

Electronic supplementary information

**Preparation and adsorption performance of
cross-linked porous polycarbazoles**

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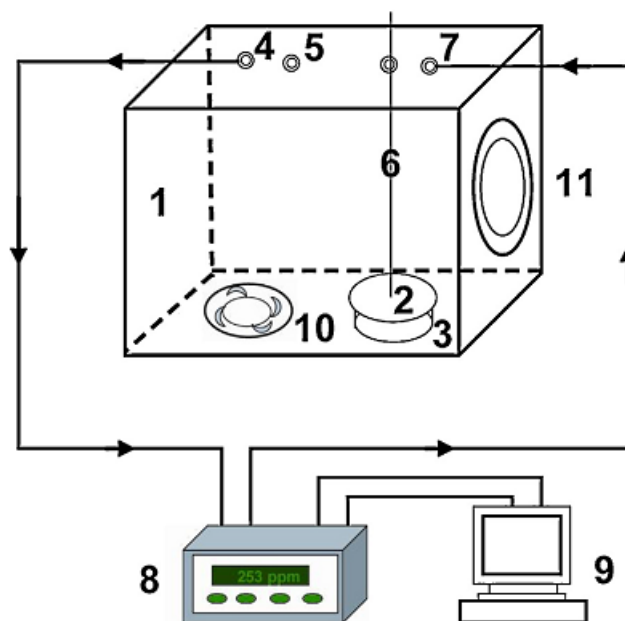


Fig. S1. Schematic diagram of experimental setup for room-temperature formaldehyde adsorption: (1) organic glass box, (2) glass slide cover, (3) glass petri dish with adsorbent, (4) sampling port, (5) injection port, (6) fine wire, (7) sample recovering port, (8) 1412 Photoacoustic IR Multigas Monitor, (9) computer, (10) fan and (11) door.

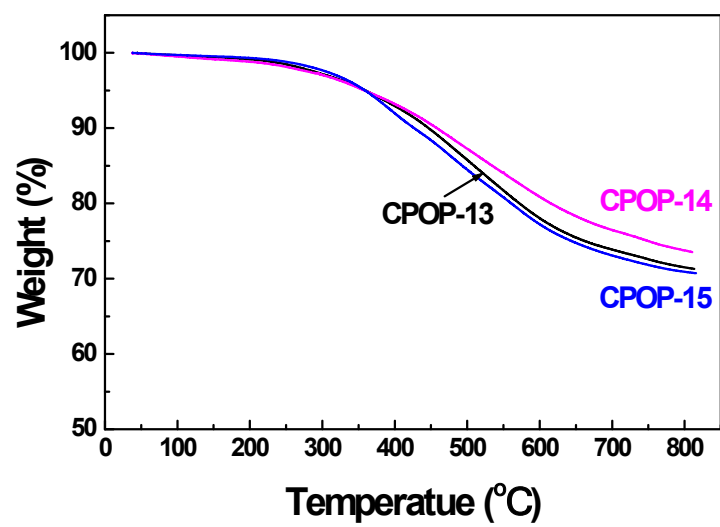


Fig. S2. TGA curves of CPOP-13, CPOP-14, and CPOP-15.

