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Electronic Supporting Information for

A Novel Fluorescent Covalent Organic Framework Containing Boric Acid Groups for Selective Capture and Sensing of Cis-diol Molecules

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Instrumental Analysis and Characterization

The BET specific surface area was evaluated based on the obtained N_2 adsorption–desorption isotherms. The pore size distribution profiles of all the COFs were calculated from the related adsorption branches by the nonlocal density function theory (NLDFT) approach. Ultraviolet (UV) spectrums were recorded on the Thermo Fisher Scientific 5225 Verona Rd., Madison, WI 53711, USA Made in China, Designed in USA. Powder X-ray diffraction (PXRD) data were recorded on a Rigaku model RINT Ultima III diffractometer by depositing powder on glass substrate, from $2\theta = 2°$ up to 40° with 0.02° increment. X-ray photoelectron spectroscopy (XPS) were carried out on a Kratos AXIS SUPRA spectrometer. The hydrophilic property was observed on a contact angle measuring instrument (JC2000D, Shanghai zhongchen digital technic apparatus CO., LTD, China). The fluorescence spectrums were analyzed by the Spectrofluorometer FS5 manufactured with pride in the United Kingdom. The field-emission transmission electron (FE-TEM) images of all the obtained polymers and the corresponding EDX elemental mapping images (data) were perform on a FEI Tecnai G2 F20 spectrometer. FT-IR spectra were observed on a Perkin-Elmer LR-64912C (FT-IR, LR 64912C, PerkinElmer, USA). The nitrogen sorption isotherms at 77 K was acquired by ASAP 2460 specific surface analyzer and porosity analyzer (Micromeritics, USA)

Synthesis of ***TPB-DMTP-COF***

The TPB-DMTP-COF was prepared according to the previous reports[1,2]. A Pyrex tube was charged with 1,3,5-tri-(4-aminophenyl) benzene (56 mg, 0.16 mmol) and 2,5-dimethoxy terephthalaldehyde (46 mg, 0.24 mmol) dispersing into the mixture of *o*-

dichlorobenzene/n-butanol (1 mL/1 mL) in the presence of acetic acid (6 M, 0.2 mL) . The tube was degassed through freeze-pump-thaw cycles. After sealing, the reaction mixture was heated at 120 °C for 3 days to a□ord a yellow precipitate which was isolated by filtration and washed with anhydrous tetrahydrofuran (THF) using Soxhlet extraction for 1 day. The product was dried under vacuum at 120 °C to a□ord the **TPB-DMTP-COF** (85.05 mg, 91.1%).

