

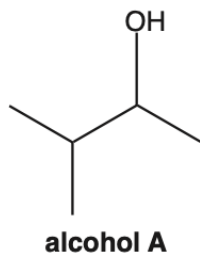
A level Chemistry A

H432/02 Synthesis and analytical techniques

Question Set 14

2. This question is about reactions of organic compounds containing carbon, hydrogen and oxygen.

(a) A chemist investigates two reactions of alcohol **A**, shown below.



- (i) What is the systematic name of alcohol **A**? [1]
- (ii) What is the structural formula of alcohol **A**? [1]
- (iii) The chemist heats alcohol **A** with an acid catalyst to form a mixture containing **two** alkenes.

Draw the structures of the **two** alkenes formed in this reaction.

[2]

- (iv) The chemist heats alcohol **A** with sodium chloride and sulfuric acid.

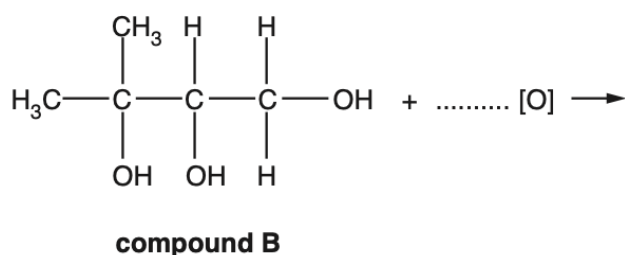
Construct a balanced equation for this reaction.

Show structures for the organic compounds in your equation.

[2]

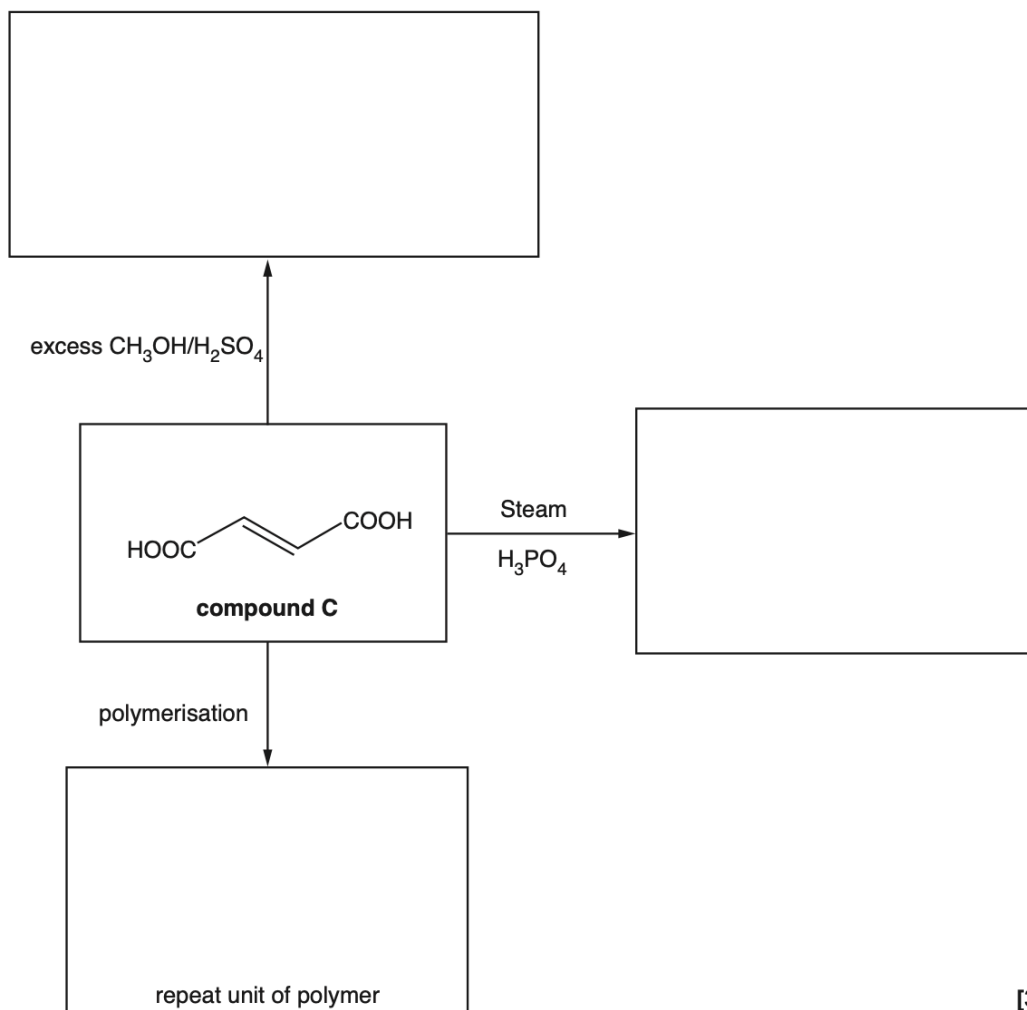
(b) Compound **B**, shown below, is refluxed with excess acidified potassium dichromate(VI) to form a single organic product.

Complete the equation for this reaction.



[2]

- (c) The flowchart below shows some reactions of compound **C**. In the boxes, draw the organic products of these reactions.



[3]

[3]

Total Marks for Question Set 14: 11

OCR

Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge