Four $\mu_4$-oxo Bridged Copper(II) Complexes: Magnetic Properties and Catalytic Applications in Liquid Phase Partial Oxidation Reactions

Partha Roy$^{a,b}$, Mahasweta Nandi$^{c,d}$, Mario Manassero$^e$, Mauro Riccò$^f$, Marcello Mazzani$^f$, Asim Bhaumik$^d$ and Pradyot Banerjee$^{a,b}$

$^a$ Department of Chemistry, Jadavpur University, Jadavpur, Kolkata-700 032, India
$^b$ Department of Inorganic Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Kolkata-700 032, India.
E-mail: icpb@iacs.res.in. Fax: (+91) 33 2473-2805

$^c$ Department of Materials Science, Indian Association for the Cultivation of Science, Jadavpur, Kolkata 700 032, India.

$^d$ Department of Integrated Science, Visva-Bharati University, Santiniketan, 731 235, India.

$^e$ Dipartimento di Chimica Strutturale e Stereochimica Inorganica dell’Università di Milano, Via G. Venezian 21, 20133 Milano, Italy.

$^f$ Dipartimento di Fisica, Università di Parma, Via G. Usberti, 7/a, 43100, Parma, Italy.
Figure S1: A perspective view of Complex 2. Hydrogen atoms were omitted for clarity.
Color Code: copper (cyan), nitrogen (blue), oxygen (red) and carbon (gray).
Figure S2: A perspective of view of complex 3. Hydrogen atoms were omitted for clarity.

Color Code: copper (cyan), nitrogen (blue), oxygen (red) and carbon (gray).
Figure S3. Temperature dependence of magnetization for complex 2, measured in a magnetic field of 1kOe.
Figure S4. Temperature dependence of magnetization for complex 3, measured in a magnetic field of 1kOe.
Figure S5. Temperature dependence of magnetization for complex 4, measured in a magnetic field of 1kOe.

\[ J = -210.1 \pm 0.1 \text{ cm}^{-1} \]
Figure S6: HRTEM image of the as-synthesized mesoporous silica. Inset: Electron diffraction pattern suggesting hexagonal arrangement of the pores.