101.000	0.355	1.000	Do Not Test
9I vs 4I	56.000	0.197	1.000	Do Not Test
9I vs 3S	11.000	0.0386	1.000	Do Not Test
9I vs 1S	3.500	0.0123	1.000	Do Not Test
1S vs 2C	1338.000	4.697	0.164	Do Not Test
1S vs 8C	1304.000	4.578	0.203	Do Not Test
1S vs 5C	1240.500	4.355	0.293	Do Not Test
1S vs 4C	1137.000	3.992	0.483	Do Not Test
1S vs 6C	1001.000	3.514	0.762	Do Not Test
1S vs 9C	992.500	3.484	0.777	Do Not Test
1S vs 3C	991.000	3.479	0.780	Do Not Test
1S vs 7C	978.500	3.435	0.801	Do Not Test
1S vs 1C	946.000	3.321	0.849	Do Not Test
1S vs 5I	373.500	1.311	1.000	Do Not Test
1S vs 8I	315.000	1.106	1.000	Do Not Test
1S vs 5S	308.000	1.081	1.000	Do Not Test
1S vs 8S	169.000	0.593	1.000	Do Not Test
1S vs 2S	164.500	0.578	1.000	Do Not Test
1S vs 6I	97.500	0.342	1.000	Do Not Test
1S vs 4I	52.500	0.184	1.000	Do Not Test
1S vs 3S	7.500	0.0263	1.000	Do Not Test
3S vs 2C	1330.500	4.671	0.172	Do Not Test
3S vs 8C	1296.500	4.552	0.212	Do Not Test
3S vs 5C	1233.000	4.329	0.305	Do Not Test
3S vs 4C	1129.500	3.965	0.498	Do Not Test
3S vs 6C	993.500	3.488	0.776	Do Not Test
3S vs 9C	985.000	3.458	0.790	Do Not Test
3S vs 3C	983.500	3.453	0.793	Do Not Test
3S vs 7C	971.000	3.409	0.813	Do Not Test
3S vs 1C	938.500	3.295	0.859	Do Not Test
3S vs 5I	366.000	1.285	1.000	Do Not Test
3S vs 8I	307.500	1.080	1.000	Do Not Test

3S vs 5S	300.500	1.055	1.000	Do Not Test
3S vs 8S	161.500	0.567	1.000	Do Not Test
3S vs 2S	157.000	0.551	1.000	Do Not Test
3S vs 6I	90.000	0.316	1.000	Do Not Test
3S vs 4I	45.000	0.158	1.000	Do Not Test
4I vs 2C	1285.500	4.513	0.227	Do Not Test
4I vs 8C	1251.500	4.394	0.275	Do Not Test
4I vs 5C	1188.000	4.171	0.383	Do Not Test
4I vs 4C	1084.500	3.807	0.594	Do Not Test
4I vs 6C	948.500	3.330	0.846	Do Not Test
4I vs 9C	940.000	3.300	0.857	Do Not Test
4I vs 3C	938.500	3.295	0.859	Do Not Test
4I vs 7C	926.000	3.251	0.874	Do Not Test
4I vs 1C	893.500	3.137	0.908	Do Not Test
4I vs 5I	321.000	1.127	1.000	Do Not Test
4I vs 8I	262.500	0.922	1.000	Do Not Test
4I vs 5S	255.500	0.897	1.000	Do Not Test
4I vs 8S	116.500	0.409	1.000	Do Not Test
4I vs 2S	112.000	0.393	1.000	Do Not Test
4I vs 6I	45.000	0.158	1.000	Do Not Test
6I vs 2C	1240.500	4.355	0.293	Do Not Test
6I vs 8C	1206.500	4.236	0.349	Do Not Test
6I vs 5C	1143.000	4.013	0.471	Do Not Test
6I vs 4C	1039.500	3.649	0.688	Do Not Test
6I vs 6C	903.500	3.172	0.898	Do Not Test
6I vs 9C	895.000	3.142	0.906	Do Not Test
6I vs 3C	893.500	3.137	0.908	Do Not Test
6I vs 7C	881.000	3.093	0.918	Do Not Test
6I vs 1C	848.500	2.979	0.942	Do Not Test
6I vs 5I	276.000	0.969	1.000	Do Not Test
6I vs 8I	217.500	0.764	1.000	Do Not Test
6I vs 5S	210.500	0.739	1.000	Do Not Test
6I vs 8S	71.500	0.251	1.000	Do Not Test
6I vs 2S	67.000	0.235	1.000	Do Not Test
2S vs 2C	1173.500	4.120	0.410	Do Not Test
2S vs 8C	1139.500	4.001	0.478	Do Not Test
2S vs 5C	1076.000	3.778	0.612	Do Not Test
2S vs 4C	972.500	3.414	0.811	Do Not Test
2S vs 6C	836.500	2.937	0.949	Do Not Test
2S vs 9C	828.000	2.907	0.953	Do Not Test
2S vs 3C	826.500	2.902	0.954	Do Not Test
2S vs 7C	814.000	2.858	0.960	Do Not Test
2S vs 1C	781.500	2.744	0.974	Do Not Test
2S vs 5I	209.000	0.734	1.000	Do Not Test
2S vs 8I	150.500	0.528	1.000	Do Not Test
2S vs 5S	143.500	0.504	1.000	Do Not Test
2S vs 8S	4.500	0.0158	1.000	Do Not Test
8S vs 2C	1169.000	4.104	0.419	Do Not Test
8S vs 8C	1135.000	3.985	0.487	Do Not Test
8S vs 5C	1071.500	3.762	0.621	Do Not Test
8S vs 4C	968.000	3.398	0.818	Do Not Test
8S vs 6C	832.000	2.921	0.951	Do Not Test
8S vs 9C	823.500	2.891	0.956	Do Not Test
8S vs 3C	822.000	2.886	0.957	Do Not Test
8S vs 7C	809.500	2.842	0.963	Do Not Test
8S vs 1C	777.000	2.728	0.975	Do Not Test

8S vs 5I	204.500	0.718	1.000	Do Not Test
8S vs 8I	146.000	0.513	1.000	Do Not Test
8S vs 5S	139.000	0.488	1.000	Do Not Test
5S vs 2C	1030.000	3.616	0.707	Do Not Test
5S vs 8C	996.000	3.497	0.771	Do Not Test
5S vs 5C	932.500	3.274	0.866	Do Not Test
5S vs 4C	829.000	2.910	0.953	Do Not Test
5S vs 6C	693.000	2.433	0.994	Do Not Test
5S vs 9C	684.500	2.403	0.995	Do Not Test
5S vs 3C	683.000	2.398	0.995	Do Not Test
5S vs 7C	670.500	2.354	0.996	Do Not Test
5S vs 1C	638.000	2.240	0.998	Do Not Test
5S vs 5I	65.500	0.230	1.000	Do Not Test
5S vs 8I	7.000	0.0246	1.000	Do Not Test
8I vs 2C	1023.000	3.592	0.721	Do Not Test
8I vs 8C	989.000	3.472	0.783	Do Not Test
8I vs 5C	925.500	3.249	0.875	Do Not Test
8I vs 4C	822.000	2.886	0.957	Do Not Test
8I vs 6C	686.000	2.408	0.995	Do Not Test
8I vs 9C	677.500	2.379	0.996	Do Not Test
8I vs 3C	676.000	2.373	0.996	Do Not Test
8I vs 7C	663.500	2.329	0.997	Do Not Test
8I vs 1C	631.000	2.215	0.999	Do Not Test
8I vs 5I	58.500	0.205	1.000	Do Not Test
5I vs 2C	964.500	3.386	0.823	Do Not Test
5I vs 8C	930.500	3.267	0.869	Do Not Test
5I vs 5C	867.000	3.044	0.929	Do Not Test
5I vs 4C	763.500	2.681	0.980	Do Not Test
5I vs 6C	627.500	2.203	0.999	Do Not Test
5I vs 9C	619.000	2.173	0.999	Do Not Test
5I vs 3C	617.500	2.168	0.999	Do Not Test
5I vs 7C	605.000	2.124	0.999	Do Not Test
5I vs 1C	572.500	2.010	1.000	Do Not Test
1C vs 2C	392.000	1.376	1.000	Do Not Test
1C vs 8C	358.000	1.257	1.000	Do Not Test
1C vs 5C	294.500	1.034	1.000	Do Not Test
1C vs 4C	191.000	0.671	1.000	Do Not Test
1C vs 6C	55.000	0.193	1.000	Do Not Test
1C vs 9C	46.500	0.163	1.000	Do Not Test
1C vs 3C	45.000	0.158	1.000	Do Not Test
1C vs 7C	32.500	0.114	1.000	Do Not Test
7C vs 2C	359.500	1.262	1.000	Do Not Test
7C vs 8C	325.500	1.143	1.000	Do Not Test
7C vs 5C	262.000	0.920	1.000	Do Not Test
7C vs 4C	158.500	0.556	1.000	Do Not Test
7C vs 6C	22.500	0.0790	1.000	Do Not Test
7C vs 9C	14.000	0.0492	1.000	Do Not Test
7C vs 3C	12.500	0.0439	1.000	Do Not Test
3C vs 2C	347.000	1.218	1.000	Do Not Test
3C vs 8C	313.000	1.099	1.000	Do Not Test
3C vs 5C	249.500	0.876	1.000	Do Not Test
3C vs 4C	146.000	0.513	1.000	Do Not Test
3C vs 6C	10.000	0.0351	1.000	Do Not Test
3C vs 9C	1.500	0.00527	1.000	Do Not Test
9C vs 2C	345.500	1.213	1.000	Do Not Test
9C vs 8C	311.500	1.094	1.000	Do Not Test

9C vs 5C	248.000	0.871	1.000	Do Not Test
9C vs 4C	144.500	0.507	1.000	Do Not Test
9C vs 6C	8.500	0.0298	1.000	Do Not Test
6C vs 2C	337.000	1.183	1.000	Do Not Test
6C vs 8C	303.000	1.064	1.000	Do Not Test
6C vs 5C	239.500	0.841	1.000	Do Not Test
6C vs 4C	136.000	0.477	1.000	Do Not Test
4C vs 2C	201.000	0.706	1.000	Do Not Test
4C vs 8C	167.000	0.586	1.000	Do Not Test
4C vs 5C	103.500	0.363	1.000	Do Not Test
5C vs 2C	97.500	0.342	1.000	Do Not Test
5C vs 8C	63.500	0.223	1.000	Do Not Test
8C vs 2C	34.000	0.119	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:21:45

Data source: TbSp in L5 Perinates

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:21:45

Data source: TbSp in L5 Perinates

Group	N	Missing	Median	25%	75%
1I	11	0	189.575	172.974	196.299
1C	11	0	269.462	240.344	293.673
1S	11	0	194.100	167.846	210.670
2I	11	0	191.981	175.125	226.202
2C	11	0	327.420	261.276	475.393
2S	11	0	203.069	179.580	220.652
3I	11	0	189.202	164.116	215.393
3C	11	0	254.063	228.611	303.586
3S	11	0	194.519	176.852	215.454
4I	11	0	209.822	193.747	217.756
4C	11	0	255.275	218.627	272.153
4S	11	0	192.961	166.401	226.381
5I	11	0	229.457	195.036	248.924
5C	11	0	350.629	249.926	369.956
5S	11	0	222.579	196.938	228.759
6I	11	0	215.876	173.766	224.310
6C	11	0	234.670	208.546	282.191
6S	11	0	196.028	180.341	219.303
7I	11	0	210.113	169.533	232.092
7C	11	0	247.961	203.435	309.934
7S	11	0	197.187	159.787	226.893
8I	11	0	217.240	189.970	300.814
8C	11	0	430.114	412.407	508.810
8S	11	0	209.882	187.454	243.748
9I	11	0	204.108	167.497	238.071
9C	11	0	241.657	207.526	268.416
9S	11	0	180.878	155.924	212.325

H = 138.759 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 9S	2304.000	8.089	0.006	Yes
8C vs 1I	2228.000	7.822	0.006	Yes



8C vs 1S	2147.000	7.538	0.007	Yes
8C vs 3I	2102.000	7.380	0.007	Yes
8C vs 3S	2061.000	7.236	0.007	Yes
8C vs 7S	2060.000	7.232	0.007	Yes
8C vs 2I	1930.000	6.776	0.007	Yes
8C vs 7I	1893.000	6.646	0.007	Yes
8C vs 6S	1877.000	6.590	0.007	Yes
8C vs 4S	1859.000	6.527	0.008	Yes
8C vs 9I	1859.000	6.527	0.008	Yes
8C vs 2S	1843.000	6.470	0.008	Yes
8C vs 6I	1789.000	6.281	0.009	Yes
8C vs 4I	1736.000	6.095	0.011	Yes
8C vs 8S	1608.000	5.645	0.024	Yes
8C vs 5S	1476.000	5.182	0.062	No
8C vs 8I	1357.000	4.764	0.144	Do Not Test
8C vs 5I	1242.000	4.360	0.290	Do Not Test
8C vs 9C	1061.000	3.725	0.644	Do Not Test
8C vs 7C	966.000	3.391	0.821	Do Not Test
8C vs 6C	948.000	3.328	0.846	Do Not Test
8C vs 1C	829.000	2.910	0.953	Do Not Test
8C vs 3C	782.000	2.745	0.974	Do Not Test
8C vs 4C	760.000	2.668	0.981	Do Not Test
8C vs 5C	264.000	0.927	1.000	Do Not Test
8C vs 2C	250.000	0.878	1.000	Do Not Test
2C vs 9S	2054.000	7.211	0.007	Yes
2C vs 1I	1978.000	6.944	0.007	Yes
2C vs 1S	1897.000	6.660	0.007	Yes
2C vs 3I	1852.000	6.502	0.008	Yes
2C vs 3S	1811.000	6.358	0.009	Yes
2C vs 7S	1810.000	6.355	0.009	Yes
2C vs 2I	1680.000	5.898	0.015	Yes
2C vs 7I	1643.000	5.768	0.019	Yes
2C vs 6S	1627.000	5.712	0.021	Yes
2C vs 4S	1609.000	5.649	0.024	Yes
2C vs 9I	1609.000	5.649	0.024	Yes
2C vs 2S	1593.000	5.593	0.026	Yes
2C vs 6I	1539.000	5.403	0.039	Yes
2C vs 4I	1486.000	5.217	0.058	No
2C vs 8S	1358.000	4.768	0.143	Do Not Test
2C vs 5S	1226.000	4.304	0.316	Do Not Test
2C vs 8I	1107.000	3.886	0.546	Do Not Test
2C vs 5I	992.000	3.483	0.778	Do Not Test
2C vs 9C	811.000	2.847	0.962	Do Not Test
2C vs 7C	716.000	2.514	0.991	Do Not Test
2C vs 6C	698.000	2.451	0.994	Do Not Test
2C vs 1C	579.000	2.033	1.000	Do Not Test
2C vs 3C	532.000	1.868	1.000	Do Not Test
2C vs 4C	510.000	1.791	1.000	Do Not Test
2C vs 5C	14.000	0.0492	1.000	Do Not Test
5C vs 9S	2040.000	7.162	0.007	Yes
5C vs 1I	1964.000	6.895	0.007	Yes
5C vs 1S	1883.000	6.611	0.007	Yes
5C vs 3I	1838.000	6.453	0.008	Yes
5C vs 3S	1797.000	6.309	0.009	Yes
5C vs 7S	1796.000	6.305	0.009	Yes
5C vs 2I	1666.000	5.849	0.016	Yes

5C vs 7I	1629.000	5.719	0.021	Yes
5C vs 6S	1613.000	5.663	0.023	Yes
5C vs 4S	1595.000	5.600	0.026	Yes
5C vs 9I	1595.000	5.600	0.026	Yes
5C vs 2S	1579.000	5.544	0.029	Yes
5C vs 6I	1525.000	5.354	0.043	Yes
5C vs 4I	1472.000	5.168	0.064	Do Not Test
5C vs 8S	1344.000	4.719	0.157	Do Not Test
5C vs 5S	1212.000	4.255	0.340	Do Not Test
5C vs 8I	1093.000	3.837	0.576	Do Not Test
5C vs 5I	978.000	3.434	0.802	Do Not Test
5C vs 9C	797.000	2.798	0.968	Do Not Test
5C vs 7C	702.000	2.465	0.993	Do Not Test
5C vs 6C	684.000	2.401	0.995	Do Not Test
5C vs 1C	565.000	1.984	1.000	Do Not Test
5C vs 3C	518.000	1.819	1.000	Do Not Test
5C vs 4C	496.000	1.741	1.000	Do Not Test
4C vs 9S	1544.000	5.421	0.038	Yes
4C vs 1I	1468.000	5.154	0.066	No
4C vs 1S	1387.000	4.870	0.118	Do Not Test
4C vs 3I	1342.000	4.712	0.159	Do Not Test
4C vs 3S	1301.000	4.568	0.206	Do Not Test
4C vs 7S	1300.000	4.564	0.208	Do Not Test
4C vs 2I	1170.000	4.108	0.417	Do Not Test
4C vs 7I	1133.000	3.978	0.491	Do Not Test
4C vs 6S	1117.000	3.922	0.525	Do Not Test
4C vs 4S	1099.000	3.858	0.563	Do Not Test
4C vs 9I	1099.000	3.858	0.563	Do Not Test
4C vs 2S	1083.000	3.802	0.597	Do Not Test
4C vs 6I	1029.000	3.613	0.709	Do Not Test
4C vs 4I	976.000	3.427	0.805	Do Not Test
4C vs 8S	848.000	2.977	0.942	Do Not Test
4C vs 5S	716.000	2.514	0.991	Do Not Test
4C vs 8I	597.000	2.096	1.000	Do Not Test
4C vs 5I	482.000	1.692	1.000	Do Not Test
4C vs 9C	301.000	1.057	1.000	Do Not Test
4C vs 7C	206.000	0.723	1.000	Do Not Test
4C vs 6C	188.000	0.660	1.000	Do Not Test
4C vs 1C	69.000	0.242	1.000	Do Not Test
4C vs 3C	22.000	0.0772	1.000	Do Not Test
3C vs 9S	1522.000	5.343	0.044	Yes
3C vs 1I	1446.000	5.077	0.077	Do Not Test
3C vs 1S	1365.000	4.792	0.137	Do Not Test
3C vs 3I	1320.000	4.634	0.183	Do Not Test
3C vs 3S	1279.000	4.490	0.235	Do Not Test
3C vs 7S	1278.000	4.487	0.237	Do Not Test
3C vs 2I	1148.000	4.030	0.460	Do Not Test
3C vs 7I	1111.000	3.901	0.537	Do Not Test
3C vs 6S	1095.000	3.844	0.571	Do Not Test
3C vs 4S	1077.000	3.781	0.610	Do Not Test
3C vs 9I	1077.000	3.781	0.610	Do Not Test
3C vs 2S	1061.000	3.725	0.644	Do Not Test
3C vs 6I	1007.000	3.535	0.751	Do Not Test
3C vs 4I	954.000	3.349	0.838	Do Not Test
3C vs 8S	826.000	2.900	0.954	Do Not Test
3C vs 5S	694.000	2.437	0.994	Do Not Test

3C vs 8I	575.000	2.019	1.000	Do Not Test
3C vs 5I	460.000	1.615	1.000	Do Not Test
3C vs 9C	279.000	0.980	1.000	Do Not Test
3C vs 7C	184.000	0.646	1.000	Do Not Test
3C vs 6C	166.000	0.583	1.000	Do Not Test
3C vs 1C	47.000	0.165	1.000	Do Not Test
1C vs 9S	1475.000	5.178	0.063	No
1C vs 1I	1399.000	4.912	0.108	Do Not Test
1C vs 1S	1318.000	4.627	0.186	Do Not Test
1C vs 3I	1273.000	4.469	0.244	Do Not Test
1C vs 3S	1232.000	4.325	0.306	Do Not Test
1C vs 7S	1231.000	4.322	0.308	Do Not Test
1C vs 2I	1101.000	3.865	0.558	Do Not Test
1C vs 7I	1064.000	3.736	0.637	Do Not Test
1C vs 6S	1048.000	3.679	0.671	Do Not Test
1C vs 4S	1030.000	3.616	0.707	Do Not Test
1C vs 9I	1030.000	3.616	0.707	Do Not Test
1C vs 2S	1014.000	3.560	0.738	Do Not Test
1C vs 6I	960.000	3.370	0.830	Do Not Test
1C vs 4I	907.000	3.184	0.895	Do Not Test
1C vs 8S	779.000	2.735	0.975	Do Not Test
1C vs 5S	647.000	2.271	0.998	Do Not Test
1C vs 8I	528.000	1.854	1.000	Do Not Test
1C vs 5I	413.000	1.450	1.000	Do Not Test
1C vs 9C	232.000	0.815	1.000	Do Not Test
1C vs 7C	137.000	0.481	1.000	Do Not Test
1C vs 6C	119.000	0.418	1.000	Do Not Test
6C vs 9S	1356.000	4.761	0.145	Do Not Test
6C vs 1I	1280.000	4.494	0.234	Do Not Test
6C vs 1S	1199.000	4.209	0.363	Do Not Test
6C vs 3I	1154.000	4.051	0.448	Do Not Test
6C vs 3S	1113.000	3.908	0.533	Do Not Test
6C vs 7S	1112.000	3.904	0.535	Do Not Test
6C vs 2I	982.000	3.448	0.795	Do Not Test
6C vs 7I	945.000	3.318	0.850	Do Not Test
6C vs 6S	929.000	3.262	0.871	Do Not Test
6C vs 4S	911.000	3.198	0.891	Do Not Test
6C vs 9I	911.000	3.198	0.891	Do Not Test
6C vs 2S	895.000	3.142	0.906	Do Not Test
6C vs 6I	841.000	2.953	0.946	Do Not Test
6C vs 4I	788.000	2.767	0.971	Do Not Test
6C vs 8S	660.000	2.317	0.997	Do Not Test
6C vs 5S	528.000	1.854	1.000	Do Not Test
6C vs 8I	409.000	1.436	1.000	Do Not Test
6C vs 5I	294.000	1.032	1.000	Do Not Test
6C vs 9C	113.000	0.397	1.000	Do Not Test
6C vs 7C	18.000	0.0632	1.000	Do Not Test
7C vs 9S	1338.000	4.697	0.164	Do Not Test
7C vs 1I	1262.000	4.431	0.260	Do Not Test
7C vs 1S	1181.000	4.146	0.396	Do Not Test
7C vs 3I	1136.000	3.988	0.485	Do Not Test
7C vs 3S	1095.000	3.844	0.571	Do Not Test
7C vs 7S	1094.000	3.841	0.573	Do Not Test
7C vs 2I	964.000	3.384	0.824	Do Not Test
7C vs 7I	927.000	3.255	0.873	Do Not Test
7C vs 6S	911.000	3.198	0.891	Do Not Test

7C vs 4S	893.000	3.135	0.908	Do Not Test
7C vs 9I	893.000	3.135	0.908	Do Not Test
7C vs 2S	877.000	3.079	0.922	Do Not Test
7C vs 6I	823.000	2.889	0.956	Do Not Test
7C vs 4I	770.000	2.703	0.978	Do Not Test
7C vs 8S	642.000	2.254	0.998	Do Not Test
7C vs 5S	510.000	1.791	1.000	Do Not Test
7C vs 8I	391.000	1.373	1.000	Do Not Test
7C vs 5I	276.000	0.969	1.000	Do Not Test
7C vs 9C	95.000	0.334	1.000	Do Not Test
9C vs 9S	1243.000	4.364	0.289	Do Not Test
9C vs 1I	1167.000	4.097	0.423	Do Not Test
9C vs 1S	1086.000	3.813	0.590	Do Not Test
9C vs 3I	1041.000	3.655	0.685	Do Not Test
9C vs 3S	1000.000	3.511	0.764	Do Not Test
9C vs 7S	999.000	3.507	0.766	Do Not Test
9C vs 2I	869.000	3.051	0.928	Do Not Test
9C vs 7I	832.000	2.921	0.951	Do Not Test
9C vs 6S	816.000	2.865	0.959	Do Not Test
9C vs 4S	798.000	2.802	0.967	Do Not Test
9C vs 9I	798.000	2.802	0.967	Do Not Test
9C vs 2S	782.000	2.745	0.974	Do Not Test
9C vs 6I	728.000	2.556	0.989	Do Not Test
9C vs 4I	675.000	2.370	0.996	Do Not Test
9C vs 8S	547.000	1.920	1.000	Do Not Test
9C vs 5S	415.000	1.457	1.000	Do Not Test
9C vs 8I	296.000	1.039	1.000	Do Not Test
9C vs 5I	181.000	0.635	1.000	Do Not Test
5I vs 9S	1062.000	3.728	0.642	Do Not Test
5I vs 1I	986.000	3.462	0.789	Do Not Test
5I vs 1S	905.000	3.177	0.897	Do Not Test
5I vs 3I	860.000	3.019	0.934	Do Not Test
5I vs 3S	819.000	2.875	0.958	Do Not Test
5I vs 7S	818.000	2.872	0.959	Do Not Test
5I vs 2I	688.000	2.415	0.995	Do Not Test
5I vs 7I	651.000	2.286	0.998	Do Not Test
5I vs 6S	635.000	2.229	0.999	Do Not Test
5I vs 4S	617.000	2.166	0.999	Do Not Test
5I vs 9I	617.000	2.166	0.999	Do Not Test
5I vs 2S	601.000	2.110	0.999	Do Not Test
5I vs 6I	547.000	1.920	1.000	Do Not Test
5I vs 4I	494.000	1.734	1.000	Do Not Test
5I vs 8S	366.000	1.285	1.000	Do Not Test
5I vs 5S	234.000	0.822	1.000	Do Not Test
5I vs 8I	115.000	0.404	1.000	Do Not Test
8I vs 9S	947.000	3.325	0.848	Do Not Test
8I vs 1I	871.000	3.058	0.926	Do Not Test
8I vs 1S	790.000	2.774	0.971	Do Not Test
8I vs 3I	745.000	2.616	0.985	Do Not Test
8I vs 3S	704.000	2.472	0.993	Do Not Test
8I vs 7S	703.000	2.468	0.993	Do Not Test
8I vs 2I	573.000	2.012	1.000	Do Not Test
8I vs 7I	536.000	1.882	1.000	Do Not Test
8I vs 6S	520.000	1.826	1.000	Do Not Test
8I vs 4S	502.000	1.762	1.000	Do Not Test
8I vs 9I	502.000	1.762	1.000	Do Not Test

8I vs 2S	486.000	1.706	1.000	Do Not Test
8I vs 6I	432.000	1.517	1.000	Do Not Test
8I vs 4I	379.000	1.331	1.000	Do Not Test
8I vs 8S	251.000	0.881	1.000	Do Not Test
8I vs 5S	119.000	0.418	1.000	Do Not Test
5S vs 9S	828.000	2.907	0.953	Do Not Test
5S vs 1I	752.000	2.640	0.983	Do Not Test
5S vs 1S	671.000	2.356	0.996	Do Not Test
5S vs 3I	626.000	2.198	0.999	Do Not Test
5S vs 3S	585.000	2.054	1.000	Do Not Test
5S vs 7S	584.000	2.050	1.000	Do Not Test
5S vs 2I	454.000	1.594	1.000	Do Not Test
5S vs 7I	417.000	1.464	1.000	Do Not Test
5S vs 6S	401.000	1.408	1.000	Do Not Test
5S vs 4S	383.000	1.345	1.000	Do Not Test
5S vs 9I	383.000	1.345	1.000	Do Not Test
5S vs 2S	367.000	1.288	1.000	Do Not Test
5S vs 6I	313.000	1.099	1.000	Do Not Test
5S vs 4I	260.000	0.913	1.000	Do Not Test
5S vs 8S	132.000	0.463	1.000	Do Not Test
8S vs 9S	696.000	2.444	0.994	Do Not Test
8S vs 1I	620.000	2.177	0.999	Do Not Test
8S vs 1S	539.000	1.892	1.000	Do Not Test
8S vs 3I	494.000	1.734	1.000	Do Not Test
8S vs 3S	453.000	1.590	1.000	Do Not Test
8S vs 7S	452.000	1.587	1.000	Do Not Test
8S vs 2I	322.000	1.130	1.000	Do Not Test
8S vs 7I	285.000	1.001	1.000	Do Not Test
8S vs 6S	269.000	0.944	1.000	Do Not Test
8S vs 4S	251.000	0.881	1.000	Do Not Test
8S vs 9I	251.000	0.881	1.000	Do Not Test
8S vs 2S	235.000	0.825	1.000	Do Not Test
8S vs 6I	181.000	0.635	1.000	Do Not Test
8S vs 4I	128.000	0.449	1.000	Do Not Test
4I vs 9S	568.000	1.994	1.000	Do Not Test
4I vs 1I	492.000	1.727	1.000	Do Not Test
4I vs 1S	411.000	1.443	1.000	Do Not Test
4I vs 3I	366.000	1.285	1.000	Do Not Test
4I vs 3S	325.000	1.141	1.000	Do Not Test
4I vs 7S	324.000	1.138	1.000	Do Not Test
4I vs 2I	194.000	0.681	1.000	Do Not Test
4I vs 7I	157.000	0.551	1.000	Do Not Test
4I vs 6S	141.000	0.495	1.000	Do Not Test
4I vs 4S	123.000	0.432	1.000	Do Not Test
4I vs 9I	123.000	0.432	1.000	Do Not Test
4I vs 2S	107.000	0.376	1.000	Do Not Test
4I vs 6I	53.000	0.186	1.000	Do Not Test
6I vs 9S	515.000	1.808	1.000	Do Not Test
6I vs 1I	439.000	1.541	1.000	Do Not Test
6I vs 1S	358.000	1.257	1.000	Do Not Test
6I vs 3I	313.000	1.099	1.000	Do Not Test
6I vs 3S	272.000	0.955	1.000	Do Not Test
6I vs 7S	271.000	0.951	1.000	Do Not Test
6I vs 2I	141.000	0.495	1.000	Do Not Test
6I vs 7I	104.000	0.365	1.000	Do Not Test
6I vs 6S	88.000	0.309	1.000	Do Not Test

6I vs 4S	70.000	0.246	1.000	Do Not Test
6I vs 9I	70.000	0.246	1.000	Do Not Test
6I vs 2S	54.000	0.190	1.000	Do Not Test
2S vs 9S	461.000	1.618	1.000	Do Not Test
2S vs 1I	385.000	1.352	1.000	Do Not Test
2S vs 1S	304.000	1.067	1.000	Do Not Test
2S vs 3I	259.000	0.909	1.000	Do Not Test
2S vs 3S	218.000	0.765	1.000	Do Not Test
2S vs 7S	217.000	0.762	1.000	Do Not Test
2S vs 2I	87.000	0.305	1.000	Do Not Test
2S vs 7I	50.000	0.176	1.000	Do Not Test
2S vs 6S	34.000	0.119	1.000	Do Not Test
2S vs 4S	16.000	0.0562	1.000	Do Not Test
2S vs 9I	16.000	0.0562	1.000	Do Not Test
9I vs 9S	445.000	1.562	1.000	Do Not Test
9I vs 1I	369.000	1.295	1.000	Do Not Test
9I vs 1S	288.000	1.011	1.000	Do Not Test
9I vs 3I	243.000	0.853	1.000	Do Not Test
9I vs 3S	202.000	0.709	1.000	Do Not Test
9I vs 7S	201.000	0.706	1.000	Do Not Test
9I vs 2I	71.000	0.249	1.000	Do Not Test
9I vs 7I	34.000	0.119	1.000	Do Not Test
9I vs 6S	18.000	0.0632	1.000	Do Not Test
9I vs 4S	0.000	0.000	1.000	Do Not Test
4S vs 9S	445.000	1.562	1.000	Do Not Test
4S vs 1I	369.000	1.295	1.000	Do Not Test
4S vs 1S	288.000	1.011	1.000	Do Not Test
4S vs 3I	243.000	0.853	1.000	Do Not Test
4S vs 3S	202.000	0.709	1.000	Do Not Test
4S vs 7S	201.000	0.706	1.000	Do Not Test
4S vs 2I	71.000	0.249	1.000	Do Not Test
4S vs 7I	34.000	0.119	1.000	Do Not Test
4S vs 6S	18.000	0.0632	1.000	Do Not Test
6S vs 9S	427.000	1.499	1.000	Do Not Test
6S vs 1I	351.000	1.232	1.000	Do Not Test
6S vs 1S	270.000	0.948	1.000	Do Not Test
6S vs 3I	225.000	0.790	1.000	Do Not Test
6S vs 3S	184.000	0.646	1.000	Do Not Test
6S vs 7S	183.000	0.642	1.000	Do Not Test
6S vs 2I	53.000	0.186	1.000	Do Not Test
6S vs 7I	16.000	0.0562	1.000	Do Not Test
7I vs 9S	411.000	1.443	1.000	Do Not Test
7I vs 1I	335.000	1.176	1.000	Do Not Test
7I vs 1S	254.000	0.892	1.000	Do Not Test
7I vs 3I	209.000	0.734	1.000	Do Not Test
7I vs 3S	168.000	0.590	1.000	Do Not Test
7I vs 7S	167.000	0.586	1.000	Do Not Test
7I vs 2I	37.000	0.130	1.000	Do Not Test
2I vs 9S	374.000	1.313	1.000	Do Not Test
2I vs 1I	298.000	1.046	1.000	Do Not Test
2I vs 1S	217.000	0.762	1.000	Do Not Test
2I vs 3I	172.000	0.604	1.000	Do Not Test
2I vs 3S	131.000	0.460	1.000	Do Not Test
2I vs 7S	130.000	0.456	1.000	Do Not Test
7S vs 9S	244.000	0.857	1.000	Do Not Test
7S vs 1I	168.000	0.590	1.000	Do Not Test

7S vs 1S	87.000	0.305	1.000	Do Not Test
7S vs 3I	42.000	0.147	1.000	Do Not Test
7S vs 3S	1.000	0.00351	1.000	Do Not Test
3S vs 9S	243.000	0.853	1.000	Do Not Test
3S vs 1I	167.000	0.586	1.000	Do Not Test
3S vs 1S	86.000	0.302	1.000	Do Not Test
3S vs 3I	41.000	0.144	1.000	Do Not Test
3I vs 9S	202.000	0.709	1.000	Do Not Test
3I vs 1I	126.000	0.442	1.000	Do Not Test
3I vs 1S	45.000	0.158	1.000	Do Not Test
1S vs 9S	157.000	0.551	1.000	Do Not Test
1S vs 1I	81.000	0.284	1.000	Do Not Test
1I vs 9S	76.000	0.267	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:22:04

Data source: D A in L5 Perinates

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:22:04

Data source: D A in L5 Perinates

Group	N	Missing	Median	25%	75%
1I	11	0	0.505	0.415	0.669
1C	11	0	0.468	0.320	0.596
1S	11	0	0.500	0.403	0.561
2I	11	0	0.498	0.418	0.682
2C	11	0	0.476	0.289	0.573
2S	11	0	0.559	0.432	0.605
3I	11	0	0.431	0.321	0.670
3C	11	0	0.323	0.310	0.480
3S	11	0	0.511	0.345	0.572
4I	11	0	0.456	0.418	0.478
4C	11	0	0.384	0.326	0.427
4S	11	0	0.442	0.353	0.463
5I	11	0	0.395	0.339	0.600
5C	11	0	0.263	0.179	0.583
5S	11	0	0.407	0.303	0.569
6I	11	0	0.412	0.374	0.464
6C	11	0	0.378	0.357	0.427
6S	11	0	0.451	0.405	0.469
7I	11	0	0.480	0.399	0.538
7C	11	0	0.459	0.340	0.481
7S	11	0	0.435	0.350	0.463
8I	11	0	0.548	0.411	0.764
8C	11	0	0.705	0.161	0.843
8S	11	0	0.571	0.424	0.785
9I	11	0	0.401	0.394	0.548
9C	11	0	0.458	0.385	0.574
9S	11	0	0.470	0.399	0.506

H = 41.727 with 26 degrees of freedom. (P = 0.026)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.026)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8S vs 4C	1262.000	4.431	0.260	No
8S vs 6C	1196.000	4.199	0.368	Do Not Test



8S vs 3C	1172.000	4.115	0.413	Do Not Test
8S vs 5C	1165.000	4.090	0.427	Do Not Test
8S vs 7S	921.000	3.233	0.880	Do Not Test
8S vs 6I	895.000	3.142	0.906	Do Not Test
8S vs 4S	887.000	3.114	0.913	Do Not Test
8S vs 5I	783.000	2.749	0.973	Do Not Test
8S vs 9I	734.000	2.577	0.987	Do Not Test
8S vs 2C	730.000	2.563	0.988	Do Not Test
8S vs 5S	719.000	2.524	0.990	Do Not Test
8S vs 7C	691.000	2.426	0.994	Do Not Test
8S vs 4I	670.000	2.352	0.996	Do Not Test
8S vs 6S	652.000	2.289	0.998	Do Not Test
8S vs 3I	606.000	2.128	0.999	Do Not Test
8S vs 3S	516.500	1.813	1.000	Do Not Test
8S vs 9S	484.000	1.699	1.000	Do Not Test
8S vs 9C	471.000	1.654	1.000	Do Not Test
8S vs 1C	470.500	1.652	1.000	Do Not Test
8S vs 7I	458.000	1.608	1.000	Do Not Test
8S vs 8C	341.000	1.197	1.000	Do Not Test
8S vs 1S	250.000	0.878	1.000	Do Not Test
8S vs 1I	145.000	0.509	1.000	Do Not Test
8S vs 2I	144.000	0.506	1.000	Do Not Test
8S vs 8I	90.000	0.316	1.000	Do Not Test
8S vs 2S	71.000	0.249	1.000	Do Not Test
2S vs 4C	1191.000	4.181	0.377	Do Not Test
2S vs 6C	1125.000	3.950	0.508	Do Not Test
2S vs 3C	1101.000	3.865	0.558	Do Not Test
2S vs 5C	1094.000	3.841	0.573	Do Not Test
2S vs 7S	850.000	2.984	0.941	Do Not Test
2S vs 6I	824.000	2.893	0.956	Do Not Test
2S vs 4S	816.000	2.865	0.959	Do Not Test
2S vs 5I	712.000	2.500	0.991	Do Not Test
2S vs 9I	663.000	2.328	0.997	Do Not Test
2S vs 2C	659.000	2.314	0.997	Do Not Test
2S vs 5S	648.000	2.275	0.998	Do Not Test
2S vs 7C	620.000	2.177	0.999	Do Not Test
2S vs 4I	599.000	2.103	1.000	Do Not Test
2S vs 6S	581.000	2.040	1.000	Do Not Test
2S vs 3I	535.000	1.878	1.000	Do Not Test
2S vs 3S	445.500	1.564	1.000	Do Not Test
2S vs 9S	413.000	1.450	1.000	Do Not Test
2S vs 9C	400.000	1.404	1.000	Do Not Test
2S vs 1C	399.500	1.403	1.000	Do Not Test
2S vs 7I	387.000	1.359	1.000	Do Not Test
2S vs 8C	270.000	0.948	1.000	Do Not Test
2S vs 1S	179.000	0.628	1.000	Do Not Test
2S vs 1I	74.000	0.260	1.000	Do Not Test
2S vs 2I	73.000	0.256	1.000	Do Not Test
2S vs 8I	19.000	0.0667	1.000	Do Not Test
8I vs 4C	1172.000	4.115	0.413	Do Not Test
8I vs 6C	1106.000	3.883	0.548	Do Not Test
8I vs 3C	1082.000	3.799	0.599	Do Not Test
8I vs 5C	1075.000	3.774	0.614	Do Not Test
8I vs 7S	831.000	2.917	0.952	Do Not Test
8I vs 6I	805.000	2.826	0.965	Do Not Test
8I vs 4S	797.000	2.798	0.968	Do Not Test

8I vs 5I	693.000	2.433	0.994	Do Not Test
8I vs 9I	644.000	2.261	0.998	Do Not Test
8I vs 2C	640.000	2.247	0.998	Do Not Test
8I vs 5S	629.000	2.208	0.999	Do Not Test
8I vs 7C	601.000	2.110	0.999	Do Not Test
8I vs 4I	580.000	2.036	1.000	Do Not Test
8I vs 6S	562.000	1.973	1.000	Do Not Test
8I vs 3I	516.000	1.812	1.000	Do Not Test
8I vs 3S	426.500	1.497	1.000	Do Not Test
8I vs 9S	394.000	1.383	1.000	Do Not Test
8I vs 9C	381.000	1.338	1.000	Do Not Test
8I vs 1C	380.500	1.336	1.000	Do Not Test
8I vs 7I	368.000	1.292	1.000	Do Not Test
8I vs 8C	251.000	0.881	1.000	Do Not Test
8I vs 1S	160.000	0.562	1.000	Do Not Test
8I vs 1I	55.000	0.193	1.000	Do Not Test
8I vs 2I	54.000	0.190	1.000	Do Not Test
2I vs 4C	1118.000	3.925	0.522	Do Not Test
2I vs 6C	1052.000	3.693	0.662	Do Not Test
2I vs 3C	1028.000	3.609	0.711	Do Not Test
2I vs 5C	1021.000	3.585	0.725	Do Not Test
2I vs 7S	777.000	2.728	0.975	Do Not Test
2I vs 6I	751.000	2.637	0.983	Do Not Test
2I vs 4S	743.000	2.609	0.985	Do Not Test
2I vs 5I	639.000	2.243	0.998	Do Not Test
2I vs 9I	590.000	2.071	1.000	Do Not Test
2I vs 2C	586.000	2.057	1.000	Do Not Test
2I vs 5S	575.000	2.019	1.000	Do Not Test
2I vs 7C	547.000	1.920	1.000	Do Not Test
2I vs 4I	526.000	1.847	1.000	Do Not Test
2I vs 6S	508.000	1.783	1.000	Do Not Test
2I vs 3I	462.000	1.622	1.000	Do Not Test
2I vs 3S	372.500	1.308	1.000	Do Not Test
2I vs 9S	340.000	1.194	1.000	Do Not Test
2I vs 9C	327.000	1.148	1.000	Do Not Test
2I vs 1C	326.500	1.146	1.000	Do Not Test
2I vs 7I	314.000	1.102	1.000	Do Not Test
2I vs 8C	197.000	0.692	1.000	Do Not Test
2I vs 1S	106.000	0.372	1.000	Do Not Test
2I vs 1I	1.000	0.00351	1.000	Do Not Test
1I vs 4C	1117.000	3.922	0.525	Do Not Test
1I vs 6C	1051.000	3.690	0.665	Do Not Test
1I vs 3C	1027.000	3.606	0.713	Do Not Test
1I vs 5C	1020.000	3.581	0.727	Do Not Test
1I vs 7S	776.000	2.724	0.976	Do Not Test
1I vs 6I	750.000	2.633	0.983	Do Not Test
1I vs 4S	742.000	2.605	0.985	Do Not Test
1I vs 5I	638.000	2.240	0.998	Do Not Test
1I vs 9I	589.000	2.068	1.000	Do Not Test
1I vs 2C	585.000	2.054	1.000	Do Not Test
1I vs 5S	574.000	2.015	1.000	Do Not Test
1I vs 7C	546.000	1.917	1.000	Do Not Test
1I vs 4I	525.000	1.843	1.000	Do Not Test
1I vs 6S	507.000	1.780	1.000	Do Not Test
1I vs 3I	461.000	1.618	1.000	Do Not Test
1I vs 3S	371.500	1.304	1.000	Do Not Test

1I vs 9S	339.000	1.190	1.000	Do Not Test
1I vs 9C	326.000	1.145	1.000	Do Not Test
1I vs 1C	325.500	1.143	1.000	Do Not Test
1I vs 7I	313.000	1.099	1.000	Do Not Test
1I vs 8C	196.000	0.688	1.000	Do Not Test
1I vs 1S	105.000	0.369	1.000	Do Not Test
1S vs 4C	1012.000	3.553	0.742	Do Not Test
1S vs 6C	946.000	3.321	0.849	Do Not Test
1S vs 3C	922.000	3.237	0.879	Do Not Test
1S vs 5C	915.000	3.212	0.886	Do Not Test
1S vs 7S	671.000	2.356	0.996	Do Not Test
1S vs 6I	645.000	2.264	0.998	Do Not Test
1S vs 4S	637.000	2.236	0.998	Do Not Test
1S vs 5I	533.000	1.871	1.000	Do Not Test
1S vs 9I	484.000	1.699	1.000	Do Not Test
1S vs 2C	480.000	1.685	1.000	Do Not Test
1S vs 5S	469.000	1.647	1.000	Do Not Test
1S vs 7C	441.000	1.548	1.000	Do Not Test
1S vs 4I	420.000	1.475	1.000	Do Not Test
1S vs 6S	402.000	1.411	1.000	Do Not Test
1S vs 3I	356.000	1.250	1.000	Do Not Test
1S vs 3S	266.500	0.936	1.000	Do Not Test
1S vs 9S	234.000	0.822	1.000	Do Not Test
1S vs 9C	221.000	0.776	1.000	Do Not Test
1S vs 1C	220.500	0.774	1.000	Do Not Test
1S vs 7I	208.000	0.730	1.000	Do Not Test
1S vs 8C	91.000	0.319	1.000	Do Not Test
8C vs 4C	921.000	3.233	0.880	Do Not Test
8C vs 6C	855.000	3.002	0.937	Do Not Test
8C vs 3C	831.000	2.917	0.952	Do Not Test
8C vs 5C	824.000	2.893	0.956	Do Not Test
8C vs 7S	580.000	2.036	1.000	Do Not Test
8C vs 6I	554.000	1.945	1.000	Do Not Test
8C vs 4S	546.000	1.917	1.000	Do Not Test
8C vs 5I	442.000	1.552	1.000	Do Not Test
8C vs 9I	393.000	1.380	1.000	Do Not Test
8C vs 2C	389.000	1.366	1.000	Do Not Test
8C vs 5S	378.000	1.327	1.000	Do Not Test
8C vs 7C	350.000	1.229	1.000	Do Not Test
8C vs 4I	329.000	1.155	1.000	Do Not Test
8C vs 6S	311.000	1.092	1.000	Do Not Test
8C vs 3I	265.000	0.930	1.000	Do Not Test
8C vs 3S	175.500	0.616	1.000	Do Not Test
8C vs 9S	143.000	0.502	1.000	Do Not Test
8C vs 9C	130.000	0.456	1.000	Do Not Test
8C vs 1C	129.500	0.455	1.000	Do Not Test
8C vs 7I	117.000	0.411	1.000	Do Not Test
7I vs 4C	804.000	2.823	0.965	Do Not Test
7I vs 6C	738.000	2.591	0.986	Do Not Test
7I vs 3C	714.000	2.507	0.991	Do Not Test
7I vs 5C	707.000	2.482	0.992	Do Not Test
7I vs 7S	463.000	1.626	1.000	Do Not Test
7I vs 6I	437.000	1.534	1.000	Do Not Test
7I vs 4S	429.000	1.506	1.000	Do Not Test
7I vs 5I	325.000	1.141	1.000	Do Not Test
7I vs 9I	276.000	0.969	1.000	Do Not Test

7I vs 2C	272.000	0.955	1.000	Do Not Test
7I vs 5S	261.000	0.916	1.000	Do Not Test
7I vs 7C	233.000	0.818	1.000	Do Not Test
7I vs 4I	212.000	0.744	1.000	Do Not Test
7I vs 6S	194.000	0.681	1.000	Do Not Test
7I vs 3I	148.000	0.520	1.000	Do Not Test
7I vs 3S	58.500	0.205	1.000	Do Not Test
7I vs 9S	26.000	0.0913	1.000	Do Not Test
7I vs 9C	13.000	0.0456	1.000	Do Not Test
7I vs 1C	12.500	0.0439	1.000	Do Not Test
1C vs 4C	791.500	2.779	0.970	Do Not Test
1C vs 6C	725.500	2.547	0.989	Do Not Test
1C vs 3C	701.500	2.463	0.993	Do Not Test
1C vs 5C	694.500	2.438	0.994	Do Not Test
1C vs 7S	450.500	1.582	1.000	Do Not Test
1C vs 6I	424.500	1.490	1.000	Do Not Test
1C vs 4S	416.500	1.462	1.000	Do Not Test
1C vs 5I	312.500	1.097	1.000	Do Not Test
1C vs 9I	263.500	0.925	1.000	Do Not Test
1C vs 2C	259.500	0.911	1.000	Do Not Test
1C vs 5S	248.500	0.872	1.000	Do Not Test
1C vs 7C	220.500	0.774	1.000	Do Not Test
1C vs 4I	199.500	0.700	1.000	Do Not Test
1C vs 6S	181.500	0.637	1.000	Do Not Test
1C vs 3I	135.500	0.476	1.000	Do Not Test
1C vs 3S	46.000	0.161	1.000	Do Not Test
1C vs 9S	13.500	0.0474	1.000	Do Not Test
1C vs 9C	0.500	0.00176	1.000	Do Not Test
9C vs 4C	791.000	2.777	0.970	Do Not Test
9C vs 6C	725.000	2.545	0.989	Do Not Test
9C vs 3C	701.000	2.461	0.993	Do Not Test
9C vs 5C	694.000	2.437	0.994	Do Not Test
9C vs 7S	450.000	1.580	1.000	Do Not Test
9C vs 6I	424.000	1.489	1.000	Do Not Test
9C vs 4S	416.000	1.460	1.000	Do Not Test
9C vs 5I	312.000	1.095	1.000	Do Not Test
9C vs 9I	263.000	0.923	1.000	Do Not Test
9C vs 2C	259.000	0.909	1.000	Do Not Test
9C vs 5S	248.000	0.871	1.000	Do Not Test
9C vs 7C	220.000	0.772	1.000	Do Not Test
9C vs 4I	199.000	0.699	1.000	Do Not Test
9C vs 6S	181.000	0.635	1.000	Do Not Test
9C vs 3I	135.000	0.474	1.000	Do Not Test
9C vs 3S	45.500	0.160	1.000	Do Not Test
9C vs 9S	13.000	0.0456	1.000	Do Not Test
9S vs 4C	778.000	2.731	0.975	Do Not Test
9S vs 6C	712.000	2.500	0.991	Do Not Test
9S vs 3C	688.000	2.415	0.995	Do Not Test
9S vs 5C	681.000	2.391	0.995	Do Not Test
9S vs 7S	437.000	1.534	1.000	Do Not Test
9S vs 6I	411.000	1.443	1.000	Do Not Test
9S vs 4S	403.000	1.415	1.000	Do Not Test
9S vs 5I	299.000	1.050	1.000	Do Not Test
9S vs 9I	250.000	0.878	1.000	Do Not Test
9S vs 2C	246.000	0.864	1.000	Do Not Test
9S vs 5S	235.000	0.825	1.000	Do Not Test

9S vs 7C	207.000	0.727	1.000	Do Not Test
9S vs 4I	186.000	0.653	1.000	Do Not Test
9S vs 6S	168.000	0.590	1.000	Do Not Test
9S vs 3I	122.000	0.428	1.000	Do Not Test
9S vs 3S	32.500	0.114	1.000	Do Not Test
3S vs 4C	745.500	2.617	0.985	Do Not Test
3S vs 6C	679.500	2.386	0.996	Do Not Test
3S vs 3C	655.500	2.301	0.998	Do Not Test
3S vs 5C	648.500	2.277	0.998	Do Not Test
3S vs 7S	404.500	1.420	1.000	Do Not Test
3S vs 6I	378.500	1.329	1.000	Do Not Test
3S vs 4S	370.500	1.301	1.000	Do Not Test
3S vs 5I	266.500	0.936	1.000	Do Not Test
3S vs 9I	217.500	0.764	1.000	Do Not Test
3S vs 2C	213.500	0.750	1.000	Do Not Test
3S vs 5S	202.500	0.711	1.000	Do Not Test
3S vs 7C	174.500	0.613	1.000	Do Not Test
3S vs 4I	153.500	0.539	1.000	Do Not Test
3S vs 6S	135.500	0.476	1.000	Do Not Test
3S vs 3I	89.500	0.314	1.000	Do Not Test
3I vs 4C	656.000	2.303	0.998	Do Not Test
3I vs 6C	590.000	2.071	1.000	Do Not Test
3I vs 3C	566.000	1.987	1.000	Do Not Test
3I vs 5C	559.000	1.963	1.000	Do Not Test
3I vs 7S	315.000	1.106	1.000	Do Not Test
3I vs 6I	289.000	1.015	1.000	Do Not Test
3I vs 4S	281.000	0.987	1.000	Do Not Test
3I vs 5I	177.000	0.621	1.000	Do Not Test
3I vs 9I	128.000	0.449	1.000	Do Not Test
3I vs 2C	124.000	0.435	1.000	Do Not Test
3I vs 5S	113.000	0.397	1.000	Do Not Test
3I vs 7C	85.000	0.298	1.000	Do Not Test
3I vs 4I	64.000	0.225	1.000	Do Not Test
3I vs 6S	46.000	0.161	1.000	Do Not Test
6S vs 4C	610.000	2.142	0.999	Do Not Test
6S vs 6C	544.000	1.910	1.000	Do Not Test
6S vs 3C	520.000	1.826	1.000	Do Not Test
6S vs 5C	513.000	1.801	1.000	Do Not Test
6S vs 7S	269.000	0.944	1.000	Do Not Test
6S vs 6I	243.000	0.853	1.000	Do Not Test
6S vs 4S	235.000	0.825	1.000	Do Not Test
6S vs 5I	131.000	0.460	1.000	Do Not Test
6S vs 9I	82.000	0.288	1.000	Do Not Test
6S vs 2C	78.000	0.274	1.000	Do Not Test
6S vs 5S	67.000	0.235	1.000	Do Not Test
6S vs 7C	39.000	0.137	1.000	Do Not Test
6S vs 4I	18.000	0.0632	1.000	Do Not Test
4I vs 4C	592.000	2.078	1.000	Do Not Test
4I vs 6C	526.000	1.847	1.000	Do Not Test
4I vs 3C	502.000	1.762	1.000	Do Not Test
4I vs 5C	495.000	1.738	1.000	Do Not Test
4I vs 7S	251.000	0.881	1.000	Do Not Test
4I vs 6I	225.000	0.790	1.000	Do Not Test
4I vs 4S	217.000	0.762	1.000	Do Not Test
4I vs 5I	113.000	0.397	1.000	Do Not Test
4I vs 9I	64.000	0.225	1.000	Do Not Test

4I vs 2C	60.000	0.211	1.000	Do Not Test
4I vs 5S	49.000	0.172	1.000	Do Not Test
4I vs 7C	21.000	0.0737	1.000	Do Not Test
7C vs 4C	571.000	2.005	1.000	Do Not Test
7C vs 6C	505.000	1.773	1.000	Do Not Test
7C vs 3C	481.000	1.689	1.000	Do Not Test
7C vs 5C	474.000	1.664	1.000	Do Not Test
7C vs 7S	230.000	0.807	1.000	Do Not Test
7C vs 6I	204.000	0.716	1.000	Do Not Test
7C vs 4S	196.000	0.688	1.000	Do Not Test
7C vs 5I	92.000	0.323	1.000	Do Not Test
7C vs 9I	43.000	0.151	1.000	Do Not Test
7C vs 2C	39.000	0.137	1.000	Do Not Test
7C vs 5S	28.000	0.0983	1.000	Do Not Test
5S vs 4C	543.000	1.906	1.000	Do Not Test
5S vs 6C	477.000	1.675	1.000	Do Not Test
5S vs 3C	453.000	1.590	1.000	Do Not Test
5S vs 5C	446.000	1.566	1.000	Do Not Test
5S vs 7S	202.000	0.709	1.000	Do Not Test
5S vs 6I	176.000	0.618	1.000	Do Not Test
5S vs 4S	168.000	0.590	1.000	Do Not Test
5S vs 5I	64.000	0.225	1.000	Do Not Test
5S vs 9I	15.000	0.0527	1.000	Do Not Test
5S vs 2C	11.000	0.0386	1.000	Do Not Test
2C vs 4C	532.000	1.868	1.000	Do Not Test
2C vs 6C	466.000	1.636	1.000	Do Not Test
2C vs 3C	442.000	1.552	1.000	Do Not Test
2C vs 5C	435.000	1.527	1.000	Do Not Test
2C vs 7S	191.000	0.671	1.000	Do Not Test
2C vs 6I	165.000	0.579	1.000	Do Not Test
2C vs 4S	157.000	0.551	1.000	Do Not Test
2C vs 5I	53.000	0.186	1.000	Do Not Test
2C vs 9I	4.000	0.0140	1.000	Do Not Test
9I vs 4C	528.000	1.854	1.000	Do Not Test
9I vs 6C	462.000	1.622	1.000	Do Not Test
9I vs 3C	438.000	1.538	1.000	Do Not Test
9I vs 5C	431.000	1.513	1.000	Do Not Test
9I vs 7S	187.000	0.657	1.000	Do Not Test
9I vs 6I	161.000	0.565	1.000	Do Not Test
9I vs 4S	153.000	0.537	1.000	Do Not Test
9I vs 5I	49.000	0.172	1.000	Do Not Test
5I vs 4C	479.000	1.682	1.000	Do Not Test
5I vs 6C	413.000	1.450	1.000	Do Not Test
5I vs 3C	389.000	1.366	1.000	Do Not Test
5I vs 5C	382.000	1.341	1.000	Do Not Test
5I vs 7S	138.000	0.484	1.000	Do Not Test
5I vs 6I	112.000	0.393	1.000	Do Not Test
5I vs 4S	104.000	0.365	1.000	Do Not Test
4S vs 4C	375.000	1.317	1.000	Do Not Test
4S vs 6C	309.000	1.085	1.000	Do Not Test
4S vs 3C	285.000	1.001	1.000	Do Not Test
4S vs 5C	278.000	0.976	1.000	Do Not Test
4S vs 7S	34.000	0.119	1.000	Do Not Test
4S vs 6I	8.000	0.0281	1.000	Do Not Test
6I vs 4C	367.000	1.288	1.000	Do Not Test
6I vs 6C	301.000	1.057	1.000	Do Not Test

6I vs 3C	277.000	0.972	1.000	Do Not Test
6I vs 5C	270.000	0.948	1.000	Do Not Test
6I vs 7S	26.000	0.0913	1.000	Do Not Test
7S vs 4C	341.000	1.197	1.000	Do Not Test
7S vs 6C	275.000	0.965	1.000	Do Not Test
7S vs 3C	251.000	0.881	1.000	Do Not Test
7S vs 5C	244.000	0.857	1.000	Do Not Test
5C vs 4C	97.000	0.341	1.000	Do Not Test
5C vs 6C	31.000	0.109	1.000	Do Not Test
5C vs 3C	7.000	0.0246	1.000	Do Not Test
3C vs 4C	90.000	0.316	1.000	Do Not Test
3C vs 6C	24.000	0.0843	1.000	Do Not Test
6C vs 4C	66.000	0.232	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 19:52:05

Data source: BV/TV in L1 0-2y Corrected

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 19:52:05

Data source: BV/TV in L1 0-2y Corrected

Group	N	Missing	Median	25%	75%
1I	10	0	18.389	12.678	24.074
1C	10	0	18.241	15.322	21.601
1S	10	0	14.351	10.333	20.741
2I	10	0	17.687	12.929	21.613
2C	10	0	15.513	13.532	20.309
2S	10	0	14.190	9.818	17.308
3I	10	0	18.890	14.226	25.930
3C	10	0	19.812	15.063	23.870
3S	10	0	15.472	11.954	17.938
4I	10	0	15.798	12.250	17.248
4C	10	0	12.246	11.414	12.970
4S	10	0	11.681	10.588	14.440
5I	10	0	14.621	11.856	16.524
5C	10	0	11.791	11.065	13.340
5S	10	0	10.582	9.960	12.921
6I	10	0	15.925	12.941	17.499
6C	10	0	12.766	11.612	14.155
6S	10	0	12.079	10.866	14.244
7I	10	0	17.508	13.676	21.380
7C	10	0	14.762	12.621	17.711
7S	10	0	13.538	11.767	17.280
8I	10	0	15.347	12.433	18.361
8C	10	0	12.619	11.225	16.151
8S	10	0	12.078	9.739	15.484
9I	10	0	17.287	14.759	23.810
9C	10	0	14.087	13.394	16.764
9S	10	0	14.413	11.270	17.503

H = 72.982 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
1C vs 5S	1408.000	5.702	0.021	Yes
1C vs 5C	1198.000	4.852	0.122	No



1C vs 4S	1194.000	4.835	0.126	Do Not Test
1C vs 4C	1194.000	4.835	0.126	Do Not Test
1C vs 8S	1193.000	4.831	0.127	Do Not Test
1C vs 6S	1061.000	4.297	0.320	Do Not Test
1C vs 6C	1005.000	4.070	0.438	Do Not Test
1C vs 8C	928.000	3.758	0.624	Do Not Test
1C vs 2S	753.000	3.049	0.928	Do Not Test
1C vs 7S	711.000	2.879	0.957	Do Not Test
1C vs 5I	699.000	2.831	0.964	Do Not Test
1C vs 9S	669.000	2.709	0.977	Do Not Test
1C vs 1S	636.000	2.576	0.987	Do Not Test
1C vs 7C	602.000	2.438	0.994	Do Not Test
1C vs 4I	519.000	2.102	1.000	Do Not Test
1C vs 8I	496.000	2.009	1.000	Do Not Test
1C vs 9C	489.000	1.980	1.000	Do Not Test
1C vs 3S	477.000	1.932	1.000	Do Not Test
1C vs 6I	452.000	1.830	1.000	Do Not Test
1C vs 2C	327.000	1.324	1.000	Do Not Test
1C vs 2I	283.000	1.146	1.000	Do Not Test
1C vs 7I	224.000	0.907	1.000	Do Not Test
1C vs 1I	190.000	0.769	1.000	Do Not Test
1C vs 3I	63.000	0.255	1.000	Do Not Test
1C vs 3C	28.000	0.113	1.000	Do Not Test
1C vs 9I	22.000	0.0891	1.000	Do Not Test
9I vs 5S	1386.000	5.613	0.025	Yes
9I vs 5C	1176.000	4.762	0.145	Do Not Test
9I vs 4S	1172.000	4.746	0.149	Do Not Test
9I vs 4C	1172.000	4.746	0.149	Do Not Test
9I vs 8S	1171.000	4.742	0.150	Do Not Test
9I vs 6S	1039.000	4.208	0.364	Do Not Test
9I vs 6C	983.000	3.981	0.489	Do Not Test
9I vs 8C	906.000	3.669	0.677	Do Not Test
9I vs 2S	731.000	2.960	0.945	Do Not Test
9I vs 7S	689.000	2.790	0.969	Do Not Test
9I vs 5I	677.000	2.742	0.974	Do Not Test
9I vs 9S	647.000	2.620	0.984	Do Not Test
9I vs 1S	614.000	2.487	0.992	Do Not Test
9I vs 7C	580.000	2.349	0.997	Do Not Test
9I vs 4I	497.000	2.013	1.000	Do Not Test
9I vs 8I	474.000	1.920	1.000	Do Not Test
9I vs 9C	467.000	1.891	1.000	Do Not Test
9I vs 3S	455.000	1.843	1.000	Do Not Test
9I vs 6I	430.000	1.741	1.000	Do Not Test
9I vs 2C	305.000	1.235	1.000	Do Not Test
9I vs 2I	261.000	1.057	1.000	Do Not Test
9I vs 7I	202.000	0.818	1.000	Do Not Test
9I vs 1I	168.000	0.680	1.000	Do Not Test
9I vs 3I	41.000	0.166	1.000	Do Not Test
9I vs 3C	6.000	0.0243	1.000	Do Not Test
3C vs 5S	1380.000	5.589	0.027	Yes
3C vs 5C	1170.000	4.738	0.152	Do Not Test
3C vs 4S	1166.000	4.722	0.156	Do Not Test
3C vs 4C	1166.000	4.722	0.156	Do Not Test
3C vs 8S	1165.000	4.718	0.157	Do Not Test
3C vs 6S	1033.000	4.183	0.376	Do Not Test
3C vs 6C	977.000	3.957	0.504	Do Not Test

3C vs 8C	900.000	3.645	0.691	Do Not Test
3C vs 2S	725.000	2.936	0.949	Do Not Test
3C vs 7S	683.000	2.766	0.971	Do Not Test
3C vs 5I	671.000	2.717	0.976	Do Not Test
3C vs 9S	641.000	2.596	0.986	Do Not Test
3C vs 1S	608.000	2.462	0.993	Do Not Test
3C vs 7C	574.000	2.325	0.997	Do Not Test
3C vs 4I	491.000	1.988	1.000	Do Not Test
3C vs 8I	468.000	1.895	1.000	Do Not Test
3C vs 9C	461.000	1.867	1.000	Do Not Test
3C vs 3S	449.000	1.818	1.000	Do Not Test
3C vs 6I	424.000	1.717	1.000	Do Not Test
3C vs 2C	299.000	1.211	1.000	Do Not Test
3C vs 2I	255.000	1.033	1.000	Do Not Test
3C vs 7I	196.000	0.794	1.000	Do Not Test
3C vs 1I	162.000	0.656	1.000	Do Not Test
3C vs 3I	35.000	0.142	1.000	Do Not Test
3I vs 5S	1345.000	5.447	0.036	Yes
3I vs 5C	1135.000	4.596	0.196	Do Not Test
3I vs 4S	1131.000	4.580	0.202	Do Not Test
3I vs 4C	1131.000	4.580	0.202	Do Not Test
3I vs 8S	1130.000	4.576	0.203	Do Not Test
3I vs 6S	998.000	4.042	0.454	Do Not Test
3I vs 6C	942.000	3.815	0.589	Do Not Test
3I vs 8C	865.000	3.503	0.768	Do Not Test
3I vs 2S	690.000	2.794	0.968	Do Not Test
3I vs 7S	648.000	2.624	0.984	Do Not Test
3I vs 5I	636.000	2.576	0.987	Do Not Test
3I vs 9S	606.000	2.454	0.993	Do Not Test
3I vs 1S	573.000	2.320	0.997	Do Not Test
3I vs 7C	539.000	2.183	0.999	Do Not Test
3I vs 4I	456.000	1.847	1.000	Do Not Test
3I vs 8I	433.000	1.754	1.000	Do Not Test
3I vs 9C	426.000	1.725	1.000	Do Not Test
3I vs 3S	414.000	1.677	1.000	Do Not Test
3I vs 6I	389.000	1.575	1.000	Do Not Test
3I vs 2C	264.000	1.069	1.000	Do Not Test
3I vs 2I	220.000	0.891	1.000	Do Not Test
3I vs 7I	161.000	0.652	1.000	Do Not Test
3I vs 1I	127.000	0.514	1.000	Do Not Test
1I vs 5S	1218.000	4.933	0.104	No
1I vs 5C	1008.000	4.082	0.431	Do Not Test
1I vs 4S	1004.000	4.066	0.440	Do Not Test
1I vs 4C	1004.000	4.066	0.440	Do Not Test
1I vs 8S	1003.000	4.062	0.442	Do Not Test
1I vs 6S	871.000	3.527	0.756	Do Not Test
1I vs 6C	815.000	3.301	0.857	Do Not Test
1I vs 8C	738.000	2.989	0.940	Do Not Test
1I vs 2S	563.000	2.280	0.998	Do Not Test
1I vs 7S	521.000	2.110	0.999	Do Not Test
1I vs 5I	509.000	2.061	1.000	Do Not Test
1I vs 9S	479.000	1.940	1.000	Do Not Test
1I vs 1S	446.000	1.806	1.000	Do Not Test
1I vs 7C	412.000	1.668	1.000	Do Not Test
1I vs 4I	329.000	1.332	1.000	Do Not Test
1I vs 8I	306.000	1.239	1.000	Do Not Test

1I vs 9C	299.000	1.211	1.000	Do Not Test
1I vs 3S	287.000	1.162	1.000	Do Not Test
1I vs 6I	262.000	1.061	1.000	Do Not Test
1I vs 2C	137.000	0.555	1.000	Do Not Test
1I vs 2I	93.000	0.377	1.000	Do Not Test
1I vs 7I	34.000	0.138	1.000	Do Not Test
7I vs 5S	1184.000	4.795	0.136	Do Not Test
7I vs 5C	974.000	3.944	0.511	Do Not Test
7I vs 4S	970.000	3.928	0.521	Do Not Test
7I vs 4C	970.000	3.928	0.521	Do Not Test
7I vs 8S	969.000	3.924	0.523	Do Not Test
7I vs 6S	837.000	3.390	0.821	Do Not Test
7I vs 6C	781.000	3.163	0.901	Do Not Test
7I vs 8C	704.000	2.851	0.961	Do Not Test
7I vs 2S	529.000	2.142	0.999	Do Not Test
7I vs 7S	487.000	1.972	1.000	Do Not Test
7I vs 5I	475.000	1.924	1.000	Do Not Test
7I vs 9S	445.000	1.802	1.000	Do Not Test
7I vs 1S	412.000	1.668	1.000	Do Not Test
7I vs 7C	378.000	1.531	1.000	Do Not Test
7I vs 4I	295.000	1.195	1.000	Do Not Test
7I vs 8I	272.000	1.102	1.000	Do Not Test
7I vs 9C	265.000	1.073	1.000	Do Not Test
7I vs 3S	253.000	1.025	1.000	Do Not Test
7I vs 6I	228.000	0.923	1.000	Do Not Test
7I vs 2C	103.000	0.417	1.000	Do Not Test
7I vs 2I	59.000	0.239	1.000	Do Not Test
2I vs 5S	1125.000	4.556	0.211	Do Not Test
2I vs 5C	915.000	3.705	0.655	Do Not Test
2I vs 4S	911.000	3.689	0.665	Do Not Test
2I vs 4C	911.000	3.689	0.665	Do Not Test
2I vs 8S	910.000	3.685	0.667	Do Not Test
2I vs 6S	778.000	3.151	0.904	Do Not Test
2I vs 6C	722.000	2.924	0.951	Do Not Test
2I vs 8C	645.000	2.612	0.985	Do Not Test
2I vs 2S	470.000	1.903	1.000	Do Not Test
2I vs 7S	428.000	1.733	1.000	Do Not Test
2I vs 5I	416.000	1.685	1.000	Do Not Test
2I vs 9S	386.000	1.563	1.000	Do Not Test
2I vs 1S	353.000	1.430	1.000	Do Not Test
2I vs 7C	319.000	1.292	1.000	Do Not Test
2I vs 4I	236.000	0.956	1.000	Do Not Test
2I vs 8I	213.000	0.863	1.000	Do Not Test
2I vs 9C	206.000	0.834	1.000	Do Not Test
2I vs 3S	194.000	0.786	1.000	Do Not Test
2I vs 6I	169.000	0.684	1.000	Do Not Test
2I vs 2C	44.000	0.178	1.000	Do Not Test
2C vs 5S	1081.000	4.378	0.282	Do Not Test
2C vs 5C	871.000	3.527	0.756	Do Not Test
2C vs 4S	867.000	3.511	0.764	Do Not Test
2C vs 4C	867.000	3.511	0.764	Do Not Test
2C vs 8S	866.000	3.507	0.766	Do Not Test
2C vs 6S	734.000	2.972	0.943	Do Not Test
2C vs 6C	678.000	2.746	0.974	Do Not Test
2C vs 8C	601.000	2.434	0.994	Do Not Test
2C vs 2S	426.000	1.725	1.000	Do Not Test

2C vs 7S	384.000	1.555	1.000	Do Not Test
2C vs 5I	372.000	1.506	1.000	Do Not Test
2C vs 9S	342.000	1.385	1.000	Do Not Test
2C vs 1S	309.000	1.251	1.000	Do Not Test
2C vs 7C	275.000	1.114	1.000	Do Not Test
2C vs 4I	192.000	0.778	1.000	Do Not Test
2C vs 8I	169.000	0.684	1.000	Do Not Test
2C vs 9C	162.000	0.656	1.000	Do Not Test
2C vs 3S	150.000	0.607	1.000	Do Not Test
2C vs 6I	125.000	0.506	1.000	Do Not Test
6I vs 5S	956.000	3.872	0.555	Do Not Test
6I vs 5C	746.000	3.021	0.934	Do Not Test
6I vs 4S	742.000	3.005	0.937	Do Not Test
6I vs 4C	742.000	3.005	0.937	Do Not Test
6I vs 8S	741.000	3.001	0.938	Do Not Test
6I vs 6S	609.000	2.466	0.993	Do Not Test
6I vs 6C	553.000	2.239	0.998	Do Not Test
6I vs 8C	476.000	1.928	1.000	Do Not Test
6I vs 2S	301.000	1.219	1.000	Do Not Test
6I vs 7S	259.000	1.049	1.000	Do Not Test
6I vs 5I	247.000	1.000	1.000	Do Not Test
6I vs 9S	217.000	0.879	1.000	Do Not Test
6I vs 1S	184.000	0.745	1.000	Do Not Test
6I vs 7C	150.000	0.607	1.000	Do Not Test
6I vs 4I	67.000	0.271	1.000	Do Not Test
6I vs 8I	44.000	0.178	1.000	Do Not Test
6I vs 9C	37.000	0.150	1.000	Do Not Test
6I vs 3S	25.000	0.101	1.000	Do Not Test
3S vs 5S	931.000	3.770	0.616	Do Not Test
3S vs 5C	721.000	2.920	0.951	Do Not Test
3S vs 4S	717.000	2.904	0.954	Do Not Test
3S vs 4C	717.000	2.904	0.954	Do Not Test
3S vs 8S	716.000	2.900	0.955	Do Not Test
3S vs 6S	584.000	2.365	0.996	Do Not Test
3S vs 6C	528.000	2.138	0.999	Do Not Test
3S vs 8C	451.000	1.826	1.000	Do Not Test
3S vs 2S	276.000	1.118	1.000	Do Not Test
3S vs 7S	234.000	0.948	1.000	Do Not Test
3S vs 5I	222.000	0.899	1.000	Do Not Test
3S vs 9S	192.000	0.778	1.000	Do Not Test
3S vs 1S	159.000	0.644	1.000	Do Not Test
3S vs 7C	125.000	0.506	1.000	Do Not Test
3S vs 4I	42.000	0.170	1.000	Do Not Test
3S vs 8I	19.000	0.0769	1.000	Do Not Test
3S vs 9C	12.000	0.0486	1.000	Do Not Test
9C vs 5S	919.000	3.722	0.646	Do Not Test
9C vs 5C	709.000	2.871	0.959	Do Not Test
9C vs 4S	705.000	2.855	0.961	Do Not Test
9C vs 4C	705.000	2.855	0.961	Do Not Test
9C vs 8S	704.000	2.851	0.961	Do Not Test
9C vs 6S	572.000	2.316	0.997	Do Not Test
9C vs 6C	516.000	2.090	1.000	Do Not Test
9C vs 8C	439.000	1.778	1.000	Do Not Test
9C vs 2S	264.000	1.069	1.000	Do Not Test
9C vs 7S	222.000	0.899	1.000	Do Not Test
9C vs 5I	210.000	0.850	1.000	Do Not Test

9C vs 9S	180.000	0.729	1.000	Do Not Test
9C vs 1S	147.000	0.595	1.000	Do Not Test
9C vs 7C	113.000	0.458	1.000	Do Not Test
9C vs 4I	30.000	0.121	1.000	Do Not Test
9C vs 8I	7.000	0.0283	1.000	Do Not Test
8I vs 5S	912.000	3.693	0.662	Do Not Test
8I vs 5C	702.000	2.843	0.962	Do Not Test
8I vs 4S	698.000	2.827	0.964	Do Not Test
8I vs 4C	698.000	2.827	0.964	Do Not Test
8I vs 8S	697.000	2.823	0.965	Do Not Test
8I vs 6S	565.000	2.288	0.998	Do Not Test
8I vs 6C	509.000	2.061	1.000	Do Not Test
8I vs 8C	432.000	1.749	1.000	Do Not Test
8I vs 2S	257.000	1.041	1.000	Do Not Test
8I vs 7S	215.000	0.871	1.000	Do Not Test
8I vs 5I	203.000	0.822	1.000	Do Not Test
8I vs 9S	173.000	0.701	1.000	Do Not Test
8I vs 1S	140.000	0.567	1.000	Do Not Test
8I vs 7C	106.000	0.429	1.000	Do Not Test
8I vs 4I	23.000	0.0931	1.000	Do Not Test
4I vs 5S	889.000	3.600	0.716	Do Not Test
4I vs 5C	679.000	2.750	0.973	Do Not Test
4I vs 4S	675.000	2.734	0.975	Do Not Test
4I vs 4C	675.000	2.734	0.975	Do Not Test
4I vs 8S	674.000	2.730	0.975	Do Not Test
4I vs 6S	542.000	2.195	0.999	Do Not Test
4I vs 6C	486.000	1.968	1.000	Do Not Test
4I vs 8C	409.000	1.656	1.000	Do Not Test
4I vs 2S	234.000	0.948	1.000	Do Not Test
4I vs 7S	192.000	0.778	1.000	Do Not Test
4I vs 5I	180.000	0.729	1.000	Do Not Test
4I vs 9S	150.000	0.607	1.000	Do Not Test
4I vs 1S	117.000	0.474	1.000	Do Not Test
4I vs 7C	83.000	0.336	1.000	Do Not Test
7C vs 5S	806.000	3.264	0.870	Do Not Test
7C vs 5C	596.000	2.414	0.995	Do Not Test
7C vs 4S	592.000	2.397	0.995	Do Not Test
7C vs 4C	592.000	2.397	0.995	Do Not Test
7C vs 8S	591.000	2.393	0.995	Do Not Test
7C vs 6S	459.000	1.859	1.000	Do Not Test
7C vs 6C	403.000	1.632	1.000	Do Not Test
7C vs 8C	326.000	1.320	1.000	Do Not Test
7C vs 2S	151.000	0.612	1.000	Do Not Test
7C vs 7S	109.000	0.441	1.000	Do Not Test
7C vs 5I	97.000	0.393	1.000	Do Not Test
7C vs 9S	67.000	0.271	1.000	Do Not Test
7C vs 1S	34.000	0.138	1.000	Do Not Test
1S vs 5S	772.000	3.126	0.910	Do Not Test
1S vs 5C	562.000	2.276	0.998	Do Not Test
1S vs 4S	558.000	2.260	0.998	Do Not Test
1S vs 4C	558.000	2.260	0.998	Do Not Test
1S vs 8S	557.000	2.256	0.998	Do Not Test
1S vs 6S	425.000	1.721	1.000	Do Not Test
1S vs 6C	369.000	1.494	1.000	Do Not Test
1S vs 8C	292.000	1.183	1.000	Do Not Test
1S vs 2S	117.000	0.474	1.000	Do Not Test

1S vs 7S	75.000	0.304	1.000	Do Not Test
1S vs 5I	63.000	0.255	1.000	Do Not Test
1S vs 9S	33.000	0.134	1.000	Do Not Test
9S vs 5S	739.000	2.993	0.939	Do Not Test
9S vs 5C	529.000	2.142	0.999	Do Not Test
9S vs 4S	525.000	2.126	0.999	Do Not Test
9S vs 4C	525.000	2.126	0.999	Do Not Test
9S vs 8S	524.000	2.122	0.999	Do Not Test
9S vs 6S	392.000	1.587	1.000	Do Not Test
9S vs 6C	336.000	1.361	1.000	Do Not Test
9S vs 8C	259.000	1.049	1.000	Do Not Test
9S vs 2S	84.000	0.340	1.000	Do Not Test
9S vs 7S	42.000	0.170	1.000	Do Not Test
9S vs 5I	30.000	0.121	1.000	Do Not Test
5I vs 5S	709.000	2.871	0.959	Do Not Test
5I vs 5C	499.000	2.021	1.000	Do Not Test
5I vs 4S	495.000	2.005	1.000	Do Not Test
5I vs 4C	495.000	2.005	1.000	Do Not Test
5I vs 8S	494.000	2.001	1.000	Do Not Test
5I vs 6S	362.000	1.466	1.000	Do Not Test
5I vs 6C	306.000	1.239	1.000	Do Not Test
5I vs 8C	229.000	0.927	1.000	Do Not Test
5I vs 2S	54.000	0.219	1.000	Do Not Test
5I vs 7S	12.000	0.0486	1.000	Do Not Test
7S vs 5S	697.000	2.823	0.965	Do Not Test
7S vs 5C	487.000	1.972	1.000	Do Not Test
7S vs 4S	483.000	1.956	1.000	Do Not Test
7S vs 4C	483.000	1.956	1.000	Do Not Test
7S vs 8S	482.000	1.952	1.000	Do Not Test
7S vs 6S	350.000	1.417	1.000	Do Not Test
7S vs 6C	294.000	1.191	1.000	Do Not Test
7S vs 8C	217.000	0.879	1.000	Do Not Test
7S vs 2S	42.000	0.170	1.000	Do Not Test
2S vs 5S	655.000	2.653	0.982	Do Not Test
2S vs 5C	445.000	1.802	1.000	Do Not Test
2S vs 4S	441.000	1.786	1.000	Do Not Test
2S vs 4C	441.000	1.786	1.000	Do Not Test
2S vs 8S	440.000	1.782	1.000	Do Not Test
2S vs 6S	308.000	1.247	1.000	Do Not Test
2S vs 6C	252.000	1.021	1.000	Do Not Test
2S vs 8C	175.000	0.709	1.000	Do Not Test
8C vs 5S	480.000	1.944	1.000	Do Not Test
8C vs 5C	270.000	1.093	1.000	Do Not Test
8C vs 4S	266.000	1.077	1.000	Do Not Test
8C vs 4C	266.000	1.077	1.000	Do Not Test
8C vs 8S	265.000	1.073	1.000	Do Not Test
8C vs 6S	133.000	0.539	1.000	Do Not Test
8C vs 6C	77.000	0.312	1.000	Do Not Test
6C vs 5S	403.000	1.632	1.000	Do Not Test
6C vs 5C	193.000	0.782	1.000	Do Not Test
6C vs 4S	189.000	0.765	1.000	Do Not Test
6C vs 4C	189.000	0.765	1.000	Do Not Test
6C vs 8S	188.000	0.761	1.000	Do Not Test
6C vs 6S	56.000	0.227	1.000	Do Not Test
6S vs 5S	347.000	1.405	1.000	Do Not Test
6S vs 5C	137.000	0.555	1.000	Do Not Test

6S vs 4S	133.000	0.539	1.000	Do Not Test
6S vs 4C	133.000	0.539	1.000	Do Not Test
6S vs 8S	132.000	0.535	1.000	Do Not Test
8S vs 5S	215.000	0.871	1.000	Do Not Test
8S vs 5C	5.000	0.0202	1.000	Do Not Test
8S vs 4S	1.000	0.00405	1.000	Do Not Test
8S vs 4C	1.000	0.00405	1.000	Do Not Test
4C vs 5S	214.000	0.867	1.000	Do Not Test
4C vs 5C	4.000	0.0162	1.000	Do Not Test
4C vs 4S	0.000	0.000	1.000	Do Not Test
4S vs 5S	214.000	0.867	1.000	Do Not Test
4S vs 5C	4.000	0.0162	1.000	Do Not Test
5C vs 5S	210.000	0.850	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 19:53:09

Data source: SMI in L1 0-2y Corrected

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 19:53:09

Data source: SMI in L1 0-2y Corrected

Group	N	Missing	Median	25%	75%
1I	10	0	1.500	1.104	1.840
1C	10	0	1.295	1.161	1.612
1S	10	0	1.808	1.435	1.976
2I	10	0	1.420	1.187	1.691
2C	10	0	1.357	1.129	1.554
2S	10	0	1.751	1.538	1.872
3I	10	0	1.382	1.231	1.775
3C	10	0	1.205	0.985	1.552
3S	10	0	1.631	1.493	1.913
4I	10	0	1.582	1.371	1.717
4C	10	0	1.496	1.422	1.591
4S	10	0	1.724	1.587	1.844
5I	10	0	1.608	1.548	1.736
5C	10	0	1.614	1.584	1.684
5S	10	0	1.829	1.681	1.847
6I	10	0	1.514	1.443	1.645
6C	10	0	1.490	1.444	1.598
6S	10	0	1.645	1.585	1.794
7I	10	0	1.626	1.329	1.748
7C	10	0	1.494	1.345	1.554
7S	10	0	1.718	1.431	1.827
8I	10	0	1.593	1.430	1.728
8C	10	0	1.332	0.941	1.399
8S	10	0	1.678	1.492	1.948
9I	10	0	1.584	1.374	1.666
9C	10	0	1.433	1.374	1.582
9S	10	0	1.605	1.477	1.729

H = 71.102 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
5S vs 8C	1642.000	6.650	0.007	Yes
5S vs 3C	1479.000	5.990	0.013	Yes



5S vs 2C	1353.000	5.479	0.033	Yes
5S vs 1C	1339.000	5.423	0.037	Yes
5S vs 9C	1163.000	4.710	0.160	No
5S vs 2I	1095.000	4.434	0.258	Do Not Test
5S vs 7C	1067.000	4.321	0.308	Do Not Test
5S vs 3I	1001.000	4.054	0.447	Do Not Test
5S vs 6C	929.000	3.762	0.621	Do Not Test
5S vs 1I	896.000	3.629	0.700	Do Not Test
5S vs 4C	890.000	3.604	0.714	Do Not Test
5S vs 6I	882.000	3.572	0.732	Do Not Test
5S vs 9I	860.000	3.483	0.778	Do Not Test
5S vs 4I	773.000	3.130	0.909	Do Not Test
5S vs 7I	709.000	2.871	0.959	Do Not Test
5S vs 8I	671.000	2.717	0.976	Do Not Test
5S vs 9S	654.000	2.649	0.982	Do Not Test
5S vs 5I	558.000	2.260	0.998	Do Not Test
5S vs 3S	490.000	1.984	1.000	Do Not Test
5S vs 5C	478.000	1.936	1.000	Do Not Test
5S vs 7S	427.000	1.729	1.000	Do Not Test
5S vs 6S	399.000	1.616	1.000	Do Not Test
5S vs 8S	375.000	1.519	1.000	Do Not Test
5S vs 2S	361.000	1.462	1.000	Do Not Test
5S vs 1S	267.000	1.081	1.000	Do Not Test
5S vs 4S	248.000	1.004	1.000	Do Not Test
4S vs 8C	1394.000	5.645	0.024	Yes
4S vs 3C	1231.000	4.985	0.093	No
4S vs 2C	1105.000	4.475	0.242	Do Not Test
4S vs 1C	1091.000	4.418	0.265	Do Not Test
4S vs 9C	915.000	3.705	0.655	Do Not Test
4S vs 2I	847.000	3.430	0.803	Do Not Test
4S vs 7C	819.000	3.317	0.851	Do Not Test
4S vs 3I	753.000	3.049	0.928	Do Not Test
4S vs 6C	681.000	2.758	0.972	Do Not Test
4S vs 1I	648.000	2.624	0.984	Do Not Test
4S vs 4C	642.000	2.600	0.986	Do Not Test
4S vs 6I	634.000	2.568	0.988	Do Not Test
4S vs 9I	612.000	2.478	0.992	Do Not Test
4S vs 4I	525.000	2.126	0.999	Do Not Test
4S vs 7I	461.000	1.867	1.000	Do Not Test
4S vs 8I	423.000	1.713	1.000	Do Not Test
4S vs 9S	406.000	1.644	1.000	Do Not Test
4S vs 5I	310.000	1.255	1.000	Do Not Test
4S vs 3S	242.000	0.980	1.000	Do Not Test
4S vs 5C	230.000	0.931	1.000	Do Not Test
4S vs 7S	179.000	0.725	1.000	Do Not Test
4S vs 6S	151.000	0.612	1.000	Do Not Test
4S vs 8S	127.000	0.514	1.000	Do Not Test
4S vs 2S	113.000	0.458	1.000	Do Not Test
4S vs 1S	19.000	0.0769	1.000	Do Not Test
1S vs 8C	1375.000	5.568	0.028	Yes
1S vs 3C	1212.000	4.908	0.109	Do Not Test
1S vs 2C	1086.000	4.398	0.274	Do Not Test
1S vs 1C	1072.000	4.341	0.299	Do Not Test
1S vs 9C	896.000	3.629	0.700	Do Not Test
1S vs 2I	828.000	3.353	0.837	Do Not Test
1S vs 7C	800.000	3.240	0.878	Do Not Test

1S vs 3I	734.000	2.972	0.943	Do Not Test
1S vs 6C	662.000	2.681	0.980	Do Not Test
1S vs 1I	629.000	2.547	0.989	Do Not Test
1S vs 4C	623.000	2.523	0.990	Do Not Test
1S vs 6I	615.000	2.491	0.992	Do Not Test
1S vs 9I	593.000	2.401	0.995	Do Not Test
1S vs 4I	506.000	2.049	1.000	Do Not Test
1S vs 7I	442.000	1.790	1.000	Do Not Test
1S vs 8I	404.000	1.636	1.000	Do Not Test
1S vs 9S	387.000	1.567	1.000	Do Not Test
1S vs 5I	291.000	1.178	1.000	Do Not Test
1S vs 3S	223.000	0.903	1.000	Do Not Test
1S vs 5C	211.000	0.854	1.000	Do Not Test
1S vs 7S	160.000	0.648	1.000	Do Not Test
1S vs 6S	132.000	0.535	1.000	Do Not Test
1S vs 8S	108.000	0.437	1.000	Do Not Test
1S vs 2S	94.000	0.381	1.000	Do Not Test
2S vs 8C	1281.000	5.188	0.061	No
2S vs 3C	1118.000	4.528	0.221	Do Not Test
2S vs 2C	992.000	4.017	0.468	Do Not Test
2S vs 1C	978.000	3.961	0.501	Do Not Test
2S vs 9C	802.000	3.248	0.875	Do Not Test
2S vs 2I	734.000	2.972	0.943	Do Not Test
2S vs 7C	706.000	2.859	0.960	Do Not Test
2S vs 3I	640.000	2.592	0.986	Do Not Test
2S vs 6C	568.000	2.300	0.998	Do Not Test
2S vs 1I	535.000	2.167	0.999	Do Not Test
2S vs 4C	529.000	2.142	0.999	Do Not Test
2S vs 6I	521.000	2.110	0.999	Do Not Test
2S vs 9I	499.000	2.021	1.000	Do Not Test
2S vs 4I	412.000	1.668	1.000	Do Not Test
2S vs 7I	348.000	1.409	1.000	Do Not Test
2S vs 8I	310.000	1.255	1.000	Do Not Test
2S vs 9S	293.000	1.187	1.000	Do Not Test
2S vs 5I	197.000	0.798	1.000	Do Not Test
2S vs 3S	129.000	0.522	1.000	Do Not Test
2S vs 5C	117.000	0.474	1.000	Do Not Test
2S vs 7S	66.000	0.267	1.000	Do Not Test
2S vs 6S	38.000	0.154	1.000	Do Not Test
2S vs 8S	14.000	0.0567	1.000	Do Not Test
8S vs 8C	1267.000	5.131	0.069	Do Not Test
8S vs 3C	1104.000	4.471	0.243	Do Not Test
8S vs 2C	978.000	3.961	0.501	Do Not Test
8S vs 1C	964.000	3.904	0.535	Do Not Test
8S vs 9C	788.000	3.191	0.893	Do Not Test
8S vs 2I	720.000	2.916	0.952	Do Not Test
8S vs 7C	692.000	2.802	0.967	Do Not Test
8S vs 3I	626.000	2.535	0.990	Do Not Test
8S vs 6C	554.000	2.244	0.998	Do Not Test
8S vs 1I	521.000	2.110	0.999	Do Not Test
8S vs 4C	515.000	2.086	1.000	Do Not Test
8S vs 6I	507.000	2.053	1.000	Do Not Test
8S vs 9I	485.000	1.964	1.000	Do Not Test
8S vs 4I	398.000	1.612	1.000	Do Not Test
8S vs 7I	334.000	1.353	1.000	Do Not Test
8S vs 8I	296.000	1.199	1.000	Do Not Test

8S vs 9S	279.000	1.130	1.000	Do Not Test
8S vs 5I	183.000	0.741	1.000	Do Not Test
8S vs 3S	115.000	0.466	1.000	Do Not Test
8S vs 5C	103.000	0.417	1.000	Do Not Test
8S vs 7S	52.000	0.211	1.000	Do Not Test
8S vs 6S	24.000	0.0972	1.000	Do Not Test
6S vs 8C	1243.000	5.034	0.085	Do Not Test
6S vs 3C	1080.000	4.374	0.284	Do Not Test
6S vs 2C	954.000	3.863	0.560	Do Not Test
6S vs 1C	940.000	3.807	0.594	Do Not Test
6S vs 9C	764.000	3.094	0.918	Do Not Test
6S vs 2I	696.000	2.819	0.965	Do Not Test
6S vs 7C	668.000	2.705	0.978	Do Not Test
6S vs 3I	602.000	2.438	0.994	Do Not Test
6S vs 6C	530.000	2.146	0.999	Do Not Test
6S vs 1I	497.000	2.013	1.000	Do Not Test
6S vs 4C	491.000	1.988	1.000	Do Not Test
6S vs 6I	483.000	1.956	1.000	Do Not Test
6S vs 9I	461.000	1.867	1.000	Do Not Test
6S vs 4I	374.000	1.515	1.000	Do Not Test
6S vs 7I	310.000	1.255	1.000	Do Not Test
6S vs 8I	272.000	1.102	1.000	Do Not Test
6S vs 9S	255.000	1.033	1.000	Do Not Test
6S vs 5I	159.000	0.644	1.000	Do Not Test
6S vs 3S	91.000	0.369	1.000	Do Not Test
6S vs 5C	79.000	0.320	1.000	Do Not Test
6S vs 7S	28.000	0.113	1.000	Do Not Test
7S vs 8C	1215.000	4.920	0.106	Do Not Test
7S vs 3C	1052.000	4.260	0.337	Do Not Test
7S vs 2C	926.000	3.750	0.629	Do Not Test
7S vs 1C	912.000	3.693	0.662	Do Not Test
7S vs 9C	736.000	2.981	0.941	Do Not Test
7S vs 2I	668.000	2.705	0.978	Do Not Test
7S vs 7C	640.000	2.592	0.986	Do Not Test
7S vs 3I	574.000	2.325	0.997	Do Not Test
7S vs 6C	502.000	2.033	1.000	Do Not Test
7S vs 1I	469.000	1.899	1.000	Do Not Test
7S vs 4C	463.000	1.875	1.000	Do Not Test
7S vs 6I	455.000	1.843	1.000	Do Not Test
7S vs 9I	433.000	1.754	1.000	Do Not Test
7S vs 4I	346.000	1.401	1.000	Do Not Test
7S vs 7I	282.000	1.142	1.000	Do Not Test
7S vs 8I	244.000	0.988	1.000	Do Not Test
7S vs 9S	227.000	0.919	1.000	Do Not Test
7S vs 5I	131.000	0.531	1.000	Do Not Test
7S vs 3S	63.000	0.255	1.000	Do Not Test
7S vs 5C	51.000	0.207	1.000	Do Not Test
5C vs 8C	1164.000	4.714	0.159	Do Not Test
5C vs 3C	1001.000	4.054	0.447	Do Not Test
5C vs 2C	875.000	3.543	0.747	Do Not Test
5C vs 1C	861.000	3.487	0.776	Do Not Test
5C vs 9C	685.000	2.774	0.971	Do Not Test
5C vs 2I	617.000	2.499	0.992	Do Not Test
5C vs 7C	589.000	2.385	0.996	Do Not Test
5C vs 3I	523.000	2.118	0.999	Do Not Test
5C vs 6C	451.000	1.826	1.000	Do Not Test

5C vs 1I	418.000	1.693	1.000	Do Not Test
5C vs 4C	412.000	1.668	1.000	Do Not Test
5C vs 6I	404.000	1.636	1.000	Do Not Test
5C vs 9I	382.000	1.547	1.000	Do Not Test
5C vs 4I	295.000	1.195	1.000	Do Not Test
5C vs 7I	231.000	0.935	1.000	Do Not Test
5C vs 8I	193.000	0.782	1.000	Do Not Test
5C vs 9S	176.000	0.713	1.000	Do Not Test
5C vs 5I	80.000	0.324	1.000	Do Not Test
5C vs 3S	12.000	0.0486	1.000	Do Not Test
3S vs 8C	1152.000	4.665	0.173	Do Not Test
3S vs 3C	989.000	4.005	0.475	Do Not Test
3S vs 2C	863.000	3.495	0.772	Do Not Test
3S vs 1C	849.000	3.438	0.800	Do Not Test
3S vs 9C	673.000	2.725	0.976	Do Not Test
3S vs 2I	605.000	2.450	0.994	Do Not Test
3S vs 7C	577.000	2.337	0.997	Do Not Test
3S vs 3I	511.000	2.069	1.000	Do Not Test
3S vs 6C	439.000	1.778	1.000	Do Not Test
3S vs 1I	406.000	1.644	1.000	Do Not Test
3S vs 4C	400.000	1.620	1.000	Do Not Test
3S vs 6I	392.000	1.587	1.000	Do Not Test
3S vs 9I	370.000	1.498	1.000	Do Not Test
3S vs 4I	283.000	1.146	1.000	Do Not Test
3S vs 7I	219.000	0.887	1.000	Do Not Test
3S vs 8I	181.000	0.733	1.000	Do Not Test
3S vs 9S	164.000	0.664	1.000	Do Not Test
3S vs 5I	68.000	0.275	1.000	Do Not Test
5I vs 8C	1084.000	4.390	0.277	Do Not Test
5I vs 3C	921.000	3.730	0.641	Do Not Test
5I vs 2C	795.000	3.220	0.884	Do Not Test
5I vs 1C	781.000	3.163	0.901	Do Not Test
5I vs 9C	605.000	2.450	0.994	Do Not Test
5I vs 2I	537.000	2.175	0.999	Do Not Test
5I vs 7C	509.000	2.061	1.000	Do Not Test
5I vs 3I	443.000	1.794	1.000	Do Not Test
5I vs 6C	371.000	1.502	1.000	Do Not Test
5I vs 1I	338.000	1.369	1.000	Do Not Test
5I vs 4C	332.000	1.345	1.000	Do Not Test
5I vs 6I	324.000	1.312	1.000	Do Not Test
5I vs 9I	302.000	1.223	1.000	Do Not Test
5I vs 4I	215.000	0.871	1.000	Do Not Test
5I vs 7I	151.000	0.612	1.000	Do Not Test
5I vs 8I	113.000	0.458	1.000	Do Not Test
5I vs 9S	96.000	0.389	1.000	Do Not Test
9S vs 8C	988.000	4.001	0.477	Do Not Test
9S vs 3C	825.000	3.341	0.841	Do Not Test
9S vs 2C	699.000	2.831	0.964	Do Not Test
9S vs 1C	685.000	2.774	0.971	Do Not Test
9S vs 9C	509.000	2.061	1.000	Do Not Test
9S vs 2I	441.000	1.786	1.000	Do Not Test
9S vs 7C	413.000	1.673	1.000	Do Not Test
9S vs 3I	347.000	1.405	1.000	Do Not Test
9S vs 6C	275.000	1.114	1.000	Do Not Test
9S vs 1I	242.000	0.980	1.000	Do Not Test
9S vs 4C	236.000	0.956	1.000	Do Not Test

9S vs 6I	228.000	0.923	1.000	Do Not Test
9S vs 9I	206.000	0.834	1.000	Do Not Test
9S vs 4I	119.000	0.482	1.000	Do Not Test
9S vs 7I	55.000	0.223	1.000	Do Not Test
9S vs 8I	17.000	0.0688	1.000	Do Not Test
8I vs 8C	971.000	3.932	0.518	Do Not Test
8I vs 3C	808.000	3.272	0.867	Do Not Test
8I vs 2C	682.000	2.762	0.972	Do Not Test
8I vs 1C	668.000	2.705	0.978	Do Not Test
8I vs 9C	492.000	1.992	1.000	Do Not Test
8I vs 2I	424.000	1.717	1.000	Do Not Test
8I vs 7C	396.000	1.604	1.000	Do Not Test
8I vs 3I	330.000	1.336	1.000	Do Not Test
8I vs 6C	258.000	1.045	1.000	Do Not Test
8I vs 1I	225.000	0.911	1.000	Do Not Test
8I vs 4C	219.000	0.887	1.000	Do Not Test
8I vs 6I	211.000	0.854	1.000	Do Not Test
8I vs 9I	189.000	0.765	1.000	Do Not Test
8I vs 4I	102.000	0.413	1.000	Do Not Test
8I vs 7I	38.000	0.154	1.000	Do Not Test
7I vs 8C	933.000	3.778	0.611	Do Not Test
7I vs 3C	770.000	3.118	0.912	Do Not Test
7I vs 2C	644.000	2.608	0.985	Do Not Test
7I vs 1C	630.000	2.551	0.989	Do Not Test
7I vs 9C	454.000	1.839	1.000	Do Not Test
7I vs 2I	386.000	1.563	1.000	Do Not Test
7I vs 7C	358.000	1.450	1.000	Do Not Test
7I vs 3I	292.000	1.183	1.000	Do Not Test
7I vs 6C	220.000	0.891	1.000	Do Not Test
7I vs 1I	187.000	0.757	1.000	Do Not Test
7I vs 4C	181.000	0.733	1.000	Do Not Test
7I vs 6I	173.000	0.701	1.000	Do Not Test
7I vs 9I	151.000	0.612	1.000	Do Not Test
7I vs 4I	64.000	0.259	1.000	Do Not Test
4I vs 8C	869.000	3.519	0.760	Do Not Test
4I vs 3C	706.000	2.859	0.960	Do Not Test
4I vs 2C	580.000	2.349	0.997	Do Not Test
4I vs 1C	566.000	2.292	0.998	Do Not Test
4I vs 9C	390.000	1.579	1.000	Do Not Test
4I vs 2I	322.000	1.304	1.000	Do Not Test
4I vs 7C	294.000	1.191	1.000	Do Not Test
4I vs 3I	228.000	0.923	1.000	Do Not Test
4I vs 6C	156.000	0.632	1.000	Do Not Test
4I vs 1I	123.000	0.498	1.000	Do Not Test
4I vs 4C	117.000	0.474	1.000	Do Not Test
4I vs 6I	109.000	0.441	1.000	Do Not Test
4I vs 9I	87.000	0.352	1.000	Do Not Test
9I vs 8C	782.000	3.167	0.900	Do Not Test
9I vs 3C	619.000	2.507	0.991	Do Not Test
9I vs 2C	493.000	1.997	1.000	Do Not Test
9I vs 1C	479.000	1.940	1.000	Do Not Test
9I vs 9C	303.000	1.227	1.000	Do Not Test
9I vs 2I	235.000	0.952	1.000	Do Not Test
9I vs 7C	207.000	0.838	1.000	Do Not Test
9I vs 3I	141.000	0.571	1.000	Do Not Test
9I vs 6C	69.000	0.279	1.000	Do Not Test

9I vs 1I	36.000	0.146	1.000	Do Not Test
9I vs 4C	30.000	0.121	1.000	Do Not Test
9I vs 6I	22.000	0.0891	1.000	Do Not Test
6I vs 8C	760.000	3.078	0.922	Do Not Test
6I vs 3C	597.000	2.418	0.995	Do Not Test
6I vs 2C	471.000	1.907	1.000	Do Not Test
6I vs 1C	457.000	1.851	1.000	Do Not Test
6I vs 9C	281.000	1.138	1.000	Do Not Test
6I vs 2I	213.000	0.863	1.000	Do Not Test
6I vs 7C	185.000	0.749	1.000	Do Not Test
6I vs 3I	119.000	0.482	1.000	Do Not Test
6I vs 6C	47.000	0.190	1.000	Do Not Test
6I vs 1I	14.000	0.0567	1.000	Do Not Test
6I vs 4C	8.000	0.0324	1.000	Do Not Test
4C vs 8C	752.000	3.045	0.929	Do Not Test
4C vs 3C	589.000	2.385	0.996	Do Not Test
4C vs 2C	463.000	1.875	1.000	Do Not Test
4C vs 1C	449.000	1.818	1.000	Do Not Test
4C vs 9C	273.000	1.106	1.000	Do Not Test
4C vs 2I	205.000	0.830	1.000	Do Not Test
4C vs 7C	177.000	0.717	1.000	Do Not Test
4C vs 3I	111.000	0.450	1.000	Do Not Test
4C vs 6C	39.000	0.158	1.000	Do Not Test
4C vs 1I	6.000	0.0243	1.000	Do Not Test
1I vs 8C	746.000	3.021	0.934	Do Not Test
1I vs 3C	583.000	2.361	0.996	Do Not Test
1I vs 2C	457.000	1.851	1.000	Do Not Test
1I vs 1C	443.000	1.794	1.000	Do Not Test
1I vs 9C	267.000	1.081	1.000	Do Not Test
1I vs 2I	199.000	0.806	1.000	Do Not Test
1I vs 7C	171.000	0.693	1.000	Do Not Test
1I vs 3I	105.000	0.425	1.000	Do Not Test
1I vs 6C	33.000	0.134	1.000	Do Not Test
6C vs 8C	713.000	2.887	0.956	Do Not Test
6C vs 3C	550.000	2.227	0.999	Do Not Test
6C vs 2C	424.000	1.717	1.000	Do Not Test
6C vs 1C	410.000	1.660	1.000	Do Not Test
6C vs 9C	234.000	0.948	1.000	Do Not Test
6C vs 2I	166.000	0.672	1.000	Do Not Test
6C vs 7C	138.000	0.559	1.000	Do Not Test
6C vs 3I	72.000	0.292	1.000	Do Not Test
3I vs 8C	641.000	2.596	0.986	Do Not Test
3I vs 3C	478.000	1.936	1.000	Do Not Test
3I vs 2C	352.000	1.425	1.000	Do Not Test
3I vs 1C	338.000	1.369	1.000	Do Not Test
3I vs 9C	162.000	0.656	1.000	Do Not Test
3I vs 2I	94.000	0.381	1.000	Do Not Test
3I vs 7C	66.000	0.267	1.000	Do Not Test
7C vs 8C	575.000	2.329	0.997	Do Not Test
7C vs 3C	412.000	1.668	1.000	Do Not Test
7C vs 2C	286.000	1.158	1.000	Do Not Test
7C vs 1C	272.000	1.102	1.000	Do Not Test
7C vs 9C	96.000	0.389	1.000	Do Not Test
7C vs 2I	28.000	0.113	1.000	Do Not Test
2I vs 8C	547.000	2.215	0.999	Do Not Test
2I vs 3C	384.000	1.555	1.000	Do Not Test