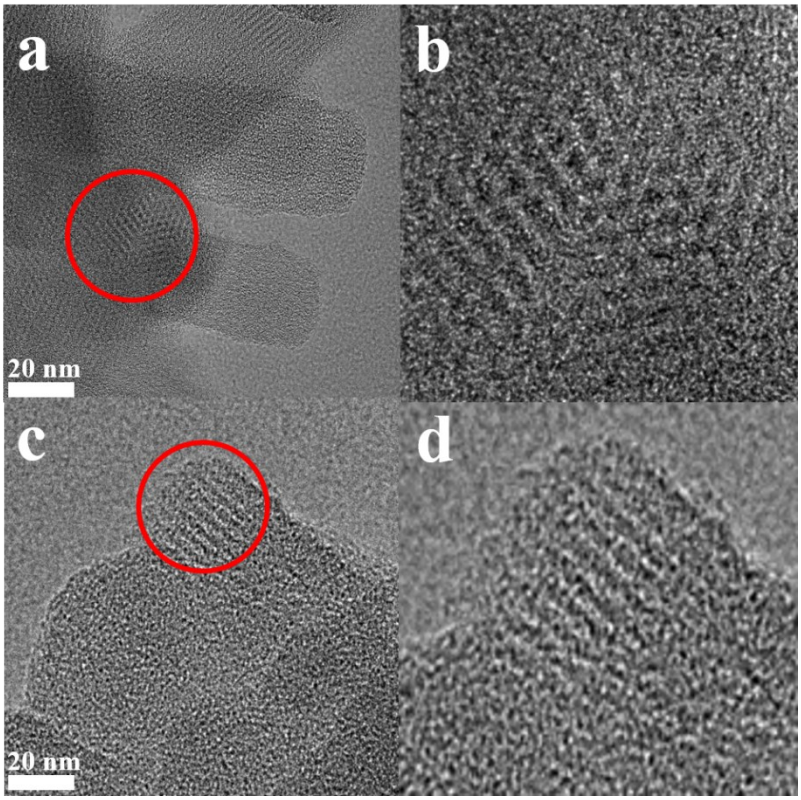

Figure S1. The TEM images of COFs (a) The TEM of TPB-DMTP-COF (scale bar, 20 nm). (b) The amplifying picture of the selected red circle in the Figure S1a. (c) The TEM of COF-BA (scale bar, 20 nm). (d) The amplifying picture of the selected red circle in the Figure S1c.

