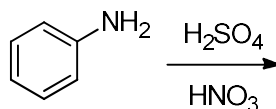


Experiment 38

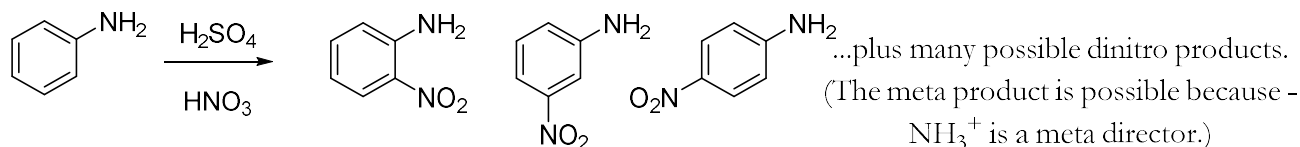
Aromatic Multistep Synthesis: Synthesis of *para*-Nitroaniline

Study Questions

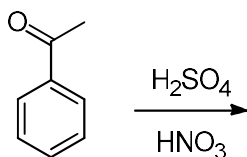
- 1) What are all the organic products of the following reaction?



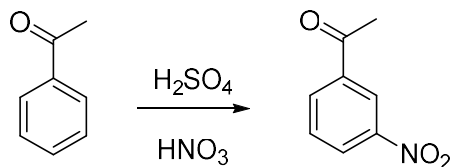
Answer:



- 2) Why is the above reaction impractical if one wants to synthesize *p*-nitroaniline? **Answer:** Because of the multiple products possible: -NH₂ is a strong activator and when H₂SO₄ is added to aniline, it will be protonated and give *meta* products. Also because if aniline and nitric acid are mixed directly, a violent oxidation of the aniline occurs which can cause the mixture to ignite.
- 3) What is the product of the following reaction?



Answer:



- 4) Propose a synthesis of 2,4-dinitrobenzoic acid from *p*-nitrotoluene.

Answer:

