Suggested discovery follow-up activity to the TOPS "Fish Protein Lab"

This activity will allow students to demonstrate their understanding of protein electrophoresis, as well as see the practical application to its use in the real world.

Students should be given a situation in which they must use their newly learned knowledge of protein electrophoresis so that they can make some type of protein comparisons between different food items.

The following scenario can be tailored any way you see fit. What we have included is obviously only for example. Try to make the scenario meaningful and stimulating to your students.

Christopher Craney, manager-owner of Craney's Seafood & Pub has been named in a lawsuit, alleging that his restaurant tainted its crab menu items with Pollack, a type of fish. Pollack is commercially used as a crab substitute, where it is processed with additives, artificial flavors and preservatives in such a way that it resembles crab meat. Although the final product resembles crab and tastes somewhat like crab, it generally contains little or no crab meat and is much less expensive to produce.

The allegations against Craney stem from a July 15 incident at the restaurant in which a customer, Mrs. Cam Plant of Puget Sound, became violently ill with abdominal cramps after eating a dinner entree containing crab. Mrs. Plant has had a history of allergic reactions to Pollack fish proteins and along with her lawyer, contend that the restaurant purposely substituted Pollack for crab in order to save money. It has been rumored that Craney is experiencing financial difficulties ever since the biotechnical company in which he invested heavily, Occitech, filed for bankruptcy last December. County health officials removed several samples from the restaurant's crab inventory for chemical testing. A court appearance is scheduled for some time in September.

Students should be instructed to design a protein analysis lab using their knowledge from the TOPS Fish Protein lab, so that they can determine whether Mrs. Plant did in fact ingest Pollack protein from tainted crab meat at Craney's Seafood & Pub.
Award Winning Biologist gets sick at party in her honor at World Renowned Craney's

- Last evening a N.S.F. Biology leader, who recently earned national recognition for obtaining the largest Federal grant to perform science research in the 21st century, became violently ill after eating a dinner prepared at Craney's. The meal that was ordered was Crab Au Gratin.

- The paramedics were called to the scene at 7:30 p.m. to find Dr. Cam Plant in anaphylactic shock from a serious known allergy to Pollack (a type of fish.)

- It is a known fact that the restaurant has fallen on hard times of late and is suspected in cutting some corners to save costs.
“It's the TOPS” says Occidental College

Chef Kaye Lord is a welcome addition to any kitchen!

April Mazzeo is a delightful hostess!

Veronica's drinks served in souvenir cuvette glasses are a hit with guests!
Menu

• Drinks from the Gel Well
  Souvenir cuvette glass

• TEMED Soup

• Pasta:
  (I never met a carbohydrate I didn’t like)
  Alpha 1-4 linguini covered in polyacrylamide sauce
  Caveat: Cooked in Alumina
  (not aluminum-Right?-Right!)

• Seafood- dredged daily
  from Malibu lagoon by Vantuna

• LePoison - Crab Au Gratin
  cooked by steaming to perfection in 95° C aqueous bath.

• Desserts: "Back & Fill"
  Coomassie Blue Pie
  Agarose Gel-o
  Polymer Pudding
Follow Up Questions

- Design a procedure, based on the protein analysis lab from yesterday to illustrate how you will identify if there is any imitation crab protein present in the food sample.
- Were there any significant banding patterns found to match the banding patterns in crab?
- What do these results suggest?
- What might be suggested, if the banded patterns showed more than just the presence of the imitation crab meat?
- Based on your results, what can you conclude about the crab dish that was served?
- Is the restaurant at fault?