materials

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Article

Quantitative Immobilization of Phthalocyanine onto Bacterial Cellulose for Construction of High Performance Catalytic Membrane Reactor

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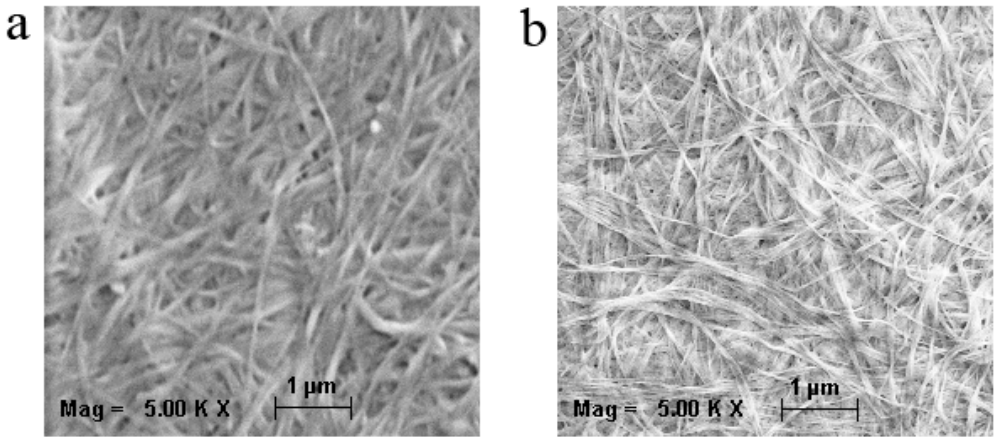

Figure S1. FESEM of (**a**) pure BC, and (**b**) CoPc@BC.

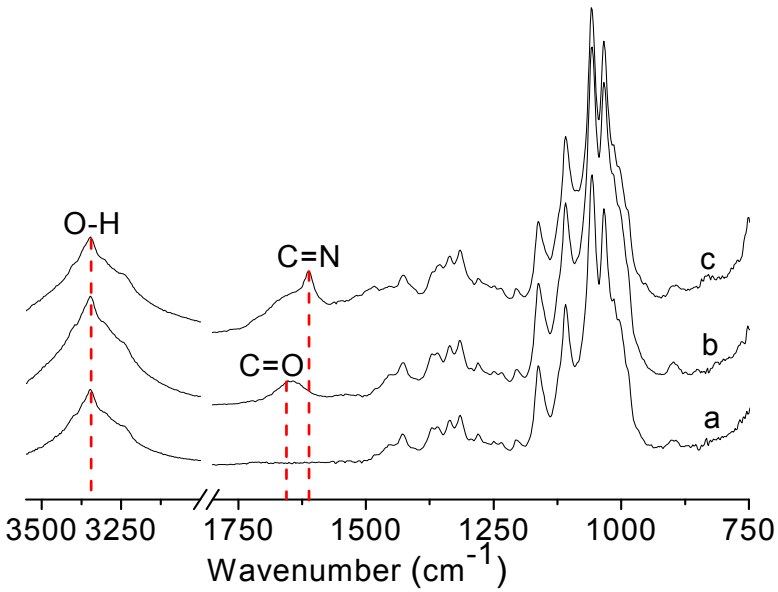

Figure S2. ATR/FT-IR spectra of (**a**) BC, (**b**) oxidized BC, and (**c**) CoPc@BC.

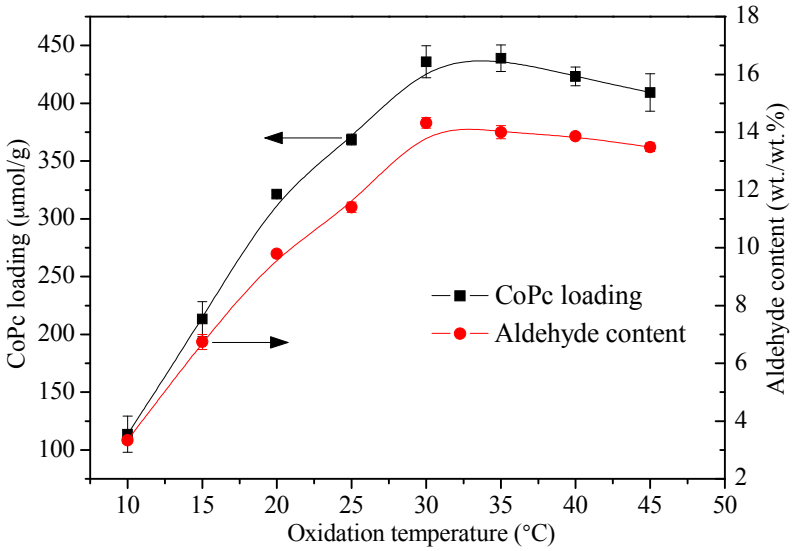

Figure S3. Effect of oxidation temperature on CoPc loading of CoPc@BC (filled square) and aldehyde content of BC (filled circle), [$NaIO_4$]=30 mmol/L, reaction time=8 h.

