

Figure 11. Mössbauer spectrum and curve fitting results (a, b) of a 7h ESD product from melanterite, $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$

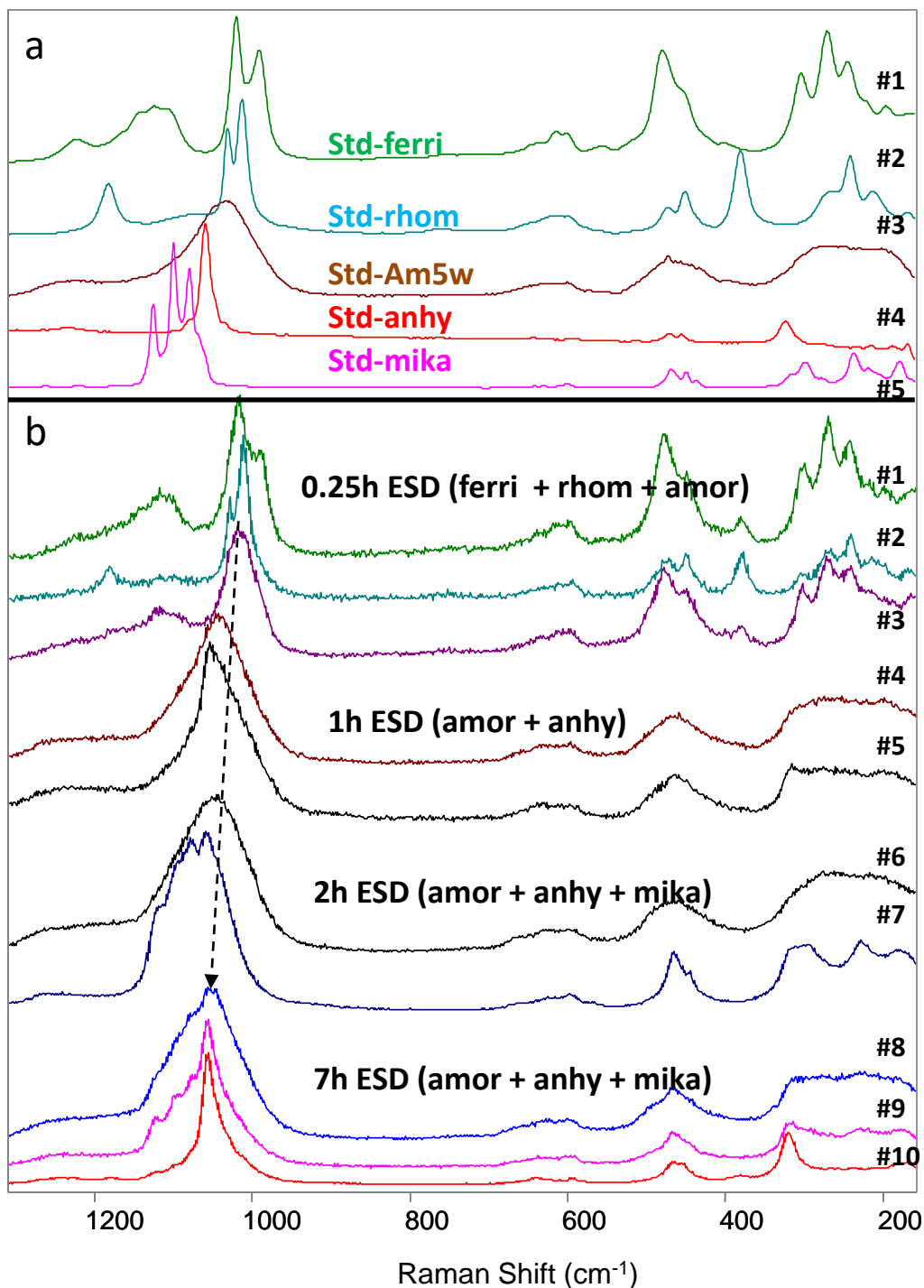


Figure 12. Raman spectra of ESD product from ferricopiapite $\text{Fe}_{4.67}(\text{SO}_4)_6(\text{OH})_2 \cdot 20\text{H}_2\text{O}$, compared with standards. (a) Standard spectra of ferricopiapite (ferri), rhomboclase $\text{FeH}(\text{SO}_4) \cdot 4\text{H}_2\text{O}$ (rhom), amorphous $\text{Fe}_2(\text{SO}_4)_3 \cdot 5\text{H}_2\text{O}$ (Am5w), anhydrous $\text{Fe}_2(\text{SO}_4)_3$ (anhy), and mikasaite $\text{Fe}_2(\text{SO}_4)_3$ (mika) (Ling and Wang 2010); (b) Raman spectra of ESD products from ferricopiapite.

