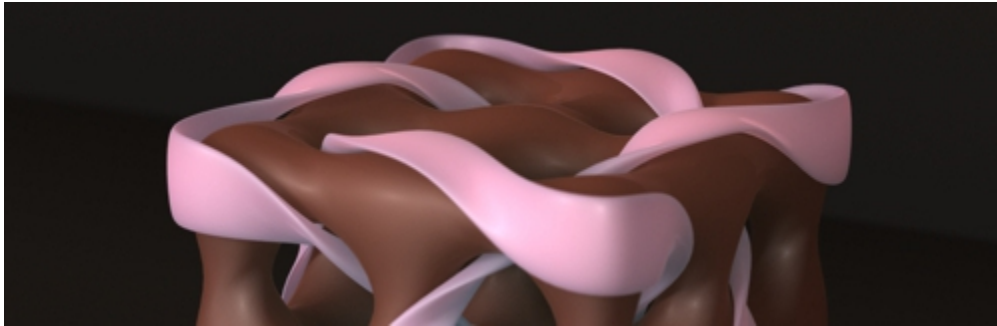# DLD Synthetic Soft Plastic Shaders

This is a set of synthetic "soft" plastic shaders. Rather than the harder solid, single color plastics, these give you a a rich sheen with a subtle color shift that varies with your lighting. This will result in a more dimensional look to your figures and props. The shaders are perfect when you want a softer more pliable look.

You can achieve over 7400 combinations by mixing and matching the 62 colors, 2 displacement options with 5 strengths, 3 opacity choices and 4 reflection settings. Follow the included tutorial, and the possibilities are limitless!

"Well HOW do I use it?"

That is what we are here to explain. You should have a second download in your account which contains your Bonus Content. This includes the User Guide, a Ribbon Cube object, (the same one used in the promos) and a copy of the scene we will create with this User Guide.
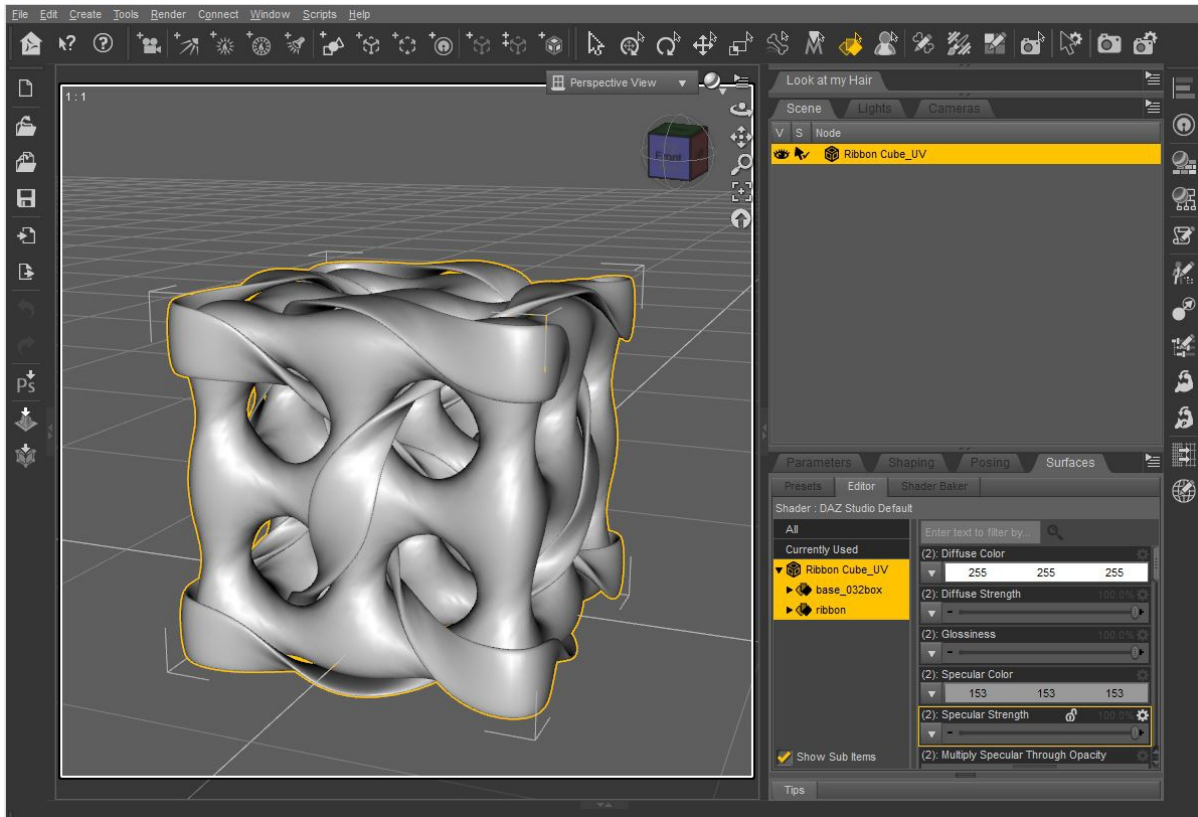

