

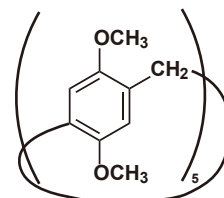
Macrocycles for Host-Guest Chemistry

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.

Pillararene

D4471 is a ring-shaped molecule developed by T. Ogoshi *et al.*, and has a symmetric pillar structure differing from calixarenes. **D4471** can capture electron-accepting molecules and linear *n*-alkanes selectively because the internal cavity (diameter ca. 0.5 nm) is an electron-rich space enclosed by benzene rings.

T. Ogoshi, *J. Incl. Phenom. Macrocyc. Chem.* **2012**, *72*, 247.
T. Ogoshi, T. Yamagishi, *Bull. Chem. Soc. Jpn.* **2013**, *86*, 312.



Dimethoxypillar[5]arene
100mg / 1g [D4471]

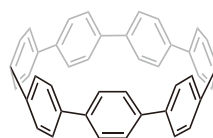
Cycloparaphenylenes



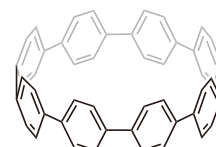
[5]Cycloparaphenylene
20mg / 100mg [C2931]



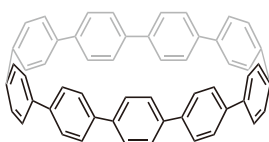
[6]Cycloparaphenylene
20mg [C3386] **New**



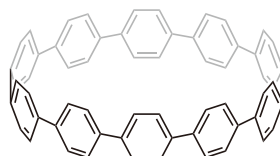
[7]Cycloparaphenylene
10mg [C3571] **New**



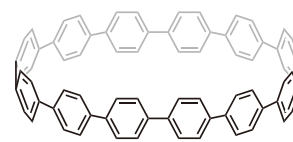
[8]Cycloparaphenylene
20mg [C3544] **New**



[9]Cycloparaphenylene
20mg [C3465] **New**

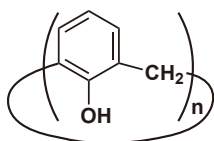


[10]Cycloparaphenylene
20mg [C3493] **New**

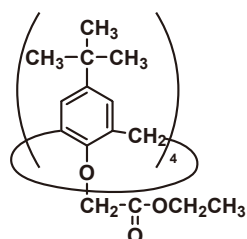


[12]Cycloparaphenylene
10mg [C2449]

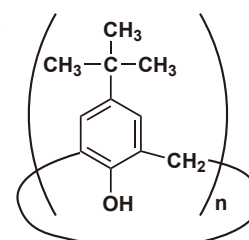
Calixarenes



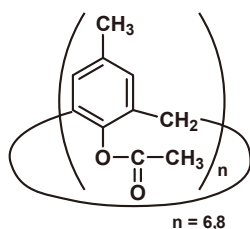
n=4 Calix[4]arene 100mg / 1g [C1455]
n=6 Calix[6]arene 1g / 5g [H0713]
n=8 Calix[8]arene 1g / 5g [C1435]



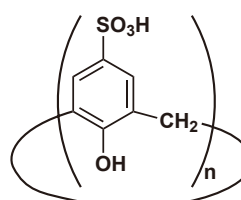
**Tetraethyl
4-tert-Butylcalix[4]arene-
O,O',O'',O'''-tetraacetate**
200mg / 1g [T2563]



n=4 4-tert-Butylcalix[4]arene
1g / 5g / 25g [B1809]
n=5 4-tert-Butylcalix[5]arene 100mg [B2221]
n=6 4-tert-Butylcalix[6]arene 5g / 25g [H0714]
n=8 4-tert-Butylcalix[8]arene 5g / 25g [B1750]

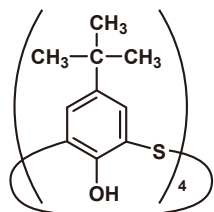


4-Methyl-1-acetoxycalixarene [mixture of [6] and [8]]
100mg / 1g [H0889]

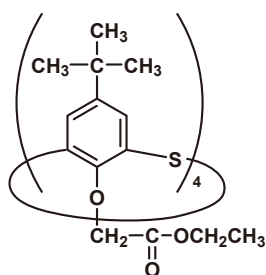


n=4 4-Sulfocalix[4]arene Hydrate 1g / 5g [S0469]
n=6 4-Sulfocalix[6]arene Hydrate 1g / 5g [S0470]
n=8 4-Sulfocalix[8]arene Hydrate 1g / 5g [S0471]

