LAB 11   Measurement of K

Part A: Calibration

$.0025\ ^M/L \rightarrow 25\ M/mL$ add $96\ mL$ DI

λ_{max}	Absorbance	$.035 \leq A \leq 1.5$
1 480.1	.08	
2 480.1	.158	$\rightarrow$ correlation
3 499.4	.200	$A = \epsilon l c + b$
4 489.2	.316	$\epsilon = 8600$
5 481.2	.431	

$$Fe^{3+} + SCN^- \rightarrow Fe(SCN)_3$$
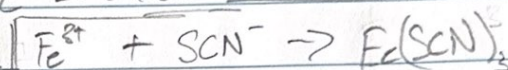
	Fe^{3+}	SCN^-	$Fe(SCN)_3$
I	3.57e-4	3.57e-4	0
C	$-x$	$-x$	$+x$
E	3.41e-4	3.41e-4	1.57e-5

Part B:

Solution	λ_{max} (nm)	A_{max}	
6	466.4	.114	$x = 1.57e\text{-}5\ M$
7	469.8	.222	$.114 = 8600\,c - .021$
8	466.4	.279	$c = \dfrac{.114 + .021}{8600}$
9	461.9	.305	
10	464.2	.375	$1.57e\text{-}5$
11	460.0	.295	$K_6 = \dfrac{1.57e\text{-}5}{(3.41e\text{-}4)^2}$
12	462.2	.411	$= 134.65$
13	460.7	.497	
14	460.7	.629	
15	458.5	.733	

$\rightarrow$ @P As concentration $[Fe(SCN)_2]$ increases,
the Absorbance follows suite. Relevit to K, since
Both the product + Reactant concentration increase
@ constant rate, the K remains constant + thus
It remains unshifted