

Electronic Supplementary Information

Covalent triazine framework with efficient photocatalytic activity in aqueous and solid media

Cyrine Ayed^{1,2} Wei Huang,¹ Kai A. I. Zhang^{1*}

¹Max Planck Institute for Polymer Research, Ackermannweg 10, 55128 Mainz, Germany

²Graduate School for Excellence Materials Science in Mainz, Johannes Gutenberg University

Mainz, Staudingerweg 9, 55128 Mainz, Germany

E-Mail: kai.zhang@mpip-mainz.mpg.de

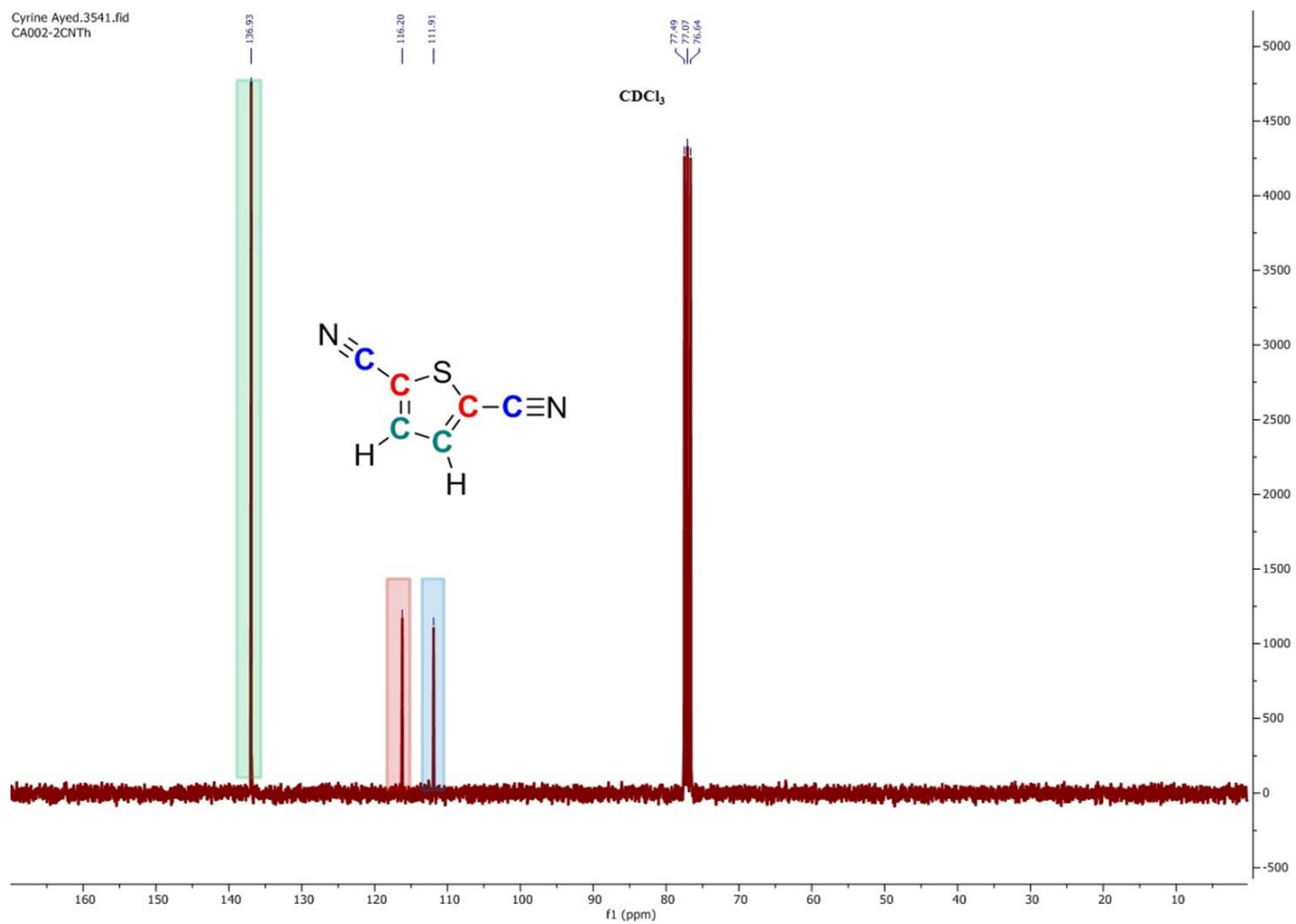


Fig. S1. ¹³C NMR spectra of 2,5-dicyanothiophene (DCT) in CDCl₃.

