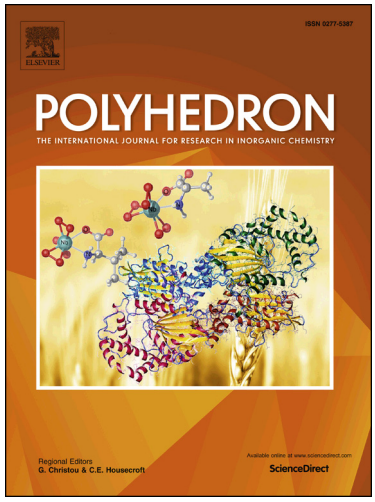

Supramolecular assembled networks in crystal structure built up of copper(II) dipicolinates with pyrazine- and pyridinecarboxamides connected through hydrogen bonds

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ABSTRACT

New copper(II) dipicolinate complexes containing pyrazine- or pyridinecarboxamides, namely {[Cu(pca)(dipic)(H_2O)]·H_2O} (**1**), [Cu(nia)(dipic)(H_2O)] (**2**), {[Cu(mnia)(dipic)(H_2O)]·$2H_2O$} (**3**), {[Cu(inia)(dipic)]$_n$·$2nCH_3OH$} (**4**) **{**[Cu(hmnia)(dipic)(H_2O)]$_2$·2[Cu(hmnia)(dipic)(H_2O)$_2$]·$4H_2O$} (**5**) and [Cu(denia)(dipic)(H_2O)] (**6**) (dipic = dipicolinate, anion derived from pyridine-2,6-dicarboxylic acid, pca = pyrazinecarboxamide, nia = nicotinamide, mnia = *N*-methylnicotinamide, inia = isonicotinamide, hmnia = *N*-(hydroxymethyl)nicotinamide and denia = *N,N*-diethylnicotinamide) were synthesized, structurally characterized by single-crystal X-ray diffraction analysis and their properties were studied using IR, UV/VIS and EPR spectroscopic techniques. The Cu(II) compounds are of square-pyramidal (**1 - 4** and **6**) or square-bipyramidal geometry (**5**), in which copper(II) centres are coordinated by N donor atom of a nicotinamide or its derivatives, one N donor atom and two O donor atoms of