2I vs 2C	258.000	1.045	1.000	Do Not Test
2I vs 1C	244.000	0.988	1.000	Do Not Test
2I vs 9C	68.000	0.275	1.000	Do Not Test
9C vs 8C	479.000	1.940	1.000	Do Not Test
9C vs 3C	316.000	1.280	1.000	Do Not Test
9C vs 2C	190.000	0.769	1.000	Do Not Test
9C vs 1C	176.000	0.713	1.000	Do Not Test
1C vs 8C	303.000	1.227	1.000	Do Not Test
1C vs 3C	140.000	0.567	1.000	Do Not Test
1C vs 2C	14.000	0.0567	1.000	Do Not Test
2C vs 8C	289.000	1.170	1.000	Do Not Test
2C vs 3C	126.000	0.510	1.000	Do Not Test
3C vs 8C	163.000	0.660	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 19:53:29

Data source: Tb.Th in L1 0-2y Corrected

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 19:53:29

Data source: Tb.Th in L1 0-2y Corrected

Group	N	Missing	Median	25%	75%
1I	10	0	104.481	83.147	138.344
1C	10	0	131.163	109.413	165.394
1S	10	0	84.650	77.228	102.354
2I	10	0	106.256	92.473	134.729
2C	10	0	135.783	118.534	168.611
2S	10	0	93.430	81.140	105.095
3I	10	0	109.163	89.431	131.857
3C	10	0	142.770	110.397	173.186
3S	10	0	91.086	83.101	104.305
4I	10	0	99.113	88.225	117.625
4C	10	0	104.071	95.912	120.927
4S	10	0	92.913	82.529	105.489
5I	10	0	97.389	89.215	118.033
5C	10	0	117.125	103.660	120.905
5S	10	0	93.412	82.969	97.920
6I	10	0	99.187	93.049	108.969
6C	10	0	105.064	100.353	121.107
6S	10	0	93.608	85.210	101.914
7I	10	0	101.423	86.631	110.582
7C	10	0	104.880	91.610	119.043
7S	10	0	99.381	81.143	113.216
8I	10	0	103.072	85.101	111.423
8C	10	0	134.877	107.456	146.725
8S	10	0	104.815	94.846	133.636
9I	10	0	102.351	92.141	114.864
9C	10	0	104.633	95.597	111.526
9S	10	0	98.225	81.214	104.125

H = 79.696 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
2C vs 5S	1458.000	5.904	0.015	Yes
2C vs 1S	1407.000	5.698	0.021	Yes



2C vs 6S	1337.000	5.414	0.038	Yes
2C vs 3S	1331.000	5.390	0.040	Yes
2C vs 4S	1315.000	5.325	0.046	Yes
2C vs 2S	1287.000	5.212	0.058	No
2C vs 9S	1234.000	4.997	0.091	Do Not Test
2C vs 7S	1153.000	4.669	0.172	Do Not Test
2C vs 7I	1027.000	4.159	0.389	Do Not Test
2C vs 4I	1016.000	4.115	0.413	Do Not Test
2C vs 8I	998.000	4.042	0.454	Do Not Test
2C vs 6I	970.000	3.928	0.521	Do Not Test
2C vs 5I	958.000	3.880	0.550	Do Not Test
2C vs 9I	879.000	3.560	0.738	Do Not Test
2C vs 7C	864.000	3.499	0.770	Do Not Test
2C vs 9C	830.000	3.361	0.833	Do Not Test
2C vs 1I	801.000	3.244	0.876	Do Not Test
2C vs 4C	718.000	2.908	0.953	Do Not Test
2C vs 8S	708.000	2.867	0.959	Do Not Test
2C vs 3I	684.000	2.770	0.971	Do Not Test
2C vs 2I	673.000	2.725	0.976	Do Not Test
2C vs 6C	621.000	2.515	0.991	Do Not Test
2C vs 5C	448.000	1.814	1.000	Do Not Test
2C vs 8C	102.000	0.413	1.000	Do Not Test
2C vs 3C	38.000	0.154	1.000	Do Not Test
2C vs 1C	12.000	0.0486	1.000	Do Not Test
1C vs 5S	1446.000	5.856	0.016	Yes
1C vs 1S	1395.000	5.649	0.024	Yes
1C vs 6S	1325.000	5.366	0.042	Yes
1C vs 3S	1319.000	5.342	0.044	Yes
1C vs 4S	1303.000	5.277	0.051	No
1C vs 2S	1275.000	5.163	0.065	Do Not Test
1C vs 9S	1222.000	4.949	0.100	Do Not Test
1C vs 7S	1141.000	4.621	0.188	Do Not Test
1C vs 7I	1015.000	4.110	0.415	Do Not Test
1C vs 4I	1004.000	4.066	0.440	Do Not Test
1C vs 8I	986.000	3.993	0.482	Do Not Test
1C vs 6I	958.000	3.880	0.550	Do Not Test
1C vs 5I	946.000	3.831	0.579	Do Not Test
1C vs 9I	867.000	3.511	0.764	Do Not Test
1C vs 7C	852.000	3.450	0.794	Do Not Test
1C vs 9C	818.000	3.313	0.852	Do Not Test
1C vs 1I	789.000	3.195	0.892	Do Not Test
1C vs 4C	706.000	2.859	0.960	Do Not Test
1C vs 8S	696.000	2.819	0.965	Do Not Test
1C vs 3I	672.000	2.721	0.976	Do Not Test
1C vs 2I	661.000	2.677	0.980	Do Not Test
1C vs 6C	609.000	2.466	0.993	Do Not Test
1C vs 5C	436.000	1.766	1.000	Do Not Test
1C vs 8C	90.000	0.364	1.000	Do Not Test
1C vs 3C	26.000	0.105	1.000	Do Not Test
3C vs 5S	1420.000	5.751	0.019	Yes
3C vs 1S	1369.000	5.544	0.029	Yes
3C vs 6S	1299.000	5.261	0.053	No
3C vs 3S	1293.000	5.236	0.055	Do Not Test
3C vs 4S	1277.000	5.171	0.063	Do Not Test
3C vs 2S	1249.000	5.058	0.080	Do Not Test
3C vs 9S	1196.000	4.843	0.124	Do Not Test

3C vs 7S	1115.000	4.515	0.226	Do Not Test
3C vs 7I	989.000	4.005	0.475	Do Not Test
3C vs 4I	978.000	3.961	0.501	Do Not Test
3C vs 8I	960.000	3.888	0.545	Do Not Test
3C vs 6I	932.000	3.774	0.614	Do Not Test
3C vs 5I	920.000	3.726	0.643	Do Not Test
3C vs 9I	841.000	3.406	0.814	Do Not Test
3C vs 7C	826.000	3.345	0.840	Do Not Test
3C vs 9C	792.000	3.207	0.888	Do Not Test
3C vs 1I	763.000	3.090	0.919	Do Not Test
3C vs 4C	680.000	2.754	0.973	Do Not Test
3C vs 8S	670.000	2.713	0.977	Do Not Test
3C vs 3I	646.000	2.616	0.985	Do Not Test
3C vs 2I	635.000	2.572	0.988	Do Not Test
3C vs 6C	583.000	2.361	0.996	Do Not Test
3C vs 5C	410.000	1.660	1.000	Do Not Test
3C vs 8C	64.000	0.259	1.000	Do Not Test
8C vs 5S	1356.000	5.491	0.032	Yes
8C vs 1S	1305.000	5.285	0.050	Yes
8C vs 6S	1235.000	5.001	0.090	Do Not Test
8C vs 3S	1229.000	4.977	0.095	Do Not Test
8C vs 4S	1213.000	4.912	0.108	Do Not Test
8C vs 2S	1185.000	4.799	0.135	Do Not Test
8C vs 9S	1132.000	4.584	0.200	Do Not Test
8C vs 7S	1051.000	4.256	0.339	Do Not Test
8C vs 7I	925.000	3.746	0.631	Do Not Test
8C vs 4I	914.000	3.701	0.658	Do Not Test
8C vs 8I	896.000	3.629	0.700	Do Not Test
8C vs 6I	868.000	3.515	0.762	Do Not Test
8C vs 5I	856.000	3.467	0.786	Do Not Test
8C vs 9I	777.000	3.147	0.905	Do Not Test
8C vs 7C	762.000	3.086	0.920	Do Not Test
8C vs 9C	728.000	2.948	0.947	Do Not Test
8C vs 1I	699.000	2.831	0.964	Do Not Test
8C vs 4C	616.000	2.495	0.992	Do Not Test
8C vs 8S	606.000	2.454	0.993	Do Not Test
8C vs 3I	582.000	2.357	0.996	Do Not Test
8C vs 2I	571.000	2.312	0.997	Do Not Test
8C vs 6C	519.000	2.102	1.000	Do Not Test
8C vs 5C	346.000	1.401	1.000	Do Not Test
5C vs 5S	1010.000	4.090	0.427	No
5C vs 1S	959.000	3.884	0.547	Do Not Test
5C vs 6S	889.000	3.600	0.716	Do Not Test
5C vs 3S	883.000	3.576	0.730	Do Not Test
5C vs 4S	867.000	3.511	0.764	Do Not Test
5C vs 2S	839.000	3.398	0.818	Do Not Test
5C vs 9S	786.000	3.183	0.895	Do Not Test
5C vs 7S	705.000	2.855	0.961	Do Not Test
5C vs 7I	579.000	2.345	0.997	Do Not Test
5C vs 4I	568.000	2.300	0.998	Do Not Test
5C vs 8I	550.000	2.227	0.999	Do Not Test
5C vs 6I	522.000	2.114	0.999	Do Not Test
5C vs 5I	510.000	2.065	1.000	Do Not Test
5C vs 9I	431.000	1.745	1.000	Do Not Test
5C vs 7C	416.000	1.685	1.000	Do Not Test
5C vs 9C	382.000	1.547	1.000	Do Not Test

5C vs 1I	353.000	1.430	1.000	Do Not Test
5C vs 4C	270.000	1.093	1.000	Do Not Test
5C vs 8S	260.000	1.053	1.000	Do Not Test
5C vs 3I	236.000	0.956	1.000	Do Not Test
5C vs 2I	225.000	0.911	1.000	Do Not Test
5C vs 6C	173.000	0.701	1.000	Do Not Test
6C vs 5S	837.000	3.390	0.821	Do Not Test
6C vs 1S	786.000	3.183	0.895	Do Not Test
6C vs 6S	716.000	2.900	0.955	Do Not Test
6C vs 3S	710.000	2.875	0.958	Do Not Test
6C vs 4S	694.000	2.810	0.966	Do Not Test
6C vs 2S	666.000	2.697	0.978	Do Not Test
6C vs 9S	613.000	2.482	0.992	Do Not Test
6C vs 7S	532.000	2.154	0.999	Do Not Test
6C vs 7I	406.000	1.644	1.000	Do Not Test
6C vs 4I	395.000	1.600	1.000	Do Not Test
6C vs 8I	377.000	1.527	1.000	Do Not Test
6C vs 6I	349.000	1.413	1.000	Do Not Test
6C vs 5I	337.000	1.365	1.000	Do Not Test
6C vs 9I	258.000	1.045	1.000	Do Not Test
6C vs 7C	243.000	0.984	1.000	Do Not Test
6C vs 9C	209.000	0.846	1.000	Do Not Test
6C vs 1I	180.000	0.729	1.000	Do Not Test
6C vs 4C	97.000	0.393	1.000	Do Not Test
6C vs 8S	87.000	0.352	1.000	Do Not Test
6C vs 3I	63.000	0.255	1.000	Do Not Test
6C vs 2I	52.000	0.211	1.000	Do Not Test
2I vs 5S	785.000	3.179	0.896	Do Not Test
2I vs 1S	734.000	2.972	0.943	Do Not Test
2I vs 6S	664.000	2.689	0.979	Do Not Test
2I vs 3S	658.000	2.665	0.981	Do Not Test
2I vs 4S	642.000	2.600	0.986	Do Not Test
2I vs 2S	614.000	2.487	0.992	Do Not Test
2I vs 9S	561.000	2.272	0.998	Do Not Test
2I vs 7S	480.000	1.944	1.000	Do Not Test
2I vs 7I	354.000	1.434	1.000	Do Not Test
2I vs 4I	343.000	1.389	1.000	Do Not Test
2I vs 8I	325.000	1.316	1.000	Do Not Test
2I vs 6I	297.000	1.203	1.000	Do Not Test
2I vs 5I	285.000	1.154	1.000	Do Not Test
2I vs 9I	206.000	0.834	1.000	Do Not Test
2I vs 7C	191.000	0.773	1.000	Do Not Test
2I vs 9C	157.000	0.636	1.000	Do Not Test
2I vs 1I	128.000	0.518	1.000	Do Not Test
2I vs 4C	45.000	0.182	1.000	Do Not Test
2I vs 8S	35.000	0.142	1.000	Do Not Test
2I vs 3I	11.000	0.0445	1.000	Do Not Test
3I vs 5S	774.000	3.134	0.908	Do Not Test
3I vs 1S	723.000	2.928	0.950	Do Not Test
3I vs 6S	653.000	2.644	0.983	Do Not Test
3I vs 3S	647.000	2.620	0.984	Do Not Test
3I vs 4S	631.000	2.555	0.989	Do Not Test
3I vs 2S	603.000	2.442	0.994	Do Not Test
3I vs 9S	550.000	2.227	0.999	Do Not Test
3I vs 7S	469.000	1.899	1.000	Do Not Test
3I vs 7I	343.000	1.389	1.000	Do Not Test

3I vs 4I	332.000	1.345	1.000	Do Not Test
3I vs 8I	314.000	1.272	1.000	Do Not Test
3I vs 6I	286.000	1.158	1.000	Do Not Test
3I vs 5I	274.000	1.110	1.000	Do Not Test
3I vs 9I	195.000	0.790	1.000	Do Not Test
3I vs 7C	180.000	0.729	1.000	Do Not Test
3I vs 9C	146.000	0.591	1.000	Do Not Test
3I vs 1I	117.000	0.474	1.000	Do Not Test
3I vs 4C	34.000	0.138	1.000	Do Not Test
3I vs 8S	24.000	0.0972	1.000	Do Not Test
8S vs 5S	750.000	3.037	0.930	Do Not Test
8S vs 1S	699.000	2.831	0.964	Do Not Test
8S vs 6S	629.000	2.547	0.989	Do Not Test
8S vs 3S	623.000	2.523	0.990	Do Not Test
8S vs 4S	607.000	2.458	0.993	Do Not Test
8S vs 2S	579.000	2.345	0.997	Do Not Test
8S vs 9S	526.000	2.130	0.999	Do Not Test
8S vs 7S	445.000	1.802	1.000	Do Not Test
8S vs 7I	319.000	1.292	1.000	Do Not Test
8S vs 4I	308.000	1.247	1.000	Do Not Test
8S vs 8I	290.000	1.174	1.000	Do Not Test
8S vs 6I	262.000	1.061	1.000	Do Not Test
8S vs 5I	250.000	1.012	1.000	Do Not Test
8S vs 9I	171.000	0.693	1.000	Do Not Test
8S vs 7C	156.000	0.632	1.000	Do Not Test
8S vs 9C	122.000	0.494	1.000	Do Not Test
8S vs 1I	93.000	0.377	1.000	Do Not Test
8S vs 4C	10.000	0.0405	1.000	Do Not Test
4C vs 5S	740.000	2.997	0.938	Do Not Test
4C vs 1S	689.000	2.790	0.969	Do Not Test
4C vs 6S	619.000	2.507	0.991	Do Not Test
4C vs 3S	613.000	2.482	0.992	Do Not Test
4C vs 4S	597.000	2.418	0.995	Do Not Test
4C vs 2S	569.000	2.304	0.997	Do Not Test
4C vs 9S	516.000	2.090	1.000	Do Not Test
4C vs 7S	435.000	1.762	1.000	Do Not Test
4C vs 7I	309.000	1.251	1.000	Do Not Test
4C vs 4I	298.000	1.207	1.000	Do Not Test
4C vs 8I	280.000	1.134	1.000	Do Not Test
4C vs 6I	252.000	1.021	1.000	Do Not Test
4C vs 5I	240.000	0.972	1.000	Do Not Test
4C vs 9I	161.000	0.652	1.000	Do Not Test
4C vs 7C	146.000	0.591	1.000	Do Not Test
4C vs 9C	112.000	0.454	1.000	Do Not Test
4C vs 1I	83.000	0.336	1.000	Do Not Test
1I vs 5S	657.000	2.661	0.981	Do Not Test
1I vs 1S	606.000	2.454	0.993	Do Not Test
1I vs 6S	536.000	2.171	0.999	Do Not Test
1I vs 3S	530.000	2.146	0.999	Do Not Test
1I vs 4S	514.000	2.082	1.000	Do Not Test
1I vs 2S	486.000	1.968	1.000	Do Not Test
1I vs 9S	433.000	1.754	1.000	Do Not Test
1I vs 7S	352.000	1.425	1.000	Do Not Test
1I vs 7I	226.000	0.915	1.000	Do Not Test
1I vs 4I	215.000	0.871	1.000	Do Not Test
1I vs 8I	197.000	0.798	1.000	Do Not Test

1I vs 6I	169.000	0.684	1.000	Do Not Test
1I vs 5I	157.000	0.636	1.000	Do Not Test
1I vs 9I	78.000	0.316	1.000	Do Not Test
1I vs 7C	63.000	0.255	1.000	Do Not Test
1I vs 9C	29.000	0.117	1.000	Do Not Test
9C vs 5S	628.000	2.543	0.989	Do Not Test
9C vs 1S	577.000	2.337	0.997	Do Not Test
9C vs 6S	507.000	2.053	1.000	Do Not Test
9C vs 3S	501.000	2.029	1.000	Do Not Test
9C vs 4S	485.000	1.964	1.000	Do Not Test
9C vs 2S	457.000	1.851	1.000	Do Not Test
9C vs 9S	404.000	1.636	1.000	Do Not Test
9C vs 7S	323.000	1.308	1.000	Do Not Test
9C vs 7I	197.000	0.798	1.000	Do Not Test
9C vs 4I	186.000	0.753	1.000	Do Not Test
9C vs 8I	168.000	0.680	1.000	Do Not Test
9C vs 6I	140.000	0.567	1.000	Do Not Test
9C vs 5I	128.000	0.518	1.000	Do Not Test
9C vs 9I	49.000	0.198	1.000	Do Not Test
9C vs 7C	34.000	0.138	1.000	Do Not Test
7C vs 5S	594.000	2.406	0.995	Do Not Test
7C vs 1S	543.000	2.199	0.999	Do Not Test
7C vs 6S	473.000	1.916	1.000	Do Not Test
7C vs 3S	467.000	1.891	1.000	Do Not Test
7C vs 4S	451.000	1.826	1.000	Do Not Test
7C vs 2S	423.000	1.713	1.000	Do Not Test
7C vs 9S	370.000	1.498	1.000	Do Not Test
7C vs 7S	289.000	1.170	1.000	Do Not Test
7C vs 7I	163.000	0.660	1.000	Do Not Test
7C vs 4I	152.000	0.616	1.000	Do Not Test
7C vs 8I	134.000	0.543	1.000	Do Not Test
7C vs 6I	106.000	0.429	1.000	Do Not Test
7C vs 5I	94.000	0.381	1.000	Do Not Test
7C vs 9I	15.000	0.0607	1.000	Do Not Test
9I vs 5S	579.000	2.345	0.997	Do Not Test
9I vs 1S	528.000	2.138	0.999	Do Not Test
9I vs 6S	458.000	1.855	1.000	Do Not Test
9I vs 3S	452.000	1.830	1.000	Do Not Test
9I vs 4S	436.000	1.766	1.000	Do Not Test
9I vs 2S	408.000	1.652	1.000	Do Not Test
9I vs 9S	355.000	1.438	1.000	Do Not Test
9I vs 7S	274.000	1.110	1.000	Do Not Test
9I vs 7I	148.000	0.599	1.000	Do Not Test
9I vs 4I	137.000	0.555	1.000	Do Not Test
9I vs 8I	119.000	0.482	1.000	Do Not Test
9I vs 6I	91.000	0.369	1.000	Do Not Test
9I vs 5I	79.000	0.320	1.000	Do Not Test
5I vs 5S	500.000	2.025	1.000	Do Not Test
5I vs 1S	449.000	1.818	1.000	Do Not Test
5I vs 6S	379.000	1.535	1.000	Do Not Test
5I vs 3S	373.000	1.511	1.000	Do Not Test
5I vs 4S	357.000	1.446	1.000	Do Not Test
5I vs 2S	329.000	1.332	1.000	Do Not Test
5I vs 9S	276.000	1.118	1.000	Do Not Test
5I vs 7S	195.000	0.790	1.000	Do Not Test
5I vs 7I	69.000	0.279	1.000	Do Not Test

5I vs 4I	58.000	0.235	1.000	Do Not Test
5I vs 8I	40.000	0.162	1.000	Do Not Test
5I vs 6I	12.000	0.0486	1.000	Do Not Test
6I vs 5S	488.000	1.976	1.000	Do Not Test
6I vs 1S	437.000	1.770	1.000	Do Not Test
6I vs 6S	367.000	1.486	1.000	Do Not Test
6I vs 3S	361.000	1.462	1.000	Do Not Test
6I vs 4S	345.000	1.397	1.000	Do Not Test
6I vs 2S	317.000	1.284	1.000	Do Not Test
6I vs 9S	264.000	1.069	1.000	Do Not Test
6I vs 7S	183.000	0.741	1.000	Do Not Test
6I vs 7I	57.000	0.231	1.000	Do Not Test
6I vs 4I	46.000	0.186	1.000	Do Not Test
6I vs 8I	28.000	0.113	1.000	Do Not Test
8I vs 5S	460.000	1.863	1.000	Do Not Test
8I vs 1S	409.000	1.656	1.000	Do Not Test
8I vs 6S	339.000	1.373	1.000	Do Not Test
8I vs 3S	333.000	1.349	1.000	Do Not Test
8I vs 4S	317.000	1.284	1.000	Do Not Test
8I vs 2S	289.000	1.170	1.000	Do Not Test
8I vs 9S	236.000	0.956	1.000	Do Not Test
8I vs 7S	155.000	0.628	1.000	Do Not Test
8I vs 7I	29.000	0.117	1.000	Do Not Test
8I vs 4I	18.000	0.0729	1.000	Do Not Test
4I vs 5S	442.000	1.790	1.000	Do Not Test
4I vs 1S	391.000	1.583	1.000	Do Not Test
4I vs 6S	321.000	1.300	1.000	Do Not Test
4I vs 3S	315.000	1.276	1.000	Do Not Test
4I vs 4S	299.000	1.211	1.000	Do Not Test
4I vs 2S	271.000	1.097	1.000	Do Not Test
4I vs 9S	218.000	0.883	1.000	Do Not Test
4I vs 7S	137.000	0.555	1.000	Do Not Test
4I vs 7I	11.000	0.0445	1.000	Do Not Test
7I vs 5S	431.000	1.745	1.000	Do Not Test
7I vs 1S	380.000	1.539	1.000	Do Not Test
7I vs 6S	310.000	1.255	1.000	Do Not Test
7I vs 3S	304.000	1.231	1.000	Do Not Test
7I vs 4S	288.000	1.166	1.000	Do Not Test
7I vs 2S	260.000	1.053	1.000	Do Not Test
7I vs 9S	207.000	0.838	1.000	Do Not Test
7I vs 7S	126.000	0.510	1.000	Do Not Test
7S vs 5S	305.000	1.235	1.000	Do Not Test
7S vs 1S	254.000	1.029	1.000	Do Not Test
7S vs 6S	184.000	0.745	1.000	Do Not Test
7S vs 3S	178.000	0.721	1.000	Do Not Test
7S vs 4S	162.000	0.656	1.000	Do Not Test
7S vs 2S	134.000	0.543	1.000	Do Not Test
7S vs 9S	81.000	0.328	1.000	Do Not Test
9S vs 5S	224.000	0.907	1.000	Do Not Test
9S vs 1S	173.000	0.701	1.000	Do Not Test
9S vs 6S	103.000	0.417	1.000	Do Not Test
9S vs 3S	97.000	0.393	1.000	Do Not Test
9S vs 4S	81.000	0.328	1.000	Do Not Test
9S vs 2S	53.000	0.215	1.000	Do Not Test
2S vs 5S	171.000	0.693	1.000	Do Not Test
2S vs 1S	120.000	0.486	1.000	Do Not Test

2S vs 6S	50.000	0.202	1.000	Do Not Test
2S vs 3S	44.000	0.178	1.000	Do Not Test
2S vs 4S	28.000	0.113	1.000	Do Not Test
4S vs 5S	143.000	0.579	1.000	Do Not Test
4S vs 1S	92.000	0.373	1.000	Do Not Test
4S vs 6S	22.000	0.0891	1.000	Do Not Test
4S vs 3S	16.000	0.0648	1.000	Do Not Test
3S vs 5S	127.000	0.514	1.000	Do Not Test
3S vs 1S	76.000	0.308	1.000	Do Not Test
3S vs 6S	6.000	0.0243	1.000	Do Not Test
6S vs 5S	121.000	0.490	1.000	Do Not Test
6S vs 1S	70.000	0.283	1.000	Do Not Test
1S vs 5S	51.000	0.207	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 19:53:51

Data source: Tb.N in L1 0-2y Corrected

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 19:53:51

Data source: Tb.N in L1 0-2y Corrected

Group	N	Missing	Median	25%	75%
1I	10	0	0.00158	0.00136	0.00181
1C	10	0	0.00136	0.00122	0.00151
1S	10	0	0.00147	0.00129	0.00209
2I	10	0	0.00143	0.00128	0.00159
2C	10	0	0.00114	0.00107	0.00118
2S	10	0	0.00146	0.00120	0.00170
3I	10	0	0.00161	0.00141	0.00182
3C	10	0	0.00129	0.00122	0.00147
3S	10	0	0.00157	0.00135	0.00195
4I	10	0	0.00147	0.00121	0.00167
4C	10	0	0.00103	0.000970	0.00130
4S	10	0	0.00127	0.00105	0.00152
5I	10	0	0.00132	0.00119	0.00159
5C	10	0	0.00103	0.000965	0.00119
5S	10	0	0.00109	0.00106	0.00152
6I	10	0	0.00143	0.00133	0.00165
6C	10	0	0.00113	0.00103	0.00129
6S	10	0	0.00124	0.00114	0.00159
7I	10	0	0.00172	0.00136	0.00200
7C	10	0	0.00136	0.00116	0.00164
7S	10	0	0.00143	0.00120	0.00171
8I	10	0	0.00151	0.00136	0.00164
8C	10	0	0.000935	0.000828	0.00117
8S	10	0	0.00101	0.000908	0.00126
9I	10	0	0.00177	0.00151	0.00199
9C	10	0	0.00134	0.00130	0.00164
9S	10	0	0.00147	0.00123	0.00178

H = 93.672 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
9I vs 8C	1570.000	6.358	0.009	Yes
9I vs 5C	1562.000	6.326	0.009	Yes



9I vs 8S	1417.000	5.738	0.020	Yes
9I vs 4C	1397.500	5.659	0.023	Yes
9I vs 2C	1375.000	5.568	0.028	Yes
9I vs 6C	1320.000	5.346	0.044	Yes
9I vs 5S	1091.000	4.418	0.265	No
9I vs 4S	969.500	3.926	0.522	Do Not Test
9I vs 6S	841.500	3.408	0.813	Do Not Test
9I vs 3C	815.000	3.301	0.857	Do Not Test
9I vs 1C	780.500	3.161	0.901	Do Not Test
9I vs 5I	709.500	2.873	0.958	Do Not Test
9I vs 7C	700.500	2.837	0.963	Do Not Test
9I vs 7S	588.500	2.383	0.996	Do Not Test
9I vs 2S	545.000	2.207	0.999	Do Not Test
9I vs 9C	541.500	2.193	0.999	Do Not Test
9I vs 2I	507.500	2.055	1.000	Do Not Test
9I vs 4I	488.500	1.978	1.000	Do Not Test
9I vs 9S	474.000	1.920	1.000	Do Not Test
9I vs 6I	443.500	1.796	1.000	Do Not Test
9I vs 8I	414.500	1.679	1.000	Do Not Test
9I vs 1S	311.000	1.259	1.000	Do Not Test
9I vs 1I	221.500	0.897	1.000	Do Not Test
9I vs 7I	157.500	0.638	1.000	Do Not Test
9I vs 3I	152.500	0.618	1.000	Do Not Test
9I vs 3S	140.000	0.567	1.000	Do Not Test
3S vs 8C	1430.000	5.791	0.018	Yes
3S vs 5C	1422.000	5.759	0.019	Yes
3S vs 8S	1277.000	5.171	0.063	No
3S vs 4C	1257.500	5.093	0.075	Do Not Test
3S vs 2C	1235.000	5.001	0.090	Do Not Test
3S vs 6C	1180.000	4.779	0.140	Do Not Test
3S vs 5S	951.000	3.851	0.567	Do Not Test
3S vs 4S	829.500	3.359	0.834	Do Not Test
3S vs 6S	701.500	2.841	0.963	Do Not Test
3S vs 3C	675.000	2.734	0.975	Do Not Test
3S vs 1C	640.500	2.594	0.986	Do Not Test
3S vs 5I	569.500	2.306	0.997	Do Not Test
3S vs 7C	560.500	2.270	0.998	Do Not Test
3S vs 7S	448.500	1.816	1.000	Do Not Test
3S vs 2S	405.000	1.640	1.000	Do Not Test
3S vs 9C	401.500	1.626	1.000	Do Not Test
3S vs 2I	367.500	1.488	1.000	Do Not Test
3S vs 4I	348.500	1.411	1.000	Do Not Test
3S vs 9S	334.000	1.353	1.000	Do Not Test
3S vs 6I	303.500	1.229	1.000	Do Not Test
3S vs 8I	274.500	1.112	1.000	Do Not Test
3S vs 1S	171.000	0.693	1.000	Do Not Test
3S vs 1I	81.500	0.330	1.000	Do Not Test
3S vs 7I	17.500	0.0709	1.000	Do Not Test
3S vs 3I	12.500	0.0506	1.000	Do Not Test
3I vs 8C	1417.500	5.740	0.020	Yes
3I vs 5C	1409.500	5.708	0.021	Yes
3I vs 8S	1264.500	5.121	0.071	Do Not Test
3I vs 4C	1245.000	5.042	0.083	Do Not Test
3I vs 2C	1222.500	4.951	0.100	Do Not Test
3I vs 6C	1167.500	4.728	0.154	Do Not Test
3I vs 5S	938.500	3.801	0.598	Do Not Test

3I vs 4S	817.000	3.309	0.854	Do Not Test
3I vs 6S	689.000	2.790	0.969	Do Not Test
3I vs 3C	662.500	2.683	0.979	Do Not Test
3I vs 1C	628.000	2.543	0.989	Do Not Test
3I vs 5I	557.000	2.256	0.998	Do Not Test
3I vs 7C	548.000	2.219	0.999	Do Not Test
3I vs 7S	436.000	1.766	1.000	Do Not Test
3I vs 2S	392.500	1.590	1.000	Do Not Test
3I vs 9C	389.000	1.575	1.000	Do Not Test
3I vs 2I	355.000	1.438	1.000	Do Not Test
3I vs 4I	336.000	1.361	1.000	Do Not Test
3I vs 9S	321.500	1.302	1.000	Do Not Test
3I vs 6I	291.000	1.178	1.000	Do Not Test
3I vs 8I	262.000	1.061	1.000	Do Not Test
3I vs 1S	158.500	0.642	1.000	Do Not Test
3I vs 1I	69.000	0.279	1.000	Do Not Test
3I vs 7I	5.000	0.0202	1.000	Do Not Test
7I vs 8C	1412.500	5.720	0.021	Yes
7I vs 5C	1404.500	5.688	0.022	Yes
7I vs 8S	1259.500	5.101	0.074	Do Not Test
7I vs 4C	1240.000	5.022	0.087	Do Not Test
7I vs 2C	1217.500	4.931	0.104	Do Not Test
7I vs 6C	1162.500	4.708	0.160	Do Not Test
7I vs 5S	933.500	3.780	0.610	Do Not Test
7I vs 4S	812.000	3.288	0.861	Do Not Test
7I vs 6S	684.000	2.770	0.971	Do Not Test
7I vs 3C	657.500	2.663	0.981	Do Not Test
7I vs 1C	623.000	2.523	0.990	Do Not Test
7I vs 5I	552.000	2.235	0.999	Do Not Test
7I vs 7C	543.000	2.199	0.999	Do Not Test
7I vs 7S	431.000	1.745	1.000	Do Not Test
7I vs 2S	387.500	1.569	1.000	Do Not Test
7I vs 9C	384.000	1.555	1.000	Do Not Test
7I vs 2I	350.000	1.417	1.000	Do Not Test
7I vs 4I	331.000	1.340	1.000	Do Not Test
7I vs 9S	316.500	1.282	1.000	Do Not Test
7I vs 6I	286.000	1.158	1.000	Do Not Test
7I vs 8I	257.000	1.041	1.000	Do Not Test
7I vs 1S	153.500	0.622	1.000	Do Not Test
7I vs 1I	64.000	0.259	1.000	Do Not Test
1I vs 8C	1348.500	5.461	0.035	Yes
1I vs 5C	1340.500	5.429	0.037	Yes
1I vs 8S	1195.500	4.841	0.124	Do Not Test
1I vs 4C	1176.000	4.762	0.145	Do Not Test
1I vs 2C	1153.500	4.671	0.172	Do Not Test
1I vs 6C	1098.500	4.449	0.252	Do Not Test
1I vs 5S	869.500	3.521	0.759	Do Not Test
1I vs 4S	748.000	3.029	0.932	Do Not Test
1I vs 6S	620.000	2.511	0.991	Do Not Test
1I vs 3C	593.500	2.404	0.995	Do Not Test
1I vs 1C	559.000	2.264	0.998	Do Not Test
1I vs 5I	488.000	1.976	1.000	Do Not Test
1I vs 7C	479.000	1.940	1.000	Do Not Test
1I vs 7S	367.000	1.486	1.000	Do Not Test
1I vs 2S	323.500	1.310	1.000	Do Not Test
1I vs 9C	320.000	1.296	1.000	Do Not Test

1I vs 2I	286.000	1.158	1.000	Do Not Test
1I vs 4I	267.000	1.081	1.000	Do Not Test
1I vs 9S	252.500	1.023	1.000	Do Not Test
1I vs 6I	222.000	0.899	1.000	Do Not Test
1I vs 8I	193.000	0.782	1.000	Do Not Test
1I vs 1S	89.500	0.362	1.000	Do Not Test
1S vs 8C	1259.000	5.099	0.074	No
1S vs 5C	1251.000	5.066	0.079	Do Not Test
1S vs 8S	1106.000	4.479	0.240	Do Not Test
1S vs 4C	1086.500	4.400	0.273	Do Not Test
1S vs 2C	1064.000	4.309	0.314	Do Not Test
1S vs 6C	1009.000	4.086	0.429	Do Not Test
1S vs 5S	780.000	3.159	0.902	Do Not Test
1S vs 4S	658.500	2.667	0.981	Do Not Test
1S vs 6S	530.500	2.148	0.999	Do Not Test
1S vs 3C	504.000	2.041	1.000	Do Not Test
1S vs 1C	469.500	1.901	1.000	Do Not Test
1S vs 5I	398.500	1.614	1.000	Do Not Test
1S vs 7C	389.500	1.577	1.000	Do Not Test
1S vs 7S	277.500	1.124	1.000	Do Not Test
1S vs 2S	234.000	0.948	1.000	Do Not Test
1S vs 9C	230.500	0.933	1.000	Do Not Test
1S vs 2I	196.500	0.796	1.000	Do Not Test
1S vs 4I	177.500	0.719	1.000	Do Not Test
1S vs 9S	163.000	0.660	1.000	Do Not Test
1S vs 6I	132.500	0.537	1.000	Do Not Test
1S vs 8I	103.500	0.419	1.000	Do Not Test
8I vs 8C	1155.500	4.679	0.169	Do Not Test
8I vs 5C	1147.500	4.647	0.179	Do Not Test
8I vs 8S	1002.500	4.060	0.444	Do Not Test
8I vs 4C	983.000	3.981	0.489	Do Not Test
8I vs 2C	960.500	3.890	0.544	Do Not Test
8I vs 6C	905.500	3.667	0.678	Do Not Test
8I vs 5S	676.500	2.740	0.974	Do Not Test
8I vs 4S	555.000	2.248	0.998	Do Not Test
8I vs 6S	427.000	1.729	1.000	Do Not Test
8I vs 3C	400.500	1.622	1.000	Do Not Test
8I vs 1C	366.000	1.482	1.000	Do Not Test
8I vs 5I	295.000	1.195	1.000	Do Not Test
8I vs 7C	286.000	1.158	1.000	Do Not Test
8I vs 7S	174.000	0.705	1.000	Do Not Test
8I vs 2S	130.500	0.528	1.000	Do Not Test
8I vs 9C	127.000	0.514	1.000	Do Not Test
8I vs 2I	93.000	0.377	1.000	Do Not Test
8I vs 4I	74.000	0.300	1.000	Do Not Test
8I vs 9S	59.500	0.241	1.000	Do Not Test
8I vs 6I	29.000	0.117	1.000	Do Not Test
6I vs 8C	1126.500	4.562	0.208	Do Not Test
6I vs 5C	1118.500	4.530	0.220	Do Not Test
6I vs 8S	973.500	3.942	0.512	Do Not Test
6I vs 4C	954.000	3.863	0.560	Do Not Test
6I vs 2C	931.500	3.772	0.615	Do Not Test
6I vs 6C	876.500	3.550	0.744	Do Not Test
6I vs 5S	647.500	2.622	0.984	Do Not Test
6I vs 4S	526.000	2.130	0.999	Do Not Test
6I vs 6S	398.000	1.612	1.000	Do Not Test

6I vs 3C	371.500	1.504	1.000	Do Not Test
6I vs 1C	337.000	1.365	1.000	Do Not Test
6I vs 5I	266.000	1.077	1.000	Do Not Test
6I vs 7C	257.000	1.041	1.000	Do Not Test
6I vs 7S	145.000	0.587	1.000	Do Not Test
6I vs 2S	101.500	0.411	1.000	Do Not Test
6I vs 9C	98.000	0.397	1.000	Do Not Test
6I vs 2I	64.000	0.259	1.000	Do Not Test
6I vs 4I	45.000	0.182	1.000	Do Not Test
6I vs 9S	30.500	0.124	1.000	Do Not Test
9S vs 8C	1096.000	4.438	0.256	Do Not Test
9S vs 5C	1088.000	4.406	0.270	Do Not Test
9S vs 8S	943.000	3.819	0.587	Do Not Test
9S vs 4C	923.500	3.740	0.635	Do Not Test
9S vs 2C	901.000	3.649	0.689	Do Not Test
9S vs 6C	846.000	3.426	0.805	Do Not Test
9S vs 5S	617.000	2.499	0.992	Do Not Test
9S vs 4S	495.500	2.007	1.000	Do Not Test
9S vs 6S	367.500	1.488	1.000	Do Not Test
9S vs 3C	341.000	1.381	1.000	Do Not Test
9S vs 1C	306.500	1.241	1.000	Do Not Test
9S vs 5I	235.500	0.954	1.000	Do Not Test
9S vs 7C	226.500	0.917	1.000	Do Not Test
9S vs 7S	114.500	0.464	1.000	Do Not Test
9S vs 2S	71.000	0.288	1.000	Do Not Test
9S vs 9C	67.500	0.273	1.000	Do Not Test
9S vs 2I	33.500	0.136	1.000	Do Not Test
9S vs 4I	14.500	0.0587	1.000	Do Not Test
4I vs 8C	1081.500	4.380	0.282	Do Not Test
4I vs 5C	1073.500	4.347	0.296	Do Not Test
4I vs 8S	928.500	3.760	0.622	Do Not Test
4I vs 4C	909.000	3.681	0.670	Do Not Test
4I vs 2C	886.500	3.590	0.722	Do Not Test
4I vs 6C	831.500	3.367	0.831	Do Not Test
4I vs 5S	602.500	2.440	0.994	Do Not Test
4I vs 4S	481.000	1.948	1.000	Do Not Test
4I vs 6S	353.000	1.430	1.000	Do Not Test
4I vs 3C	326.500	1.322	1.000	Do Not Test
4I vs 1C	292.000	1.183	1.000	Do Not Test
4I vs 5I	221.000	0.895	1.000	Do Not Test
4I vs 7C	212.000	0.859	1.000	Do Not Test
4I vs 7S	100.000	0.405	1.000	Do Not Test
4I vs 2S	56.500	0.229	1.000	Do Not Test
4I vs 9C	53.000	0.215	1.000	Do Not Test
4I vs 2I	19.000	0.0769	1.000	Do Not Test
2I vs 8C	1062.500	4.303	0.317	Do Not Test
2I vs 5C	1054.500	4.270	0.332	Do Not Test
2I vs 8S	909.500	3.683	0.668	Do Not Test
2I vs 4C	890.000	3.604	0.714	Do Not Test
2I vs 2C	867.500	3.513	0.763	Do Not Test
2I vs 6C	812.500	3.290	0.861	Do Not Test
2I vs 5S	583.500	2.363	0.996	Do Not Test
2I vs 4S	462.000	1.871	1.000	Do Not Test
2I vs 6S	334.000	1.353	1.000	Do Not Test
2I vs 3C	307.500	1.245	1.000	Do Not Test
2I vs 1C	273.000	1.106	1.000	Do Not Test

2I vs 5I	202.000	0.818	1.000	Do Not Test
2I vs 7C	193.000	0.782	1.000	Do Not Test
2I vs 7S	81.000	0.328	1.000	Do Not Test
2I vs 2S	37.500	0.152	1.000	Do Not Test
2I vs 9C	34.000	0.138	1.000	Do Not Test
9C vs 8C	1028.500	4.165	0.386	Do Not Test
9C vs 5C	1020.500	4.133	0.403	Do Not Test
9C vs 8S	875.500	3.546	0.746	Do Not Test
9C vs 4C	856.000	3.467	0.786	Do Not Test
9C vs 2C	833.500	3.375	0.827	Do Not Test
9C vs 6C	778.500	3.153	0.903	Do Not Test
9C vs 5S	549.500	2.225	0.999	Do Not Test
9C vs 4S	428.000	1.733	1.000	Do Not Test
9C vs 6S	300.000	1.215	1.000	Do Not Test
9C vs 3C	273.500	1.108	1.000	Do Not Test
9C vs 1C	239.000	0.968	1.000	Do Not Test
9C vs 5I	168.000	0.680	1.000	Do Not Test
9C vs 7C	159.000	0.644	1.000	Do Not Test
9C vs 7S	47.000	0.190	1.000	Do Not Test
9C vs 2S	3.500	0.0142	1.000	Do Not Test
2S vs 8C	1025.000	4.151	0.393	Do Not Test
2S vs 5C	1017.000	4.119	0.411	Do Not Test
2S vs 8S	872.000	3.531	0.754	Do Not Test
2S vs 4C	852.500	3.452	0.793	Do Not Test
2S vs 2C	830.000	3.361	0.833	Do Not Test
2S vs 6C	775.000	3.139	0.907	Do Not Test
2S vs 5S	546.000	2.211	0.999	Do Not Test
2S vs 4S	424.500	1.719	1.000	Do Not Test
2S vs 6S	296.500	1.201	1.000	Do Not Test
2S vs 3C	270.000	1.093	1.000	Do Not Test
2S vs 1C	235.500	0.954	1.000	Do Not Test
2S vs 5I	164.500	0.666	1.000	Do Not Test
2S vs 7C	155.500	0.630	1.000	Do Not Test
2S vs 7S	43.500	0.176	1.000	Do Not Test
7S vs 8C	981.500	3.975	0.493	Do Not Test
7S vs 5C	973.500	3.942	0.512	Do Not Test
7S vs 8S	828.500	3.355	0.836	Do Not Test
7S vs 4C	809.000	3.276	0.866	Do Not Test
7S vs 2C	786.500	3.185	0.894	Do Not Test
7S vs 6C	731.500	2.962	0.945	Do Not Test
7S vs 5S	502.500	2.035	1.000	Do Not Test
7S vs 4S	381.000	1.543	1.000	Do Not Test
7S vs 6S	253.000	1.025	1.000	Do Not Test
7S vs 3C	226.500	0.917	1.000	Do Not Test
7S vs 1C	192.000	0.778	1.000	Do Not Test
7S vs 5I	121.000	0.490	1.000	Do Not Test
7S vs 7C	112.000	0.454	1.000	Do Not Test
7C vs 8C	869.500	3.521	0.759	Do Not Test
7C vs 5C	861.500	3.489	0.775	Do Not Test
7C vs 8S	716.500	2.902	0.954	Do Not Test
7C vs 4C	697.000	2.823	0.965	Do Not Test
7C vs 2C	674.500	2.732	0.975	Do Not Test
7C vs 6C	619.500	2.509	0.991	Do Not Test
7C vs 5S	390.500	1.581	1.000	Do Not Test
7C vs 4S	269.000	1.089	1.000	Do Not Test
7C vs 6S	141.000	0.571	1.000	Do Not Test

7C vs 3C	114.500	0.464	1.000	Do Not Test
7C vs 1C	80.000	0.324	1.000	Do Not Test
7C vs 5I	9.000	0.0364	1.000	Do Not Test
5I vs 8C	860.500	3.485	0.777	Do Not Test
5I vs 5C	852.500	3.452	0.793	Do Not Test
5I vs 8S	707.500	2.865	0.959	Do Not Test
5I vs 4C	688.000	2.786	0.969	Do Not Test
5I vs 2C	665.500	2.695	0.978	Do Not Test
5I vs 6C	610.500	2.472	0.993	Do Not Test
5I vs 5S	381.500	1.545	1.000	Do Not Test
5I vs 4S	260.000	1.053	1.000	Do Not Test
5I vs 6S	132.000	0.535	1.000	Do Not Test
5I vs 3C	105.500	0.427	1.000	Do Not Test
5I vs 1C	71.000	0.288	1.000	Do Not Test
1C vs 8C	789.500	3.197	0.891	Do Not Test
1C vs 5C	781.500	3.165	0.900	Do Not Test
1C vs 8S	636.500	2.578	0.987	Do Not Test
1C vs 4C	617.000	2.499	0.992	Do Not Test
1C vs 2C	594.500	2.408	0.995	Do Not Test
1C vs 6C	539.500	2.185	0.999	Do Not Test
1C vs 5S	310.500	1.257	1.000	Do Not Test
1C vs 4S	189.000	0.765	1.000	Do Not Test
1C vs 6S	61.000	0.247	1.000	Do Not Test
1C vs 3C	34.500	0.140	1.000	Do Not Test
3C vs 8C	755.000	3.058	0.926	Do Not Test
3C vs 5C	747.000	3.025	0.933	Do Not Test
3C vs 8S	602.000	2.438	0.994	Do Not Test
3C vs 4C	582.500	2.359	0.996	Do Not Test
3C vs 2C	560.000	2.268	0.998	Do Not Test
3C vs 6C	505.000	2.045	1.000	Do Not Test
3C vs 5S	276.000	1.118	1.000	Do Not Test
3C vs 4S	154.500	0.626	1.000	Do Not Test
3C vs 6S	26.500	0.107	1.000	Do Not Test
6S vs 8C	728.500	2.950	0.947	Do Not Test
6S vs 5C	720.500	2.918	0.952	Do Not Test
6S vs 8S	575.500	2.331	0.997	Do Not Test
6S vs 4C	556.000	2.252	0.998	Do Not Test
6S vs 2C	533.500	2.161	0.999	Do Not Test
6S vs 6C	478.500	1.938	1.000	Do Not Test
6S vs 5S	249.500	1.010	1.000	Do Not Test
6S vs 4S	128.000	0.518	1.000	Do Not Test
4S vs 8C	600.500	2.432	0.994	Do Not Test
4S vs 5C	592.500	2.399	0.995	Do Not Test
4S vs 8S	447.500	1.812	1.000	Do Not Test
4S vs 4C	428.000	1.733	1.000	Do Not Test
4S vs 2C	405.500	1.642	1.000	Do Not Test
4S vs 6C	350.500	1.419	1.000	Do Not Test
4S vs 5S	121.500	0.492	1.000	Do Not Test
5S vs 8C	479.000	1.940	1.000	Do Not Test
5S vs 5C	471.000	1.907	1.000	Do Not Test
5S vs 8S	326.000	1.320	1.000	Do Not Test
5S vs 4C	306.500	1.241	1.000	Do Not Test
5S vs 2C	284.000	1.150	1.000	Do Not Test
5S vs 6C	229.000	0.927	1.000	Do Not Test
6C vs 8C	250.000	1.012	1.000	Do Not Test
6C vs 5C	242.000	0.980	1.000	Do Not Test

6C vs 8S	97.000	0.393	1.000	Do Not Test
6C vs 4C	77.500	0.314	1.000	Do Not Test
6C vs 2C	55.000	0.223	1.000	Do Not Test
2C vs 8C	195.000	0.790	1.000	Do Not Test
2C vs 5C	187.000	0.757	1.000	Do Not Test
2C vs 8S	42.000	0.170	1.000	Do Not Test
2C vs 4C	22.500	0.0911	1.000	Do Not Test
4C vs 8C	172.500	0.699	1.000	Do Not Test
4C vs 5C	164.500	0.666	1.000	Do Not Test
4C vs 8S	19.500	0.0790	1.000	Do Not Test
8S vs 8C	153.000	0.620	1.000	Do Not Test
8S vs 5C	145.000	0.587	1.000	Do Not Test
5C vs 8C	8.000	0.0324	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 19:55:11

Data source: Tb.Sp in L1 0-2y Corrected

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 19:55:11

Data source: Tb.Sp in L1 0-2y Corrected

Group	N	Missing	Median	25%	75%
1I	10	0	439.883	373.959	494.498
1C	10	0	546.312	444.304	581.767
1S	10	0	418.428	348.959	453.520
2I	10	0	481.719	406.404	516.652
2C	10	0	623.346	589.008	705.061
2S	10	0	447.905	373.983	486.974
3I	10	0	428.773	387.372	459.875
3C	10	0	543.861	501.477	591.518
3S	10	0	423.324	347.448	464.510
4I	10	0	492.280	377.781	550.711
4C	10	0	659.249	456.290	677.673
4S	10	0	507.591	408.429	569.596
5I	10	0	482.337	383.459	528.771
5C	10	0	607.123	473.797	672.920
5S	10	0	507.640	387.695	559.884
6I	10	0	473.152	407.090	532.458
6C	10	0	627.356	453.908	675.405
6S	10	0	513.705	383.754	568.667
7I	10	0	422.731	345.205	495.253
7C	10	0	513.362	399.819	590.078
7S	10	0	472.936	392.069	547.690
8I	10	0	443.026	396.731	498.625
8C	10	0	813.296	731.162	945.482
8S	10	0	609.808	503.484	695.003
9I	10	0	408.671	353.933	478.195
9C	10	0	512.256	410.462	547.331
9S	10	0	471.165	391.856	513.439

H = 102.192 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 1S	1896.000	7.678	0.007	Yes
8C vs 3S	1820.000	7.370	0.007	Yes



8C vs 9I	1757.000	7.115	0.007	Yes
8C vs 3I	1737.000	7.034	0.007	Yes
8C vs 7I	1679.000	6.799	0.007	Yes
8C vs 1I	1637.000	6.629	0.007	Yes
8C vs 2S	1627.000	6.589	0.007	Yes
8C vs 8I	1503.000	6.087	0.011	Yes
8C vs 9S	1432.000	5.799	0.018	Yes
8C vs 2I	1388.000	5.621	0.025	Yes
8C vs 7S	1375.000	5.568	0.028	Yes
8C vs 5I	1370.000	5.548	0.029	Yes
8C vs 6I	1336.000	5.410	0.038	Yes
8C vs 4I	1315.000	5.325	0.046	Yes
8C vs 5S	1238.000	5.014	0.088	No
8C vs 9C	1210.000	4.900	0.111	Do Not Test
8C vs 6S	1168.000	4.730	0.154	Do Not Test
8C vs 4S	1156.000	4.681	0.168	Do Not Test
8C vs 7C	1145.000	4.637	0.183	Do Not Test
8C vs 1C	905.000	3.665	0.679	Do Not Test
8C vs 3C	735.000	2.977	0.942	Do Not Test
8C vs 6C	683.000	2.766	0.971	Do Not Test
8C vs 4C	641.000	2.596	0.986	Do Not Test
8C vs 8S	606.000	2.454	0.993	Do Not Test
8C vs 5C	597.000	2.418	0.995	Do Not Test
8C vs 2C	282.000	1.142	1.000	Do Not Test
2C vs 1S	1614.000	6.536	0.008	Yes
2C vs 3S	1538.000	6.228	0.010	Yes
2C vs 9I	1475.000	5.973	0.013	Yes
2C vs 3I	1455.000	5.892	0.015	Yes
2C vs 7I	1397.000	5.657	0.023	Yes
2C vs 1I	1355.000	5.487	0.033	Yes
2C vs 2S	1345.000	5.447	0.036	Yes
2C vs 8I	1221.000	4.945	0.101	No
2C vs 9S	1150.000	4.657	0.176	Do Not Test
2C vs 2I	1106.000	4.479	0.240	Do Not Test
2C vs 7S	1093.000	4.426	0.261	Do Not Test
2C vs 5I	1088.000	4.406	0.270	Do Not Test
2C vs 6I	1054.000	4.268	0.333	Do Not Test
2C vs 4I	1033.000	4.183	0.376	Do Not Test
2C vs 5S	956.000	3.872	0.555	Do Not Test
2C vs 9C	928.000	3.758	0.624	Do Not Test
2C vs 6S	886.000	3.588	0.723	Do Not Test
2C vs 4S	874.000	3.539	0.749	Do Not Test
2C vs 7C	863.000	3.495	0.772	Do Not Test
2C vs 1C	623.000	2.523	0.990	Do Not Test
2C vs 3C	453.000	1.835	1.000	Do Not Test
2C vs 6C	401.000	1.624	1.000	Do Not Test
2C vs 4C	359.000	1.454	1.000	Do Not Test
2C vs 8S	324.000	1.312	1.000	Do Not Test
2C vs 5C	315.000	1.276	1.000	Do Not Test
5C vs 1S	1299.000	5.261	0.053	No
5C vs 3S	1223.000	4.953	0.100	Do Not Test
5C vs 9I	1160.000	4.698	0.163	Do Not Test
5C vs 3I	1140.000	4.617	0.189	Do Not Test
5C vs 7I	1082.000	4.382	0.281	Do Not Test
5C vs 1I	1040.000	4.212	0.362	Do Not Test
5C vs 2S	1030.000	4.171	0.383	Do Not Test

5C vs 8I	906.000	3.669	0.677	Do Not Test
5C vs 9S	835.000	3.382	0.825	Do Not Test
5C vs 2I	791.000	3.203	0.889	Do Not Test
5C vs 7S	778.000	3.151	0.904	Do Not Test
5C vs 5I	773.000	3.130	0.909	Do Not Test
5C vs 6I	739.000	2.993	0.939	Do Not Test
5C vs 4I	718.000	2.908	0.953	Do Not Test
5C vs 5S	641.000	2.596	0.986	Do Not Test
5C vs 9C	613.000	2.482	0.992	Do Not Test
5C vs 6S	571.000	2.312	0.997	Do Not Test
5C vs 4S	559.000	2.264	0.998	Do Not Test
5C vs 7C	548.000	2.219	0.999	Do Not Test
5C vs 1C	308.000	1.247	1.000	Do Not Test
5C vs 3C	138.000	0.559	1.000	Do Not Test
5C vs 6C	86.000	0.348	1.000	Do Not Test
5C vs 4C	44.000	0.178	1.000	Do Not Test
5C vs 8S	9.000	0.0364	1.000	Do Not Test
8S vs 1S	1290.000	5.224	0.057	Do Not Test
8S vs 3S	1214.000	4.916	0.107	Do Not Test
8S vs 9I	1151.000	4.661	0.175	Do Not Test
8S vs 3I	1131.000	4.580	0.202	Do Not Test
8S vs 7I	1073.000	4.345	0.297	Do Not Test
8S vs 1I	1031.000	4.175	0.381	Do Not Test
8S vs 2S	1021.000	4.135	0.402	Do Not Test
8S vs 8I	897.000	3.633	0.698	Do Not Test
8S vs 9S	826.000	3.345	0.840	Do Not Test
8S vs 2I	782.000	3.167	0.900	Do Not Test
8S vs 7S	769.000	3.114	0.913	Do Not Test
8S vs 5I	764.000	3.094	0.918	Do Not Test
8S vs 6I	730.000	2.956	0.946	Do Not Test
8S vs 4I	709.000	2.871	0.959	Do Not Test
8S vs 5S	632.000	2.559	0.988	Do Not Test
8S vs 9C	604.000	2.446	0.994	Do Not Test
8S vs 6S	562.000	2.276	0.998	Do Not Test
8S vs 4S	550.000	2.227	0.999	Do Not Test
8S vs 7C	539.000	2.183	0.999	Do Not Test
8S vs 1C	299.000	1.211	1.000	Do Not Test
8S vs 3C	129.000	0.522	1.000	Do Not Test
8S vs 6C	77.000	0.312	1.000	Do Not Test
8S vs 4C	35.000	0.142	1.000	Do Not Test
4C vs 1S	1255.000	5.082	0.076	Do Not Test
4C vs 3S	1179.000	4.775	0.141	Do Not Test
4C vs 9I	1116.000	4.519	0.224	Do Not Test
4C vs 3I	1096.000	4.438	0.256	Do Not Test
4C vs 7I	1038.000	4.204	0.366	Do Not Test
4C vs 1I	996.000	4.034	0.459	Do Not Test
4C vs 2S	986.000	3.993	0.482	Do Not Test
4C vs 8I	862.000	3.491	0.774	Do Not Test
4C vs 9S	791.000	3.203	0.889	Do Not Test
4C vs 2I	747.000	3.025	0.933	Do Not Test
4C vs 7S	734.000	2.972	0.943	Do Not Test
4C vs 5I	729.000	2.952	0.946	Do Not Test
4C vs 6I	695.000	2.815	0.966	Do Not Test
4C vs 4I	674.000	2.730	0.975	Do Not Test
4C vs 5S	597.000	2.418	0.995	Do Not Test
4C vs 9C	569.000	2.304	0.997	Do Not Test

4C vs 6S	527.000	2.134	0.999	Do Not Test
4C vs 4S	515.000	2.086	1.000	Do Not Test
4C vs 7C	504.000	2.041	1.000	Do Not Test
4C vs 1C	264.000	1.069	1.000	Do Not Test
4C vs 3C	94.000	0.381	1.000	Do Not Test
4C vs 6C	42.000	0.170	1.000	Do Not Test
6C vs 1S	1213.000	4.912	0.108	Do Not Test
6C vs 3S	1137.000	4.605	0.193	Do Not Test
6C vs 9I	1074.000	4.349	0.295	Do Not Test
6C vs 3I	1054.000	4.268	0.333	Do Not Test
6C vs 7I	996.000	4.034	0.459	Do Not Test
6C vs 1I	954.000	3.863	0.560	Do Not Test
6C vs 2S	944.000	3.823	0.584	Do Not Test
6C vs 8I	820.000	3.321	0.849	Do Not Test
6C vs 9S	749.000	3.033	0.931	Do Not Test
6C vs 2I	705.000	2.855	0.961	Do Not Test
6C vs 7S	692.000	2.802	0.967	Do Not Test
6C vs 5I	687.000	2.782	0.970	Do Not Test
6C vs 6I	653.000	2.644	0.983	Do Not Test
6C vs 4I	632.000	2.559	0.988	Do Not Test
6C vs 5S	555.000	2.248	0.998	Do Not Test
6C vs 9C	527.000	2.134	0.999	Do Not Test
6C vs 6S	485.000	1.964	1.000	Do Not Test
6C vs 4S	473.000	1.916	1.000	Do Not Test
6C vs 7C	462.000	1.871	1.000	Do Not Test
6C vs 1C	222.000	0.899	1.000	Do Not Test
6C vs 3C	52.000	0.211	1.000	Do Not Test
3C vs 1S	1161.000	4.702	0.162	Do Not Test
3C vs 3S	1085.000	4.394	0.275	Do Not Test
3C vs 9I	1022.000	4.139	0.400	Do Not Test
3C vs 3I	1002.000	4.058	0.445	Do Not Test
3C vs 7I	944.000	3.823	0.584	Do Not Test
3C vs 1I	902.000	3.653	0.686	Do Not Test
3C vs 2S	892.000	3.612	0.709	Do Not Test
3C vs 8I	768.000	3.110	0.914	Do Not Test
3C vs 9S	697.000	2.823	0.965	Do Not Test
3C vs 2I	653.000	2.644	0.983	Do Not Test
3C vs 7S	640.000	2.592	0.986	Do Not Test
3C vs 5I	635.000	2.572	0.988	Do Not Test
3C vs 6I	601.000	2.434	0.994	Do Not Test
3C vs 4I	580.000	2.349	0.997	Do Not Test
3C vs 5S	503.000	2.037	1.000	Do Not Test
3C vs 9C	475.000	1.924	1.000	Do Not Test
3C vs 6S	433.000	1.754	1.000	Do Not Test
3C vs 4S	421.000	1.705	1.000	Do Not Test
3C vs 7C	410.000	1.660	1.000	Do Not Test
3C vs 1C	170.000	0.688	1.000	Do Not Test
1C vs 1S	991.000	4.013	0.470	Do Not Test
1C vs 3S	915.000	3.705	0.655	Do Not Test
1C vs 9I	852.000	3.450	0.794	Do Not Test
1C vs 3I	832.000	3.369	0.830	Do Not Test
1C vs 7I	774.000	3.134	0.908	Do Not Test
1C vs 1I	732.000	2.964	0.944	Do Not Test
1C vs 2S	722.000	2.924	0.951	Do Not Test
1C vs 8I	598.000	2.422	0.995	Do Not Test
1C vs 9S	527.000	2.134	0.999	Do Not Test

1C vs 2I	483.000	1.956	1.000	Do Not Test
1C vs 7S	470.000	1.903	1.000	Do Not Test
1C vs 5I	465.000	1.883	1.000	Do Not Test
1C vs 6I	431.000	1.745	1.000	Do Not Test
1C vs 4I	410.000	1.660	1.000	Do Not Test
1C vs 5S	333.000	1.349	1.000	Do Not Test
1C vs 9C	305.000	1.235	1.000	Do Not Test
1C vs 6S	263.000	1.065	1.000	Do Not Test
1C vs 4S	251.000	1.016	1.000	Do Not Test
1C vs 7C	240.000	0.972	1.000	Do Not Test
7C vs 1S	751.000	3.041	0.930	Do Not Test
7C vs 3S	675.000	2.734	0.975	Do Not Test
7C vs 9I	612.000	2.478	0.992	Do Not Test
7C vs 3I	592.000	2.397	0.995	Do Not Test
7C vs 7I	534.000	2.163	0.999	Do Not Test
7C vs 1I	492.000	1.992	1.000	Do Not Test
7C vs 2S	482.000	1.952	1.000	Do Not Test
7C vs 8I	358.000	1.450	1.000	Do Not Test
7C vs 9S	287.000	1.162	1.000	Do Not Test
7C vs 2I	243.000	0.984	1.000	Do Not Test
7C vs 7S	230.000	0.931	1.000	Do Not Test
7C vs 5I	225.000	0.911	1.000	Do Not Test
7C vs 6I	191.000	0.773	1.000	Do Not Test
7C vs 4I	170.000	0.688	1.000	Do Not Test
7C vs 5S	93.000	0.377	1.000	Do Not Test
7C vs 9C	65.000	0.263	1.000	Do Not Test
7C vs 6S	23.000	0.0931	1.000	Do Not Test
7C vs 4S	11.000	0.0445	1.000	Do Not Test
4S vs 1S	740.000	2.997	0.938	Do Not Test
4S vs 3S	664.000	2.689	0.979	Do Not Test
4S vs 9I	601.000	2.434	0.994	Do Not Test
4S vs 3I	581.000	2.353	0.996	Do Not Test
4S vs 7I	523.000	2.118	0.999	Do Not Test
4S vs 1I	481.000	1.948	1.000	Do Not Test
4S vs 2S	471.000	1.907	1.000	Do Not Test
4S vs 8I	347.000	1.405	1.000	Do Not Test
4S vs 9S	276.000	1.118	1.000	Do Not Test
4S vs 2I	232.000	0.940	1.000	Do Not Test
4S vs 7S	219.000	0.887	1.000	Do Not Test
4S vs 5I	214.000	0.867	1.000	Do Not Test
4S vs 6I	180.000	0.729	1.000	Do Not Test
4S vs 4I	159.000	0.644	1.000	Do Not Test
4S vs 5S	82.000	0.332	1.000	Do Not Test
4S vs 9C	54.000	0.219	1.000	Do Not Test
4S vs 6S	12.000	0.0486	1.000	Do Not Test
6S vs 1S	728.000	2.948	0.947	Do Not Test
6S vs 3S	652.000	2.640	0.983	Do Not Test
6S vs 9I	589.000	2.385	0.996	Do Not Test
6S vs 3I	569.000	2.304	0.997	Do Not Test
6S vs 7I	511.000	2.069	1.000	Do Not Test
6S vs 1I	469.000	1.899	1.000	Do Not Test
6S vs 2S	459.000	1.859	1.000	Do Not Test
6S vs 8I	335.000	1.357	1.000	Do Not Test
6S vs 9S	264.000	1.069	1.000	Do Not Test
6S vs 2I	220.000	0.891	1.000	Do Not Test
6S vs 7S	207.000	0.838	1.000	Do Not Test

6S vs 5I	202.000	0.818	1.000	Do Not Test
6S vs 6I	168.000	0.680	1.000	Do Not Test
6S vs 4I	147.000	0.595	1.000	Do Not Test
6S vs 5S	70.000	0.283	1.000	Do Not Test
6S vs 9C	42.000	0.170	1.000	Do Not Test
9C vs 1S	686.000	2.778	0.970	Do Not Test
9C vs 3S	610.000	2.470	0.993	Do Not Test
9C vs 9I	547.000	2.215	0.999	Do Not Test
9C vs 3I	527.000	2.134	0.999	Do Not Test
9C vs 7I	469.000	1.899	1.000	Do Not Test
9C vs 1I	427.000	1.729	1.000	Do Not Test
9C vs 2S	417.000	1.689	1.000	Do Not Test
9C vs 8I	293.000	1.187	1.000	Do Not Test
9C vs 9S	222.000	0.899	1.000	Do Not Test
9C vs 2I	178.000	0.721	1.000	Do Not Test
9C vs 7S	165.000	0.668	1.000	Do Not Test
9C vs 5I	160.000	0.648	1.000	Do Not Test
9C vs 6I	126.000	0.510	1.000	Do Not Test
9C vs 4I	105.000	0.425	1.000	Do Not Test
9C vs 5S	28.000	0.113	1.000	Do Not Test
5S vs 1S	658.000	2.665	0.981	Do Not Test
5S vs 3S	582.000	2.357	0.996	Do Not Test
5S vs 9I	519.000	2.102	1.000	Do Not Test
5S vs 3I	499.000	2.021	1.000	Do Not Test
5S vs 7I	441.000	1.786	1.000	Do Not Test
5S vs 1I	399.000	1.616	1.000	Do Not Test
5S vs 2S	389.000	1.575	1.000	Do Not Test
5S vs 8I	265.000	1.073	1.000	Do Not Test
5S vs 9S	194.000	0.786	1.000	Do Not Test
5S vs 2I	150.000	0.607	1.000	Do Not Test
5S vs 7S	137.000	0.555	1.000	Do Not Test
5S vs 5I	132.000	0.535	1.000	Do Not Test
5S vs 6I	98.000	0.397	1.000	Do Not Test
5S vs 4I	77.000	0.312	1.000	Do Not Test
4I vs 1S	581.000	2.353	0.996	Do Not Test
4I vs 3S	505.000	2.045	1.000	Do Not Test
4I vs 9I	442.000	1.790	1.000	Do Not Test
4I vs 3I	422.000	1.709	1.000	Do Not Test
4I vs 7I	364.000	1.474	1.000	Do Not Test
4I vs 1I	322.000	1.304	1.000	Do Not Test
4I vs 2S	312.000	1.264	1.000	Do Not Test
4I vs 8I	188.000	0.761	1.000	Do Not Test
4I vs 9S	117.000	0.474	1.000	Do Not Test
4I vs 2I	73.000	0.296	1.000	Do Not Test
4I vs 7S	60.000	0.243	1.000	Do Not Test
4I vs 5I	55.000	0.223	1.000	Do Not Test
4I vs 6I	21.000	0.0850	1.000	Do Not Test
6I vs 1S	560.000	2.268	0.998	Do Not Test
6I vs 3S	484.000	1.960	1.000	Do Not Test
6I vs 9I	421.000	1.705	1.000	Do Not Test
6I vs 3I	401.000	1.624	1.000	Do Not Test
6I vs 7I	343.000	1.389	1.000	Do Not Test
6I vs 1I	301.000	1.219	1.000	Do Not Test
6I vs 2S	291.000	1.178	1.000	Do Not Test
6I vs 8I	167.000	0.676	1.000	Do Not Test
6I vs 9S	96.000	0.389	1.000	Do Not Test

6I vs 2I	52.000	0.211	1.000	Do Not Test
6I vs 7S	39.000	0.158	1.000	Do Not Test
6I vs 5I	34.000	0.138	1.000	Do Not Test
5I vs 1S	526.000	2.130	0.999	Do Not Test
5I vs 3S	450.000	1.822	1.000	Do Not Test
5I vs 9I	387.000	1.567	1.000	Do Not Test
5I vs 3I	367.000	1.486	1.000	Do Not Test
5I vs 7I	309.000	1.251	1.000	Do Not Test
5I vs 1I	267.000	1.081	1.000	Do Not Test
5I vs 2S	257.000	1.041	1.000	Do Not Test
5I vs 8I	133.000	0.539	1.000	Do Not Test
5I vs 9S	62.000	0.251	1.000	Do Not Test
5I vs 2I	18.000	0.0729	1.000	Do Not Test
5I vs 7S	5.000	0.0202	1.000	Do Not Test
7S vs 1S	521.000	2.110	0.999	Do Not Test
7S vs 3S	445.000	1.802	1.000	Do Not Test
7S vs 9I	382.000	1.547	1.000	Do Not Test
7S vs 3I	362.000	1.466	1.000	Do Not Test
7S vs 7I	304.000	1.231	1.000	Do Not Test
7S vs 1I	262.000	1.061	1.000	Do Not Test
7S vs 2S	252.000	1.021	1.000	Do Not Test
7S vs 8I	128.000	0.518	1.000	Do Not Test
7S vs 9S	57.000	0.231	1.000	Do Not Test
7S vs 2I	13.000	0.0526	1.000	Do Not Test
2I vs 1S	508.000	2.057	1.000	Do Not Test
2I vs 3S	432.000	1.749	1.000	Do Not Test
2I vs 9I	369.000	1.494	1.000	Do Not Test
2I vs 3I	349.000	1.413	1.000	Do Not Test
2I vs 7I	291.000	1.178	1.000	Do Not Test
2I vs 1I	249.000	1.008	1.000	Do Not Test
2I vs 2S	239.000	0.968	1.000	Do Not Test
2I vs 8I	115.000	0.466	1.000	Do Not Test
2I vs 9S	44.000	0.178	1.000	Do Not Test
9S vs 1S	464.000	1.879	1.000	Do Not Test
9S vs 3S	388.000	1.571	1.000	Do Not Test
9S vs 9I	325.000	1.316	1.000	Do Not Test
9S vs 3I	305.000	1.235	1.000	Do Not Test
9S vs 7I	247.000	1.000	1.000	Do Not Test
9S vs 1I	205.000	0.830	1.000	Do Not Test
9S vs 2S	195.000	0.790	1.000	Do Not Test
9S vs 8I	71.000	0.288	1.000	Do Not Test
8I vs 1S	393.000	1.592	1.000	Do Not Test
8I vs 3S	317.000	1.284	1.000	Do Not Test
8I vs 9I	254.000	1.029	1.000	Do Not Test
8I vs 3I	234.000	0.948	1.000	Do Not Test
8I vs 7I	176.000	0.713	1.000	Do Not Test
8I vs 1I	134.000	0.543	1.000	Do Not Test
8I vs 2S	124.000	0.502	1.000	Do Not Test
2S vs 1S	269.000	1.089	1.000	Do Not Test
2S vs 3S	193.000	0.782	1.000	Do Not Test
2S vs 9I	130.000	0.526	1.000	Do Not Test
2S vs 3I	110.000	0.445	1.000	Do Not Test
2S vs 7I	52.000	0.211	1.000	Do Not Test
2S vs 1I	10.000	0.0405	1.000	Do Not Test
1I vs 1S	259.000	1.049	1.000	Do Not Test
1I vs 3S	183.000	0.741	1.000	Do Not Test

1I vs 9I	120.000	0.486	1.000	Do Not Test
1I vs 3I	100.000	0.405	1.000	Do Not Test
1I vs 7I	42.000	0.170	1.000	Do Not Test
7I vs 1S	217.000	0.879	1.000	Do Not Test
7I vs 3S	141.000	0.571	1.000	Do Not Test
7I vs 9I	78.000	0.316	1.000	Do Not Test
7I vs 3I	58.000	0.235	1.000	Do Not Test
3I vs 1S	159.000	0.644	1.000	Do Not Test
3I vs 3S	83.000	0.336	1.000	Do Not Test
3I vs 9I	20.000	0.0810	1.000	Do Not Test
9I vs 1S	139.000	0.563	1.000	Do Not Test
9I vs 3S	63.000	0.255	1.000	Do Not Test
3S vs 1S	76.000	0.308	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 19:56:22

Data source: DA in L1 0-2y Corrected

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 19:56:22

Data source: DA in L1 0-2y Corrected

Group	N	Missing	Median	25%	75%
1I	10	0	0.444	0.403	0.493
1C	10	0	0.428	0.329	0.525
1S	10	0	0.370	0.330	0.423
2I	10	0	0.374	0.282	0.448
2C	10	0	0.311	0.192	0.424
2S	10	0	0.364	0.271	0.402
3I	10	0	0.411	0.323	0.440
3C	10	0	0.447	0.347	0.501
3S	10	0	0.410	0.338	0.456
4I	10	0	0.249	0.154	0.375
4C	10	0	0.414	0.355	0.434
4S	10	0	0.408	0.308	0.466
5I	10	0	0.276	0.238	0.325
5C	10	0	0.361	0.315	0.400
5S	10	0	0.293	0.181	0.341
6I	10	0	0.279	0.177	0.381
6C	10	0	0.403	0.344	0.440
6S	10	0	0.402	0.346	0.424
7I	10	0	0.268	0.208	0.389
7C	10	0	0.314	0.235	0.397
7S	10	0	0.258	0.215	0.334
8I	10	0	0.357	0.294	0.385
8C	10	0	0.244	0.218	0.302
8S	10	0	0.232	0.162	0.281
9I	10	0	0.269	0.206	0.430
9C	10	0	0.302	0.248	0.396
9S	10	0	0.274	0.244	0.337

H = 94.640 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
1I vs 8S	1651.000	6.686	0.007	Yes
1I vs 8C	1536.000	6.220	0.010	Yes



1I vs 5S	1425.000	5.771	0.019	Yes
1I vs 5I	1371.000	5.552	0.029	Yes
1I vs 4I	1364.000	5.524	0.030	Yes
1I vs 6I	1333.000	5.398	0.039	Yes
1I vs 7S	1331.000	5.390	0.040	Yes
1I vs 7I	1282.000	5.192	0.061	No
1I vs 9S	1238.000	5.014	0.088	Do Not Test
1I vs 9I	1165.000	4.718	0.157	Do Not Test
1I vs 2C	1040.000	4.212	0.362	Do Not Test
1I vs 7C	1025.000	4.151	0.393	Do Not Test
1I vs 9C	974.000	3.944	0.511	Do Not Test
1I vs 8I	849.500	3.440	0.799	Do Not Test
1I vs 2S	789.000	3.195	0.892	Do Not Test
1I vs 5C	768.000	3.110	0.914	Do Not Test
1I vs 2I	637.000	2.580	0.987	Do Not Test
1I vs 1S	551.000	2.231	0.999	Do Not Test
1I vs 6S	478.000	1.936	1.000	Do Not Test
1I vs 4S	438.000	1.774	1.000	Do Not Test
1I vs 3I	406.000	1.644	1.000	Do Not Test
1I vs 6C	406.000	1.644	1.000	Do Not Test
1I vs 4C	354.500	1.436	1.000	Do Not Test
1I vs 3S	350.000	1.417	1.000	Do Not Test
1I vs 1C	308.000	1.247	1.000	Do Not Test
1I vs 3C	177.000	0.717	1.000	Do Not Test
3C vs 8S	1474.000	5.969	0.013	Yes
3C vs 8C	1359.000	5.504	0.032	Yes
3C vs 5S	1248.000	5.054	0.081	No
3C vs 5I	1194.000	4.835	0.126	Do Not Test
3C vs 4I	1187.000	4.807	0.133	Do Not Test
3C vs 6I	1156.000	4.681	0.168	Do Not Test
3C vs 7S	1154.000	4.673	0.171	Do Not Test
3C vs 7I	1105.000	4.475	0.242	Do Not Test
3C vs 9S	1061.000	4.297	0.320	Do Not Test
3C vs 9I	988.000	4.001	0.477	Do Not Test
3C vs 2C	863.000	3.495	0.772	Do Not Test
3C vs 7C	848.000	3.434	0.802	Do Not Test
3C vs 9C	797.000	3.228	0.882	Do Not Test
3C vs 8I	672.500	2.723	0.976	Do Not Test
3C vs 2S	612.000	2.478	0.992	Do Not Test
3C vs 5C	591.000	2.393	0.995	Do Not Test
3C vs 2I	460.000	1.863	1.000	Do Not Test
3C vs 1S	374.000	1.515	1.000	Do Not Test
3C vs 6S	301.000	1.219	1.000	Do Not Test
3C vs 4S	261.000	1.057	1.000	Do Not Test
3C vs 3I	229.000	0.927	1.000	Do Not Test
3C vs 6C	229.000	0.927	1.000	Do Not Test
3C vs 4C	177.500	0.719	1.000	Do Not Test
3C vs 3S	173.000	0.701	1.000	Do Not Test
3C vs 1C	131.000	0.531	1.000	Do Not Test
1C vs 8S	1343.000	5.439	0.036	Yes
1C vs 8C	1228.000	4.973	0.096	No
1C vs 5S	1117.000	4.524	0.223	Do Not Test
1C vs 5I	1063.000	4.305	0.316	Do Not Test
1C vs 4I	1056.000	4.276	0.329	Do Not Test
1C vs 6I	1025.000	4.151	0.393	Do Not Test
1C vs 7S	1023.000	4.143	0.398	Do Not Test

1C vs 7I	974.000	3.944	0.511	Do Not Test
1C vs 9S	930.000	3.766	0.619	Do Not Test
1C vs 9I	857.000	3.471	0.784	Do Not Test
1C vs 2C	732.000	2.964	0.944	Do Not Test
1C vs 7C	717.000	2.904	0.954	Do Not Test
1C vs 9C	666.000	2.697	0.978	Do Not Test
1C vs 8I	541.500	2.193	0.999	Do Not Test
1C vs 2S	481.000	1.948	1.000	Do Not Test
1C vs 5C	460.000	1.863	1.000	Do Not Test
1C vs 2I	329.000	1.332	1.000	Do Not Test
1C vs 1S	243.000	0.984	1.000	Do Not Test
1C vs 6S	170.000	0.688	1.000	Do Not Test
1C vs 4S	130.000	0.526	1.000	Do Not Test
1C vs 3I	98.000	0.397	1.000	Do Not Test
1C vs 6C	98.000	0.397	1.000	Do Not Test
1C vs 4C	46.500	0.188	1.000	Do Not Test
1C vs 3S	42.000	0.170	1.000	Do Not Test
3S vs 8S	1301.000	5.269	0.052	No
3S vs 8C	1186.000	4.803	0.134	Do Not Test
3S vs 5S	1075.000	4.353	0.293	Do Not Test
3S vs 5I	1021.000	4.135	0.402	Do Not Test
3S vs 4I	1014.000	4.106	0.418	Do Not Test
3S vs 6I	983.000	3.981	0.489	Do Not Test
3S vs 7S	981.000	3.973	0.494	Do Not Test
3S vs 7I	932.000	3.774	0.614	Do Not Test
3S vs 9S	888.000	3.596	0.718	Do Not Test
3S vs 9I	815.000	3.301	0.857	Do Not Test
3S vs 2C	690.000	2.794	0.968	Do Not Test
3S vs 7C	675.000	2.734	0.975	Do Not Test
3S vs 9C	624.000	2.527	0.990	Do Not Test
3S vs 8I	499.500	2.023	1.000	Do Not Test
3S vs 2S	439.000	1.778	1.000	Do Not Test
3S vs 5C	418.000	1.693	1.000	Do Not Test
3S vs 2I	287.000	1.162	1.000	Do Not Test
3S vs 1S	201.000	0.814	1.000	Do Not Test
3S vs 6S	128.000	0.518	1.000	Do Not Test
3S vs 4S	88.000	0.356	1.000	Do Not Test
3S vs 3I	56.000	0.227	1.000	Do Not Test
3S vs 6C	56.000	0.227	1.000	Do Not Test
3S vs 4C	4.500	0.0182	1.000	Do Not Test
4C vs 8S	1296.500	5.250	0.054	Do Not Test
4C vs 8C	1181.500	4.785	0.139	Do Not Test
4C vs 5S	1070.500	4.335	0.302	Do Not Test
4C vs 5I	1016.500	4.117	0.412	Do Not Test
4C vs 4I	1009.500	4.088	0.428	Do Not Test
4C vs 6I	978.500	3.963	0.500	Do Not Test
4C vs 7S	976.500	3.955	0.505	Do Not Test
4C vs 7I	927.500	3.756	0.625	Do Not Test
4C vs 9S	883.500	3.578	0.729	Do Not Test
4C vs 9I	810.500	3.282	0.863	Do Not Test
4C vs 2C	685.500	2.776	0.970	Do Not Test
4C vs 7C	670.500	2.715	0.977	Do Not Test
4C vs 9C	619.500	2.509	0.991	Do Not Test
4C vs 8I	495.000	2.005	1.000	Do Not Test
4C vs 2S	434.500	1.760	1.000	Do Not Test
4C vs 5C	413.500	1.675	1.000	Do Not Test

4C vs 2I	282.500	1.144	1.000	Do Not Test
4C vs 1S	196.500	0.796	1.000	Do Not Test
4C vs 6S	123.500	0.500	1.000	Do Not Test
4C vs 4S	83.500	0.338	1.000	Do Not Test
4C vs 3I	51.500	0.209	1.000	Do Not Test
4C vs 6C	51.500	0.209	1.000	Do Not Test
6C vs 8S	1245.000	5.042	0.083	Do Not Test
6C vs 8C	1130.000	4.576	0.203	Do Not Test
6C vs 5S	1019.000	4.127	0.407	Do Not Test
6C vs 5I	965.000	3.908	0.533	Do Not Test
6C vs 4I	958.000	3.880	0.550	Do Not Test
6C vs 6I	927.000	3.754	0.626	Do Not Test
6C vs 7S	925.000	3.746	0.631	Do Not Test
6C vs 7I	876.000	3.548	0.745	Do Not Test
6C vs 9S	832.000	3.369	0.830	Do Not Test
6C vs 9I	759.000	3.074	0.923	Do Not Test
6C vs 2C	634.000	2.568	0.988	Do Not Test
6C vs 7C	619.000	2.507	0.991	Do Not Test
6C vs 9C	568.000	2.300	0.998	Do Not Test
6C vs 8I	443.500	1.796	1.000	Do Not Test
6C vs 2S	383.000	1.551	1.000	Do Not Test
6C vs 5C	362.000	1.466	1.000	Do Not Test
6C vs 2I	231.000	0.935	1.000	Do Not Test
6C vs 1S	145.000	0.587	1.000	Do Not Test
6C vs 6S	72.000	0.292	1.000	Do Not Test
6C vs 4S	32.000	0.130	1.000	Do Not Test
6C vs 3I	0.000	0.000	1.000	Do Not Test
3I vs 8S	1245.000	5.042	0.083	Do Not Test
3I vs 8C	1130.000	4.576	0.203	Do Not Test
3I vs 5S	1019.000	4.127	0.407	Do Not Test
3I vs 5I	965.000	3.908	0.533	Do Not Test
3I vs 4I	958.000	3.880	0.550	Do Not Test
3I vs 6I	927.000	3.754	0.626	Do Not Test
3I vs 7S	925.000	3.746	0.631	Do Not Test
3I vs 7I	876.000	3.548	0.745	Do Not Test
3I vs 9S	832.000	3.369	0.830	Do Not Test
3I vs 9I	759.000	3.074	0.923	Do Not Test
3I vs 2C	634.000	2.568	0.988	Do Not Test
3I vs 7C	619.000	2.507	0.991	Do Not Test
3I vs 9C	568.000	2.300	0.998	Do Not Test
3I vs 8I	443.500	1.796	1.000	Do Not Test
3I vs 2S	383.000	1.551	1.000	Do Not Test
3I vs 5C	362.000	1.466	1.000	Do Not Test
3I vs 2I	231.000	0.935	1.000	Do Not Test
3I vs 1S	145.000	0.587	1.000	Do Not Test
3I vs 6S	72.000	0.292	1.000	Do Not Test
3I vs 4S	32.000	0.130	1.000	Do Not Test
4S vs 8S	1213.000	4.912	0.108	Do Not Test
4S vs 8C	1098.000	4.447	0.253	Do Not Test
4S vs 5S	987.000	3.997	0.480	Do Not Test
4S vs 5I	933.000	3.778	0.611	Do Not Test
4S vs 4I	926.000	3.750	0.629	Do Not Test
4S vs 6I	895.000	3.624	0.703	Do Not Test
4S vs 7S	893.000	3.616	0.707	Do Not Test
4S vs 7I	844.000	3.418	0.809	Do Not Test
4S vs 9S	800.000	3.240	0.878	Do Not Test

4S vs 9I	727.000	2.944	0.948	Do Not Test
4S vs 2C	602.000	2.438	0.994	Do Not Test
4S vs 7C	587.000	2.377	0.996	Do Not Test
4S vs 9C	536.000	2.171	0.999	Do Not Test
4S vs 8I	411.500	1.666	1.000	Do Not Test
4S vs 2S	351.000	1.421	1.000	Do Not Test
4S vs 5C	330.000	1.336	1.000	Do Not Test
4S vs 2I	199.000	0.806	1.000	Do Not Test
4S vs 1S	113.000	0.458	1.000	Do Not Test
4S vs 6S	40.000	0.162	1.000	Do Not Test
6S vs 8S	1173.000	4.750	0.148	Do Not Test
6S vs 8C	1058.000	4.285	0.325	Do Not Test
6S vs 5S	947.000	3.835	0.577	Do Not Test
6S vs 5I	893.000	3.616	0.707	Do Not Test
6S vs 4I	886.000	3.588	0.723	Do Not Test
6S vs 6I	855.000	3.463	0.788	Do Not Test
6S vs 7S	853.000	3.454	0.792	Do Not Test
6S vs 7I	804.000	3.256	0.872	Do Not Test
6S vs 9S	760.000	3.078	0.922	Do Not Test
6S vs 9I	687.000	2.782	0.970	Do Not Test
6S vs 2C	562.000	2.276	0.998	Do Not Test
6S vs 7C	547.000	2.215	0.999	Do Not Test
6S vs 9C	496.000	2.009	1.000	Do Not Test
6S vs 8I	371.500	1.504	1.000	Do Not Test
6S vs 2S	311.000	1.259	1.000	Do Not Test
6S vs 5C	290.000	1.174	1.000	Do Not Test
6S vs 2I	159.000	0.644	1.000	Do Not Test
6S vs 1S	73.000	0.296	1.000	Do Not Test
1S vs 8S	1100.000	4.455	0.250	Do Not Test
1S vs 8C	985.000	3.989	0.484	Do Not Test
1S vs 5S	874.000	3.539	0.749	Do Not Test
1S vs 5I	820.000	3.321	0.849	Do Not Test
1S vs 4I	813.000	3.292	0.860	Do Not Test
1S vs 6I	782.000	3.167	0.900	Do Not Test
1S vs 7S	780.000	3.159	0.902	Do Not Test
1S vs 7I	731.000	2.960	0.945	Do Not Test
1S vs 9S	687.000	2.782	0.970	Do Not Test
1S vs 9I	614.000	2.487	0.992	Do Not Test
1S vs 2C	489.000	1.980	1.000	Do Not Test
1S vs 7C	474.000	1.920	1.000	Do Not Test
1S vs 9C	423.000	1.713	1.000	Do Not Test
1S vs 8I	298.500	1.209	1.000	Do Not Test
1S vs 2S	238.000	0.964	1.000	Do Not Test
1S vs 5C	217.000	0.879	1.000	Do Not Test
1S vs 2I	86.000	0.348	1.000	Do Not Test
2I vs 8S	1014.000	4.106	0.418	Do Not Test
2I vs 8C	899.000	3.641	0.693	Do Not Test
2I vs 5S	788.000	3.191	0.893	Do Not Test
2I vs 5I	734.000	2.972	0.943	Do Not Test
2I vs 4I	727.000	2.944	0.948	Do Not Test
2I vs 6I	696.000	2.819	0.965	Do Not Test
2I vs 7S	694.000	2.810	0.966	Do Not Test
2I vs 7I	645.000	2.612	0.985	Do Not Test
2I vs 9S	601.000	2.434	0.994	Do Not Test
2I vs 9I	528.000	2.138	0.999	Do Not Test
2I vs 2C	403.000	1.632	1.000	Do Not Test

2I vs 7C	388.000	1.571	1.000	Do Not Test
2I vs 9C	337.000	1.365	1.000	Do Not Test
2I vs 8I	212.500	0.861	1.000	Do Not Test
2I vs 2S	152.000	0.616	1.000	Do Not Test
2I vs 5C	131.000	0.531	1.000	Do Not Test
5C vs 8S	883.000	3.576	0.730	Do Not Test
5C vs 8C	768.000	3.110	0.914	Do Not Test
5C vs 5S	657.000	2.661	0.981	Do Not Test
5C vs 5I	603.000	2.442	0.994	Do Not Test
5C vs 4I	596.000	2.414	0.995	Do Not Test
5C vs 6I	565.000	2.288	0.998	Do Not Test
5C vs 7S	563.000	2.280	0.998	Do Not Test
5C vs 7I	514.000	2.082	1.000	Do Not Test
5C vs 9S	470.000	1.903	1.000	Do Not Test
5C vs 9I	397.000	1.608	1.000	Do Not Test
5C vs 2C	272.000	1.102	1.000	Do Not Test
5C vs 7C	257.000	1.041	1.000	Do Not Test
5C vs 9C	206.000	0.834	1.000	Do Not Test
5C vs 8I	81.500	0.330	1.000	Do Not Test
5C vs 2S	21.000	0.0850	1.000	Do Not Test
2S vs 8S	862.000	3.491	0.774	Do Not Test
2S vs 8C	747.000	3.025	0.933	Do Not Test
2S vs 5S	636.000	2.576	0.987	Do Not Test
2S vs 5I	582.000	2.357	0.996	Do Not Test
2S vs 4I	575.000	2.329	0.997	Do Not Test
2S vs 6I	544.000	2.203	0.999	Do Not Test
2S vs 7S	542.000	2.195	0.999	Do Not Test
2S vs 7I	493.000	1.997	1.000	Do Not Test
2S vs 9S	449.000	1.818	1.000	Do Not Test
2S vs 9I	376.000	1.523	1.000	Do Not Test
2S vs 2C	251.000	1.016	1.000	Do Not Test
2S vs 7C	236.000	0.956	1.000	Do Not Test
2S vs 9C	185.000	0.749	1.000	Do Not Test
2S vs 8I	60.500	0.245	1.000	Do Not Test
8I vs 8S	801.500	3.246	0.876	Do Not Test
8I vs 8C	686.500	2.780	0.970	Do Not Test
8I vs 5S	575.500	2.331	0.997	Do Not Test
8I vs 5I	521.500	2.112	0.999	Do Not Test
8I vs 4I	514.500	2.084	1.000	Do Not Test
8I vs 6I	483.500	1.958	1.000	Do Not Test
8I vs 7S	481.500	1.950	1.000	Do Not Test
8I vs 7I	432.500	1.752	1.000	Do Not Test
8I vs 9S	388.500	1.573	1.000	Do Not Test
8I vs 9I	315.500	1.278	1.000	Do Not Test
8I vs 2C	190.500	0.771	1.000	Do Not Test
8I vs 7C	175.500	0.711	1.000	Do Not Test
8I vs 9C	124.500	0.504	1.000	Do Not Test
9C vs 8S	677.000	2.742	0.974	Do Not Test
9C vs 8C	562.000	2.276	0.998	Do Not Test
9C vs 5S	451.000	1.826	1.000	Do Not Test
9C vs 5I	397.000	1.608	1.000	Do Not Test
9C vs 4I	390.000	1.579	1.000	Do Not Test
9C vs 6I	359.000	1.454	1.000	Do Not Test
9C vs 7S	357.000	1.446	1.000	Do Not Test
9C vs 7I	308.000	1.247	1.000	Do Not Test
9C vs 9S	264.000	1.069	1.000	Do Not Test

9C vs 9I	191.000	0.773	1.000	Do Not Test
9C vs 2C	66.000	0.267	1.000	Do Not Test
9C vs 7C	51.000	0.207	1.000	Do Not Test
7C vs 8S	626.000	2.535	0.990	Do Not Test
7C vs 8C	511.000	2.069	1.000	Do Not Test
7C vs 5S	400.000	1.620	1.000	Do Not Test
7C vs 5I	346.000	1.401	1.000	Do Not Test
7C vs 4I	339.000	1.373	1.000	Do Not Test
7C vs 6I	308.000	1.247	1.000	Do Not Test
7C vs 7S	306.000	1.239	1.000	Do Not Test
7C vs 7I	257.000	1.041	1.000	Do Not Test
7C vs 9S	213.000	0.863	1.000	Do Not Test
7C vs 9I	140.000	0.567	1.000	Do Not Test
7C vs 2C	15.000	0.0607	1.000	Do Not Test
2C vs 8S	611.000	2.474	0.993	Do Not Test
2C vs 8C	496.000	2.009	1.000	Do Not Test
2C vs 5S	385.000	1.559	1.000	Do Not Test
2C vs 5I	331.000	1.340	1.000	Do Not Test
2C vs 4I	324.000	1.312	1.000	Do Not Test
2C vs 6I	293.000	1.187	1.000	Do Not Test
2C vs 7S	291.000	1.178	1.000	Do Not Test
2C vs 7I	242.000	0.980	1.000	Do Not Test
2C vs 9S	198.000	0.802	1.000	Do Not Test
2C vs 9I	125.000	0.506	1.000	Do Not Test
9I vs 8S	486.000	1.968	1.000	Do Not Test
9I vs 8C	371.000	1.502	1.000	Do Not Test
9I vs 5S	260.000	1.053	1.000	Do Not Test
9I vs 5I	206.000	0.834	1.000	Do Not Test
9I vs 4I	199.000	0.806	1.000	Do Not Test
9I vs 6I	168.000	0.680	1.000	Do Not Test
9I vs 7S	166.000	0.672	1.000	Do Not Test
9I vs 7I	117.000	0.474	1.000	Do Not Test
9I vs 9S	73.000	0.296	1.000	Do Not Test
9S vs 8S	413.000	1.673	1.000	Do Not Test
9S vs 8C	298.000	1.207	1.000	Do Not Test
9S vs 5S	187.000	0.757	1.000	Do Not Test
9S vs 5I	133.000	0.539	1.000	Do Not Test
9S vs 4I	126.000	0.510	1.000	Do Not Test
9S vs 6I	95.000	0.385	1.000	Do Not Test
9S vs 7S	93.000	0.377	1.000	Do Not Test
9S vs 7I	44.000	0.178	1.000	Do Not Test
7I vs 8S	369.000	1.494	1.000	Do Not Test
7I vs 8C	254.000	1.029	1.000	Do Not Test
7I vs 5S	143.000	0.579	1.000	Do Not Test
7I vs 5I	89.000	0.360	1.000	Do Not Test
7I vs 4I	82.000	0.332	1.000	Do Not Test
7I vs 6I	51.000	0.207	1.000	Do Not Test
7I vs 7S	49.000	0.198	1.000	Do Not Test
7S vs 8S	320.000	1.296	1.000	Do Not Test
7S vs 8C	205.000	0.830	1.000	Do Not Test
7S vs 5S	94.000	0.381	1.000	Do Not Test
7S vs 5I	40.000	0.162	1.000	Do Not Test
7S vs 4I	33.000	0.134	1.000	Do Not Test
7S vs 6I	2.000	0.00810	1.000	Do Not Test
6I vs 8S	318.000	1.288	1.000	Do Not Test
6I vs 8C	203.000	0.822	1.000	Do Not Test

6I vs 5S	92.000	0.373	1.000	Do Not Test
6I vs 5I	38.000	0.154	1.000	Do Not Test
6I vs 4I	31.000	0.126	1.000	Do Not Test
4I vs 8S	287.000	1.162	1.000	Do Not Test
4I vs 8C	172.000	0.697	1.000	Do Not Test
4I vs 5S	61.000	0.247	1.000	Do Not Test
4I vs 5I	7.000	0.0283	1.000	Do Not Test
5I vs 8S	280.000	1.134	1.000	Do Not Test
5I vs 8C	165.000	0.668	1.000	Do Not Test
5I vs 5S	54.000	0.219	1.000	Do Not Test
5S vs 8S	226.000	0.915	1.000	Do Not Test
5S vs 8C	111.000	0.450	1.000	Do Not Test
8C vs 8S	115.000	0.466	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:27:20

Data source: BV/TV in L3 4wks-2y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:27:20

Data source: BV/TV in L3 4wks-2y

Group	N	Missing	Median	25%	75%
1I	11	0	13.953	11.450	18.596
1C	11	0	12.521	11.550	19.145
1S	11	0	13.320	9.066	20.746
2I	11	0	15.148	11.443	17.965
2C	11	0	12.946	11.868	17.781
2S	11	0	12.619	9.602	17.143
3I	11	0	16.158	12.299	19.039
3C	11	0	16.039	12.921	19.421
3S	11	0	12.941	10.758	16.191
4I	11	0	12.645	10.440	15.123
4C	11	0	10.540	10.140	11.691
4S	11	0	11.593	9.542	13.781
5I	11	0	12.114	11.164	14.629
5C	11	0	10.208	10.094	12.715
5S	11	0	10.236	9.279	11.540
6I	11	0	12.204	10.673	15.781
6C	11	0	11.302	10.109	11.988
6S	11	0	10.861	9.479	14.538
7I	11	0	13.955	11.936	19.696
7C	11	0	11.848	11.321	16.216
7S	11	0	11.764	9.820	16.806
8I	11	0	12.180	11.067	16.696
8C	11	0	11.677	9.184	14.248
8S	11	0	11.083	10.058	13.290
9I	11	0	13.661	12.159	18.384
9C	11	0	11.954	10.652	15.101
9S	11	0	12.141	10.010	15.331

H = 59.601 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
3I vs 5S	1564.000	5.491	0.032	Yes
3I vs 4C	1462.000	5.133	0.069	No



3I vs 6C	1301.000	4.568	0.206	Do Not Test
3I vs 5C	1266.000	4.445	0.254	Do Not Test
3I vs 8S	1198.000	4.206	0.365	Do Not Test
3I vs 6S	1173.000	4.118	0.411	Do Not Test
3I vs 4S	1117.000	3.922	0.525	Do Not Test
3I vs 8C	1015.000	3.563	0.736	Do Not Test
3I vs 7S	881.000	3.093	0.918	Do Not Test
3I vs 9S	813.000	2.854	0.961	Do Not Test
3I vs 1S	794.000	2.788	0.969	Do Not Test
3I vs 5I	760.000	2.668	0.981	Do Not Test
3I vs 4I	727.000	2.552	0.989	Do Not Test
3I vs 9C	717.000	2.517	0.991	Do Not Test
3I vs 7C	701.000	2.461	0.993	Do Not Test
3I vs 2S	633.000	2.222	0.999	Do Not Test
3I vs 6I	614.000	2.156	0.999	Do Not Test
3I vs 3S	608.000	2.135	0.999	Do Not Test
3I vs 8I	578.000	2.029	1.000	Do Not Test
3I vs 1C	438.000	1.538	1.000	Do Not Test
3I vs 2C	378.000	1.327	1.000	Do Not Test
3I vs 1I	311.000	1.092	1.000	Do Not Test
3I vs 2I	259.000	0.909	1.000	Do Not Test
3I vs 9I	182.000	0.639	1.000	Do Not Test
3I vs 7I	149.000	0.523	1.000	Do Not Test
3I vs 3C	44.000	0.154	1.000	Do Not Test
3C vs 5S	1520.000	5.336	0.045	Yes
3C vs 4C	1418.000	4.978	0.095	Do Not Test
3C vs 6C	1257.000	4.413	0.267	Do Not Test
3C vs 5C	1222.000	4.290	0.323	Do Not Test
3C vs 8S	1154.000	4.051	0.448	Do Not Test
3C vs 6S	1129.000	3.964	0.499	Do Not Test
3C vs 4S	1073.000	3.767	0.618	Do Not Test
3C vs 8C	971.000	3.409	0.813	Do Not Test
3C vs 7S	837.000	2.939	0.948	Do Not Test
3C vs 9S	769.000	2.700	0.978	Do Not Test
3C vs 1S	750.000	2.633	0.983	Do Not Test
3C vs 5I	716.000	2.514	0.991	Do Not Test
3C vs 4I	683.000	2.398	0.995	Do Not Test
3C vs 9C	673.000	2.363	0.996	Do Not Test
3C vs 7C	657.000	2.307	0.997	Do Not Test
3C vs 2S	589.000	2.068	1.000	Do Not Test
3C vs 6I	570.000	2.001	1.000	Do Not Test
3C vs 3S	564.000	1.980	1.000	Do Not Test
3C vs 8I	534.000	1.875	1.000	Do Not Test
3C vs 1C	394.000	1.383	1.000	Do Not Test
3C vs 2C	334.000	1.173	1.000	Do Not Test
3C vs 1I	267.000	0.937	1.000	Do Not Test
3C vs 2I	215.000	0.755	1.000	Do Not Test
3C vs 9I	138.000	0.484	1.000	Do Not Test
3C vs 7I	105.000	0.369	1.000	Do Not Test
7I vs 5S	1415.000	4.968	0.097	No
7I vs 4C	1313.000	4.610	0.192	Do Not Test
7I vs 6C	1152.000	4.044	0.452	Do Not Test
7I vs 5C	1117.000	3.922	0.525	Do Not Test
7I vs 8S	1049.000	3.683	0.669	Do Not Test
7I vs 6S	1024.000	3.595	0.719	Do Not Test
7I vs 4S	968.000	3.398	0.818	Do Not Test

7I vs 8C	866.000	3.040	0.930	Do Not Test
7I vs 7S	732.000	2.570	0.988	Do Not Test
7I vs 9S	664.000	2.331	0.997	Do Not Test
7I vs 1S	645.000	2.264	0.998	Do Not Test
7I vs 5I	611.000	2.145	0.999	Do Not Test
7I vs 4I	578.000	2.029	1.000	Do Not Test
7I vs 9C	568.000	1.994	1.000	Do Not Test
7I vs 7C	552.000	1.938	1.000	Do Not Test
7I vs 2S	484.000	1.699	1.000	Do Not Test
7I vs 6I	465.000	1.633	1.000	Do Not Test
7I vs 3S	459.000	1.611	1.000	Do Not Test
7I vs 8I	429.000	1.506	1.000	Do Not Test
7I vs 1C	289.000	1.015	1.000	Do Not Test
7I vs 2C	229.000	0.804	1.000	Do Not Test
7I vs 1I	162.000	0.569	1.000	Do Not Test
7I vs 2I	110.000	0.386	1.000	Do Not Test
7I vs 9I	33.000	0.116	1.000	Do Not Test
9I vs 5S	1382.000	4.852	0.122	Do Not Test
9I vs 4C	1280.000	4.494	0.234	Do Not Test
9I vs 6C	1119.000	3.929	0.520	Do Not Test
9I vs 5C	1084.000	3.806	0.595	Do Not Test
9I vs 8S	1016.000	3.567	0.735	Do Not Test
9I vs 6S	991.000	3.479	0.780	Do Not Test
9I vs 4S	935.000	3.283	0.863	Do Not Test
9I vs 8C	833.000	2.925	0.951	Do Not Test
9I vs 7S	699.000	2.454	0.993	Do Not Test
9I vs 9S	631.000	2.215	0.999	Do Not Test
9I vs 1S	612.000	2.149	0.999	Do Not Test
9I vs 5I	578.000	2.029	1.000	Do Not Test
9I vs 4I	545.000	1.913	1.000	Do Not Test
9I vs 9C	535.000	1.878	1.000	Do Not Test
9I vs 7C	519.000	1.822	1.000	Do Not Test
9I vs 2S	451.000	1.583	1.000	Do Not Test
9I vs 6I	432.000	1.517	1.000	Do Not Test
9I vs 3S	426.000	1.496	1.000	Do Not Test
9I vs 8I	396.000	1.390	1.000	Do Not Test
9I vs 1C	256.000	0.899	1.000	Do Not Test
9I vs 2C	196.000	0.688	1.000	Do Not Test
9I vs 1I	129.000	0.453	1.000	Do Not Test
9I vs 2I	77.000	0.270	1.000	Do Not Test
2I vs 5S	1305.000	4.582	0.201	Do Not Test
2I vs 4C	1203.000	4.224	0.356	Do Not Test
2I vs 6C	1042.000	3.658	0.683	Do Not Test
2I vs 5C	1007.000	3.535	0.751	Do Not Test
2I vs 8S	939.000	3.297	0.858	Do Not Test
2I vs 6S	914.000	3.209	0.887	Do Not Test
2I vs 4S	858.000	3.012	0.935	Do Not Test
2I vs 8C	756.000	2.654	0.982	Do Not Test
2I vs 7S	622.000	2.184	0.999	Do Not Test
2I vs 9S	554.000	1.945	1.000	Do Not Test
2I vs 1S	535.000	1.878	1.000	Do Not Test
2I vs 5I	501.000	1.759	1.000	Do Not Test
2I vs 4I	468.000	1.643	1.000	Do Not Test
2I vs 9C	458.000	1.608	1.000	Do Not Test
2I vs 7C	442.000	1.552	1.000	Do Not Test
2I vs 2S	374.000	1.313	1.000	Do Not Test