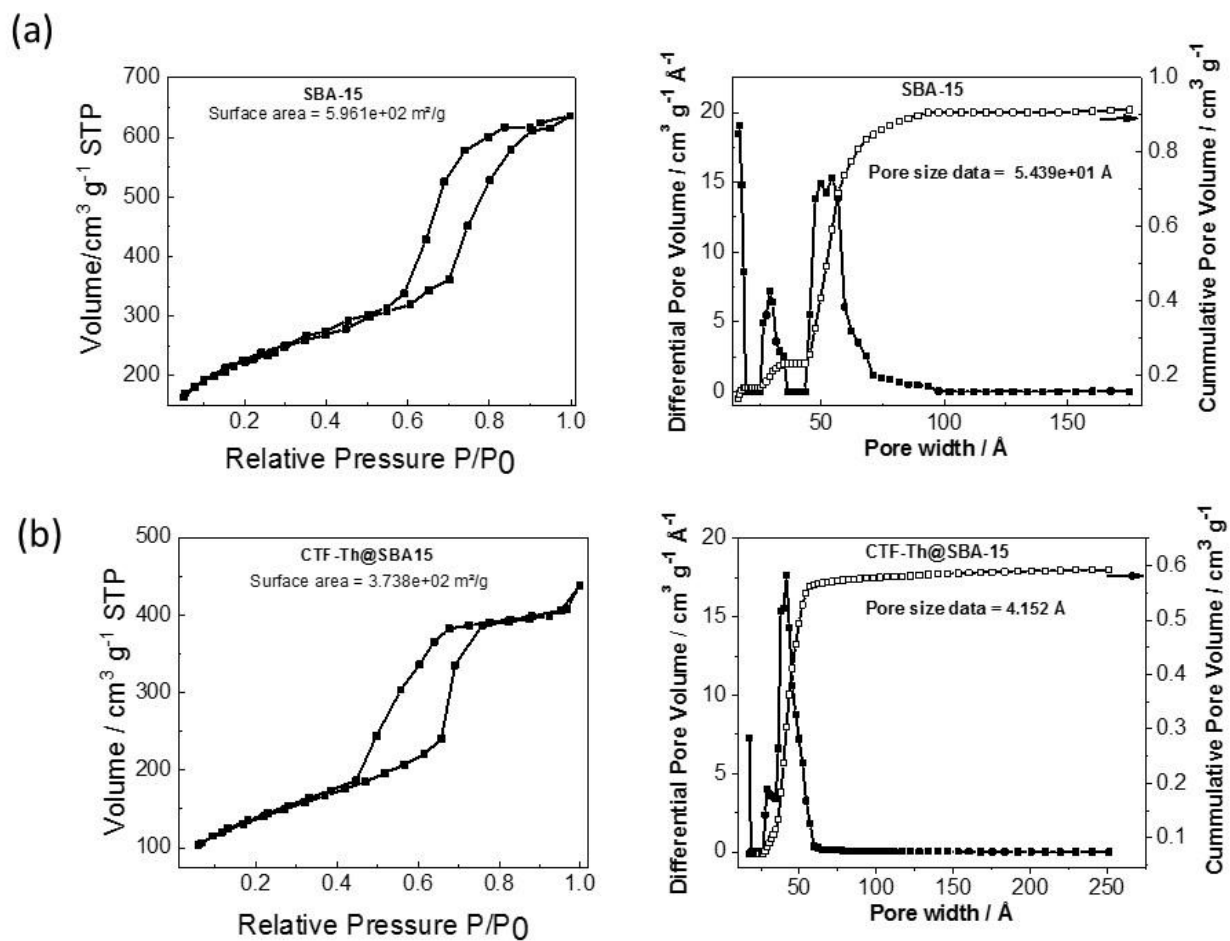


Fig. S2. Nitrogen sorption and desorption isotherms and Pore size distributions of (a) pure SBA-15 and (b)- CTF-Th@SBA-15.

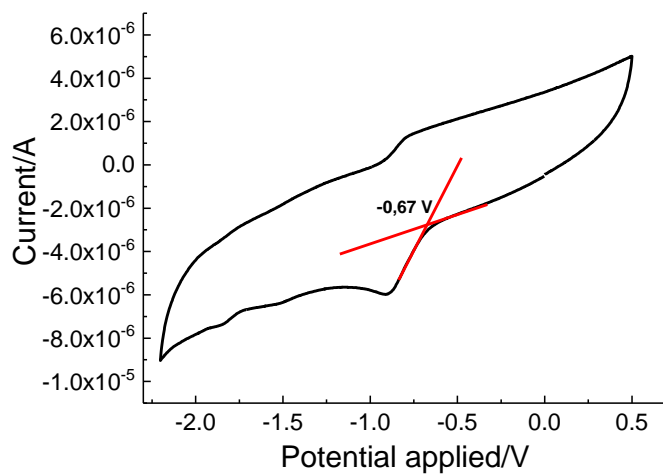


Fig. S3. Reduction potential of CTF-Th@SBA-15 measured by cyclic voltammetry.

