

0.152V

$$V_{AB} = V_1 + V_2 - V_3$$

$$V_1 = E_{Sb/Sb_2O_3} + \frac{RT}{F} \ln([H^+])$$

$$V_2 = E_{Ag/AgCl} - \frac{RT}{F} \ln([Cl^-])$$

$L \rightarrow 0.22V$

$$V_{AB} = 0.152V + 0.0256 \ln([H^+]) - 0.22V$$

$$V_{AB} = -0.068 + 0.0256 \ln([H^+]) \rightarrow [P]_{x=0} \rightarrow [H^+]$$

$$V_{AB} \quad [S] \ll K_M \Rightarrow [P]_{x=0} = \frac{D_S}{D_P} [S] \left( 1 - \frac{1}{\cosh(L\sqrt{\alpha})} \right)$$

↳ [Glucosio]

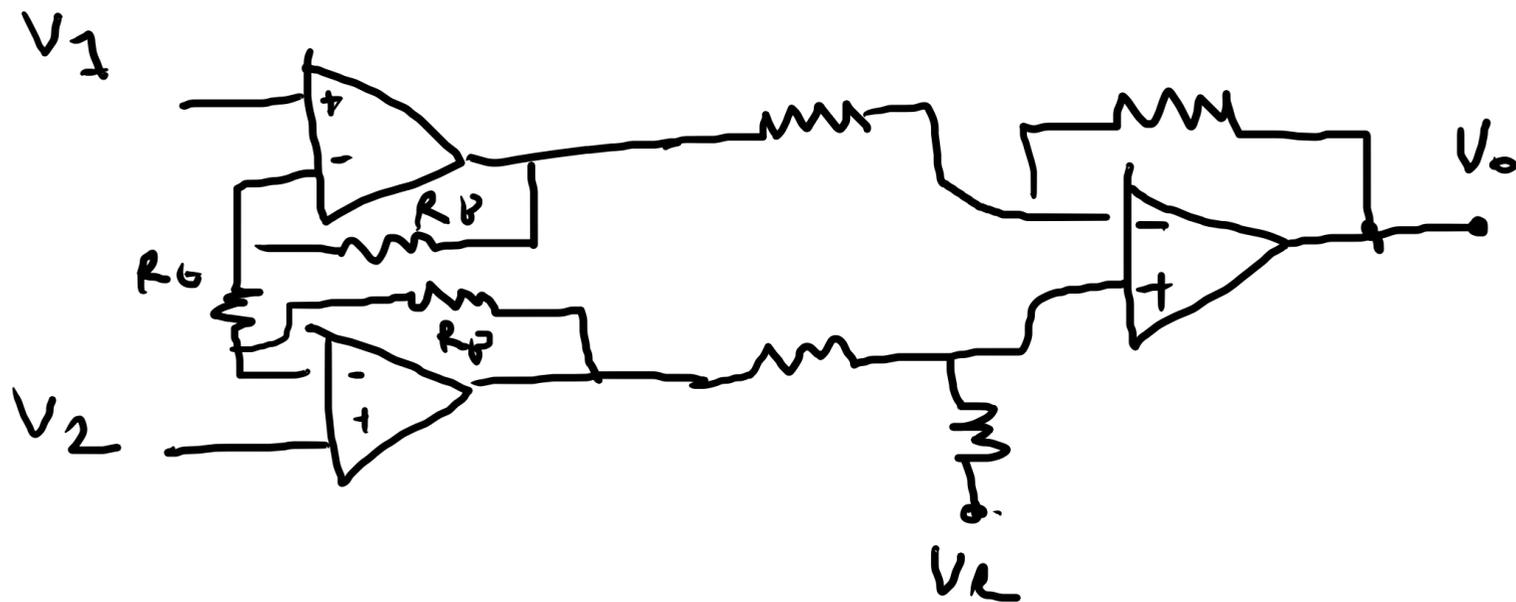
$$\alpha = \frac{k_2 [E]_0}{K_M D_S} = 2 \cdot 10^6 \text{ [m}^{-2}\text{]}$$

$$K^* = \frac{D_S}{D_P} \left( 1 - \frac{1}{\cosh(L\sqrt{\alpha})} \right) = 0.5403$$

$$[P]_{x=0} = K^* [S] \quad V_{AB} = -0.068 + 0.0256 \ln(K^*) + 0.0256 \ln([S])$$

