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Kinetic study of the Catecholase activities of a tetranuclearCu(I) complex in different Solvents

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Abstract: The structure of $[\text{Cu}_4(\mu^3\text{-Cl})_4(\text{PPh}_3)_4(\mathbf{1})]$ reveals a four coordinate system around the metal ions and $\mathbf{1}$ behaves as an effective catalyst towards the oxidation of 3,5-di-tert-butylcatechol in methanol and DMF to the corresponding quinone in the presence of oxygen. The reaction follows Michaelis–Menten enzymatic reaction kinetics with turnover numbers (K_{cat}), 2.06 and 1.51 h^{-1} in methanol and DMF respectively.

Keywords: Cu(I), Catecholase oxidase, turnover rate, triphenylphosphine.

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