

## Ester Lab Quiz (13 marks):

1. Write the reaction for preparing methyl ethanoate from methanol and ethanoic acid using structural diagrams. (4 marks)
2. Name one of the esters you produced in the lab. (1 marks)
3. What was the role of the sulfuric acid? (1 mark)
4. Name one method of purifying an ester. (1 mark)
5. What does butanoic acid smell like? (1 mark)
6. a) Assuming you produced ethyl ethanoate (ethyl acetate) by using 11.0 mL of ethanol and 9.0 mL of glacial acetic acid, and given that the density of ethanol is 0.8 g/mL and the density of glacial acetic acid is 1.2 g/mL, calculate the number of moles of ethanol and acetic acid that was used. (2 marks)  
b) Which reactant was in excess? How did you know? (1 mark)  
c) Calculate the mass of the ester that would have been produced by the above reaction. (2 marks)