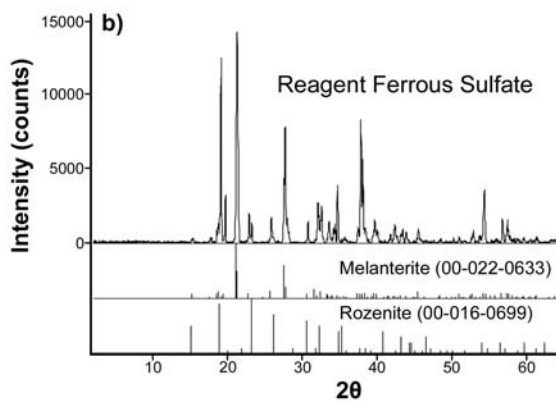
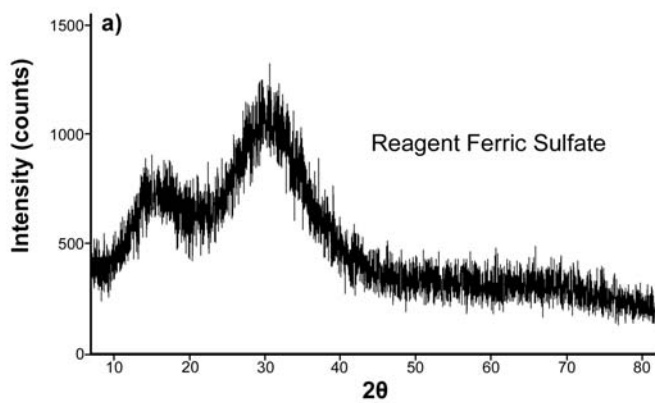
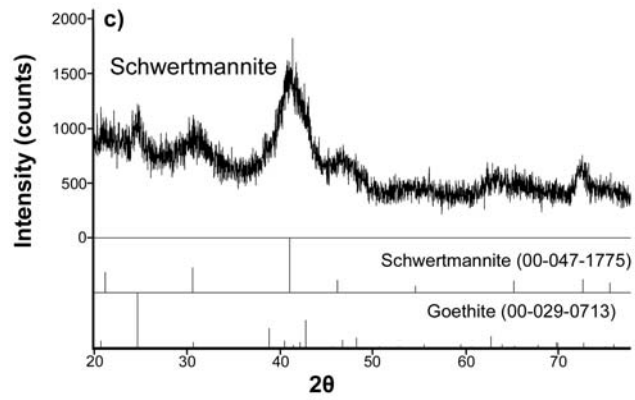
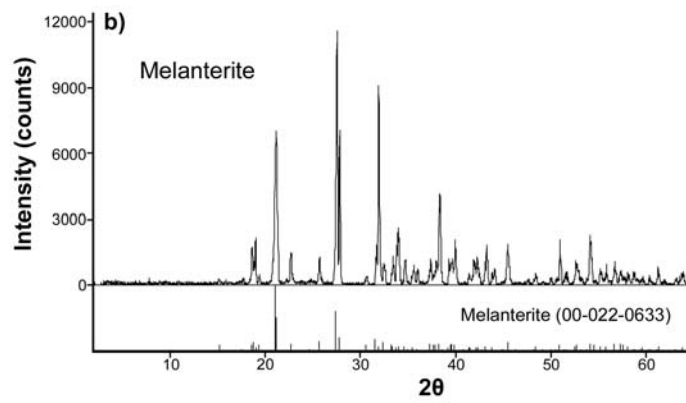
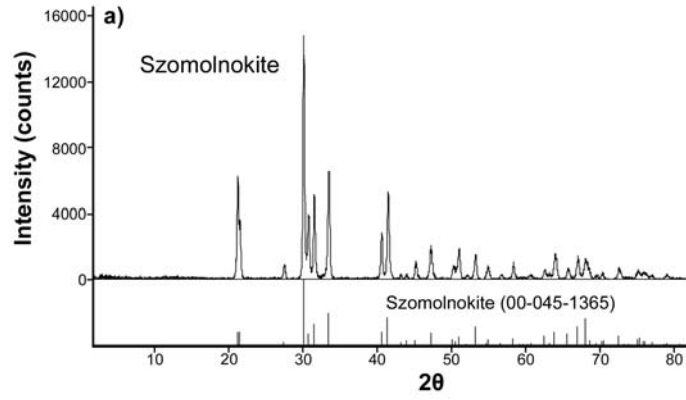
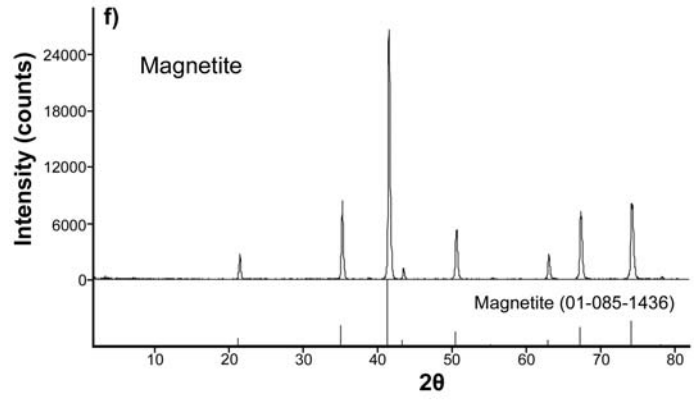
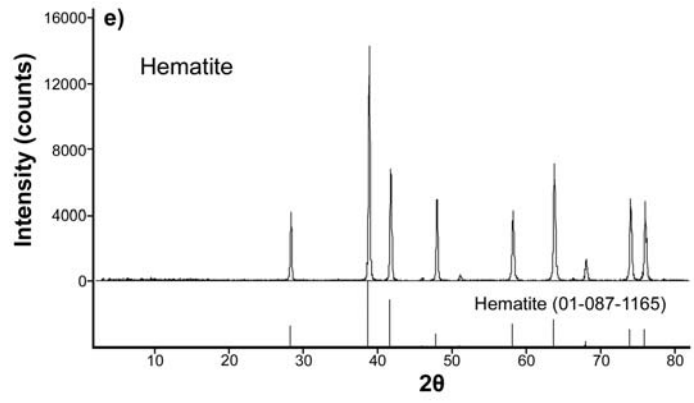
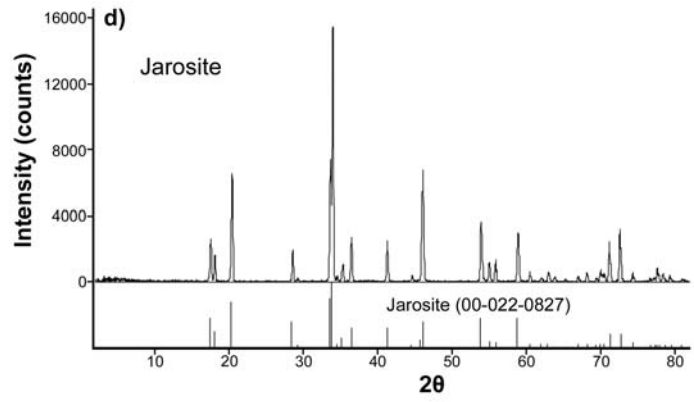


