

Chemistry 220b, Section 1
Quiz 2 (25 pts)
Thursday, February 17, 2011
Chapter 14

Name _____

Write and sign the VU Honor Pledge:

signature

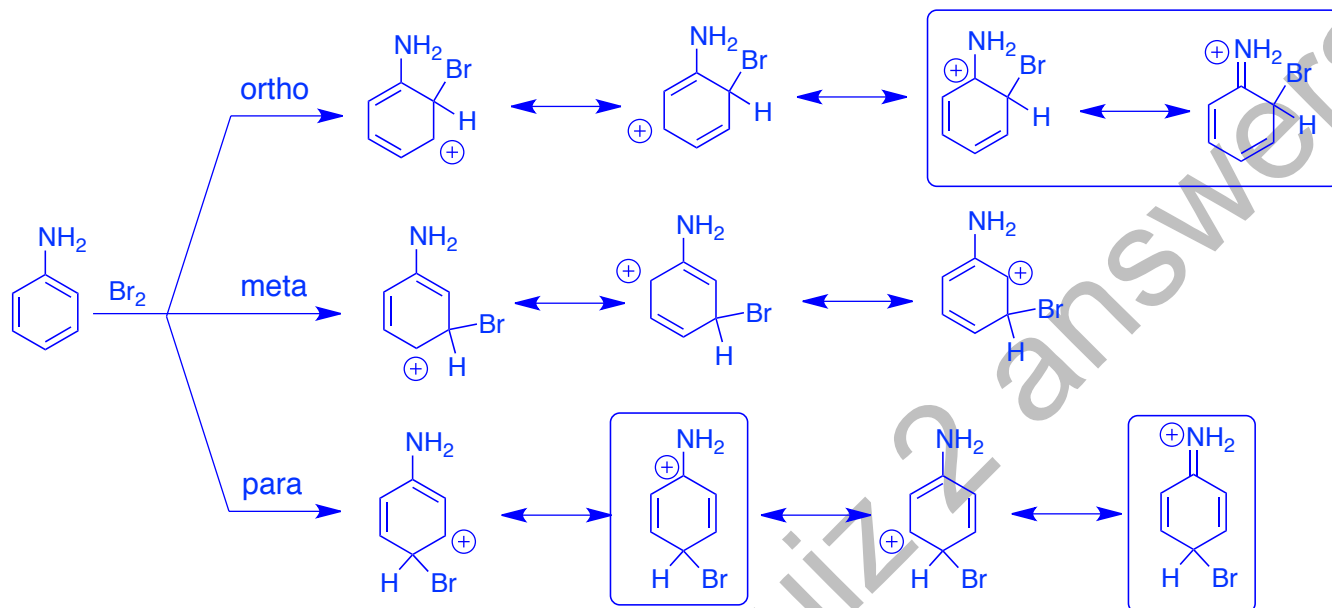
This Quiz is closed book and closed notes

NOTE: It is difficult for me to give you partial credit if you do not show your work!

Neatness counts

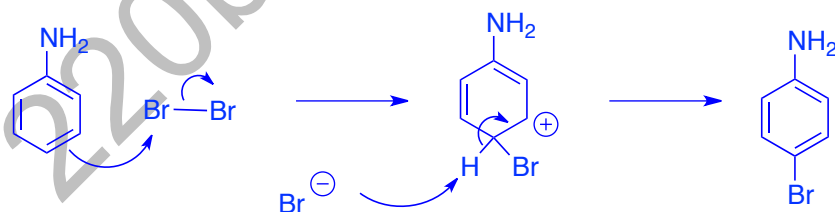
Good Luck !!

1. Provide a mechanistic rationale for the directing effect of aniline (aminobenzene) toward electrophilic bromination; then give a complete mechanism for the formation of the major product. (15 pts)



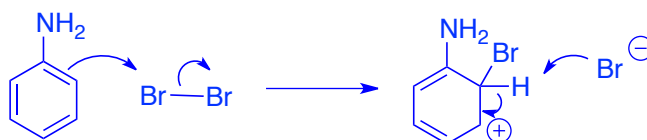
The cyclohexadienyl carbocation intermediate from electrophilic addition at the ortho and para positions, can be resonance stabilized by the -NH₂ substituents. The cyclohexadienyl carbocation from electrophilic addition at the meta position can not be directly stabilized by -NH₂ group. Therefore, electrophilic addition to the ortho and para positions are favored over meta.

Complete Mechanism:



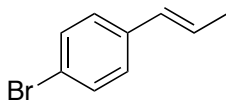
+ other resonance forms

- or -

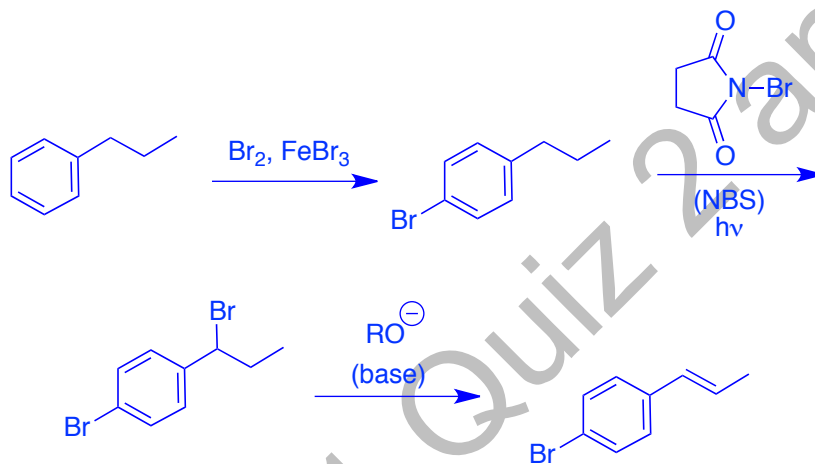


+ other resonance forms

2. Devise a synthesis of 1-bromo-4-(1-propenyl)benzene from propylbenzene. Give all reactions conditions and show all intermediate products. (10 pts)



(E)-1-bromo-4-(prop-1-en-1-yl)benzene



Problem 1: _____ (15 pts)

2: _____ (10 pts)

Total out of 25: _____