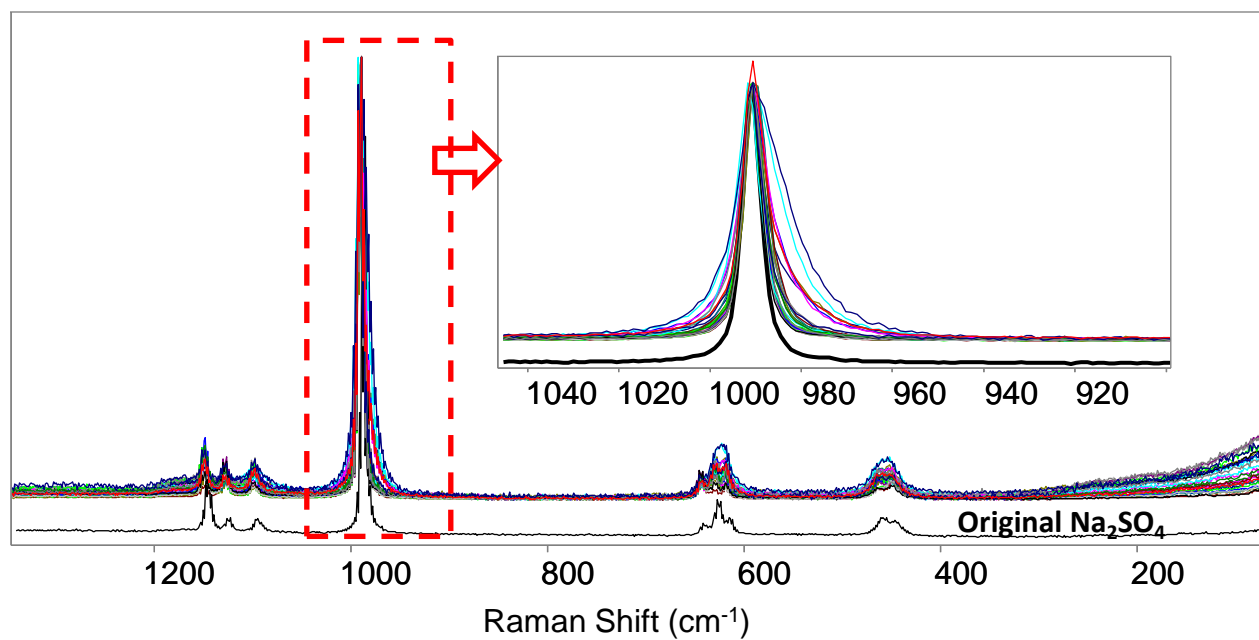


Figure 13. Raman spectra of 7h ESD product from Na₂SO₄, compared with the spectrum of starting Na₂SO₄.

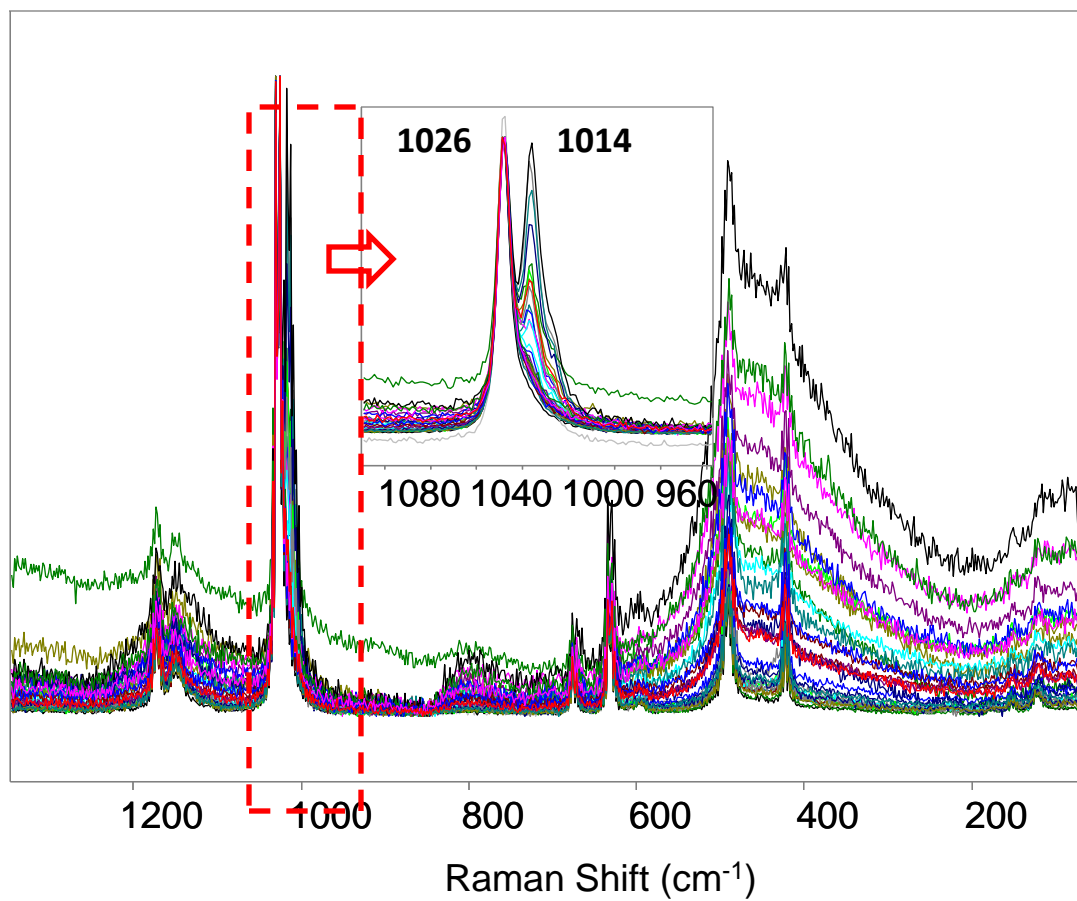


Figure 14. Raman spectra of 7h ESD product from $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

