

Synthesis of amphiphilic cavitands, based on Cyclotrimeratrilene and coordination of anthracene molecules

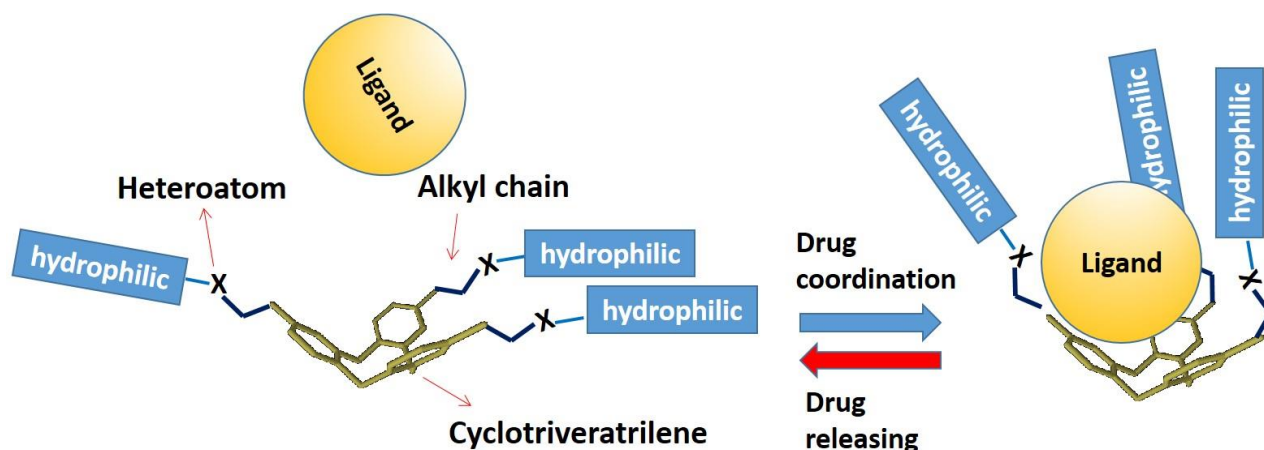
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ABSTRACT

In our research work, we synthesize organic compounds capable of coordinating drug molecules in water solutions. The possible application of this work consists of creating organic platform that can be integrated in liposomal nanoparticle to increase their capability to load drug molecules. The coordinating systems are based on Cyclotrimeratrilene, a hollow shaped organic unit widely exploited in organic solution for supramolecular coordination of organic/inorganic compounds with different sizes and functions.¹ The hosting systems that we synthesize display coordination capability in water solutions.^{2,3} The molecular design consists on arming the CTV with hydrophilic molecular units. In our previous works we connected CTV with the amphiphilic polymer Polyethyleneimine. The material was a soluble gel containing hydrophobic holes (or pores) capable of coordinating different drug molecules. We analyzed the interaction with aromatic drugs that exhibit different sizes and water solubilities. In our work, we also studied the drug release by changing the environmental conditions.



References

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