

# Quiz - Hydrocarbons

## Additional Questions

For each of the following, draw a structural diagram equation, name the products and classify the equation:

1. Methylbenzene is burned in a waste disposal plant.
2. 3-methyl-1-butyne + excess hydrogen
3. Propane and butane are reacted in the presence of hydrogen to make several gasoline molecules.

HYDROCARBON DERIVATIVES

Hydrocarbons are compounds made up of only carbon and hydrogen atoms.

Hydrocarbon derivatives are composed of the hydrocarbon parent in which one or more of the hydrogens have been replaced with a non-hydrocarbon element or group of elements (functional group)

Ex.  $\text{CH}_3\text{CH}_2\text{Cl}$

What is a 'functional' group?

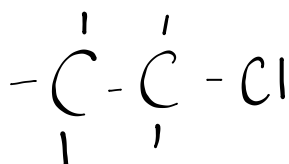
Organic Halides

- an organic molecule in which one or more of the hydrogens have been replaced with a Group 17 (halogens) atom.

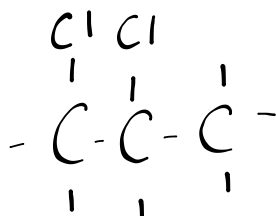
*Naming*

Organic halides are named using the same rule as hydrocarbons. The branch is named by shortening the halogen to name to fluoro, chloro, bromo-, iodo-, etc.

Ex. chloroethane



1,2-dichloropropane

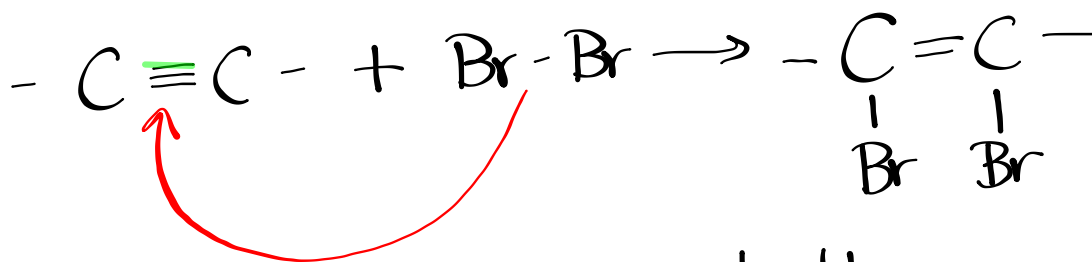


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## Reaction Types

ADDITION- multiple bonds (pi bonds) are broken and hydrogen or halide are added.

Ex. a) ethyne + bromine  $\longrightarrow$  1,2-dibromoethene



b) propene + hydrogen chloride  $\longrightarrow$  1-chloropropane + 2-chloropropane +