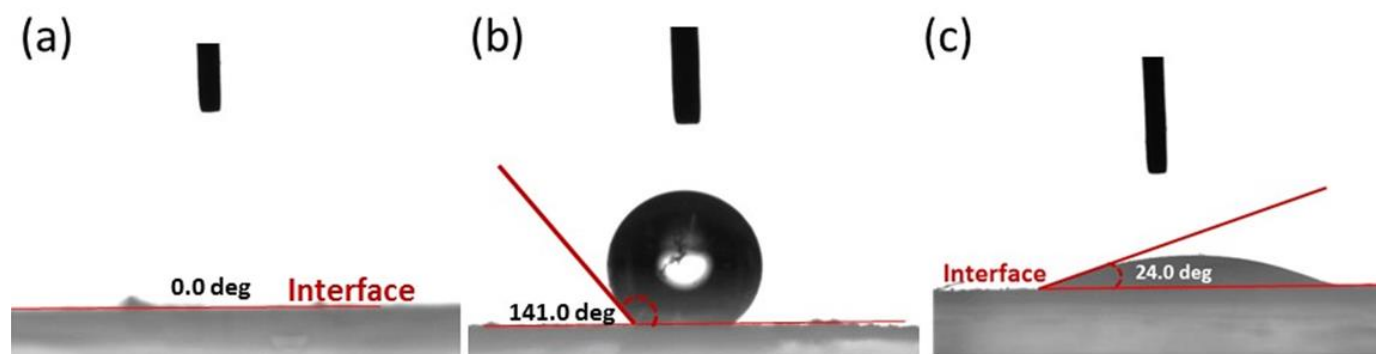


Fig. S4. Angle contact measurements of a water droplet on the surface of (a) pure SBA-15, (b) pure CTF-Th and (c) CTF-Th@SBA-15.

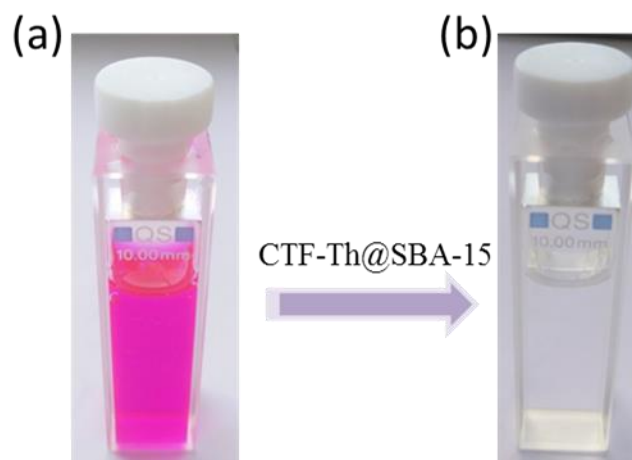


Fig. S5. Photography of (a) initial RhB solution (50 mg/L) and (b) after adsorption by CTF-Th@SBA-15 for 20 min.

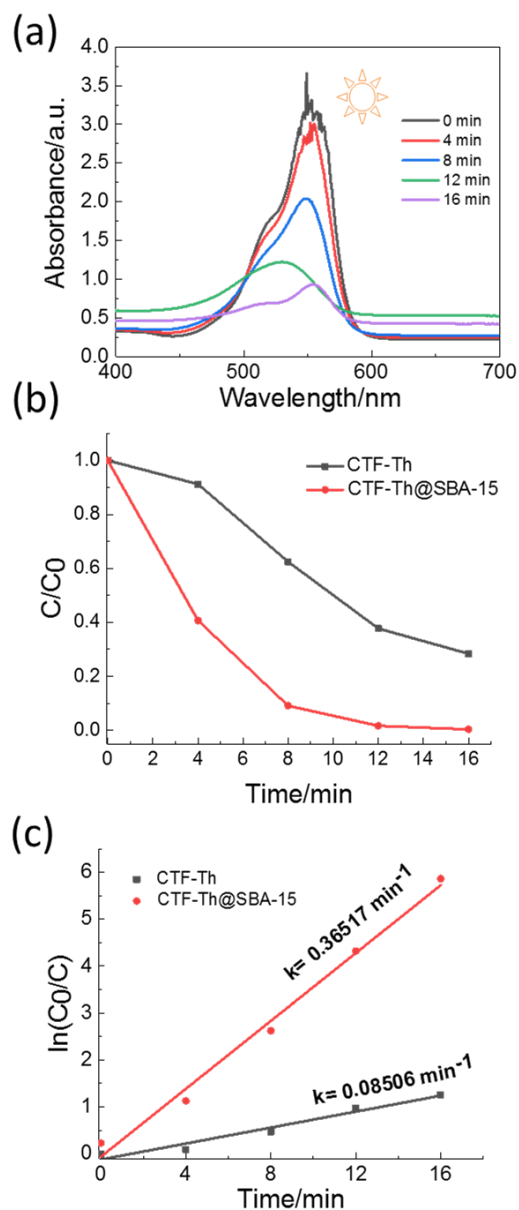


Fig. S6. UV/vis DR spectral changes with reaction time of RhB solution (50 mg L⁻¹, 10 ml) in presence of 3 mg of pure CTF-Th, kept under 16 min of blue light irradiation (λ=460 nm), (b) visible light-driven degradation of RhB solution by pure CTF-Th and by CTF-Th@SBA-15 for comparison purpose, and (c) Photodegradation rates of RhB solution in presence of pure CTF-Th and hybrid CTF-Th@SBA-15. C is the concentration of RhB after light irradiation for a certain period and C₀ is the concentration of RhB after reaching adsorption/desorption equilibrium in the dark.

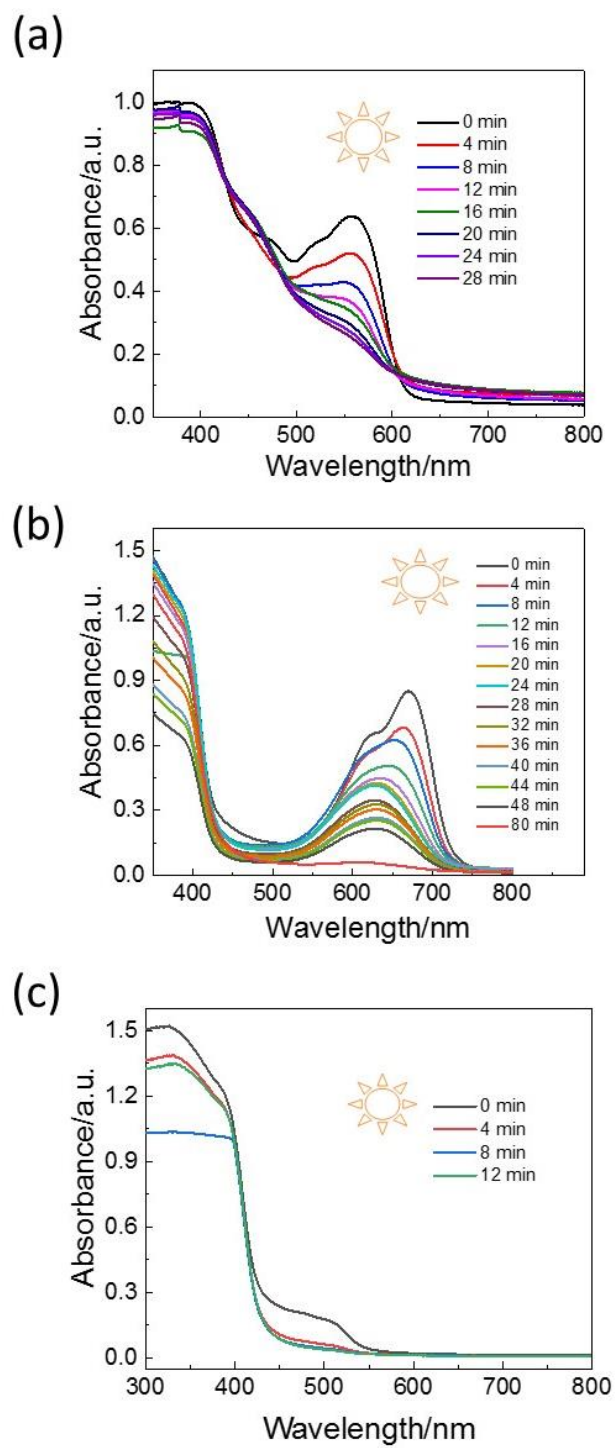


Fig. S7. UV/vis DR spectral changes with reaction time of (a) RhB@catalyst, (b) MB@catalyst and (c) OrG@catalyst.