2I vs 6I	355.000	1.246	1.000	Do Not Test
2I vs 3S	349.000	1.225	1.000	Do Not Test
2I vs 8I	319.000	1.120	1.000	Do Not Test
2I vs 1C	179.000	0.628	1.000	Do Not Test
2I vs 2C	119.000	0.418	1.000	Do Not Test
2I vs 1I	52.000	0.183	1.000	Do Not Test
1I vs 5S	1253.000	4.399	0.273	Do Not Test
1I vs 4C	1151.000	4.041	0.454	Do Not Test
1I vs 6C	990.000	3.476	0.782	Do Not Test
1I vs 5C	955.000	3.353	0.837	Do Not Test
1I vs 8S	887.000	3.114	0.913	Do Not Test
1I vs 6S	862.000	3.026	0.933	Do Not Test
1I vs 4S	806.000	2.830	0.964	Do Not Test
1I vs 8C	704.000	2.472	0.993	Do Not Test
1I vs 7S	570.000	2.001	1.000	Do Not Test
1I vs 9S	502.000	1.762	1.000	Do Not Test
1I vs 1S	483.000	1.696	1.000	Do Not Test
1I vs 5I	449.000	1.576	1.000	Do Not Test
1I vs 4I	416.000	1.460	1.000	Do Not Test
1I vs 9C	406.000	1.425	1.000	Do Not Test
1I vs 7C	390.000	1.369	1.000	Do Not Test
1I vs 2S	322.000	1.130	1.000	Do Not Test
1I vs 6I	303.000	1.064	1.000	Do Not Test
1I vs 3S	297.000	1.043	1.000	Do Not Test
1I vs 8I	267.000	0.937	1.000	Do Not Test
1I vs 1C	127.000	0.446	1.000	Do Not Test
1I vs 2C	67.000	0.235	1.000	Do Not Test
2C vs 5S	1186.000	4.164	0.387	Do Not Test
2C vs 4C	1084.000	3.806	0.595	Do Not Test
2C vs 6C	923.000	3.240	0.878	Do Not Test
2C vs 5C	888.000	3.118	0.912	Do Not Test
2C vs 8S	820.000	2.879	0.958	Do Not Test
2C vs 6S	795.000	2.791	0.969	Do Not Test
2C vs 4S	739.000	2.594	0.986	Do Not Test
2C vs 8C	637.000	2.236	0.998	Do Not Test
2C vs 7S	503.000	1.766	1.000	Do Not Test
2C vs 9S	435.000	1.527	1.000	Do Not Test
2C vs 1S	416.000	1.460	1.000	Do Not Test
2C vs 5I	382.000	1.341	1.000	Do Not Test
2C vs 4I	349.000	1.225	1.000	Do Not Test
2C vs 9C	339.000	1.190	1.000	Do Not Test
2C vs 7C	323.000	1.134	1.000	Do Not Test
2C vs 2S	255.000	0.895	1.000	Do Not Test
2C vs 6I	236.000	0.829	1.000	Do Not Test
2C vs 3S	230.000	0.807	1.000	Do Not Test
2C vs 8I	200.000	0.702	1.000	Do Not Test
2C vs 1C	60.000	0.211	1.000	Do Not Test
1C vs 5S	1126.000	3.953	0.506	Do Not Test
1C vs 4C	1024.000	3.595	0.719	Do Not Test
1C vs 6C	863.000	3.030	0.932	Do Not Test
1C vs 5C	828.000	2.907	0.953	Do Not Test
1C vs 8S	760.000	2.668	0.981	Do Not Test
1C vs 6S	735.000	2.580	0.987	Do Not Test
1C vs 4S	679.000	2.384	0.996	Do Not Test
1C vs 8C	577.000	2.026	1.000	Do Not Test
1C vs 7S	443.000	1.555	1.000	Do Not Test

1C vs 9S	375.000	1.317	1.000	Do Not Test
1C vs 1S	356.000	1.250	1.000	Do Not Test
1C vs 5I	322.000	1.130	1.000	Do Not Test
1C vs 4I	289.000	1.015	1.000	Do Not Test
1C vs 9C	279.000	0.980	1.000	Do Not Test
1C vs 7C	263.000	0.923	1.000	Do Not Test
1C vs 2S	195.000	0.685	1.000	Do Not Test
1C vs 6I	176.000	0.618	1.000	Do Not Test
1C vs 3S	170.000	0.597	1.000	Do Not Test
1C vs 8I	140.000	0.492	1.000	Do Not Test
8I vs 5S	986.000	3.462	0.789	Do Not Test
8I vs 4C	884.000	3.104	0.916	Do Not Test
8I vs 6C	723.000	2.538	0.990	Do Not Test
8I vs 5C	688.000	2.415	0.995	Do Not Test
8I vs 8S	620.000	2.177	0.999	Do Not Test
8I vs 6S	595.000	2.089	1.000	Do Not Test
8I vs 4S	539.000	1.892	1.000	Do Not Test
8I vs 8C	437.000	1.534	1.000	Do Not Test
8I vs 7S	303.000	1.064	1.000	Do Not Test
8I vs 9S	235.000	0.825	1.000	Do Not Test
8I vs 1S	216.000	0.758	1.000	Do Not Test
8I vs 5I	182.000	0.639	1.000	Do Not Test
8I vs 4I	149.000	0.523	1.000	Do Not Test
8I vs 9C	139.000	0.488	1.000	Do Not Test
8I vs 7C	123.000	0.432	1.000	Do Not Test
8I vs 2S	55.000	0.193	1.000	Do Not Test
8I vs 6I	36.000	0.126	1.000	Do Not Test
8I vs 3S	30.000	0.105	1.000	Do Not Test
3S vs 5S	956.000	3.356	0.835	Do Not Test
3S vs 4C	854.000	2.998	0.938	Do Not Test
3S vs 6C	693.000	2.433	0.994	Do Not Test
3S vs 5C	658.000	2.310	0.997	Do Not Test
3S vs 8S	590.000	2.071	1.000	Do Not Test
3S vs 6S	565.000	1.984	1.000	Do Not Test
3S vs 4S	509.000	1.787	1.000	Do Not Test
3S vs 8C	407.000	1.429	1.000	Do Not Test
3S vs 7S	273.000	0.958	1.000	Do Not Test
3S vs 9S	205.000	0.720	1.000	Do Not Test
3S vs 1S	186.000	0.653	1.000	Do Not Test
3S vs 5I	152.000	0.534	1.000	Do Not Test
3S vs 4I	119.000	0.418	1.000	Do Not Test
3S vs 9C	109.000	0.383	1.000	Do Not Test
3S vs 7C	93.000	0.327	1.000	Do Not Test
3S vs 2S	25.000	0.0878	1.000	Do Not Test
3S vs 6I	6.000	0.0211	1.000	Do Not Test
6I vs 5S	950.000	3.335	0.844	Do Not Test
6I vs 4C	848.000	2.977	0.942	Do Not Test
6I vs 6C	687.000	2.412	0.995	Do Not Test
6I vs 5C	652.000	2.289	0.998	Do Not Test
6I vs 8S	584.000	2.050	1.000	Do Not Test
6I vs 6S	559.000	1.963	1.000	Do Not Test
6I vs 4S	503.000	1.766	1.000	Do Not Test
6I vs 8C	401.000	1.408	1.000	Do Not Test
6I vs 7S	267.000	0.937	1.000	Do Not Test
6I vs 9S	199.000	0.699	1.000	Do Not Test
6I vs 1S	180.000	0.632	1.000	Do Not Test

6I vs 5I	146.000	0.513	1.000	Do Not Test
6I vs 4I	113.000	0.397	1.000	Do Not Test
6I vs 9C	103.000	0.362	1.000	Do Not Test
6I vs 7C	87.000	0.305	1.000	Do Not Test
6I vs 2S	19.000	0.0667	1.000	Do Not Test
2S vs 5S	931.000	3.269	0.868	Do Not Test
2S vs 4C	829.000	2.910	0.953	Do Not Test
2S vs 6C	668.000	2.345	0.997	Do Not Test
2S vs 5C	633.000	2.222	0.999	Do Not Test
2S vs 8S	565.000	1.984	1.000	Do Not Test
2S vs 6S	540.000	1.896	1.000	Do Not Test
2S vs 4S	484.000	1.699	1.000	Do Not Test
2S vs 8C	382.000	1.341	1.000	Do Not Test
2S vs 7S	248.000	0.871	1.000	Do Not Test
2S vs 9S	180.000	0.632	1.000	Do Not Test
2S vs 1S	161.000	0.565	1.000	Do Not Test
2S vs 5I	127.000	0.446	1.000	Do Not Test
2S vs 4I	94.000	0.330	1.000	Do Not Test
2S vs 9C	84.000	0.295	1.000	Do Not Test
2S vs 7C	68.000	0.239	1.000	Do Not Test
7C vs 5S	863.000	3.030	0.932	Do Not Test
7C vs 4C	761.000	2.672	0.980	Do Not Test
7C vs 6C	600.000	2.106	1.000	Do Not Test
7C vs 5C	565.000	1.984	1.000	Do Not Test
7C vs 8S	497.000	1.745	1.000	Do Not Test
7C vs 6S	472.000	1.657	1.000	Do Not Test
7C vs 4S	416.000	1.460	1.000	Do Not Test
7C vs 8C	314.000	1.102	1.000	Do Not Test
7C vs 7S	180.000	0.632	1.000	Do Not Test
7C vs 9S	112.000	0.393	1.000	Do Not Test
7C vs 1S	93.000	0.327	1.000	Do Not Test
7C vs 5I	59.000	0.207	1.000	Do Not Test
7C vs 4I	26.000	0.0913	1.000	Do Not Test
7C vs 9C	16.000	0.0562	1.000	Do Not Test
9C vs 5S	847.000	2.974	0.943	Do Not Test
9C vs 4C	745.000	2.616	0.985	Do Not Test
9C vs 6C	584.000	2.050	1.000	Do Not Test
9C vs 5C	549.000	1.927	1.000	Do Not Test
9C vs 8S	481.000	1.689	1.000	Do Not Test
9C vs 6S	456.000	1.601	1.000	Do Not Test
9C vs 4S	400.000	1.404	1.000	Do Not Test
9C vs 8C	298.000	1.046	1.000	Do Not Test
9C vs 7S	164.000	0.576	1.000	Do Not Test
9C vs 9S	96.000	0.337	1.000	Do Not Test
9C vs 1S	77.000	0.270	1.000	Do Not Test
9C vs 5I	43.000	0.151	1.000	Do Not Test
9C vs 4I	10.000	0.0351	1.000	Do Not Test
4I vs 5S	837.000	2.939	0.948	Do Not Test
4I vs 4C	735.000	2.580	0.987	Do Not Test
4I vs 6C	574.000	2.015	1.000	Do Not Test
4I vs 5C	539.000	1.892	1.000	Do Not Test
4I vs 8S	471.000	1.654	1.000	Do Not Test
4I vs 6S	446.000	1.566	1.000	Do Not Test
4I vs 4S	390.000	1.369	1.000	Do Not Test
4I vs 8C	288.000	1.011	1.000	Do Not Test
4I vs 7S	154.000	0.541	1.000	Do Not Test

4I vs 9S	86.000	0.302	1.000	Do Not Test
4I vs 1S	67.000	0.235	1.000	Do Not Test
4I vs 5I	33.000	0.116	1.000	Do Not Test
5I vs 5S	804.000	2.823	0.965	Do Not Test
5I vs 4C	702.000	2.465	0.993	Do Not Test
5I vs 6C	541.000	1.899	1.000	Do Not Test
5I vs 5C	506.000	1.776	1.000	Do Not Test
5I vs 8S	438.000	1.538	1.000	Do Not Test
5I vs 6S	413.000	1.450	1.000	Do Not Test
5I vs 4S	357.000	1.253	1.000	Do Not Test
5I vs 8C	255.000	0.895	1.000	Do Not Test
5I vs 7S	121.000	0.425	1.000	Do Not Test
5I vs 9S	53.000	0.186	1.000	Do Not Test
5I vs 1S	34.000	0.119	1.000	Do Not Test
1S vs 5S	770.000	2.703	0.978	Do Not Test
1S vs 4C	668.000	2.345	0.997	Do Not Test
1S vs 6C	507.000	1.780	1.000	Do Not Test
1S vs 5C	472.000	1.657	1.000	Do Not Test
1S vs 8S	404.000	1.418	1.000	Do Not Test
1S vs 6S	379.000	1.331	1.000	Do Not Test
1S vs 4S	323.000	1.134	1.000	Do Not Test
1S vs 8C	221.000	0.776	1.000	Do Not Test
1S vs 7S	87.000	0.305	1.000	Do Not Test
1S vs 9S	19.000	0.0667	1.000	Do Not Test
9S vs 5S	751.000	2.637	0.983	Do Not Test
9S vs 4C	649.000	2.279	0.998	Do Not Test
9S vs 6C	488.000	1.713	1.000	Do Not Test
9S vs 5C	453.000	1.590	1.000	Do Not Test
9S vs 8S	385.000	1.352	1.000	Do Not Test
9S vs 6S	360.000	1.264	1.000	Do Not Test
9S vs 4S	304.000	1.067	1.000	Do Not Test
9S vs 8C	202.000	0.709	1.000	Do Not Test
9S vs 7S	68.000	0.239	1.000	Do Not Test
7S vs 5S	683.000	2.398	0.995	Do Not Test
7S vs 4C	581.000	2.040	1.000	Do Not Test
7S vs 6C	420.000	1.475	1.000	Do Not Test
7S vs 5C	385.000	1.352	1.000	Do Not Test
7S vs 8S	317.000	1.113	1.000	Do Not Test
7S vs 6S	292.000	1.025	1.000	Do Not Test
7S vs 4S	236.000	0.829	1.000	Do Not Test
7S vs 8C	134.000	0.470	1.000	Do Not Test
8C vs 5S	549.000	1.927	1.000	Do Not Test
8C vs 4C	447.000	1.569	1.000	Do Not Test
8C vs 6C	286.000	1.004	1.000	Do Not Test
8C vs 5C	251.000	0.881	1.000	Do Not Test
8C vs 8S	183.000	0.642	1.000	Do Not Test
8C vs 6S	158.000	0.555	1.000	Do Not Test
8C vs 4S	102.000	0.358	1.000	Do Not Test
4S vs 5S	447.000	1.569	1.000	Do Not Test
4S vs 4C	345.000	1.211	1.000	Do Not Test
4S vs 6C	184.000	0.646	1.000	Do Not Test
4S vs 5C	149.000	0.523	1.000	Do Not Test
4S vs 8S	81.000	0.284	1.000	Do Not Test
4S vs 6S	56.000	0.197	1.000	Do Not Test
6S vs 5S	391.000	1.373	1.000	Do Not Test
6S vs 4C	289.000	1.015	1.000	Do Not Test

6S vs 6C	128.000	0.449	1.000	Do Not Test
6S vs 5C	93.000	0.327	1.000	Do Not Test
6S vs 8S	25.000	0.0878	1.000	Do Not Test
8S vs 5S	366.000	1.285	1.000	Do Not Test
8S vs 4C	264.000	0.927	1.000	Do Not Test
8S vs 6C	103.000	0.362	1.000	Do Not Test
8S vs 5C	68.000	0.239	1.000	Do Not Test
5C vs 5S	298.000	1.046	1.000	Do Not Test
5C vs 4C	196.000	0.688	1.000	Do Not Test
5C vs 6C	35.000	0.123	1.000	Do Not Test
6C vs 5S	263.000	0.923	1.000	Do Not Test
6C vs 4C	161.000	0.565	1.000	Do Not Test
4C vs 5S	102.000	0.358	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:28:10

Data source: SMI in L3 4wks-2y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:28:10

Data source: SMI in L3 4wks-2y

Group	N	Missing	Median	25%	75%
1I	11	0	1.596	1.510	1.777
1C	11	0	1.513	1.214	1.651
1S	11	0	1.796	1.549	1.947
2I	11	0	1.554	1.339	1.711
2C	11	0	1.404	1.297	1.644
2S	11	0	1.636	1.548	1.832
3I	11	0	1.498	1.425	1.781
3C	11	0	1.306	1.199	1.701
3S	11	0	1.689	1.567	1.928
4I	11	0	1.686	1.529	1.737
4C	11	0	1.624	1.487	1.685
4S	11	0	1.688	1.605	1.772
5I	11	0	1.659	1.611	1.759
5C	11	0	1.661	1.583	1.773
5S	11	0	1.821	1.742	1.867
6I	11	0	1.653	1.525	1.804
6C	11	0	1.603	1.526	1.689
6S	11	0	1.750	1.567	1.777
7I	11	0	1.663	1.569	1.793
7C	11	0	1.571	1.537	1.710
7S	11	0	1.745	1.521	1.816
8I	11	0	1.640	1.522	1.812
8C	11	0	1.215	1.175	1.347
8S	11	0	1.606	1.537	1.812
9I	11	0	1.630	1.535	1.760
9C	11	0	1.569	1.528	1.661
9S	11	0	1.725	1.536	1.852

H = 67.115 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
5S vs 8C	2095.000	7.355	0.007	Yes
5S vs 3C	1552.000	5.449	0.035	Yes



5S vs 2C	1549.000	5.438	0.036	Yes
5S vs 1C	1402.000	4.922	0.106	No
5S vs 2I	1332.000	4.676	0.170	Do Not Test
5S vs 3I	1219.000	4.280	0.328	Do Not Test
5S vs 9C	1154.000	4.051	0.448	Do Not Test
5S vs 7C	1118.000	3.925	0.522	Do Not Test
5S vs 4C	963.000	3.381	0.825	Do Not Test
5S vs 6C	947.000	3.325	0.848	Do Not Test
5S vs 1I	939.000	3.297	0.858	Do Not Test
5S vs 8I	794.000	2.788	0.969	Do Not Test
5S vs 6I	772.000	2.710	0.977	Do Not Test
5S vs 7I	740.000	2.598	0.986	Do Not Test
5S vs 9I	738.000	2.591	0.986	Do Not Test
5S vs 5C	708.000	2.486	0.992	Do Not Test
5S vs 4I	706.000	2.479	0.992	Do Not Test
5S vs 2S	690.000	2.422	0.995	Do Not Test
5S vs 8S	674.000	2.366	0.996	Do Not Test
5S vs 5I	625.000	2.194	0.999	Do Not Test
5S vs 9S	566.000	1.987	1.000	Do Not Test
5S vs 6S	441.000	1.548	1.000	Do Not Test
5S vs 7S	433.000	1.520	1.000	Do Not Test
5S vs 4S	411.000	1.443	1.000	Do Not Test
5S vs 3S	407.000	1.429	1.000	Do Not Test
5S vs 1S	272.000	0.955	1.000	Do Not Test
<b>1S vs 8C</b>	<b>1823.000</b>	<b>6.400</b>	<b>0.008</b>	<b>Yes</b>
1S vs 3C	1280.000	4.494	0.234	No
1S vs 2C	1277.000	4.483	0.238	Do Not Test
1S vs 1C	1130.000	3.967	0.497	Do Not Test
1S vs 2I	1060.000	3.721	0.646	Do Not Test
1S vs 3I	947.000	3.325	0.848	Do Not Test
1S vs 9C	882.000	3.097	0.918	Do Not Test
1S vs 7C	846.000	2.970	0.943	Do Not Test
1S vs 4C	691.000	2.426	0.994	Do Not Test
1S vs 6C	675.000	2.370	0.996	Do Not Test
1S vs 1I	667.000	2.342	0.997	Do Not Test
1S vs 8I	522.000	1.833	1.000	Do Not Test
1S vs 6I	500.000	1.755	1.000	Do Not Test
1S vs 7I	468.000	1.643	1.000	Do Not Test
1S vs 9I	466.000	1.636	1.000	Do Not Test
1S vs 5C	436.000	1.531	1.000	Do Not Test
1S vs 4I	434.000	1.524	1.000	Do Not Test
1S vs 2S	418.000	1.468	1.000	Do Not Test
1S vs 8S	402.000	1.411	1.000	Do Not Test
1S vs 5I	353.000	1.239	1.000	Do Not Test
1S vs 9S	294.000	1.032	1.000	Do Not Test
1S vs 6S	169.000	0.593	1.000	Do Not Test
1S vs 7S	161.000	0.565	1.000	Do Not Test
1S vs 4S	139.000	0.488	1.000	Do Not Test
1S vs 3S	135.000	0.474	1.000	Do Not Test
3S vs 8C	1688.000	5.926	0.014	Yes
3S vs 3C	1145.000	4.020	0.466	Do Not Test
3S vs 2C	1142.000	4.009	0.473	Do Not Test
3S vs 1C	995.000	3.493	0.773	Do Not Test
3S vs 2I	925.000	3.248	0.875	Do Not Test
3S vs 3I	812.000	2.851	0.961	Do Not Test
3S vs 9C	747.000	2.623	0.984	Do Not Test

3S vs 7C	711.000	2.496	0.992	Do Not Test
3S vs 4C	556.000	1.952	1.000	Do Not Test
3S vs 6C	540.000	1.896	1.000	Do Not Test
3S vs 1I	532.000	1.868	1.000	Do Not Test
3S vs 8I	387.000	1.359	1.000	Do Not Test
3S vs 6I	365.000	1.281	1.000	Do Not Test
3S vs 7I	333.000	1.169	1.000	Do Not Test
3S vs 9I	331.000	1.162	1.000	Do Not Test
3S vs 5C	301.000	1.057	1.000	Do Not Test
3S vs 4I	299.000	1.050	1.000	Do Not Test
3S vs 2S	283.000	0.994	1.000	Do Not Test
3S vs 8S	267.000	0.937	1.000	Do Not Test
3S vs 5I	218.000	0.765	1.000	Do Not Test
3S vs 9S	159.000	0.558	1.000	Do Not Test
3S vs 6S	34.000	0.119	1.000	Do Not Test
3S vs 7S	26.000	0.0913	1.000	Do Not Test
3S vs 4S	4.000	0.0140	1.000	Do Not Test
4S vs 8C	1684.000	5.912	0.015	Yes
4S vs 3C	1141.000	4.006	0.475	Do Not Test
4S vs 2C	1138.000	3.995	0.481	Do Not Test
4S vs 1C	991.000	3.479	0.780	Do Not Test
4S vs 2I	921.000	3.233	0.880	Do Not Test
4S vs 3I	808.000	2.837	0.963	Do Not Test
4S vs 9C	743.000	2.609	0.985	Do Not Test
4S vs 7C	707.000	2.482	0.992	Do Not Test
4S vs 4C	552.000	1.938	1.000	Do Not Test
4S vs 6C	536.000	1.882	1.000	Do Not Test
4S vs 1I	528.000	1.854	1.000	Do Not Test
4S vs 8I	383.000	1.345	1.000	Do Not Test
4S vs 6I	361.000	1.267	1.000	Do Not Test
4S vs 7I	329.000	1.155	1.000	Do Not Test
4S vs 9I	327.000	1.148	1.000	Do Not Test
4S vs 5C	297.000	1.043	1.000	Do Not Test
4S vs 4I	295.000	1.036	1.000	Do Not Test
4S vs 2S	279.000	0.980	1.000	Do Not Test
4S vs 8S	263.000	0.923	1.000	Do Not Test
4S vs 5I	214.000	0.751	1.000	Do Not Test
4S vs 9S	155.000	0.544	1.000	Do Not Test
4S vs 6S	30.000	0.105	1.000	Do Not Test
4S vs 7S	22.000	0.0772	1.000	Do Not Test
7S vs 8C	1662.000	5.835	0.017	Yes
7S vs 3C	1119.000	3.929	0.520	Do Not Test
7S vs 2C	1116.000	3.918	0.527	Do Not Test
7S vs 1C	969.000	3.402	0.816	Do Not Test
7S vs 2I	899.000	3.156	0.903	Do Not Test
7S vs 3I	786.000	2.760	0.972	Do Not Test
7S vs 9C	721.000	2.531	0.990	Do Not Test
7S vs 7C	685.000	2.405	0.995	Do Not Test
7S vs 4C	530.000	1.861	1.000	Do Not Test
7S vs 6C	514.000	1.805	1.000	Do Not Test
7S vs 1I	506.000	1.776	1.000	Do Not Test
7S vs 8I	361.000	1.267	1.000	Do Not Test
7S vs 6I	339.000	1.190	1.000	Do Not Test
7S vs 7I	307.000	1.078	1.000	Do Not Test
7S vs 9I	305.000	1.071	1.000	Do Not Test
7S vs 5C	275.000	0.965	1.000	Do Not Test

7S vs 4I	273.000	0.958	1.000	Do Not Test
7S vs 2S	257.000	0.902	1.000	Do Not Test
7S vs 8S	241.000	0.846	1.000	Do Not Test
7S vs 5I	192.000	0.674	1.000	Do Not Test
7S vs 9S	133.000	0.467	1.000	Do Not Test
7S vs 6S	8.000	0.0281	1.000	Do Not Test
6S vs 8C	1654.000	5.807	0.018	Yes
6S vs 3C	1111.000	3.901	0.537	Do Not Test
6S vs 2C	1108.000	3.890	0.544	Do Not Test
6S vs 1C	961.000	3.374	0.828	Do Not Test
6S vs 2I	891.000	3.128	0.910	Do Not Test
6S vs 3I	778.000	2.731	0.975	Do Not Test
6S vs 9C	713.000	2.503	0.991	Do Not Test
6S vs 7C	677.000	2.377	0.996	Do Not Test
6S vs 4C	522.000	1.833	1.000	Do Not Test
6S vs 6C	506.000	1.776	1.000	Do Not Test
6S vs 1I	498.000	1.748	1.000	Do Not Test
6S vs 8I	353.000	1.239	1.000	Do Not Test
6S vs 6I	331.000	1.162	1.000	Do Not Test
6S vs 7I	299.000	1.050	1.000	Do Not Test
6S vs 9I	297.000	1.043	1.000	Do Not Test
6S vs 5C	267.000	0.937	1.000	Do Not Test
6S vs 4I	265.000	0.930	1.000	Do Not Test
6S vs 2S	249.000	0.874	1.000	Do Not Test
6S vs 8S	233.000	0.818	1.000	Do Not Test
6S vs 5I	184.000	0.646	1.000	Do Not Test
6S vs 9S	125.000	0.439	1.000	Do Not Test
9S vs 8C	1529.000	5.368	0.042	Yes
9S vs 3C	986.000	3.462	0.789	Do Not Test
9S vs 2C	983.000	3.451	0.794	Do Not Test
9S vs 1C	836.000	2.935	0.949	Do Not Test
9S vs 2I	766.000	2.689	0.979	Do Not Test
9S vs 3I	653.000	2.293	0.998	Do Not Test
9S vs 9C	588.000	2.064	1.000	Do Not Test
9S vs 7C	552.000	1.938	1.000	Do Not Test
9S vs 4C	397.000	1.394	1.000	Do Not Test
9S vs 6C	381.000	1.338	1.000	Do Not Test
9S vs 1I	373.000	1.310	1.000	Do Not Test
9S vs 8I	228.000	0.800	1.000	Do Not Test
9S vs 6I	206.000	0.723	1.000	Do Not Test
9S vs 7I	174.000	0.611	1.000	Do Not Test
9S vs 9I	172.000	0.604	1.000	Do Not Test
9S vs 5C	142.000	0.499	1.000	Do Not Test
9S vs 4I	140.000	0.492	1.000	Do Not Test
9S vs 2S	124.000	0.435	1.000	Do Not Test
9S vs 8S	108.000	0.379	1.000	Do Not Test
9S vs 5I	59.000	0.207	1.000	Do Not Test
5I vs 8C	1470.000	5.161	0.065	No
5I vs 3C	927.000	3.255	0.873	Do Not Test
5I vs 2C	924.000	3.244	0.876	Do Not Test
5I vs 1C	777.000	2.728	0.975	Do Not Test
5I vs 2I	707.000	2.482	0.992	Do Not Test
5I vs 3I	594.000	2.085	1.000	Do Not Test
5I vs 9C	529.000	1.857	1.000	Do Not Test
5I vs 7C	493.000	1.731	1.000	Do Not Test
5I vs 4C	338.000	1.187	1.000	Do Not Test

5I vs 6C	322.000	1.130	1.000	Do Not Test
5I vs 1I	314.000	1.102	1.000	Do Not Test
5I vs 8I	169.000	0.593	1.000	Do Not Test
5I vs 6I	147.000	0.516	1.000	Do Not Test
5I vs 7I	115.000	0.404	1.000	Do Not Test
5I vs 9I	113.000	0.397	1.000	Do Not Test
5I vs 5C	83.000	0.291	1.000	Do Not Test
5I vs 4I	81.000	0.284	1.000	Do Not Test
5I vs 2S	65.000	0.228	1.000	Do Not Test
5I vs 8S	49.000	0.172	1.000	Do Not Test
8S vs 8C	1421.000	4.989	0.093	Do Not Test
8S vs 3C	878.000	3.082	0.921	Do Not Test
8S vs 2C	875.000	3.072	0.923	Do Not Test
8S vs 1C	728.000	2.556	0.989	Do Not Test
8S vs 2I	658.000	2.310	0.997	Do Not Test
8S vs 3I	545.000	1.913	1.000	Do Not Test
8S vs 9C	480.000	1.685	1.000	Do Not Test
8S vs 7C	444.000	1.559	1.000	Do Not Test
8S vs 4C	289.000	1.015	1.000	Do Not Test
8S vs 6C	273.000	0.958	1.000	Do Not Test
8S vs 1I	265.000	0.930	1.000	Do Not Test
8S vs 8I	120.000	0.421	1.000	Do Not Test
8S vs 6I	98.000	0.344	1.000	Do Not Test
8S vs 7I	66.000	0.232	1.000	Do Not Test
8S vs 9I	64.000	0.225	1.000	Do Not Test
8S vs 5C	34.000	0.119	1.000	Do Not Test
8S vs 4I	32.000	0.112	1.000	Do Not Test
8S vs 2S	16.000	0.0562	1.000	Do Not Test
2S vs 8C	1405.000	4.933	0.104	Do Not Test
2S vs 3C	862.000	3.026	0.933	Do Not Test
2S vs 2C	859.000	3.016	0.935	Do Not Test
2S vs 1C	712.000	2.500	0.991	Do Not Test
2S vs 2I	642.000	2.254	0.998	Do Not Test
2S vs 3I	529.000	1.857	1.000	Do Not Test
2S vs 9C	464.000	1.629	1.000	Do Not Test
2S vs 7C	428.000	1.503	1.000	Do Not Test
2S vs 4C	273.000	0.958	1.000	Do Not Test
2S vs 6C	257.000	0.902	1.000	Do Not Test
2S vs 1I	249.000	0.874	1.000	Do Not Test
2S vs 8I	104.000	0.365	1.000	Do Not Test
2S vs 6I	82.000	0.288	1.000	Do Not Test
2S vs 7I	50.000	0.176	1.000	Do Not Test
2S vs 9I	48.000	0.169	1.000	Do Not Test
2S vs 5C	18.000	0.0632	1.000	Do Not Test
2S vs 4I	16.000	0.0562	1.000	Do Not Test
4I vs 8C	1389.000	4.877	0.116	Do Not Test
4I vs 3C	846.000	2.970	0.943	Do Not Test
4I vs 2C	843.000	2.960	0.945	Do Not Test
4I vs 1C	696.000	2.444	0.994	Do Not Test
4I vs 2I	626.000	2.198	0.999	Do Not Test
4I vs 3I	513.000	1.801	1.000	Do Not Test
4I vs 9C	448.000	1.573	1.000	Do Not Test
4I vs 7C	412.000	1.446	1.000	Do Not Test
4I vs 4C	257.000	0.902	1.000	Do Not Test
4I vs 6C	241.000	0.846	1.000	Do Not Test
4I vs 1I	233.000	0.818	1.000	Do Not Test

4I vs 8I	88.000	0.309	1.000	Do Not Test
4I vs 6I	66.000	0.232	1.000	Do Not Test
4I vs 7I	34.000	0.119	1.000	Do Not Test
4I vs 9I	32.000	0.112	1.000	Do Not Test
4I vs 5C	2.000	0.00702	1.000	Do Not Test
5C vs 8C	1387.000	4.870	0.118	Do Not Test
5C vs 3C	844.000	2.963	0.944	Do Not Test
5C vs 2C	841.000	2.953	0.946	Do Not Test
5C vs 1C	694.000	2.437	0.994	Do Not Test
5C vs 2I	624.000	2.191	0.999	Do Not Test
5C vs 3I	511.000	1.794	1.000	Do Not Test
5C vs 9C	446.000	1.566	1.000	Do Not Test
5C vs 7C	410.000	1.439	1.000	Do Not Test
5C vs 4C	255.000	0.895	1.000	Do Not Test
5C vs 6C	239.000	0.839	1.000	Do Not Test
5C vs 1I	231.000	0.811	1.000	Do Not Test
5C vs 8I	86.000	0.302	1.000	Do Not Test
5C vs 6I	64.000	0.225	1.000	Do Not Test
5C vs 7I	32.000	0.112	1.000	Do Not Test
5C vs 9I	30.000	0.105	1.000	Do Not Test
9I vs 8C	1357.000	4.764	0.144	Do Not Test
9I vs 3C	814.000	2.858	0.960	Do Not Test
9I vs 2C	811.000	2.847	0.962	Do Not Test
9I vs 1C	664.000	2.331	0.997	Do Not Test
9I vs 2I	594.000	2.085	1.000	Do Not Test
9I vs 3I	481.000	1.689	1.000	Do Not Test
9I vs 9C	416.000	1.460	1.000	Do Not Test
9I vs 7C	380.000	1.334	1.000	Do Not Test
9I vs 4C	225.000	0.790	1.000	Do Not Test
9I vs 6C	209.000	0.734	1.000	Do Not Test
9I vs 1I	201.000	0.706	1.000	Do Not Test
9I vs 8I	56.000	0.197	1.000	Do Not Test
9I vs 6I	34.000	0.119	1.000	Do Not Test
9I vs 7I	2.000	0.00702	1.000	Do Not Test
7I vs 8C	1355.000	4.757	0.146	Do Not Test
7I vs 3C	812.000	2.851	0.961	Do Not Test
7I vs 2C	809.000	2.840	0.963	Do Not Test
7I vs 1C	662.000	2.324	0.997	Do Not Test
7I vs 2I	592.000	2.078	1.000	Do Not Test
7I vs 3I	479.000	1.682	1.000	Do Not Test
7I vs 9C	414.000	1.453	1.000	Do Not Test
7I vs 7C	378.000	1.327	1.000	Do Not Test
7I vs 4C	223.000	0.783	1.000	Do Not Test
7I vs 6C	207.000	0.727	1.000	Do Not Test
7I vs 1I	199.000	0.699	1.000	Do Not Test
7I vs 8I	54.000	0.190	1.000	Do Not Test
7I vs 6I	32.000	0.112	1.000	Do Not Test
6I vs 8C	1323.000	4.645	0.180	Do Not Test
6I vs 3C	780.000	2.738	0.974	Do Not Test
6I vs 2C	777.000	2.728	0.975	Do Not Test
6I vs 1C	630.000	2.212	0.999	Do Not Test
6I vs 2I	560.000	1.966	1.000	Do Not Test
6I vs 3I	447.000	1.569	1.000	Do Not Test
6I vs 9C	382.000	1.341	1.000	Do Not Test
6I vs 7C	346.000	1.215	1.000	Do Not Test
6I vs 4C	191.000	0.671	1.000	Do Not Test

6I vs 6C	175.000	0.614	1.000	Do Not Test
6I vs 1I	167.000	0.586	1.000	Do Not Test
6I vs 8I	22.000	0.0772	1.000	Do Not Test
8I vs 8C	1301.000	4.568	0.206	Do Not Test
8I vs 3C	758.000	2.661	0.981	Do Not Test
8I vs 2C	755.000	2.651	0.982	Do Not Test
8I vs 1C	608.000	2.135	0.999	Do Not Test
8I vs 2I	538.000	1.889	1.000	Do Not Test
8I vs 3I	425.000	1.492	1.000	Do Not Test
8I vs 9C	360.000	1.264	1.000	Do Not Test
8I vs 7C	324.000	1.138	1.000	Do Not Test
8I vs 4C	169.000	0.593	1.000	Do Not Test
8I vs 6C	153.000	0.537	1.000	Do Not Test
8I vs 1I	145.000	0.509	1.000	Do Not Test
1I vs 8C	1156.000	4.059	0.444	Do Not Test
1I vs 3C	613.000	2.152	0.999	Do Not Test
1I vs 2C	610.000	2.142	0.999	Do Not Test
1I vs 1C	463.000	1.626	1.000	Do Not Test
1I vs 2I	393.000	1.380	1.000	Do Not Test
1I vs 3I	280.000	0.983	1.000	Do Not Test
1I vs 9C	215.000	0.755	1.000	Do Not Test
1I vs 7C	179.000	0.628	1.000	Do Not Test
1I vs 4C	24.000	0.0843	1.000	Do Not Test
1I vs 6C	8.000	0.0281	1.000	Do Not Test
6C vs 8C	1148.000	4.030	0.460	Do Not Test
6C vs 3C	605.000	2.124	0.999	Do Not Test
6C vs 2C	602.000	2.114	0.999	Do Not Test
6C vs 1C	455.000	1.597	1.000	Do Not Test
6C vs 2I	385.000	1.352	1.000	Do Not Test
6C vs 3I	272.000	0.955	1.000	Do Not Test
6C vs 9C	207.000	0.727	1.000	Do Not Test
6C vs 7C	171.000	0.600	1.000	Do Not Test
6C vs 4C	16.000	0.0562	1.000	Do Not Test
4C vs 8C	1132.000	3.974	0.493	Do Not Test
4C vs 3C	589.000	2.068	1.000	Do Not Test
4C vs 2C	586.000	2.057	1.000	Do Not Test
4C vs 1C	439.000	1.541	1.000	Do Not Test
4C vs 2I	369.000	1.295	1.000	Do Not Test
4C vs 3I	256.000	0.899	1.000	Do Not Test
4C vs 9C	191.000	0.671	1.000	Do Not Test
4C vs 7C	155.000	0.544	1.000	Do Not Test
7C vs 8C	977.000	3.430	0.803	Do Not Test
7C vs 3C	434.000	1.524	1.000	Do Not Test
7C vs 2C	431.000	1.513	1.000	Do Not Test
7C vs 1C	284.000	0.997	1.000	Do Not Test
7C vs 2I	214.000	0.751	1.000	Do Not Test
7C vs 3I	101.000	0.355	1.000	Do Not Test
7C vs 9C	36.000	0.126	1.000	Do Not Test
9C vs 8C	941.000	3.304	0.856	Do Not Test
9C vs 3C	398.000	1.397	1.000	Do Not Test
9C vs 2C	395.000	1.387	1.000	Do Not Test
9C vs 1C	248.000	0.871	1.000	Do Not Test
9C vs 2I	178.000	0.625	1.000	Do Not Test
9C vs 3I	65.000	0.228	1.000	Do Not Test
3I vs 8C	876.000	3.075	0.922	Do Not Test
3I vs 3C	333.000	1.169	1.000	Do Not Test

3I vs 2C	330.000	1.159	1.000	Do Not Test
3I vs 1C	183.000	0.642	1.000	Do Not Test
3I vs 2I	113.000	0.397	1.000	Do Not Test
2I vs 8C	763.000	2.679	0.980	Do Not Test
2I vs 3C	220.000	0.772	1.000	Do Not Test
2I vs 2C	217.000	0.762	1.000	Do Not Test
2I vs 1C	70.000	0.246	1.000	Do Not Test
1C vs 8C	693.000	2.433	0.994	Do Not Test
1C vs 3C	150.000	0.527	1.000	Do Not Test
1C vs 2C	147.000	0.516	1.000	Do Not Test
2C vs 8C	546.000	1.917	1.000	Do Not Test
2C vs 3C	3.000	0.0105	1.000	Do Not Test
3C vs 8C	543.000	1.906	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:28:42

Data source: Tb.Th in L3 4wks-2y

Normality Test (Shapiro-Wilk): Passed (P = 0.052)

Equal Variance Test (Brown-Forsythe): Passed (P = 0.145)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	11	0	104.433	19.217	5.794
1C	11	0	123.802	29.410	8.867
1S	11	0	93.770	21.303	6.423
2I	11	0	106.480	16.779	5.059
2C	11	0	133.784	23.447	7.069
2S	11	0	92.038	16.422	4.951
3I	11	0	108.908	18.522	5.585
3C	11	0	131.379	25.937	7.820
3S	11	0	91.639	19.175	5.781
4I	11	0	96.256	13.294	4.008
4C	11	0	101.722	12.842	3.872
4S	11	0	92.447	11.980	3.612
5I	11	0	98.980	14.940	4.505
5C	11	0	110.199	12.331	3.718
5S	11	0	90.473	10.256	3.092
6I	11	0	97.416	13.148	3.964
6C	11	0	102.689	13.068	3.940
6S	11	0	91.614	11.000	3.317
7I	11	0	96.145	14.900	4.492
7C	11	0	98.440	12.356	3.725
7S	11	0	92.086	14.820	4.468
8I	11	0	95.936	14.109	4.254
8C	11	0	131.213	23.443	7.068
8S	11	0	104.446	17.201	5.186
9I	11	0	97.858	15.132	4.562
9C	11	0	99.173	12.964	3.909
9S	11	0	92.285	14.249	4.296

Source of Variation	DF	SS	MS	F	P
Between Groups	26	47336.063	1820.618	6.269	<0.001
Residual	270	78416.338	290.431		
Total	296	125752.401			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 1.000

All Pairwise Multiple Comparison Procedures (Holm-Sidak method):  
Overall significance level = 0.05

Comparisons for factor:

Comparison	Diff of Means	t	P	P<0.050
2C vs. 5S	43.312	5.960	<0.001	Yes
2C vs. 6S	42.171	5.803	<0.001	Yes



2C vs. 3S	42.145	5.800	<0.001	Yes
2C vs. 2S	41.747	5.745	<0.001	Yes
2C vs. 7S	41.698	5.738	<0.001	Yes
2C vs. 9S	41.500	5.711	<0.001	Yes
2C vs. 4S	41.337	5.689	<0.001	Yes
3C vs. 5S	40.906	5.629	<0.001	Yes
8C vs. 5S	40.741	5.606	<0.001	Yes
2C vs. 1S	40.014	5.506	<0.001	Yes
3C vs. 6S	39.765	5.472	<0.001	Yes
3C vs. 3S	39.740	5.469	<0.001	Yes
8C vs. 6S	39.599	5.449	<0.001	Yes
8C vs. 3S	39.574	5.446	<0.001	Yes
3C vs. 2S	39.341	5.414	<0.001	Yes
3C vs. 7S	39.292	5.407	<0.001	Yes
8C vs. 2S	39.175	5.391	<0.001	Yes
8C vs. 7S	39.127	5.384	<0.001	Yes
3C vs. 9S	39.094	5.380	<0.001	Yes
3C vs. 4S	38.932	5.358	<0.001	Yes
8C vs. 9S	38.928	5.357	<0.001	Yes
8C vs. 4S	38.766	5.335	<0.001	Yes
2C vs. 8I	37.848	5.208	<0.001	Yes
2C vs. 7I	37.639	5.180	<0.001	Yes
3C vs. 1S	37.609	5.175	<0.001	Yes
2C vs. 4I	37.528	5.164	<0.001	Yes
8C vs. 1S	37.443	5.153	<0.001	Yes
2C vs. 6I	36.369	5.005	<0.001	Yes
2C vs. 9I	35.927	4.944	<0.001	Yes
3C vs. 8I	35.443	4.877	<0.001	Yes
2C vs. 7C	35.344	4.864	<0.001	Yes
8C vs. 8I	35.277	4.855	<0.001	Yes
3C vs. 7I	35.233	4.849	<0.001	Yes
3C vs. 4I	35.122	4.833	<0.001	Yes
8C vs. 7I	35.068	4.826	<0.001	Yes
8C vs. 4I	34.957	4.811	<0.001	Yes
2C vs. 5I	34.805	4.790	<0.001	Yes
2C vs. 9C	34.611	4.763	<0.001	Yes
3C vs. 6I	33.963	4.674	0.001	Yes
8C vs. 6I	33.797	4.651	0.002	Yes
3C vs. 9I	33.521	4.613	0.002	Yes
8C vs. 9I	33.356	4.590	0.002	Yes
1C vs. 5S	33.330	4.587	0.002	Yes
3C vs. 7C	32.938	4.533	0.003	Yes
8C vs. 7C	32.773	4.510	0.003	Yes
3C vs. 5I	32.399	4.459	0.004	Yes
8C vs. 5I	32.234	4.436	0.004	Yes
3C vs. 9C	32.206	4.432	0.004	Yes
1C vs. 6S	32.188	4.430	0.004	Yes
1C vs. 3S	32.163	4.426	0.004	Yes
2C vs. 4C	32.063	4.412	0.004	Yes
8C vs. 9C	32.040	4.409	0.004	Yes
1C vs. 2S	31.764	4.371	0.005	Yes
1C vs. 7S	31.716	4.365	0.005	Yes
1C vs. 9S	31.517	4.337	0.006	Yes
1C vs. 4S	31.355	4.315	0.007	Yes
2C vs. 6C	31.095	4.279	0.008	Yes
1C vs. 1S	30.032	4.133	0.014	Yes

3C vs. 4C	29.657	4.081	0.017	Yes
8C vs. 4C	29.491	4.058	0.019	Yes
2C vs. 1I	29.351	4.039	0.020	Yes
2C vs. 8S	29.339	4.037	0.020	Yes
3C vs. 6C	28.689	3.948	0.029	Yes
8C vs. 6C	28.524	3.925	0.031	Yes
1C vs. 8I	27.866	3.835	0.044	Yes
1C vs. 7I	27.657	3.806	0.049	Yes
1C vs. 4I	27.546	3.791	0.051	No
2C vs. 2I	27.304	3.757	0.058	No
3C vs. 1I	26.945	3.708	0.069	No
3C vs. 8S	26.933	3.706	0.069	No
8C vs. 1I	26.780	3.685	0.075	No
8C vs. 8S	26.768	3.684	0.075	No
1C vs. 6I	26.386	3.631	0.090	No
1C vs. 9I	25.945	3.570	0.111	No
1C vs. 7C	25.362	3.490	0.145	No
3C vs. 2I	24.899	3.426	0.177	No
2C vs. 3I	24.876	3.423	0.179	No
1C vs. 5I	24.823	3.416	0.182	No
8C vs. 2I	24.733	3.404	0.189	No
1C vs. 9C	24.629	3.389	0.197	No
2C vs. 5C	23.586	3.246	0.301	No
3C vs. 3I	22.470	3.092	0.447	No
8C vs. 3I	22.305	3.069	0.471	No
1C vs. 4C	22.080	3.039	0.504	No
3C vs. 5C	21.180	2.915	0.644	No
1C vs. 6C	21.113	2.905	0.653	No
8C vs. 5C	21.014	2.892	0.667	No
5C vs. 5S	19.726	2.715	0.846	No
1C vs. 1I	19.369	2.665	0.884	No
1C vs. 8S	19.357	2.664	0.884	No
5C vs. 6S	18.585	2.558	0.946	No
5C vs. 3S	18.560	2.554	0.946	No
3I vs. 5S	18.436	2.537	0.953	No
5C vs. 2S	18.161	2.499	0.966	No
5C vs. 7S	18.113	2.493	0.968	No
5C vs. 9S	17.914	2.465	0.975	No
5C vs. 4S	17.752	2.443	0.980	No
1C vs. 2I	17.322	2.384	0.990	No
3I vs. 6S	17.295	2.380	0.990	No
3I vs. 3S	17.269	2.376	0.990	No
3I vs. 2S	16.871	2.322	0.995	No
3I vs. 7S	16.822	2.315	0.995	No
3I vs. 9S	16.624	2.288	0.997	No
3I vs. 4S	16.461	2.265	0.998	No
5C vs. 1S	16.429	2.261	0.998	No
2I vs. 5S	16.007	2.203	0.999	No
3I vs. 1S	15.138	2.083	1.000	No
1C vs. 3I	14.894	2.050	1.000	No
2I vs. 6S	14.866	2.046	1.000	No
2I vs. 3S	14.841	2.042	1.000	No
2I vs. 2S	14.442	1.987	1.000	No
2I vs. 7S	14.394	1.981	1.000	No
5C vs. 8I	14.263	1.963	1.000	No
2I vs. 9S	14.195	1.953	1.000	No

5C vs. 7I	14.053	1.934	1.000	No
2I vs. 4S	14.033	1.931	1.000	No
8S vs. 5S	13.973	1.923	1.000	No
1I vs. 5S	13.961	1.921	1.000	No
5C vs. 4I	13.942	1.919	1.000	No
1C vs. 5C	13.603	1.872	1.000	No
3I vs. 8I	12.972	1.785	1.000	No
8S vs. 6S	12.832	1.766	1.000	No
1I vs. 6S	12.820	1.764	1.000	No
8S vs. 3S	12.806	1.762	1.000	No
1I vs. 3S	12.794	1.761	1.000	No
5C vs. 6I	12.783	1.759	1.000	No
3I vs. 7I	12.763	1.756	1.000	No
2I vs. 1S	12.710	1.749	1.000	No
3I vs. 4I	12.652	1.741	1.000	No
8S vs. 2S	12.408	1.707	1.000	No
1I vs. 2S	12.396	1.706	1.000	No
8S vs. 7S	12.359	1.701	1.000	No
1I vs. 7S	12.347	1.699	1.000	No
5C vs. 9I	12.341	1.698	1.000	No
6C vs. 5S	12.217	1.681	1.000	No
8S vs. 9S	12.161	1.673	1.000	No
1I vs. 9S	12.149	1.672	1.000	No
8S vs. 4S	11.998	1.651	1.000	No
1I vs. 4S	11.986	1.649	1.000	No
5C vs. 7C	11.758	1.618	1.000	No
3I vs. 6I	11.493	1.582	1.000	No
4C vs. 5S	11.249	1.548	1.000	No
5C vs. 5I	11.219	1.544	1.000	No
6C vs. 6S	11.076	1.524	1.000	No
3I vs. 9I	11.051	1.521	1.000	No
6C vs. 3S	11.050	1.521	1.000	No
5C vs. 9C	11.026	1.517	1.000	No
8S vs. 1S	10.675	1.469	1.000	No
1I vs. 1S	10.663	1.467	1.000	No
6C vs. 2S	10.651	1.466	1.000	No
6C vs. 7S	10.603	1.459	1.000	No
2I vs. 8I	10.544	1.451	1.000	No
3I vs. 7C	10.468	1.441	1.000	No
6C vs. 9S	10.405	1.432	1.000	No
2I vs. 7I	10.335	1.422	1.000	No
6C vs. 4S	10.242	1.409	1.000	No
2I vs. 4I	10.224	1.407	1.000	No
4C vs. 6S	10.108	1.391	1.000	No
4C vs. 3S	10.083	1.388	1.000	No
2C vs. 1C	9.982	1.374	1.000	No
3I vs. 5I	9.929	1.366	1.000	No
3I vs. 9C	9.735	1.340	1.000	No
4C vs. 2S	9.684	1.333	1.000	No
4C vs. 7S	9.635	1.326	1.000	No
4C vs. 9S	9.437	1.299	1.000	No
4C vs. 4S	9.275	1.276	1.000	No
2I vs. 6I	9.064	1.247	1.000	No
6C vs. 1S	8.919	1.227	1.000	No
9C vs. 5S	8.701	1.197	1.000	No
2I vs. 9I	8.622	1.187	1.000	No

8S vs. 8I	8.509	1.171	1.000	No
5I vs. 5S	8.507	1.171	1.000	No
1I vs. 8I	8.497	1.169	1.000	No
5C vs. 4C	8.477	1.167	1.000	No
8S vs. 7I	8.300	1.142	1.000	No
1I vs. 7I	8.288	1.141	1.000	No
8S vs. 4I	8.189	1.127	1.000	No
1I vs. 4I	8.177	1.125	1.000	No
2I vs. 7C	8.040	1.106	1.000	No
7C vs. 5S	7.968	1.096	1.000	No
4C vs. 1S	7.951	1.094	1.000	No
3C vs. 1C	7.577	1.043	1.000	No
9C vs. 6S	7.559	1.040	1.000	No
9C vs. 3S	7.534	1.037	1.000	No
5C vs. 6C	7.510	1.033	1.000	No
2I vs. 5I	7.500	1.032	1.000	No
8C vs. 1C	7.411	1.020	1.000	No
9I vs. 5S	7.385	1.016	1.000	No
5I vs. 6S	7.366	1.014	1.000	No
5I vs. 3S	7.340	1.010	1.000	No
2I vs. 9C	7.307	1.006	1.000	No
3I vs. 4C	7.187	0.989	1.000	No
9C vs. 2S	7.135	0.982	1.000	No
9C vs. 7S	7.087	0.975	1.000	No
8S vs. 6I	7.030	0.967	1.000	No
1I vs. 6I	7.018	0.966	1.000	No
6I vs. 5S	6.943	0.955	1.000	No
5I vs. 2S	6.942	0.955	1.000	No
5I vs. 7S	6.893	0.949	1.000	No
9C vs. 9S	6.888	0.948	1.000	No
7C vs. 6S	6.827	0.939	1.000	No
7C vs. 3S	6.801	0.936	1.000	No
6C vs. 8I	6.753	0.929	1.000	No
9C vs. 4S	6.726	0.926	1.000	No
5I vs. 9S	6.695	0.921	1.000	No
8S vs. 9I	6.588	0.907	1.000	No
1I vs. 9I	6.576	0.905	1.000	No
6C vs. 7I	6.544	0.901	1.000	No
5I vs. 4S	6.532	0.899	1.000	No
6C vs. 4I	6.433	0.885	1.000	No
7C vs. 2S	6.403	0.881	1.000	No
7C vs. 7S	6.354	0.874	1.000	No
9I vs. 6S	6.244	0.859	1.000	No
3I vs. 6C	6.219	0.856	1.000	No
9I vs. 3S	6.218	0.856	1.000	No
7C vs. 9S	6.156	0.847	1.000	No
8S vs. 7C	6.005	0.826	1.000	No
7C vs. 4S	5.993	0.825	1.000	No
1I vs. 7C	5.993	0.825	1.000	No
9I vs. 2S	5.820	0.801	1.000	No
6I vs. 6S	5.802	0.798	1.000	No
4C vs. 8I	5.786	0.796	1.000	No
4I vs. 5S	5.784	0.796	1.000	No
6I vs. 3S	5.777	0.795	1.000	No
9I vs. 7S	5.771	0.794	1.000	No
5C vs. 1I	5.765	0.793	1.000	No

5C vs. 8S	5.753	0.792	1.000	No
7I vs. 5S	5.673	0.781	1.000	No
4C vs. 7I	5.576	0.767	1.000	No
9I vs. 9S	5.573	0.767	1.000	No
8S vs. 5I	5.466	0.752	1.000	No
4C vs. 4I	5.465	0.752	1.000	No
8I vs. 5S	5.464	0.752	1.000	No
1I vs. 5I	5.454	0.751	1.000	No
9I vs. 4S	5.410	0.745	1.000	No
9C vs. 1S	5.403	0.744	1.000	No
6I vs. 2S	5.378	0.740	1.000	No
6I vs. 7S	5.329	0.733	1.000	No
6C vs. 6I	5.274	0.726	1.000	No
8S vs. 9C	5.272	0.726	1.000	No
1I vs. 9C	5.260	0.724	1.000	No
5I vs. 1S	5.209	0.717	1.000	No
6I vs. 9S	5.131	0.706	1.000	No
6I vs. 4S	4.969	0.684	1.000	No
6C vs. 9I	4.832	0.665	1.000	No
2I vs. 4C	4.758	0.655	1.000	No
7C vs. 1S	4.670	0.643	1.000	No
4I vs. 6S	4.643	0.639	1.000	No
4I vs. 3S	4.617	0.635	1.000	No
7I vs. 6S	4.532	0.624	1.000	No
7I vs. 3S	4.506	0.620	1.000	No
3I vs. 1I	4.475	0.616	1.000	No
3I vs. 8S	4.463	0.614	1.000	No
8I vs. 6S	4.322	0.595	1.000	No
4C vs. 6I	4.306	0.593	1.000	No
8I vs. 3S	4.297	0.591	1.000	No
6C vs. 7C	4.249	0.585	1.000	No
4I vs. 2S	4.219	0.581	1.000	No
4I vs. 7S	4.170	0.574	1.000	No
7I vs. 2S	4.108	0.565	1.000	No
9I vs. 1S	4.087	0.562	1.000	No
7I vs. 7S	4.059	0.559	1.000	No
4I vs. 9S	3.972	0.547	1.000	No
8I vs. 2S	3.898	0.536	1.000	No
4C vs. 9I	3.864	0.532	1.000	No
7I vs. 9S	3.861	0.531	1.000	No
8I vs. 7S	3.850	0.530	1.000	No
4I vs. 4S	3.809	0.524	1.000	No
2I vs. 6C	3.791	0.522	1.000	No
5C vs. 2I	3.719	0.512	1.000	No
6C vs. 5I	3.710	0.511	1.000	No
7I vs. 4S	3.698	0.509	1.000	No
8I vs. 9S	3.651	0.502	1.000	No
6I vs. 1S	3.645	0.502	1.000	No
6C vs. 9C	3.516	0.484	1.000	No
8I vs. 4S	3.489	0.480	1.000	No
1S vs. 5S	3.298	0.454	1.000	No
4C vs. 7C	3.281	0.452	1.000	No
9C vs. 8I	3.237	0.445	1.000	No
5I vs. 8I	3.043	0.419	1.000	No
9C vs. 7I	3.028	0.417	1.000	No
9C vs. 4I	2.917	0.401	1.000	No

5I vs. 7I	2.834	0.390	1.000	No
4C vs. 5I	2.742	0.377	1.000	No
8S vs. 4C	2.724	0.375	1.000	No
5I vs. 4I	2.723	0.375	1.000	No
1I vs. 4C	2.712	0.373	1.000	No
2C vs. 8C	2.571	0.354	1.000	No
4C vs. 9C	2.549	0.351	1.000	No
7C vs. 8I	2.504	0.345	1.000	No
4I vs. 1S	2.486	0.342	1.000	No
3I vs. 2I	2.428	0.334	1.000	No
2C vs. 3C	2.406	0.331	1.000	No
7I vs. 1S	2.375	0.327	1.000	No
7C vs. 7I	2.295	0.316	1.000	No
7C vs. 4I	2.184	0.301	1.000	No
8I vs. 1S	2.166	0.298	1.000	No
1S vs. 6S	2.157	0.297	1.000	No
1S vs. 3S	2.131	0.293	1.000	No
2I vs. 1I	2.047	0.282	1.000	No
2I vs. 8S	2.035	0.280	1.000	No
4S vs. 5S	1.974	0.272	1.000	No
9I vs. 8I	1.921	0.264	1.000	No
9S vs. 5S	1.812	0.249	1.000	No
9C vs. 6I	1.757	0.242	1.000	No
8S vs. 6C	1.756	0.242	1.000	No
1I vs. 6C	1.744	0.240	1.000	No
1S vs. 2S	1.732	0.238	1.000	No
9I vs. 7I	1.712	0.236	1.000	No
1S vs. 7S	1.684	0.232	1.000	No
7S vs. 5S	1.614	0.222	1.000	No
9I vs. 4I	1.601	0.220	1.000	No
2S vs. 5S	1.565	0.215	1.000	No
5I vs. 6I	1.564	0.215	1.000	No
1S vs. 9S	1.486	0.204	1.000	No
6I vs. 8I	1.480	0.204	1.000	No
1S vs. 4S	1.323	0.182	1.000	No
9C vs. 9I	1.316	0.181	1.000	No
5C vs. 3I	1.290	0.178	1.000	No
6I vs. 7I	1.270	0.175	1.000	No
3S vs. 5S	1.166	0.161	1.000	No
6I vs. 4I	1.159	0.160	1.000	No
6S vs. 5S	1.141	0.157	1.000	No
5I vs. 9I	1.122	0.154	1.000	No
7C vs. 6I	1.025	0.141	1.000	No
6C vs. 4C	0.968	0.133	1.000	No
4S vs. 6S	0.833	0.115	1.000	No
4S vs. 3S	0.808	0.111	1.000	No
9C vs. 7C	0.733	0.101	1.000	No
9S vs. 6S	0.671	0.0923	1.000	No
9S vs. 3S	0.646	0.0889	1.000	No
7C vs. 9I	0.583	0.0802	1.000	No
5I vs. 7C	0.539	0.0742	1.000	No
7S vs. 6S	0.473	0.0650	1.000	No
7S vs. 3S	0.447	0.0615	1.000	No
9I vs. 6I	0.442	0.0608	1.000	No
2S vs. 6S	0.424	0.0584	1.000	No
4S vs. 2S	0.409	0.0563	1.000	No

2S vs. 3S	0.399	0.0549	1.000	No
4S vs. 7S	0.361	0.0496	1.000	No
4I vs. 8I	0.320	0.0441	1.000	No
9S vs. 2S	0.247	0.0340	1.000	No
7I vs. 8I	0.209	0.0288	1.000	No
9S vs. 7S	0.198	0.0273	1.000	No
9C vs. 5I	0.194	0.0266	1.000	No
3C vs. 8C	0.166	0.0228	1.000	No
4S vs. 9S	0.162	0.0223	1.000	No
4I vs. 7I	0.111	0.0153	1.000	No
7S vs. 2S	0.0485	0.00667	1.000	No
3S vs. 6S	0.0254	0.00349	1.000	No
8S vs. 1I	0.0120	0.00165	0.999	No

## One Way Analysis of Variance

26 January 2019 21:29:10

Data source: Tb.N in L3 4wks-2y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:29:10

Data source: Tb.N in L3 4wks-2y

Group	N	Missing	Median	25%	75%
1I	11	0	0.00130	0.00120	0.00156
1C	11	0	0.00110	0.00102	0.00128
1S	11	0	0.00135	0.00105	0.00171
2I	11	0	0.00137	0.00115	0.00156
2C	11	0	0.000990	0.000960	0.00114
2S	11	0	0.00137	0.00113	0.00165
3I	11	0	0.00147	0.00125	0.00168
3C	11	0	0.00121	0.00103	0.00136
3S	11	0	0.00138	0.00128	0.00158
4I	11	0	0.00131	0.00110	0.00154
4C	11	0	0.00105	0.000900	0.00116
4S	11	0	0.00119	0.00109	0.00141
5I	11	0	0.00121	0.00111	0.00146
5C	11	0	0.000980	0.000910	0.00117
5S	11	0	0.00117	0.001000	0.00127
6I	11	0	0.00130	0.00112	0.00155
6C	11	0	0.00103	0.000940	0.00118
6S	11	0	0.00111	0.00109	0.00152
7I	11	0	0.00144	0.00128	0.00184
7C	11	0	0.00116	0.00109	0.00153
7S	11	0	0.00126	0.00111	0.00167
8I	11	0	0.00129	0.00112	0.00161
8C	11	0	0.000830	0.000780	0.00118
8S	11	0	0.00102	0.000910	0.00127
9I	11	0	0.00137	0.00128	0.00183
9C	11	0	0.00121	0.00104	0.00150
9S	11	0	0.00130	0.00117	0.00156

H = 85.144 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
7I vs 8C	1775.000	6.232	0.010	Yes
7I vs 5C	1684.000	5.912	0.015	Yes



7I vs 2C	1526.000	5.358	0.043	Yes
7I vs 4C	1507.500	5.293	0.049	Yes
7I vs 6C	1432.000	5.027	0.086	No
7I vs 8S	1377.500	4.836	0.126	Do Not Test
7I vs 5S	1135.000	3.985	0.487	Do Not Test
7I vs 1C	1127.000	3.957	0.504	Do Not Test
7I vs 3C	851.000	2.988	0.940	Do Not Test
7I vs 4S	823.000	2.889	0.956	Do Not Test
7I vs 6S	812.000	2.851	0.961	Do Not Test
7I vs 5I	732.000	2.570	0.988	Do Not Test
7I vs 9C	688.000	2.415	0.995	Do Not Test
7I vs 7C	684.000	2.401	0.995	Do Not Test
7I vs 7S	559.500	1.964	1.000	Do Not Test
7I vs 4I	552.500	1.940	1.000	Do Not Test
7I vs 6I	531.500	1.866	1.000	Do Not Test
7I vs 9S	485.500	1.705	1.000	Do Not Test
7I vs 1S	470.500	1.652	1.000	Do Not Test
7I vs 8I	419.500	1.473	1.000	Do Not Test
7I vs 2I	353.000	1.239	1.000	Do Not Test
7I vs 1I	324.000	1.138	1.000	Do Not Test
7I vs 2S	307.500	1.080	1.000	Do Not Test
7I vs 3S	152.000	0.534	1.000	Do Not Test
7I vs 3I	142.500	0.500	1.000	Do Not Test
7I vs 9I	95.000	0.334	1.000	Do Not Test
9I vs 8C	1680.000	5.898	0.015	Yes
9I vs 5C	1589.000	5.579	0.027	Yes
9I vs 2C	1431.000	5.024	0.086	No
9I vs 4C	1412.500	4.959	0.098	Do Not Test
9I vs 6C	1337.000	4.694	0.165	Do Not Test
9I vs 8S	1282.500	4.503	0.231	Do Not Test
9I vs 5S	1040.000	3.651	0.687	Do Not Test
9I vs 1C	1032.000	3.623	0.703	Do Not Test
9I vs 3C	756.000	2.654	0.982	Do Not Test
9I vs 4S	728.000	2.556	0.989	Do Not Test
9I vs 6S	717.000	2.517	0.991	Do Not Test
9I vs 5I	637.000	2.236	0.998	Do Not Test
9I vs 9C	593.000	2.082	1.000	Do Not Test
9I vs 7C	589.000	2.068	1.000	Do Not Test
9I vs 7S	464.500	1.631	1.000	Do Not Test
9I vs 4I	457.500	1.606	1.000	Do Not Test
9I vs 6I	436.500	1.532	1.000	Do Not Test
9I vs 9S	390.500	1.371	1.000	Do Not Test
9I vs 1S	375.500	1.318	1.000	Do Not Test
9I vs 8I	324.500	1.139	1.000	Do Not Test
9I vs 2I	258.000	0.906	1.000	Do Not Test
9I vs 1I	229.000	0.804	1.000	Do Not Test
9I vs 2S	212.500	0.746	1.000	Do Not Test
9I vs 3S	57.000	0.200	1.000	Do Not Test
9I vs 3I	47.500	0.167	1.000	Do Not Test
3I vs 8C	1632.500	5.731	0.020	Yes
3I vs 5C	1541.500	5.412	0.038	Yes
3I vs 2C	1383.500	4.857	0.121	Do Not Test
3I vs 4C	1365.000	4.792	0.137	Do Not Test
3I vs 6C	1289.500	4.527	0.221	Do Not Test
3I vs 8S	1235.000	4.336	0.301	Do Not Test
3I vs 5S	992.500	3.484	0.777	Do Not Test

3I vs 1C	984.500	3.456	0.791	Do Not Test
3I vs 3C	708.500	2.487	0.992	Do Not Test
3I vs 4S	680.500	2.389	0.996	Do Not Test
3I vs 6S	669.500	2.350	0.997	Do Not Test
3I vs 5I	589.500	2.070	1.000	Do Not Test
3I vs 9C	545.500	1.915	1.000	Do Not Test
3I vs 7C	541.500	1.901	1.000	Do Not Test
3I vs 7S	417.000	1.464	1.000	Do Not Test
3I vs 4I	410.000	1.439	1.000	Do Not Test
3I vs 6I	389.000	1.366	1.000	Do Not Test
3I vs 9S	343.000	1.204	1.000	Do Not Test
3I vs 1S	328.000	1.152	1.000	Do Not Test
3I vs 8I	277.000	0.972	1.000	Do Not Test
3I vs 2I	210.500	0.739	1.000	Do Not Test
3I vs 1I	181.500	0.637	1.000	Do Not Test
3I vs 2S	165.000	0.579	1.000	Do Not Test
3I vs 3S	9.500	0.0334	1.000	Do Not Test
3S vs 8C	1623.000	5.698	0.021	Yes
3S vs 5C	1532.000	5.379	0.041	Yes
3S vs 2C	1374.000	4.824	0.129	Do Not Test
3S vs 4C	1355.500	4.759	0.146	Do Not Test
3S vs 6C	1280.000	4.494	0.234	Do Not Test
3S vs 8S	1225.500	4.303	0.317	Do Not Test
3S vs 5S	983.000	3.451	0.794	Do Not Test
3S vs 1C	975.000	3.423	0.807	Do Not Test
3S vs 3C	699.000	2.454	0.993	Do Not Test
3S vs 4S	671.000	2.356	0.996	Do Not Test
3S vs 6S	660.000	2.317	0.997	Do Not Test
3S vs 5I	580.000	2.036	1.000	Do Not Test
3S vs 9C	536.000	1.882	1.000	Do Not Test
3S vs 7C	532.000	1.868	1.000	Do Not Test
3S vs 7S	407.500	1.431	1.000	Do Not Test
3S vs 4I	400.500	1.406	1.000	Do Not Test
3S vs 6I	379.500	1.332	1.000	Do Not Test
3S vs 9S	333.500	1.171	1.000	Do Not Test
3S vs 1S	318.500	1.118	1.000	Do Not Test
3S vs 8I	267.500	0.939	1.000	Do Not Test
3S vs 2I	201.000	0.706	1.000	Do Not Test
3S vs 1I	172.000	0.604	1.000	Do Not Test
3S vs 2S	155.500	0.546	1.000	Do Not Test
2S vs 8C	1467.500	5.152	0.066	No
2S vs 5C	1376.500	4.833	0.127	Do Not Test
2S vs 2C	1218.500	4.278	0.329	Do Not Test
2S vs 4C	1200.000	4.213	0.361	Do Not Test
2S vs 6C	1124.500	3.948	0.509	Do Not Test
2S vs 8S	1070.000	3.757	0.625	Do Not Test
2S vs 5S	827.500	2.905	0.954	Do Not Test
2S vs 1C	819.500	2.877	0.958	Do Not Test
2S vs 3C	543.500	1.908	1.000	Do Not Test
2S vs 4S	515.500	1.810	1.000	Do Not Test
2S vs 6S	504.500	1.771	1.000	Do Not Test
2S vs 5I	424.500	1.490	1.000	Do Not Test
2S vs 9C	380.500	1.336	1.000	Do Not Test
2S vs 7C	376.500	1.322	1.000	Do Not Test
2S vs 7S	252.000	0.885	1.000	Do Not Test
2S vs 4I	245.000	0.860	1.000	Do Not Test

2S vs 6I	224.000	0.786	1.000	Do Not Test
2S vs 9S	178.000	0.625	1.000	Do Not Test
2S vs 1S	163.000	0.572	1.000	Do Not Test
2S vs 8I	112.000	0.393	1.000	Do Not Test
2S vs 2I	45.500	0.160	1.000	Do Not Test
2S vs 1I	16.500	0.0579	1.000	Do Not Test
1I vs 8C	1451.000	5.094	0.075	Do Not Test
1I vs 5C	1360.000	4.775	0.141	Do Not Test
1I vs 2C	1202.000	4.220	0.357	Do Not Test
1I vs 4C	1183.500	4.155	0.391	Do Not Test
1I vs 6C	1108.000	3.890	0.544	Do Not Test
1I vs 8S	1053.500	3.699	0.659	Do Not Test
1I vs 5S	811.000	2.847	0.962	Do Not Test
1I vs 1C	803.000	2.819	0.965	Do Not Test
1I vs 3C	527.000	1.850	1.000	Do Not Test
1I vs 4S	499.000	1.752	1.000	Do Not Test
1I vs 6S	488.000	1.713	1.000	Do Not Test
1I vs 5I	408.000	1.432	1.000	Do Not Test
1I vs 9C	364.000	1.278	1.000	Do Not Test
1I vs 7C	360.000	1.264	1.000	Do Not Test
1I vs 7S	235.500	0.827	1.000	Do Not Test
1I vs 4I	228.500	0.802	1.000	Do Not Test
1I vs 6I	207.500	0.728	1.000	Do Not Test
1I vs 9S	161.500	0.567	1.000	Do Not Test
1I vs 1S	146.500	0.514	1.000	Do Not Test
1I vs 8I	95.500	0.335	1.000	Do Not Test
1I vs 2I	29.000	0.102	1.000	Do Not Test
2I vs 8C	1422.000	4.992	0.092	Do Not Test
2I vs 5C	1331.000	4.673	0.171	Do Not Test
2I vs 2C	1173.000	4.118	0.411	Do Not Test
2I vs 4C	1154.500	4.053	0.447	Do Not Test
2I vs 6C	1079.000	3.788	0.605	Do Not Test
2I vs 8S	1024.500	3.597	0.718	Do Not Test
2I vs 5S	782.000	2.745	0.974	Do Not Test
2I vs 1C	774.000	2.717	0.976	Do Not Test
2I vs 3C	498.000	1.748	1.000	Do Not Test
2I vs 4S	470.000	1.650	1.000	Do Not Test
2I vs 6S	459.000	1.611	1.000	Do Not Test
2I vs 5I	379.000	1.331	1.000	Do Not Test
2I vs 9C	335.000	1.176	1.000	Do Not Test
2I vs 7C	331.000	1.162	1.000	Do Not Test
2I vs 7S	206.500	0.725	1.000	Do Not Test
2I vs 4I	199.500	0.700	1.000	Do Not Test
2I vs 6I	178.500	0.627	1.000	Do Not Test
2I vs 9S	132.500	0.465	1.000	Do Not Test
2I vs 1S	117.500	0.413	1.000	Do Not Test
2I vs 8I	66.500	0.233	1.000	Do Not Test
8I vs 8C	1355.500	4.759	0.146	Do Not Test
8I vs 5C	1264.500	4.439	0.256	Do Not Test
8I vs 2C	1106.500	3.885	0.547	Do Not Test
8I vs 4C	1088.000	3.820	0.586	Do Not Test
8I vs 6C	1012.500	3.555	0.741	Do Not Test
8I vs 8S	958.000	3.363	0.832	Do Not Test
8I vs 5S	715.500	2.512	0.991	Do Not Test
8I vs 1C	707.500	2.484	0.992	Do Not Test
8I vs 3C	431.500	1.515	1.000	Do Not Test

8I vs 4S	403.500	1.417	1.000	Do Not Test
8I vs 6S	392.500	1.378	1.000	Do Not Test
8I vs 5I	312.500	1.097	1.000	Do Not Test
8I vs 9C	268.500	0.943	1.000	Do Not Test
8I vs 7C	264.500	0.929	1.000	Do Not Test
8I vs 7S	140.000	0.492	1.000	Do Not Test
8I vs 4I	133.000	0.467	1.000	Do Not Test
8I vs 6I	112.000	0.393	1.000	Do Not Test
8I vs 9S	66.000	0.232	1.000	Do Not Test
8I vs 1S	51.000	0.179	1.000	Do Not Test
1S vs 8C	1304.500	4.580	0.202	Do Not Test
1S vs 5C	1213.500	4.260	0.337	Do Not Test
1S vs 2C	1055.500	3.706	0.655	Do Not Test
1S vs 4C	1037.000	3.641	0.693	Do Not Test
1S vs 6C	961.500	3.376	0.827	Do Not Test
1S vs 8S	907.000	3.184	0.895	Do Not Test
1S vs 5S	664.500	2.333	0.997	Do Not Test
1S vs 1C	656.500	2.305	0.997	Do Not Test
1S vs 3C	380.500	1.336	1.000	Do Not Test
1S vs 4S	352.500	1.238	1.000	Do Not Test
1S vs 6S	341.500	1.199	1.000	Do Not Test
1S vs 5I	261.500	0.918	1.000	Do Not Test
1S vs 9C	217.500	0.764	1.000	Do Not Test
1S vs 7C	213.500	0.750	1.000	Do Not Test
1S vs 7S	89.000	0.312	1.000	Do Not Test
1S vs 4I	82.000	0.288	1.000	Do Not Test
1S vs 6I	61.000	0.214	1.000	Do Not Test
1S vs 9S	15.000	0.0527	1.000	Do Not Test
9S vs 8C	1289.500	4.527	0.221	Do Not Test
9S vs 5C	1198.500	4.208	0.364	Do Not Test
9S vs 2C	1040.500	3.653	0.686	Do Not Test
9S vs 4C	1022.000	3.588	0.723	Do Not Test
9S vs 6C	946.500	3.323	0.848	Do Not Test
9S vs 8S	892.000	3.132	0.909	Do Not Test
9S vs 5S	649.500	2.280	0.998	Do Not Test
9S vs 1C	641.500	2.252	0.998	Do Not Test
9S vs 3C	365.500	1.283	1.000	Do Not Test
9S vs 4S	337.500	1.185	1.000	Do Not Test
9S vs 6S	326.500	1.146	1.000	Do Not Test
9S vs 5I	246.500	0.865	1.000	Do Not Test
9S vs 9C	202.500	0.711	1.000	Do Not Test
9S vs 7C	198.500	0.697	1.000	Do Not Test
9S vs 7S	74.000	0.260	1.000	Do Not Test
9S vs 4I	67.000	0.235	1.000	Do Not Test
9S vs 6I	46.000	0.161	1.000	Do Not Test
6I vs 8C	1243.500	4.366	0.288	Do Not Test
6I vs 5C	1152.500	4.046	0.451	Do Not Test
6I vs 2C	994.500	3.492	0.774	Do Not Test
6I vs 4C	976.000	3.427	0.805	Do Not Test
6I vs 6C	900.500	3.161	0.901	Do Not Test
6I vs 8S	846.000	2.970	0.943	Do Not Test
6I vs 5S	603.500	2.119	0.999	Do Not Test
6I vs 1C	595.500	2.091	1.000	Do Not Test
6I vs 3C	319.500	1.122	1.000	Do Not Test
6I vs 4S	291.500	1.023	1.000	Do Not Test
6I vs 6S	280.500	0.985	1.000	Do Not Test

6I vs 5I	200.500	0.704	1.000	Do Not Test
6I vs 9C	156.500	0.549	1.000	Do Not Test
6I vs 7C	152.500	0.535	1.000	Do Not Test
6I vs 7S	28.000	0.0983	1.000	Do Not Test
6I vs 4I	21.000	0.0737	1.000	Do Not Test
4I vs 8C	1222.500	4.292	0.322	Do Not Test
4I vs 5C	1131.500	3.972	0.494	Do Not Test
4I vs 2C	973.500	3.418	0.809	Do Not Test
4I vs 4C	955.000	3.353	0.837	Do Not Test
4I vs 6C	879.500	3.088	0.920	Do Not Test
4I vs 8S	825.000	2.896	0.955	Do Not Test
4I vs 5S	582.500	2.045	1.000	Do Not Test
4I vs 1C	574.500	2.017	1.000	Do Not Test
4I vs 3C	298.500	1.048	1.000	Do Not Test
4I vs 4S	270.500	0.950	1.000	Do Not Test
4I vs 6S	259.500	0.911	1.000	Do Not Test
4I vs 5I	179.500	0.630	1.000	Do Not Test
4I vs 9C	135.500	0.476	1.000	Do Not Test
4I vs 7C	131.500	0.462	1.000	Do Not Test
4I vs 7S	7.000	0.0246	1.000	Do Not Test
7S vs 8C	1215.500	4.267	0.334	Do Not Test
7S vs 5C	1124.500	3.948	0.509	Do Not Test
7S vs 2C	966.500	3.393	0.820	Do Not Test
7S vs 4C	948.000	3.328	0.846	Do Not Test
7S vs 6C	872.500	3.063	0.925	Do Not Test
7S vs 8S	818.000	2.872	0.959	Do Not Test
7S vs 5S	575.500	2.020	1.000	Do Not Test
7S vs 1C	567.500	1.992	1.000	Do Not Test
7S vs 3C	291.500	1.023	1.000	Do Not Test
7S vs 4S	263.500	0.925	1.000	Do Not Test
7S vs 6S	252.500	0.886	1.000	Do Not Test
7S vs 5I	172.500	0.606	1.000	Do Not Test
7S vs 9C	128.500	0.451	1.000	Do Not Test
7S vs 7C	124.500	0.437	1.000	Do Not Test
7C vs 8C	1091.000	3.830	0.580	Do Not Test
7C vs 5C	1000.000	3.511	0.764	Do Not Test
7C vs 2C	842.000	2.956	0.946	Do Not Test
7C vs 4C	823.500	2.891	0.956	Do Not Test
7C vs 6C	748.000	2.626	0.984	Do Not Test
7C vs 8S	693.500	2.435	0.994	Do Not Test
7C vs 5S	451.000	1.583	1.000	Do Not Test
7C vs 1C	443.000	1.555	1.000	Do Not Test
7C vs 3C	167.000	0.586	1.000	Do Not Test
7C vs 4S	139.000	0.488	1.000	Do Not Test
7C vs 6S	128.000	0.449	1.000	Do Not Test
7C vs 5I	48.000	0.169	1.000	Do Not Test
7C vs 9C	4.000	0.0140	1.000	Do Not Test
9C vs 8C	1087.000	3.816	0.588	Do Not Test
9C vs 5C	996.000	3.497	0.771	Do Not Test
9C vs 2C	838.000	2.942	0.948	Do Not Test
9C vs 4C	819.500	2.877	0.958	Do Not Test
9C vs 6C	744.000	2.612	0.985	Do Not Test
9C vs 8S	689.500	2.421	0.995	Do Not Test
9C vs 5S	447.000	1.569	1.000	Do Not Test
9C vs 1C	439.000	1.541	1.000	Do Not Test
9C vs 3C	163.000	0.572	1.000	Do Not Test

9C vs 4S	135.000	0.474	1.000	Do Not Test
9C vs 6S	124.000	0.435	1.000	Do Not Test
9C vs 5I	44.000	0.154	1.000	Do Not Test
5I vs 8C	1043.000	3.662	0.681	Do Not Test
5I vs 5C	952.000	3.342	0.841	Do Not Test
5I vs 2C	794.000	2.788	0.969	Do Not Test
5I vs 4C	775.500	2.723	0.976	Do Not Test
5I vs 6C	700.000	2.458	0.993	Do Not Test
5I vs 8S	645.500	2.266	0.998	Do Not Test
5I vs 5S	403.000	1.415	1.000	Do Not Test
5I vs 1C	395.000	1.387	1.000	Do Not Test
5I vs 3C	119.000	0.418	1.000	Do Not Test
5I vs 4S	91.000	0.319	1.000	Do Not Test
5I vs 6S	80.000	0.281	1.000	Do Not Test
6S vs 8C	963.000	3.381	0.825	Do Not Test
6S vs 5C	872.000	3.061	0.925	Do Not Test
6S vs 2C	714.000	2.507	0.991	Do Not Test
6S vs 4C	695.500	2.442	0.994	Do Not Test
6S vs 6C	620.000	2.177	0.999	Do Not Test
6S vs 8S	565.500	1.985	1.000	Do Not Test
6S vs 5S	323.000	1.134	1.000	Do Not Test
6S vs 1C	315.000	1.106	1.000	Do Not Test
6S vs 3C	39.000	0.137	1.000	Do Not Test
6S vs 4S	11.000	0.0386	1.000	Do Not Test
4S vs 8C	952.000	3.342	0.841	Do Not Test
4S vs 5C	861.000	3.023	0.933	Do Not Test
4S vs 2C	703.000	2.468	0.993	Do Not Test
4S vs 4C	684.500	2.403	0.995	Do Not Test
4S vs 6C	609.000	2.138	0.999	Do Not Test
4S vs 8S	554.500	1.947	1.000	Do Not Test
4S vs 5S	312.000	1.095	1.000	Do Not Test
4S vs 1C	304.000	1.067	1.000	Do Not Test
4S vs 3C	28.000	0.0983	1.000	Do Not Test
3C vs 8C	924.000	3.244	0.876	Do Not Test
3C vs 5C	833.000	2.925	0.951	Do Not Test
3C vs 2C	675.000	2.370	0.996	Do Not Test
3C vs 4C	656.500	2.305	0.997	Do Not Test
3C vs 6C	581.000	2.040	1.000	Do Not Test
3C vs 8S	526.500	1.848	1.000	Do Not Test
3C vs 5S	284.000	0.997	1.000	Do Not Test
3C vs 1C	276.000	0.969	1.000	Do Not Test
1C vs 8C	648.000	2.275	0.998	Do Not Test
1C vs 5C	557.000	1.956	1.000	Do Not Test
1C vs 2C	399.000	1.401	1.000	Do Not Test
1C vs 4C	380.500	1.336	1.000	Do Not Test
1C vs 6C	305.000	1.071	1.000	Do Not Test
1C vs 8S	250.500	0.879	1.000	Do Not Test
1C vs 5S	8.000	0.0281	1.000	Do Not Test
5S vs 8C	640.000	2.247	0.998	Do Not Test
5S vs 5C	549.000	1.927	1.000	Do Not Test
5S vs 2C	391.000	1.373	1.000	Do Not Test
5S vs 4C	372.500	1.308	1.000	Do Not Test
5S vs 6C	297.000	1.043	1.000	Do Not Test
5S vs 8S	242.500	0.851	1.000	Do Not Test
8S vs 8C	397.500	1.396	1.000	Do Not Test
8S vs 5C	306.500	1.076	1.000	Do Not Test

8S vs 2C	148.500	0.521	1.000	Do Not Test
8S vs 4C	130.000	0.456	1.000	Do Not Test
8S vs 6C	54.500	0.191	1.000	Do Not Test
6C vs 8C	343.000	1.204	1.000	Do Not Test
6C vs 5C	252.000	0.885	1.000	Do Not Test
6C vs 2C	94.000	0.330	1.000	Do Not Test
6C vs 4C	75.500	0.265	1.000	Do Not Test
4C vs 8C	267.500	0.939	1.000	Do Not Test
4C vs 5C	176.500	0.620	1.000	Do Not Test
4C vs 2C	18.500	0.0650	1.000	Do Not Test
2C vs 8C	249.000	0.874	1.000	Do Not Test
2C vs 5C	158.000	0.555	1.000	Do Not Test
5C vs 8C	91.000	0.319	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:29:35

Data source: Tb.Sp in L3 4wks-2y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:29:35

Data source: Tb.Sp in L3 4wks-2y

Group	N	Missing	Median	25%	75%
1I	11	0	488.483	409.864	546.307
1C	11	0	622.996	492.636	662.911
1S	11	0	438.409	412.913	506.365
2I	11	0	507.858	437.942	553.864
2C	11	0	659.901	499.130	762.886
2S	11	0	464.897	399.799	504.293
3I	11	0	487.388	398.431	522.515
3C	11	0	598.400	508.077	643.607
3S	11	0	448.789	403.737	501.688
4I	11	0	512.848	410.090	555.490
4C	11	0	648.348	485.609	677.458
4S	11	0	551.456	449.740	576.562
5I	11	0	511.683	403.552	575.263
5C	11	0	640.865	494.084	660.879
5S	11	0	539.999	430.591	573.595
6I	11	0	511.704	422.135	564.500
6C	11	0	630.646	473.050	693.604
6S	11	0	532.651	437.700	575.403
7I	11	0	437.546	374.367	491.469
7C	11	0	533.717	447.327	569.361
7S	11	0	476.744	430.189	542.925
8I	11	0	460.973	409.474	597.072
8C	11	0	964.735	647.765	1165.831
8S	11	0	588.267	527.342	671.328
9I	11	0	457.656	385.297	520.129
9C	11	0	520.950	434.442	610.696
9S	11	0	490.448	422.001	544.266

H = 93.094 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 7I	2026.000	7.113	0.007	Yes
8C vs 3S	1986.000	6.972	0.007	Yes



8C vs 1S	1955.000	6.864	0.007	Yes
8C vs 9I	1943.000	6.822	0.007	Yes
8C vs 2S	1920.000	6.741	0.007	Yes
8C vs 3I	1727.000	6.063	0.012	Yes
8C vs 1I	1691.000	5.937	0.014	Yes
8C vs 8I	1647.000	5.782	0.018	Yes
8C vs 7S	1642.000	5.765	0.019	Yes
8C vs 9S	1638.000	5.751	0.019	Yes
8C vs 2I	1568.000	5.505	0.032	Yes
8C vs 4I	1550.000	5.442	0.036	Yes
8C vs 5I	1504.000	5.280	0.050	No
8C vs 6I	1477.000	5.185	0.062	Do Not Test
8C vs 6S	1379.000	4.841	0.124	Do Not Test
8C vs 7C	1378.000	4.838	0.125	Do Not Test
8C vs 9C	1333.000	4.680	0.169	Do Not Test
8C vs 5S	1320.000	4.634	0.183	Do Not Test
8C vs 4S	1296.000	4.550	0.213	Do Not Test
8C vs 3C	891.000	3.128	0.910	Do Not Test
8C vs 1C	778.000	2.731	0.975	Do Not Test
8C vs 6C	713.000	2.503	0.991	Do Not Test
8C vs 8S	650.000	2.282	0.998	Do Not Test
8C vs 5C	644.000	2.261	0.998	Do Not Test
8C vs 4C	641.000	2.250	0.998	Do Not Test
8C vs 2C	478.000	1.678	1.000	Do Not Test
2C vs 7I	1548.000	5.435	0.036	Yes
2C vs 3S	1508.000	5.294	0.049	Yes
2C vs 1S	1477.000	5.185	0.062	No
2C vs 9I	1465.000	5.143	0.067	Do Not Test
2C vs 2S	1442.000	5.063	0.080	Do Not Test
2C vs 3I	1249.000	4.385	0.279	Do Not Test
2C vs 1I	1213.000	4.259	0.338	Do Not Test
2C vs 8I	1169.000	4.104	0.419	Do Not Test
2C vs 7S	1164.000	4.087	0.429	Do Not Test
2C vs 9S	1160.000	4.073	0.436	Do Not Test
2C vs 2I	1090.000	3.827	0.582	Do Not Test
2C vs 4I	1072.000	3.764	0.620	Do Not Test
2C vs 5I	1026.000	3.602	0.715	Do Not Test
2C vs 6I	999.000	3.507	0.766	Do Not Test
2C vs 6S	901.000	3.163	0.901	Do Not Test
2C vs 7C	900.000	3.160	0.902	Do Not Test
2C vs 9C	855.000	3.002	0.937	Do Not Test
2C vs 5S	842.000	2.956	0.946	Do Not Test
2C vs 4S	818.000	2.872	0.959	Do Not Test
2C vs 3C	413.000	1.450	1.000	Do Not Test
2C vs 1C	300.000	1.053	1.000	Do Not Test
2C vs 6C	235.000	0.825	1.000	Do Not Test
2C vs 8S	172.000	0.604	1.000	Do Not Test
2C vs 5C	166.000	0.583	1.000	Do Not Test
2C vs 4C	163.000	0.572	1.000	Do Not Test
4C vs 7I	1385.000	4.862	0.119	No
4C vs 3S	1345.000	4.722	0.156	Do Not Test
4C vs 1S	1314.000	4.613	0.191	Do Not Test
4C vs 9I	1302.000	4.571	0.205	Do Not Test
4C vs 2S	1279.000	4.490	0.235	Do Not Test
4C vs 3I	1086.000	3.813	0.590	Do Not Test
4C vs 1I	1050.000	3.686	0.667	Do Not Test

4C vs 8I	1006.000	3.532	0.753	Do Not Test
4C vs 7S	1001.000	3.514	0.762	Do Not Test
4C vs 9S	997.000	3.500	0.770	Do Not Test
4C vs 2I	927.000	3.255	0.873	Do Not Test
4C vs 4I	909.000	3.191	0.893	Do Not Test
4C vs 5I	863.000	3.030	0.932	Do Not Test
4C vs 6I	836.000	2.935	0.949	Do Not Test
4C vs 6S	738.000	2.591	0.986	Do Not Test
4C vs 7C	737.000	2.587	0.987	Do Not Test
4C vs 9C	692.000	2.429	0.994	Do Not Test
4C vs 5S	679.000	2.384	0.996	Do Not Test
4C vs 4S	655.000	2.300	0.998	Do Not Test
4C vs 3C	250.000	0.878	1.000	Do Not Test
4C vs 1C	137.000	0.481	1.000	Do Not Test
4C vs 6C	72.000	0.253	1.000	Do Not Test
4C vs 8S	9.000	0.0316	1.000	Do Not Test
4C vs 5C	3.000	0.0105	1.000	Do Not Test
5C vs 7I	1382.000	4.852	0.122	Do Not Test
5C vs 3S	1342.000	4.712	0.159	Do Not Test
5C vs 1S	1311.000	4.603	0.194	Do Not Test
5C vs 9I	1299.000	4.561	0.209	Do Not Test
5C vs 2S	1276.000	4.480	0.240	Do Not Test
5C vs 3I	1083.000	3.802	0.597	Do Not Test
5C vs 1I	1047.000	3.676	0.673	Do Not Test
5C vs 8I	1003.000	3.521	0.759	Do Not Test
5C vs 7S	998.000	3.504	0.768	Do Not Test
5C vs 9S	994.000	3.490	0.775	Do Not Test
5C vs 2I	924.000	3.244	0.876	Do Not Test
5C vs 4I	906.000	3.181	0.896	Do Not Test
5C vs 5I	860.000	3.019	0.934	Do Not Test
5C vs 6I	833.000	2.925	0.951	Do Not Test
5C vs 6S	735.000	2.580	0.987	Do Not Test
5C vs 7C	734.000	2.577	0.987	Do Not Test
5C vs 9C	689.000	2.419	0.995	Do Not Test
5C vs 5S	676.000	2.373	0.996	Do Not Test
5C vs 4S	652.000	2.289	0.998	Do Not Test
5C vs 3C	247.000	0.867	1.000	Do Not Test
5C vs 1C	134.000	0.470	1.000	Do Not Test
5C vs 6C	69.000	0.242	1.000	Do Not Test
5C vs 8S	6.000	0.0211	1.000	Do Not Test
8S vs 7I	1376.000	4.831	0.127	Do Not Test
8S vs 3S	1336.000	4.690	0.166	Do Not Test
8S vs 1S	1305.000	4.582	0.201	Do Not Test
8S vs 9I	1293.000	4.539	0.217	Do Not Test
8S vs 2S	1270.000	4.459	0.248	Do Not Test
8S vs 3I	1077.000	3.781	0.610	Do Not Test
8S vs 1I	1041.000	3.655	0.685	Do Not Test
8S vs 8I	997.000	3.500	0.770	Do Not Test
8S vs 7S	992.000	3.483	0.778	Do Not Test
8S vs 9S	988.000	3.469	0.785	Do Not Test
8S vs 2I	918.000	3.223	0.883	Do Not Test
8S vs 4I	900.000	3.160	0.902	Do Not Test
8S vs 5I	854.000	2.998	0.938	Do Not Test
8S vs 6I	827.000	2.903	0.954	Do Not Test
8S vs 6S	729.000	2.559	0.988	Do Not Test
8S vs 7C	728.000	2.556	0.989	Do Not Test

8S vs 9C	683.000	2.398	0.995	Do Not Test
8S vs 5S	670.000	2.352	0.996	Do Not Test
8S vs 4S	646.000	2.268	0.998	Do Not Test
8S vs 3C	241.000	0.846	1.000	Do Not Test
8S vs 1C	128.000	0.449	1.000	Do Not Test
8S vs 6C	63.000	0.221	1.000	Do Not Test
6C vs 7I	1313.000	4.610	0.192	Do Not Test
6C vs 3S	1273.000	4.469	0.244	Do Not Test
6C vs 1S	1242.000	4.360	0.290	Do Not Test
6C vs 9I	1230.000	4.318	0.309	Do Not Test
6C vs 2S	1207.000	4.238	0.349	Do Not Test
6C vs 3I	1014.000	3.560	0.738	Do Not Test
6C vs 1I	978.000	3.434	0.802	Do Not Test
6C vs 8I	934.000	3.279	0.865	Do Not Test
6C vs 7S	929.000	3.262	0.871	Do Not Test
6C vs 9S	925.000	3.248	0.875	Do Not Test
6C vs 2I	855.000	3.002	0.937	Do Not Test
6C vs 4I	837.000	2.939	0.948	Do Not Test
6C vs 5I	791.000	2.777	0.970	Do Not Test
6C vs 6I	764.000	2.682	0.980	Do Not Test
6C vs 6S	666.000	2.338	0.997	Do Not Test
6C vs 7C	665.000	2.335	0.997	Do Not Test
6C vs 9C	620.000	2.177	0.999	Do Not Test
6C vs 5S	607.000	2.131	0.999	Do Not Test
6C vs 4S	583.000	2.047	1.000	Do Not Test
6C vs 3C	178.000	0.625	1.000	Do Not Test
6C vs 1C	65.000	0.228	1.000	Do Not Test
1C vs 7I	1248.000	4.381	0.281	Do Not Test
1C vs 3S	1208.000	4.241	0.347	Do Not Test
1C vs 1S	1177.000	4.132	0.403	Do Not Test
1C vs 9I	1165.000	4.090	0.427	Do Not Test
1C vs 2S	1142.000	4.009	0.473	Do Not Test
1C vs 3I	949.000	3.332	0.845	Do Not Test
1C vs 1I	913.000	3.205	0.889	Do Not Test
1C vs 8I	869.000	3.051	0.928	Do Not Test
1C vs 7S	864.000	3.033	0.931	Do Not Test
1C vs 9S	860.000	3.019	0.934	Do Not Test
1C vs 2I	790.000	2.774	0.971	Do Not Test
1C vs 4I	772.000	2.710	0.977	Do Not Test
1C vs 5I	726.000	2.549	0.989	Do Not Test
1C vs 6I	699.000	2.454	0.993	Do Not Test
1C vs 6S	601.000	2.110	0.999	Do Not Test
1C vs 7C	600.000	2.106	1.000	Do Not Test
1C vs 9C	555.000	1.949	1.000	Do Not Test
1C vs 5S	542.000	1.903	1.000	Do Not Test
1C vs 4S	518.000	1.819	1.000	Do Not Test
1C vs 3C	113.000	0.397	1.000	Do Not Test
3C vs 7I	1135.000	3.985	0.487	Do Not Test
3C vs 3S	1095.000	3.844	0.571	Do Not Test
3C vs 1S	1064.000	3.736	0.637	Do Not Test
3C vs 9I	1052.000	3.693	0.662	Do Not Test
3C vs 2S	1029.000	3.613	0.709	Do Not Test
3C vs 3I	836.000	2.935	0.949	Do Not Test
3C vs 1I	800.000	2.809	0.967	Do Not Test
3C vs 8I	756.000	2.654	0.982	Do Not Test
3C vs 7S	751.000	2.637	0.983	Do Not Test

3C vs 9S	747.000	2.623	0.984	Do Not Test
3C vs 2I	677.000	2.377	0.996	Do Not Test
3C vs 4I	659.000	2.314	0.997	Do Not Test
3C vs 5I	613.000	2.152	0.999	Do Not Test
3C vs 6I	586.000	2.057	1.000	Do Not Test
3C vs 6S	488.000	1.713	1.000	Do Not Test
3C vs 7C	487.000	1.710	1.000	Do Not Test
3C vs 9C	442.000	1.552	1.000	Do Not Test
3C vs 5S	429.000	1.506	1.000	Do Not Test
3C vs 4S	405.000	1.422	1.000	Do Not Test
4S vs 7I	730.000	2.563	0.988	Do Not Test
4S vs 3S	690.000	2.422	0.995	Do Not Test
4S vs 1S	659.000	2.314	0.997	Do Not Test
4S vs 9I	647.000	2.271	0.998	Do Not Test
4S vs 2S	624.000	2.191	0.999	Do Not Test
4S vs 3I	431.000	1.513	1.000	Do Not Test
4S vs 1I	395.000	1.387	1.000	Do Not Test
4S vs 8I	351.000	1.232	1.000	Do Not Test
4S vs 7S	346.000	1.215	1.000	Do Not Test
4S vs 9S	342.000	1.201	1.000	Do Not Test
4S vs 2I	272.000	0.955	1.000	Do Not Test
4S vs 4I	254.000	0.892	1.000	Do Not Test
4S vs 5I	208.000	0.730	1.000	Do Not Test
4S vs 6I	181.000	0.635	1.000	Do Not Test
4S vs 6S	83.000	0.291	1.000	Do Not Test
4S vs 7C	82.000	0.288	1.000	Do Not Test
4S vs 9C	37.000	0.130	1.000	Do Not Test
4S vs 5S	24.000	0.0843	1.000	Do Not Test
5S vs 7I	706.000	2.479	0.992	Do Not Test
5S vs 3S	666.000	2.338	0.997	Do Not Test
5S vs 1S	635.000	2.229	0.999	Do Not Test
5S vs 9I	623.000	2.187	0.999	Do Not Test
5S vs 2S	600.000	2.106	1.000	Do Not Test
5S vs 3I	407.000	1.429	1.000	Do Not Test
5S vs 1I	371.000	1.303	1.000	Do Not Test
5S vs 8I	327.000	1.148	1.000	Do Not Test
5S vs 7S	322.000	1.130	1.000	Do Not Test
5S vs 9S	318.000	1.116	1.000	Do Not Test
5S vs 2I	248.000	0.871	1.000	Do Not Test
5S vs 4I	230.000	0.807	1.000	Do Not Test
5S vs 5I	184.000	0.646	1.000	Do Not Test
5S vs 6I	157.000	0.551	1.000	Do Not Test
5S vs 6S	59.000	0.207	1.000	Do Not Test
5S vs 7C	58.000	0.204	1.000	Do Not Test
5S vs 9C	13.000	0.0456	1.000	Do Not Test
9C vs 7I	693.000	2.433	0.994	Do Not Test
9C vs 3S	653.000	2.293	0.998	Do Not Test
9C vs 1S	622.000	2.184	0.999	Do Not Test
9C vs 9I	610.000	2.142	0.999	Do Not Test
9C vs 2S	587.000	2.061	1.000	Do Not Test
9C vs 3I	394.000	1.383	1.000	Do Not Test
9C vs 1I	358.000	1.257	1.000	Do Not Test
9C vs 8I	314.000	1.102	1.000	Do Not Test
9C vs 7S	309.000	1.085	1.000	Do Not Test
9C vs 9S	305.000	1.071	1.000	Do Not Test
9C vs 2I	235.000	0.825	1.000	Do Not Test

9C vs 4I	217.000	0.762	1.000	Do Not Test
9C vs 5I	171.000	0.600	1.000	Do Not Test
9C vs 6I	144.000	0.506	1.000	Do Not Test
9C vs 6S	46.000	0.161	1.000	Do Not Test
9C vs 7C	45.000	0.158	1.000	Do Not Test
7C vs 7I	648.000	2.275	0.998	Do Not Test
7C vs 3S	608.000	2.135	0.999	Do Not Test
7C vs 1S	577.000	2.026	1.000	Do Not Test
7C vs 9I	565.000	1.984	1.000	Do Not Test
7C vs 2S	542.000	1.903	1.000	Do Not Test
7C vs 3I	349.000	1.225	1.000	Do Not Test
7C vs 1I	313.000	1.099	1.000	Do Not Test
7C vs 8I	269.000	0.944	1.000	Do Not Test
7C vs 7S	264.000	0.927	1.000	Do Not Test
7C vs 9S	260.000	0.913	1.000	Do Not Test
7C vs 2I	190.000	0.667	1.000	Do Not Test
7C vs 4I	172.000	0.604	1.000	Do Not Test
7C vs 5I	126.000	0.442	1.000	Do Not Test
7C vs 6I	99.000	0.348	1.000	Do Not Test
7C vs 6S	1.000	0.00351	1.000	Do Not Test
6S vs 7I	647.000	2.271	0.998	Do Not Test
6S vs 3S	607.000	2.131	0.999	Do Not Test
6S vs 1S	576.000	2.022	1.000	Do Not Test
6S vs 9I	564.000	1.980	1.000	Do Not Test
6S vs 2S	541.000	1.899	1.000	Do Not Test
6S vs 3I	348.000	1.222	1.000	Do Not Test
6S vs 1I	312.000	1.095	1.000	Do Not Test
6S vs 8I	268.000	0.941	1.000	Do Not Test
6S vs 7S	263.000	0.923	1.000	Do Not Test
6S vs 9S	259.000	0.909	1.000	Do Not Test
6S vs 2I	189.000	0.664	1.000	Do Not Test
6S vs 4I	171.000	0.600	1.000	Do Not Test
6S vs 5I	125.000	0.439	1.000	Do Not Test
6S vs 6I	98.000	0.344	1.000	Do Not Test
6I vs 7I	549.000	1.927	1.000	Do Not Test
6I vs 3S	509.000	1.787	1.000	Do Not Test
6I vs 1S	478.000	1.678	1.000	Do Not Test
6I vs 9I	466.000	1.636	1.000	Do Not Test
6I vs 2S	443.000	1.555	1.000	Do Not Test
6I vs 3I	250.000	0.878	1.000	Do Not Test
6I vs 1I	214.000	0.751	1.000	Do Not Test
6I vs 8I	170.000	0.597	1.000	Do Not Test
6I vs 7S	165.000	0.579	1.000	Do Not Test
6I vs 9S	161.000	0.565	1.000	Do Not Test
6I vs 2I	91.000	0.319	1.000	Do Not Test
6I vs 4I	73.000	0.256	1.000	Do Not Test
6I vs 5I	27.000	0.0948	1.000	Do Not Test
5I vs 7I	522.000	1.833	1.000	Do Not Test
5I vs 3S	482.000	1.692	1.000	Do Not Test
5I vs 1S	451.000	1.583	1.000	Do Not Test
5I vs 9I	439.000	1.541	1.000	Do Not Test
5I vs 2S	416.000	1.460	1.000	Do Not Test
5I vs 3I	223.000	0.783	1.000	Do Not Test
5I vs 1I	187.000	0.657	1.000	Do Not Test
5I vs 8I	143.000	0.502	1.000	Do Not Test
5I vs 7S	138.000	0.484	1.000	Do Not Test

