

[Fe₁₉] "Super-lindqvist" aggregate and large 3D interpenetrating coordination polymer from solvothermal reactions of [Fe₂(OtBu)₆] with ethanol.

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Streszczenie

The syntheses, crystal structures, and physical properties of [HFe₁₉O₁₄(OEt)₃₀] and {Fe₁₁(OEt)₂₄}_∞ are reported. [HFe₁₉O₁₄(OEt)₃₀] has an octahedral shape. Its core with a central Fe metal ion surrounded by six μ₆-oxo ligands is arranged in the rock salt structure. {Fe₁₁(OEt)₂₄}_∞ is a mixed-valence coordination polymer in which Fe^{III} metal ions form three 3D interpenetrating (10,3)-b nets. The arrangement of the Fe^{III} ions can also be compared to that of Si ions in α-ThSi₂. Thus, the described structures are at the interface between molecular and solid-state chemistry.

Słowa kluczowe

Coordination polymer, Iron, Polyoxometalates, single-molecule magnets, Solvothermal synthesis

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