**Spring 2001 Org II Q2 Ch 17 (20 questions for 20 points)**

NAME:

If you do **not** wish to have your script placed outside my office, then please check this box___

(1-10) Are True or False

1) Benzene undergoes electrophilic aromatic substitution reactions with reactive electrophiles.

2) During an electrophilic aromatic substitution, the aromatic compound never loses its aromaticity.

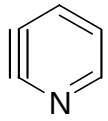
3) Para substitution means a 1,3 arrangement on a benzene ring.

4) The rate determining step in an electrophilic aromatic substitution is the exothermic removal of a proton from the $sp^3$ carbon.

5) Toluene is undergoes nitration and bromination quicker than nitrobenzene.

6) Friedal Crafts acylation products to not undergo poly-substitution since the products generated are deactivated to further reaction.

7) This compound is 6π Hückel aromatic.




8) The amino group ($-NH_2$) is a meta directing, activating substituent for electrophilic aromatic substitution.

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10) Halogen substituents are not only able to inductively withdraw electron density, but also to π donate electron density.

11-15) Give the products for the following reactions (and indicate stereo/regiochemistry where applicable).

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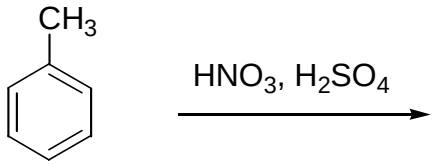


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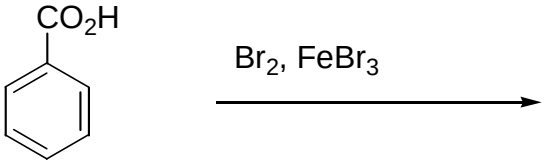


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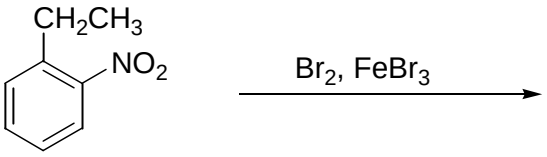


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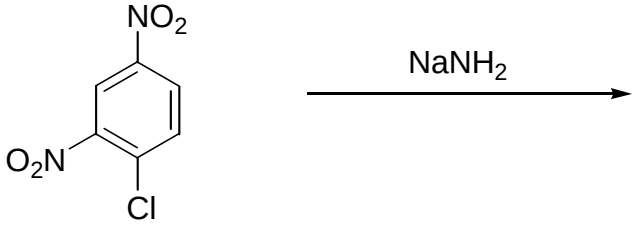


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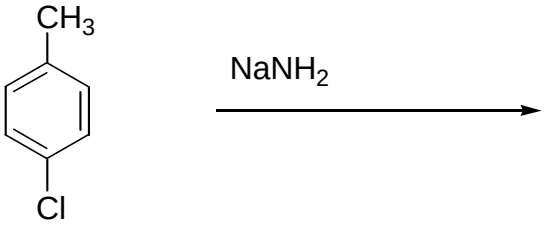

16-18) Give reagents and conditions for the following transformations.

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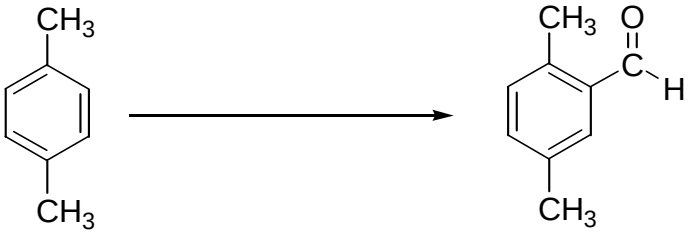


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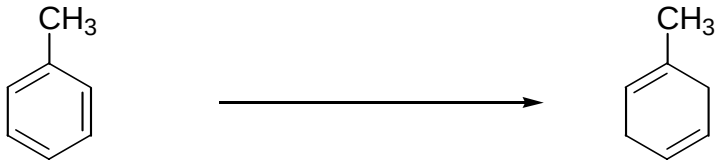


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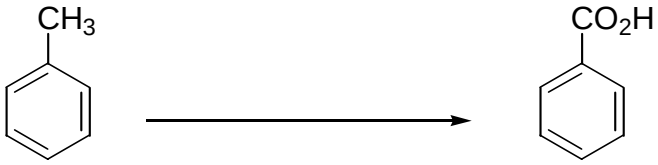


19 and 20) Circle the <u>most</u> <u>stable</u> sigma complex in the following sets.

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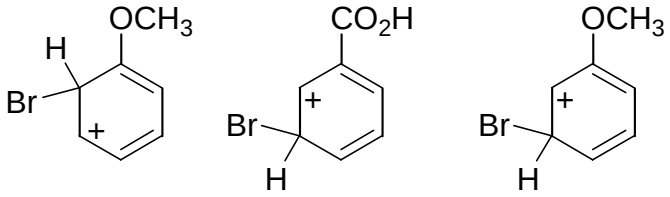

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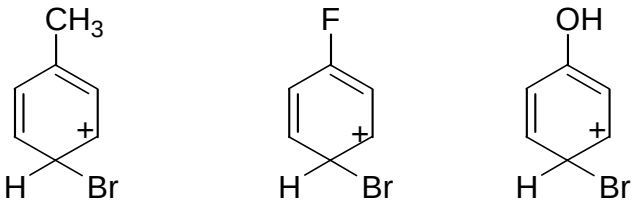


*BONUS QUESTION for 1 extra point*
Using any example of an Electrophilic Aromatic Substitution reaction you wish, show how a Lewis acid helps promote that reaction.

