

## 23 • The Transition Elements

---

### STUDY QUESTIONS

- Name the following coordination compounds:
  - $\text{Na}_2[\text{Pt}(\text{CN})_4]$
  - $\text{K}_3[\text{Fe}(\text{C}_2\text{O}_4)_3] \cdot 3\text{H}_2\text{O}$
  - $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{Cl}_2$
  - $[\text{Fe}(\text{OH})(\text{H}_2\text{O})_5]\text{Cl}_2$
  - $[\text{Cr}(\text{en})_3]\text{Br}_3$
  - $\text{NH}_4[\text{PtCl}_3(\text{NH}_3)]$
  
- Write formulas for the following coordination compounds:
  - hexaaquanickel(II) sulfate
  - sodium tetrachlorocuprate
  - hexaamminechromium(III) nitrate
  - pentacarbonylmanganese(0)
  
- A series of nickel complexes vary in color as follows:

$[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$	green	
$[\text{Ni}(\text{NH}_3)_6]^{2+}$	blue	
$[\text{Ni}(\text{en})_3]^{2+}$	violet	en=ethylenediamine
$[\text{Ni}(\text{dmg})_2]$	red	dmg=dimethylglyoxime anion
$[\text{Ni}(\text{CN})_4]^{2-}$	yellow	

Which two of these did we see just before Winter Break?