

Hybrid Porous Polymers Constructed from Octavinylsilsesquioxane and Benzene via Friedel–Crafts Reaction: Tunable Porosity, Gas Sorption, and Postfunctionalization

Yue Wu,^[a,b] Dengxu Wang,^[a] Liguang Li,^[a] Wenyan Yang,^[a] Shengyu Feng,^{*[a]} and
Hongzhi Liu^{*[a]}

^[a] Key Laboratory of Special Functional Aggregated Materials, Ministry of Education, School of Chemistry and Chemical Engineering, Shandong University, Jinan 250100, P. R. China

^[b] Key Laboratory of Fine Chemicals in Universities of Shandong, Shandong Polytechnic University, Jinan 250353, P. R. China

Figure S1. FT-IR spectra of OVS and HPP-1 to HPP-4

Figure S2 FE-SEM image of HPP-2

Figure S3 FE-SEM image of HPP-3

Figure S4 FE-SEM image of HPP-4,

Figure S5 HRTEM image of HPP-2.

Figure S6 HRTEM image of HPP-3.

Figure S7 HRTEM image of HPP-4.

Figure S8. FT-IR spectra of HPP-4 (a) and HPP-4 postfunctionalized with 3-mercaptopropionic acid (b)

Figure S9. ¹³C CP/MAS NMR of HPP-4 (a) and HPP-4 postfunctionalized with 3-mercaptopropionic acid (b)

Figure S10. ²⁹Si MAS NMR of HPP-4 (a) and HPP-4 postfunctionalized with 3-mercaptopropionic acid (b)

Figure S11. The nitrogen isotherm of HPP-4 postfunctionalized with 3-mercaptopropionic acid

Figure S12. NL-DFT PDS of HPP-4 (a) and HPP-4 postfunctionalized with

* Corresponding Authors. E-mail: liuhongzhi@sdu.edu.cn

3-mercaptopropionic acid (b)

