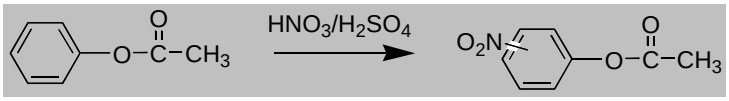
REAC 716: Nitration of Methyl Benzoate



1. Mix **2.7g** of methyl benzoate and **5mL** of H_2SO_4 in 125 mL Erlenmeyer flask. Cool flask on an ice bath

2. IN THE HOOD prepare nitrating mixture: measure **1.5mL** of HNO_3 in 10mL graduated cylinder, and then add slowly **4mL** of H_2SO_4. Swirl during the addition. Cool nitration mixture on an ice bath

3. Add nitrating mixture, portion wise, to the solution in 125mL flask. Swirl every time. Flask should not become warm to touch. Let flask stay in ice bath for 15 min

4. Swirling the flask, carefully add to the flask 25mL of cold water from ice bath. Methyl nitrobenzoate will precipitate. Vacuum filter the product

5. Recrystallize the product from minimum amount of 95% ethanol (<10mL). Filter, collect and dry crystals of methyl nitrobenzoate. Weight.

6. Take IR and **mp** of crystals. Calculate % yield.

[Melting points of methyl nitrobenzoates: p-nitro: 96-98 ^oC, m-nitro: 76-80 ^oC].

7. Submit IR-spectrum. Turn in product in a labeled vial (student and product name).

8. Submit 5 mg of nitrobenzoate product in NMR-tube. Label the tube.

All waste solutions go to one WATER-BASED waste bottle.