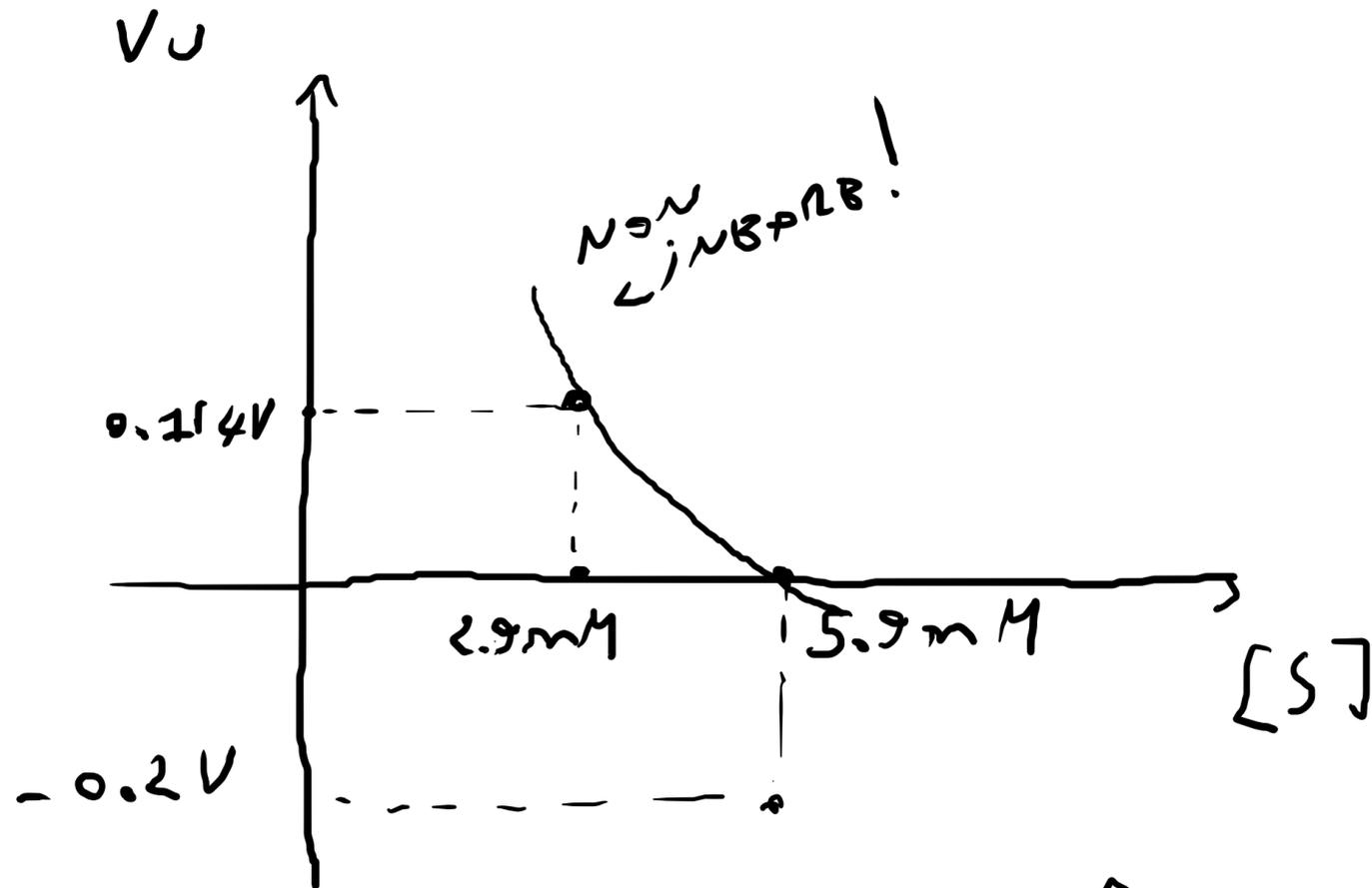
$$\underline{V_{AB} = -0.0837 + 0.0256 \ln([S])}$$

QUANTO 2



$$V_o = A(V_1 - V_2) + V_R$$

RISOLUZIONE → LEZIONE



CAR. DECRESCENTE ⇒  
 $A \rightarrow V_1$   
 $P \rightarrow V_2$

$$V_o = A V_{PS} + V_R = -A V_{AP} + V_R$$

$$A \cdot 0.0837 - A \cdot 0.0256 \ln(2.9 \cdot 10^{-3}) + V_R = 0.214V$$

$$A \cdot 0.0837 - A \cdot 0.0256 \ln(5.9 \cdot 10^{-3}) + V_R = -0.2V$$

$$\Rightarrow A \cdot 0.0256 (\ln(5.9 \cdot 10^{-3}) - \ln(2.9 \cdot 10^{-3})) = 0.314V$$

$$A = \frac{0.364}{0.0256 \cdot 0.7102} = 20$$

$$R_B = 10 \text{ k}\Omega$$

$$R_G = 1053 \Omega$$

$$A = 1 + 2 \frac{R_P}{R_G}$$

$$V_R = -0.2 \text{ V} - A (0.0037 - 0.0256 \ln(5.9 \cdot 10^{-3})) = -4.502 \text{ V}$$

funto 3

$$V_U = A (0.0037 - 0.0256 \ln([S])) + V_R$$

$$V_U = -2.828 - 0.512 \ln([S])$$

$$\ln [S] = - \frac{V_U - 2.828}{0.0256}$$

$$[S] = e^{\frac{-V_U - 2.828}{0.0256}}$$