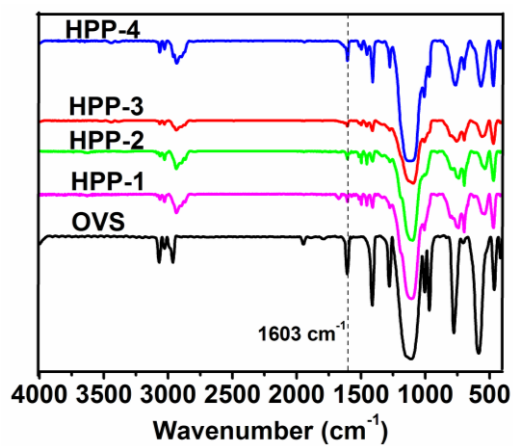


Figure S1. FT-IR spectra of OVS and HPP-1 to HPP-4

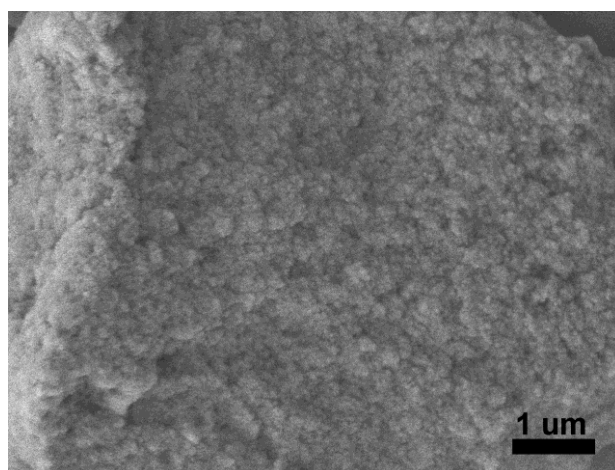


Figure S2. FE-SEM image of HPP-2

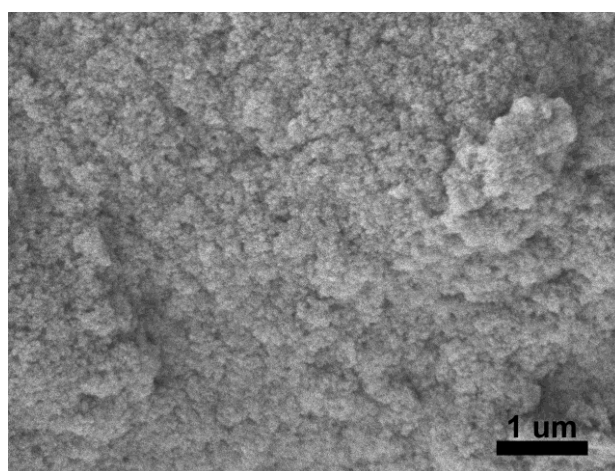


Figure S3. FE-SEM image of HPP-3

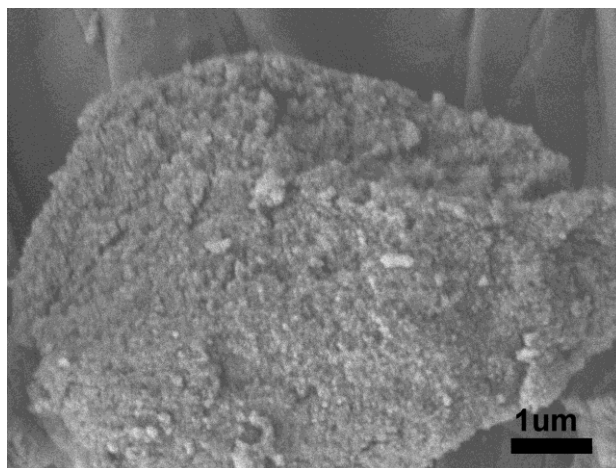


Figure S4. FE-SEM image of HPP-4

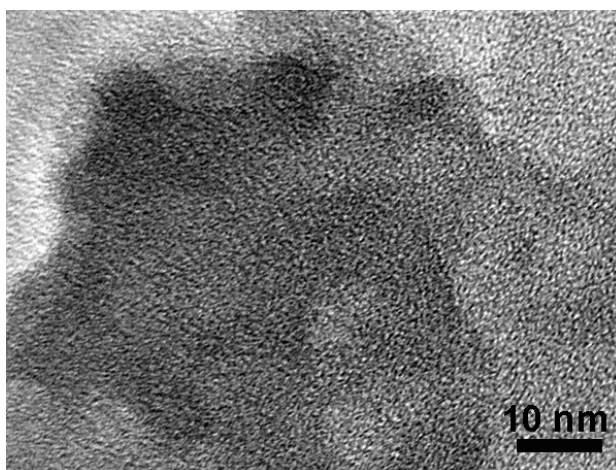


Figure S5. HRTEM image of HPP-2.

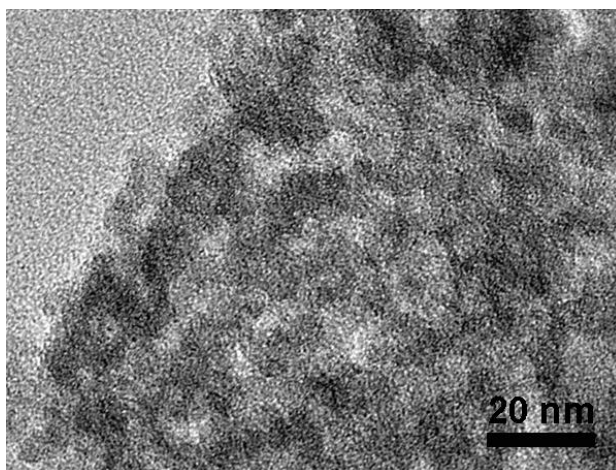


Figure S6. HRTEM image of HPP-3.

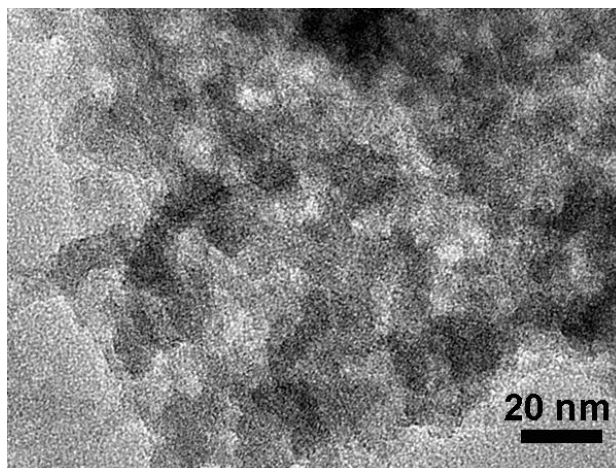


Figure S7. HRTEM image of HPP-4.

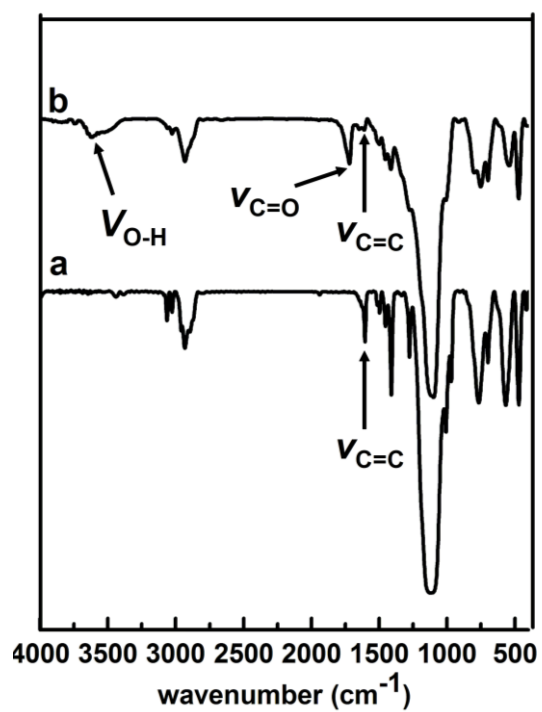


Figure S8. FT-IR spectra of HPP-4 (a) and HPP-4 postfunctionalized with 3-mercaptopropionic acid (b)

