

Chemistry
Advanced
PAPER 3: General and Practical Principles in Chemistry

Diagram Booklet

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

THIS DIAGRAM BOOKLET MUST BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.

Contents

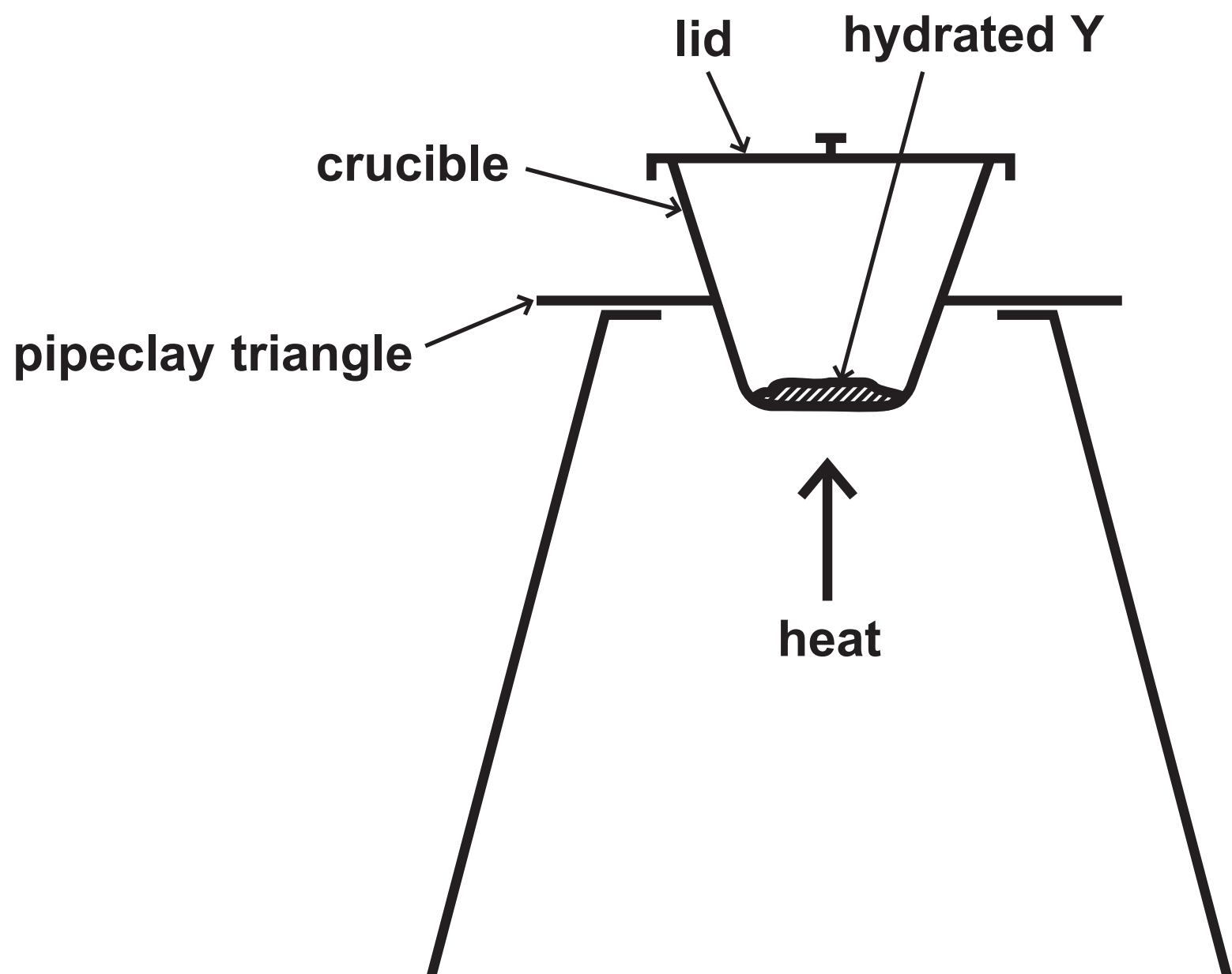
Page

4	Question 1(b)
5	Question 3(c)
6	Question 4
7	Question 6(b)
8	Question 6(b)
9	Question 6(b) (Spare copy)
10	Question 7(a)
11	Question 7(a)(ii)
12	Question 7(a)(ii) (Spare copy)
13	Question 7(a)(iii)
14	Question 7(a)(iii) (Spare copy)
15	Question 7(b)
16	Question 7(b) (Spare copy)
17	Question 9(b)
18	Question 9(c)
19	Question 10(b)(i)
20	Question 10(b)(i) (Spare copy)
21–22	Question 10(c)

