

SPECIFIC ACTIVITY CALCULATIONS FOR SUCRASE LAB

BRADFORD ASSAY

$$\left(\frac{\text{ABS} - \text{intercept}}{\text{slope}} \right) \times \frac{4.08 \text{ mL}}{0.02 \text{ mL}} \times \text{dilution factor} = \text{mg/mL}$$

$$\left(\frac{0.4 - 0.005}{10.5 \text{ mL/mg}} \right) \times \frac{4.08 \text{ mL}}{0.02 \text{ mL}} \times 5 = 38.4 \frac{\text{mg protein}}{\text{mL enzyme solution}}$$

{ mg protein/mL solution }

DNS ASSAY

$$\left(\frac{\text{ABS} - \text{intercept}}{\text{slope}} \right) \times \frac{\text{Liters final solution}}{1} \times \frac{1}{\text{minutes}} \times \frac{10^6 \mu\text{moles}}{\text{mole}} \times \frac{1}{\text{mL}} = \frac{\mu\text{moles sucrose/minute}}{\text{mL enzyme solution}}$$

{ moles sucrose/Liter }

$$\left(\frac{1.5 - -0.012}{1330 \text{ M}^{-1}} \right) \times 0.019 \text{ L} \times \frac{1}{3 \text{ min}} \times \frac{10^6 \mu\text{moles}}{\text{mole}} \times \frac{1}{0.02 \text{ mL}} =$$

$$\frac{360 \mu\text{moles sucrose/minute}}{\text{mL enzyme solution}}$$

SPECIFIC ACTIVITY

$$\text{SA} = \frac{\mu\text{moles sucrose/minute}}{\text{mg protein}} = \frac{\frac{360 \mu\text{moles sucrose/minute}}{\text{mL enzyme solution}}}{\frac{38.4 \text{ mg protein}}{\text{mL enzyme solution}}} =$$

$$\frac{9.38 \mu\text{moles sucrose/minute}}{\text{mg protein}}$$