

Beer's Law Calibration Curve

Solution #	Volume of 0.100 M Fe ³⁺ (mL)	Volume of 5.00E ⁻⁴ M SCN ⁻ (mL)	Volume of Water (mL)	Total Volume (mL)	[FeSCN ²⁺]	Absorbance at 470 nm
Blank	1.00	0.00	5.00	6.00		
1	1.00	1.00	4.00	6.00		
2	1.00	1.50	3.50	6.00		
3	1.00	2.00	3.00	6.00		
4	1.00	2.50	2.50	6.00		
5	1.00	3.00	2.00	6.00		

The FeSCN²⁺ concentration at equilibrium is calculated for each solution by assuming all SCN⁻ reacts, which is valid if the Fe³⁺ is in large excess. Show the calculation of SCN⁻ from dilution.

Linear regression equation for absorbance vs. concentration:

Correlation coefficient and reason for discarding data: