

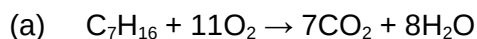
Name of the Student: _____

Max. Marks : 17 Marks

Time : 17 Minutes

Mark Schemes

Q1.

*Ignore state symbols**Allow multiples*

M1

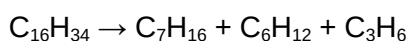
*Allow porous pot / aluminium oxide / alumina / silica / silicon dioxide*

M1

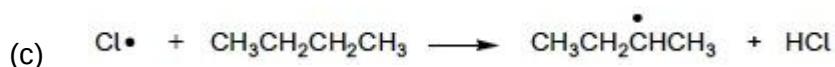
Slight/moderate pressure

Slightly above atmospheric – allow 1-5 atmospheres / 100-500kPa

M2



M3

*If incorrect radical or ambiguous radical lose M1 but can award M2 for ecf in each equation.*

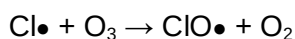
M1

*Allow equations in either order**Allow dot anywhere on the second carbon**Ignore extra initiation and termination steps*

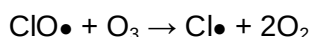
M2

*Allow Cl or Chlorine in M1 and M4*

M1

*Penalise absence of dot once in the equations*

M2

*Allow dot anywhere on the radical**Apply the list principle in the equations and penalise*

M3

 $Cl\cdot$ is regenerated (and causes a chain reaction in the decomposition of ozone)

initiation from Cl_2
Allow equations in either order.
Ignore $\text{Cl}\bullet$ acts as a catalyst

M4
[10]

Q2.

- (a) 3-bromo-(2)-methylpropan-1-ol ONLY

3 and 1 are essential, 2 may be omitted, but any other number here is wrong

Ignore hyphens and commas

1

- (b) Bromine is more electronegative than carbon

Allow difference in electronegativity if polarity of bond shown

M1

C is partially positive / electron deficient

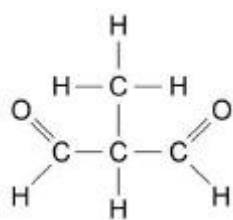
M2 and M3 can be awarded from diagram that shows nucleophilic attack

M2

Lone/electron pair (on the nucleophile) donated to the partially positive carbon

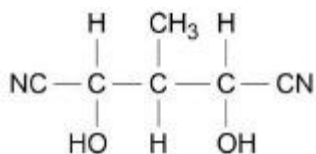
Allow lone pair attracted to / attacks the partially positive carbon

M3



Must be displayed with all bonds shown

1



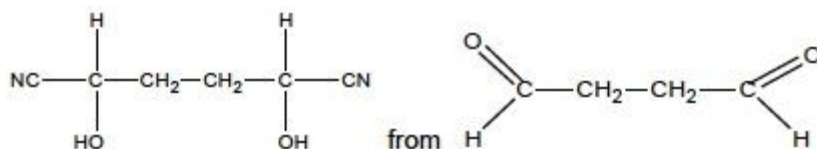
Not need be displayed

See General Marking instructions section 3.12 for penalties for incorrectly drawn bonds such as C-HO or C-NC etc.

1

KCN & (dil) acid

Allow



Allow HCN

Ignore alcoholic solvents

Penalise conc. HCl, H₂SO₄ or any HNO₃

1

[7]