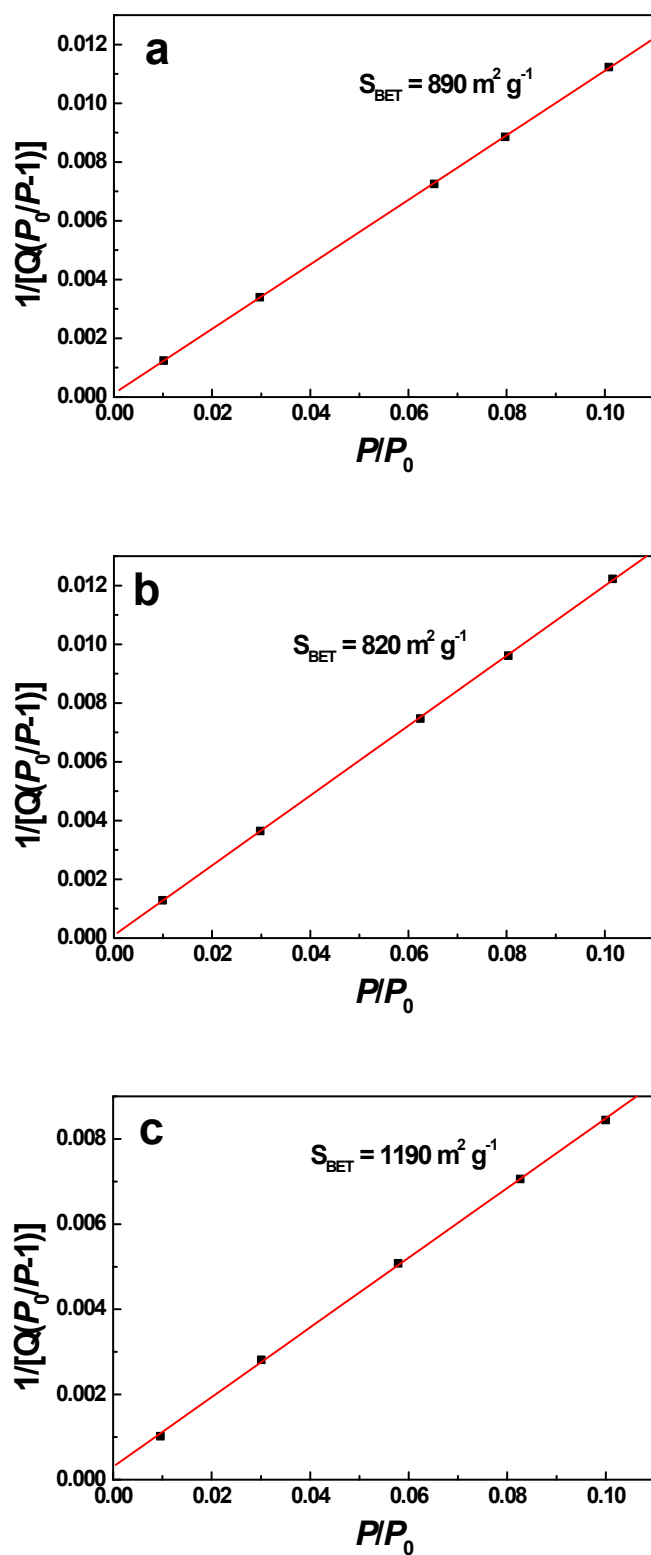


Fig. S3. The BET specific surface area plots of **CPOP-13** (a), **CPOP-14** (b) and **CPOP-15** (c) using relative pressure ranges $(0.01 < P/P_0 < 0.1)$.

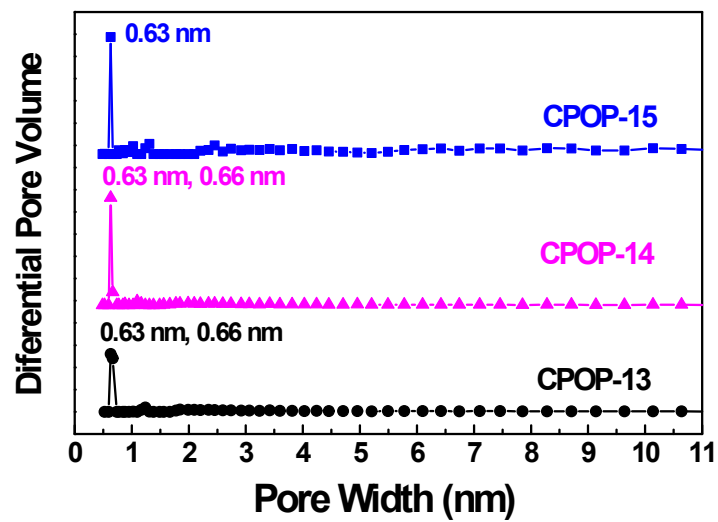


Fig. S4. The PSD profiles for CPOP-13, CPOP-14, and CPOP-15 calculated by NLDFIT.

