

Question	Marking guidance	Mark	AO	Comments
02.1	The number of protons increases (across the period) / nuclear charge increases	1	AO1a	Can only score M2 if M1 is correct
	Therefore, the attraction between the nucleus and electrons increases	1	AO1a	
02.2	S ₈ molecules are bigger than P ₄ molecules	1	AO1a	Allow sulfur molecules have bigger surface area and sulfur molecules have bigger M _r
	Therefore, van der Waals / dispersion / London forces between molecules are stronger in sulfur	1	AO1a	
02.3	Sodium oxide contains O ²⁻ ions	1	AO2c	O ²⁻ + H ₂ O → 2OH ⁻ scores M1 and M2
	These O ²⁻ ions react with water forming OH ⁻ ions	1	AO2c	
02.4	$\text{P}_4\text{O}_{10} + 12\text{OH}^- \longrightarrow 4\text{PO}_4^{3-} + 6\text{H}_2\text{O}$	1	AO2d	