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Dynamic fluorescence quenching of Pd6(RuL3)8 metal-organic cages (MOCs) by ferrocene derivatives

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In supramolecular coordination chemistry field, coordination driven assembly of Metal-Organic Cages (MOCs) with well-defined shapes and unique cavities has drawn great attention in the past decades. A wide variety of applications, such as altering chemical reactivity, intriguing host-guest properties and potentials in chiral recognition, catalysis, as well as drug delivery and release have been thoroughly explored. In the present study, we have reported the host-guest and photochemistry study of ferrocene derivative guests, employing our MOC-16 as a host.



The host-guest interaction of three ferrocene (Fc) derivative guests with MOC-16 host were thoroughly studied by NMR spectra, their optical property by UV-Vis, FL spectra and their electrochemical behavior by CV was also studied. Surprisingly, the fluorescence of MOC-16 quenched rapidly when the ferrocene derivative guests were encapsulated by MOC-16 in water. Hence, it was observed that the fluorescence can be recovered simply by extracting guests from the cage cavity with organic solvent.

Biography

Mei Pan has received her BS degree in Materials Science from Institute of Crystal Materials, Shandong University, China in the year 2001, and her PhD degree from the Shanghai Institute of Technical Physics of the Chinese Academy of Sciences. She was promoted as a Professor of Chemistry in this year. Her current research interests are centered on photophysics and photochemistry, metal-organic luminescent material, molecular recognition and supramolecular coordination assembly and its application. She has published over 100 articles in international journals, including *JACS*, *Nat. Commun.*, *Chem. Mater.* and *Chem. Commun.*

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