



OceanOptics

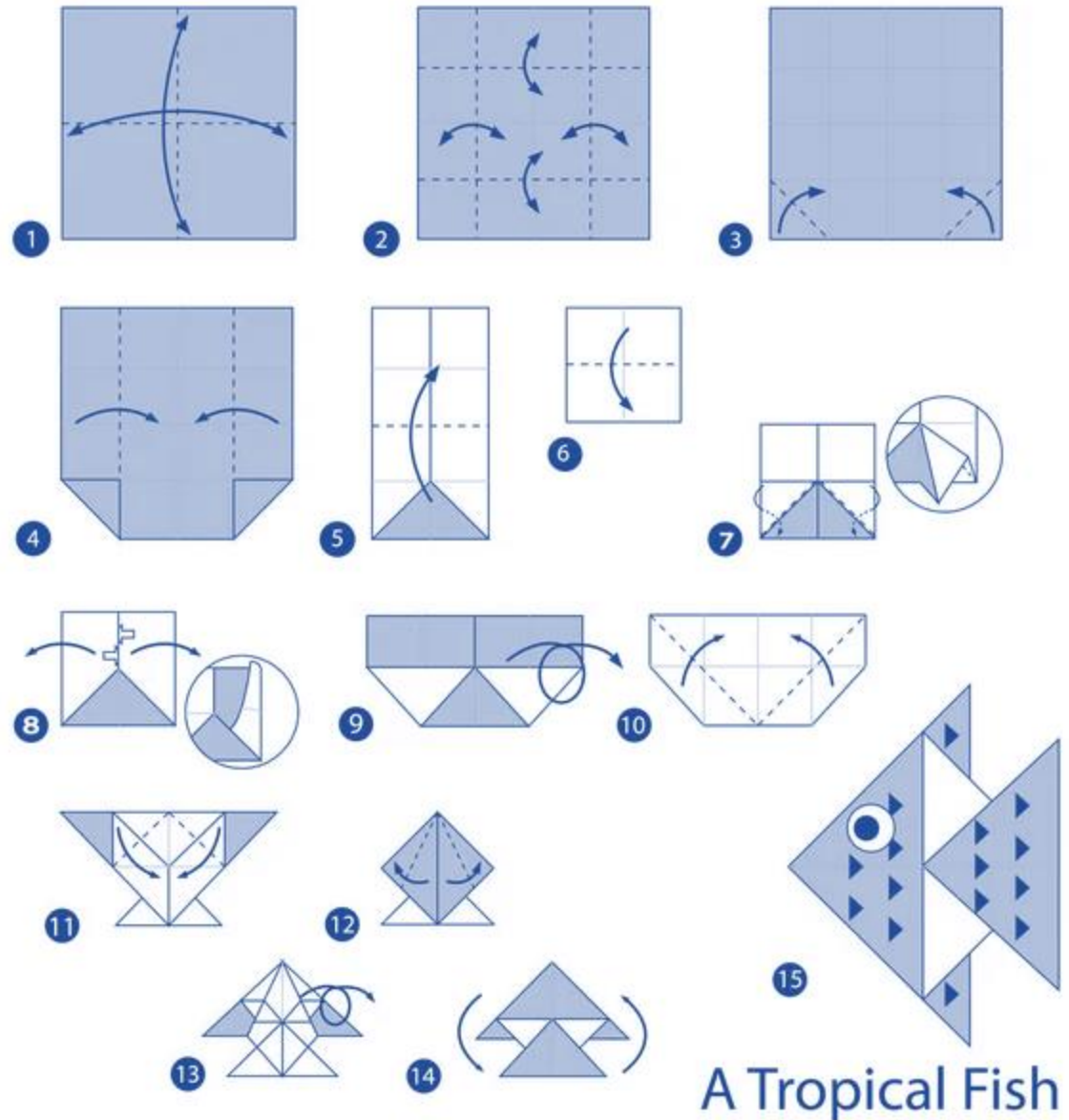
Solids

Sample & Bulk

Spectroscopy Kits

The color swatches that came with your Solids Spectroscopy Kit can be used for origami.