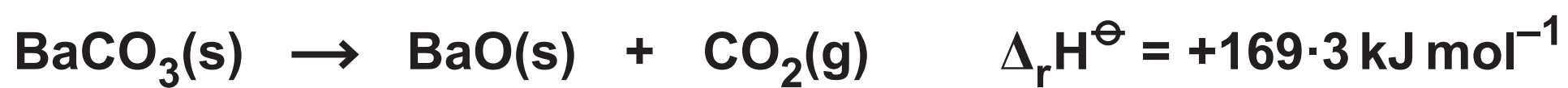
Question 1(b)

Isotope	Percentage abundance
^{20}Ne	84.80
^{21}Ne	2.26
^{22}Ne	12.94

Question 3(c)



Question 4

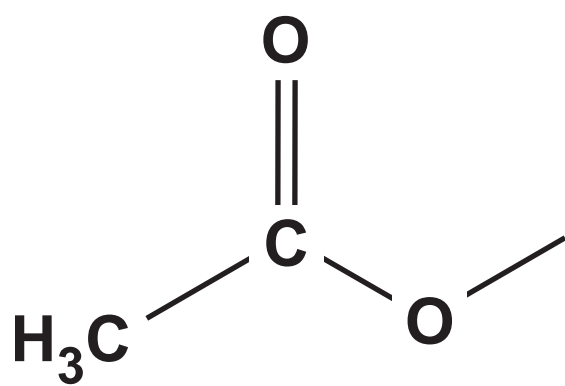


Substance	Standard molar entropy, $S^\ominus / \text{J K}^{-1} \text{mol}^{-1}$
$\text{BaCO}_3(\text{s})$	112.1
$\text{BaO}(\text{s})$	70.4
$\text{CO}_2(\text{g})$	213.6

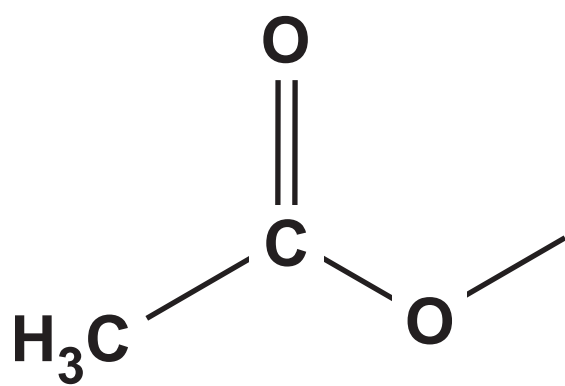
Question 6(b)

Chemical shift (δ) / ppm	Splitting pattern of peak	Relative peak area
2.50	singlet	3
1.56	quartet	4
1.43	singlet	3
0.92	triplet	6

