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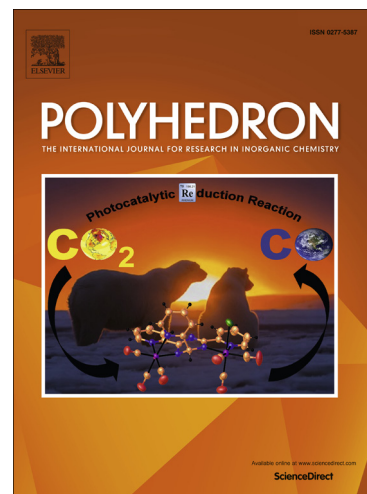
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**Polymeric and monomeric copper(II) thiophene- and furancarboxylato complexes.  
Bridging and terminal coordination of 3-pyridylmethanol.**

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**Keywords:** Copper(II), pyridylmethanol, bridging ligands, crystal structure, hydrogen bonds, thiophenecarboxylato, furancarboxylato

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**Abstract**

The synthesis and characterization of eight new coordination compounds [Cu(2-tpc)<sub>2</sub>(μ-3-pyme)<sub>2</sub>]<sub>n</sub> (**1**), [Cu(3-Me-2-tpc)<sub>2</sub>(μ-3-pyme)<sub>2</sub>]<sub>n</sub> (**2**), [Cu(5-Me-2-tpc)<sub>2</sub>(μ-3-pyme)<sub>2</sub>]<sub>n</sub> (**3**), [Cu(5-Cl-2-tpc)<sub>2</sub>(3-pyme)<sub>2</sub>] (**4**), [Cu(2-fuc)<sub>2</sub>(μ-3-pyme)<sub>2</sub>]<sub>n</sub> (**5**), [Cu(3-fuc)<sub>2</sub>(μ-3-pyme)<sub>2</sub>]<sub>n</sub> (**6**), [Cu(2,5-Me<sub>2</sub>-3-fuc)<sub>2</sub>(μ-3-pyme)<sub>2</sub>]<sub>n</sub> (**7**), and [Cu(5-NO<sub>2</sub>-2-fuc)<sub>2</sub>(μ-3-pyme)<sub>2</sub>]<sub>n</sub> (**8**) (where 2-tpc is 2-thiophenecarboxylato, 3-Me-2-tpc is 3-methyl-2-thiophenecarboxylato, 5-Me-2-tpc is 5-methyl-2-thiophenecarboxylato, 5-Cl-2-tpc is 5-chloro-2-thiophenecarboxylato, 2-fuc is 2-furancarboxylato, 3-fuc is 3-furancarboxylato, 2,5-Me<sub>2</sub>-3-fuc is 2,5-dimethyl-3-furancarboxylato, 5-NO<sub>2</sub>-2-fuc is 5-nitro-2-furancarboxylato and 3-pyme is 3-pyridylmethanol) is reported and their X-ray structures were determined. X-ray analysis revealed samples **1–3** and **5–8** to be coordination polymers, whereas the complex **4** is monomeric. The polymeric extension is achieved through bridging *N,O*-3-pyridylmethanol molecules, resulting in the observation of 2-D (**1–3**, **5–7**) or 1-D polymeric chains (**8**). In addition, the coordination polymers are also stabilized by strong intramolecular hydrogen bonds. On the other hand, the monomeric compound **4** with monodentate *N*-coordinated 3-pyridylmethanol ligands forms 1-D supramolecular chain due to

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