Try making this fish!





Components



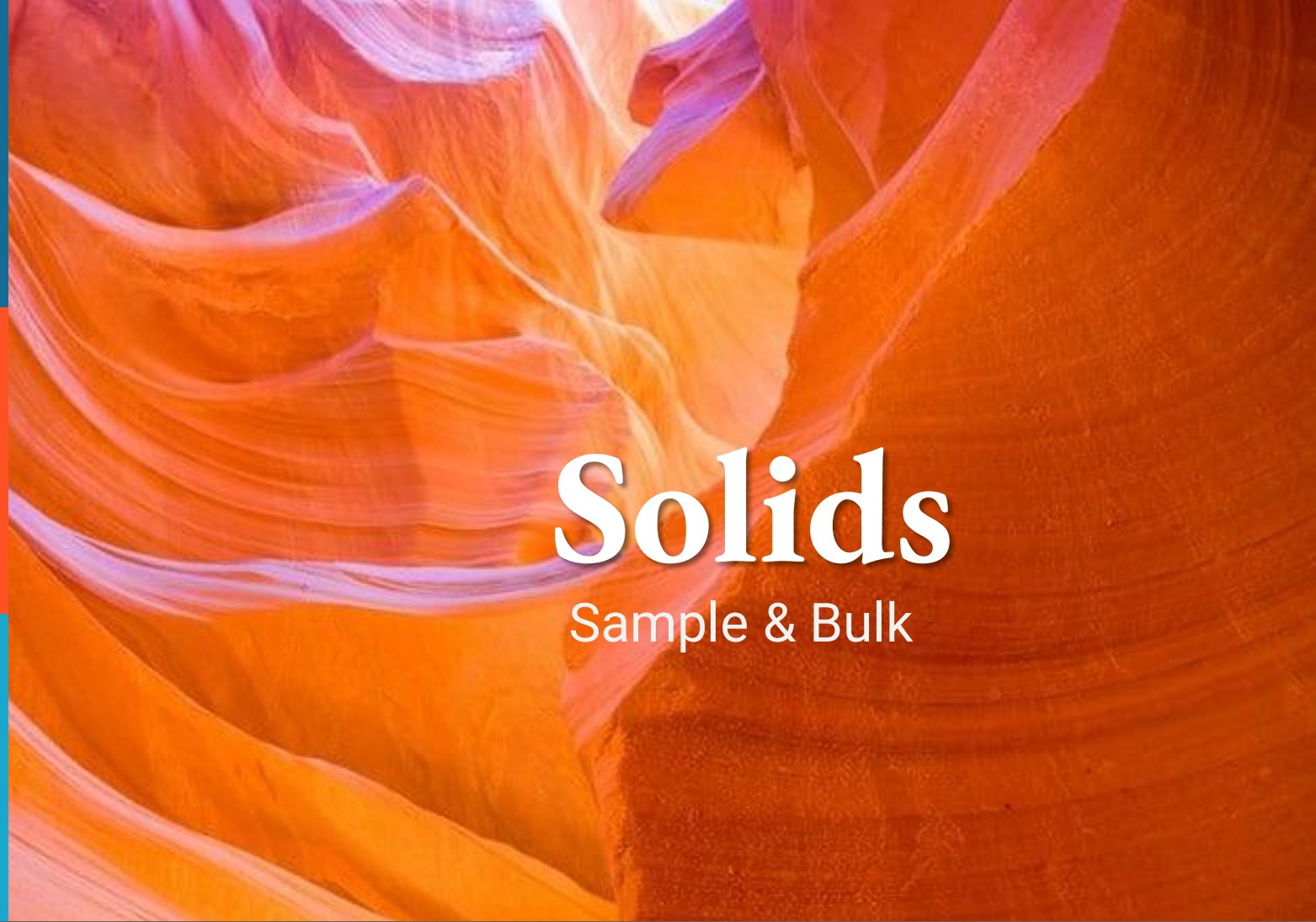
System



Software



Experiment



Solids
Sample & Bulk



Components

System

Software

These spectrometer and light source combos turn optical signals into meaningful numbers.

