3.3.3.2. Eadie–Hofstee plot. Equation 3.12b can be rearranged as

$$v = V_m - K_m \frac{v}{[S]} \tag{3.14}$$

A plot of v versus $v/[S]$ results in a line of slope $-K_m$ and y-axis intercept of V_m, as depicted in Fig. 3.6. Eadie–Hofstee plots can be subject to large errors since both coordinates contain υ, but there is less bias on points at low [S].

3.3.3.3. Hanes–Woolf plot. Rearrangement of eq. 3.12b yields

$$\frac{[S]}{v} = \frac{K_m}{V_m} + \frac{1}{V_m}[S] \tag{3.15}$$

A plot of $[S]/v$ versus [S] results in a line of slope $1/V_m$ and y-axis intercept of K_m/V_m, as depicted in Fig. 3.7. This plot is used to determine V_m more accurately.

3.3.3.4. Batch kinetics. The time course of variation of [S] in a batch enzymatic reaction can be determined from

$$v = -\frac{d[S]}{dt} = \frac{V_m[S]}{K_m + [S]} \tag{3.12b}$$

by integration to yield

$$V_m t = [S_0] - [S] + K_m \ln \frac{[S_0]}{[S]} \tag{3.16}$$

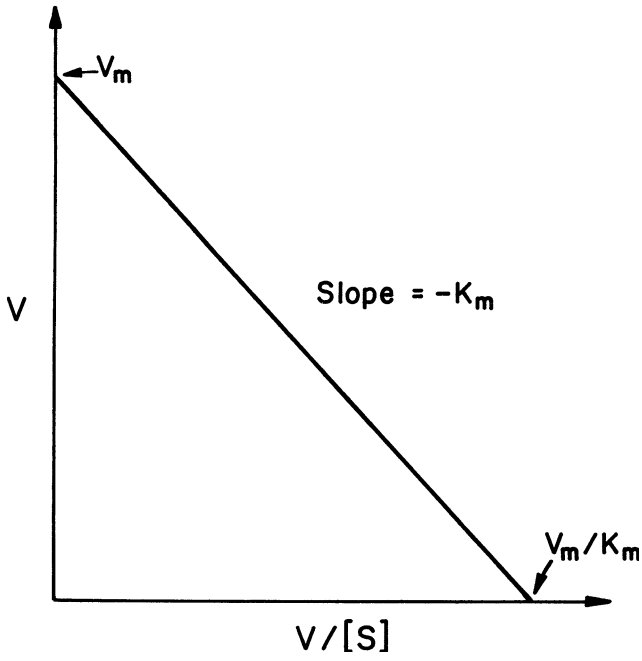

Figure 3.6. Eadie–Hofstee plot.