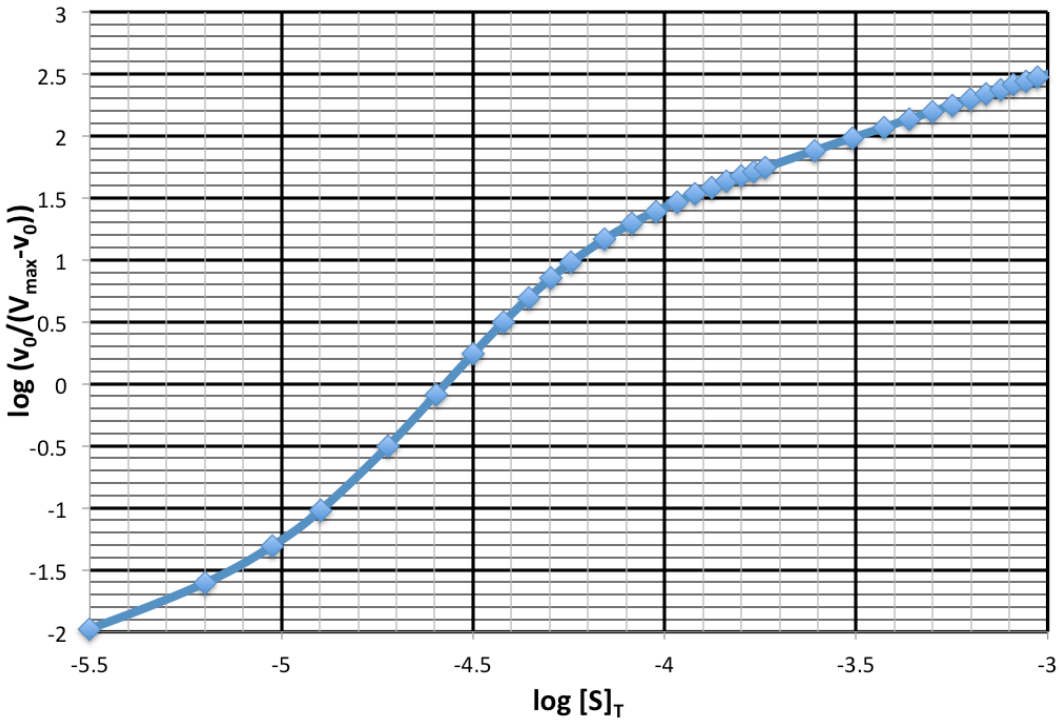
Quiz 20 **NAME:_____**



1. **Determine the K_M for the tense and relaxed states of the enzyme from the data above.** Hint: K_M is the analog of K_D on the Hill plot.

$$E + S \underset{k_{-1}}{\overset{k_1}{\Leftrightarrow}} ES \xrightarrow{k_2} E + P$$

2. **Define the equilibrium dissociation constant (K_D) for the enzyme-substrate complex (ES) in terms of rate constants.**

3. **Define the Michaelis constant (K_M) in terms of rate constants.**

4. **What must an experimenter determine to use the caluclated K_M as the equilibrium dissociation constant (K_D) for the enzyme-substrate complex (ES)?**

5. **Describe how to quickly determine the K_M from a plot of initial rates verses [substrate].**