

Solvent-assisted linker exchange : an alternative to the de novo synthesis of unattainable metal–organic frameworks.

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Streszczenie

Metal-organic frameworks (MOFs) have gained considerable attention as hybrid materials—in part because of a multitude of potential useful applications, ranging from gas separation to catalysis and light harvesting. Unfortunately, de novo synthesis of MOFs with desirable function–property combinations is not always reliable and may suffer from vagaries such as formation of undesirable topologies, low solubility of precursors, and loss of functionality of the sensitive network components. The recently discovered synthetic approach coined solvent-assisted linker exchange (SALE) constitutes a simple to implement strategy for circumventing these setbacks; its use has already led to the generation of a variety of MOF materials previously unobtainable by direct synthesis methods. This Review provides a perspective of the achievements in MOF research that have been made possible with SALE and examines the studies that have facilitated the understanding and broadened the scope of use of this invaluable synthetic tool.

Słowa kluczowe

metal organic frameworks, porous material, SALE, solid-state structures

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