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Alliaceae Protein Structure

I tested members from the Alliaceae family, (onions, leeks, garlic, and chives), to see if they have similar or different protein structures. I believed after I ran the protein extractions through the electrophoresis, I would see a lot of similarities between the four vegetables. My experiment started off with many tears as I blended all of my vegetables in order to break them down enough to get pure protein samples. I then used a chemical protein extraction buffer that helped separate the protein from the solution. For every ml of vegetable solution I had two ml of protein extraction. Next, I centrifuged each sample and froze it until I needed them. When that time came I boiled my samples in a water bath and centrifuged them to prepare them for the electrophoresis. I ran the samples through this for an hour and 15 minutes. I then stained the gels for 45 minutes using Coomassie® stain solution and destained them overnight. When I went to view my gels, the protein bands for leeks, garlic, and apples were not visible, so a few mistakes had taken place. I did, however, see the onions and the chives. I measured the bands I found and noted that they were the same length but not the same width. So I concluded that the onions and chives are very close in their protein structures. Therefore, my hypothesis was probable because onions and chives, both being members of the Alliaceae family, had very similar protein structures.