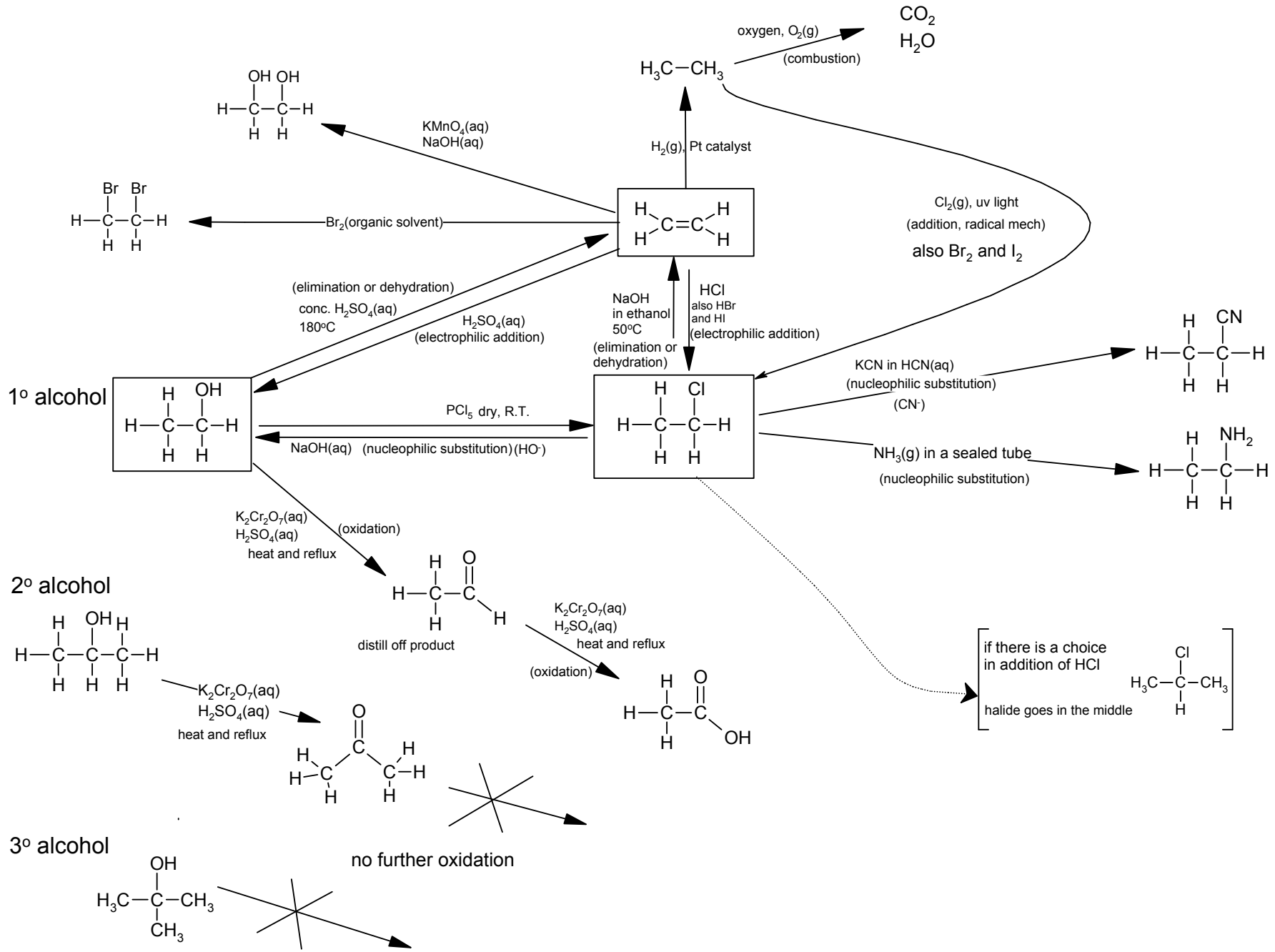
oxygen, $O_2(g)$
(combustion)
CO_2
H_2O
H_3C-CH_3
$KMnO_4(aq)$
$NaOH(aq)$
$H_2(g)$, Pt catalyst
$Cl_2(g)$, uv light
(addition, radical mech)
also Br_2 and I_2
Br_2(organic solvent)
(elimination or dehydration)
conc. $H_2SO_4(aq)$
180°C
$H_2SO_4(aq)$
(electrophilic addition)
NaOH
in ethanol
50°C
(elimination or dehydration)
HCl
also HBr
and HI
(electrophilic addition)
1° alcohol
PCl_5 dry, R.T.
$NaOH(aq)$ (nucleophilic substitution) (HO^-)
KCN in HCN(aq)
(nucleophilic substitution)
(CN^-)
$NH_3(g)$ in a sealed tube
(nucleophilic substitution)
$K_2Cr_2O_7(aq)$
$H_2SO_4(aq)$
heat and reflux
(oxidation)
2° alcohol
distill off product
$K_2Cr_2O_7(aq)$
$H_2SO_4(aq)$
heat and reflux
(oxidation)
if there is a choice
in addition of HCl
halide goes in the middle
3° alcohol
no further oxidation