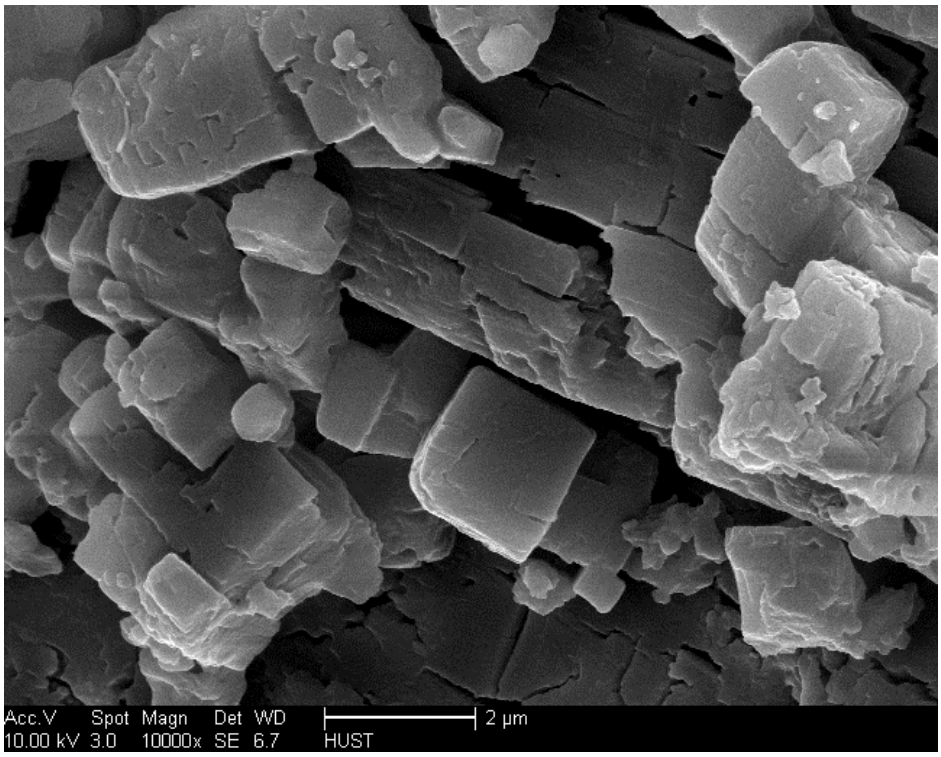
Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Novel POSS-based Organic-Inorganic Hybrid Porous Materials by Low Cost Strategy

Shaolei Wang,[a] Liangxiao Tan,[a] Chengxin Zhang, [a] Irshad Hussain, [c] and Bien Tan*[a,b]

Supporting Information



(a)

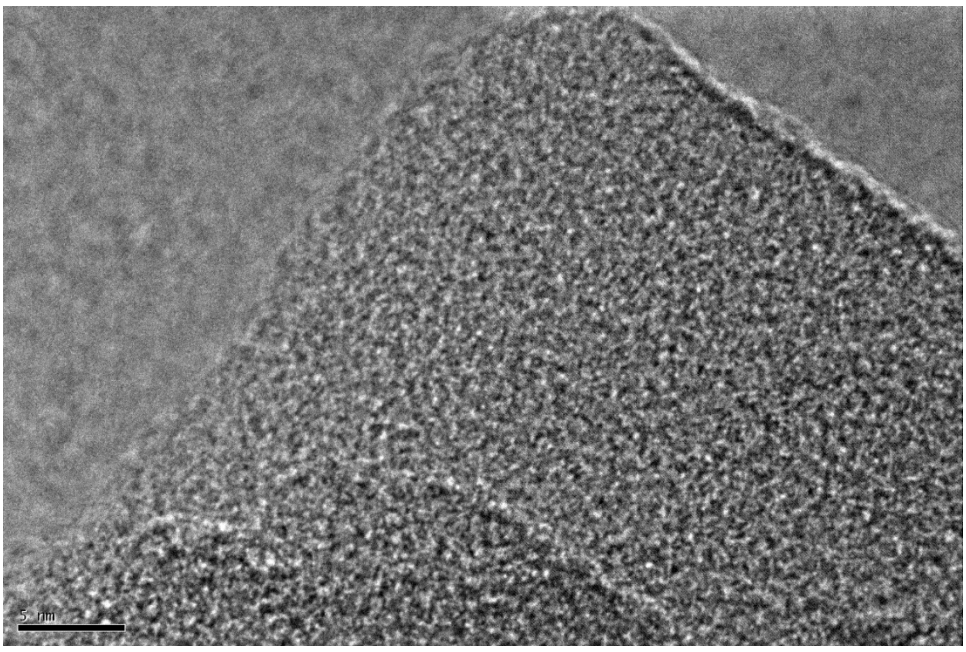


Figure S1 SEM image (a) and HRTEM image (b) of OPS.

