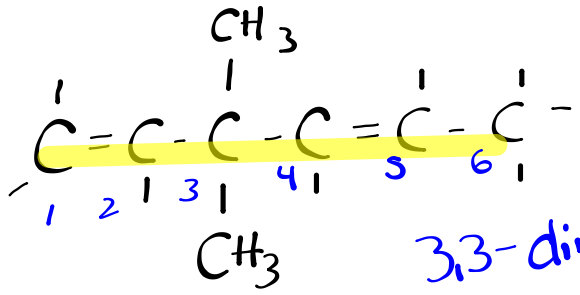
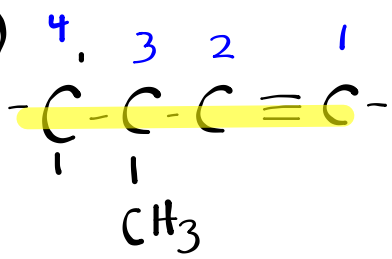
Warm Up

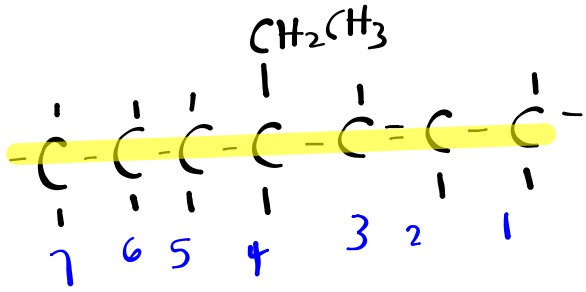
Name the following molecules:

a) 

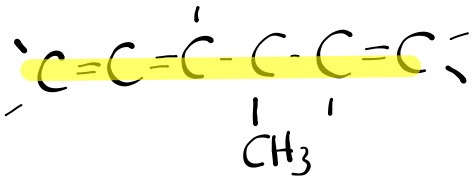
3,3-dimethyl-1,4-hexadiene

b) 

methyl-1-butyne

c) 

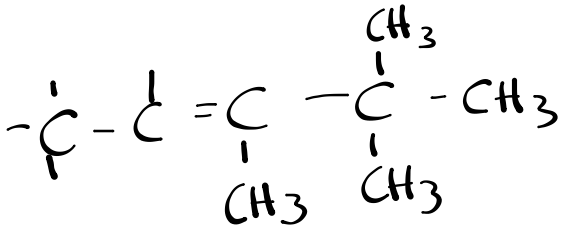
4-ethyl-2-heptene

d) 

4-methyl-1,2,5-hexatriene

Check Homework

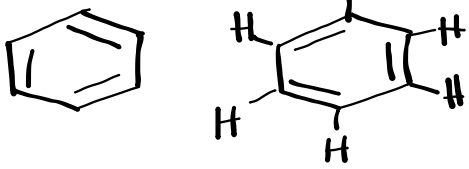
(10) $CH_3-CH=C(CH_3)-C(CH_3)_2-CH_3$



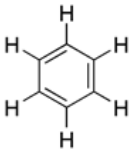
3,4,4-trimethyl-2-pentene

Aromatic Compounds

Historically aromatic compounds were organic compounds with an odour. Today aromatic compounds are defined as benzene (C_6H_6) and all carbon compounds that contain benzene-like structures.

Ex. 

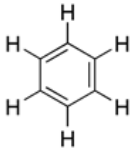
Although the molecular formula for benzene suggests 3 double bonds between three single bonds, empirical evidence shows:



(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 sp^2 C-C bonds.

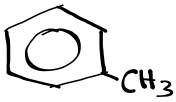
 **or** 

think multiple bonds

Substituted Benzenes

Mono- substituted benzene structures

Ex.



methyl benzene

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

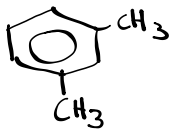
Simple Di - substituted benzenes

Ex.