5I vs 9S	134.000	0.470	1.000	Do Not Test
5I vs 2I	64.000	0.225	1.000	Do Not Test
5I vs 4I	46.000	0.161	1.000	Do Not Test
4I vs 7I	476.000	1.671	1.000	Do Not Test
4I vs 3S	436.000	1.531	1.000	Do Not Test
4I vs 1S	405.000	1.422	1.000	Do Not Test
4I vs 9I	393.000	1.380	1.000	Do Not Test
4I vs 2S	370.000	1.299	1.000	Do Not Test
4I vs 3I	177.000	0.621	1.000	Do Not Test
4I vs 1I	141.000	0.495	1.000	Do Not Test
4I vs 8I	97.000	0.341	1.000	Do Not Test
4I vs 7S	92.000	0.323	1.000	Do Not Test
4I vs 9S	88.000	0.309	1.000	Do Not Test
4I vs 2I	18.000	0.0632	1.000	Do Not Test
2I vs 7I	458.000	1.608	1.000	Do Not Test
2I vs 3S	418.000	1.468	1.000	Do Not Test
2I vs 1S	387.000	1.359	1.000	Do Not Test
2I vs 9I	375.000	1.317	1.000	Do Not Test
2I vs 2S	352.000	1.236	1.000	Do Not Test
2I vs 3I	159.000	0.558	1.000	Do Not Test
2I vs 1I	123.000	0.432	1.000	Do Not Test
2I vs 8I	79.000	0.277	1.000	Do Not Test
2I vs 7S	74.000	0.260	1.000	Do Not Test
2I vs 9S	70.000	0.246	1.000	Do Not Test
9S vs 7I	388.000	1.362	1.000	Do Not Test
9S vs 3S	348.000	1.222	1.000	Do Not Test
9S vs 1S	317.000	1.113	1.000	Do Not Test
9S vs 9I	305.000	1.071	1.000	Do Not Test
9S vs 2S	282.000	0.990	1.000	Do Not Test
9S vs 3I	89.000	0.312	1.000	Do Not Test
9S vs 1I	53.000	0.186	1.000	Do Not Test
9S vs 8I	9.000	0.0316	1.000	Do Not Test
9S vs 7S	4.000	0.0140	1.000	Do Not Test
7S vs 7I	384.000	1.348	1.000	Do Not Test
7S vs 3S	344.000	1.208	1.000	Do Not Test
7S vs 1S	313.000	1.099	1.000	Do Not Test
7S vs 9I	301.000	1.057	1.000	Do Not Test
7S vs 2S	278.000	0.976	1.000	Do Not Test
7S vs 3I	85.000	0.298	1.000	Do Not Test
7S vs 1I	49.000	0.172	1.000	Do Not Test
7S vs 8I	5.000	0.0176	1.000	Do Not Test
8I vs 7I	379.000	1.331	1.000	Do Not Test
8I vs 3S	339.000	1.190	1.000	Do Not Test
8I vs 1S	308.000	1.081	1.000	Do Not Test
8I vs 9I	296.000	1.039	1.000	Do Not Test
8I vs 2S	273.000	0.958	1.000	Do Not Test
8I vs 3I	80.000	0.281	1.000	Do Not Test
8I vs 1I	44.000	0.154	1.000	Do Not Test
1I vs 7I	335.000	1.176	1.000	Do Not Test
1I vs 3S	295.000	1.036	1.000	Do Not Test
1I vs 1S	264.000	0.927	1.000	Do Not Test
1I vs 9I	252.000	0.885	1.000	Do Not Test
1I vs 2S	229.000	0.804	1.000	Do Not Test
1I vs 3I	36.000	0.126	1.000	Do Not Test
3I vs 7I	299.000	1.050	1.000	Do Not Test
3I vs 3S	259.000	0.909	1.000	Do Not Test

3I vs 1S	228.000	0.800	1.000	Do Not Test
3I vs 9I	216.000	0.758	1.000	Do Not Test
3I vs 2S	193.000	0.678	1.000	Do Not Test
2S vs 7I	106.000	0.372	1.000	Do Not Test
2S vs 3S	66.000	0.232	1.000	Do Not Test
2S vs 1S	35.000	0.123	1.000	Do Not Test
2S vs 9I	23.000	0.0807	1.000	Do Not Test
9I vs 7I	83.000	0.291	1.000	Do Not Test
9I vs 3S	43.000	0.151	1.000	Do Not Test
9I vs 1S	12.000	0.0421	1.000	Do Not Test
1S vs 7I	71.000	0.249	1.000	Do Not Test
1S vs 3S	31.000	0.109	1.000	Do Not Test
3S vs 7I	40.000	0.140	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:29:56

Data source: DA in L3 4wks-2y

Normality Test (Shapiro-Wilk): Passed (P = 0.462)

Equal Variance Test (Brown-Forsythe): Passed (P = 0.076)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	11	0	0.451	0.0842	0.0254
1C	11	0	0.503	0.0798	0.0240
1S	11	0	0.415	0.0671	0.0202
2I	11	0	0.374	0.0698	0.0210
2C	11	0	0.352	0.0951	0.0287
2S	11	0	0.356	0.0522	0.0157
3I	11	0	0.459	0.0821	0.0248
3C	11	0	0.480	0.0862	0.0260
3S	11	0	0.402	0.0862	0.0260
4I	11	0	0.284	0.115	0.0348
4C	11	0	0.448	0.0433	0.0131
4S	11	0	0.365	0.101	0.0305
5I	11	0	0.303	0.0865	0.0261
5C	11	0	0.392	0.0427	0.0129
5S	11	0	0.246	0.105	0.0318
6I	11	0	0.282	0.131	0.0396
6C	11	0	0.417	0.0567	0.0171
6S	11	0	0.356	0.0872	0.0263
7I	11	0	0.303	0.0566	0.0171
7C	11	0	0.338	0.0713	0.0215
7S	11	0	0.325	0.0942	0.0284
8I	11	0	0.234	0.0972	0.0293
8C	11	0	0.326	0.0937	0.0282
8S	11	0	0.271	0.105	0.0317
9I	11	0	0.266	0.0710	0.0214
9C	11	0	0.355	0.0671	0.0202
9S	11	0	0.336	0.109	0.0328

Source of Variation	DF	SS	MS	F	P
Between Groups	26	1.508	0.0580	7.914	<0.001
Residual	270	1.979	0.00733		
Total	296	3.487			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 1.000

All Pairwise Multiple Comparison Procedures (Holm-Sidak method):  
Overall significance level = 0.05

Comparisons for factor:

Comparison	Diff of Means	t	P	P<0.050
1C vs. 8I	0.268	7.348	<0.001	Yes
1C vs. 5S	0.257	7.028	<0.001	Yes



3C vs. 8I	0.246	6.733	<0.001	Yes
1C vs. 9I	0.236	6.469	<0.001	Yes
3C vs. 5S	0.234	6.413	<0.001	Yes
1C vs. 8S	0.232	6.350	<0.001	Yes
3I vs. 8I	0.225	6.158	<0.001	Yes
1C vs. 6I	0.221	6.042	<0.001	Yes
1C vs. 4I	0.219	5.997	<0.001	Yes
1I vs. 8I	0.216	5.930	<0.001	Yes
3C vs. 9I	0.214	5.854	<0.001	Yes
4C vs. 8I	0.213	5.842	<0.001	Yes
3I vs. 5S	0.213	5.837	<0.001	Yes
3C vs. 8S	0.209	5.735	<0.001	Yes
1I vs. 5S	0.205	5.609	<0.001	Yes
4C vs. 5S	0.202	5.521	<0.001	Yes
1C vs. 7I	0.200	5.476	<0.001	Yes
1C vs. 5I	0.199	5.462	<0.001	Yes
3C vs. 6I	0.198	5.427	<0.001	Yes
3C vs. 4I	0.196	5.382	<0.001	Yes
3I vs. 9I	0.193	5.278	<0.001	Yes
3I vs. 8S	0.188	5.160	<0.001	Yes
1I vs. 9I	0.184	5.050	<0.001	Yes
6C vs. 8I	0.183	5.005	<0.001	Yes
4C vs. 9I	0.181	4.962	<0.001	Yes
1S vs. 8I	0.181	4.949	<0.001	Yes
1I vs. 8S	0.180	4.932	<0.001	Yes
1C vs. 7S	0.178	4.869	<0.001	Yes
3C vs. 7I	0.177	4.861	<0.001	Yes
3I vs. 6I	0.177	4.852	<0.001	Yes
3C vs. 5I	0.177	4.847	<0.001	Yes
4C vs. 8S	0.177	4.844	<0.001	Yes
1C vs. 8C	0.177	4.840	<0.001	Yes
3I vs. 4I	0.175	4.807	<0.001	Yes
6C vs. 5S	0.171	4.685	0.001	Yes
1S vs. 5S	0.169	4.628	0.002	Yes
1I vs. 6I	0.169	4.624	0.002	Yes
3S vs. 8I	0.168	4.604	0.002	Yes
1I vs. 4I	0.167	4.579	0.002	Yes
1C vs. 9S	0.167	4.576	0.002	Yes
4C vs. 6I	0.166	4.536	0.003	Yes
1C vs. 7C	0.165	4.509	0.003	Yes
4C vs. 4I	0.164	4.491	0.003	Yes
5C vs. 8I	0.158	4.319	0.007	Yes
3I vs. 7I	0.156	4.286	0.008	Yes
3S vs. 5S	0.156	4.284	0.008	Yes
3I vs. 5I	0.156	4.271	0.008	Yes
3C vs. 7S	0.155	4.254	0.009	Yes
3C vs. 8C	0.154	4.225	0.010	Yes
1C vs. 2C	0.151	4.133	0.014	Yes
6C vs. 9I	0.151	4.126	0.015	Yes
1S vs. 9I	0.149	4.069	0.018	Yes
1I vs. 7I	0.148	4.058	0.019	Yes
1C vs. 9C	0.148	4.045	0.020	Yes
1I vs. 5I	0.148	4.043	0.020	Yes
1C vs. 2S	0.147	4.026	0.022	Yes
1C vs. 6S	0.147	4.018	0.022	Yes
6C vs. 8S	0.146	4.007	0.023	Yes

5C vs. 5S	0.146	3.999	0.024	Yes
4C vs. 7I	0.145	3.970	0.027	Yes
3C vs. 9S	0.145	3.961	0.027	Yes
4C vs. 5I	0.144	3.955	0.028	Yes
1S vs. 8S	0.144	3.951	0.028	Yes
3C vs. 7C	0.142	3.894	0.035	Yes
2I vs. 8I	0.139	3.813	0.048	Yes
1C vs. 4S	0.137	3.758	0.058	No
3S vs. 9I	0.136	3.725	0.066	No
6C vs. 6I	0.135	3.699	0.072	No
3I vs. 7S	0.134	3.679	0.077	No
6C vs. 4I	0.133	3.655	0.084	No
3I vs. 8C	0.133	3.649	0.085	No
1S vs. 6I	0.133	3.643	0.087	No
3S vs. 8S	0.132	3.606	0.098	No
1S vs. 4I	0.131	3.598	0.101	No
4S vs. 8I	0.131	3.590	0.103	No
1C vs. 2I	0.129	3.535	0.124	No
3C vs. 2C	0.128	3.518	0.131	No
2I vs. 5S	0.128	3.493	0.142	No
1I vs. 7S	0.126	3.451	0.162	No
5C vs. 9I	0.126	3.440	0.168	No
3C vs. 9C	0.125	3.430	0.173	No
1I vs. 8C	0.125	3.421	0.177	No
3C vs. 2S	0.125	3.411	0.182	No
3C vs. 6S	0.124	3.403	0.186	No
3I vs. 9S	0.124	3.385	0.196	No
4C vs. 7S	0.123	3.363	0.210	No
4C vs. 8C	0.122	3.333	0.228	No
6S vs. 8I	0.122	3.330	0.230	No
2S vs. 8I	0.121	3.322	0.235	No
5C vs. 8S	0.121	3.321	0.235	No
3I vs. 7C	0.121	3.319	0.235	No
9C vs. 8I	0.121	3.303	0.246	No
3S vs. 6I	0.120	3.298	0.249	No
4S vs. 5S	0.119	3.269	0.270	No
3S vs. 4I	0.119	3.254	0.281	No
2C vs. 8I	0.117	3.215	0.313	No
1I vs. 9S	0.115	3.157	0.364	No
3C vs. 4S	0.115	3.143	0.376	No
6C vs. 7I	0.114	3.133	0.385	No
6C vs. 5I	0.114	3.119	0.398	No
1I vs. 7C	0.113	3.091	0.425	No
1S vs. 7I	0.112	3.077	0.439	No
4C vs. 9S	0.112	3.069	0.445	No
1S vs. 5I	0.112	3.062	0.451	No
1C vs. 5C	0.111	3.029	0.486	No
5C vs. 6I	0.110	3.013	0.502	No
6S vs. 5S	0.110	3.009	0.505	No
4C vs. 7C	0.110	3.003	0.511	No
2S vs. 5S	0.110	3.001	0.511	No
9C vs. 5S	0.109	2.983	0.530	No
5C vs. 4I	0.108	2.968	0.545	No
3I vs. 2C	0.107	2.943	0.572	No
2I vs. 9I	0.107	2.934	0.581	No
3C vs. 2I	0.107	2.920	0.596	No

2C vs. 5S	0.106	2.895	0.623	No
3I vs. 9C	0.104	2.855	0.667	No
7C vs. 8I	0.104	2.839	0.683	No
3I vs. 2S	0.104	2.836	0.684	No
3I vs. 6S	0.103	2.828	0.691	No
2I vs. 8S	0.103	2.815	0.704	No
9S vs. 8I	0.101	2.772	0.748	No
1C vs. 3S	0.100	2.744	0.776	No
3S vs. 7I	0.0997	2.732	0.786	No
3S vs. 5I	0.0992	2.718	0.798	No
1I vs. 2C	0.0991	2.715	0.800	No
4S vs. 9I	0.0989	2.710	0.803	No
4C vs. 2C	0.0959	2.627	0.872	No
1I vs. 9C	0.0959	2.626	0.872	No
1I vs. 2S	0.0952	2.608	0.884	No
1I vs. 6S	0.0949	2.600	0.889	No
4S vs. 8S	0.0946	2.592	0.893	No
3I vs. 4S	0.0938	2.568	0.908	No
4C vs. 9C	0.0927	2.538	0.924	No
6C vs. 7S	0.0922	2.526	0.930	No
4C vs. 2S	0.0920	2.520	0.932	No
7C vs. 5S	0.0919	2.519	0.932	No
4C vs. 6S	0.0917	2.512	0.934	No
8C vs. 8I	0.0916	2.508	0.935	No
2I vs. 6I	0.0915	2.507	0.935	No
6C vs. 8C	0.0911	2.497	0.939	No
7S vs. 8I	0.0905	2.479	0.947	No
1S vs. 7S	0.0902	2.470	0.950	No
2I vs. 4I	0.0899	2.463	0.952	No
9S vs. 5S	0.0895	2.452	0.955	No
6S vs. 9I	0.0894	2.450	0.955	No
5C vs. 7I	0.0893	2.447	0.956	No
2S vs. 9I	0.0892	2.442	0.957	No
1S vs. 8C	0.0891	2.440	0.957	No
5C vs. 5I	0.0888	2.433	0.959	No
9C vs. 9I	0.0885	2.424	0.962	No
3C vs. 5C	0.0881	2.414	0.964	No
1C vs. 1S	0.0876	2.399	0.968	No
3I vs. 2I	0.0856	2.345	0.981	No
1C vs. 6C	0.0855	2.343	0.981	No
1I vs. 4S	0.0854	2.340	0.981	No
2C vs. 9I	0.0853	2.336	0.982	No
6S vs. 8S	0.0851	2.332	0.982	No
2S vs. 8S	0.0848	2.324	0.983	No
9C vs. 8S	0.0842	2.305	0.986	No
4S vs. 6I	0.0834	2.284	0.989	No
4C vs. 4S	0.0822	2.252	0.992	No
4S vs. 4I	0.0817	2.239	0.993	No
6C vs. 9S	0.0815	2.233	0.994	No
2C vs. 8S	0.0809	2.217	0.995	No
8C vs. 5S	0.0799	2.188	0.996	No
1S vs. 9S	0.0795	2.176	0.997	No
6C vs. 7C	0.0791	2.166	0.997	No
7S vs. 5S	0.0788	2.159	0.997	No
3C vs. 3S	0.0777	2.129	0.998	No
3S vs. 7S	0.0776	2.125	0.998	No

1I vs. 2I	0.0773	2.116	0.998	No
1S vs. 7C	0.0770	2.110	0.999	No
3S vs. 8C	0.0765	2.096	0.999	No
4C vs. 2I	0.0741	2.028	1.000	No
6S vs. 6I	0.0739	2.024	1.000	No
2S vs. 6I	0.0736	2.016	1.000	No
9C vs. 6I	0.0729	1.997	1.000	No
6S vs. 4I	0.0722	1.979	1.000	No
2S vs. 4I	0.0720	1.971	1.000	No
7C vs. 9I	0.0715	1.960	1.000	No
9C vs. 4I	0.0713	1.953	1.000	No
2I vs. 7I	0.0709	1.941	1.000	No
2I vs. 5I	0.0703	1.927	1.000	No
2C vs. 6I	0.0697	1.909	1.000	No
9S vs. 9I	0.0691	1.893	1.000	No
5I vs. 8I	0.0689	1.886	1.000	No
7I vs. 8I	0.0683	1.872	1.000	No
2C vs. 4I	0.0681	1.864	1.000	No
7C vs. 8S	0.0672	1.841	1.000	No
5C vs. 7S	0.0672	1.840	1.000	No
3I vs. 5C	0.0671	1.839	1.000	No
3S vs. 9S	0.0669	1.832	1.000	No
5C vs. 8C	0.0661	1.811	1.000	No
6C vs. 2C	0.0654	1.790	1.000	No
3C vs. 1S	0.0651	1.784	1.000	No
9S vs. 8S	0.0648	1.774	1.000	No
3S vs. 7C	0.0644	1.765	1.000	No
1S vs. 2C	0.0633	1.734	1.000	No
3C vs. 6C	0.0631	1.728	1.000	No
4S vs. 7I	0.0627	1.718	1.000	No
4S vs. 5I	0.0622	1.703	1.000	No
6C vs. 9C	0.0621	1.702	1.000	No
6C vs. 2S	0.0615	1.683	1.000	No
6C vs. 6S	0.0612	1.676	1.000	No
1S vs. 9C	0.0601	1.646	1.000	No
8C vs. 9I	0.0595	1.629	1.000	No
1S vs. 2S	0.0594	1.627	1.000	No
1S vs. 6S	0.0591	1.619	1.000	No
1I vs. 5C	0.0588	1.611	1.000	No
7S vs. 9I	0.0584	1.600	1.000	No
5I vs. 5S	0.0572	1.566	1.000	No
3I vs. 3S	0.0567	1.554	1.000	No
7I vs. 5S	0.0566	1.552	1.000	No
5C vs. 9S	0.0565	1.547	1.000	No
7C vs. 6I	0.0560	1.533	1.000	No
4C vs. 5C	0.0556	1.523	1.000	No
8C vs. 8S	0.0551	1.511	1.000	No
1C vs. 4C	0.0550	1.506	1.000	No
7C vs. 4I	0.0543	1.488	1.000	No
7S vs. 8S	0.0541	1.481	1.000	No
5C vs. 7C	0.0540	1.480	1.000	No
9S vs. 6I	0.0535	1.467	1.000	No
6S vs. 7I	0.0532	1.458	1.000	No
2S vs. 7I	0.0529	1.450	1.000	No
6S vs. 5I	0.0527	1.443	1.000	No
2S vs. 5I	0.0524	1.435	1.000	No

9C vs. 7I	0.0523	1.431	1.000	No
9S vs. 4I	0.0519	1.422	1.000	No
1C vs. 1I	0.0518	1.418	1.000	No
9C vs. 5I	0.0517	1.417	1.000	No
6C vs. 4S	0.0517	1.416	1.000	No
3S vs. 2C	0.0507	1.389	1.000	No
1S vs. 4S	0.0496	1.359	1.000	No
4I vs. 8I	0.0493	1.350	1.000	No
2C vs. 7I	0.0490	1.343	1.000	No
2I vs. 7S	0.0487	1.334	1.000	No
2C vs. 5I	0.0485	1.329	1.000	No
1I vs. 3S	0.0484	1.325	1.000	No
6I vs. 8I	0.0477	1.306	1.000	No
2I vs. 8C	0.0476	1.305	1.000	No
3S vs. 9C	0.0475	1.301	1.000	No
3S vs. 2S	0.0468	1.282	1.000	No
3S vs. 6S	0.0465	1.275	1.000	No
4C vs. 3S	0.0452	1.237	1.000	No
3I vs. 1S	0.0441	1.209	1.000	No
8C vs. 6I	0.0439	1.203	1.000	No
6C vs. 2I	0.0435	1.192	1.000	No
1C vs. 3I	0.0434	1.190	1.000	No
7S vs. 6I	0.0428	1.173	1.000	No
8C vs. 4I	0.0423	1.158	1.000	No
3I vs. 6C	0.0421	1.153	1.000	No
1S vs. 2I	0.0415	1.136	1.000	No
7S vs. 4I	0.0412	1.129	1.000	No
4S vs. 7S	0.0405	1.111	1.000	No
5C vs. 2C	0.0403	1.104	1.000	No
4S vs. 8C	0.0395	1.081	1.000	No
2I vs. 9S	0.0380	1.041	1.000	No
4I vs. 5S	0.0376	1.030	1.000	No
5C vs. 9C	0.0371	1.016	1.000	No
3S vs. 4S	0.0370	1.015	1.000	No
5I vs. 9I	0.0368	1.007	1.000	No
8S vs. 8I	0.0364	0.998	1.000	No
5C vs. 2S	0.0364	0.997	1.000	No
7I vs. 9I	0.0362	0.993	1.000	No
5C vs. 6S	0.0361	0.989	1.000	No
6I vs. 5S	0.0360	0.986	1.000	No
1I vs. 1S	0.0358	0.981	1.000	No
2I vs. 7C	0.0356	0.974	1.000	No
7C vs. 7I	0.0353	0.967	1.000	No
7C vs. 5I	0.0348	0.953	1.000	No
1I vs. 6C	0.0337	0.924	1.000	No
9S vs. 7I	0.0329	0.900	1.000	No
4C vs. 1S	0.0326	0.893	1.000	No
3C vs. 4C	0.0325	0.891	1.000	No
5I vs. 8S	0.0324	0.888	1.000	No
9S vs. 5I	0.0323	0.886	1.000	No
9I vs. 8I	0.0321	0.879	1.000	No
7I vs. 8S	0.0319	0.874	1.000	No
6S vs. 7S	0.0310	0.851	1.000	No
2S vs. 7S	0.0308	0.843	1.000	No
4C vs. 6C	0.0305	0.836	1.000	No
9C vs. 7S	0.0301	0.824	1.000	No

6S vs. 8C	0.0300	0.821	1.000	No
4S vs. 9S	0.0298	0.817	1.000	No
2S vs. 8C	0.0297	0.813	1.000	No
3C vs. 1I	0.0293	0.803	1.000	No
9C vs. 8C	0.0290	0.795	1.000	No
3S vs. 2I	0.0289	0.791	1.000	No
4S vs. 7C	0.0274	0.751	1.000	No
2C vs. 7S	0.0269	0.736	1.000	No
5C vs. 4S	0.0266	0.729	1.000	No
2C vs. 8C	0.0258	0.706	1.000	No
6C vs. 5C	0.0251	0.686	1.000	No
8S vs. 5S	0.0247	0.678	1.000	No
8C vs. 7I	0.0232	0.636	1.000	No
1S vs. 5C	0.0230	0.630	1.000	No
8C vs. 5I	0.0227	0.622	1.000	No
1C vs. 3C	0.0224	0.615	1.000	No
7S vs. 7I	0.0222	0.607	1.000	No
2I vs. 2C	0.0218	0.598	1.000	No
7S vs. 5I	0.0216	0.593	1.000	No
5I vs. 6I	0.0212	0.580	1.000	No
3C vs. 3I	0.0210	0.575	1.000	No
7I vs. 6I	0.0207	0.566	1.000	No
9I vs. 5S	0.0204	0.559	1.000	No
6S vs. 9S	0.0203	0.557	1.000	No
2S vs. 9S	0.0201	0.549	1.000	No
5I vs. 4I	0.0196	0.536	1.000	No
9C vs. 9S	0.0194	0.531	1.000	No
7I vs. 4I	0.0190	0.521	1.000	No
2I vs. 9C	0.0186	0.510	1.000	No
5C vs. 2I	0.0185	0.506	1.000	No
2I vs. 2S	0.0179	0.491	1.000	No
6S vs. 7C	0.0179	0.491	1.000	No
2I vs. 6S	0.0177	0.484	1.000	No
2S vs. 7C	0.0176	0.483	1.000	No
4I vs. 9I	0.0172	0.471	1.000	No
9C vs. 7C	0.0170	0.464	1.000	No
2C vs. 9S	0.0162	0.443	1.000	No
6I vs. 9I	0.0156	0.426	1.000	No
6C vs. 3S	0.0146	0.401	1.000	No
2C vs. 7C	0.0137	0.376	1.000	No
4S vs. 2C	0.0137	0.375	1.000	No
7C vs. 7S	0.0131	0.360	1.000	No
4I vs. 8S	0.0129	0.353	1.000	No
1S vs. 3S	0.0126	0.345	1.000	No
7C vs. 8C	0.0121	0.331	1.000	No
5S vs. 8I	0.0117	0.320	1.000	No
3I vs. 4C	0.0115	0.316	1.000	No
6I vs. 8S	0.0112	0.308	1.000	No
9S vs. 7S	0.0107	0.293	1.000	No
4S vs. 9C	0.0105	0.286	1.000	No
3S vs. 5C	0.0104	0.285	1.000	No
4S vs. 2S	0.00978	0.268	1.000	No
9S vs. 8C	0.00964	0.264	1.000	No
4S vs. 6S	0.00949	0.260	1.000	No
3I vs. 1I	0.00833	0.228	1.000	No
2I vs. 4S	0.00816	0.224	1.000	No

8S vs. 9I	0.00433	0.118	1.000	No
6S vs. 2C	0.00419	0.115	1.000	No
2S vs. 2C	0.00390	0.107	1.000	No
9C vs. 2C	0.00323	0.0884	1.000	No
1I vs. 4C	0.00321	0.0880	1.000	No
7C vs. 9S	0.00243	0.0665	1.000	No
6C vs. 1S	0.00206	0.0564	1.000	No
4I vs. 6I	0.00163	0.0447	1.000	No
8C vs. 7S	0.00107	0.0292	1.000	No
6S vs. 9C	0.000964	0.0264	1.000	No
2S vs. 9C	0.000675	0.0185	1.000	No
5I vs. 7I	0.000526	0.0144	1.000	No
6S vs. 2S	0.000289	0.00792	0.994	No

## One Way Analysis of Variance

Thursday, November 16, 2017, 15:57:00

Data source: BV/TV in L5 0-2y

Normality Test (Shapiro-Wilk) Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

Thursday, November 16, 2017, 15:57:00

Data source: BV/TV in L5 0-2y

Group	N	Missing	Median	25%	75%
1I	5	0	15.665	13.767	23.445
1C	5	0	18.302	14.960	19.779
1S	5	0	17.898	12.380	24.417
2I	5	0	16.574	14.581	25.748
2C	5	0	15.870	14.380	21.482
2S	5	0	16.830	12.832	26.666
3I	5	0	19.142	14.596	24.787
3C	5	0	20.145	13.880	23.424
3S	5	0	20.588	12.301	30.216
4I	5	0	14.904	13.890	17.471
4C	5	0	14.113	13.359	15.254
4S	5	0	15.314	13.704	17.741
5I	5	0	14.935	13.575	16.647
5C	5	0	14.186	11.924	15.296
5S	5	0	15.118	11.818	17.001
6I	5	0	14.949	13.982	18.281
6C	5	0	13.405	12.927	14.931
6S	5	0	18.814	12.331	19.554
7I	5	0	15.992	14.404	25.594
7C	5	0	15.873	13.870	20.024
7S	5	0	15.454	14.190	19.360
8I	5	0	15.315	13.992	18.334
8C	5	0	12.577	11.452	15.269
8S	5	0	14.569	11.407	17.757
9I	5	0	16.070	14.919	22.665
9C	5	0	15.357	13.582	17.867
9S	5	0	17.700	13.081	19.976

H = 23.611 with 26 degrees of freedom. (P = 0.598)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.598)



## One Way Analysis of Variance

Thursday, November 16, 2017, 15:57:09

Data source: SMI in L5 0-2y

Normality Test (Shapiro-Wilk) Passed (P = 0.481)

Equal Variance Test: Passed (P = 0.441)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	5	0	1.453	0.318	0.142
1C	5	0	1.384	0.299	0.134
1S	5	0	1.394	0.344	0.154
2I	5	0	1.256	0.447	0.200
2C	5	0	1.290	0.364	0.163
2S	5	0	1.271	0.481	0.215
3I	5	0	1.374	0.296	0.133
3C	5	0	1.339	0.338	0.151
3S	5	0	1.236	0.499	0.223
4I	5	0	1.456	0.202	0.0901
4C	5	0	1.451	0.190	0.0851
4S	5	0	1.493	0.256	0.115
5I	5	0	1.507	0.163	0.0729
5C	5	0	1.493	0.113	0.0507
5S	5	0	1.531	0.232	0.104
6I	5	0	1.446	0.206	0.0921
6C	5	0	1.431	0.187	0.0835
6S	5	0	1.393	0.270	0.121
7I	5	0	1.379	0.515	0.230
7C	5	0	1.351	0.244	0.109
7S	5	0	1.498	0.166	0.0743
8I	5	0	1.421	0.210	0.0938
8C	5	0	1.309	0.199	0.0890
8S	5	0	1.501	0.266	0.119
9I	5	0	1.395	0.401	0.179
9C	5	0	1.437	0.221	0.0987
9S	5	0	1.522	0.279	0.125

Source of Variation	DF	SS	MS	F	P
Between Groups	26	0.926	0.0356	0.384	0.997
Residual	108	10.012	0.0927		
Total	134	10.938			

The differences in the mean values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.997).

Power of performed test with alpha = 0.050: 0.050

The power of the performed test (0.050) is below the desired power of 0.800. Less than desired power indicates you are less likely to detect a difference when one actually exists. Negative results should be interpreted cautiously.

## One Way Analysis of Variance

Thursday, November 16, 2017, 15:57:19

Data source: Tb.Th in L5 0-2y

Normality Test (Shapiro-Wilk) Passed (P = 0.224)

Equal Variance Test: Passed (P = 0.748)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	5	0	105.563	10.631	4.754
1C	5	0	139.055	31.994	14.308
1S	5	0	111.313	19.766	8.839
2I	5	0	116.197	13.467	6.023
2C	5	0	155.236	17.020	7.611
2S	5	0	116.745	34.570	15.460
3I	5	0	111.478	16.383	7.327
3C	5	0	144.162	38.936	17.413
3S	5	0	114.203	27.289	12.204
4I	5	0	101.088	12.541	5.608
4C	5	0	110.135	17.481	7.818
4S	5	0	107.475	18.739	8.381
5I	5	0	106.685	13.513	6.043
5C	5	0	116.495	18.449	8.251
5S	5	0	106.772	23.705	10.601
6I	5	0	102.544	11.218	5.017
6C	5	0	108.254	19.108	8.545
6S	5	0	108.004	20.570	9.199
7I	5	0	109.209	10.845	4.850
7C	5	0	111.056	16.912	7.563
7S	5	0	102.563	20.271	9.065
8I	5	0	109.303	21.804	9.751
8C	5	0	152.346	21.065	9.421
8S	5	0	106.862	17.737	7.932
9I	5	0	106.563	12.485	5.583
9C	5	0	114.421	23.194	10.372
9S	5	0	107.833	18.580	8.309

Source of Variation	DF	SS	MS	F	P
Between Groups	26	28251.600	1086.600	2.524	<0.001
Residual	108	46491.134	430.473		
Total	134	74742.734			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 0.951

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

Comparison	Diff of Means	p	q	P	P<0.050
2C vs. 4I	54.148	27	5.836	0.018	Yes
2C vs. 6I	52.692	27	5.679	0.025	Yes
2C vs. 7S	52.673	27	5.677	0.025	Yes

2C vs. 1I	49.673	27	5.353	0.052	No
2C vs. 9I	48.673	27	5.246	0.065	Do Not Test
2C vs. 5I	48.551	27	5.233	0.067	Do Not Test
2C vs. 5S	48.464	27	5.223	0.068	Do Not Test
2C vs. 8S	48.374	27	5.213	0.069	Do Not Test
2C vs. 4S	47.761	27	5.147	0.079	Do Not Test
2C vs. 9S	47.403	27	5.109	0.085	Do Not Test
2C vs. 6S	47.232	27	5.090	0.088	Do Not Test
2C vs. 6C	46.982	27	5.063	0.093	Do Not Test
2C vs. 7I	46.027	27	4.960	0.113	Do Not Test
2C vs. 8I	45.933	27	4.950	0.116	Do Not Test
2C vs. 4C	45.101	27	4.861	0.136	Do Not Test
2C vs. 7C	44.180	27	4.761	0.162	Do Not Test
2C vs. 1S	43.923	27	4.734	0.170	Do Not Test
2C vs. 3I	43.758	27	4.716	0.175	Do Not Test
2C vs. 3S	41.033	27	4.422	0.279	Do Not Test
2C vs. 9C	40.815	27	4.399	0.289	Do Not Test
2C vs. 2I	39.039	27	4.207	0.376	Do Not Test
2C vs. 5C	38.741	27	4.175	0.391	Do Not Test
2C vs. 2S	38.491	27	4.148	0.404	Do Not Test
2C vs. 1C	16.181	27	1.744	1.000	Do Not Test
2C vs. 3C	11.073	27	1.193	1.000	Do Not Test
2C vs. 8C	2.890	27	0.311	1.000	Do Not Test
8C vs. 4I	51.258	27	5.524	0.036	Yes
8C vs. 6I	49.802	27	5.367	0.050	No
8C vs. 7S	49.783	27	5.365	0.051	Do Not Test
8C vs. 1I	46.783	27	5.042	0.097	Do Not Test
8C vs. 9I	45.783	27	4.934	0.119	Do Not Test
8C vs. 5I	45.661	27	4.921	0.122	Do Not Test
8C vs. 5S	45.574	27	4.912	0.124	Do Not Test
8C vs. 8S	45.484	27	4.902	0.126	Do Not Test
8C vs. 4S	44.871	27	4.836	0.142	Do Not Test
8C vs. 9S	44.513	27	4.797	0.153	Do Not Test
8C vs. 6S	44.342	27	4.779	0.157	Do Not Test
8C vs. 6C	44.092	27	4.752	0.165	Do Not Test
8C vs. 7I	43.137	27	4.649	0.196	Do Not Test
8C vs. 8I	43.043	27	4.639	0.199	Do Not Test
8C vs. 4C	42.211	27	4.549	0.230	Do Not Test
8C vs. 7C	41.290	27	4.450	0.268	Do Not Test
8C vs. 1S	41.033	27	4.422	0.279	Do Not Test
8C vs. 3I	40.868	27	4.405	0.287	Do Not Test
8C vs. 3S	38.143	27	4.111	0.423	Do Not Test
8C vs. 9C	37.925	27	4.087	0.436	Do Not Test
8C vs. 2I	36.149	27	3.896	0.537	Do Not Test
8C vs. 5C	35.851	27	3.864	0.554	Do Not Test
8C vs. 2S	35.601	27	3.837	0.569	Do Not Test
8C vs. 1C	13.291	27	1.432	1.000	Do Not Test
8C vs. 3C	8.183	27	0.882	1.000	Do Not Test
3C vs. 4I	43.075	27	4.642	0.198	No
3C vs. 6I	41.619	27	4.485	0.254	Do Not Test
3C vs. 7S	41.599	27	4.483	0.255	Do Not Test
3C vs. 1I	38.600	27	4.160	0.399	Do Not Test
3C vs. 9I	37.600	27	4.052	0.454	Do Not Test
3C vs. 5I	37.478	27	4.039	0.460	Do Not Test
3C vs. 5S	37.390	27	4.030	0.465	Do Not Test
3C vs. 8S	37.300	27	4.020	0.471	Do Not Test

3C vs. 4S	36.687	27	3.954	0.506	Do Not Test
3C vs. 9S	36.329	27	3.915	0.526	Do Not Test
3C vs. 6S	36.159	27	3.897	0.536	Do Not Test
3C vs. 6C	35.908	27	3.870	0.551	Do Not Test
3C vs. 7I	34.953	27	3.767	0.606	Do Not Test
3C vs. 8I	34.859	27	3.757	0.612	Do Not Test
3C vs. 4C	34.027	27	3.667	0.660	Do Not Test
3C vs. 7C	33.107	27	3.568	0.711	Do Not Test
3C vs. 1S	32.849	27	3.540	0.724	Do Not Test
3C vs. 3I	32.685	27	3.523	0.733	Do Not Test
3C vs. 3S	29.960	27	3.229	0.858	Do Not Test
3C vs. 9C	29.741	27	3.205	0.867	Do Not Test
3C vs. 2I	27.965	27	3.014	0.923	Do Not Test
3C vs. 5C	27.668	27	2.982	0.931	Do Not Test
3C vs. 2S	27.418	27	2.955	0.936	Do Not Test
3C vs. 1C	5.108	27	0.550	1.000	Do Not Test
1C vs. 4I	37.967	27	4.092	0.433	Do Not Test
1C vs. 6I	36.511	27	3.935	0.516	Do Not Test
1C vs. 7S	36.492	27	3.933	0.517	Do Not Test
1C vs. 1I	33.492	27	3.610	0.690	Do Not Test
1C vs. 9I	32.492	27	3.502	0.743	Do Not Test
1C vs. 5I	32.370	27	3.489	0.749	Do Not Test
1C vs. 5S	32.283	27	3.479	0.754	Do Not Test
1C vs. 8S	32.193	27	3.470	0.758	Do Not Test
1C vs. 4S	31.580	27	3.403	0.789	Do Not Test
1C vs. 9S	31.222	27	3.365	0.805	Do Not Test
1C vs. 6S	31.051	27	3.347	0.813	Do Not Test
1C vs. 6C	30.801	27	3.319	0.824	Do Not Test
1C vs. 7I	29.846	27	3.217	0.863	Do Not Test
1C vs. 8I	29.752	27	3.206	0.866	Do Not Test
1C vs. 4C	28.920	27	3.117	0.895	Do Not Test
1C vs. 7C	27.999	27	3.018	0.922	Do Not Test
1C vs. 1S	27.742	27	2.990	0.929	Do Not Test
1C vs. 3I	27.577	27	2.972	0.933	Do Not Test
1C vs. 3S	24.852	27	2.678	0.978	Do Not Test
1C vs. 9C	24.634	27	2.655	0.980	Do Not Test
1C vs. 2I	22.858	27	2.463	0.992	Do Not Test
1C vs. 5C	22.560	27	2.431	0.994	Do Not Test
1C vs. 2S	22.310	27	2.404	0.995	Do Not Test
2S vs. 4I	15.657	27	1.687	1.000	Do Not Test
2S vs. 6I	14.201	27	1.530	1.000	Do Not Test
2S vs. 7S	14.181	27	1.528	1.000	Do Not Test
2S vs. 1I	11.182	27	1.205	1.000	Do Not Test
2S vs. 9I	10.182	27	1.097	1.000	Do Not Test
2S vs. 5I	10.060	27	1.084	1.000	Do Not Test
2S vs. 5S	9.973	27	1.075	1.000	Do Not Test
2S vs. 8S	9.882	27	1.065	1.000	Do Not Test
2S vs. 4S	9.270	27	0.999	1.000	Do Not Test
2S vs. 9S	8.912	27	0.960	1.000	Do Not Test
2S vs. 6S	8.741	27	0.942	1.000	Do Not Test
2S vs. 6C	8.490	27	0.915	1.000	Do Not Test
2S vs. 7I	7.535	27	0.812	1.000	Do Not Test
2S vs. 8I	7.442	27	0.802	1.000	Do Not Test
2S vs. 4C	6.609	27	0.712	1.000	Do Not Test
2S vs. 7C	5.689	27	0.613	1.000	Do Not Test
2S vs. 1S	5.431	27	0.585	1.000	Do Not Test

2S vs. 3I	5.267	27	0.568	1.000	Do Not Test
2S vs. 3S	2.542	27	0.274	1.000	Do Not Test
2S vs. 9C	2.323	27	0.250	1.000	Do Not Test
2S vs. 2I	0.547	27	0.0590	1.000	Do Not Test
2S vs. 5C	0.250	27	0.0269	1.000	Do Not Test
5C vs. 4I	15.407	27	1.660	1.000	Do Not Test
5C vs. 6I	13.951	27	1.504	1.000	Do Not Test
5C vs. 7S	13.932	27	1.501	1.000	Do Not Test
5C vs. 1I	10.932	27	1.178	1.000	Do Not Test
5C vs. 9I	9.932	27	1.070	1.000	Do Not Test
5C vs. 5I	9.810	27	1.057	1.000	Do Not Test
5C vs. 5S	9.723	27	1.048	1.000	Do Not Test
5C vs. 8S	9.632	27	1.038	1.000	Do Not Test
5C vs. 4S	9.020	27	0.972	1.000	Do Not Test
5C vs. 9S	8.662	27	0.933	1.000	Do Not Test
5C vs. 6S	8.491	27	0.915	1.000	Do Not Test
5C vs. 6C	8.240	27	0.888	1.000	Do Not Test
5C vs. 7I	7.285	27	0.785	1.000	Do Not Test
5C vs. 8I	7.192	27	0.775	1.000	Do Not Test
5C vs. 4C	6.360	27	0.685	1.000	Do Not Test
5C vs. 7C	5.439	27	0.586	1.000	Do Not Test
5C vs. 1S	5.182	27	0.558	1.000	Do Not Test
5C vs. 3I	5.017	27	0.541	1.000	Do Not Test
5C vs. 3S	2.292	27	0.247	1.000	Do Not Test
5C vs. 9C	2.074	27	0.223	1.000	Do Not Test
5C vs. 2I	0.297	27	0.0320	1.000	Do Not Test
2I vs. 4I	15.109	27	1.628	1.000	Do Not Test
2I vs. 6I	13.654	27	1.472	1.000	Do Not Test
2I vs. 7S	13.634	27	1.469	1.000	Do Not Test
2I vs. 1I	10.635	27	1.146	1.000	Do Not Test
2I vs. 9I	9.634	27	1.038	1.000	Do Not Test
2I vs. 5I	9.512	27	1.025	1.000	Do Not Test
2I vs. 5S	9.425	27	1.016	1.000	Do Not Test
2I vs. 8S	9.335	27	1.006	1.000	Do Not Test
2I vs. 4S	8.722	27	0.940	1.000	Do Not Test
2I vs. 9S	8.364	27	0.901	1.000	Do Not Test
2I vs. 6S	8.194	27	0.883	1.000	Do Not Test
2I vs. 6C	7.943	27	0.856	1.000	Do Not Test
2I vs. 7I	6.988	27	0.753	1.000	Do Not Test
2I vs. 8I	6.894	27	0.743	1.000	Do Not Test
2I vs. 4C	6.062	27	0.653	1.000	Do Not Test
2I vs. 7C	5.141	27	0.554	1.000	Do Not Test
2I vs. 1S	4.884	27	0.526	1.000	Do Not Test
2I vs. 3I	4.720	27	0.509	1.000	Do Not Test
2I vs. 3S	1.995	27	0.215	1.000	Do Not Test
2I vs. 9C	1.776	27	0.191	1.000	Do Not Test
9C vs. 4I	13.333	27	1.437	1.000	Do Not Test
9C vs. 6I	11.877	27	1.280	1.000	Do Not Test
9C vs. 7S	11.858	27	1.278	1.000	Do Not Test
9C vs. 1I	8.858	27	0.955	1.000	Do Not Test
9C vs. 9I	7.858	27	0.847	1.000	Do Not Test
9C vs. 5I	7.736	27	0.834	1.000	Do Not Test
9C vs. 5S	7.649	27	0.824	1.000	Do Not Test
9C vs. 8S	7.559	27	0.815	1.000	Do Not Test
9C vs. 4S	6.946	27	0.749	1.000	Do Not Test
9C vs. 9S	6.588	27	0.710	1.000	Do Not Test

9C vs. 6S	6.418	27	0.692	1.000	Do Not Test
9C vs. 6C	6.167	27	0.665	1.000	Do Not Test
9C vs. 7I	5.212	27	0.562	1.000	Do Not Test
9C vs. 8I	5.118	27	0.552	1.000	Do Not Test
9C vs. 4C	4.286	27	0.462	1.000	Do Not Test
9C vs. 7C	3.365	27	0.363	1.000	Do Not Test
9C vs. 1S	3.108	27	0.335	1.000	Do Not Test
9C vs. 3I	2.943	27	0.317	1.000	Do Not Test
9C vs. 3S	0.219	27	0.0236	1.000	Do Not Test
3S vs. 4I	13.115	27	1.413	1.000	Do Not Test
3S vs. 6I	11.659	27	1.257	1.000	Do Not Test
3S vs. 7S	11.639	27	1.254	1.000	Do Not Test
3S vs. 1I	8.640	27	0.931	1.000	Do Not Test
3S vs. 9I	7.640	27	0.823	1.000	Do Not Test
3S vs. 5I	7.518	27	0.810	1.000	Do Not Test
3S vs. 5S	7.430	27	0.801	1.000	Do Not Test
3S vs. 8S	7.340	27	0.791	1.000	Do Not Test
3S vs. 4S	6.728	27	0.725	1.000	Do Not Test
3S vs. 9S	6.370	27	0.686	1.000	Do Not Test
3S vs. 6S	6.199	27	0.668	1.000	Do Not Test
3S vs. 6C	5.948	27	0.641	1.000	Do Not Test
3S vs. 7I	4.993	27	0.538	1.000	Do Not Test
3S vs. 8I	4.900	27	0.528	1.000	Do Not Test
3S vs. 4C	4.067	27	0.438	1.000	Do Not Test
3S vs. 7C	3.147	27	0.339	1.000	Do Not Test
3S vs. 1S	2.889	27	0.311	1.000	Do Not Test
3S vs. 3I	2.725	27	0.294	1.000	Do Not Test
3I vs. 4I	10.390	27	1.120	1.000	Do Not Test
3I vs. 6I	8.934	27	0.963	1.000	Do Not Test
3I vs. 7S	8.915	27	0.961	1.000	Do Not Test
3I vs. 1I	5.915	27	0.637	1.000	Do Not Test
3I vs. 9I	4.915	27	0.530	1.000	Do Not Test
3I vs. 5I	4.793	27	0.517	1.000	Do Not Test
3I vs. 5S	4.706	27	0.507	1.000	Do Not Test
3I vs. 8S	4.615	27	0.497	1.000	Do Not Test
3I vs. 4S	4.003	27	0.431	1.000	Do Not Test
3I vs. 9S	3.645	27	0.393	1.000	Do Not Test
3I vs. 6S	3.474	27	0.374	1.000	Do Not Test
3I vs. 6C	3.223	27	0.347	1.000	Do Not Test
3I vs. 7I	2.268	27	0.244	1.000	Do Not Test
3I vs. 8I	2.175	27	0.234	1.000	Do Not Test
3I vs. 4C	1.343	27	0.145	1.000	Do Not Test
3I vs. 7C	0.422	27	0.0454	1.000	Do Not Test
3I vs. 1S	0.165	27	0.0177	1.000	Do Not Test
1S vs. 4I	10.225	27	1.102	1.000	Do Not Test
1S vs. 6I	8.770	27	0.945	1.000	Do Not Test
1S vs. 7S	8.750	27	0.943	1.000	Do Not Test
1S vs. 1I	5.750	27	0.620	1.000	Do Not Test
1S vs. 9I	4.750	27	0.512	1.000	Do Not Test
1S vs. 5I	4.628	27	0.499	1.000	Do Not Test
1S vs. 5S	4.541	27	0.489	1.000	Do Not Test
1S vs. 8S	4.451	27	0.480	1.000	Do Not Test
1S vs. 4S	3.838	27	0.414	1.000	Do Not Test
1S vs. 9S	3.480	27	0.375	1.000	Do Not Test
1S vs. 6S	3.310	27	0.357	1.000	Do Not Test
1S vs. 6C	3.059	27	0.330	1.000	Do Not Test

1S vs. 7I	2.104	27	0.227	1.000	Do Not Test
1S vs. 8I	2.010	27	0.217	1.000	Do Not Test
1S vs. 4C	1.178	27	0.127	1.000	Do Not Test
1S vs. 7C	0.257	27	0.0277	1.000	Do Not Test
7C vs. 4I	9.968	27	1.074	1.000	Do Not Test
7C vs. 6I	8.512	27	0.917	1.000	Do Not Test
7C vs. 7S	8.493	27	0.915	1.000	Do Not Test
7C vs. 1I	5.493	27	0.592	1.000	Do Not Test
7C vs. 9I	4.493	27	0.484	1.000	Do Not Test
7C vs. 5I	4.371	27	0.471	1.000	Do Not Test
7C vs. 5S	4.284	27	0.462	1.000	Do Not Test
7C vs. 8S	4.194	27	0.452	1.000	Do Not Test
7C vs. 4S	3.581	27	0.386	1.000	Do Not Test
7C vs. 9S	3.223	27	0.347	1.000	Do Not Test
7C vs. 6S	3.052	27	0.329	1.000	Do Not Test
7C vs. 6C	2.802	27	0.302	1.000	Do Not Test
7C vs. 7I	1.847	27	0.199	1.000	Do Not Test
7C vs. 8I	1.753	27	0.189	1.000	Do Not Test
7C vs. 4C	0.921	27	0.0992	1.000	Do Not Test
4C vs. 4I	9.047	27	0.975	1.000	Do Not Test
4C vs. 6I	7.591	27	0.818	1.000	Do Not Test
4C vs. 7S	7.572	27	0.816	1.000	Do Not Test
4C vs. 1I	4.572	27	0.493	1.000	Do Not Test
4C vs. 9I	3.572	27	0.385	1.000	Do Not Test
4C vs. 5I	3.450	27	0.372	1.000	Do Not Test
4C vs. 5S	3.363	27	0.362	1.000	Do Not Test
4C vs. 8S	3.273	27	0.353	1.000	Do Not Test
4C vs. 4S	2.660	27	0.287	1.000	Do Not Test
4C vs. 9S	2.302	27	0.248	1.000	Do Not Test
4C vs. 6S	2.132	27	0.230	1.000	Do Not Test
4C vs. 6C	1.881	27	0.203	1.000	Do Not Test
4C vs. 7I	0.926	27	0.0998	1.000	Do Not Test
4C vs. 8I	0.832	27	0.0897	1.000	Do Not Test
8I vs. 4I	8.215	27	0.885	1.000	Do Not Test
8I vs. 6I	6.759	27	0.728	1.000	Do Not Test
8I vs. 7S	6.740	27	0.726	1.000	Do Not Test
8I vs. 1I	3.740	27	0.403	1.000	Do Not Test
8I vs. 9I	2.740	27	0.295	1.000	Do Not Test
8I vs. 5I	2.618	27	0.282	1.000	Do Not Test
8I vs. 5S	2.531	27	0.273	1.000	Do Not Test
8I vs. 8S	2.441	27	0.263	1.000	Do Not Test
8I vs. 4S	1.828	27	0.197	1.000	Do Not Test
8I vs. 9S	1.470	27	0.158	1.000	Do Not Test
8I vs. 6S	1.299	27	0.140	1.000	Do Not Test
8I vs. 6C	1.049	27	0.113	1.000	Do Not Test
8I vs. 7I	0.0938	27	0.0101	1.000	Do Not Test
7I vs. 4I	8.121	27	0.875	1.000	Do Not Test
7I vs. 6I	6.666	27	0.718	1.000	Do Not Test
7I vs. 7S	6.646	27	0.716	1.000	Do Not Test
7I vs. 1I	3.647	27	0.393	1.000	Do Not Test
7I vs. 9I	2.646	27	0.285	1.000	Do Not Test
7I vs. 5I	2.524	27	0.272	1.000	Do Not Test
7I vs. 5S	2.437	27	0.263	1.000	Do Not Test
7I vs. 8S	2.347	27	0.253	1.000	Do Not Test
7I vs. 4S	1.734	27	0.187	1.000	Do Not Test
7I vs. 9S	1.376	27	0.148	1.000	Do Not Test

7I vs. 6S	1.206	27	0.130	1.000	Do Not Test
7I vs. 6C	0.955	27	0.103	1.000	Do Not Test
6C vs. 4I	7.166	27	0.772	1.000	Do Not Test
6C vs. 6I	5.711	27	0.615	1.000	Do Not Test
6C vs. 7S	5.691	27	0.613	1.000	Do Not Test
6C vs. 1I	2.691	27	0.290	1.000	Do Not Test
6C vs. 9I	1.691	27	0.182	1.000	Do Not Test
6C vs. 5I	1.569	27	0.169	1.000	Do Not Test
6C vs. 5S	1.482	27	0.160	1.000	Do Not Test
6C vs. 8S	1.392	27	0.150	1.000	Do Not Test
6C vs. 4S	0.779	27	0.0840	1.000	Do Not Test
6C vs. 9S	0.421	27	0.0454	1.000	Do Not Test
6C vs. 6S	0.251	27	0.0270	1.000	Do Not Test
6S vs. 4I	6.916	27	0.745	1.000	Do Not Test
6S vs. 6I	5.460	27	0.588	1.000	Do Not Test
6S vs. 7S	5.440	27	0.586	1.000	Do Not Test
6S vs. 1I	2.441	27	0.263	1.000	Do Not Test
6S vs. 9I	1.441	27	0.155	1.000	Do Not Test
6S vs. 5I	1.319	27	0.142	1.000	Do Not Test
6S vs. 5S	1.232	27	0.133	1.000	Do Not Test
6S vs. 8S	1.141	27	0.123	1.000	Do Not Test
6S vs. 4S	0.529	27	0.0570	1.000	Do Not Test
6S vs. 9S	0.171	27	0.0184	1.000	Do Not Test
9S vs. 4I	6.745	27	0.727	1.000	Do Not Test
9S vs. 6I	5.289	27	0.570	1.000	Do Not Test
9S vs. 7S	5.270	27	0.568	1.000	Do Not Test
9S vs. 1I	2.270	27	0.245	1.000	Do Not Test
9S vs. 9I	1.270	27	0.137	1.000	Do Not Test
9S vs. 5I	1.148	27	0.124	1.000	Do Not Test
9S vs. 5S	1.061	27	0.114	1.000	Do Not Test
9S vs. 8S	0.971	27	0.105	1.000	Do Not Test
9S vs. 4S	0.358	27	0.0386	1.000	Do Not Test
4S vs. 4I	6.387	27	0.688	1.000	Do Not Test
4S vs. 6I	4.931	27	0.531	1.000	Do Not Test
4S vs. 7S	4.912	27	0.529	1.000	Do Not Test
4S vs. 1I	1.912	27	0.206	1.000	Do Not Test
4S vs. 9I	0.912	27	0.0983	1.000	Do Not Test
4S vs. 5I	0.790	27	0.0852	1.000	Do Not Test
4S vs. 5S	0.703	27	0.0758	1.000	Do Not Test
4S vs. 8S	0.613	27	0.0660	1.000	Do Not Test
8S vs. 4I	5.774	27	0.622	1.000	Do Not Test
8S vs. 6I	4.319	27	0.465	1.000	Do Not Test
8S vs. 7S	4.299	27	0.463	1.000	Do Not Test
8S vs. 1I	1.299	27	0.140	1.000	Do Not Test
8S vs. 9I	0.299	27	0.0323	1.000	Do Not Test
8S vs. 5I	0.177	27	0.0191	1.000	Do Not Test
8S vs. 5S	0.0902	27	0.00972	1.000	Do Not Test
5S vs. 4I	5.684	27	0.613	1.000	Do Not Test
5S vs. 6I	4.228	27	0.456	1.000	Do Not Test
5S vs. 7S	4.209	27	0.454	1.000	Do Not Test
5S vs. 1I	1.209	27	0.130	1.000	Do Not Test
5S vs. 9I	0.209	27	0.0225	1.000	Do Not Test
5S vs. 5I	0.0872	27	0.00940	1.000	Do Not Test
5I vs. 4I	5.597	27	0.603	1.000	Do Not Test
5I vs. 6I	4.141	27	0.446	1.000	Do Not Test
5I vs. 7S	4.122	27	0.444	1.000	Do Not Test



5I vs. 1I	1.122	27	0.121	1.000	Do Not Test
5I vs. 9I	0.122	27	0.0131	1.000	Do Not Test
9I vs. 4I	5.475	27	0.590	1.000	Do Not Test
9I vs. 6I	4.019	27	0.433	1.000	Do Not Test
9I vs. 7S	4.000	27	0.431	1.000	Do Not Test
9I vs. 1I	1.000	27	0.108	1.000	Do Not Test
1I vs. 4I	4.475	27	0.482	1.000	Do Not Test
1I vs. 6I	3.019	27	0.325	1.000	Do Not Test
1I vs. 7S	3.000	27	0.323	1.000	Do Not Test
7S vs. 4I	1.475	27	0.159	1.000	Do Not Test
7S vs. 6I	0.0195	27	0.00210	1.000	Do Not Test
6I vs. 4I	1.456	27	0.157	1.000	Do Not Test

A result of "Do Not Test" occurs for a comparison when no significant difference is found between two means that enclose that comparison. For example, if you had four means sorted in order, and found no difference between means 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed means is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the means, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:34:18

**Data source:** Tb.N in L5 4wks-2y

**Normality Test (Shapiro-Wilk):** Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:34:18

**Data source:** Tb.N in L5 4wks-2y

Group	N	Missing	Median	25%	75%
1I	5	0	0.00141	0.00130	0.00238
1C	5	0	0.00122	0.00107	0.00160
1S	5	0	0.00151	0.00126	0.00214
2I	5	0	0.00139	0.00131	0.00228
2C	5	0	0.00105	0.000990	0.00130
2S	5	0	0.00144	0.00125	0.00232
3I	5	0	0.00147	0.00142	0.00233
3C	5	0	0.00122	0.00115	0.00160
3S	5	0	0.00166	0.00127	0.00264
4I	5	0	0.00139	0.00130	0.00197
4C	5	0	0.00120	0.00118	0.00152
4S	5	0	0.00142	0.00130	0.00170
5I	5	0	0.00135	0.00118	0.00176
5C	5	0	0.00114	0.00108	0.00133
5S	5	0	0.00132	0.00117	0.00165
6I	5	0	0.00139	0.00132	0.00196
6C	5	0	0.00121	0.00118	0.00148
6S	5	0	0.00149	0.00121	0.00193
7I	5	0	0.00145	0.00129	0.00255
7C	5	0	0.00137	0.00124	0.00195
7S	5	0	0.00150	0.00138	0.00201
8I	5	0	0.00129	0.00113	0.00211
8C	5	0	0.000830	0.000715	0.00109
8S	5	0	0.00132	0.00111	0.00173
9I	5	0	0.00148	0.00134	0.00233
9C	5	0	0.00128	0.00120	0.00170
9S	5	0	0.00151	0.00121	0.00209

H = 40.414 with 26 degrees of freedom. (P = 0.036)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.036)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
3I vs 8C	432.000	4.939	0.102	No
3I vs 2C	365.000	4.173	0.382	Do Not Test

3I vs 5C	331.500	3.790	0.604	Do Not Test
3I vs 6C	269.000	3.076	0.922	Do Not Test
3I vs 1C	249.500	2.853	0.961	Do Not Test
3I vs 3C	249.000	2.847	0.962	Do Not Test
3I vs 4C	237.000	2.710	0.977	Do Not Test
3I vs 9C	214.000	2.447	0.994	Do Not Test
3I vs 5S	192.500	2.201	0.999	Do Not Test
3I vs 8S	192.000	2.195	0.999	Do Not Test
3I vs 5I	182.500	2.087	1.000	Do Not Test
3I vs 8I	176.500	2.018	1.000	Do Not Test
3I vs 7C	118.500	1.355	1.000	Do Not Test
3I vs 6S	105.000	1.200	1.000	Do Not Test
3I vs 4S	101.500	1.160	1.000	Do Not Test
3I vs 4I	100.500	1.149	1.000	Do Not Test
3I vs 2S	95.000	1.086	1.000	Do Not Test
3I vs 9S	93.500	1.069	1.000	Do Not Test
3I vs 6I	86.000	0.983	1.000	Do Not Test
3I vs 1S	85.000	0.972	1.000	Do Not Test
3I vs 2I	83.000	0.949	1.000	Do Not Test
3I vs 7I	71.000	0.812	1.000	Do Not Test
3I vs 1I	70.000	0.800	1.000	Do Not Test
3I vs 3S	54.000	0.617	1.000	Do Not Test
3I vs 9I	36.500	0.417	1.000	Do Not Test
3I vs 7S	22.000	0.252	1.000	Do Not Test
7S vs 8C	410.000	4.688	0.167	Do Not Test
7S vs 2C	343.000	3.922	0.524	Do Not Test
7S vs 5C	309.500	3.539	0.750	Do Not Test
7S vs 6C	247.000	2.824	0.965	Do Not Test
7S vs 1C	227.500	2.601	0.986	Do Not Test
7S vs 3C	227.000	2.595	0.986	Do Not Test
7S vs 4C	215.000	2.458	0.993	Do Not Test
7S vs 9C	192.000	2.195	0.999	Do Not Test
7S vs 5S	170.500	1.949	1.000	Do Not Test
7S vs 8S	170.000	1.944	1.000	Do Not Test
7S vs 5I	160.500	1.835	1.000	Do Not Test
7S vs 8I	154.500	1.766	1.000	Do Not Test
7S vs 7C	96.500	1.103	1.000	Do Not Test
7S vs 6S	83.000	0.949	1.000	Do Not Test
7S vs 4S	79.500	0.909	1.000	Do Not Test
7S vs 4I	78.500	0.898	1.000	Do Not Test
7S vs 2S	73.000	0.835	1.000	Do Not Test
7S vs 9S	71.500	0.817	1.000	Do Not Test
7S vs 6I	64.000	0.732	1.000	Do Not Test
7S vs 1S	63.000	0.720	1.000	Do Not Test
7S vs 2I	61.000	0.697	1.000	Do Not Test
7S vs 7I	49.000	0.560	1.000	Do Not Test
7S vs 1I	48.000	0.549	1.000	Do Not Test
7S vs 3S	32.000	0.366	1.000	Do Not Test
7S vs 9I	14.500	0.166	1.000	Do Not Test
9I vs 8C	395.500	4.522	0.223	Do Not Test
9I vs 2C	328.500	3.756	0.625	Do Not Test
9I vs 5C	295.000	3.373	0.829	Do Not Test
9I vs 6C	232.500	2.658	0.982	Do Not Test
9I vs 1C	213.000	2.435	0.994	Do Not Test
9I vs 3C	212.500	2.430	0.994	Do Not Test
9I vs 4C	200.500	2.292	0.998	Do Not Test

9I vs 9C	177.500	2.029	1.000	Do Not Test
9I vs 5S	156.000	1.784	1.000	Do Not Test
9I vs 8S	155.500	1.778	1.000	Do Not Test
9I vs 5I	146.000	1.669	1.000	Do Not Test
9I vs 8I	140.000	1.601	1.000	Do Not Test
9I vs 7C	82.000	0.938	1.000	Do Not Test
9I vs 6S	68.500	0.783	1.000	Do Not Test
9I vs 4S	65.000	0.743	1.000	Do Not Test
9I vs 4I	64.000	0.732	1.000	Do Not Test
9I vs 2S	58.500	0.669	1.000	Do Not Test
9I vs 9S	57.000	0.652	1.000	Do Not Test
9I vs 6I	49.500	0.566	1.000	Do Not Test
9I vs 1S	48.500	0.555	1.000	Do Not Test
9I vs 2I	46.500	0.532	1.000	Do Not Test
9I vs 7I	34.500	0.394	1.000	Do Not Test
9I vs 1I	33.500	0.383	1.000	Do Not Test
9I vs 3S	17.500	0.200	1.000	Do Not Test
3S vs 8C	378.000	4.322	0.308	Do Not Test
3S vs 2C	311.000	3.556	0.741	Do Not Test
3S vs 5C	277.500	3.173	0.898	Do Not Test
3S vs 6C	215.000	2.458	0.993	Do Not Test
3S vs 1C	195.500	2.235	0.999	Do Not Test
3S vs 3C	195.000	2.229	0.999	Do Not Test
3S vs 4C	183.000	2.092	1.000	Do Not Test
3S vs 9C	160.000	1.829	1.000	Do Not Test
3S vs 5S	138.500	1.584	1.000	Do Not Test
3S vs 8S	138.000	1.578	1.000	Do Not Test
3S vs 5I	128.500	1.469	1.000	Do Not Test
3S vs 8I	122.500	1.401	1.000	Do Not Test
3S vs 7C	64.500	0.737	1.000	Do Not Test
3S vs 6S	51.000	0.583	1.000	Do Not Test
3S vs 4S	47.500	0.543	1.000	Do Not Test
3S vs 4I	46.500	0.532	1.000	Do Not Test
3S vs 2S	41.000	0.469	1.000	Do Not Test
3S vs 9S	39.500	0.452	1.000	Do Not Test
3S vs 6I	32.000	0.366	1.000	Do Not Test
3S vs 1S	31.000	0.354	1.000	Do Not Test
3S vs 2I	29.000	0.332	1.000	Do Not Test
3S vs 7I	17.000	0.194	1.000	Do Not Test
3S vs 1I	16.000	0.183	1.000	Do Not Test
1I vs 8C	362.000	4.139	0.400	Do Not Test
1I vs 2C	295.000	3.373	0.829	Do Not Test
1I vs 5C	261.500	2.990	0.940	Do Not Test
1I vs 6C	199.000	2.275	0.998	Do Not Test
1I vs 1C	179.500	2.052	1.000	Do Not Test
1I vs 3C	179.000	2.047	1.000	Do Not Test
1I vs 4C	167.000	1.909	1.000	Do Not Test
1I vs 9C	144.000	1.646	1.000	Do Not Test
1I vs 5S	122.500	1.401	1.000	Do Not Test
1I vs 8S	122.000	1.395	1.000	Do Not Test
1I vs 5I	112.500	1.286	1.000	Do Not Test
1I vs 8I	106.500	1.218	1.000	Do Not Test
1I vs 7C	48.500	0.555	1.000	Do Not Test
1I vs 6S	35.000	0.400	1.000	Do Not Test
1I vs 4S	31.500	0.360	1.000	Do Not Test
1I vs 4I	30.500	0.349	1.000	Do Not Test

1I vs 2S	25.000	0.286	1.000	Do Not Test
1I vs 9S	23.500	0.269	1.000	Do Not Test
1I vs 6I	16.000	0.183	1.000	Do Not Test
1I vs 1S	15.000	0.171	1.000	Do Not Test
1I vs 2I	13.000	0.149	1.000	Do Not Test
1I vs 7I	1.000	0.0114	1.000	Do Not Test
7I vs 8C	361.000	4.127	0.406	Do Not Test
7I vs 2C	294.000	3.361	0.833	Do Not Test
7I vs 5C	260.500	2.978	0.942	Do Not Test
7I vs 6C	198.000	2.264	0.998	Do Not Test
7I vs 1C	178.500	2.041	1.000	Do Not Test
7I vs 3C	178.000	2.035	1.000	Do Not Test
7I vs 4C	166.000	1.898	1.000	Do Not Test
7I vs 9C	143.000	1.635	1.000	Do Not Test
7I vs 5S	121.500	1.389	1.000	Do Not Test
7I vs 8S	121.000	1.383	1.000	Do Not Test
7I vs 5I	111.500	1.275	1.000	Do Not Test
7I vs 8I	105.500	1.206	1.000	Do Not Test
7I vs 7C	47.500	0.543	1.000	Do Not Test
7I vs 6S	34.000	0.389	1.000	Do Not Test
7I vs 4S	30.500	0.349	1.000	Do Not Test
7I vs 4I	29.500	0.337	1.000	Do Not Test
7I vs 2S	24.000	0.274	1.000	Do Not Test
7I vs 9S	22.500	0.257	1.000	Do Not Test
7I vs 6I	15.000	0.171	1.000	Do Not Test
7I vs 1S	14.000	0.160	1.000	Do Not Test
7I vs 2I	12.000	0.137	1.000	Do Not Test
2I vs 8C	349.000	3.990	0.484	Do Not Test
2I vs 2C	282.000	3.224	0.883	Do Not Test
2I vs 5C	248.500	2.841	0.963	Do Not Test
2I vs 6C	186.000	2.127	0.999	Do Not Test
2I vs 1C	166.500	1.904	1.000	Do Not Test
2I vs 3C	166.000	1.898	1.000	Do Not Test
2I vs 4C	154.000	1.761	1.000	Do Not Test
2I vs 9C	131.000	1.498	1.000	Do Not Test
2I vs 5S	109.500	1.252	1.000	Do Not Test
2I vs 8S	109.000	1.246	1.000	Do Not Test
2I vs 5I	99.500	1.138	1.000	Do Not Test
2I vs 8I	93.500	1.069	1.000	Do Not Test
2I vs 7C	35.500	0.406	1.000	Do Not Test
2I vs 6S	22.000	0.252	1.000	Do Not Test
2I vs 4S	18.500	0.212	1.000	Do Not Test
2I vs 4I	17.500	0.200	1.000	Do Not Test
2I vs 2S	12.000	0.137	1.000	Do Not Test
2I vs 9S	10.500	0.120	1.000	Do Not Test
2I vs 6I	3.000	0.0343	1.000	Do Not Test
2I vs 1S	2.000	0.0229	1.000	Do Not Test
1S vs 8C	347.000	3.967	0.497	Do Not Test
1S vs 2C	280.000	3.201	0.890	Do Not Test
1S vs 5C	246.500	2.818	0.965	Do Not Test
1S vs 6C	184.000	2.104	1.000	Do Not Test
1S vs 1C	164.500	1.881	1.000	Do Not Test
1S vs 3C	164.000	1.875	1.000	Do Not Test
1S vs 4C	152.000	1.738	1.000	Do Not Test
1S vs 9C	129.000	1.475	1.000	Do Not Test
1S vs 5S	107.500	1.229	1.000	Do Not Test

1S vs 8S	107.000	1.223	1.000	Do Not Test
1S vs 5I	97.500	1.115	1.000	Do Not Test
1S vs 8I	91.500	1.046	1.000	Do Not Test
1S vs 7C	33.500	0.383	1.000	Do Not Test
1S vs 6S	20.000	0.229	1.000	Do Not Test
1S vs 4S	16.500	0.189	1.000	Do Not Test
1S vs 4I	15.500	0.177	1.000	Do Not Test
1S vs 2S	10.000	0.114	1.000	Do Not Test
1S vs 9S	8.500	0.0972	1.000	Do Not Test
1S vs 6I	1.000	0.0114	1.000	Do Not Test
6I vs 8C	346.000	3.956	0.504	Do Not Test
6I vs 2C	279.000	3.190	0.893	Do Not Test
6I vs 5C	245.500	2.807	0.967	Do Not Test
6I vs 6C	183.000	2.092	1.000	Do Not Test
6I vs 1C	163.500	1.869	1.000	Do Not Test
6I vs 3C	163.000	1.864	1.000	Do Not Test
6I vs 4C	151.000	1.726	1.000	Do Not Test
6I vs 9C	128.000	1.463	1.000	Do Not Test
6I vs 5S	106.500	1.218	1.000	Do Not Test
6I vs 8S	106.000	1.212	1.000	Do Not Test
6I vs 5I	96.500	1.103	1.000	Do Not Test
6I vs 8I	90.500	1.035	1.000	Do Not Test
6I vs 7C	32.500	0.372	1.000	Do Not Test
6I vs 6S	19.000	0.217	1.000	Do Not Test
6I vs 4S	15.500	0.177	1.000	Do Not Test
6I vs 4I	14.500	0.166	1.000	Do Not Test
6I vs 2S	9.000	0.103	1.000	Do Not Test
6I vs 9S	7.500	0.0857	1.000	Do Not Test
9S vs 8C	338.500	3.870	0.556	Do Not Test
9S vs 2C	271.500	3.104	0.916	Do Not Test
9S vs 5C	238.000	2.721	0.976	Do Not Test
9S vs 6C	175.500	2.007	1.000	Do Not Test
9S vs 1C	156.000	1.784	1.000	Do Not Test
9S vs 3C	155.500	1.778	1.000	Do Not Test
9S vs 4C	143.500	1.641	1.000	Do Not Test
9S vs 9C	120.500	1.378	1.000	Do Not Test
9S vs 5S	99.000	1.132	1.000	Do Not Test
9S vs 8S	98.500	1.126	1.000	Do Not Test
9S vs 5I	89.000	1.018	1.000	Do Not Test
9S vs 8I	83.000	0.949	1.000	Do Not Test
9S vs 7C	25.000	0.286	1.000	Do Not Test
9S vs 6S	11.500	0.131	1.000	Do Not Test
9S vs 4S	8.000	0.0915	1.000	Do Not Test
9S vs 4I	7.000	0.0800	1.000	Do Not Test
9S vs 2S	1.500	0.0171	1.000	Do Not Test
2S vs 8C	337.000	3.853	0.566	Do Not Test
2S vs 2C	270.000	3.087	0.920	Do Not Test
2S vs 5C	236.500	2.704	0.978	Do Not Test
2S vs 6C	174.000	1.989	1.000	Do Not Test
2S vs 1C	154.500	1.766	1.000	Do Not Test
2S vs 3C	154.000	1.761	1.000	Do Not Test
2S vs 4C	142.000	1.624	1.000	Do Not Test
2S vs 9C	119.000	1.361	1.000	Do Not Test
2S vs 5S	97.500	1.115	1.000	Do Not Test
2S vs 8S	97.000	1.109	1.000	Do Not Test
2S vs 5I	87.500	1.000	1.000	Do Not Test

2S vs 8I	81.500	0.932	1.000	Do Not Test
2S vs 7C	23.500	0.269	1.000	Do Not Test
2S vs 6S	10.000	0.114	1.000	Do Not Test
2S vs 4S	6.500	0.0743	1.000	Do Not Test
2S vs 4I	5.500	0.0629	1.000	Do Not Test
4I vs 8C	331.500	3.790	0.604	Do Not Test
4I vs 2C	264.500	3.024	0.933	Do Not Test
4I vs 5C	231.000	2.641	0.983	Do Not Test
4I vs 6C	168.500	1.927	1.000	Do Not Test
4I vs 1C	149.000	1.704	1.000	Do Not Test
4I vs 3C	148.500	1.698	1.000	Do Not Test
4I vs 4C	136.500	1.561	1.000	Do Not Test
4I vs 9C	113.500	1.298	1.000	Do Not Test
4I vs 5S	92.000	1.052	1.000	Do Not Test
4I vs 8S	91.500	1.046	1.000	Do Not Test
4I vs 5I	82.000	0.938	1.000	Do Not Test
4I vs 8I	76.000	0.869	1.000	Do Not Test
4I vs 7C	18.000	0.206	1.000	Do Not Test
4I vs 6S	4.500	0.0514	1.000	Do Not Test
4I vs 4S	1.000	0.0114	1.000	Do Not Test
4S vs 8C	330.500	3.779	0.611	Do Not Test
4S vs 2C	263.500	3.013	0.935	Do Not Test
4S vs 5C	230.000	2.630	0.984	Do Not Test
4S vs 6C	167.500	1.915	1.000	Do Not Test
4S vs 1C	148.000	1.692	1.000	Do Not Test
4S vs 3C	147.500	1.686	1.000	Do Not Test
4S vs 4C	135.500	1.549	1.000	Do Not Test
4S vs 9C	112.500	1.286	1.000	Do Not Test
4S vs 5S	91.000	1.040	1.000	Do Not Test
4S vs 8S	90.500	1.035	1.000	Do Not Test
4S vs 5I	81.000	0.926	1.000	Do Not Test
4S vs 8I	75.000	0.857	1.000	Do Not Test
4S vs 7C	17.000	0.194	1.000	Do Not Test
4S vs 6S	3.500	0.0400	1.000	Do Not Test
6S vs 8C	327.000	3.739	0.635	Do Not Test
6S vs 2C	260.000	2.973	0.943	Do Not Test
6S vs 5C	226.500	2.590	0.986	Do Not Test
6S vs 6C	164.000	1.875	1.000	Do Not Test
6S vs 1C	144.500	1.652	1.000	Do Not Test
6S vs 3C	144.000	1.646	1.000	Do Not Test
6S vs 4C	132.000	1.509	1.000	Do Not Test
6S vs 9C	109.000	1.246	1.000	Do Not Test
6S vs 5S	87.500	1.000	1.000	Do Not Test
6S vs 8S	87.000	0.995	1.000	Do Not Test
6S vs 5I	77.500	0.886	1.000	Do Not Test
6S vs 8I	71.500	0.817	1.000	Do Not Test
6S vs 7C	13.500	0.154	1.000	Do Not Test
7C vs 8C	313.500	3.584	0.725	Do Not Test
7C vs 2C	246.500	2.818	0.965	Do Not Test
7C vs 5C	213.000	2.435	0.994	Do Not Test
7C vs 6C	150.500	1.721	1.000	Do Not Test
7C vs 1C	131.000	1.498	1.000	Do Not Test
7C vs 3C	130.500	1.492	1.000	Do Not Test
7C vs 4C	118.500	1.355	1.000	Do Not Test
7C vs 9C	95.500	1.092	1.000	Do Not Test
7C vs 5S	74.000	0.846	1.000	Do Not Test

7C vs 8S	73.500	0.840	1.000	Do Not Test
7C vs 5I	64.000	0.732	1.000	Do Not Test
7C vs 8I	58.000	0.663	1.000	Do Not Test
8I vs 8C	255.500	2.921	0.951	Do Not Test
8I vs 2C	188.500	2.155	0.999	Do Not Test
8I vs 5C	155.000	1.772	1.000	Do Not Test
8I vs 6C	92.500	1.058	1.000	Do Not Test
8I vs 1C	73.000	0.835	1.000	Do Not Test
8I vs 3C	72.500	0.829	1.000	Do Not Test
8I vs 4C	60.500	0.692	1.000	Do Not Test
8I vs 9C	37.500	0.429	1.000	Do Not Test
8I vs 5S	16.000	0.183	1.000	Do Not Test
8I vs 8S	15.500	0.177	1.000	Do Not Test
8I vs 5I	6.000	0.0686	1.000	Do Not Test
5I vs 8C	249.500	2.853	0.961	Do Not Test
5I vs 2C	182.500	2.087	1.000	Do Not Test
5I vs 5C	149.000	1.704	1.000	Do Not Test
5I vs 6C	86.500	0.989	1.000	Do Not Test
5I vs 1C	67.000	0.766	1.000	Do Not Test
5I vs 3C	66.500	0.760	1.000	Do Not Test
5I vs 4C	54.500	0.623	1.000	Do Not Test
5I vs 9C	31.500	0.360	1.000	Do Not Test
5I vs 5S	10.000	0.114	1.000	Do Not Test
5I vs 8S	9.500	0.109	1.000	Do Not Test
8S vs 8C	240.000	2.744	0.974	Do Not Test
8S vs 2C	173.000	1.978	1.000	Do Not Test
8S vs 5C	139.500	1.595	1.000	Do Not Test
8S vs 6C	77.000	0.880	1.000	Do Not Test
8S vs 1C	57.500	0.657	1.000	Do Not Test
8S vs 3C	57.000	0.652	1.000	Do Not Test
8S vs 4C	45.000	0.514	1.000	Do Not Test
8S vs 9C	22.000	0.252	1.000	Do Not Test
8S vs 5S	0.500	0.00572	1.000	Do Not Test
5S vs 8C	239.500	2.738	0.974	Do Not Test
5S vs 2C	172.500	1.972	1.000	Do Not Test
5S vs 5C	139.000	1.589	1.000	Do Not Test
5S vs 6C	76.500	0.875	1.000	Do Not Test
5S vs 1C	57.000	0.652	1.000	Do Not Test
5S vs 3C	56.500	0.646	1.000	Do Not Test
5S vs 4C	44.500	0.509	1.000	Do Not Test
5S vs 9C	21.500	0.246	1.000	Do Not Test
9C vs 8C	218.000	2.492	0.992	Do Not Test
9C vs 2C	151.000	1.726	1.000	Do Not Test
9C vs 5C	117.500	1.343	1.000	Do Not Test
9C vs 6C	55.000	0.629	1.000	Do Not Test
9C vs 1C	35.500	0.406	1.000	Do Not Test
9C vs 3C	35.000	0.400	1.000	Do Not Test
9C vs 4C	23.000	0.263	1.000	Do Not Test
4C vs 8C	195.000	2.229	0.999	Do Not Test
4C vs 2C	128.000	1.463	1.000	Do Not Test
4C vs 5C	94.500	1.080	1.000	Do Not Test
4C vs 6C	32.000	0.366	1.000	Do Not Test
4C vs 1C	12.500	0.143	1.000	Do Not Test
4C vs 3C	12.000	0.137	1.000	Do Not Test
3C vs 8C	183.000	2.092	1.000	Do Not Test
3C vs 2C	116.000	1.326	1.000	Do Not Test



3C vs 5C	82.500	0.943	1.000	Do Not Test
3C vs 6C	20.000	0.229	1.000	Do Not Test
3C vs 1C	0.500	0.00572	1.000	Do Not Test
1C vs 8C	182.500	2.087	1.000	Do Not Test
1C vs 2C	115.500	1.321	1.000	Do Not Test
1C vs 5C	82.000	0.938	1.000	Do Not Test
1C vs 6C	19.500	0.223	1.000	Do Not Test
6C vs 8C	163.000	1.864	1.000	Do Not Test
6C vs 2C	96.000	1.098	1.000	Do Not Test
6C vs 5C	62.500	0.715	1.000	Do Not Test
5C vs 8C	100.500	1.149	1.000	Do Not Test
5C vs 2C	33.500	0.383	1.000	Do Not Test
2C vs 8C	67.000	0.766	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:34:41

Data source: Tb.Sp in L5 4wks-2y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:34:41

Data source: Tb.Sp in L5 4wks-2y

Group	N	Missing	Median	25%	75%
1I	5	0	507.601	376.953	528.183
1C	5	0	649.014	480.013	667.873
1S	5	0	486.207	368.949	555.130
2I	5	0	529.756	376.797	543.002
2C	5	0	654.275	591.695	827.827
2S	5	0	507.735	360.890	555.974
3I	5	0	474.568	362.006	514.268
3C	5	0	610.151	479.087	655.101
3S	5	0	488.716	333.772	550.109
4I	5	0	535.576	397.868	601.067
4C	5	0	574.526	442.987	640.664
4S	5	0	512.718	422.225	588.224
5I	5	0	551.221	404.130	594.497
5C	5	0	625.969	478.253	654.477
5S	5	0	504.457	429.340	575.212
6I	5	0	519.842	399.289	582.466
6C	5	0	623.278	442.874	641.716
6S	5	0	508.032	416.184	584.166
7I	5	0	525.564	345.539	534.565
7C	5	0	547.490	405.916	578.614
7S	5	0	482.606	381.612	526.523
8I	5	0	533.870	362.169	641.213
8C	5	0	960.444	769.439	1105.170
8S	5	0	530.602	443.701	605.683
9I	5	0	497.595	358.356	538.792
9C	5	0	600.177	444.858	627.828
9S	5	0	513.267	386.471	530.645

H = 43.176 with 26 degrees of freedom. (P = 0.019)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = 0.019)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 3I	448.000	5.122	0.070	No
8C vs 7S	423.000	4.836	0.126	Do Not Test

8C vs 3S	415.000	4.745	0.150	Do Not Test
8C vs 9I	407.000	4.653	0.177	Do Not Test
8C vs 7I	400.000	4.573	0.204	Do Not Test
8C vs 1I	391.000	4.470	0.243	Do Not Test
8C vs 1S	390.000	4.459	0.248	Do Not Test
8C vs 9S	388.000	4.436	0.257	Do Not Test
8C vs 2S	380.000	4.345	0.297	Do Not Test
8C vs 2I	365.000	4.173	0.382	Do Not Test
8C vs 5S	335.000	3.830	0.580	Do Not Test
8C vs 4S	329.000	3.762	0.622	Do Not Test
8C vs 6I	329.000	3.762	0.622	Do Not Test
8C vs 6S	326.000	3.727	0.642	Do Not Test
8C vs 4I	314.000	3.590	0.722	Do Not Test
8C vs 7C	314.000	3.590	0.722	Do Not Test
8C vs 8I	304.000	3.476	0.782	Do Not Test
8C vs 5I	303.000	3.464	0.787	Do Not Test
8C vs 8S	275.000	3.144	0.906	Do Not Test
8C vs 4C	240.000	2.744	0.974	Do Not Test
8C vs 9C	221.000	2.527	0.990	Do Not Test
8C vs 6C	212.000	2.424	0.994	Do Not Test
8C vs 5C	184.000	2.104	1.000	Do Not Test
8C vs 3C	176.000	2.012	1.000	Do Not Test
8C vs 1C	149.000	1.704	1.000	Do Not Test
8C vs 2C	55.000	0.629	1.000	Do Not Test
2C vs 3I	393.000	4.493	0.234	Do Not Test
2C vs 7S	368.000	4.207	0.364	Do Not Test
2C vs 3S	360.000	4.116	0.412	Do Not Test
2C vs 9I	352.000	4.025	0.464	Do Not Test
2C vs 7I	345.000	3.944	0.511	Do Not Test
2C vs 1I	336.000	3.842	0.573	Do Not Test
2C vs 1S	335.000	3.830	0.580	Do Not Test
2C vs 9S	333.000	3.807	0.594	Do Not Test
2C vs 2S	325.000	3.716	0.649	Do Not Test
2C vs 2I	310.000	3.544	0.747	Do Not Test
2C vs 5S	280.000	3.201	0.890	Do Not Test
2C vs 4S	274.000	3.133	0.909	Do Not Test
2C vs 6I	274.000	3.133	0.909	Do Not Test
2C vs 6S	271.000	3.098	0.917	Do Not Test
2C vs 4I	259.000	2.961	0.945	Do Not Test
2C vs 7C	259.000	2.961	0.945	Do Not Test
2C vs 8I	249.000	2.847	0.962	Do Not Test
2C vs 5I	248.000	2.835	0.963	Do Not Test
2C vs 8S	220.000	2.515	0.991	Do Not Test
2C vs 4C	185.000	2.115	0.999	Do Not Test
2C vs 9C	166.000	1.898	1.000	Do Not Test
2C vs 6C	157.000	1.795	1.000	Do Not Test
2C vs 5C	129.000	1.475	1.000	Do Not Test
2C vs 3C	121.000	1.383	1.000	Do Not Test
2C vs 1C	94.000	1.075	1.000	Do Not Test
1C vs 3I	299.000	3.419	0.809	Do Not Test
1C vs 7S	274.000	3.133	0.909	Do Not Test
1C vs 3S	266.000	3.041	0.930	Do Not Test
1C vs 9I	258.000	2.950	0.947	Do Not Test
1C vs 7I	251.000	2.870	0.959	Do Not Test
1C vs 1I	242.000	2.767	0.971	Do Not Test
1C vs 1S	241.000	2.755	0.973	Do Not Test

1C vs 9S	239.000	2.733	0.975	Do Not Test
1C vs 2S	231.000	2.641	0.983	Do Not Test
1C vs 2I	216.000	2.470	0.993	Do Not Test
1C vs 5S	186.000	2.127	0.999	Do Not Test
1C vs 4S	180.000	2.058	1.000	Do Not Test
1C vs 6I	180.000	2.058	1.000	Do Not Test
1C vs 6S	177.000	2.024	1.000	Do Not Test
1C vs 4I	165.000	1.886	1.000	Do Not Test
1C vs 7C	165.000	1.886	1.000	Do Not Test
1C vs 8I	155.000	1.772	1.000	Do Not Test
1C vs 5I	154.000	1.761	1.000	Do Not Test
1C vs 8S	126.000	1.441	1.000	Do Not Test
1C vs 4C	91.000	1.040	1.000	Do Not Test
1C vs 9C	72.000	0.823	1.000	Do Not Test
1C vs 6C	63.000	0.720	1.000	Do Not Test
1C vs 5C	35.000	0.400	1.000	Do Not Test
1C vs 3C	27.000	0.309	1.000	Do Not Test
3C vs 3I	272.000	3.110	0.914	Do Not Test
3C vs 7S	247.000	2.824	0.965	Do Not Test
3C vs 3S	239.000	2.733	0.975	Do Not Test
3C vs 9I	231.000	2.641	0.983	Do Not Test
3C vs 7I	224.000	2.561	0.988	Do Not Test
3C vs 1I	215.000	2.458	0.993	Do Not Test
3C vs 1S	214.000	2.447	0.994	Do Not Test
3C vs 9S	212.000	2.424	0.994	Do Not Test
3C vs 2S	204.000	2.332	0.997	Do Not Test
3C vs 2I	189.000	2.161	0.999	Do Not Test
3C vs 5S	159.000	1.818	1.000	Do Not Test
3C vs 4S	153.000	1.749	1.000	Do Not Test
3C vs 6I	153.000	1.749	1.000	Do Not Test
3C vs 6S	150.000	1.715	1.000	Do Not Test
3C vs 4I	138.000	1.578	1.000	Do Not Test
3C vs 7C	138.000	1.578	1.000	Do Not Test
3C vs 8I	128.000	1.463	1.000	Do Not Test
3C vs 5I	127.000	1.452	1.000	Do Not Test
3C vs 8S	99.000	1.132	1.000	Do Not Test
3C vs 4C	64.000	0.732	1.000	Do Not Test
3C vs 9C	45.000	0.514	1.000	Do Not Test
3C vs 6C	36.000	0.412	1.000	Do Not Test
3C vs 5C	8.000	0.0915	1.000	Do Not Test
5C vs 3I	264.000	3.018	0.934	Do Not Test
5C vs 7S	239.000	2.733	0.975	Do Not Test
5C vs 3S	231.000	2.641	0.983	Do Not Test
5C vs 9I	223.000	2.550	0.989	Do Not Test
5C vs 7I	216.000	2.470	0.993	Do Not Test
5C vs 1I	207.000	2.367	0.996	Do Not Test
5C vs 1S	206.000	2.355	0.996	Do Not Test
5C vs 9S	204.000	2.332	0.997	Do Not Test
5C vs 2S	196.000	2.241	0.998	Do Not Test
5C vs 2I	181.000	2.069	1.000	Do Not Test
5C vs 5S	151.000	1.726	1.000	Do Not Test
5C vs 4S	145.000	1.658	1.000	Do Not Test
5C vs 6I	145.000	1.658	1.000	Do Not Test
5C vs 6S	142.000	1.624	1.000	Do Not Test
5C vs 4I	130.000	1.486	1.000	Do Not Test
5C vs 7C	130.000	1.486	1.000	Do Not Test

5C vs 8I	120.000	1.372	1.000	Do Not Test
5C vs 5I	119.000	1.361	1.000	Do Not Test
5C vs 8S	91.000	1.040	1.000	Do Not Test
5C vs 4C	56.000	0.640	1.000	Do Not Test
5C vs 9C	37.000	0.423	1.000	Do Not Test
5C vs 6C	28.000	0.320	1.000	Do Not Test
6C vs 3I	236.000	2.698	0.978	Do Not Test
6C vs 7S	211.000	2.412	0.995	Do Not Test
6C vs 3S	203.000	2.321	0.997	Do Not Test
6C vs 9I	195.000	2.229	0.999	Do Not Test
6C vs 7I	188.000	2.149	0.999	Do Not Test
6C vs 1I	179.000	2.047	1.000	Do Not Test
6C vs 1S	178.000	2.035	1.000	Do Not Test
6C vs 9S	176.000	2.012	1.000	Do Not Test
6C vs 2S	168.000	1.921	1.000	Do Not Test
6C vs 2I	153.000	1.749	1.000	Do Not Test
6C vs 5S	123.000	1.406	1.000	Do Not Test
6C vs 4S	117.000	1.338	1.000	Do Not Test
6C vs 6I	117.000	1.338	1.000	Do Not Test
6C vs 6S	114.000	1.303	1.000	Do Not Test
6C vs 4I	102.000	1.166	1.000	Do Not Test
6C vs 7C	102.000	1.166	1.000	Do Not Test
6C vs 8I	92.000	1.052	1.000	Do Not Test
6C vs 5I	91.000	1.040	1.000	Do Not Test
6C vs 8S	63.000	0.720	1.000	Do Not Test
6C vs 4C	28.000	0.320	1.000	Do Not Test
6C vs 9C	9.000	0.103	1.000	Do Not Test
9C vs 3I	227.000	2.595	0.986	Do Not Test
9C vs 7S	202.000	2.310	0.997	Do Not Test
9C vs 3S	194.000	2.218	0.999	Do Not Test
9C vs 9I	186.000	2.127	0.999	Do Not Test
9C vs 7I	179.000	2.047	1.000	Do Not Test
9C vs 1I	170.000	1.944	1.000	Do Not Test
9C vs 1S	169.000	1.932	1.000	Do Not Test
9C vs 9S	167.000	1.909	1.000	Do Not Test
9C vs 2S	159.000	1.818	1.000	Do Not Test
9C vs 2I	144.000	1.646	1.000	Do Not Test
9C vs 5S	114.000	1.303	1.000	Do Not Test
9C vs 4S	108.000	1.235	1.000	Do Not Test
9C vs 6I	108.000	1.235	1.000	Do Not Test
9C vs 6S	105.000	1.200	1.000	Do Not Test
9C vs 4I	93.000	1.063	1.000	Do Not Test
9C vs 7C	93.000	1.063	1.000	Do Not Test
9C vs 8I	83.000	0.949	1.000	Do Not Test
9C vs 5I	82.000	0.938	1.000	Do Not Test
9C vs 8S	54.000	0.617	1.000	Do Not Test
9C vs 4C	19.000	0.217	1.000	Do Not Test
4C vs 3I	208.000	2.378	0.996	Do Not Test
4C vs 7S	183.000	2.092	1.000	Do Not Test
4C vs 3S	175.000	2.001	1.000	Do Not Test
4C vs 9I	167.000	1.909	1.000	Do Not Test
4C vs 7I	160.000	1.829	1.000	Do Not Test
4C vs 1I	151.000	1.726	1.000	Do Not Test
4C vs 1S	150.000	1.715	1.000	Do Not Test
4C vs 9S	148.000	1.692	1.000	Do Not Test
4C vs 2S	140.000	1.601	1.000	Do Not Test

4C vs 2I	125.000	1.429	1.000	Do Not Test
4C vs 5S	95.000	1.086	1.000	Do Not Test
4C vs 4S	89.000	1.018	1.000	Do Not Test
4C vs 6I	89.000	1.018	1.000	Do Not Test
4C vs 6S	86.000	0.983	1.000	Do Not Test
4C vs 4I	74.000	0.846	1.000	Do Not Test
4C vs 7C	74.000	0.846	1.000	Do Not Test
4C vs 8I	64.000	0.732	1.000	Do Not Test
4C vs 5I	63.000	0.720	1.000	Do Not Test
4C vs 8S	35.000	0.400	1.000	Do Not Test
8S vs 3I	173.000	1.978	1.000	Do Not Test
8S vs 7S	148.000	1.692	1.000	Do Not Test
8S vs 3S	140.000	1.601	1.000	Do Not Test
8S vs 9I	132.000	1.509	1.000	Do Not Test
8S vs 7I	125.000	1.429	1.000	Do Not Test
8S vs 1I	116.000	1.326	1.000	Do Not Test
8S vs 1S	115.000	1.315	1.000	Do Not Test
8S vs 9S	113.000	1.292	1.000	Do Not Test
8S vs 2S	105.000	1.200	1.000	Do Not Test
8S vs 2I	90.000	1.029	1.000	Do Not Test
8S vs 5S	60.000	0.686	1.000	Do Not Test
8S vs 4S	54.000	0.617	1.000	Do Not Test
8S vs 6I	54.000	0.617	1.000	Do Not Test
8S vs 6S	51.000	0.583	1.000	Do Not Test
8S vs 4I	39.000	0.446	1.000	Do Not Test
8S vs 7C	39.000	0.446	1.000	Do Not Test
8S vs 8I	29.000	0.332	1.000	Do Not Test
8S vs 5I	28.000	0.320	1.000	Do Not Test
5I vs 3I	145.000	1.658	1.000	Do Not Test
5I vs 7S	120.000	1.372	1.000	Do Not Test
5I vs 3S	112.000	1.281	1.000	Do Not Test
5I vs 9I	104.000	1.189	1.000	Do Not Test
5I vs 7I	97.000	1.109	1.000	Do Not Test
5I vs 1I	88.000	1.006	1.000	Do Not Test
5I vs 1S	87.000	0.995	1.000	Do Not Test
5I vs 9S	85.000	0.972	1.000	Do Not Test
5I vs 2S	77.000	0.880	1.000	Do Not Test
5I vs 2I	62.000	0.709	1.000	Do Not Test
5I vs 5S	32.000	0.366	1.000	Do Not Test
5I vs 4S	26.000	0.297	1.000	Do Not Test
5I vs 6I	26.000	0.297	1.000	Do Not Test
5I vs 6S	23.000	0.263	1.000	Do Not Test
5I vs 4I	11.000	0.126	1.000	Do Not Test
5I vs 7C	11.000	0.126	1.000	Do Not Test
5I vs 8I	1.000	0.0114	1.000	Do Not Test
8I vs 3I	144.000	1.646	1.000	Do Not Test
8I vs 7S	119.000	1.361	1.000	Do Not Test
8I vs 3S	111.000	1.269	1.000	Do Not Test
8I vs 9I	103.000	1.178	1.000	Do Not Test
8I vs 7I	96.000	1.098	1.000	Do Not Test
8I vs 1I	87.000	0.995	1.000	Do Not Test
8I vs 1S	86.000	0.983	1.000	Do Not Test
8I vs 9S	84.000	0.960	1.000	Do Not Test
8I vs 2S	76.000	0.869	1.000	Do Not Test
8I vs 2I	61.000	0.697	1.000	Do Not Test
8I vs 5S	31.000	0.354	1.000	Do Not Test

8I vs 4S	25.000	0.286	1.000	Do Not Test
8I vs 6I	25.000	0.286	1.000	Do Not Test
8I vs 6S	22.000	0.252	1.000	Do Not Test
8I vs 4I	10.000	0.114	1.000	Do Not Test
8I vs 7C	10.000	0.114	1.000	Do Not Test
7C vs 3I	134.000	1.532	1.000	Do Not Test
7C vs 7S	109.000	1.246	1.000	Do Not Test
7C vs 3S	101.000	1.155	1.000	Do Not Test
7C vs 9I	93.000	1.063	1.000	Do Not Test
7C vs 7I	86.000	0.983	1.000	Do Not Test
7C vs 1I	77.000	0.880	1.000	Do Not Test
7C vs 1S	76.000	0.869	1.000	Do Not Test
7C vs 9S	74.000	0.846	1.000	Do Not Test
7C vs 2S	66.000	0.755	1.000	Do Not Test
7C vs 2I	51.000	0.583	1.000	Do Not Test
7C vs 5S	21.000	0.240	1.000	Do Not Test
7C vs 4S	15.000	0.171	1.000	Do Not Test
7C vs 6I	15.000	0.171	1.000	Do Not Test
7C vs 6S	12.000	0.137	1.000	Do Not Test
7C vs 4I	0.000	0.000	1.000	Do Not Test
4I vs 3I	134.000	1.532	1.000	Do Not Test
4I vs 7S	109.000	1.246	1.000	Do Not Test
4I vs 3S	101.000	1.155	1.000	Do Not Test
4I vs 9I	93.000	1.063	1.000	Do Not Test
4I vs 7I	86.000	0.983	1.000	Do Not Test
4I vs 1I	77.000	0.880	1.000	Do Not Test
4I vs 1S	76.000	0.869	1.000	Do Not Test
4I vs 9S	74.000	0.846	1.000	Do Not Test
4I vs 2S	66.000	0.755	1.000	Do Not Test
4I vs 2I	51.000	0.583	1.000	Do Not Test
4I vs 5S	21.000	0.240	1.000	Do Not Test
4I vs 4S	15.000	0.171	1.000	Do Not Test
4I vs 6I	15.000	0.171	1.000	Do Not Test
4I vs 6S	12.000	0.137	1.000	Do Not Test
6S vs 3I	122.000	1.395	1.000	Do Not Test
6S vs 7S	97.000	1.109	1.000	Do Not Test
6S vs 3S	89.000	1.018	1.000	Do Not Test
6S vs 9I	81.000	0.926	1.000	Do Not Test
6S vs 7I	74.000	0.846	1.000	Do Not Test
6S vs 1I	65.000	0.743	1.000	Do Not Test
6S vs 1S	64.000	0.732	1.000	Do Not Test
6S vs 9S	62.000	0.709	1.000	Do Not Test
6S vs 2S	54.000	0.617	1.000	Do Not Test
6S vs 2I	39.000	0.446	1.000	Do Not Test
6S vs 5S	9.000	0.103	1.000	Do Not Test
6S vs 4S	3.000	0.0343	1.000	Do Not Test
6S vs 6I	3.000	0.0343	1.000	Do Not Test
6I vs 3I	119.000	1.361	1.000	Do Not Test
6I vs 7S	94.000	1.075	1.000	Do Not Test
6I vs 3S	86.000	0.983	1.000	Do Not Test
6I vs 9I	78.000	0.892	1.000	Do Not Test
6I vs 7I	71.000	0.812	1.000	Do Not Test
6I vs 1I	62.000	0.709	1.000	Do Not Test
6I vs 1S	61.000	0.697	1.000	Do Not Test
6I vs 9S	59.000	0.675	1.000	Do Not Test
6I vs 2S	51.000	0.583	1.000	Do Not Test

6I vs 2I	36.000	0.412	1.000	Do Not Test
6I vs 5S	6.000	0.0686	1.000	Do Not Test
6I vs 4S	0.000	0.000	1.000	Do Not Test
4S vs 3I	119.000	1.361	1.000	Do Not Test
4S vs 7S	94.000	1.075	1.000	Do Not Test
4S vs 3S	86.000	0.983	1.000	Do Not Test
4S vs 9I	78.000	0.892	1.000	Do Not Test
4S vs 7I	71.000	0.812	1.000	Do Not Test
4S vs 1I	62.000	0.709	1.000	Do Not Test
4S vs 1S	61.000	0.697	1.000	Do Not Test
4S vs 9S	59.000	0.675	1.000	Do Not Test
4S vs 2S	51.000	0.583	1.000	Do Not Test
4S vs 2I	36.000	0.412	1.000	Do Not Test
4S vs 5S	6.000	0.0686	1.000	Do Not Test
5S vs 3I	113.000	1.292	1.000	Do Not Test
5S vs 7S	88.000	1.006	1.000	Do Not Test
5S vs 3S	80.000	0.915	1.000	Do Not Test
5S vs 9I	72.000	0.823	1.000	Do Not Test
5S vs 7I	65.000	0.743	1.000	Do Not Test
5S vs 1I	56.000	0.640	1.000	Do Not Test
5S vs 1S	55.000	0.629	1.000	Do Not Test
5S vs 9S	53.000	0.606	1.000	Do Not Test
5S vs 2S	45.000	0.514	1.000	Do Not Test
5S vs 2I	30.000	0.343	1.000	Do Not Test
2I vs 3I	83.000	0.949	1.000	Do Not Test
2I vs 7S	58.000	0.663	1.000	Do Not Test
2I vs 3S	50.000	0.572	1.000	Do Not Test
2I vs 9I	42.000	0.480	1.000	Do Not Test
2I vs 7I	35.000	0.400	1.000	Do Not Test
2I vs 1I	26.000	0.297	1.000	Do Not Test
2I vs 1S	25.000	0.286	1.000	Do Not Test
2I vs 9S	23.000	0.263	1.000	Do Not Test
2I vs 2S	15.000	0.171	1.000	Do Not Test
2S vs 3I	68.000	0.777	1.000	Do Not Test
2S vs 7S	43.000	0.492	1.000	Do Not Test
2S vs 3S	35.000	0.400	1.000	Do Not Test
2S vs 9I	27.000	0.309	1.000	Do Not Test
2S vs 7I	20.000	0.229	1.000	Do Not Test
2S vs 1I	11.000	0.126	1.000	Do Not Test
2S vs 1S	10.000	0.114	1.000	Do Not Test
2S vs 9S	8.000	0.0915	1.000	Do Not Test
9S vs 3I	60.000	0.686	1.000	Do Not Test
9S vs 7S	35.000	0.400	1.000	Do Not Test
9S vs 3S	27.000	0.309	1.000	Do Not Test
9S vs 9I	19.000	0.217	1.000	Do Not Test
9S vs 7I	12.000	0.137	1.000	Do Not Test
9S vs 1I	3.000	0.0343	1.000	Do Not Test
9S vs 1S	2.000	0.0229	1.000	Do Not Test
1S vs 3I	58.000	0.663	1.000	Do Not Test
1S vs 7S	33.000	0.377	1.000	Do Not Test
1S vs 3S	25.000	0.286	1.000	Do Not Test
1S vs 9I	17.000	0.194	1.000	Do Not Test
1S vs 7I	10.000	0.114	1.000	Do Not Test
1S vs 1I	1.000	0.0114	1.000	Do Not Test
1I vs 3I	57.000	0.652	1.000	Do Not Test
1I vs 7S	32.000	0.366	1.000	Do Not Test



