

**Marks**  
**4**

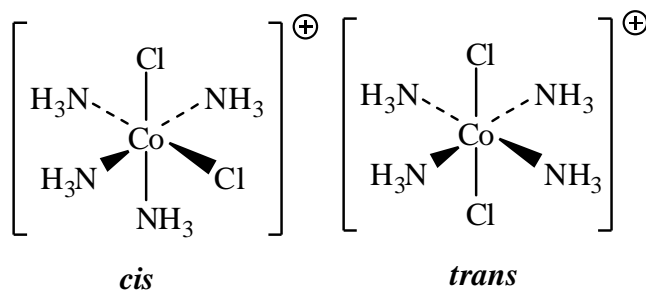
- Consider the complex  $[\text{CoCl}_2(\text{NH}_3)_4]\text{Cl}\cdot 2\text{H}_2\text{O}$ .

Write the systematic name of this complex.

**tetraamminedichlorocobalt(III) chloride-2-water**

What type(s) of isomerism is/are possible for this complex?

**Stereoisomerism: *cis* and *trans*:**



How many *d* electrons are there in the cobalt in this complex?

**$\text{Co}^{3+}$ :  $d^6$**

What oxidation state of platinum has the same number of valence shell *d* electrons as the cobalt in this complex?

**$\text{Pt}^{4+}$  is also  $d^6$**