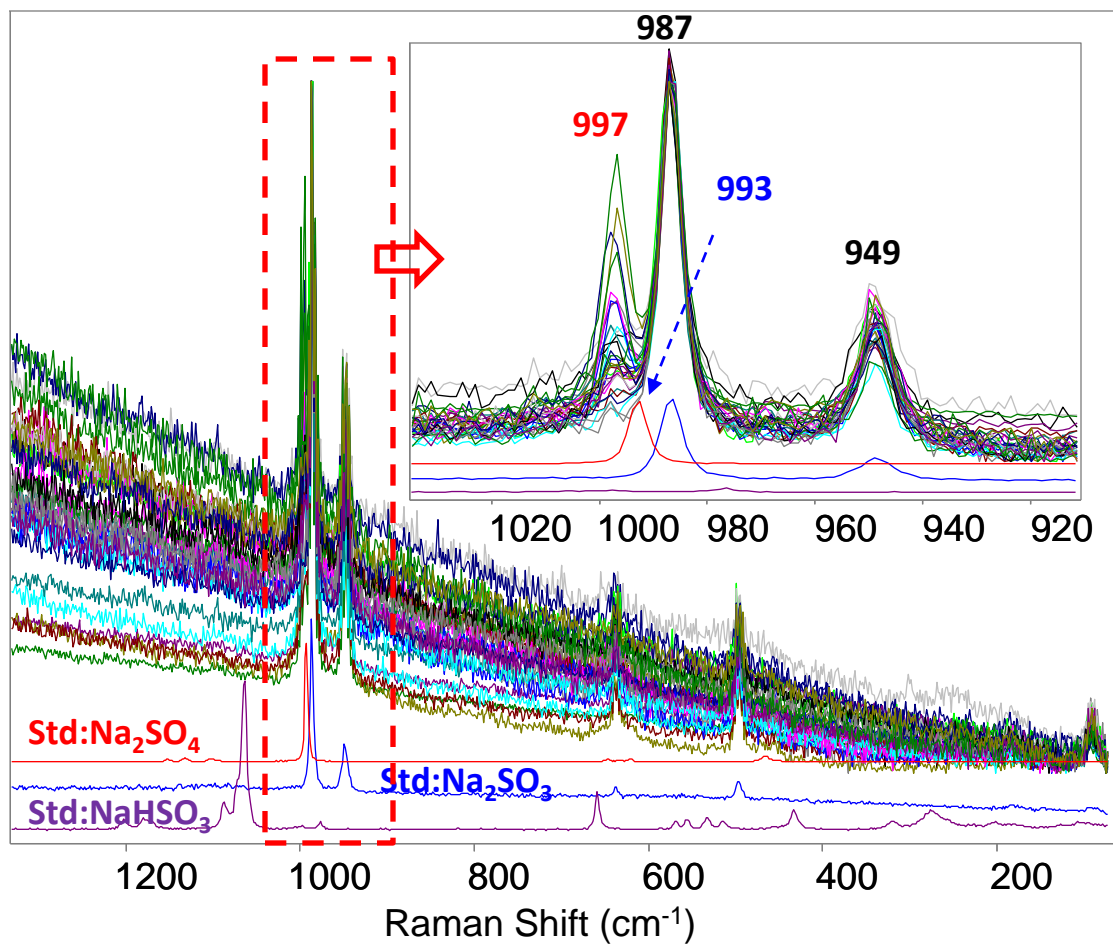


Figure 15. Raman spectra of 7h ESD products from NaSO₃, compared with standard spectra.

