

**03-231 Biochemistry SI**  
**Thursday, October 7, 2005**

Andy Hsieh [AMDyMoN@cmu.edu](mailto:AMDyMoN@cmu.edu)

Thursdays 7:30 - 8:30 PM, OSC 231A

Marciella DeGrace [mdegrace@andrew.cmu.edu](mailto:mdegrace@andrew.cmu.edu)

Wednesdays 7 - 8 PM, WeH 5403

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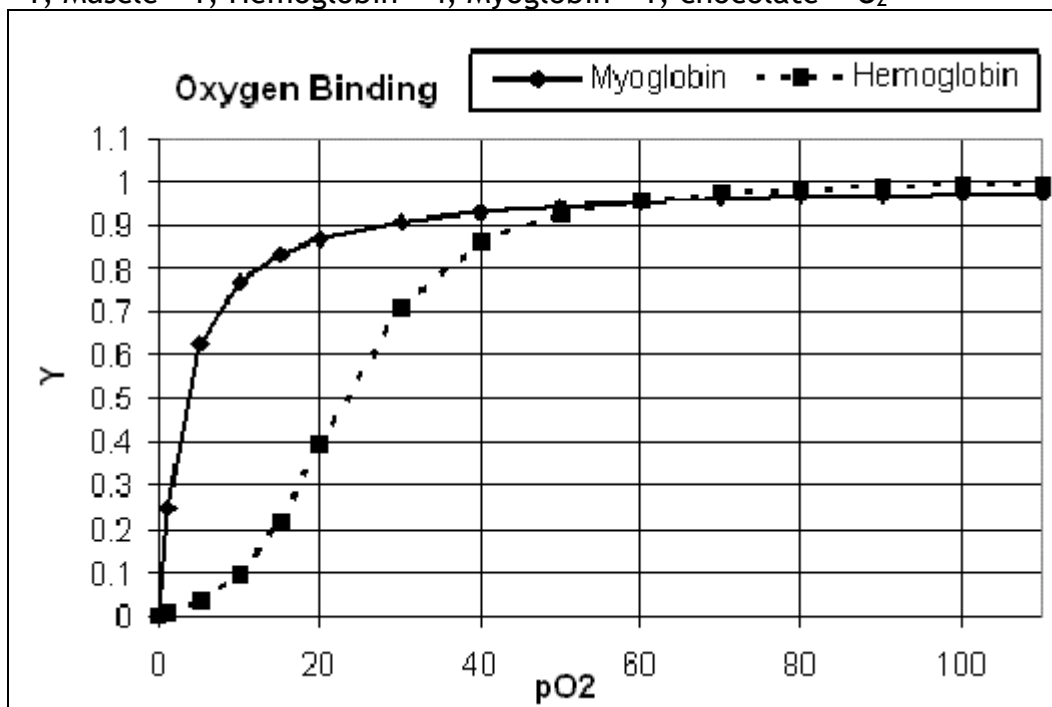
Academic Counseling

**Study Tip** - Excel for the HW: have the equation available, and then make new columns for all the variables required for this particular calculation. If you need help with the HW, feel free to E-mail me. (I'll not be available on Saturday but I can get back to you ASAP on Sunday).

**Living tip** - Don't drink too much coffee before going to a 1.5-hour exam. Caffeine is diuretic, which according to [www.dictionary.com](http://www.dictionary.com), means "tending to increase the discharge of urine".

**Demonstration:** I need 7 volunteers:

Lungs - 1; Muscle - 1; Hemoglobin - 4; Myoglobin - 1; chocolate = O<sub>2</sub>



*The Journey from the Lungs to the Muscle*

Macromolecule	Initial concentration	Final concentration	Efficiency
Myoglobin			
Hemoglobin			

Write down a couple of concluding sentences about this activity:

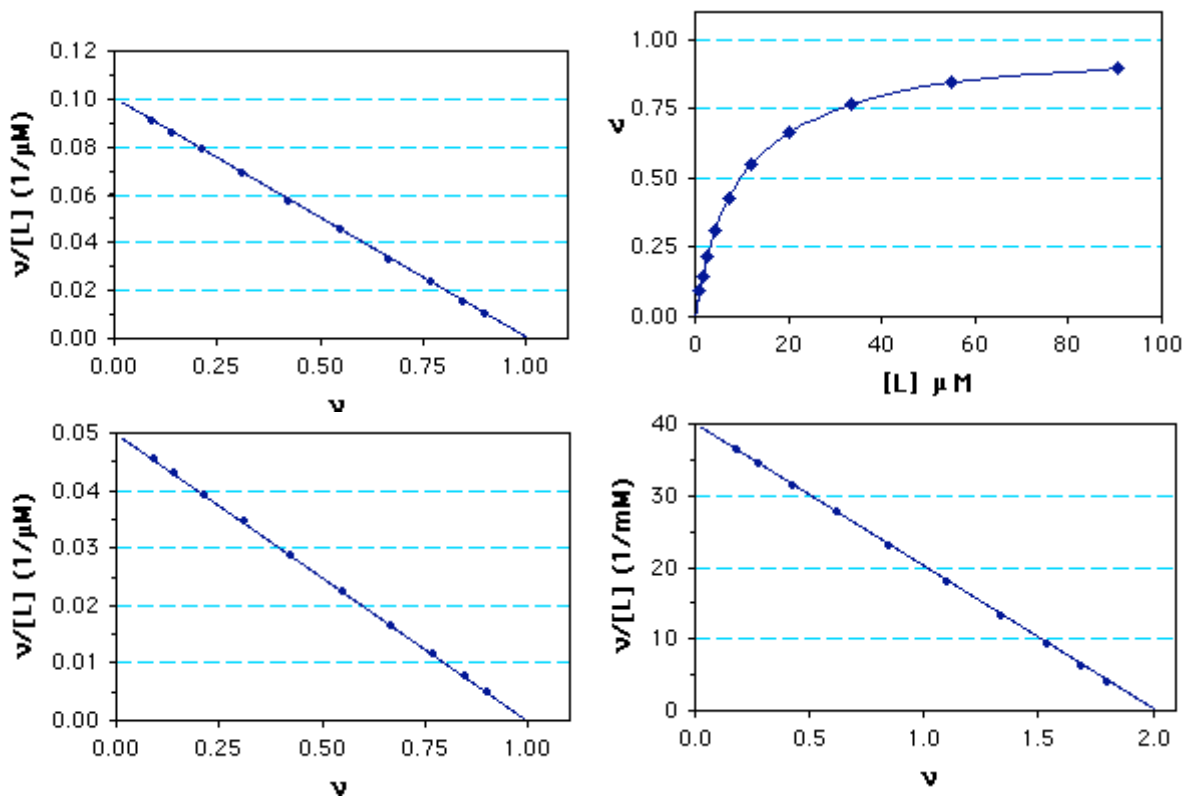
- If Sauman were to cast a spell on you, such that all the hemoglobin molecules in the body were converted to myoglobin, predict the condition you'll be suffering.

