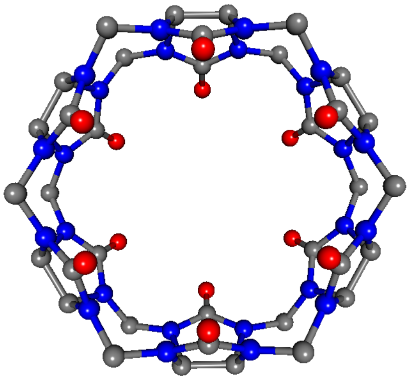
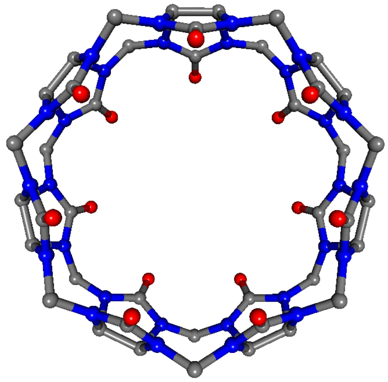
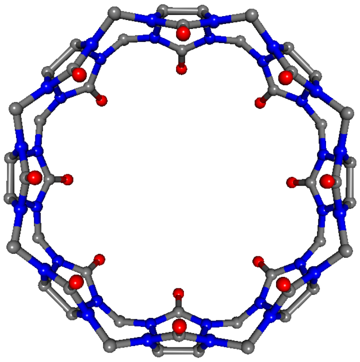
Cucurbituril Kit



CB[6]
07-1320



CB[7]
07-1325



CB[8]
07-1330

96-7054	**Cucurbituril Kit** Components also available for individual sale. Contains the following:	1 kit
07-1320	**Cucurbit[6]uril (CB[6]) hydrate, 99+%** *(80262-44-8)* $C_{36}H_{36}N_{24}O_{12}\cdot XH_2O$; FW: 996.82; white solid	500mg
07-1325	**Cucurbit[7]uril (CB[7]) hydrate, 99+%** *(259886-50-5)* $C_{42}H_{42}N_{28}O_{14}\cdot XH_2O$; FW: 1162.96; white solid Note: US 6365734.	50mg
07-1330	**Cucurbit[8]uril (CB[8]) hydrate, 99+%** *(259886-51-6)* $C_{48}H_{48}N_{32}O_{16}\cdot H_2O$; FW: 1329.10; white solid Note: US 6365734.	25mg

Sold for research purposes only. Patents: US 636534, US 7388099

Technical Note:

Cucurbit[*n*]uril (CB[*n*], *n* = 5-10) is a family of macrocyclic compounds comprising *n* glycoluril units, self-assembled from an acid-catalyzed condensation reaction of glycoluril and formaldehyde. [1-6] The pumpkin-shaped CB molecules have a hydrophobic cavity and two identical carbonyllaced portals. While the hydrophobic interior provides a potential inclusion site for nonpolar molecules, the polar ureido carbonyl groups at the portals allow CB[*n*] to bind ions and molecules through charge-dipole and hydrogen bonding interactions.[3-5, 7] The unique structure and recognition properties make CB[*n*] attractive not only as a synthetic receptor but also as a building block for the construction of supramolecular architectures.[2,8,9] Furthermore, a direct functionalization method[10] of CB[*n*] allowed the synthesis of a wide variety of tailor-made CB derivatives to study many applications. Ion channels, vesicles, polymers, nanomaterials, ion selective electrodes incorporating CB[*n*], and CB-immobilized solid surfaces and silica gel have been reported and numerous other applications are being explored.[5] Cucurbiturils thus became new important players in supramolecular chemistry in the new millennium as witnessed by the heightened interests in the field for the last several years, and have already reached a level that had never been reached with other synthetic host molecules.[21, 25, 26, 28]

Applications:

1. Chambers for chemical reactions.[3, 11]
2. Sensors for organic amines,[12] alkali metal ions, ammonium ions,[13] etc.
3. Utilities to reduce the air pollutions (gases such as NO_x, CO_2, CO, SO_x, etc.)[14,15] and water pollutions.[16]
4. Laser dye applications. [17]
5. Molecular machines.[18]
6. Gene and drug delivery vehicles.[19-23]
7. Useful for bio-related applications such as ion channel,[24] enzyme assay,[25] protein chip,[27] selective protein isolation.[28]

References:

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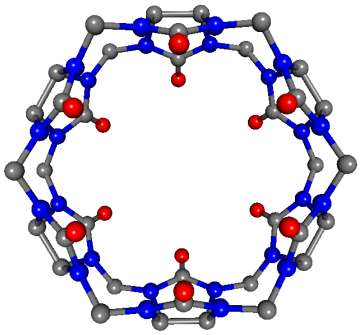
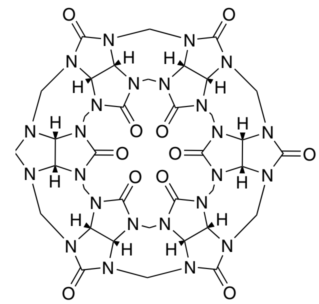
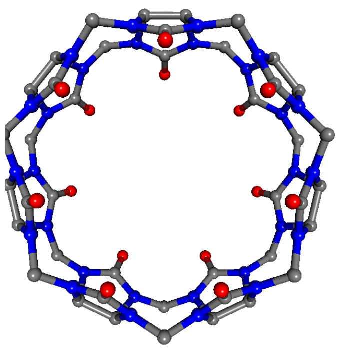
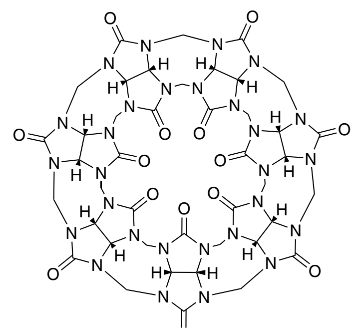
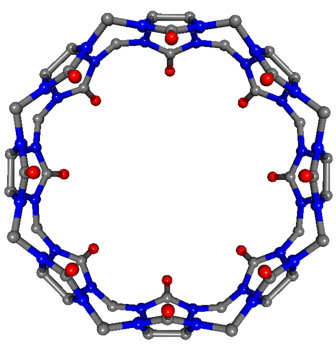
3D Structure Representation	Chemical Structure Representation
 07-1320	
 07-1325	
 07-1330