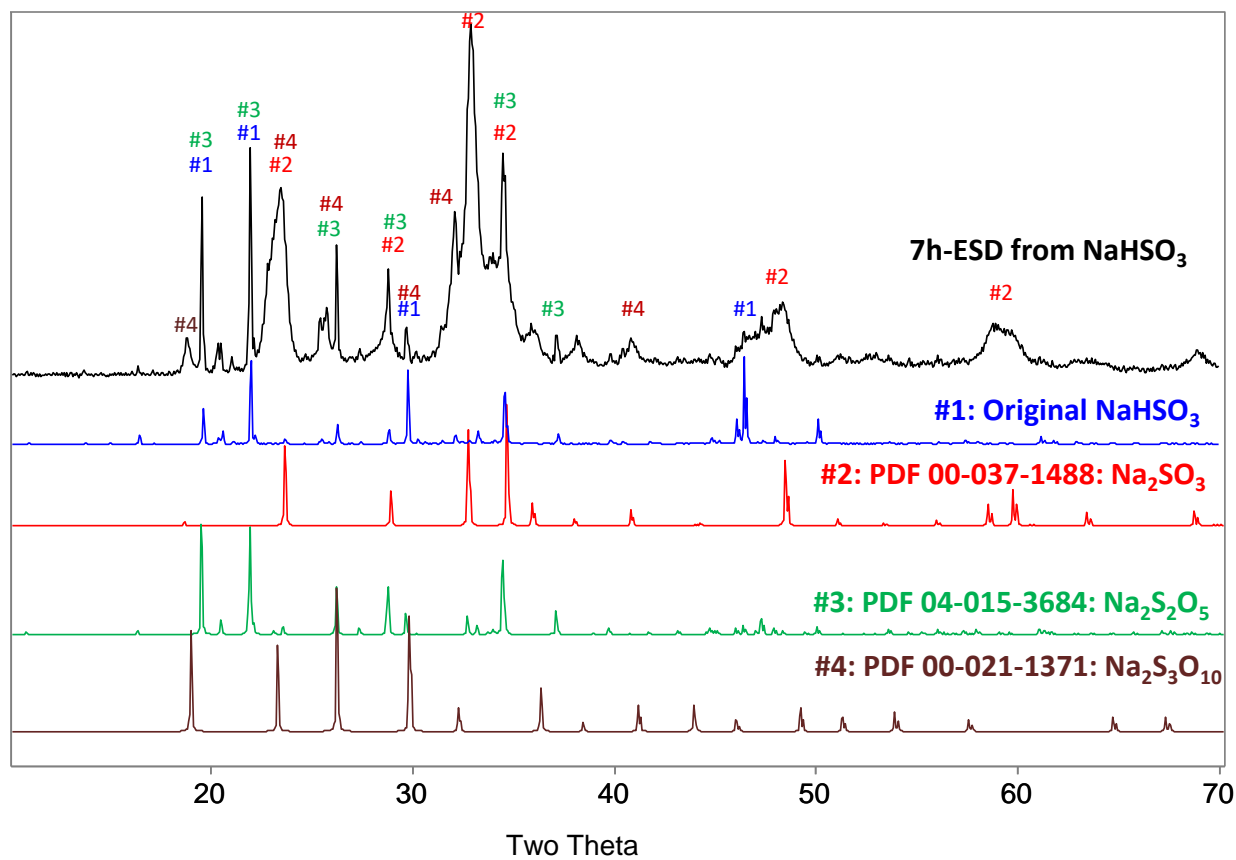


Figure 16. XRD results of 7h ESD product from NaHSO_3 , compared with original salt, and standards.

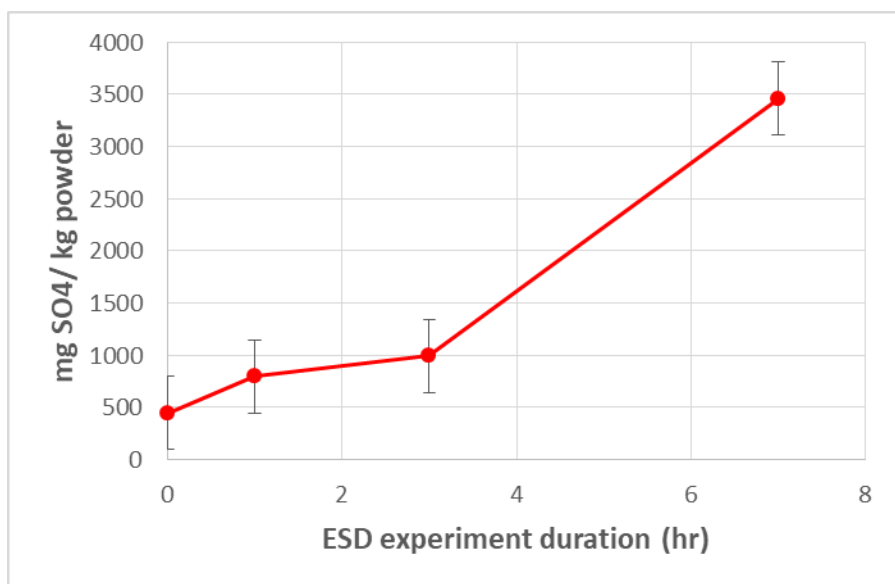


Figure 17. Results from ion chromatography on 1h, 2h, 7h ESD products from Na_2SO_3 .

