## Preface

Smart materials constructed through supramolecular assemblies have been receiving considerable attention because of their potential applications, which include self-healing materials, energy storage, photonic devices, sensors and theranostics. Host–guest chemistry of various macrocyclic receptors with organic guests provides a unique way to control the tailor-made nanoarchitectures for the formation of predesigned functional materials. In this context, cucurbituril is a very interesting macrocycle and can participate in the formation of various supramolecular assemblies having unprecedented properties. Rich host–guest chemistry, through distinctive molecular recognition ability and high selectivity of CB homologues toward to various guests with different shapes and sizes, plays a very important role in the synthesis of functional supramolecular materials.

This book *Cucurbituril-based Function Materials* provides a comprehensive overview of this fascinating macrocycle, cucurbituril (CB) homologue- and derivative-based supramolecular materials. Chapters cover the synthesis, properties and applications of CB-based smart materials and nanostructures. With contributions from key researchers, this book will be of interest to students and researchers working in materials science, as well as those working on cucurbituril-based materials in organic, supramolecular and polymer chemistry.

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