

SUPPLEMENTAL MATERIAL FOR:

Journal: Environmental Science: Processes & Impacts

Manuscript: **POSSIBILITY OF USING A LITHOTROPHIC IRON-OXIDIZING MICROBIAL FUEL CELL AS A
BIOSENSOR FOR DETECTING IRON AND MANGANESE IN WATER SAMPLES**

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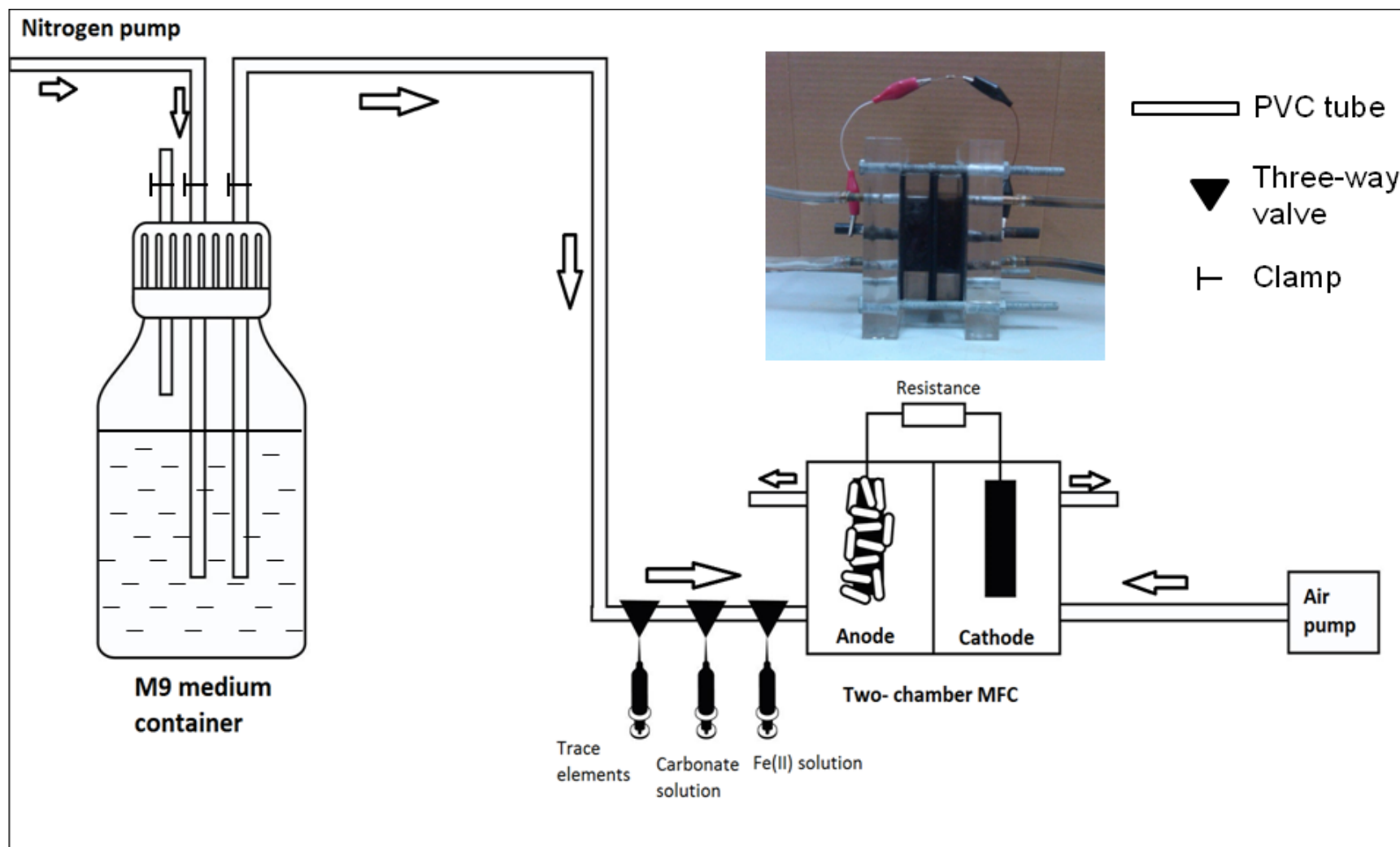


Figure S1. A diagram showing the setup of a LIO-MFC system in this study. Note: The inserted picture shows a real fabricated LIO-MFC reactor.

