

Marks
7

- The species $[\text{Cr}(\text{en})_3][\text{FeCl}_4]_3$ is an example of a salt in which both the anion and cation are comprised of coordination complexes. Name the complex using standard IUPAC nomenclature (en = ethane-1,2-diamine).

Draw the structure of the cation. Is this complex chiral? Briefly explain your reasoning.

If the salt is dissolved in water and a saturated solution of KCl is added to the solution, different coloured complexes can be crystallised from the solution. Write the formulae for two of these complexes.