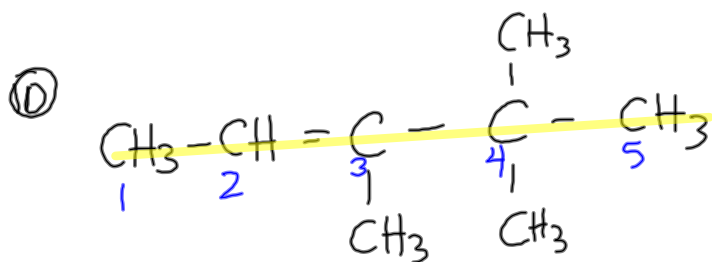
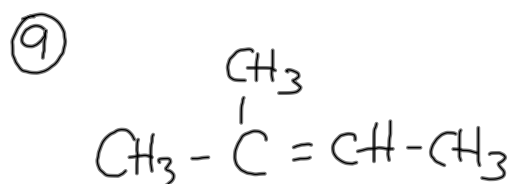


Check Homework

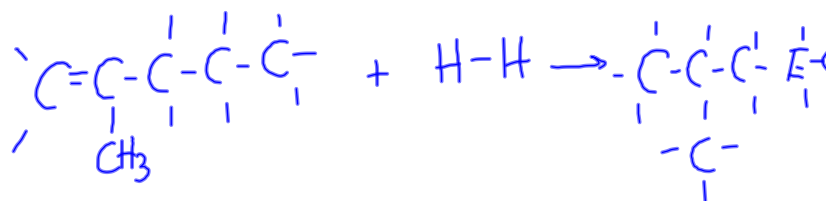


3,4,4-trimethyl-2-pentene

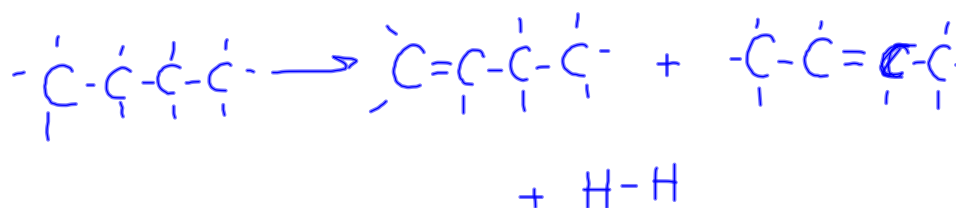


methyl-2-butene

⑬ 2-methyl-1-pentene + hydrogen \rightarrow 2-methylpentane



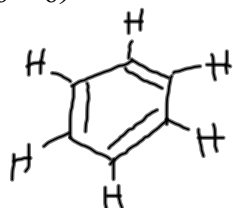
⑭ butane \rightarrow 1-butene + 2-butene + hydrogen



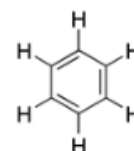
Aromatic Compounds

Historically aromatic compounds were organic compounds with an odour. Today aromatic compounds are defined as **benzene (C₆H₆)** and all carbon compounds that contain benzene-like structures.

Ex.



Although the molecular formula for benzene suggests 3 double bonds between three single bonds, empirical evidence shows:



(i) the ring is relatively unreactive

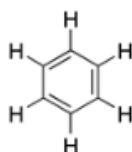
← we know multiple bonds are reactive

(ii) The C--C bonds are of equal length and strength
[EMPIRICAL EVIDENCE DOES NOT MATCH THEORY]

The evidence can only be explained if the **pi electrons** are delocalized (do not stay with any one carbon) and circle in a donut shaped cloud above and below the plane of the sp² C-C bonds.



or

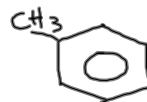
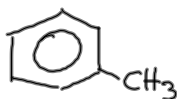


think multiple bonds

Substituted Benzenes

Mono-substituted benzene structures

Ex.

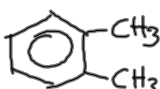


methylbenzene

No number is needed for mono-substituted benzenes because all ring positions are identical.

Simple Di-substituted benzenes

Ex.



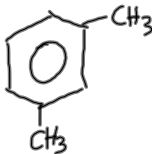
When two groups are attached to benzene, the ring is numbered to give the lower numbers to the branches.

1,2

1,2-dimethylbenzene or ortho-dimethylbenzene

The prefix meta is used for 1,3 di-substituted benzenes.

Ex.

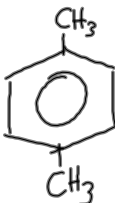


1,3

1,3-dimethylbenzene or meta-dimethylbenzene

The prefix para is used for 1,4 di-substituted benzenes.

Ex.

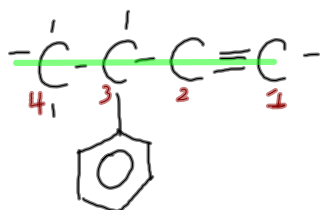


1,4

1,4-dimethylbenzene or para-dimethylbenzene

When the benzene ring itself is considered as a branch, it is given the name phenyl

Ex.



3-phenyl-1-butyne

Worksheet 47 -Naming Aromatics

