ACIDS & BASES

(1) For each grouping below, circle the strongest acid

a) Cl_3CO_2H CF_3CO_2H CH_3CO_2H

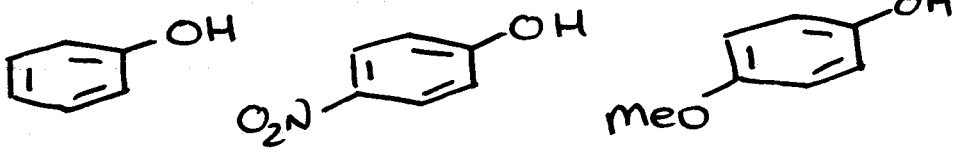
b) $CF_3CH_2CO_2H$ $CF_3CH_2CH_2CO_2H$ CF_3CO_2H

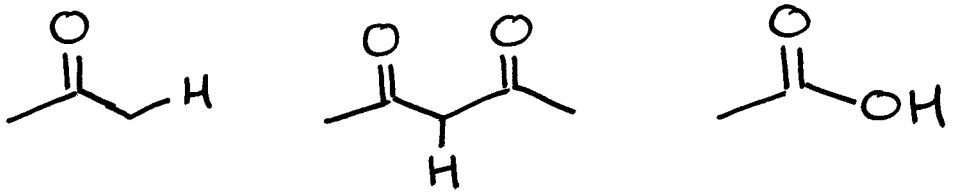
c) HBr HF HI

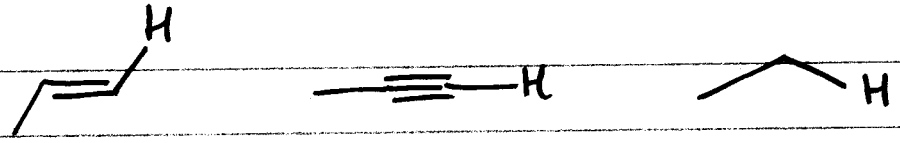
d) H_2O NH_3 CH_4

e) H_2S H_2O D_2O

f) NH_4^+ NH_3 $NH_2^\ominus$

g) 

h) 

(i) 

j) $^{\ominus}OH$ H_2O H_3O^{+}

k) $CH_3\overset{-}{O}H$ $CH_3\overset{-}{S}H$ $CH_3\overset{+}{O}(H)H$

l) CF_3CH_2OH $CF_3CH_2CH_2OH$ $CH_3CH_2CO_2H$

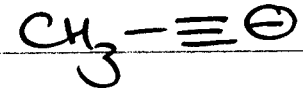
(2) For each grouping below, circle the strongest base

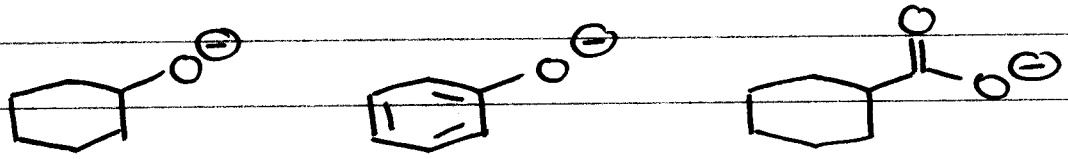
a) $CH_3^{\ominus}$ $NH_2^{\ominus}$ $OH^{\ominus}$

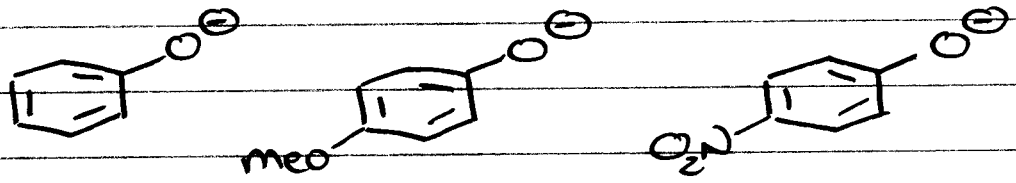
b) H_2O $OH^{\ominus}$ $SH^{\ominus}$

c) $CF_3CH_2O^{\ominus}$ $CF_3CH_2CH_2O^{\ominus}$ $CF_3CH_2CO_2^{\ominus}$

d) I^- Cl^- Br^-

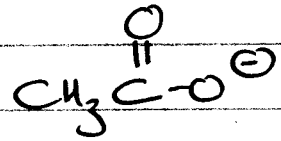
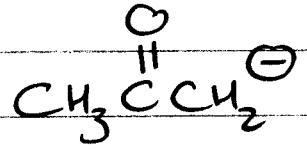
e) $CH_3^{\ominus}$ 

f) 

g) 

h) CF_3CH_2OH CCl_3CH_2OH CH_3CH_2OH

i) $CH_3O^{\ominus}$ $HSO_4^{\ominus}$ $F^{\ominus}$

j) $HO^{\ominus}$ $NO_3^{\ominus}$ $Cl^{\ominus}$

i) $CH_3O^{\ominus}$