Nomenclature

- alcohols, alkoxides, alkenes, aldehydes, ketones, benzene

Leaving Groups ← Alcohols

tosyl chloride; $SOCl_2$; PBr_3

Alcohols

Hydration + Dehydration

Oxidation; PCC vs. CrO_3/H_2O

alkoxides; NaH, Na ⟶ Williamson Ether Synthesis

Aldehydes + Ketones

POAD – Hydrates, acetals, ketals, imines, enamines, cyanohydrins, oximes, hydrazones

reactivity of aldehydes vs. ketones

reduction – $LiAlH_4$ vs $NaBH_4$

alkylation – Grignard; Wittig

Wolff-Kishner reduction (hydrazones)

Epoxides

cationic vs anionic ring opening

Protecting Groups

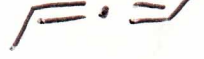
DHP; TBDMS Cl

Conjugation

NO Kinetic vs Thermodynamic SN6

MO description of allyl + 

bonding, non-bonding, anti-bonding

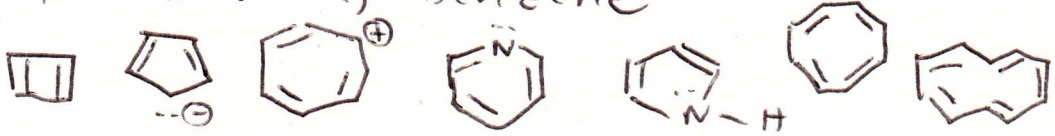
Cumulated dienes 

Aromaticity

Frost Circle

Aromatic, non-aromatic, anti-aromatic

MO of cyclobutadiene, benzene

examples: 