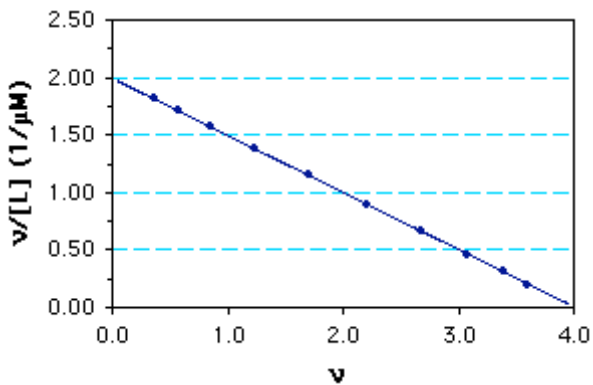
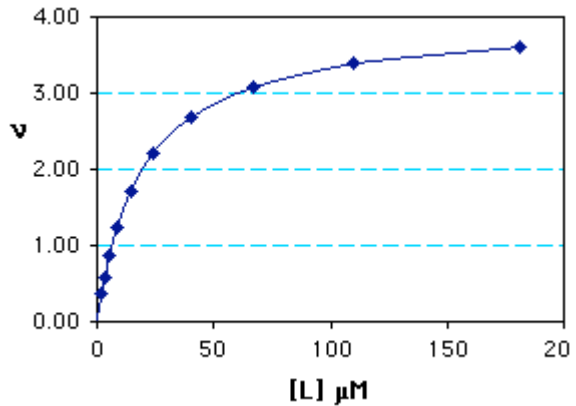
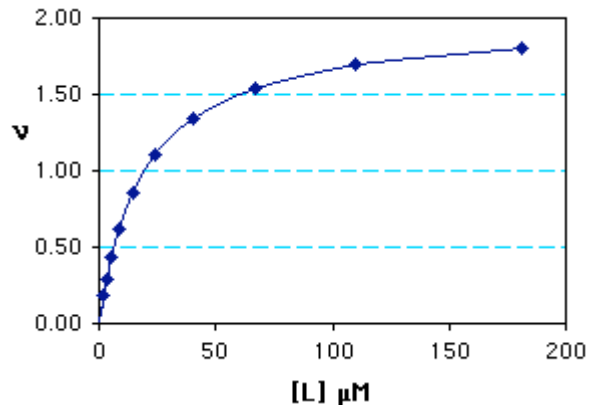
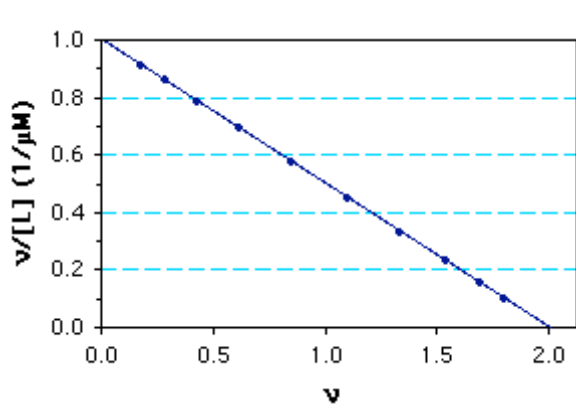
**Determine the  $n$  (number of binding sites) and  $K_d$  from the graphs below:**

Distinguish the type of the graphs first (saturation binding curve or scatchard plot)

Then, complete the sentence:  $K_d$  has the unit of \_\_\_\_\_, on saturation binding curve, it can be found \_\_\_\_\_. On a scatchard plot, x-intercept gives us \_\_\_\_\_, which has the unit of \_\_\_\_\_, and y intercept indicates \_\_\_\_\_, which has the unit of \_\_\_\_\_. Lastly, the slope is \_\_\_\_\_, which has the unit of \_\_\_\_\_.

The equation for scatchard plot is: \_\_\_\_\_





### Hill Plot

Hill plot measures gives us an idea of the \_\_\_\_\_ of the enzyme. The slope of the graph yields \_\_\_\_\_. The x-intercept tells us about the \_\_\_\_\_, which has the unit of \_\_\_\_\_. The y axis is \_\_\_\_\_, which has the unit of \_\_\_\_\_. The equation for Hill plot is \_\_\_\_\_.

