

Publication

Discrete Systems Related to Coordination Networks and Metal-Organic Frameworks

Book Item (Buchkapitel, Lexikonartikel, jur. Kommentierung, Beiträge in Sammelbänden)**ID** 4623326**Author(s)** Constable, E. C.; Housecroft, C. E.**Author(s) at UniBasel** [Constable, Edwin Charles](#) ; [Housecroft, Catherine](#) ;**Year** 2021**Title** Discrete Systems Related to Coordination Networks and Metal-Organic Frameworks**Editor(s)** Constable, Edwin C.; Parkin, Gerard; Lawrence, Que Jr**Book title** Comprehensive Coordination Chemistry**Volume** 7, Pt. 15**Edition** 3rd**Publisher** Elsevier**Place of publication** Amsterdam**Pages** 121-173**ISSN/ISBN** 978-0-08-102689-2**Keywords** Coordination compound; molecular; metal node; organic linker; rigid rods; metallomacrocycles; polygons; capsules; metallocages; metallogrids; molecular helicates; coordination polymers; coordination network; metal-organic framework

Discrete coordination systems assembled from combinations of metal ions and organic ligands contrast with infinite networks and frameworks, but the fields are closely associated by their synthetic strategies. This review surveys design principles for the assembly of discrete rods (in contrast to infinite 1-dimensional coordination polymers), molecular helicates, metallogrids, metallostars, polygons (metallomacrocycles), and metallocages. Organic ligands with well-defined vectorial properties are key to directed assembly. Metal-based nodes may be mono- or multinuclear, and the principles used for directing assemblies through choice of appropriate metal center(s) are exemplified.

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