

DINUCLEAR COMPLEXES AS BUILDING BLOCKS FOR TETRA-NUCLEAR MACROCYCLIC COMPLEXES WITH DITHIOLATE MACROCYCLIC LIGAND

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Abstract: A series of novel tri-, tetra- and pentanuclear complexes composed of dinuclear LM_2 units ($M=Co, Ni, Zn$; $L=24$ -membered macrocyclic hexaaza-dithiophenolate ligand) and ferrocene-carboxylate ($[CpFeC_5H_4CO_2]^-$), 1,1'-ferrocenedicarboxylate ($[Fe(C_5H_4-CO_2)_2]^{2-}$), acetylenedicarboxylate, terephthalate, isophthalate, and naphthalene diimide dicarboxylate groups is reported. The complexes have been synthesized and characterised by UV/Vis-, IR-spectroscopy, and X-ray crystallography. Each dicarboxylate dianion acts as a quadridentate bridging ligand linking two bioctahedral LM_2 units via $\mu_{1,3}$ -bridging carboxylate functions to generate discrete dications with a central $LM_2(O_2C-R-CO_2)M_2L$ core.

Keywords: coordination chemistry, amino-thiophenolate ligands, di- and tetranuclear complexes, ferrocene and naphthalene diimide derivatives, polynuclear complexes.