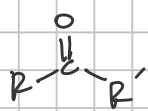


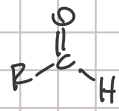
Ch 18 Ketones & Aldehydes

Note Title

3/13/2006



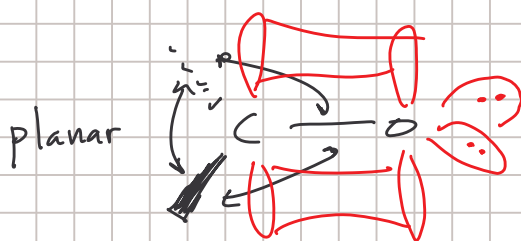
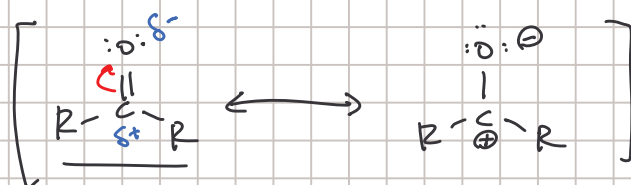
ketone



aldehyde

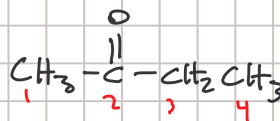


carbonyl group

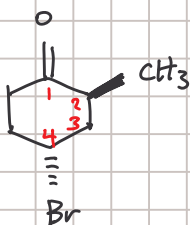


IUPAC Nomenclature

ketones -one suffix



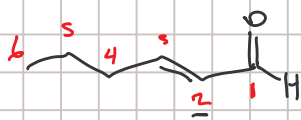
2 - butanone
(butan-2-one)



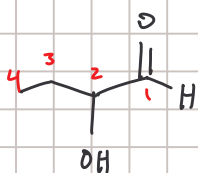
trans-4-bromo-2-methylcyclohexanone

aldehydes

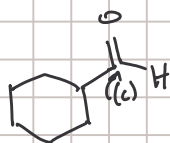
-al suffix



2-hexenal

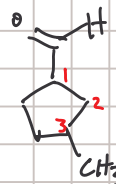


2-hydroxybutanal



-carbaldehyde suffix

cyclohexanecarbaldehyde



optional
(-1-)

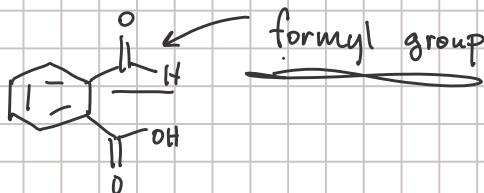
3-methylcyclopentanecarbaldehyde

Carbonyls as substituents

carbonyl
ketone substituent = -oxo-



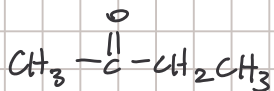
4-oxo-pentanal



o-formylbenzoic acid
(2-)

Common names

ketones name alkyl groups on either side of carbonyl



methyl ethyl ketone (MEK)

to number substituents, use greek letters! (carbonyl compounds)

α - C next to carbonyl

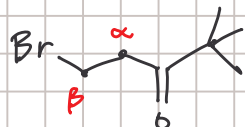
β

γ gamma

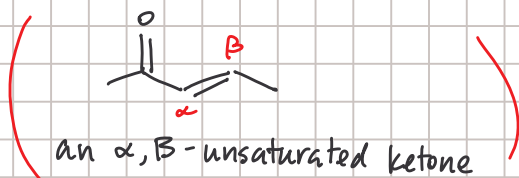
δ delta

ϵ epsilon

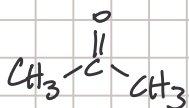
.....
 ω omega (the last carbon)



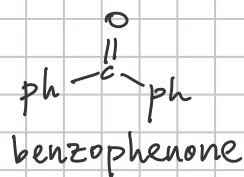
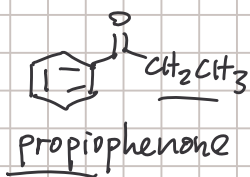
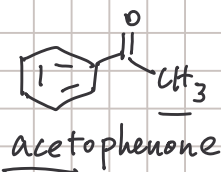
β -bromo t-butyl ketone



historical names



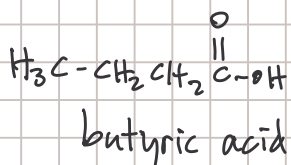
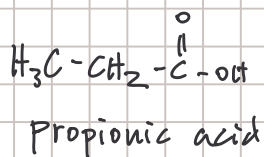
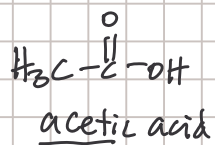
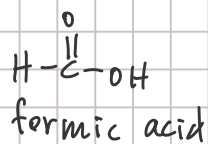
2-propanone
dimethyl ketone
acetone (always!)



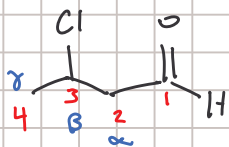
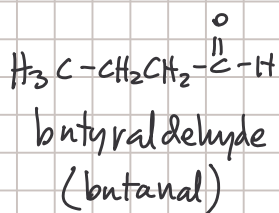
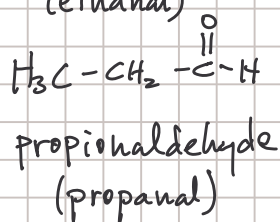
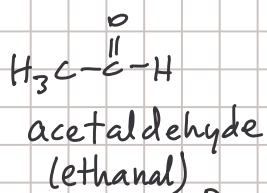
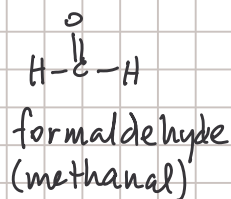
Aldehydes

common names come from
carboxylic acid names

ACID



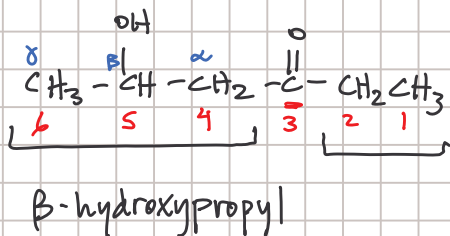
Aldehyde



IUPAC 3-chlorobutanal

Common β -chlorobutyraldehyde

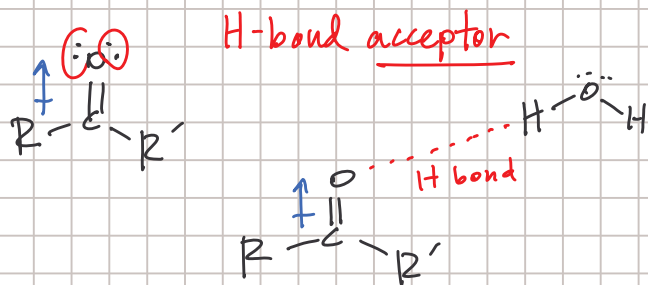
be able to do both



IUPAC 5-hydroxy-3-hexanone

Common ethyl β -hydroxypropyl ketone

Properties



excellent solvents esp. w/ H-bonding solutes
(alcohols, water)

lower b.p. ether ketones/aldehydes alcohols higher b.p.

→