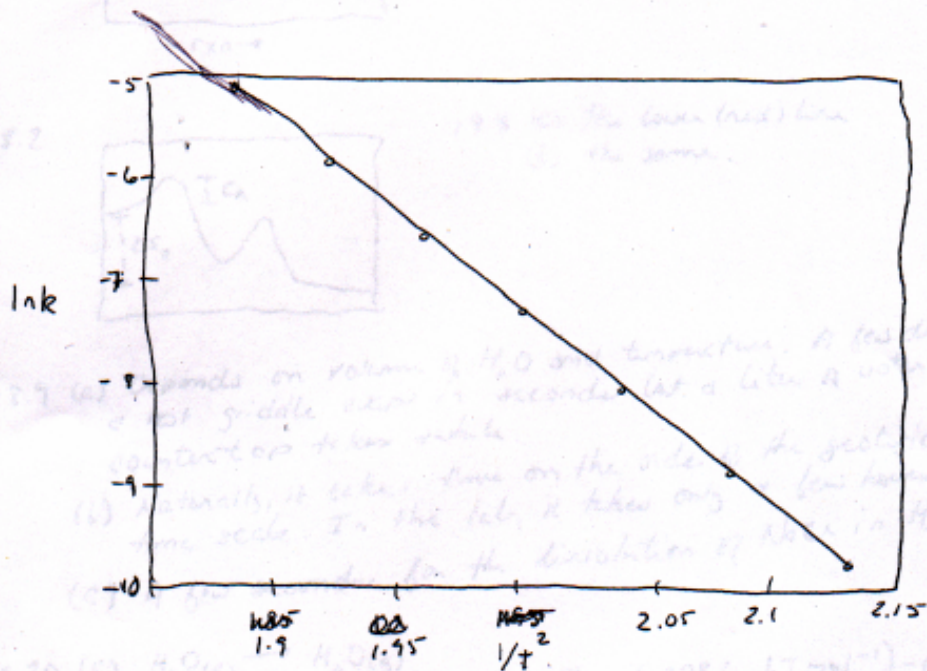


18.39 make a plot! $\ln k$ as a function of $1/T$.

$$\ln k = - \left[\frac{E_a}{R} \frac{1}{T} \right] + \ln A$$



slope is $-\frac{E_a}{R} = -19,307 K$

so $E_a = (19307 K)(8.3145 J mol^{-1} K^{-1})$
 $= 1.6 \times 10^5 J mol^{-1} = 161 kJ mol^{-1}$

intercept is $\ln A = 31.321$

$A = 4.00 \times 10^{13} s^{-1}$

$\textcircled{19307 K}$