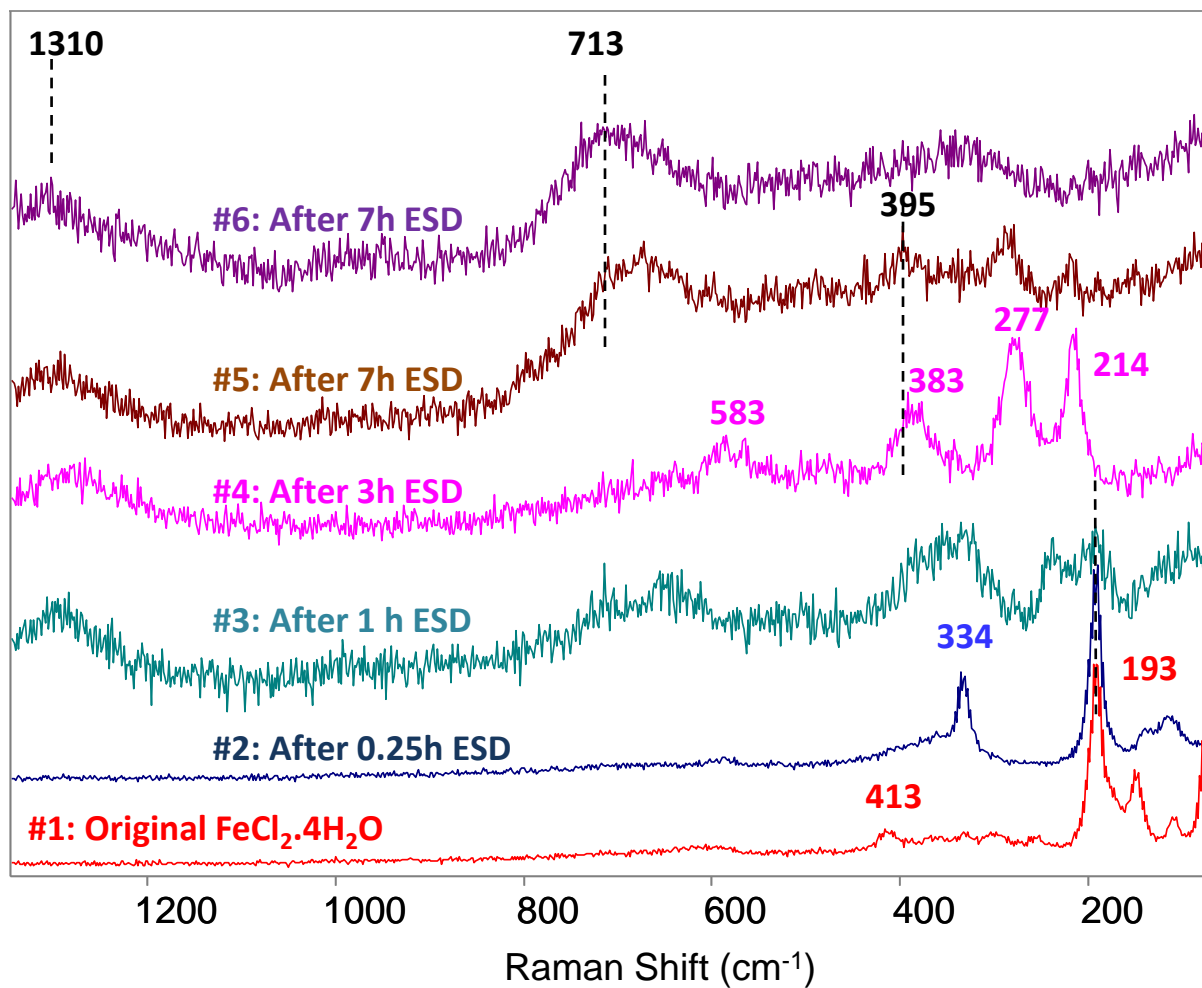


Figure 18. Typical Raman spectra of LT-ESD-products from $\text{FeCl}_2 \cdot 4\text{H}_2\text{O}$, compared with a standard spectrum of starting $\text{FeCl}_2 \cdot 4\text{H}_2\text{O}$.