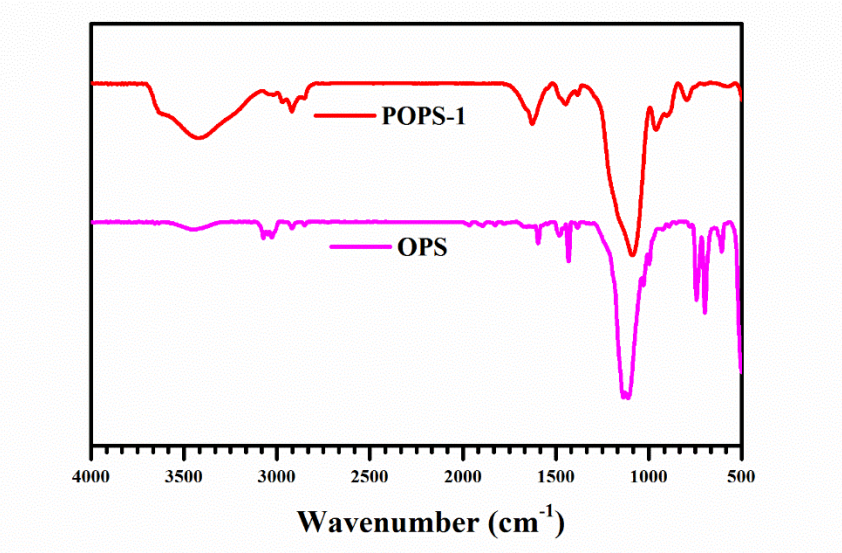


Figure S2 Fourier transform infrared (FTIR) spectra of OPS and POPS-1.

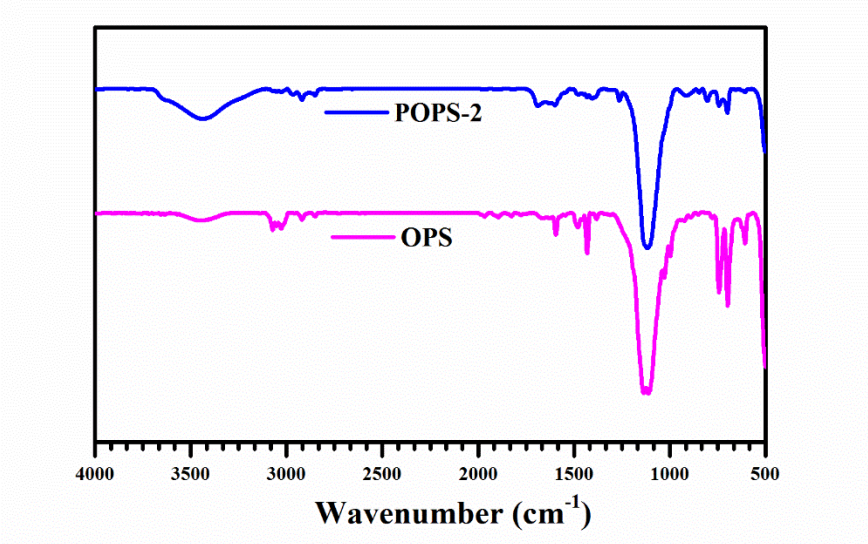


Figure S3 Fourier transform infrared (FTIR) spectra of OPS and POPS-2.

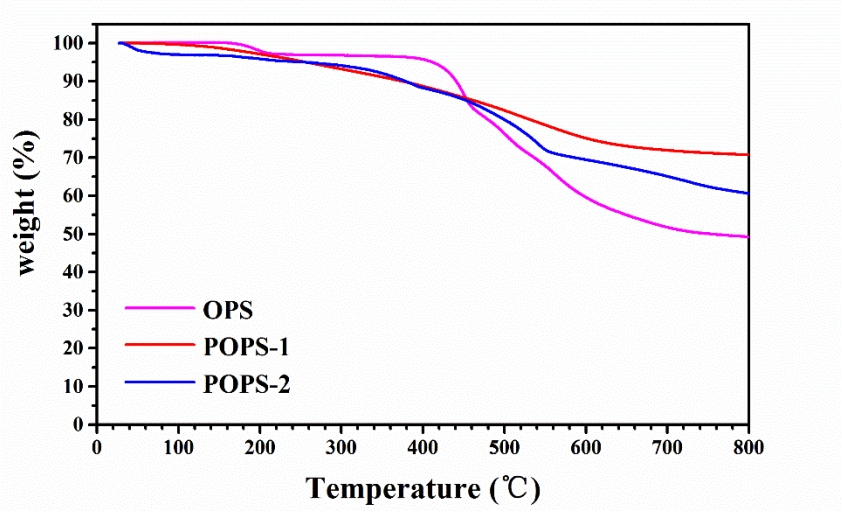


Figure S4 Thermogravimetric analysis of OPS, POPS-1 and POPS-2.

