

NOMENCLATURE OF COORDINATION COMPOUNDS AND IONS

A. Name the following complex compounds or ions.

1. $[\text{Mo}(\text{H}_2\text{O})_6]\text{Br}_3$ Hexaaqua molybdenum (III) bromide
2. $[\text{Cr}(\text{NH}_3)_6]\text{Cl}_3$ Hexaammine chromium (III) chloride
3. $[\text{Pt}(\text{Py})_4][\text{PtCl}_4]$ Tetrapyridine platinum(II)-tetrachloro platinate(II)
4. $[\text{Zn}(\text{OH})_4]^{2-}$ Tetrahydroxo zincate (II) ion
5. $[\text{Rh}(\text{bipy})_3]\text{Cl}_3$ Tris(bipyridine) rhodium (III) chloride
6. $[\text{Cu}(\text{NH}_3)_4]^{+2}$ Tetraammine copper (II) ion
7. $[\text{Sc}(\text{H}_2\text{O})_6]^{3+}$ Hexa aqua scandium(III) ion
8. $[\text{Pt}(\text{NH}_3)_4\text{Cl}_2][\text{PtCl}_6]$
Tetraamminedichloro platinum (IV) hexachloroplatinate (IV)
9. $[\text{Co}_2(\text{bipy})_4\text{Cl}_2]^{4+}$ Tetrakis(bipyridine)-di-μ-chloro dicobalt (III)
10. $[\text{Mn}_2(\text{CO})_{10}]$ Decacarbonyl dimanganese(0)
11. $[\text{Rh}(\text{NH}_3)_4\text{SO}_4]\text{Br}$ Tetraammine sulfato rhodium(III) bromide
12. $\text{K}_3[\text{Fe}(\text{C}_2\text{O}_4)_3]$ Potassium trioxalato ferrate(III)
13. $[\text{Ru}(\text{en})_2\text{Cl}_2]^+$ Bis(ethylenediamine) dichlorido ruthenium(III)
14. $(\text{NH}_4)_3[\text{Cr}(\text{CN})_6]$ Ammonium hexacyanido chromate(III)
15. $\text{Ba}[\text{OsNCl}_5]$ Barium pentachloro nitrido osmate(VI)

B. Write the formula for each of the following complex compounds or ions.

- 1. Tris(ethylenediamine) cobalt(III) sulfate**
- 2. Diamminetetrabromo platinum (VI) bromide**
- 3. Pentacarbonyl hydrido manganate(I) .**
- 4. Sodium tetra nitrate aurrate(III)**
- 5. Sodium tetracyano cuprrate (II)**
- 6. Dodeca carbonyl triosmium(0).**
- 7. Tetraammine oxalate nickel (II)**
- 8. Octaammine dioxo- μ -oxo dirhenium(III).**
- 9. Triaqua tris(triphenyl phosphine) ruthenium(II).**
- 10. Tetraammine platinum(II)-Tetranitro aurrate(III).**

Dr MAHMOUD NAJIM 2018