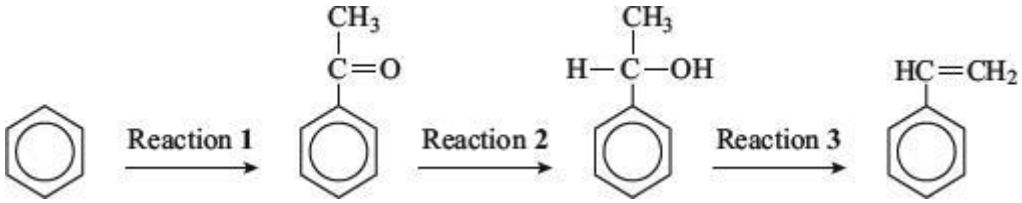
Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: Organic Synthesis

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Name of the Student:_____
Max. Marks : 24 Marks **Time : 24 Minutes**

Q1.

A possible synthesis of phenylethene *(styrene)* is outlined below.



(a) In Reaction **1**, ethanoyl chloride and aluminium chloride are used to form a reactive species which then reacts with benzene.
Write an equation to show the formation of the reactive species.
Name and outline the mechanism by which this reactive species reacts with benzene.

(6)

(b) $NaBH_4$ is a possible reagent for Reaction **2**.
Name and outline the mechanism for the reaction with $NaBH_4$ in Reaction **2**.
Name the product of Reaction **2**.

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(6)

(c) Name the type of reaction involved in Reaction **3** and give a reagent for the reaction.

(2)

(Total 14 marks)

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Q2.

A chemist has discovered that the labels have fallen off four bottles each of which contains a different organic liquid. These liquids are known to be propan-2-ol, propanal, hexene and 1-bromopropane.

Suggest a series of test-tube reactions which a chemist could use to confirm the identities of the four compounds. State the reagents used and the observations expected.

(Total 10 marks)

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