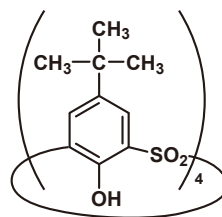
Thiacalixarenes



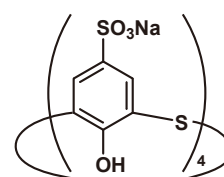
4-tert-Butylthiacalix[4]arene
1g / 5g
[B2296]



4-tert-Butyl-1-(ethoxycarbonylmethoxy)thiacalix[4]arene
1g / 5g
[B2310]

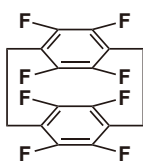


4-tert-Butylsulfonylcalix[4]arene
1g / 5g
[B2312]

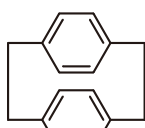


4-Sulfothiacalix[4]arene Sodium Salt
1g / 5g
[S0477]

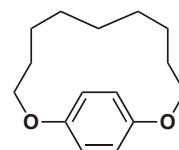
Cyclophanes



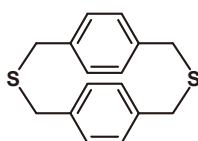
4,5,7,8,12,13,15,16-Octafluoro[2.2]paracyclophane
1g / 5g
[O0455]



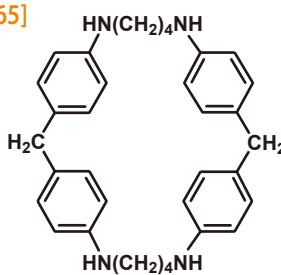
[2.2]Paracyclophane
1g
[P1165]



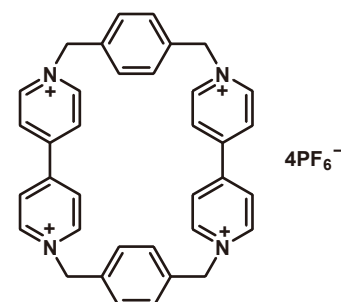
1,11-Dioxa[11]paracyclophane
250mg / 1g
[D4298]



2,11-Dithia[3.3]paracyclophane
100mg / 500mg
[D2210]

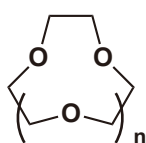


1,6,20,25-Tetraaza[6.1.6.1]paracyclophane
100mg
[T1378]



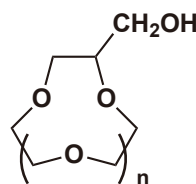
Cyclobis(paraquat-1,4-phenylene) Tetrakis(hexafluorophosphate)
100mg
[C1749]

Crown Ethers

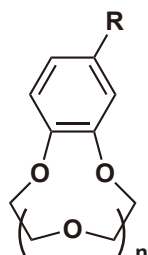


n=2 12-Crown 4-Ether
n=3 15-Crown 5-Ether
n=4 18-Crown 6-Ether
n=6 24-Crown 8-Ether

1mL / 5mL [C0858]
5mL / 25mL [C0859]
5g / 25g / 100g [C0860]
1g [C1736]



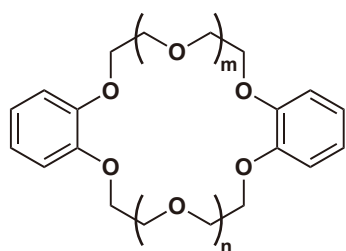
n=2 2-(Hydroxymethyl)-12-crown 4-Ether
1g / 5g [H0982]
n=3 2-(Hydroxymethyl)-15-crown 5-Ether
1g / 5g / 25g [H0983]
n=4 2-(Hydroxymethyl)-18-crown 6-Ether
200mg / 1g [H0990]



R=H **n=2** Benzo-12-crown 4-Ether
n=3 Benzo-15-crown 5-Ether
n=4 Benzo-18-crown 6-Ether
R=Br **n=3** 4'-Bromobenzo-15-crown 5-Ether
n=4 4'-Bromobenzo-18-crown 6-Ether
R=NH₂ **n=3** 4'-Aminobenzo-15-crown 5-Ether
R=NO₂ **n=3** 4'-Nitrobenzo-15-crown 5-Ether
n=4 4'-Nitrobenzo-18-crown 6-Ether
R=CHO **n=3** 4'-Formylbenzo-15-crown 5-Ether
n=4 4'-Formylbenzo-18-crown 6-Ether
R=COCH₃ **n=3** 4'-Acetylbenzo-15-crown 5-Ether
n=4 4'-Acetylbenzo-18-crown 6-Ether
R=COOH **n=3** 4'-Carboxybenzo-15-crown 5-Ether
n=4 4'-Carboxybenzo-18-crown 6-Ether
R=COOCH₃ **n=3** 4'-Bromobenzo-15-crown 5-Ether
n=4 4'-Bromobenzo-18-crown 6-Ether

