*Electronic Supplementary Information (ESI) for*

# Adsorption Performance and Catalytic Activity of Porous Conjugated Polyporphyrins via Carbazole-Based Oxidative Coupling Polymerization

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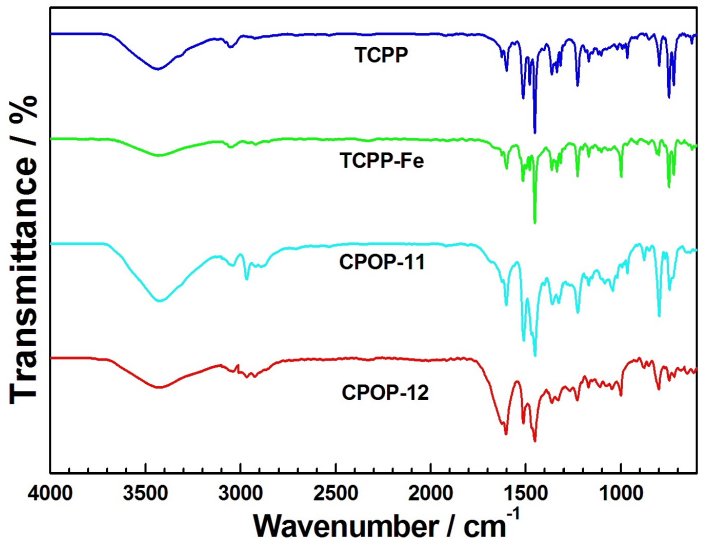



