3/26/12

Nomenclature –

– alcohols, alkoxides, alkenes, aldehydes, ketones, benzene

Alcohols

Leaving groups – tosyl chloride; $SOCl_2$; PBr_3

Hydration; Dehydration

Oxidation; PCC vs. CrO_3/H_2O

Alkoxide; Na + NaH ⟶ Williamson Ether Synthesis

Aldehydes + Ketones

Reactivity of aldehydes vs ketones

PDAD – hydrates; acetals + ketals; imine + enamines; cyanohydrins, oximes, hydrazones

Reduction – $NaBH_4$, $LiAlH_4$

Alkylation – Grignard; Wittig

Wolff-Kishner reduction (hydrazones)

Protecting Groups

DHP ; TBDMSCl

Epoxides

cationic vs anionic opening

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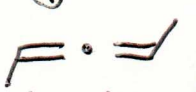
conjugation

SMOG

NO Kinetic vs Thermodynamics

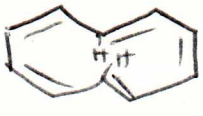
MO description of allyl  +

Cumulated dienes 

bonding, non-bonding, anti-bonding

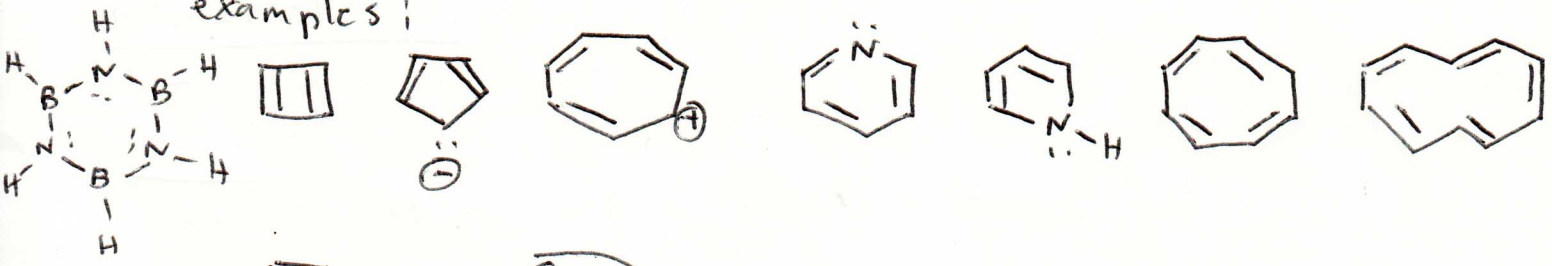
Aromaticity

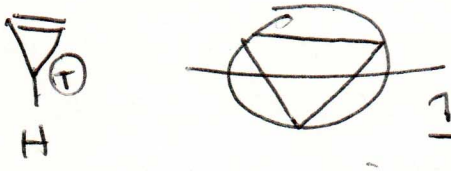
is it; aromatic, non-aromatic, anti-aromatic



MO of cyclobutadiene, benzene

examples!





7V

Synthesis: nitration, sulfonation, alkylation, acylation; halogenation

Pericyclic reactions

HOMO/LUMO theory

ground vs excited states

conrotatory / disrotatory cyclizations

Diels-Alder — s-cis vs s-trans;

endo + exo + secondary orbital effects.

End of Chem 12B