materials

Supplementary Materials: Birnessite: A New Oxidant for Green Rust Formation

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Supplementary Information

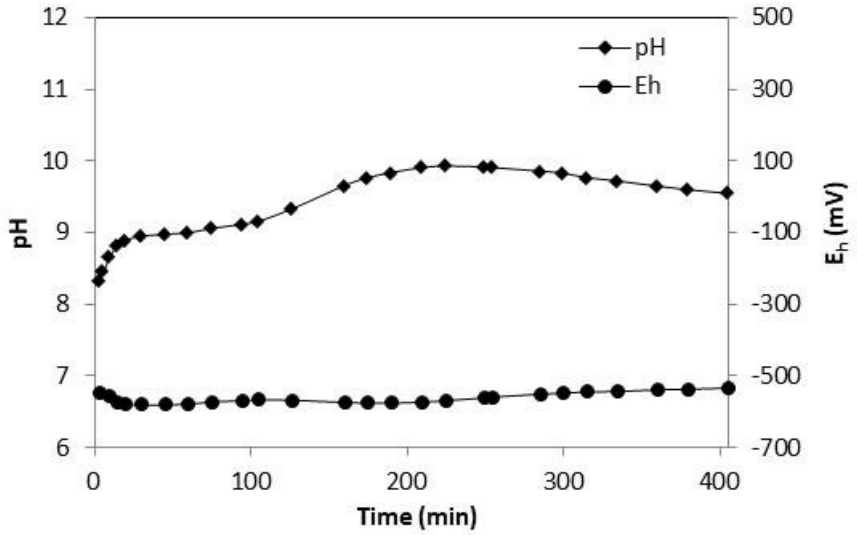

Figure 1. E_h and pH vs time for R = 0.6 and [Bir] = 5 $g.L^{-1}$, under N_2 blanketing. Birnessite added at t = 3 min.

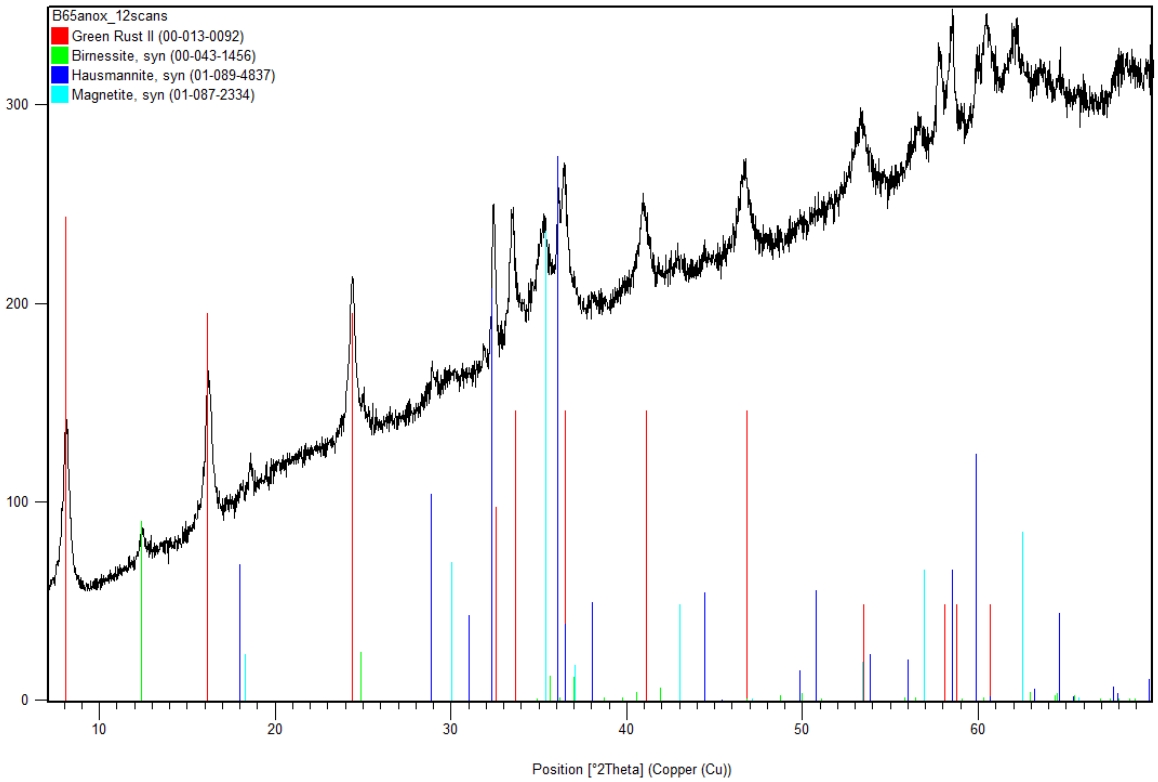

Figure 2. XRD patterns of R06B05IN2 (black). Tick marks of the patterns of birnessite (green, ICSD: 00-043-1456), hausmannite (blue, ICSD: 01-089-4837), green rust (red, ICSD: 00-013-0092) and magnetite (cyan, ICSD: 01-089-2355) are also shown as guidelines. The sample was prepared with R = 0.6, [Bir] = 5 g.L-1, under N2 blanketing. Solid product was withdrawn at t = 400 min (see Figure SI 1).