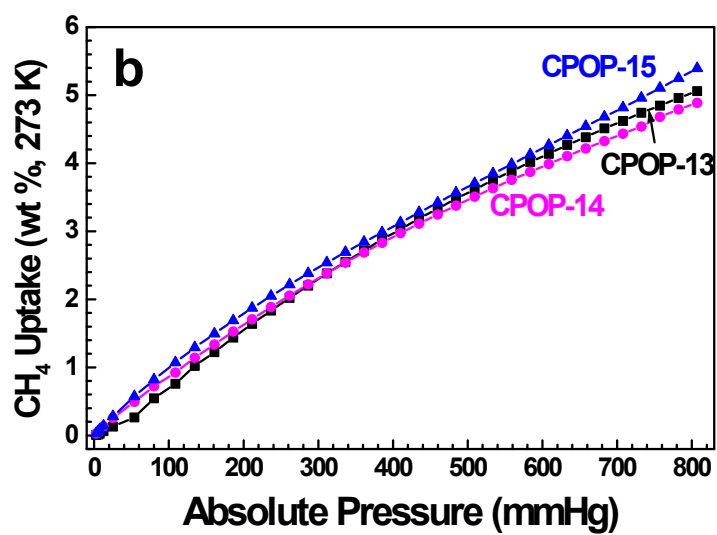
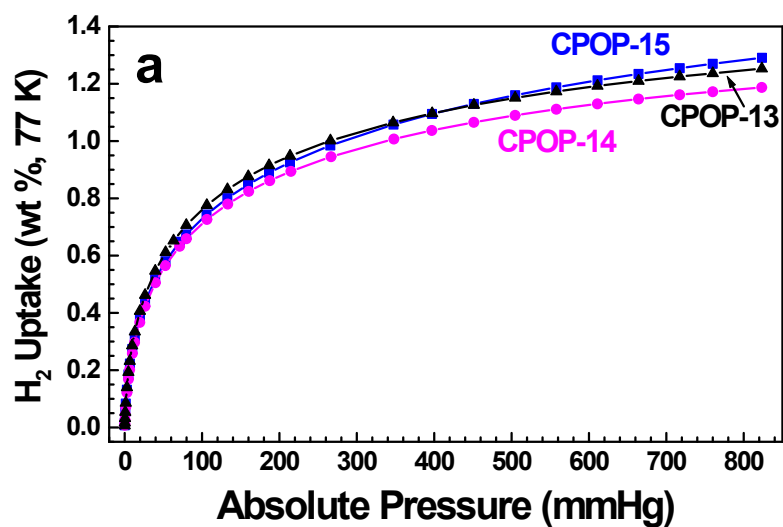


Fig. S5. Gas adsorption isotherms of the obtained CPOPs, (a) hydrogen at 77 K; (b) methane at 273 K.