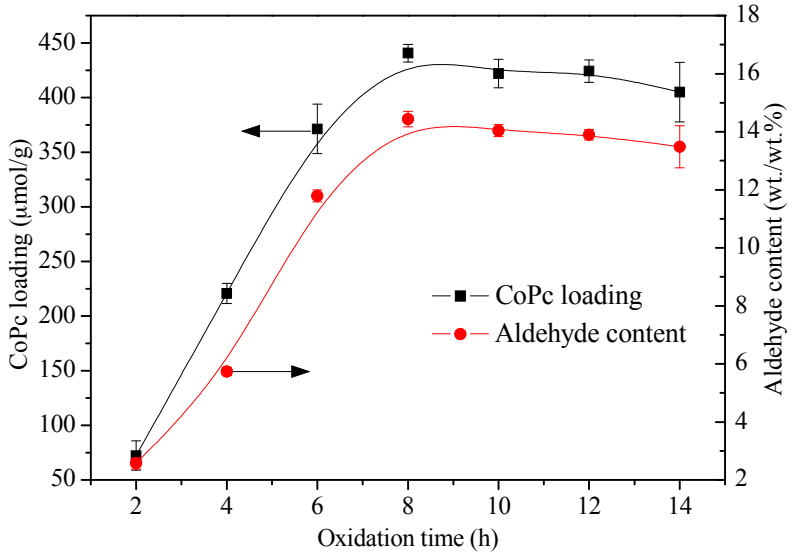

Figure S4. Effect of oxidation time on CoPc loading of CoPc@BC (filled square) and aldehyde content of BC (filled circle), [$NaIO_4$]=30 mmol/L, T=30 °C.

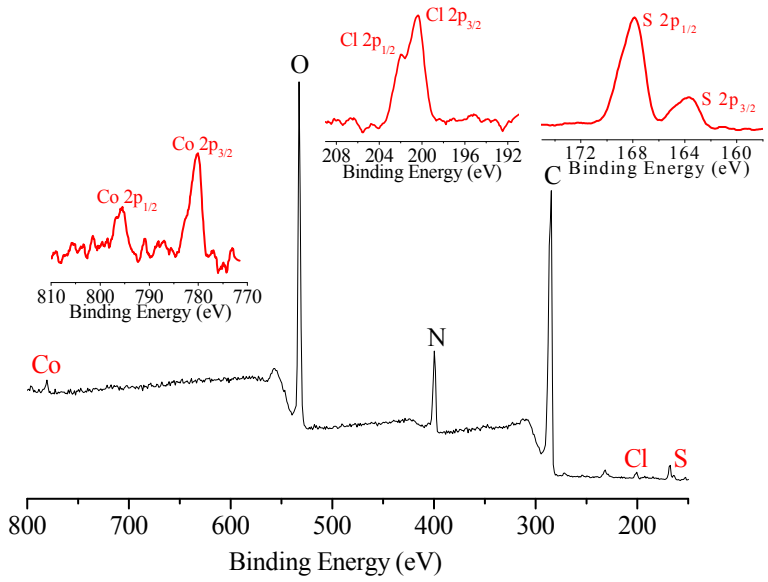

Figure S5. XPS of surface of CoPc@BC after dye adsorption. Left inset: detail of Co region, middle inset: detail of Cl region, right inset: detail of S region.