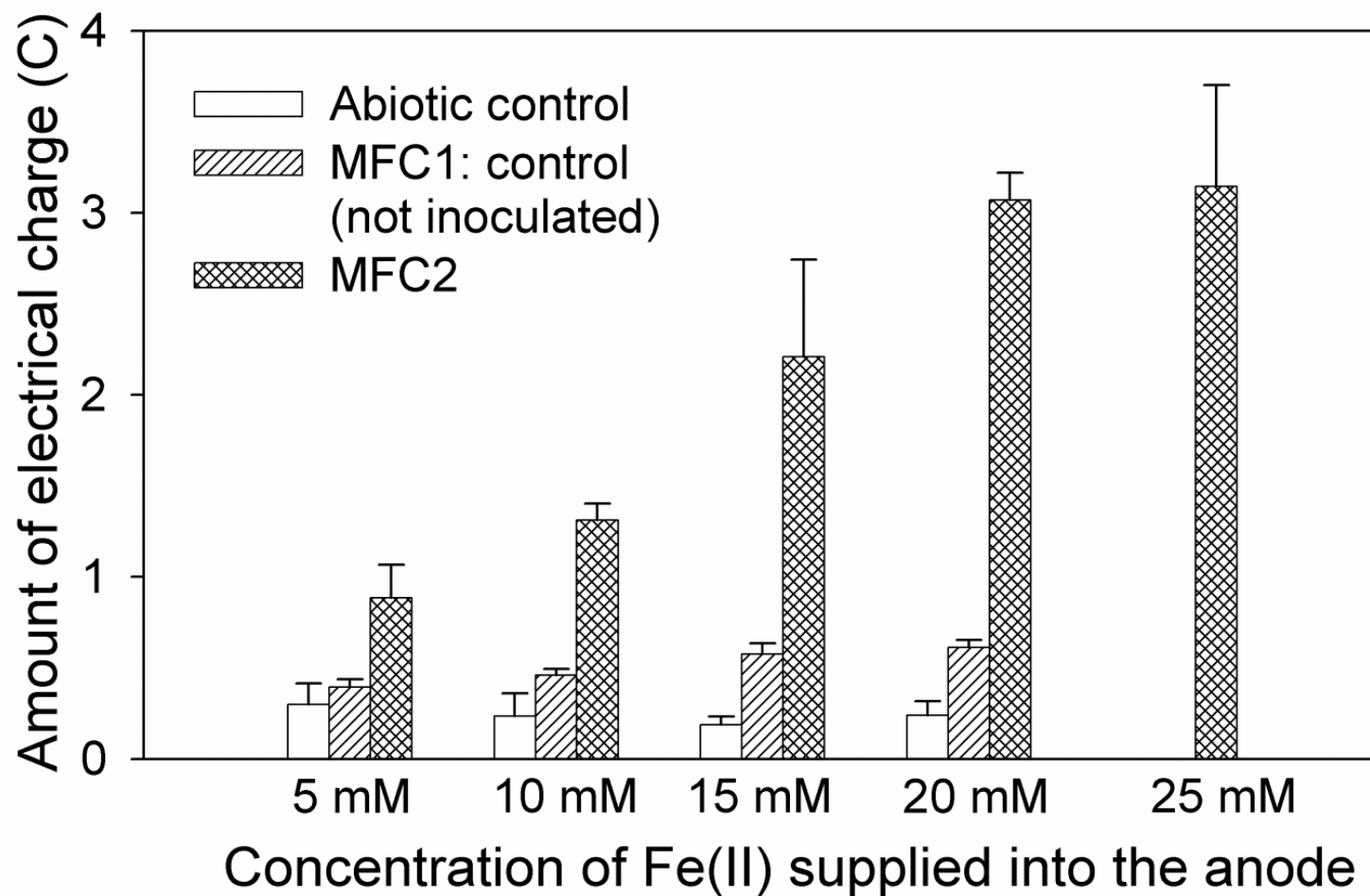


Figure S2. The correlation between the per-batch amount of charge generated and the concentration of Fe^{2+} fed to the anode of a LIO-MFC. Notes: 3 LIO-MFCs were tested. The biotic control was not inoculated with any microbial source at the beginning. The abiotic control had its anode chamber sterilized right before the experiments, in which different concentrations of Fe^{2+} were tested in only some hours after sterilization. Each MFC was operated with a 10 ohm external resistor, at 25 °C.