Content:

Let's Get Started!

The first thing you will want to do is import the Ribbon Cube from your Bonus Content. (You can use any object you choose if you'd rather.) Once you have the object imported into your blank scene, you are ready to start!

I. How do I apply the Shader?

A. To apply the shader, first select the cube in the **Scene Tab**, and the surface surface of your object in the **Surfaces Tab**, like we have in the image above. You will notice our ribbon cube has 2 surfaces to choose from. We will start with the "**ribbon**" surface.

B. Next, go you the Content Library and browse to "**Shader Presets > DLD > Synthetic Soft Plastic Shaders**". With the "**ribbon**" surface selected, choose your desired color and double click.

C. As you can see, the ribbon turned white, or a very faded color, depending on the shader color you chose. That is
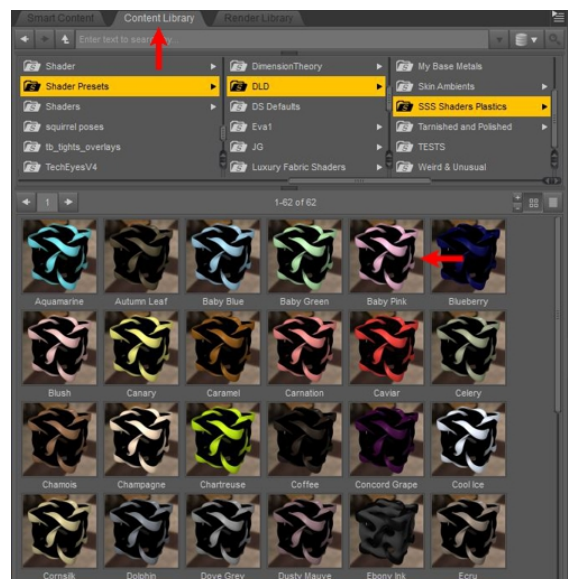
okay. You will see the results when you render. We now have a shader applied, with our chosen color.

D. To see exactly how it looks, do a quick spot render.

To be honest….it doesn't look all that impressive does it? That is because shaders that use Subsurface Scattering as these do, are very dependent on lighting to get results. We will add lights shortly.

E. Here is where we can add a Utility Preset if we choose. Simply keep the same surface selected, and browse one more level in your library to "Utilities". Here you will find partial presets that will add displacement, change reflection and opacity and if you need to, change the surface back to the DS "default surface". Let's wait on these right now and finish setting up the scene a bit so we get a more accurate picture of what the shader is doing.
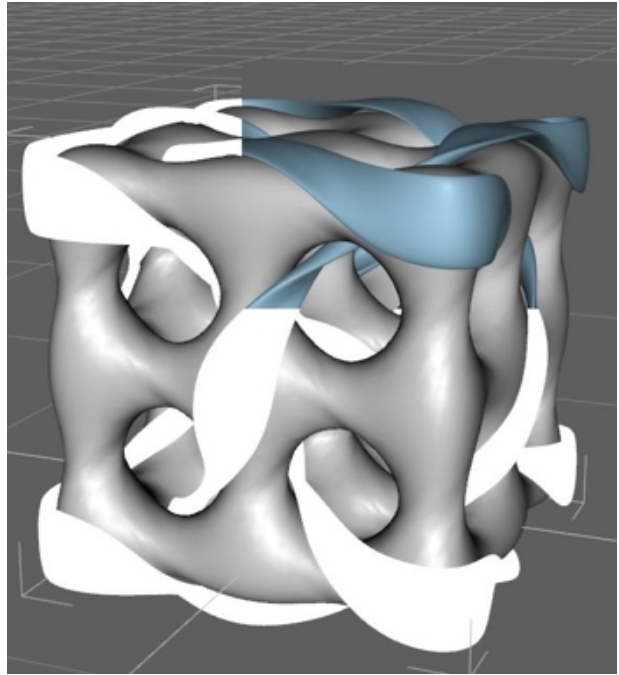
Note: If a preset doesn't seem to apply, try re-selecting the surface, as it can lose focus when clicking around.

