Designing supramolecular liquid-crystalline materials from pyrenyl-dendrimers by encapsulation in metallacycles.

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Metallacontainers have garnered great deal of attention owing to their prominent applications in different fields like molecular recognition, host-guest chemistry, crystal engineering, biomedical, and molecular devices.⁰ Herein, arene ruthenium metallacycles containing pyrenyl-dendrimers are reported. This kind of hybrid metallogens combines the properties of metal ions and the mesogenic nature of dendrimers. These hybrid materials can generate compounds with interesting magnetic, optical or electro-optical properties. The cavity of these systems leads to the complexation of the pyrenyl moiety in the hydrophobic cavity of the cage, while the dendritic functions remain outwards.² This arrangement has allowed us to design a new supramolecular system with liquid-crystalline properties.³