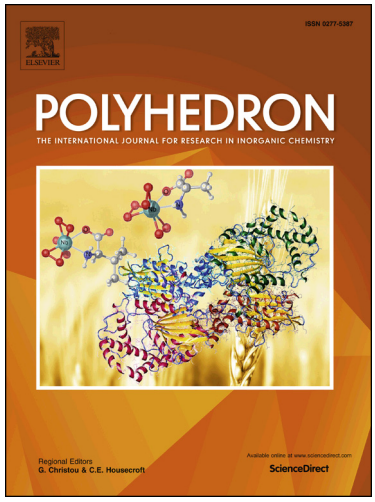

Chiral tetranuclear Ni^{II} clusters derived from Schiff bases and azido co-ligands.

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Chiral tetranuclear Ni^{II} clusters derived from Schiff bases and azido co-ligands.

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Dedicated to Prof. Spyros P. Perlepes, great friend and maestro of scientists

Abstract

Chiral tetranuclear clusters have been obtained employing enantiomerically pure Schiff bases and azido coligands. The core of the new clusters shows defective dicubane topology with two vertices occupied by two $\mu_{1,1,1}$-N_3 ligands. Linkage between the Ni^{II} cations is completed with two μ-O(phenoxo) and two μ-Cl bridging ligands. The new systems have been characterized by single crystal X-ray analysis, electronic circular dichroism and susceptibility/magnetization measurements that reveal ferromagnetic response and strong positive zero field splitting of the $S = 4$ ground state.

Keywords: nickel, Schiff base, magnetism, chirality, circular dichroism.