Electronic Supplementary Information

Synthesis of Cross-Linked Polymers via Multi-Component Passerini Reaction and Their Application As An Efficient Photocatalyst

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Content

1. EXPERIMENTAL

Materials. All reagents were purchased from commercial sources and used without further treatment, unless indicated otherwise.

Characterizations. The thermogravimetric analysis (TGA) was performed using a Netzch Sta 449c thermal analyzer system at the heating rate of 10^{o}C /min in air atmosphere. The FTIR spectra were measured using a Nicolet Impact 410 Fourier transform infrared spectrometer. the Solid-state ^{13}C NMR spectra were recorded at 5KHz. The nitrogen adsorption isotherm was measured on an Autosorb iQ2 adsorptometer, Quantachrome Instruments. TEM micrographs were recorded using JEM 1011 with an acceleration voltage of 100 kV.

Synthesis of Ru-CPs

A mixture of $[(bpy)_2Ru(fmbpy)(PF6)_2$ (30mg, 0.033mmol), 1,6-diisocyanohexane

(36.5mg,1mmol), sebacic acid (202.24mg, 1mmol) andterephthalaldehyde (201.2mg,1.5mmol) in CH_2Cl_2 (1ml) was stirred at room temperature for 4 days. Finally, the reaction mixture was washed with various solvents

Synthesis of CPs

A mixture of 1,6-diisocyanohexane (136.5 mg,1 mmol), sebacic acid (202.24mg, 1mmol) and terephthalaldehyde (201.2mg, 1.5mmol) in CH_2Cl_2 (1ml) was stirred at room temperature for 4 days. Finally, the reaction mixture was washed with various solvents and then dried under vacuum overnight.

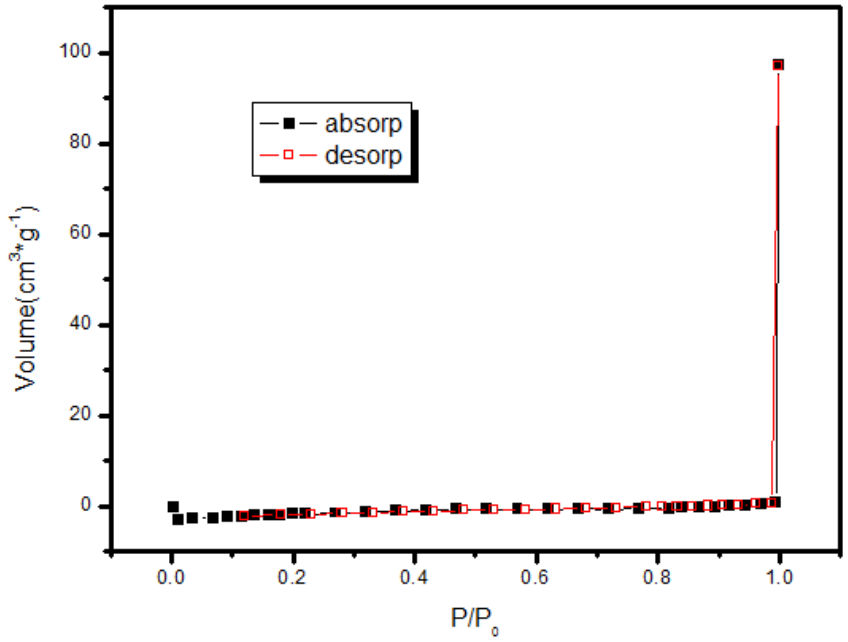

Figure S1. Nitrogen adsorption-desorption isotherms of Ru-CPs at 77 K.

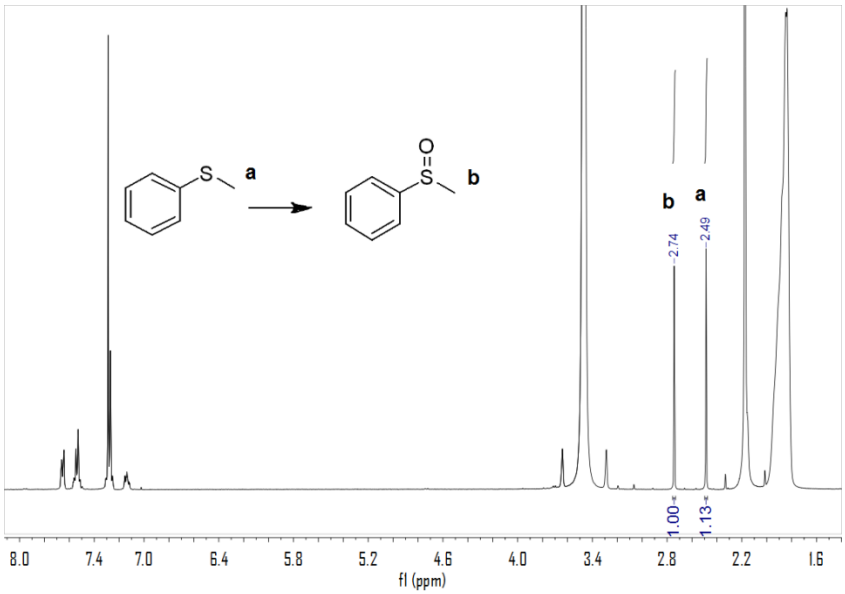

Fig. S2. ^{1}H NMR of crude mixture for oxidation of thioanisole.

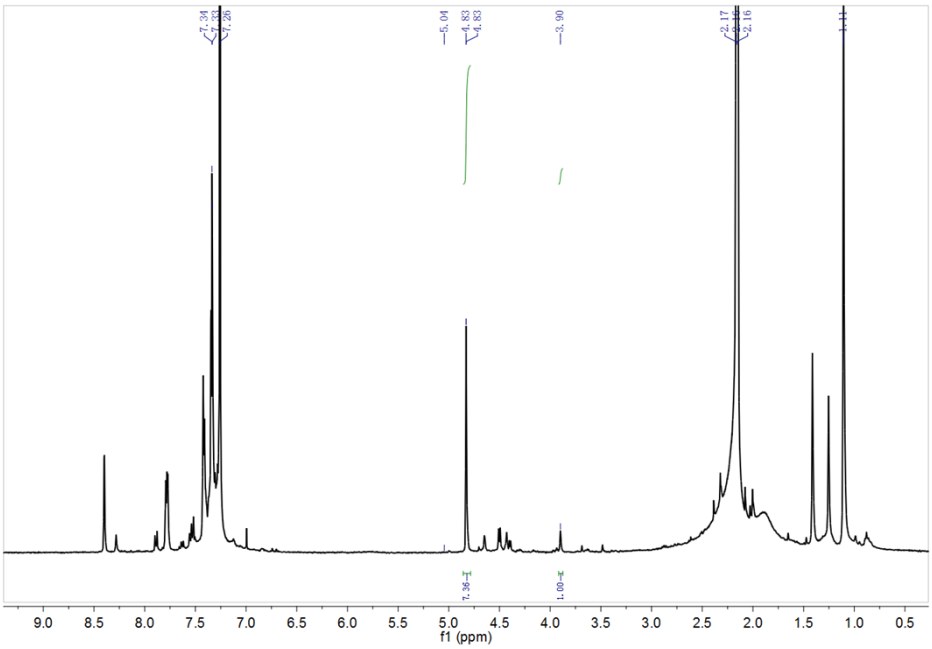

Figure S3. 1H NMR spectrum for oxidation of benzyl amine. The substrate peak at 3.90 ppm and the product peak at 4.83 ppm were used to calculate the conversion.