Metal-Organic Frameworks as a New Platform for CO_2 Chemical Transformations

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Abstract:

Metal–organic frameworks (MOFs) represent a new class of materials, and one of their striking features lies in the tunable, designable, and functionalizable nanospace. The nanospace within MOFs allows designed incorporation of different functionalities for targeted applications, such as gas storage/separation, sensing, drug delivery; and it has also provided plenty of opportunities for heterogeneous catalysis application. We will discuss the systematic development of MOFs as a new platform for CO_2 chemical transformations.

Biographical Sketch:

Shengqian Ma obtained his B.S. degree from Jilin University, China in 2003, and graduated from Miami University (Ohio) with a Ph.D. degree in 2008. After finishing two-year Director's Postdoctoral Fellowship at Argonne National Laboratory, he joined the Department of Chemistry at University of South Florida (USF) as an Assistant Professor in August 2010. He was promoted to an Associate Professor with early tenure in 2015 and to a Full Professor in 2018.

He received the USF ***Faculty Outstanding Research Achievement Award*** in 2015 and the USF ***Outstanding Faculty Award*** in 2018. He is the recipient of 2014 ***NSF CAREER Award*** and has been selected as the Thomson Reuters ***Highly Cited Researcher*** in 2014, 2015, 2016, and 2017; he was also awarded the ***IUPAC-2015 Young Chemist Travel Award*** and the ***2009 IUPAC Prize for Young Chemists*** from International Union of Pure & Applied Chemistry (IUPAC); he received the ***Young Investigator Award*** from American Chemical Society (ACS) Division of Inorganic Chemistry and the ***Director's Postdoctoral Fellowship*** from Argonne National Laboratory in 2008 as well.

His current research interest focuses on the development of functional porous materials including metal-organic frameworks (MOFs), porous organic polymers (POPs), and microporous carbon materials for energy, biological, environmental-related applications. He has published more than 150 papers (over 100 since independent career) with the total citations over 15000 and the H-index of 62.