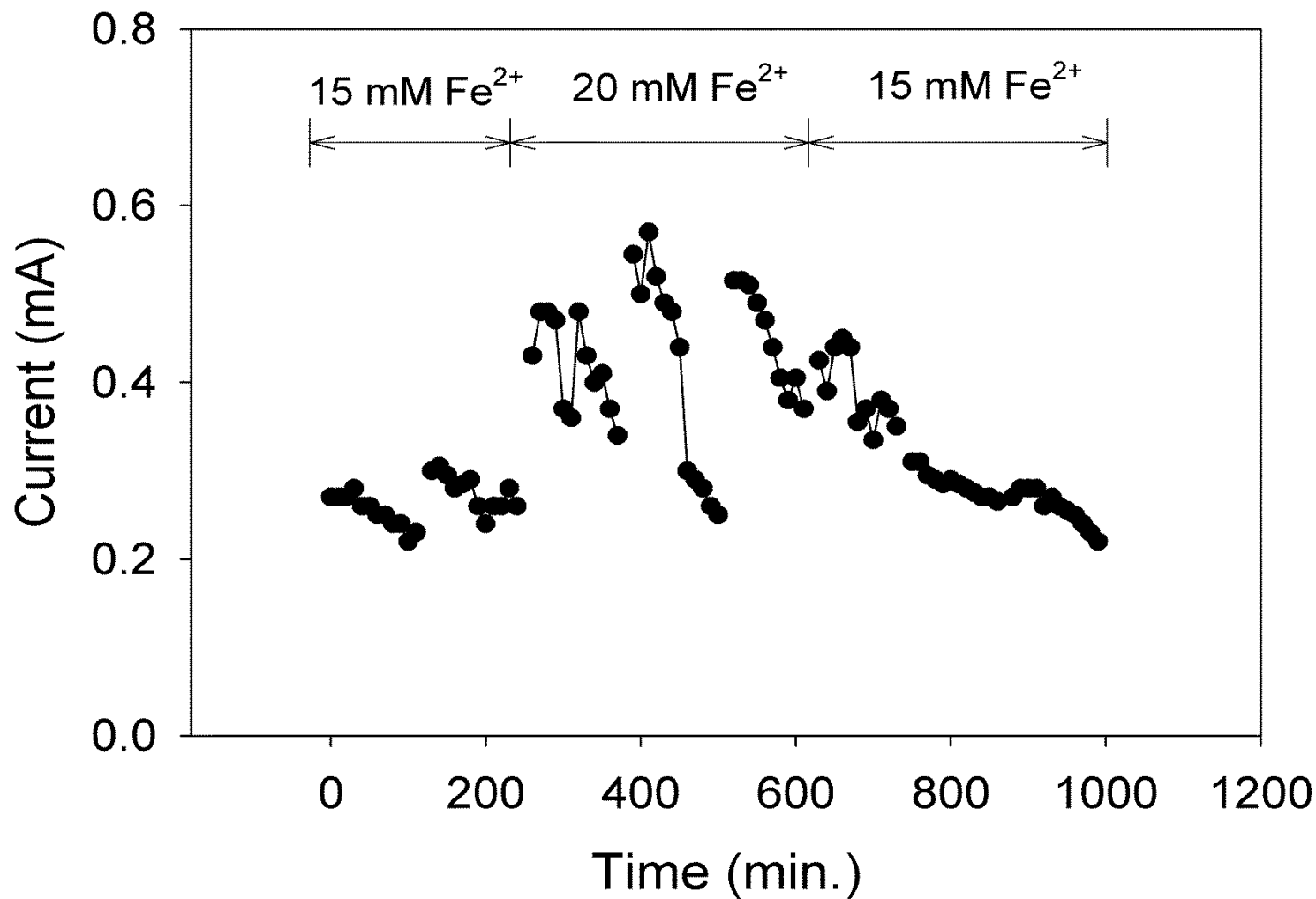


Figure S3. Patterns of the generated current by a LIO-MFC when tested consecutively with the analytes containing 15 mM of Fe²⁺ (for 2 batches), 20 mM of Fe²⁺ (for 3 batches) and 15 mM of Fe²⁺ again (for 3 batches). The duration of a batch is ca. 120 min. The MFC was operated with a 10 ohm external resistor, at 25 °C.

