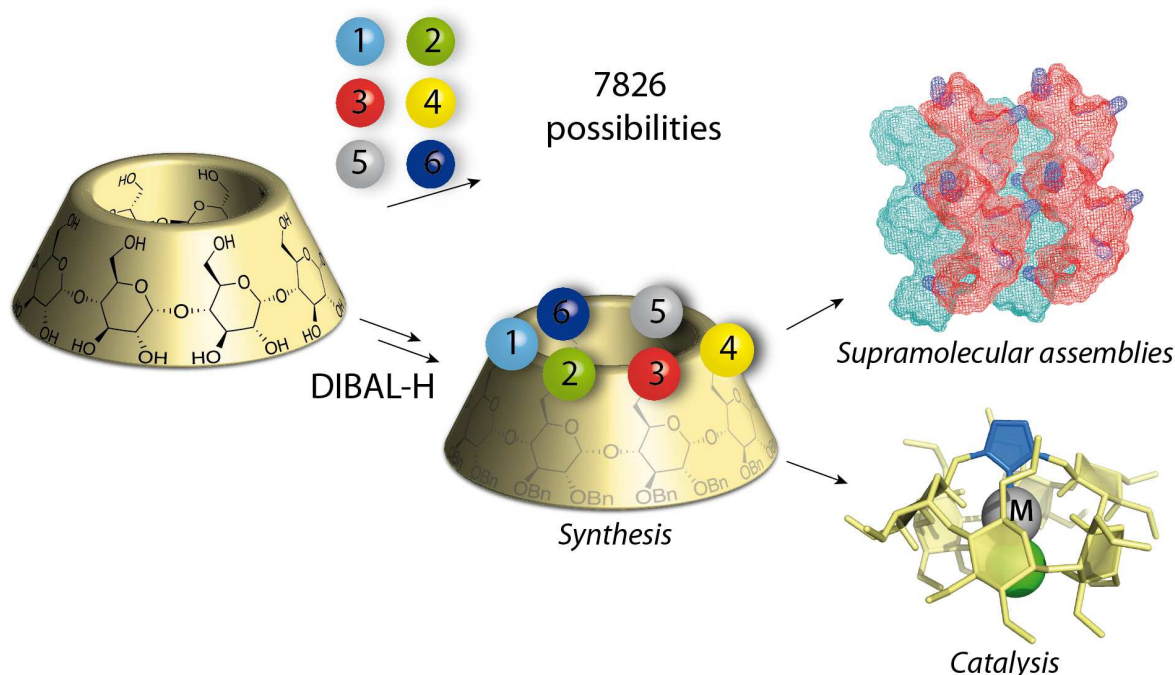


Fonctionnalisations sélectives des cyclodextrines pour la catalyse et l'architecture supramoléculaire

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Site-selective functionalization of complex molecules, which consists in targeting only one position out of many similar ones, is a particularly demanding challenge. Concave molecules such as cyclodextrins desperately need efficient and regioselective poly hetero-functionalization methods to expand their field of applications, but this task is highly difficult because of their high symmetry. As an illustration there are 7826 ways to arrange six functions on the primary rim of α -cyclodextrin. Based on the discovery of a regioselective debenzoylation reaction of sugars, and the understanding of its mechanism,¹ we delineated several strategies to access poly-hetero-functionalized cyclodextrins² and reached the Grail of cyclodextrin functionalization: the hexadifferentiation.³ The access to such complex structures allows applications in a wide range of areas including hierarchical supramolecular assemblies,⁴ catalysis⁵ that will be illustrated.



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