

Student Examples

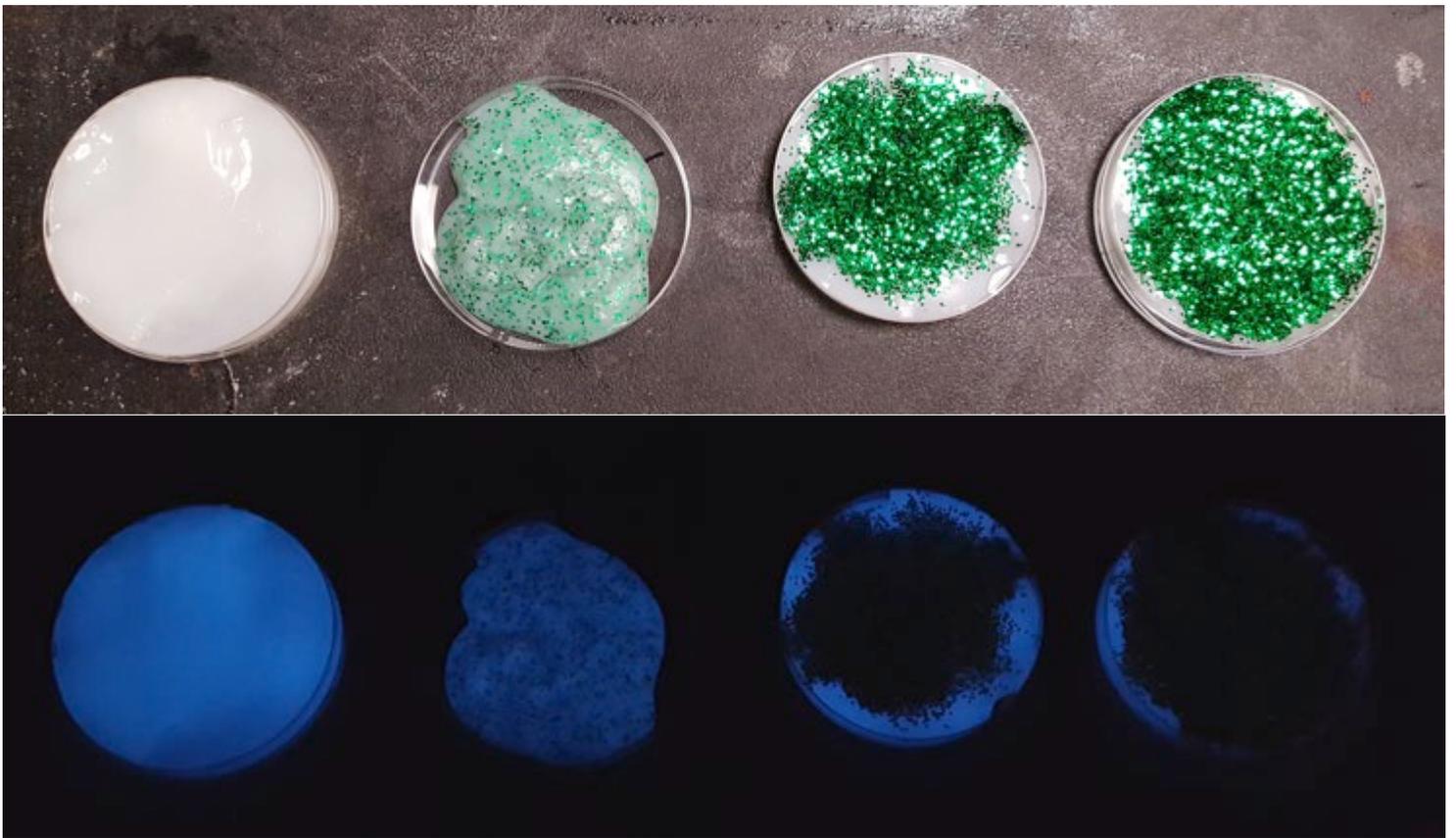
Sample preparation and analysis for round 1:

Brown melanin	Yellow melanin	Feathers	Scales	Hair	Cuticle/ exoskeleton	Structural coloration
Added 10 grams of protein powder after Procedure Step #7	Added 5 drops of yellow food coloring after Step #10	Added 52 feathers of different sizes and colors to the sample after Step #15. Feathers were stuck into sample at an angle.	Added 30 nails of close to the same size after Step #15	Added 2- 53cm long thin plastic strands after Step #15	Added a 2 nd surface layer of a 30 ml cured solution that was created with 15 g of corn starch, 60 ml of water, 5 ml of vinegar, 10 ml of glycerin	Added 1 g of green glitter after Step #10