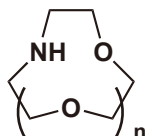
1g / 5g [B1249]
1g / 5g [B1154]
1g / 5g [B1539]
1g / 5g [B1249]
1g / 5g [B2181]
1g [A1404]
1g / 5g [N0561]
1g / 5g [N0562]
100mg / 1g [F0448]
500mg [F0451]
1g [A1603]
1g [A1604]
1g [C1713]
100mg / 1g [C1714]
1g [M1489]
1g / 5g [B2181]

Macrocycles for Host-Guest Chemistry



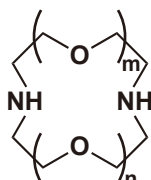
m=0 n=1 Dibenzo-15-crown 5-Ether
m=1 n=1 Dibenzo-18-crown 6-Ether
m=1 n=2 Dibenzo-21-crown 7-Ether
m=2 n=2 Dibenzo-24-crown 8-Ether
m=3 n=3 Dibenzo-30-crown 10-Ether

1g [D2877]
 5g / 25g [D1533]
 1g [D2878]
 1g / 5g [D1830]
 1g [D2684]



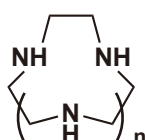
n=2 1-Aza-12-crown 4-Ether
n=3 1-Aza-15-crown 5-Ether
n=4 1-Aza-18-crown 6-Ether

250mg / 1g [A1552]
 1g / 5g [A1323]
 1g / 5g [A1324]



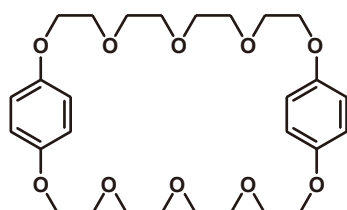
m=1 n=1 4,10-Diaza-12-crown 4-Ether
m=1 n=2 4,10-Diaza-15-crown 5-Ether
m=2 n=2 4,13-Diaza-18-crown 6-Ether

100mg [D2743]
 1g [D2744]
 1g / 5g [D2323]

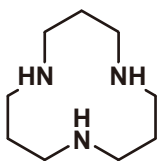


n=1 1,4,7-Triazacyclononane
 1,4,7-Triazacyclononane Trihydrochloride
n=2 1,4,7,10-Tetraazacyclododecane
 1,4,7,10-Tetraazacyclododecane Tetrahydrochloride
n=3 1,4,7,10,13,16-Hexaazacyclooctadecane
 1,4,7,10,13,16-Hexaazacyclooctadecane Hexahydrochloride

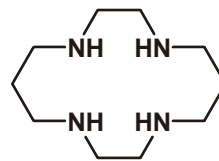
200mg / 1g / 5g [T1878]
 1g / 5g [T1600]
 1g / 5g [T1874]
 1g / 5g [T1426]
 100mg [H1070]
 100mg [H1215]



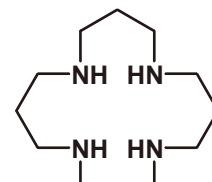
Bis(1,4-phenylene)-34-crown 10-Ether
 100mg
 [B2245]



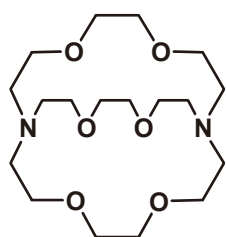
1,5,9-Triazacyclododecane
 100mg
 [T1876]



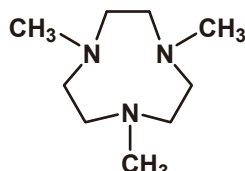
1,4,8,11-Tetraaza-cyclotetradecane
 1g / 5g
 [T1597]



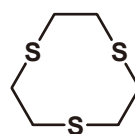
1,4,8,12-Tetraaza-cyclopentadecane
 1g / 5g
 [T1691]



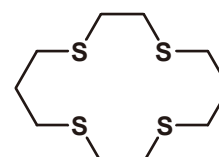
4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane
 1g / 5g
 [H0932]



1,4,7-Trimethyl-1,4,7-triazacyclononane
 1g / 5g
 [T1879]



