LASER SPECTROSCOPIC STUDY ON ENCAPSULATION STRUCTURE OF FUNCTIONAL MOLECULES IN SUPERSONIC JETS

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The structures of functional molecules (calixarene and crown ether) and their complexes have been investigated by laser spectroscopy and quantum chemical calculations. For calixarene we investigate calix[4]arene(C4A) and calix[5]arene(C5A), and for crown ether we investigate dibenzo-18-crown-6-ether(DB18C6) and dibenzo-24-crwon-8-ether(DB24C8) as a host. We observe the electronic spectra and IR spectra for these molecules and complexes in supersonic beams. We discuss the size dependence of the electronic structure of the host molecules and their ability of the encapsulation for various guest species.