Chapter 13 Review Questions: Problems pg. 578-579 #64, 72, 73, 80, 81, 83, 84, 88, pg. 582-583 #103 110, 114

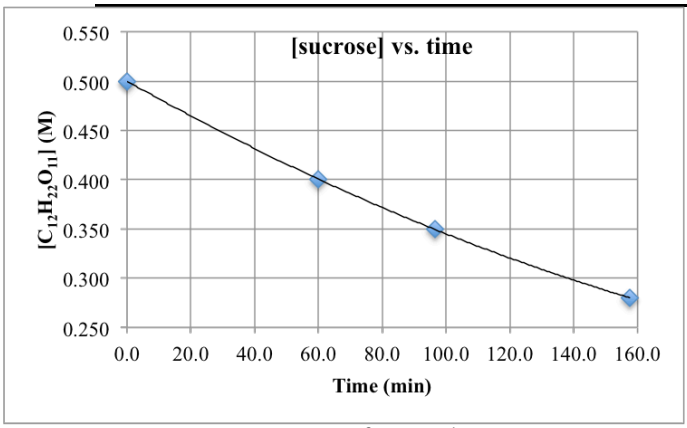
72 $k = 10.7\ M^{-1}s^{-1}$

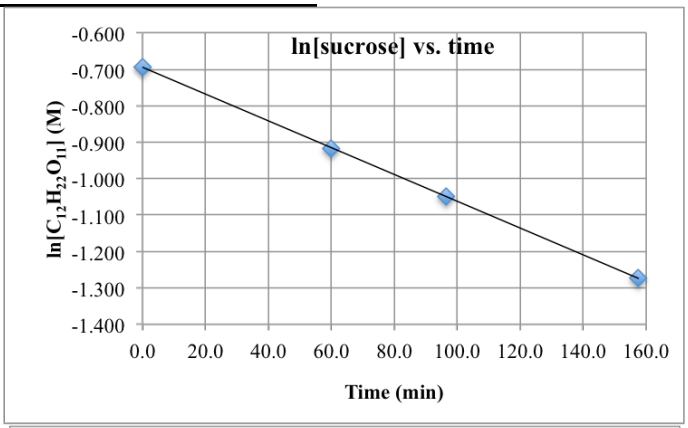
73 **(b)** $k = \dfrac{5.7 \times 10^{-5}\ M/\text{s}}{(0.30\ M)(0.050\ M)} = 3.8 \times 10^{-3}\ /\ \text{M} \cdot \text{s}$

88 $t_{\frac{1}{2}} = 1.12 \times 10^{3}\ \text{min}$

103 **Data & Plots:**

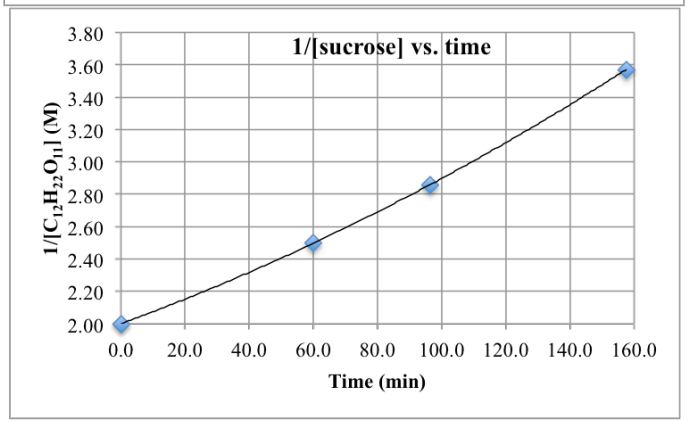
Time (min)	$[C_{12}H_{22}O_{11}]$ (M)	$\ln[C_{12}H_{22}O_{11}]$	$1/[C_{12}H_{22}O_{11}]$, M^{-1}
0.0	0.500	–0.693	2.00
60.0	0.400	–0.916	2.50
96.4	0.350	–1.050	2.86
157.5	0.280	–1.273	3.57





(a) $k = 3.68 \times 10^{-3}\ \text{min}^{-1}$

(b) $t = 814\ \text{min}$



114 **(a)** **rate** $= 2.5 \times 10^{-5}\ M/\text{s}$

(b) If HbO_2 is being formed at the rate of $2.5 \times 10^{-5}\ M/\text{s}$, then O_2 is being consumed at the same rate, $\mathbf{2.5 \times 10^{-5}\ M/s}$. Note the 1:1 mole ratio between O_2 and HbO_2.

(c) $[O_2] = 8.3 \times 10^{-6}\ M$