

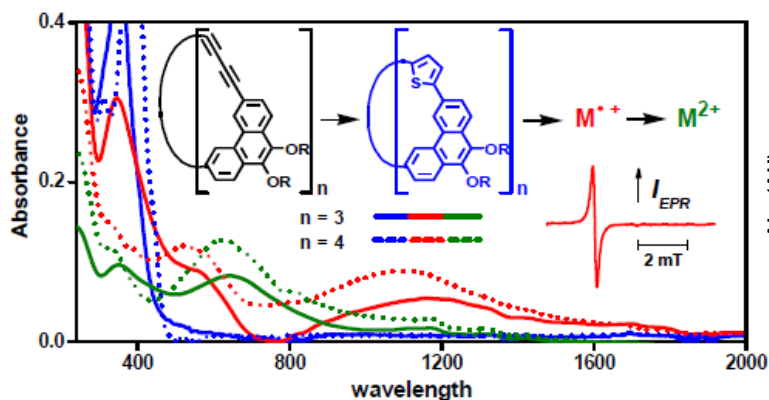
Synthesis, characterization and properties of shape-persistent macrocycles.

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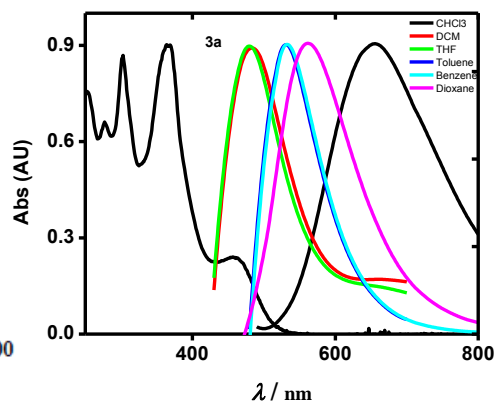
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Abstract

A conjugated, non-conjugated and donor-acceptor shape-persistent macrocycles have been made up of from planar poly-aromatic building blocks, such as phenanthrenes and carbazoles, along with acetylene, butadiynylene, thienylene, diethynylbenzene and bulky 1,3-diethynylbicyclo[1.1.1]pentane as linkers. Structure and properties of the macrocycles, such as self-association in solution, optical and electrochemical properties were studied in a comparative manner with respect to the effects of different size and shape of the macrocycles, and character and length of their side chains. In a donor-acceptor macrocycles, an intermolecular charge-transfer (ICT) interaction observed and was proven by observation of the solvatochromism. Further, the effect of conjugated diethynylbenzene macrocycles and non-conjugated bulky 1,3-diethynylbicyclo[1.1.1]pentane on their properties were studied by various spectroscopic techniques.



Phenanthrylene Macrocycles



D-A Macrocycles