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Enhanced azo dye Reactive Red 2 degradation in anaerobic reactors by dosing conductive material of ferroferric oxide

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Highlights

- Dosing Fe_3O_4 on anaerobic treatment of azo dye was investigated
- Fe_3O_4 significantly improved anaerobic treatment of RR2
- Complete cleavage of the -N=N- bond in RR2 were obtained dosing Fe_3O_4
- *Paludibacter*, *Trichococcus* and *Methanosarcina* abundances increased with Fe_3O_4

Abstract

Effect of dosing ferroferric oxide (Fe_3O_4) on the anaerobic treatment of azo dye Reactive Red 2 (RR2) was investigated in two anaerobic sequencing batch reactors (ASBRs). System performance, dye degradation pathways, and microbial activities and structure were examined. The addition of Fe_3O_4 significantly improved treatment efficiency, with the removal efficiency