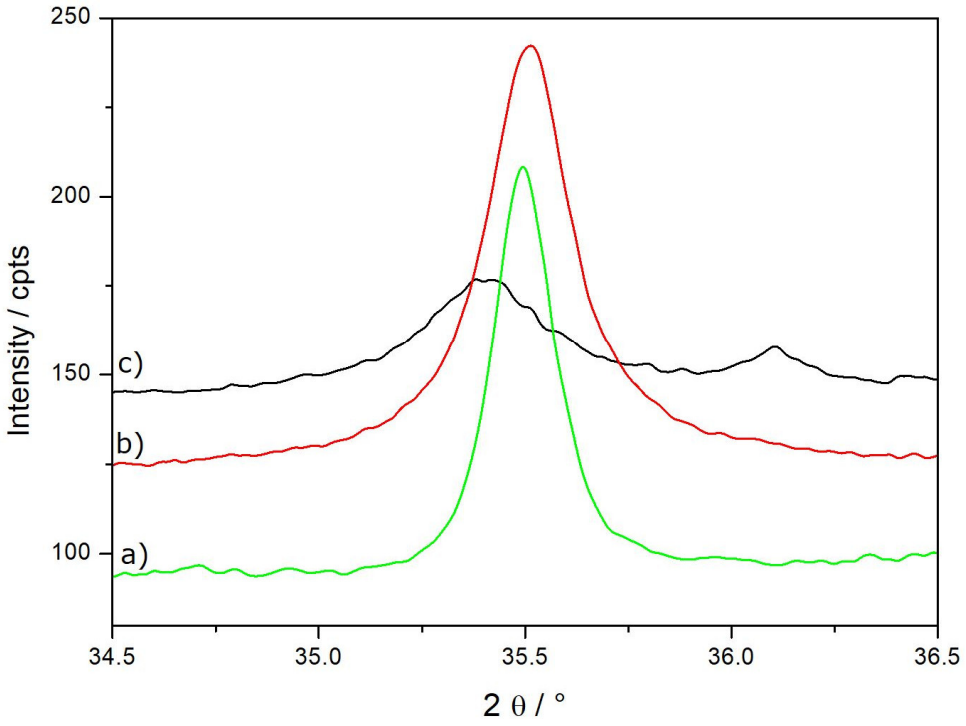

Figure 3. XRD patterns (**a**) R06F (green), (**b**) R06B02F (red), (**c**) R06B05F (black) samples. Zoom of Figure 2 in the region of (311) magnetite peak.

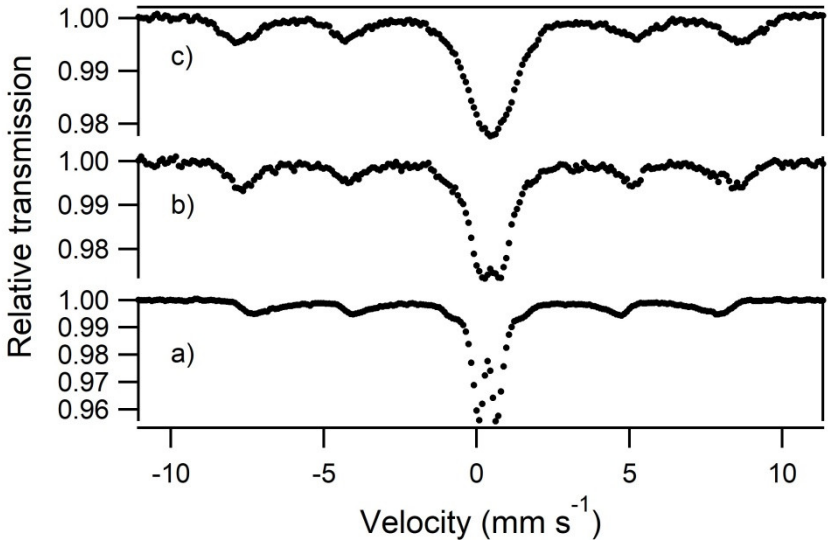

Figure 4. ^{57}Fe Mössbauer spectra of R06B05F recorded at (**a**) room temperature, (**b**) 140 K and (**c**) 77 K.