Spectrometers are powered and interfaced via USB, and light sources require standard power.

Essential | 645-1085 nm



ST-NIR



ECOVIS-NIR
(Bulk Only)

Enhanced | 190-1050 nm



SR-6XR



HL-2000-HP
(Bulk Only)

Superior | 190-1100 nm



HR-6XR



DH-2000-S-DUV-TTL
(Bulk Only)

Colored Switches for Sample Experiment





Components



System



Software



Experiment

Sample



ISP-REF

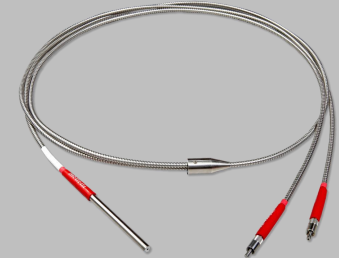
Place samples over the top port for highly repeatable reflection measurements. The integrated light source covers most jobs, with an input port to pipe-in other source energies as well.



QP600-025-VIS-NIR

The patch fiber provided with the Solids Sample Kit connects the integrating sphere and light source to the spectrometer.

Bulk



QR400-7-UV-VIS

Simply point the probe at your sample for a reflection measurement. Best results are obtained when distance and angle are held constant, so a sturdy fixture is recommended.



WS-1

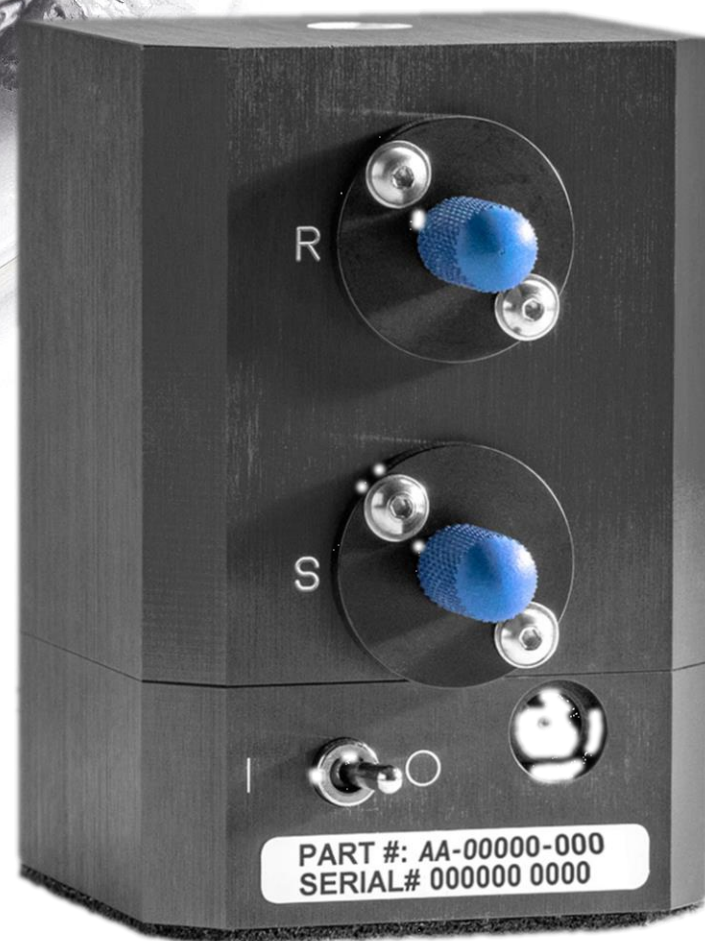
Use the WS-1 reflection standard for repeatable referencing in Reflectance or Absorbance modes.



