

Hydrogen bond donating large pore MOFs for catalysis

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In the quest for reusable active heterogeneous hydrogen-bond donating organocatalysts that are well-characterizable [1-3], we have prepared a multitude of large pore MOFs based on ditopic, tritopic and tetratopic urea and squaramide linkers (Fig. 1). We are presenting here the structures of some of the more interesting examples, as well as preliminary catalytic test data from a Friedel Crafts alkylation of indole with between beta-nitrostyrene (Fig.2).

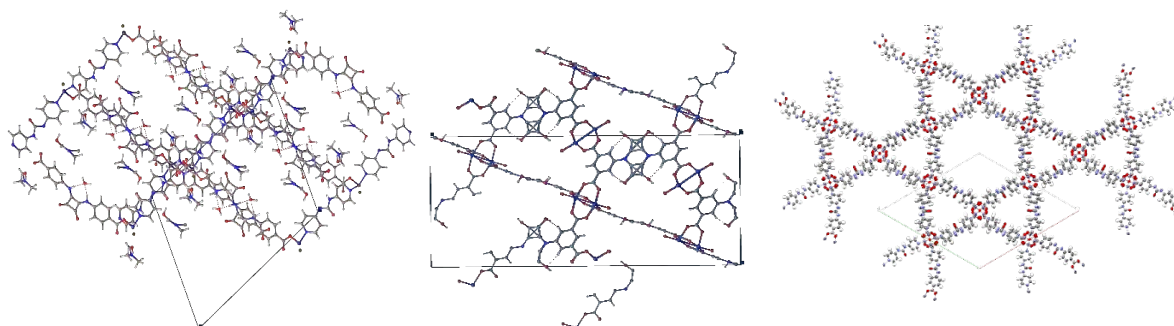


Figure 1. Mixed urea-squaramide UA-157 and UA-143, and hexagonal channel-type urea-based UA-3

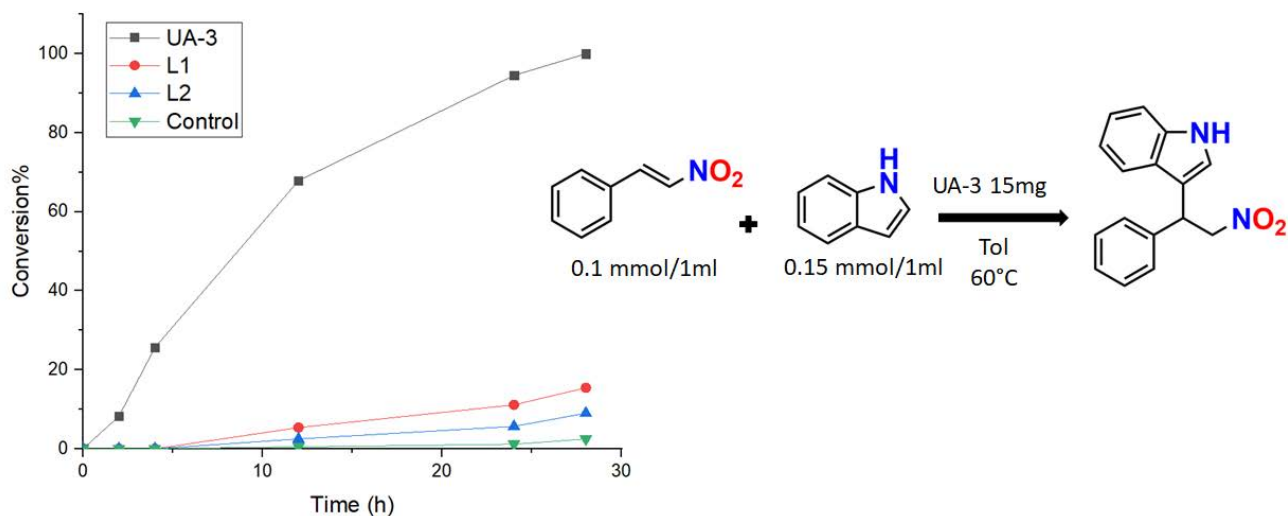


Figure 2. Catalytic data on Friedel-Crafts test reaction with UA-3 as a catalyst

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