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## Supramolecular catalysis within confined environment of metal-organic architectures

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Metal-organic architectures constructed through the coordination of metal ions and organic linkers, represent a unique class of functional molecular containers that display interesting recognition properties and fascinating reactivity reminiscent of the natural enzymes. These architectures generating well-defined cavities provided specific confined inner environments for selective bonding of guest molecules and catalyzing their transfermations with intrinsic activities and selectivities. The great flexibility in terms of the molecular design and the potential benefits of integrating inorganic and organic components within a single composite make them interesting candidates for supramolecular catalytic chemical transformation. Yet only few "artificial enzymes" achieved the magnificent catalysis of natural enzymes. Through incorporating amide-containing multidentate chelators or the chiral organocatalyst within the ligand backbone or the cavities of the architectures, we described herein the syntheses and catalytic properties of several metal-organic architecture to investigate the possibility in the application of molecular flasks and heterogeneous catalysts.

## Biography

Chunying Duan has completed his PhD in Inorganic Chemistry from Nanjing University, China, and was promoted to be a Full Professor in 2000. Now, he is the Deputy Director of State Key Laboratory of Fine Chemicals, Dalian University of Technology, China. He is dedicated towards chemistry of Werner type architectures, focusing on the biomimetic sensing and molecular imaging, asymmetric catalysis and enzyme-inspired catalysis, and has published more than 200 papers in reputed journals such as *Nat. Commun., J. Am. Chem. Soc., Angew. Chem. Int. Ed.,* and etc.

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