Sampling Tip

For powdered samples such as soil, use a Petri dish or quartz tray to create a flat and uniform distribution over the ISP-REF port.

Typical Petri dish plastic will absorb UV signals, but quartz will allow UV trends to pull through.



Components



System



Software

Pro Tip: Ensure your SMA connections are tight for repeatable measurements. Loose fiber connections can lead to variable results.

Sample



Use the patch fiber to connect the spectrometer SMA port to the lower 'S' port on the integrating sphere.



Place the WS-1 upside-down over the top of the integrating sphere port for a repeatable light reference.

The gloss-trap switch
on the back of the
ISP-REF allows you
to measure...

RYH BFHLIKJG

LACFAPHPR AM RYH

RARJK EPRHTGJRHW

GHMKHLREAP

Hint: H = E



Components



System



Software

Pro Tip: Ensure your SMA connections are tight for repeatable measurements. Loose fiber connections can lead to variable results.

Bulk



Connect the probe fiber leg with multiple fibers to the light source SMA port. Connect the probe fiber leg with a single fiber to the spectrometer SMA port.



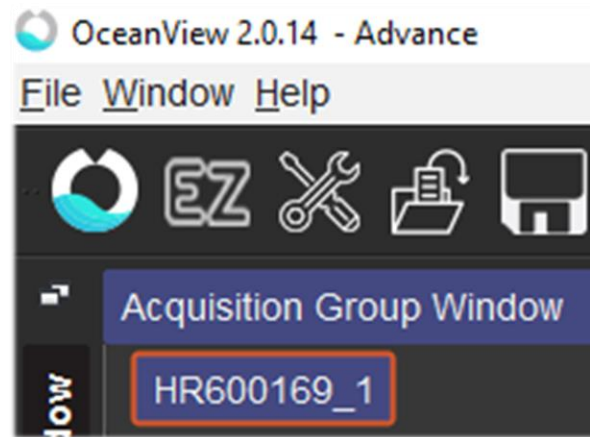
Point the probe toward the surface of the WS-1 at about 2-5mm distance for a repeatable light reference.

