LAB 1: CARBOHYDRATES

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$$\frac{A_b}{c_b} = \frac{A_d}{c_d(\frac{0.1}{0.6})}$$

$$A_d(c_b) = A_c(\frac{0.1}{0.6})(c_d)$$

$$c_d = \frac{(A_d)(c_c)}{A_c(\frac{0.1}{0.6})}$$

$$c_d = \frac{(0.663)(0.1)}{0.456(\frac{0.1}{0.6})}$$

$$c_d = 0.87\ \frac{mg}{mL} = 0.87\ \frac{g}{L}$$

$$m_1 = c_d(V_1)$$

$$m_1 = 0.87\ \frac{mg}{mL}(10\ mL)$$

$$m_1 = 8.7\ mg$$

Variables: $A_c = 0.456$

$c_c = 0.1$ mg/mL

$A_d = 0.663$,

$V_1 = 10$ mL

At t=0 min, the concentration and mass of starch in glucose/starch mixture is 0.87 g/L and 8.7 mg.

Comment [S5]: Missing: data analysis 0/4

R2. Estimating glucose concentration at the equilibrium

$$C_{eq} = \frac{(c_o)(\alpha)}{1+\alpha}$$

$$C_{eq} = \frac{(c_o)(V_1)}{V_1+V_2}$$

$$C_{eq} = \frac{(48.3\ \frac{mg}{mL})(10\ mL)}{10\ mL+200\ mL}$$

$$C_{eq} = 2.3\ \frac{mg}{mL} = 2.3\ \frac{g}{L}$$

Variables: c_o = 48.3 mg/mL

$V_1 = 10$ mL

V_2 = 200 mL

The concentration at equilibrium is 2.3 g/L.

Comment [S6]: 7/7

R3. Estimating the diffusion coefficient D (cm2/min) of glucose across the dialysis membrane