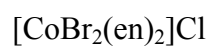
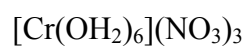


Marks
4

- The presence of iron in inorganic qualitative analysis is detected by the precipitation of the hydroxide using a buffer of pH 8. The solubility product constant of $\text{Fe}(\text{OH})_3$ is $4 \times 10^{-38} \text{ M}^4$ and that of $\text{Fe}(\text{OH})_2$ is $4 \times 10^{-15} \text{ M}^3$. Is it more sensible to try and detect the presence of Fe^{2+} ions or Fe^{3+} ions? Show all working and then give a reason for your answer.

2

- Name the following complexes.



en = ethylenediamine = $\text{NH}_2\text{CH}_2\text{CH}_2\text{NH}_2$