

Synthetic reactions using a 3-D printed acid catalyst

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A 3-D printed cartridge was fabricated with an internal helical honeycomb channel pattern -providing a high surface area suitable for flow chem. The internal chamber of the cartridge was treated with fuming sulfuric acid to anneal the surface and functionalize the material with sulfonic acid groups. The 3-D printed catalyst was used in various acid-catalyzed organic reactions, with 52-97% yield conversions.