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Title:	Construction of a robust pillared-layer framework based on the rare paddlewheel subunit [Mn II 2 (μ -O ₂ CR) ₄ L ₂]: Synthesis, crystal structure and magnetic properties
Authors:	Gupta, Vijay (/jspui/browse?type=author&value=Gupta%2C+Vijay) Kumar, Sandeep (/jspui/browse?type=author&value=Kumar%2C+Sandeep) Mandal, S.K. (/jspui/browse?type=author&value=Mandal%2C+S.K.)
Keywords:	robust pillared-layer rare paddlewheel [Mn II 2 (μ -O ₂ CR) ₄ L ₂] crystal structure
Issue Date:	2015
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Abstract:	With numerous examples of heavier congeners as well as neighbors, only four paddlewheel compounds, including one coordination architecture, of manganese with the [MnII ₂ (μ -O ₂ CR) ₄ L ₂] core were reported in the literature. We report here a robust pillared-layer framework with an α -polonium topology comprising such a core as a subunit, {[Mn ₂ (O ₂ CC ₆ H ₄ Si(CH ₃) ₂ C ₆ H ₄ CO ₂) ₂ (4,4'-bpy)] _n (1), where 4,4'-bpy = 4,4'-bipyridine, with an Mn...Mn distance of 3.005(2) Å, which does not vary with temperature. For the first time, the variable temperature magnetic data (2-300 K) and crystal structures at two different temperatures (100 K and 296 K) are combined for the same example to support the fact that there is no metal-metal bond in such compounds like 1. Based on the magnetic measurements, an antiferromagnetic interaction (2J = -12.4 cm ⁻¹ with g = 2.014 (H = -2JS ₁ S ₂)) between two S ₁ = S ₂ = 5/2 spin centers exists in 1
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