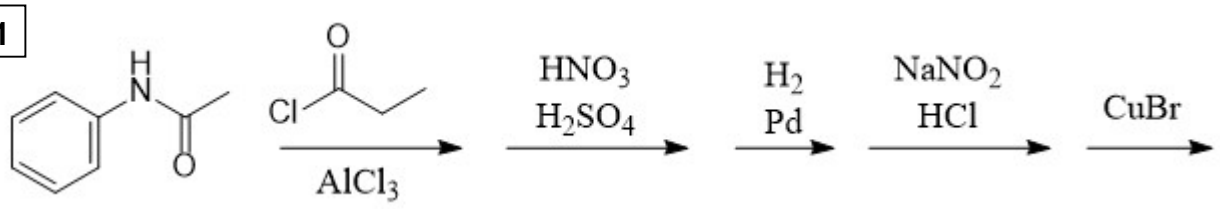
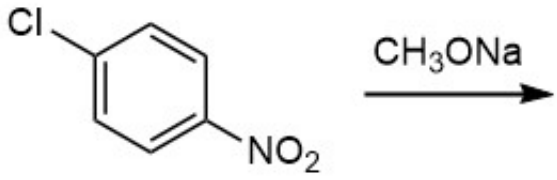
Organic Chemistry II CHM 3150
Dr. Laurie S. Starkey, Cal Poly Pomona
Ch. 18, Aromatic Rxns & Ch. 22 Diazonium Salts (Ch 17/18 Part 4) – Practice Problems

For clicker question voting, go to:
https://pollev.com/lauriestarke263

1

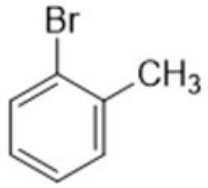


2 Predict the major product and provide a mechanism for the following reaction.

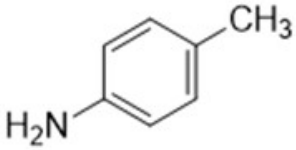


3-7 Prepare each of the following target molecules from **toluene**.

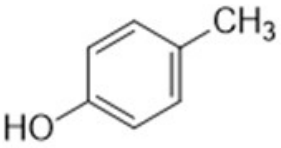
3



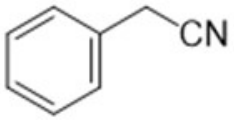
4



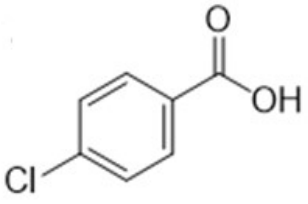
5



6

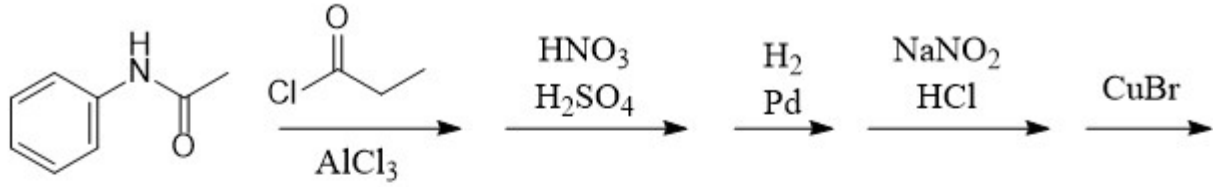


7

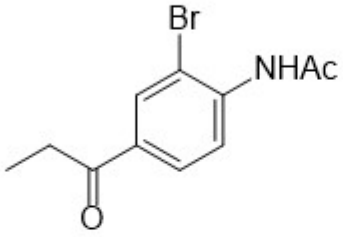


Predict the major product.

