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Published in:
Chemical Engineering Journal

DOI:
10.1016/j.cej.2020.126263

Publication date:
2020

Document Version
Peer reviewed version

Supporting Information

Iron coral: novel fungal biomineralization of nanoscale zerovalent iron composites for treatment of chlorinated pollutants

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Sample preparation for Tafel scanning

Tafel scans were performed using a CHI-660E electrochemical workstation fitted with a three-electrode system enabling the free corrosion potentials to be recorded. The working electrode was fabricated with glass carbon (d = 3 mm) to form a small cavity. 5 mg of iron coral composite was pressed into the cavity and 20 μl of nafion solution was dropped on the composite to enhance attachment to the electrode. After drying at room temperature, the iron coral loaded electrode was immersed into $NaSO_4$ solution (0.5 mM) for electrochemical measurements.

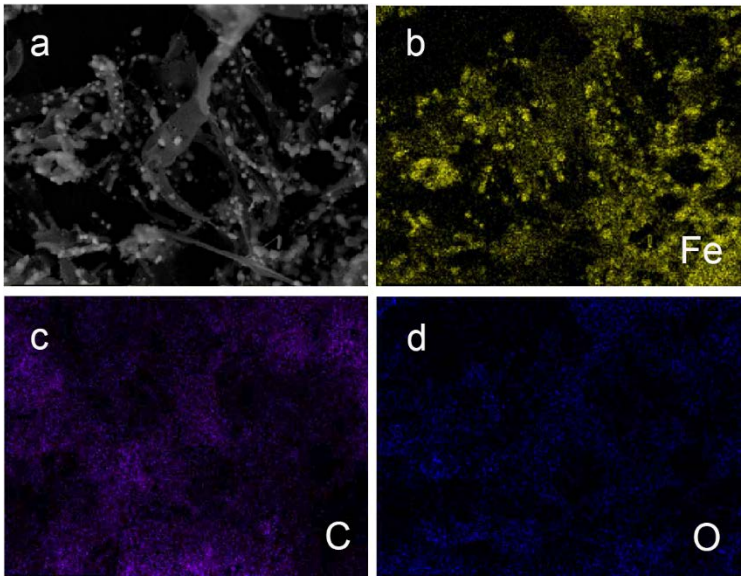

Fig. S1 X-ray mapping of elements in 'iron coral' after biomass-$FeCO_3$ carbonization and reduction at 900ºC for 1 h. (A) SEM image of Fe-containing minerals. EDXA confirmed the presence of three elements within the mineral (Fe, C and O) (scale bar = 20 μm), (B) iron, (C) carbon and (D) oxygen. Typical images are shown from many similar samples.

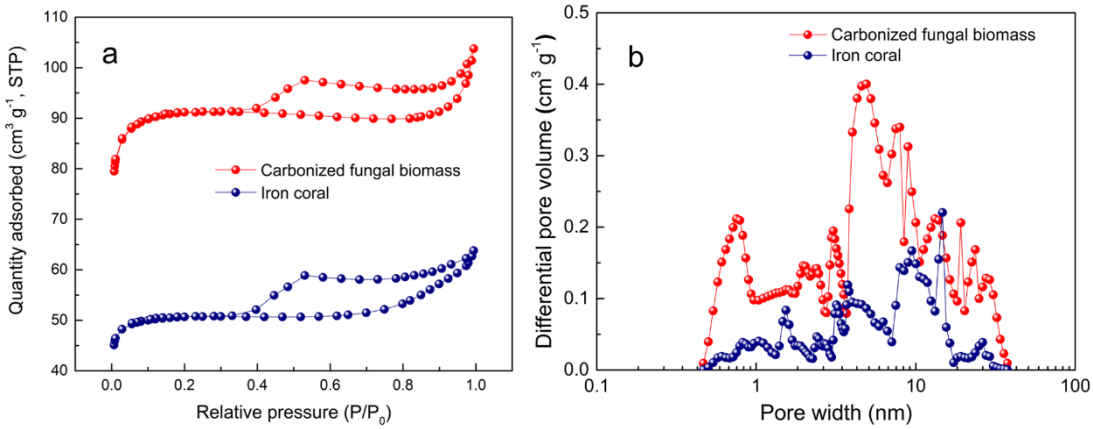

Fig. S2 Pore characteristics of the carbonized fungal biomass and iron coral. (A) Nitrogen sorption isotherms and (B) pore size distributions. Typical data are shown from one of several determinations.

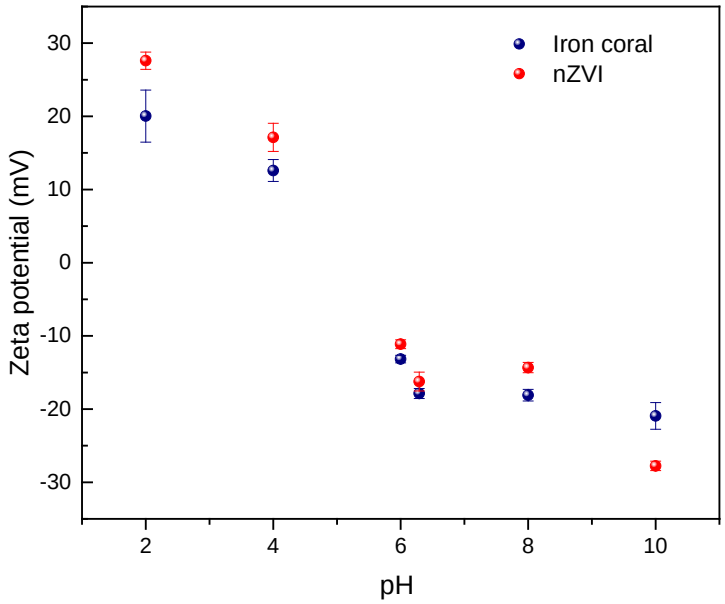

Fig. S3 Zeta potential of iron coral and commercial nZVI in aqueous solution. Typical data are shown from one of several determinations.