

**Question 27****(9 marks)**

Write observations for the changes occurring when the substances below are mixed. In your answers include the appearance of the reactants and any product(s) that form.

(a) (i) methanol, pentanoic acid and sulfuric acid (2 marks)

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(ii) powdered magnesium carbonate and excess methanoic acid (2 marks)

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(iii) acidified potassium permanganate solution and excess propan-2-ol (2 marks)

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- (b) Name the organic product and write the equation for the reaction when pentanal is added to a solution containing acidified sodium dichromate. (3 marks)

Organic product: \_\_\_\_\_