

# Macrocycles

## for Host-Guest Chemistry

Host-compounds recognize and incorporate specific molecules, atoms or ions (guests) into the molecules to form complexes. In the formation of these complexes, a variety of forces such as electrostatic interaction, hydrophobic interaction, hydrogen bonding, etc. are utilized to create high selectivity. Molecular sensors, synthetic enzymes, separation systems, etc. utilize the high guest selectivity of these host compounds. Synthesis of new host compounds with even higher selectivity are currently being developed.

For example, Shinkai and co-workers have developed exciting purification techniques for fullerene C<sub>60</sub> employing calixarene. According to these techniques, the stirring of crude fullerene and *tert*-butylcalix[8]arene in toluene causes only C<sub>60</sub> to be incorporated in the calixarene to form and precipitate a complex. Filtration and subsequent stirring of the complex in chloroform cause it to decompose to yield C<sub>60</sub> of high purity as a precipitate. This method has been reported to be an efficient purification technique in obtaining C<sub>60</sub> compared with conventional column purification techniques.

Crown Ethers		A1603	A1604	A1404
A1568	A1552	A1323	A1324	
B1249	B1154	B1539	B2245	B2189
B2181	C1713	C1714	C1942	
C1943	C0858	C0859	C0860	

**Keywords :** macrocycles, crown ethers, calixarenes, cyclophanes, cyclodextrins, host-guest chemistry

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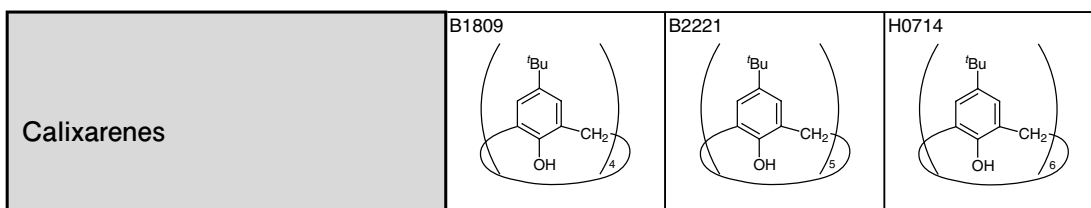
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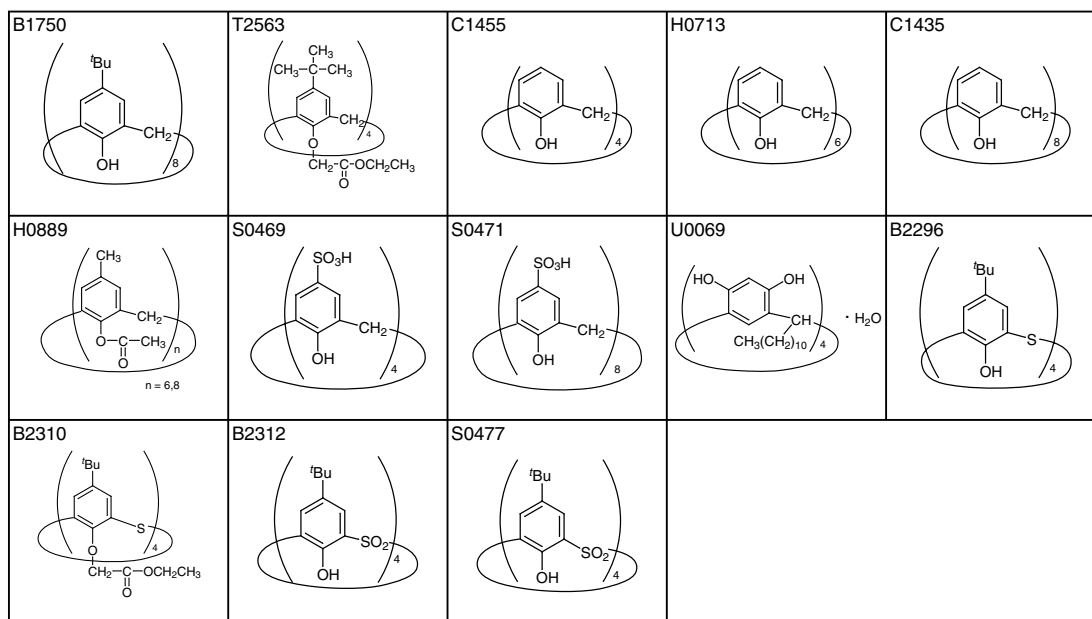
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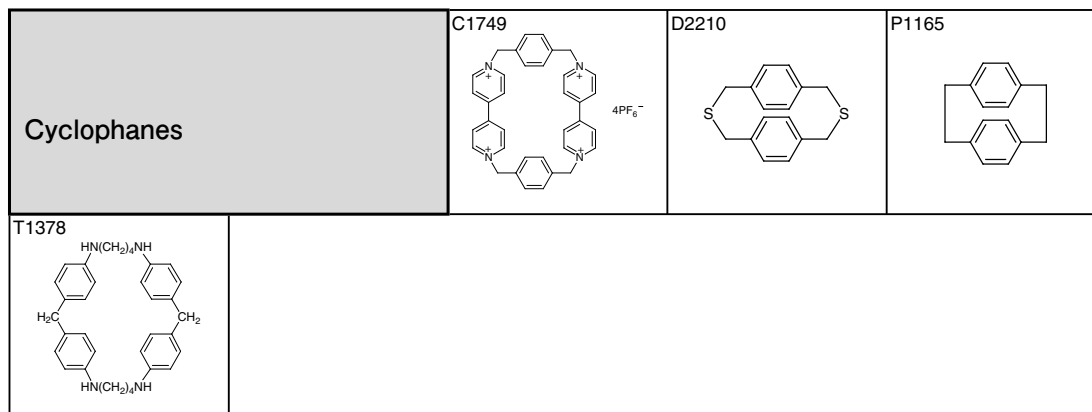
C1736 	D2743 	D2744 	D2323 	D2877 
D1533 	D2878 	D1830 	D2684 	
D2321 	D1668 	F0448 	F0451 	H1070 
H1215 	H0932 	H0982 	H0983 	H0990 
M1489 	N0561 	N0562 	P1143 	T1874 
T1875 	T1426 	T1691 	T1597 	
T2540 	T1959 	T1876 	T1878 	
T1600 	T2541 	T1879 	T1972 	

