

Kitchen Chemistry Homework #1

Homework questions:

General questions:

1. Name three pieces of scientific equipment that were used in the reserach papers that you read.

Guacomole questions:

1. Is the avacado a fruit or vegetable? What makes it unique in this respect?
2. Why does guacomole turn brown?
3. Provide a chemical explanation how we can prevent the browning of the avacado.
4. Why do apples turn brown? Is this the same mechanism as avacado browning?
5. How can we prevent the browning of fruits and vegetables?
6. Why do onions make us cry?
7. How can we ripen the avocados quickly?
8. Once the avocados are ripe, how can we extend its shelf-life?
9. What is the name of the pigment in avacados which has been attributed to have health benefits?

Salsa Questions:

1. What makes peppers taste hot?
2. What is the molecular mechanism for how we perceive capsicum?
3. What is the molecular basis for building up resistance to the hotness of the peppers?
4. What is cilantro? What other name does cilantro go by?
5. What are some of the medicinial uses for capsicum?
6. How do you make torillas?
7. What are Quesidillas? And why didn't Patti give us a recipe for them?
8. Why make a mouse without the capsicum receptor?
9. What is the structural difference between Capsicin and dihydrocapsaicin?
10. Of the peppers tested in Garcer-Claver et al, which pepper had the largest amount of Capsaicin?

Hot Sauce questions:

1. What was the flavor profile of your hot Sauce? (What were the main ingredients that you used?)
2. How did you make it? did it turn out the way that you wanted it to? why or why not?

MIT OpenCourseWare
<http://ocw.mit.edu>

ES.287 / 5.S15 Kitchen Chemistry
Spring 2009

For information about citing these materials or our Terms of Use, visit: <http://ocw.mit.edu/terms>.