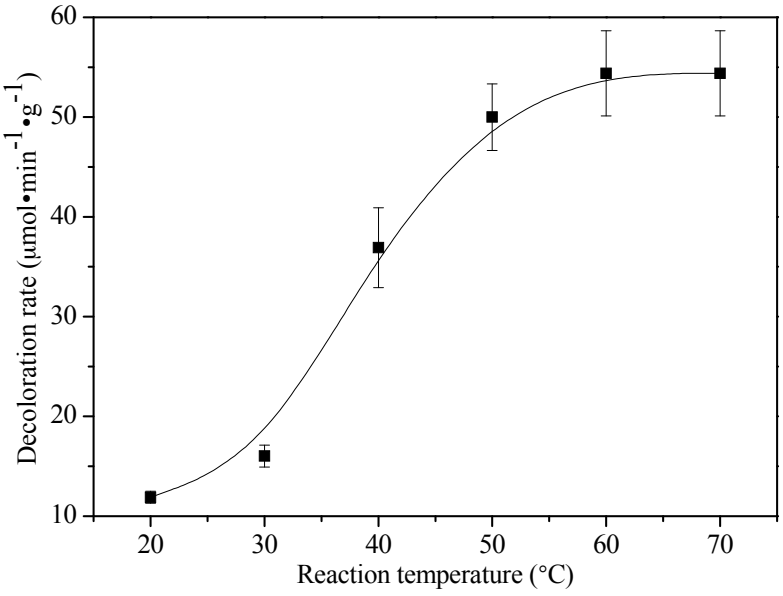

Figure S6. Effect of reaction temperature on decoloration rate of reactive red X-3B (flow rate: 6 mL/min, H_2O_2 concentration: 10 mmol/L).

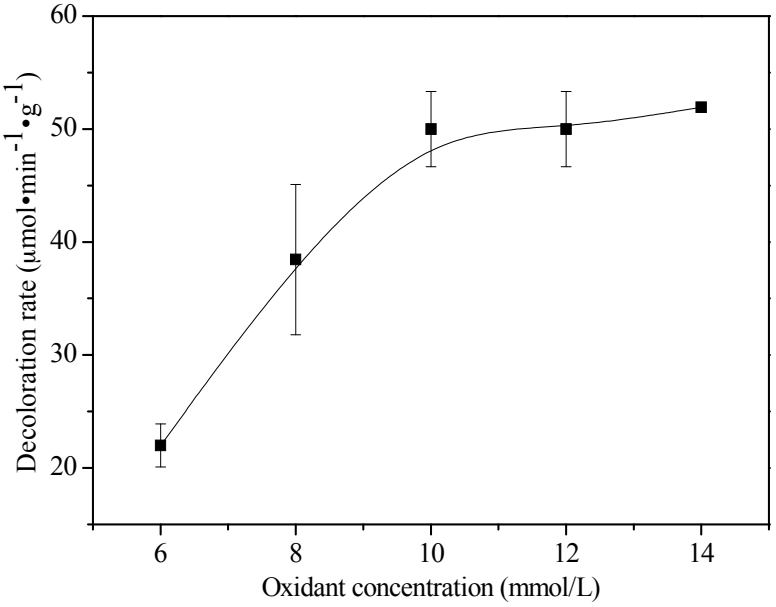

Figure S7. Effect of initial H_2O_2 concentration on decoloration rate of reactive red X-3B (flow rate: 6 mL/min, T=50 °C).

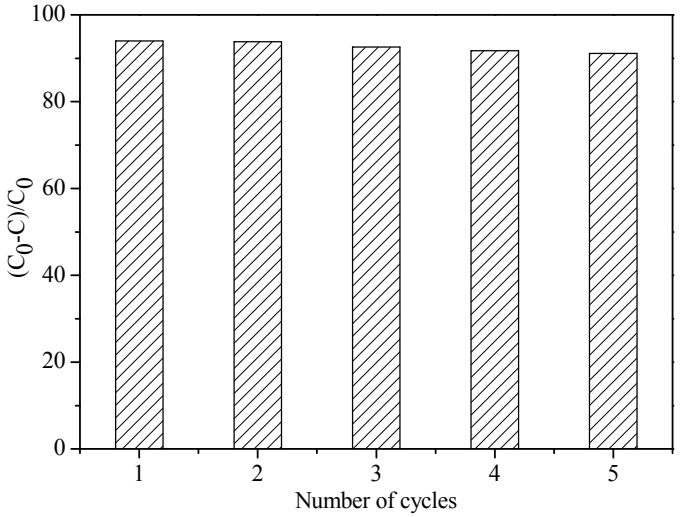

Figure S8. Repetitive catalytic oxidation of reactive red X-3B (initial concentration: 1×10^{-4} mol/L, CoPc@BC: 1.60 mg, flow rate: 6 mL/min, H_2O_2 concentration: 10 mmol/L, T=50 °C) for 60 min.