1I vs 3S	24.000	0.274	1.000	Do Not Test
1I vs 9I	16.000	0.183	1.000	Do Not Test
1I vs 7I	9.000	0.103	1.000	Do Not Test
7I vs 3I	48.000	0.549	1.000	Do Not Test
7I vs 7S	23.000	0.263	1.000	Do Not Test
7I vs 3S	15.000	0.171	1.000	Do Not Test
7I vs 9I	7.000	0.0800	1.000	Do Not Test
9I vs 3I	41.000	0.469	1.000	Do Not Test
9I vs 7S	16.000	0.183	1.000	Do Not Test
9I vs 3S	8.000	0.0915	1.000	Do Not Test
3S vs 3I	33.000	0.377	1.000	Do Not Test
3S vs 7S	8.000	0.0915	1.000	Do Not Test
7S vs 3I	25.000	0.286	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

Thursday, November 16, 2017, 15:58:21

Data source: DA in L5 0-2y

Normality Test (Shapiro-Wilk) Passed (P = 0.354)

Equal Variance Test: Passed (P = 0.186)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	5	0	0.369	0.0829	0.0371
1C	5	0	0.464	0.0402	0.0180
1S	5	0	0.404	0.0879	0.0393
2I	5	0	0.305	0.102	0.0455
2C	5	0	0.282	0.0963	0.0431
2S	5	0	0.392	0.0696	0.0311
3I	5	0	0.352	0.0784	0.0351
3C	5	0	0.463	0.0422	0.0189
3S	5	0	0.410	0.0653	0.0292
4I	5	0	0.275	0.0449	0.0201
4C	5	0	0.390	0.0224	0.0100
4S	5	0	0.311	0.0877	0.0392
5I	5	0	0.176	0.0518	0.0231
5C	5	0	0.361	0.0541	0.0242
5S	5	0	0.287	0.116	0.0517
6I	5	0	0.293	0.0789	0.0353
6C	5	0	0.395	0.0462	0.0206
6S	5	0	0.317	0.0665	0.0297
7I	5	0	0.292	0.0896	0.0401
7C	5	0	0.319	0.103	0.0460
7S	5	0	0.288	0.125	0.0557
8I	5	0	0.278	0.0730	0.0327
8C	5	0	0.324	0.0693	0.0310
8S	5	0	0.303	0.0437	0.0196
9I	5	0	0.309	0.0540	0.0241
9C	5	0	0.333	0.0214	0.00958
9S	5	0	0.307	0.0908	0.0406

Source of Variation	DF	SS	MS	F	P
Between Groups	26	0.516	0.0198	3.507	<0.001
Residual	108	0.611	0.00565		
Total	134	1.126			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 0.999

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

Comparison	Diff of Means	p	q	P	P<0.050
1C vs. 5I	0.289	27	8.593	<0.001	Yes
1C vs. 4I	0.189	27	5.629	0.028	Yes
1C vs. 8I	0.186	27	5.541	0.034	Yes

1C vs. 2C	0.183	27	5.437	0.043	Yes
1C vs. 5S	0.177	27	5.278	0.061	No
1C vs. 7S	0.176	27	5.243	0.065	Do Not Test
1C vs. 7I	0.172	27	5.129	0.082	Do Not Test
1C vs. 6I	0.172	27	5.105	0.086	Do Not Test
1C vs. 8S	0.161	27	4.790	0.154	Do Not Test
1C vs. 2I	0.159	27	4.732	0.171	Do Not Test
1C vs. 9S	0.158	27	4.692	0.183	Do Not Test
1C vs. 9I	0.155	27	4.620	0.206	Do Not Test
1C vs. 4S	0.153	27	4.558	0.227	Do Not Test
1C vs. 6S	0.148	27	4.387	0.294	Do Not Test
1C vs. 7C	0.145	27	4.324	0.321	Do Not Test
1C vs. 8C	0.141	27	4.186	0.386	Do Not Test
1C vs. 9C	0.132	27	3.920	0.524	Do Not Test
1C vs. 3I	0.113	27	3.355	0.809	Do Not Test
1C vs. 5C	0.103	27	3.074	0.908	Do Not Test
1C vs. 1I	0.0959	27	2.853	0.956	Do Not Test
1C vs. 4C	0.0749	27	2.228	0.998	Do Not Test
1C vs. 2S	0.0724	27	2.152	0.999	Do Not Test
1C vs. 6C	0.0695	27	2.068	0.999	Do Not Test
1C vs. 1S	0.0602	27	1.789	1.000	Do Not Test
1C vs. 3S	0.0547	27	1.628	1.000	Do Not Test
1C vs. 3C	0.00185	27	0.0551	1.000	Do Not Test
<b>3C vs. 5I</b>	<b>0.287</b>	<b>27</b>	<b>8.538</b>	<b>&lt;0.001</b>	<b>Yes</b>
3C vs. 4I	0.187	27	5.573	0.032	Yes
3C vs. 8I	0.184	27	5.486	0.039	Yes
3C vs. 2C	0.181	27	5.382	0.049	Yes
3C vs. 5S	0.176	27	5.223	0.068	Do Not Test
3C vs. 7S	0.174	27	5.188	0.073	Do Not Test
3C vs. 7I	0.171	27	5.074	0.091	Do Not Test
3C vs. 6I	0.170	27	5.050	0.096	Do Not Test
3C vs. 8S	0.159	27	4.735	0.170	Do Not Test
3C vs. 2I	0.157	27	4.677	0.187	Do Not Test
3C vs. 9S	0.156	27	4.637	0.200	Do Not Test
3C vs. 9I	0.154	27	4.565	0.225	Do Not Test
3C vs. 4S	0.151	27	4.503	0.247	Do Not Test
3C vs. 6S	0.146	27	4.332	0.318	Do Not Test
3C vs. 7C	0.144	27	4.269	0.346	Do Not Test
3C vs. 8C	0.139	27	4.130	0.413	Do Not Test
3C vs. 9C	0.130	27	3.865	0.553	Do Not Test
3C vs. 3I	0.111	27	3.300	0.832	Do Not Test
3C vs. 5C	0.102	27	3.018	0.922	Do Not Test
3C vs. 1I	0.0941	27	2.798	0.964	Do Not Test
3C vs. 4C	0.0731	27	2.173	0.999	Do Not Test
3C vs. 2S	0.0705	27	2.097	0.999	Do Not Test
3C vs. 6C	0.0677	27	2.013	1.000	Do Not Test
3C vs. 1S	0.0583	27	1.734	1.000	Do Not Test
3C vs. 3S	0.0529	27	1.573	1.000	Do Not Test
<b>3S vs. 5I</b>	<b>0.234</b>	<b>27</b>	<b>6.965</b>	<b>0.001</b>	<b>Yes</b>
3S vs. 4I	0.135	27	4.001	0.481	No
3S vs. 8I	0.132	27	3.914	0.527	Do Not Test
3S vs. 2C	0.128	27	3.809	0.584	Do Not Test
3S vs. 5S	0.123	27	3.651	0.668	Do Not Test
3S vs. 7S	0.122	27	3.616	0.686	Do Not Test
3S vs. 7I	0.118	27	3.502	0.743	Do Not Test
3S vs. 6I	0.117	27	3.477	0.755	Do Not Test

3S vs. 8S	0.106	27	3.162	0.881	Do Not Test
3S vs. 2I	0.104	27	3.104	0.899	Do Not Test
3S vs. 9S	0.103	27	3.064	0.910	Do Not Test
3S vs. 9I	0.101	27	2.992	0.928	Do Not Test
3S vs. 4S	0.0985	27	2.930	0.942	Do Not Test
3S vs. 6S	0.0928	27	2.760	0.969	Do Not Test
3S vs. 7C	0.0907	27	2.697	0.976	Do Not Test
3S vs. 8C	0.0860	27	2.558	0.988	Do Not Test
3S vs. 9C	0.0771	27	2.293	0.997	Do Not Test
3S vs. 3I	0.0581	27	1.727	1.000	Do Not Test
3S vs. 5C	0.0486	27	1.446	1.000	Do Not Test
3S vs. 1I	0.0412	27	1.225	1.000	Do Not Test
3S vs. 4C	0.0202	27	0.600	1.000	Do Not Test
3S vs. 2S	0.0176	27	0.524	1.000	Do Not Test
3S vs. 6C	0.0148	27	0.440	1.000	Do Not Test
3S vs. 1S	0.00542	27	0.161	1.000	Do Not Test
<b>1S vs. 5I</b>	<b>0.229</b>	<b>27</b>	<b>6.804</b>	<b>0.002</b>	<b>Yes</b>
1S vs. 4I	0.129	27	3.840	0.567	Do Not Test
1S vs. 8I	0.126	27	3.752	0.614	Do Not Test
1S vs. 2C	0.123	27	3.648	0.670	Do Not Test
1S vs. 5S	0.117	27	3.489	0.749	Do Not Test
1S vs. 7S	0.116	27	3.454	0.765	Do Not Test
1S vs. 7I	0.112	27	3.340	0.816	Do Not Test
1S vs. 6I	0.112	27	3.316	0.825	Do Not Test
1S vs. 8S	0.101	27	3.001	0.926	Do Not Test
1S vs. 2I	0.0990	27	2.943	0.939	Do Not Test
1S vs. 9S	0.0976	27	2.903	0.947	Do Not Test
1S vs. 9I	0.0952	27	2.831	0.959	Do Not Test
1S vs. 4S	0.0931	27	2.769	0.968	Do Not Test
1S vs. 6S	0.0874	27	2.598	0.985	Do Not Test
1S vs. 7C	0.0853	27	2.535	0.989	Do Not Test
1S vs. 8C	0.0806	27	2.396	0.995	Do Not Test
1S vs. 9C	0.0717	27	2.131	0.999	Do Not Test
1S vs. 3I	0.0527	27	1.566	1.000	Do Not Test
1S vs. 5C	0.0432	27	1.285	1.000	Do Not Test
1S vs. 1I	0.0358	27	1.064	1.000	Do Not Test
1S vs. 4C	0.0148	27	0.439	1.000	Do Not Test
1S vs. 2S	0.0122	27	0.363	1.000	Do Not Test
1S vs. 6C	0.00938	27	0.279	1.000	Do Not Test
<b>6C vs. 5I</b>	<b>0.219</b>	<b>27</b>	<b>6.525</b>	<b>0.003</b>	<b>Yes</b>
6C vs. 4I	0.120	27	3.560	0.714	Do Not Test
6C vs. 8I	0.117	27	3.473	0.757	Do Not Test
6C vs. 2C	0.113	27	3.369	0.803	Do Not Test
6C vs. 5S	0.108	27	3.210	0.865	Do Not Test
6C vs. 7S	0.107	27	3.175	0.877	Do Not Test
6C vs. 7I	0.103	27	3.061	0.911	Do Not Test
6C vs. 6I	0.102	27	3.037	0.917	Do Not Test
6C vs. 8S	0.0915	27	2.722	0.974	Do Not Test
6C vs. 2I	0.0896	27	2.664	0.980	Do Not Test
6C vs. 9S	0.0882	27	2.624	0.983	Do Not Test
6C vs. 9I	0.0858	27	2.552	0.988	Do Not Test
6C vs. 4S	0.0837	27	2.490	0.991	Do Not Test
6C vs. 6S	0.0780	27	2.319	0.997	Do Not Test
6C vs. 7C	0.0759	27	2.256	0.998	Do Not Test
6C vs. 8C	0.0712	27	2.117	0.999	Do Not Test
6C vs. 9C	0.0623	27	1.852	1.000	Do Not Test

6C vs. 3I	0.0433	27	1.287	1.000	Do Not Test
6C vs. 5C	0.0338	27	1.006	1.000	Do Not Test
6C vs. 1I	0.0264	27	0.785	1.000	Do Not Test
6C vs. 4C	0.00538	27	0.160	1.000	Do Not Test
6C vs. 2S	0.00283	27	0.0841	1.000	Do Not Test
<b>2S vs. 5I</b>	<b>0.217</b>	<b>27</b>	<b>6.440</b>	<b>0.004</b>	<b>Yes</b>
2S vs. 4I	0.117	27	3.476	0.755	Do Not Test
2S vs. 8I	0.114	27	3.389	0.795	Do Not Test
2S vs. 2C	0.110	27	3.285	0.838	Do Not Test
2S vs. 5S	0.105	27	3.126	0.892	Do Not Test
2S vs. 7S	0.104	27	3.091	0.903	Do Not Test
2S vs. 7I	0.100	27	2.977	0.932	Do Not Test
2S vs. 6I	0.0993	27	2.953	0.937	Do Not Test
2S vs. 8S	0.0887	27	2.638	0.982	Do Not Test
2S vs. 2I	0.0868	27	2.580	0.986	Do Not Test
2S vs. 9S	0.0854	27	2.540	0.989	Do Not Test
2S vs. 9I	0.0830	27	2.468	0.992	Do Not Test
2S vs. 4S	0.0809	27	2.406	0.995	Do Not Test
2S vs. 6S	0.0752	27	2.235	0.998	Do Not Test
2S vs. 7C	0.0730	27	2.172	0.999	Do Not Test
2S vs. 8C	0.0684	27	2.033	1.000	Do Not Test
2S vs. 9C	0.0595	27	1.768	1.000	Do Not Test
2S vs. 3I	0.0405	27	1.203	1.000	Do Not Test
2S vs. 5C	0.0310	27	0.921	1.000	Do Not Test
2S vs. 1I	0.0236	27	0.701	1.000	Do Not Test
2S vs. 4C	0.00255	27	0.0759	1.000	Do Not Test
<b>4C vs. 5I</b>	<b>0.214</b>	<b>27</b>	<b>6.365</b>	<b>0.005</b>	<b>Yes</b>
4C vs. 4I	0.114	27	3.400	0.790	Do Not Test
4C vs. 8I	0.111	27	3.313	0.826	Do Not Test
4C vs. 2C	0.108	27	3.209	0.865	Do Not Test
4C vs. 5S	0.103	27	3.050	0.914	Do Not Test
4C vs. 7S	0.101	27	3.015	0.923	Do Not Test
4C vs. 7I	0.0976	27	2.901	0.947	Do Not Test
4C vs. 6I	0.0967	27	2.877	0.952	Do Not Test
4C vs. 8S	0.0861	27	2.562	0.987	Do Not Test
4C vs. 2I	0.0842	27	2.504	0.991	Do Not Test
4C vs. 9S	0.0828	27	2.464	0.992	Do Not Test
4C vs. 9I	0.0804	27	2.392	0.995	Do Not Test
4C vs. 4S	0.0783	27	2.330	0.997	Do Not Test
4C vs. 6S	0.0726	27	2.159	0.999	Do Not Test
4C vs. 7C	0.0705	27	2.096	0.999	Do Not Test
4C vs. 8C	0.0658	27	1.957	1.000	Do Not Test
4C vs. 9C	0.0569	27	1.692	1.000	Do Not Test
4C vs. 3I	0.0379	27	1.127	1.000	Do Not Test
4C vs. 5C	0.0284	27	0.846	1.000	Do Not Test
4C vs. 1I	0.0210	27	0.625	1.000	Do Not Test
1I vs. 5I	0.193	27	5.739	0.022	Yes
1I vs. 4I	0.0933	27	2.775	0.967	Do Not Test
1I vs. 8I	0.0904	27	2.688	0.977	Do Not Test
1I vs. 2C	0.0869	27	2.584	0.986	Do Not Test
1I vs. 5S	0.0815	27	2.425	0.994	Do Not Test
1I vs. 7S	0.0804	27	2.390	0.995	Do Not Test
1I vs. 7I	0.0765	27	2.276	0.998	Do Not Test
1I vs. 6I	0.0757	27	2.252	0.998	Do Not Test
1I vs. 8S	0.0651	27	1.937	1.000	Do Not Test
1I vs. 2I	0.0632	27	1.879	1.000	Do Not Test

1I vs. 9S	0.0618	27	1.839	1.000	Do Not Test
1I vs. 9I	0.0594	27	1.767	1.000	Do Not Test
1I vs. 4S	0.0573	27	1.705	1.000	Do Not Test
1I vs. 6S	0.0516	27	1.534	1.000	Do Not Test
1I vs. 7C	0.0495	27	1.471	1.000	Do Not Test
1I vs. 8C	0.0448	27	1.332	1.000	Do Not Test
1I vs. 9C	0.0359	27	1.067	1.000	Do Not Test
1I vs. 3I	0.0169	27	0.502	1.000	Do Not Test
1I vs. 5C	0.00741	27	0.220	1.000	Do Not Test
5C vs. 5I	0.186	27	5.519	0.036	Yes
5C vs. 4I	0.0859	27	2.555	0.988	Do Not Test
5C vs. 8I	0.0830	27	2.468	0.992	Do Not Test
5C vs. 2C	0.0795	27	2.364	0.996	Do Not Test
5C vs. 5S	0.0741	27	2.205	0.998	Do Not Test
5C vs. 7S	0.0730	27	2.170	0.999	Do Not Test
5C vs. 7I	0.0691	27	2.056	1.000	Do Not Test
5C vs. 6I	0.0683	27	2.031	1.000	Do Not Test
5C vs. 8S	0.0577	27	1.716	1.000	Do Not Test
5C vs. 2I	0.0558	27	1.659	1.000	Do Not Test
5C vs. 9S	0.0544	27	1.618	1.000	Do Not Test
5C vs. 9I	0.0520	27	1.546	1.000	Do Not Test
5C vs. 4S	0.0499	27	1.484	1.000	Do Not Test
5C vs. 6S	0.0442	27	1.314	1.000	Do Not Test
5C vs. 7C	0.0421	27	1.251	1.000	Do Not Test
5C vs. 8C	0.0374	27	1.112	1.000	Do Not Test
5C vs. 9C	0.0285	27	0.847	1.000	Do Not Test
5C vs. 3I	0.00947	27	0.282	1.000	Do Not Test
3I vs. 5I	0.176	27	5.237	0.066	No
3I vs. 4I	0.0764	27	2.273	0.998	Do Not Test
3I vs. 8I	0.0735	27	2.186	0.999	Do Not Test
3I vs. 2C	0.0700	27	2.082	0.999	Do Not Test
3I vs. 5S	0.0647	27	1.923	1.000	Do Not Test
3I vs. 7S	0.0635	27	1.888	1.000	Do Not Test
3I vs. 7I	0.0597	27	1.774	1.000	Do Not Test
3I vs. 6I	0.0588	27	1.750	1.000	Do Not Test
3I vs. 8S	0.0482	27	1.435	1.000	Do Not Test
3I vs. 2I	0.0463	27	1.377	1.000	Do Not Test
3I vs. 9S	0.0449	27	1.337	1.000	Do Not Test
3I vs. 9I	0.0425	27	1.265	1.000	Do Not Test
3I vs. 4S	0.0404	27	1.203	1.000	Do Not Test
3I vs. 6S	0.0347	27	1.032	1.000	Do Not Test
3I vs. 7C	0.0326	27	0.969	1.000	Do Not Test
3I vs. 8C	0.0279	27	0.830	1.000	Do Not Test
3I vs. 9C	0.0190	27	0.565	1.000	Do Not Test
9C vs. 5I	0.157	27	4.672	0.189	Do Not Test
9C vs. 4I	0.0574	27	1.708	1.000	Do Not Test
9C vs. 8I	0.0545	27	1.621	1.000	Do Not Test
9C vs. 2C	0.0510	27	1.517	1.000	Do Not Test
9C vs. 5S	0.0457	27	1.358	1.000	Do Not Test
9C vs. 7S	0.0445	27	1.323	1.000	Do Not Test
9C vs. 7I	0.0407	27	1.209	1.000	Do Not Test
9C vs. 6I	0.0398	27	1.185	1.000	Do Not Test
9C vs. 8S	0.0292	27	0.870	1.000	Do Not Test
9C vs. 2I	0.0273	27	0.812	1.000	Do Not Test
9C vs. 9S	0.0259	27	0.771	1.000	Do Not Test
9C vs. 9I	0.0235	27	0.700	1.000	Do Not Test

9C vs. 4S	0.0214	27	0.638	1.000	Do Not Test
9C vs. 6S	0.0157	27	0.467	1.000	Do Not Test
9C vs. 7C	0.0136	27	0.404	1.000	Do Not Test
9C vs. 8C	0.00892	27	0.265	1.000	Do Not Test
8C vs. 5I	0.148	27	4.407	0.286	Do Not Test
8C vs. 4I	0.0485	27	1.443	1.000	Do Not Test
8C vs. 8I	0.0456	27	1.356	1.000	Do Not Test
8C vs. 2C	0.0421	27	1.252	1.000	Do Not Test
8C vs. 5S	0.0367	27	1.093	1.000	Do Not Test
8C vs. 7S	0.0356	27	1.058	1.000	Do Not Test
8C vs. 7I	0.0317	27	0.944	1.000	Do Not Test
8C vs. 6I	0.0309	27	0.919	1.000	Do Not Test
8C vs. 8S	0.0203	27	0.604	1.000	Do Not Test
8C vs. 2I	0.0184	27	0.547	1.000	Do Not Test
8C vs. 9S	0.0170	27	0.506	1.000	Do Not Test
8C vs. 9I	0.0146	27	0.434	1.000	Do Not Test
8C vs. 4S	0.0125	27	0.373	1.000	Do Not Test
8C vs. 6S	0.00679	27	0.202	1.000	Do Not Test
8C vs. 7C	0.00467	27	0.139	1.000	Do Not Test
7C vs. 5I	0.144	27	4.268	0.347	Do Not Test
7C vs. 4I	0.0439	27	1.304	1.000	Do Not Test
7C vs. 8I	0.0409	27	1.217	1.000	Do Not Test
7C vs. 2C	0.0374	27	1.113	1.000	Do Not Test
7C vs. 5S	0.0321	27	0.954	1.000	Do Not Test
7C vs. 7S	0.0309	27	0.919	1.000	Do Not Test
7C vs. 7I	0.0271	27	0.805	1.000	Do Not Test
7C vs. 6I	0.0262	27	0.781	1.000	Do Not Test
7C vs. 8S	0.0157	27	0.466	1.000	Do Not Test
7C vs. 2I	0.0137	27	0.408	1.000	Do Not Test
7C vs. 9S	0.0124	27	0.367	1.000	Do Not Test
7C vs. 9I	0.00994	27	0.296	1.000	Do Not Test
7C vs. 4S	0.00786	27	0.234	1.000	Do Not Test
7C vs. 6S	0.00212	27	0.0631	1.000	Do Not Test
6S vs. 5I	0.141	27	4.205	0.377	Do Not Test
6S vs. 4I	0.0417	27	1.241	1.000	Do Not Test
6S vs. 8I	0.0388	27	1.154	1.000	Do Not Test
6S vs. 2C	0.0353	27	1.050	1.000	Do Not Test
6S vs. 5S	0.0300	27	0.891	1.000	Do Not Test
6S vs. 7S	0.0288	27	0.856	1.000	Do Not Test
6S vs. 7I	0.0249	27	0.742	1.000	Do Not Test
6S vs. 6I	0.0241	27	0.717	1.000	Do Not Test
6S vs. 8S	0.0135	27	0.402	1.000	Do Not Test
6S vs. 2I	0.0116	27	0.345	1.000	Do Not Test
6S vs. 9S	0.0102	27	0.304	1.000	Do Not Test
6S vs. 9I	0.00782	27	0.232	1.000	Do Not Test
6S vs. 4S	0.00574	27	0.171	1.000	Do Not Test
4S vs. 5I	0.136	27	4.035	0.463	Do Not Test
4S vs. 4I	0.0360	27	1.071	1.000	Do Not Test
4S vs. 8I	0.0331	27	0.983	1.000	Do Not Test
4S vs. 2C	0.0296	27	0.879	1.000	Do Not Test
4S vs. 5S	0.0242	27	0.720	1.000	Do Not Test
4S vs. 7S	0.0230	27	0.685	1.000	Do Not Test
4S vs. 7I	0.0192	27	0.571	1.000	Do Not Test
4S vs. 6I	0.0184	27	0.547	1.000	Do Not Test
4S vs. 8S	0.00780	27	0.232	1.000	Do Not Test
4S vs. 2I	0.00585	27	0.174	1.000	Do Not Test

4S vs. 9S	0.00450	27	0.134	1.000	Do Not Test
4S vs. 9I	0.00208	27	0.0619	1.000	Do Not Test
9I vs. 5I	0.134	27	3.973	0.496	Do Not Test
9I vs. 4I	0.0339	27	1.009	1.000	Do Not Test
9I vs. 8I	0.0310	27	0.921	1.000	Do Not Test
9I vs. 2C	0.0275	27	0.817	1.000	Do Not Test
9I vs. 5S	0.0221	27	0.658	1.000	Do Not Test
9I vs. 7S	0.0210	27	0.623	1.000	Do Not Test
9I vs. 7I	0.0171	27	0.509	1.000	Do Not Test
9I vs. 6I	0.0163	27	0.485	1.000	Do Not Test
9I vs. 8S	0.00572	27	0.170	1.000	Do Not Test
9I vs. 2I	0.00377	27	0.112	1.000	Do Not Test
9I vs. 9S	0.00241	27	0.0718	1.000	Do Not Test
9S vs. 5I	0.131	27	3.901	0.534	Do Not Test
9S vs. 4I	0.0315	27	0.937	1.000	Do Not Test
9S vs. 8I	0.0286	27	0.850	1.000	Do Not Test
9S vs. 2C	0.0251	27	0.745	1.000	Do Not Test
9S vs. 5S	0.0197	27	0.586	1.000	Do Not Test
9S vs. 7S	0.0186	27	0.552	1.000	Do Not Test
9S vs. 7I	0.0147	27	0.438	1.000	Do Not Test
9S vs. 6I	0.0139	27	0.413	1.000	Do Not Test
9S vs. 8S	0.00330	27	0.0982	1.000	Do Not Test
9S vs. 2I	0.00136	27	0.0404	1.000	Do Not Test
2I vs. 5I	0.130	27	3.860	0.556	Do Not Test
2I vs. 4I	0.0301	27	0.896	1.000	Do Not Test
2I vs. 8I	0.0272	27	0.809	1.000	Do Not Test
2I vs. 2C	0.0237	27	0.705	1.000	Do Not Test
2I vs. 5S	0.0184	27	0.546	1.000	Do Not Test
2I vs. 7S	0.0172	27	0.511	1.000	Do Not Test
2I vs. 7I	0.0134	27	0.397	1.000	Do Not Test
2I vs. 6I	0.0125	27	0.373	1.000	Do Not Test
2I vs. 8S	0.00194	27	0.0578	1.000	Do Not Test
8S vs. 5I	0.128	27	3.803	0.587	Do Not Test
8S vs. 4I	0.0282	27	0.839	1.000	Do Not Test
8S vs. 8I	0.0253	27	0.751	1.000	Do Not Test
8S vs. 2C	0.0218	27	0.647	1.000	Do Not Test
8S vs. 5S	0.0164	27	0.488	1.000	Do Not Test
8S vs. 7S	0.0152	27	0.454	1.000	Do Not Test
8S vs. 7I	0.0114	27	0.339	1.000	Do Not Test
8S vs. 6I	0.0106	27	0.315	1.000	Do Not Test
6I vs. 5I	0.117	27	3.488	0.750	Do Not Test
6I vs. 4I	0.0176	27	0.524	1.000	Do Not Test
6I vs. 8I	0.0147	27	0.436	1.000	Do Not Test
6I vs. 2C	0.0112	27	0.332	1.000	Do Not Test
6I vs. 5S	0.00583	27	0.173	1.000	Do Not Test
6I vs. 7S	0.00466	27	0.139	1.000	Do Not Test
6I vs. 7I	0.000820	27	0.0244	1.000	Do Not Test
7I vs. 5I	0.116	27	3.463	0.761	Do Not Test
7I vs. 4I	0.0168	27	0.499	1.000	Do Not Test
7I vs. 8I	0.0139	27	0.412	1.000	Do Not Test
7I vs. 2C	0.0104	27	0.308	1.000	Do Not Test
7I vs. 5S	0.00501	27	0.149	1.000	Do Not Test
7I vs. 7S	0.00384	27	0.114	1.000	Do Not Test
7S vs. 5I	0.113	27	3.349	0.812	Do Not Test
7S vs. 4I	0.0130	27	0.385	1.000	Do Not Test
7S vs. 8I	0.0100	27	0.298	1.000	Do Not Test



7S vs. 2C	0.00651	27	0.194	1.000	Do Not Test
7S vs. 5S	0.00117	27	0.0348	1.000	Do Not Test
5S vs. 5I	0.111	27	3.314	0.826	Do Not Test
5S vs. 4I	0.0118	27	0.350	1.000	Do Not Test
5S vs. 8I	0.00885	27	0.263	1.000	Do Not Test
5S vs. 2C	0.00534	27	0.159	1.000	Do Not Test
2C vs. 5I	0.106	27	3.156	0.883	Do Not Test
2C vs. 4I	0.00644	27	0.191	1.000	Do Not Test
2C vs. 8I	0.00351	27	0.104	1.000	Do Not Test
8I vs. 5I	0.103	27	3.051	0.914	Do Not Test
8I vs. 4I	0.00293	27	0.0872	1.000	Do Not Test
4I vs. 5I	0.0997	27	2.964	0.935	Do Not Test

A result of "Do Not Test" occurs for a comparison when no significant difference is found between two means that enclose that comparison. For example, if you had four means sorted in order, and found no difference between means 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed means is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the means, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:38:45

Data source: BV/TV in L1 3-5y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:38:45

Data source: BV/TV in L1 3-5y

Group	N	Missing	Median	25%	75%
1I	8	0	15.989	14.722	18.556
1C	8	0	19.013	14.354	20.601
1S	8	0	13.061	12.309	15.481
2I	8	0	16.819	14.681	19.862
2C	8	0	16.208	15.093	19.790
2S	8	0	13.445	12.296	15.354
3I	8	0	18.652	15.819	22.293
3C	8	0	21.090	16.942	23.216
3S	8	0	14.682	12.902	16.217
4I	8	0	13.022	12.715	14.094
4C	8	0	12.357	11.563	13.063
4S	8	0	11.135	10.418	12.940
5I	8	0	12.164	10.633	12.814
5C	8	0	10.657	9.622	12.618
5S	8	0	10.923	9.229	12.678
6I	8	0	15.227	13.596	16.059
6C	8	0	13.274	12.493	14.893
6S	8	0	12.114	11.653	14.365
7I	8	0	15.217	13.751	17.605
7C	8	0	13.458	12.586	14.415
7S	8	0	12.178	11.785	13.957
8I	8	0	13.661	13.134	15.839
8C	8	0	11.561	10.742	12.092
8S	8	0	12.441	11.737	14.554
9I	8	0	15.978	14.538	19.111
9C	8	0	14.101	13.786	14.921
9S	8	0	12.970	11.406	14.368

H = 128.057 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
3C vs 5C	1299.000	7.348	0.007	Yes
3C vs 5S	1278.000	7.230	0.007	Yes

3C vs 8C	1213.000	6.862	0.007	Yes
3C vs 4S	1198.000	6.777	0.007	Yes
3C vs 5I	1132.000	6.404	0.008	Yes
3C vs 4C	1061.000	6.002	0.013	Yes
3C vs 6S	990.000	5.600	0.026	Yes
3C vs 7S	972.000	5.499	0.032	Yes
3C vs 8S	947.000	5.357	0.043	Yes
3C vs 9S	904.000	5.114	0.072	No
3C vs 7C	781.000	4.418	0.265	Do Not Test
3C vs 4I	774.000	4.379	0.282	Do Not Test
3C vs 6C	730.000	4.130	0.405	Do Not Test
3C vs 2S	717.000	4.056	0.446	Do Not Test
3C vs 1S	705.000	3.988	0.485	Do Not Test
3C vs 8I	585.000	3.309	0.854	Do Not Test
3C vs 9C	578.000	3.270	0.868	Do Not Test
3C vs 3S	533.000	3.015	0.935	Do Not Test
3C vs 6I	440.000	2.489	0.992	Do Not Test
3C vs 7I	360.000	2.037	1.000	Do Not Test
3C vs 9I	284.000	1.607	1.000	Do Not Test
3C vs 2I	266.000	1.505	1.000	Do Not Test
3C vs 1I	231.000	1.307	1.000	Do Not Test
3C vs 2C	204.000	1.154	1.000	Do Not Test
3C vs 1C	188.000	1.064	1.000	Do Not Test
3C vs 3I	71.000	0.402	1.000	Do Not Test
3I vs 5C	1228.000	6.947	0.007	Yes
3I vs 5S	1207.000	6.828	0.007	Yes
3I vs 8C	1142.000	6.460	0.008	Yes
3I vs 4S	1127.000	6.375	0.008	Yes
3I vs 5I	1061.000	6.002	0.013	Yes
3I vs 4C	990.000	5.600	0.026	Yes
3I vs 6S	919.000	5.199	0.060	No
3I vs 7S	901.000	5.097	0.074	Do Not Test
3I vs 8S	876.000	4.956	0.099	Do Not Test
3I vs 9S	833.000	4.712	0.159	Do Not Test
3I vs 7C	710.000	4.016	0.468	Do Not Test
3I vs 4I	703.000	3.977	0.492	Do Not Test
3I vs 6C	659.000	3.728	0.642	Do Not Test
3I vs 2S	646.000	3.654	0.685	Do Not Test
3I vs 1S	634.000	3.587	0.724	Do Not Test
3I vs 8I	514.000	2.908	0.953	Do Not Test
3I vs 9C	507.000	2.868	0.959	Do Not Test
3I vs 3S	462.000	2.614	0.985	Do Not Test
3I vs 6I	369.000	2.087	1.000	Do Not Test
3I vs 7I	289.000	1.635	1.000	Do Not Test
3I vs 9I	213.000	1.205	1.000	Do Not Test
3I vs 2I	195.000	1.103	1.000	Do Not Test
3I vs 1I	160.000	0.905	1.000	Do Not Test
3I vs 2C	133.000	0.752	1.000	Do Not Test
3I vs 1C	117.000	0.662	1.000	Do Not Test
1C vs 5C	1111.000	6.285	0.009	Yes
1C vs 5S	1090.000	6.166	0.010	Yes
1C vs 8C	1025.000	5.798	0.018	Yes
1C vs 4S	1010.000	5.714	0.021	Yes
1C vs 5I	944.000	5.340	0.044	Yes
1C vs 4C	873.000	4.939	0.103	No
1C vs 6S	802.000	4.537	0.218	Do Not Test

1C vs 7S	784.000	4.435	0.258	Do Not Test
1C vs 8S	759.000	4.294	0.321	Do Not Test
1C vs 9S	716.000	4.050	0.449	Do Not Test
1C vs 7C	593.000	3.355	0.836	Do Not Test
1C vs 4I	586.000	3.315	0.851	Do Not Test
1C vs 6C	542.000	3.066	0.924	Do Not Test
1C vs 2S	529.000	2.993	0.939	Do Not Test
1C vs 1S	517.000	2.925	0.951	Do Not Test
1C vs 8I	397.000	2.246	0.998	Do Not Test
1C vs 9C	390.000	2.206	0.999	Do Not Test
1C vs 3S	345.000	1.952	1.000	Do Not Test
1C vs 6I	252.000	1.426	1.000	Do Not Test
1C vs 7I	172.000	0.973	1.000	Do Not Test
1C vs 9I	96.000	0.543	1.000	Do Not Test
1C vs 2I	78.000	0.441	1.000	Do Not Test
1C vs 1I	43.000	0.243	1.000	Do Not Test
1C vs 2C	16.000	0.0905	1.000	Do Not Test
<b>2C vs 5C</b>	<b>1095.000</b>	<b>6.194</b>	<b>0.010</b>	<b>Yes</b>
2C vs 5S	1074.000	6.076	0.012	Yes
2C vs 8C	1009.000	5.708	0.021	Yes
2C vs 4S	994.000	5.623	0.025	Yes
2C vs 5I	928.000	5.250	0.054	No
2C vs 4C	857.000	4.848	0.123	Do Not Test
2C vs 6S	786.000	4.446	0.253	Do Not Test
2C vs 7S	768.000	4.345	0.297	Do Not Test
2C vs 8S	743.000	4.203	0.366	Do Not Test
2C vs 9S	700.000	3.960	0.502	Do Not Test
2C vs 7C	577.000	3.264	0.870	Do Not Test
2C vs 4I	570.000	3.225	0.883	Do Not Test
2C vs 6C	526.000	2.976	0.942	Do Not Test
2C vs 2S	513.000	2.902	0.954	Do Not Test
2C vs 1S	501.000	2.834	0.964	Do Not Test
2C vs 8I	381.000	2.155	0.999	Do Not Test
2C vs 9C	374.000	2.116	0.999	Do Not Test
2C vs 3S	329.000	1.861	1.000	Do Not Test
2C vs 6I	236.000	1.335	1.000	Do Not Test
2C vs 7I	156.000	0.882	1.000	Do Not Test
2C vs 9I	80.000	0.453	1.000	Do Not Test
2C vs 2I	62.000	0.351	1.000	Do Not Test
2C vs 1I	27.000	0.153	1.000	Do Not Test
1I vs 5C	1068.000	6.042	0.012	Yes
1I vs 5S	1047.000	5.923	0.014	Yes
1I vs 8C	982.000	5.555	0.028	Yes
1I vs 4S	967.000	5.470	0.034	Yes
1I vs 5I	901.000	5.097	0.074	Do Not Test
1I vs 4C	830.000	4.695	0.164	Do Not Test
1I vs 6S	759.000	4.294	0.321	Do Not Test
1I vs 7S	741.000	4.192	0.372	Do Not Test
1I vs 8S	716.000	4.050	0.449	Do Not Test
1I vs 9S	673.000	3.807	0.594	Do Not Test
1I vs 7C	550.000	3.111	0.914	Do Not Test
1I vs 4I	543.000	3.072	0.923	Do Not Test
1I vs 6C	499.000	2.823	0.965	Do Not Test
1I vs 2S	486.000	2.749	0.973	Do Not Test
1I vs 1S	474.000	2.681	0.980	Do Not Test
1I vs 8I	354.000	2.003	1.000	Do Not Test

1I vs 9C	347.000	1.963	1.000	Do Not Test
1I vs 3S	302.000	1.708	1.000	Do Not Test
1I vs 6I	209.000	1.182	1.000	Do Not Test
1I vs 7I	129.000	0.730	1.000	Do Not Test
1I vs 9I	53.000	0.300	1.000	Do Not Test
1I vs 2I	35.000	0.198	1.000	Do Not Test
2I vs 5C	1033.000	5.844	0.016	Yes
2I vs 5S	1012.000	5.725	0.020	Yes
2I vs 8C	947.000	5.357	0.043	Yes
2I vs 4S	932.000	5.272	0.051	No
2I vs 5I	866.000	4.899	0.111	Do Not Test
2I vs 4C	795.000	4.497	0.233	Do Not Test
2I vs 6S	724.000	4.096	0.424	Do Not Test
2I vs 7S	706.000	3.994	0.482	Do Not Test
2I vs 8S	681.000	3.852	0.566	Do Not Test
2I vs 9S	638.000	3.609	0.711	Do Not Test
2I vs 7C	515.000	2.913	0.952	Do Not Test
2I vs 4I	508.000	2.874	0.958	Do Not Test
2I vs 6C	464.000	2.625	0.984	Do Not Test
2I vs 2S	451.000	2.551	0.989	Do Not Test
2I vs 1S	439.000	2.483	0.992	Do Not Test
2I vs 8I	319.000	1.805	1.000	Do Not Test
2I vs 9C	312.000	1.765	1.000	Do Not Test
2I vs 3S	267.000	1.510	1.000	Do Not Test
2I vs 6I	174.000	0.984	1.000	Do Not Test
2I vs 7I	94.000	0.532	1.000	Do Not Test
2I vs 9I	18.000	0.102	1.000	Do Not Test
9I vs 5C	1015.000	5.742	0.020	Yes
9I vs 5S	994.000	5.623	0.025	Yes
9I vs 8C	929.000	5.255	0.053	No
9I vs 4S	914.000	5.171	0.064	Do Not Test
9I vs 5I	848.000	4.797	0.136	Do Not Test
9I vs 4C	777.000	4.396	0.275	Do Not Test
9I vs 6S	706.000	3.994	0.482	Do Not Test
9I vs 7S	688.000	3.892	0.542	Do Not Test
9I vs 8S	663.000	3.751	0.628	Do Not Test
9I vs 9S	620.000	3.507	0.766	Do Not Test
9I vs 7C	497.000	2.812	0.966	Do Not Test
9I vs 4I	490.000	2.772	0.971	Do Not Test
9I vs 6C	446.000	2.523	0.990	Do Not Test
9I vs 2S	433.000	2.449	0.994	Do Not Test
9I vs 1S	421.000	2.382	0.996	Do Not Test
9I vs 8I	301.000	1.703	1.000	Do Not Test
9I vs 9C	294.000	1.663	1.000	Do Not Test
9I vs 3S	249.000	1.409	1.000	Do Not Test
9I vs 6I	156.000	0.882	1.000	Do Not Test
9I vs 7I	76.000	0.430	1.000	Do Not Test
7I vs 5C	939.000	5.312	0.047	Yes
7I vs 5S	918.000	5.193	0.061	No
7I vs 8C	853.000	4.825	0.128	Do Not Test
7I vs 4S	838.000	4.741	0.151	Do Not Test
7I vs 5I	772.000	4.367	0.287	Do Not Test
7I vs 4C	701.000	3.966	0.498	Do Not Test
7I vs 6S	630.000	3.564	0.736	Do Not Test
7I vs 7S	612.000	3.462	0.788	Do Not Test
7I vs 8S	587.000	3.321	0.849	Do Not Test

7I vs 9S	544.000	3.077	0.922	Do Not Test
7I vs 7C	421.000	2.382	0.996	Do Not Test
7I vs 4I	414.000	2.342	0.997	Do Not Test
7I vs 6C	370.000	2.093	1.000	Do Not Test
7I vs 2S	357.000	2.020	1.000	Do Not Test
7I vs 1S	345.000	1.952	1.000	Do Not Test
7I vs 8I	225.000	1.273	1.000	Do Not Test
7I vs 9C	218.000	1.233	1.000	Do Not Test
7I vs 3S	173.000	0.979	1.000	Do Not Test
7I vs 6I	80.000	0.453	1.000	Do Not Test
6I vs 5C	859.000	4.859	0.120	No
6I vs 5S	838.000	4.741	0.151	Do Not Test
6I vs 8C	773.000	4.373	0.285	Do Not Test
6I vs 4S	758.000	4.288	0.324	Do Not Test
6I vs 5I	692.000	3.915	0.529	Do Not Test
6I vs 4C	621.000	3.513	0.763	Do Not Test
6I vs 6S	550.000	3.111	0.914	Do Not Test
6I vs 7S	532.000	3.010	0.936	Do Not Test
6I vs 8S	507.000	2.868	0.959	Do Not Test
6I vs 9S	464.000	2.625	0.984	Do Not Test
6I vs 7C	341.000	1.929	1.000	Do Not Test
6I vs 4I	334.000	1.889	1.000	Do Not Test
6I vs 6C	290.000	1.641	1.000	Do Not Test
6I vs 2S	277.000	1.567	1.000	Do Not Test
6I vs 1S	265.000	1.499	1.000	Do Not Test
6I vs 8I	145.000	0.820	1.000	Do Not Test
6I vs 9C	138.000	0.781	1.000	Do Not Test
6I vs 3S	93.000	0.526	1.000	Do Not Test
3S vs 5C	766.000	4.333	0.302	Do Not Test
3S vs 5S	745.000	4.214	0.360	Do Not Test
3S vs 8C	680.000	3.847	0.570	Do Not Test
3S vs 4S	665.000	3.762	0.621	Do Not Test
3S vs 5I	599.000	3.389	0.822	Do Not Test
3S vs 4C	528.000	2.987	0.940	Do Not Test
3S vs 6S	457.000	2.585	0.987	Do Not Test
3S vs 7S	439.000	2.483	0.992	Do Not Test
3S vs 8S	414.000	2.342	0.997	Do Not Test
3S vs 9S	371.000	2.099	1.000	Do Not Test
3S vs 7C	248.000	1.403	1.000	Do Not Test
3S vs 4I	241.000	1.363	1.000	Do Not Test
3S vs 6C	197.000	1.114	1.000	Do Not Test
3S vs 2S	184.000	1.041	1.000	Do Not Test
3S vs 1S	172.000	0.973	1.000	Do Not Test
3S vs 8I	52.000	0.294	1.000	Do Not Test
3S vs 9C	45.000	0.255	1.000	Do Not Test
9C vs 5C	721.000	4.079	0.433	Do Not Test
9C vs 5S	700.000	3.960	0.502	Do Not Test
9C vs 8C	635.000	3.592	0.721	Do Not Test
9C vs 4S	620.000	3.507	0.766	Do Not Test
9C vs 5I	554.000	3.134	0.908	Do Not Test
9C vs 4C	483.000	2.732	0.975	Do Not Test
9C vs 6S	412.000	2.331	0.997	Do Not Test
9C vs 7S	394.000	2.229	0.999	Do Not Test
9C vs 8S	369.000	2.087	1.000	Do Not Test
9C vs 9S	326.000	1.844	1.000	Do Not Test
9C vs 7C	203.000	1.148	1.000	Do Not Test

9C vs 4I	196.000	1.109	1.000	Do Not Test
9C vs 6C	152.000	0.860	1.000	Do Not Test
9C vs 2S	139.000	0.786	1.000	Do Not Test
9C vs 1S	127.000	0.718	1.000	Do Not Test
9C vs 8I	7.000	0.0396	1.000	Do Not Test
8I vs 5C	714.000	4.039	0.455	Do Not Test
8I vs 5S	693.000	3.920	0.525	Do Not Test
8I vs 8C	628.000	3.553	0.742	Do Not Test
8I vs 4S	613.000	3.468	0.786	Do Not Test
8I vs 5I	547.000	3.094	0.918	Do Not Test
8I vs 4C	476.000	2.693	0.979	Do Not Test
8I vs 6S	405.000	2.291	0.998	Do Not Test
8I vs 7S	387.000	2.189	0.999	Do Not Test
8I vs 8S	362.000	2.048	1.000	Do Not Test
8I vs 9S	319.000	1.805	1.000	Do Not Test
8I vs 7C	196.000	1.109	1.000	Do Not Test
8I vs 4I	189.000	1.069	1.000	Do Not Test
8I vs 6C	145.000	0.820	1.000	Do Not Test
8I vs 2S	132.000	0.747	1.000	Do Not Test
8I vs 1S	120.000	0.679	1.000	Do Not Test
1S vs 5C	594.000	3.360	0.834	Do Not Test
1S vs 5S	573.000	3.241	0.877	Do Not Test
1S vs 8C	508.000	2.874	0.958	Do Not Test
1S vs 4S	493.000	2.789	0.969	Do Not Test
1S vs 5I	427.000	2.416	0.995	Do Not Test
1S vs 4C	356.000	2.014	1.000	Do Not Test
1S vs 6S	285.000	1.612	1.000	Do Not Test
1S vs 7S	267.000	1.510	1.000	Do Not Test
1S vs 8S	242.000	1.369	1.000	Do Not Test
1S vs 9S	199.000	1.126	1.000	Do Not Test
1S vs 7C	76.000	0.430	1.000	Do Not Test
1S vs 4I	69.000	0.390	1.000	Do Not Test
1S vs 6C	25.000	0.141	1.000	Do Not Test
1S vs 2S	12.000	0.0679	1.000	Do Not Test
2S vs 5C	582.000	3.292	0.860	Do Not Test
2S vs 5S	561.000	3.174	0.898	Do Not Test
2S vs 8C	496.000	2.806	0.967	Do Not Test
2S vs 4S	481.000	2.721	0.976	Do Not Test
2S vs 5I	415.000	2.348	0.997	Do Not Test
2S vs 4C	344.000	1.946	1.000	Do Not Test
2S vs 6S	273.000	1.544	1.000	Do Not Test
2S vs 7S	255.000	1.443	1.000	Do Not Test
2S vs 8S	230.000	1.301	1.000	Do Not Test
2S vs 9S	187.000	1.058	1.000	Do Not Test
2S vs 7C	64.000	0.362	1.000	Do Not Test
2S vs 4I	57.000	0.322	1.000	Do Not Test
2S vs 6C	13.000	0.0735	1.000	Do Not Test
6C vs 5C	569.000	3.219	0.884	Do Not Test
6C vs 5S	548.000	3.100	0.917	Do Not Test
6C vs 8C	483.000	2.732	0.975	Do Not Test
6C vs 4S	468.000	2.647	0.982	Do Not Test
6C vs 5I	402.000	2.274	0.998	Do Not Test
6C vs 4C	331.000	1.872	1.000	Do Not Test
6C vs 6S	260.000	1.471	1.000	Do Not Test
6C vs 7S	242.000	1.369	1.000	Do Not Test
6C vs 8S	217.000	1.228	1.000	Do Not Test

6C vs 9S	174.000	0.984	1.000	Do Not Test
6C vs 7C	51.000	0.289	1.000	Do Not Test
6C vs 4I	44.000	0.249	1.000	Do Not Test
4I vs 5C	525.000	2.970	0.943	Do Not Test
4I vs 5S	504.000	2.851	0.961	Do Not Test
4I vs 8C	439.000	2.483	0.992	Do Not Test
4I vs 4S	424.000	2.399	0.995	Do Not Test
4I vs 5I	358.000	2.025	1.000	Do Not Test
4I vs 4C	287.000	1.624	1.000	Do Not Test
4I vs 6S	216.000	1.222	1.000	Do Not Test
4I vs 7S	198.000	1.120	1.000	Do Not Test
4I vs 8S	173.000	0.979	1.000	Do Not Test
4I vs 9S	130.000	0.735	1.000	Do Not Test
4I vs 7C	7.000	0.0396	1.000	Do Not Test
7C vs 5C	518.000	2.930	0.950	Do Not Test
7C vs 5S	497.000	2.812	0.966	Do Not Test
7C vs 8C	432.000	2.444	0.994	Do Not Test
7C vs 4S	417.000	2.359	0.996	Do Not Test
7C vs 5I	351.000	1.986	1.000	Do Not Test
7C vs 4C	280.000	1.584	1.000	Do Not Test
7C vs 6S	209.000	1.182	1.000	Do Not Test
7C vs 7S	191.000	1.080	1.000	Do Not Test
7C vs 8S	166.000	0.939	1.000	Do Not Test
7C vs 9S	123.000	0.696	1.000	Do Not Test
9S vs 5C	395.000	2.235	0.999	Do Not Test
9S vs 5S	374.000	2.116	0.999	Do Not Test
9S vs 8C	309.000	1.748	1.000	Do Not Test
9S vs 4S	294.000	1.663	1.000	Do Not Test
9S vs 5I	228.000	1.290	1.000	Do Not Test
9S vs 4C	157.000	0.888	1.000	Do Not Test
9S vs 6S	86.000	0.487	1.000	Do Not Test
9S vs 7S	68.000	0.385	1.000	Do Not Test
9S vs 8S	43.000	0.243	1.000	Do Not Test
8S vs 5C	352.000	1.991	1.000	Do Not Test
8S vs 5S	331.000	1.872	1.000	Do Not Test
8S vs 8C	266.000	1.505	1.000	Do Not Test
8S vs 4S	251.000	1.420	1.000	Do Not Test
8S vs 5I	185.000	1.047	1.000	Do Not Test
8S vs 4C	114.000	0.645	1.000	Do Not Test
8S vs 6S	43.000	0.243	1.000	Do Not Test
8S vs 7S	25.000	0.141	1.000	Do Not Test
7S vs 5C	327.000	1.850	1.000	Do Not Test
7S vs 5S	306.000	1.731	1.000	Do Not Test
7S vs 8C	241.000	1.363	1.000	Do Not Test
7S vs 4S	226.000	1.278	1.000	Do Not Test
7S vs 5I	160.000	0.905	1.000	Do Not Test
7S vs 4C	89.000	0.503	1.000	Do Not Test
7S vs 6S	18.000	0.102	1.000	Do Not Test
6S vs 5C	309.000	1.748	1.000	Do Not Test
6S vs 5S	288.000	1.629	1.000	Do Not Test
6S vs 8C	223.000	1.262	1.000	Do Not Test
6S vs 4S	208.000	1.177	1.000	Do Not Test
6S vs 5I	142.000	0.803	1.000	Do Not Test
6S vs 4C	71.000	0.402	1.000	Do Not Test
4C vs 5C	238.000	1.346	1.000	Do Not Test
4C vs 5S	217.000	1.228	1.000	Do Not Test



4C vs 8C	152.000	0.860	1.000	Do Not Test
4C vs 4S	137.000	0.775	1.000	Do Not Test
4C vs 5I	71.000	0.402	1.000	Do Not Test
5I vs 5C	167.000	0.945	1.000	Do Not Test
5I vs 5S	146.000	0.826	1.000	Do Not Test
5I vs 8C	81.000	0.458	1.000	Do Not Test
5I vs 4S	66.000	0.373	1.000	Do Not Test
4S vs 5C	101.000	0.571	1.000	Do Not Test
4S vs 5S	80.000	0.453	1.000	Do Not Test
4S vs 8C	15.000	0.0849	1.000	Do Not Test
8C vs 5C	86.000	0.487	1.000	Do Not Test
8C vs 5S	65.000	0.368	1.000	Do Not Test
5S vs 5C	21.000	0.119	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:40:14

Data source: SMI in L1 3-5y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:40:14

Data source: SMI in L1 3-5y

Group	N	Missing	Median	25%	75%
1I	8	0	1.477	1.302	1.798
1C	8	0	1.238	1.139	1.285
1S	8	0	1.805	1.674	1.829
2I	8	0	1.388	1.355	1.459
2C	8	0	1.163	1.025	1.213
2S	8	0	1.762	1.729	1.803
3I	8	0	1.477	1.261	1.706
3C	8	0	1.091	0.882	1.294
3S	8	0	1.765	1.704	1.875
4I	8	0	1.599	1.588	1.716
4C	8	0	1.275	1.191	1.416
4S	8	0	1.757	1.713	1.884
5I	8	0	1.691	1.622	1.734
5C	8	0	1.472	1.207	1.593
5S	8	0	1.848	1.653	1.886
6I	8	0	1.592	1.514	1.667
6C	8	0	1.210	1.201	1.339
6S	8	0	1.694	1.563	1.807
7I	8	0	1.625	1.573	1.687
7C	8	0	1.497	1.445	1.533
7S	8	0	1.760	1.566	1.849
8I	8	0	1.671	1.602	1.732
8C	8	0	1.251	1.086	1.386
8S	8	0	1.616	1.566	1.819
9I	8	0	1.595	1.501	1.732
9C	8	0	1.461	1.420	1.573
9S	8	0	1.697	1.609	1.845

H = 126.863 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
5S vs 2C	1231.000	6.964	0.007	Yes
5S vs 3C	1228.000	6.947	0.007	Yes

5S vs 1C	1152.000	6.517	0.008	Yes
5S vs 8C	1086.000	6.144	0.011	Yes
5S vs 6C	1060.000	5.996	0.013	Yes
5S vs 4C	974.000	5.510	0.031	Yes
5S vs 5C	777.000	4.396	0.275	No
5S vs 2I	747.000	4.226	0.354	Do Not Test
5S vs 9C	699.000	3.954	0.505	Do Not Test
5S vs 7C	667.000	3.773	0.614	Do Not Test
5S vs 3I	646.000	3.654	0.685	Do Not Test
5S vs 1I	518.000	2.930	0.950	Do Not Test
5S vs 6I	475.000	2.687	0.979	Do Not Test
5S vs 9I	417.000	2.359	0.996	Do Not Test
5S vs 4I	389.000	2.201	0.999	Do Not Test
5S vs 7I	373.000	2.110	0.999	Do Not Test
5S vs 8S	293.000	1.658	1.000	Do Not Test
5S vs 8I	258.000	1.460	1.000	Do Not Test
5S vs 5I	234.000	1.324	1.000	Do Not Test
5S vs 6S	233.000	1.318	1.000	Do Not Test
5S vs 9S	192.000	1.086	1.000	Do Not Test
5S vs 2S	132.000	0.747	1.000	Do Not Test
5S vs 7S	131.000	0.741	1.000	Do Not Test
5S vs 3S	113.000	0.639	1.000	Do Not Test
5S vs 1S	98.000	0.554	1.000	Do Not Test
5S vs 4S	79.000	0.447	1.000	Do Not Test
4S vs 2C	1152.000	6.517	0.008	Yes
4S vs 3C	1149.000	6.500	0.008	Yes
4S vs 1C	1073.000	6.070	0.012	Yes
4S vs 8C	1007.000	5.697	0.022	Yes
4S vs 6C	981.000	5.550	0.029	Yes
4S vs 4C	895.000	5.063	0.080	No
4S vs 5C	698.000	3.949	0.508	Do Not Test
4S vs 2I	668.000	3.779	0.611	Do Not Test
4S vs 9C	620.000	3.507	0.766	Do Not Test
4S vs 7C	588.000	3.326	0.847	Do Not Test
4S vs 3I	567.000	3.208	0.888	Do Not Test
4S vs 1I	439.000	2.483	0.992	Do Not Test
4S vs 6I	396.000	2.240	0.998	Do Not Test
4S vs 9I	338.000	1.912	1.000	Do Not Test
4S vs 4I	310.000	1.754	1.000	Do Not Test
4S vs 7I	294.000	1.663	1.000	Do Not Test
4S vs 8S	214.000	1.211	1.000	Do Not Test
4S vs 8I	179.000	1.013	1.000	Do Not Test
4S vs 5I	155.000	0.877	1.000	Do Not Test
4S vs 6S	154.000	0.871	1.000	Do Not Test
4S vs 9S	113.000	0.639	1.000	Do Not Test
4S vs 2S	53.000	0.300	1.000	Do Not Test
4S vs 7S	52.000	0.294	1.000	Do Not Test
4S vs 3S	34.000	0.192	1.000	Do Not Test
4S vs 1S	19.000	0.107	1.000	Do Not Test
1S vs 2C	1133.000	6.409	0.008	Yes
1S vs 3C	1130.000	6.392	0.008	Yes
1S vs 1C	1054.000	5.963	0.014	Yes
1S vs 8C	988.000	5.589	0.027	Yes
1S vs 6C	962.000	5.442	0.036	Yes
1S vs 4C	876.000	4.956	0.099	Do Not Test
1S vs 5C	679.000	3.841	0.573	Do Not Test

1S vs 2I	649.000	3.671	0.675	Do Not Test
1S vs 9C	601.000	3.400	0.817	Do Not Test
1S vs 7C	569.000	3.219	0.884	Do Not Test
1S vs 3I	548.000	3.100	0.917	Do Not Test
1S vs 1I	420.000	2.376	0.996	Do Not Test
1S vs 6I	377.000	2.133	0.999	Do Not Test
1S vs 9I	319.000	1.805	1.000	Do Not Test
1S vs 4I	291.000	1.646	1.000	Do Not Test
1S vs 7I	275.000	1.556	1.000	Do Not Test
1S vs 8S	195.000	1.103	1.000	Do Not Test
1S vs 8I	160.000	0.905	1.000	Do Not Test
1S vs 5I	136.000	0.769	1.000	Do Not Test
1S vs 6S	135.000	0.764	1.000	Do Not Test
1S vs 9S	94.000	0.532	1.000	Do Not Test
1S vs 2S	34.000	0.192	1.000	Do Not Test
1S vs 7S	33.000	0.187	1.000	Do Not Test
1S vs 3S	15.000	0.0849	1.000	Do Not Test
3S vs 2C	1118.000	6.325	0.009	Yes
3S vs 3C	1115.000	6.308	0.009	Yes
3S vs 1C	1039.000	5.878	0.016	Yes
3S vs 8C	973.000	5.504	0.032	Yes
3S vs 6C	947.000	5.357	0.043	Yes
3S vs 4C	861.000	4.871	0.117	Do Not Test
3S vs 5C	664.000	3.756	0.625	Do Not Test
3S vs 2I	634.000	3.587	0.724	Do Not Test
3S vs 9C	586.000	3.315	0.851	Do Not Test
3S vs 7C	554.000	3.134	0.908	Do Not Test
3S vs 3I	533.000	3.015	0.935	Do Not Test
3S vs 1I	405.000	2.291	0.998	Do Not Test
3S vs 6I	362.000	2.048	1.000	Do Not Test
3S vs 9I	304.000	1.720	1.000	Do Not Test
3S vs 4I	276.000	1.561	1.000	Do Not Test
3S vs 7I	260.000	1.471	1.000	Do Not Test
3S vs 8S	180.000	1.018	1.000	Do Not Test
3S vs 8I	145.000	0.820	1.000	Do Not Test
3S vs 5I	121.000	0.685	1.000	Do Not Test
3S vs 6S	120.000	0.679	1.000	Do Not Test
3S vs 9S	79.000	0.447	1.000	Do Not Test
3S vs 2S	19.000	0.107	1.000	Do Not Test
3S vs 7S	18.000	0.102	1.000	Do Not Test
7S vs 2C	1100.000	6.223	0.010	Yes
7S vs 3C	1097.000	6.206	0.010	Yes
7S vs 1C	1021.000	5.776	0.019	Yes
7S vs 8C	955.000	5.402	0.039	Yes
7S vs 6C	929.000	5.255	0.053	No
7S vs 4C	843.000	4.769	0.143	Do Not Test
7S vs 5C	646.000	3.654	0.685	Do Not Test
7S vs 2I	616.000	3.485	0.777	Do Not Test
7S vs 9C	568.000	3.213	0.886	Do Not Test
7S vs 7C	536.000	3.032	0.932	Do Not Test
7S vs 3I	515.000	2.913	0.952	Do Not Test
7S vs 1I	387.000	2.189	0.999	Do Not Test
7S vs 6I	344.000	1.946	1.000	Do Not Test
7S vs 9I	286.000	1.618	1.000	Do Not Test
7S vs 4I	258.000	1.460	1.000	Do Not Test
7S vs 7I	242.000	1.369	1.000	Do Not Test

7S vs 8S	162.000	0.916	1.000	Do Not Test
7S vs 8I	127.000	0.718	1.000	Do Not Test
7S vs 5I	103.000	0.583	1.000	Do Not Test
7S vs 6S	102.000	0.577	1.000	Do Not Test
7S vs 9S	61.000	0.345	1.000	Do Not Test
7S vs 2S	1.000	0.00566	1.000	Do Not Test
2S vs 2C	1099.000	6.217	0.010	Yes
2S vs 3C	1096.000	6.200	0.010	Yes
2S vs 1C	1020.000	5.770	0.019	Yes
2S vs 8C	954.000	5.397	0.039	Yes
2S vs 6C	928.000	5.250	0.054	Do Not Test
2S vs 4C	842.000	4.763	0.145	Do Not Test
2S vs 5C	645.000	3.649	0.689	Do Not Test
2S vs 2I	615.000	3.479	0.780	Do Not Test
2S vs 9C	567.000	3.208	0.888	Do Not Test
2S vs 7C	535.000	3.027	0.933	Do Not Test
2S vs 3I	514.000	2.908	0.953	Do Not Test
2S vs 1I	386.000	2.184	0.999	Do Not Test
2S vs 6I	343.000	1.940	1.000	Do Not Test
2S vs 9I	285.000	1.612	1.000	Do Not Test
2S vs 4I	257.000	1.454	1.000	Do Not Test
2S vs 7I	241.000	1.363	1.000	Do Not Test
2S vs 8S	161.000	0.911	1.000	Do Not Test
2S vs 8I	126.000	0.713	1.000	Do Not Test
2S vs 5I	102.000	0.577	1.000	Do Not Test
2S vs 6S	101.000	0.571	1.000	Do Not Test
2S vs 9S	60.000	0.339	1.000	Do Not Test
9S vs 2C	1039.000	5.878	0.016	Yes
9S vs 3C	1036.000	5.861	0.016	Yes
9S vs 1C	960.000	5.431	0.037	Yes
9S vs 8C	894.000	5.057	0.081	No
9S vs 6C	868.000	4.910	0.109	Do Not Test
9S vs 4C	782.000	4.424	0.263	Do Not Test
9S vs 5C	585.000	3.309	0.854	Do Not Test
9S vs 2I	555.000	3.140	0.907	Do Not Test
9S vs 9C	507.000	2.868	0.959	Do Not Test
9S vs 7C	475.000	2.687	0.979	Do Not Test
9S vs 3I	454.000	2.568	0.988	Do Not Test
9S vs 1I	326.000	1.844	1.000	Do Not Test
9S vs 6I	283.000	1.601	1.000	Do Not Test
9S vs 9I	225.000	1.273	1.000	Do Not Test
9S vs 4I	197.000	1.114	1.000	Do Not Test
9S vs 7I	181.000	1.024	1.000	Do Not Test
9S vs 8S	101.000	0.571	1.000	Do Not Test
9S vs 8I	66.000	0.373	1.000	Do Not Test
9S vs 5I	42.000	0.238	1.000	Do Not Test
9S vs 6S	41.000	0.232	1.000	Do Not Test
6S vs 2C	998.000	5.646	0.024	Yes
6S vs 3C	995.000	5.629	0.025	Yes
6S vs 1C	919.000	5.199	0.060	No
6S vs 8C	853.000	4.825	0.128	Do Not Test
6S vs 6C	827.000	4.678	0.169	Do Not Test
6S vs 4C	741.000	4.192	0.372	Do Not Test
6S vs 5C	544.000	3.077	0.922	Do Not Test
6S vs 2I	514.000	2.908	0.953	Do Not Test
6S vs 9C	466.000	2.636	0.983	Do Not Test

6S vs 7C	434.000	2.455	0.993	Do Not Test
6S vs 3I	413.000	2.336	0.997	Do Not Test
6S vs 1I	285.000	1.612	1.000	Do Not Test
6S vs 6I	242.000	1.369	1.000	Do Not Test
6S vs 9I	184.000	1.041	1.000	Do Not Test
6S vs 4I	156.000	0.882	1.000	Do Not Test
6S vs 7I	140.000	0.792	1.000	Do Not Test
6S vs 8S	60.000	0.339	1.000	Do Not Test
6S vs 8I	25.000	0.141	1.000	Do Not Test
6S vs 5I	1.000	0.00566	1.000	Do Not Test
5I vs 2C	997.000	5.640	0.024	Yes
5I vs 3C	994.000	5.623	0.025	Yes
5I vs 1C	918.000	5.193	0.061	Do Not Test
5I vs 8C	852.000	4.820	0.130	Do Not Test
5I vs 6C	826.000	4.673	0.171	Do Not Test
5I vs 4C	740.000	4.186	0.375	Do Not Test
5I vs 5C	543.000	3.072	0.923	Do Not Test
5I vs 2I	513.000	2.902	0.954	Do Not Test
5I vs 9C	465.000	2.631	0.984	Do Not Test
5I vs 7C	433.000	2.449	0.994	Do Not Test
5I vs 3I	412.000	2.331	0.997	Do Not Test
5I vs 1I	284.000	1.607	1.000	Do Not Test
5I vs 6I	241.000	1.363	1.000	Do Not Test
5I vs 9I	183.000	1.035	1.000	Do Not Test
5I vs 4I	155.000	0.877	1.000	Do Not Test
5I vs 7I	139.000	0.786	1.000	Do Not Test
5I vs 8S	59.000	0.334	1.000	Do Not Test
5I vs 8I	24.000	0.136	1.000	Do Not Test
8I vs 2C	973.000	5.504	0.032	Yes
8I vs 3C	970.000	5.487	0.033	Yes
8I vs 1C	894.000	5.057	0.081	Do Not Test
8I vs 8C	828.000	4.684	0.168	Do Not Test
8I vs 6C	802.000	4.537	0.218	Do Not Test
8I vs 4C	716.000	4.050	0.449	Do Not Test
8I vs 5C	519.000	2.936	0.949	Do Not Test
8I vs 2I	489.000	2.766	0.971	Do Not Test
8I vs 9C	441.000	2.495	0.992	Do Not Test
8I vs 7C	409.000	2.314	0.997	Do Not Test
8I vs 3I	388.000	2.195	0.999	Do Not Test
8I vs 1I	260.000	1.471	1.000	Do Not Test
8I vs 6I	217.000	1.228	1.000	Do Not Test
8I vs 9I	159.000	0.899	1.000	Do Not Test
8I vs 4I	131.000	0.741	1.000	Do Not Test
8I vs 7I	115.000	0.651	1.000	Do Not Test
8I vs 8S	35.000	0.198	1.000	Do Not Test
8S vs 2C	938.000	5.306	0.048	Yes
8S vs 3C	935.000	5.289	0.050	Yes
8S vs 1C	859.000	4.859	0.120	Do Not Test
8S vs 8C	793.000	4.486	0.237	Do Not Test
8S vs 6C	767.000	4.339	0.300	Do Not Test
8S vs 4C	681.000	3.852	0.566	Do Not Test
8S vs 5C	484.000	2.738	0.974	Do Not Test
8S vs 2I	454.000	2.568	0.988	Do Not Test
8S vs 9C	406.000	2.297	0.998	Do Not Test
8S vs 7C	374.000	2.116	0.999	Do Not Test
8S vs 3I	353.000	1.997	1.000	Do Not Test

8S vs 1I	225.000	1.273	1.000	Do Not Test
8S vs 6I	182.000	1.030	1.000	Do Not Test
8S vs 9I	124.000	0.701	1.000	Do Not Test
8S vs 4I	96.000	0.543	1.000	Do Not Test
8S vs 7I	80.000	0.453	1.000	Do Not Test
7I vs 2C	858.000	4.854	0.121	No
7I vs 3C	855.000	4.837	0.126	Do Not Test
7I vs 1C	779.000	4.407	0.270	Do Not Test
7I vs 8C	713.000	4.033	0.459	Do Not Test
7I vs 6C	687.000	3.886	0.546	Do Not Test
7I vs 4C	601.000	3.400	0.817	Do Not Test
7I vs 5C	404.000	2.285	0.998	Do Not Test
7I vs 2I	374.000	2.116	0.999	Do Not Test
7I vs 9C	326.000	1.844	1.000	Do Not Test
7I vs 7C	294.000	1.663	1.000	Do Not Test
7I vs 3I	273.000	1.544	1.000	Do Not Test
7I vs 1I	145.000	0.820	1.000	Do Not Test
7I vs 6I	102.000	0.577	1.000	Do Not Test
7I vs 9I	44.000	0.249	1.000	Do Not Test
7I vs 4I	16.000	0.0905	1.000	Do Not Test
4I vs 2C	842.000	4.763	0.145	Do Not Test
4I vs 3C	839.000	4.746	0.149	Do Not Test
4I vs 1C	763.000	4.316	0.310	Do Not Test
4I vs 8C	697.000	3.943	0.512	Do Not Test
4I vs 6C	671.000	3.796	0.601	Do Not Test
4I vs 4C	585.000	3.309	0.854	Do Not Test
4I vs 5C	388.000	2.195	0.999	Do Not Test
4I vs 2I	358.000	2.025	1.000	Do Not Test
4I vs 9C	310.000	1.754	1.000	Do Not Test
4I vs 7C	278.000	1.573	1.000	Do Not Test
4I vs 3I	257.000	1.454	1.000	Do Not Test
4I vs 1I	129.000	0.730	1.000	Do Not Test
4I vs 6I	86.000	0.487	1.000	Do Not Test
4I vs 9I	28.000	0.158	1.000	Do Not Test
9I vs 2C	814.000	4.605	0.193	Do Not Test
9I vs 3C	811.000	4.588	0.199	Do Not Test
9I vs 1C	735.000	4.158	0.390	Do Not Test
9I vs 8C	669.000	3.785	0.608	Do Not Test
9I vs 6C	643.000	3.637	0.695	Do Not Test
9I vs 4C	557.000	3.151	0.904	Do Not Test
9I vs 5C	360.000	2.037	1.000	Do Not Test
9I vs 2I	330.000	1.867	1.000	Do Not Test
9I vs 9C	282.000	1.595	1.000	Do Not Test
9I vs 7C	250.000	1.414	1.000	Do Not Test
9I vs 3I	229.000	1.295	1.000	Do Not Test
9I vs 1I	101.000	0.571	1.000	Do Not Test
9I vs 6I	58.000	0.328	1.000	Do Not Test
6I vs 2C	756.000	4.277	0.329	Do Not Test
6I vs 3C	753.000	4.260	0.338	Do Not Test
6I vs 1C	677.000	3.830	0.580	Do Not Test
6I vs 8C	611.000	3.456	0.791	Do Not Test
6I vs 6C	585.000	3.309	0.854	Do Not Test
6I vs 4C	499.000	2.823	0.965	Do Not Test
6I vs 5C	302.000	1.708	1.000	Do Not Test
6I vs 2I	272.000	1.539	1.000	Do Not Test
6I vs 9C	224.000	1.267	1.000	Do Not Test

6I vs 7C	192.000	1.086	1.000	Do Not Test
6I vs 3I	171.000	0.967	1.000	Do Not Test
6I vs 1I	43.000	0.243	1.000	Do Not Test
1I vs 2C	713.000	4.033	0.459	Do Not Test
1I vs 3C	710.000	4.016	0.468	Do Not Test
1I vs 1C	634.000	3.587	0.724	Do Not Test
1I vs 8C	568.000	3.213	0.886	Do Not Test
1I vs 6C	542.000	3.066	0.924	Do Not Test
1I vs 4C	456.000	2.580	0.987	Do Not Test
1I vs 5C	259.000	1.465	1.000	Do Not Test
1I vs 2I	229.000	1.295	1.000	Do Not Test
1I vs 9C	181.000	1.024	1.000	Do Not Test
1I vs 7C	149.000	0.843	1.000	Do Not Test
1I vs 3I	128.000	0.724	1.000	Do Not Test
3I vs 2C	585.000	3.309	0.854	Do Not Test
3I vs 3C	582.000	3.292	0.860	Do Not Test
3I vs 1C	506.000	2.862	0.960	Do Not Test
3I vs 8C	440.000	2.489	0.992	Do Not Test
3I vs 6C	414.000	2.342	0.997	Do Not Test
3I vs 4C	328.000	1.856	1.000	Do Not Test
3I vs 5C	131.000	0.741	1.000	Do Not Test
3I vs 2I	101.000	0.571	1.000	Do Not Test
3I vs 9C	53.000	0.300	1.000	Do Not Test
3I vs 7C	21.000	0.119	1.000	Do Not Test
7C vs 2C	564.000	3.191	0.893	Do Not Test
7C vs 3C	561.000	3.174	0.898	Do Not Test
7C vs 1C	485.000	2.744	0.974	Do Not Test
7C vs 8C	419.000	2.370	0.996	Do Not Test
7C vs 6C	393.000	2.223	0.999	Do Not Test
7C vs 4C	307.000	1.737	1.000	Do Not Test
7C vs 5C	110.000	0.622	1.000	Do Not Test
7C vs 2I	80.000	0.453	1.000	Do Not Test
7C vs 9C	32.000	0.181	1.000	Do Not Test
9C vs 2C	532.000	3.010	0.936	Do Not Test
9C vs 3C	529.000	2.993	0.939	Do Not Test
9C vs 1C	453.000	2.563	0.988	Do Not Test
9C vs 8C	387.000	2.189	0.999	Do Not Test
9C vs 6C	361.000	2.042	1.000	Do Not Test
9C vs 4C	275.000	1.556	1.000	Do Not Test
9C vs 5C	78.000	0.441	1.000	Do Not Test
9C vs 2I	48.000	0.272	1.000	Do Not Test
2I vs 2C	484.000	2.738	0.974	Do Not Test
2I vs 3C	481.000	2.721	0.976	Do Not Test
2I vs 1C	405.000	2.291	0.998	Do Not Test
2I vs 8C	339.000	1.918	1.000	Do Not Test
2I vs 6C	313.000	1.771	1.000	Do Not Test
2I vs 4C	227.000	1.284	1.000	Do Not Test
2I vs 5C	30.000	0.170	1.000	Do Not Test
5C vs 2C	454.000	2.568	0.988	Do Not Test
5C vs 3C	451.000	2.551	0.989	Do Not Test
5C vs 1C	375.000	2.121	0.999	Do Not Test
5C vs 8C	309.000	1.748	1.000	Do Not Test
5C vs 6C	283.000	1.601	1.000	Do Not Test
5C vs 4C	197.000	1.114	1.000	Do Not Test
4C vs 2C	257.000	1.454	1.000	Do Not Test
4C vs 3C	254.000	1.437	1.000	Do Not Test



4C vs 1C	178.000	1.007	1.000	Do Not Test
4C vs 8C	112.000	0.634	1.000	Do Not Test
4C vs 6C	86.000	0.487	1.000	Do Not Test
6C vs 2C	171.000	0.967	1.000	Do Not Test
6C vs 3C	168.000	0.950	1.000	Do Not Test
6C vs 1C	92.000	0.520	1.000	Do Not Test
6C vs 8C	26.000	0.147	1.000	Do Not Test
8C vs 2C	145.000	0.820	1.000	Do Not Test
8C vs 3C	142.000	0.803	1.000	Do Not Test
8C vs 1C	66.000	0.373	1.000	Do Not Test
1C vs 2C	79.000	0.447	1.000	Do Not Test
1C vs 3C	76.000	0.430	1.000	Do Not Test
3C vs 2C	3.000	0.0170	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:41:07

Data source: Tb.Th in L1 3-5y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:41:07

Data source: Tb.Th in L1 3-5y

Group	N	Missing	Median	25%	75%
1I	8	0	124.176	98.432	143.166
1C	8	0	141.672	133.925	178.090
1S	8	0	102.422	97.464	112.665
2I	8	0	121.080	108.535	146.917
2C	8	0	149.005	139.630	154.680
2S	8	0	106.921	97.162	120.129
3I	8	0	128.955	108.903	160.777
3C	8	0	158.056	141.263	189.134
3S	8	0	107.192	99.084	126.424
4I	8	0	108.493	98.581	116.364
4C	8	0	129.615	114.812	147.775
4S	8	0	97.467	95.866	109.463
5I	8	0	108.469	96.854	119.054
5C	8	0	117.086	110.520	129.731
5S	8	0	104.182	97.777	116.128
6I	8	0	112.650	103.898	119.465
6C	8	0	143.350	125.190	154.050
6S	8	0	103.879	98.659	111.714
7I	8	0	108.662	97.987	120.564
7C	8	0	114.471	101.632	126.523
7S	8	0	104.100	94.464	112.986
8I	8	0	109.146	107.089	120.674
8C	8	0	143.009	136.749	173.709
8S	8	0	123.226	107.485	153.459
9I	8	0	108.951	101.205	126.632
9C	8	0	125.162	108.270	135.717
9S	8	0	110.296	93.696	123.627

H = 95.841 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
3C vs 4S	1115.000	6.308	0.009	Yes
3C vs 1S	1030.000	5.827	0.017	Yes

3C vs 7S	1000.000	5.657	0.023	Yes
3C vs 6S	989.000	5.595	0.026	Yes
3C vs 5S	957.000	5.414	0.038	Yes
3C vs 2S	902.000	5.103	0.073	No
3C vs 5I	898.000	5.080	0.077	Do Not Test
3C vs 3S	872.000	4.933	0.104	Do Not Test
3C vs 4I	867.000	4.905	0.110	Do Not Test
3C vs 9S	863.000	4.882	0.115	Do Not Test
3C vs 7I	849.000	4.803	0.134	Do Not Test
3C vs 9I	820.000	4.639	0.182	Do Not Test
3C vs 8I	767.000	4.339	0.300	Do Not Test
3C vs 6I	733.000	4.147	0.396	Do Not Test
3C vs 7C	651.000	3.683	0.669	Do Not Test
3C vs 1I	581.000	3.287	0.862	Do Not Test
3C vs 5C	536.000	3.032	0.932	Do Not Test
3C vs 9C	502.000	2.840	0.963	Do Not Test
3C vs 8S	494.000	2.795	0.968	Do Not Test
3C vs 2I	485.000	2.744	0.974	Do Not Test
3C vs 3I	415.000	2.348	0.997	Do Not Test
3C vs 4C	345.000	1.952	1.000	Do Not Test
3C vs 6C	157.000	0.888	1.000	Do Not Test
3C vs 1C	144.000	0.815	1.000	Do Not Test
3C vs 8C	27.000	0.153	1.000	Do Not Test
3C vs 2C	11.000	0.0622	1.000	Do Not Test
<b>2C vs 4S</b>	<b>1104.000</b>	<b>6.245</b>	<b>0.010</b>	<b>Yes</b>
2C vs 1S	1019.000	5.765	0.019	Yes
2C vs 7S	989.000	5.595	0.026	Yes
2C vs 6S	978.000	5.533	0.030	Yes
2C vs 5S	946.000	5.352	0.043	Yes
2C vs 2S	891.000	5.040	0.083	Do Not Test
2C vs 5I	887.000	5.018	0.087	Do Not Test
2C vs 3S	861.000	4.871	0.117	Do Not Test
2C vs 4I	856.000	4.842	0.124	Do Not Test
2C vs 9S	852.000	4.820	0.130	Do Not Test
2C vs 7I	838.000	4.741	0.151	Do Not Test
2C vs 9I	809.000	4.577	0.203	Do Not Test
2C vs 8I	756.000	4.277	0.329	Do Not Test
2C vs 6I	722.000	4.084	0.430	Do Not Test
2C vs 7C	640.000	3.621	0.705	Do Not Test
2C vs 1I	570.000	3.225	0.883	Do Not Test
2C vs 5C	525.000	2.970	0.943	Do Not Test
2C vs 9C	491.000	2.778	0.970	Do Not Test
2C vs 8S	483.000	2.732	0.975	Do Not Test
2C vs 2I	474.000	2.681	0.980	Do Not Test
2C vs 3I	404.000	2.285	0.998	Do Not Test
2C vs 4C	334.000	1.889	1.000	Do Not Test
2C vs 6C	146.000	0.826	1.000	Do Not Test
2C vs 1C	133.000	0.752	1.000	Do Not Test
2C vs 8C	16.000	0.0905	1.000	Do Not Test
<b>8C vs 4S</b>	<b>1088.000</b>	<b>6.155</b>	<b>0.010</b>	<b>Yes</b>
8C vs 1S	1003.000	5.674	0.022	Yes
8C vs 7S	973.000	5.504	0.032	Yes
8C vs 6S	962.000	5.442	0.036	Yes
8C vs 5S	930.000	5.261	0.053	No
8C vs 2S	875.000	4.950	0.100	Do Not Test
8C vs 5I	871.000	4.927	0.105	Do Not Test

8C vs 3S	845.000	4.780	0.140	Do Not Test
8C vs 4I	840.000	4.752	0.148	Do Not Test
8C vs 9S	836.000	4.729	0.154	Do Not Test
8C vs 7I	822.000	4.650	0.178	Do Not Test
8C vs 9I	793.000	4.486	0.237	Do Not Test
8C vs 8I	740.000	4.186	0.375	Do Not Test
8C vs 6I	706.000	3.994	0.482	Do Not Test
8C vs 7C	624.000	3.530	0.754	Do Not Test
8C vs 1I	554.000	3.134	0.908	Do Not Test
8C vs 5C	509.000	2.879	0.957	Do Not Test
8C vs 9C	475.000	2.687	0.979	Do Not Test
8C vs 8S	467.000	2.642	0.983	Do Not Test
8C vs 2I	458.000	2.591	0.986	Do Not Test
8C vs 3I	388.000	2.195	0.999	Do Not Test
8C vs 4C	318.000	1.799	1.000	Do Not Test
8C vs 6C	130.000	0.735	1.000	Do Not Test
8C vs 1C	117.000	0.662	1.000	Do Not Test
1C vs 4S	971.000	5.493	0.032	Yes
1C vs 1S	886.000	5.012	0.088	No
1C vs 7S	856.000	4.842	0.124	Do Not Test
1C vs 6S	845.000	4.780	0.140	Do Not Test
1C vs 5S	813.000	4.599	0.195	Do Not Test
1C vs 2S	758.000	4.288	0.324	Do Not Test
1C vs 5I	754.000	4.265	0.335	Do Not Test
1C vs 3S	728.000	4.118	0.411	Do Not Test
1C vs 4I	723.000	4.090	0.427	Do Not Test
1C vs 9S	719.000	4.067	0.439	Do Not Test
1C vs 7I	705.000	3.988	0.485	Do Not Test
1C vs 9I	676.000	3.824	0.584	Do Not Test
1C vs 8I	623.000	3.524	0.757	Do Not Test
1C vs 6I	589.000	3.332	0.845	Do Not Test
1C vs 7C	507.000	2.868	0.959	Do Not Test
1C vs 1I	437.000	2.472	0.993	Do Not Test
1C vs 5C	392.000	2.218	0.999	Do Not Test
1C vs 9C	358.000	2.025	1.000	Do Not Test
1C vs 8S	350.000	1.980	1.000	Do Not Test
1C vs 2I	341.000	1.929	1.000	Do Not Test
1C vs 3I	271.000	1.533	1.000	Do Not Test
1C vs 4C	201.000	1.137	1.000	Do Not Test
1C vs 6C	13.000	0.0735	1.000	Do Not Test
6C vs 4S	958.000	5.419	0.038	Yes
6C vs 1S	873.000	4.939	0.103	Do Not Test
6C vs 7S	843.000	4.769	0.143	Do Not Test
6C vs 6S	832.000	4.707	0.161	Do Not Test
6C vs 5S	800.000	4.526	0.222	Do Not Test
6C vs 2S	745.000	4.214	0.360	Do Not Test
6C vs 5I	741.000	4.192	0.372	Do Not Test
6C vs 3S	715.000	4.045	0.452	Do Not Test
6C vs 4I	710.000	4.016	0.468	Do Not Test
6C vs 9S	706.000	3.994	0.482	Do Not Test
6C vs 7I	692.000	3.915	0.529	Do Not Test
6C vs 9I	663.000	3.751	0.628	Do Not Test
6C vs 8I	610.000	3.451	0.794	Do Not Test
6C vs 6I	576.000	3.258	0.872	Do Not Test
6C vs 7C	494.000	2.795	0.968	Do Not Test
6C vs 1I	424.000	2.399	0.995	Do Not Test

6C vs 5C	379.000	2.144	0.999	Do Not Test
6C vs 9C	345.000	1.952	1.000	Do Not Test
6C vs 8S	337.000	1.906	1.000	Do Not Test
6C vs 2I	328.000	1.856	1.000	Do Not Test
6C vs 3I	258.000	1.460	1.000	Do Not Test
6C vs 4C	188.000	1.064	1.000	Do Not Test
4C vs 4S	770.000	4.356	0.292	No
4C vs 1S	685.000	3.875	0.553	Do Not Test
4C vs 7S	655.000	3.705	0.655	Do Not Test
4C vs 6S	644.000	3.643	0.692	Do Not Test
4C vs 5S	612.000	3.462	0.788	Do Not Test
4C vs 2S	557.000	3.151	0.904	Do Not Test
4C vs 5I	553.000	3.128	0.910	Do Not Test
4C vs 3S	527.000	2.981	0.941	Do Not Test
4C vs 4I	522.000	2.953	0.946	Do Not Test
4C vs 9S	518.000	2.930	0.950	Do Not Test
4C vs 7I	504.000	2.851	0.961	Do Not Test
4C vs 9I	475.000	2.687	0.979	Do Not Test
4C vs 8I	422.000	2.387	0.996	Do Not Test
4C vs 6I	388.000	2.195	0.999	Do Not Test
4C vs 7C	306.000	1.731	1.000	Do Not Test
4C vs 1I	236.000	1.335	1.000	Do Not Test
4C vs 5C	191.000	1.080	1.000	Do Not Test
4C vs 9C	157.000	0.888	1.000	Do Not Test
4C vs 8S	149.000	0.843	1.000	Do Not Test
4C vs 2I	140.000	0.792	1.000	Do Not Test
4C vs 3I	70.000	0.396	1.000	Do Not Test
3I vs 4S	700.000	3.960	0.502	Do Not Test
3I vs 1S	615.000	3.479	0.780	Do Not Test
3I vs 7S	585.000	3.309	0.854	Do Not Test
3I vs 6S	574.000	3.247	0.875	Do Not Test
3I vs 5S	542.000	3.066	0.924	Do Not Test
3I vs 2S	487.000	2.755	0.973	Do Not Test
3I vs 5I	483.000	2.732	0.975	Do Not Test
3I vs 3S	457.000	2.585	0.987	Do Not Test
3I vs 4I	452.000	2.557	0.988	Do Not Test
3I vs 9S	448.000	2.534	0.990	Do Not Test
3I vs 7I	434.000	2.455	0.993	Do Not Test
3I vs 9I	405.000	2.291	0.998	Do Not Test
3I vs 8I	352.000	1.991	1.000	Do Not Test
3I vs 6I	318.000	1.799	1.000	Do Not Test
3I vs 7C	236.000	1.335	1.000	Do Not Test
3I vs 1I	166.000	0.939	1.000	Do Not Test
3I vs 5C	121.000	0.685	1.000	Do Not Test
3I vs 9C	87.000	0.492	1.000	Do Not Test
3I vs 8S	79.000	0.447	1.000	Do Not Test
3I vs 2I	70.000	0.396	1.000	Do Not Test
2I vs 4S	630.000	3.564	0.736	Do Not Test
2I vs 1S	545.000	3.083	0.921	Do Not Test
2I vs 7S	515.000	2.913	0.952	Do Not Test
2I vs 6S	504.000	2.851	0.961	Do Not Test
2I vs 5S	472.000	2.670	0.981	Do Not Test
2I vs 2S	417.000	2.359	0.996	Do Not Test
2I vs 5I	413.000	2.336	0.997	Do Not Test
2I vs 3S	387.000	2.189	0.999	Do Not Test
2I vs 4I	382.000	2.161	0.999	Do Not Test

2I vs 9S	378.000	2.138	0.999	Do Not Test
2I vs 7I	364.000	2.059	1.000	Do Not Test
2I vs 9I	335.000	1.895	1.000	Do Not Test
2I vs 8I	282.000	1.595	1.000	Do Not Test
2I vs 6I	248.000	1.403	1.000	Do Not Test
2I vs 7C	166.000	0.939	1.000	Do Not Test
2I vs 1I	96.000	0.543	1.000	Do Not Test
2I vs 5C	51.000	0.289	1.000	Do Not Test
2I vs 9C	17.000	0.0962	1.000	Do Not Test
2I vs 8S	9.000	0.0509	1.000	Do Not Test
8S vs 4S	621.000	3.513	0.763	Do Not Test
8S vs 1S	536.000	3.032	0.932	Do Not Test
8S vs 7S	506.000	2.862	0.960	Do Not Test
8S vs 6S	495.000	2.800	0.968	Do Not Test
8S vs 5S	463.000	2.619	0.984	Do Not Test
8S vs 2S	408.000	2.308	0.997	Do Not Test
8S vs 5I	404.000	2.285	0.998	Do Not Test
8S vs 3S	378.000	2.138	0.999	Do Not Test
8S vs 4I	373.000	2.110	0.999	Do Not Test
8S vs 9S	369.000	2.087	1.000	Do Not Test
8S vs 7I	355.000	2.008	1.000	Do Not Test
8S vs 9I	326.000	1.844	1.000	Do Not Test
8S vs 8I	273.000	1.544	1.000	Do Not Test
8S vs 6I	239.000	1.352	1.000	Do Not Test
8S vs 7C	157.000	0.888	1.000	Do Not Test
8S vs 1I	87.000	0.492	1.000	Do Not Test
8S vs 5C	42.000	0.238	1.000	Do Not Test
8S vs 9C	8.000	0.0453	1.000	Do Not Test
9C vs 4S	613.000	3.468	0.786	Do Not Test
9C vs 1S	528.000	2.987	0.940	Do Not Test
9C vs 7S	498.000	2.817	0.966	Do Not Test
9C vs 6S	487.000	2.755	0.973	Do Not Test
9C vs 5S	455.000	2.574	0.987	Do Not Test
9C vs 2S	400.000	2.263	0.998	Do Not Test
9C vs 5I	396.000	2.240	0.998	Do Not Test
9C vs 3S	370.000	2.093	1.000	Do Not Test
9C vs 4I	365.000	2.065	1.000	Do Not Test
9C vs 9S	361.000	2.042	1.000	Do Not Test
9C vs 7I	347.000	1.963	1.000	Do Not Test
9C vs 9I	318.000	1.799	1.000	Do Not Test
9C vs 8I	265.000	1.499	1.000	Do Not Test
9C vs 6I	231.000	1.307	1.000	Do Not Test
9C vs 7C	149.000	0.843	1.000	Do Not Test
9C vs 1I	79.000	0.447	1.000	Do Not Test
9C vs 5C	34.000	0.192	1.000	Do Not Test
5C vs 4S	579.000	3.275	0.866	Do Not Test
5C vs 1S	494.000	2.795	0.968	Do Not Test
5C vs 7S	464.000	2.625	0.984	Do Not Test
5C vs 6S	453.000	2.563	0.988	Do Not Test
5C vs 5S	421.000	2.382	0.996	Do Not Test
5C vs 2S	366.000	2.070	1.000	Do Not Test
5C vs 5I	362.000	2.048	1.000	Do Not Test
5C vs 3S	336.000	1.901	1.000	Do Not Test
5C vs 4I	331.000	1.872	1.000	Do Not Test
5C vs 9S	327.000	1.850	1.000	Do Not Test
5C vs 7I	313.000	1.771	1.000	Do Not Test

5C vs 9I	284.000	1.607	1.000	Do Not Test
5C vs 8I	231.000	1.307	1.000	Do Not Test
5C vs 6I	197.000	1.114	1.000	Do Not Test
5C vs 7C	115.000	0.651	1.000	Do Not Test
5C vs 1I	45.000	0.255	1.000	Do Not Test
1I vs 4S	534.000	3.021	0.934	Do Not Test
1I vs 1S	449.000	2.540	0.989	Do Not Test
1I vs 7S	419.000	2.370	0.996	Do Not Test
1I vs 6S	408.000	2.308	0.997	Do Not Test
1I vs 5S	376.000	2.127	0.999	Do Not Test
1I vs 2S	321.000	1.816	1.000	Do Not Test
1I vs 5I	317.000	1.793	1.000	Do Not Test
1I vs 3S	291.000	1.646	1.000	Do Not Test
1I vs 4I	286.000	1.618	1.000	Do Not Test
1I vs 9S	282.000	1.595	1.000	Do Not Test
1I vs 7I	268.000	1.516	1.000	Do Not Test
1I vs 9I	239.000	1.352	1.000	Do Not Test
1I vs 8I	186.000	1.052	1.000	Do Not Test
1I vs 6I	152.000	0.860	1.000	Do Not Test
1I vs 7C	70.000	0.396	1.000	Do Not Test
7C vs 4S	464.000	2.625	0.984	Do Not Test
7C vs 1S	379.000	2.144	0.999	Do Not Test
7C vs 7S	349.000	1.974	1.000	Do Not Test
7C vs 6S	338.000	1.912	1.000	Do Not Test
7C vs 5S	306.000	1.731	1.000	Do Not Test
7C vs 2S	251.000	1.420	1.000	Do Not Test
7C vs 5I	247.000	1.397	1.000	Do Not Test
7C vs 3S	221.000	1.250	1.000	Do Not Test
7C vs 4I	216.000	1.222	1.000	Do Not Test
7C vs 9S	212.000	1.199	1.000	Do Not Test
7C vs 7I	198.000	1.120	1.000	Do Not Test
7C vs 9I	169.000	0.956	1.000	Do Not Test
7C vs 8I	116.000	0.656	1.000	Do Not Test
7C vs 6I	82.000	0.464	1.000	Do Not Test
6I vs 4S	382.000	2.161	0.999	Do Not Test
6I vs 1S	297.000	1.680	1.000	Do Not Test
6I vs 7S	267.000	1.510	1.000	Do Not Test
6I vs 6S	256.000	1.448	1.000	Do Not Test
6I vs 5S	224.000	1.267	1.000	Do Not Test
6I vs 2S	169.000	0.956	1.000	Do Not Test
6I vs 5I	165.000	0.933	1.000	Do Not Test
6I vs 3S	139.000	0.786	1.000	Do Not Test
6I vs 4I	134.000	0.758	1.000	Do Not Test
6I vs 9S	130.000	0.735	1.000	Do Not Test
6I vs 7I	116.000	0.656	1.000	Do Not Test
6I vs 9I	87.000	0.492	1.000	Do Not Test
6I vs 8I	34.000	0.192	1.000	Do Not Test
8I vs 4S	348.000	1.969	1.000	Do Not Test
8I vs 1S	263.000	1.488	1.000	Do Not Test
8I vs 7S	233.000	1.318	1.000	Do Not Test
8I vs 6S	222.000	1.256	1.000	Do Not Test
8I vs 5S	190.000	1.075	1.000	Do Not Test
8I vs 2S	135.000	0.764	1.000	Do Not Test
8I vs 5I	131.000	0.741	1.000	Do Not Test
8I vs 3S	105.000	0.594	1.000	Do Not Test
8I vs 4I	100.000	0.566	1.000	Do Not Test

8I vs 9S	96.000	0.543	1.000	Do Not Test
8I vs 7I	82.000	0.464	1.000	Do Not Test
8I vs 9I	53.000	0.300	1.000	Do Not Test
9I vs 4S	295.000	1.669	1.000	Do Not Test
9I vs 1S	210.000	1.188	1.000	Do Not Test
9I vs 7S	180.000	1.018	1.000	Do Not Test
9I vs 6S	169.000	0.956	1.000	Do Not Test
9I vs 5S	137.000	0.775	1.000	Do Not Test
9I vs 2S	82.000	0.464	1.000	Do Not Test
9I vs 5I	78.000	0.441	1.000	Do Not Test
9I vs 3S	52.000	0.294	1.000	Do Not Test
9I vs 4I	47.000	0.266	1.000	Do Not Test
9I vs 9S	43.000	0.243	1.000	Do Not Test
9I vs 7I	29.000	0.164	1.000	Do Not Test
7I vs 4S	266.000	1.505	1.000	Do Not Test
7I vs 1S	181.000	1.024	1.000	Do Not Test
7I vs 7S	151.000	0.854	1.000	Do Not Test
7I vs 6S	140.000	0.792	1.000	Do Not Test
7I vs 5S	108.000	0.611	1.000	Do Not Test
7I vs 2S	53.000	0.300	1.000	Do Not Test
7I vs 5I	49.000	0.277	1.000	Do Not Test
7I vs 3S	23.000	0.130	1.000	Do Not Test
7I vs 4I	18.000	0.102	1.000	Do Not Test
7I vs 9S	14.000	0.0792	1.000	Do Not Test
9S vs 4S	252.000	1.426	1.000	Do Not Test
9S vs 1S	167.000	0.945	1.000	Do Not Test
9S vs 7S	137.000	0.775	1.000	Do Not Test
9S vs 6S	126.000	0.713	1.000	Do Not Test
9S vs 5S	94.000	0.532	1.000	Do Not Test
9S vs 2S	39.000	0.221	1.000	Do Not Test
9S vs 5I	35.000	0.198	1.000	Do Not Test
9S vs 3S	9.000	0.0509	1.000	Do Not Test
9S vs 4I	4.000	0.0226	1.000	Do Not Test
4I vs 4S	248.000	1.403	1.000	Do Not Test
4I vs 1S	163.000	0.922	1.000	Do Not Test
4I vs 7S	133.000	0.752	1.000	Do Not Test
4I vs 6S	122.000	0.690	1.000	Do Not Test
4I vs 5S	90.000	0.509	1.000	Do Not Test
4I vs 2S	35.000	0.198	1.000	Do Not Test
4I vs 5I	31.000	0.175	1.000	Do Not Test
4I vs 3S	5.000	0.0283	1.000	Do Not Test
3S vs 4S	243.000	1.375	1.000	Do Not Test
3S vs 1S	158.000	0.894	1.000	Do Not Test
3S vs 7S	128.000	0.724	1.000	Do Not Test
3S vs 6S	117.000	0.662	1.000	Do Not Test
3S vs 5S	85.000	0.481	1.000	Do Not Test
3S vs 2S	30.000	0.170	1.000	Do Not Test
3S vs 5I	26.000	0.147	1.000	Do Not Test
5I vs 4S	217.000	1.228	1.000	Do Not Test
5I vs 1S	132.000	0.747	1.000	Do Not Test
5I vs 7S	102.000	0.577	1.000	Do Not Test
5I vs 6S	91.000	0.515	1.000	Do Not Test
5I vs 5S	59.000	0.334	1.000	Do Not Test
5I vs 2S	4.000	0.0226	1.000	Do Not Test
2S vs 4S	213.000	1.205	1.000	Do Not Test
2S vs 1S	128.000	0.724	1.000	Do Not Test



2S vs 7S	98.000	0.554	1.000	Do Not Test
2S vs 6S	87.000	0.492	1.000	Do Not Test
2S vs 5S	55.000	0.311	1.000	Do Not Test
5S vs 4S	158.000	0.894	1.000	Do Not Test
5S vs 1S	73.000	0.413	1.000	Do Not Test
5S vs 7S	43.000	0.243	1.000	Do Not Test
5S vs 6S	32.000	0.181	1.000	Do Not Test
6S vs 4S	126.000	0.713	1.000	Do Not Test
6S vs 1S	41.000	0.232	1.000	Do Not Test
6S vs 7S	11.000	0.0622	1.000	Do Not Test
7S vs 4S	115.000	0.651	1.000	Do Not Test
7S vs 1S	30.000	0.170	1.000	Do Not Test
1S vs 4S	85.000	0.481	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:41:50

Data source: Tb.N in L1 3-5y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:41:50

Data source: Tb.N in L1 3-5y

Group	N	Missing	Median	25%	75%
1I	8	0	0.00128	0.00126	0.00168
1C	8	0	0.00116	0.00101	0.00152
1S	8	0	0.00130	0.00117	0.00173
2I	8	0	0.00126	0.00121	0.00158
2C	8	0	0.00111	0.000973	0.00134
2S	8	0	0.00126	0.00117	0.00154
3I	8	0	0.00137	0.00127	0.00176
3C	8	0	0.00119	0.00101	0.00146
3S	8	0	0.00133	0.00122	0.00170
4I	8	0	0.00126	0.00109	0.00141
4C	8	0	0.000950	0.000865	0.00103
4S	8	0	0.00110	0.000968	0.00134
5I	8	0	0.00112	0.00102	0.00116
5C	8	0	0.000905	0.000802	0.000988
5S	8	0	0.00101	0.000890	0.00108
6I	8	0	0.00134	0.00121	0.00143
6C	8	0	0.000955	0.000895	0.00102
6S	8	0	0.00114	0.00106	0.00147
7I	8	0	0.00142	0.00131	0.00147
7C	8	0	0.00110	0.00100	0.00135
7S	8	0	0.00116	0.00108	0.00144
8I	8	0	0.00125	0.00117	0.00135
8C	8	0	0.000820	0.000657	0.000860
8S	8	0	0.000970	0.000895	0.00110
9I	8	0	0.00147	0.00133	0.00158
9C	8	0	0.00116	0.00109	0.00125
9S	8	0	0.00116	0.00102	0.00137

H = 108.250 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
9I vs 8C	1354.500	7.662	0.007	Yes
9I vs 5C	1221.000	6.907	0.007	Yes

9I vs 4C	1083.000	6.127	0.011	Yes
9I vs 6C	1027.000	5.810	0.017	Yes
9I vs 5S	947.000	5.357	0.043	Yes
9I vs 8S	943.500	5.337	0.045	Yes
9I vs 5I	776.000	4.390	0.277	No
9I vs 2C	698.000	3.949	0.508	Do Not Test
9I vs 4S	669.000	3.785	0.608	Do Not Test
9I vs 7C	615.000	3.479	0.780	Do Not Test
9I vs 9C	598.000	3.383	0.824	Do Not Test
9I vs 9S	577.000	3.264	0.870	Do Not Test
9I vs 1C	549.000	3.106	0.915	Do Not Test
9I vs 6S	541.500	3.063	0.925	Do Not Test
9I vs 7S	527.000	2.981	0.941	Do Not Test
9I vs 3C	485.000	2.744	0.974	Do Not Test
9I vs 4I	402.000	2.274	0.998	Do Not Test
9I vs 8I	360.500	2.039	1.000	Do Not Test
9I vs 2S	336.000	1.901	1.000	Do Not Test
9I vs 2I	277.000	1.567	1.000	Do Not Test
9I vs 6I	260.000	1.471	1.000	Do Not Test
9I vs 1S	232.500	1.315	1.000	Do Not Test
9I vs 3S	204.000	1.154	1.000	Do Not Test
9I vs 1I	180.000	1.018	1.000	Do Not Test
9I vs 3I	84.500	0.478	1.000	Do Not Test
9I vs 7I	77.500	0.438	1.000	Do Not Test
7I vs 8C	1277.000	7.224	0.007	Yes
7I vs 5C	1143.500	6.469	0.008	Yes
7I vs 4C	1005.500	5.688	0.022	Yes
7I vs 6C	949.500	5.371	0.042	Yes
7I vs 5S	869.500	4.919	0.107	No
7I vs 8S	866.000	4.899	0.111	Do Not Test
7I vs 5I	698.500	3.951	0.507	Do Not Test
7I vs 2C	620.500	3.510	0.764	Do Not Test
7I vs 4S	591.500	3.346	0.839	Do Not Test
7I vs 7C	537.500	3.041	0.930	Do Not Test
7I vs 9C	520.500	2.944	0.948	Do Not Test
7I vs 9S	499.500	2.826	0.965	Do Not Test
7I vs 1C	471.500	2.667	0.981	Do Not Test
7I vs 6S	464.000	2.625	0.984	Do Not Test
7I vs 7S	449.500	2.543	0.989	Do Not Test
7I vs 3C	407.500	2.305	0.997	Do Not Test
7I vs 4I	324.500	1.836	1.000	Do Not Test
7I vs 8I	283.000	1.601	1.000	Do Not Test
7I vs 2S	258.500	1.462	1.000	Do Not Test
7I vs 2I	199.500	1.129	1.000	Do Not Test
7I vs 6I	182.500	1.032	1.000	Do Not Test
7I vs 1S	155.000	0.877	1.000	Do Not Test
7I vs 3S	126.500	0.716	1.000	Do Not Test
7I vs 1I	102.500	0.580	1.000	Do Not Test
7I vs 3I	7.000	0.0396	1.000	Do Not Test
3I vs 8C	1270.000	7.184	0.007	Yes
3I vs 5C	1136.500	6.429	0.008	Yes
3I vs 4C	998.500	5.649	0.024	Yes
3I vs 6C	942.500	5.332	0.045	Yes
3I vs 5S	862.500	4.879	0.115	Do Not Test
3I vs 8S	859.000	4.859	0.120	Do Not Test
3I vs 5I	691.500	3.912	0.530	Do Not Test

