[Co₄(μ₃-NPET₃)₂(HNPET₃)₂(O₂C-CH₃)₂-(μ-OSiMe₂OSiMe₂O)₂] – ein vierkerniger Cobalt(II)-Komplex mit Leiterstruktur

[Co₄(μ₃-NPET₃)₂(HNPET₃)₂(O₂C-CH₃)₂-(μ-OSiMe₂OSiMe₂O)₂] – a Tetranuclear Cobalt(II) Complex with Ladder Structure

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Cobalt, Phosphoraneiminato Complex

The title compound has been prepared from cobalt(II) acetate and Me₃SiNPEt₃ in boiling toluene in the presence of silicon grease and traces of water as blue single crystals which were characterized by IR spectroscopy and by a crystal structure determination. Space group Pbca, Z = 8, lattice dimensions at −50 °C: a = 1449.3(1), b = 1724.9(1), c = 2356.6(2) pm, R = 0.0548.

[Co₄(μ₃-NPET₃)₂(HNPET₃)₂(O₂C-CH₃)₂-(μ-OSiMe₂OSiMe₂O)₂] has a centrosymmetric structure. The four cobalt atoms which are coordinated tetrahedrally are μ₃-bridged via the N atoms of the two (NPEt₃⁻) groups and μ₂-bridged by the O atoms of the chelating (OSiMe₂OSiMe₂O²⁻) units. The core atoms are arranged in three four-membered rings which are connected in a stair-like way.