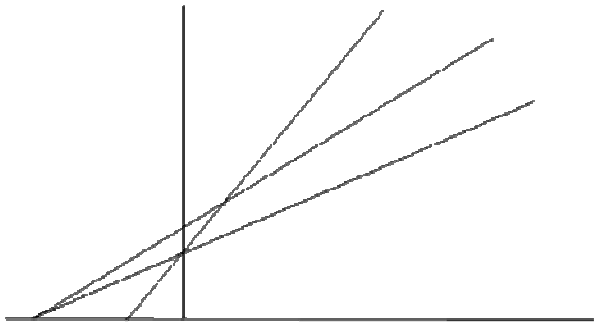
1. Label the double-reciprocal plot below with the letters corresponding to items (a)-(g).
   (a) A typical Michaelis-Menten enzyme in the absence of inhibitors
   (b) Enzyme activity in the presence of a non-competitive inhibitor
   (c) Enzyme activity in the presence of a competitive inhibitor
   (d) 1/[S]
   (e) $1/V_o$
   (f) $-1/K_m$
   (g) $1/V_{max}$



2. You measure the initial rate of an enzyme reaction as a function of substrate concentration in the presence and absence of an inhibitor. The following data are obtained:

[S]	V_0	
	–Inhibitor	+Inhibitor
0.0001	33	17
0.0002	50	29
0.0005	71	50
0.001	83	67
0.002	91	80
0.005	96	91
0.01	98	95
0.02	99	98
0.05	100	99
0.1	100	100
0.2	100	100

   (a) What is the V_{max} in the absence of inhibitor? _____
   (b) When [S] = 0.0004, what will V_o be in the absence of inhibitor? _____
   (c) When [S] = 0.0004, what will V_o be in the presence of inhibitor? _____
   (d) What kind of inhibitor is it likely to be? _____. Please describe the characteristics of this type of inhibitor: _____.
   (e) Please use these information to draw the Lineweaver-Burk plot.

3. What is the definition of k_{cat}?