## II. How do I adjust the shader to my needs?

A. Select the surface you want to adjust, and click on the **Surface Tab**, like you did above.

B. There are several pieces to the shader. We will cover the main ones for the "soft plastic" look we are going for and it is highly suggested you read the PDF for the Subsurface Shader Base from DAZ 3D. (Which now ships with DS.) Here are the ones we will work with:

  i. **Diffuse Color** – This is the base color for the surface. The shader sets the strength of this to **60%**, thus allowing more of the "*subsurface colo*r" to show through.

  ii. **Displacement Strength** – If you want a pattern on your surface, you can add any tiling Bump/Displacement map into this channel. We have included 2 presets in the Utilities folder, and 2 bonus tiles in "**Runtime > Textures > DLD > SoftSynthetics**" that you can use to test and learn with.

   a) **Set the Strength %** anywhere from 1 – 100, after you have added your image. Depending on your image used, this will vary and each image map will give different results. Play and experiment.

   b) **Min and Max** are how much the mesh is "displaced". Min is inverse mesh and Max is the raised mesh. Use +/- numbers (min -/max +). Start low and raise slowly if you choose to change these.

  iii. **Opacity** – This allows you to set how "opaque" your surface it. The lower the %, the more transparent

your surface becomes.

    iv. **Reflection** – Sets how reflective your surface is. Remember, if you want to get good reflections, use a lighter Specular color, and you must have something ioon your scene to "reflect". I recommend using an environment dome.

    v. **Subsurface** – These are the settings that allow you to really tweak the colors, and how much your "subsurface" effects your item. Much of the info is covered in the Subsurface Shader Base guide mentioned above, but we will cover a few again here.

        a) **Group ID** – **This one is very important.** If you do not want your shaders to "bleed" into each other, each surface you apply the shader to must have a unique ID. Default for the shader is "**1**". If you look at your ribbon surface you will see it is set for you. Go ahead and apply a shader to the other surface on the cube, and change its Group ID to "**2**".

        b) **Shading Rate** – The default for our shader is "**1**". This calculates a more dense sampling for more accurate results. But it can also cost render time. Raise this if necessary, but you will need to find a happy medium between render time and quality. (Default for the Subsurface Shader Base is 16.)

        c) **Shading Scale** – This is best explained in the Subsurface Shader Base document. A quick rule of thumb is the smaller the surface, the smaller the scale.

        d) **Surface Color** – This is the inner surface volume color.

        e) **Subsurface Strength** – Ours is very high at 200%. You will probably need to lower this with smaller surfaces. Some of the Promo images are using 120-180 %.

        f) **Absorb Blue/Green/Red** – Read the SS Shader Base Doc for the full explanation. It has to do with how much these colors are absorbed or pass through the surface. Feel free to play with them to see what kind of results you get.

        g) **Scatter Blue/Green/Red** – This controls the light that bounces inside the surface.

C. The rest are pretty much best left as they are, but you can experiment. You may get some really fun results.

III. How do I save out my own preset?

A. Once you have adjusted the setting on the Surface Tab to your likings, make sure you have that surface selected.

B. Go to **File>Save As> Shader Preset**

C. It will ask for the Folder/Path you want to save your Preset. Select a folder in your Content path. For example: My Library:Shaders:My Custom Presets.