3I vs 2C	613.500	3.471	0.784	Do Not Test
3I vs 4S	584.500	3.307	0.855	Do Not Test
3I vs 7C	530.500	3.001	0.938	Do Not Test
3I vs 9C	513.500	2.905	0.954	Do Not Test
3I vs 9S	492.500	2.786	0.969	Do Not Test
3I vs 1C	464.500	2.628	0.984	Do Not Test
3I vs 6S	457.000	2.585	0.987	Do Not Test
3I vs 7S	442.500	2.503	0.991	Do Not Test
3I vs 3C	400.500	2.266	0.998	Do Not Test
3I vs 4I	317.500	1.796	1.000	Do Not Test
3I vs 8I	276.000	1.561	1.000	Do Not Test
3I vs 2S	251.500	1.423	1.000	Do Not Test
3I vs 2I	192.500	1.089	1.000	Do Not Test
3I vs 6I	175.500	0.993	1.000	Do Not Test
3I vs 1S	148.000	0.837	1.000	Do Not Test
3I vs 3S	119.500	0.676	1.000	Do Not Test
3I vs 1I	95.500	0.540	1.000	Do Not Test
<b>1I vs 8C</b>	<b>1174.500</b>	<b>6.644</b>	<b>0.007</b>	<b>Yes</b>
1I vs 5C	1041.000	5.889	0.015	Yes
1I vs 4C	903.000	5.108	0.072	No
1I vs 6C	847.000	4.792	0.137	Do Not Test
1I vs 5S	767.000	4.339	0.300	Do Not Test
1I vs 8S	763.500	4.319	0.309	Do Not Test
1I vs 5I	596.000	3.372	0.829	Do Not Test
1I vs 2C	518.000	2.930	0.950	Do Not Test
1I vs 4S	489.000	2.766	0.971	Do Not Test
1I vs 7C	435.000	2.461	0.993	Do Not Test
1I vs 9C	418.000	2.365	0.996	Do Not Test
1I vs 9S	397.000	2.246	0.998	Do Not Test
1I vs 1C	369.000	2.087	1.000	Do Not Test
1I vs 6S	361.500	2.045	1.000	Do Not Test
1I vs 7S	347.000	1.963	1.000	Do Not Test
1I vs 3C	305.000	1.725	1.000	Do Not Test
1I vs 4I	222.000	1.256	1.000	Do Not Test
1I vs 8I	180.500	1.021	1.000	Do Not Test
1I vs 2S	156.000	0.882	1.000	Do Not Test
1I vs 2I	97.000	0.549	1.000	Do Not Test
1I vs 6I	80.000	0.453	1.000	Do Not Test
1I vs 1S	52.500	0.297	1.000	Do Not Test
1I vs 3S	24.000	0.136	1.000	Do Not Test
<b>3S vs 8C</b>	<b>1150.500</b>	<b>6.508</b>	<b>0.008</b>	<b>Yes</b>
3S vs 5C	1017.000	5.753	0.019	Yes
3S vs 4C	879.000	4.973	0.096	Do Not Test
3S vs 6C	823.000	4.656	0.177	Do Not Test
3S vs 5S	743.000	4.203	0.366	Do Not Test
3S vs 8S	739.500	4.183	0.376	Do Not Test
3S vs 5I	572.000	3.236	0.879	Do Not Test
3S vs 2C	494.000	2.795	0.968	Do Not Test
3S vs 4S	465.000	2.631	0.984	Do Not Test
3S vs 7C	411.000	2.325	0.997	Do Not Test
3S vs 9C	394.000	2.229	0.999	Do Not Test
3S vs 9S	373.000	2.110	0.999	Do Not Test
3S vs 1C	345.000	1.952	1.000	Do Not Test
3S vs 6S	337.500	1.909	1.000	Do Not Test
3S vs 7S	323.000	1.827	1.000	Do Not Test
3S vs 3C	281.000	1.590	1.000	Do Not Test

3S vs 4I	198.000	1.120	1.000	Do Not Test
3S vs 8I	156.500	0.885	1.000	Do Not Test
3S vs 2S	132.000	0.747	1.000	Do Not Test
3S vs 2I	73.000	0.413	1.000	Do Not Test
3S vs 6I	56.000	0.317	1.000	Do Not Test
3S vs 1S	28.500	0.161	1.000	Do Not Test
<b>1S vs 8C</b>	<b>1122.000</b>	<b>6.347</b>	<b>0.009</b>	<b>Yes</b>
1S vs 5C	988.500	5.592	0.026	Yes
1S vs 4C	850.500	4.811	0.132	Do Not Test
1S vs 6C	794.500	4.495	0.234	Do Not Test
1S vs 5S	714.500	4.042	0.454	Do Not Test
1S vs 8S	711.000	4.022	0.465	Do Not Test
1S vs 5I	543.500	3.075	0.923	Do Not Test
1S vs 2C	465.500	2.633	0.983	Do Not Test
1S vs 4S	436.500	2.469	0.993	Do Not Test
1S vs 7C	382.500	2.164	0.999	Do Not Test
1S vs 9C	365.500	2.068	1.000	Do Not Test
1S vs 9S	344.500	1.949	1.000	Do Not Test
1S vs 1C	316.500	1.790	1.000	Do Not Test
1S vs 6S	309.000	1.748	1.000	Do Not Test
1S vs 7S	294.500	1.666	1.000	Do Not Test
1S vs 3C	252.500	1.428	1.000	Do Not Test
1S vs 4I	169.500	0.959	1.000	Do Not Test
1S vs 8I	128.000	0.724	1.000	Do Not Test
1S vs 2S	103.500	0.586	1.000	Do Not Test
1S vs 2I	44.500	0.252	1.000	Do Not Test
1S vs 6I	27.500	0.156	1.000	Do Not Test
<b>6I vs 8C</b>	<b>1094.500</b>	<b>6.192</b>	<b>0.010</b>	<b>Yes</b>
6I vs 5C	961.000	5.436	0.036	Yes
6I vs 4C	823.000	4.656	0.177	Do Not Test
6I vs 6C	767.000	4.339	0.300	Do Not Test
6I vs 5S	687.000	3.886	0.546	Do Not Test
6I vs 8S	683.500	3.867	0.558	Do Not Test
6I vs 5I	516.000	2.919	0.952	Do Not Test
6I vs 2C	438.000	2.478	0.992	Do Not Test
6I vs 4S	409.000	2.314	0.997	Do Not Test
6I vs 7C	355.000	2.008	1.000	Do Not Test
6I vs 9C	338.000	1.912	1.000	Do Not Test
6I vs 9S	317.000	1.793	1.000	Do Not Test
6I vs 1C	289.000	1.635	1.000	Do Not Test
6I vs 6S	281.500	1.592	1.000	Do Not Test
6I vs 7S	267.000	1.510	1.000	Do Not Test
6I vs 3C	225.000	1.273	1.000	Do Not Test
6I vs 4I	142.000	0.803	1.000	Do Not Test
6I vs 8I	100.500	0.569	1.000	Do Not Test
6I vs 2S	76.000	0.430	1.000	Do Not Test
6I vs 2I	17.000	0.0962	1.000	Do Not Test
2I vs 8C	1077.500	6.095	0.011	Yes
2I vs 5C	944.000	5.340	0.044	Yes
2I vs 4C	806.000	4.560	0.209	Do Not Test
2I vs 6C	750.000	4.243	0.346	Do Not Test
2I vs 5S	670.000	3.790	0.604	Do Not Test
2I vs 8S	666.500	3.770	0.616	Do Not Test
2I vs 5I	499.000	2.823	0.965	Do Not Test
2I vs 2C	421.000	2.382	0.996	Do Not Test
2I vs 4S	392.000	2.218	0.999	Do Not Test

2I vs 7C	338.000	1.912	1.000	Do Not Test
2I vs 9C	321.000	1.816	1.000	Do Not Test
2I vs 9S	300.000	1.697	1.000	Do Not Test
2I vs 1C	272.000	1.539	1.000	Do Not Test
2I vs 6S	264.500	1.496	1.000	Do Not Test
2I vs 7S	250.000	1.414	1.000	Do Not Test
2I vs 3C	208.000	1.177	1.000	Do Not Test
2I vs 4I	125.000	0.707	1.000	Do Not Test
2I vs 8I	83.500	0.472	1.000	Do Not Test
2I vs 2S	59.000	0.334	1.000	Do Not Test
2S vs 8C	1018.500	5.762	0.019	Yes
2S vs 5C	885.000	5.006	0.089	No
2S vs 4C	747.000	4.226	0.354	Do Not Test
2S vs 6C	691.000	3.909	0.532	Do Not Test
2S vs 5S	611.000	3.456	0.791	Do Not Test
2S vs 8S	607.500	3.437	0.800	Do Not Test
2S vs 5I	440.000	2.489	0.992	Do Not Test
2S vs 2C	362.000	2.048	1.000	Do Not Test
2S vs 4S	333.000	1.884	1.000	Do Not Test
2S vs 7C	279.000	1.578	1.000	Do Not Test
2S vs 9C	262.000	1.482	1.000	Do Not Test
2S vs 9S	241.000	1.363	1.000	Do Not Test
2S vs 1C	213.000	1.205	1.000	Do Not Test
2S vs 6S	205.500	1.163	1.000	Do Not Test
2S vs 7S	191.000	1.080	1.000	Do Not Test
2S vs 3C	149.000	0.843	1.000	Do Not Test
2S vs 4I	66.000	0.373	1.000	Do Not Test
2S vs 8I	24.500	0.139	1.000	Do Not Test
8I vs 8C	994.000	5.623	0.025	Yes
8I vs 5C	860.500	4.868	0.118	Do Not Test
8I vs 4C	722.500	4.087	0.428	Do Not Test
8I vs 6C	666.500	3.770	0.616	Do Not Test
8I vs 5S	586.500	3.318	0.850	Do Not Test
8I vs 8S	583.000	3.298	0.858	Do Not Test
8I vs 5I	415.500	2.350	0.997	Do Not Test
8I vs 2C	337.500	1.909	1.000	Do Not Test
8I vs 4S	308.500	1.745	1.000	Do Not Test
8I vs 7C	254.500	1.440	1.000	Do Not Test
8I vs 9C	237.500	1.344	1.000	Do Not Test
8I vs 9S	216.500	1.225	1.000	Do Not Test
8I vs 1C	188.500	1.066	1.000	Do Not Test
8I vs 6S	181.000	1.024	1.000	Do Not Test
8I vs 7S	166.500	0.942	1.000	Do Not Test
8I vs 3C	124.500	0.704	1.000	Do Not Test
8I vs 4I	41.500	0.235	1.000	Do Not Test
4I vs 8C	952.500	5.388	0.040	Yes
4I vs 5C	819.000	4.633	0.184	Do Not Test
4I vs 4C	681.000	3.852	0.566	Do Not Test
4I vs 6C	625.000	3.536	0.751	Do Not Test
4I vs 5S	545.000	3.083	0.921	Do Not Test
4I vs 8S	541.500	3.063	0.925	Do Not Test
4I vs 5I	374.000	2.116	0.999	Do Not Test
4I vs 2C	296.000	1.674	1.000	Do Not Test
4I vs 4S	267.000	1.510	1.000	Do Not Test
4I vs 7C	213.000	1.205	1.000	Do Not Test
4I vs 9C	196.000	1.109	1.000	Do Not Test

4I vs 9S	175.000	0.990	1.000	Do Not Test
4I vs 1C	147.000	0.832	1.000	Do Not Test
4I vs 6S	139.500	0.789	1.000	Do Not Test
4I vs 7S	125.000	0.707	1.000	Do Not Test
4I vs 3C	83.000	0.470	1.000	Do Not Test
3C vs 8C	869.500	4.919	0.107	No
3C vs 5C	736.000	4.164	0.387	Do Not Test
3C vs 4C	598.000	3.383	0.824	Do Not Test
3C vs 6C	542.000	3.066	0.924	Do Not Test
3C vs 5S	462.000	2.614	0.985	Do Not Test
3C vs 8S	458.500	2.594	0.986	Do Not Test
3C vs 5I	291.000	1.646	1.000	Do Not Test
3C vs 2C	213.000	1.205	1.000	Do Not Test
3C vs 4S	184.000	1.041	1.000	Do Not Test
3C vs 7C	130.000	0.735	1.000	Do Not Test
3C vs 9C	113.000	0.639	1.000	Do Not Test
3C vs 9S	92.000	0.520	1.000	Do Not Test
3C vs 1C	64.000	0.362	1.000	Do Not Test
3C vs 6S	56.500	0.320	1.000	Do Not Test
3C vs 7S	42.000	0.238	1.000	Do Not Test
7S vs 8C	827.500	4.681	0.169	Do Not Test
7S vs 5C	694.000	3.926	0.522	Do Not Test
7S vs 4C	556.000	3.145	0.905	Do Not Test
7S vs 6C	500.000	2.829	0.964	Do Not Test
7S vs 5S	420.000	2.376	0.996	Do Not Test
7S vs 8S	416.500	2.356	0.996	Do Not Test
7S vs 5I	249.000	1.409	1.000	Do Not Test
7S vs 2C	171.000	0.967	1.000	Do Not Test
7S vs 4S	142.000	0.803	1.000	Do Not Test
7S vs 7C	88.000	0.498	1.000	Do Not Test
7S vs 9C	71.000	0.402	1.000	Do Not Test
7S vs 9S	50.000	0.283	1.000	Do Not Test
7S vs 1C	22.000	0.124	1.000	Do Not Test
7S vs 6S	14.500	0.0820	1.000	Do Not Test
6S vs 8C	813.000	4.599	0.195	Do Not Test
6S vs 5C	679.500	3.844	0.571	Do Not Test
6S vs 4C	541.500	3.063	0.925	Do Not Test
6S vs 6C	485.500	2.746	0.974	Do Not Test
6S vs 5S	405.500	2.294	0.998	Do Not Test
6S vs 8S	402.000	2.274	0.998	Do Not Test
6S vs 5I	234.500	1.327	1.000	Do Not Test
6S vs 2C	156.500	0.885	1.000	Do Not Test
6S vs 4S	127.500	0.721	1.000	Do Not Test
6S vs 7C	73.500	0.416	1.000	Do Not Test
6S vs 9C	56.500	0.320	1.000	Do Not Test
6S vs 9S	35.500	0.201	1.000	Do Not Test
6S vs 1C	7.500	0.0424	1.000	Do Not Test
1C vs 8C	805.500	4.557	0.210	Do Not Test
1C vs 5C	672.000	3.802	0.597	Do Not Test
1C vs 4C	534.000	3.021	0.934	Do Not Test
1C vs 6C	478.000	2.704	0.978	Do Not Test
1C vs 5S	398.000	2.252	0.998	Do Not Test
1C vs 8S	394.500	2.232	0.999	Do Not Test
1C vs 5I	227.000	1.284	1.000	Do Not Test
1C vs 2C	149.000	0.843	1.000	Do Not Test
1C vs 4S	120.000	0.679	1.000	Do Not Test

1C vs 7C	66.000	0.373	1.000	Do Not Test
1C vs 9C	49.000	0.277	1.000	Do Not Test
1C vs 9S	28.000	0.158	1.000	Do Not Test
9S vs 8C	777.500	4.398	0.273	Do Not Test
9S vs 5C	644.000	3.643	0.692	Do Not Test
9S vs 4C	506.000	2.862	0.960	Do Not Test
9S vs 6C	450.000	2.546	0.989	Do Not Test
9S vs 5S	370.000	2.093	1.000	Do Not Test
9S vs 8S	366.500	2.073	1.000	Do Not Test
9S vs 5I	199.000	1.126	1.000	Do Not Test
9S vs 2C	121.000	0.685	1.000	Do Not Test
9S vs 4S	92.000	0.520	1.000	Do Not Test
9S vs 7C	38.000	0.215	1.000	Do Not Test
9S vs 9C	21.000	0.119	1.000	Do Not Test
9C vs 8C	756.500	4.280	0.328	Do Not Test
9C vs 5C	623.000	3.524	0.757	Do Not Test
9C vs 4C	485.000	2.744	0.974	Do Not Test
9C vs 6C	429.000	2.427	0.994	Do Not Test
9C vs 5S	349.000	1.974	1.000	Do Not Test
9C vs 8S	345.500	1.955	1.000	Do Not Test
9C vs 5I	178.000	1.007	1.000	Do Not Test
9C vs 2C	100.000	0.566	1.000	Do Not Test
9C vs 4S	71.000	0.402	1.000	Do Not Test
9C vs 7C	17.000	0.0962	1.000	Do Not Test
7C vs 8C	739.500	4.183	0.376	Do Not Test
7C vs 5C	606.000	3.428	0.804	Do Not Test
7C vs 4C	468.000	2.647	0.982	Do Not Test
7C vs 6C	412.000	2.331	0.997	Do Not Test
7C vs 5S	332.000	1.878	1.000	Do Not Test
7C vs 8S	328.500	1.858	1.000	Do Not Test
7C vs 5I	161.000	0.911	1.000	Do Not Test
7C vs 2C	83.000	0.470	1.000	Do Not Test
7C vs 4S	54.000	0.305	1.000	Do Not Test
4S vs 8C	685.500	3.878	0.551	Do Not Test
4S vs 5C	552.000	3.123	0.911	Do Not Test
4S vs 4C	414.000	2.342	0.997	Do Not Test
4S vs 6C	358.000	2.025	1.000	Do Not Test
4S vs 5S	278.000	1.573	1.000	Do Not Test
4S vs 8S	274.500	1.553	1.000	Do Not Test
4S vs 5I	107.000	0.605	1.000	Do Not Test
4S vs 2C	29.000	0.164	1.000	Do Not Test
2C vs 8C	656.500	3.714	0.650	Do Not Test
2C vs 5C	523.000	2.959	0.945	Do Not Test
2C vs 4C	385.000	2.178	0.999	Do Not Test
2C vs 6C	329.000	1.861	1.000	Do Not Test
2C vs 5S	249.000	1.409	1.000	Do Not Test
2C vs 8S	245.500	1.389	1.000	Do Not Test
2C vs 5I	78.000	0.441	1.000	Do Not Test
5I vs 8C	578.500	3.273	0.867	Do Not Test
5I vs 5C	445.000	2.517	0.991	Do Not Test
5I vs 4C	307.000	1.737	1.000	Do Not Test
5I vs 6C	251.000	1.420	1.000	Do Not Test
5I vs 5S	171.000	0.967	1.000	Do Not Test
5I vs 8S	167.500	0.948	1.000	Do Not Test
8S vs 8C	411.000	2.325	0.997	Do Not Test
8S vs 5C	277.500	1.570	1.000	Do Not Test



8S vs 4C	139.500	0.789	1.000	Do Not Test
8S vs 6C	83.500	0.472	1.000	Do Not Test
8S vs 5S	3.500	0.0198	1.000	Do Not Test
5S vs 8C	407.500	2.305	0.997	Do Not Test
5S vs 5C	274.000	1.550	1.000	Do Not Test
5S vs 4C	136.000	0.769	1.000	Do Not Test
5S vs 6C	80.000	0.453	1.000	Do Not Test
6C vs 8C	327.500	1.853	1.000	Do Not Test
6C vs 5C	194.000	1.097	1.000	Do Not Test
6C vs 4C	56.000	0.317	1.000	Do Not Test
4C vs 8C	271.500	1.536	1.000	Do Not Test
4C vs 5C	138.000	0.781	1.000	Do Not Test
5C vs 8C	133.500	0.755	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:42:53

**Data source:** Tb.Sp in L1 3-5y

**Normality Test (Shapiro-Wilk):** Passed (P = 0.418)

**Equal Variance Test (Brown-Forsythe):** Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:42:53

**Data source:** Tb.Sp in L1 3-5y

Group	N	Missing	Median	25%	75%
1I	8	0	505.592	388.687	608.992
1C	8	0	639.381	518.509	791.562
1S	8	0	450.372	379.930	525.129
2I	8	0	551.319	418.438	620.014
2C	8	0	669.204	589.399	745.186
2S	8	0	477.530	427.634	531.035
3I	8	0	526.462	383.849	572.601
3C	8	0	676.610	542.742	748.328
3S	8	0	462.347	394.144	525.244
4I	8	0	536.951	451.726	613.800
4C	8	0	775.098	734.895	832.481
4S	8	0	563.314	472.715	613.719
5I	8	0	566.752	548.722	598.010
5C	8	0	777.995	703.522	822.140
5S	8	0	590.787	527.761	614.828
6I	8	0	527.031	480.248	565.537
6C	8	0	789.722	723.349	836.003
6S	8	0	549.136	469.425	623.503
7I	8	0	498.244	443.085	514.474
7C	8	0	599.194	523.294	667.133
7S	8	0	508.939	438.066	634.982
8I	8	0	528.091	491.589	581.028
8C	8	0	1049.905	961.317	1300.012
8S	8	0	703.024	534.107	803.705
9I	8	0	466.911	424.623	546.295
9C	8	0	580.820	558.931	644.594
9S	8	0	548.530	454.862	618.747

H = 118.333 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
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8C vs 1S	1326.000	7.501	0.007	Yes
8C vs 3S	1324.000	7.490	0.007	Yes
8C vs 9I	1270.000	7.184	0.007	Yes
8C vs 7I	1249.000	7.066	0.007	Yes
8C vs 2S	1246.000	7.049	0.007	Yes
8C vs 3I	1159.000	6.557	0.008	Yes
8C vs 1I	1102.000	6.234	0.010	Yes
8C vs 6I	1073.000	6.070	0.012	Yes
8C vs 8I	1059.000	5.991	0.013	Yes
8C vs 7S	1021.000	5.776	0.019	Yes
8C vs 2I	1020.000	5.770	0.019	Yes
8C vs 4I	985.000	5.572	0.027	Yes
8C vs 9S	968.000	5.476	0.033	Yes
8C vs 6S	958.000	5.419	0.038	Yes
8C vs 4S	926.000	5.238	0.055	No
8C vs 5I	823.000	4.656	0.177	Do Not Test
8C vs 5S	752.000	4.254	0.340	Do Not Test
8C vs 9C	717.000	4.056	0.446	Do Not Test
8C vs 7C	701.000	3.966	0.498	Do Not Test
8C vs 1C	608.000	3.439	0.799	Do Not Test
8C vs 3C	595.000	3.366	0.831	Do Not Test
8C vs 8S	505.000	2.857	0.961	Do Not Test
8C vs 2C	438.000	2.478	0.992	Do Not Test
8C vs 6C	225.000	1.273	1.000	Do Not Test
8C vs 4C	209.000	1.182	1.000	Do Not Test
8C vs 5C	205.000	1.160	1.000	Do Not Test
5C vs 1S	1121.000	6.342	0.009	Yes
5C vs 3S	1119.000	6.330	0.009	Yes
5C vs 9I	1065.000	6.025	0.012	Yes
5C vs 7I	1044.000	5.906	0.015	Yes
5C vs 2S	1041.000	5.889	0.015	Yes
5C vs 3I	954.000	5.397	0.039	Yes
5C vs 1I	897.000	5.074	0.078	No
5C vs 6I	868.000	4.910	0.109	Do Not Test
5C vs 8I	854.000	4.831	0.127	Do Not Test
5C vs 7S	816.000	4.616	0.190	Do Not Test
5C vs 2I	815.000	4.610	0.191	Do Not Test
5C vs 4I	780.000	4.412	0.267	Do Not Test
5C vs 9S	763.000	4.316	0.310	Do Not Test
5C vs 6S	753.000	4.260	0.338	Do Not Test
5C vs 4S	721.000	4.079	0.433	Do Not Test
5C vs 5I	618.000	3.496	0.772	Do Not Test
5C vs 5S	547.000	3.094	0.918	Do Not Test
5C vs 9C	512.000	2.896	0.955	Do Not Test
5C vs 7C	496.000	2.806	0.967	Do Not Test
5C vs 1C	403.000	2.280	0.998	Do Not Test
5C vs 3C	390.000	2.206	0.999	Do Not Test
5C vs 8S	300.000	1.697	1.000	Do Not Test
5C vs 2C	233.000	1.318	1.000	Do Not Test
5C vs 6C	20.000	0.113	1.000	Do Not Test
5C vs 4C	4.000	0.0226	1.000	Do Not Test
4C vs 1S	1117.000	6.319	0.009	Yes
4C vs 3S	1115.000	6.308	0.009	Yes
4C vs 9I	1061.000	6.002	0.013	Yes
4C vs 7I	1040.000	5.883	0.015	Yes
4C vs 2S	1037.000	5.866	0.016	Yes

4C vs 3I	950.000	5.374	0.041	Yes
4C vs 1I	893.000	5.052	0.081	Do Not Test
4C vs 6I	864.000	4.888	0.114	Do Not Test
4C vs 8I	850.000	4.808	0.133	Do Not Test
4C vs 7S	812.000	4.594	0.197	Do Not Test
4C vs 2I	811.000	4.588	0.199	Do Not Test
4C vs 4I	776.000	4.390	0.277	Do Not Test
4C vs 9S	759.000	4.294	0.321	Do Not Test
4C vs 6S	749.000	4.237	0.349	Do Not Test
4C vs 4S	717.000	4.056	0.446	Do Not Test
4C vs 5I	614.000	3.473	0.783	Do Not Test
4C vs 5S	543.000	3.072	0.923	Do Not Test
4C vs 9C	508.000	2.874	0.958	Do Not Test
4C vs 7C	492.000	2.783	0.970	Do Not Test
4C vs 1C	399.000	2.257	0.998	Do Not Test
4C vs 3C	386.000	2.184	0.999	Do Not Test
4C vs 8S	296.000	1.674	1.000	Do Not Test
4C vs 2C	229.000	1.295	1.000	Do Not Test
4C vs 6C	16.000	0.0905	1.000	Do Not Test
6C vs 1S	1101.000	6.228	0.010	Yes
6C vs 3S	1099.000	6.217	0.010	Yes
6C vs 9I	1045.000	5.912	0.015	Yes
6C vs 7I	1024.000	5.793	0.018	Yes
6C vs 2S	1021.000	5.776	0.019	Yes
6C vs 3I	934.000	5.284	0.050	No
6C vs 1I	877.000	4.961	0.098	Do Not Test
6C vs 6I	848.000	4.797	0.136	Do Not Test
6C vs 8I	834.000	4.718	0.157	Do Not Test
6C vs 7S	796.000	4.503	0.231	Do Not Test
6C vs 2I	795.000	4.497	0.233	Do Not Test
6C vs 4I	760.000	4.299	0.318	Do Not Test
6C vs 9S	743.000	4.203	0.366	Do Not Test
6C vs 6S	733.000	4.147	0.396	Do Not Test
6C vs 4S	701.000	3.966	0.498	Do Not Test
6C vs 5I	598.000	3.383	0.824	Do Not Test
6C vs 5S	527.000	2.981	0.941	Do Not Test
6C vs 9C	492.000	2.783	0.970	Do Not Test
6C vs 7C	476.000	2.693	0.979	Do Not Test
6C vs 1C	383.000	2.167	0.999	Do Not Test
6C vs 3C	370.000	2.093	1.000	Do Not Test
6C vs 8S	280.000	1.584	1.000	Do Not Test
6C vs 2C	213.000	1.205	1.000	Do Not Test
2C vs 1S	888.000	5.023	0.086	No
2C vs 3S	886.000	5.012	0.088	Do Not Test
2C vs 9I	832.000	4.707	0.161	Do Not Test
2C vs 7I	811.000	4.588	0.199	Do Not Test
2C vs 2S	808.000	4.571	0.205	Do Not Test
2C vs 3I	721.000	4.079	0.433	Do Not Test
2C vs 1I	664.000	3.756	0.625	Do Not Test
2C vs 6I	635.000	3.592	0.721	Do Not Test
2C vs 8I	621.000	3.513	0.763	Do Not Test
2C vs 7S	583.000	3.298	0.858	Do Not Test
2C vs 2I	582.000	3.292	0.860	Do Not Test
2C vs 4I	547.000	3.094	0.918	Do Not Test
2C vs 9S	530.000	2.998	0.938	Do Not Test
2C vs 6S	520.000	2.942	0.948	Do Not Test

2C vs 4S	488.000	2.761	0.972	Do Not Test
2C vs 5I	385.000	2.178	0.999	Do Not Test
2C vs 5S	314.000	1.776	1.000	Do Not Test
2C vs 9C	279.000	1.578	1.000	Do Not Test
2C vs 7C	263.000	1.488	1.000	Do Not Test
2C vs 1C	170.000	0.962	1.000	Do Not Test
2C vs 3C	157.000	0.888	1.000	Do Not Test
2C vs 8S	67.000	0.379	1.000	Do Not Test
8S vs 1S	821.000	4.644	0.180	Do Not Test
8S vs 3S	819.000	4.633	0.184	Do Not Test
8S vs 9I	765.000	4.328	0.305	Do Not Test
8S vs 7I	744.000	4.209	0.363	Do Not Test
8S vs 2S	741.000	4.192	0.372	Do Not Test
8S vs 3I	654.000	3.700	0.659	Do Not Test
8S vs 1I	597.000	3.377	0.827	Do Not Test
8S vs 6I	568.000	3.213	0.886	Do Not Test
8S vs 8I	554.000	3.134	0.908	Do Not Test
8S vs 7S	516.000	2.919	0.952	Do Not Test
8S vs 2I	515.000	2.913	0.952	Do Not Test
8S vs 4I	480.000	2.715	0.977	Do Not Test
8S vs 9S	463.000	2.619	0.984	Do Not Test
8S vs 6S	453.000	2.563	0.988	Do Not Test
8S vs 4S	421.000	2.382	0.996	Do Not Test
8S vs 5I	318.000	1.799	1.000	Do Not Test
8S vs 5S	247.000	1.397	1.000	Do Not Test
8S vs 9C	212.000	1.199	1.000	Do Not Test
8S vs 7C	196.000	1.109	1.000	Do Not Test
8S vs 1C	103.000	0.583	1.000	Do Not Test
8S vs 3C	90.000	0.509	1.000	Do Not Test
3C vs 1S	731.000	4.135	0.402	Do Not Test
3C vs 3S	729.000	4.124	0.408	Do Not Test
3C vs 9I	675.000	3.818	0.587	Do Not Test
3C vs 7I	654.000	3.700	0.659	Do Not Test
3C vs 2S	651.000	3.683	0.669	Do Not Test
3C vs 3I	564.000	3.191	0.893	Do Not Test
3C vs 1I	507.000	2.868	0.959	Do Not Test
3C vs 6I	478.000	2.704	0.978	Do Not Test
3C vs 8I	464.000	2.625	0.984	Do Not Test
3C vs 7S	426.000	2.410	0.995	Do Not Test
3C vs 2I	425.000	2.404	0.995	Do Not Test
3C vs 4I	390.000	2.206	0.999	Do Not Test
3C vs 9S	373.000	2.110	0.999	Do Not Test
3C vs 6S	363.000	2.054	1.000	Do Not Test
3C vs 4S	331.000	1.872	1.000	Do Not Test
3C vs 5I	228.000	1.290	1.000	Do Not Test
3C vs 5S	157.000	0.888	1.000	Do Not Test
3C vs 9C	122.000	0.690	1.000	Do Not Test
3C vs 7C	106.000	0.600	1.000	Do Not Test
3C vs 1C	13.000	0.0735	1.000	Do Not Test
1C vs 1S	718.000	4.062	0.443	Do Not Test
1C vs 3S	716.000	4.050	0.449	Do Not Test
1C vs 9I	662.000	3.745	0.632	Do Not Test
1C vs 7I	641.000	3.626	0.702	Do Not Test
1C vs 2S	638.000	3.609	0.711	Do Not Test
1C vs 3I	551.000	3.117	0.913	Do Not Test
1C vs 1I	494.000	2.795	0.968	Do Not Test

1C vs 6I	465.000	2.631	0.984	Do Not Test
1C vs 8I	451.000	2.551	0.989	Do Not Test
1C vs 7S	413.000	2.336	0.997	Do Not Test
1C vs 2I	412.000	2.331	0.997	Do Not Test
1C vs 4I	377.000	2.133	0.999	Do Not Test
1C vs 9S	360.000	2.037	1.000	Do Not Test
1C vs 6S	350.000	1.980	1.000	Do Not Test
1C vs 4S	318.000	1.799	1.000	Do Not Test
1C vs 5I	215.000	1.216	1.000	Do Not Test
1C vs 5S	144.000	0.815	1.000	Do Not Test
1C vs 9C	109.000	0.617	1.000	Do Not Test
1C vs 7C	93.000	0.526	1.000	Do Not Test
7C vs 1S	625.000	3.536	0.751	Do Not Test
7C vs 3S	623.000	3.524	0.757	Do Not Test
7C vs 9I	569.000	3.219	0.884	Do Not Test
7C vs 7I	548.000	3.100	0.917	Do Not Test
7C vs 2S	545.000	3.083	0.921	Do Not Test
7C vs 3I	458.000	2.591	0.986	Do Not Test
7C vs 1I	401.000	2.268	0.998	Do Not Test
7C vs 6I	372.000	2.104	1.000	Do Not Test
7C vs 8I	358.000	2.025	1.000	Do Not Test
7C vs 7S	320.000	1.810	1.000	Do Not Test
7C vs 2I	319.000	1.805	1.000	Do Not Test
7C vs 4I	284.000	1.607	1.000	Do Not Test
7C vs 9S	267.000	1.510	1.000	Do Not Test
7C vs 6S	257.000	1.454	1.000	Do Not Test
7C vs 4S	225.000	1.273	1.000	Do Not Test
7C vs 5I	122.000	0.690	1.000	Do Not Test
7C vs 5S	51.000	0.289	1.000	Do Not Test
7C vs 9C	16.000	0.0905	1.000	Do Not Test
9C vs 1S	609.000	3.445	0.796	Do Not Test
9C vs 3S	607.000	3.434	0.802	Do Not Test
9C vs 9I	553.000	3.128	0.910	Do Not Test
9C vs 7I	532.000	3.010	0.936	Do Not Test
9C vs 2S	529.000	2.993	0.939	Do Not Test
9C vs 3I	442.000	2.500	0.991	Do Not Test
9C vs 1I	385.000	2.178	0.999	Do Not Test
9C vs 6I	356.000	2.014	1.000	Do Not Test
9C vs 8I	342.000	1.935	1.000	Do Not Test
9C vs 7S	304.000	1.720	1.000	Do Not Test
9C vs 2I	303.000	1.714	1.000	Do Not Test
9C vs 4I	268.000	1.516	1.000	Do Not Test
9C vs 9S	251.000	1.420	1.000	Do Not Test
9C vs 6S	241.000	1.363	1.000	Do Not Test
9C vs 4S	209.000	1.182	1.000	Do Not Test
9C vs 5I	106.000	0.600	1.000	Do Not Test
9C vs 5S	35.000	0.198	1.000	Do Not Test
5S vs 1S	574.000	3.247	0.875	Do Not Test
5S vs 3S	572.000	3.236	0.879	Do Not Test
5S vs 9I	518.000	2.930	0.950	Do Not Test
5S vs 7I	497.000	2.812	0.966	Do Not Test
5S vs 2S	494.000	2.795	0.968	Do Not Test
5S vs 3I	407.000	2.302	0.998	Do Not Test
5S vs 1I	350.000	1.980	1.000	Do Not Test
5S vs 6I	321.000	1.816	1.000	Do Not Test
5S vs 8I	307.000	1.737	1.000	Do Not Test

5S vs 7S	269.000	1.522	1.000	Do Not Test
5S vs 2I	268.000	1.516	1.000	Do Not Test
5S vs 4I	233.000	1.318	1.000	Do Not Test
5S vs 9S	216.000	1.222	1.000	Do Not Test
5S vs 6S	206.000	1.165	1.000	Do Not Test
5S vs 4S	174.000	0.984	1.000	Do Not Test
5S vs 5I	71.000	0.402	1.000	Do Not Test
5I vs 1S	503.000	2.845	0.962	Do Not Test
5I vs 3S	501.000	2.834	0.964	Do Not Test
5I vs 9I	447.000	2.529	0.990	Do Not Test
5I vs 7I	426.000	2.410	0.995	Do Not Test
5I vs 2S	423.000	2.393	0.995	Do Not Test
5I vs 3I	336.000	1.901	1.000	Do Not Test
5I vs 1I	279.000	1.578	1.000	Do Not Test
5I vs 6I	250.000	1.414	1.000	Do Not Test
5I vs 8I	236.000	1.335	1.000	Do Not Test
5I vs 7S	198.000	1.120	1.000	Do Not Test
5I vs 2I	197.000	1.114	1.000	Do Not Test
5I vs 4I	162.000	0.916	1.000	Do Not Test
5I vs 9S	145.000	0.820	1.000	Do Not Test
5I vs 6S	135.000	0.764	1.000	Do Not Test
5I vs 4S	103.000	0.583	1.000	Do Not Test
4S vs 1S	400.000	2.263	0.998	Do Not Test
4S vs 3S	398.000	2.252	0.998	Do Not Test
4S vs 9I	344.000	1.946	1.000	Do Not Test
4S vs 7I	323.000	1.827	1.000	Do Not Test
4S vs 2S	320.000	1.810	1.000	Do Not Test
4S vs 3I	233.000	1.318	1.000	Do Not Test
4S vs 1I	176.000	0.996	1.000	Do Not Test
4S vs 6I	147.000	0.832	1.000	Do Not Test
4S vs 8I	133.000	0.752	1.000	Do Not Test
4S vs 7S	95.000	0.537	1.000	Do Not Test
4S vs 2I	94.000	0.532	1.000	Do Not Test
4S vs 4I	59.000	0.334	1.000	Do Not Test
4S vs 9S	42.000	0.238	1.000	Do Not Test
4S vs 6S	32.000	0.181	1.000	Do Not Test
6S vs 1S	368.000	2.082	1.000	Do Not Test
6S vs 3S	366.000	2.070	1.000	Do Not Test
6S vs 9I	312.000	1.765	1.000	Do Not Test
6S vs 7I	291.000	1.646	1.000	Do Not Test
6S vs 2S	288.000	1.629	1.000	Do Not Test
6S vs 3I	201.000	1.137	1.000	Do Not Test
6S vs 1I	144.000	0.815	1.000	Do Not Test
6S vs 6I	115.000	0.651	1.000	Do Not Test
6S vs 8I	101.000	0.571	1.000	Do Not Test
6S vs 7S	63.000	0.356	1.000	Do Not Test
6S vs 2I	62.000	0.351	1.000	Do Not Test
6S vs 4I	27.000	0.153	1.000	Do Not Test
6S vs 9S	10.000	0.0566	1.000	Do Not Test
9S vs 1S	358.000	2.025	1.000	Do Not Test
9S vs 3S	356.000	2.014	1.000	Do Not Test
9S vs 9I	302.000	1.708	1.000	Do Not Test
9S vs 7I	281.000	1.590	1.000	Do Not Test
9S vs 2S	278.000	1.573	1.000	Do Not Test
9S vs 3I	191.000	1.080	1.000	Do Not Test
9S vs 1I	134.000	0.758	1.000	Do Not Test

9S vs 6I	105.000	0.594	1.000	Do Not Test
9S vs 8I	91.000	0.515	1.000	Do Not Test
9S vs 7S	53.000	0.300	1.000	Do Not Test
9S vs 2I	52.000	0.294	1.000	Do Not Test
9S vs 4I	17.000	0.0962	1.000	Do Not Test
4I vs 1S	341.000	1.929	1.000	Do Not Test
4I vs 3S	339.000	1.918	1.000	Do Not Test
4I vs 9I	285.000	1.612	1.000	Do Not Test
4I vs 7I	264.000	1.493	1.000	Do Not Test
4I vs 2S	261.000	1.476	1.000	Do Not Test
4I vs 3I	174.000	0.984	1.000	Do Not Test
4I vs 1I	117.000	0.662	1.000	Do Not Test
4I vs 6I	88.000	0.498	1.000	Do Not Test
4I vs 8I	74.000	0.419	1.000	Do Not Test
4I vs 7S	36.000	0.204	1.000	Do Not Test
4I vs 2I	35.000	0.198	1.000	Do Not Test
2I vs 1S	306.000	1.731	1.000	Do Not Test
2I vs 3S	304.000	1.720	1.000	Do Not Test
2I vs 9I	250.000	1.414	1.000	Do Not Test
2I vs 7I	229.000	1.295	1.000	Do Not Test
2I vs 2S	226.000	1.278	1.000	Do Not Test
2I vs 3I	139.000	0.786	1.000	Do Not Test
2I vs 1I	82.000	0.464	1.000	Do Not Test
2I vs 6I	53.000	0.300	1.000	Do Not Test
2I vs 8I	39.000	0.221	1.000	Do Not Test
2I vs 7S	1.000	0.00566	1.000	Do Not Test
7S vs 1S	305.000	1.725	1.000	Do Not Test
7S vs 3S	303.000	1.714	1.000	Do Not Test
7S vs 9I	249.000	1.409	1.000	Do Not Test
7S vs 7I	228.000	1.290	1.000	Do Not Test
7S vs 2S	225.000	1.273	1.000	Do Not Test
7S vs 3I	138.000	0.781	1.000	Do Not Test
7S vs 1I	81.000	0.458	1.000	Do Not Test
7S vs 6I	52.000	0.294	1.000	Do Not Test
7S vs 8I	38.000	0.215	1.000	Do Not Test
8I vs 1S	267.000	1.510	1.000	Do Not Test
8I vs 3S	265.000	1.499	1.000	Do Not Test
8I vs 9I	211.000	1.194	1.000	Do Not Test
8I vs 7I	190.000	1.075	1.000	Do Not Test
8I vs 2S	187.000	1.058	1.000	Do Not Test
8I vs 3I	100.000	0.566	1.000	Do Not Test
8I vs 1I	43.000	0.243	1.000	Do Not Test
8I vs 6I	14.000	0.0792	1.000	Do Not Test
6I vs 1S	253.000	1.431	1.000	Do Not Test
6I vs 3S	251.000	1.420	1.000	Do Not Test
6I vs 9I	197.000	1.114	1.000	Do Not Test
6I vs 7I	176.000	0.996	1.000	Do Not Test
6I vs 2S	173.000	0.979	1.000	Do Not Test
6I vs 3I	86.000	0.487	1.000	Do Not Test
6I vs 1I	29.000	0.164	1.000	Do Not Test
1I vs 1S	224.000	1.267	1.000	Do Not Test
1I vs 3S	222.000	1.256	1.000	Do Not Test
1I vs 9I	168.000	0.950	1.000	Do Not Test
1I vs 7I	147.000	0.832	1.000	Do Not Test
1I vs 2S	144.000	0.815	1.000	Do Not Test
1I vs 3I	57.000	0.322	1.000	Do Not Test



3I vs 1S	167.000	0.945	1.000	Do Not Test
3I vs 3S	165.000	0.933	1.000	Do Not Test
3I vs 9I	111.000	0.628	1.000	Do Not Test
3I vs 7I	90.000	0.509	1.000	Do Not Test
3I vs 2S	87.000	0.492	1.000	Do Not Test
2S vs 1S	80.000	0.453	1.000	Do Not Test
2S vs 3S	78.000	0.441	1.000	Do Not Test
2S vs 9I	24.000	0.136	1.000	Do Not Test
2S vs 7I	3.000	0.0170	1.000	Do Not Test
7I vs 1S	77.000	0.436	1.000	Do Not Test
7I vs 3S	75.000	0.424	1.000	Do Not Test
7I vs 9I	21.000	0.119	1.000	Do Not Test
9I vs 1S	56.000	0.317	1.000	Do Not Test
9I vs 3S	54.000	0.305	1.000	Do Not Test
3S vs 1S	2.000	0.0113	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 21:43:47

Data source: DA in L1 3-5y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 21:43:47

Data source: DA in L1 3-5y

Group	N	Missing	Median	25%	75%
1I	8	0	0.461	0.428	0.507
1C	8	0	0.498	0.463	0.557
1S	8	0	0.434	0.381	0.478
2I	8	0	0.459	0.417	0.464
2C	8	0	0.479	0.408	0.524
2S	8	0	0.418	0.358	0.444
3I	8	0	0.450	0.425	0.472
3C	8	0	0.512	0.486	0.542
3S	8	0	0.440	0.386	0.483
4I	8	0	0.316	0.214	0.410
4C	8	0	0.440	0.363	0.471
4S	8	0	0.319	0.251	0.373
5I	8	0	0.281	0.251	0.293
5C	8	0	0.379	0.272	0.448
5S	8	0	0.239	0.160	0.382
6I	8	0	0.295	0.167	0.343
6C	8	0	0.420	0.348	0.457
6S	8	0	0.308	0.199	0.366
7I	8	0	0.238	0.164	0.312
7C	8	0	0.231	0.220	0.293
7S	8	0	0.243	0.184	0.283
8I	8	0	0.210	0.136	0.266
8C	8	0	0.220	0.144	0.311
8S	8	0	0.230	0.161	0.270
9I	8	0	0.240	0.192	0.325
9C	8	0	0.252	0.233	0.289
9S	8	0	0.258	0.227	0.305

H = 136.558 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
3C vs 8I	1214.000	6.868	0.007	Yes
3C vs 8C	1194.000	6.755	0.007	Yes

3C vs 8S	1194.000	6.755	0.007	Yes
3C vs 7S	1123.000	6.353	0.009	Yes
3C vs 7I	1117.000	6.319	0.009	Yes
3C vs 7C	1106.000	6.257	0.009	Yes
3C vs 9I	1102.000	6.234	0.010	Yes
3C vs 9C	1099.000	6.217	0.010	Yes
3C vs 5S	1059.000	5.991	0.013	Yes
3C vs 9S	1010.000	5.714	0.021	Yes
3C vs 5I	971.000	5.493	0.032	Yes
3C vs 6S	927.000	5.244	0.054	No
3C vs 6I	905.000	5.120	0.071	Do Not Test
3C vs 4I	856.000	4.842	0.124	Do Not Test
3C vs 4S	792.000	4.480	0.239	Do Not Test
3C vs 5C	633.000	3.581	0.727	Do Not Test
3C vs 2S	516.000	2.919	0.952	Do Not Test
3C vs 6C	432.000	2.444	0.994	Do Not Test
3C vs 4C	338.000	1.912	1.000	Do Not Test
3C vs 1S	321.000	1.816	1.000	Do Not Test
3C vs 3S	308.000	1.742	1.000	Do Not Test
3C vs 2I	297.000	1.680	1.000	Do Not Test
3C vs 2C	277.000	1.567	1.000	Do Not Test
3C vs 3I	248.000	1.403	1.000	Do Not Test
3C vs 1I	186.000	1.052	1.000	Do Not Test
3C vs 1C	53.000	0.300	1.000	Do Not Test
1C vs 8I	1161.000	6.568	0.008	Yes
1C vs 8C	1141.000	6.455	0.008	Yes
1C vs 8S	1141.000	6.455	0.008	Yes
1C vs 7S	1070.000	6.053	0.012	Yes
1C vs 7I	1064.000	6.019	0.012	Yes
1C vs 7C	1053.000	5.957	0.014	Yes
1C vs 9I	1049.000	5.934	0.014	Yes
1C vs 9C	1046.000	5.917	0.015	Yes
1C vs 5S	1006.000	5.691	0.022	Yes
1C vs 9S	957.000	5.414	0.038	Yes
1C vs 5I	918.000	5.193	0.061	No
1C vs 6S	874.000	4.944	0.101	Do Not Test
1C vs 6I	852.000	4.820	0.130	Do Not Test
1C vs 4I	803.000	4.543	0.216	Do Not Test
1C vs 4S	739.000	4.181	0.378	Do Not Test
1C vs 5C	580.000	3.281	0.864	Do Not Test
1C vs 2S	463.000	2.619	0.984	Do Not Test
1C vs 6C	379.000	2.144	0.999	Do Not Test
1C vs 4C	285.000	1.612	1.000	Do Not Test
1C vs 1S	268.000	1.516	1.000	Do Not Test
1C vs 3S	255.000	1.443	1.000	Do Not Test
1C vs 2I	244.000	1.380	1.000	Do Not Test
1C vs 2C	224.000	1.267	1.000	Do Not Test
1C vs 3I	195.000	1.103	1.000	Do Not Test
1C vs 1I	133.000	0.752	1.000	Do Not Test
1I vs 8I	1028.000	5.815	0.017	Yes
1I vs 8C	1008.000	5.702	0.021	Yes
1I vs 8S	1008.000	5.702	0.021	Yes
1I vs 7S	937.000	5.301	0.048	Yes
1I vs 7I	931.000	5.267	0.052	No
1I vs 7C	920.000	5.204	0.059	Do Not Test
1I vs 9I	916.000	5.182	0.062	Do Not Test

1I vs 9C	913.000	5.165	0.064	Do Not Test
1I vs 5S	873.000	4.939	0.103	Do Not Test
1I vs 9S	824.000	4.661	0.175	Do Not Test
1I vs 5I	785.000	4.441	0.255	Do Not Test
1I vs 6S	741.000	4.192	0.372	Do Not Test
1I vs 6I	719.000	4.067	0.439	Do Not Test
1I vs 4I	670.000	3.790	0.604	Do Not Test
1I vs 4S	606.000	3.428	0.804	Do Not Test
1I vs 5C	447.000	2.529	0.990	Do Not Test
1I vs 2S	330.000	1.867	1.000	Do Not Test
1I vs 6C	246.000	1.392	1.000	Do Not Test
1I vs 4C	152.000	0.860	1.000	Do Not Test
1I vs 1S	135.000	0.764	1.000	Do Not Test
1I vs 3S	122.000	0.690	1.000	Do Not Test
1I vs 2I	111.000	0.628	1.000	Do Not Test
1I vs 2C	91.000	0.515	1.000	Do Not Test
1I vs 3I	62.000	0.351	1.000	Do Not Test
3I vs 8I	966.000	5.465	0.034	Yes
3I vs 8C	946.000	5.352	0.043	Yes
3I vs 8S	946.000	5.352	0.043	Yes
3I vs 7S	875.000	4.950	0.100	No
3I vs 7I	869.000	4.916	0.107	Do Not Test
3I vs 7C	858.000	4.854	0.121	Do Not Test
3I vs 9I	854.000	4.831	0.127	Do Not Test
3I vs 9C	851.000	4.814	0.131	Do Not Test
3I vs 5S	811.000	4.588	0.199	Do Not Test
3I vs 9S	762.000	4.311	0.313	Do Not Test
3I vs 5I	723.000	4.090	0.427	Do Not Test
3I vs 6S	679.000	3.841	0.573	Do Not Test
3I vs 6I	657.000	3.717	0.649	Do Not Test
3I vs 4I	608.000	3.439	0.799	Do Not Test
3I vs 4S	544.000	3.077	0.922	Do Not Test
3I vs 5C	385.000	2.178	0.999	Do Not Test
3I vs 2S	268.000	1.516	1.000	Do Not Test
3I vs 6C	184.000	1.041	1.000	Do Not Test
3I vs 4C	90.000	0.509	1.000	Do Not Test
3I vs 1S	73.000	0.413	1.000	Do Not Test
3I vs 3S	60.000	0.339	1.000	Do Not Test
3I vs 2I	49.000	0.277	1.000	Do Not Test
3I vs 2C	29.000	0.164	1.000	Do Not Test
2C vs 8I	937.000	5.301	0.048	Yes
2C vs 8C	917.000	5.188	0.061	No
2C vs 8S	917.000	5.188	0.061	Do Not Test
2C vs 7S	846.000	4.786	0.138	Do Not Test
2C vs 7I	840.000	4.752	0.148	Do Not Test
2C vs 7C	829.000	4.690	0.166	Do Not Test
2C vs 9I	825.000	4.667	0.173	Do Not Test
2C vs 9C	822.000	4.650	0.178	Do Not Test
2C vs 5S	782.000	4.424	0.263	Do Not Test
2C vs 9S	733.000	4.147	0.396	Do Not Test
2C vs 5I	694.000	3.926	0.522	Do Not Test
2C vs 6S	650.000	3.677	0.672	Do Not Test
2C vs 6I	628.000	3.553	0.742	Do Not Test
2C vs 4I	579.000	3.275	0.866	Do Not Test
2C vs 4S	515.000	2.913	0.952	Do Not Test
2C vs 5C	356.000	2.014	1.000	Do Not Test

2C vs 2S	239.000	1.352	1.000	Do Not Test
2C vs 6C	155.000	0.877	1.000	Do Not Test
2C vs 4C	61.000	0.345	1.000	Do Not Test
2C vs 1S	44.000	0.249	1.000	Do Not Test
2C vs 3S	31.000	0.175	1.000	Do Not Test
2C vs 2I	20.000	0.113	1.000	Do Not Test
2I vs 8I	917.000	5.188	0.061	No
2I vs 8C	897.000	5.074	0.078	Do Not Test
2I vs 8S	897.000	5.074	0.078	Do Not Test
2I vs 7S	826.000	4.673	0.171	Do Not Test
2I vs 7I	820.000	4.639	0.182	Do Not Test
2I vs 7C	809.000	4.577	0.203	Do Not Test
2I vs 9I	805.000	4.554	0.211	Do Not Test
2I vs 9C	802.000	4.537	0.218	Do Not Test
2I vs 5S	762.000	4.311	0.313	Do Not Test
2I vs 9S	713.000	4.033	0.459	Do Not Test
2I vs 5I	674.000	3.813	0.590	Do Not Test
2I vs 6S	630.000	3.564	0.736	Do Not Test
2I vs 6I	608.000	3.439	0.799	Do Not Test
2I vs 4I	559.000	3.162	0.901	Do Not Test
2I vs 4S	495.000	2.800	0.968	Do Not Test
2I vs 5C	336.000	1.901	1.000	Do Not Test
2I vs 2S	219.000	1.239	1.000	Do Not Test
2I vs 6C	135.000	0.764	1.000	Do Not Test
2I vs 4C	41.000	0.232	1.000	Do Not Test
2I vs 1S	24.000	0.136	1.000	Do Not Test
2I vs 3S	11.000	0.0622	1.000	Do Not Test
3S vs 8I	906.000	5.125	0.070	Do Not Test
3S vs 8C	886.000	5.012	0.088	Do Not Test
3S vs 8S	886.000	5.012	0.088	Do Not Test
3S vs 7S	815.000	4.610	0.191	Do Not Test
3S vs 7I	809.000	4.577	0.203	Do Not Test
3S vs 7C	798.000	4.514	0.226	Do Not Test
3S vs 9I	794.000	4.492	0.235	Do Not Test
3S vs 9C	791.000	4.475	0.242	Do Not Test
3S vs 5S	751.000	4.248	0.343	Do Not Test
3S vs 9S	702.000	3.971	0.495	Do Not Test
3S vs 5I	663.000	3.751	0.628	Do Not Test
3S vs 6S	619.000	3.502	0.769	Do Not Test
3S vs 6I	597.000	3.377	0.827	Do Not Test
3S vs 4I	548.000	3.100	0.917	Do Not Test
3S vs 4S	484.000	2.738	0.974	Do Not Test
3S vs 5C	325.000	1.839	1.000	Do Not Test
3S vs 2S	208.000	1.177	1.000	Do Not Test
3S vs 6C	124.000	0.701	1.000	Do Not Test
3S vs 4C	30.000	0.170	1.000	Do Not Test
3S vs 1S	13.000	0.0735	1.000	Do Not Test
1S vs 8I	893.000	5.052	0.081	Do Not Test
1S vs 8C	873.000	4.939	0.103	Do Not Test
1S vs 8S	873.000	4.939	0.103	Do Not Test
1S vs 7S	802.000	4.537	0.218	Do Not Test
1S vs 7I	796.000	4.503	0.231	Do Not Test
1S vs 7C	785.000	4.441	0.255	Do Not Test
1S vs 9I	781.000	4.418	0.265	Do Not Test
1S vs 9C	778.000	4.401	0.272	Do Not Test
1S vs 5S	738.000	4.175	0.381	Do Not Test

1S vs 9S	689.000	3.898	0.539	Do Not Test
1S vs 5I	650.000	3.677	0.672	Do Not Test
1S vs 6S	606.000	3.428	0.804	Do Not Test
1S vs 6I	584.000	3.304	0.856	Do Not Test
1S vs 4I	535.000	3.027	0.933	Do Not Test
1S vs 4S	471.000	2.664	0.981	Do Not Test
1S vs 5C	312.000	1.765	1.000	Do Not Test
1S vs 2S	195.000	1.103	1.000	Do Not Test
1S vs 6C	111.000	0.628	1.000	Do Not Test
1S vs 4C	17.000	0.0962	1.000	Do Not Test
4C vs 8I	876.000	4.956	0.099	Do Not Test
4C vs 8C	856.000	4.842	0.124	Do Not Test
4C vs 8S	856.000	4.842	0.124	Do Not Test
4C vs 7S	785.000	4.441	0.255	Do Not Test
4C vs 7I	779.000	4.407	0.270	Do Not Test
4C vs 7C	768.000	4.345	0.297	Do Not Test
4C vs 9I	764.000	4.322	0.308	Do Not Test
4C vs 9C	761.000	4.305	0.316	Do Not Test
4C vs 5S	721.000	4.079	0.433	Do Not Test
4C vs 9S	672.000	3.802	0.597	Do Not Test
4C vs 5I	633.000	3.581	0.727	Do Not Test
4C vs 6S	589.000	3.332	0.845	Do Not Test
4C vs 6I	567.000	3.208	0.888	Do Not Test
4C vs 4I	518.000	2.930	0.950	Do Not Test
4C vs 4S	454.000	2.568	0.988	Do Not Test
4C vs 5C	295.000	1.669	1.000	Do Not Test
4C vs 2S	178.000	1.007	1.000	Do Not Test
4C vs 6C	94.000	0.532	1.000	Do Not Test
6C vs 8I	782.000	4.424	0.263	Do Not Test
6C vs 8C	762.000	4.311	0.313	Do Not Test
6C vs 8S	762.000	4.311	0.313	Do Not Test
6C vs 7S	691.000	3.909	0.532	Do Not Test
6C vs 7I	685.000	3.875	0.553	Do Not Test
6C vs 7C	674.000	3.813	0.590	Do Not Test
6C vs 9I	670.000	3.790	0.604	Do Not Test
6C vs 9C	667.000	3.773	0.614	Do Not Test
6C vs 5S	627.000	3.547	0.745	Do Not Test
6C vs 9S	578.000	3.270	0.868	Do Not Test
6C vs 5I	539.000	3.049	0.928	Do Not Test
6C vs 6S	495.000	2.800	0.968	Do Not Test
6C vs 6I	473.000	2.676	0.980	Do Not Test
6C vs 4I	424.000	2.399	0.995	Do Not Test
6C vs 4S	360.000	2.037	1.000	Do Not Test
6C vs 5C	201.000	1.137	1.000	Do Not Test
6C vs 2S	84.000	0.475	1.000	Do Not Test
2S vs 8I	698.000	3.949	0.508	Do Not Test
2S vs 8C	678.000	3.835	0.577	Do Not Test
2S vs 8S	678.000	3.835	0.577	Do Not Test
2S vs 7S	607.000	3.434	0.802	Do Not Test
2S vs 7I	601.000	3.400	0.817	Do Not Test
2S vs 7C	590.000	3.338	0.843	Do Not Test
2S vs 9I	586.000	3.315	0.851	Do Not Test
2S vs 9C	583.000	3.298	0.858	Do Not Test
2S vs 5S	543.000	3.072	0.923	Do Not Test
2S vs 9S	494.000	2.795	0.968	Do Not Test
2S vs 5I	455.000	2.574	0.987	Do Not Test

2S vs 6S	411.000	2.325	0.997	Do Not Test
2S vs 6I	389.000	2.201	0.999	Do Not Test
2S vs 4I	340.000	1.923	1.000	Do Not Test
2S vs 4S	276.000	1.561	1.000	Do Not Test
2S vs 5C	117.000	0.662	1.000	Do Not Test
5C vs 8I	581.000	3.287	0.862	Do Not Test
5C vs 8C	561.000	3.174	0.898	Do Not Test
5C vs 8S	561.000	3.174	0.898	Do Not Test
5C vs 7S	490.000	2.772	0.971	Do Not Test
5C vs 7I	484.000	2.738	0.974	Do Not Test
5C vs 7C	473.000	2.676	0.980	Do Not Test
5C vs 9I	469.000	2.653	0.982	Do Not Test
5C vs 9C	466.000	2.636	0.983	Do Not Test
5C vs 5S	426.000	2.410	0.995	Do Not Test
5C vs 9S	377.000	2.133	0.999	Do Not Test
5C vs 5I	338.000	1.912	1.000	Do Not Test
5C vs 6S	294.000	1.663	1.000	Do Not Test
5C vs 6I	272.000	1.539	1.000	Do Not Test
5C vs 4I	223.000	1.262	1.000	Do Not Test
5C vs 4S	159.000	0.899	1.000	Do Not Test
4S vs 8I	422.000	2.387	0.996	Do Not Test
4S vs 8C	402.000	2.274	0.998	Do Not Test
4S vs 8S	402.000	2.274	0.998	Do Not Test
4S vs 7S	331.000	1.872	1.000	Do Not Test
4S vs 7I	325.000	1.839	1.000	Do Not Test
4S vs 7C	314.000	1.776	1.000	Do Not Test
4S vs 9I	310.000	1.754	1.000	Do Not Test
4S vs 9C	307.000	1.737	1.000	Do Not Test
4S vs 5S	267.000	1.510	1.000	Do Not Test
4S vs 9S	218.000	1.233	1.000	Do Not Test
4S vs 5I	179.000	1.013	1.000	Do Not Test
4S vs 6S	135.000	0.764	1.000	Do Not Test
4S vs 6I	113.000	0.639	1.000	Do Not Test
4S vs 4I	64.000	0.362	1.000	Do Not Test
4I vs 8I	358.000	2.025	1.000	Do Not Test
4I vs 8C	338.000	1.912	1.000	Do Not Test
4I vs 8S	338.000	1.912	1.000	Do Not Test
4I vs 7S	267.000	1.510	1.000	Do Not Test
4I vs 7I	261.000	1.476	1.000	Do Not Test
4I vs 7C	250.000	1.414	1.000	Do Not Test
4I vs 9I	246.000	1.392	1.000	Do Not Test
4I vs 9C	243.000	1.375	1.000	Do Not Test
4I vs 5S	203.000	1.148	1.000	Do Not Test
4I vs 9S	154.000	0.871	1.000	Do Not Test
4I vs 5I	115.000	0.651	1.000	Do Not Test
4I vs 6S	71.000	0.402	1.000	Do Not Test
4I vs 6I	49.000	0.277	1.000	Do Not Test
6I vs 8I	309.000	1.748	1.000	Do Not Test
6I vs 8C	289.000	1.635	1.000	Do Not Test
6I vs 8S	289.000	1.635	1.000	Do Not Test
6I vs 7S	218.000	1.233	1.000	Do Not Test
6I vs 7I	212.000	1.199	1.000	Do Not Test
6I vs 7C	201.000	1.137	1.000	Do Not Test
6I vs 9I	197.000	1.114	1.000	Do Not Test
6I vs 9C	194.000	1.097	1.000	Do Not Test
6I vs 5S	154.000	0.871	1.000	Do Not Test

6I vs 9S	105.000	0.594	1.000	Do Not Test
6I vs 5I	66.000	0.373	1.000	Do Not Test
6I vs 6S	22.000	0.124	1.000	Do Not Test
6S vs 8I	287.000	1.624	1.000	Do Not Test
6S vs 8C	267.000	1.510	1.000	Do Not Test
6S vs 8S	267.000	1.510	1.000	Do Not Test
6S vs 7S	196.000	1.109	1.000	Do Not Test
6S vs 7I	190.000	1.075	1.000	Do Not Test
6S vs 7C	179.000	1.013	1.000	Do Not Test
6S vs 9I	175.000	0.990	1.000	Do Not Test
6S vs 9C	172.000	0.973	1.000	Do Not Test
6S vs 5S	132.000	0.747	1.000	Do Not Test
6S vs 9S	83.000	0.470	1.000	Do Not Test
6S vs 5I	44.000	0.249	1.000	Do Not Test
5I vs 8I	243.000	1.375	1.000	Do Not Test
5I vs 8C	223.000	1.262	1.000	Do Not Test
5I vs 8S	223.000	1.262	1.000	Do Not Test
5I vs 7S	152.000	0.860	1.000	Do Not Test
5I vs 7I	146.000	0.826	1.000	Do Not Test
5I vs 7C	135.000	0.764	1.000	Do Not Test
5I vs 9I	131.000	0.741	1.000	Do Not Test
5I vs 9C	128.000	0.724	1.000	Do Not Test
5I vs 5S	88.000	0.498	1.000	Do Not Test
5I vs 9S	39.000	0.221	1.000	Do Not Test
9S vs 8I	204.000	1.154	1.000	Do Not Test
9S vs 8C	184.000	1.041	1.000	Do Not Test
9S vs 8S	184.000	1.041	1.000	Do Not Test
9S vs 7S	113.000	0.639	1.000	Do Not Test
9S vs 7I	107.000	0.605	1.000	Do Not Test
9S vs 7C	96.000	0.543	1.000	Do Not Test
9S vs 9I	92.000	0.520	1.000	Do Not Test
9S vs 9C	89.000	0.503	1.000	Do Not Test
9S vs 5S	49.000	0.277	1.000	Do Not Test
5S vs 8I	155.000	0.877	1.000	Do Not Test
5S vs 8C	135.000	0.764	1.000	Do Not Test
5S vs 8S	135.000	0.764	1.000	Do Not Test
5S vs 7S	64.000	0.362	1.000	Do Not Test
5S vs 7I	58.000	0.328	1.000	Do Not Test
5S vs 7C	47.000	0.266	1.000	Do Not Test
5S vs 9I	43.000	0.243	1.000	Do Not Test
5S vs 9C	40.000	0.226	1.000	Do Not Test
9C vs 8I	115.000	0.651	1.000	Do Not Test
9C vs 8C	95.000	0.537	1.000	Do Not Test
9C vs 8S	95.000	0.537	1.000	Do Not Test
9C vs 7S	24.000	0.136	1.000	Do Not Test
9C vs 7I	18.000	0.102	1.000	Do Not Test
9C vs 7C	7.000	0.0396	1.000	Do Not Test
9C vs 9I	3.000	0.0170	1.000	Do Not Test
9I vs 8I	112.000	0.634	1.000	Do Not Test
9I vs 8C	92.000	0.520	1.000	Do Not Test
9I vs 8S	92.000	0.520	1.000	Do Not Test
9I vs 7S	21.000	0.119	1.000	Do Not Test
9I vs 7I	15.000	0.0849	1.000	Do Not Test
9I vs 7C	4.000	0.0226	1.000	Do Not Test
7C vs 8I	108.000	0.611	1.000	Do Not Test
7C vs 8C	88.000	0.498	1.000	Do Not Test



7C vs 8S	88.000	0.498	1.000	Do Not Test
7C vs 7S	17.000	0.0962	1.000	Do Not Test
7C vs 7I	11.000	0.0622	1.000	Do Not Test
7I vs 8I	97.000	0.549	1.000	Do Not Test
7I vs 8C	77.000	0.436	1.000	Do Not Test
7I vs 8S	77.000	0.436	1.000	Do Not Test
7I vs 7S	6.000	0.0339	1.000	Do Not Test
7S vs 8I	91.000	0.515	1.000	Do Not Test
7S vs 8C	71.000	0.402	1.000	Do Not Test
7S vs 8S	71.000	0.402	1.000	Do Not Test
8S vs 8I	20.000	0.113	1.000	Do Not Test
8S vs 8C	0.000	0.000	1.000	Do Not Test
8C vs 8I	20.000	0.113	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 22:07:59

Data source: BV/TV in L3 3y+

Normality Test (Shapiro-Wilk): Passed (P = 0.589)

Equal Variance Test (Brown-Forsythe): Passed (P = 0.543)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	6	0	15.490	3.821	1.560
1C	6	0	15.491	3.005	1.227
1S	6	0	12.436	1.372	0.560
2I	6	0	14.686	2.574	1.051
2C	6	0	14.648	2.053	0.838
2S	6	0	11.695	1.884	0.769
3I	6	0	14.846	2.900	1.184
3C	6	0	15.761	3.198	1.306
3S	6	0	11.587	0.717	0.293
4I	6	0	12.475	1.740	0.710
4C	6	0	10.990	1.292	0.527
4S	6	0	10.394	1.283	0.524
5I	6	0	11.874	1.741	0.711
5C	6	0	10.149	2.038	0.832
5S	6	0	9.872	1.430	0.584
6I	6	0	12.715	1.919	0.783
6C	6	0	10.718	2.035	0.831
6S	6	0	10.070	1.318	0.538
7I	6	0	14.118	2.830	1.155
7C	6	0	11.426	1.787	0.730
7S	6	0	10.603	1.290	0.527
8I	6	0	11.956	1.801	0.735
8C	6	0	10.872	2.123	0.867
8S	6	0	11.460	2.803	1.144
9I	6	0	13.652	2.767	1.130
9C	6	0	11.453	1.538	0.628
9S	6	0	10.622	2.166	0.884

Source of Variation	DF	SS	MS	F	P
Between Groups	26	538.956	20.729	4.394	<0.001
Residual	135	636.869	4.718		
Total	161	1175.825			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 1.000

All Pairwise Multiple Comparison Procedures (Holm-Sidak method):  
Overall significance level = 0.05

Comparisons for factor:

Comparison	Diff of Means	t	P	P<0.050
3C vs. 5S	5.890	4.697	0.002	Yes
3C vs. 6S	5.692	4.539	0.004	Yes

1C vs. 5S	5.619	4.481	0.005	Yes
1I vs. 5S	5.618	4.480	0.005	Yes
3C vs. 5C	5.613	4.476	0.006	Yes
1C vs. 6S	5.421	4.323	0.010	Yes
1I vs. 6S	5.420	4.322	0.010	Yes
3C vs. 4S	5.368	4.281	0.012	Yes
1C vs. 5C	5.342	4.260	0.013	Yes
1I vs. 5C	5.341	4.259	0.013	Yes
3C vs. 7S	5.159	4.114	0.023	Yes
3C vs. 9S	5.140	4.099	0.024	Yes
1C vs. 4S	5.097	4.065	0.027	Yes
1I vs. 4S	5.096	4.064	0.027	Yes
3C vs. 6C	5.043	4.022	0.032	Yes
3I vs. 5S	4.974	3.967	0.039	Yes
3C vs. 8C	4.889	3.899	0.050	Yes
1C vs. 7S	4.888	3.898	0.050	Yes
1I vs. 7S	4.887	3.897	0.049	Yes
1C vs. 9S	4.869	3.883	0.052	No
1I vs. 9S	4.868	3.882	0.052	No
2I vs. 5S	4.814	3.839	0.060	No
3I vs. 6S	4.777	3.809	0.067	No
2C vs. 5S	4.776	3.808	0.067	No
1C vs. 6C	4.772	3.806	0.067	No
1I vs. 6C	4.772	3.805	0.067	No
3C vs. 4C	4.771	3.805	0.067	No
3I vs. 5C	4.697	3.746	0.082	No
1C vs. 8C	4.618	3.683	0.102	No
1I vs. 8C	4.618	3.682	0.102	No
2I vs. 6S	4.616	3.681	0.102	No
2C vs. 6S	4.578	3.651	0.113	No
2I vs. 5C	4.537	3.618	0.125	No
1C vs. 4C	4.501	3.589	0.137	No
1I vs. 4C	4.500	3.588	0.137	No
2C vs. 5C	4.499	3.587	0.137	No
3I vs. 4S	4.453	3.551	0.154	No
3C vs. 7C	4.336	3.457	0.205	No
3C vs. 9C	4.309	3.436	0.218	No
3C vs. 8S	4.302	3.430	0.221	No
2I vs. 4S	4.292	3.423	0.225	No
2C vs. 4S	4.254	3.392	0.246	No
7I vs. 5S	4.246	3.386	0.250	No
3I vs. 7S	4.244	3.384	0.250	No
3I vs. 9S	4.225	3.369	0.261	No
3C vs. 3S	4.174	3.329	0.291	No
3I vs. 6C	4.128	3.292	0.321	No
2I vs. 7S	4.083	3.256	0.352	No
3C vs. 2S	4.066	3.243	0.364	No
1C vs. 7C	4.065	3.242	0.364	No
1I vs. 7C	4.064	3.241	0.364	No
2I vs. 9S	4.064	3.241	0.363	No
7I vs. 6S	4.048	3.228	0.374	No
2C vs. 7S	4.045	3.226	0.375	No
1C vs. 9C	4.038	3.220	0.379	No
1I vs. 9C	4.037	3.220	0.379	No
1C vs. 8S	4.031	3.214	0.383	No
1I vs. 8S	4.030	3.214	0.383	No

2C vs. 9S	4.026	3.210	0.385	No
3I vs. 8C	3.974	3.169	0.425	No
7I vs. 5C	3.969	3.165	0.428	No
2I vs. 6C	3.968	3.164	0.428	No
2C vs. 6C	3.929	3.133	0.459	No
1C vs. 3S	3.904	3.113	0.479	No
1I vs. 3S	3.903	3.112	0.478	No
3C vs. 5I	3.887	3.100	0.491	No
3I vs. 4C	3.856	3.075	0.517	No
2I vs. 8C	3.814	3.041	0.553	No
3C vs. 8I	3.806	3.035	0.559	No
1C vs. 2S	3.796	3.027	0.566	No
1I vs. 2S	3.795	3.026	0.566	No
9I vs. 5S	3.780	3.014	0.578	No
2C vs. 8C	3.775	3.011	0.581	No
7I vs. 4S	3.724	2.970	0.626	No
2I vs. 4C	3.696	2.947	0.650	No
2C vs. 4C	3.657	2.917	0.682	No
1C vs. 5I	3.617	2.884	0.716	No
1I vs. 5I	3.616	2.884	0.716	No
9I vs. 6S	3.582	2.856	0.743	No
1C vs. 8I	3.535	2.819	0.780	No
1I vs. 8I	3.534	2.818	0.779	No
7I vs. 7S	3.515	2.803	0.792	No
9I vs. 5C	3.503	2.793	0.801	No
7I vs. 9S	3.496	2.788	0.805	No
3I vs. 7C	3.421	2.728	0.856	No
7I vs. 6C	3.399	2.711	0.868	No
3I vs. 9C	3.394	2.706	0.870	No
3I vs. 8S	3.386	2.701	0.874	No
3C vs. 1S	3.326	2.652	0.906	No
3C vs. 4I	3.286	2.621	0.924	No
2I vs. 7C	3.260	2.600	0.934	No
3I vs. 3S	3.259	2.599	0.934	No
9I vs. 4S	3.258	2.598	0.934	No
7I vs. 8C	3.245	2.588	0.938	No
2I vs. 9C	3.233	2.579	0.942	No
2I vs. 8S	3.226	2.573	0.944	No
2C vs. 7C	3.222	2.569	0.945	No
2C vs. 9C	3.195	2.548	0.953	No
2C vs. 8S	3.188	2.542	0.955	No
3I vs. 2S	3.151	2.513	0.964	No
7I vs. 4C	3.128	2.494	0.970	No
2I vs. 3S	3.099	2.471	0.975	No
2C vs. 3S	3.060	2.441	0.982	No
1C vs. 1S	3.055	2.436	0.982	No
1I vs. 1S	3.055	2.436	0.982	No
9I vs. 7S	3.049	2.431	0.983	No
3C vs. 6I	3.046	2.429	0.983	No
9I vs. 9S	3.030	2.416	0.985	No
1C vs. 4I	3.016	2.405	0.986	No
1I vs. 4I	3.015	2.404	0.986	No
2I vs. 2S	2.991	2.385	0.989	No
3I vs. 5I	2.972	2.370	0.990	No
2C vs. 2S	2.953	2.354	0.992	No
9I vs. 6C	2.933	2.339	0.993	No

3I vs. 8I	2.891	2.305	0.996	No
6I vs. 5S	2.843	2.267	0.997	No
2I vs. 5I	2.812	2.242	0.998	No
9I vs. 8C	2.779	2.216	0.999	No
1C vs. 6I	2.776	2.214	0.999	No
1I vs. 6I	2.775	2.213	0.999	No
2C vs. 5I	2.773	2.212	0.999	No
2I vs. 8I	2.730	2.177	0.999	No
7I vs. 7C	2.692	2.147	1.000	No
2C vs. 8I	2.692	2.147	1.000	No
7I vs. 9C	2.665	2.125	1.000	No
9I vs. 4C	2.661	2.122	1.000	No
7I vs. 8S	2.658	2.119	1.000	No
6I vs. 6S	2.645	2.109	1.000	No
4I vs. 5S	2.603	2.076	1.000	No
6I vs. 5C	2.566	2.046	1.000	No
1S vs. 5S	2.564	2.044	1.000	No
7I vs. 3S	2.531	2.018	1.000	No
7I vs. 2S	2.423	1.932	1.000	No
3I vs. 1S	2.411	1.923	1.000	No
4I vs. 6S	2.405	1.918	1.000	No
3I vs. 4I	2.371	1.891	1.000	No
1S vs. 6S	2.366	1.887	1.000	No
4I vs. 5C	2.326	1.855	1.000	No
6I vs. 4S	2.321	1.851	1.000	No
1S vs. 5C	2.287	1.823	1.000	No
2I vs. 1S	2.251	1.795	1.000	No
7I vs. 5I	2.244	1.789	1.000	No
9I vs. 7C	2.226	1.775	1.000	No
2C vs. 1S	2.212	1.764	1.000	No
2I vs. 4I	2.211	1.763	1.000	No
9I vs. 9C	2.199	1.754	1.000	No
9I vs. 8S	2.192	1.748	1.000	No
2C vs. 4I	2.173	1.733	1.000	No
7I vs. 8I	2.162	1.724	1.000	No
3I vs. 6I	2.131	1.700	1.000	No
6I vs. 7S	2.112	1.685	1.000	No
3C vs. 9I	2.110	1.682	1.000	No
6I vs. 9S	2.093	1.669	1.000	No
8I vs. 5S	2.084	1.662	1.000	No
4I vs. 4S	2.081	1.660	1.000	No
9I vs. 3S	2.065	1.646	1.000	No
1S vs. 4S	2.042	1.628	1.000	No
5I vs. 5S	2.002	1.597	1.000	No
6I vs. 6C	1.997	1.592	1.000	No
2I vs. 6I	1.971	1.572	1.000	No
9I vs. 2S	1.957	1.560	1.000	No
2C vs. 6I	1.933	1.541	1.000	No
8I vs. 6S	1.886	1.504	1.000	No
4I vs. 7S	1.872	1.493	1.000	No
4I vs. 9S	1.853	1.478	1.000	No
6I vs. 8C	1.843	1.469	1.000	No
1C vs. 9I	1.839	1.467	1.000	No
1I vs. 9I	1.838	1.466	1.000	No
1S vs. 7S	1.833	1.462	1.000	No
2S vs. 5S	1.823	1.454	1.000	No

1S vs. 9S	1.814	1.446	1.000	No
8I vs. 5C	1.807	1.441	1.000	No
5I vs. 6S	1.804	1.439	1.000	No
9I vs. 5I	1.778	1.418	1.000	No
4I vs. 6C	1.757	1.401	1.000	No
5I vs. 5C	1.725	1.376	1.000	No
6I vs. 4C	1.725	1.375	1.000	No
1S vs. 6C	1.717	1.369	1.000	No
3S vs. 5S	1.715	1.368	1.000	No
9I vs. 8I	1.696	1.352	1.000	No
7I vs. 1S	1.682	1.341	1.000	No
3C vs. 7I	1.644	1.311	1.000	No
7I vs. 4I	1.643	1.310	1.000	No
2S vs. 6S	1.625	1.296	1.000	No
4I vs. 8C	1.603	1.278	1.000	No
8S vs. 5S	1.588	1.266	1.000	No
9C vs. 5S	1.581	1.261	1.000	No
1S vs. 8C	1.563	1.247	1.000	No
8I vs. 4S	1.562	1.246	1.000	No
7C vs. 5S	1.554	1.239	1.000	No
2S vs. 5C	1.546	1.233	1.000	No
3S vs. 6S	1.517	1.210	1.000	No
4I vs. 4C	1.485	1.184	1.000	No
5I vs. 4S	1.480	1.181	1.000	No
1S vs. 4C	1.445	1.153	1.000	No
3S vs. 5C	1.438	1.147	1.000	No
7I vs. 6I	1.403	1.119	1.000	No
8S vs. 6S	1.390	1.109	1.000	No
9C vs. 6S	1.383	1.103	1.000	No
1C vs. 7I	1.373	1.095	1.000	No
1I vs. 7I	1.372	1.094	1.000	No
7C vs. 6S	1.356	1.081	1.000	No
8I vs. 7S	1.353	1.079	1.000	No
8I vs. 9S	1.334	1.064	1.000	No
8S vs. 5C	1.311	1.045	1.000	No
9C vs. 5C	1.304	1.040	1.000	No
2S vs. 4S	1.301	1.038	1.000	No
6I vs. 7C	1.289	1.028	1.000	No
7C vs. 5C	1.277	1.018	1.000	No
5I vs. 7S	1.271	1.014	1.000	No
6I vs. 9C	1.262	1.007	1.000	No
6I vs. 8S	1.255	1.001	1.000	No
5I vs. 9S	1.252	0.999	1.000	No
8I vs. 6C	1.237	0.987	1.000	No
9I vs. 1S	1.216	0.970	1.000	No
3I vs. 9I	1.195	0.953	1.000	No
3S vs. 4S	1.193	0.952	1.000	No
9I vs. 4I	1.177	0.938	1.000	No
5I vs. 6C	1.156	0.922	1.000	No
6I vs. 3S	1.128	0.899	1.000	No
4C vs. 5S	1.118	0.892	1.000	No
3C vs. 2C	1.114	0.888	1.000	No
2S vs. 7S	1.092	0.871	1.000	No
8I vs. 8C	1.083	0.864	1.000	No
3C vs. 2I	1.075	0.858	1.000	No
2S vs. 9S	1.073	0.856	1.000	No

8S vs. 4S	1.066	0.850	1.000	No
9C vs. 4S	1.059	0.844	1.000	No
4I vs. 7C	1.049	0.837	1.000	No
2I vs. 9I	1.034	0.825	1.000	No
7C vs. 4S	1.032	0.823	1.000	No
4I vs. 9C	1.022	0.815	1.000	No
6I vs. 2S	1.020	0.813	1.000	No
4I vs. 8S	1.015	0.809	1.000	No
1S vs. 7C	1.010	0.805	1.000	No
5I vs. 8C	1.002	0.799	1.000	No
8C vs. 5S	1.000	0.798	1.000	No
2C vs. 9I	0.996	0.794	1.000	No
3S vs. 7S	0.984	0.785	1.000	No
1S vs. 9C	0.983	0.784	1.000	No
2S vs. 6C	0.977	0.779	1.000	No
1S vs. 8S	0.976	0.778	1.000	No
8I vs. 4C	0.966	0.770	1.000	No
3S vs. 9S	0.965	0.770	1.000	No
9I vs. 6I	0.937	0.747	1.000	No
4C vs. 6S	0.920	0.734	1.000	No
3C vs. 3I	0.915	0.730	1.000	No
4I vs. 3S	0.888	0.708	1.000	No
5I vs. 4C	0.884	0.705	1.000	No
3S vs. 6C	0.869	0.693	1.000	No
8S vs. 7S	0.857	0.684	1.000	No
9C vs. 7S	0.850	0.678	1.000	No
1S vs. 3S	0.848	0.677	1.000	No
6C vs. 5S	0.847	0.675	1.000	No
1C vs. 2C	0.843	0.672	1.000	No
1I vs. 2C	0.843	0.672	1.000	No
4C vs. 5C	0.841	0.671	1.000	No
6I vs. 5I	0.841	0.671	1.000	No
8S vs. 9S	0.838	0.668	1.000	No
9C vs. 9S	0.831	0.663	1.000	No
7C vs. 7S	0.823	0.656	1.000	No
2S vs. 8C	0.823	0.656	1.000	No
1C vs. 2I	0.805	0.642	1.000	No
1I vs. 2I	0.804	0.641	1.000	No
7C vs. 9S	0.804	0.641	1.000	No
8C vs. 6S	0.803	0.640	1.000	No
4I vs. 2S	0.780	0.622	1.000	No
6I vs. 8I	0.759	0.605	1.000	No
9S vs. 5S	0.750	0.598	1.000	No
8S vs. 6C	0.741	0.591	1.000	No
1S vs. 2S	0.740	0.590	1.000	No
9C vs. 6C	0.734	0.585	1.000	No
7S vs. 5S	0.731	0.583	1.000	No
3I vs. 7I	0.729	0.581	1.000	No
8C vs. 5C	0.723	0.577	1.000	No
3S vs. 8C	0.715	0.570	1.000	No
7C vs. 6C	0.707	0.564	1.000	No
2S vs. 4C	0.705	0.562	1.000	No
6C vs. 6S	0.649	0.517	1.000	No
1C vs. 3I	0.644	0.514	1.000	No
1I vs. 3I	0.644	0.513	1.000	No
4I vs. 5I	0.601	0.479	1.000	No

3S vs. 4C	0.597	0.476	1.000	No
4C vs. 4S	0.597	0.476	1.000	No
8S vs. 8C	0.588	0.469	1.000	No
9C vs. 8C	0.580	0.463	1.000	No
6C vs. 5C	0.570	0.454	1.000	No
2I vs. 7I	0.568	0.453	1.000	No
1S vs. 5I	0.561	0.448	1.000	No
7C vs. 8C	0.553	0.441	1.000	No
9S vs. 6S	0.552	0.440	1.000	No
7S vs. 6S	0.533	0.425	1.000	No
8I vs. 7C	0.530	0.423	1.000	No
2C vs. 7I	0.530	0.423	1.000	No
4S vs. 5S	0.522	0.416	1.000	No
4I vs. 8I	0.519	0.414	1.000	No
8I vs. 9C	0.503	0.401	1.000	No
8I vs. 8S	0.496	0.395	1.000	No
1S vs. 8I	0.480	0.383	1.000	No
8C vs. 4S	0.479	0.382	1.000	No
9S vs. 5C	0.473	0.377	1.000	No
8S vs. 4C	0.470	0.375	1.000	No
7I vs. 9I	0.466	0.372	1.000	No
9C vs. 4C	0.462	0.369	1.000	No
7S vs. 5C	0.454	0.362	1.000	No
5I vs. 7C	0.448	0.358	1.000	No
7C vs. 4C	0.436	0.347	1.000	No
5I vs. 9C	0.421	0.336	1.000	No
5I vs. 8S	0.414	0.330	1.000	No
4C vs. 7S	0.388	0.309	1.000	No
8I vs. 3S	0.369	0.294	1.000	No
4C vs. 9S	0.368	0.294	1.000	No
6C vs. 4S	0.325	0.259	1.000	No
4S vs. 6S	0.324	0.258	1.000	No
5I vs. 3S	0.287	0.229	1.000	No
6I vs. 1S	0.280	0.223	1.000	No
5C vs. 5S	0.277	0.221	1.000	No
4C vs. 6C	0.272	0.217	1.000	No
3C vs. 1I	0.271	0.216	1.000	No
3C vs. 1C	0.271	0.216	1.000	No
8C vs. 7S	0.270	0.215	1.000	No
2S vs. 7C	0.269	0.215	1.000	No
8I vs. 2S	0.261	0.208	1.000	No
8C vs. 9S	0.251	0.200	1.000	No
4S vs. 5C	0.245	0.195	1.000	No
2S vs. 9C	0.242	0.193	1.000	No
6I vs. 4I	0.240	0.191	1.000	No
2S vs. 8S	0.235	0.187	1.000	No
9S vs. 4S	0.228	0.182	1.000	No
7S vs. 4S	0.209	0.167	1.000	No
3I vs. 2C	0.199	0.159	1.000	No
6S vs. 5S	0.198	0.158	1.000	No
5I vs. 2S	0.179	0.143	1.000	No
3S vs. 7C	0.161	0.129	1.000	No
3I vs. 2I	0.160	0.128	1.000	No
8C vs. 6C	0.154	0.123	1.000	No
3S vs. 9C	0.135	0.107	1.000	No
3S vs. 8S	0.127	0.101	1.000	No



4C vs. 8C	0.118	0.0940	1.000	No
6C vs. 7S	0.116	0.0923	1.000	No
2S vs. 3S	0.108	0.0861	1.000	No
6C vs. 9S	0.0966	0.0771	1.000	No
8I vs. 5I	0.0817	0.0652	1.000	No
5C vs. 6S	0.0792	0.0632	1.000	No
4I vs. 1S	0.0395	0.0315	1.000	No
2I vs. 2C	0.0385	0.0307	1.000	No
8S vs. 7C	0.0342	0.0273	1.000	No
9C vs. 7C	0.0269	0.0214	1.000	No
9S vs. 7S	0.0192	0.0153	1.000	No
8S vs. 9C	0.00732	0.00584	1.000	No
1C vs. 1I	0.000752	0.000599	1.000	No

## One Way Analysis of Variance

26 January 2019 22:08:58

Data source: SMI in L3 3y+

Normality Test (Shapiro-Wilk): Passed (P = 0.615)

Equal Variance Test (Brown-Forsythe): Passed (P = 0.972)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	6	0	1.536	0.256	0.105
1C	6	0	1.155	0.189	0.0771
1S	6	0	1.823	0.196	0.0802
2I	6	0	1.500	0.251	0.103
2C	6	0	1.146	0.228	0.0931
2S	6	0	1.837	0.293	0.120
3I	6	0	1.561	0.186	0.0758
3C	6	0	1.220	0.229	0.0935
3S	6	0	1.904	0.219	0.0894
4I	6	0	1.714	0.109	0.0446
4C	6	0	1.366	0.144	0.0589
4S	6	0	1.797	0.157	0.0642
5I	6	0	1.706	0.118	0.0484
5C	6	0	1.392	0.237	0.0969
5S	6	0	1.811	0.150	0.0613
6I	6	0	1.706	0.145	0.0593
6C	6	0	1.403	0.172	0.0701
6S	6	0	1.845	0.165	0.0673
7I	6	0	1.693	0.149	0.0607
7C	6	0	1.580	0.203	0.0830
7S	6	0	1.836	0.170	0.0696
8I	6	0	1.728	0.150	0.0613
8C	6	0	1.249	0.175	0.0715
8S	6	0	1.742	0.192	0.0784
9I	6	0	1.735	0.194	0.0792
9C	6	0	1.641	0.178	0.0725
9S	6	0	1.864	0.225	0.0920

Source of Variation	DF	SS	MS	F	P
Between Groups	26	8.335	0.321	8.599	<0.001
Residual	135	5.033	0.0373		
Total	161	13.368			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 1.000

All Pairwise Multiple Comparison Procedures (Holm-Sidak method):  
Overall significance level = 0.05

Comparisons for factor:

Comparison	Diff of Means	t	P	P<0.050
3S vs. 2C	0.758	6.802	<0.001	Yes
3S vs. 1C	0.749	6.722	<0.001	Yes

9S vs. 2C	0.718	6.441	<0.001	Yes
9S vs. 1C	0.709	6.362	<0.001	Yes
6S vs. 2C	0.699	6.272	<0.001	Yes
2S vs. 2C	0.691	6.200	<0.001	Yes
7S vs. 2C	0.691	6.196	<0.001	Yes
6S vs. 1C	0.690	6.192	<0.001	Yes
3S vs. 3C	0.684	6.135	<0.001	Yes
2S vs. 1C	0.682	6.121	<0.001	Yes
7S vs. 1C	0.682	6.117	<0.001	Yes
1S vs. 2C	0.677	6.075	<0.001	Yes
1S vs. 1C	0.668	5.995	<0.001	Yes
5S vs. 2C	0.665	5.963	<0.001	Yes
5S vs. 1C	0.656	5.883	<0.001	Yes
3S vs. 8C	0.655	5.872	<0.001	Yes
4S vs. 2C	0.651	5.839	<0.001	Yes
9S vs. 3C	0.644	5.775	<0.001	Yes
4S vs. 1C	0.642	5.760	<0.001	Yes
6S vs. 3C	0.625	5.605	<0.001	Yes
2S vs. 3C	0.617	5.534	<0.001	Yes
7S vs. 3C	0.616	5.529	<0.001	Yes
9S vs. 8C	0.614	5.511	<0.001	Yes
1S vs. 3C	0.603	5.408	<0.001	Yes
8S vs. 2C	0.596	5.350	<0.001	Yes
6S vs. 8C	0.595	5.342	<0.001	Yes
5S vs. 3C	0.590	5.296	<0.001	Yes
9I vs. 2C	0.590	5.289	<0.001	Yes
2S vs. 8C	0.588	5.270	<0.001	Yes
8S vs. 1C	0.587	5.270	<0.001	Yes
7S vs. 8C	0.587	5.266	<0.001	Yes
8I vs. 2C	0.582	5.225	<0.001	Yes
9I vs. 1C	0.581	5.209	<0.001	Yes
4S vs. 3C	0.577	5.173	<0.001	Yes
8I vs. 1C	0.574	5.145	<0.001	Yes
1S vs. 8C	0.574	5.145	<0.001	Yes
4I vs. 2C	0.568	5.093	<0.001	Yes
5S vs. 8C	0.561	5.033	<0.001	Yes
6I vs. 2C	0.561	5.030	<0.001	Yes
5I vs. 2C	0.560	5.024	<0.001	Yes
4I vs. 1C	0.559	5.013	<0.001	Yes
6I vs. 1C	0.552	4.950	<0.001	Yes
5I vs. 1C	0.551	4.944	<0.001	Yes
7I vs. 2C	0.548	4.912	<0.001	Yes
4S vs. 8C	0.547	4.910	<0.001	Yes
7I vs. 1C	0.539	4.832	0.001	Yes
3S vs. 4C	0.538	4.826	0.001	Yes
8S vs. 3C	0.522	4.683	0.002	Yes
9I vs. 3C	0.515	4.622	0.003	Yes
3S vs. 5C	0.512	4.590	0.003	Yes
8I vs. 3C	0.508	4.558	0.003	Yes
3S vs. 6C	0.501	4.496	0.004	Yes
9S vs. 4C	0.498	4.465	0.005	Yes
9C vs. 2C	0.495	4.441	0.005	Yes
4I vs. 3C	0.493	4.426	0.006	Yes
8S vs. 8C	0.493	4.420	0.006	Yes
6I vs. 3C	0.486	4.363	0.007	Yes
9C vs. 1C	0.486	4.362	0.007	Yes

9I vs. 8C	0.486	4.359	0.008	Yes
5I vs. 3C	0.486	4.357	0.008	Yes
6S vs. 4C	0.479	4.296	0.010	Yes
8I vs. 8C	0.479	4.295	0.010	Yes
7I vs. 3C	0.473	4.245	0.012	Yes
9S vs. 5C	0.471	4.229	0.012	Yes
2S vs. 4C	0.471	4.224	0.012	Yes
7S vs. 4C	0.470	4.220	0.013	Yes
4I vs. 8C	0.464	4.163	0.016	Yes
9S vs. 6C	0.461	4.136	0.017	Yes
6I vs. 8C	0.457	4.100	0.020	Yes
1S vs. 4C	0.457	4.099	0.020	Yes
5I vs. 8C	0.456	4.094	0.020	Yes
6S vs. 5C	0.453	4.060	0.023	Yes
2S vs. 5C	0.445	3.988	0.030	Yes
5S vs. 4C	0.444	3.987	0.030	Yes
7S vs. 5C	0.444	3.984	0.030	Yes
7I vs. 8C	0.444	3.982	0.030	Yes
6S vs. 6C	0.442	3.966	0.032	Yes
7C vs. 2C	0.435	3.900	0.041	Yes
2S vs. 6C	0.434	3.895	0.041	Yes
7S vs. 6C	0.434	3.890	0.042	Yes
4S vs. 4C	0.431	3.863	0.046	Yes
1S vs. 5C	0.431	3.863	0.046	Yes
7C vs. 1C	0.426	3.820	0.053	No
9C vs. 3C	0.421	3.775	0.062	No
1S vs. 6C	0.420	3.769	0.063	No
5S vs. 5C	0.418	3.751	0.067	No
3I vs. 2C	0.415	3.721	0.074	No
5S vs. 6C	0.408	3.657	0.092	No
3I vs. 1C	0.406	3.641	0.096	No
4S vs. 5C	0.404	3.627	0.101	No
3S vs. 2I	0.404	3.626	0.101	No
4S vs. 6C	0.394	3.534	0.136	No
9C vs. 8C	0.391	3.511	0.145	No
1I vs. 2C	0.390	3.498	0.151	No
1I vs. 1C	0.381	3.419	0.193	No
8S vs. 4C	0.376	3.374	0.220	No
9I vs. 4C	0.369	3.313	0.261	No
3S vs. 1I	0.368	3.304	0.267	No
9S vs. 2I	0.364	3.266	0.296	No
8I vs. 4C	0.362	3.249	0.309	No
7C vs. 3C	0.360	3.233	0.321	No
2I vs. 2C	0.354	3.176	0.371	No
8S vs. 5C	0.350	3.138	0.406	No
4I vs. 4C	0.347	3.117	0.426	No
6S vs. 2I	0.345	3.096	0.446	No
2I vs. 1C	0.345	3.096	0.444	No
3S vs. 3I	0.343	3.081	0.458	No
9I vs. 5C	0.343	3.077	0.461	No
3I vs. 3C	0.340	3.054	0.484	No
6I vs. 4C	0.340	3.054	0.483	No
5I vs. 4C	0.340	3.048	0.488	No
8S vs. 6C	0.339	3.044	0.491	No
2S vs. 2I	0.337	3.025	0.510	No
7S vs. 2I	0.337	3.020	0.513	No

8I vs. 5C	0.336	3.013	0.520	No
9I vs. 6C	0.333	2.983	0.551	No
7C vs. 8C	0.331	2.970	0.564	No
9S vs. 1I	0.328	2.943	0.592	No
7I vs. 4C	0.327	2.936	0.599	No
8I vs. 6C	0.325	2.919	0.616	No
3S vs. 7C	0.324	2.902	0.633	No
1S vs. 2I	0.323	2.899	0.635	No
4I vs. 5C	0.321	2.881	0.653	No
1I vs. 3C	0.316	2.832	0.705	No
6I vs. 5C	0.314	2.818	0.718	No
5I vs. 5C	0.313	2.812	0.723	No
3I vs. 8C	0.311	2.791	0.743	No
5S vs. 2I	0.311	2.787	0.745	No
4I vs. 6C	0.311	2.787	0.743	No
6S vs. 1I	0.309	2.773	0.756	No
6I vs. 6C	0.304	2.724	0.802	No
9S vs. 3I	0.303	2.720	0.804	No
5I vs. 6C	0.303	2.718	0.805	No
2S vs. 1I	0.301	2.702	0.818	No
7I vs. 5C	0.301	2.700	0.818	No
7S vs. 1I	0.301	2.698	0.819	No
4S vs. 2I	0.297	2.664	0.846	No
7I vs. 6C	0.290	2.606	0.888	No
1S vs. 1I	0.287	2.576	0.906	No
1I vs. 8C	0.286	2.568	0.910	No
6S vs. 3I	0.284	2.551	0.919	No
9S vs. 7C	0.283	2.542	0.923	No
2I vs. 3C	0.280	2.509	0.939	No
2S vs. 3I	0.276	2.480	0.951	No
7S vs. 3I	0.276	2.475	0.952	No
9C vs. 4C	0.275	2.465	0.955	No
5S vs. 1I	0.275	2.465	0.955	No
6S vs. 7C	0.264	2.372	0.980	No
3S vs. 9C	0.263	2.361	0.982	No
1S vs. 3I	0.262	2.354	0.983	No
4S vs. 1I	0.261	2.341	0.985	No
6C vs. 2C	0.257	2.306	0.990	No
2S vs. 7C	0.256	2.301	0.990	No
7S vs. 7C	0.256	2.296	0.990	No
2I vs. 8C	0.250	2.246	0.995	No
5S vs. 3I	0.250	2.242	0.995	No
9C vs. 5C	0.249	2.229	0.996	No
6C vs. 1C	0.248	2.226	0.996	No
5C vs. 2C	0.247	2.212	0.996	No
1S vs. 7C	0.242	2.175	0.998	No
8S vs. 2I	0.242	2.174	0.998	No
9C vs. 6C	0.238	2.136	0.999	No
5C vs. 1C	0.238	2.133	0.999	No
4S vs. 3I	0.236	2.119	0.999	No
9I vs. 2I	0.236	2.113	0.999	No
5S vs. 7C	0.230	2.063	1.000	No
8I vs. 2I	0.228	2.049	1.000	No
9S vs. 9C	0.223	2.000	1.000	No
4C vs. 2C	0.220	1.976	1.000	No
4S vs. 7C	0.216	1.940	1.000	No

7C vs. 4C	0.214	1.924	1.000	No
4I vs. 2I	0.214	1.917	1.000	No
4C vs. 1C	0.211	1.897	1.000	No
3S vs. 7I	0.211	1.890	1.000	No
6I vs. 2I	0.207	1.854	1.000	No
8S vs. 1I	0.206	1.851	1.000	No
5I vs. 2I	0.206	1.848	1.000	No
6S vs. 9C	0.204	1.830	1.000	No
9I vs. 1I	0.200	1.791	1.000	No
3S vs. 5I	0.198	1.778	1.000	No
3S vs. 6I	0.198	1.772	1.000	No
2S vs. 9C	0.196	1.759	1.000	No
7S vs. 9C	0.196	1.755	1.000	No
3I vs. 4C	0.194	1.745	1.000	No
7I vs. 2I	0.194	1.736	1.000	No
8I vs. 1I	0.192	1.726	1.000	No
3S vs. 4I	0.191	1.709	1.000	No
7C vs. 5C	0.188	1.688	1.000	No
6C vs. 3C	0.183	1.639	1.000	No
1S vs. 9C	0.182	1.634	1.000	No
8S vs. 3I	0.182	1.629	1.000	No
4I vs. 1I	0.178	1.595	1.000	No
7C vs. 6C	0.178	1.594	1.000	No
3S vs. 8I	0.176	1.577	1.000	No
9I vs. 3I	0.175	1.568	1.000	No
5C vs. 3C	0.172	1.545	1.000	No
6I vs. 1I	0.171	1.531	1.000	No
9S vs. 7I	0.171	1.530	1.000	No
5I vs. 1I	0.170	1.525	1.000	No
1I vs. 4C	0.170	1.522	1.000	No
5S vs. 9C	0.170	1.522	1.000	No
3S vs. 9I	0.169	1.513	1.000	No
3I vs. 5C	0.168	1.509	1.000	No
8I vs. 3I	0.168	1.504	1.000	No
3S vs. 8S	0.162	1.452	1.000	No
8S vs. 7C	0.162	1.450	1.000	No
9S vs. 5I	0.158	1.418	1.000	No
3I vs. 6C	0.158	1.415	1.000	No
7I vs. 1I	0.158	1.413	1.000	No
9S vs. 6I	0.157	1.412	1.000	No
4S vs. 9C	0.156	1.398	1.000	No
9I vs. 7C	0.155	1.389	1.000	No
6C vs. 8C	0.153	1.376	1.000	No
4I vs. 3I	0.153	1.372	1.000	No
6S vs. 7I	0.152	1.360	1.000	No
9S vs. 4I	0.150	1.348	1.000	No
8I vs. 7C	0.148	1.325	1.000	No
4C vs. 3C	0.146	1.309	1.000	No
6I vs. 3I	0.146	1.309	1.000	No
5I vs. 3I	0.145	1.303	1.000	No
2S vs. 7I	0.144	1.289	1.000	No
1I vs. 5C	0.143	1.286	1.000	No
7S vs. 7I	0.143	1.284	1.000	No
5C vs. 8C	0.143	1.282	1.000	No
9C vs. 2I	0.141	1.266	1.000	No
6S vs. 5I	0.139	1.248	1.000	No