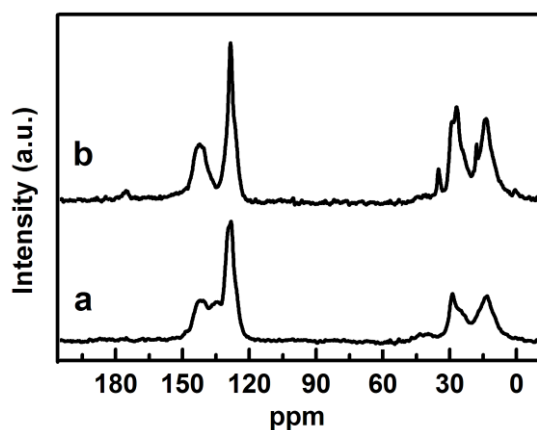


Figure S9. ^{13}C CP/MAS NMR of HPP-4 (a) and HPP-4 postfunctionalized with 3-mercaptopropionic acid (b)

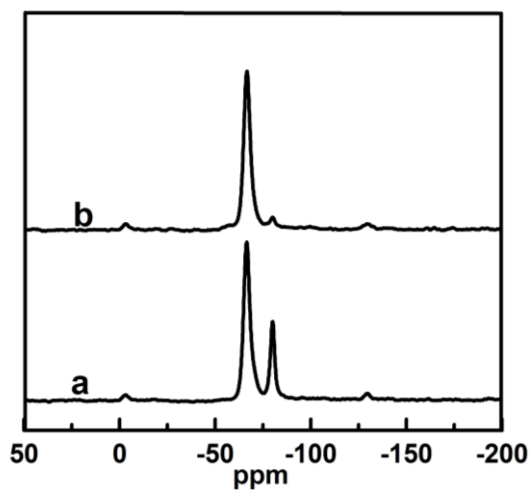


Figure S10. ^{29}Si MAS NMR of HPP-4 (a) and HPP-4 postfunctionalized with 3-mercaptopropionic acid (b)

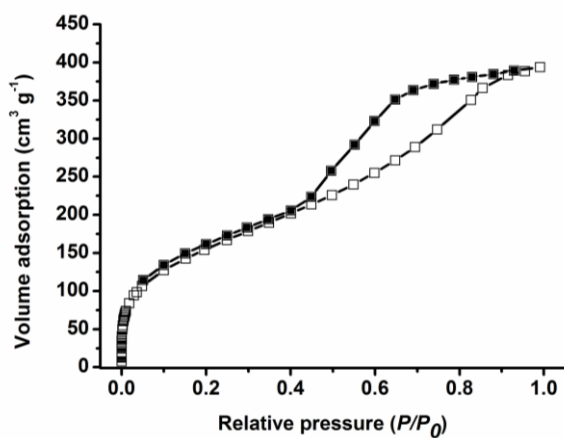


Figure S11. The nitrogen isotherm of HPP-4 postfunctionalized with 3-mercaptopropionic acid

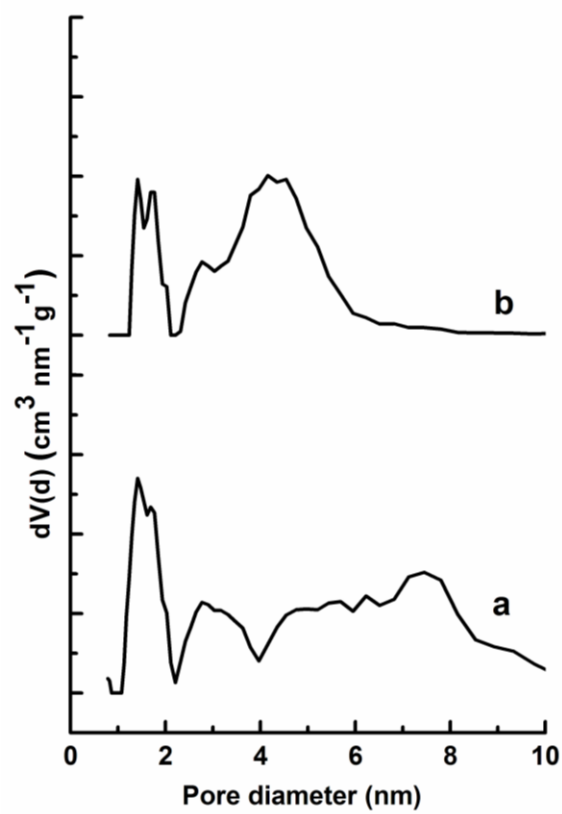


Figure S12. NL-DFT PDS of HPP-4 (a) and HPP-4 postfunctionalized with 3-mercaptopropionic acid (b)