

Final Exam - Thurs Dec 15 9:15 AM G-6

Chapter 1

bonding + antibonding

σ + π bonds

molecular geometry

hybridization \rightarrow CH_4

acids + bases - hybridization, inductive, resonance

pK_a

Chapter 2

Nomenclature - Common

- alkanes, alkenes, alkynes, alcohols, alkyl halides, alkenols; no ethers, amines
- cyclic compounds

Rotomers

- staggered, eclipsed, syn, anti, gauche
- line structures, Newman projections

Rings + angle strain

Cyclohexane - ~~eclipsed~~ ~~star~~ equatorial, axial

- chair, boat, ring flips

Chapter 3

E vs Z; cis vs trans

kinetics, thermodynamics, equilibrium

(S_N1 vs S_N2 (RLS)) \rightarrow RCD, Itess's law

Chapter 4

Markovnikov addition
List of alkene rxns

Chapter 5

Stereochemistry
R or S, phantom atoms
enantiomer, diastereomer, epimer
optical rotation
racemic
meso

Chapter 6

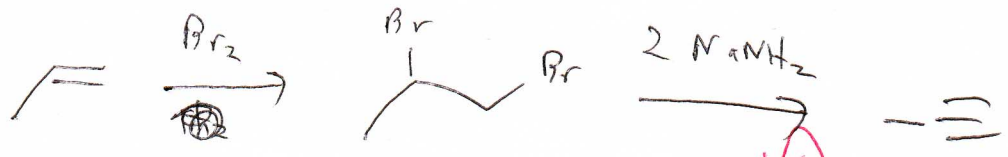
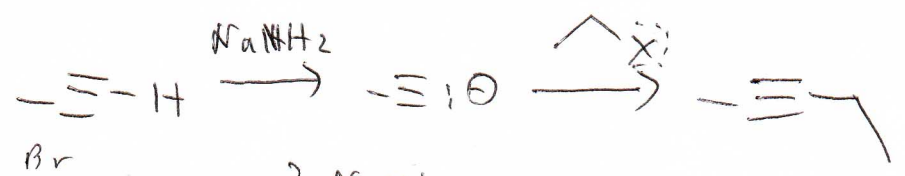
Alkynes

Hydrogenations (full, cis, trans)

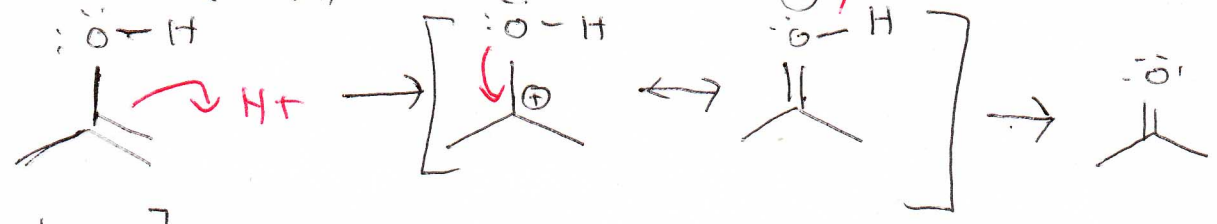
Hydroboration (BH_2)

Tautomerization (base + acid)

Alkylation



Tautomerization



Chapter 7

resonance + delocalization \rightarrow conjugation
SMOG

Chapters 8+9

S_N1 , S_N2 , E1, E2

substrate, nucleophile, leaving group, solvent

Chapter 12

free radical halogenation

End of Chem 12A