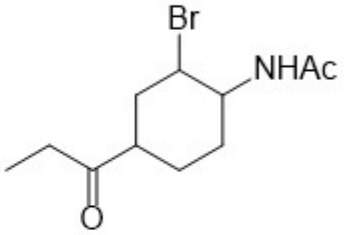
1



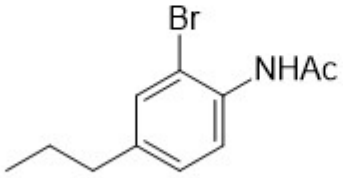
A)



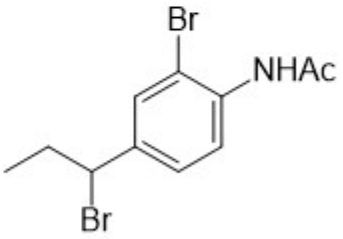
B)



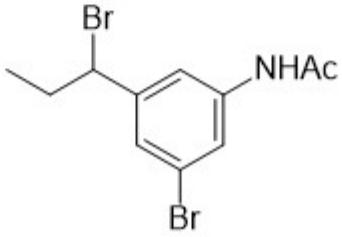
C)



D)

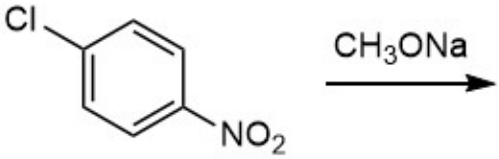


E)

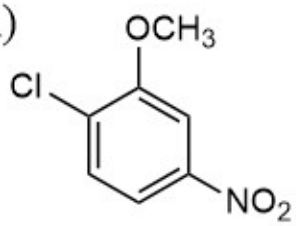


2a

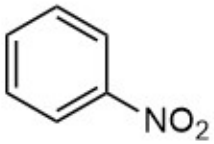
Predict the major product.



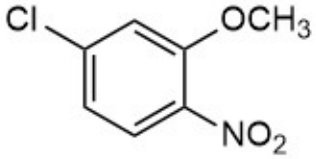
A)



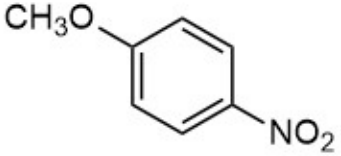
B)



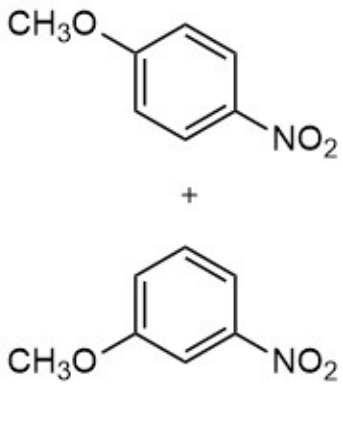
C)



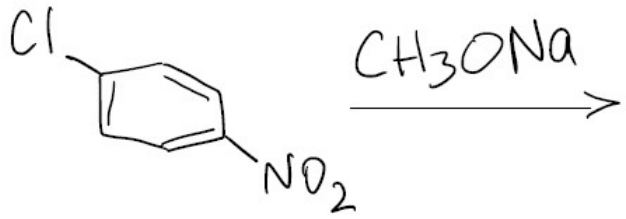
D)



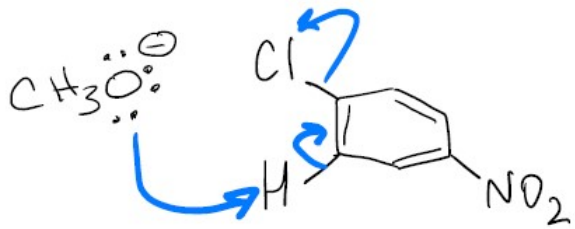
E)



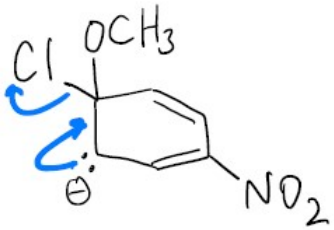
2b Which of the following is NOT a likely step (or likely resonance) in the mechanism of the following reaction?