1,4,7-Trithiacyclononane
 500mg
 [T1972]



1,4,8,11-Tetrathiacyclotetradecane
 200mg / 1g
 [T1959]

R,R'=CH₂Ph

1,4,7,10-Tetrabenzyl-1,4,7,10-tetraazacyclododecane

1g / 5g [T3356]

R,R'=CH₂COOH

1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraacetic Acid

200mg / 1g [T1875]

R,R'=CH₂COEt

1,4,8,11-Tetraazacyclotetradecane-1,4,8,11-tetraacetic Acid Tetraethyl Ester

200mg [T2540]

R=H, R'=CH₂COOtBu

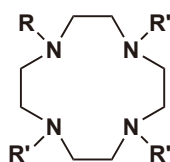
1,4,7,10-Tetraazacyclododecane-1,4,7-triacetic Acid Tri-tert-butyl Ester

200mg [T2541]

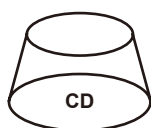
R=CH₂COOH, R'=CH₂COOtBu

1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraacetic Acid Tri-tert-butyl Ester

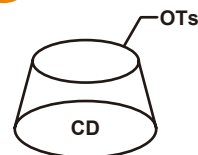
100mg / 1g [T2642]



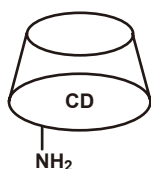
Cyclodextrins



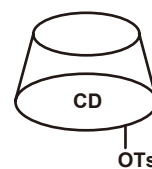
α-Cyclodextrin 10g / 25g / 100g [C0776]
β-Cyclodextrin 25g / 100g [C0777]
γ-Cyclodextrin 5g / 25g / 100g [C0869]



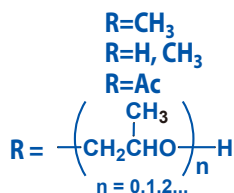
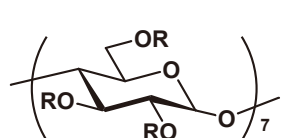
Mono-6-O-(p-toluenesulfonyl)-
α-cyclodextrin 200mg / 1g [M1644]
β-cyclodextrin 200mg [M1381]
γ-cyclodextrin 200mg [M1645]



3A-Amino-3A-deoxy-(2AS,3AS)-
α-cyclodextrin Hydrate 200mg / 1g [A2122]
β-cyclodextrin Hydrate 200mg / 1g [A1916]
γ-cyclodextrin Hydrate 200mg / 1g [A2123]

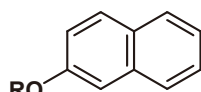


Mono-2-O-(p-toluenesulfonyl)-
α-cyclodextrin 200mg / 1g [M1956]
β-cyclodextrin Hydrate 200mg / 1g [M1741]
γ-cyclodextrin 200mg / 1g [M1957]



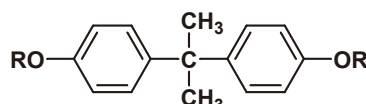
Trimethyl-β-cyclodextrin 1g [T1094]
Methyl-β-cyclodextrin 25g / 250g [M1356]
Triacetyl-β-cyclodextrin 25g [T1844]

Hydroxypropyl-β-cyclodextrin 25g / 100g [H0979]



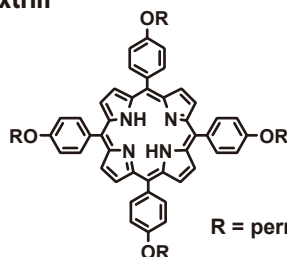
R = permethyl-α-CD

Mono-6-O-(2-naphthyl)-
per-O-methyl-α-cyclodextrin
 10mg [M1876]



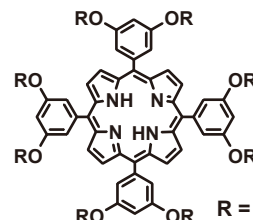
R = permethyl-α-CD

2,2-Bis[4-(per-O-methyl-α-cyclodextrin-6-yloxy)phenyl]propane
 10mg [B3026]



R = permethyl-α-CD

5,10,15,20-Tetrakis[4-(per-O-methyl-α-cyclodextrin-6-yloxy)-phenyl]-21H,23H-porphine
 10mg [T2451]



R = permethyl-α-CD

5,10,15,20-Tetrakis[3,5-bis(per-O-methyl-α-cyclodextrin-6-yloxy)-phenyl]-21H,23H-porphine
 10mg [T2452]

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