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Host-Guest Interactions Between Macrocyclic Compounds and Polyoxometalates

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Poster Presentation P63

HOST-GUEST INTERACTIONS BETWEEN MACROCYCLIC COMPOUNDS AND POLYOXOMETALATES

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While the host-guest chemistry of small polyatomic ions has been studied extensively, the host-guest chemistry of large polyoxoanions has not been researched as widely and is therefore an open area for investigation. The host-guest assembly of polyoxoanions and cationic macrocycles has recently led to the preparation of new materials and may soon lead to new synthetic strategies. It has been proposed, for example, that two or more protonated azamacrocycles could self-assemble around a polyoxometalate and then be linked together, covalently, through reactive pendant arms. The negative charge on the polyoxometalate would attract the positively charged ammonium groups of the macrocycles. To this end, a thirty-membered decaazamacrocycle (Figure 1, Reference 1) and negatively charged polyoxoanions have been synthesized. Their host-guest interactions are currently under investigation.

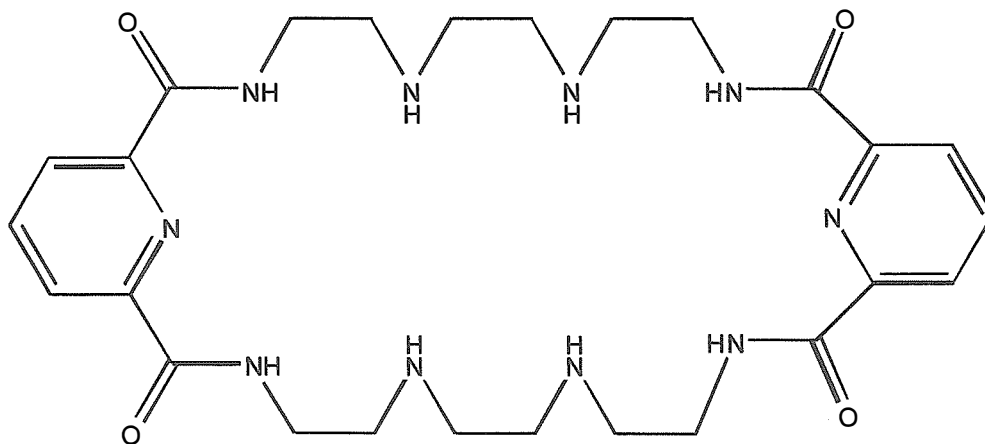


Figure 1

Reference 1:

Rybak-Akimova, Elena. (2006). Anion binding to Monotopic and Ditopic Macrocyclic Amides. *Organic Letters* 8(15), 3171-3174 & Supplementals.