

## Activity #4 Enzyme Purification Computer Laboratory

The purpose of this lab is to learn how the different techniques are used to separate proteins. Start the program by double clicking on the protein purification program icon. It can be found at the following URL:

<http://home.btconnect.com/agbooth/archive/swingPP/ProtLab.html>

To learn how to use the program, complete *all* the exercises on the web page and answer the associated questions.

For the activity, you may wish to practice on proteins 15, 17, 18 and 19. When you feel competent, see how well you can do on proteins 4 and 5. You may try each one as often as you like, but only your last effort will count for each. The object is to design a reasonable strategy and explain it, not necessarily to get the fewest number of steps (though too many costly steps will be frowned upon).

A grading rubric will be developed based on the following criteria:

- 30% for turning in the activity
- 20% for completing the exercises as demonstrated by answering the questions
- 20% for a reasonable strategy
- 30% for an explanation of why you chose each strategy, what you hoped would happen at each step and why what happened did happen for proteins 4 and 5.

You can copy your results and paste them in a word processing program for display. Below is one of my results for getting the total mixture to a pure protein (#20).

### Example: Purification results for protein 20

Step	Procedure	Protein (mg)	Enzyme Yield (%)	Enzyme (units)	Enrichment (ph/100 u)	Cost
1	Initial	511.0	100	5400	1.0	
2	Proc. 1	60.4	100	5400	8.5	0.11
3	Proc. 2	17.6	97.5	5266	28.4	0.34