Handout for Chem 111

Common Organic Functional Groups

R = C w/o additional bond to heteroatom  \( (R) = R \text{ or } H \)

R* = sp\(^3\) C (alkyl group)

Ar = sp\(^2\) C ring (aryl group)

X = F, Cl, Br or I

Carbon only

alkene

alkyne

arene (benzene)

With “heteroatoms”:

thiol (weak acid)

ketone

thioether

amine  (weak base)

ether

(organic) halide

Groups that are part of other functional groups:

Hydroxyl (OH)

Carbonyl (C=O)

Carboxyl (ic acid) (weak acid)

Aldehyde

Ester

Amide

Acid halide

Nitrile

Nitro

Sulfonic acid (strong acid)

The name of this (fictional) molecule is:

1-allyl-6-(sec-butyl)-8-(tert-butyl)-4-butyl-
5,7,7-trichloro-9-cyclopentyl-1,1,14-
diethyl-5-isobutyl-3-isopropyl-11-nitro-
10-phenyl-3-propyl-2-
vinylicyclotetradecane