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LETTER

The effect of zinc sulfide on phase transformations of ferrihydrite

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ABSTRACT

The addition of ZnS particles to suspensions of ferrihydrite promotes the formation of the more crystalline phases goethite [α -FeO(OH)] and hematite (α -Fe₂O₃) at pH ~ 2–3 and 85 °C. This previously undocumented effect appears to arise from surface-mediated reduction of Fe³⁺ species to Fe²⁺ with associated dissolution of ZnS.