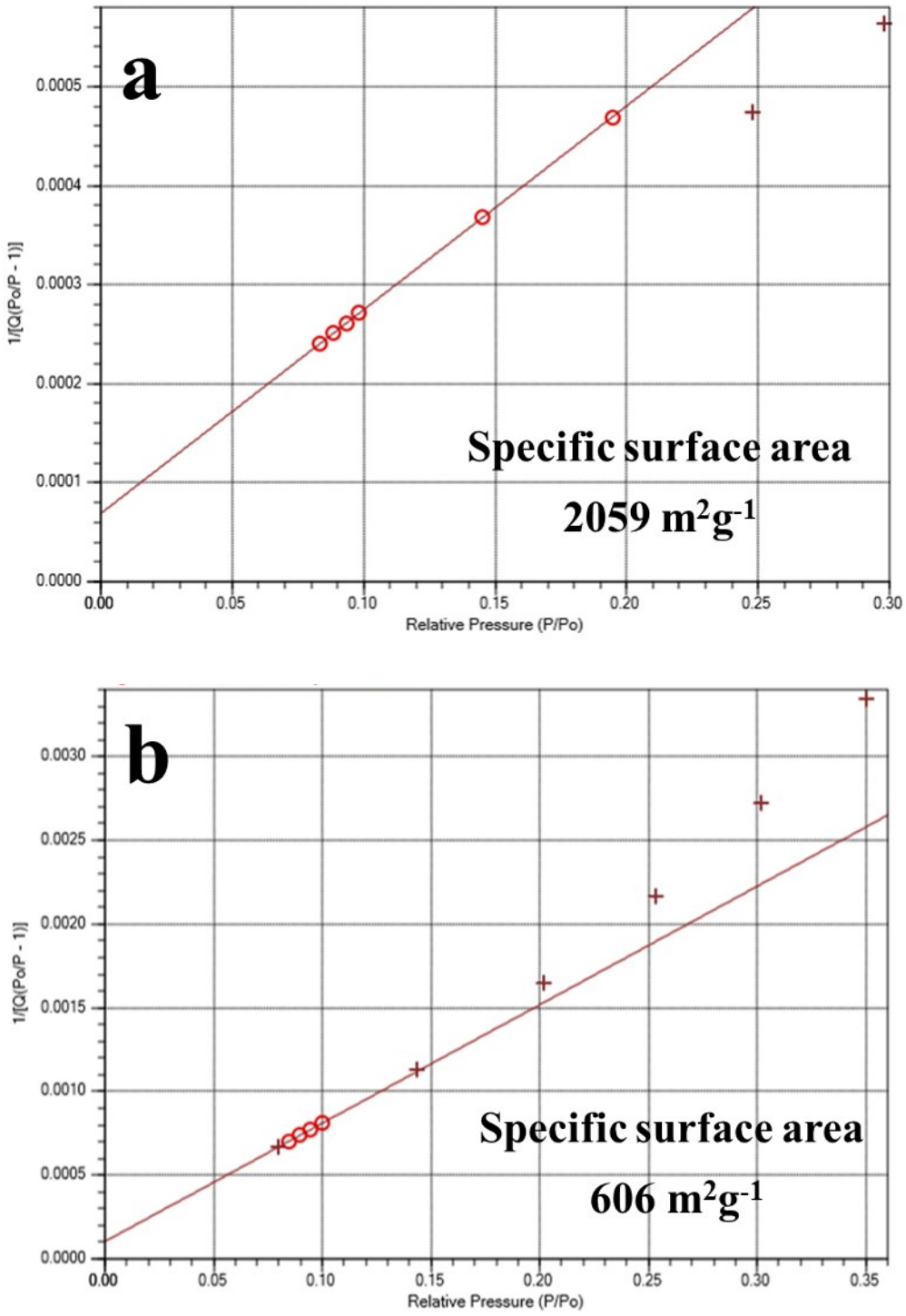

Figure S2. The BET specific surface area of **TPB-DMTP-COF** (a) and **COF-BA** (b).

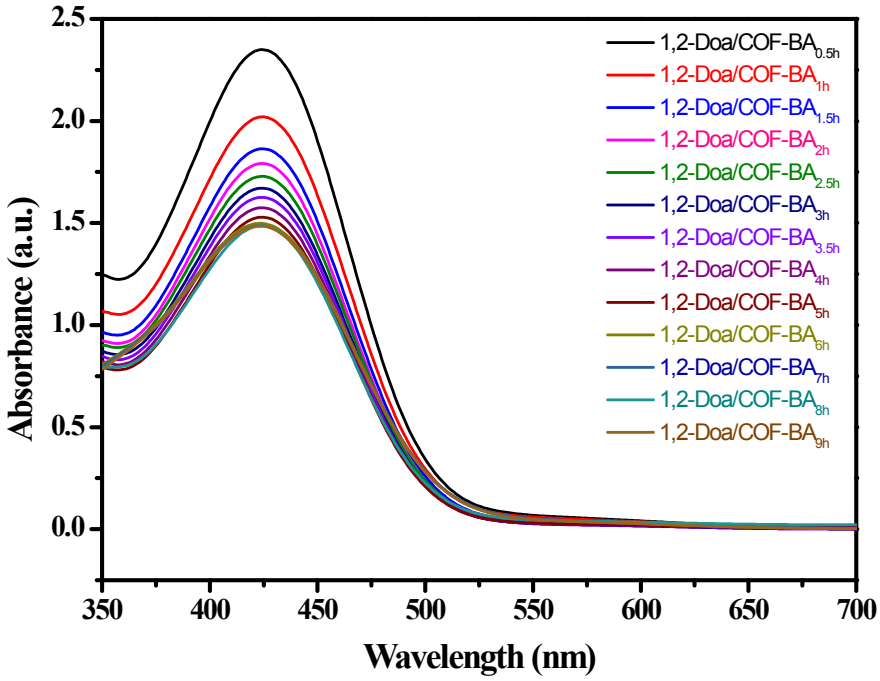

Figure S3. The Ultraviolet adsorption spectra of **COF-BA** to 1, 2-Doa.

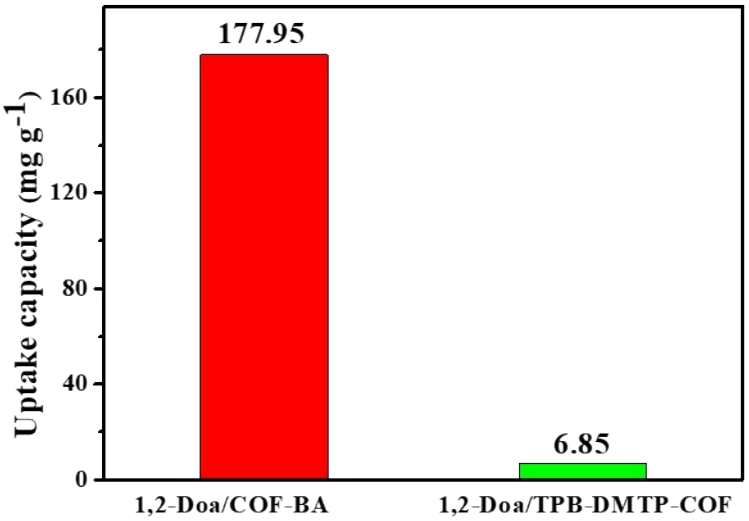

Figure S4. The uptake capacity of **COF-BA** and **TPB-DMTP-COF** toward 1,2-Doa.

