

Multiple Choice Answers

Q39: D

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Q39: B

3(a)(i)	red
3(a)(ii)	(yellow flame) not hot enough
3(b)(i)	white precipitate
3(b)(ii)	no change
3(c)	(solid K is) hydrated
3(d)(i)	M1 Fe ²⁺ / iron(II)
	M2 Cr ³⁺ / chromium(III)
3(d)(ii)	M1 add excess aqueous sodium hydroxide M2 chromium and forms a solution / (green) precipitate dissolves OR M1 add excess aqueous sodium hydroxide M2 iron(II) and forms a (green) precipitate which doesn't dissolve OR M1 add aqueous sodium hydroxide and leave to stand M2 iron(II) and (green) precipitate becomes brown OR M1 add aqueous sodium hydroxide and leave to stand M2 chromium and (green) precipitate does not turn brown
3(e)	carbon dioxide / CO ₂
3(f)	sulfate / SO ₄ ²⁻

3(a)(i)	(damp red) litmus (paper) turns blue
3(a)(ii)	ammonia / NH ₃
3(b)	white precipitate
3(c)	(solution) becomes pink
3(d)	M1 sodium / Na ⁺ M2 zinc / Zn ²⁺ M3 iodide / I ⁻

3(a)	M1 dropwise: red-brown precipitate M2 excess: no further change / precipitate remains / red-brown precipitate
3(b)(i)	red-brown precipitate
3(b)(ii)	(damp red) litmus (paper) turns blue
3(b)(iii)	ammonia / NH_3
3(c)	no change
3(d)	carbon dioxide / CO_2
3(e)	M1 barium / Ba^{2+} M2 carbonate / CO_3^{2-}

3(a)	M1 limewater becomes milky M2 effervescence / fizzing / bubbling
3(b)(i)	no change
3(b)(ii)	dropwise: white precipitate excess: no (further) change / precipitate remains / white precipitate / insoluble
3(b)(iii)	white precipitate
3(c)	M1 potassium / K^+ M2 bromide / Br^- $\text{KBr} = 2$

3(a)	dropwise: green precipitate excess: no (further) change / precipitate remains / green precipitate / insoluble
3(b)	no change
3(c)	yellow precipitate
3(d)	(solution / liquid becomes) yellow / orange / brown
3(e)	does not contain ammonium / NH_4^+ ions / not ammonium / NH_4^+
3(f)	ammonia / NH_3
3(g)	potassium / K^+ nitrate / NO_3^- $\text{KNO}_3 = 2$

3(a)	M1 dropwise: white precipitate
	M2 excess: precipitate dissolves
3(b)	M1 dropwise: white precipitate
	M2 excess: precipitate remains / no change
3(c)	white precipitate
3(d)	no change
3(e)	ammonia / NH_3
3(f)	M1 barium / Ba^{2+}
	M2 nitrate / NO_3^-
	$\text{Ba}(\text{NO}_3)_2 = 2$

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