

29. 02 環式炭化水素 (Cyclic hydrocarbons.)

(A) 飽和脂環式炭化水素及び不飽和脂環式炭化水素
(Cyclanes and cyclenes)

(1) 単環式飽和炭化水素
(Monocyclic cyclanes)

(a) シクロプロパン
(Cyclopropane)



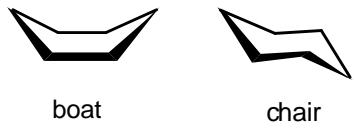
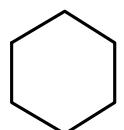
(b) シクロブタン
(Cyclobutane)



(c) シクロペンタン
(Cyclopentane)

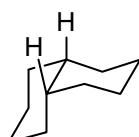
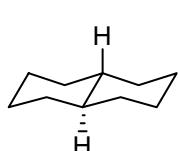
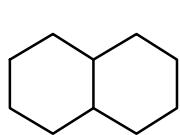


(d) シクロヘキサン
(Cyclohexane)



(2) 多環式飽和炭化水素
(Polycyclic cyclanes)

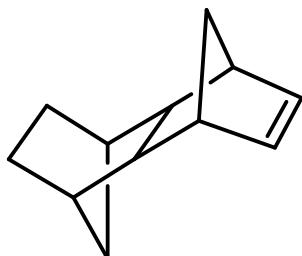
(a) デカヒドronaphthalene
(Decahydronaphthalene)



(b) 橋状結合を有する化合物

(Bridge-linked compounds)

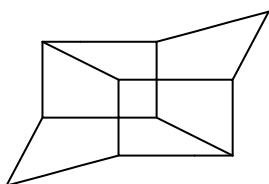
- 1,4,4a,5,6,7,8,8a-オクタヒドロ-エキソ-1,4-エンド-5,8-ジメタノナフタレン
(1,4,4a,5,6,7,8,8a-Octahydro-*exo*-1,4-*endo*-5,8-dimethanonaphthalene)



(c) かご型構造を有する化合物

(Compounds with a “cage” structure)

- ペンタシクロ [5.2.1.0^{2,6}.0^{3,9}.0^{5,8}] デカン
(Pentacyclo [5.2.1.0^{2,6}.0^{3,9}.0^{5,8}] decane)



(3) 不飽和脂環式炭化水素

(Cyclenes)

(a) シクロブテン

(Cyclobutene)



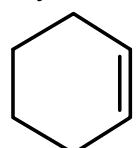
(b) シクロペンテン

(Cyclopentene)

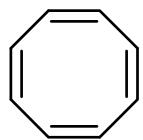


(c) シクロヘキセン

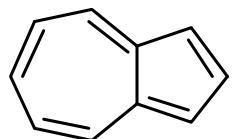
(Cyclohexene)



(d) シクロオクタテトラエン
(Cyclo-octatetraene)

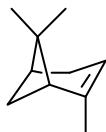


(e) アズレン
(Azulene)



(B) シクロテルペン
(Cycloterpenes)

(1) ピネン
(Pinene)

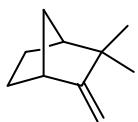


α -pinen

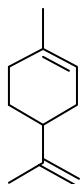


β -pinen

(2) カンフェン
(Camphene)



(3) リモネン
(Limonene)



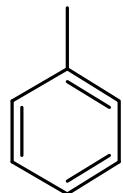
(C) 芳香族炭化水素
 (Aromatic hydrocarbons)

(I) 1組のベンゼン環を有する炭化水素
 (Hydrocarbons with only one benzene ring)

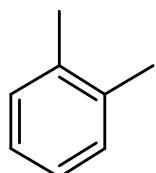
(a) ベンゼン
 (Benzene)



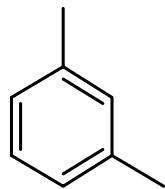
(b) トルエン (メチルベンゼン)
 (Toluene (methylbenzene))



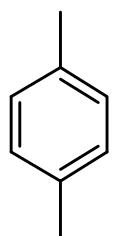
(c) キシレン (ジメチルベンゼン)
 (Xylene (dimethylbenzene))
 - オルト-キシレン
 (σ Xylene)



