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| **Q1.**          Olive oil is used to make salad dressings and margarine.  (a)     Vinegar is often used to make salad dressings. Vinegar contains 95% water and 5% ethanoic acid.  http://content.doublestruck.eu/getPicture.asp?sub=AG_CHEM&CT=Q&org=&folder=Q12S1H06_files&file=14_img01.png  To make a simple salad dressing add olive oil to vinegar and shake. After a few minutes the mixture separates. To make a French salad dressing add mustard to the olive oil and vinegar and shake. After several minutes the mixture does **not** separate.  (i)      Why does the mixture in the simple salad dressing separate?  ...............................................................................................................  ...............................................................................................................  **(1)** |

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| (ii)     Mustard in the French salad dressing has molecules with hydrophilic properties and hydrophobic properties.  Explain why the French salad dressing does **not** separate. You may include a diagram to help you to answer this question.  ...............................................................................................................  ...............................................................................................................  ...............................................................................................................  ...............................................................................................................  ...............................................................................................................  ...............................................................................................................  ...............................................................................................................  ...............................................................................................................  **(3)** |

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| (b)     Olive oil contains 89% unsaturated fats and 11% saturated fats.  What is the test and the result for unsaturated fats?  ........................................................................................................................  ........................................................................................................................  ........................................................................................................................  ........................................................................................................................  **(2)** |

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| (c)     Olive oil is hardened to make margarine.  Describe the reaction and conditions needed to harden a vegetable oil.  ........................................................................................................................  ........................................................................................................................  ........................................................................................................................  ........................................................................................................................  **(3)**  **(Total 9 marks)** |