Experiment No. 8

**Amide formation reaction of glycolic acid with an aniline**

**Aim:** Amide formation reaction of glycolic acid with aniline

**Chemical:** glycolic acid, and aniline

**Apparatus:** 100 mL round bottom flask, glass stopper, stir bar, hot plate, 250 mL round   
 bottom flask, 250 mL conical flask, separating funnel, funnel, glass column,   
 and test tubes.

**General procedure:**

A mixture of aniline (10.97 mmol) and glycolic acid (12.07 mmol) were stirred at 130 °C for 3 h. The mixture was then cooled to room temperature, water was added to it and extracted with ethyl acetate. The organic layer was dried over MgSO4, filtered, and concentrated under vacuum. The product was purified by column chromatography on silica gel.



**Result**: The product obtained was:

1.

2.

3.

4.

5.

Yield (%):

Melting point:

IR:

TLC:

Questions:

1. Write three examples of amide formation reaction with primary amine (with reaction   
 mechanism).

2. Why we need higher temperature for this reaction?