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Team Project 2
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This image was taken as a part of our second group project. We were trying to capture some interesting images involving liquid nitrogen. This image in particular is of a liquid nitrogen soap bubble.

We used a bottle of soap bubbles that could be purchased at any toy store. We then poured a mixture of liquid nitrogen and water into the soap bubble solution. The liquid nitrogen reacts immediately with the bubble solution and begins to smoke. As it does so, it freezes water bubbles from the mixture. We used the bubble blowing tool included with the mixture to extract the bubbles and dropped them on a black, velvet sheet. This image captures the bubbles being dropped onto the sheet. Several bubbles can be seen, as well as the reaction between the mixture and the liquid nitrogen. The bubbles are able to form because the glycerin in the mixture prevents it from immediately freezing. The bubbles did not have a particularly large lifespan (a few seconds), which made the experiment a bit more chaotic.

There is a handheld clip light (about 200w) held about three feet to the left of the subject at a forty-five degree angle. There is smoke coming from liquid nitrogen so that is part of the visualization. Also the soap provides a reflection of the color spectrum in the light. That is the main visualization principle in effect here. Clearly the whole spectrum is not reproduced, some of it is absorbed by the soap and nitrogen. The liquid nitrogen was properly handled and discarded nothing was rinsed down the drain that shouldn't have been at any point and all of the experiments were done in a safe, lab environment on campus.

We were using a Canon macro lens (50-100mm), on a Canon EOS 7D. The lens was set to 50mm. We were shooting at f16 to try to attain at least some depth of field (very hard with macro photography). As a result, we used a slow exposure time of 1/6 sec and use and ISO of 800. But being on a tripod and that the bubbles were fairly still, the image is still very clear. The size of the image is 5,184x3456 pixels.

This image is a nice looking picture, and I like the feel of it. Unfortunately, we weren't able to capture the effect we were initially seeking to (the beading of liquid nitrogen on a hard surface). Nonetheless, the formation of liquid nitrogen ice bubbles is still an interesting effect and I am happy with this image.

Works Cited

“Cool Nitrogen”. <http://www.msm.cam.ac.uk/SeeK/nitro.htm>. 4/18/12.

“States of Matter”. <http://www.physics.isu.edu/~shropshi/smdesc.htm>. 4/18/12.