

An extremely rare example of asymmetric tetranuclear core $\{M_4(\mu_3-X)_2(\mu-X)_4\}$ in a novel alkoxo-bridged heterometallic Cr/Cd complex.

Autorzy

V. V. Semenaka
Oksana V. Nesterova
Vladimir N. Kokozay
Viktoriya V. Dyakonenko

Oleg V. Shishkin

Roman Boča

Julia Jezierska

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Streszczenie

A novel heterometallic tetranuclear complex $[Cr_3Cd(NCS)_4(H_2tea)(Htea)_3] \cdot 3CH_3OH$ (**1**) has been prepared using cadmium oxide, Reinecke's salt, ammonium thiocyanate and a methanol solution of triethanolamine (H_3tea) in air. Crystallographic investigations reveal that the molecular structure of the complex is based on an uncommon asymmetric $\{Cr_3Cd(\mu_3-O)_2(\mu-O)_4\}$ core with firstly observed terminal coordination of the NCS-groups in such molecular structure type. A network of $O-H \cdots O$ hydrogen bonds as well as $S \cdots S$ interactions link the molecules into a two-dimensional supramolecular network. Variable-temperature (1.8–300 K) magnetic susceptibility measurements show a change of the μ_B value at low temperature, indicative of antiferromagnetic interactions ($J = -7.45 \text{ cm}^{-1}$) between chromium(III) centers.

Adres publiczny

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<https://www.rsc.org/>

Adres w repozytorium <https://old.chem.uni.wroc.pl/pl/repozytorium/zQ3afT7>.