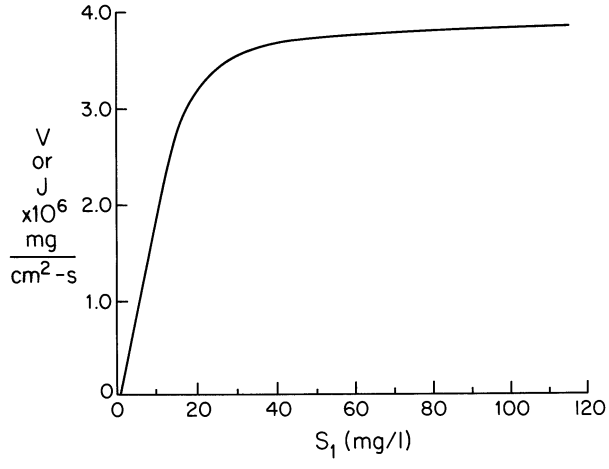

Figure 3P1. Reaction rate data for problem 3.18. Reaction rate dependence on substrate one for reaction catalyzed by E_A.

where $K_m = 5$ mg/l (or 5×10^{-3} mg/cm^3) and $V_m'' = 4.0 \times 10^{-6}$ mg/cm^2 =s. The bulk concentration of S_2 [$S_{2\text{bulk}}$] is maintained as 5 mg/l and the mass transfer coefficient is the same for S_1 and S_2. Calculate [$S_{2\text{surface}}$] and the rate of formation of P (assuming all stoichiometric coefficients are one).

3.19. Consider the case of two enzymes immobilized on the same nonporous, planar surface. S is a substrate used by both enzymes in the following reactions:

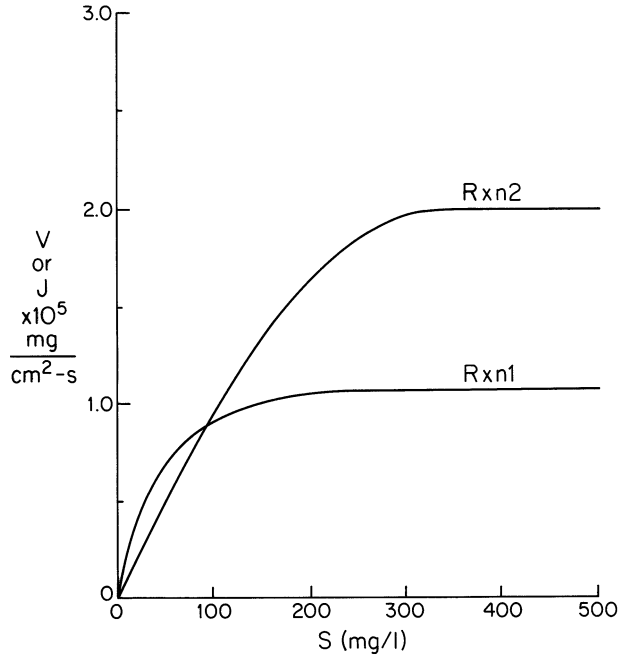

Figure 3P2. Reaction rate data for problem 3.19. The reaction rate data for two different enzymes (E_1 and E_2) are shown.