D. Select just the sections you want affected. Un-check any boxes you do not want affected. For our Reflection Utility shader, we unchecked everything but "**Reflection > Reflection Strength**" (expand each section for more options.)
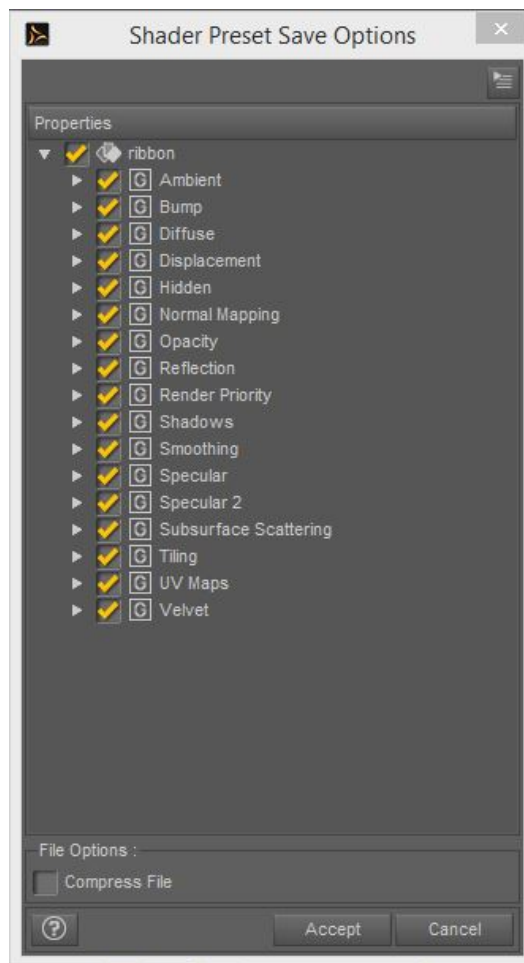
E. Now, you can use your preset anytime you want. You may want to render an image for the preset and save it in the same folder, with the same name (91x91 pixels). This will help you clarify visually what your shader does.

IV. Oh No! I've messed it all up!

A. If you get to a point where all you have is a mess, simply select your surface and use the "Shader Cleaner" preset. This essentially turns everything back to the default DS shader. No textures, no color, no extra shader nodes. From here you can re-apply any texture or shader and start over.

V. Let's Set Up a Scene!

Now that you have your cube in the scene with the shaders applied, let's start setting up a simple scene to show it off. We will walk through setting up a scene with content that ships with studio.

In this section, we are going to assume you have a working knowledge of DAZ Studio and how to get around the program and your content. If not, please visit http://docs.daz3d.com for help. This section does not cover basic

DAZ Studio use.

A. Load (2) Plane Primitives into your scene. Leave one flat for the ground, and rotate the other 90 degrees on the "X-Rotate". This will be our back wall. You may need to move it back a little if it is cutting through your cube. We also set the diffuse on the Plane surfaces to almost black. Just to show off our cube without distraction. You can use any setting of course.

B. Add an UberEnvironment 2 light to the scene.

   i. Add an environment map. We are using the map included with Barefoot Dancer. You can browse to it here: **Runtime\Textures\omnifreaker\Environment\OMStudio_EnvM.tif**

   ii. Set the Occlusion samples from 8 to at least 128. **Parameters > Light > Occlusion Samples**

   iii. Turn the Map "Saturation" to between 40-60%.

C. Before adding lights, I like to frame my item in the viewport and add a camera. I do this because invariably, I will not be able to get back to the same view I liked once I play with the lighting.

D. Next, to get this to look really nice, we need 3 more lights. We will use "Distant"lights here. Be sure to name them as you add them so you know which light is which.

   i. **Fill Light** – This will give us an overall lighting for our scene in addition to the UE2 light we added. Ours is coming in from a mid to high front left.

      a) We have set Raytraced Shadow **ON.**

      b) **Soften** it. I like about **20%**.

      c) I have adjusted the **bias** to about **.30**

      d) Turn the light **intensity** down to about **50-70%** so it doesn't over power the scene.

   ii. **Rim Light** – This gives the illusion of back-lighting along the edges. Ours is coming in straight from the back left.

      a) Add a bit of very light blue to the Color. Not too much unless "blue" is the look you want.

      b) You can crank the **intensity** up on this one as it should be coming in and just over the rim of your cube. Mine is **110%**

      c) Shadows are similar to our Fill light.

   iii. **Specular Light** – This is what helps give it the shine. If you don't want it very shiny, keep this turned low.

      a) This comes in about the same angle as our Rim light, but from higher up.

      b) This is set to **Specular** only, and mine is at 100% intensity.

