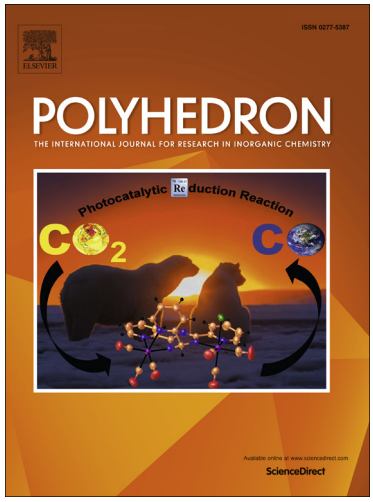

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Prasanta Bhowmik, Anik Bhattacharyya, Klaus Harms, Stephen Sproules, Shouvik Chattopadhyay

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Prasanta Bhowmik[a], Anik Bhattacharyya[a], Klaus Harms[b], Stephen Sproules[c], Shouvik Chattopadhyay[a,*]

[a] *Department of Chemistry, Inorganic Section, Jadavpur University, Kolkata -700 032, India.*

e-mail: shouvik.chem@gmail.com Tel:+(91)33-2457-2941

[b] *Fachbereich Chemie, Philipps-Universität Marburg, Hans-Meerwein-Straße, 35032 Marburg, Germany.*

[c] *WestCHEM, School of Chemistry, University of Glasgow, Glasgow G12 8QQ, United Kingdom.*

Abstract

Three copper(II) complexes, $[Cu_2(L)_2(\mu_{1,1}\text{-}N_3)_2]$ (**1**), $[Cu_2(L)_2(\mu_{1,1}\text{-}NCO)_2]$ (**2**) and $[Cu(L)(\mu_{1,5}\text{-}dca)]_n$ (**3**), where HL is a tridentate mono-condensed Schiff base, 1-(2-aminoethyliminomethyl)naphthalen-2-ol, and dca is dicyanamide, have been prepared and characterized by elemental analysis, IR, UV–Vis and fluorescence spectroscopy and single crystal X-ray diffraction studies. The Schiff base ligand was prepared by a counter anion mediated copper(II) templated synthesis. The azide ligand in complex **1** and the cyanate ligand in complex **2** show μ-1,1 bridging modes, whereas the dca ligand shows the μ-1,5 bridging mode in