Geminal Dihalides

Vicinal Tetrahalides

Carboxylic Acids

Alkynes

Aldehydes Ketones

H_2CrO_4 1° alcohol

PCC 1° or 2° alcohol

H_2CrO_4 2° alcohol

Vicinal Dihalides

Alcohols

Haloalkene

NBS, hv Most stable alkene

H_2SO_4 (catalytic) Zaitsev

Alkenes

Vicinal Diols

$H_3O^{\oplus}$ Markov. Anti

$HO^{\ominus}$ less hindered S_N2 Anti

$SOCl_2$ or PBr_3 Inversion

ROH H_2SO_4 (catalytic)

Ethers

RCO_3H

E2 Base $RO^{\ominus}$

Epoxides

$RO^{\ominus}$ antiperiplanar

$RO^{\ominus}$ 1° haloalkane S_N2

Haloalkanes

Halohydrins

S_N2 Various nucleophiles (Table)

Thiols and other S_N2 Products

Alkanes