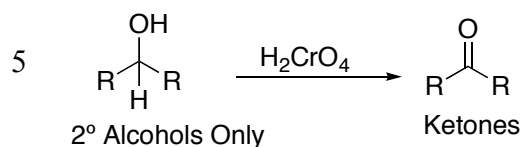
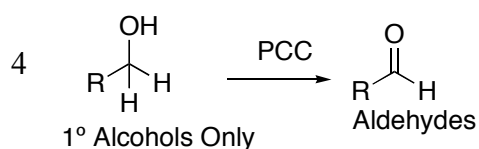
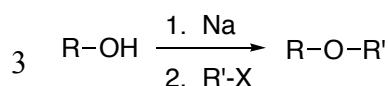
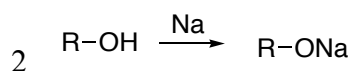
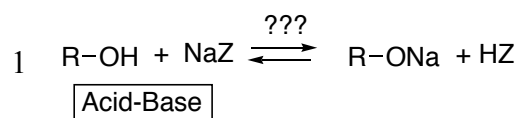
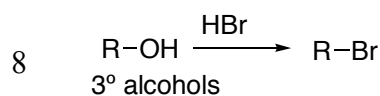
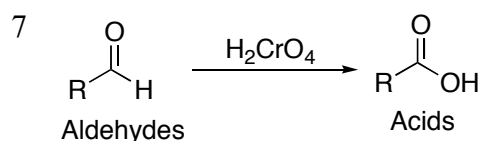
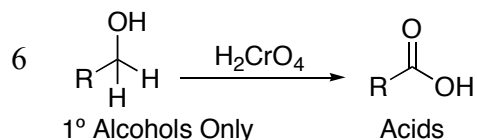


Summary of Alcohol Reactions, Ch. 11.

$\text{H}_2\text{CrO}_4 = \text{Na}_2\text{Cr}_2\text{O}_7, \text{H}_2\text{SO}_4$ or $\text{CrO}_3/\text{H}_2\text{O}$



Mech: Be able to draw!

1. Deprotonation by a base.
2. Controlled by relative stability of RO^\ominus versus Z^\ominus .
3. Consider relative electronegativity and whether either anion is resonance stabilized.

- Potassium (K) analogous.
- Key way to convert alcohol to alkoxide, reactive as $\text{S}_{\text{N}}2$ nucleophile and E2 base.

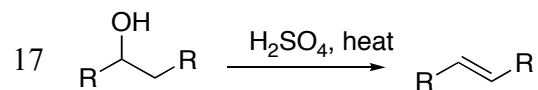
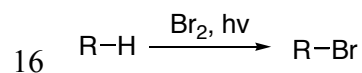
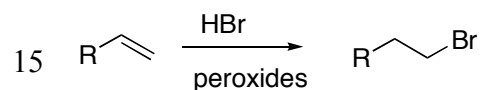
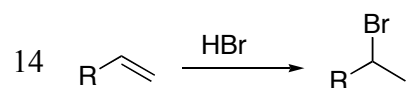
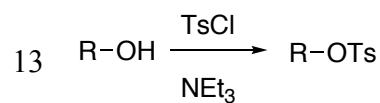
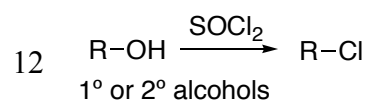
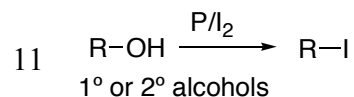
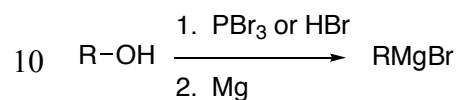
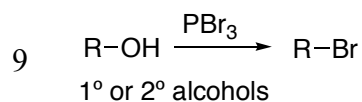
- Alkoxide formation- $\text{S}_{\text{N}}2$ route to ether
- The electrophile $\text{R}'\text{-X}$ must be $\text{S}_{\text{N}}2$ reactive, preferably 1° with a good leaving group

- Key access to aldehydes, which are useful for more Grignard chemistry.
- Note difference between PCC and H_2CrO_4
- PCC does not react with 2° alcohols very rapidly

- Key access to ketones.
- PCC does not react very fast with 2° alcohols

- Note difference between PCC and H_2CrO_4 when reacting with 1° alcohols.

- HI, HCl analogous
- Converts alcohol into a bromide that can be used in Grignards, E2 reactions
- Cation mechanism
- Usually not method of choice for $1^\circ, 2^\circ$ alcohols



- Converts alcohol into a bromide that can be used in Grignards, E2, S_N2 reactions
- Inversion of stereochem
- Not good for 3° alcohols

- Quick 2-step conversion of alcohol into a nucleophilic Grignard

- Via PI₃

- Retention of stereo!

- Tosylates are super leaving groups, better even than iodides.
- Tosylates are well suited to S_N2 and E2 reactions.

- Markovnikov addition

- anti-Markovnikov addition

- Radical mechanism, 3° > 2° > 1°

- Zaytsev elimination

Mechanisms for ROH → RBr Reactions