synthesis: nitration, sulfonation, alkylation, acylation, halogenation

o,p vs meta; activator vs deactivators

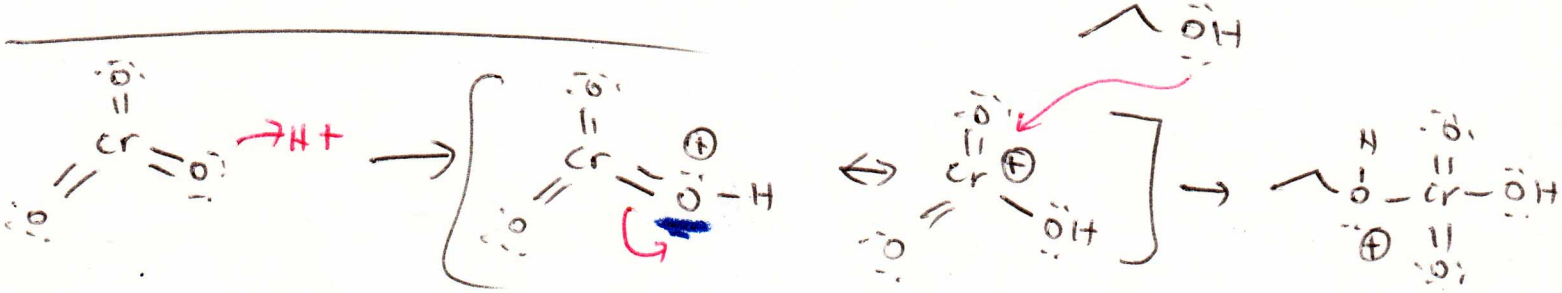
Pericyclic

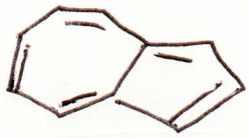
Homo/Lumo theory

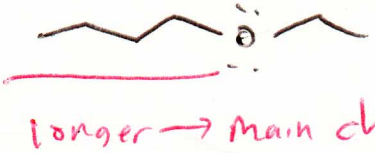
ground vs excited states

conrotatory / disrotatory

Diels-Alder – s-cis / s-trans; secondary orbital effects endo/exo

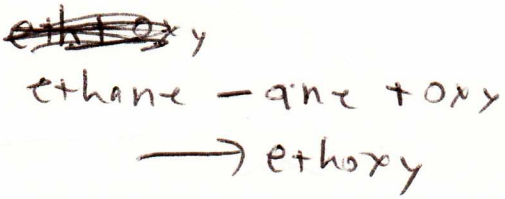




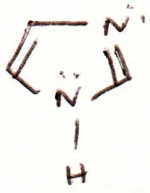


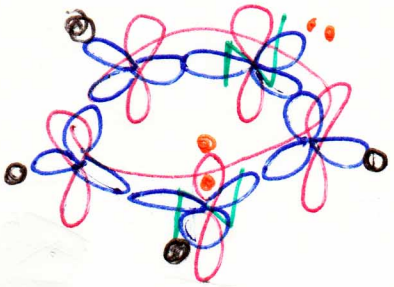
longer → main chain

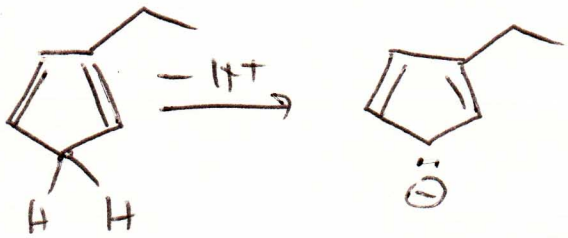
1-ethoxybutane

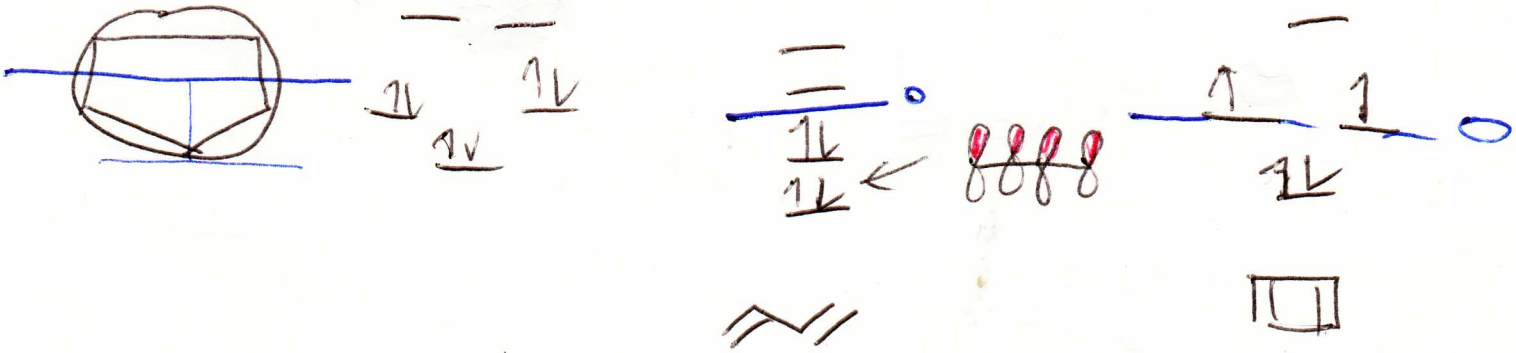


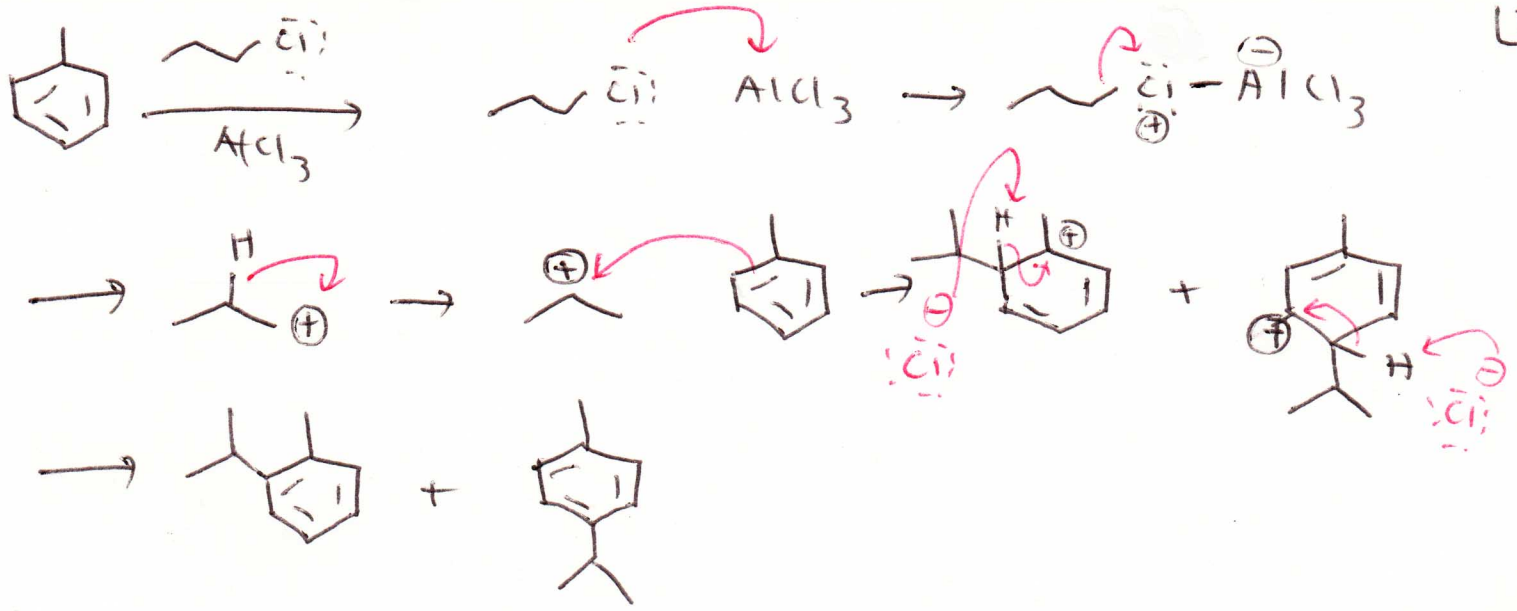
ethane – ane + oxy → ethoxy











End of Chem 12B