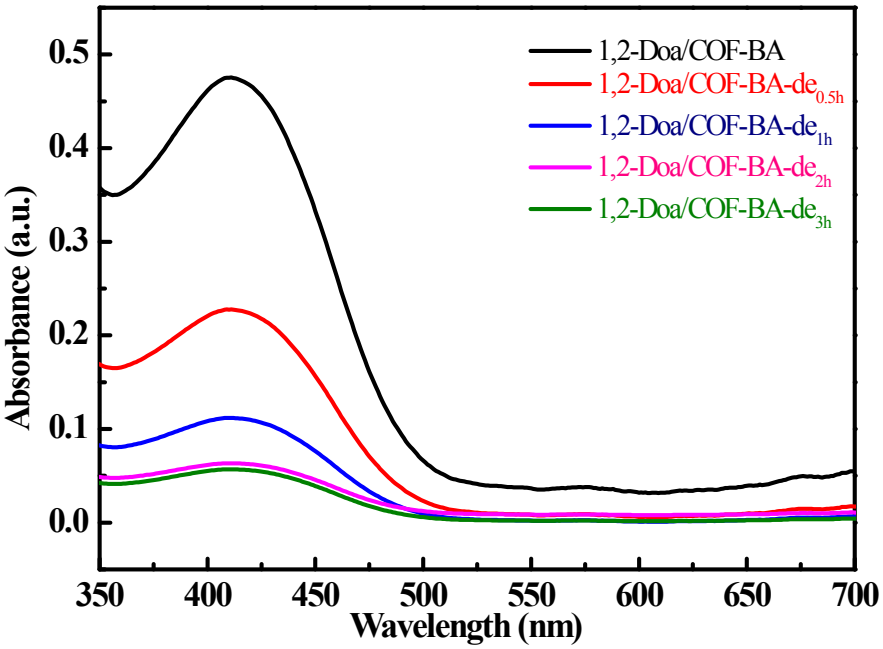

Figure S5. The Ultraviolet desorption spectra of **1, 2-Doa/COF-BA**

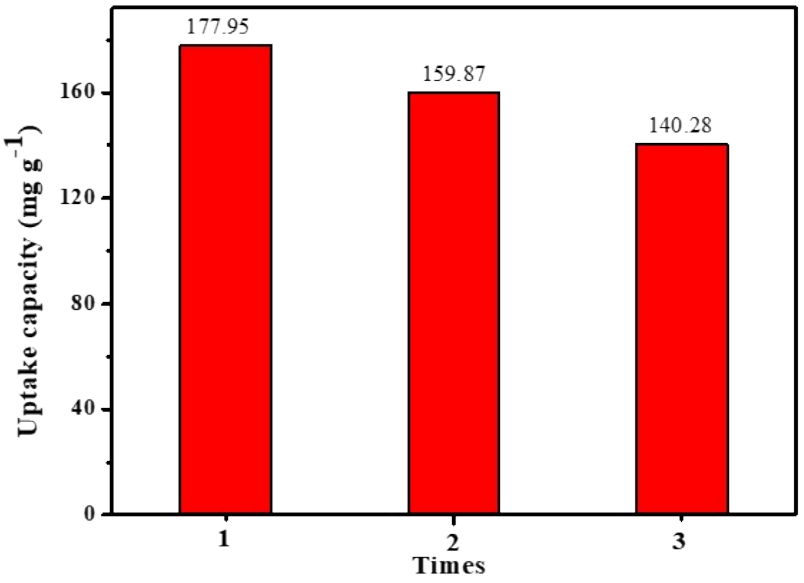

Figure S6. The uptake capacity of **COF-BA** toward 1,2-Doa after many cycles.

