

Practice Question Set For A-Level

Subject : Chemistry

Paper-2 Topic: Polymers

Name of the Student: _____

Max. Marks : 20 Marks

Time : 20 Minutes

Mark Schemes

Q1.

A

[1]

Q2.

(a)

	C	H
%mass	88.2	11.8
mol	$\frac{88.2}{12}$	$\frac{11.8}{1}$
	= 7.35	= 11.8
÷ smaller	$\frac{7.35}{7.35}$	$\frac{11.8}{7.35}$
	= 1	= 1.61
x5	= 5	= 8

Empirical formula = molecular formula C_5H_8

M1 for amounts 7.35 and 11.8

1

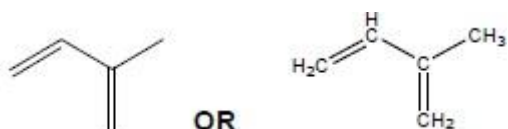
M2 for process dividing **M1** by smaller

1

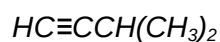
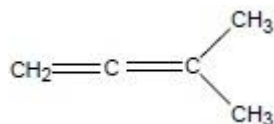
M3 for answer C_5H_8 only

1

M4 (must be branched)

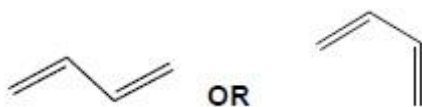


Allow alternatives



1

(b)



Must be skeletal

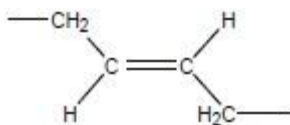
1

Buta-1,3-diene

M2 can only be this and is independent of **M1**

1

(c)



Must show trailing bonds

Ignore brackets and n
Allow skeletal – with brackets



Must be E 'trans'

1

Mark independently

Restricted rotation about the C=C or double bond

Allow lack of rotation/no rotation/limited rotation about the C=C or double bond

Ignore different groups on each carbon of the C=C double bond

1

- (d) Carbon Carbon bonds are non polar or (too) strong or not attacked by nucleophiles
Or

Carbon Carbon bonds cannot be hydrolysed

Allow carbon chains.....

OR

Bonds between repeating units.....

Ignore C-H bonds

1

[9]

Q3.
c

[1]

Q4.
B

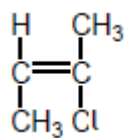
[1]

Q5.
c

[1]

Q6.

(a)

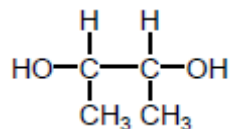


1

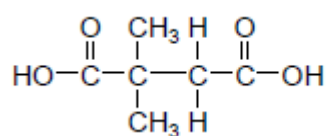
Addition

1

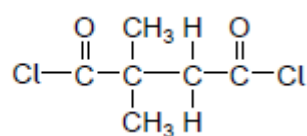
(b)



1



OR



1

(c) **Q** is biodegradable

1

Polar C=O group or δ^+ C in **Q** (but not in **P**)

1

Therefore, can be attacked by nucleophiles (leading to breakdown)

1

[7]