

Submit notes to the Undergraduate Chemistry Office for posting.
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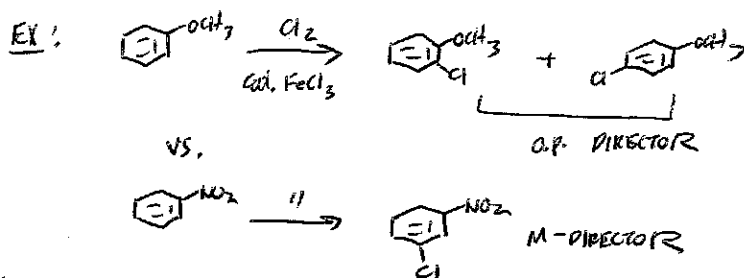
NEXT WEEK:

EXAM ON WED

MON: OFFICE HOUR AFTER CLASS (3)

TUES: 4 PM, B371

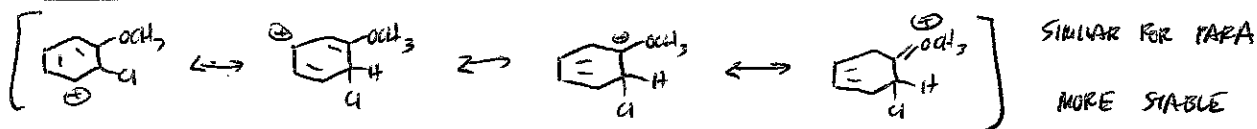
RECALL: DIRECTING EFFECTS OF SUBSTITUENTS, EPS KNOWS.



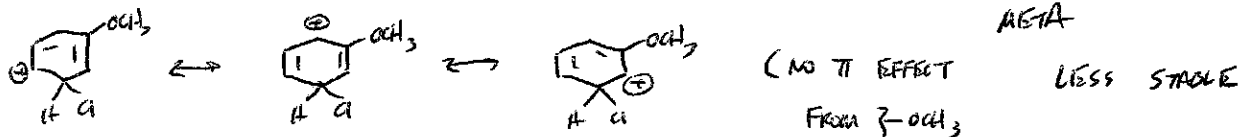
MECHANISTIC RATIONALE...

(NOTE: ORTHO + PARA ARE COMPARABLE)

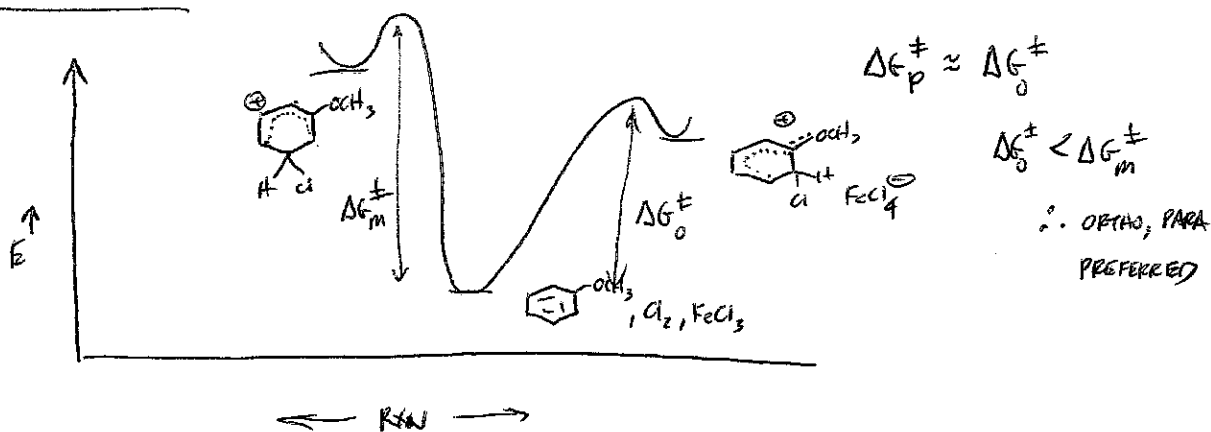
FOR COc1ccccc1Cl:



VS.

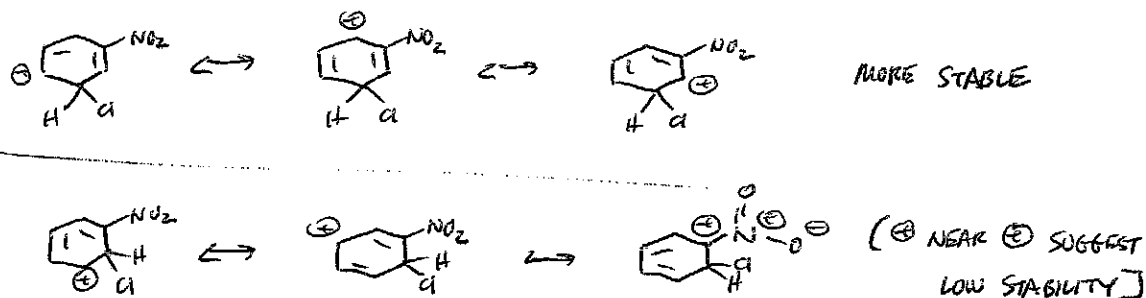


ENERGY DIAGRAM:



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RATIONALE FOR NO₂:

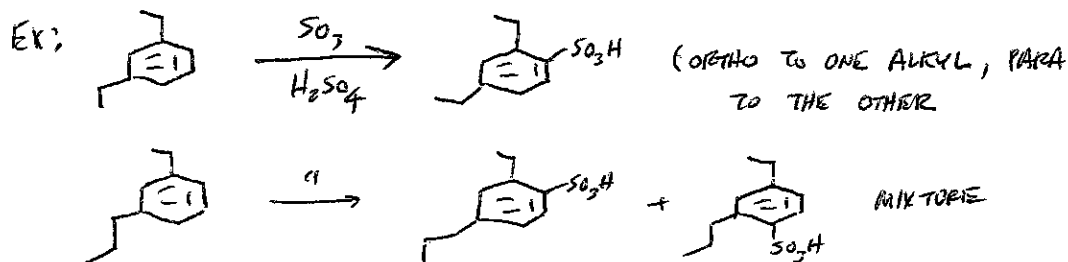


YOU FILL IN - PARA INTERMEDIATE, BEN DIAGRAM

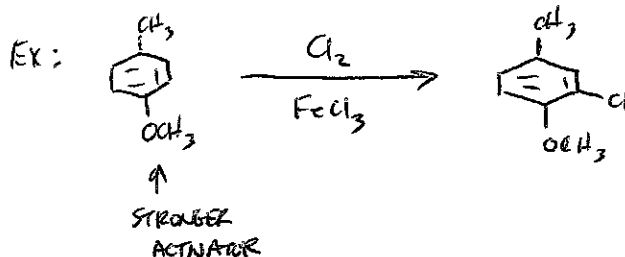
MULTIPLE SUBSTITUENTS?

CONSIDER CASES WITH ≥ SUBSTITUENTS

POSSIBILITY # 1: SUBSTITUENTS HAVE CONGRUENT DIRECTING EFFECTS



POSSIBILITY # 2: DIRECTING GROUPS NOT CONGRUENT. MORE ACTIVATING GROUP DOMINATES



READ! SECTION 16.6 ON HYDROGENATION OF NOVELLOUS CONTAINING BENZENE RINGS

* END OF MATERIAL ON EXAM *

Course CHEM 345Instructor GELMANDay FRIDAYDate 2/14/2014Notes Taken By EMMET

Total # of Pages _____

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CHAPTER 17 - ALLYLIC & BENZYLIC REACTIVITY

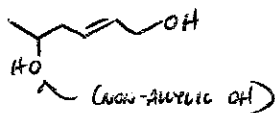
REL. PROBLEMS: 1-14, 18, 19, 22-33, 36-48



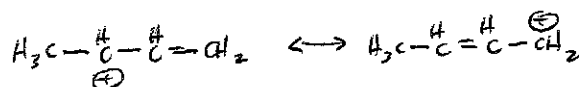
MORE GENERAL TERMS:

ALLYLIC

EX:

BENZYLIC

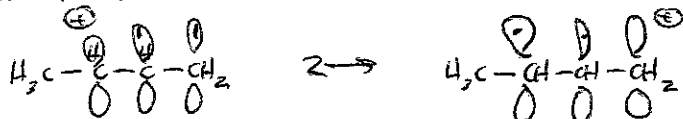
ALLYLIC & BENZYLIC POSITIONS IN MOLECULES DISPLAY DISTINCTIVE REACTIVITY.
 THESE SPECIAL PROPERTIES ARISE FROM STABILIZATION OF REACTIVE INTERMEDIATES,
 SUCH AS C^+ , C^- , C^\cdot

EX: AN ALLYLIC CARBOCATION

I.e.,



M.O. PERSPECTIVE



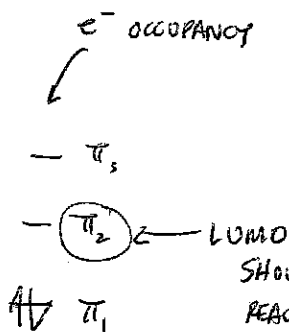
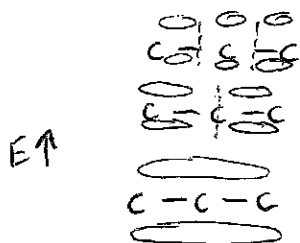
3 p A.O.'s ON ADJACENT CARBONS

COMBINE TO FORM 3 M.O.'s, 2 e⁻s

Course CHEM 345 Instructor GELMAN
 Day FRIDAY Date 2/14/2014
 Notes Taken By EMOT Total # of Pages 4

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THUS, 3 M.O.'s



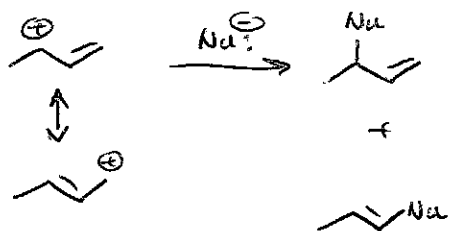
RE-READ: SECTION 4.1B, π-BONDS,
 IN ALKENES

SECTION 15.1A, CONJUGATED
 DIENES

SHOULD DETERMINE
 REACTIVITY FOR THE CARBOCATION

⋮ = NODE

BECAUSE OF SPATIAL NATURE OF π₂



SPECIFIC EXAMPLE: (S_N1)

