

## O 34. THE ROLE OF CALIXARENES IN THE ENVIRONMENTAL SCIENCE

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**ABSTRACT:** The removal of toxic species from the polluted environment has been the matter of concern for the scientists in all over the world. The host-guest chemistry provides versatile approaches in this regard. Recently; More significant efforts have been made to synthesize materials with high selectivity for ions/molecules, which are of great interest for many analytical/industrial purposes and for recycling the resources as well as for waste water treatment. For example, the use of synthetic materials in sensing of ions by ion selective electrodes (ISE) and/or remediation of toxic substances from aqueous environment are interesting fields of research. Thus, different strategies have been impelled to search for molecular structures that can serve as building blocks for the production of selective sophisticated functional materials. Consequently, these building blocks could be modified by anchoring space oriented various groups, in such a way that they delineate a suitable binding site and act as nano-robotics according to the desired field/approach. Among other polymeric functional materials, calixarenes [1-2] are a class of host molecules that can easily be modified; thereby leading to nanoporous materials with selective host-guest properties [3-5]. Their application in diverse areas of electroanalytical chemistry as well as separation science and technology in particular makes them a better choice for extraction, chromatography, membrane and sensor technology etc. Herein, different aspects of calixarenes, their synthesis and application in separation and sensing of ions and or neutral molecules will be discussed.

**Keywords:** *Calixarene, Complexation, Sensor technology, Separation science, Supramolecular chemistry.*

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