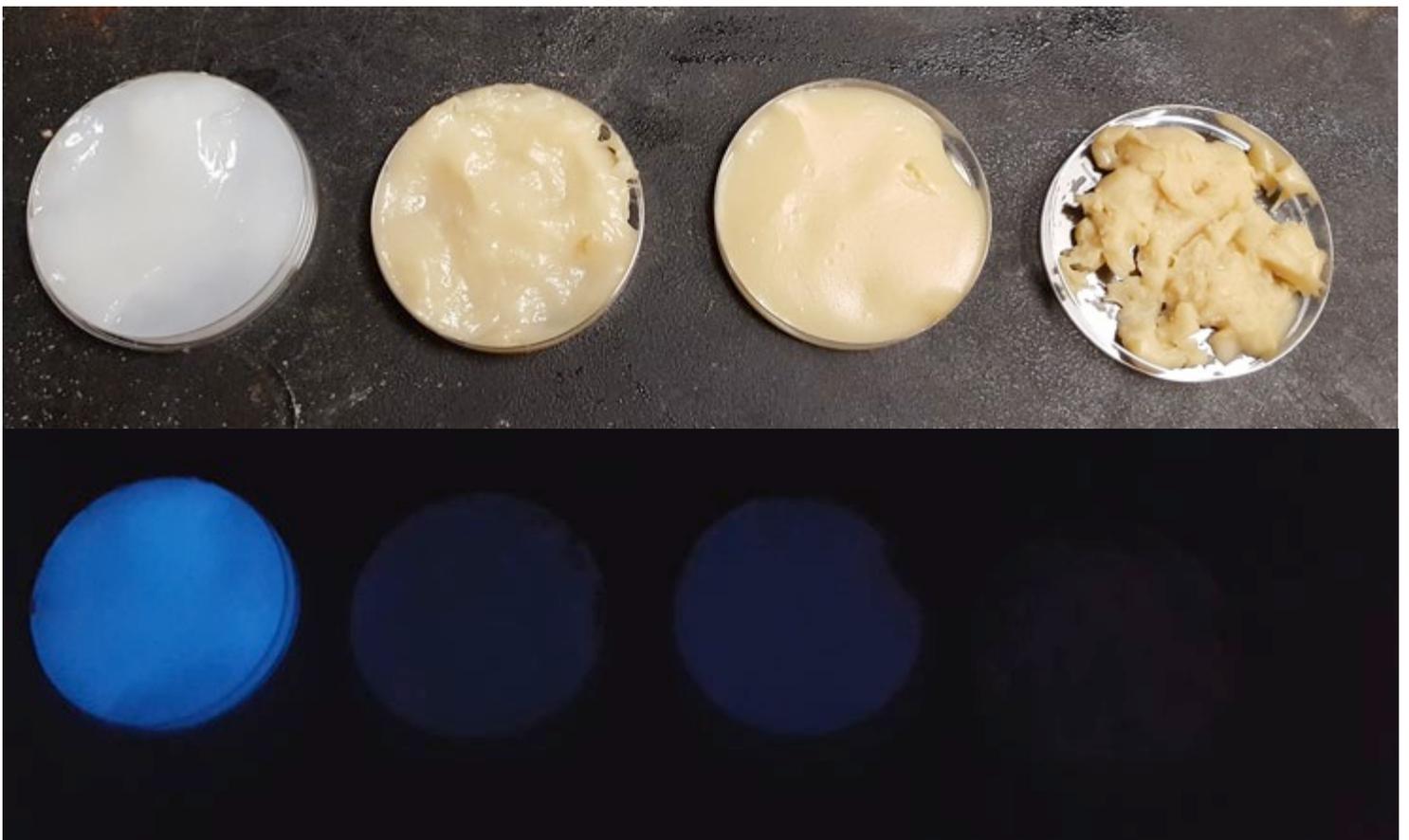
Sample preparation and analysis for rounds 2 and 3:

Brown Melanin	Yellow Melanin	Feathers	Scales	Hair	Cuticle/ Exoskeleton	Structural Coloration
Sample 2 Added 5 grams of protein powder after Step #7	Sample 2 Added 3 drops of yellow food coloring after Step #10	Sample 2 Added 36 blue feathers that were close to the same size to the sample after Step #15. Feathers were stuck into sample at an angle.	Sample 2 Added 50 nails that were different sizes after Step #15 in an overlapping pattern	Sample 2 Added 80- 1.3 cm long thin plastic strands after Step #15 in a unified/spaced out pattern.	Sample 2 Added a 2 nd surface layer of a 30mL cured solution that was created with 15g of corn starch, 60mL of water, 5mL of vinegar, 5mL of glycerin	Sample 2 Added 1 gram of green glitter after Procedure step #15
Sample 3 Added 8 grams of protein powder after Step #7	Sample 3 Added 8 drops of yellow food coloring after Step #10	Sample 3 Added 18 green feathers that were close to the same size to the sample after Step #15. Feathers were stuck into sample at an angle.	Sample 3 Added 19 nails that were bigger (then previously used) but were different sizes side by side after step #15	Sample 3 Added 35-5 cm long thin plastic strands after Step #15 in a unified/spaced out pattern.	Sample 3 Added a 2 nd surface layer of a 30mL cured solution that was created with 10g of corn starch, 60mL of water, 5mL of vinegar, 10mL of glycerin	Sample 3 Added 2 gram of green glitter after step #15