Go ahead and render. You may need to tweak your lights a bit. If you need more help seeing the settings or

angles, just load the DUF scene file from your bonus zip and take it apart and look at all the settings. Below, is the final render. We added a touch of DOF to the camera to give it a bit of a "dreamy" look. While this is a very simple set up, it actually works very well for portraits and other single focus scenes. It makes a nice starting place to lay out larger scenes as well.

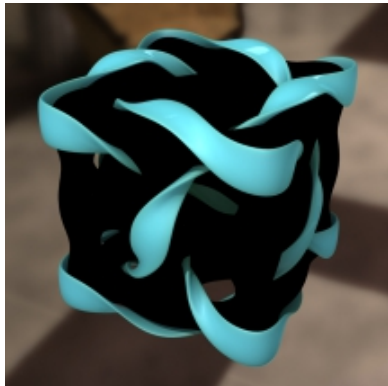**Have fun and enjoy you new shaders!**
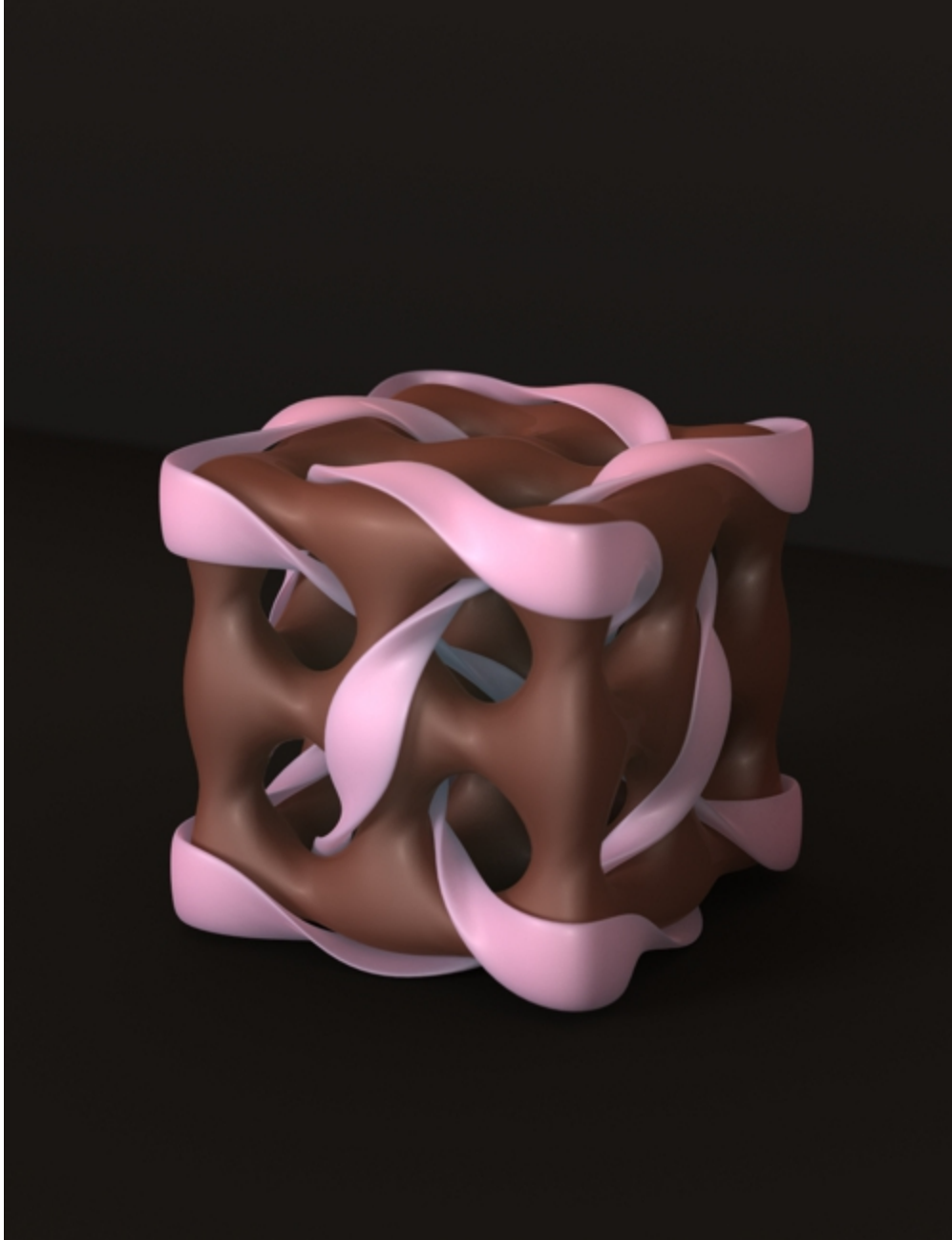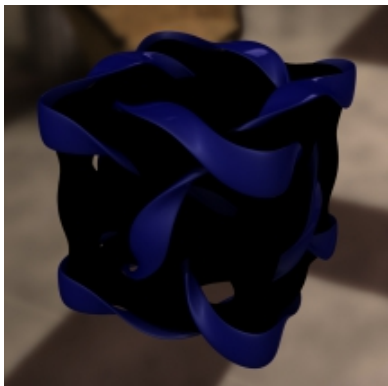
Reference Section

