

Flux Synthesis and Separation Application of Porous Organic Materials

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The synthesis strategy of porous organic materials especially covalent organic frameworks (COFs) mainly employs the solvothermal method which usually results in unscalable powders and environmental pollution that seriously limits their practical applications. We created a new synthesis method based on a green and melt-fluxing synthesis strategy without needing any organic solvent. The generality of melt-fluxing synthesis approaches has been applied in the preparation of various types of COFs, including olefin-linked, imide-linked, Schiff-based COFs on both gram and kilogram scales, and self-shaped neutral COF foams.