Novel heterometallic Cu(II)/Cr(III) complex with unique open-chain N-ligand produced in conditions of direct template synthesis.

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Streszczenie

The one-pot self-assembly reaction of copper powder, Reineckes salt, acetone and tris(2-aminoethyl)amine (tren) in dmso affords to obtain a heterometallic compound [Cu(trenac)][$Cr(NCS)_4(NH_3)_2$](NCS) · 6dmso with novel Schiff-base ligand *N*-(2-{[(1*E*)-3-amino-1,3-dimethylbutylidene]amino}ethyl)-*N*-(2-aminoethyl)ethane-1,2-diamine (trenac). The ligand trenac is generated by metal-directed condensation of tren, acetone and ammonia, formed during the synthetic procedure. X-ray structural investigations showed that the complex consists of $[Cu(trenac)]^{2+}$ cations, anions of the Reineckes salt $[Cr(NCS)_4(NH_3)_2]^-$, uncoordinated thiocyanate groups and dmso molecules, which are held together by electrostatic forces and hydrogen-bonded interactions. The compound was characterized by EPR spectroscopic and magnetic susceptibility measurements.

Słowa kluczowe

Schiff-base ligand, Reineckes anion, copper(II)

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