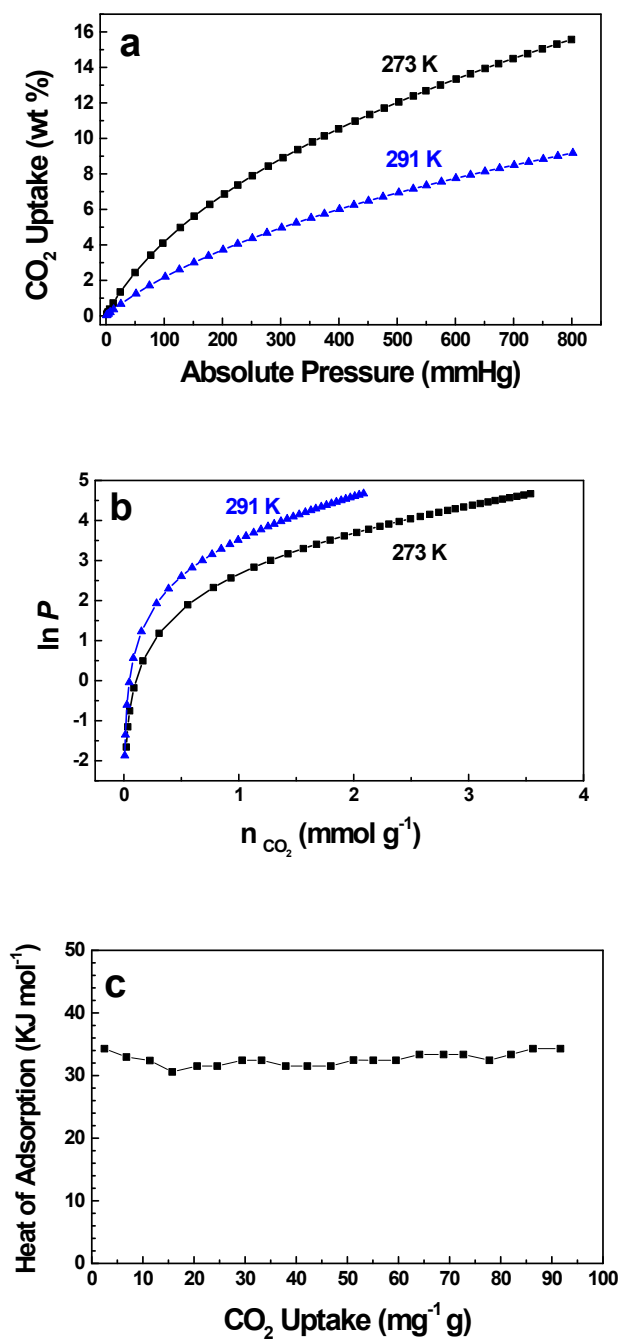


Fig. S6. Carbon dioxide adsorption isotherms of **CPOP-14** at different temperatures (273 and 291 K) (a), virial analysis of carbon dioxide adsorption data (273 and 291 K) (b), and isosteric heat of carbon dioxide adsorption for **CPOP-14** (c).

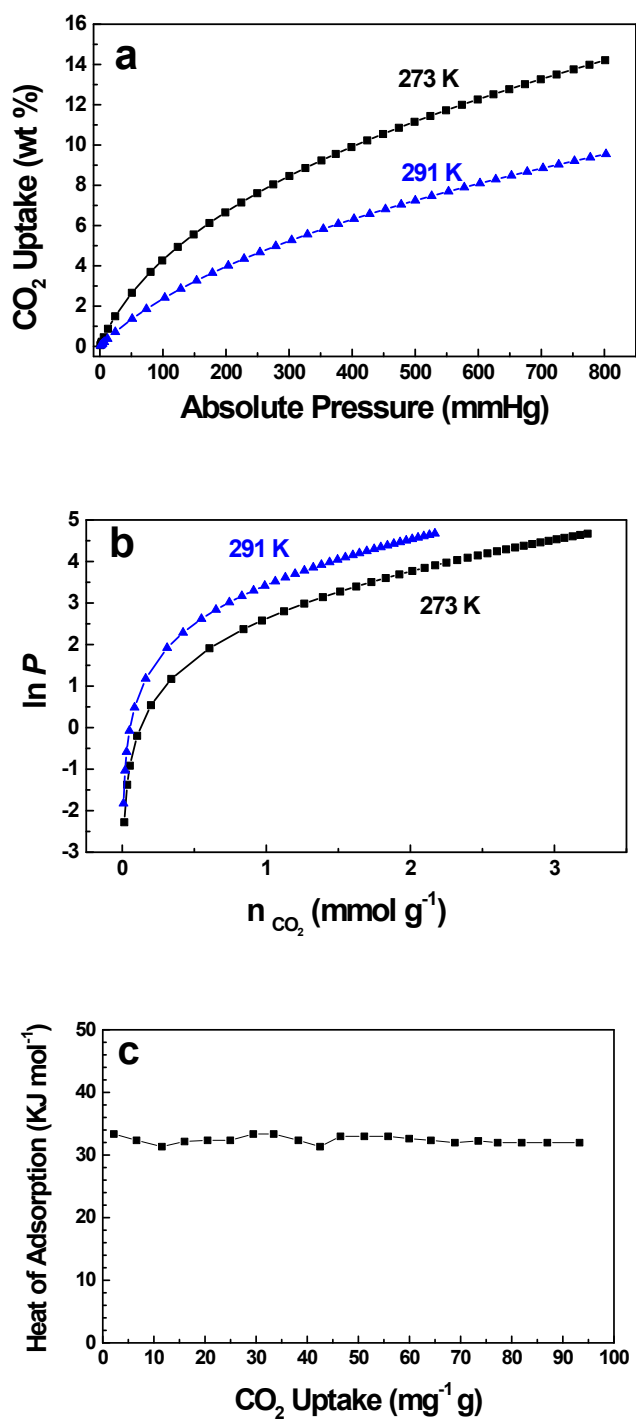


Fig. S7. Carbon dioxide adsorption isotherms of **CPOP-15** at different temperatures (273 and 291 K) (a), virial analysis of carbon dioxide adsorption data (273 and 291 K) (b), and isosteric heat of carbon dioxide adsorption for **CPOP-15** (c).