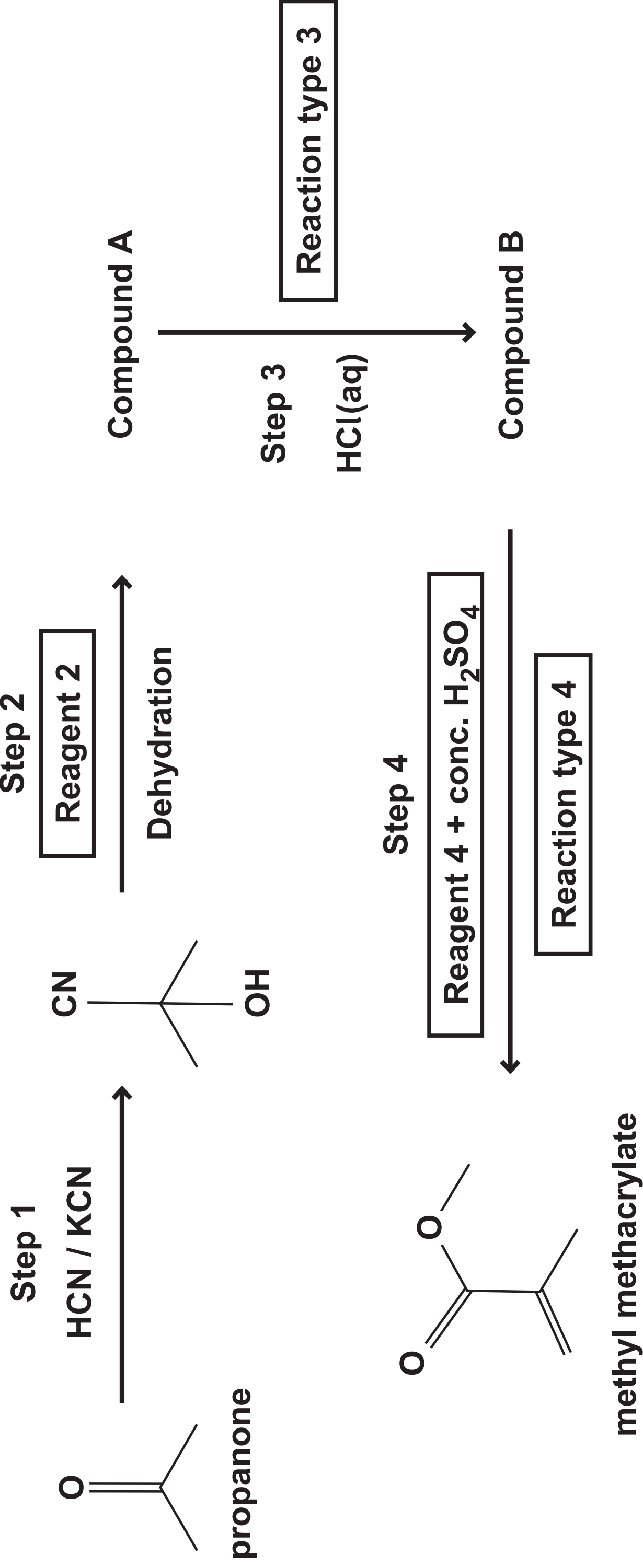
Question 6(b)



Question 6(b)



Question 7(a)



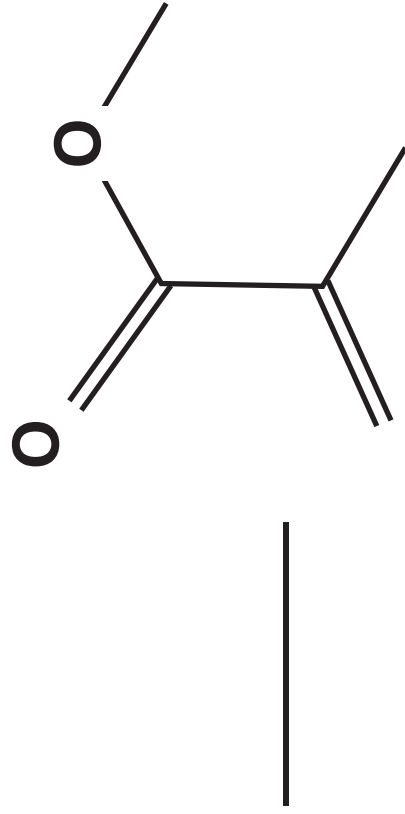
Question 7(a)(ii)

Reagent 2	
Structure of compound A	
Reaction type 3	
Structure of compound B	
Reagent 4	
Reaction type 4	

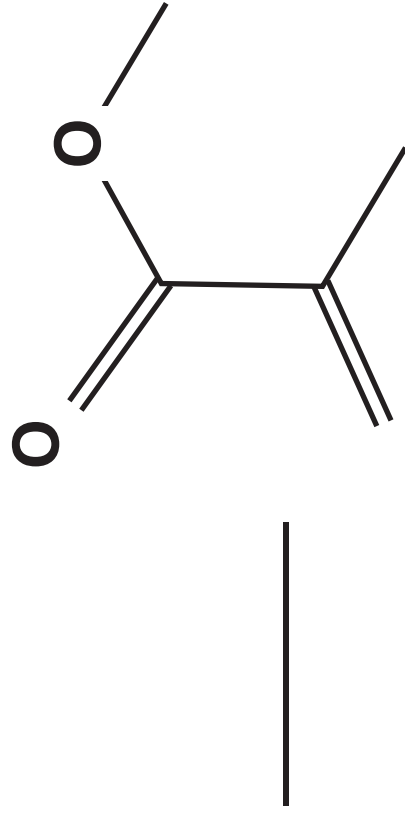
Question 7(a)(ii)

