

Chemistry 2542

Fall 2012

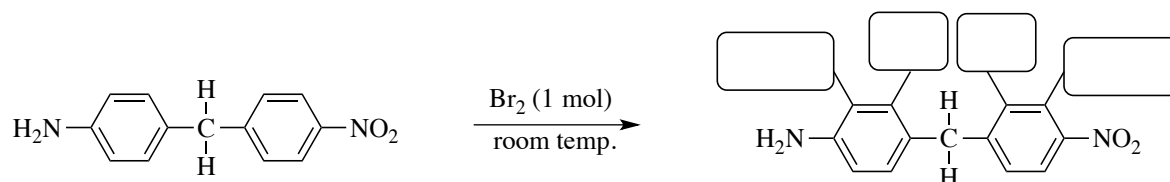
Quiz 4

(25 points)

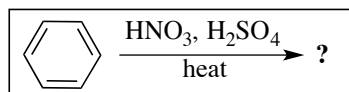
Printed Name (*Last*, First) _____

Good Luck!

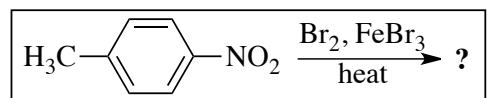
1. (4) Complete the following reaction by placing **H** or **Br** in the provided boxes (1 pt each box):



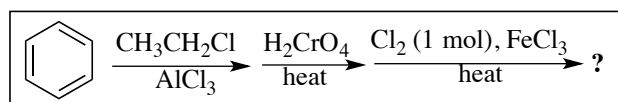
2. (9) Circle the **major product** in each of the following reactions (3 pts each):



benzenesulfonic acid nitrophenol *p*-nitrophenol
 aniline *m*-nitrobenzenesulfonic acid nitrobenzene

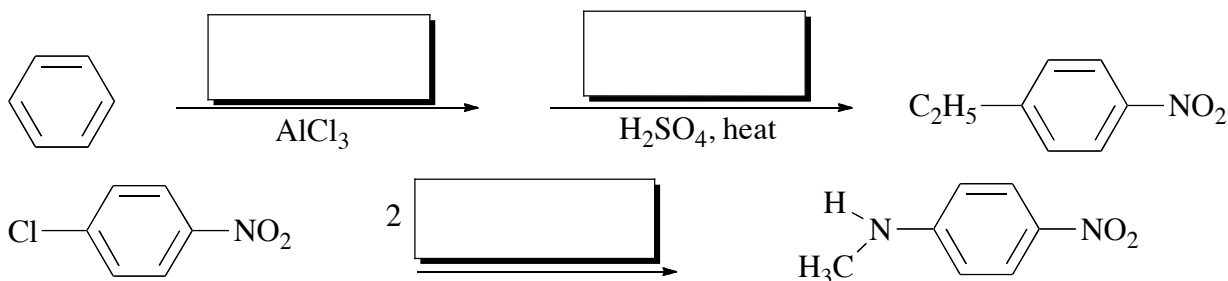


3-bromo-4-methylaniline 3-bromo-4-nitrotoluene *p*-bromotoluene
 3-bromo-4-aminobenzonitrile 2-bromo-4-nitrotoluene

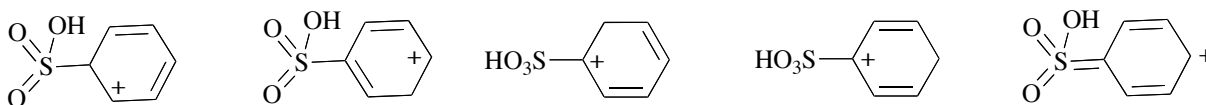


p-chloroethylbenzene *o*-chloroethylbenzene
p-ethylbenzoic acid *m*-chlorobenzoic acid
p-chlorobenzoic acid *m*-ethylbenzoic acid

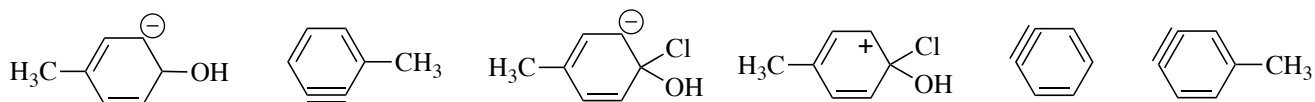
3. (6) Show the reagents that are required to convert the reactant to the indicated product (2 pts each):



4. (3) Circle the structure of the **intermediate** in the reaction of benzene with SO_3 and H_2SO_4 :



5. (3) Circle the structure of the **intermediate** in the reaction of *p*-chlorobenzene with $\text{NaOH}/\text{H}_2\text{O}$ at 300°C and high pressure:



Overall Score: _____