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Sommario/riassunto	<p>After 50 years from the discovery of crown-ethers, macrocyclic hosts continue to play a pivotal role in supramolecular chemistry. The presence of a cavity makes them ideal candidates to perform supramolecular functions such as catalysis, molecular and biomolecular recognition, sensing, self-assembly, and synthesis of interpenetrated architectures. In addition, thanks to their synthetic versatility, the macrocycles are considered useful platforms for the design of more elaborated structures for the self-assembly of supramolecular polymers and for applications in biomimetic chemistry. These aspects have stimulated the creativeness of the scientists that in this way started imagining novel macrocyclic structures with the aim to perform ever more advanced supramolecular functions and properties. Thus, in the last years, in addition to the most innovative aspects regarding the "old" macrocycles, much attention has also been focused on the synthesis of new macrocycles. These studies have led to the discovery of novel classes of molecules such as pillararenes, biphenarenes, calixnaphthalenes, large resorcinarenes and a wide class of heteracalixarenes, coronarenes, which have found application in several areas of supramolecular chemistry. The aim of this Research Topic is to outline the most innovative researches regarding the chemistry of macrocyclic compounds and their supramolecular properties.</p>