Structural coloration found in butterflies and certain beetles - using glitter



Melanin pigment - using protein powder



Pigment - using yellow food coloring



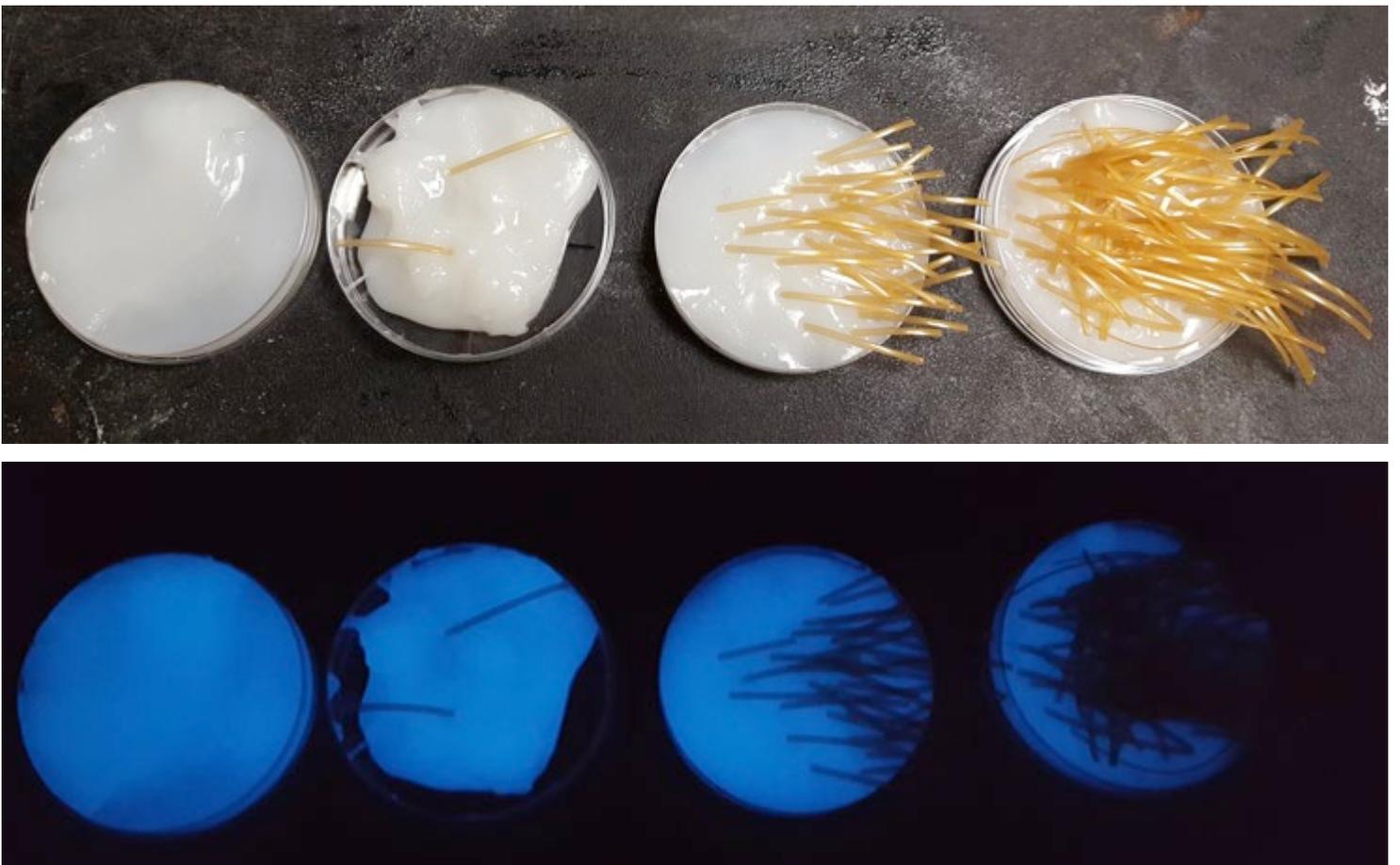
Scales - found in reptiles and fish using acrylic nails



Exoskeleton - cuticle using the bio-plastic matrix



Hair found mammals - using plastic thread



Feathers



All Samples