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

1,2-dimethylbenzene or ortho-dimethylbenzene

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



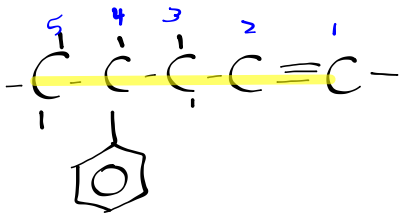
1,3-dimethylbenzene or meta-dimethylbenzene

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

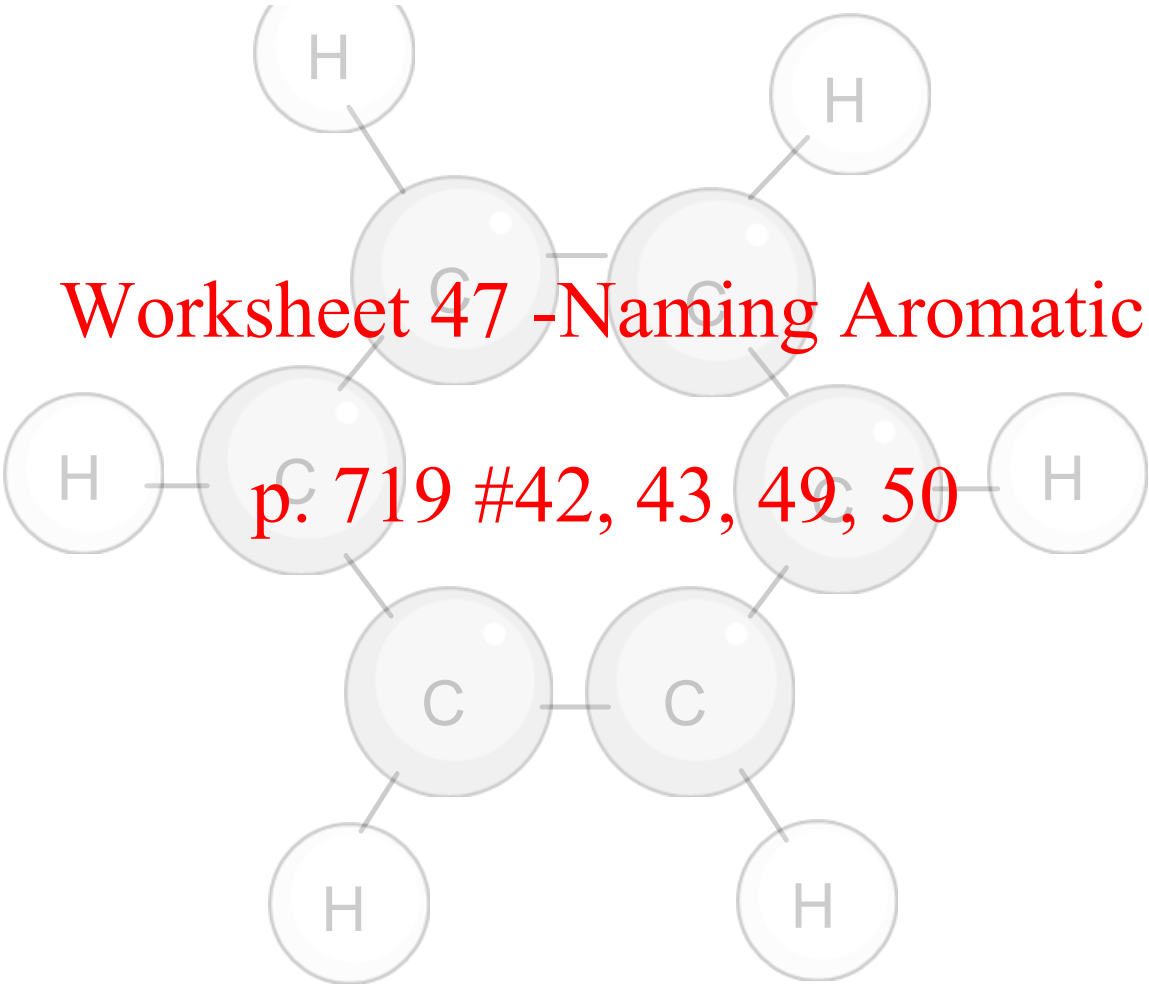
1,4-dimethylbenzene or para-dimethylbenzene

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

Ex.