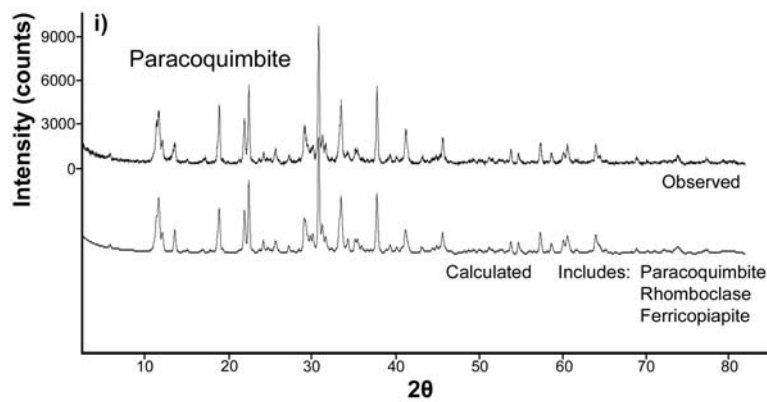
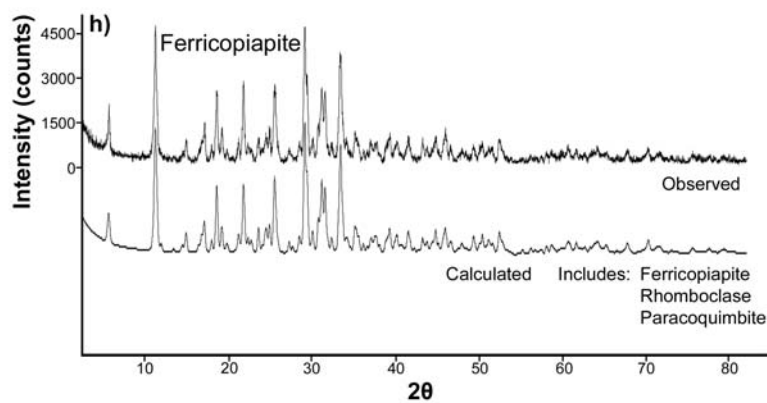
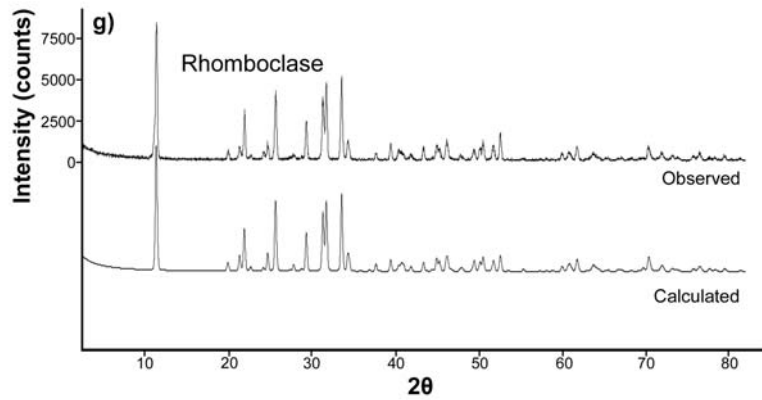
## Supplementary Data