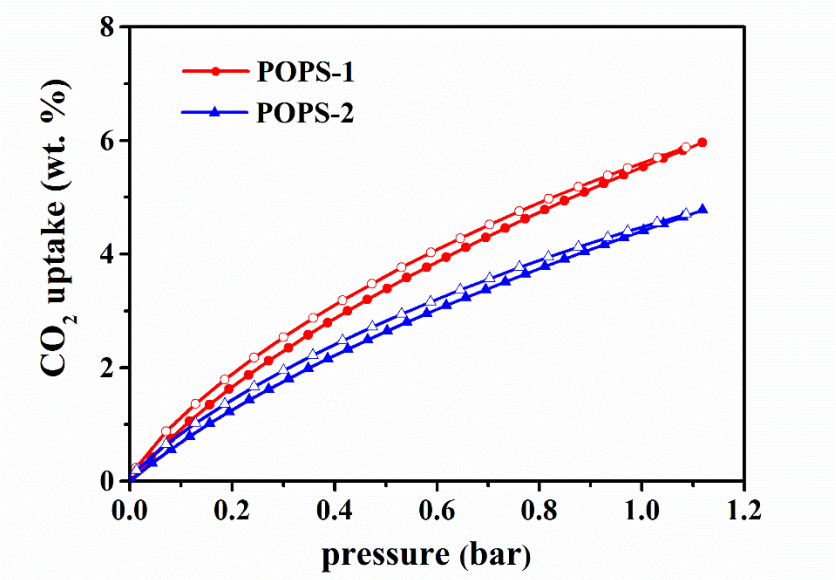


Figure S5 Volumetric CO_2 sorption isotherms of samples up to 1.13 bar at 298.15 K.

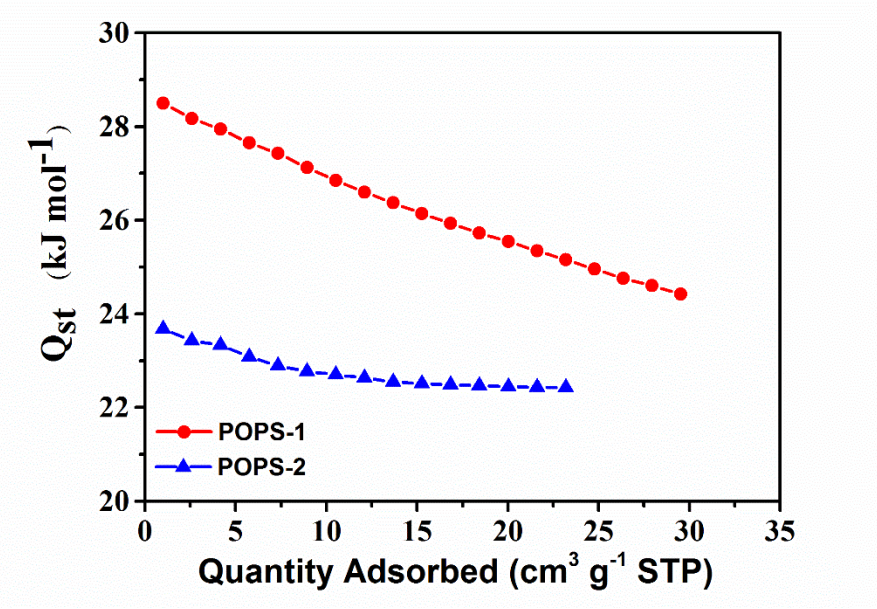


Figure S6 Isosteric heat of adsorption for CO_2 at different CO_2 loadings.

$$\text{Yield } \% = \frac{m_1(g)}{m_2\ (g)} \text{ x } 100\%$$

Where m_1 is the weight of POPS-1 or POPS-2 measured after drying in a vacuum oven at 60 °C for 24 h.; m_2 is the weight of Octapheylsilsesquioxanes.

Equation S1 The yield estimation of POPS-1 and POPS-2