6S vs. 6I	0.138	1.242	1.000	No
9S vs. 8I	0.136	1.217	1.000	No
2I vs. 4C	0.134	1.200	1.000	No
4I vs. 7C	0.133	1.193	1.000	No
1I vs. 6C	0.133	1.193	1.000	No
7I vs. 3I	0.133	1.191	1.000	No
6S vs. 4I	0.131	1.179	1.000	No
2S vs. 5I	0.131	1.177	1.000	No
7S vs. 5I	0.131	1.172	1.000	No
2S vs. 6I	0.131	1.171	1.000	No
7S vs. 6I	0.130	1.166	1.000	No
1S vs. 7I	0.130	1.163	1.000	No
9S vs. 9I	0.128	1.152	1.000	No
6I vs. 7C	0.126	1.130	1.000	No
5I vs. 7C	0.125	1.124	1.000	No
2S vs. 4I	0.123	1.107	1.000	No
7S vs. 4I	0.123	1.103	1.000	No
9S vs. 8S	0.122	1.092	1.000	No
5S vs. 7I	0.117	1.051	1.000	No
1S vs. 5I	0.117	1.051	1.000	No
6S vs. 8I	0.117	1.047	1.000	No
4C vs. 8C	0.117	1.046	1.000	No
1S vs. 6I	0.117	1.045	1.000	No
7I vs. 7C	0.113	1.012	1.000	No
6S vs. 9I	0.110	0.983	1.000	No
1S vs. 4I	0.109	0.982	1.000	No
2S vs. 8I	0.109	0.976	1.000	No
7S vs. 8I	0.108	0.971	1.000	No
2I vs. 5C	0.107	0.964	1.000	No
3S vs. 4S	0.107	0.962	1.000	No
9C vs. 1I	0.105	0.943	1.000	No
5S vs. 5I	0.105	0.939	1.000	No
5S vs. 6I	0.104	0.933	1.000	No
8C vs. 2C	0.104	0.930	1.000	No
4S vs. 7I	0.103	0.928	1.000	No
6S vs. 8S	0.103	0.922	1.000	No
2S vs. 9I	0.102	0.911	1.000	No
8S vs. 9C	0.101	0.908	1.000	No
7S vs. 9I	0.101	0.907	1.000	No
5S vs. 4I	0.0970	0.870	1.000	No
2I vs. 6C	0.0970	0.870	1.000	No
2S vs. 8S	0.0948	0.851	1.000	No
8C vs. 1C	0.0948	0.850	1.000	No
1S vs. 8I	0.0948	0.850	1.000	No
9I vs. 9C	0.0945	0.848	1.000	No
7S vs. 8S	0.0944	0.846	1.000	No
3S vs. 5S	0.0935	0.839	1.000	No
4S vs. 5I	0.0910	0.816	1.000	No
4S vs. 6I	0.0903	0.810	1.000	No
1S vs. 9I	0.0876	0.786	1.000	No
8I vs. 9C	0.0873	0.783	1.000	No
4S vs. 4I	0.0832	0.747	1.000	No
5S vs. 8I	0.0823	0.738	1.000	No
3S vs. 1S	0.0811	0.727	1.000	No
1S vs. 8S	0.0808	0.725	1.000	No
7C vs. 2I	0.0807	0.724	1.000	No

9C vs. 3I	0.0803	0.720	1.000	No
5S vs. 9I	0.0751	0.674	1.000	No
3C vs. 2C	0.0743	0.667	1.000	No
4I vs. 9C	0.0726	0.652	1.000	No
4S vs. 8I	0.0685	0.615	1.000	No
5S vs. 8S	0.0684	0.613	1.000	No
3S vs. 7S	0.0675	0.606	1.000	No
9S vs. 4S	0.0671	0.602	1.000	No
3S vs. 2S	0.0671	0.602	1.000	No
6I vs. 9C	0.0656	0.588	1.000	No
3C vs. 1C	0.0655	0.587	1.000	No
5I vs. 9C	0.0649	0.582	1.000	No
4S vs. 9I	0.0614	0.551	1.000	No
3I vs. 2I	0.0608	0.545	1.000	No
9C vs. 7C	0.0604	0.542	1.000	No
3S vs. 6S	0.0591	0.530	1.000	No
4S vs. 8S	0.0546	0.490	1.000	No
9S vs. 5S	0.0533	0.478	1.000	No
7I vs. 9C	0.0524	0.470	1.000	No
8S vs. 7I	0.0488	0.438	1.000	No
6S vs. 4S	0.0482	0.432	1.000	No
7C vs. 1I	0.0447	0.401	1.000	No
9I vs. 7I	0.0421	0.377	1.000	No
9S vs. 1S	0.0409	0.366	1.000	No
2S vs. 4S	0.0402	0.361	1.000	No
3S vs. 9S	0.0402	0.361	1.000	No
7S vs. 4S	0.0397	0.357	1.000	No
6C vs. 4C	0.0367	0.330	1.000	No
8S vs. 5I	0.0363	0.326	1.000	No
1I vs. 2I	0.0360	0.323	1.000	No
8S vs. 6I	0.0357	0.320	1.000	No
8I vs. 7I	0.0349	0.313	1.000	No
6S vs. 5S	0.0344	0.309	1.000	No
9I vs. 5I	0.0296	0.265	1.000	No
8C vs. 3C	0.0293	0.263	1.000	No
9I vs. 6I	0.0289	0.259	1.000	No
8S vs. 4I	0.0286	0.257	1.000	No
9S vs. 7S	0.0273	0.245	1.000	No
9S vs. 2S	0.0269	0.241	1.000	No
2S vs. 5S	0.0265	0.237	1.000	No
5C vs. 4C	0.0263	0.236	1.000	No
1S vs. 4S	0.0262	0.235	1.000	No
7S vs. 5S	0.0260	0.233	1.000	No
3I vs. 1I	0.0248	0.222	1.000	No
8I vs. 5I	0.0224	0.201	1.000	No
6S vs. 1S	0.0219	0.197	1.000	No
9I vs. 4I	0.0218	0.196	1.000	No
8I vs. 6I	0.0217	0.195	1.000	No
4I vs. 7I	0.0202	0.181	1.000	No
7C vs. 3I	0.0199	0.179	1.000	No
9S vs. 6S	0.0189	0.170	1.000	No
8I vs. 4I	0.0147	0.132	1.000	No
2S vs. 1S	0.0140	0.126	1.000	No
8S vs. 8I	0.0139	0.125	1.000	No
5S vs. 4S	0.0138	0.123	1.000	No
7S vs. 1S	0.0135	0.121	1.000	No



6I vs. 7I	0.0132	0.118	1.000	No
5I vs. 7I	0.0125	0.112	1.000	No
1S vs. 5S	0.0125	0.112	1.000	No
6C vs. 5C	0.0104	0.0937	1.000	No
1C vs. 2C	0.00886	0.0795	1.000	No
6S vs. 7S	0.00842	0.0756	1.000	No
6S vs. 2S	0.00794	0.0712	1.000	No
4I vs. 5I	0.00773	0.0693	1.000	No
9I vs. 8I	0.00715	0.0642	1.000	No
4I vs. 6I	0.00705	0.0632	1.000	No
8S vs. 9I	0.00677	0.0607	1.000	No
6I vs. 5I	0.000680	0.00610	1.000	No
2S vs. 7S	0.000485	0.00435	0.997	No

## One Way Analysis of Variance

26 January 2019 22:12:28

Data source: Tb.Th in L3 3y+

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 22:12:28

Data source: Tb.Th in L3 3y+

Group	N	Missing	Median	25%	75%
1I	6	0	119.665	82.713	134.436
1C	6	0	127.217	115.608	153.468
1S	6	0	94.966	87.591	101.262
2I	6	0	124.017	87.783	131.476
2C	6	0	133.371	113.159	139.832
2S	6	0	92.407	88.547	96.577
3I	6	0	120.188	83.628	131.956
3C	6	0	134.983	116.653	153.043
3S	6	0	95.167	86.234	98.435
4I	6	0	102.423	92.613	108.680
4C	6	0	120.642	111.251	122.828
4S	6	0	97.596	91.522	102.344
5I	6	0	110.756	97.848	121.872
5C	6	0	122.327	105.511	134.738
5S	6	0	102.944	89.508	114.382
6I	6	0	105.997	95.543	108.823
6C	6	0	117.790	108.949	120.589
6S	6	0	94.468	88.667	99.069
7I	6	0	97.353	92.525	108.509
7C	6	0	100.039	96.877	114.427
7S	6	0	91.606	86.265	107.036
8I	6	0	98.618	92.612	104.568
8C	6	0	136.156	127.110	150.341
8S	6	0	121.103	93.744	144.721
9I	6	0	97.940	89.514	106.638
9C	6	0	100.310	98.281	110.830
9S	6	0	90.895	86.098	113.373

H = 70.840 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 2S	625.000	5.439	0.036	Yes
8C vs 3S	606.000	5.274	0.051	No

8C vs 6S	596.000	5.187	0.061	Do Not Test
8C vs 1S	584.000	5.082	0.076	Do Not Test
8C vs 7S	577.000	5.022	0.087	Do Not Test
8C vs 9S	539.000	4.691	0.166	Do Not Test
8C vs 4S	534.000	4.647	0.179	Do Not Test
8C vs 9I	506.000	4.404	0.271	Do Not Test
8C vs 8I	493.000	4.291	0.323	Do Not Test
8C vs 7I	480.000	4.177	0.379	Do Not Test
8C vs 4I	457.000	3.977	0.491	Do Not Test
8C vs 5S	439.000	3.821	0.586	Do Not Test
8C vs 6I	426.000	3.707	0.654	Do Not Test
8C vs 7C	402.000	3.499	0.770	Do Not Test
8C vs 9C	388.000	3.377	0.827	Do Not Test
8C vs 3I	309.000	2.689	0.979	Do Not Test
8C vs 1I	309.000	2.689	0.979	Do Not Test
8C vs 5I	307.000	2.672	0.980	Do Not Test
8C vs 2I	263.000	2.289	0.998	Do Not Test
8C vs 6C	250.000	2.176	0.999	Do Not Test
8C vs 8S	218.000	1.897	1.000	Do Not Test
8C vs 4C	191.000	1.662	1.000	Do Not Test
8C vs 5C	185.000	1.610	1.000	Do Not Test
8C vs 2C	63.000	0.548	1.000	Do Not Test
8C vs 1C	59.000	0.513	1.000	Do Not Test
8C vs 3C	49.000	0.426	1.000	Do Not Test
3C vs 2S	576.000	5.013	0.088	No
3C vs 3S	557.000	4.848	0.123	Do Not Test
3C vs 6S	547.000	4.760	0.145	Do Not Test
3C vs 1S	535.000	4.656	0.176	Do Not Test
3C vs 7S	528.000	4.595	0.197	Do Not Test
3C vs 9S	490.000	4.264	0.335	Do Not Test
3C vs 4S	485.000	4.221	0.357	Do Not Test
3C vs 9I	457.000	3.977	0.491	Do Not Test
3C vs 8I	444.000	3.864	0.559	Do Not Test
3C vs 7I	431.000	3.751	0.628	Do Not Test
3C vs 4I	408.000	3.551	0.743	Do Not Test
3C vs 5S	390.000	3.394	0.819	Do Not Test
3C vs 6I	377.000	3.281	0.864	Do Not Test
3C vs 7C	353.000	3.072	0.923	Do Not Test
3C vs 9C	339.000	2.950	0.947	Do Not Test
3C vs 3I	260.000	2.263	0.998	Do Not Test
3C vs 1I	260.000	2.263	0.998	Do Not Test
3C vs 5I	258.000	2.245	0.998	Do Not Test
3C vs 2I	214.000	1.862	1.000	Do Not Test
3C vs 6C	201.000	1.749	1.000	Do Not Test
3C vs 8S	169.000	1.471	1.000	Do Not Test
3C vs 4C	142.000	1.236	1.000	Do Not Test
3C vs 5C	136.000	1.184	1.000	Do Not Test
3C vs 2C	14.000	0.122	1.000	Do Not Test
3C vs 1C	10.000	0.0870	1.000	Do Not Test
1C vs 2S	566.000	4.926	0.105	Do Not Test
1C vs 3S	547.000	4.760	0.145	Do Not Test
1C vs 6S	537.000	4.673	0.171	Do Not Test
1C vs 1S	525.000	4.569	0.206	Do Not Test
1C vs 7S	518.000	4.508	0.229	Do Not Test
1C vs 9S	480.000	4.177	0.379	Do Not Test
1C vs 4S	475.000	4.134	0.403	Do Not Test

1C vs 9I	447.000	3.890	0.543	Do Not Test
1C vs 8I	434.000	3.777	0.612	Do Not Test
1C vs 7I	421.000	3.664	0.680	Do Not Test
1C vs 4I	398.000	3.464	0.788	Do Not Test
1C vs 5S	380.000	3.307	0.854	Do Not Test
1C vs 6I	367.000	3.194	0.892	Do Not Test
1C vs 7C	343.000	2.985	0.941	Do Not Test
1C vs 9C	329.000	2.863	0.960	Do Not Test
1C vs 3I	250.000	2.176	0.999	Do Not Test
1C vs 1I	250.000	2.176	0.999	Do Not Test
1C vs 5I	248.000	2.158	0.999	Do Not Test
1C vs 2I	204.000	1.775	1.000	Do Not Test
1C vs 6C	191.000	1.662	1.000	Do Not Test
1C vs 8S	159.000	1.384	1.000	Do Not Test
1C vs 4C	132.000	1.149	1.000	Do Not Test
1C vs 5C	126.000	1.097	1.000	Do Not Test
1C vs 2C	4.000	0.0348	1.000	Do Not Test
2C vs 2S	562.000	4.891	0.113	Do Not Test
2C vs 3S	543.000	4.726	0.155	Do Not Test
2C vs 6S	533.000	4.639	0.182	Do Not Test
2C vs 1S	521.000	4.534	0.219	Do Not Test
2C vs 7S	514.000	4.473	0.242	Do Not Test
2C vs 9S	476.000	4.143	0.398	Do Not Test
2C vs 4S	471.000	4.099	0.422	Do Not Test
2C vs 9I	443.000	3.855	0.565	Do Not Test
2C vs 8I	430.000	3.742	0.633	Do Not Test
2C vs 7I	417.000	3.629	0.700	Do Not Test
2C vs 4I	394.000	3.429	0.804	Do Not Test
2C vs 5S	376.000	3.272	0.867	Do Not Test
2C vs 6I	363.000	3.159	0.902	Do Not Test
2C vs 7C	339.000	2.950	0.947	Do Not Test
2C vs 9C	325.000	2.828	0.964	Do Not Test
2C vs 3I	246.000	2.141	0.999	Do Not Test
2C vs 1I	246.000	2.141	0.999	Do Not Test
2C vs 5I	244.000	2.124	0.999	Do Not Test
2C vs 2I	200.000	1.741	1.000	Do Not Test
2C vs 6C	187.000	1.627	1.000	Do Not Test
2C vs 8S	155.000	1.349	1.000	Do Not Test
2C vs 4C	128.000	1.114	1.000	Do Not Test
2C vs 5C	122.000	1.062	1.000	Do Not Test
5C vs 2S	440.000	3.829	0.580	Do Not Test
5C vs 3S	421.000	3.664	0.680	Do Not Test
5C vs 6S	411.000	3.577	0.729	Do Not Test
5C vs 1S	399.000	3.472	0.783	Do Not Test
5C vs 7S	392.000	3.412	0.812	Do Not Test
5C vs 9S	354.000	3.081	0.921	Do Not Test
5C vs 4S	349.000	3.037	0.930	Do Not Test
5C vs 9I	321.000	2.794	0.968	Do Not Test
5C vs 8I	308.000	2.680	0.980	Do Not Test
5C vs 7I	295.000	2.567	0.988	Do Not Test
5C vs 4I	272.000	2.367	0.996	Do Not Test
5C vs 5S	254.000	2.211	0.999	Do Not Test
5C vs 6I	241.000	2.097	1.000	Do Not Test
5C vs 7C	217.000	1.889	1.000	Do Not Test
5C vs 9C	203.000	1.767	1.000	Do Not Test
5C vs 3I	124.000	1.079	1.000	Do Not Test

5C vs 1I	124.000	1.079	1.000	Do Not Test
5C vs 5I	122.000	1.062	1.000	Do Not Test
5C vs 2I	78.000	0.679	1.000	Do Not Test
5C vs 6C	65.000	0.566	1.000	Do Not Test
5C vs 8S	33.000	0.287	1.000	Do Not Test
5C vs 4C	6.000	0.0522	1.000	Do Not Test
4C vs 2S	434.000	3.777	0.612	Do Not Test
4C vs 3S	415.000	3.612	0.710	Do Not Test
4C vs 6S	405.000	3.525	0.757	Do Not Test
4C vs 1S	393.000	3.420	0.808	Do Not Test
4C vs 7S	386.000	3.359	0.834	Do Not Test
4C vs 9S	348.000	3.029	0.932	Do Not Test
4C vs 4S	343.000	2.985	0.941	Do Not Test
4C vs 9I	315.000	2.741	0.974	Do Not Test
4C vs 8I	302.000	2.628	0.984	Do Not Test
4C vs 7I	289.000	2.515	0.991	Do Not Test
4C vs 4I	266.000	2.315	0.997	Do Not Test
4C vs 5S	248.000	2.158	0.999	Do Not Test
4C vs 6I	235.000	2.045	1.000	Do Not Test
4C vs 7C	211.000	1.836	1.000	Do Not Test
4C vs 9C	197.000	1.714	1.000	Do Not Test
4C vs 3I	118.000	1.027	1.000	Do Not Test
4C vs 1I	118.000	1.027	1.000	Do Not Test
4C vs 5I	116.000	1.010	1.000	Do Not Test
4C vs 2I	72.000	0.627	1.000	Do Not Test
4C vs 6C	59.000	0.513	1.000	Do Not Test
4C vs 8S	27.000	0.235	1.000	Do Not Test
8S vs 2S	407.000	3.542	0.748	Do Not Test
8S vs 3S	388.000	3.377	0.827	Do Not Test
8S vs 6S	378.000	3.290	0.861	Do Not Test
8S vs 1S	366.000	3.185	0.894	Do Not Test
8S vs 7S	359.000	3.124	0.911	Do Not Test
8S vs 9S	321.000	2.794	0.968	Do Not Test
8S vs 4S	316.000	2.750	0.973	Do Not Test
8S vs 9I	288.000	2.506	0.991	Do Not Test
8S vs 8I	275.000	2.393	0.995	Do Not Test
8S vs 7I	262.000	2.280	0.998	Do Not Test
8S vs 4I	239.000	2.080	1.000	Do Not Test
8S vs 5S	221.000	1.923	1.000	Do Not Test
8S vs 6I	208.000	1.810	1.000	Do Not Test
8S vs 7C	184.000	1.601	1.000	Do Not Test
8S vs 9C	170.000	1.479	1.000	Do Not Test
8S vs 3I	91.000	0.792	1.000	Do Not Test
8S vs 1I	91.000	0.792	1.000	Do Not Test
8S vs 5I	89.000	0.775	1.000	Do Not Test
8S vs 2I	45.000	0.392	1.000	Do Not Test
8S vs 6C	32.000	0.278	1.000	Do Not Test
6C vs 2S	375.000	3.264	0.870	Do Not Test
6C vs 3S	356.000	3.098	0.917	Do Not Test
6C vs 6S	346.000	3.011	0.936	Do Not Test
6C vs 1S	334.000	2.907	0.953	Do Not Test
6C vs 7S	327.000	2.846	0.962	Do Not Test
6C vs 9S	289.000	2.515	0.991	Do Not Test
6C vs 4S	284.000	2.472	0.993	Do Not Test
6C vs 9I	256.000	2.228	0.999	Do Not Test
6C vs 8I	243.000	2.115	0.999	Do Not Test

6C vs 7I	230.000	2.002	1.000	Do Not Test
6C vs 4I	207.000	1.801	1.000	Do Not Test
6C vs 5S	189.000	1.645	1.000	Do Not Test
6C vs 6I	176.000	1.532	1.000	Do Not Test
6C vs 7C	152.000	1.323	1.000	Do Not Test
6C vs 9C	138.000	1.201	1.000	Do Not Test
6C vs 3I	59.000	0.513	1.000	Do Not Test
6C vs 1I	59.000	0.513	1.000	Do Not Test
6C vs 5I	57.000	0.496	1.000	Do Not Test
6C vs 2I	13.000	0.113	1.000	Do Not Test
2I vs 2S	362.000	3.150	0.904	Do Not Test
2I vs 3S	343.000	2.985	0.941	Do Not Test
2I vs 6S	333.000	2.898	0.955	Do Not Test
2I vs 1S	321.000	2.794	0.968	Do Not Test
2I vs 7S	314.000	2.733	0.975	Do Not Test
2I vs 9S	276.000	2.402	0.995	Do Not Test
2I vs 4S	271.000	2.358	0.996	Do Not Test
2I vs 9I	243.000	2.115	0.999	Do Not Test
2I vs 8I	230.000	2.002	1.000	Do Not Test
2I vs 7I	217.000	1.889	1.000	Do Not Test
2I vs 4I	194.000	1.688	1.000	Do Not Test
2I vs 5S	176.000	1.532	1.000	Do Not Test
2I vs 6I	163.000	1.419	1.000	Do Not Test
2I vs 7C	139.000	1.210	1.000	Do Not Test
2I vs 9C	125.000	1.088	1.000	Do Not Test
2I vs 3I	46.000	0.400	1.000	Do Not Test
2I vs 1I	46.000	0.400	1.000	Do Not Test
2I vs 5I	44.000	0.383	1.000	Do Not Test
5I vs 2S	318.000	2.768	0.971	Do Not Test
5I vs 3S	299.000	2.602	0.986	Do Not Test
5I vs 6S	289.000	2.515	0.991	Do Not Test
5I vs 1S	277.000	2.411	0.995	Do Not Test
5I vs 7S	270.000	2.350	0.997	Do Not Test
5I vs 9S	232.000	2.019	1.000	Do Not Test
5I vs 4S	227.000	1.976	1.000	Do Not Test
5I vs 9I	199.000	1.732	1.000	Do Not Test
5I vs 8I	186.000	1.619	1.000	Do Not Test
5I vs 7I	173.000	1.506	1.000	Do Not Test
5I vs 4I	150.000	1.305	1.000	Do Not Test
5I vs 5S	132.000	1.149	1.000	Do Not Test
5I vs 6I	119.000	1.036	1.000	Do Not Test
5I vs 7C	95.000	0.827	1.000	Do Not Test
5I vs 9C	81.000	0.705	1.000	Do Not Test
5I vs 3I	2.000	0.0174	1.000	Do Not Test
5I vs 1I	2.000	0.0174	1.000	Do Not Test
1I vs 2S	316.000	2.750	0.973	Do Not Test
1I vs 3S	297.000	2.585	0.987	Do Not Test
1I vs 6S	287.000	2.498	0.992	Do Not Test
1I vs 1S	275.000	2.393	0.995	Do Not Test
1I vs 7S	268.000	2.332	0.997	Do Not Test
1I vs 9S	230.000	2.002	1.000	Do Not Test
1I vs 4S	225.000	1.958	1.000	Do Not Test
1I vs 9I	197.000	1.714	1.000	Do Not Test
1I vs 8I	184.000	1.601	1.000	Do Not Test
1I vs 7I	171.000	1.488	1.000	Do Not Test
1I vs 4I	148.000	1.288	1.000	Do Not Test

1I vs 5S	130.000	1.131	1.000	Do Not Test
1I vs 6I	117.000	1.018	1.000	Do Not Test
1I vs 7C	93.000	0.809	1.000	Do Not Test
1I vs 9C	79.000	0.688	1.000	Do Not Test
1I vs 3I	0.000	0.000	1.000	Do Not Test
3I vs 2S	316.000	2.750	0.973	Do Not Test
3I vs 3S	297.000	2.585	0.987	Do Not Test
3I vs 6S	287.000	2.498	0.992	Do Not Test
3I vs 1S	275.000	2.393	0.995	Do Not Test
3I vs 7S	268.000	2.332	0.997	Do Not Test
3I vs 9S	230.000	2.002	1.000	Do Not Test
3I vs 4S	225.000	1.958	1.000	Do Not Test
3I vs 9I	197.000	1.714	1.000	Do Not Test
3I vs 8I	184.000	1.601	1.000	Do Not Test
3I vs 7I	171.000	1.488	1.000	Do Not Test
3I vs 4I	148.000	1.288	1.000	Do Not Test
3I vs 5S	130.000	1.131	1.000	Do Not Test
3I vs 6I	117.000	1.018	1.000	Do Not Test
3I vs 7C	93.000	0.809	1.000	Do Not Test
3I vs 9C	79.000	0.688	1.000	Do Not Test
9C vs 2S	237.000	2.063	1.000	Do Not Test
9C vs 3S	218.000	1.897	1.000	Do Not Test
9C vs 6S	208.000	1.810	1.000	Do Not Test
9C vs 1S	196.000	1.706	1.000	Do Not Test
9C vs 7S	189.000	1.645	1.000	Do Not Test
9C vs 9S	151.000	1.314	1.000	Do Not Test
9C vs 4S	146.000	1.271	1.000	Do Not Test
9C vs 9I	118.000	1.027	1.000	Do Not Test
9C vs 8I	105.000	0.914	1.000	Do Not Test
9C vs 7I	92.000	0.801	1.000	Do Not Test
9C vs 4I	69.000	0.600	1.000	Do Not Test
9C vs 5S	51.000	0.444	1.000	Do Not Test
9C vs 6I	38.000	0.331	1.000	Do Not Test
9C vs 7C	14.000	0.122	1.000	Do Not Test
7C vs 2S	223.000	1.941	1.000	Do Not Test
7C vs 3S	204.000	1.775	1.000	Do Not Test
7C vs 6S	194.000	1.688	1.000	Do Not Test
7C vs 1S	182.000	1.584	1.000	Do Not Test
7C vs 7S	175.000	1.523	1.000	Do Not Test
7C vs 9S	137.000	1.192	1.000	Do Not Test
7C vs 4S	132.000	1.149	1.000	Do Not Test
7C vs 9I	104.000	0.905	1.000	Do Not Test
7C vs 8I	91.000	0.792	1.000	Do Not Test
7C vs 7I	78.000	0.679	1.000	Do Not Test
7C vs 4I	55.000	0.479	1.000	Do Not Test
7C vs 5S	37.000	0.322	1.000	Do Not Test
7C vs 6I	24.000	0.209	1.000	Do Not Test
6I vs 2S	199.000	1.732	1.000	Do Not Test
6I vs 3S	180.000	1.567	1.000	Do Not Test
6I vs 6S	170.000	1.479	1.000	Do Not Test
6I vs 1S	158.000	1.375	1.000	Do Not Test
6I vs 7S	151.000	1.314	1.000	Do Not Test
6I vs 9S	113.000	0.983	1.000	Do Not Test
6I vs 4S	108.000	0.940	1.000	Do Not Test
6I vs 9I	80.000	0.696	1.000	Do Not Test
6I vs 8I	67.000	0.583	1.000	Do Not Test

6I vs 7I	54.000	0.470	1.000	Do Not Test
6I vs 4I	31.000	0.270	1.000	Do Not Test
6I vs 5S	13.000	0.113	1.000	Do Not Test
5S vs 2S	186.000	1.619	1.000	Do Not Test
5S vs 3S	167.000	1.453	1.000	Do Not Test
5S vs 6S	157.000	1.366	1.000	Do Not Test
5S vs 1S	145.000	1.262	1.000	Do Not Test
5S vs 7S	138.000	1.201	1.000	Do Not Test
5S vs 9S	100.000	0.870	1.000	Do Not Test
5S vs 4S	95.000	0.827	1.000	Do Not Test
5S vs 9I	67.000	0.583	1.000	Do Not Test
5S vs 8I	54.000	0.470	1.000	Do Not Test
5S vs 7I	41.000	0.357	1.000	Do Not Test
5S vs 4I	18.000	0.157	1.000	Do Not Test
4I vs 2S	168.000	1.462	1.000	Do Not Test
4I vs 3S	149.000	1.297	1.000	Do Not Test
4I vs 6S	139.000	1.210	1.000	Do Not Test
4I vs 1S	127.000	1.105	1.000	Do Not Test
4I vs 7S	120.000	1.044	1.000	Do Not Test
4I vs 9S	82.000	0.714	1.000	Do Not Test
4I vs 4S	77.000	0.670	1.000	Do Not Test
4I vs 9I	49.000	0.426	1.000	Do Not Test
4I vs 8I	36.000	0.313	1.000	Do Not Test
4I vs 7I	23.000	0.200	1.000	Do Not Test
7I vs 2S	145.000	1.262	1.000	Do Not Test
7I vs 3S	126.000	1.097	1.000	Do Not Test
7I vs 6S	116.000	1.010	1.000	Do Not Test
7I vs 1S	104.000	0.905	1.000	Do Not Test
7I vs 7S	97.000	0.844	1.000	Do Not Test
7I vs 9S	59.000	0.513	1.000	Do Not Test
7I vs 4S	54.000	0.470	1.000	Do Not Test
7I vs 9I	26.000	0.226	1.000	Do Not Test
7I vs 8I	13.000	0.113	1.000	Do Not Test
8I vs 2S	132.000	1.149	1.000	Do Not Test
8I vs 3S	113.000	0.983	1.000	Do Not Test
8I vs 6S	103.000	0.896	1.000	Do Not Test
8I vs 1S	91.000	0.792	1.000	Do Not Test
8I vs 7S	84.000	0.731	1.000	Do Not Test
8I vs 9S	46.000	0.400	1.000	Do Not Test
8I vs 4S	41.000	0.357	1.000	Do Not Test
8I vs 9I	13.000	0.113	1.000	Do Not Test
9I vs 2S	119.000	1.036	1.000	Do Not Test
9I vs 3S	100.000	0.870	1.000	Do Not Test
9I vs 6S	90.000	0.783	1.000	Do Not Test
9I vs 1S	78.000	0.679	1.000	Do Not Test
9I vs 7S	71.000	0.618	1.000	Do Not Test
9I vs 9S	33.000	0.287	1.000	Do Not Test
9I vs 4S	28.000	0.244	1.000	Do Not Test
4S vs 2S	91.000	0.792	1.000	Do Not Test
4S vs 3S	72.000	0.627	1.000	Do Not Test
4S vs 6S	62.000	0.540	1.000	Do Not Test
4S vs 1S	50.000	0.435	1.000	Do Not Test
4S vs 7S	43.000	0.374	1.000	Do Not Test
4S vs 9S	5.000	0.0435	1.000	Do Not Test
9S vs 2S	86.000	0.748	1.000	Do Not Test
9S vs 3S	67.000	0.583	1.000	Do Not Test



9S vs 6S	57.000	0.496	1.000	Do Not Test
9S vs 1S	45.000	0.392	1.000	Do Not Test
9S vs 7S	38.000	0.331	1.000	Do Not Test
7S vs 2S	48.000	0.418	1.000	Do Not Test
7S vs 3S	29.000	0.252	1.000	Do Not Test
7S vs 6S	19.000	0.165	1.000	Do Not Test
7S vs 1S	7.000	0.0609	1.000	Do Not Test
1S vs 2S	41.000	0.357	1.000	Do Not Test
1S vs 3S	22.000	0.191	1.000	Do Not Test
1S vs 6S	12.000	0.104	1.000	Do Not Test
6S vs 2S	29.000	0.252	1.000	Do Not Test
6S vs 3S	10.000	0.0870	1.000	Do Not Test
3S vs 2S	19.000	0.165	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 22:13:13

Data source: Tb.N in L3 3y+

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 22:13:13

Data source: Tb.N in L3 3y+

Group	N	Missing	Median	25%	75%
1I	6	0	0.00131	0.00122	0.00150
1C	6	0	0.00109	0.00104	0.00126
1S	6	0	0.00133	0.00118	0.00144
2I	6	0	0.00130	0.00119	0.00137
2C	6	0	0.00103	0.00101	0.00131
2S	6	0	0.00120	0.00111	0.00143
3I	6	0	0.00127	0.00119	0.00147
3C	6	0	0.00108	0.00105	0.00130
3S	6	0	0.00125	0.00112	0.00135
4I	6	0	0.00125	0.00115	0.00133
4C	6	0	0.000930	0.000892	0.000983
4S	6	0	0.00105	0.000995	0.00116
5I	6	0	0.00110	0.000993	0.00115
5C	6	0	0.000805	0.000770	0.000950
5S	6	0	0.000975	0.000925	0.00100
6I	6	0	0.00124	0.00116	0.00133
6C	6	0	0.000900	0.000847	0.00105
6S	6	0	0.00107	0.00102	0.00111
7I	6	0	0.00140	0.00123	0.00154
7C	6	0	0.00112	0.00103	0.00117
7S	6	0	0.00112	0.00106	0.00118
8I	6	0	0.00123	0.00102	0.00138
8C	6	0	0.000800	0.000712	0.000837
8S	6	0	0.000910	0.000885	0.00105
9I	6	0	0.00133	0.00122	0.00159
9C	6	0	0.00109	0.00103	0.00117
9S	6	0	0.00110	0.000970	0.00123

H = 106.112 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
7I vs 8C	775.500	6.749	0.007	Yes
7I vs 5C	738.000	6.423	0.008	Yes

7I vs 4C	640.500	5.574	0.027	Yes
7I vs 8S	633.500	5.513	0.031	Yes
7I vs 5S	626.500	5.452	0.035	Yes
7I vs 6C	625.500	5.444	0.036	Yes
7I vs 6S	433.500	3.773	0.615	No
7I vs 4S	428.500	3.729	0.641	Do Not Test
7I vs 5I	415.000	3.612	0.710	Do Not Test
7I vs 9S	386.500	3.364	0.832	Do Not Test
7I vs 9C	382.500	3.329	0.846	Do Not Test
7I vs 7C	382.000	3.325	0.848	Do Not Test
7I vs 2C	374.000	3.255	0.873	Do Not Test
7I vs 7S	350.000	3.046	0.929	Do Not Test
7I vs 1C	348.000	3.029	0.932	Do Not Test
7I vs 3C	333.000	2.898	0.955	Do Not Test
7I vs 8I	220.000	1.915	1.000	Do Not Test
7I vs 2S	176.000	1.532	1.000	Do Not Test
7I vs 3S	142.500	1.240	1.000	Do Not Test
7I vs 6I	139.500	1.214	1.000	Do Not Test
7I vs 4I	132.500	1.153	1.000	Do Not Test
7I vs 1S	77.000	0.670	1.000	Do Not Test
7I vs 3I	74.500	0.648	1.000	Do Not Test
7I vs 2I	74.500	0.648	1.000	Do Not Test
7I vs 1I	32.000	0.278	1.000	Do Not Test
7I vs 9I	23.000	0.200	1.000	Do Not Test
9I vs 8C	752.500	6.549	0.008	Yes
9I vs 5C	715.000	6.223	0.010	Yes
9I vs 4C	617.500	5.374	0.041	Yes
9I vs 8S	610.500	5.313	0.047	Yes
9I vs 5S	603.500	5.252	0.054	No
9I vs 6C	602.500	5.243	0.055	Do Not Test
9I vs 6S	410.500	3.573	0.731	Do Not Test
9I vs 4S	405.500	3.529	0.755	Do Not Test
9I vs 5I	392.000	3.412	0.812	Do Not Test
9I vs 9S	363.500	3.164	0.901	Do Not Test
9I vs 9C	359.500	3.129	0.910	Do Not Test
9I vs 7C	359.000	3.124	0.911	Do Not Test
9I vs 2C	351.000	3.055	0.927	Do Not Test
9I vs 7S	327.000	2.846	0.962	Do Not Test
9I vs 1C	325.000	2.828	0.964	Do Not Test
9I vs 3C	310.000	2.698	0.978	Do Not Test
9I vs 8I	197.000	1.714	1.000	Do Not Test
9I vs 2S	153.000	1.332	1.000	Do Not Test
9I vs 3S	119.500	1.040	1.000	Do Not Test
9I vs 6I	116.500	1.014	1.000	Do Not Test
9I vs 4I	109.500	0.953	1.000	Do Not Test
9I vs 1S	54.000	0.470	1.000	Do Not Test
9I vs 3I	51.500	0.448	1.000	Do Not Test
9I vs 2I	51.500	0.448	1.000	Do Not Test
9I vs 1I	9.000	0.0783	1.000	Do Not Test
1I vs 8C	743.500	6.471	0.008	Yes
1I vs 5C	706.000	6.144	0.011	Yes
1I vs 4C	608.500	5.296	0.049	Yes
1I vs 8S	601.500	5.235	0.056	No
1I vs 5S	594.500	5.174	0.063	Do Not Test
1I vs 6C	593.500	5.165	0.064	Do Not Test
1I vs 6S	401.500	3.494	0.773	Do Not Test

1I vs 4S	396.500	3.451	0.794	Do Not Test
1I vs 5I	383.000	3.333	0.845	Do Not Test
1I vs 9S	354.500	3.085	0.920	Do Not Test
1I vs 9C	350.500	3.050	0.928	Do Not Test
1I vs 7C	350.000	3.046	0.929	Do Not Test
1I vs 2C	342.000	2.976	0.942	Do Not Test
1I vs 7S	318.000	2.768	0.971	Do Not Test
1I vs 1C	316.000	2.750	0.973	Do Not Test
1I vs 3C	301.000	2.620	0.984	Do Not Test
1I vs 8I	188.000	1.636	1.000	Do Not Test
1I vs 2S	144.000	1.253	1.000	Do Not Test
1I vs 3S	110.500	0.962	1.000	Do Not Test
1I vs 6I	107.500	0.936	1.000	Do Not Test
1I vs 4I	100.500	0.875	1.000	Do Not Test
1I vs 1S	45.000	0.392	1.000	Do Not Test
1I vs 3I	42.500	0.370	1.000	Do Not Test
1I vs 2I	42.500	0.370	1.000	Do Not Test
2I vs 8C	701.000	6.101	0.011	Yes
2I vs 5C	663.500	5.774	0.019	Yes
2I vs 4C	566.000	4.926	0.105	No
2I vs 8S	559.000	4.865	0.119	Do Not Test
2I vs 5S	552.000	4.804	0.134	Do Not Test
2I vs 6C	551.000	4.795	0.136	Do Not Test
2I vs 6S	359.000	3.124	0.911	Do Not Test
2I vs 4S	354.000	3.081	0.921	Do Not Test
2I vs 5I	340.500	2.963	0.944	Do Not Test
2I vs 9S	312.000	2.715	0.977	Do Not Test
2I vs 9C	308.000	2.680	0.980	Do Not Test
2I vs 7C	307.500	2.676	0.980	Do Not Test
2I vs 2C	299.500	2.607	0.985	Do Not Test
2I vs 7S	275.500	2.398	0.995	Do Not Test
2I vs 1C	273.500	2.380	0.996	Do Not Test
2I vs 3C	258.500	2.250	0.998	Do Not Test
2I vs 8I	145.500	1.266	1.000	Do Not Test
2I vs 2S	101.500	0.883	1.000	Do Not Test
2I vs 3S	68.000	0.592	1.000	Do Not Test
2I vs 6I	65.000	0.566	1.000	Do Not Test
2I vs 4I	58.000	0.505	1.000	Do Not Test
2I vs 1S	2.500	0.0218	1.000	Do Not Test
2I vs 3I	0.000	0.000	1.000	Do Not Test
3I vs 8C	701.000	6.101	0.011	Yes
3I vs 5C	663.500	5.774	0.019	Yes
3I vs 4C	566.000	4.926	0.105	Do Not Test
3I vs 8S	559.000	4.865	0.119	Do Not Test
3I vs 5S	552.000	4.804	0.134	Do Not Test
3I vs 6C	551.000	4.795	0.136	Do Not Test
3I vs 6S	359.000	3.124	0.911	Do Not Test
3I vs 4S	354.000	3.081	0.921	Do Not Test
3I vs 5I	340.500	2.963	0.944	Do Not Test
3I vs 9S	312.000	2.715	0.977	Do Not Test
3I vs 9C	308.000	2.680	0.980	Do Not Test
3I vs 7C	307.500	2.676	0.980	Do Not Test
3I vs 2C	299.500	2.607	0.985	Do Not Test
3I vs 7S	275.500	2.398	0.995	Do Not Test
3I vs 1C	273.500	2.380	0.996	Do Not Test
3I vs 3C	258.500	2.250	0.998	Do Not Test

3I vs 8I	145.500	1.266	1.000	Do Not Test
3I vs 2S	101.500	0.883	1.000	Do Not Test
3I vs 3S	68.000	0.592	1.000	Do Not Test
3I vs 6I	65.000	0.566	1.000	Do Not Test
3I vs 4I	58.000	0.505	1.000	Do Not Test
3I vs 1S	2.500	0.0218	1.000	Do Not Test
1S vs 8C	698.500	6.079	0.012	Yes
1S vs 5C	661.000	5.753	0.019	Yes
1S vs 4C	563.500	4.904	0.110	Do Not Test
1S vs 8S	556.500	4.843	0.124	Do Not Test
1S vs 5S	549.500	4.782	0.139	Do Not Test
1S vs 6C	548.500	4.774	0.142	Do Not Test
1S vs 6S	356.500	3.103	0.916	Do Not Test
1S vs 4S	351.500	3.059	0.926	Do Not Test
1S vs 5I	338.000	2.942	0.948	Do Not Test
1S vs 9S	309.500	2.694	0.979	Do Not Test
1S vs 9C	305.500	2.659	0.982	Do Not Test
1S vs 7C	305.000	2.654	0.982	Do Not Test
1S vs 2C	297.000	2.585	0.987	Do Not Test
1S vs 7S	273.000	2.376	0.996	Do Not Test
1S vs 1C	271.000	2.358	0.996	Do Not Test
1S vs 3C	256.000	2.228	0.999	Do Not Test
1S vs 8I	143.000	1.245	1.000	Do Not Test
1S vs 2S	99.000	0.862	1.000	Do Not Test
1S vs 3S	65.500	0.570	1.000	Do Not Test
1S vs 6I	62.500	0.544	1.000	Do Not Test
1S vs 4I	55.500	0.483	1.000	Do Not Test
4I vs 8C	643.000	5.596	0.026	Yes
4I vs 5C	605.500	5.270	0.052	No
4I vs 4C	508.000	4.421	0.264	Do Not Test
4I vs 8S	501.000	4.360	0.290	Do Not Test
4I vs 5S	494.000	4.299	0.318	Do Not Test
4I vs 6C	493.000	4.291	0.323	Do Not Test
4I vs 6S	301.000	2.620	0.984	Do Not Test
4I vs 4S	296.000	2.576	0.987	Do Not Test
4I vs 5I	282.500	2.459	0.993	Do Not Test
4I vs 9S	254.000	2.211	0.999	Do Not Test
4I vs 9C	250.000	2.176	0.999	Do Not Test
4I vs 7C	249.500	2.171	0.999	Do Not Test
4I vs 2C	241.500	2.102	1.000	Do Not Test
4I vs 7S	217.500	1.893	1.000	Do Not Test
4I vs 1C	215.500	1.875	1.000	Do Not Test
4I vs 3C	200.500	1.745	1.000	Do Not Test
4I vs 8I	87.500	0.762	1.000	Do Not Test
4I vs 2S	43.500	0.379	1.000	Do Not Test
4I vs 3S	10.000	0.0870	1.000	Do Not Test
4I vs 6I	7.000	0.0609	1.000	Do Not Test
6I vs 8C	636.000	5.535	0.030	Yes
6I vs 5C	598.500	5.209	0.059	Do Not Test
6I vs 4C	501.000	4.360	0.290	Do Not Test
6I vs 8S	494.000	4.299	0.318	Do Not Test
6I vs 5S	487.000	4.238	0.348	Do Not Test
6I vs 6C	486.000	4.230	0.353	Do Not Test
6I vs 6S	294.000	2.559	0.988	Do Not Test
6I vs 4S	289.000	2.515	0.991	Do Not Test
6I vs 5I	275.500	2.398	0.995	Do Not Test

6I vs 9S	247.000	2.150	0.999	Do Not Test
6I vs 9C	243.000	2.115	0.999	Do Not Test
6I vs 7C	242.500	2.110	0.999	Do Not Test
6I vs 2C	234.500	2.041	1.000	Do Not Test
6I vs 7S	210.500	1.832	1.000	Do Not Test
6I vs 1C	208.500	1.815	1.000	Do Not Test
6I vs 3C	193.500	1.684	1.000	Do Not Test
6I vs 8I	80.500	0.701	1.000	Do Not Test
6I vs 2S	36.500	0.318	1.000	Do Not Test
6I vs 3S	3.000	0.0261	1.000	Do Not Test
3S vs 8C	633.000	5.509	0.031	Yes
3S vs 5C	595.500	5.183	0.062	Do Not Test
3S vs 4C	498.000	4.334	0.302	Do Not Test
3S vs 8S	491.000	4.273	0.331	Do Not Test
3S vs 5S	484.000	4.212	0.361	Do Not Test
3S vs 6C	483.000	4.203	0.366	Do Not Test
3S vs 6S	291.000	2.533	0.990	Do Not Test
3S vs 4S	286.000	2.489	0.992	Do Not Test
3S vs 5I	272.500	2.372	0.996	Do Not Test
3S vs 9S	244.000	2.124	0.999	Do Not Test
3S vs 9C	240.000	2.089	1.000	Do Not Test
3S vs 7C	239.500	2.084	1.000	Do Not Test
3S vs 2C	231.500	2.015	1.000	Do Not Test
3S vs 7S	207.500	1.806	1.000	Do Not Test
3S vs 1C	205.500	1.788	1.000	Do Not Test
3S vs 3C	190.500	1.658	1.000	Do Not Test
3S vs 8I	77.500	0.674	1.000	Do Not Test
3S vs 2S	33.500	0.292	1.000	Do Not Test
2S vs 8C	599.500	5.217	0.058	No
2S vs 5C	562.000	4.891	0.113	Do Not Test
2S vs 4C	464.500	4.042	0.453	Do Not Test
2S vs 8S	457.500	3.982	0.489	Do Not Test
2S vs 5S	450.500	3.921	0.525	Do Not Test
2S vs 6C	449.500	3.912	0.530	Do Not Test
2S vs 6S	257.500	2.241	0.998	Do Not Test
2S vs 4S	252.500	2.197	0.999	Do Not Test
2S vs 5I	239.000	2.080	1.000	Do Not Test
2S vs 9S	210.500	1.832	1.000	Do Not Test
2S vs 9C	206.500	1.797	1.000	Do Not Test
2S vs 7C	206.000	1.793	1.000	Do Not Test
2S vs 2C	198.000	1.723	1.000	Do Not Test
2S vs 7S	174.000	1.514	1.000	Do Not Test
2S vs 1C	172.000	1.497	1.000	Do Not Test
2S vs 3C	157.000	1.366	1.000	Do Not Test
2S vs 8I	44.000	0.383	1.000	Do Not Test
8I vs 8C	555.500	4.834	0.126	Do Not Test
8I vs 5C	518.000	4.508	0.229	Do Not Test
8I vs 4C	420.500	3.660	0.682	Do Not Test
8I vs 8S	413.500	3.599	0.717	Do Not Test
8I vs 5S	406.500	3.538	0.750	Do Not Test
8I vs 6C	405.500	3.529	0.755	Do Not Test
8I vs 6S	213.500	1.858	1.000	Do Not Test
8I vs 4S	208.500	1.815	1.000	Do Not Test
8I vs 5I	195.000	1.697	1.000	Do Not Test
8I vs 9S	166.500	1.449	1.000	Do Not Test
8I vs 9C	162.500	1.414	1.000	Do Not Test

8I vs 7C	162.000	1.410	1.000	Do Not Test
8I vs 2C	154.000	1.340	1.000	Do Not Test
8I vs 7S	130.000	1.131	1.000	Do Not Test
8I vs 1C	128.000	1.114	1.000	Do Not Test
8I vs 3C	113.000	0.983	1.000	Do Not Test
3C vs 8C	442.500	3.851	0.567	Do Not Test
3C vs 5C	405.000	3.525	0.757	Do Not Test
3C vs 4C	307.500	2.676	0.980	Do Not Test
3C vs 8S	300.500	2.615	0.985	Do Not Test
3C vs 5S	293.500	2.554	0.989	Do Not Test
3C vs 6C	292.500	2.546	0.989	Do Not Test
3C vs 6S	100.500	0.875	1.000	Do Not Test
3C vs 4S	95.500	0.831	1.000	Do Not Test
3C vs 5I	82.000	0.714	1.000	Do Not Test
3C vs 9S	53.500	0.466	1.000	Do Not Test
3C vs 9C	49.500	0.431	1.000	Do Not Test
3C vs 7C	49.000	0.426	1.000	Do Not Test
3C vs 2C	41.000	0.357	1.000	Do Not Test
3C vs 7S	17.000	0.148	1.000	Do Not Test
3C vs 1C	15.000	0.131	1.000	Do Not Test
1C vs 8C	427.500	3.720	0.646	Do Not Test
1C vs 5C	390.000	3.394	0.819	Do Not Test
1C vs 4C	292.500	2.546	0.989	Do Not Test
1C vs 8S	285.500	2.485	0.992	Do Not Test
1C vs 5S	278.500	2.424	0.994	Do Not Test
1C vs 6C	277.500	2.415	0.995	Do Not Test
1C vs 6S	85.500	0.744	1.000	Do Not Test
1C vs 4S	80.500	0.701	1.000	Do Not Test
1C vs 5I	67.000	0.583	1.000	Do Not Test
1C vs 9S	38.500	0.335	1.000	Do Not Test
1C vs 9C	34.500	0.300	1.000	Do Not Test
1C vs 7C	34.000	0.296	1.000	Do Not Test
1C vs 2C	26.000	0.226	1.000	Do Not Test
1C vs 7S	2.000	0.0174	1.000	Do Not Test
7S vs 8C	425.500	3.703	0.657	Do Not Test
7S vs 5C	388.000	3.377	0.827	Do Not Test
7S vs 4C	290.500	2.528	0.990	Do Not Test
7S vs 8S	283.500	2.467	0.993	Do Not Test
7S vs 5S	276.500	2.406	0.995	Do Not Test
7S vs 6C	275.500	2.398	0.995	Do Not Test
7S vs 6S	83.500	0.727	1.000	Do Not Test
7S vs 4S	78.500	0.683	1.000	Do Not Test
7S vs 5I	65.000	0.566	1.000	Do Not Test
7S vs 9S	36.500	0.318	1.000	Do Not Test
7S vs 9C	32.500	0.283	1.000	Do Not Test
7S vs 7C	32.000	0.278	1.000	Do Not Test
7S vs 2C	24.000	0.209	1.000	Do Not Test
2C vs 8C	401.500	3.494	0.773	Do Not Test
2C vs 5C	364.000	3.168	0.899	Do Not Test
2C vs 4C	266.500	2.319	0.997	Do Not Test
2C vs 8S	259.500	2.258	0.998	Do Not Test
2C vs 5S	252.500	2.197	0.999	Do Not Test
2C vs 6C	251.500	2.189	0.999	Do Not Test
2C vs 6S	59.500	0.518	1.000	Do Not Test
2C vs 4S	54.500	0.474	1.000	Do Not Test
2C vs 5I	41.000	0.357	1.000	Do Not Test

2C vs 9S	12.500	0.109	1.000	Do Not Test
2C vs 9C	8.500	0.0740	1.000	Do Not Test
2C vs 7C	8.000	0.0696	1.000	Do Not Test
7C vs 8C	393.500	3.425	0.806	Do Not Test
7C vs 5C	356.000	3.098	0.917	Do Not Test
7C vs 4C	258.500	2.250	0.998	Do Not Test
7C vs 8S	251.500	2.189	0.999	Do Not Test
7C vs 5S	244.500	2.128	0.999	Do Not Test
7C vs 6C	243.500	2.119	0.999	Do Not Test
7C vs 6S	51.500	0.448	1.000	Do Not Test
7C vs 4S	46.500	0.405	1.000	Do Not Test
7C vs 5I	33.000	0.287	1.000	Do Not Test
7C vs 9S	4.500	0.0392	1.000	Do Not Test
7C vs 9C	0.500	0.00435	1.000	Do Not Test
9C vs 8C	393.000	3.420	0.808	Do Not Test
9C vs 5C	355.500	3.094	0.918	Do Not Test
9C vs 4C	258.000	2.245	0.998	Do Not Test
9C vs 8S	251.000	2.184	0.999	Do Not Test
9C vs 5S	244.000	2.124	0.999	Do Not Test
9C vs 6C	243.000	2.115	0.999	Do Not Test
9C vs 6S	51.000	0.444	1.000	Do Not Test
9C vs 4S	46.000	0.400	1.000	Do Not Test
9C vs 5I	32.500	0.283	1.000	Do Not Test
9C vs 9S	4.000	0.0348	1.000	Do Not Test
9S vs 8C	389.000	3.385	0.823	Do Not Test
9S vs 5C	351.500	3.059	0.926	Do Not Test
9S vs 4C	254.000	2.211	0.999	Do Not Test
9S vs 8S	247.000	2.150	0.999	Do Not Test
9S vs 5S	240.000	2.089	1.000	Do Not Test
9S vs 6C	239.000	2.080	1.000	Do Not Test
9S vs 6S	47.000	0.409	1.000	Do Not Test
9S vs 4S	42.000	0.366	1.000	Do Not Test
9S vs 5I	28.500	0.248	1.000	Do Not Test
5I vs 8C	360.500	3.137	0.907	Do Not Test
5I vs 5C	323.000	2.811	0.966	Do Not Test
5I vs 4C	225.500	1.963	1.000	Do Not Test
5I vs 8S	218.500	1.902	1.000	Do Not Test
5I vs 5S	211.500	1.841	1.000	Do Not Test
5I vs 6C	210.500	1.832	1.000	Do Not Test
5I vs 6S	18.500	0.161	1.000	Do Not Test
5I vs 4S	13.500	0.117	1.000	Do Not Test
4S vs 8C	347.000	3.020	0.934	Do Not Test
4S vs 5C	309.500	2.694	0.979	Do Not Test
4S vs 4C	212.000	1.845	1.000	Do Not Test
4S vs 8S	205.000	1.784	1.000	Do Not Test
4S vs 5S	198.000	1.723	1.000	Do Not Test
4S vs 6C	197.000	1.714	1.000	Do Not Test
4S vs 6S	5.000	0.0435	1.000	Do Not Test
6S vs 8C	342.000	2.976	0.942	Do Not Test
6S vs 5C	304.500	2.650	0.982	Do Not Test
6S vs 4C	207.000	1.801	1.000	Do Not Test
6S vs 8S	200.000	1.741	1.000	Do Not Test
6S vs 5S	193.000	1.680	1.000	Do Not Test
6S vs 6C	192.000	1.671	1.000	Do Not Test
6C vs 8C	150.000	1.305	1.000	Do Not Test
6C vs 5C	112.500	0.979	1.000	Do Not Test



6C vs 4C	15.000	0.131	1.000	Do Not Test
6C vs 8S	8.000	0.0696	1.000	Do Not Test
6C vs 5S	1.000	0.00870	1.000	Do Not Test
5S vs 8C	149.000	1.297	1.000	Do Not Test
5S vs 5C	111.500	0.970	1.000	Do Not Test
5S vs 4C	14.000	0.122	1.000	Do Not Test
5S vs 8S	7.000	0.0609	1.000	Do Not Test
8S vs 8C	142.000	1.236	1.000	Do Not Test
8S vs 5C	104.500	0.909	1.000	Do Not Test
8S vs 4C	7.000	0.0609	1.000	Do Not Test
4C vs 8C	135.000	1.175	1.000	Do Not Test
4C vs 5C	97.500	0.849	1.000	Do Not Test
5C vs 8C	37.500	0.326	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 22:23:27

Data source: Tb.Sp in L3 3y+

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 22:23:27

Data source: Tb.Sp in L3 3y+

Group	N	Missing	Median	25%	75%
1I	6	0	529.162	430.246	582.480
1C	6	0	691.918	579.231	812.880
1S	6	0	463.277	392.128	489.964
2I	6	0	551.461	451.702	629.365
2C	6	0	702.814	634.283	768.646
2S	6	0	469.658	420.221	503.273
3I	6	0	532.199	428.071	640.062
3C	6	0	664.513	570.899	752.376
3S	6	0	471.193	395.585	501.445
4I	6	0	512.703	465.567	563.535
4C	6	0	785.723	751.342	854.905
4S	6	0	560.956	506.040	596.227
5I	6	0	588.655	553.625	628.169
5C	6	0	789.126	748.564	865.319
5S	6	0	616.144	581.859	630.211
6I	6	0	516.362	481.588	543.787
6C	6	0	770.054	733.465	808.449
6S	6	0	545.731	504.166	584.944
7I	6	0	457.999	385.218	495.325
7C	6	0	581.069	574.384	620.265
7S	6	0	527.443	465.061	558.676
8I	6	0	489.245	440.738	627.964
8C	6	0	1014.132	980.599	1085.969
8S	6	0	687.291	579.157	809.099
9I	6	0	441.297	404.300	488.618
9C	6	0	574.541	561.075	603.188
9S	6	0	519.822	473.785	551.889

H = 113.504 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 9I	801.000	6.971	0.007	Yes
8C vs 1S	799.000	6.954	0.007	Yes

8C vs 7I	782.000	6.806	0.007	Yes
8C vs 3S	775.000	6.745	0.007	Yes
8C vs 2S	774.000	6.736	0.007	Yes
8C vs 6I	631.000	5.492	0.032	Yes
8C vs 4I	625.000	5.439	0.036	Yes
8C vs 7S	624.000	5.431	0.037	Yes
8C vs 9S	618.000	5.378	0.041	Yes
8C vs 1I	612.000	5.326	0.046	Yes
8C vs 8I	607.000	5.283	0.050	No
8C vs 3I	567.000	4.935	0.103	Do Not Test
8C vs 2I	536.000	4.665	0.174	Do Not Test
8C vs 6S	526.000	4.578	0.203	Do Not Test
8C vs 4S	490.000	4.264	0.335	Do Not Test
8C vs 9C	423.000	3.681	0.670	Do Not Test
8C vs 5I	398.000	3.464	0.788	Do Not Test
8C vs 7C	375.000	3.264	0.870	Do Not Test
8C vs 5S	343.000	2.985	0.941	Do Not Test
8C vs 3C	293.000	2.550	0.989	Do Not Test
8C vs 1C	266.000	2.315	0.997	Do Not Test
8C vs 2C	236.000	2.054	1.000	Do Not Test
8C vs 8S	230.000	2.002	1.000	Do Not Test
8C vs 6C	121.000	1.053	1.000	Do Not Test
8C vs 5C	93.000	0.809	1.000	Do Not Test
8C vs 4C	91.000	0.792	1.000	Do Not Test
4C vs 9I	710.000	6.179	0.010	Yes
4C vs 1S	708.000	6.162	0.010	Yes
4C vs 7I	691.000	6.014	0.013	Yes
4C vs 3S	684.000	5.953	0.014	Yes
4C vs 2S	683.000	5.944	0.014	Yes
4C vs 6I	540.000	4.700	0.163	No
4C vs 4I	534.000	4.647	0.179	Do Not Test
4C vs 7S	533.000	4.639	0.182	Do Not Test
4C vs 9S	527.000	4.586	0.200	Do Not Test
4C vs 1I	521.000	4.534	0.219	Do Not Test
4C vs 8I	516.000	4.491	0.235	Do Not Test
4C vs 3I	476.000	4.143	0.398	Do Not Test
4C vs 2I	445.000	3.873	0.554	Do Not Test
4C vs 6S	435.000	3.786	0.607	Do Not Test
4C vs 4S	399.000	3.472	0.783	Do Not Test
4C vs 9C	332.000	2.889	0.956	Do Not Test
4C vs 5I	307.000	2.672	0.980	Do Not Test
4C vs 7C	284.000	2.472	0.993	Do Not Test
4C vs 5S	252.000	2.193	0.999	Do Not Test
4C vs 3C	202.000	1.758	1.000	Do Not Test
4C vs 1C	175.000	1.523	1.000	Do Not Test
4C vs 2C	145.000	1.262	1.000	Do Not Test
4C vs 8S	139.000	1.210	1.000	Do Not Test
4C vs 6C	30.000	0.261	1.000	Do Not Test
4C vs 5C	2.000	0.0174	1.000	Do Not Test
5C vs 9I	708.000	6.162	0.010	Yes
5C vs 1S	706.000	6.144	0.011	Yes
5C vs 7I	689.000	5.996	0.013	Yes
5C vs 3S	682.000	5.935	0.014	Yes
5C vs 2S	681.000	5.927	0.014	Yes
5C vs 6I	538.000	4.682	0.168	Do Not Test
5C vs 4I	532.000	4.630	0.185	Do Not Test

5C vs 7S	531.000	4.621	0.188	Do Not Test
5C vs 9S	525.000	4.569	0.206	Do Not Test
5C vs 1I	519.000	4.517	0.225	Do Not Test
5C vs 8I	514.000	4.473	0.242	Do Not Test
5C vs 3I	474.000	4.125	0.407	Do Not Test
5C vs 2I	443.000	3.855	0.565	Do Not Test
5C vs 6S	433.000	3.768	0.617	Do Not Test
5C vs 4S	397.000	3.455	0.792	Do Not Test
5C vs 9C	330.000	2.872	0.958	Do Not Test
5C vs 5I	305.000	2.654	0.982	Do Not Test
5C vs 7C	282.000	2.454	0.993	Do Not Test
5C vs 5S	250.000	2.176	0.999	Do Not Test
5C vs 3C	200.000	1.741	1.000	Do Not Test
5C vs 1C	173.000	1.506	1.000	Do Not Test
5C vs 2C	143.000	1.245	1.000	Do Not Test
5C vs 8S	137.000	1.192	1.000	Do Not Test
5C vs 6C	28.000	0.244	1.000	Do Not Test
6C vs 9I	680.000	5.918	0.015	Yes
6C vs 1S	678.000	5.901	0.015	Yes
6C vs 7I	661.000	5.753	0.019	Yes
6C vs 3S	654.000	5.692	0.022	Yes
6C vs 2S	653.000	5.683	0.022	Yes
6C vs 6I	510.000	4.438	0.256	Do Not Test
6C vs 4I	504.000	4.386	0.279	Do Not Test
6C vs 7S	503.000	4.378	0.283	Do Not Test
6C vs 9S	497.000	4.325	0.306	Do Not Test
6C vs 1I	491.000	4.273	0.331	Do Not Test
6C vs 8I	486.000	4.230	0.353	Do Not Test
6C vs 3I	446.000	3.881	0.549	Do Not Test
6C vs 2I	415.000	3.612	0.710	Do Not Test
6C vs 6S	405.000	3.525	0.757	Do Not Test
6C vs 4S	369.000	3.211	0.887	Do Not Test
6C vs 9C	302.000	2.628	0.984	Do Not Test
6C vs 5I	277.000	2.411	0.995	Do Not Test
6C vs 7C	254.000	2.211	0.999	Do Not Test
6C vs 5S	222.000	1.932	1.000	Do Not Test
6C vs 3C	172.000	1.497	1.000	Do Not Test
6C vs 1C	145.000	1.262	1.000	Do Not Test
6C vs 2C	115.000	1.001	1.000	Do Not Test
6C vs 8S	109.000	0.949	1.000	Do Not Test
8S vs 9I	571.000	4.969	0.096	No
8S vs 1S	569.000	4.952	0.100	Do Not Test
8S vs 7I	552.000	4.804	0.134	Do Not Test
8S vs 3S	545.000	4.743	0.150	Do Not Test
8S vs 2S	544.000	4.734	0.153	Do Not Test
8S vs 6I	401.000	3.490	0.775	Do Not Test
8S vs 4I	395.000	3.438	0.800	Do Not Test
8S vs 7S	394.000	3.429	0.804	Do Not Test
8S vs 9S	388.000	3.377	0.827	Do Not Test
8S vs 1I	382.000	3.325	0.848	Do Not Test
8S vs 8I	377.000	3.281	0.864	Do Not Test
8S vs 3I	337.000	2.933	0.949	Do Not Test
8S vs 2I	306.000	2.663	0.981	Do Not Test
8S vs 6S	296.000	2.576	0.987	Do Not Test
8S vs 4S	260.000	2.263	0.998	Do Not Test
8S vs 9C	193.000	1.680	1.000	Do Not Test

8S vs 5I	168.000	1.462	1.000	Do Not Test
8S vs 7C	145.000	1.262	1.000	Do Not Test
8S vs 5S	113.000	0.983	1.000	Do Not Test
8S vs 3C	63.000	0.548	1.000	Do Not Test
8S vs 1C	36.000	0.313	1.000	Do Not Test
8S vs 2C	6.000	0.0522	1.000	Do Not Test
2C vs 9I	565.000	4.917	0.107	Do Not Test
2C vs 1S	563.000	4.900	0.111	Do Not Test
2C vs 7I	546.000	4.752	0.148	Do Not Test
2C vs 3S	539.000	4.691	0.166	Do Not Test
2C vs 2S	538.000	4.682	0.168	Do Not Test
2C vs 6I	395.000	3.438	0.800	Do Not Test
2C vs 4I	389.000	3.385	0.823	Do Not Test
2C vs 7S	388.000	3.377	0.827	Do Not Test
2C vs 9S	382.000	3.325	0.848	Do Not Test
2C vs 1I	376.000	3.272	0.867	Do Not Test
2C vs 8I	371.000	3.229	0.881	Do Not Test
2C vs 3I	331.000	2.881	0.957	Do Not Test
2C vs 2I	300.000	2.611	0.985	Do Not Test
2C vs 6S	290.000	2.524	0.990	Do Not Test
2C vs 4S	254.000	2.211	0.999	Do Not Test
2C vs 9C	187.000	1.627	1.000	Do Not Test
2C vs 5I	162.000	1.410	1.000	Do Not Test
2C vs 7C	139.000	1.210	1.000	Do Not Test
2C vs 5S	107.000	0.931	1.000	Do Not Test
2C vs 3C	57.000	0.496	1.000	Do Not Test
2C vs 1C	30.000	0.261	1.000	Do Not Test
1C vs 9I	535.000	4.656	0.176	Do Not Test
1C vs 1S	533.000	4.639	0.182	Do Not Test
1C vs 7I	516.000	4.491	0.235	Do Not Test
1C vs 3S	509.000	4.430	0.260	Do Not Test
1C vs 2S	508.000	4.421	0.264	Do Not Test
1C vs 6I	365.000	3.177	0.897	Do Not Test
1C vs 4I	359.000	3.124	0.911	Do Not Test
1C vs 7S	358.000	3.116	0.913	Do Not Test
1C vs 9S	352.000	3.063	0.925	Do Not Test
1C vs 1I	346.000	3.011	0.936	Do Not Test
1C vs 8I	341.000	2.968	0.944	Do Not Test
1C vs 3I	301.000	2.620	0.984	Do Not Test
1C vs 2I	270.000	2.350	0.997	Do Not Test
1C vs 6S	260.000	2.263	0.998	Do Not Test
1C vs 4S	224.000	1.949	1.000	Do Not Test
1C vs 9C	157.000	1.366	1.000	Do Not Test
1C vs 5I	132.000	1.149	1.000	Do Not Test
1C vs 7C	109.000	0.949	1.000	Do Not Test
1C vs 5S	77.000	0.670	1.000	Do Not Test
1C vs 3C	27.000	0.235	1.000	Do Not Test
3C vs 9I	508.000	4.421	0.264	Do Not Test
3C vs 1S	506.000	4.404	0.271	Do Not Test
3C vs 7I	489.000	4.256	0.340	Do Not Test
3C vs 3S	482.000	4.195	0.370	Do Not Test
3C vs 2S	481.000	4.186	0.375	Do Not Test
3C vs 6I	338.000	2.942	0.948	Do Not Test
3C vs 4I	332.000	2.889	0.956	Do Not Test
3C vs 7S	331.000	2.881	0.957	Do Not Test
3C vs 9S	325.000	2.828	0.964	Do Not Test

3C vs 1I	319.000	2.776	0.970	Do Not Test
3C vs 8I	314.000	2.733	0.975	Do Not Test
3C vs 3I	274.000	2.385	0.996	Do Not Test
3C vs 2I	243.000	2.115	0.999	Do Not Test
3C vs 6S	233.000	2.028	1.000	Do Not Test
3C vs 4S	197.000	1.714	1.000	Do Not Test
3C vs 9C	130.000	1.131	1.000	Do Not Test
3C vs 5I	105.000	0.914	1.000	Do Not Test
3C vs 7C	82.000	0.714	1.000	Do Not Test
3C vs 5S	50.000	0.435	1.000	Do Not Test
5S vs 9I	458.000	3.986	0.486	Do Not Test
5S vs 1S	456.000	3.969	0.497	Do Not Test
5S vs 7I	439.000	3.821	0.586	Do Not Test
5S vs 3S	432.000	3.760	0.623	Do Not Test
5S vs 2S	431.000	3.751	0.628	Do Not Test
5S vs 6I	288.000	2.506	0.991	Do Not Test
5S vs 4I	282.000	2.454	0.993	Do Not Test
5S vs 7S	281.000	2.446	0.994	Do Not Test
5S vs 9S	275.000	2.393	0.995	Do Not Test
5S vs 1I	269.000	2.341	0.997	Do Not Test
5S vs 8I	264.000	2.298	0.998	Do Not Test
5S vs 3I	224.000	1.949	1.000	Do Not Test
5S vs 2I	193.000	1.680	1.000	Do Not Test
5S vs 6S	183.000	1.593	1.000	Do Not Test
5S vs 4S	147.000	1.279	1.000	Do Not Test
5S vs 9C	80.000	0.696	1.000	Do Not Test
5S vs 5I	55.000	0.479	1.000	Do Not Test
5S vs 7C	32.000	0.278	1.000	Do Not Test
7C vs 9I	426.000	3.707	0.654	Do Not Test
7C vs 1S	424.000	3.690	0.664	Do Not Test
7C vs 7I	407.000	3.542	0.748	Do Not Test
7C vs 3S	400.000	3.481	0.779	Do Not Test
7C vs 2S	399.000	3.472	0.783	Do Not Test
7C vs 6I	256.000	2.228	0.999	Do Not Test
7C vs 4I	250.000	2.176	0.999	Do Not Test
7C vs 7S	249.000	2.167	0.999	Do Not Test
7C vs 9S	243.000	2.115	0.999	Do Not Test
7C vs 1I	237.000	2.063	1.000	Do Not Test
7C vs 8I	232.000	2.019	1.000	Do Not Test
7C vs 3I	192.000	1.671	1.000	Do Not Test
7C vs 2I	161.000	1.401	1.000	Do Not Test
7C vs 6S	151.000	1.314	1.000	Do Not Test
7C vs 4S	115.000	1.001	1.000	Do Not Test
7C vs 9C	48.000	0.418	1.000	Do Not Test
7C vs 5I	23.000	0.200	1.000	Do Not Test
5I vs 9I	403.000	3.507	0.766	Do Not Test
5I vs 1S	401.000	3.490	0.775	Do Not Test
5I vs 7I	384.000	3.342	0.841	Do Not Test
5I vs 3S	377.000	3.281	0.864	Do Not Test
5I vs 2S	376.000	3.272	0.867	Do Not Test
5I vs 6I	233.000	2.028	1.000	Do Not Test
5I vs 4I	227.000	1.976	1.000	Do Not Test
5I vs 7S	226.000	1.967	1.000	Do Not Test
5I vs 9S	220.000	1.915	1.000	Do Not Test
5I vs 1I	214.000	1.862	1.000	Do Not Test
5I vs 8I	209.000	1.819	1.000	Do Not Test

5I vs 3I	169.000	1.471	1.000	Do Not Test
5I vs 2I	138.000	1.201	1.000	Do Not Test
5I vs 6S	128.000	1.114	1.000	Do Not Test
5I vs 4S	92.000	0.801	1.000	Do Not Test
5I vs 9C	25.000	0.218	1.000	Do Not Test
9C vs 9I	378.000	3.290	0.861	Do Not Test
9C vs 1S	376.000	3.272	0.867	Do Not Test
9C vs 7I	359.000	3.124	0.911	Do Not Test
9C vs 3S	352.000	3.063	0.925	Do Not Test
9C vs 2S	351.000	3.055	0.927	Do Not Test
9C vs 6I	208.000	1.810	1.000	Do Not Test
9C vs 4I	202.000	1.758	1.000	Do Not Test
9C vs 7S	201.000	1.749	1.000	Do Not Test
9C vs 9S	195.000	1.697	1.000	Do Not Test
9C vs 1I	189.000	1.645	1.000	Do Not Test
9C vs 8I	184.000	1.601	1.000	Do Not Test
9C vs 3I	144.000	1.253	1.000	Do Not Test
9C vs 2I	113.000	0.983	1.000	Do Not Test
9C vs 6S	103.000	0.896	1.000	Do Not Test
9C vs 4S	67.000	0.583	1.000	Do Not Test
4S vs 9I	311.000	2.707	0.977	Do Not Test
4S vs 1S	309.000	2.689	0.979	Do Not Test
4S vs 7I	292.000	2.541	0.989	Do Not Test
4S vs 3S	285.000	2.480	0.992	Do Not Test
4S vs 2S	284.000	2.472	0.993	Do Not Test
4S vs 6I	141.000	1.227	1.000	Do Not Test
4S vs 4I	135.000	1.175	1.000	Do Not Test
4S vs 7S	134.000	1.166	1.000	Do Not Test
4S vs 9S	128.000	1.114	1.000	Do Not Test
4S vs 1I	122.000	1.062	1.000	Do Not Test
4S vs 8I	117.000	1.018	1.000	Do Not Test
4S vs 3I	77.000	0.670	1.000	Do Not Test
4S vs 2I	46.000	0.400	1.000	Do Not Test
4S vs 6S	36.000	0.313	1.000	Do Not Test
6S vs 9I	275.000	2.393	0.995	Do Not Test
6S vs 1S	273.000	2.376	0.996	Do Not Test
6S vs 7I	256.000	2.228	0.999	Do Not Test
6S vs 3S	249.000	2.167	0.999	Do Not Test
6S vs 2S	248.000	2.158	0.999	Do Not Test
6S vs 6I	105.000	0.914	1.000	Do Not Test
6S vs 4I	99.000	0.862	1.000	Do Not Test
6S vs 7S	98.000	0.853	1.000	Do Not Test
6S vs 9S	92.000	0.801	1.000	Do Not Test
6S vs 1I	86.000	0.748	1.000	Do Not Test
6S vs 8I	81.000	0.705	1.000	Do Not Test
6S vs 3I	41.000	0.357	1.000	Do Not Test
6S vs 2I	10.000	0.0870	1.000	Do Not Test
2I vs 9I	265.000	2.306	0.997	Do Not Test
2I vs 1S	263.000	2.289	0.998	Do Not Test
2I vs 7I	246.000	2.141	0.999	Do Not Test
2I vs 3S	239.000	2.080	1.000	Do Not Test
2I vs 2S	238.000	2.071	1.000	Do Not Test
2I vs 6I	95.000	0.827	1.000	Do Not Test
2I vs 4I	89.000	0.775	1.000	Do Not Test
2I vs 7S	88.000	0.766	1.000	Do Not Test
2I vs 9S	82.000	0.714	1.000	Do Not Test

2I vs 1I	76.000	0.661	1.000	Do Not Test
2I vs 8I	71.000	0.618	1.000	Do Not Test
2I vs 3I	31.000	0.270	1.000	Do Not Test
3I vs 9I	234.000	2.036	1.000	Do Not Test
3I vs 1S	232.000	2.019	1.000	Do Not Test
3I vs 7I	215.000	1.871	1.000	Do Not Test
3I vs 3S	208.000	1.810	1.000	Do Not Test
3I vs 2S	207.000	1.801	1.000	Do Not Test
3I vs 6I	64.000	0.557	1.000	Do Not Test
3I vs 4I	58.000	0.505	1.000	Do Not Test
3I vs 7S	57.000	0.496	1.000	Do Not Test
3I vs 9S	51.000	0.444	1.000	Do Not Test
3I vs 1I	45.000	0.392	1.000	Do Not Test
3I vs 8I	40.000	0.348	1.000	Do Not Test
8I vs 9I	194.000	1.688	1.000	Do Not Test
8I vs 1S	192.000	1.671	1.000	Do Not Test
8I vs 7I	175.000	1.523	1.000	Do Not Test
8I vs 3S	168.000	1.462	1.000	Do Not Test
8I vs 2S	167.000	1.453	1.000	Do Not Test
8I vs 6I	24.000	0.209	1.000	Do Not Test
8I vs 4I	18.000	0.157	1.000	Do Not Test
8I vs 7S	17.000	0.148	1.000	Do Not Test
8I vs 9S	11.000	0.0957	1.000	Do Not Test
8I vs 1I	5.000	0.0435	1.000	Do Not Test
1I vs 9I	189.000	1.645	1.000	Do Not Test
1I vs 1S	187.000	1.627	1.000	Do Not Test
1I vs 7I	170.000	1.479	1.000	Do Not Test
1I vs 3S	163.000	1.419	1.000	Do Not Test
1I vs 2S	162.000	1.410	1.000	Do Not Test
1I vs 6I	19.000	0.165	1.000	Do Not Test
1I vs 4I	13.000	0.113	1.000	Do Not Test
1I vs 7S	12.000	0.104	1.000	Do Not Test
1I vs 9S	6.000	0.0522	1.000	Do Not Test
9S vs 9I	183.000	1.593	1.000	Do Not Test
9S vs 1S	181.000	1.575	1.000	Do Not Test
9S vs 7I	164.000	1.427	1.000	Do Not Test
9S vs 3S	157.000	1.366	1.000	Do Not Test
9S vs 2S	156.000	1.358	1.000	Do Not Test
9S vs 6I	13.000	0.113	1.000	Do Not Test
9S vs 4I	7.000	0.0609	1.000	Do Not Test
9S vs 7S	6.000	0.0522	1.000	Do Not Test
7S vs 9I	177.000	1.540	1.000	Do Not Test
7S vs 1S	175.000	1.523	1.000	Do Not Test
7S vs 7I	158.000	1.375	1.000	Do Not Test
7S vs 3S	151.000	1.314	1.000	Do Not Test
7S vs 2S	150.000	1.305	1.000	Do Not Test
7S vs 6I	7.000	0.0609	1.000	Do Not Test
7S vs 4I	1.000	0.00870	1.000	Do Not Test
4I vs 9I	176.000	1.532	1.000	Do Not Test
4I vs 1S	174.000	1.514	1.000	Do Not Test
4I vs 7I	157.000	1.366	1.000	Do Not Test
4I vs 3S	150.000	1.305	1.000	Do Not Test
4I vs 2S	149.000	1.297	1.000	Do Not Test
4I vs 6I	6.000	0.0522	1.000	Do Not Test
6I vs 9I	170.000	1.479	1.000	Do Not Test
6I vs 1S	168.000	1.462	1.000	Do Not Test



6I vs 7I	151.000	1.314	1.000	Do Not Test
6I vs 3S	144.000	1.253	1.000	Do Not Test
6I vs 2S	143.000	1.245	1.000	Do Not Test
2S vs 9I	27.000	0.235	1.000	Do Not Test
2S vs 1S	25.000	0.218	1.000	Do Not Test
2S vs 7I	8.000	0.0696	1.000	Do Not Test
2S vs 3S	1.000	0.00870	1.000	Do Not Test
3S vs 9I	26.000	0.226	1.000	Do Not Test
3S vs 1S	24.000	0.209	1.000	Do Not Test
3S vs 7I	7.000	0.0609	1.000	Do Not Test
7I vs 9I	19.000	0.165	1.000	Do Not Test
7I vs 1S	17.000	0.148	1.000	Do Not Test
1S vs 9I	2.000	0.0174	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 22:24:06

Data source: DA in L3 3y+

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 22:24:06

Data source: DA in L3 3y+

Group	N	Missing	Median	25%	75%
1I	6	0	0.513	0.439	0.562
1C	6	0	0.570	0.502	0.617
1S	6	0	0.483	0.399	0.529
2I	6	0	0.446	0.393	0.515
2C	6	0	0.512	0.481	0.551
2S	6	0	0.315	0.302	0.497
3I	6	0	0.525	0.461	0.580
3C	6	0	0.539	0.510	0.571
3S	6	0	0.427	0.372	0.505
4I	6	0	0.185	0.112	0.322
4C	6	0	0.415	0.354	0.508
4S	6	0	0.319	0.280	0.404
5I	6	0	0.212	0.145	0.324
5C	6	0	0.356	0.334	0.384
5S	6	0	0.218	0.126	0.356
6I	6	0	0.248	0.140	0.334
6C	6	0	0.398	0.366	0.508
6S	6	0	0.270	0.192	0.398
7I	6	0	0.178	0.163	0.261
7C	6	0	0.314	0.241	0.335
7S	6	0	0.217	0.163	0.327
8I	6	0	0.200	0.135	0.275
8C	6	0	0.314	0.213	0.365
8S	6	0	0.175	0.144	0.245
9I	6	0	0.206	0.169	0.309
9C	6	0	0.240	0.218	0.271
9S	6	0	0.247	0.210	0.310

H = 113.483 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
1C vs 8S	722.000	6.283	0.009	Yes
1C vs 8I	685.000	5.961	0.014	Yes

1C vs 7I	674.000	5.866	0.016	Yes
1C vs 4I	653.000	5.683	0.022	Yes
1C vs 5I	636.000	5.535	0.030	Yes
1C vs 7S	621.000	5.404	0.039	Yes
1C vs 9I	614.000	5.344	0.044	Yes
1C vs 5S	610.000	5.309	0.048	Yes
1C vs 6I	584.000	5.082	0.076	No
1C vs 9C	582.000	5.065	0.079	Do Not Test
1C vs 9S	547.000	4.760	0.145	Do Not Test
1C vs 7C	495.000	4.308	0.314	Do Not Test
1C vs 6S	493.000	4.291	0.323	Do Not Test
1C vs 8C	480.000	4.177	0.379	Do Not Test
1C vs 4S	409.000	3.559	0.739	Do Not Test
1C vs 2S	341.000	2.968	0.944	Do Not Test
1C vs 5C	341.000	2.968	0.944	Do Not Test
1C vs 4C	224.000	1.949	1.000	Do Not Test
1C vs 6C	220.000	1.915	1.000	Do Not Test
1C vs 3S	203.000	1.767	1.000	Do Not Test
1C vs 2I	180.000	1.567	1.000	Do Not Test
1C vs 1S	129.000	1.123	1.000	Do Not Test
1C vs 1I	76.000	0.661	1.000	Do Not Test
1C vs 2C	69.000	0.600	1.000	Do Not Test
1C vs 3I	60.000	0.522	1.000	Do Not Test
1C vs 3C	17.000	0.148	1.000	Do Not Test
3C vs 8S	705.000	6.136	0.011	Yes
3C vs 8I	668.000	5.814	0.017	Yes
3C vs 7I	657.000	5.718	0.021	Yes
3C vs 4I	636.000	5.535	0.030	Yes
3C vs 5I	619.000	5.387	0.040	Yes
3C vs 7S	604.000	5.257	0.053	No
3C vs 9I	597.000	5.196	0.060	Do Not Test
3C vs 5S	593.000	5.161	0.065	Do Not Test
3C vs 6I	567.000	4.935	0.103	Do Not Test
3C vs 9C	565.000	4.917	0.107	Do Not Test
3C vs 9S	530.000	4.613	0.191	Do Not Test
3C vs 7C	478.000	4.160	0.389	Do Not Test
3C vs 6S	476.000	4.143	0.398	Do Not Test
3C vs 8C	463.000	4.029	0.461	Do Not Test
3C vs 4S	392.000	3.412	0.812	Do Not Test
3C vs 2S	324.000	2.820	0.965	Do Not Test
3C vs 5C	324.000	2.820	0.965	Do Not Test
3C vs 4C	207.000	1.801	1.000	Do Not Test
3C vs 6C	203.000	1.767	1.000	Do Not Test
3C vs 3S	186.000	1.619	1.000	Do Not Test
3C vs 2I	163.000	1.419	1.000	Do Not Test
3C vs 1S	112.000	0.975	1.000	Do Not Test
3C vs 1I	59.000	0.513	1.000	Do Not Test
3C vs 2C	52.000	0.453	1.000	Do Not Test
3C vs 3I	43.000	0.374	1.000	Do Not Test
3I vs 8S	662.000	5.761	0.019	Yes
3I vs 8I	625.000	5.439	0.036	Yes
3I vs 7I	614.000	5.344	0.044	Yes
3I vs 4I	593.000	5.161	0.065	No
3I vs 5I	576.000	5.013	0.088	Do Not Test
3I vs 7S	561.000	4.882	0.115	Do Not Test
3I vs 9I	554.000	4.821	0.129	Do Not Test

3I vs 5S	550.000	4.787	0.138	Do Not Test
3I vs 6I	524.000	4.560	0.209	Do Not Test
3I vs 9C	522.000	4.543	0.215	Do Not Test
3I vs 9S	487.000	4.238	0.348	Do Not Test
3I vs 7C	435.000	3.786	0.607	Do Not Test
3I vs 6S	433.000	3.768	0.617	Do Not Test
3I vs 8C	420.000	3.655	0.685	Do Not Test
3I vs 4S	349.000	3.037	0.930	Do Not Test
3I vs 2S	281.000	2.446	0.994	Do Not Test
3I vs 5C	281.000	2.446	0.994	Do Not Test
3I vs 4C	164.000	1.427	1.000	Do Not Test
3I vs 6C	160.000	1.392	1.000	Do Not Test
3I vs 3S	143.000	1.245	1.000	Do Not Test
3I vs 2I	120.000	1.044	1.000	Do Not Test
3I vs 1S	69.000	0.600	1.000	Do Not Test
3I vs 1I	16.000	0.139	1.000	Do Not Test
3I vs 2C	9.000	0.0783	1.000	Do Not Test
2C vs 8S	653.000	5.683	0.022	Yes
2C vs 8I	616.000	5.361	0.043	Yes
2C vs 7I	605.000	5.265	0.052	No
2C vs 4I	584.000	5.082	0.076	Do Not Test
2C vs 5I	567.000	4.935	0.103	Do Not Test
2C vs 7S	552.000	4.804	0.134	Do Not Test
2C vs 9I	545.000	4.743	0.150	Do Not Test
2C vs 5S	541.000	4.708	0.160	Do Not Test
2C vs 6I	515.000	4.482	0.239	Do Not Test
2C vs 9C	513.000	4.465	0.246	Do Not Test
2C vs 9S	478.000	4.160	0.389	Do Not Test
2C vs 7C	426.000	3.707	0.654	Do Not Test
2C vs 6S	424.000	3.690	0.664	Do Not Test
2C vs 8C	411.000	3.577	0.729	Do Not Test
2C vs 4S	340.000	2.959	0.945	Do Not Test
2C vs 2S	272.000	2.367	0.996	Do Not Test
2C vs 5C	272.000	2.367	0.996	Do Not Test
2C vs 4C	155.000	1.349	1.000	Do Not Test
2C vs 6C	151.000	1.314	1.000	Do Not Test
2C vs 3S	134.000	1.166	1.000	Do Not Test
2C vs 2I	111.000	0.966	1.000	Do Not Test
2C vs 1S	60.000	0.522	1.000	Do Not Test
2C vs 1I	7.000	0.0609	1.000	Do Not Test
1I vs 8S	646.000	5.622	0.025	Yes
1I vs 8I	609.000	5.300	0.048	Yes
1I vs 7I	598.000	5.204	0.059	Do Not Test
1I vs 4I	577.000	5.022	0.087	Do Not Test
1I vs 5I	560.000	4.874	0.117	Do Not Test
1I vs 7S	545.000	4.743	0.150	Do Not Test
1I vs 9I	538.000	4.682	0.168	Do Not Test
1I vs 5S	534.000	4.647	0.179	Do Not Test
1I vs 6I	508.000	4.421	0.264	Do Not Test
1I vs 9C	506.000	4.404	0.271	Do Not Test
1I vs 9S	471.000	4.099	0.422	Do Not Test
1I vs 7C	419.000	3.647	0.690	Do Not Test
1I vs 6S	417.000	3.629	0.700	Do Not Test
1I vs 8C	404.000	3.516	0.762	Do Not Test
1I vs 4S	333.000	2.898	0.955	Do Not Test
1I vs 2S	265.000	2.306	0.997	Do Not Test

1I vs 5C	265.000	2.306	0.997	Do Not Test
1I vs 4C	148.000	1.288	1.000	Do Not Test
1I vs 6C	144.000	1.253	1.000	Do Not Test
1I vs 3S	127.000	1.105	1.000	Do Not Test
1I vs 2I	104.000	0.905	1.000	Do Not Test
1I vs 1S	53.000	0.461	1.000	Do Not Test
1S vs 8S	593.000	5.161	0.065	No
1S vs 8I	556.000	4.839	0.125	Do Not Test
1S vs 7I	545.000	4.743	0.150	Do Not Test
1S vs 4I	524.000	4.560	0.209	Do Not Test
1S vs 5I	507.000	4.412	0.267	Do Not Test
1S vs 7S	492.000	4.282	0.327	Do Not Test
1S vs 9I	485.000	4.221	0.357	Do Not Test
1S vs 5S	481.000	4.186	0.375	Do Not Test
1S vs 6I	455.000	3.960	0.502	Do Not Test
1S vs 9C	453.000	3.942	0.512	Do Not Test
1S vs 9S	418.000	3.638	0.695	Do Not Test
1S vs 7C	366.000	3.185	0.894	Do Not Test
1S vs 6S	364.000	3.168	0.899	Do Not Test
1S vs 8C	351.000	3.055	0.927	Do Not Test
1S vs 4S	280.000	2.437	0.994	Do Not Test
1S vs 2S	212.000	1.845	1.000	Do Not Test
1S vs 5C	212.000	1.845	1.000	Do Not Test
1S vs 4C	95.000	0.827	1.000	Do Not Test
1S vs 6C	91.000	0.792	1.000	Do Not Test
1S vs 3S	74.000	0.644	1.000	Do Not Test
1S vs 2I	51.000	0.444	1.000	Do Not Test
2I vs 8S	542.000	4.717	0.158	Do Not Test
2I vs 8I	505.000	4.395	0.275	Do Not Test
2I vs 7I	494.000	4.299	0.318	Do Not Test
2I vs 4I	473.000	4.116	0.412	Do Not Test
2I vs 5I	456.000	3.969	0.497	Do Not Test
2I vs 7S	441.000	3.838	0.575	Do Not Test
2I vs 9I	434.000	3.777	0.612	Do Not Test
2I vs 5S	430.000	3.742	0.633	Do Not Test
2I vs 6I	404.000	3.516	0.762	Do Not Test
2I vs 9C	402.000	3.499	0.770	Do Not Test
2I vs 9S	367.000	3.194	0.892	Do Not Test
2I vs 7C	315.000	2.741	0.974	Do Not Test
2I vs 6S	313.000	2.724	0.976	Do Not Test
2I vs 8C	300.000	2.611	0.985	Do Not Test
2I vs 4S	229.000	1.993	1.000	Do Not Test
2I vs 2S	161.000	1.401	1.000	Do Not Test
2I vs 5C	161.000	1.401	1.000	Do Not Test
2I vs 4C	44.000	0.383	1.000	Do Not Test
2I vs 6C	40.000	0.348	1.000	Do Not Test
2I vs 3S	23.000	0.200	1.000	Do Not Test
3S vs 8S	519.000	4.517	0.225	Do Not Test
3S vs 8I	482.000	4.195	0.370	Do Not Test
3S vs 7I	471.000	4.099	0.422	Do Not Test
3S vs 4I	450.000	3.916	0.528	Do Not Test
3S vs 5I	433.000	3.768	0.617	Do Not Test
3S vs 7S	418.000	3.638	0.695	Do Not Test
3S vs 9I	411.000	3.577	0.729	Do Not Test
3S vs 5S	407.000	3.542	0.748	Do Not Test
3S vs 6I	381.000	3.316	0.851	Do Not Test

3S vs 9C	379.000	3.298	0.858	Do Not Test
3S vs 9S	344.000	2.994	0.939	Do Not Test
3S vs 7C	292.000	2.541	0.989	Do Not Test
3S vs 6S	290.000	2.524	0.990	Do Not Test
3S vs 8C	277.000	2.411	0.995	Do Not Test
3S vs 4S	206.000	1.793	1.000	Do Not Test
3S vs 2S	138.000	1.201	1.000	Do Not Test
3S vs 5C	138.000	1.201	1.000	Do Not Test
3S vs 4C	21.000	0.183	1.000	Do Not Test
3S vs 6C	17.000	0.148	1.000	Do Not Test
6C vs 8S	502.000	4.369	0.286	Do Not Test
6C vs 8I	465.000	4.047	0.451	Do Not Test
6C vs 7I	454.000	3.951	0.507	Do Not Test
6C vs 4I	433.000	3.768	0.617	Do Not Test
6C vs 5I	416.000	3.620	0.705	Do Not Test
6C vs 7S	401.000	3.490	0.775	Do Not Test
6C vs 9I	394.000	3.429	0.804	Do Not Test
6C vs 5S	390.000	3.394	0.819	Do Not Test
6C vs 6I	364.000	3.168	0.899	Do Not Test
6C vs 9C	362.000	3.150	0.904	Do Not Test
6C vs 9S	327.000	2.846	0.962	Do Not Test
6C vs 7C	275.000	2.393	0.995	Do Not Test
6C vs 6S	273.000	2.376	0.996	Do Not Test
6C vs 8C	260.000	2.263	0.998	Do Not Test
6C vs 4S	189.000	1.645	1.000	Do Not Test
6C vs 2S	121.000	1.053	1.000	Do Not Test
6C vs 5C	121.000	1.053	1.000	Do Not Test
6C vs 4C	4.000	0.0348	1.000	Do Not Test
4C vs 8S	498.000	4.334	0.302	Do Not Test
4C vs 8I	461.000	4.012	0.471	Do Not Test
4C vs 7I	450.000	3.916	0.528	Do Not Test
4C vs 4I	429.000	3.734	0.638	Do Not Test
4C vs 5I	412.000	3.586	0.724	Do Not Test
4C vs 7S	397.000	3.455	0.792	Do Not Test
4C vs 9I	390.000	3.394	0.819	Do Not Test
4C vs 5S	386.000	3.359	0.834	Do Not Test
4C vs 6I	360.000	3.133	0.909	Do Not Test
4C vs 9C	358.000	3.116	0.913	Do Not Test
4C vs 9S	323.000	2.811	0.966	Do Not Test
4C vs 7C	271.000	2.358	0.996	Do Not Test
4C vs 6S	269.000	2.341	0.997	Do Not Test
4C vs 8C	256.000	2.228	0.999	Do Not Test
4C vs 4S	185.000	1.610	1.000	Do Not Test
4C vs 2S	117.000	1.018	1.000	Do Not Test
4C vs 5C	117.000	1.018	1.000	Do Not Test
5C vs 8S	381.000	3.316	0.851	Do Not Test
5C vs 8I	344.000	2.994	0.939	Do Not Test
5C vs 7I	333.000	2.898	0.955	Do Not Test
5C vs 4I	312.000	2.715	0.977	Do Not Test
5C vs 5I	295.000	2.567	0.988	Do Not Test
5C vs 7S	280.000	2.437	0.994	Do Not Test
5C vs 9I	273.000	2.376	0.996	Do Not Test
5C vs 5S	269.000	2.341	0.997	Do Not Test
5C vs 6I	243.000	2.115	0.999	Do Not Test
5C vs 9C	241.000	2.097	1.000	Do Not Test
5C vs 9S	206.000	1.793	1.000	Do Not Test

5C vs 7C	154.000	1.340	1.000	Do Not Test
5C vs 6S	152.000	1.323	1.000	Do Not Test
5C vs 8C	139.000	1.210	1.000	Do Not Test
5C vs 4S	68.000	0.592	1.000	Do Not Test
5C vs 2S	0.000	0.000	1.000	Do Not Test
2S vs 8S	381.000	3.316	0.851	Do Not Test
2S vs 8I	344.000	2.994	0.939	Do Not Test
2S vs 7I	333.000	2.898	0.955	Do Not Test
2S vs 4I	312.000	2.715	0.977	Do Not Test
2S vs 5I	295.000	2.567	0.988	Do Not Test
2S vs 7S	280.000	2.437	0.994	Do Not Test
2S vs 9I	273.000	2.376	0.996	Do Not Test
2S vs 5S	269.000	2.341	0.997	Do Not Test
2S vs 6I	243.000	2.115	0.999	Do Not Test
2S vs 9C	241.000	2.097	1.000	Do Not Test
2S vs 9S	206.000	1.793	1.000	Do Not Test
2S vs 7C	154.000	1.340	1.000	Do Not Test
2S vs 6S	152.000	1.323	1.000	Do Not Test
2S vs 8C	139.000	1.210	1.000	Do Not Test
2S vs 4S	68.000	0.592	1.000	Do Not Test
4S vs 8S	313.000	2.724	0.976	Do Not Test
4S vs 8I	276.000	2.402	0.995	Do Not Test
4S vs 7I	265.000	2.306	0.997	Do Not Test
4S vs 4I	244.000	2.124	0.999	Do Not Test
4S vs 5I	227.000	1.976	1.000	Do Not Test
4S vs 7S	212.000	1.845	1.000	Do Not Test
4S vs 9I	205.000	1.784	1.000	Do Not Test
4S vs 5S	201.000	1.749	1.000	Do Not Test
4S vs 6I	175.000	1.523	1.000	Do Not Test
4S vs 9C	173.000	1.506	1.000	Do Not Test
4S vs 9S	138.000	1.201	1.000	Do Not Test
4S vs 7C	86.000	0.748	1.000	Do Not Test
4S vs 6S	84.000	0.731	1.000	Do Not Test
4S vs 8C	71.000	0.618	1.000	Do Not Test
8C vs 8S	242.000	2.106	1.000	Do Not Test
8C vs 8I	205.000	1.784	1.000	Do Not Test
8C vs 7I	194.000	1.688	1.000	Do Not Test
8C vs 4I	173.000	1.506	1.000	Do Not Test
8C vs 5I	156.000	1.358	1.000	Do Not Test
8C vs 7S	141.000	1.227	1.000	Do Not Test
8C vs 9I	134.000	1.166	1.000	Do Not Test
8C vs 5S	130.000	1.131	1.000	Do Not Test
8C vs 6I	104.000	0.905	1.000	Do Not Test
8C vs 9C	102.000	0.888	1.000	Do Not Test
8C vs 9S	67.000	0.583	1.000	Do Not Test
8C vs 7C	15.000	0.131	1.000	Do Not Test
8C vs 6S	13.000	0.113	1.000	Do Not Test
6S vs 8S	229.000	1.993	1.000	Do Not Test
6S vs 8I	192.000	1.671	1.000	Do Not Test
6S vs 7I	181.000	1.575	1.000	Do Not Test
6S vs 4I	160.000	1.392	1.000	Do Not Test
6S vs 5I	143.000	1.245	1.000	Do Not Test
6S vs 7S	128.000	1.114	1.000	Do Not Test
6S vs 9I	121.000	1.053	1.000	Do Not Test
6S vs 5S	117.000	1.018	1.000	Do Not Test
6S vs 6I	91.000	0.792	1.000	Do Not Test

6S vs 9C	89.000	0.775	1.000	Do Not Test
6S vs 9S	54.000	0.470	1.000	Do Not Test
6S vs 7C	2.000	0.0174	1.000	Do Not Test
7C vs 8S	227.000	1.976	1.000	Do Not Test
7C vs 8I	190.000	1.654	1.000	Do Not Test
7C vs 7I	179.000	1.558	1.000	Do Not Test
7C vs 4I	158.000	1.375	1.000	Do Not Test
7C vs 5I	141.000	1.227	1.000	Do Not Test
7C vs 7S	126.000	1.097	1.000	Do Not Test
7C vs 9I	119.000	1.036	1.000	Do Not Test
7C vs 5S	115.000	1.001	1.000	Do Not Test
7C vs 6I	89.000	0.775	1.000	Do Not Test
7C vs 9C	87.000	0.757	1.000	Do Not Test
7C vs 9S	52.000	0.453	1.000	Do Not Test
9S vs 8S	175.000	1.523	1.000	Do Not Test
9S vs 8I	138.000	1.201	1.000	Do Not Test
9S vs 7I	127.000	1.105	1.000	Do Not Test
9S vs 4I	106.000	0.923	1.000	Do Not Test
9S vs 5I	89.000	0.775	1.000	Do Not Test
9S vs 7S	74.000	0.644	1.000	Do Not Test
9S vs 9I	67.000	0.583	1.000	Do Not Test
9S vs 5S	63.000	0.548	1.000	Do Not Test
9S vs 6I	37.000	0.322	1.000	Do Not Test
9S vs 9C	35.000	0.305	1.000	Do Not Test
9C vs 8S	140.000	1.218	1.000	Do Not Test
9C vs 8I	103.000	0.896	1.000	Do Not Test
9C vs 7I	92.000	0.801	1.000	Do Not Test
9C vs 4I	71.000	0.618	1.000	Do Not Test
9C vs 5I	54.000	0.470	1.000	Do Not Test
9C vs 7S	39.000	0.339	1.000	Do Not Test
9C vs 9I	32.000	0.278	1.000	Do Not Test
9C vs 5S	28.000	0.244	1.000	Do Not Test
9C vs 6I	2.000	0.0174	1.000	Do Not Test
6I vs 8S	138.000	1.201	1.000	Do Not Test
6I vs 8I	101.000	0.879	1.000	Do Not Test
6I vs 7I	90.000	0.783	1.000	Do Not Test
6I vs 4I	69.000	0.600	1.000	Do Not Test
6I vs 5I	52.000	0.453	1.000	Do Not Test
6I vs 7S	37.000	0.322	1.000	Do Not Test
6I vs 9I	30.000	0.261	1.000	Do Not Test
6I vs 5S	26.000	0.226	1.000	Do Not Test
5S vs 8S	112.000	0.975	1.000	Do Not Test
5S vs 8I	75.000	0.653	1.000	Do Not Test
5S vs 7I	64.000	0.557	1.000	Do Not Test
5S vs 4I	43.000	0.374	1.000	Do Not Test
5S vs 5I	26.000	0.226	1.000	Do Not Test
5S vs 7S	11.000	0.0957	1.000	Do Not Test
5S vs 9I	4.000	0.0348	1.000	Do Not Test
9I vs 8S	108.000	0.940	1.000	Do Not Test
9I vs 8I	71.000	0.618	1.000	Do Not Test
9I vs 7I	60.000	0.522	1.000	Do Not Test
9I vs 4I	39.000	0.339	1.000	Do Not Test
9I vs 5I	22.000	0.191	1.000	Do Not Test
9I vs 7S	7.000	0.0609	1.000	Do Not Test
7S vs 8S	101.000	0.879	1.000	Do Not Test
7S vs 8I	64.000	0.557	1.000	Do Not Test



7S vs 7I	53.000	0.461	1.000	Do Not Test
7S vs 4I	32.000	0.278	1.000	Do Not Test
7S vs 5I	15.000	0.131	1.000	Do Not Test
5I vs 8S	86.000	0.748	1.000	Do Not Test
5I vs 8I	49.000	0.426	1.000	Do Not Test
5I vs 7I	38.000	0.331	1.000	Do Not Test
5I vs 4I	17.000	0.148	1.000	Do Not Test
4I vs 8S	69.000	0.600	1.000	Do Not Test
4I vs 8I	32.000	0.278	1.000	Do Not Test
4I vs 7I	21.000	0.183	1.000	Do Not Test
7I vs 8S	48.000	0.418	1.000	Do Not Test
7I vs 8I	11.000	0.0957	1.000	Do Not Test
8I vs 8S	37.000	0.322	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

Thursday, November 16, 2017, 16:13:33

Data source: BV/TV in L5 3-5y

Normality Test (Shapiro-Wilk) Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

Thursday, November 16, 2017, 16:13:33

Data source: BV/TV in L5 3-5y

Group	N	Missing	Median	25%	75%
1I	4	0	20.371	17.306	23.915
1C	4	0	20.518	16.962	23.187
1S	4	0	17.847	17.343	20.439
2I	4	0	20.697	16.889	22.009
2C	4	0	18.825	17.128	20.526
2S	4	0	16.962	16.016	18.635
3I	4	0	18.967	16.623	20.715
3C	4	0	19.118	17.595	21.310
3S	4	0	16.939	16.426	17.693
4I	4	0	21.250	14.964	23.491
4C	4	0	16.732	13.477	18.452
4S	4	0	17.282	15.101	17.547
5I	4	0	20.088	13.019	21.924
5C	4	0	14.867	11.208	17.263
5S	4	0	15.894	15.195	16.121
6I	4	0	20.711	14.209	22.709
6C	4	0	16.410	13.503	17.865
6S	4	0	16.581	16.034	16.765
7I	4	0	23.789	15.626	27.322
7C	4	0	18.443	15.534	21.553
7S	4	0	18.797	18.575	19.409
8I	4	0	20.510	14.079	21.323
8C	4	0	15.904	13.201	18.640
8S	4	0	15.310	14.791	19.644
9I	4	0	23.759	14.744	30.272
9C	4	0	18.302	15.257	25.835
9S	4	0	17.766	15.612	25.143

H = 30.455 with 26 degrees of freedom. (P = 0.249)

The differences in the median values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.249)

## One Way Analysis of Variance

Thursday, November 16, 2017, 16:14:58

Data source: SMI in L5 3-5y

Normality Test (Shapiro-Wilk) Passed (P = 0.995)

Equal Variance Test: Passed (P = 0.461)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	4	0	1.367	0.104	0.0521
1C	4	0	1.043	0.132	0.0661
1S	4	0	1.485	0.161	0.0807
2I	4	0	1.285	0.0621	0.0311
2C	4	0	0.975	0.185	0.0927
2S	4	0	1.511	0.192	0.0961
3I	4	0	1.464	0.164	0.0819
3C	4	0	1.114	0.117	0.0587
3S	4	0	1.522	0.209	0.105
4I	4	0	1.389	0.0875	0.0438
4C	4	0	1.253	0.0445	0.0222
4S	4	0	1.508	0.173	0.0867
5I	4	0	1.543	0.210	0.105
5C	4	0	1.322	0.208	0.104
5S	4	0	1.532	0.213	0.106
6I	4	0	1.405	0.174	0.0869
6C	4	0	1.274	0.0898	0.0449
6S	4	0	1.500	0.177	0.0883
7I	4	0	1.406	0.147	0.0734
7C	4	0	1.247	0.0688	0.0344
7S	4	0	1.483	0.0558	0.0279
8I	4	0	1.546	0.124	0.0620
8C	4	0	1.117	0.183	0.0913
8S	4	0	1.589	0.179	0.0895
9I	4	0	1.343	0.340	0.170
9C	4	0	1.173	0.255	0.127
9S	4	0	1.426	0.180	0.0901

Source of Variation	DF	SS	MS	F	P
Between Groups	26	2.933	0.113	3.908	<0.001
Residual	81	2.338	0.0289		
Total	107	5.271			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 1.000

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

Comparison	Diff of Means	p	q	P	P<0.050
8S vs. 2C	0.614	27	7.232	<0.001	Yes
8S vs. 1C	0.546	27	6.428	0.005	Yes
8S vs. 3C	0.475	27	5.591	0.035	Yes