Deposit<sup>1</sup>. XRD patterns of reagents with matching patterns from the ICDD database. a) reagent ferric sulfate, b) reagent ferrous sulfate.







Deposit<sup>2</sup>. a)-i). XRD patterns a-f with matching patterns from the ICDD database. XRD patterns g-i with calculated patterns from known crystal structures. a) szomolnokite, b) melanterite, c) schwertmannite, d) jarosite, e) hematite, f) magnetite, g) rhomboclase, h) ferricopiapite, i) paracoquimbite.

**Deposit<sup>3</sup>. Microanalysis standards used**

<b>Element</b>	<b>EPMA Calibration Standard</b>	<b>SEM Calibration Standard</b>
C		‡Diamond
O	*Almandine	*Corundum
O	*Hematite	*Hematite
Na	*Albite	
Mg	*Dolomite	*Dolomite
Al, K	Orthoclase	
S	†Barite	Jarosite
K		*Muscovite
Ti	Rutile	
V	Vanadium Metal	
Mn	Spessartine	Spessartine
Fe ( <i>K</i> line)	Hematite	Hematite
Fe ( <i>L</i> line)		‡Iron Metal
Co	Cobalt Metal	Cobalt Metal
As	InAs	
Mo	CaMoO <sub>4</sub>	

\*McGuire et al. (1992)

†Permanent EPMA standard and could not be used for SEM analysis

‡Used for spectral deconvolution of the oxygen peak and background