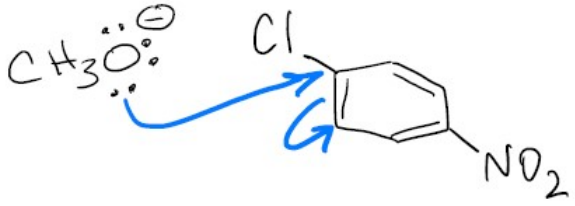
A



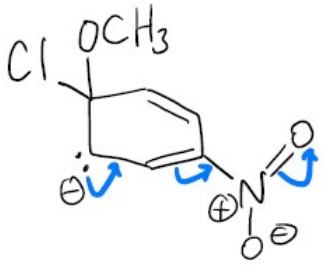
B



C

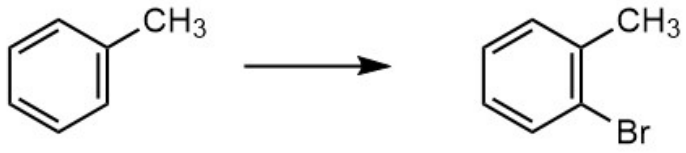


D



3

Provide the reagents necessary to transform the given starting material into the desired product.



A) Br_2, $FeBr_3$

B) 1) SO_3, H_2SO_4
2) Br_2, $FeBr_3$
3) H_3O^+

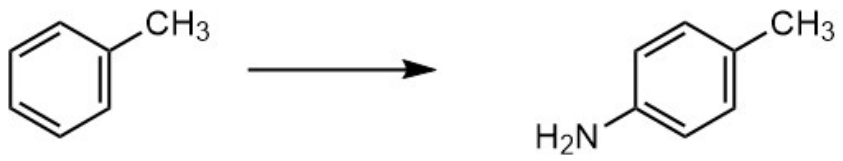
C) CuBr

D) 1) SO_3, H_2SO_4
2) CuBr
3) H_3O^+

E) Br_2, hv

See Klein SkillBuilder 18.4

4 Provide the reagents necessary to transform the given starting material into the desired product.



A) $NaNO_2$, HCl

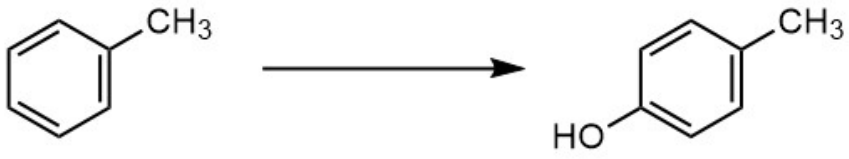
B) 1) HNO_3, H_2SO_4
2) H_2, Pd

C) 1) Br_2, $FeBr_3$
2) $NaNH_2$

D) 1) Br_2, hv
2) $NaNH_2$

Provide the reagents necessary to transform the given starting material into the desired product.

5



A) 1) HNO_3, H_2SO_4
2) $NaNO_2$, HCl
3) H_3O^+

B) 1) HNO_3, H_2SO_4
2) H_2, Pd
3) $NaNO_2$, HCl
4) H_3O^+

C) 1) Br_2, $FeBr_3$
2) NaOH

D) 1) Br_2, hv
2) NaOH

Provide the reagents necessary to transform the given starting material into the desired product.

6

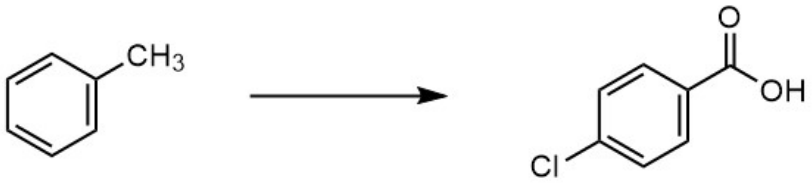
A) 1) Br_2, hv
2) $NaNO_2$, HCl
3) CuCN

B) 1) Br_2, $FeBr_3$
2) $NaNO_2$, HCl
3) CuCN

C) 1) Br_2, $FeBr_3$
2) NaCN

D) 1) Br_2, hv
2) NaCN

7 Provide the reagents necessary to transform the given starting material into the desired product.



A) 1) Br_2, hv
2) Mg
3) CO_2
4) H_3O^+
5) Cl_2, $FeCl_3$

B) 1) Cl_2, $FeCl_3$
2) Br_2, hv
3) Mg
4) CO_2
5) H_3O^+

C) 1) $Na_2Cr_2O_7$
H_2SO_4
2) Cl_2, $FeCl_3$

D) 1) Cl_2, $FeCl_3$
2) $Na_2Cr_2O_7$
H_2SO_4