A1603	4'-Acetylbenzo-15-crown 5-Ether			1g
A1604	4'-Acetylbenzo-18-crown 6-Ether			1g
A1404	4'-Aminobenzo-15-crown 5-Ether			1g
A1568	2-(Allyloxymethyl)-18-crown 6-Ether		100mg	1g
A1552	1-Aza-12-crown 4-Ether		250mg	1g
A1323	1-Aza-15-crown 5-Ether		1g	5g
A1324	1-Aza-18-crown 6-Ether		1g	5g
B1249	Benzo-12-crown 4-Ether		1g	5g
B1154	Benzo-15-crown 5-Ether		1g	5g
B1539	Benzo-18-crown 6-Ether		1g	5g
B2245	Bis(1,4-phenylene)-34-crown 10-Ether			100mg
B2189	4'-Bromobenzo-15-crown 5-Ether		1g	5g
B2181	4'-Bromobenzo-18-crown 6-Ether		1g	5g
C1713	4'-Carboxybenzo-15-crown 5-Ether			1g
C1714	4'-Carboxybenzo-18-crown 6-Ether			100mg
C1942	15-Crown-4 [4-(2,4-Dinitrophenylazo)phenol]			100mg
C1943	18-Crown-5 [4-(2,4-Dinitrophenylazo)phenol]			100mg
C0858	12-Crown 4-Ether		1ml	5ml
C0859	15-Crown 5-Ether		5ml	25ml
C0860	18-Crown 6-Ether	5g	25g	100g
C1736	24-Crown 8-Ether			1g
D2743	4,10-Diaza-12-crown 4-Ether		100mg	1g
D2744	4,10-Diaza-15-crown 5-Ether			1g
D2323	4,13-Diaza-18-crown 6-Ether		1g	5g
D2877	Dibenzo-15-crown 5-Ether			1g
D1533	Dibenzo-18-crown 6-Ether		5g	25g
D2878	Dibenzo-21-crown 7-Ether		1g	5g
D1830	Dibenzo-24-crown 8-Ether		1g	5g
D2684	Dibenzo-30-crown 10-Ether			1g
D2321	<i>N,N'</i> -Dibenzyl-4,13-diaza-18-crown 6-Ether		1g	5g
D1668	Dicyclohexano-18-crown 6-Ether		1g	5g
F0448	4'-Formylbenzo-15-crown 5-Ether		100mg	1g
F0451	4'-Formylbenzo-18-crown 6-Ether			500mg
H1070	1,4,7,10,13,16-Hexaazacyclooctadecane			100mg
H1215	1,4,7,10,13,16-Hexaazacyclooctadecane Hexahydrochloride			100mg
H0932	4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane			1g
H0982	2-(Hydroxymethyl)-12-crown 4-Ether		1g	5g
H0983	2-(Hydroxymethyl)-15-crown 5-Ether	1g	5g	25g
H0990	2-(Hydroxymethyl)-18-crown 6-Ether		200mg	1g
M1489	4'-Methoxycarbonylbenzo-15-crown 5-Ether			1g
N0561	4'-Nitrobenzo-15-crown 5-Ether		1g	5g
N0562	4'-Nitrobenzo-18-crown 6-Ether		1g	5g
P1143	<i>N</i> -Phenylaza-15-crown 5-Ether		1g	5g
T1874	1,4,7,10-Tetraazacyclododecane		1g	5g
T1875	1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraacetic Acid		200mg	1g
T1426	1,4,7,10-Tetraazacyclododecane Tetrahydrochloride		1g	5g
T1691	1,4,8,12-Tetraazacyclopentadecane			1g
T1597	1,4,8,11-Tetraazacyclotetradecane		1g	5g
T2540	Tetraethyl 1,4,8,11-Tetraazacyclotetradecane-1,4,8,11-tetraacetate			200mg
T1959	1,4,8,11-Tetrathiacyclotetradecane			1g
T1876	1,5,9-Triazacyclododecane			100mg
T1878	1,4,7-Triazacyclononane		200mg	1g
T1600	1,4,7-Triazacyclononane Trihydrochloride		1g	5g
T2541	Tri- <i>tert</i> -butyl 1,4,7,10-Tetraazacyclododecane-1,4,7-triacetate			200mg
T1879	1,4,7-Trimethyl-1,4,7-triazacyclononane			1g
T1972	1,4,7-Trithiacyclononane			500mg