8S vs. 8C	0.472	27	5.562	0.037	Yes
8S vs. 9C	0.416	27	4.902	0.134	No
8S vs. 7C	0.342	27	4.026	0.471	Do Not Test
8S vs. 4C	0.336	27	3.953	0.509	Do Not Test
8S vs. 6C	0.315	27	3.713	0.635	Do Not Test
8S vs. 2I	0.304	27	3.576	0.705	Do Not Test
8S vs. 5C	0.267	27	3.144	0.884	Do Not Test
8S vs. 9I	0.246	27	2.895	0.946	Do Not Test
8S vs. 1I	0.222	27	2.619	0.982	Do Not Test
8S vs. 4I	0.200	27	2.351	0.996	Do Not Test
8S vs. 6I	0.184	27	2.166	0.999	Do Not Test
8S vs. 7I	0.183	27	2.157	0.999	Do Not Test
8S vs. 9S	0.163	27	1.918	1.000	Do Not Test
8S vs. 3I	0.125	27	1.470	1.000	Do Not Test
8S vs. 7S	0.106	27	1.251	1.000	Do Not Test
8S vs. 1S	0.104	27	1.224	1.000	Do Not Test
8S vs. 6S	0.0888	27	1.045	1.000	Do Not Test
8S vs. 4S	0.0813	27	0.956	1.000	Do Not Test
8S vs. 2S	0.0787	27	0.926	1.000	Do Not Test
8S vs. 3S	0.0676	27	0.796	1.000	Do Not Test
8S vs. 5S	0.0576	27	0.678	1.000	Do Not Test
8S vs. 5I	0.0462	27	0.544	1.000	Do Not Test
8S vs. 8I	0.0437	27	0.514	1.000	Do Not Test
<b>8I vs. 2C</b>	<b>0.571</b>	<b>27</b>	<b>6.718</b>	<b>0.003</b>	<b>Yes</b>
8I vs. 1C	0.502	27	5.914	0.017	Yes
8I vs. 3C	0.431	27	5.077	0.097	No
8I vs. 8C	0.429	27	5.048	0.103	Do Not Test
8I vs. 9C	0.373	27	4.388	0.300	Do Not Test
8I vs. 7C	0.298	27	3.512	0.736	Do Not Test
8I vs. 4C	0.292	27	3.439	0.770	Do Not Test
8I vs. 6C	0.272	27	3.199	0.866	Do Not Test
8I vs. 2I	0.260	27	3.061	0.908	Do Not Test
8I vs. 5C	0.223	27	2.630	0.981	Do Not Test
8I vs. 9I	0.202	27	2.381	0.995	Do Not Test
8I vs. 1I	0.179	27	2.105	0.999	Do Not Test
8I vs. 4I	0.156	27	1.837	1.000	Do Not Test
8I vs. 6I	0.140	27	1.652	1.000	Do Not Test
8I vs. 7I	0.140	27	1.643	1.000	Do Not Test
8I vs. 9S	0.119	27	1.403	1.000	Do Not Test
8I vs. 3I	0.0812	27	0.956	1.000	Do Not Test
8I vs. 7S	0.0626	27	0.737	1.000	Do Not Test
8I vs. 1S	0.0603	27	0.710	1.000	Do Not Test
8I vs. 6S	0.0451	27	0.531	1.000	Do Not Test
8I vs. 4S	0.0376	27	0.442	1.000	Do Not Test
8I vs. 2S	0.0350	27	0.412	1.000	Do Not Test
8I vs. 3S	0.0239	27	0.282	1.000	Do Not Test
8I vs. 5S	0.0139	27	0.164	1.000	Do Not Test
8I vs. 5I	0.00255	27	0.0300	1.000	Do Not Test
<b>5I vs. 2C</b>	<b>0.568</b>	<b>27</b>	<b>6.688</b>	<b>0.003</b>	<b>Yes</b>
5I vs. 1C	0.500	27	5.884	0.018	Yes
5I vs. 3C	0.429	27	5.047	0.103	Do Not Test
5I vs. 8C	0.426	27	5.018	0.109	Do Not Test
5I vs. 9C	0.370	27	4.358	0.313	Do Not Test
5I vs. 7C	0.296	27	3.482	0.750	Do Not Test
5I vs. 4C	0.290	27	3.409	0.783	Do Not Test
5I vs. 6C	0.269	27	3.169	0.876	Do Not Test

5I vs. 2I	0.258	27	3.031	0.916	Do Not Test
5I vs. 5C	0.221	27	2.600	0.984	Do Not Test
5I vs. 9I	0.200	27	2.351	0.996	Do Not Test
5I vs. 1I	0.176	27	2.075	0.999	Do Not Test
5I vs. 4I	0.154	27	1.807	1.000	Do Not Test
5I vs. 6I	0.138	27	1.622	1.000	Do Not Test
5I vs. 7I	0.137	27	1.613	1.000	Do Not Test
5I vs. 9S	0.117	27	1.373	1.000	Do Not Test
5I vs. 3I	0.0786	27	0.926	1.000	Do Not Test
5I vs. 7S	0.0601	27	0.707	1.000	Do Not Test
5I vs. 1S	0.0577	27	0.680	1.000	Do Not Test
5I vs. 6S	0.0426	27	0.501	1.000	Do Not Test
5I vs. 4S	0.0350	27	0.412	1.000	Do Not Test
5I vs. 2S	0.0324	27	0.382	1.000	Do Not Test
5I vs. 3S	0.0214	27	0.252	1.000	Do Not Test
5I vs. 5S	0.0114	27	0.134	1.000	Do Not Test
<b>5S vs. 2C</b>	<b>0.557</b>	<b>27</b>	<b>6.554</b>	<b>0.004</b>	<b>Yes</b>
5S vs. 1C	0.488	27	5.750	0.025	Yes
5S vs. 3C	0.417	27	4.913	0.131	Do Not Test
5S vs. 8C	0.415	27	4.884	0.138	Do Not Test
5S vs. 9C	0.359	27	4.224	0.373	Do Not Test
5S vs. 7C	0.284	27	3.348	0.809	Do Not Test
5S vs. 4C	0.278	27	3.275	0.838	Do Not Test
5S vs. 6C	0.258	27	3.035	0.915	Do Not Test
5S vs. 2I	0.246	27	2.898	0.945	Do Not Test
5S vs. 5C	0.210	27	2.466	0.992	Do Not Test
5S vs. 9I	0.188	27	2.217	0.998	Do Not Test
5S vs. 1I	0.165	27	1.941	1.000	Do Not Test
5S vs. 4I	0.142	27	1.673	1.000	Do Not Test
5S vs. 6I	0.126	27	1.488	1.000	Do Not Test
5S vs. 7I	0.126	27	1.479	1.000	Do Not Test
5S vs. 9S	0.105	27	1.240	1.000	Do Not Test
5S vs. 3I	0.0673	27	0.792	1.000	Do Not Test
5S vs. 7S	0.0487	27	0.573	1.000	Do Not Test
5S vs. 1S	0.0464	27	0.546	1.000	Do Not Test
5S vs. 6S	0.0312	27	0.367	1.000	Do Not Test
5S vs. 4S	0.0237	27	0.278	1.000	Do Not Test
5S vs. 2S	0.0211	27	0.248	1.000	Do Not Test
5S vs. 3S	0.0100	27	0.118	1.000	Do Not Test
<b>3S vs. 2C</b>	<b>0.547</b>	<b>27</b>	<b>6.436</b>	<b>0.005</b>	<b>Yes</b>
3S vs. 1C	0.478	27	5.632	0.032	Yes
3S vs. 3C	0.407	27	4.795	0.160	Do Not Test
3S vs. 8C	0.405	27	4.766	0.169	Do Not Test
3S vs. 9C	0.349	27	4.106	0.430	Do Not Test
3S vs. 7C	0.274	27	3.230	0.855	Do Not Test
3S vs. 4C	0.268	27	3.157	0.879	Do Not Test
3S vs. 6C	0.248	27	2.917	0.942	Do Not Test
3S vs. 2I	0.236	27	2.780	0.965	Do Not Test
3S vs. 5C	0.200	27	2.349	0.996	Do Not Test
3S vs. 9I	0.178	27	2.099	0.999	Do Not Test
3S vs. 1I	0.155	27	1.823	1.000	Do Not Test
3S vs. 4I	0.132	27	1.556	1.000	Do Not Test
3S vs. 6I	0.116	27	1.370	1.000	Do Not Test
3S vs. 7I	0.116	27	1.361	1.000	Do Not Test
3S vs. 9S	0.0953	27	1.122	1.000	Do Not Test
3S vs. 3I	0.0572	27	0.674	1.000	Do Not Test

3S vs. 7S	0.0387	27	0.455	1.000	Do Not Test
3S vs. 1S	0.0364	27	0.428	1.000	Do Not Test
3S vs. 6S	0.0212	27	0.249	1.000	Do Not Test
3S vs. 4S	0.0136	27	0.161	1.000	Do Not Test
3S vs. 2S	0.0110	27	0.130	1.000	Do Not Test
<b>2S vs. 2C</b>	<b>0.536</b>	<b>27</b>	<b>6.306</b>	<b>0.007</b>	<b>Yes</b>
2S vs. 1C	0.467	27	5.502	0.042	Yes
2S vs. 3C	0.396	27	4.665	0.199	Do Not Test
2S vs. 8C	0.394	27	4.636	0.208	Do Not Test
2S vs. 9C	0.338	27	3.976	0.497	Do Not Test
2S vs. 7C	0.263	27	3.100	0.897	Do Not Test
2S vs. 4C	0.257	27	3.027	0.917	Do Not Test
2S vs. 6C	0.237	27	2.787	0.964	Do Not Test
2S vs. 2I	0.225	27	2.650	0.979	Do Not Test
2S vs. 5C	0.188	27	2.219	0.998	Do Not Test
2S vs. 9I	0.167	27	1.969	1.000	Do Not Test
2S vs. 1I	0.144	27	1.693	1.000	Do Not Test
2S vs. 4I	0.121	27	1.426	1.000	Do Not Test
2S vs. 6I	0.105	27	1.240	1.000	Do Not Test
2S vs. 7I	0.105	27	1.231	1.000	Do Not Test
2S vs. 9S	0.0843	27	0.992	1.000	Do Not Test
2S vs. 3I	0.0462	27	0.544	1.000	Do Not Test
2S vs. 7S	0.0276	27	0.325	1.000	Do Not Test
2S vs. 1S	0.0253	27	0.298	1.000	Do Not Test
2S vs. 6S	0.0101	27	0.119	1.000	Do Not Test
2S vs. 4S	0.00260	27	0.0306	1.000	Do Not Test
<b>4S vs. 2C</b>	<b>0.533</b>	<b>27</b>	<b>6.275</b>	<b>0.007</b>	<b>Yes</b>
4S vs. 1C	0.465	27	5.472	0.045	Yes
4S vs. 3C	0.394	27	4.634	0.208	Do Not Test
4S vs. 8C	0.391	27	4.605	0.218	Do Not Test
4S vs. 9C	0.335	27	3.945	0.513	Do Not Test
4S vs. 7C	0.261	27	3.070	0.905	Do Not Test
4S vs. 4C	0.255	27	2.997	0.924	Do Not Test
4S vs. 6C	0.234	27	2.756	0.968	Do Not Test
4S vs. 2I	0.222	27	2.619	0.982	Do Not Test
4S vs. 5C	0.186	27	2.188	0.998	Do Not Test
4S vs. 9I	0.165	27	1.939	1.000	Do Not Test
4S vs. 1I	0.141	27	1.663	1.000	Do Not Test
4S vs. 4I	0.119	27	1.395	1.000	Do Not Test
4S vs. 6I	0.103	27	1.209	1.000	Do Not Test
4S vs. 7I	0.102	27	1.200	1.000	Do Not Test
4S vs. 9S	0.0817	27	0.961	1.000	Do Not Test
4S vs. 3I	0.0436	27	0.513	1.000	Do Not Test
4S vs. 7S	0.0250	27	0.295	1.000	Do Not Test
4S vs. 1S	0.0227	27	0.267	1.000	Do Not Test
4S vs. 6S	0.00753	27	0.0886	1.000	Do Not Test
<b>6S vs. 2C</b>	<b>0.526</b>	<b>27</b>	<b>6.187</b>	<b>0.009</b>	<b>Yes</b>
6S vs. 1C	0.457	27	5.383	0.054	No
6S vs. 3C	0.386	27	4.546	0.239	Do Not Test
6S vs. 8C	0.384	27	4.517	0.249	Do Not Test
6S vs. 9C	0.328	27	3.857	0.559	Do Not Test
6S vs. 7C	0.253	27	2.981	0.928	Do Not Test
6S vs. 4C	0.247	27	2.908	0.943	Do Not Test
6S vs. 6C	0.227	27	2.668	0.978	Do Not Test
6S vs. 2I	0.215	27	2.530	0.988	Do Not Test
6S vs. 5C	0.178	27	2.099	0.999	Do Not Test

6S vs. 9I	0.157	27	1.850	1.000	Do Not Test
6S vs. 1I	0.134	27	1.574	1.000	Do Not Test
6S vs. 4I	0.111	27	1.306	1.000	Do Not Test
6S vs. 6I	0.0952	27	1.121	1.000	Do Not Test
6S vs. 7I	0.0944	27	1.112	1.000	Do Not Test
6S vs. 9S	0.0741	27	0.873	1.000	Do Not Test
6S vs. 3I	0.0361	27	0.425	1.000	Do Not Test
6S vs. 7S	0.0175	27	0.206	1.000	Do Not Test
6S vs. 1S	0.0152	27	0.179	1.000	Do Not Test
1S vs. 2C	0.510	27	6.008	0.014	Yes
1S vs. 1C	0.442	27	5.204	0.076	Do Not Test
1S vs. 3C	0.371	27	4.367	0.309	Do Not Test
1S vs. 8C	0.369	27	4.338	0.322	Do Not Test
1S vs. 9C	0.312	27	3.678	0.653	Do Not Test
1S vs. 7C	0.238	27	2.802	0.961	Do Not Test
1S vs. 4C	0.232	27	2.729	0.971	Do Not Test
1S vs. 6C	0.211	27	2.489	0.990	Do Not Test
1S vs. 2I	0.200	27	2.352	0.996	Do Not Test
1S vs. 5C	0.163	27	1.920	1.000	Do Not Test
1S vs. 9I	0.142	27	1.671	1.000	Do Not Test
1S vs. 1I	0.119	27	1.395	1.000	Do Not Test
1S vs. 4I	0.0958	27	1.127	1.000	Do Not Test
1S vs. 6I	0.0800	27	0.942	1.000	Do Not Test
1S vs. 7I	0.0792	27	0.933	1.000	Do Not Test
1S vs. 9S	0.0589	27	0.694	1.000	Do Not Test
1S vs. 3I	0.0209	27	0.246	1.000	Do Not Test
1S vs. 7S	0.00232	27	0.0273	1.000	Do Not Test
7S vs. 2C	0.508	27	5.981	0.015	Yes
7S vs. 1C	0.440	27	5.177	0.081	Do Not Test
7S vs. 3C	0.369	27	4.339	0.321	Do Not Test
7S vs. 8C	0.366	27	4.310	0.333	Do Not Test
7S vs. 9C	0.310	27	3.651	0.668	Do Not Test
7S vs. 7C	0.236	27	2.775	0.965	Do Not Test
7S vs. 4C	0.230	27	2.702	0.974	Do Not Test
7S vs. 6C	0.209	27	2.462	0.992	Do Not Test
7S vs. 2I	0.197	27	2.324	0.996	Do Not Test
7S vs. 5C	0.161	27	1.893	1.000	Do Not Test
7S vs. 9I	0.140	27	1.644	1.000	Do Not Test
7S vs. 1I	0.116	27	1.368	1.000	Do Not Test
7S vs. 4I	0.0935	27	1.100	1.000	Do Not Test
7S vs. 6I	0.0777	27	0.915	1.000	Do Not Test
7S vs. 7I	0.0769	27	0.905	1.000	Do Not Test
7S vs. 9S	0.0566	27	0.666	1.000	Do Not Test
7S vs. 3I	0.0186	27	0.218	1.000	Do Not Test
3I vs. 2C	0.490	27	5.762	0.024	Yes
3I vs. 1C	0.421	27	4.958	0.121	Do Not Test
3I vs. 3C	0.350	27	4.121	0.423	Do Not Test
3I vs. 8C	0.348	27	4.092	0.437	Do Not Test
3I vs. 9C	0.292	27	3.432	0.773	Do Not Test
3I vs. 7C	0.217	27	2.556	0.987	Do Not Test
3I vs. 4C	0.211	27	2.484	0.991	Do Not Test
3I vs. 6C	0.191	27	2.243	0.998	Do Not Test
3I vs. 2I	0.179	27	2.106	0.999	Do Not Test
3I vs. 5C	0.142	27	1.675	1.000	Do Not Test
3I vs. 9I	0.121	27	1.425	1.000	Do Not Test
3I vs. 1I	0.0976	27	1.149	1.000	Do Not Test

3I vs. 4I	0.0749	27	0.882	1.000	Do Not Test
3I vs. 6I	0.0591	27	0.696	1.000	Do Not Test
3I vs. 7I	0.0584	27	0.687	1.000	Do Not Test
3I vs. 9S	0.0380	27	0.448	1.000	Do Not Test
9S vs. 2C	0.451	27	5.314	0.062	No
9S vs. 1C	0.383	27	4.511	0.252	Do Not Test
9S vs. 3C	0.312	27	3.673	0.656	Do Not Test
9S vs. 8C	0.310	27	3.644	0.671	Do Not Test
9S vs. 9C	0.254	27	2.984	0.927	Do Not Test
9S vs. 7C	0.179	27	2.109	0.999	Do Not Test
9S vs. 4C	0.173	27	2.036	1.000	Do Not Test
9S vs. 6C	0.153	27	1.795	1.000	Do Not Test
9S vs. 2I	0.141	27	1.658	1.000	Do Not Test
9S vs. 5C	0.104	27	1.227	1.000	Do Not Test
9S vs. 9I	0.0830	27	0.977	1.000	Do Not Test
9S vs. 1I	0.0596	27	0.701	1.000	Do Not Test
9S vs. 4I	0.0369	27	0.434	1.000	Do Not Test
9S vs. 6I	0.0211	27	0.248	1.000	Do Not Test
9S vs. 7I	0.0203	27	0.239	1.000	Do Not Test
7I vs. 2C	0.431	27	5.075	0.098	Do Not Test
7I vs. 1C	0.363	27	4.271	0.351	Do Not Test
7I vs. 3C	0.292	27	3.434	0.772	Do Not Test
7I vs. 8C	0.289	27	3.405	0.785	Do Not Test
7I vs. 9C	0.233	27	2.745	0.969	Do Not Test
7I vs. 7C	0.159	27	1.869	1.000	Do Not Test
7I vs. 4C	0.153	27	1.797	1.000	Do Not Test
7I vs. 6C	0.132	27	1.556	1.000	Do Not Test
7I vs. 2I	0.121	27	1.419	1.000	Do Not Test
7I vs. 5C	0.0839	27	0.988	1.000	Do Not Test
7I vs. 9I	0.0627	27	0.738	1.000	Do Not Test
7I vs. 1I	0.0393	27	0.462	1.000	Do Not Test
7I vs. 4I	0.0165	27	0.195	1.000	Do Not Test
7I vs. 6I	0.000773	27	0.00909	1.000	Do Not Test
6I vs. 2C	0.430	27	5.066	0.099	Do Not Test
6I vs. 1C	0.362	27	4.262	0.355	Do Not Test
6I vs. 3C	0.291	27	3.425	0.776	Do Not Test
6I vs. 8C	0.288	27	3.396	0.789	Do Not Test
6I vs. 9C	0.232	27	2.736	0.970	Do Not Test
6I vs. 7C	0.158	27	1.860	1.000	Do Not Test
6I vs. 4C	0.152	27	1.787	1.000	Do Not Test
6I vs. 6C	0.131	27	1.547	1.000	Do Not Test
6I vs. 2I	0.120	27	1.410	1.000	Do Not Test
6I vs. 5C	0.0831	27	0.979	1.000	Do Not Test
6I vs. 9I	0.0619	27	0.729	1.000	Do Not Test
6I vs. 1I	0.0385	27	0.453	1.000	Do Not Test
6I vs. 4I	0.0158	27	0.186	1.000	Do Not Test
4I vs. 2C	0.415	27	4.881	0.139	Do Not Test
4I vs. 1C	0.346	27	4.077	0.445	Do Not Test
4I vs. 3C	0.275	27	3.239	0.851	Do Not Test
4I vs. 8C	0.273	27	3.210	0.862	Do Not Test
4I vs. 9C	0.217	27	2.550	0.987	Do Not Test
4I vs. 7C	0.142	27	1.675	1.000	Do Not Test
4I vs. 4C	0.136	27	1.602	1.000	Do Not Test
4I vs. 6C	0.116	27	1.361	1.000	Do Not Test
4I vs. 2I	0.104	27	1.224	1.000	Do Not Test
4I vs. 5C	0.0674	27	0.793	1.000	Do Not Test



4I vs. 9I	0.0462	27	0.544	1.000	Do Not Test
4I vs. 1I	0.0227	27	0.268	1.000	Do Not Test
1I vs. 2C	0.392	27	4.613	0.215	Do Not Test
1I vs. 1C	0.324	27	3.809	0.585	Do Not Test
1I vs. 3C	0.252	27	2.972	0.930	Do Not Test
1I vs. 8C	0.250	27	2.943	0.936	Do Not Test
1I vs. 9C	0.194	27	2.283	0.997	Do Not Test
1I vs. 7C	0.120	27	1.407	1.000	Do Not Test
1I vs. 4C	0.113	27	1.334	1.000	Do Not Test
1I vs. 6C	0.0929	27	1.094	1.000	Do Not Test
1I vs. 2I	0.0813	27	0.957	1.000	Do Not Test
1I vs. 5C	0.0446	27	0.525	1.000	Do Not Test
1I vs. 9I	0.0235	27	0.276	1.000	Do Not Test
9I vs. 2C	0.368	27	4.337	0.322	Do Not Test
9I vs. 1C	0.300	27	3.533	0.726	Do Not Test
9I vs. 3C	0.229	27	2.696	0.975	Do Not Test
9I vs. 8C	0.227	27	2.667	0.978	Do Not Test
9I vs. 9C	0.170	27	2.007	1.000	Do Not Test
9I vs. 7C	0.0961	27	1.131	1.000	Do Not Test
9I vs. 4C	0.0899	27	1.058	1.000	Do Not Test
9I vs. 6C	0.0695	27	0.818	1.000	Do Not Test
9I vs. 2I	0.0578	27	0.680	1.000	Do Not Test
9I vs. 5C	0.0212	27	0.249	1.000	Do Not Test
5C vs. 2C	0.347	27	4.088	0.439	Do Not Test
5C vs. 1C	0.279	27	3.284	0.835	Do Not Test
5C vs. 3C	0.208	27	2.446	0.992	Do Not Test
5C vs. 8C	0.205	27	2.417	0.994	Do Not Test
5C vs. 9C	0.149	27	1.757	1.000	Do Not Test
5C vs. 7C	0.0749	27	0.882	1.000	Do Not Test
5C vs. 4C	0.0687	27	0.809	1.000	Do Not Test
5C vs. 6C	0.0483	27	0.568	1.000	Do Not Test
5C vs. 2I	0.0366	27	0.431	1.000	Do Not Test
2I vs. 2C	0.311	27	3.656	0.665	Do Not Test
2I vs. 1C	0.242	27	2.853	0.953	Do Not Test
2I vs. 3C	0.171	27	2.015	1.000	Do Not Test
2I vs. 8C	0.169	27	1.986	1.000	Do Not Test
2I vs. 9C	0.113	27	1.326	1.000	Do Not Test
2I vs. 7C	0.0383	27	0.451	1.000	Do Not Test
2I vs. 4C	0.0321	27	0.378	1.000	Do Not Test
2I vs. 6C	0.0117	27	0.137	1.000	Do Not Test
6C vs. 2C	0.299	27	3.519	0.733	Do Not Test
6C vs. 1C	0.231	27	2.715	0.973	Do Not Test
6C vs. 3C	0.160	27	1.878	1.000	Do Not Test
6C vs. 8C	0.157	27	1.849	1.000	Do Not Test
6C vs. 9C	0.101	27	1.189	1.000	Do Not Test
6C vs. 7C	0.0266	27	0.313	1.000	Do Not Test
6C vs. 4C	0.0204	27	0.240	1.000	Do Not Test
4C vs. 2C	0.279	27	3.279	0.837	Do Not Test
4C vs. 1C	0.210	27	2.475	0.991	Do Not Test
4C vs. 3C	0.139	27	1.637	1.000	Do Not Test
4C vs. 8C	0.137	27	1.608	1.000	Do Not Test
4C vs. 9C	0.0806	27	0.949	1.000	Do Not Test
4C vs. 7C	0.00619	27	0.0729	1.000	Do Not Test
7C vs. 2C	0.272	27	3.206	0.863	Do Not Test
7C vs. 1C	0.204	27	2.402	0.994	Do Not Test
7C vs. 3C	0.133	27	1.564	1.000	Do Not Test

7C vs. 8C	0.130	27	1.536	1.000	Do Not Test
7C vs. 9C	0.0744	27	0.876	1.000	Do Not Test
9C vs. 2C	0.198	27	2.330	0.996	Do Not Test
9C vs. 1C	0.130	27	1.526	1.000	Do Not Test
9C vs. 3C	0.0585	27	0.689	1.000	Do Not Test
9C vs. 8C	0.0561	27	0.660	1.000	Do Not Test
8C vs. 2C	0.142	27	1.670	1.000	Do Not Test
8C vs. 1C	0.0736	27	0.866	1.000	Do Not Test
8C vs. 3C	0.00246	27	0.0289	1.000	Do Not Test
3C vs. 2C	0.139	27	1.641	1.000	Do Not Test
3C vs. 1C	0.0711	27	0.838	1.000	Do Not Test
1C vs. 2C	0.0683	27	0.804	1.000	Do Not Test

A result of "Do Not Test" occurs for a comparison when no significant difference is found between two means that enclose that comparison. For example, if you had four means sorted in order, and found no difference between means 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed means is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the means, even though one may appear to exist.

## One Way Analysis of Variance

Thursday, November 16, 2017, 16:16:28

Data source: Tb.Th in L5 3-5y

Normality Test (Shapiro-Wilk) Passed (P = 0.154)

Equal Variance Test: Passed (P = 0.539)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	4	0	126.341	18.140	9.070
1C	4	0	161.589	28.226	14.113
1S	4	0	123.763	22.641	11.321
2I	4	0	134.146	19.883	9.942
2C	4	0	163.196	24.890	12.445
2S	4	0	121.866	19.147	9.573
3I	4	0	120.458	18.372	9.186
3C	4	0	158.066	21.274	10.637
3S	4	0	115.010	10.335	5.167
4I	4	0	130.331	20.985	10.492
4C	4	0	134.476	18.916	9.458
4S	4	0	119.988	10.736	5.368
5I	4	0	145.396	38.387	19.194
5C	4	0	155.515	30.883	15.442
5S	4	0	131.773	19.197	9.598
6I	4	0	121.476	20.545	10.273
6C	4	0	129.369	14.978	7.489
6S	4	0	117.444	10.340	5.170
7I	4	0	125.805	19.477	9.739
7C	4	0	137.159	27.858	13.929
7S	4	0	127.122	24.427	12.214
8I	4	0	127.602	11.698	5.849
8C	4	0	172.428	18.480	9.240
8S	4	0	139.061	30.469	15.234
9I	4	0	135.622	32.886	16.443
9C	4	0	140.022	35.462	17.731
9S	4	0	132.032	39.871	19.936

Source of Variation	DF	SS	MS	F	P
Between Groups	26	23947.060	921.041	1.608	0.056
Residual	81	46401.005	572.852		
Total	107	70348.064			

The differences in the mean values among the treatment groups are not great enough to exclude the possibility that the difference is due to random sampling variability; there is not a statistically significant difference (P = 0.056).

Power of performed test with alpha = 0.050: 0.462

The power of the performed test (0.462) is below the desired power of 0.800. Less than desired power indicates you are less likely to detect a difference when one actually exists. Negative results should be interpreted cautiously.

## One Way Analysis of Variance

Thursday, November 16, 2017, 16:22:55

Data source: Tb.N in L5 3-5y

Normality Test (Shapiro-Wilk) Passed (P = 0.503)

Equal Variance Test: Passed (P = 0.586)

Group Name	N	Missing	Mean	Std Dev	SEM
1I	4	0	0.00163	0.000180	0.0000899
1C	4	0	0.00126	0.0000645	0.0000323
1S	4	0	0.00152	0.000196	0.0000979
2I	4	0	0.00149	0.000132	0.0000661
2C	4	0	0.00117	0.000117	0.0000587
2S	4	0	0.00143	0.000167	0.0000836
3I	4	0	0.00158	0.000255	0.000127
3C	4	0	0.00123	0.000116	0.0000579
3S	4	0	0.00149	0.0000926	0.0000463
4I	4	0	0.00151	0.000150	0.0000749
4C	4	0	0.00121	0.0000907	0.0000454
4S	4	0	0.00139	0.000168	0.0000840
5I	4	0	0.00126	0.000201	0.000101
5C	4	0	0.000941	0.000199	0.0000996
5S	4	0	0.00121	0.000178	0.0000890
6I	4	0	0.00156	0.000170	0.0000848
6C	4	0	0.00123	0.0000665	0.0000332
6S	4	0	0.00141	0.000100	0.0000502
7I	4	0	0.00174	0.000280	0.000140
7C	4	0	0.00136	0.000110	0.0000552
7S	4	0	0.00153	0.000265	0.000132
8I	4	0	0.00146	0.000302	0.000151
8C	4	0	0.000918	0.0000953	0.0000477
8S	4	0	0.00121	0.000163	0.0000815
9I	4	0	0.00166	0.000294	0.000147
9C	4	0	0.00141	0.0000526	0.0000263
9S	4	0	0.00149	0.0000726	0.0000363

Source of Variation	DF	SS	MS	F	P
Between Groups	26	0.00000422	0.000000162	5.362	<0.001
Residual	81	0.00000245	0.0000000303		
Total	107	0.00000667			

The differences in the mean values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001).

Power of performed test with alpha = 0.050: 1.000

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparisons for factor:

Comparison	Diff of Means	p	q	P	P<0.010
7I vs. 8C	0.000821	27	9.438	<0.001	Yes
7I vs. 5C	0.000798	27	9.179	<0.001	Yes
7I vs. 2C	0.000573	27	6.583	0.003	Yes

7I vs. 4C	0.000532	27	6.123	0.011	No
7I vs. 8S	0.000529	27	6.085	0.012	Do Not Test
7I vs. 5S	0.000524	27	6.027	0.013	Do Not Test
7I vs. 6C	0.000512	27	5.893	0.018	Do Not Test
7I vs. 3C	0.000506	27	5.816	0.021	Do Not Test
7I vs. 1C	0.000484	27	5.567	0.037	Do Not Test
7I vs. 5I	0.000478	27	5.490	0.043	Do Not Test
7I vs. 7C	0.000381	27	4.379	0.304	Do Not Test
7I vs. 4S	0.000345	27	3.967	0.501	Do Not Test
7I vs. 9C	0.000334	27	3.842	0.567	Do Not Test
7I vs. 6S	0.000331	27	3.804	0.587	Do Not Test
7I vs. 2S	0.000313	27	3.603	0.692	Do Not Test
7I vs. 8I	0.000283	27	3.258	0.845	Do Not Test
7I vs. 2I	0.000253	27	2.913	0.942	Do Not Test
7I vs. 3S	0.000253	27	2.903	0.944	Do Not Test
7I vs. 9S	0.000253	27	2.903	0.944	Do Not Test
7I vs. 4I	0.000228	27	2.625	0.982	Do Not Test
7I vs. 1S	0.000220	27	2.530	0.988	Do Not Test
7I vs. 7S	0.000212	27	2.434	0.993	Do Not Test
7I vs. 6I	0.000177	27	2.041	0.999	Do Not Test
7I vs. 3I	0.000160	27	1.840	1.000	Do Not Test
7I vs. 1I	0.000112	27	1.284	1.000	Do Not Test
7I vs. 9I	0.0000817	27	0.939	1.000	Do Not Test
9I vs. 8C	0.000739	27	8.499	<0.001	Yes
9I vs. 5C	0.000717	27	8.240	<0.001	Yes
9I vs. 2C	0.000491	27	5.644	0.031	No
9I vs. 4C	0.000451	27	5.184	0.080	Do Not Test
9I vs. 8S	0.000447	27	5.145	0.086	Do Not Test
9I vs. 5S	0.000442	27	5.088	0.095	Do Not Test
9I vs. 6C	0.000431	27	4.954	0.122	Do Not Test
9I vs. 3C	0.000424	27	4.877	0.139	Do Not Test
9I vs. 1C	0.000402	27	4.628	0.210	Do Not Test
9I vs. 5I	0.000396	27	4.551	0.237	Do Not Test
9I vs. 7C	0.000299	27	3.440	0.770	Do Not Test
9I vs. 4S	0.000263	27	3.028	0.917	Do Not Test
9I vs. 9C	0.000252	27	2.903	0.944	Do Not Test
9I vs. 6S	0.000249	27	2.865	0.951	Do Not Test
9I vs. 2S	0.000232	27	2.664	0.978	Do Not Test
9I vs. 8I	0.000202	27	2.319	0.996	Do Not Test
9I vs. 2I	0.000172	27	1.974	1.000	Do Not Test
9I vs. 3S	0.000171	27	1.964	1.000	Do Not Test
9I vs. 9S	0.000171	27	1.964	1.000	Do Not Test
9I vs. 4I	0.000147	27	1.686	1.000	Do Not Test
9I vs. 1S	0.000138	27	1.591	1.000	Do Not Test
9I vs. 7S	0.000130	27	1.495	1.000	Do Not Test
9I vs. 6I	0.0000958	27	1.102	1.000	Do Not Test
9I vs. 3I	0.0000783	27	0.901	1.000	Do Not Test
9I vs. 1I	0.0000300	27	0.345	1.000	Do Not Test
1I vs. 8C	0.000709	27	8.154	<0.001	Yes
1I vs. 5C	0.000687	27	7.895	<0.001	Yes
1I vs. 2C	0.000461	27	5.299	0.064	Do Not Test
1I vs. 4C	0.000421	27	4.839	0.149	Do Not Test
1I vs. 8S	0.000417	27	4.801	0.159	Do Not Test
1I vs. 5S	0.000413	27	4.743	0.175	Do Not Test
1I vs. 6C	0.000401	27	4.609	0.217	Do Not Test
1I vs. 3C	0.000394	27	4.532	0.244	Do Not Test

1I vs. 1C	0.000373	27	4.283	0.346	Do Not Test
1I vs. 5I	0.000366	27	4.206	0.381	Do Not Test
1I vs. 7C	0.000269	27	3.095	0.898	Do Not Test
1I vs. 4S	0.000233	27	2.683	0.976	Do Not Test
1I vs. 9C	0.000223	27	2.558	0.987	Do Not Test
1I vs. 6S	0.000219	27	2.520	0.989	Do Not Test
1I vs. 2S	0.000202	27	2.319	0.996	Do Not Test
1I vs. 8I	0.000172	27	1.974	1.000	Do Not Test
1I vs. 2I	0.000142	27	1.629	1.000	Do Not Test
1I vs. 3S	0.000141	27	1.619	1.000	Do Not Test
1I vs. 9S	0.000141	27	1.619	1.000	Do Not Test
1I vs. 4I	0.000117	27	1.341	1.000	Do Not Test
1I vs. 1S	0.000108	27	1.246	1.000	Do Not Test
1I vs. 7S	0.0001000	27	1.150	1.000	Do Not Test
1I vs. 6I	0.0000658	27	0.757	1.000	Do Not Test
1I vs. 3I	0.0000483	27	0.556	1.000	Do Not Test
3I vs. 8C	0.000661	27	7.598	<0.001	Yes
3I vs. 5C	0.000638	27	7.340	<0.001	Yes
3I vs. 2C	0.000413	27	4.743	0.175	Do Not Test
3I vs. 4C	0.000373	27	4.283	0.346	Do Not Test
3I vs. 8S	0.000369	27	4.245	0.363	Do Not Test
3I vs. 5S	0.000364	27	4.187	0.390	Do Not Test
3I vs. 6C	0.000352	27	4.053	0.457	Do Not Test
3I vs. 3C	0.000346	27	3.976	0.496	Do Not Test
3I vs. 1C	0.000324	27	3.727	0.628	Do Not Test
3I vs. 5I	0.000318	27	3.651	0.667	Do Not Test
3I vs. 7C	0.000221	27	2.539	0.988	Do Not Test
3I vs. 4S	0.000185	27	2.127	0.999	Do Not Test
3I vs. 9C	0.000174	27	2.003	1.000	Do Not Test
3I vs. 6S	0.000171	27	1.964	1.000	Do Not Test
3I vs. 2S	0.000153	27	1.763	1.000	Do Not Test
3I vs. 8I	0.000123	27	1.418	1.000	Do Not Test
3I vs. 2I	0.0000933	27	1.073	1.000	Do Not Test
3I vs. 3S	0.0000925	27	1.064	1.000	Do Not Test
3I vs. 9S	0.0000925	27	1.064	1.000	Do Not Test
3I vs. 4I	0.0000683	27	0.786	1.000	Do Not Test
3I vs. 1S	0.0000600	27	0.690	1.000	Do Not Test
3I vs. 7S	0.0000517	27	0.594	1.000	Do Not Test
3I vs. 6I	0.0000175	27	0.201	1.000	Do Not Test
6I vs. 8C	0.000643	27	7.397	<0.001	Yes
6I vs. 5C	0.000621	27	7.139	<0.001	Yes
6I vs. 2C	0.000395	27	4.542	0.240	Do Not Test
6I vs. 4C	0.000355	27	4.082	0.442	Do Not Test
6I vs. 8S	0.000352	27	4.044	0.462	Do Not Test
6I vs. 5S	0.000347	27	3.986	0.491	Do Not Test
6I vs. 6C	0.000335	27	3.852	0.562	Do Not Test
6I vs. 3C	0.000328	27	3.775	0.603	Do Not Test
6I vs. 1C	0.000307	27	3.526	0.729	Do Not Test
6I vs. 5I	0.000300	27	3.449	0.765	Do Not Test
6I vs. 7C	0.000203	27	2.338	0.996	Do Not Test
6I vs. 4S	0.000168	27	1.926	1.000	Do Not Test
6I vs. 9C	0.000157	27	1.801	1.000	Do Not Test
6I vs. 6S	0.000153	27	1.763	1.000	Do Not Test
6I vs. 2S	0.000136	27	1.562	1.000	Do Not Test
6I vs. 8I	0.000106	27	1.217	1.000	Do Not Test
6I vs. 2I	0.0000758	27	0.872	1.000	Do Not Test

6I vs. 3S	0.0000750	27	0.862	1.000	Do Not Test
6I vs. 9S	0.0000750	27	0.862	1.000	Do Not Test
6I vs. 4I	0.0000508	27	0.584	1.000	Do Not Test
6I vs. 1S	0.0000425	27	0.489	1.000	Do Not Test
6I vs. 7S	0.0000342	27	0.393	1.000	Do Not Test
7S vs. 8C	0.000609	27	7.004	0.001	Yes
7S vs. 5C	0.000587	27	6.746	0.002	Yes
7S vs. 2C	0.000361	27	4.149	0.409	Do Not Test
7S vs. 4C	0.000321	27	3.689	0.648	Do Not Test
7S vs. 8S	0.000317	27	3.651	0.667	Do Not Test
7S vs. 5S	0.000313	27	3.593	0.697	Do Not Test
7S vs. 6C	0.000301	27	3.459	0.761	Do Not Test
7S vs. 3C	0.000294	27	3.382	0.795	Do Not Test
7S vs. 1C	0.000272	27	3.133	0.887	Do Not Test
7S vs. 5I	0.000266	27	3.057	0.909	Do Not Test
7S vs. 7C	0.000169	27	1.945	1.000	Do Not Test
7S vs. 4S	0.000133	27	1.533	1.000	Do Not Test
7S vs. 9C	0.000123	27	1.409	1.000	Do Not Test
7S vs. 6S	0.000119	27	1.370	1.000	Do Not Test
7S vs. 2S	0.000102	27	1.169	1.000	Do Not Test
7S vs. 8I	0.0000717	27	0.824	1.000	Do Not Test
7S vs. 2I	0.0000417	27	0.479	1.000	Do Not Test
7S vs. 3S	0.0000408	27	0.470	1.000	Do Not Test
7S vs. 9S	0.0000408	27	0.470	1.000	Do Not Test
7S vs. 4I	0.0000167	27	0.192	1.000	Do Not Test
7S vs. 1S	0.00000833	27	0.0958	1.000	Do Not Test
1S vs. 8C	0.000601	27	6.909	0.002	Yes
1S vs. 5C	0.000578	27	6.650	0.003	Yes
1S vs. 2C	0.000353	27	4.053	0.457	Do Not Test
1S vs. 4C	0.000312	27	3.593	0.697	Do Not Test
1S vs. 8S	0.000309	27	3.555	0.715	Do Not Test
1S vs. 5S	0.000304	27	3.497	0.743	Do Not Test
1S vs. 6C	0.000292	27	3.363	0.803	Do Not Test
1S vs. 3C	0.000286	27	3.287	0.834	Do Not Test
1S vs. 1C	0.000264	27	3.037	0.914	Do Not Test
1S vs. 5I	0.000257	27	2.961	0.932	Do Not Test
1S vs. 7C	0.000161	27	1.849	1.000	Do Not Test
1S vs. 4S	0.000125	27	1.437	1.000	Do Not Test
1S vs. 9C	0.000114	27	1.313	1.000	Do Not Test
1S vs. 6S	0.000111	27	1.274	1.000	Do Not Test
1S vs. 2S	0.0000933	27	1.073	1.000	Do Not Test
1S vs. 8I	0.0000633	27	0.728	1.000	Do Not Test
1S vs. 2I	0.0000333	27	0.383	1.000	Do Not Test
1S vs. 3S	0.0000325	27	0.374	1.000	Do Not Test
1S vs. 9S	0.0000325	27	0.374	1.000	Do Not Test
1S vs. 4I	0.00000833	27	0.0958	1.000	Do Not Test
4I vs. 8C	0.000592	27	6.813	0.002	Yes
4I vs. 5C	0.000570	27	6.554	0.004	Yes
4I vs. 2C	0.000344	27	3.957	0.506	Do Not Test
4I vs. 4C	0.000304	27	3.497	0.743	Do Not Test
4I vs. 8S	0.000301	27	3.459	0.761	Do Not Test
4I vs. 5S	0.000296	27	3.402	0.787	Do Not Test
4I vs. 6C	0.000284	27	3.267	0.841	Do Not Test
4I vs. 3C	0.000278	27	3.191	0.868	Do Not Test
4I vs. 1C	0.000256	27	2.942	0.937	Do Not Test
4I vs. 5I	0.000249	27	2.865	0.951	Do Not Test

4I vs. 7C	0.000152	27	1.753	1.000	Do Not Test
4I vs. 4S	0.000117	27	1.341	1.000	Do Not Test
4I vs. 9C	0.000106	27	1.217	1.000	Do Not Test
4I vs. 6S	0.000102	27	1.179	1.000	Do Not Test
4I vs. 2S	0.0000850	27	0.977	1.000	Do Not Test
4I vs. 8I	0.0000550	27	0.632	1.000	Do Not Test
4I vs. 2I	0.0000250	27	0.287	1.000	Do Not Test
4I vs. 3S	0.0000242	27	0.278	1.000	Do Not Test
4I vs. 9S	0.0000242	27	0.278	1.000	Do Not Test
9S vs. 8C	0.000568	27	6.535	0.004	Yes
9S vs. 5C	0.000546	27	6.276	0.007	Yes
9S vs. 2C	0.000320	27	3.679	0.653	Do Not Test
9S vs. 4C	0.000280	27	3.220	0.859	Do Not Test
9S vs. 8S	0.000277	27	3.181	0.872	Do Not Test
9S vs. 5S	0.000272	27	3.124	0.890	Do Not Test
9S vs. 6C	0.000260	27	2.990	0.926	Do Not Test
9S vs. 3C	0.000253	27	2.913	0.942	Do Not Test
9S vs. 1C	0.000232	27	2.664	0.978	Do Not Test
9S vs. 5I	0.000225	27	2.587	0.985	Do Not Test
9S vs. 7C	0.000128	27	1.476	1.000	Do Not Test
9S vs. 4S	0.0000925	27	1.064	1.000	Do Not Test
9S vs. 9C	0.0000817	27	0.939	1.000	Do Not Test
9S vs. 6S	0.0000783	27	0.901	1.000	Do Not Test
9S vs. 2S	0.0000608	27	0.699	1.000	Do Not Test
9S vs. 8I	0.0000308	27	0.355	1.000	Do Not Test
9S vs. 2I	0.000000833	27	0.00958	1.000	Do Not Test
9S vs. 3S	2.385E-018	27	2.743E-014	1.000	Do Not Test
3S vs. 8C	0.000568	27	6.535	0.004	Yes
3S vs. 5C	0.000546	27	6.276	0.007	Yes
3S vs. 2C	0.000320	27	3.679	0.653	Do Not Test
3S vs. 4C	0.000280	27	3.220	0.859	Do Not Test
3S vs. 8S	0.000277	27	3.181	0.872	Do Not Test
3S vs. 5S	0.000272	27	3.124	0.890	Do Not Test
3S vs. 6C	0.000260	27	2.990	0.926	Do Not Test
3S vs. 3C	0.000253	27	2.913	0.942	Do Not Test
3S vs. 1C	0.000232	27	2.664	0.978	Do Not Test
3S vs. 5I	0.000225	27	2.587	0.985	Do Not Test
3S vs. 7C	0.000128	27	1.476	1.000	Do Not Test
3S vs. 4S	0.0000925	27	1.064	1.000	Do Not Test
3S vs. 9C	0.0000817	27	0.939	1.000	Do Not Test
3S vs. 6S	0.0000783	27	0.901	1.000	Do Not Test
3S vs. 2S	0.0000608	27	0.699	1.000	Do Not Test
3S vs. 8I	0.0000308	27	0.355	1.000	Do Not Test
3S vs. 2I	0.000000833	27	0.00958	1.000	Do Not Test
2I vs. 8C	0.000567	27	6.525	0.004	Yes
2I vs. 5C	0.000545	27	6.267	0.008	Yes
2I vs. 2C	0.000319	27	3.670	0.658	Do Not Test
2I vs. 4C	0.000279	27	3.210	0.862	Do Not Test
2I vs. 8S	0.000276	27	3.172	0.875	Do Not Test
2I vs. 5S	0.000271	27	3.114	0.893	Do Not Test
2I vs. 6C	0.000259	27	2.980	0.928	Do Not Test
2I vs. 3C	0.000253	27	2.903	0.944	Do Not Test
2I vs. 1C	0.000231	27	2.654	0.979	Do Not Test
2I vs. 5I	0.000224	27	2.578	0.985	Do Not Test
2I vs. 7C	0.000127	27	1.466	1.000	Do Not Test
2I vs. 4S	0.0000917	27	1.054	1.000	Do Not Test



2I vs. 9C	0.0000808	27	0.929	1.000	Do Not Test
2I vs. 6S	0.0000775	27	0.891	1.000	Do Not Test
2I vs. 2S	0.0000600	27	0.690	1.000	Do Not Test
2I vs. 8I	0.0000300	27	0.345	1.000	Do Not Test
<b>8I vs. 8C</b>	<b>0.000537</b>	<b>27</b>	<b>6.180</b>	<b>0.009</b>	<b>Yes</b>
8I vs. 5C	0.000515	27	5.922	0.017	No
8I vs. 2C	0.000289	27	3.325	0.819	Do Not Test
8I vs. 4C	0.000249	27	2.865	0.951	Do Not Test
8I vs. 8S	0.000246	27	2.827	0.958	Do Not Test
8I vs. 5S	0.000241	27	2.769	0.966	Do Not Test
8I vs. 6C	0.000229	27	2.635	0.981	Do Not Test
8I vs. 3C	0.000223	27	2.558	0.987	Do Not Test
8I vs. 1C	0.000201	27	2.309	0.997	Do Not Test
8I vs. 5I	0.000194	27	2.233	0.998	Do Not Test
8I vs. 7C	0.0000975	27	1.121	1.000	Do Not Test
8I vs. 4S	0.0000617	27	0.709	1.000	Do Not Test
8I vs. 9C	0.0000508	27	0.584	1.000	Do Not Test
8I vs. 6S	0.0000475	27	0.546	1.000	Do Not Test
8I vs. 2S	0.0000300	27	0.345	1.000	Do Not Test
2S vs. 8C	0.000508	27	5.835	0.020	No
2S vs. 5C	0.000485	27	5.577	0.036	Do Not Test
2S vs. 2C	0.000259	27	2.980	0.928	Do Not Test
2S vs. 4C	0.000219	27	2.520	0.989	Do Not Test
2S vs. 8S	0.000216	27	2.482	0.991	Do Not Test
2S vs. 5S	0.000211	27	2.424	0.993	Do Not Test
2S vs. 6C	0.000199	27	2.290	0.997	Do Not Test
2S vs. 3C	0.000193	27	2.213	0.998	Do Not Test
2S vs. 1C	0.000171	27	1.964	1.000	Do Not Test
2S vs. 5I	0.000164	27	1.888	1.000	Do Not Test
2S vs. 7C	0.0000675	27	0.776	1.000	Do Not Test
2S vs. 4S	0.0000317	27	0.364	1.000	Do Not Test
2S vs. 9C	0.0000208	27	0.240	1.000	Do Not Test
2S vs. 6S	0.0000175	27	0.201	1.000	Do Not Test
6S vs. 8C	0.000490	27	5.634	0.032	Do Not Test
6S vs. 5C	0.000468	27	5.375	0.054	Do Not Test
6S vs. 2C	0.000242	27	2.779	0.965	Do Not Test
6S vs. 4C	0.000202	27	2.319	0.996	Do Not Test
6S vs. 8S	0.000198	27	2.280	0.997	Do Not Test
6S vs. 5S	0.000193	27	2.223	0.998	Do Not Test
6S vs. 6C	0.000182	27	2.089	0.999	Do Not Test
6S vs. 3C	0.000175	27	2.012	1.000	Do Not Test
6S vs. 1C	0.000153	27	1.763	1.000	Do Not Test
6S vs. 5I	0.000147	27	1.686	1.000	Do Not Test
6S vs. 7C	0.0000500	27	0.575	1.000	Do Not Test
6S vs. 4S	0.0000142	27	0.163	1.000	Do Not Test
6S vs. 9C	0.00000333	27	0.0383	1.000	Do Not Test
9C vs. 8C	0.000487	27	5.596	0.034	Do Not Test
9C vs. 5C	0.000464	27	5.337	0.059	Do Not Test
9C vs. 2C	0.000238	27	2.740	0.970	Do Not Test
9C vs. 4C	0.000198	27	2.280	0.997	Do Not Test
9C vs. 8S	0.000195	27	2.242	0.998	Do Not Test
9C vs. 5S	0.000190	27	2.185	0.998	Do Not Test
9C vs. 6C	0.000178	27	2.051	0.999	Do Not Test
9C vs. 3C	0.000172	27	1.974	1.000	Do Not Test
9C vs. 1C	0.000150	27	1.725	1.000	Do Not Test
9C vs. 5I	0.000143	27	1.648	1.000	Do Not Test

9C vs. 7C	0.0000467	27	0.537	1.000	Do Not Test
9C vs. 4S	0.0000108	27	0.125	1.000	Do Not Test
4S vs. 8C	0.000476	27	5.471	0.045	Do Not Test
4S vs. 5C	0.000453	27	5.213	0.075	Do Not Test
4S vs. 2C	0.000228	27	2.616	0.982	Do Not Test
4S vs. 4C	0.000187	27	2.156	0.999	Do Not Test
4S vs. 8S	0.000184	27	2.118	0.999	Do Not Test
4S vs. 5S	0.000179	27	2.060	0.999	Do Not Test
4S vs. 6C	0.000167	27	1.926	1.000	Do Not Test
4S vs. 3C	0.000161	27	1.849	1.000	Do Not Test
4S vs. 1C	0.000139	27	1.600	1.000	Do Not Test
4S vs. 5I	0.000133	27	1.524	1.000	Do Not Test
4S vs. 7C	0.0000358	27	0.412	1.000	Do Not Test
7C vs. 8C	0.000440	27	5.059	0.101	Do Not Test
7C vs. 5C	0.000418	27	4.801	0.159	Do Not Test
7C vs. 2C	0.000192	27	2.204	0.998	Do Not Test
7C vs. 4C	0.000152	27	1.744	1.000	Do Not Test
7C vs. 8S	0.000148	27	1.706	1.000	Do Not Test
7C vs. 5S	0.000143	27	1.648	1.000	Do Not Test
7C vs. 6C	0.000132	27	1.514	1.000	Do Not Test
7C vs. 3C	0.000125	27	1.437	1.000	Do Not Test
7C vs. 1C	0.000103	27	1.188	1.000	Do Not Test
7C vs. 5I	0.0000967	27	1.112	1.000	Do Not Test
5I vs. 8C	0.000343	27	3.948	0.511	Do Not Test
5I vs. 5C	0.000321	27	3.689	0.648	Do Not Test
5I vs. 2C	0.0000950	27	1.092	1.000	Do Not Test
5I vs. 4C	0.0000550	27	0.632	1.000	Do Not Test
5I vs. 8S	0.0000517	27	0.594	1.000	Do Not Test
5I vs. 5S	0.0000467	27	0.537	1.000	Do Not Test
5I vs. 6C	0.0000350	27	0.402	1.000	Do Not Test
5I vs. 3C	0.0000283	27	0.326	1.000	Do Not Test
5I vs. 1C	0.00000667	27	0.0767	1.000	Do Not Test
1C vs. 8C	0.000337	27	3.871	0.552	Do Not Test
1C vs. 5C	0.000314	27	3.612	0.687	Do Not Test
1C vs. 2C	0.0000883	27	1.016	1.000	Do Not Test
1C vs. 4C	0.0000483	27	0.556	1.000	Do Not Test
1C vs. 8S	0.0000450	27	0.517	1.000	Do Not Test
1C vs. 5S	0.0000400	27	0.460	1.000	Do Not Test
1C vs. 6C	0.0000283	27	0.326	1.000	Do Not Test
1C vs. 3C	0.0000217	27	0.249	1.000	Do Not Test
3C vs. 8C	0.000315	27	3.622	0.682	Do Not Test
3C vs. 5C	0.000292	27	3.363	0.803	Do Not Test
3C vs. 2C	0.0000667	27	0.767	1.000	Do Not Test
3C vs. 4C	0.0000267	27	0.307	1.000	Do Not Test
3C vs. 8S	0.0000233	27	0.268	1.000	Do Not Test
3C vs. 5S	0.0000183	27	0.211	1.000	Do Not Test
3C vs. 6C	0.00000667	27	0.0767	1.000	Do Not Test
6C vs. 8C	0.000308	27	3.545	0.720	Do Not Test
6C vs. 5C	0.000286	27	3.287	0.834	Do Not Test
6C vs. 2C	0.0000600	27	0.690	1.000	Do Not Test
6C vs. 4C	0.0000200	27	0.230	1.000	Do Not Test
6C vs. 8S	0.0000167	27	0.192	1.000	Do Not Test
6C vs. 5S	0.0000117	27	0.134	1.000	Do Not Test
5S vs. 8C	0.000297	27	3.411	0.782	Do Not Test
5S vs. 5C	0.000274	27	3.152	0.881	Do Not Test
5S vs. 2C	0.0000483	27	0.556	1.000	Do Not Test

5S vs. 4C	0.00000833	27	0.0958	1.000	Do Not Test
5S vs. 8S	0.00000500	27	0.0575	1.000	Do Not Test
8S vs. 8C	0.000292	27	3.354	0.807	Do Not Test
8S vs. 5C	0.000269	27	3.095	0.898	Do Not Test
8S vs. 2C	0.0000433	27	0.498	1.000	Do Not Test
8S vs. 4C	0.00000333	27	0.0383	1.000	Do Not Test
4C vs. 8C	0.000288	27	3.315	0.823	Do Not Test
4C vs. 5C	0.000266	27	3.057	0.909	Do Not Test
4C vs. 2C	0.0000400	27	0.460	1.000	Do Not Test
2C vs. 8C	0.000248	27	2.855	0.953	Do Not Test
2C vs. 5C	0.000226	27	2.597	0.984	Do Not Test
5C vs. 8C	0.0000225	27	0.259	1.000	Do Not Test

A result of "Do Not Test" occurs for a comparison when no significant difference is found between two means that enclose that comparison. For example, if you had four means sorted in order, and found no difference between means 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed means is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the means, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 22:26:17

**Data source:** Tb.Sp in L5 3-5y

**Normality Test (Shapiro-Wilk):** Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 22:26:17

**Data source:** Tb.Sp in L5 3-5y

Group	N	Missing	Median	25%	75%
1I	4	0	435.247	406.386	478.168
1C	4	0	669.904	603.431	687.894
1S	4	0	481.004	402.815	500.805
2I	4	0	506.797	454.880	554.249
2C	4	0	682.932	625.423	819.824
2S	4	0	479.937	457.449	514.349
3I	4	0	477.547	390.350	494.088
3C	4	0	682.269	599.532	713.413
3S	4	0	478.523	439.729	505.539
4I	4	0	477.939	443.605	541.308
4C	4	0	644.201	611.405	718.108
4S	4	0	527.060	464.302	554.368
5I	4	0	556.652	492.795	595.548
5C	4	0	776.719	677.787	896.762
5S	4	0	576.328	502.069	636.042
6I	4	0	458.927	417.716	528.296
6C	4	0	636.297	620.848	654.457
6S	4	0	494.326	473.668	551.680
7I	4	0	386.830	384.943	493.266
7C	4	0	537.939	520.609	594.093
7S	4	0	468.612	415.888	527.540
8I	4	0	438.694	402.465	605.371
8C	4	0	1001.260	817.291	1170.976
8S	4	0	573.799	495.286	636.905
9I	4	0	416.663	366.951	525.049
9C	4	0	524.195	511.006	551.156
9S	4	0	482.092	444.301	518.535

H = 76.410 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
8C vs 7I	348.000	5.555	0.028	Yes
8C vs 1I	338.000	5.396	0.040	Yes

8C vs 9I	329.000	5.252	0.054	No
8C vs 3I	309.000	4.933	0.104	Do Not Test
8C vs 1S	306.000	4.885	0.114	Do Not Test
8C vs 6I	301.000	4.805	0.133	Do Not Test
8C vs 3S	293.000	4.677	0.170	Do Not Test
8C vs 8I	292.000	4.661	0.175	Do Not Test
8C vs 7S	284.000	4.534	0.219	Do Not Test
8C vs 9S	279.000	4.454	0.250	Do Not Test
8C vs 2S	277.000	4.422	0.263	Do Not Test
8C vs 4I	268.000	4.278	0.328	Do Not Test
8C vs 2I	236.000	3.767	0.618	Do Not Test
8C vs 6S	235.000	3.751	0.628	Do Not Test
8C vs 4S	223.000	3.560	0.738	Do Not Test
8C vs 9C	192.000	3.065	0.925	Do Not Test
8C vs 5I	180.000	2.873	0.958	Do Not Test
8C vs 7C	169.000	2.698	0.978	Do Not Test
8C vs 8S	164.000	2.618	0.985	Do Not Test
8C vs 5S	157.000	2.506	0.991	Do Not Test
8C vs 6C	83.000	1.325	1.000	Do Not Test
8C vs 4C	74.000	1.181	1.000	Do Not Test
8C vs 1C	64.000	1.022	1.000	Do Not Test
8C vs 3C	59.000	0.942	1.000	Do Not Test
8C vs 2C	49.000	0.782	1.000	Do Not Test
8C vs 5C	26.000	0.415	1.000	Do Not Test
5C vs 7I	322.000	5.140	0.068	No
5C vs 1I	312.000	4.981	0.094	Do Not Test
5C vs 9I	303.000	4.837	0.125	Do Not Test
5C vs 3I	283.000	4.518	0.225	Do Not Test
5C vs 1S	280.000	4.470	0.244	Do Not Test
5C vs 6I	275.000	4.390	0.277	Do Not Test
5C vs 3S	267.000	4.262	0.336	Do Not Test
5C vs 8I	266.000	4.246	0.344	Do Not Test
5C vs 7S	258.000	4.119	0.411	Do Not Test
5C vs 9S	253.000	4.039	0.456	Do Not Test
5C vs 2S	251.000	4.007	0.474	Do Not Test
5C vs 4I	242.000	3.863	0.560	Do Not Test
5C vs 2I	210.000	3.352	0.837	Do Not Test
5C vs 6S	209.000	3.336	0.843	Do Not Test
5C vs 4S	197.000	3.145	0.906	Do Not Test
5C vs 9C	166.000	2.650	0.982	Do Not Test
5C vs 5I	154.000	2.458	0.993	Do Not Test
5C vs 7C	143.000	2.283	0.998	Do Not Test
5C vs 8S	138.000	2.203	0.999	Do Not Test
5C vs 5S	131.000	2.091	1.000	Do Not Test
5C vs 6C	57.000	0.910	1.000	Do Not Test
5C vs 4C	48.000	0.766	1.000	Do Not Test
5C vs 1C	38.000	0.607	1.000	Do Not Test
5C vs 3C	33.000	0.527	1.000	Do Not Test
5C vs 2C	23.000	0.367	1.000	Do Not Test
2C vs 7I	299.000	4.773	0.142	Do Not Test
2C vs 1I	289.000	4.614	0.190	Do Not Test
2C vs 9I	280.000	4.470	0.244	Do Not Test
2C vs 3I	260.000	4.151	0.394	Do Not Test
2C vs 1S	257.000	4.103	0.420	Do Not Test
2C vs 6I	252.000	4.023	0.465	Do Not Test
2C vs 3S	244.000	3.895	0.540	Do Not Test

2C vs 8I	243.000	3.879	0.550	Do Not Test
2C vs 7S	235.000	3.751	0.628	Do Not Test
2C vs 9S	230.000	3.672	0.675	Do Not Test
2C vs 2S	228.000	3.640	0.694	Do Not Test
2C vs 4I	219.000	3.496	0.772	Do Not Test
2C vs 2I	187.000	2.985	0.940	Do Not Test
2C vs 6S	186.000	2.969	0.943	Do Not Test
2C vs 4S	174.000	2.778	0.970	Do Not Test
2C vs 9C	143.000	2.283	0.998	Do Not Test
2C vs 5I	131.000	2.091	1.000	Do Not Test
2C vs 7C	120.000	1.916	1.000	Do Not Test
2C vs 8S	115.000	1.836	1.000	Do Not Test
2C vs 5S	108.000	1.724	1.000	Do Not Test
2C vs 6C	34.000	0.543	1.000	Do Not Test
2C vs 4C	25.000	0.399	1.000	Do Not Test
2C vs 1C	15.000	0.239	1.000	Do Not Test
2C vs 3C	10.000	0.160	1.000	Do Not Test
3C vs 7I	289.000	4.614	0.190	Do Not Test
3C vs 1I	279.000	4.454	0.250	Do Not Test
3C vs 9I	270.000	4.310	0.313	Do Not Test
3C vs 3I	250.000	3.991	0.483	Do Not Test
3C vs 1S	247.000	3.943	0.512	Do Not Test
3C vs 6I	242.000	3.863	0.560	Do Not Test
3C vs 3S	234.000	3.736	0.637	Do Not Test
3C vs 8I	233.000	3.720	0.647	Do Not Test
3C vs 7S	225.000	3.592	0.721	Do Not Test
3C vs 9S	220.000	3.512	0.764	Do Not Test
3C vs 2S	218.000	3.480	0.780	Do Not Test
3C vs 4I	209.000	3.336	0.843	Do Not Test
3C vs 2I	177.000	2.826	0.965	Do Not Test
3C vs 6S	176.000	2.810	0.967	Do Not Test
3C vs 4S	164.000	2.618	0.985	Do Not Test
3C vs 9C	133.000	2.123	0.999	Do Not Test
3C vs 5I	121.000	1.932	1.000	Do Not Test
3C vs 7C	110.000	1.756	1.000	Do Not Test
3C vs 8S	105.000	1.676	1.000	Do Not Test
3C vs 5S	98.000	1.564	1.000	Do Not Test
3C vs 6C	24.000	0.383	1.000	Do Not Test
3C vs 4C	15.000	0.239	1.000	Do Not Test
3C vs 1C	5.000	0.0798	1.000	Do Not Test
1C vs 7I	284.000	4.534	0.219	Do Not Test
1C vs 1I	274.000	4.374	0.284	Do Not Test
1C vs 9I	265.000	4.230	0.352	Do Not Test
1C vs 3I	245.000	3.911	0.531	Do Not Test
1C vs 1S	242.000	3.863	0.560	Do Not Test
1C vs 6I	237.000	3.783	0.608	Do Not Test
1C vs 3S	229.000	3.656	0.685	Do Not Test
1C vs 8I	228.000	3.640	0.694	Do Not Test
1C vs 7S	220.000	3.512	0.764	Do Not Test
1C vs 9S	215.000	3.432	0.802	Do Not Test
1C vs 2S	213.000	3.400	0.817	Do Not Test
1C vs 4I	204.000	3.257	0.872	Do Not Test
1C vs 2I	172.000	2.746	0.974	Do Not Test
1C vs 6S	171.000	2.730	0.975	Do Not Test
1C vs 4S	159.000	2.538	0.990	Do Not Test
1C vs 9C	128.000	2.043	1.000	Do Not Test

1C vs 5I	116.000	1.852	1.000	Do Not Test
1C vs 7C	105.000	1.676	1.000	Do Not Test
1C vs 8S	100.000	1.596	1.000	Do Not Test
1C vs 5S	93.000	1.485	1.000	Do Not Test
1C vs 6C	19.000	0.303	1.000	Do Not Test
1C vs 4C	10.000	0.160	1.000	Do Not Test
4C vs 7I	274.000	4.374	0.284	Do Not Test
4C vs 1I	264.000	4.214	0.360	Do Not Test
4C vs 9I	255.000	4.071	0.437	Do Not Test
4C vs 3I	235.000	3.751	0.628	Do Not Test
4C vs 1S	232.000	3.704	0.656	Do Not Test
4C vs 6I	227.000	3.624	0.703	Do Not Test
4C vs 3S	219.000	3.496	0.772	Do Not Test
4C vs 8I	218.000	3.480	0.780	Do Not Test
4C vs 7S	210.000	3.352	0.837	Do Not Test
4C vs 9S	205.000	3.273	0.867	Do Not Test
4C vs 2S	203.000	3.241	0.878	Do Not Test
4C vs 4I	194.000	3.097	0.917	Do Not Test
4C vs 2I	162.000	2.586	0.987	Do Not Test
4C vs 6S	161.000	2.570	0.988	Do Not Test
4C vs 4S	149.000	2.379	0.996	Do Not Test
4C vs 9C	118.000	1.884	1.000	Do Not Test
4C vs 5I	106.000	1.692	1.000	Do Not Test
4C vs 7C	95.000	1.517	1.000	Do Not Test
4C vs 8S	90.000	1.437	1.000	Do Not Test
4C vs 5S	83.000	1.325	1.000	Do Not Test
4C vs 6C	9.000	0.144	1.000	Do Not Test
6C vs 7I	265.000	4.230	0.352	Do Not Test
6C vs 1I	255.000	4.071	0.437	Do Not Test
6C vs 9I	246.000	3.927	0.521	Do Not Test
6C vs 3I	226.000	3.608	0.712	Do Not Test
6C vs 1S	223.000	3.560	0.738	Do Not Test
6C vs 6I	218.000	3.480	0.780	Do Not Test
6C vs 3S	210.000	3.352	0.837	Do Not Test
6C vs 8I	209.000	3.336	0.843	Do Not Test
6C vs 7S	201.000	3.209	0.888	Do Not Test
6C vs 9S	196.000	3.129	0.910	Do Not Test
6C vs 2S	194.000	3.097	0.917	Do Not Test
6C vs 4I	185.000	2.953	0.946	Do Not Test
6C vs 2I	153.000	2.442	0.994	Do Not Test
6C vs 6S	152.000	2.426	0.994	Do Not Test
6C vs 4S	140.000	2.235	0.999	Do Not Test
6C vs 9C	109.000	1.740	1.000	Do Not Test
6C vs 5I	97.000	1.548	1.000	Do Not Test
6C vs 7C	86.000	1.373	1.000	Do Not Test
6C vs 8S	81.000	1.293	1.000	Do Not Test
6C vs 5S	74.000	1.181	1.000	Do Not Test
5S vs 7I	191.000	3.049	0.928	Do Not Test
5S vs 1I	181.000	2.889	0.956	Do Not Test
5S vs 9I	172.000	2.746	0.974	Do Not Test
5S vs 3I	152.000	2.426	0.994	Do Not Test
5S vs 1S	149.000	2.379	0.996	Do Not Test
5S vs 6I	144.000	2.299	0.998	Do Not Test
5S vs 3S	136.000	2.171	0.999	Do Not Test
5S vs 8I	135.000	2.155	0.999	Do Not Test
5S vs 7S	127.000	2.027	1.000	Do Not Test

5S vs 9S	122.000	1.948	1.000	Do Not Test
5S vs 2S	120.000	1.916	1.000	Do Not Test
5S vs 4I	111.000	1.772	1.000	Do Not Test
5S vs 2I	79.000	1.261	1.000	Do Not Test
5S vs 6S	78.000	1.245	1.000	Do Not Test
5S vs 4S	66.000	1.054	1.000	Do Not Test
5S vs 9C	35.000	0.559	1.000	Do Not Test
5S vs 5I	23.000	0.367	1.000	Do Not Test
5S vs 7C	12.000	0.192	1.000	Do Not Test
5S vs 8S	7.000	0.112	1.000	Do Not Test
8S vs 7I	184.000	2.937	0.949	Do Not Test
8S vs 1I	174.000	2.778	0.970	Do Not Test
8S vs 9I	165.000	2.634	0.983	Do Not Test
8S vs 3I	145.000	2.315	0.997	Do Not Test
8S vs 1S	142.000	2.267	0.998	Do Not Test
8S vs 6I	137.000	2.187	0.999	Do Not Test
8S vs 3S	129.000	2.059	1.000	Do Not Test
8S vs 8I	128.000	2.043	1.000	Do Not Test
8S vs 7S	120.000	1.916	1.000	Do Not Test
8S vs 9S	115.000	1.836	1.000	Do Not Test
8S vs 2S	113.000	1.804	1.000	Do Not Test
8S vs 4I	104.000	1.660	1.000	Do Not Test
8S vs 2I	72.000	1.149	1.000	Do Not Test
8S vs 6S	71.000	1.133	1.000	Do Not Test
8S vs 4S	59.000	0.942	1.000	Do Not Test
8S vs 9C	28.000	0.447	1.000	Do Not Test
8S vs 5I	16.000	0.255	1.000	Do Not Test
8S vs 7C	5.000	0.0798	1.000	Do Not Test
7C vs 7I	179.000	2.858	0.960	Do Not Test
7C vs 1I	169.000	2.698	0.978	Do Not Test
7C vs 9I	160.000	2.554	0.989	Do Not Test
7C vs 3I	140.000	2.235	0.999	Do Not Test
7C vs 1S	137.000	2.187	0.999	Do Not Test
7C vs 6I	132.000	2.107	0.999	Do Not Test
7C vs 3S	124.000	1.980	1.000	Do Not Test
7C vs 8I	123.000	1.964	1.000	Do Not Test
7C vs 7S	115.000	1.836	1.000	Do Not Test
7C vs 9S	110.000	1.756	1.000	Do Not Test
7C vs 2S	108.000	1.724	1.000	Do Not Test
7C vs 4I	99.000	1.580	1.000	Do Not Test
7C vs 2I	67.000	1.070	1.000	Do Not Test
7C vs 6S	66.000	1.054	1.000	Do Not Test
7C vs 4S	54.000	0.862	1.000	Do Not Test
7C vs 9C	23.000	0.367	1.000	Do Not Test
7C vs 5I	11.000	0.176	1.000	Do Not Test
5I vs 7I	168.000	2.682	0.980	Do Not Test
5I vs 1I	158.000	2.522	0.990	Do Not Test
5I vs 9I	149.000	2.379	0.996	Do Not Test
5I vs 3I	129.000	2.059	1.000	Do Not Test
5I vs 1S	126.000	2.011	1.000	Do Not Test
5I vs 6I	121.000	1.932	1.000	Do Not Test
5I vs 3S	113.000	1.804	1.000	Do Not Test
5I vs 8I	112.000	1.788	1.000	Do Not Test
5I vs 7S	104.000	1.660	1.000	Do Not Test
5I vs 9S	99.000	1.580	1.000	Do Not Test
5I vs 2S	97.000	1.548	1.000	Do Not Test



5I vs 4I	88.000	1.405	1.000	Do Not Test
5I vs 2I	56.000	0.894	1.000	Do Not Test
5I vs 6S	55.000	0.878	1.000	Do Not Test
5I vs 4S	43.000	0.686	1.000	Do Not Test
5I vs 9C	12.000	0.192	1.000	Do Not Test
9C vs 7I	156.000	2.490	0.992	Do Not Test
9C vs 1I	146.000	2.331	0.997	Do Not Test
9C vs 9I	137.000	2.187	0.999	Do Not Test
9C vs 3I	117.000	1.868	1.000	Do Not Test
9C vs 1S	114.000	1.820	1.000	Do Not Test
9C vs 6I	109.000	1.740	1.000	Do Not Test
9C vs 3S	101.000	1.612	1.000	Do Not Test
9C vs 8I	100.000	1.596	1.000	Do Not Test
9C vs 7S	92.000	1.469	1.000	Do Not Test
9C vs 9S	87.000	1.389	1.000	Do Not Test
9C vs 2S	85.000	1.357	1.000	Do Not Test
9C vs 4I	76.000	1.213	1.000	Do Not Test
9C vs 2I	44.000	0.702	1.000	Do Not Test
9C vs 6S	43.000	0.686	1.000	Do Not Test
9C vs 4S	31.000	0.495	1.000	Do Not Test
4S vs 7I	125.000	1.995	1.000	Do Not Test
4S vs 1I	115.000	1.836	1.000	Do Not Test
4S vs 9I	106.000	1.692	1.000	Do Not Test
4S vs 3I	86.000	1.373	1.000	Do Not Test
4S vs 1S	83.000	1.325	1.000	Do Not Test
4S vs 6I	78.000	1.245	1.000	Do Not Test
4S vs 3S	70.000	1.117	1.000	Do Not Test
4S vs 8I	69.000	1.102	1.000	Do Not Test
4S vs 7S	61.000	0.974	1.000	Do Not Test
4S vs 9S	56.000	0.894	1.000	Do Not Test
4S vs 2S	54.000	0.862	1.000	Do Not Test
4S vs 4I	45.000	0.718	1.000	Do Not Test
4S vs 2I	13.000	0.208	1.000	Do Not Test
4S vs 6S	12.000	0.192	1.000	Do Not Test
6S vs 7I	113.000	1.804	1.000	Do Not Test
6S vs 1I	103.000	1.644	1.000	Do Not Test
6S vs 9I	94.000	1.501	1.000	Do Not Test
6S vs 3I	74.000	1.181	1.000	Do Not Test
6S vs 1S	71.000	1.133	1.000	Do Not Test
6S vs 6I	66.000	1.054	1.000	Do Not Test
6S vs 3S	58.000	0.926	1.000	Do Not Test
6S vs 8I	57.000	0.910	1.000	Do Not Test
6S vs 7S	49.000	0.782	1.000	Do Not Test
6S vs 9S	44.000	0.702	1.000	Do Not Test
6S vs 2S	42.000	0.670	1.000	Do Not Test
6S vs 4I	33.000	0.527	1.000	Do Not Test
6S vs 2I	1.000	0.0160	1.000	Do Not Test
2I vs 7I	112.000	1.788	1.000	Do Not Test
2I vs 1I	102.000	1.628	1.000	Do Not Test
2I vs 9I	93.000	1.485	1.000	Do Not Test
2I vs 3I	73.000	1.165	1.000	Do Not Test
2I vs 1S	70.000	1.117	1.000	Do Not Test
2I vs 6I	65.000	1.038	1.000	Do Not Test
2I vs 3S	57.000	0.910	1.000	Do Not Test
2I vs 8I	56.000	0.894	1.000	Do Not Test
2I vs 7S	48.000	0.766	1.000	Do Not Test

2I vs 9S	43.000	0.686	1.000	Do Not Test
2I vs 2S	41.000	0.655	1.000	Do Not Test
2I vs 4I	32.000	0.511	1.000	Do Not Test
4I vs 7I	80.000	1.277	1.000	Do Not Test
4I vs 1I	70.000	1.117	1.000	Do Not Test
4I vs 9I	61.000	0.974	1.000	Do Not Test
4I vs 3I	41.000	0.655	1.000	Do Not Test
4I vs 1S	38.000	0.607	1.000	Do Not Test
4I vs 6I	33.000	0.527	1.000	Do Not Test
4I vs 3S	25.000	0.399	1.000	Do Not Test
4I vs 8I	24.000	0.383	1.000	Do Not Test
4I vs 7S	16.000	0.255	1.000	Do Not Test
4I vs 9S	11.000	0.176	1.000	Do Not Test
4I vs 2S	9.000	0.144	1.000	Do Not Test
2S vs 7I	71.000	1.133	1.000	Do Not Test
2S vs 1I	61.000	0.974	1.000	Do Not Test
2S vs 9I	52.000	0.830	1.000	Do Not Test
2S vs 3I	32.000	0.511	1.000	Do Not Test
2S vs 1S	29.000	0.463	1.000	Do Not Test
2S vs 6I	24.000	0.383	1.000	Do Not Test
2S vs 3S	16.000	0.255	1.000	Do Not Test
2S vs 8I	15.000	0.239	1.000	Do Not Test
2S vs 7S	7.000	0.112	1.000	Do Not Test
2S vs 9S	2.000	0.0319	1.000	Do Not Test
9S vs 7I	69.000	1.102	1.000	Do Not Test
9S vs 1I	59.000	0.942	1.000	Do Not Test
9S vs 9I	50.000	0.798	1.000	Do Not Test
9S vs 3I	30.000	0.479	1.000	Do Not Test
9S vs 1S	27.000	0.431	1.000	Do Not Test
9S vs 6I	22.000	0.351	1.000	Do Not Test
9S vs 3S	14.000	0.223	1.000	Do Not Test
9S vs 8I	13.000	0.208	1.000	Do Not Test
9S vs 7S	5.000	0.0798	1.000	Do Not Test
7S vs 7I	64.000	1.022	1.000	Do Not Test
7S vs 1I	54.000	0.862	1.000	Do Not Test
7S vs 9I	45.000	0.718	1.000	Do Not Test
7S vs 3I	25.000	0.399	1.000	Do Not Test
7S vs 1S	22.000	0.351	1.000	Do Not Test
7S vs 6I	17.000	0.271	1.000	Do Not Test
7S vs 3S	9.000	0.144	1.000	Do Not Test
7S vs 8I	8.000	0.128	1.000	Do Not Test
8I vs 7I	56.000	0.894	1.000	Do Not Test
8I vs 1I	46.000	0.734	1.000	Do Not Test
8I vs 9I	37.000	0.591	1.000	Do Not Test
8I vs 3I	17.000	0.271	1.000	Do Not Test
8I vs 1S	14.000	0.223	1.000	Do Not Test
8I vs 6I	9.000	0.144	1.000	Do Not Test
8I vs 3S	1.000	0.0160	1.000	Do Not Test
3S vs 7I	55.000	0.878	1.000	Do Not Test
3S vs 1I	45.000	0.718	1.000	Do Not Test
3S vs 9I	36.000	0.575	1.000	Do Not Test
3S vs 3I	16.000	0.255	1.000	Do Not Test
3S vs 1S	13.000	0.208	1.000	Do Not Test
3S vs 6I	8.000	0.128	1.000	Do Not Test
6I vs 7I	47.000	0.750	1.000	Do Not Test
6I vs 1I	37.000	0.591	1.000	Do Not Test

6I vs 9I	28.000	0.447	1.000	Do Not Test
6I vs 3I	8.000	0.128	1.000	Do Not Test
6I vs 1S	5.000	0.0798	1.000	Do Not Test
1S vs 7I	42.000	0.670	1.000	Do Not Test
1S vs 1I	32.000	0.511	1.000	Do Not Test
1S vs 9I	23.000	0.367	1.000	Do Not Test
1S vs 3I	3.000	0.0479	1.000	Do Not Test
3I vs 7I	39.000	0.623	1.000	Do Not Test
3I vs 1I	29.000	0.463	1.000	Do Not Test
3I vs 9I	20.000	0.319	1.000	Do Not Test
9I vs 7I	19.000	0.303	1.000	Do Not Test
9I vs 1I	9.000	0.144	1.000	Do Not Test
1I vs 7I	10.000	0.160	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.

## One Way Analysis of Variance

26 January 2019 22:26:31

Data source: DA in L5 3-5y

Normality Test (Shapiro-Wilk): Failed (P < 0.050)

Test execution ended by user request, ANOVA on Ranks begun

## Kruskal-Wallis One Way Analysis of Variance on Ranks

26 January 2019 22:26:31

Data source: DA in L5 3-5y

Group	N	Missing	Median	25%	75%
1I	4	0	0.491	0.366	0.533
1C	4	0	0.539	0.415	0.649
1S	4	0	0.469	0.387	0.592
2I	4	0	0.374	0.287	0.487
2C	4	0	0.405	0.260	0.496
2S	4	0	0.414	0.358	0.485
3I	4	0	0.457	0.385	0.525
3C	4	0	0.467	0.369	0.572
3S	4	0	0.442	0.408	0.528
4I	4	0	0.210	0.163	0.348
4C	4	0	0.351	0.283	0.482
4S	4	0	0.265	0.223	0.442
5I	4	0	0.199	0.126	0.390
5C	4	0	0.327	0.272	0.347
5S	4	0	0.174	0.0908	0.376
6I	4	0	0.261	0.155	0.308
6C	4	0	0.385	0.344	0.431
6S	4	0	0.243	0.193	0.438
7I	4	0	0.260	0.207	0.370
7C	4	0	0.290	0.232	0.330
7S	4	0	0.321	0.232	0.388
8I	4	0	0.202	0.159	0.236
8C	4	0	0.228	0.117	0.271
8S	4	0	0.260	0.239	0.295
9I	4	0	0.296	0.188	0.474
9C	4	0	0.279	0.226	0.370
9S	4	0	0.229	0.187	0.379

H = 56.401 with 26 degrees of freedom. (P = <0.001)

The differences in the median values among the treatment groups are greater than would be expected by chance; there is a statistically significant difference (P = <0.001)

To isolate the group or groups that differ from the others use a multiple comparison procedure.

All Pairwise Multiple Comparison Procedures (Tukey Test):

Comparison	Diff of Ranks	q	P	P<0.050
1C vs 8I	307.000	4.901	0.111	No
1C vs 8C	277.000	4.422	0.263	Do Not Test

1C vs 5S	275.000	4.390	0.277	Do Not Test
1C vs 4I	261.000	4.167	0.385	Do Not Test
1C vs 5I	252.000	4.023	0.465	Do Not Test
1C vs 6I	250.000	3.991	0.483	Do Not Test
1C vs 9S	242.000	3.863	0.560	Do Not Test
1C vs 8S	230.000	3.672	0.675	Do Not Test
1C vs 7I	218.000	3.480	0.780	Do Not Test
1C vs 7C	217.000	3.464	0.787	Do Not Test
1C vs 6S	215.000	3.432	0.802	Do Not Test
1C vs 9C	210.000	3.352	0.837	Do Not Test
1C vs 4S	191.000	3.049	0.928	Do Not Test
1C vs 9I	185.000	2.953	0.946	Do Not Test
1C vs 5C	179.000	2.858	0.960	Do Not Test
1C vs 7S	175.000	2.794	0.968	Do Not Test
1C vs 4C	118.000	1.884	1.000	Do Not Test
1C vs 2C	111.000	1.772	1.000	Do Not Test
1C vs 2I	105.000	1.676	1.000	Do Not Test
1C vs 6C	99.000	1.580	1.000	Do Not Test
1C vs 2S	75.000	1.197	1.000	Do Not Test
1C vs 3C	41.000	0.655	1.000	Do Not Test
1C vs 3I	40.000	0.639	1.000	Do Not Test
1C vs 1I	37.000	0.591	1.000	Do Not Test
1C vs 3S	34.000	0.543	1.000	Do Not Test
1C vs S	30.000	0.479	1.000	Do Not Test
S vs 8I	277.000	4.422	0.263	Do Not Test
S vs 8C	247.000	3.943	0.512	Do Not Test
S vs 5S	245.000	3.911	0.531	Do Not Test
S vs 4I	231.000	3.688	0.666	Do Not Test
S vs 5I	222.000	3.544	0.747	Do Not Test
S vs 6I	220.000	3.512	0.764	Do Not Test
S vs 9S	212.000	3.384	0.824	Do Not Test
S vs 8S	200.000	3.193	0.892	Do Not Test
S vs 7I	188.000	3.001	0.938	Do Not Test
S vs 7C	187.000	2.985	0.940	Do Not Test
S vs 6S	185.000	2.953	0.946	Do Not Test
S vs 9C	180.000	2.873	0.958	Do Not Test
S vs 4S	161.000	2.570	0.988	Do Not Test
S vs 9I	155.000	2.474	0.993	Do Not Test
S vs 5C	149.000	2.379	0.996	Do Not Test
S vs 7S	145.000	2.315	0.997	Do Not Test
S vs 4C	88.000	1.405	1.000	Do Not Test
S vs 2C	81.000	1.293	1.000	Do Not Test
S vs 2I	75.000	1.197	1.000	Do Not Test
S vs 6C	69.000	1.102	1.000	Do Not Test
S vs 2S	45.000	0.718	1.000	Do Not Test
S vs 3C	11.000	0.176	1.000	Do Not Test
S vs 3I	10.000	0.160	1.000	Do Not Test
S vs 1I	7.000	0.112	1.000	Do Not Test
S vs 3S	4.000	0.0639	1.000	Do Not Test
3S vs 8I	273.000	4.358	0.291	Do Not Test
3S vs 8C	243.000	3.879	0.550	Do Not Test
3S vs 5S	241.000	3.847	0.569	Do Not Test
3S vs 4I	227.000	3.624	0.703	Do Not Test
3S vs 5I	218.000	3.480	0.780	Do Not Test
3S vs 6I	216.000	3.448	0.795	Do Not Test
3S vs 9S	208.000	3.320	0.849	Do Not Test

3S vs 8S	196.000	3.129	0.910	Do Not Test
3S vs 7I	184.000	2.937	0.949	Do Not Test
3S vs 7C	183.000	2.921	0.951	Do Not Test
3S vs 6S	181.000	2.889	0.956	Do Not Test
3S vs 9C	176.000	2.810	0.967	Do Not Test
3S vs 4S	157.000	2.506	0.991	Do Not Test
3S vs 9I	151.000	2.411	0.995	Do Not Test
3S vs 5C	145.000	2.315	0.997	Do Not Test
3S vs 7S	141.000	2.251	0.998	Do Not Test
3S vs 4C	84.000	1.341	1.000	Do Not Test
3S vs 2C	77.000	1.229	1.000	Do Not Test
3S vs 2I	71.000	1.133	1.000	Do Not Test
3S vs 6C	65.000	1.038	1.000	Do Not Test
3S vs 2S	41.000	0.655	1.000	Do Not Test
3S vs 3C	7.000	0.112	1.000	Do Not Test
3S vs 3I	6.000	0.0958	1.000	Do Not Test
3S vs 1I	3.000	0.0479	1.000	Do Not Test
1I vs 8I	270.000	4.310	0.313	Do Not Test
1I vs 8C	240.000	3.831	0.579	Do Not Test
1I vs 5S	238.000	3.799	0.599	Do Not Test
1I vs 4I	224.000	3.576	0.730	Do Not Test
1I vs 5I	215.000	3.432	0.802	Do Not Test
1I vs 6I	213.000	3.400	0.817	Do Not Test
1I vs 9S	205.000	3.273	0.867	Do Not Test
1I vs 8S	193.000	3.081	0.921	Do Not Test
1I vs 7I	181.000	2.889	0.956	Do Not Test
1I vs 7C	180.000	2.873	0.958	Do Not Test
1I vs 6S	178.000	2.842	0.963	Do Not Test
1I vs 9C	173.000	2.762	0.972	Do Not Test
1I vs 4S	154.000	2.458	0.993	Do Not Test
1I vs 9I	148.000	2.363	0.996	Do Not Test
1I vs 5C	142.000	2.267	0.998	Do Not Test
1I vs 7S	138.000	2.203	0.999	Do Not Test
1I vs 4C	81.000	1.293	1.000	Do Not Test
1I vs 2C	74.000	1.181	1.000	Do Not Test
1I vs 2I	68.000	1.086	1.000	Do Not Test
1I vs 6C	62.000	0.990	1.000	Do Not Test
1I vs 2S	38.000	0.607	1.000	Do Not Test
1I vs 3C	4.000	0.0639	1.000	Do Not Test
1I vs 3I	3.000	0.0479	1.000	Do Not Test
3I vs 8I	267.000	4.262	0.336	Do Not Test
3I vs 8C	237.000	3.783	0.608	Do Not Test
3I vs 5S	235.000	3.751	0.628	Do Not Test
3I vs 4I	221.000	3.528	0.755	Do Not Test
3I vs 5I	212.000	3.384	0.824	Do Not Test
3I vs 6I	210.000	3.352	0.837	Do Not Test
3I vs 9S	202.000	3.225	0.883	Do Not Test
3I vs 8S	190.000	3.033	0.931	Do Not Test
3I vs 7I	178.000	2.842	0.963	Do Not Test
3I vs 7C	177.000	2.826	0.965	Do Not Test
3I vs 6S	175.000	2.794	0.968	Do Not Test
3I vs 9C	170.000	2.714	0.977	Do Not Test
3I vs 4S	151.000	2.411	0.995	Do Not Test
3I vs 9I	145.000	2.315	0.997	Do Not Test
3I vs 5C	139.000	2.219	0.999	Do Not Test
3I vs 7S	135.000	2.155	0.999	Do Not Test

3I vs 4C	78.000	1.245	1.000	Do Not Test
3I vs 2C	71.000	1.133	1.000	Do Not Test
3I vs 2I	65.000	1.038	1.000	Do Not Test
3I vs 6C	59.000	0.942	1.000	Do Not Test
3I vs 2S	35.000	0.559	1.000	Do Not Test
3I vs 3C	1.000	0.0160	1.000	Do Not Test
3C vs 8I	266.000	4.246	0.344	Do Not Test
3C vs 8C	236.000	3.767	0.618	Do Not Test
3C vs 5S	234.000	3.736	0.637	Do Not Test
3C vs 4I	220.000	3.512	0.764	Do Not Test
3C vs 5I	211.000	3.368	0.830	Do Not Test
3C vs 6I	209.000	3.336	0.843	Do Not Test
3C vs 9S	201.000	3.209	0.888	Do Not Test
3C vs 8S	189.000	3.017	0.934	Do Not Test
3C vs 7I	177.000	2.826	0.965	Do Not Test
3C vs 7C	176.000	2.810	0.967	Do Not Test
3C vs 6S	174.000	2.778	0.970	Do Not Test
3C vs 9C	169.000	2.698	0.978	Do Not Test
3C vs 4S	150.000	2.395	0.995	Do Not Test
3C vs 9I	144.000	2.299	0.998	Do Not Test
3C vs 5C	138.000	2.203	0.999	Do Not Test
3C vs 7S	134.000	2.139	0.999	Do Not Test
3C vs 4C	77.000	1.229	1.000	Do Not Test
3C vs 2C	70.000	1.117	1.000	Do Not Test
3C vs 2I	64.000	1.022	1.000	Do Not Test
3C vs 6C	58.000	0.926	1.000	Do Not Test
3C vs 2S	34.000	0.543	1.000	Do Not Test
2S vs 8I	232.000	3.704	0.656	Do Not Test
2S vs 8C	202.000	3.225	0.883	Do Not Test
2S vs 5S	200.000	3.193	0.892	Do Not Test
2S vs 4I	186.000	2.969	0.943	Do Not Test
2S vs 5I	177.000	2.826	0.965	Do Not Test
2S vs 6I	175.000	2.794	0.968	Do Not Test
2S vs 9S	167.000	2.666	0.981	Do Not Test
2S vs 8S	155.000	2.474	0.993	Do Not Test
2S vs 7I	143.000	2.283	0.998	Do Not Test
2S vs 7C	142.000	2.267	0.998	Do Not Test
2S vs 6S	140.000	2.235	0.999	Do Not Test
2S vs 9C	135.000	2.155	0.999	Do Not Test
2S vs 4S	116.000	1.852	1.000	Do Not Test
2S vs 9I	110.000	1.756	1.000	Do Not Test
2S vs 5C	104.000	1.660	1.000	Do Not Test
2S vs 7S	100.000	1.596	1.000	Do Not Test
2S vs 4C	43.000	0.686	1.000	Do Not Test
2S vs 2C	36.000	0.575	1.000	Do Not Test
2S vs 2I	30.000	0.479	1.000	Do Not Test
2S vs 6C	24.000	0.383	1.000	Do Not Test
6C vs 8I	208.000	3.320	0.849	Do Not Test
6C vs 8C	178.000	2.842	0.963	Do Not Test
6C vs 5S	176.000	2.810	0.967	Do Not Test
6C vs 4I	162.000	2.586	0.987	Do Not Test
6C vs 5I	153.000	2.442	0.994	Do Not Test
6C vs 6I	151.000	2.411	0.995	Do Not Test
6C vs 9S	143.000	2.283	0.998	Do Not Test
6C vs 8S	131.000	2.091	1.000	Do Not Test
6C vs 7I	119.000	1.900	1.000	Do Not Test

6C vs 7C	118.000	1.884	1.000	Do Not Test
6C vs 6S	116.000	1.852	1.000	Do Not Test
6C vs 9C	111.000	1.772	1.000	Do Not Test
6C vs 4S	92.000	1.469	1.000	Do Not Test
6C vs 9I	86.000	1.373	1.000	Do Not Test
6C vs 5C	80.000	1.277	1.000	Do Not Test
6C vs 7S	76.000	1.213	1.000	Do Not Test
6C vs 4C	19.000	0.303	1.000	Do Not Test
6C vs 2C	12.000	0.192	1.000	Do Not Test
6C vs 2I	6.000	0.0958	1.000	Do Not Test
2I vs 8I	202.000	3.225	0.883	Do Not Test
2I vs 8C	172.000	2.746	0.974	Do Not Test
2I vs 5S	170.000	2.714	0.977	Do Not Test
2I vs 4I	156.000	2.490	0.992	Do Not Test
2I vs 5I	147.000	2.347	0.997	Do Not Test
2I vs 6I	145.000	2.315	0.997	Do Not Test
2I vs 9S	137.000	2.187	0.999	Do Not Test
2I vs 8S	125.000	1.995	1.000	Do Not Test
2I vs 7I	113.000	1.804	1.000	Do Not Test
2I vs 7C	112.000	1.788	1.000	Do Not Test
2I vs 6S	110.000	1.756	1.000	Do Not Test
2I vs 9C	105.000	1.676	1.000	Do Not Test
2I vs 4S	86.000	1.373	1.000	Do Not Test
2I vs 9I	80.000	1.277	1.000	Do Not Test
2I vs 5C	74.000	1.181	1.000	Do Not Test
2I vs 7S	70.000	1.117	1.000	Do Not Test
2I vs 4C	13.000	0.208	1.000	Do Not Test
2I vs 2C	6.000	0.0958	1.000	Do Not Test
2C vs 8I	196.000	3.129	0.910	Do Not Test
2C vs 8C	166.000	2.650	0.982	Do Not Test
2C vs 5S	164.000	2.618	0.985	Do Not Test
2C vs 4I	150.000	2.395	0.995	Do Not Test
2C vs 5I	141.000	2.251	0.998	Do Not Test
2C vs 6I	139.000	2.219	0.999	Do Not Test
2C vs 9S	131.000	2.091	1.000	Do Not Test
2C vs 8S	119.000	1.900	1.000	Do Not Test
2C vs 7I	107.000	1.708	1.000	Do Not Test
2C vs 7C	106.000	1.692	1.000	Do Not Test
2C vs 6S	104.000	1.660	1.000	Do Not Test
2C vs 9C	99.000	1.580	1.000	Do Not Test
2C vs 4S	80.000	1.277	1.000	Do Not Test
2C vs 9I	74.000	1.181	1.000	Do Not Test
2C vs 5C	68.000	1.086	1.000	Do Not Test
2C vs 7S	64.000	1.022	1.000	Do Not Test
2C vs 4C	7.000	0.112	1.000	Do Not Test
4C vs 8I	189.000	3.017	0.934	Do Not Test
4C vs 8C	159.000	2.538	0.990	Do Not Test
4C vs 5S	157.000	2.506	0.991	Do Not Test
4C vs 4I	143.000	2.283	0.998	Do Not Test
4C vs 5I	134.000	2.139	0.999	Do Not Test
4C vs 6I	132.000	2.107	0.999	Do Not Test
4C vs 9S	124.000	1.980	1.000	Do Not Test
4C vs 8S	112.000	1.788	1.000	Do Not Test
4C vs 7I	100.000	1.596	1.000	Do Not Test
4C vs 7C	99.000	1.580	1.000	Do Not Test
4C vs 6S	97.000	1.548	1.000	Do Not Test



4C vs 9C	92.000	1.469	1.000	Do Not Test
4C vs 4S	73.000	1.165	1.000	Do Not Test
4C vs 9I	67.000	1.070	1.000	Do Not Test
4C vs 5C	61.000	0.974	1.000	Do Not Test
4C vs 7S	57.000	0.910	1.000	Do Not Test
7S vs 8I	132.000	2.107	0.999	Do Not Test
7S vs 8C	102.000	1.628	1.000	Do Not Test
7S vs 5S	100.000	1.596	1.000	Do Not Test
7S vs 4I	86.000	1.373	1.000	Do Not Test
7S vs 5I	77.000	1.229	1.000	Do Not Test
7S vs 6I	75.000	1.197	1.000	Do Not Test
7S vs 9S	67.000	1.070	1.000	Do Not Test
7S vs 8S	55.000	0.878	1.000	Do Not Test
7S vs 7I	43.000	0.686	1.000	Do Not Test
7S vs 7C	42.000	0.670	1.000	Do Not Test
7S vs 6S	40.000	0.639	1.000	Do Not Test
7S vs 9C	35.000	0.559	1.000	Do Not Test
7S vs 4S	16.000	0.255	1.000	Do Not Test
7S vs 9I	10.000	0.160	1.000	Do Not Test
7S vs 5C	4.000	0.0639	1.000	Do Not Test
5C vs 8I	128.000	2.043	1.000	Do Not Test
5C vs 8C	98.000	1.564	1.000	Do Not Test
5C vs 5S	96.000	1.533	1.000	Do Not Test
5C vs 4I	82.000	1.309	1.000	Do Not Test
5C vs 5I	73.000	1.165	1.000	Do Not Test
5C vs 6I	71.000	1.133	1.000	Do Not Test
5C vs 9S	63.000	1.006	1.000	Do Not Test
5C vs 8S	51.000	0.814	1.000	Do Not Test
5C vs 7I	39.000	0.623	1.000	Do Not Test
5C vs 7C	38.000	0.607	1.000	Do Not Test
5C vs 6S	36.000	0.575	1.000	Do Not Test
5C vs 9C	31.000	0.495	1.000	Do Not Test
5C vs 4S	12.000	0.192	1.000	Do Not Test
5C vs 9I	6.000	0.0958	1.000	Do Not Test
9I vs 8I	122.000	1.948	1.000	Do Not Test
9I vs 8C	92.000	1.469	1.000	Do Not Test
9I vs 5S	90.000	1.437	1.000	Do Not Test
9I vs 4I	76.000	1.213	1.000	Do Not Test
9I vs 5I	67.000	1.070	1.000	Do Not Test
9I vs 6I	65.000	1.038	1.000	Do Not Test
9I vs 9S	57.000	0.910	1.000	Do Not Test
9I vs 8S	45.000	0.718	1.000	Do Not Test
9I vs 7I	33.000	0.527	1.000	Do Not Test
9I vs 7C	32.000	0.511	1.000	Do Not Test
9I vs 6S	30.000	0.479	1.000	Do Not Test
9I vs 9C	25.000	0.399	1.000	Do Not Test
9I vs 4S	6.000	0.0958	1.000	Do Not Test
4S vs 8I	116.000	1.852	1.000	Do Not Test
4S vs 8C	86.000	1.373	1.000	Do Not Test
4S vs 5S	84.000	1.341	1.000	Do Not Test
4S vs 4I	70.000	1.117	1.000	Do Not Test
4S vs 5I	61.000	0.974	1.000	Do Not Test
4S vs 6I	59.000	0.942	1.000	Do Not Test
4S vs 9S	51.000	0.814	1.000	Do Not Test
4S vs 8S	39.000	0.623	1.000	Do Not Test
4S vs 7I	27.000	0.431	1.000	Do Not Test

4S vs 7C	26.000	0.415	1.000	Do Not Test
4S vs 6S	24.000	0.383	1.000	Do Not Test
4S vs 9C	19.000	0.303	1.000	Do Not Test
9C vs 8I	97.000	1.548	1.000	Do Not Test
9C vs 8C	67.000	1.070	1.000	Do Not Test
9C vs 5S	65.000	1.038	1.000	Do Not Test
9C vs 4I	51.000	0.814	1.000	Do Not Test
9C vs 5I	42.000	0.670	1.000	Do Not Test
9C vs 6I	40.000	0.639	1.000	Do Not Test
9C vs 9S	32.000	0.511	1.000	Do Not Test
9C vs 8S	20.000	0.319	1.000	Do Not Test
9C vs 7I	8.000	0.128	1.000	Do Not Test
9C vs 7C	7.000	0.112	1.000	Do Not Test
9C vs 6S	5.000	0.0798	1.000	Do Not Test
6S vs 8I	92.000	1.469	1.000	Do Not Test
6S vs 8C	62.000	0.990	1.000	Do Not Test
6S vs 5S	60.000	0.958	1.000	Do Not Test
6S vs 4I	46.000	0.734	1.000	Do Not Test
6S vs 5I	37.000	0.591	1.000	Do Not Test
6S vs 6I	35.000	0.559	1.000	Do Not Test
6S vs 9S	27.000	0.431	1.000	Do Not Test
6S vs 8S	15.000	0.239	1.000	Do Not Test
6S vs 7I	3.000	0.0479	1.000	Do Not Test
6S vs 7C	2.000	0.0319	1.000	Do Not Test
7C vs 8I	90.000	1.437	1.000	Do Not Test
7C vs 8C	60.000	0.958	1.000	Do Not Test
7C vs 5S	58.000	0.926	1.000	Do Not Test
7C vs 4I	44.000	0.702	1.000	Do Not Test
7C vs 5I	35.000	0.559	1.000	Do Not Test
7C vs 6I	33.000	0.527	1.000	Do Not Test
7C vs 9S	25.000	0.399	1.000	Do Not Test
7C vs 8S	13.000	0.208	1.000	Do Not Test
7C vs 7I	1.000	0.0160	1.000	Do Not Test
7I vs 8I	89.000	1.421	1.000	Do Not Test
7I vs 8C	59.000	0.942	1.000	Do Not Test
7I vs 5S	57.000	0.910	1.000	Do Not Test
7I vs 4I	43.000	0.686	1.000	Do Not Test
7I vs 5I	34.000	0.543	1.000	Do Not Test
7I vs 6I	32.000	0.511	1.000	Do Not Test
7I vs 9S	24.000	0.383	1.000	Do Not Test
7I vs 8S	12.000	0.192	1.000	Do Not Test
8S vs 8I	77.000	1.229	1.000	Do Not Test
8S vs 8C	47.000	0.750	1.000	Do Not Test
8S vs 5S	45.000	0.718	1.000	Do Not Test
8S vs 4I	31.000	0.495	1.000	Do Not Test
8S vs 5I	22.000	0.351	1.000	Do Not Test
8S vs 6I	20.000	0.319	1.000	Do Not Test
8S vs 9S	12.000	0.192	1.000	Do Not Test
9S vs 8I	65.000	1.038	1.000	Do Not Test
9S vs 8C	35.000	0.559	1.000	Do Not Test
9S vs 5S	33.000	0.527	1.000	Do Not Test
9S vs 4I	19.000	0.303	1.000	Do Not Test
9S vs 5I	10.000	0.160	1.000	Do Not Test
9S vs 6I	8.000	0.128	1.000	Do Not Test
6I vs 8I	57.000	0.910	1.000	Do Not Test
6I vs 8C	27.000	0.431	1.000	Do Not Test

6I vs 5S	25.000	0.399	1.000	Do Not Test
6I vs 4I	11.000	0.176	1.000	Do Not Test
6I vs 5I	2.000	0.0319	1.000	Do Not Test
5I vs 8I	55.000	0.878	1.000	Do Not Test
5I vs 8C	25.000	0.399	1.000	Do Not Test
5I vs 5S	23.000	0.367	1.000	Do Not Test
5I vs 4I	9.000	0.144	1.000	Do Not Test
4I vs 8I	46.000	0.734	1.000	Do Not Test
4I vs 8C	16.000	0.255	1.000	Do Not Test
4I vs 5S	14.000	0.223	1.000	Do Not Test
5S vs 8I	32.000	0.511	1.000	Do Not Test
5S vs 8C	2.000	0.0319	1.000	Do Not Test
8C vs 8I	30.000	0.479	1.000	Do Not Test

Note: The multiple comparisons on ranks do not include an adjustment for ties.

A result of "Do Not Test" occurs for a comparison when no significant difference is found between the two rank sums that enclose that comparison. For example, if you had four rank sums sorted in order, and found no significant difference between rank sums 4 vs. 2, then you would not test 4 vs. 3 and 3 vs. 2, but still test 4 vs. 1 and 3 vs. 1 (4 vs. 3 and 3 vs. 2 are enclosed by 4 vs. 2: 4 3 2 1). Note that not testing the enclosed rank sums is a procedural rule, and a result of Do Not Test should be treated as if there is no significant difference between the rank sums, even though one may appear to exist.