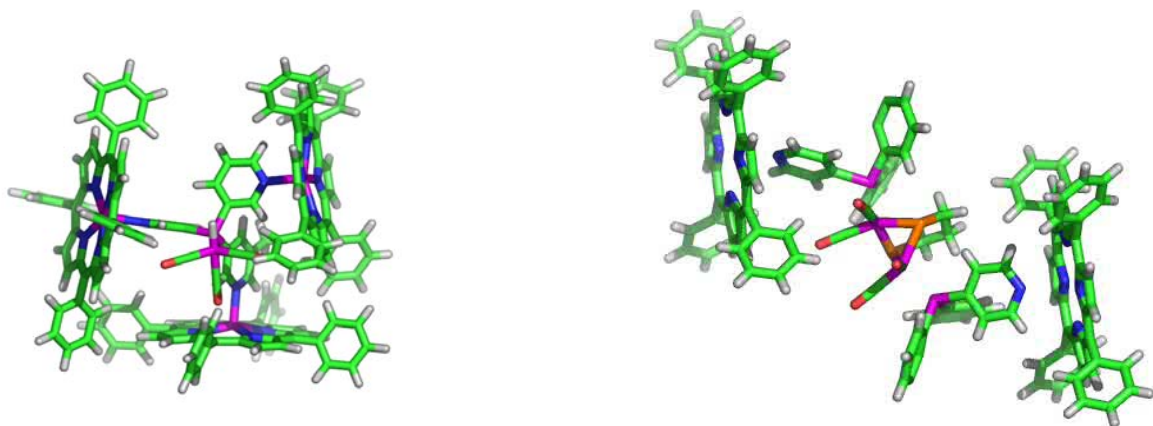


INS AND OUTS OF TEMPLATE ASSISTED ENCAPSULATION OF TRANSITION METAL CATALYSTS.

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The molecular recognition and reversible encapsulation properties of supramolecular capsules have facilitated their application as nanosized reaction vessels and catalysts.¹ The confined nanospace within these nanoreactors has promoted, accelerated and controlled reactions, resulting in remarkable substrate and product selectivities. Our group has introduced a template-ligand assisted approach for the encapsulation of transition metal catalysts.¹ In this contribution I will elaborate on the structure and properties of these self-assembled encapsulated catalyst and will focus on unusual (selectivity) effects observed in a variety of reactions, including a self-assembled biomimetic [2Fe2S]-hydrogenase-based photocatalyst for molecular hydrogen evolution.²



¹ Reek et al. *Journal of the American Chemical Society* **2004**, *126*, Reek et al *Journal of the American Chemical Society* **2006**, *128*, 11344. Kleij, A. W.; Reek, J. N. H. *Chemistry--A European Journal* **2006**, *12*, 4218

² Reek, et al.. *PNAS* , **2009**, *in press*.