Components

System

Software

Experiment



Click the OV icon



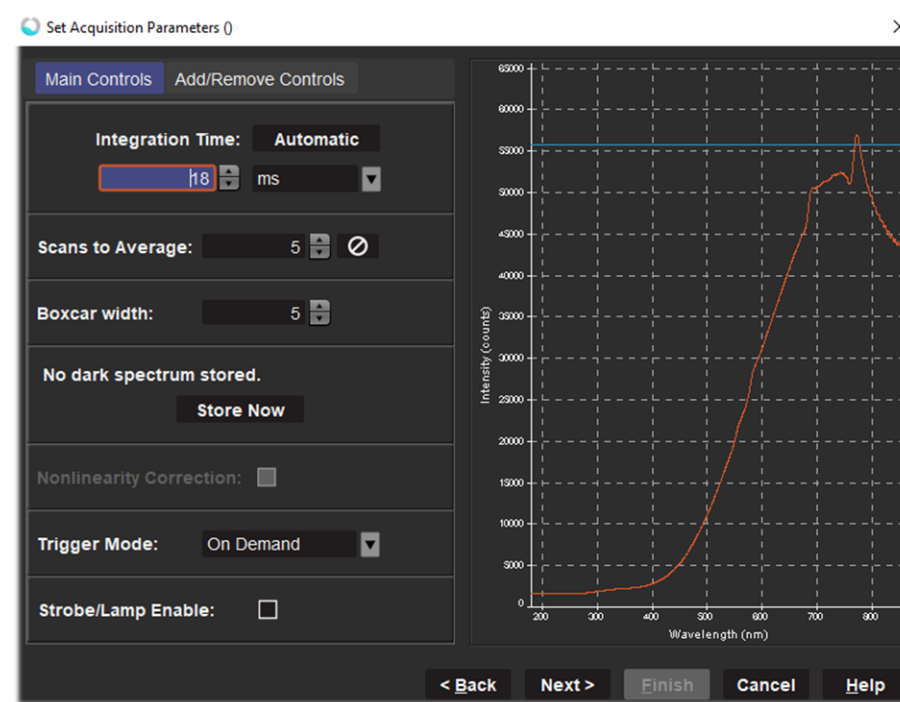
Select Reflectance

Components

System

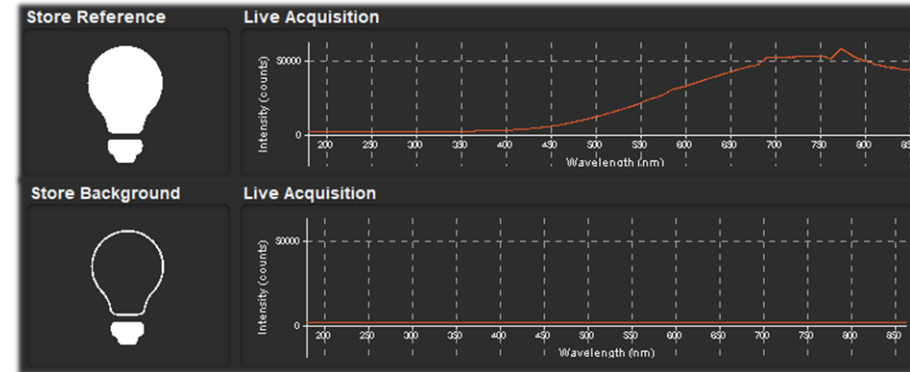
Software

Pro Tip: Scans-to-Average averages individual pixels over time, while Boxcar averages neighboring pixels to smooth the spectrum. The former increases scan time, but the latter does not. However, high Boxcar can begin to mute sharp peaks that may be important to your work.



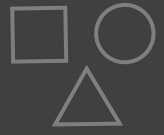
*Total Scan Time =
Integration Time x
Scans to Average*