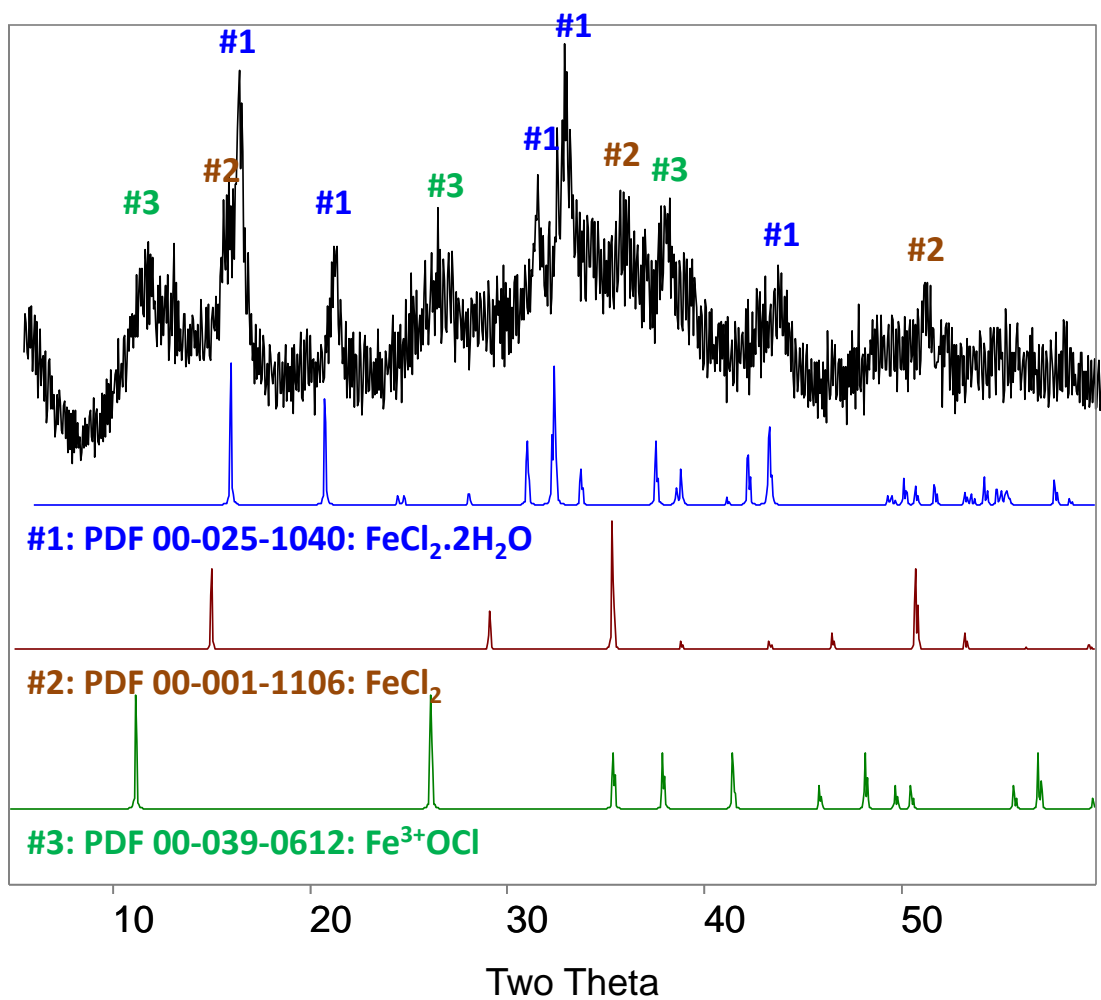


Figure 19. XRD pattern of LT-7h ESD product from $\text{FeCl}_2 \cdot 4\text{H}_2\text{O}$, compared with standards.

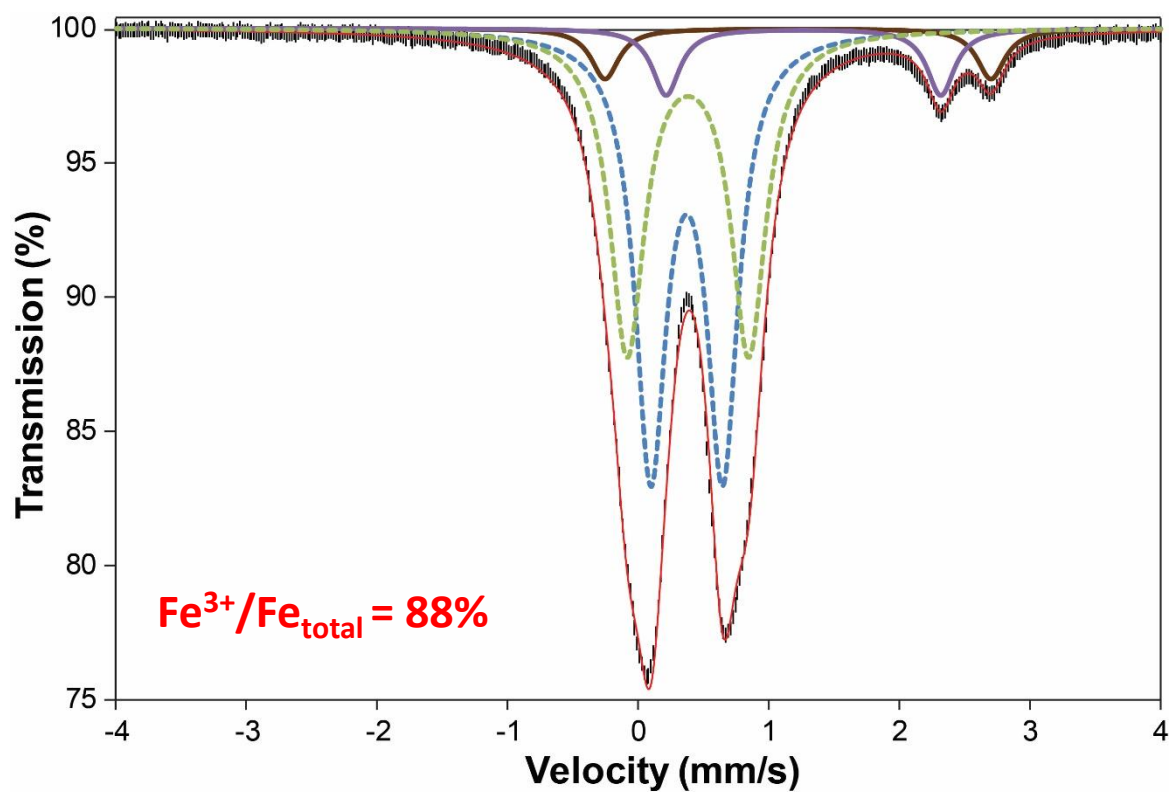


Figure 20. Mössbauer spectrum and curve fitting results of a 7h ESD product from $\text{FeCl}_2 \cdot 4\text{H}_2\text{O}$.

