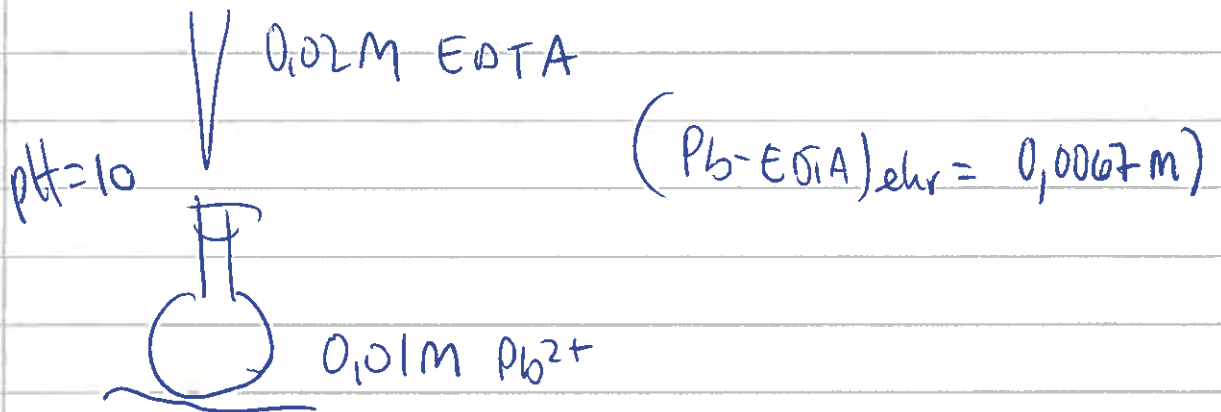


KJ 2050 h-2009



$$(\text{Pb}^{2+}) \cdot (\text{OH}^-)^2 = 1,43 \cdot 10^{-20}$$

a) $(\text{Pb}^{2+}) \cdot (0,0001)^2 = 1,43 \cdot 10^{-20}$

$(\text{Pb}^{2+}) = 1,43 \cdot 10^{-12}$
Ni wil fälling om nithe bruder kompleksbruder.

b) $T = 0 \Rightarrow (\text{Pb}^{2+}) = (\text{X}^{4-}) + (\text{HX}^{3-})$

$$\frac{1 \cdot 10^{-10} (\text{X}^{4-})}{(\text{HX}^{3-})} = 5 \cdot 5 \cdot 10^{-4}$$

$$(\text{HX}^{3-}) = \frac{1 \cdot 10^{-10}}{5 \cdot 5 \cdot 10^{-4}} (\text{X}^{4-})$$

$$\Rightarrow (\text{Pb}^{2+}) = 2,82 (\text{X}^{4-}) \Rightarrow (\text{X}^{4-}) = (\text{Pb}^{2+}) / 2,82$$

$$\frac{0,0067 \cdot 2,82}{(\text{Pb}^{2+})^2} = 1,0 \cdot 10^{18}$$

$$(\text{Pb}^{2+}) = \sqrt{\frac{0,0067 \cdot 2,82}{1,0 \cdot 10^{18}}}$$

$$= \underline{\underline{1,4 \cdot 10^{-10}}}$$

$$c) \quad \frac{0,0067}{1 \cdot 10^{-8} (\text{X}^{4-})} = 1 \cdot 10^{18}$$

$$(\text{X}^{4-}) = 6,7 \cdot 10^{-13}$$

$$T = \frac{2,82 \cdot 6,7 \cdot 10^{-13}}{(2,82 \cdot 6,7 \cdot 10^{-13})^2} = 1 \cdot 10^{-8}$$

$$= \underline{\underline{1 \cdot 10^{-8}}} \quad (\approx 1,4 \cdot 10^{-4} \%)$$