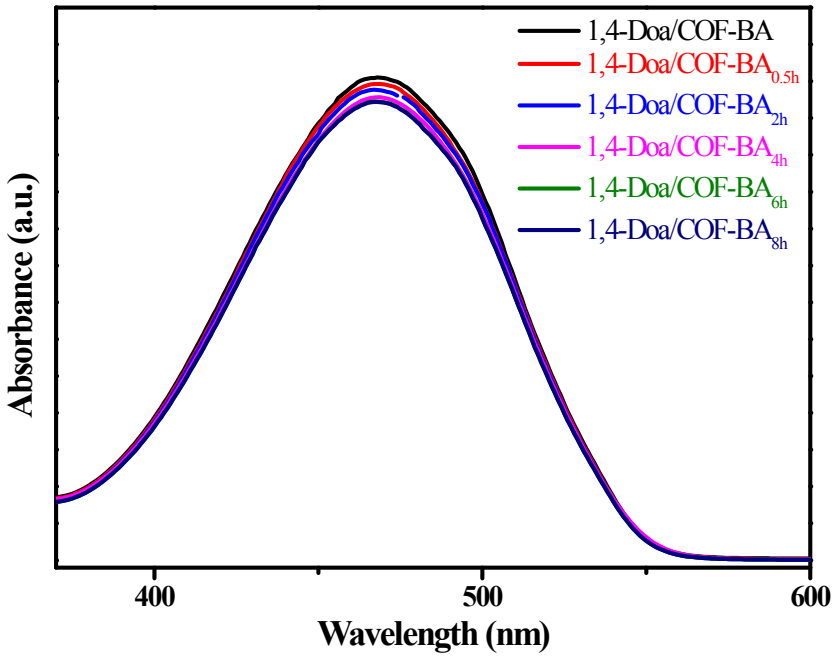

Figure S7. The Ultraviolet adsorption spectra of **COF-BA** to 1, 4-Doa.

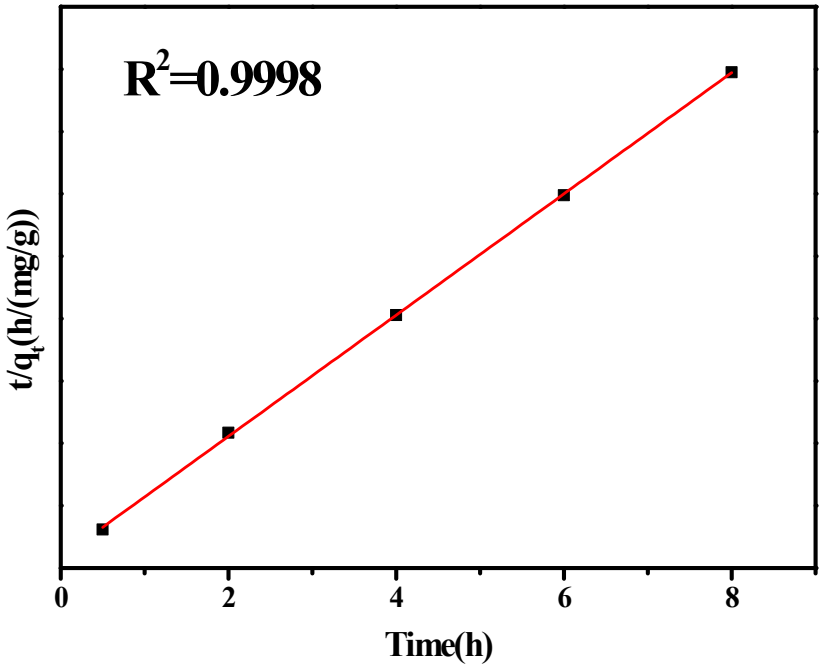

Figure S8. The linear fitting curves with pseudo-second order kinetic model of **1, 4-Doa/COF-BA**.

