

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2014 series****0620 CHEMISTRY****0620/51**

Paper 5 (Practical), maximum raw mark 40

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- 1 (a) Table of results for Experiment 1  
 initial and final volumes and difference completed correctly (1)  
 to 1 decimal place (1)  
 comparable to supervisors (1)  $\pm 2 \text{ cm}^3$  [3]
- (b) Table of results for Experiment 2  
 Initial and final volumes completed correctly (1)  
 and difference (1)  
 comparable to supervisors (1)  $\pm 2 \text{ cm}^3$  [3]
- (c) (i) yellow, **not** orange to pink / orange (1) **not** red [1]  
 (ii) as an indicator / to show end point (1)  
**ignore** to see colour change [1]  
 (iii) neutralisation (1) [1]
- (d) (i) experiment 1 (1) [1]  
**allow:** ecf from tables  
 (ii) quantitative comparison  
 experiment 1 4X volume experiment 2/x  $\text{cm}^3$  more than (1) [1]  
 (iii) solution B more concentrated/stronger (1) or converse  
 explanation e.g. 4X as concentrated/less volume used (1) [2]
- (e) half value / half value from table result for experiment 2 (1)  $\text{cm}^3$  (1) [2]
- (f) advantage  
 easy to use / quick / convenient (1)  
 disadvantage  
 not accurate (1) [2]
- (g) same volume of each solution (1) add suitable named reactant (1)  
 expected observation (1) comparison (1)  
 e.g.  $10 \text{ cm}^3$  of each acid (1) add strip of magnesium/named carbonate (1)  
 effervescence (1) more rapid bubbles means stronger acid (1) [4]

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- 2 (a) (i) purple / black / violet (1) crystals (1) [2]
- (ii) drops / condensation at top of tube (1) colour change to green/grey (1)  
green on cooling (1) max [2]
- (b) (i) green / grey (1) **not** white precipitate (1) [2]
- dissolves / clears (1) [1]
- (ii) green / grey **not** white precipitate (1) insoluble (1) [2]
- (c) blue / green (1) glowing splint (1) relights / glows brighter (1)  
effervescence / bubbles (1) max [3]
- (d) no reaction / no precipitate / no change / colourless solution (1) [1]
- (e) white (1) precipitate (1) [2]
- (f) hydrated/water (1)  
**allow** transition metal [1]
- (g) not halide / chloride / iodide (1) sulfate (1)  
transition metal / iron / chromium / catalyst (1) [3]