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# Magnetic, electrochemical and antimicrobial properties of some Cu(II) complexes with TPMC.

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Streszczenie

Three complexes: [Cu2(C6H5COO)tpmc](ClO4)3.CH3OH, (A), (tpmc = N,N',N'',N'''- tetrakis(2-pyridilmethyl)-1,4,8,11-tetraazacyclotetradecane), [Cu2(Hpht)tpmc](ClO4)3.3H2O (H2pht = phtalic acid) (B) and [Cu4(ipht)(tpmc)2](ClO4)6_NaClO4_2CH3CN (H2ipht = isophtalic acid) (C) previously described were investigated by magnetic measurements, cyclic voltammetry (CV) and were tested towards some strains of microorganisms. It is found that all three complexes were electrochemically stable in the investigated ranges. The least stable was mi-iphtcomplex (C) due to the reaction of central ion, which is seen from weak peaks in its cyclic voltammogram. Complexes were characterized by variable temperature magnetic measurements (4.2-300 K) and the observed data were successfully simulated by the equation based on the spin Hamiltonian operator, H= -2JSS1 2, giving the ferromagnetic exchange parameters J = 0.92 cm-1 forA, J = 0.55 cm-1 forB and J= 0.65 cm-1for C. For the complex C model of molecular magnet with two magnetically isolated dimeric subunits was used. These results indicate the presence of weak ferromagnetic spin exchange interaction between the CuII magnetic centers within each molecule.

Słowa kluczowe

Cu(II) complex, tpmc, redox properties, carboxylato bridged ligands

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