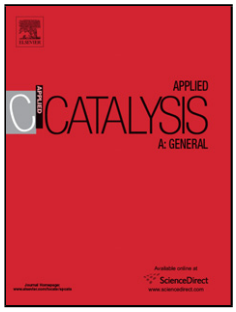

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PII: S0926-860X(18)30382-X
DOI: https://doi.org/10.1016/j.apcata.2018.07.043
Reference: APCATA 16769

To appear in: *Applied Catalysis A: General*

Received date: 6-3-2018
Revised date: 16-7-2018
Accepted date: 28-7-2018

Please cite this article as: Xie G, Tian J, Wei S, Liu X, Ma X, Multifunctional hollow mesoporous organic polymeric nanospheres (HMOPs) as effective heterogeneous catalysts with enhanced activity in green asymmetric organocatalysis, *Applied Catalysis A, General* (2018), https://doi.org/10.1016/j.apcata.2018.07.043

Multifunctional hollow mesoporous organic polymeric nanospheres (HMOPs) as effective heterogeneous catalysts with enhanced activity in green asymmetric organocatalysis

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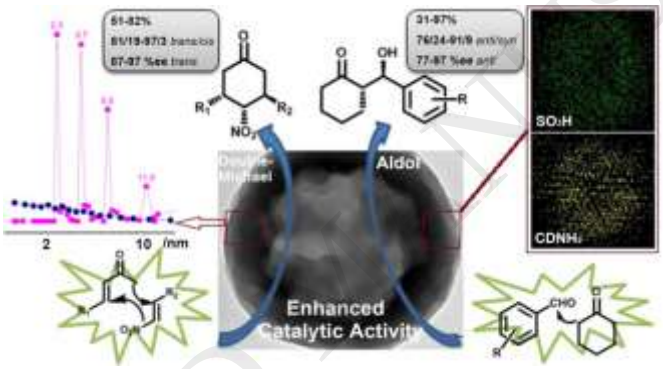
Graphical Abstract



The first controlable fabrication of hollow mesoporous organic polymeric nanospheres (HMOPs) with pure intriguing mesopores using low-cost and commonly available materials is developed by metal ion-adsorbed, *in-situ* forming metal hydroxide or phosphate-expanded technique and removal of templates. After sulfonated and immobilized by organocatalyst, the functional HMOPs displays significantly enhanced catalytic performances in heterogeneous asymmetric organocatalysis.

Highlights

- 1. First fabrication of hollow mesoporous organic polymers.
- 2. High acid capacity and effective immobilization of organocatalyst.
- 3. Enhanced catalytic performances due to hollow interior and mesoporous shell.
- 4. Asymmetric aldol addition and double-Michael organocascade in green manner.
- 5. Good reusability without significant loss in catalytic performances.