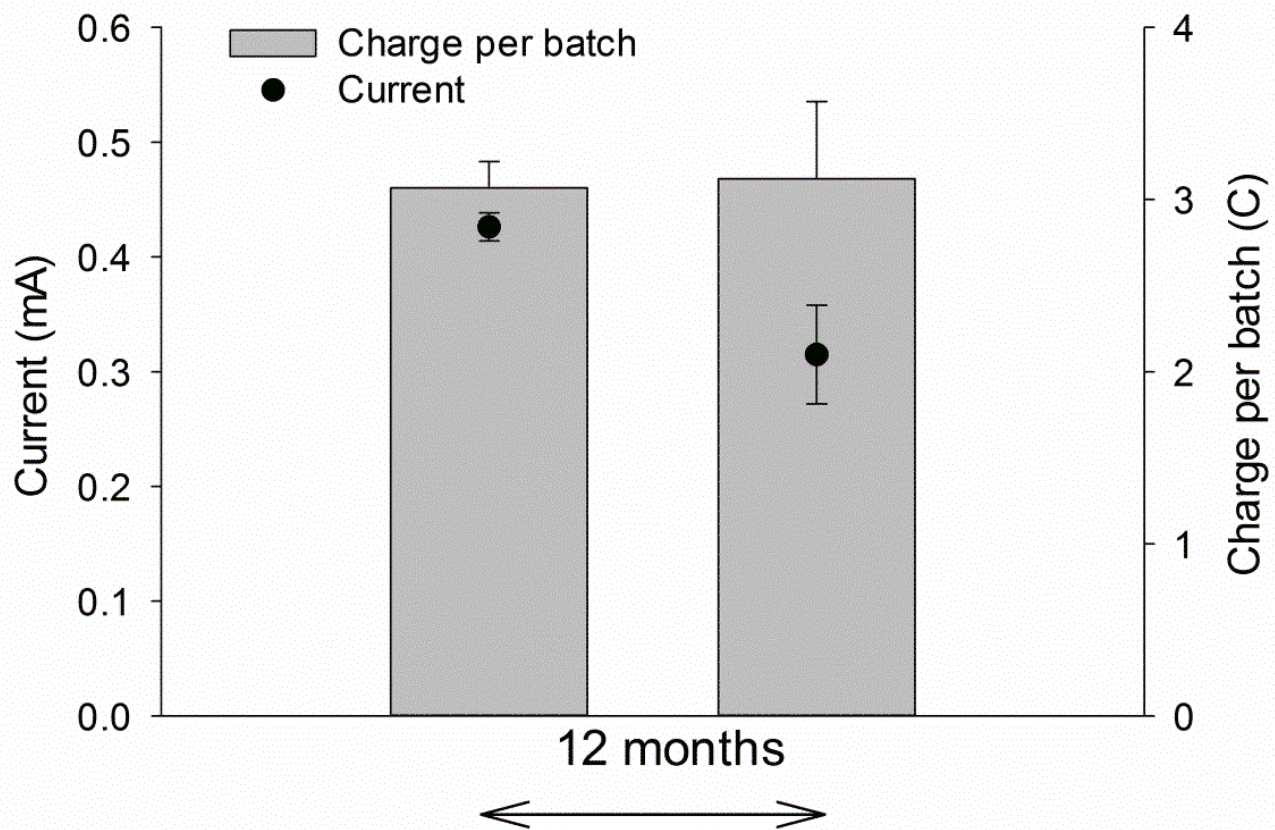


Figure S4. A comparison of the current and the per-batch charge amount produced by a LIO-MFC with those also produced by it after 12 months of operation. The operational conditions were consistent in all experimental cases.