Question 3				
			Answer	**Marks**
(a)	i)		$P_4S_3 + 8O_2 \rightarrow P_4O_{10} + 3SO_2$ (accept $2P_2O_5 + 3SO_2$)	1
	ii)		$2KClO_3 \rightarrow 2KCl + 3O_2$	1
	iii)		$3P_4S_3 + 16KClO_3 \rightarrow 3P_4O_{10} + 9SO_2 + 16KCl$ (accept $6P_2O_5$)	1
	iv)		$P_4S_3 / KClO_3 = 660 / 1961 = 1 / 2.97$	1
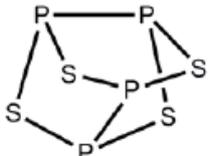
	v)	$\Delta_rH^{\varnothing}$ $= ((3 \times -2948) + (9 \times -296.8) + (16 \times -436.7))$ $- ((3 \times -154.0) + (16 \times -397.7))$ $= -11700 \text{ kJ mol}^{-1}$		2
(b)	i)	3 peaks		1
	ii)	4 peaks		1
	iii)	3 peaks		1
(c)		(accept any other reasonable structure, that fits with the data and with elements in correct valencies)		2