MS038.O03

Targeted synthesis of porous aromatic frameworks

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Porous organic frameworks (POFs) have been developed greatly as new family of porous materials owing to their high stability, high surface area, tuning pore size, and adjustable skeletons, etc. Nowadays, POFs have been attracted great attentions in the field of gas storage and separation, sensors, and catalysis [1]. To obtain POFs with pre-determined structures and tunable property, it is important to select the suitable building blocks and effective reaction. With the aid of computational design, we have successfully synthesized a series of porous aromatic framework (PAF) materials. Because of the flexibility of building blocks, the functional groups are decorated into PAF skeletons, and then their corresponding post-modified products are obtained. We focus our research on gas (CH4, CO2, H2, C2H4, C2H6, C3H6, I2, etc.) adsorption and separation.[2,3]

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Keywords: Porous Aromatic Framework, Targeted Synthesis, Separation