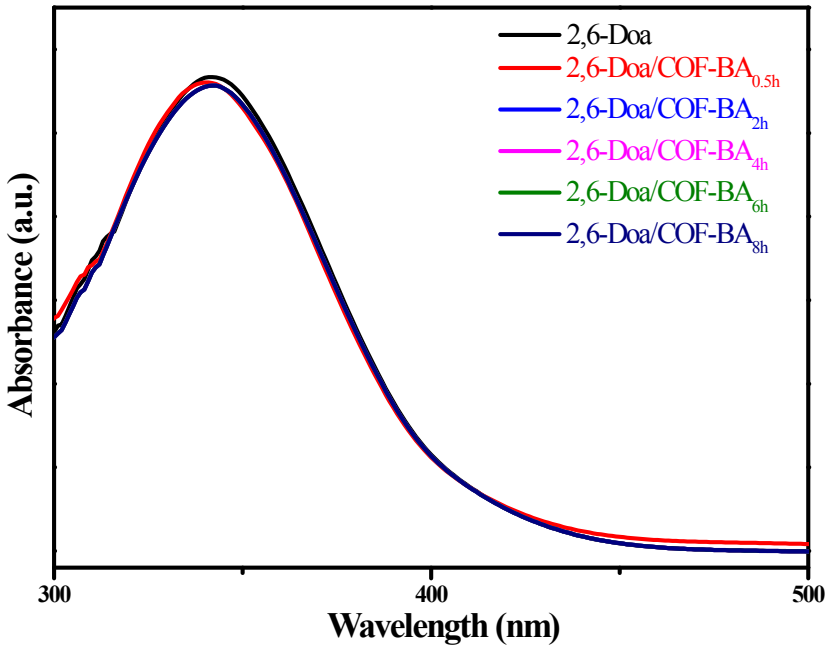

Figure S9. The Ultraviolet adsorption spectra of **COF-BA** to 2,6-Doa.

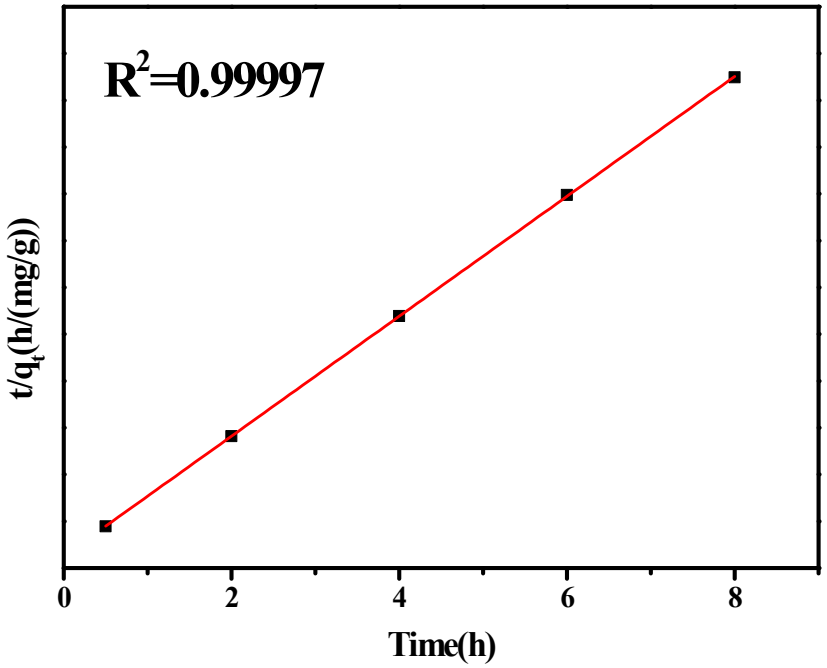

Figure S10. The linear fitting curves with pseudo-second order kinetic model of **2, 6-Doa/COF-BA**.

