Naming Multivalent Metals

metals that have more than 1 charge

ex. Cu → +2, +1

Mn → +2, +3, +4

so which one do we use??!!

VI_5 vanadium iodide

+4? OR +5?

VI_4 VI_5

Based on formula Iodine has a charge of -1. There are 5 iodines, which totals a charge of -5 so... vanadium has to have a charge of +5 to equal that of iodine.

To ~~idt~~ indicate which charge is used we use roman numerals in parantheses after the metal in question.

VI_5 → vanadium (V) iodide

TiS_2 (+4, -2 x 2 = -4) → titanium (IV) sulfide

Mn_3N_4 (#2 ÷ -3 x 4 = -12; +4) → manganese (IV) nitride

chromium (III) oxide → Cr^{+3} O^{-2} → Cr_2O_3

iron (II) fluoride → Fe^{+2} F^{-1} → FeF_2

Practice questions (answers below)

1. CoI_2
2. NiO
3. MoS_3
4. RuO_2
5. Cu_3P
6. Titanium (IV) oxide
7. ~~MAGG~~ manganese (III) nitride
8. ~~Ruthium~~ ruthenium (III) selenide
9. gold (I) chloride
10. manganese (IV) phosphide

DONT PEAK → ANSWERS ↓

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1. Cobalt (II) iodide
2. nickel (II) oxide
3. molybdenum (III) sulfide
4. ruthenium (IV) oxide
5. copper (I) phosphide
6. TiO_2
7. MnN
8. Ru_2Se_3
9. $AuCl$
10. Mn_3P_4