Hit 'Automatic' button to auto-set Integration Time



Take light reference with light source on and WS-1 present

Take dark/background reference with light source off



Components



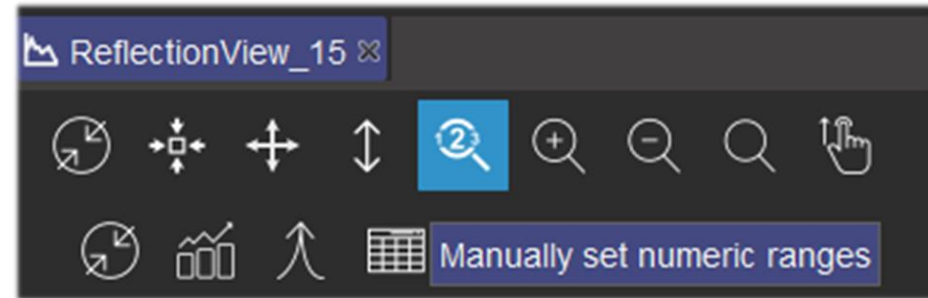
System



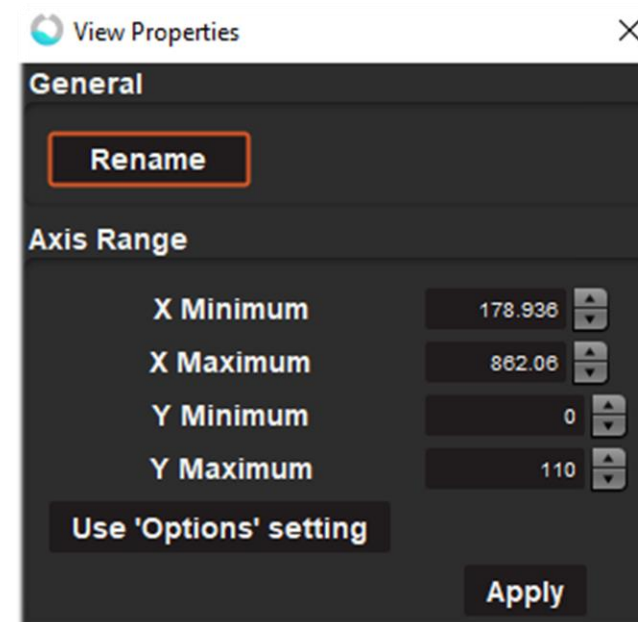
Software



Experiment



Use arrow and magnifying buttons to move and zoom around the graph. The magnifying glass with numbers in it allows you to manually set the x- and y-axis range.



Components

System

Software

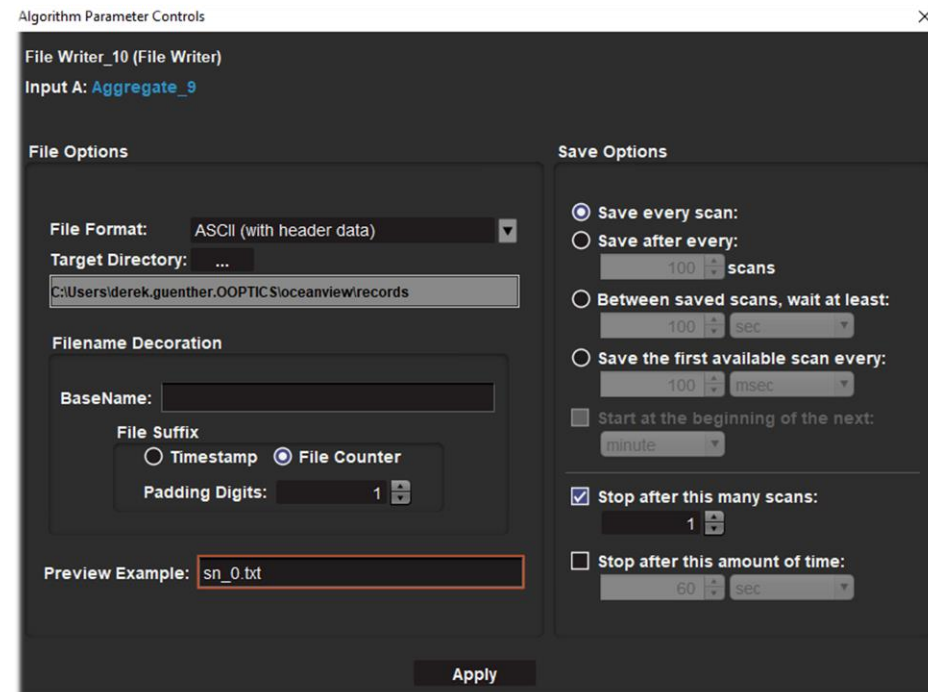
Pro Tip: Standard *ASCII* file type will save each spectrum to an individual file in column format. Changing File Format to *Time Series* or *Append Series* will place all spectra in a single compiled file in row format.



Select the gear icon to configure data save parameters.

