

# Functional Molecular Architectures Based on Multi-Anthracene Assemblies

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Inspired by the sophisticated shapes and advantageous properties of fullerenes and carbon nanotubes, much attention has been paid to the synthesis of such nanostructures with polyaromatic frameworks. Our research interests focus on three-dimensional molecular architectures with nanospaces encircled by polyaromatic panels for the development of a new class of functional molecular containers and reactors. Recently we selected anthracene as a multi-faceted, useful polyaromatic panel and our research group has prepared novel nanostructures with capsule, tube, and bowl shapes by using multiple anthracene subunits through covalent and non-covalent linkages. These structures have well-defined cavities surrounded by the anthracene panels, capable of binding various organic molecules and displaying unusual fluorescent properties in aqueous solution. This lecture will show our recent development of functional multi-anthracene assemblies.

