

Surface Enhanced Raman Spectroscopy of Organic Molecules on Magnetite (Fe₃O₄) Nanoparticles

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Supplementary Information

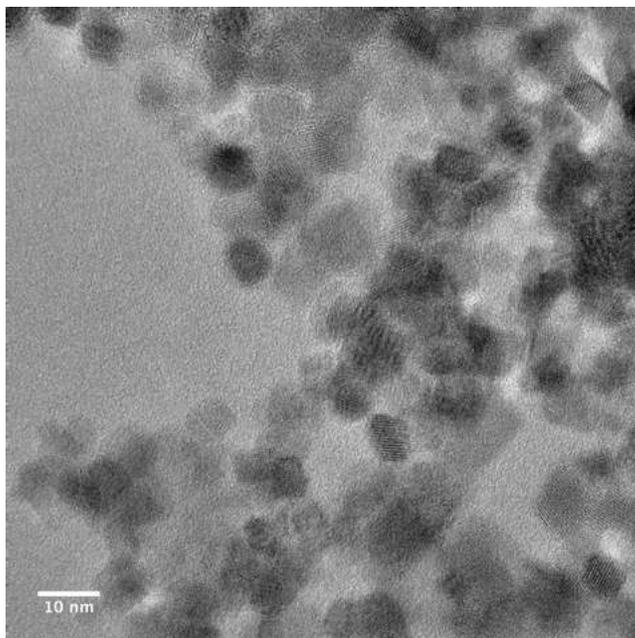


Figure S1. Transmission electron microscopy image of an aggregate of as-synthesized magnetite nanoparticles with a primary particle size around 9 nm.

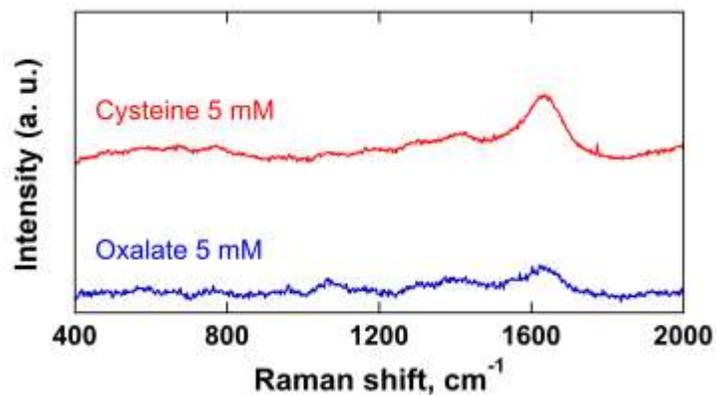


Figure S2. Raman spectra of each of the molecules in solution (i.e. no nanoparticles are present). There was no sharp features and the signals were weak with strong fluorescence background.

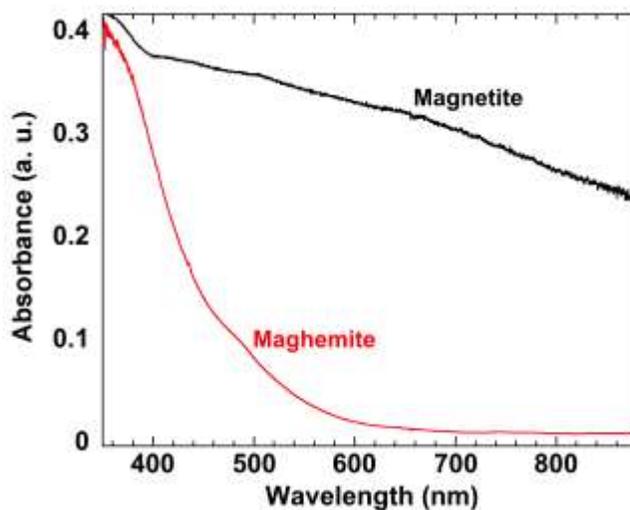


Figure S3. UV-vis spectra of aqueous suspensions of magnetite and maghemite. Magnetite shows a broad and strong absorption from the visible to the near-infrared that is lost upon oxidation and the formation of maghemite.

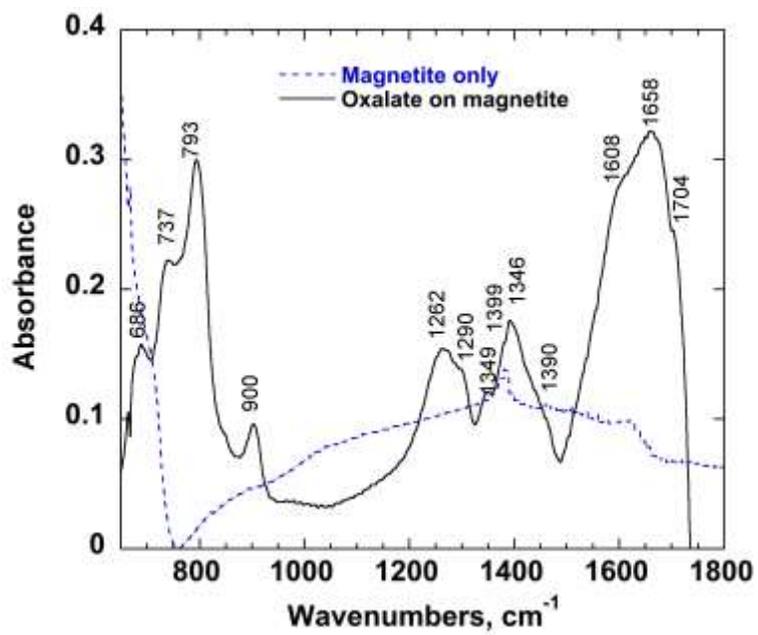


Figure S4. FTIR transmission measurement of oxalate on magnetite using KBr pellet. Magnetite only suspension is plotted in blue dotted line, and oxalate on magnetite is plotted in black solid line.