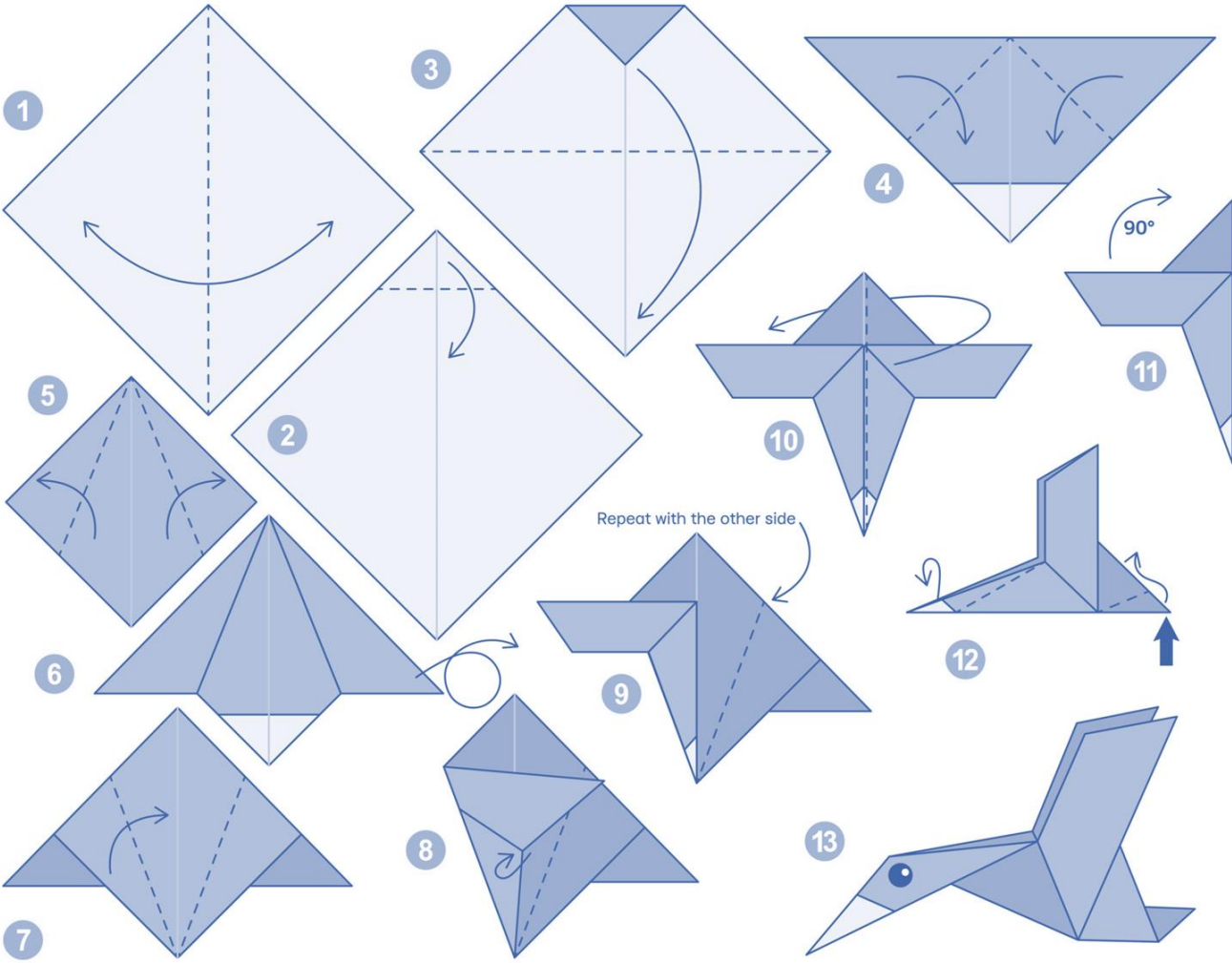
Configure your file format, location, and naming convention on the left.

Configure the frequency and intervals of data logging on the right.



Don't forget to press 'Apply' before exiting!

...and you thought we were done with origami! You made the fish earlier, but no fish can complete its life's purpose without a hungry seafaring bird...try to make one!



