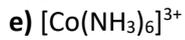
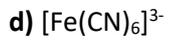
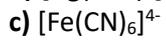
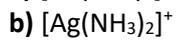
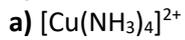


Percorso 11

1) Indica i nomi dei seguenti complessi:



2) Scrivi le costanti di formazione del complesso tetracquo-rameato (II) $\rightarrow [\text{Cu}(\text{H}_2\text{O})_4]^{2+}$

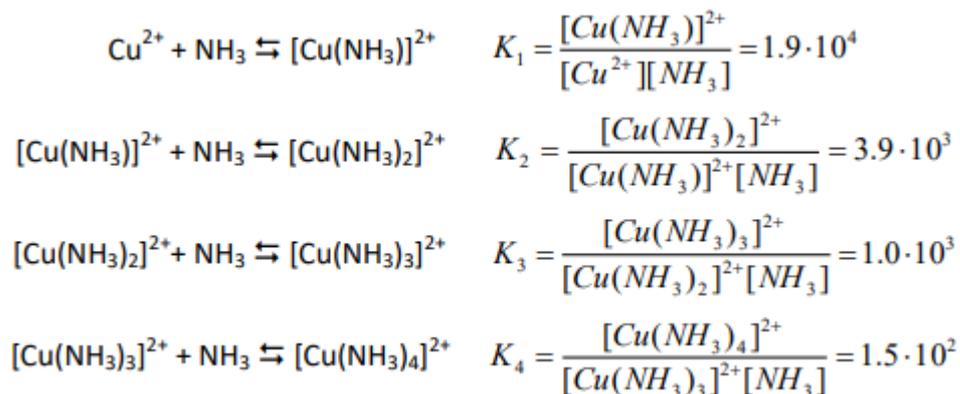
3) Determina la concentrazione molare degli ioni cianuro (CN^-), in una soluzione acquosa **0,05 M** del complesso diciano-argento (I) potassico $\{\text{K}[\text{Ag}(\text{CN})_2]\}$, sapendo che la $K_{\text{inst}} = 1 \cdot 10^{-20}$.

Soluzioni

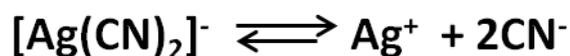
1) Indica i nomi dei seguenti complessi:

- a) $[\text{Cu}(\text{NH}_3)_4]^{2+}$ → esammino-cuprato (II)
 b) $[\text{Ag}(\text{NH}_3)_2]^+$ → diammino-argento (I)
 c) $[\text{Fe}(\text{CN})_6]^{4-}$ → esaciano-ferrato (II)
 d) $[\text{Fe}(\text{CN})_6]^{3-}$ → esaciano-ferrato (III)
 e) $[\text{Co}(\text{NH}_3)_6]^{3+}$ → esammino-cobaltato (III)

2)



3) La reazione di dissociazione complesso è la seguente:



I	0,05	-	-
V	-X	X	2X
F	0,05-X	X	2X

L'equilibrio diviene:

$$K_{\text{inst}} = \frac{[\text{Ag}^+] \cdot [\text{CN}^-]^2}{[\text{Ag}(\text{CN})_2]} = \frac{X \cdot (2X)^2}{(0,05-X)} \approx \frac{4X^3}{0,05} = 1,0 \cdot 10^{-20}$$

Essendo la K_{inst} molto piccola $0,05-X$ è approssimabile a $0,05$. Risolvendo si trova che:

$$X = 5 \cdot 10^{-8} \rightarrow [\text{Ag}^+] = 5 \cdot 10^{-8} \text{ M} \rightarrow [\text{CN}^-] = 2 \cdot 5 \cdot 10^{-8} \text{ M} = 1 \cdot 10^{-7} \text{ M}$$