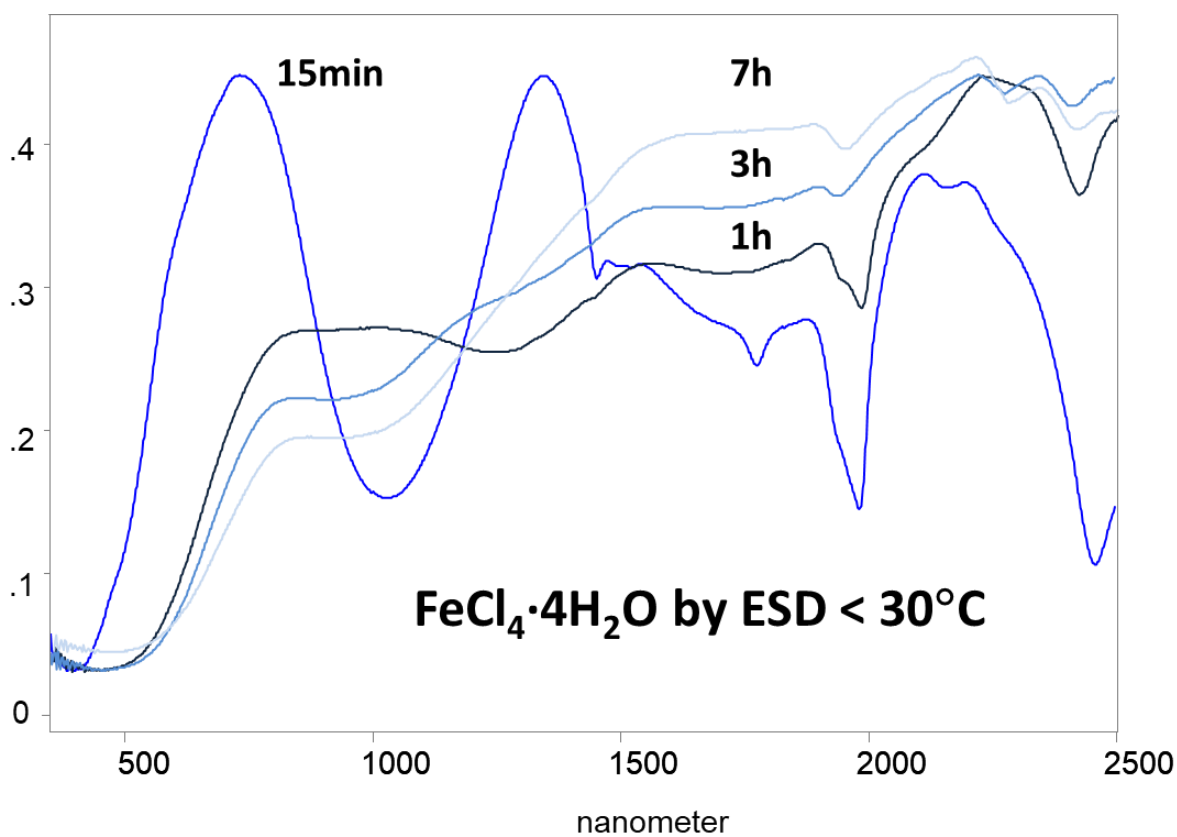


Figure 21. VNIR spectra from as is surfaces of 0.25h, 1h, 3h, 7h LT-ESD ($T_{\text{eq}} < 30^\circ\text{C}$) from $\text{FeCl}_2 \cdot 4\text{H}_2\text{O}$.