A Seabird



1 Assemble System and Complete Reflectance Wizard

from prior steps

2 Sample Bulk

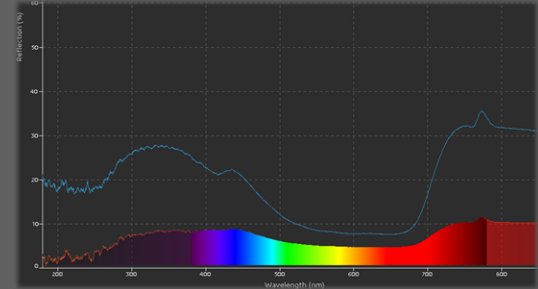
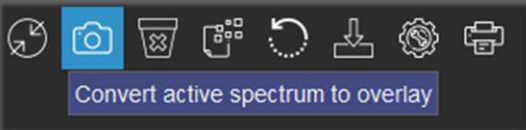


Remove WS-1 and place colored swatch over port



Place colored swatch under probe

3 Click Camera icon to freeze overlay

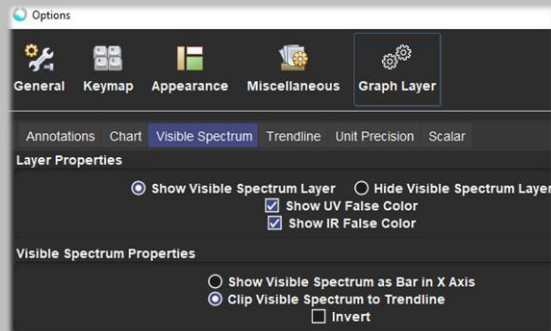


4 Change the swatch color. Take a new overlay.

What regions reflect more? Less?

5 Grab your favorite matching outfit. How close do your colors match?

Pro-Tip: To see the full ROYGBV spectrum in the graph, right-click in the graph and go to Graph Layer Options. Go to Visible Spectrum and select Show Visible Spectrum Layer and Clip to Trendline.



Experiment



Spectroscopy Kits

Liquids

Solids

Plasma

Techniques

Applications

	Transmission	Reflection	Absorbance / Concentration	Relative Irradiance	Fluorescence	Color	Bio Fluids	Pharma Fluids	Medical Dyes	Bulk Vessels	Industrial Aqueous Fluids	OES
Liquid Essential Sample	█		█			█	█	█	█		█	
Liquid Enhanced Sample	█		█			█	█	█	█		█	
Liquid Superior Sample	█		█		Filter/LED Req'd	█	█	█	█		█	
Liquid Essential Bulk	█	█	█		Filter/LED Req'd	█	█	█	█	█	█	
Liquid Enhanced Bulk	█	█	█		Filter/LED Req'd	█	█	█	█	█	█	
Liquid Superior Bulk	█	█	█		Filter/LED Req'd	█	█	█	█	█	█	
Solid Essential Sample		█	█	█	Filter/LED Req'd	█		█				
Solid Enhanced Sample		█	█	█	Filter/LED Req'd	█		█				
Solid Superior Sample		█	█	█	Filter/LED Req'd	█		█				
Solid Essential Bulk		█	█		Filter/LED Req'd	█		█	█			
Solid Enhanced Bulk		█	█		Filter/LED Req'd	█		█	█			
Solid Superior Bulk		█	█		Filter/LED Req'd	█		█	█			
Plasma Essential			█	█	█	█						█
Plasma Enhanced			█	█	█	█						█
Plasma Superior			█	█	█	█						█
Plasma Essential FL-Sample	█		█		█	█	█	█	█		█	█
Plasma Enhanced FL-Sample	█		█		█	█	█	█	█		█	█
Plasma Superior FL-Sample	█		█		█	█	█	█	█		█	█
Plasma Essential FL-Bulk		█	█		█	█	█	█	█	█	█	█
Plasma Enhanced FL-Bulk		█	█		█	█	█	█	█	█	█	█
Plasma Superior FL-Bulk		█	█		█	█	█	█	█	█	█	█



THE SPECULAR COMPONENT OF THE
TOTAL INTEGRATED REFLECTION

Crypto-Quip Solution:



OceanOptics

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