Color Presets:

Aquamarine

Autumn Leaf

Baby Blue

Baby Green

Baby Pink

Blueberry

Blush
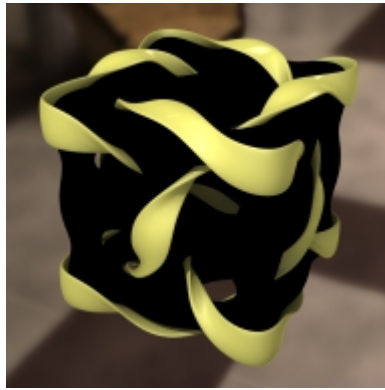
Canary
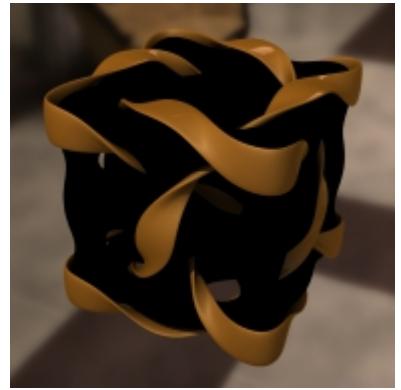
Caramel

Carnation

Caviar

Celery

Chamois

Champagne

Chartreuse

Coffee

Concord Grape

Cool Ice

Cornsilk

Dolphin

Dove Grey

Dusty Mauve

Ebony Ink

Ecru

Eggplant

Eggshell

Faded Red

Fatigue Green

Fawn

Flame

Ghostly

Goldenrod

Holly Berry
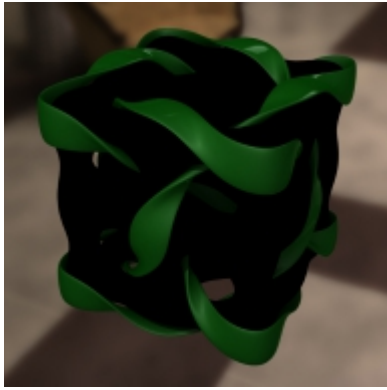
Holly Leaf

Hot Pink

Hyacinth

Khaki
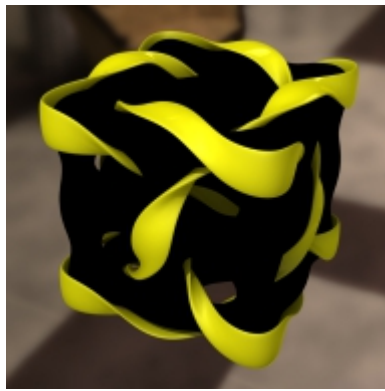
Lemon Yellow

Lilac
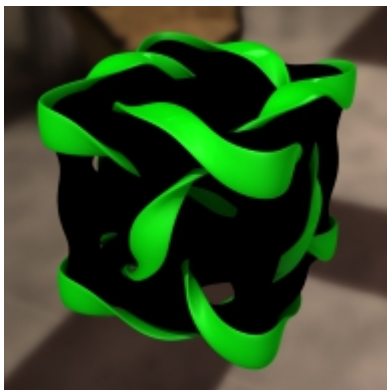
Lime Green

Mauve

Milk Chocolate
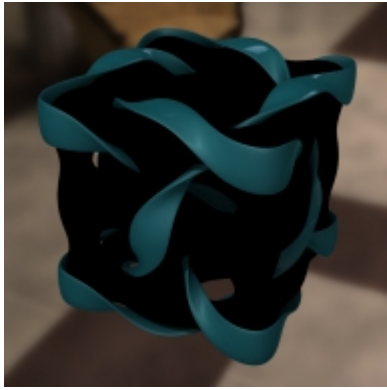
Ocean
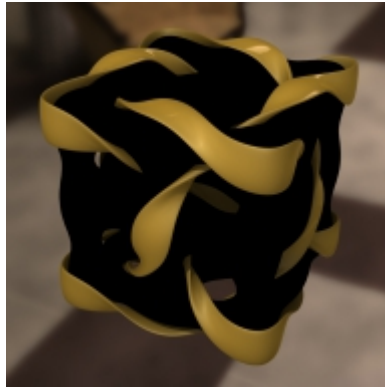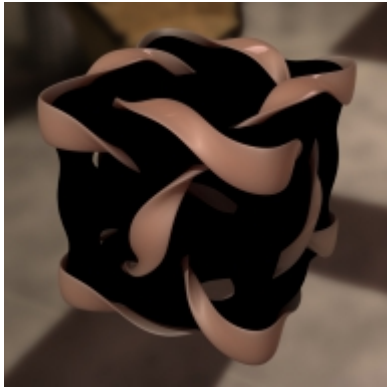

Ochre

Olive
