

University of Jordan	Faculty of Pharmacy
Department of Pharmaceutical Sciences	Practical Pharmaceutical Organic Chemistry
Summer Semester 2019-2020	Experiment Number 5: Aldehydes and Ketones (Solid Derivatives) Part 1

Student's Name: <i>Ali</i>	University I.D Number:
Section Number:	Date:

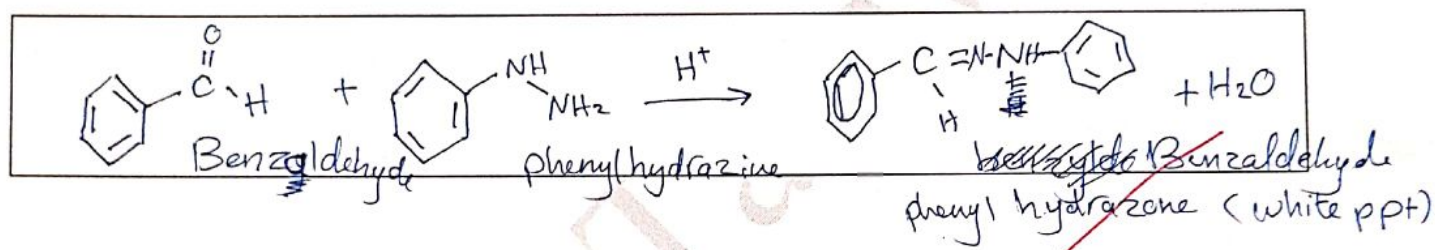
Synthesis of Benzaldehyde Phenylhydrazone

Objective:

synthesising Benzaldehyde phenylhydrazone, Calculating the yield of the reaction, and the melting point.

Experiments and Results:

Write a balanced chemical equation representing the reaction



	M wt (g/mol)	Density (g/ml)
Benzaldehyde	106	1.043
Phenylhydrazine	108	1.095
Product	196	

*2 ml
4 ml*

Determine the rate limiting reactant

$$2 \text{ ml} \times \frac{1.043 \text{ g}}{1 \text{ ml}} \times \frac{1 \text{ mol}}{106 \text{ g}} = 0.0196 \text{ mol Benzaldehyde}$$

$$4 \text{ ml} \times \frac{1.095 \text{ g}}{1 \text{ ml}} \times \frac{1 \text{ mol}}{108 \text{ g}} = 0.0405 \text{ mol Phenylhydrazine.}$$

RLR is Benzaldehyde.

$$1 \text{ mol Benzaldehyde} \rightarrow 1 \text{ mol product}$$

$$1 \text{ mol} \times \frac{196 \text{ g}}{1 \text{ mol}} = 196 \text{ g product}$$

e the % yield of the product you have synthesized

Practical Weight	3.59
Theoretical weight	3.86

$$\% \text{ yield} = \frac{\text{Actual}}{\text{Theoretical}} \times 100\% = \frac{3.59}{3.86} \times 100\% = 93\%$$

% yield	93%
Melting point	148 - 155