Reagent 2	
Structure of compound A	
Reaction type 3	
Structure of compound B	
Reagent 4	
Reaction type 4	

Question 7(a)(iii)



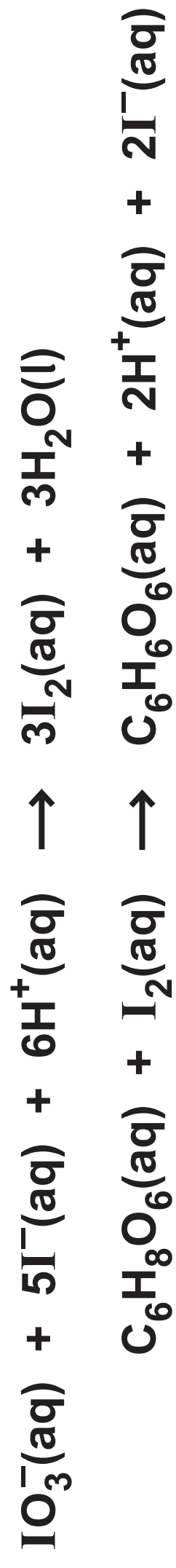
Question 7(a)(iii)



Question 7(b)

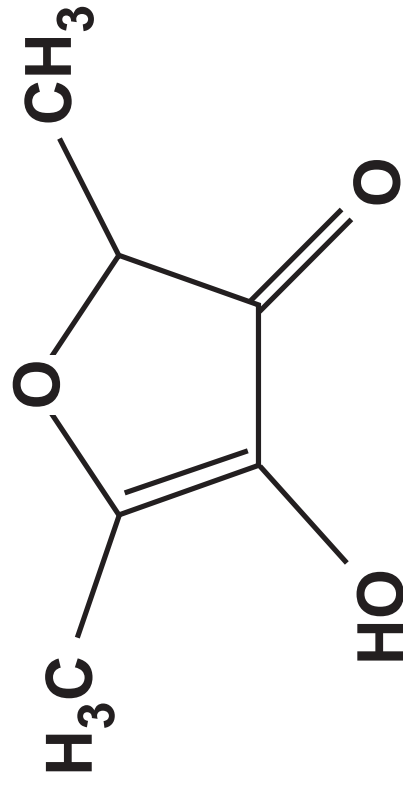
Question 7(b)

Question 9(b)

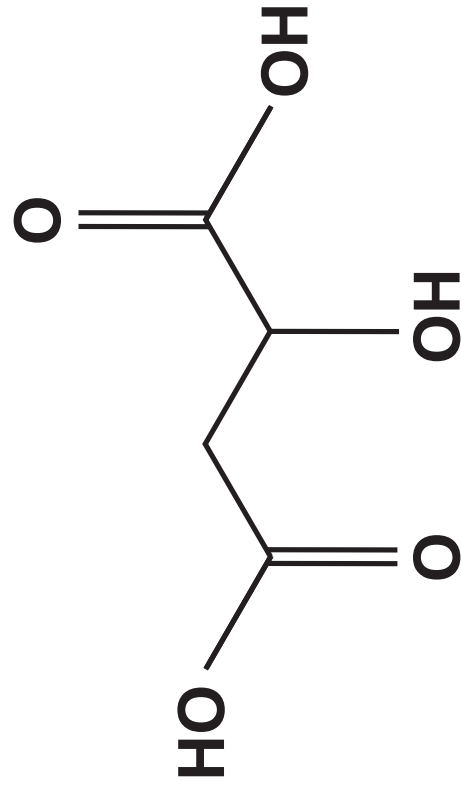


Question 9(c)