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NAME: CRAVEN MORAG-SHUN

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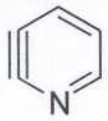


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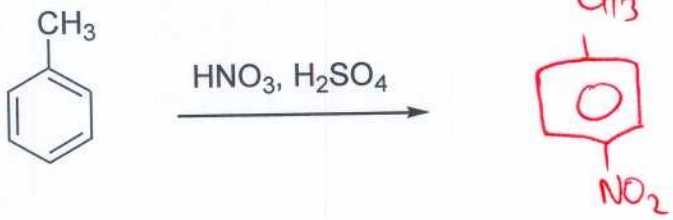


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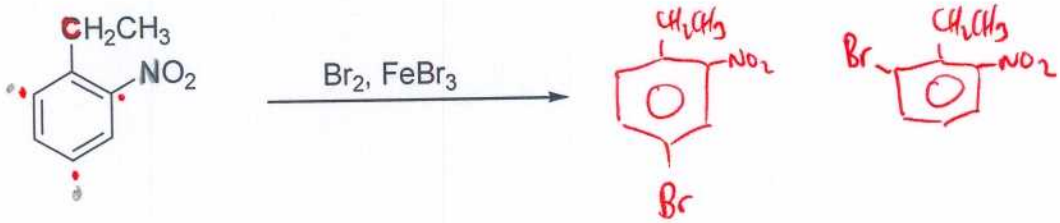


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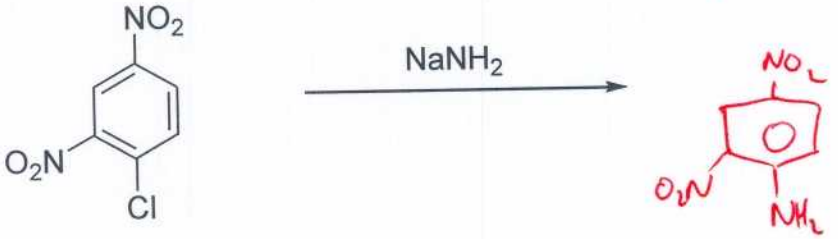


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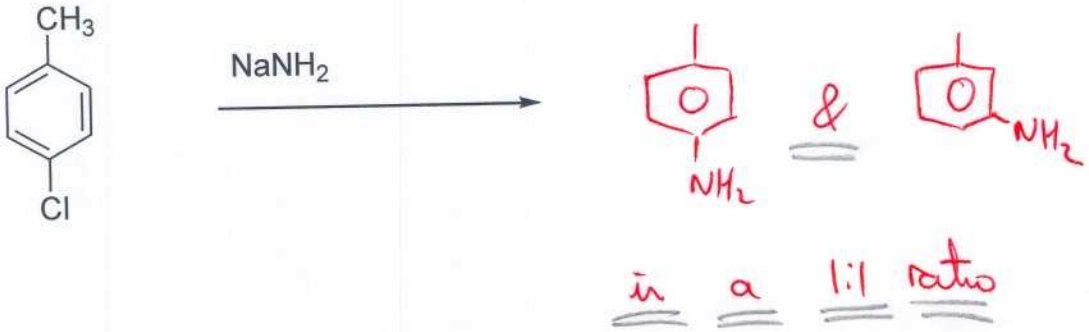

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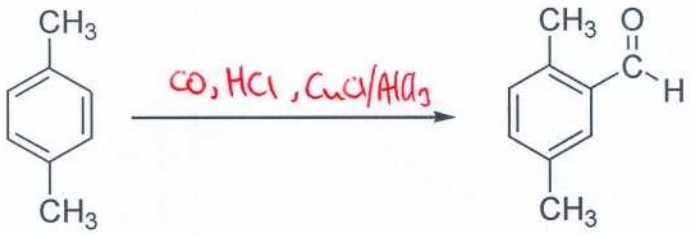


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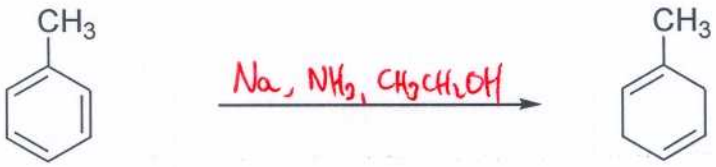


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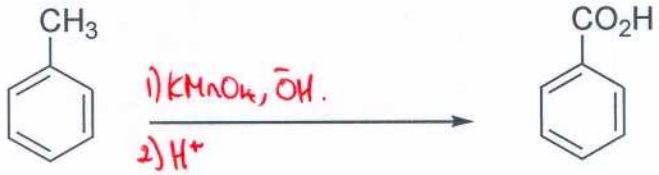


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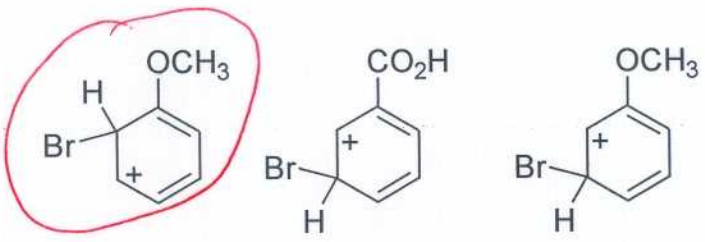

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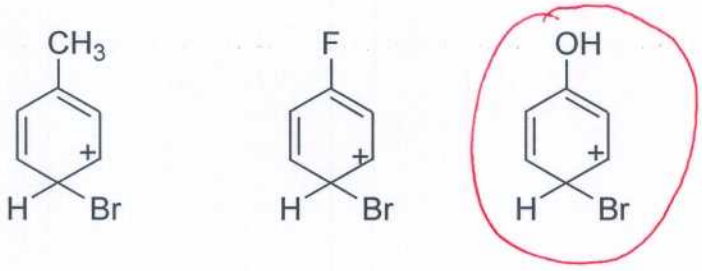


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