

Aldehydes + Ketones

$C=O$  Carbonyl bond

Aldehyde



R = alkyl or H

At least one H must be connected to  $C=O$

Ketone

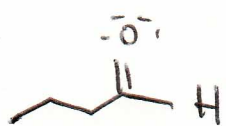


R = alkyl

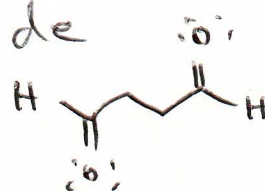
$R \neq H$

Functional group priority;

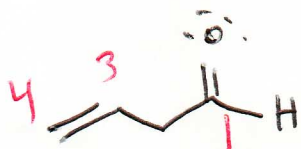
aldehydes > ketones > alcohols > alkenes/alkynes



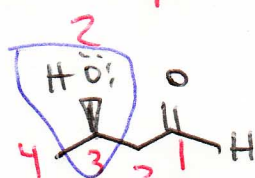
-al for aldehyde  
butanal



butanedial

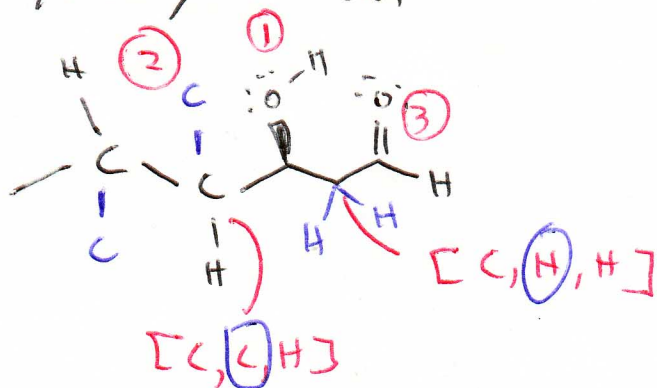
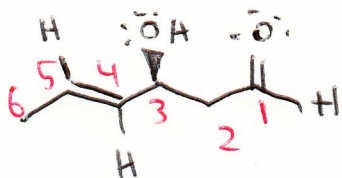


but-3-enal



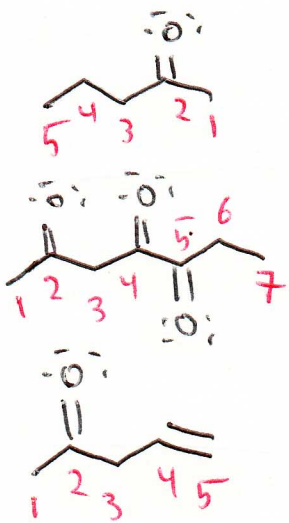
hydroxy

(R)-3-hydroxybutanal

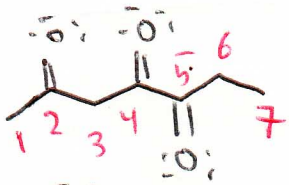


(3S, 4E)-3-hydroxyhex-4-enal

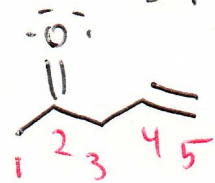
Ketones → -one



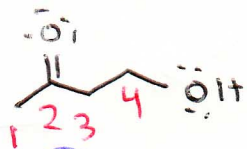
pentan-2-one



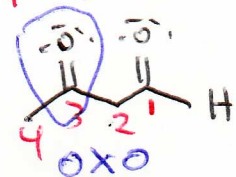
heptane-2,4,5-trione



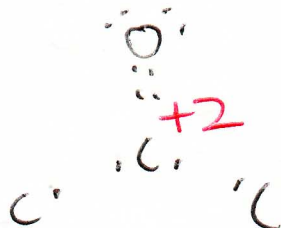
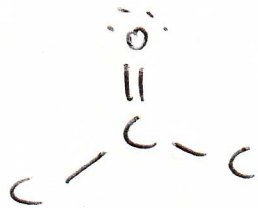
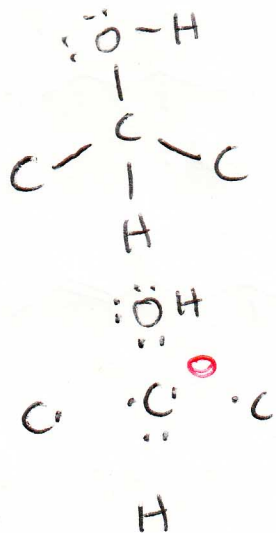
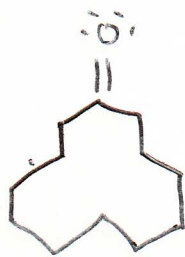
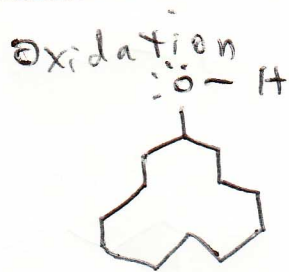
pent-4-en-2-one



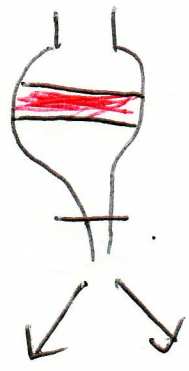
4-hydroxybutan-2-one



3-oxobutanal

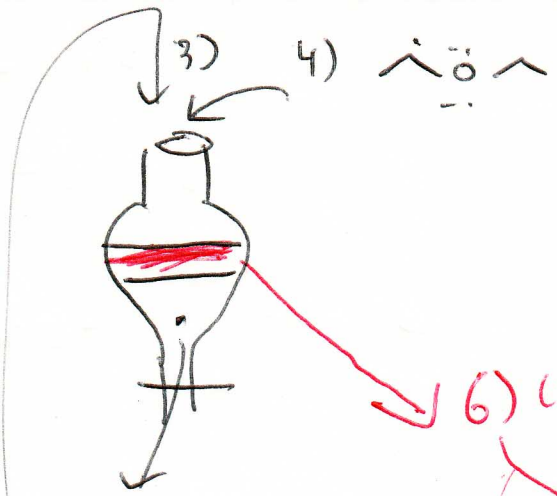


Start



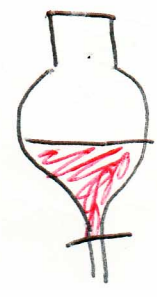
1) H<sub>2</sub>O layer

2) organic layer



5) H<sub>2</sub>O layer waste

6) combine w/ 2



add wash + shake



drain + dispose of H<sub>2</sub>O



- washes!
- 1) NaHCO<sub>3</sub> - neutralize excess acid
  - 2) NaHSO<sub>3</sub> - reduce excess bleach
  - 3) NaCl - force out ionic impurities