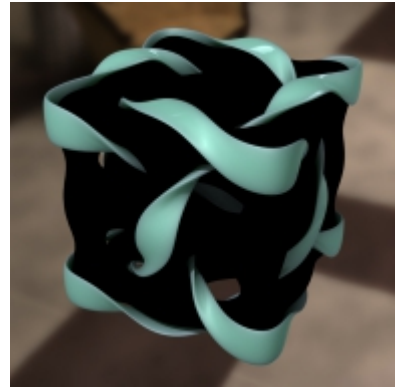

Peach

Periwinkle

Pink

Pumpkin

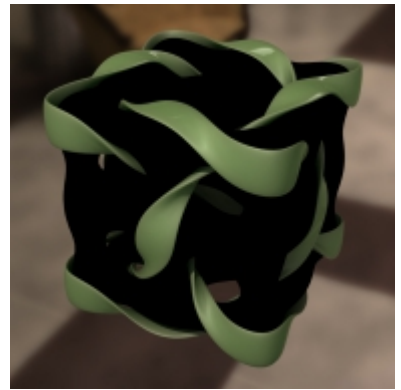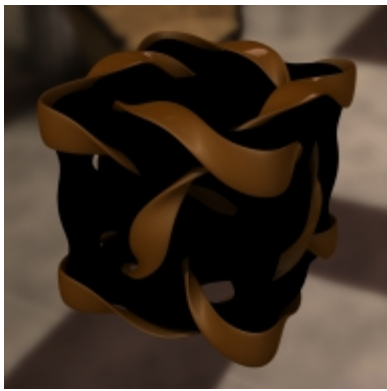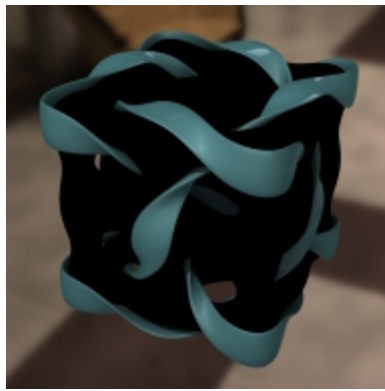*Rust*

Sage

Salmon

Salmon 2

SeaFoam

Slate

Spring Bud

Spring Grass

Toffee

Turquoise

Wheat

Wild Cherry

Wine

Promo Credits:

Main Promo:

- Various DS Primitives

- Victoria 4.3 Base

- V4 Basicwear

- V4 Mannequin

- Toonimal Goldfish & Bowl

- Various Beach Toys

- Advanced DAZ Studio Light Bundle

Popup 2-4:

- Various Primatives

- Ribbon Cube, Ring Cube & Twisted Torus made by me

- Advanced DAZ Studio Light Bundle

Popup 1:

- Various DS Primitives

- Lisa's Botanical Carnations

- Exenm's Vase

- Fancy a Game of Chess?

- Ring Thing made by me

- Advanced DAZ Studio Light Bundle