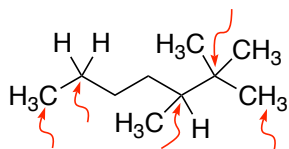
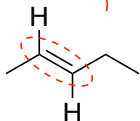


Important Families of Organic Compounds (Functional Groups)

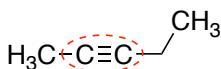
Alkanes only C-C and C-H



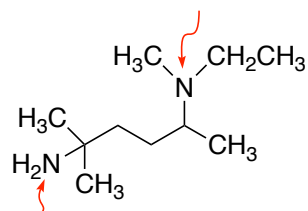
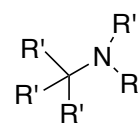
Alkenes C=C



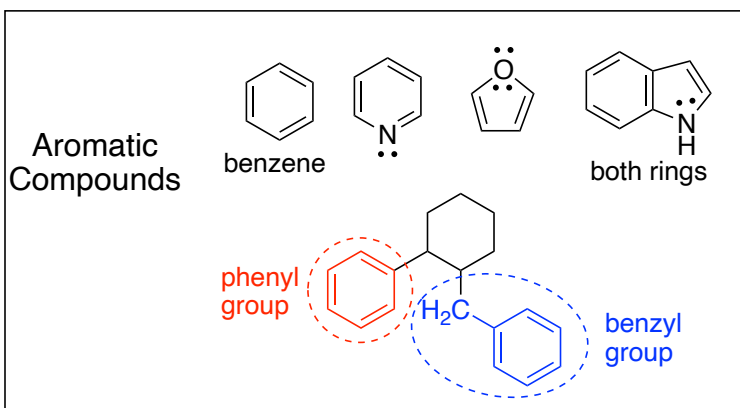
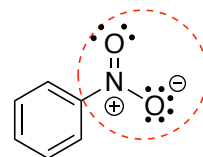
Alkynes C≡C



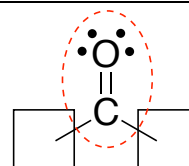
Amines



Nitro groups R-NO₂

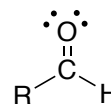


Carbonyl

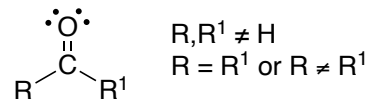


Carbonyl containing functional Groups:

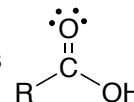
Aldehydes



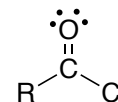
Ketones



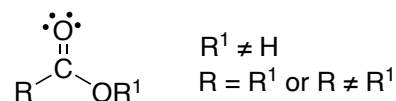
Carboxylic acids



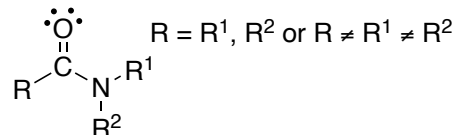
Acid chlorides



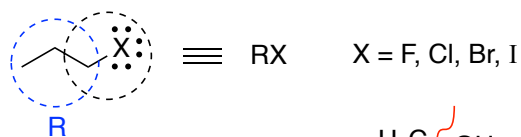
Esters



Amides



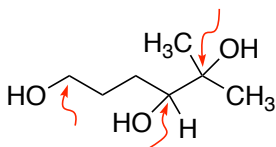
Alkyl halides (haloalkanes)



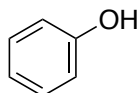
↓ 1°, 2°, 3° ↑

Alcohols

R-OH



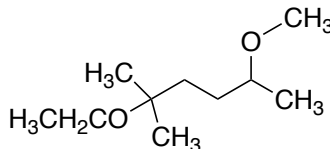
Phenol



Ethers

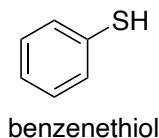
R-O-R¹

$R, R^1 \neq H$
 $R = R^1$ or $R \neq R^1$



Thiols

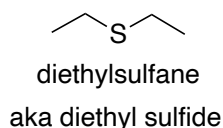
R-SH



Sulfides

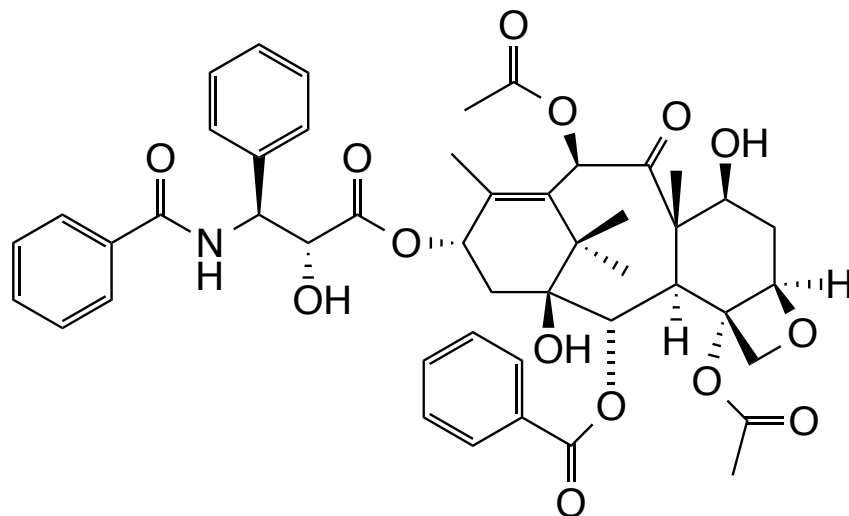
R-S-R¹

$R, R \neq H$
 $R = R^1$ or $R \neq R^1$



Nitriles

R-C≡N



Taxol® (paclitaxel)
(Holton and Nicolaou (independently), 1994)