Development of porous materials for structure design and applications

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Organic porous materials with high surface area, low volume and functionality have attracted extensive attention for few years due to their diverse potential applications in the region of membranes, gas storage, tissue engineering and etc. In this study, we carried out novel structure design and synthesis of porous materials by controlling the pore property such as the pore size distribution, particle size, shapes and volumes of the void spaces. In addition, the raw materials of morphology and property were enhanced through novel synthesis process and functional reaction. Also porous material with various form as spherical particle and filament not only were fabricated by double emulsion templating and FDM 3D printing, but confirmed the feasibility for potential application.