

## Experimental Data

### Q1

#### Results

Time	Temperature/ °C
0.0	24.3
1.0	24.3
2.0	24.3
3.0	24.3
3.5	22.4
4.0	21.2
5.0	18.0
6.0	14.5
7.0	15.0
8.0	15.6
9.0	16.1
Weigh the capped bottle containing solid FA 1	25.892g
Weigh the capped bottle after emptying solid FA 1	15.030g
Mass of FA 1	10.862g

### Q2

#### (a)

##### (i)

final burette reading / cm <sup>3</sup>	25.00	25.00	
initial burette reading / cm <sup>3</sup>	0.00	0.00	
volume of FA 3 added / cm <sup>3</sup>	25.00	25.00	

### Q3

(a)

	tests	observations with FA 5	observations with FA 6	observations with FA 7	observations with FA 8
1	<p>Add 1 cm depth of <b>FA 4</b> to a clean test-tube.</p> <p>To this test-tube, add 5 drops of <b>FA 5</b> followed by 5 drops of <b>FA 3</b>.</p> <p>Prepare a hot water bath using the hot water provided.</p> <p>Warm the mixture in the water bath for two minutes.</p> <p><b>Repeat using FA 6 and FA 7, in place of FA 5.</b></p>	<p>FA 3 solution decolourises [1]</p>	<p>FA 3 solution decolourises [1]</p>	<p>FA 3 solution remain purple and does not decolourise</p>	<p>FA 3 solution decolourises</p>
2	<p>Add 1 cm depth of deionised water to a clean test-tube.</p> <p>To this test-tube, add 5 drops of <b>FA 5</b> followed by 6 drops of aqueous sodium hydroxide.</p> <p>Add iodine solution, dropwise, until a permanent yellow / orange colour is present.</p> <p>Warm the mixture in the water bath for two minutes.</p> <p><b>Repeat using FA 6, FA 7 and FA 8, in place of FA 5.</b></p>	<p>No ppt is formed</p>	<p>Pale yellow ppt is formed [1]</p>	<p>Pale yellow ppt is formed [1]</p>	<p>No ppt is formed</p>
3	<p>Add 1 cm depth of Fehling's solution A to a clean test-tube. Then add Fehling's solution B, dropwise, until the initial precipitate just dissolves to give a deep blue solution.</p> <p>Add 5 drops of <b>FA 5</b>.</p> <p>Warm the mixture in the water bath for five minutes.</p> <p><b>Repeat using FA 6, FA 7 and FA 8, in place of FA 5.</b></p>	<p>Red brown ppt is formed [1]</p>	<p>No ppt is formed</p>	<p>No ppt is formed</p>	<p>No ppt is formed</p>

[6]