

Bi10 Prelab 6 (25 points)

Any questions regarding this prelab should be addressed to Reem Abdel-Haq
(rabdelha@caltech.edu)

Protein induction

1. IPTG is used to induce protein expression. How does IPTG work? Why is IPTG used instead of lactose? (4 points)

Bradford assay

2. List two advantages of using the Bradford method over the Lowry method for protein detection. (2 points each, 4 points total)
3. You complete the Bradford assay for your unknown protein and observe a color change by eye. However, you notice that your standard curve does not look the way it should. Should you continue with the quantification of your protein? What is the function of the standard curve for the Bradford assay? (5 points total)
4. Why does Coomassie Brilliant Blue G250 change color, and what happens if it binds to protein? (2 Points)

5. Complete the following table (2 points each, 10 points total)

Calculate the volume of protein standard to add to each tube to achieve the desired amount of protein standard.

Tube #	Volume of protein standard (5µg/ml)	Quantity of protein standard
1,2		0 µg (blank)
3,4		25 µg
5,6		50 µg
7,8		75 µg
9,10		100 µg