**Fig. S1.** FTIR spectra of all monomers and polymers.

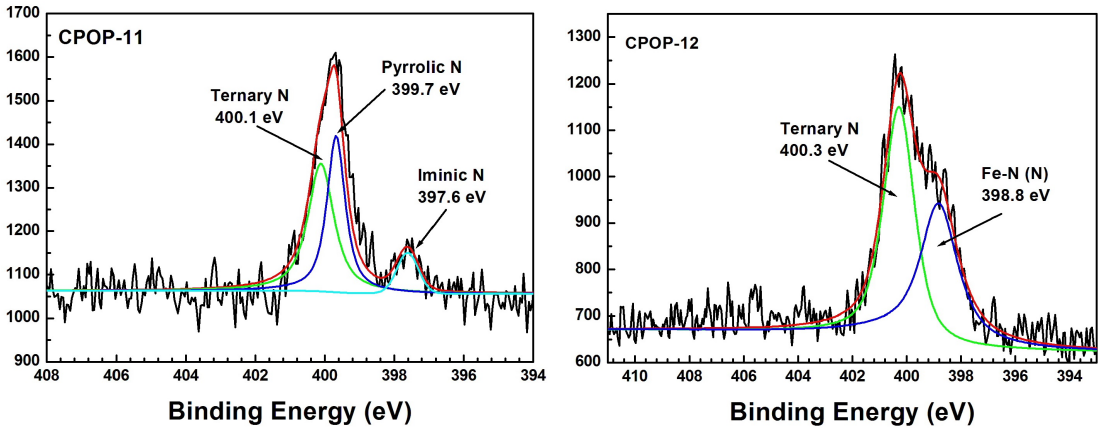



**Fig. S2.** XPS data of polymers in the $N_{1S}$ region.

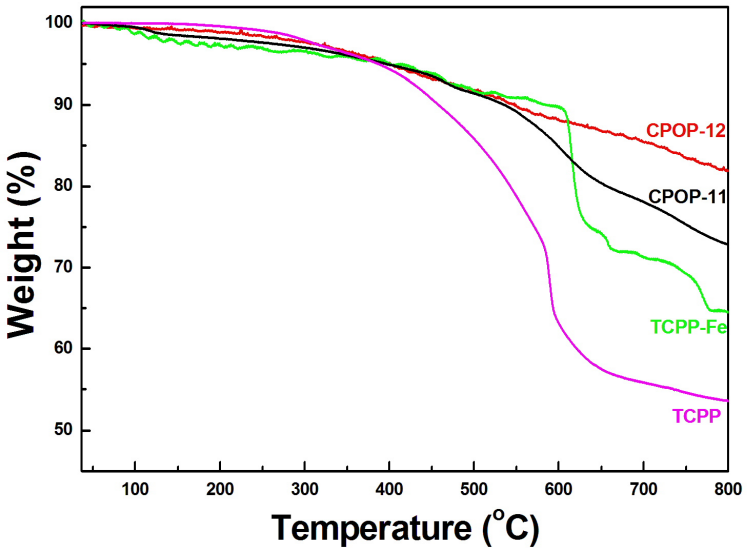



**Fig. S3.** TGA of all polymers and monomers.

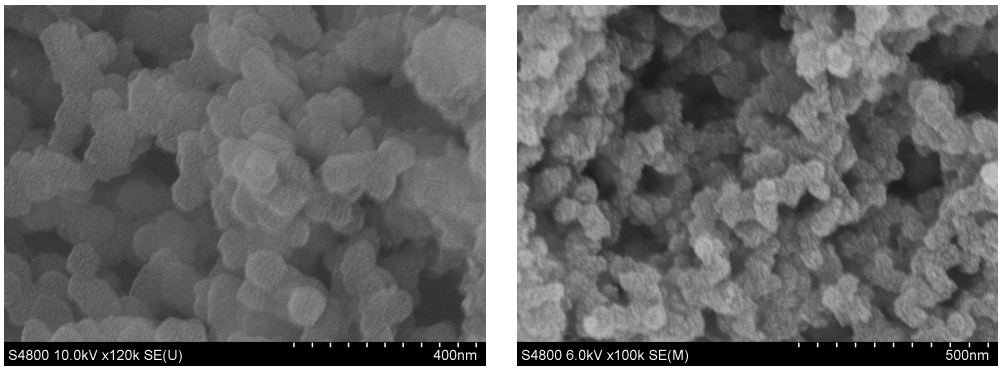



**Fig. S4**. SEM images of porous polymers **CPOP-11** (left) and **CPOP-12** (right).

