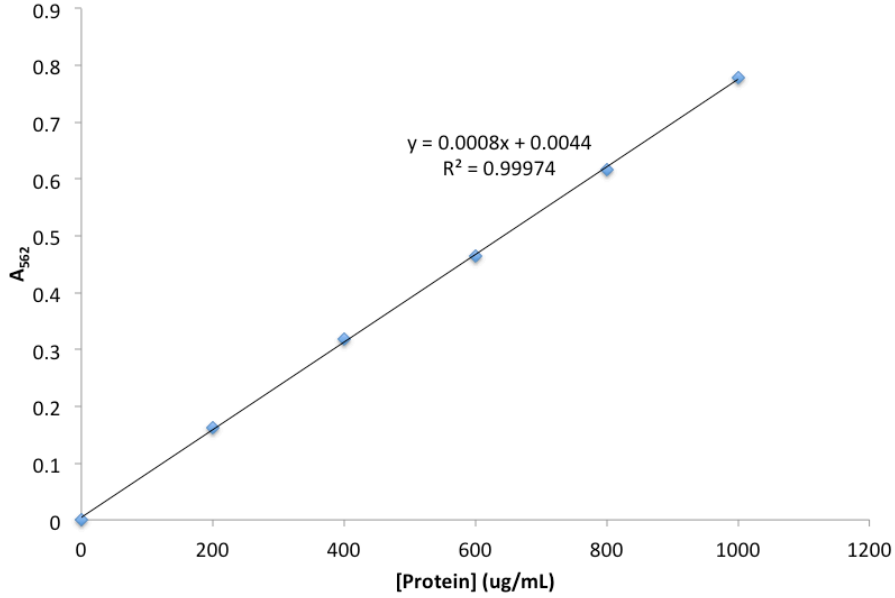


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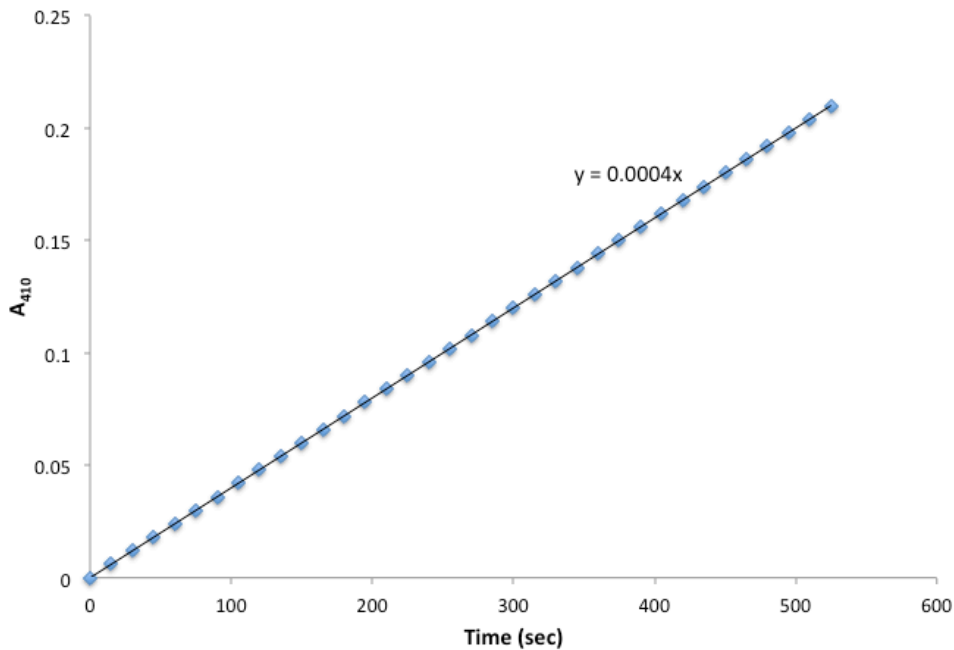
Quiz 16

In an effort to determine the specific activity of an alkaline phosphatase preparation, you collect the following pieces of data [show all of your work]:

BCA standard curve:



Activity assay:



- All assays contained 3 mL total volume.
- A BCA assay of a the original protein prep yielded an A₅₆₂ of 0.4125.
- 250 uL of the original protein prep was added to the activity assay.
- The molar absorptivity of the PNP product is 18,000 M⁻¹ cm⁻¹.

- A. Determine the concentration of PNP produced per minute in units of nM min^{-1} .
- B. Determine the total number of nanomoles of PNP produced per minute in the assay (units: nmole min^{-1} which is equal to mU).
- C. Determine the activity of the protein prep per mL of protein prep (units: mU mL^{-1}).
- D. Determine the mass of protein per mL of purified protein solution (units: mg mL^{-1}).
- E. Use the values from *D* and *E* to determine the specific activity of the purified protein solution (units: mU mg^{-1}).