Electronic Supplementary Information:

Analysis of Micro- and Nanoscale Heterogeneities within Environmentally Relevant Thin Films Containing Biological Components, Oxyanions and Minerals Using AFM-IR Spectroscopy

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Electronic Supplementary Information Content: This supporting information (SI) contains **2 figure** and **2 pages** in total.

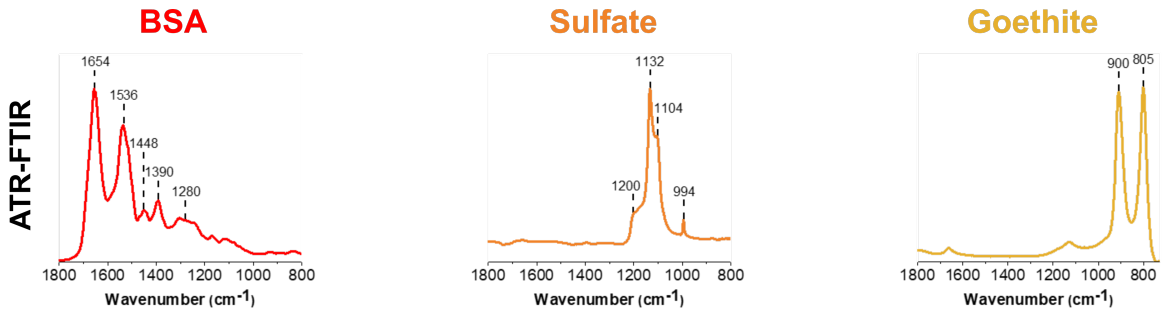

Figure S1. Normalized ATR-FTIR spectra of thin films of BSA, sulfate, and goethite on an AMTIR crystal.

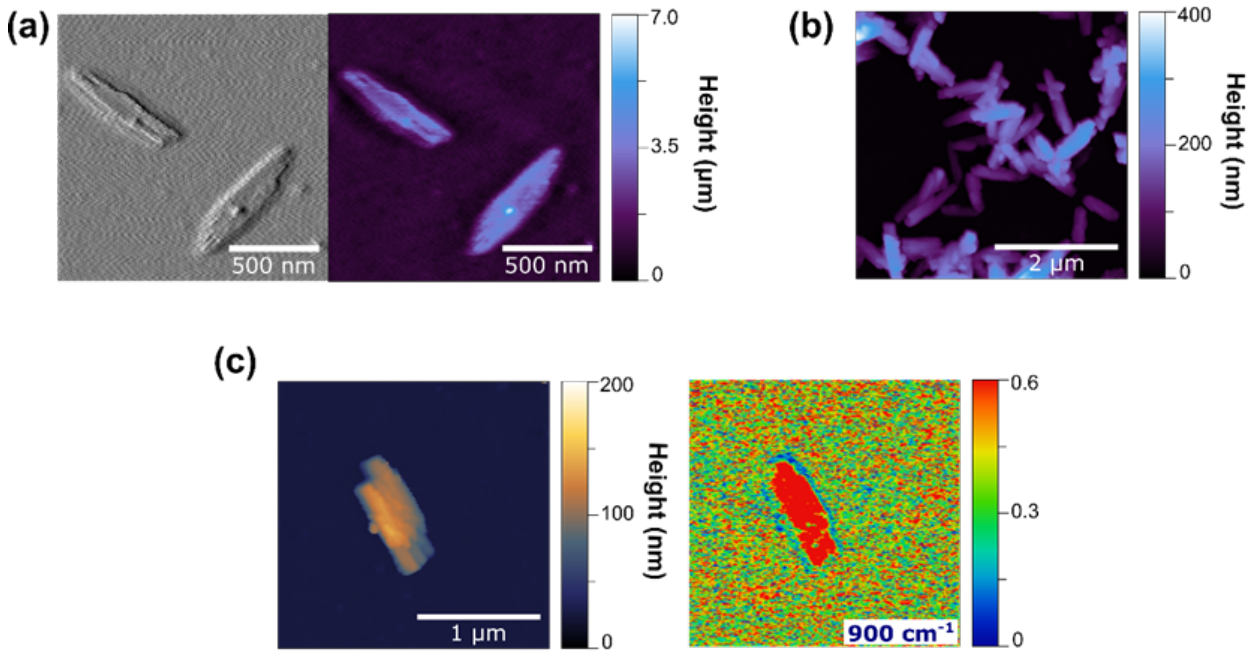

Figure S2. AFM images of α-FeOOH nanoparticles (a) individually, over a 1.5 x 1.5 μm region, and (b) as a cluster, over a 4 x 4 μm region. These images confirm the rod-like shape of goethite nanoparticles as well as their natural behavior to aggregates into clusters. IR activity at 900 cm^{-1} of the out-of-plane O-H bending mode is confirmed by the AFM image of a cluster of goethite nanoparticles and its corresponding AFM-PTIR spectral map.