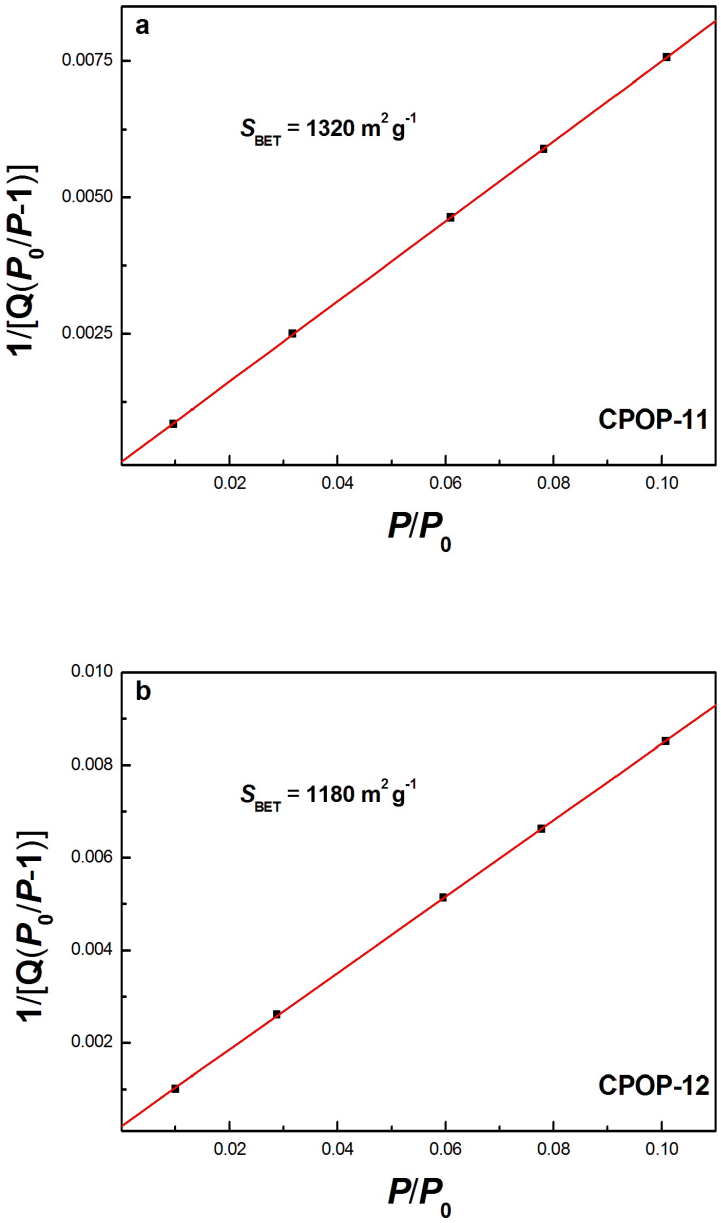



**Fig. S5.** BET specific surface area plots of **CPOP-11** and **CPOP-12** ($0.01<P/P_0<0.1$).

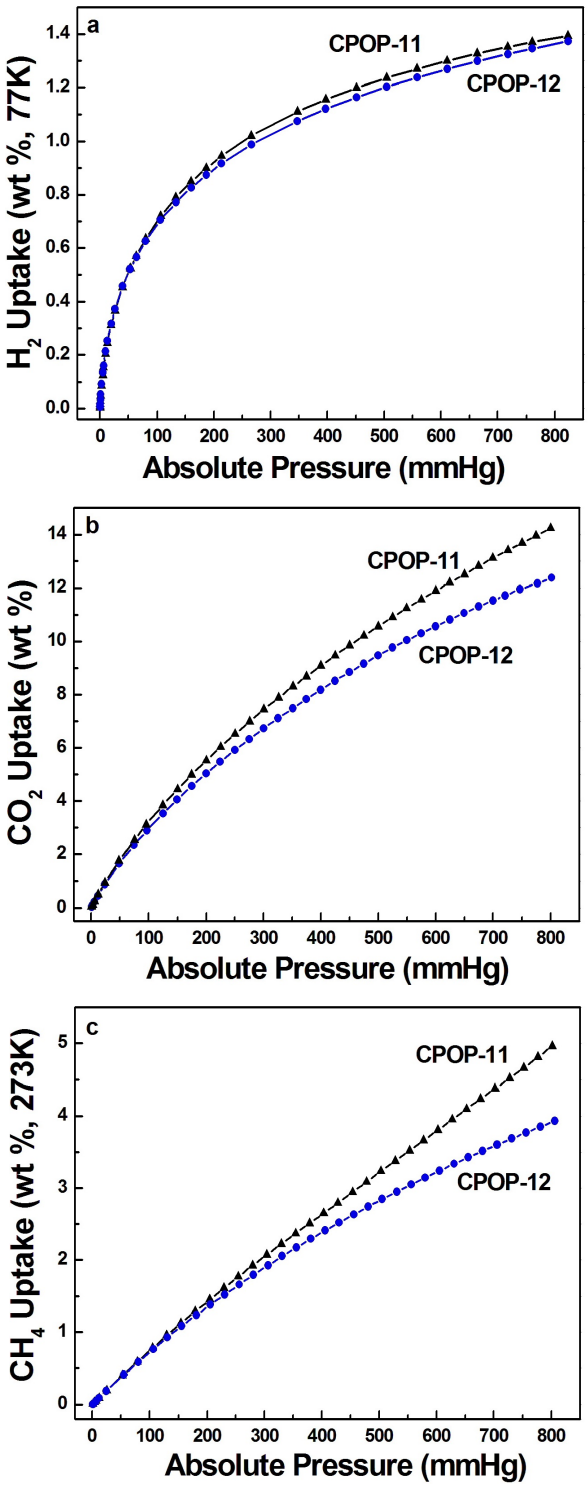



**Fig. S6**. Gas adsorption isotherms of the obtained polymers: (a) $H_2$ at 77 K, (b) $CO_2$ at 273 K, and (c) $CH_4$ at 273 K.