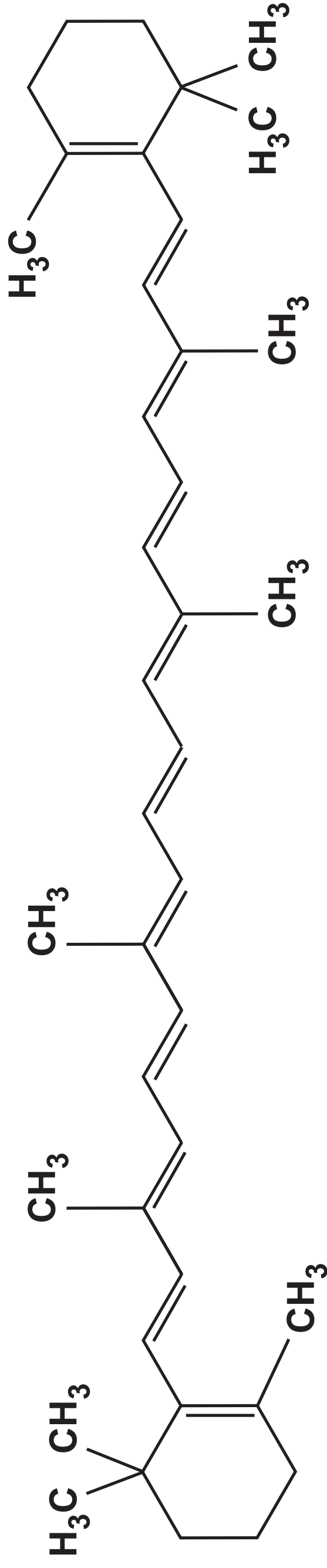
Compound D



Compound E



Compound F



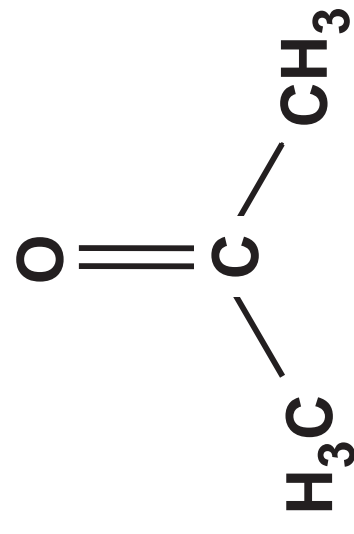
Question 10(b)(i)

[illegible]

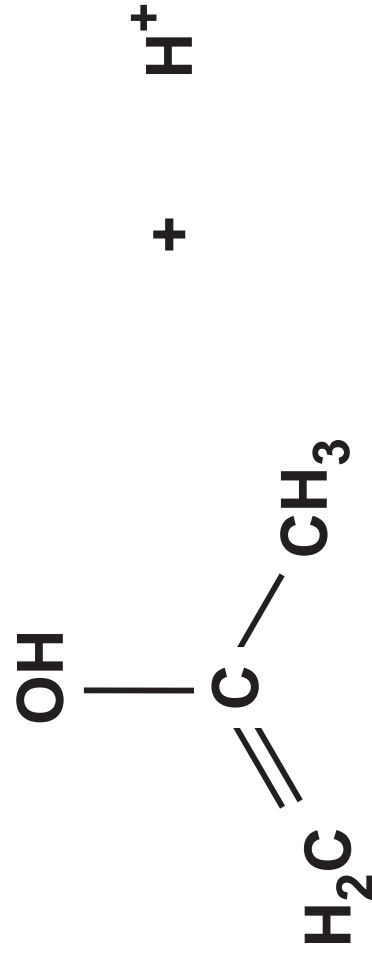
Question 10(b)(i)

[illegible]

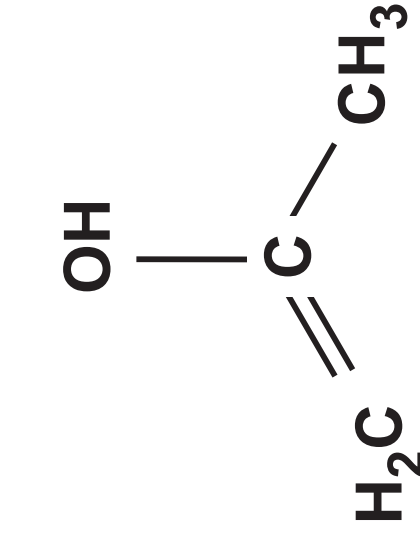
Question 10(c)