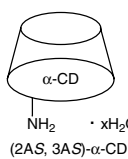
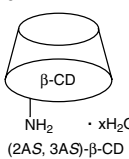
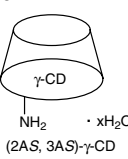
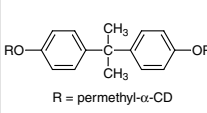
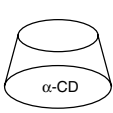
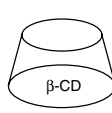
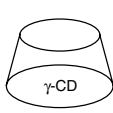
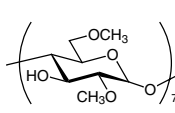
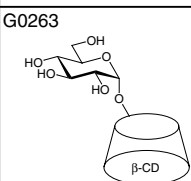
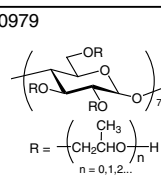
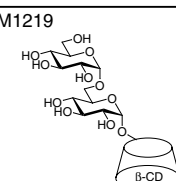
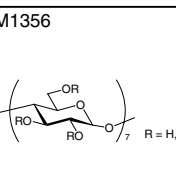
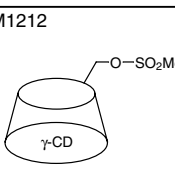
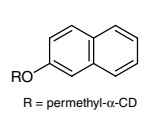
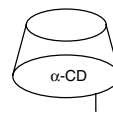
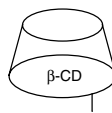
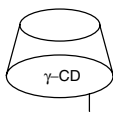

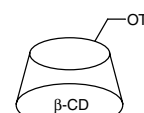
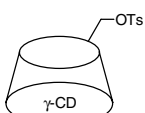
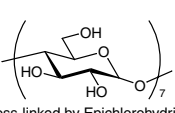
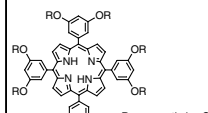
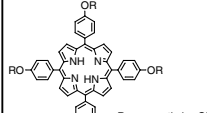
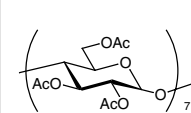
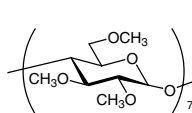
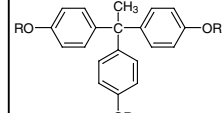