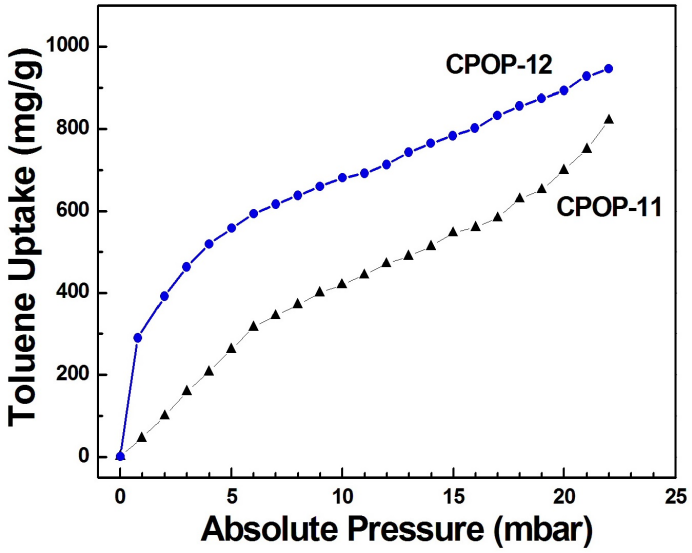



**Fig. S7.** Toluene adsorption isotherms of the two obtained polymers at 289 K.

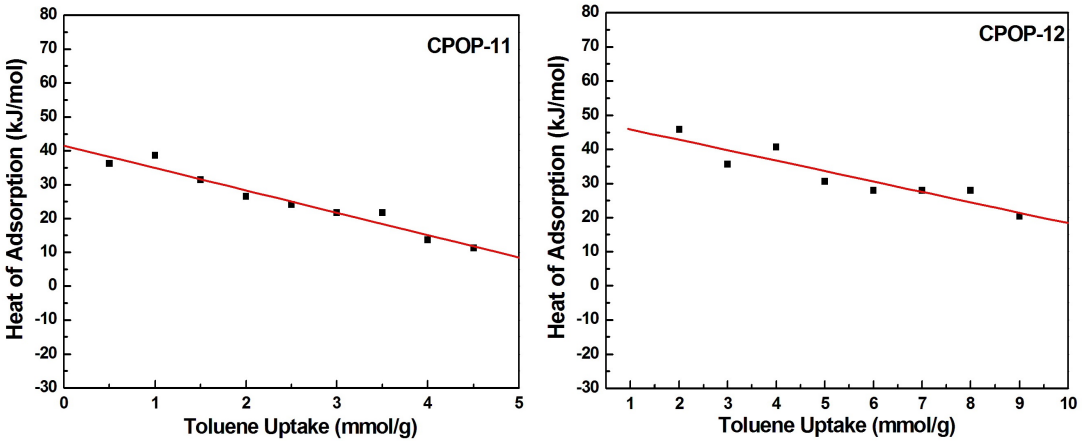



**Fig. S8.** Isosteric heat of the obtained polymers for toluene adsorption.

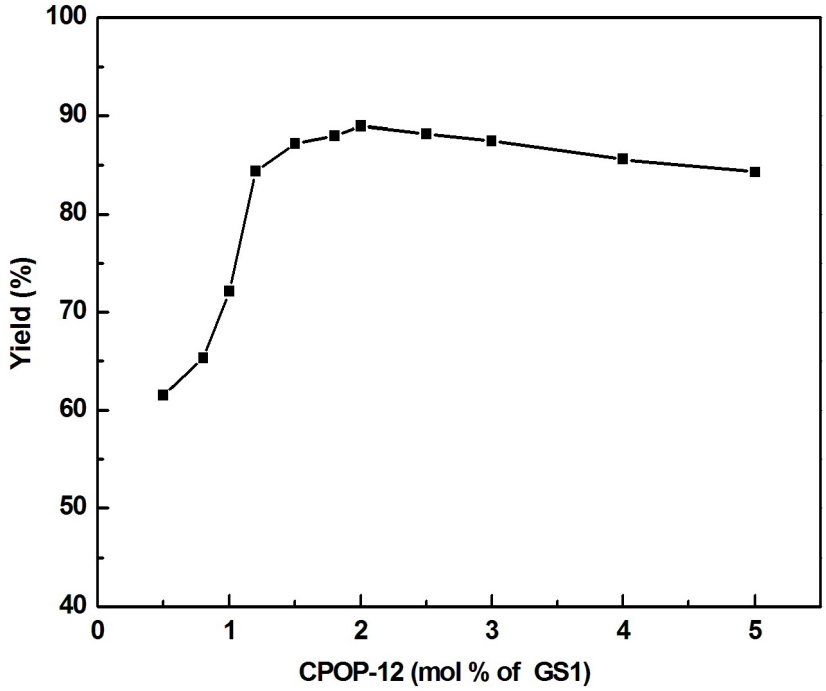