- メタ-キシレン
 (*m*-Xylene)



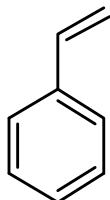
- パラ-キシレン
 (*p*-Xylene)



(d) その他の芳香族炭化水素
(Other aromatic hydrocarbons)

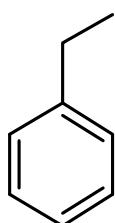
(1) スチレン

(Styrene)



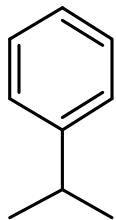
(2) エチルベンゼン

(Ethylbenzene)



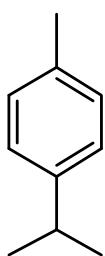
(3) クメン

(Cumene)



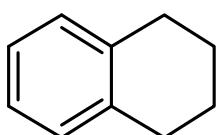
(4) パラ-シメン

(*p*-Cymene)



(5) テトラヒドロナフタレン (テトラリン)

(Tetrahydronaphthalene (tetralin))

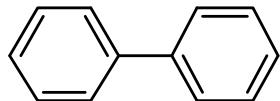


(II) 非縮合ベンゼン環を2個以上有する炭化水素

(Hydrocarbons with two or more unfused benzene rings)

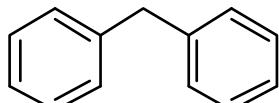
(a) ビフェニル

(Biphenyl)



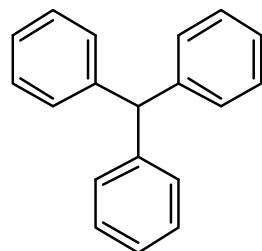
(b) ジフェニルメタン

(Diphenylmethane)



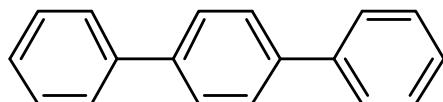
(c) トリフェニルメタン

(Triphenylmethane)



(d) テルフェニル

(Terphenyls)



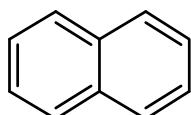
(p-Terphenyl)

(III) 二以上のベンゼン環を有する炭化水素

(Hydrocarbons with two or more benzene rings fused)

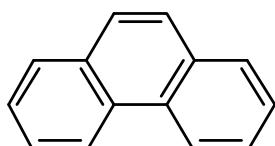
(a) ナフタレン

(Naphthalene)

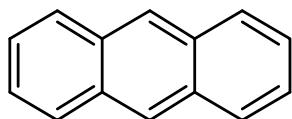


(b) フェナントレン

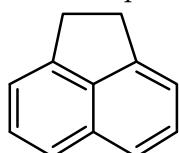
(Phenanthrene)



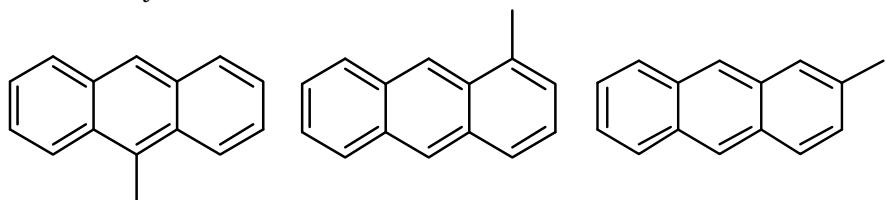
(c) アントラセン
(Anthracene)



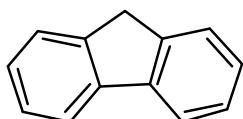
(1) アセナフテン
(Acenaphthene)



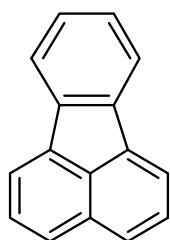
(2) メチルアントラセン
(Methylanthracenes)



(3) フルオレン
(Fluorene)



(4) フルオランテン
(Fluoranthene)



(5) ピレン
(Pyrene)