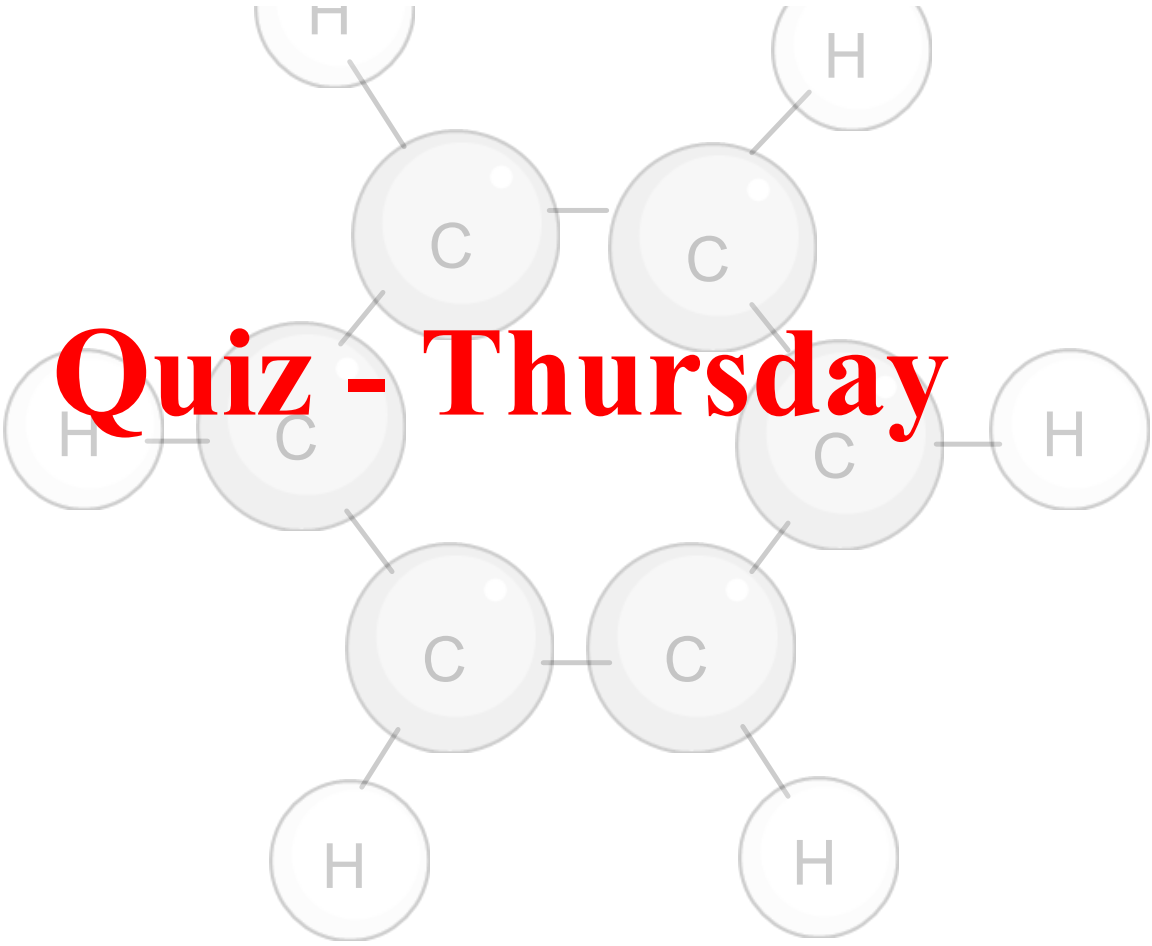


4-phenyl-1-pentyne



Worksheet 47 -Naming Aromatics

p. 719 #42, 43, 49, 50



Quiz - Thursday