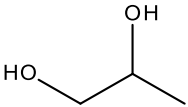


Question	Marking Guidance	Mark	Comments
06.1		1	Any correct skeletal formula (both OH groups must be shown)
06.2	<p>M1 Displayed formula of correct product</p> <p>M2 Balanced equation</p> $  \begin{array}{c} \text{H} & \text{H} \\   &   \\ \text{H}-\text{C} & -\text{C} & -\text{C}-\text{H} \\   &   &   \\ \text{H} & \text{H} & \text{H} \end{array} + 3[\text{O}] \longrightarrow \begin{array}{c} \text{O} & \text{O} & \text{H} \\    &    &   \\ \text{H}-\text{O}-\text{C} & -\text{C} & -\text{C}-\text{H} \\ & &   \\ & & \text{H} \end{array} + 2\text{H}_2\text{O}  $ $  \begin{array}{c} \text{OH} & \text{OH} \\   &   \\ \text{CH}_2 & -\text{CH} & -\text{CH}_3 \end{array}  $ $\text{CH}_2\text{OHCHOHCH}_3$ $\text{C}_3\text{H}_8\text{O}_2$	1  1	<p>Incorrect organic product CE=0</p> <p>M1 must be displayed formula but can be shown separately or in the equation.</p> <p>M2 allow any correct structural formula (or molecular formula <math>\text{C}_3\text{H}_8\text{O}_2</math>) for product in balanced equation</p> <p>allow any correct formula of propane-1,2-diol (including its molecular formula <math>\text{C}_3\text{H}_8\text{O}_2</math>)</p>

06.3	<p>M1 flask with condenser vertically above it (without gaps between flask and condenser)</p> <p>M2 flask and condenser labelled</p>	<p>1</p> <p>1</p>	<p>Distillation diagram CE = 0</p> <p>M1 condenser must have outer tube for water that is sealed at top and bottom; condenser must have two openings for water in/out (that are open, although these openings do not need to be labelled)</p> <p>M1 penalise M1 if apparatus is sealed (a continuous line across the top and/or bottom of the condenser is penalised)</p> <p>M2 allow condensing tube for condenser label</p>										
06.4	form small(er) bubbles or prevent large bubbles	1											
06.5	<p>Any one of these four structures:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <math display="block">\begin{array}{c} \text{O} \quad \text{OH} \\ \parallel \quad   \\ \text{CH}-\text{CH}-\text{CH}_3 \end{array}</math> </div> <div style="text-align: center;"> <math display="block">\begin{array}{c} \text{O} \quad \text{O} \\ \parallel \quad \parallel \\ \text{CH}-\text{C}-\text{CH}_3 \end{array}</math> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;"> <math display="block">\begin{array}{c} \text{O} \quad \text{OH} \\ \parallel \quad   \\ \text{HO}-\text{C}-\text{CH}-\text{CH}_3 \end{array}</math> </div> <div style="text-align: center;"> <math display="block">\begin{array}{c} \text{OH} \quad \text{O} \\   \quad \parallel \\ \text{CH}_2-\text{C}-\text{CH}_3 \end{array}</math> </div> </div>	1	<p>Allow any correct structural / displayed / skeletal formula</p> <p>For reference:</p> <table border="1" data-bbox="1279 938 1809 1177"> <thead> <tr> <th>Carbon 1</th> <th>Carbon 2</th> </tr> </thead> <tbody> <tr> <td>aldehyde</td> <td>alcohol</td> </tr> <tr> <td>carboxylic acid</td> <td>alcohol</td> </tr> <tr> <td>aldehyde</td> <td>ketone</td> </tr> <tr> <td>alcohol</td> <td>ketone</td> </tr> </tbody> </table>	Carbon 1	Carbon 2	aldehyde	alcohol	carboxylic acid	alcohol	aldehyde	ketone	alcohol	ketone
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