



Sci-Food – A taste of molecular biochemistry cuisine

Activity 1 – Juice, fruits and wine Caviar

Spherification

Sodium Alginate Bath

3g sodium alginate
325g water

Calcium Chloride Bath

5g calcium chloride
1000g (1 L) water

Syringe

liquid of choice (200 mL)



1 - Dissolve sodium alginate in water, using an immersion blender to get the powder in solution (could take 5-10 minutes). In a pot, bring the solution to a boil and then let cool to room temperature. In a separate bowl, dissolve the calcium chloride in water.

2 - In a small bowl, mix together your liquid of choice with the sodium alginate solution in a roughly 2:3 v/v ratio (liquid of choice: sodium alginate solution). Using a pipette or syringe, gently squeeze the liquid out drop by drop into the calcium chloride bath. Small spheres will form. Let the spheres “cook” for about 1 minute before removing them from the bath using a slotted spoon. Rinse with water before serving.

3- Serve immediately.

Note: you can continue to reuse the calcium chloride bath as you mix together portions of the sodium alginate bath with various different kinds of liquids. Have fun!



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Activity 2 – Jelly Gum Drops

Ingredients

*6 unflavored gelatin 4 table spoon + 1 1/2 tsp
250 g cold water
375 g boiling water
800 g sugar
0.25 tea spoon flavored extract lemon, orange,
peppermint, etc.
12 drops liquid food coloring
1 cup sugar for coating*

Special Equipment

*silicone candy molds
thermometer*



Instructions

1. In a large pot (yes, a large stew pot, you'll need it!), stir together the gelatin and cold water. Let sit 5 minutes.
2. Meanwhile, let the additional water come to a boil in a small saucepan or in the microwave. Pour the boiling water over the gelatin mixture and stir until dissolved, about 1 minute. Stir in the sugar.
3. Place the pot over a burner at medium-high heat. Bring to a boil, and then reduce heat to medium-low. Let simmer until the mixture reaches 240-255 degrees F, about 25 minutes, stirring constantly and scraping sides to avoid burning any sugar. The mixture will get quite thick.
4. Remove from heat and stir in the flavor extract of your choice. Next, add food coloring, or divide the mixture among bowls and add food coloring for multiple colors.
5. Pour gelatin into silicone molds. Let sit at room temperature, 12 hours.
6. Remove candy from molds. If you need to cut the candies, run your knife under hot water before each cut to avoid sticking. Roll in extra sugar to coat.
7. Place on a wax paper lined tray. Cover with a tea towel and let sit at room temperature for 48 hours to crystalize.