Fermentation of Sucrose & Nylon by Interfacial Polymerization

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Purpose: To ferment sucrose (1 week) and to create Nylon by Interfacial Polymerization.

Experiment: In a 500 mL round bottom flask, we added 50.0 mL of water, half a packet of yeast, and .38 g of monobasic potassium phosphate. Then added a combination of 51.59 g of sucrose and 150.0 mL of water into the flask. In a test tube, I added about 2 inches worth of calcium hydroxide. Finally, I assembled the fermentation apparatus. Results will be announced a week from now.
In Beaker 1, we added 25 mL of dichloromethane, and 1.21 g of sebacoyl chloride. In Beaker 2, we added 1.2 g of Hexane-1,6-diamine, 25 mL of water, and .5g of sodium hydroxide solid. Maggie poured Beaker 2 into Beaker 1 and pulled out the solid material, which was in fact the Nylon (7.416 g). Testing its physical properites, we melted a piece of the nylon, and all it did was burned to a crisp. Compared such results by heating up pieces of Styrofoam, milk jug, and water bottle (all polymers). The Styrofoam dissolved, milk jug melts then solidifies, and the plastic bottle melts then hardens. We then tested its solubility, using acetone and ethanol. The only polymer that seemed to be soluble in anything was the Styrofoam, when dipped in acetone.

