Procedure for synthesis of sulfanilamide - Part 2

a- 4-acetamidobenzenesulfonamide from the previous step is weighed and placed in round-bottom flask equipped with magnetic stir bar.

b- Dilute hydrochloric acid (**6M**) is added to the flask in an amount equal to **twice** the weight of the 4-acetamidobenzenesulfonamide.

c- The flask is fitted with a cold water condenser and heated at reflux with constant stirring for **45** minutes, after which it is allowed to cool to room temperature.

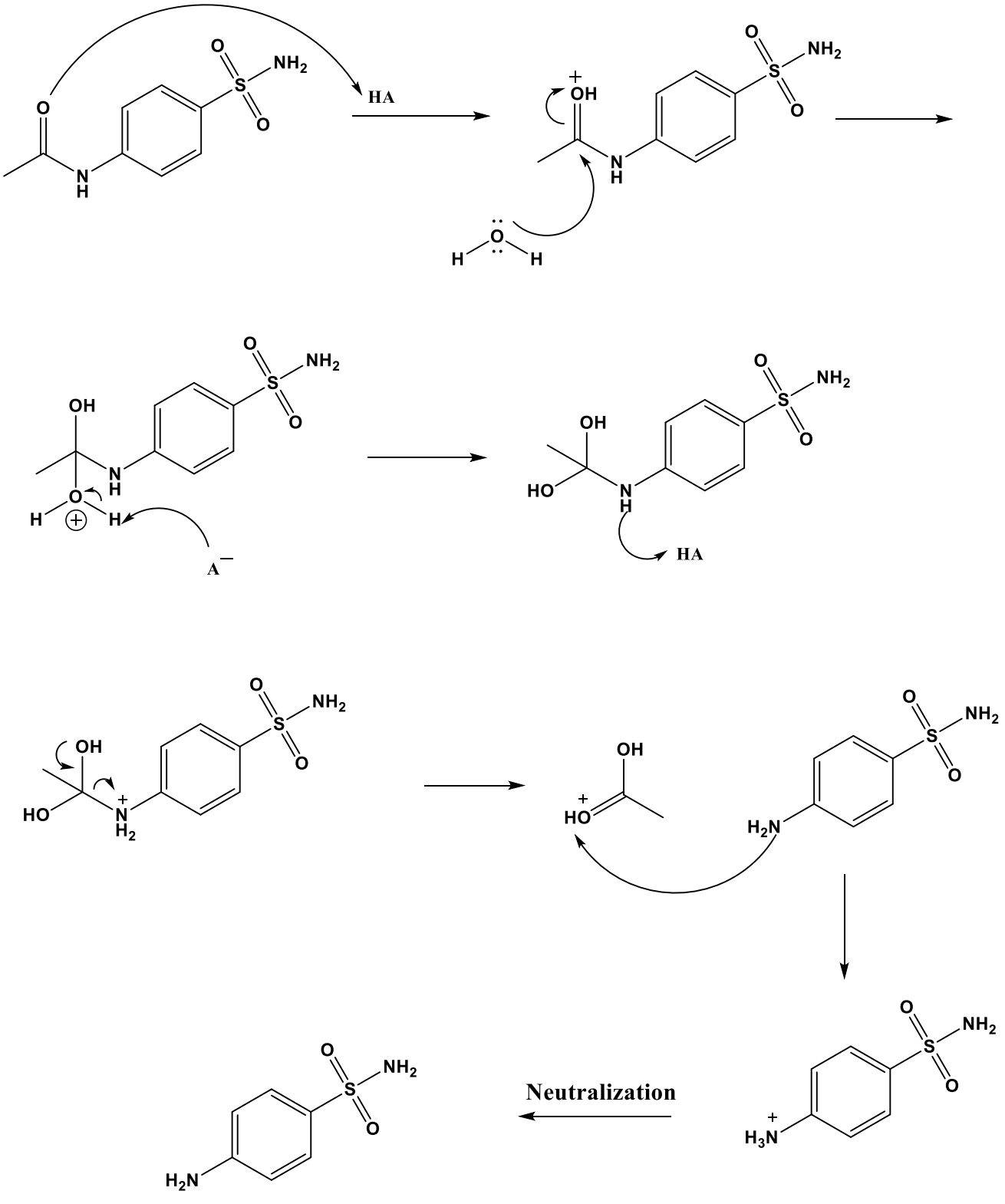
d- If any solid appears upon cooling, the mixture is reheated at reflux for another **15** minutes.

e- After cooling, the reaction mixture is neutralized by slow addition of a saturated Na_2CO_3 solution with stirring until it tests slightly alkaline to **pH paper**.

f- The product is collected by vacuum filtration, washed with a small amount of ice cold water and air dried and purified by recrystallization from minimum amount of boiled water.

Notes:

1. A precipitate may have begun to form during neutralization.
2. Cool the beaker in an ice bath to complete the precipitation of product.
3. It may be necessary to gently scratch the inside bottom of the beaker to induce crystallization.



Mechanism of acid catalyzed hydrolysis of acetamide part of 4-acetamidobenzenesulfonamide to form sulfanilamide product