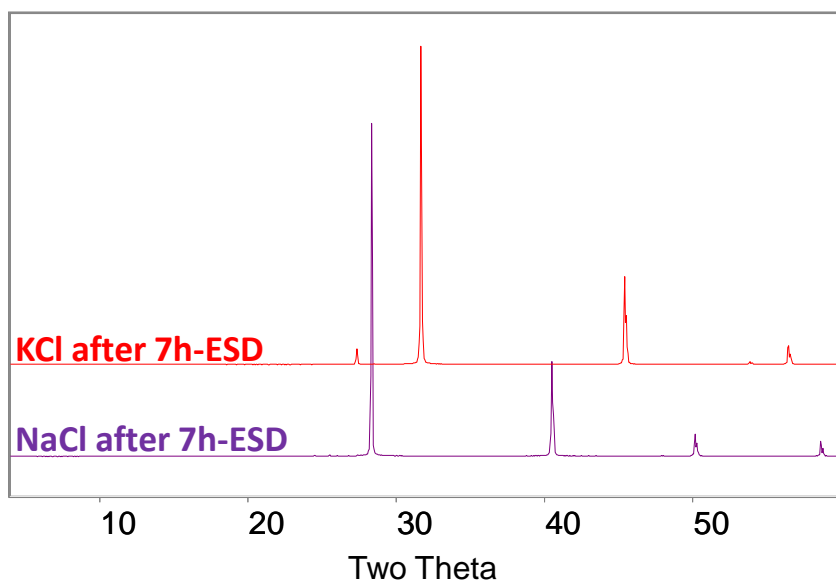


Figure 22. XRD results of ESD-7h products from NaCl, KCl, which match with PDF:00-005-0628(NaCl) and PDF: 00-004-0587 (KCl).

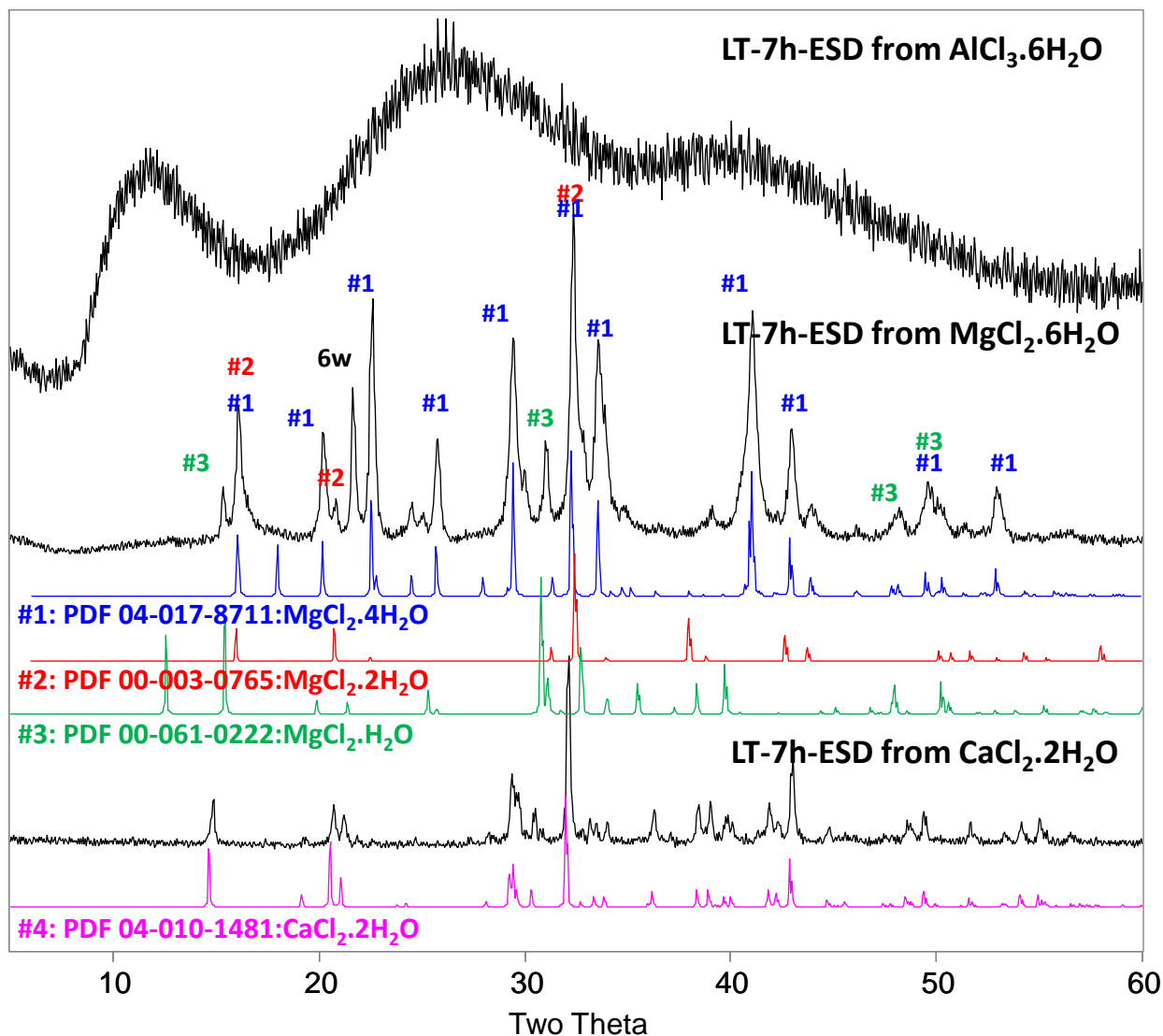


Figure 23. XRD results obtained from LT-7h ESD on $\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$, $\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$ and $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$, compared with standards.