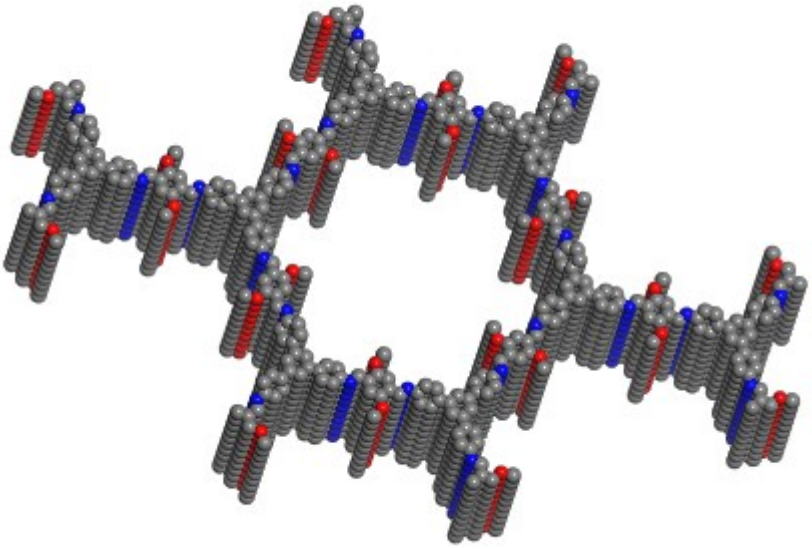

Figure S11. The accumulation model of **TPB-DMTP-COF**.

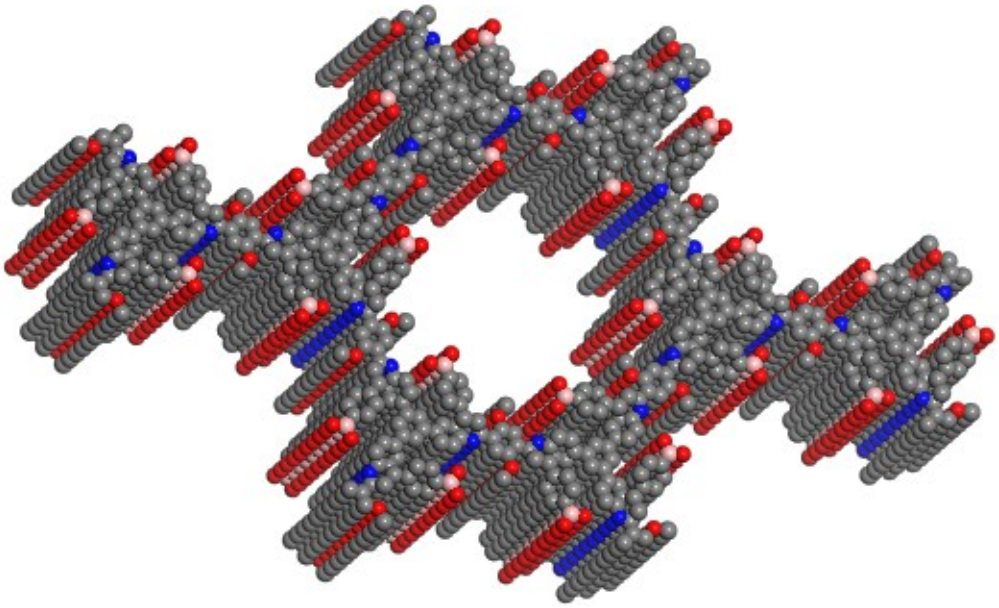

Figure S12. The accumulation model of **COF-BA**.

Reference

[1] X. Li, C. Zhang, S. Cai, X. Lei, V. Altoe, F. Hong, J. J. Urban, J. Ciston, E. M. Chan, Y. Liu, *Nat Commun* **2018**, *9*, 1.

[2] Y. R. Du, B. H. Xu, J. S. Pan, Y. W. Wu, X. M. Peng, Y. F. Wang, S. J. Zhang, *Green Chem* **2019**, *21*, 4792.