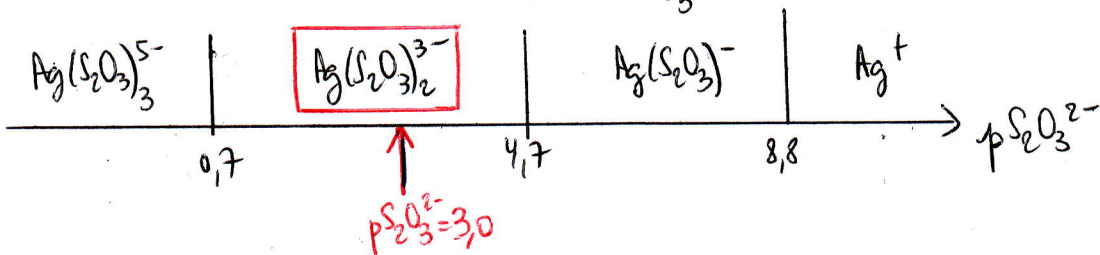
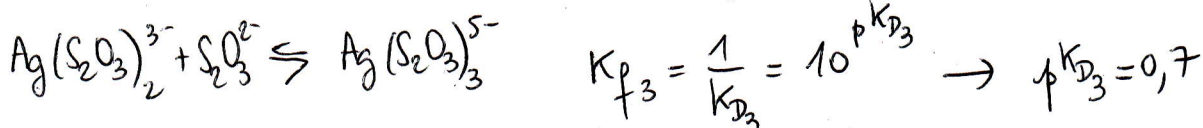
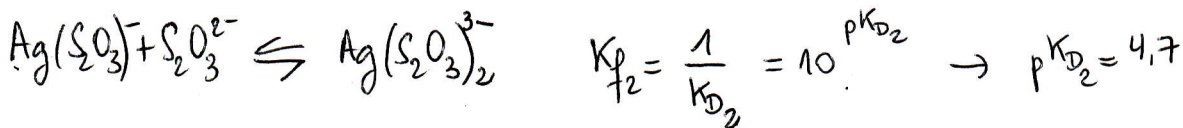
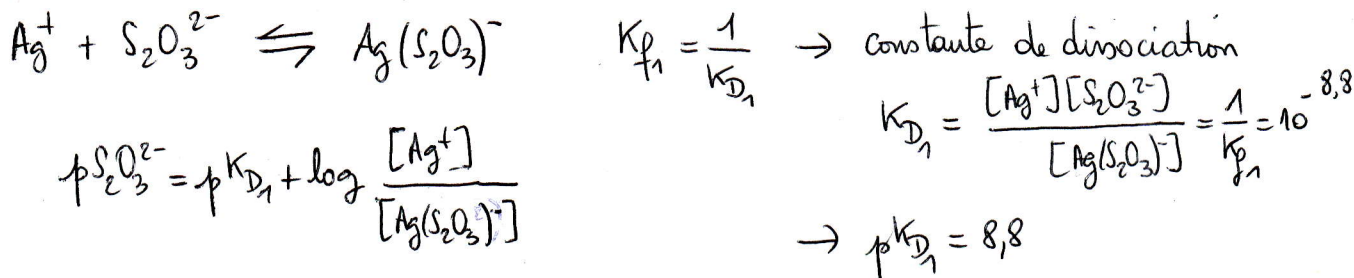


EX SA3.3

- 1) $\text{Ag}(\text{S}_2\text{O}_3)^-$: monothiosulfato argentate (I)
 $\text{Ag}(\text{S}_2\text{O}_3)_2^{3-}$: dithiosulfato argentate (I)
 $\text{Ag}(\text{S}_2\text{O}_3)_3^{5-}$: trithiosulfato argentate (I)

2) K_{f1} correspond à la formation de $\text{Ag}(\text{S}_2\text{O}_3)^-$ à partir de Ag^+ et $\text{S}_2\text{O}_3^{2-}$



30)

$2\text{Na}^+, \text{S}_2\text{O}_3^{2-}$
 hyp $C_i \gg C_0$
 $\rightarrow n_i \ll V_0$

$\text{Ag}^+ \mid C_0 = 5 \cdot 10^{-2} \text{ mol.l}^{-1}$
 V_0

$\rightarrow p\text{S}_2\text{O}_3^{2-} = 3,0 \Rightarrow [\text{Ag}(\text{S}_2\text{O}_3)_2^{3-}] \gg [\text{Ag}(\text{S}_2\text{O}_3)_3^{5-}]$
 MAJORITAIRE
 (H1)

$[\text{Ag}(\text{S}_2\text{O}_3)^-]$
 $[\text{Ag}^+]$

(Hyp) la réact° entre Ag^+ et $\text{S}_2\text{O}_3^{2-}$ est quantifiable: (H2)

	Ag^+	$+ 2 \text{S}_2\text{O}_3^{2-}$	\rightleftharpoons	$\text{Ag}(\text{S}_2\text{O}_3)_2^{3-}$	
mol.l ⁻¹	C_0	C		0	
t_i	C_0	C		0	
t_f	$C_0 - 2n$	$C - 2n = 10^{-3}$		C_0	

\uparrow
 car $p\text{S}_2\text{O}_3^{2-} = 3,0$

$K_{f2} = \frac{1}{K_{D2}} \frac{1}{K_{D1}} = K_{f1} K_{f2}$
 $\beta_2 = 10^{8,8+4,7} = 10^{13,5}$
 $\beta_2 \gg 10^3$

* A l'équilibre : on détermine Ag^+

$$\beta_2 = \frac{[Ag(S_2O_3)_2^{3-}]}{[Ag^+][S_2O_3^{2-}]^2} \quad \text{d'où} \quad [Ag^+]_{eq} = \frac{[Ag(S_2O_3)_2^{3-}]}{\beta_2 \cdot [S_2O_3^{2-}]^2} = 1,6 \cdot 10^{-9} \text{ mol.L}^{-1}$$

(R₉) : On vérifie $[Ag^+]_{eq} \ll [Ag^+]_0 = C_0 \rightarrow$ vérification de l'hypothèse "R° totale" (H₂) OK

$$* K_{f1} = \frac{[Ag(S_2O_3)^-]}{[Ag^+][S_2O_3^{2-}]} \Rightarrow [Ag(S_2O_3)^-] = K_{f1} \cdot [Ag^+] \cdot [S_2O_3^{2-}] = 10^{8,8} \cdot (1,6 \cdot 10^{-9}) \cdot 10^{-3}$$

$$\boxed{[Ag(S_2O_3)^-] = 1,0 \cdot 10^{-3} \text{ mol.L}^{-1}} \ll [Ag(S_2O_3)_2^{3-}] \text{ (H1) OK}$$

$$K_{f3} = \frac{[Ag(S_2O_3)_3^{5-}]}{[Ag(S_2O_3)_2^{3-}][S_2O_3^{2-}]} \Rightarrow [Ag(S_2O_3)_3^{5-}] = K_{f3} \cdot [Ag(S_2O_3)_2^{3-}] \cdot [S_2O_3^{2-}] = 10^{0,7} \cdot (5 \cdot 10^{-2}) \cdot 10^{-3}$$

$$\boxed{[Ag(S_2O_3)_3^{5-}] = 2,5 \cdot 10^{-4} \text{ mol.L}^{-1}} \ll [Ag(S_2O_3)_2^{3-}] \text{ (H1) OK}$$