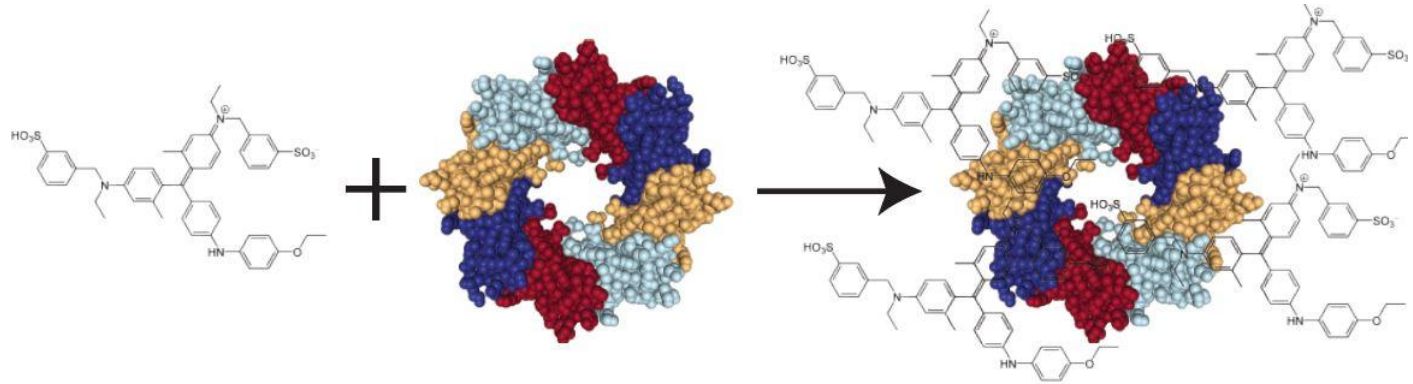
Bradford Protein Assay

Module 3, Lesson 3

Mechanism of Action

- The assay is based on the observation that the absorbance maximum for an acidic solution of Coomassie Brilliant Blue G-250 shifts from 465 nm to 595 nm when binding to protein occurs.
- Both hydrophobic and ionic interactions stabilize the anionic form of the dye, causing a visible color change.
- In the staining reaction, the Coomassie dye binds to proteins through ionic interactions between sulfonic acid groups and positive protein amine groups through Van der Waals attractions.

Mechanism of Action



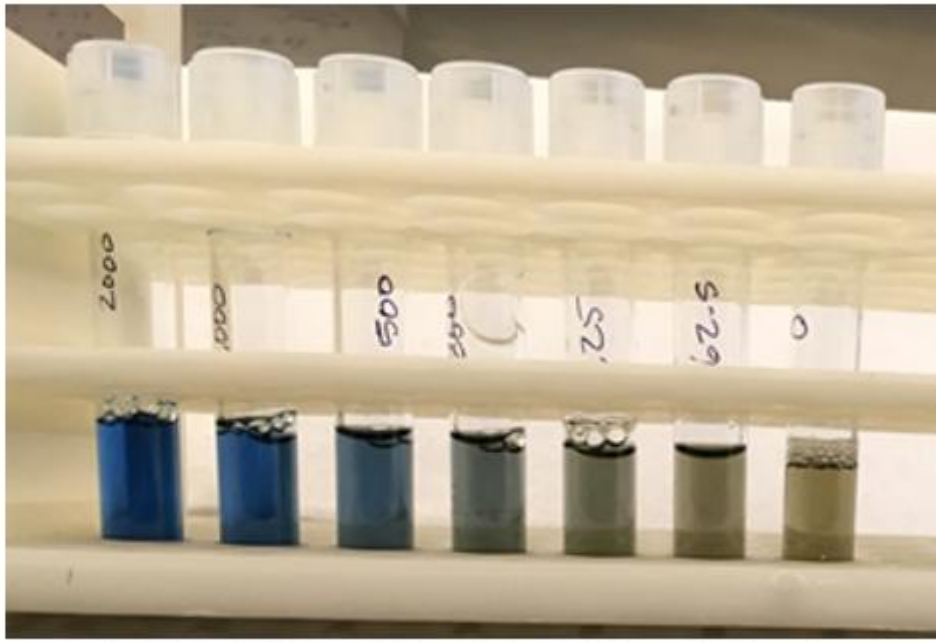
Coomassie Brilliant Blue G-250 Protein (PlyCB) Dye-Protein Complex



absorbance max @ 490nm absorbance max @ 595nm

https://github.com/har1eyk/Bradford-Assay-Protein-Quant-with-One-Phase-Assoc

Protein Concentration Standard Curve



Albumin concentration (ug/mL)	2,000	1,000	500	250	125	62.5	0