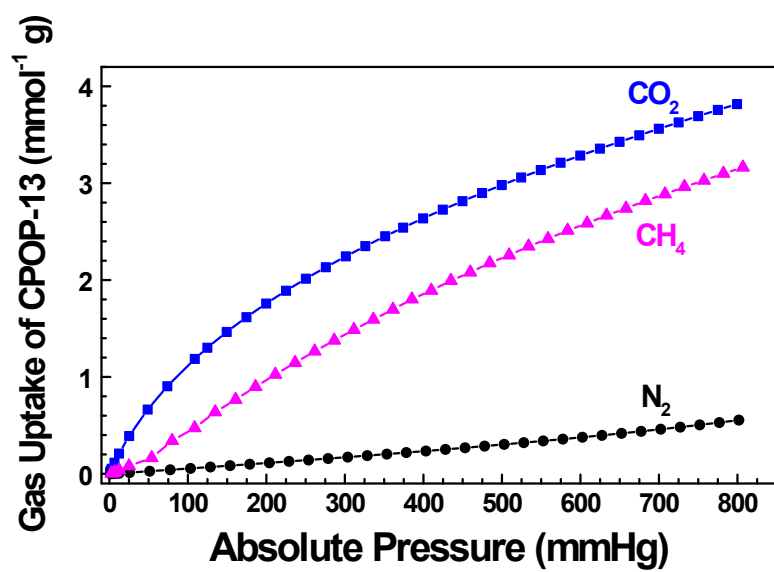


Fig. S8. Gas adsorption isotherms (carbon dioxide, methane and nitrogen) of CPOP-13 at 273 K.

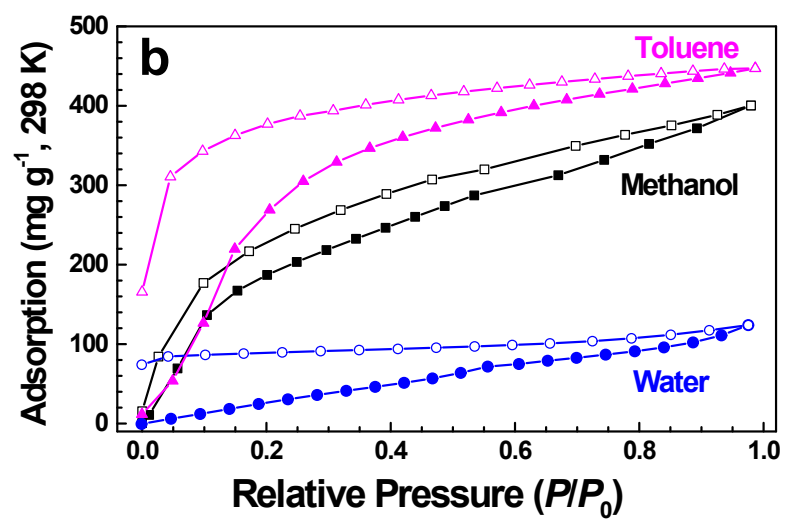
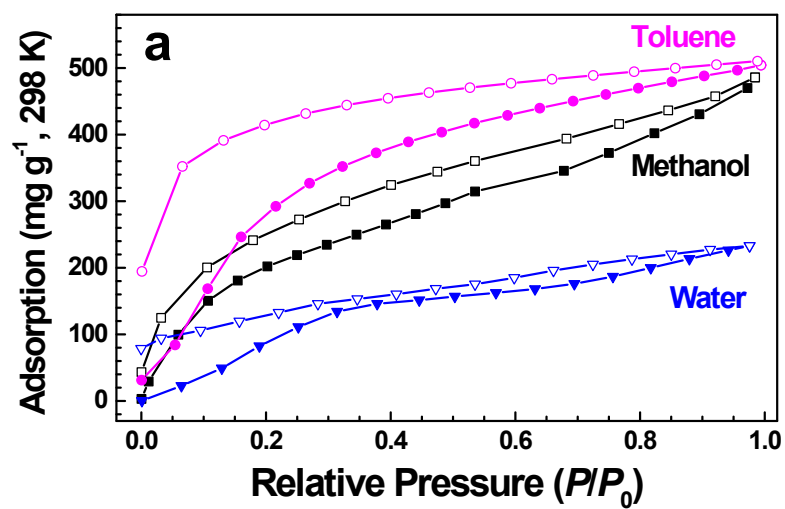


Fig. S9. Vapor adsorption isotherms of CPOP-13 (a) and CPOP-14 (b) at 298 K.