Haldia Government College

PG Semester 2 Examination 2020

Semester: **2** Stream: **M.Sc.**

Subject: **Organic Chemistry Practical**

Paper: **CEM -295**

Full Marks:**20**

Time:**1 hr.**

E-mail id for answer script submission: **hgcchemistry2020@gmail.com**

Answer any one

1. (a) Write the principle for the preparation of benzilic acid from benzil with mechanism.
(b) Draw the tentative TLC for monitoring of the above reaction.
(b) Write the ^{1}H NMR spectrum of benzilic acid.
(c) How is melting point used for purity of compound?
(e) 7 g of benzilic acid is obtained from 10 g of benzil. Calculate the % of yield.

(8+2+5+2+3=20)

2. (a) Write the principle for the preparation of m-dinitrobenzene from nitrobenzene with mechanism.
(b) Draw the tentative TLC for monitoring of the above reaction.
(b) Write the ^{1}H NMR spectrum of m-dinitrobenzene.
(c) How is melting point used for purity of compound?
(e) 7 g of m-dinitrobenzene is obtained from 10 g of nitrobenzene. Calculate the % of yield.

(8+2+5+2+3=20)

3. (a) Write the principle for the preparation of Hantzsch pyridine synthesis using formaldehyde, ethylacetoacetate and NH_3 with mechanism.
(b) Draw the tentative TLC for monitoring of the above reaction.
(c) Write the ^{1}H NMR spectrum of the above product.
(d) How is melting point used for purity of compound?
(e) Why is $CDCl_3$ used as ^{1}H NMR solvent instead of $CHCl_3$? What is TMS?

(8+2+5+2+3=20)

4. (a) Write the principle for the preparation of benzil from benzoin using concentrated HNO_3 with mechanism.
(b) Draw the tentative TLC for monitoring of the above reaction.
(c) Write the ^{1}H NMR spectrum of benzil.
(d) How is melting point used for purity of compound?
(e) 7 g of benzil is obtained from 10 g of benzoin. Calculate the % of yield.

(8+2+5+2+3=20)

5. (a) Write the principle for the preparation of dibenzal acetone from acetone with mechanism.
(b) Draw the tentative TLC for monitoring of the above reaction.
(c) Write the ^{1}H NMR spectrum of dibenzal acetone.
(d) How is melting point used for purity of compound?
(e) 12 g of dibenzal acetone is obtained from 10 g of benzaldehyde which is the limiting reagent. Calculate the % of yield of the reaction.

(8+2+5+2+3=20)

6. (a) Write the principle for the preparation of phenylacetate from phenol with mechanism.
(b) Draw the tentative TLC for monitoring of the above reaction.
(c) Write the ^{1}H NMR spectrum of phenylacetate.
(d) How is melting point used for purity of compound?
(e) 7 g of phenylacetate is obtained from 10 g of phenol. Calculate the % of yield.

(8+2+5+2+3=20)