

Electronic Supplementary Information

Peroxidase-like Oxidative Activity of a Manganese-Coordinated Histidyl Bolaamphiphile Self-Assembly

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1. Creation of copper and cobalt oxide clusters upon addition of H₂O₂

TEM images of copper and cobalt oxide clusters are shown in Figure S1. Right after the addition of H₂O₂ to the mixture containing Cu²⁺ and Co²⁺ ions, solid clusters of copper- and cobalt-oxides were generated. EDX analyses of the metal clusters confirmed the presence of Cu and Co ions.

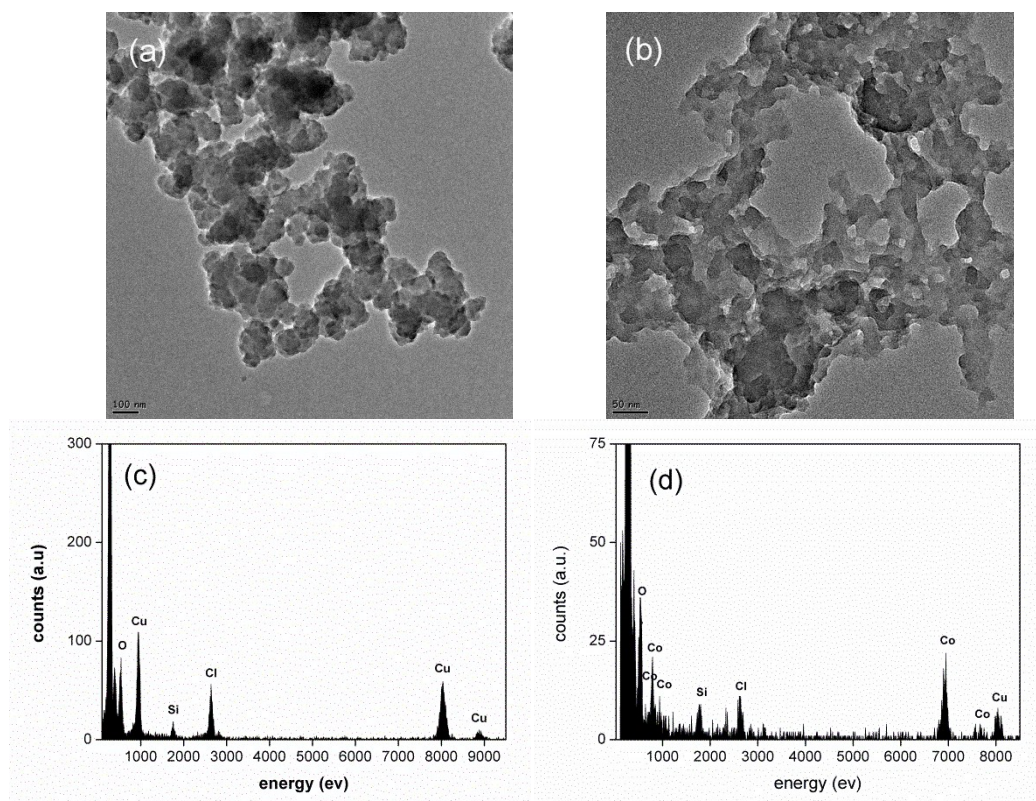


Figure S1. Characterization of the solid clusters obtained from the mixtures containing Cu and Co ions. TEM images of (a) copper oxide and (b) cobalt oxide clusters (scale bar: 100 nm and 50 nm, respectively) and corresponding EDX spectra (c: copper oxide, d: cobalt oxide).

2. Lineweaver-Burk plots of the catalysts prepared at various MnCl_2 concentrations

To determine the kinetics parameters, Lineweaver-Burk plots of each catalyst were constructed for data wherein the H_2O_2 concentration was 40 mM. The reaction rates were determined from the concentrations of 2,3-diaminophenazine produced in the early stages of the catalytic reaction.

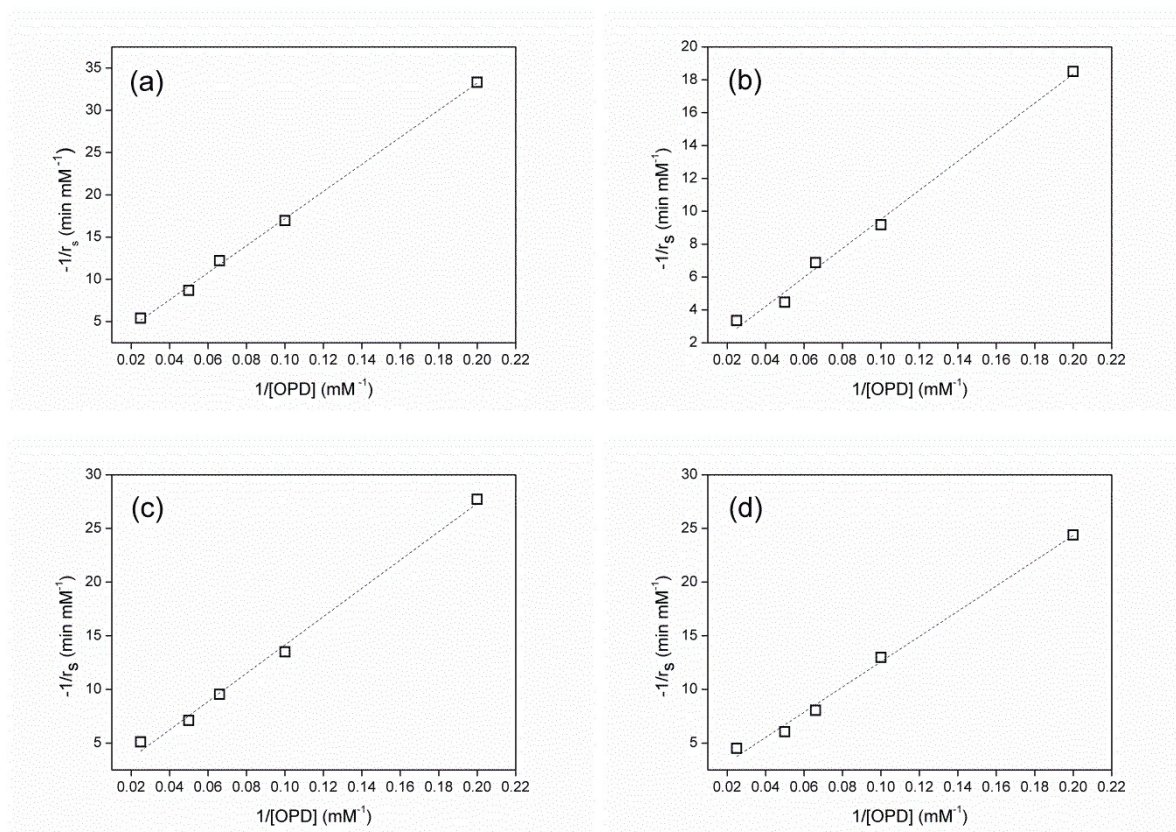


Figure S2. Lineweaver-Burk plots of the catalyst prepared with (a) 20 mM, (b) 40 mM, (c) 60 mM and (d) 80 mM MnCl_2 . The catalytic reaction was performed at pH 7.1 with a H_2O_2 concentration of 40 mM.