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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) $\pm 2\,cm^3$ [3]

(b) Table of results for Experiment 2
Initial and final volumes completed correctly (1)
and difference (1)
comparable to supervisors (1) $\pm 2\,cm^3$ [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 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) 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 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]

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