

Chemguide – questions

COMPLEX IONS - NAMES

1. What is the difference between an anionic complex and a cationic complex?
2. Give the names of the following complex ions.
 - a) $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$
 - b) $[\text{Cu}(\text{NH}_3)_4(\text{H}_2\text{O})_2]^{2+}$
 - c) $[\text{Al}(\text{OH})_4]^-$
 - d) $[\text{Fe}(\text{CN})_6]^{4-}$ (Hint: this is a complex between CN^- ions and iron ions. You will need to work out the charge on (and therefore the oxidation state of) the original iron ion in order to give the full name.)
 - e) $[\text{Fe}(\text{CN})_6]^{3-}$
3. Write the formulae for the following complex ions.
 - a) tetrachlorocuprate(II)
 - b) hexafluoroaluminate(III)
 - c) pentaquahydroxochromium(III)
 - d) diamminesilver(I)
 - e) hexaaquavanadium(III) (In case you haven't come across it yet, vanadium's symbol is V.)