Supporting Information

A Controllable Transformation in Copper Valence States and Its Applications

Jing Yang^{*a*}, Le Xin Song^{**a,b*}, Jun Yang^{*a*}, Zheng Dang^{*a*} and Jie Chen^{*a*}

^{*a*} Department of Chemistry, University of Science and Technology of China, Hefei 230026, P. R. China ^{*b*} State Key Laboratory of Coordination Chemistry, Nanjing University, Nanjing 210093, P. R. China

solexin@ustc.edu.cn

A list of the contents for all the supporting information

| Pages | Contents |
|------------|--|
| S1 | A table of contents page. |
| S2 | Fig. A. XRD patterns of the sintering products of the mixtures of $CuCl_2 \cdot 2H_2O$ and α -CD with IMR of 1:0.12 (a), |
| | 1:2.3 (b), 1:4.7 (c), 1:14 (d), and 1:21 (e) at 573 K for 2 h in air. |
| S 3 | Fig. B. XRD patterns of the sintering products of the mixtures of CuCl ₂ ·2H ₂ O and glucose with IMR of 1:0.63 |
| | (a), 1:13 (b), 1:25 (c), 1:76 (d), and 1:114 (e) at 573 K for 2 h in air. |
| S4 | Fig. C. XRD patterns of the sintering products of the mixtures of CuCl ₂ ·2H ₂ O and starch with initial mass ratio of |
| | 1:0.7 (a), 1:2 (b), 1:6 (c), 1:10 (d), and 1:13 (e) at 573 K for 2 h in air. |

XRD patterns of the sintering products of the mixtures of CuCl₂·2H₂O and α-CD



Fig. A XRD patterns of the sintering products of the mixtures of $CuCl_2 \cdot 2H_2O$ and α -CD with mole ratios (MR) of 1:0.12 (a), 1:2.3 (b), 1:4.7 (c), 1:14 (d), and 1:21 (e) at 573 K for 2 h in air. Relative signal intensity was normalized to the intensity of the peak at 35.6° in curve c.

XRD patterns of the sintering products of the mixtures of CuCl₂·2H₂O and glucose



Fig. B XRD patterns of the sintering products of the mixtures of $CuCl_2 \cdot 2H_2O$ and glucose with mole ratios (MR) of 1:0.63 (a), 1:13 (b), 1:25 (c), 1:76 (d), and 1:114 (e) at 573 K for 2 h in air. Relative signal intensity was normalized to the intensity of the peak at 35.6° in curve e.

XRD patterns of the sintering products of the mixtures of CuCl₂·2H₂O and starch



Fig. C XRD patterns of the sintering products of the mixtures of $CuCl_2 \cdot 2H_2O$ and starch with initial mass ratio of 1:0.7 (a), 1:2 (b), 1:6 (c), 1:10 (d), and 1:13 (e) at 573 K for 2 h in air. Relative signal intensity was normalized to the intensity of the peak at 35.6° in curve c.