B1809	4- <i>tert</i> -Butylcalix[4]arene	1g	5g	25g
B2221	4- <i>tert</i> -Butylcalix[5]arene			100mg
H0714	4- <i>tert</i> -Butylcalix[6]arene (contains 5-10% Benzene)		5g	25g
B1750	4- <i>tert</i> -Butylcalix[8]arene		5g	25g
T2563	Tetraethyl 4- <i>tert</i> -Butylcalix[4]arene- <i>O,O',O'',O'''</i> -tetraacetate		200mg	1g
C1455	Calix[4]arene (contains ca. 8% Chloroform)		100mg	1g
H0713	Calix[6]arene (contains ca. 5% Benzene)		1g	5g
C1435	Calix[8]arene		1g	5g
H0889	4-Methyl-1-acetoxycalixarene [mixture of [6] and [8]] (contains 5-10% Acetone)		100mg	1g
S0469	4-Sulfocalix[4]arene (contains ca. 15% Water)		1g	5g
S0471	4-Sulfocalix[8]arene (contains ca. 20% Water)		1g	5g
U0069	<i>C</i> -Undecylcalix[4]resorcinarene Monohydrate			1g
B2296	4- <i>tert</i> -Butylthiacalix[4]arene		1g	5g
B2310	4- <i>tert</i> -Butyl-1-(ethoxycarbonylmethoxy)thiacalix[4]arene		1g	5g
B2312	4- <i>tert</i> -Butylsulfonylcalix[4]arene		1g	5g
S0477	4-Sulfothiacalix[4]arene Sodium Salt		1g	5g



C1749	Cyclobis(paraquat-1,4-phenylene) Tetrakis(hexafluorophosphate)		100mg
D2210	2,11-Dithia[3.3]paracyclophane	100mg	500mg
P1165	[2.2]-Paracyclophane		1g
T1378	1,6,20,25-Tetraaza[6.1.6.1]paracyclophane		100mg

Cyclodextrins		A2122	A1916	A2123
				
B3026	C0776	C0777 C0900	C0869	D1732
				
G0263	H0979	M1219	M1356	M1212
				
M1876	M1956	M1741	M1957	M1644
				
M1381	M1645	P0977	T2452	T2451
				
T1844	T1094	T2450		
				

A2122	3A-Amino-3A-deoxy-(2AS,3AS)-alpha-cyclodextrin Hydrate	1g
A1916	3A-Amino-3A-deoxy-(2AS,3AS)-beta-cyclodextrin Hydrate	1g
A2123	3A-Amino-3A-deoxy-(2AS,3AS)-gamma-cyclodextrin Hydrate	1g
B3026	2,2-Bis[4-(per-O-methyl-alpha-cyclodextrin-6-yloxy)phenyl]propane	10mg
C0776	alpha-Cyclodextrin	10g
C0777	beta-Cyclodextrin	25g
C0900	beta-Cyclodextrin	25g
C0869	gamma-Cyclodextrin	5g
D1732	2,6-Di-O-methyl-beta-cyclodextrin	1g
G0263	6-O-alpha-D-Glucosyl-beta-cyclodextrin	1g
H0979	Hydroxypropyl-beta-cyclodextrin	25g
M1219	6-O-alpha-D-Maltosyl-beta-cyclodextrin	1g
M1356	Methyl-beta-cyclodextrin	25g
M1212	Mono-6-O-mesitylenesulfonyl-gamma-cyclodextrin	1g
M1876	Mono-6-O-(2-naphthyl)-per-O-methyl-alpha-cyclodextrin	10mg
M1956	Mono-2-O-(p-toluenesulfonyl)-alpha-cyclodextrin	1g

M1741	Mono-2- <i>O</i> -( <i>p</i> -toluenesulfonyl)- $\beta$ -cyclodextrin	1g
M1957	Mono-2- <i>O</i> -( <i>p</i> -toluenesulfonyl)- $\gamma$ -cyclodextrin	1g
M1644	Mono-6- <i>O</i> -( <i>p</i> -toluenesulfonyl)- $\alpha$ -cyclodextrin	200mg
M1381	Mono-6- <i>O</i> -( <i>p</i> -toluenesulfonyl)- $\beta$ -cyclodextrin	200mg
M1645	Mono-6- <i>O</i> -( <i>p</i> -toluenesulfonyl)- $\gamma$ -cyclodextrin	200mg
P0977	Poly- $\beta$ -cyclodextrin [Cross-linked by Epichlorohydrin]	1g 5g
T2452	5,10,15,20-Tetrakis[3,5-bis(per- <i>O</i> -methyl- $\alpha$ -cyclodextrin-6-yloxy)phenyl]-21 <i>H</i> ,23 <i>H</i> -porphine	10mg
T2451	5,10,15,20-Tetrakis[4-(per- <i>O</i> -methyl- $\alpha$ -cyclodextrin-6-yloxy)phenyl]-21 <i>H</i> ,23 <i>H</i> -porphine	10mg
T1844	Triacetyl- $\beta$ -cyclodextrin	25g
T1094	Trimethyl- $\beta$ -cyclodextrin	1g
T2450	1,1,1-Tris[4-(per- <i>O</i> -methyl- $\alpha$ -cyclodextrin-6-yloxy)phenyl]ethane	10mg

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