

162b Better Eating through Surface Chemistry

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The creation of foams, emulsions, colloidal suspensions, and crystals is central to both the science of surface chemistry as well as good cooking. In the upper level elective Applied Surface Chemistry, students groups made salad dressing (emulsion), butter (broken emulsion), meringue (foam), and fudge (crystals within a narrow size range) in a series of in-class mini-labs. Recipes were rigged such that some students groups were more successful than others, and the class as a whole analyzed the outcomes, both in terms of chemistry and taste. Other food examples were discussed in the course, most notably chocolate mousse, which is both a foam and an emulsion. This discussion inspired students in one case to make mousse for class consumption and in another to take on the search for the “perfect” mousse as their class project. This presentation will address some useful examples of surface chemistry in foods and their presentation in class with relevant resources.