

One- and Two- Dimensional Copper(I) Halide Based Coordination Polymers with Bridging Pyridazine or Pyrimidine Ligands

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1-Dimensional coordination polymers ∞ [CuX(μ -pydz)] **1** - **3** (X = Cl, Br, I; pydz = pyridazine) may be prepared by self-assembly in acetonitrile solution at 120 °C (**1**) or room temperature (**2**, **3**). Individual chains contain (CuX)₂ rings and dimeric [Cu(μ -pydz)]₂ substructures. At a 2:1 molar ratio treatment of CuI with pydz in acetonitrile affords the lamellar complex ∞ [(CuI)₂(μ -pydz)] (**4**) whose novel ∞ [(CuI)₂] sheets contain fused 4-, 6- and 8-membered (CuI)_n rings and are stabilized by pydz bridging between adjacent Cu atoms. In contrast, ∞ [(CuBr)₂(μ -pym)₂] (**5**) (pym = pyrimidine) contains separated ∞ [CuBr] chains and (CuBr)₂ rings as participating building units.