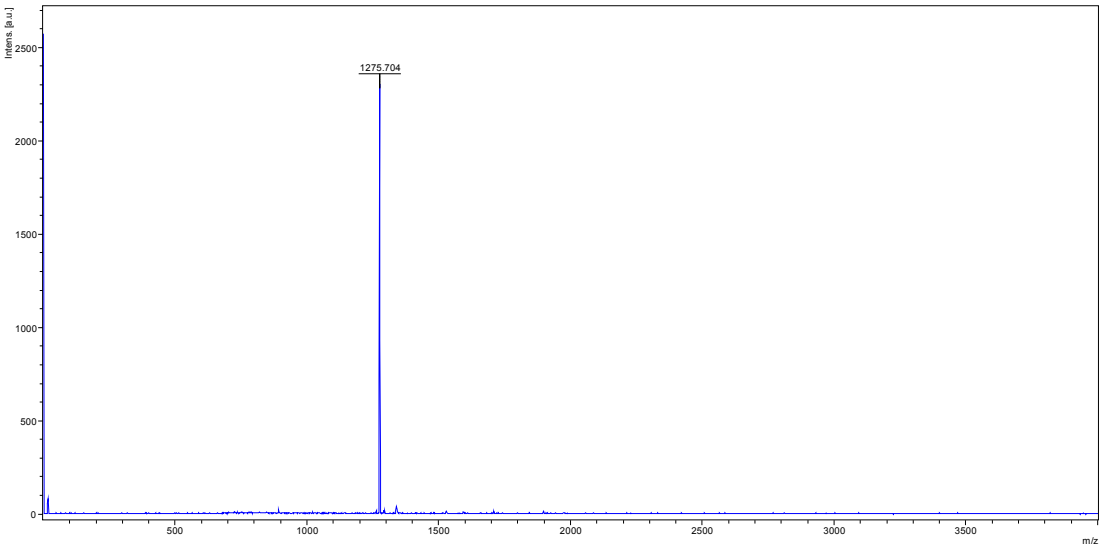
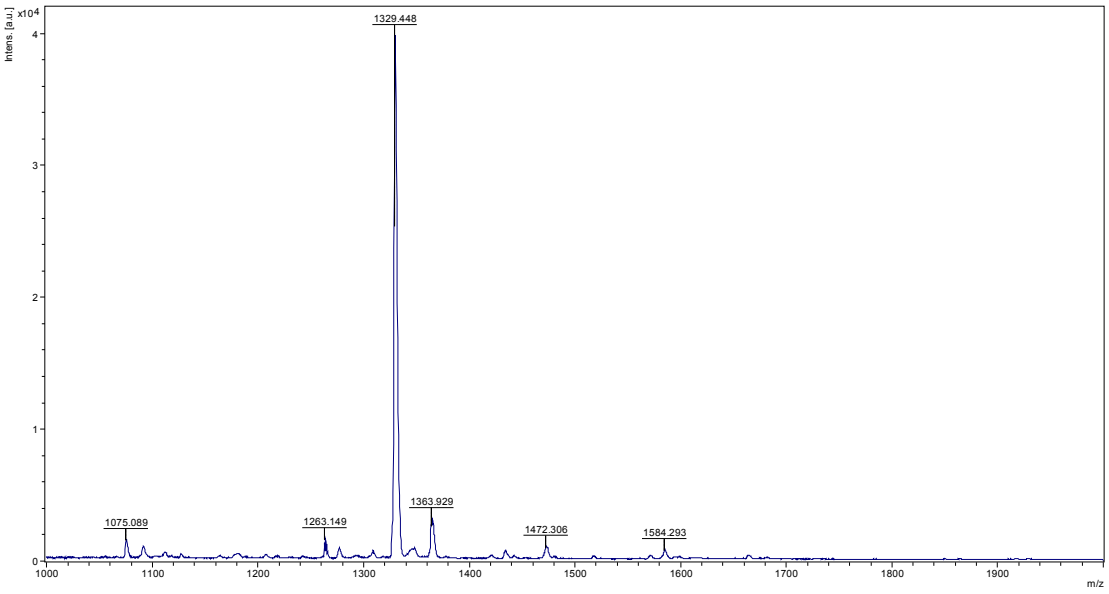



**Fig. S9** Yield of transformation to sulfoxide with different mol% equivalent of **CPOP-12** based on **GS1** in 5h.




Mass spectrum of **TCPP**




Mass spectrum of **TCPP-Fe**