

# Polyaromatic Nanocapsules from Molecular Design to Host Functions

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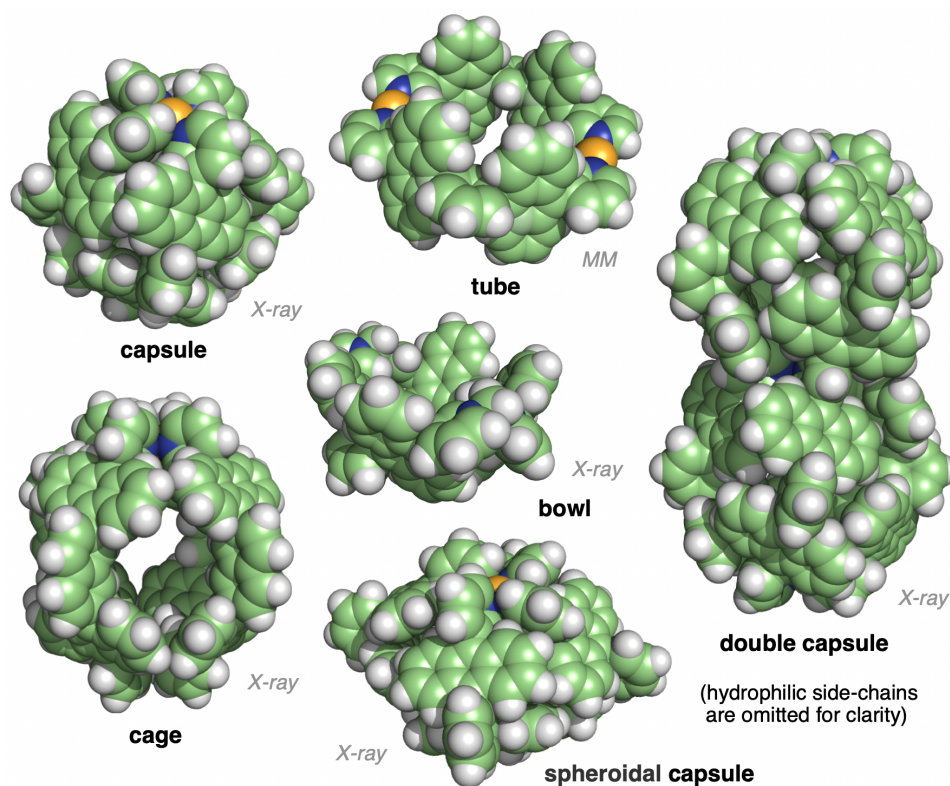
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Polyaromatic rings often display attractive physical and chemical properties so that the combination of “capsular structures” and “polyaromatic rings” is expected to generate a new class of molecular flasks with unique functions. We have focused on a bent anthracene dimer as a polyaromatic building block for the synthesis of novel molecular capsules, tubes, and bowls. Here we present the preparation and properties of polyaromatic capsules with nanocavities surrounded by multiple anthracene panels. The new nanocapsules encapsulate various compounds, such as organic dyes, nanocarbons, and metal-complexes. In the confined space, these bound compounds show intriguing chemical and physical properties, which cannot be observed in bulk solutions, through efficient host-guest interactions.<sup>[1-3]</sup>



[1] M. Yoshizawa, J. K. Klosterman, *Chem. Soc. Rev.*, **2014**, 43, 1885–1898; [2] M. Yoshizawa, M. Yamashina, *Chem. Lett.*, **2017**, 46, 163–171; [3] M. Yoshizawa, L. Catti, *Acc. Chem. Res.*, **2019**, 52, 2392–2404.