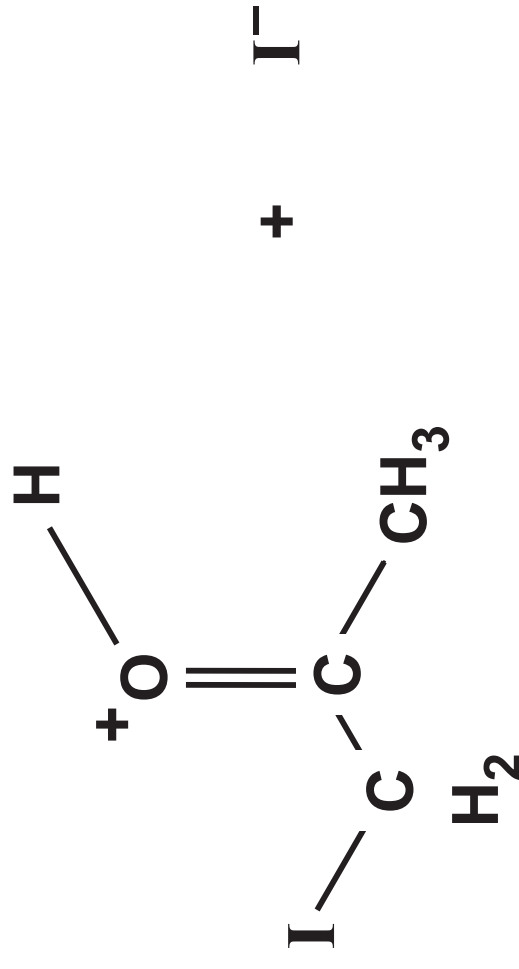
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Step 1



+



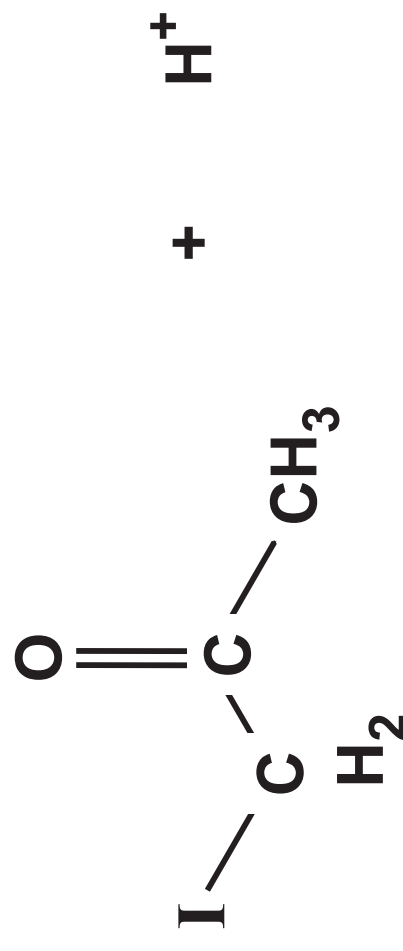
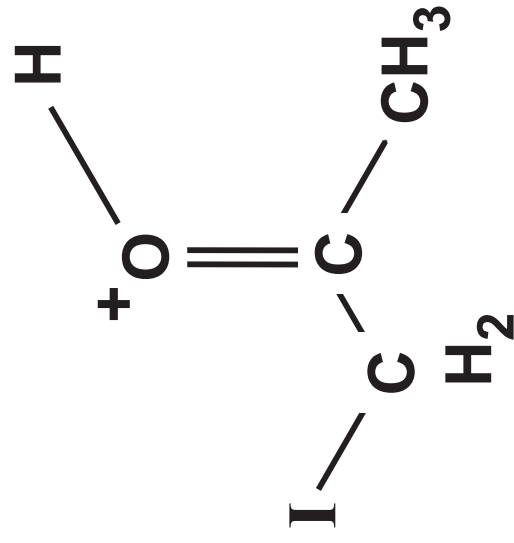
Step 2

(continued on the next page)

Turn over

Question 10(c) continued.

Step 3



Overall reaction

