



NIR-A-DRP1

Product Introduction

2022/7/12



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Product Highlights



- **Illumination Module: one 5W tungsten filament lamp with reflector and constant current (CC) driver board with lamp on-off control interface.**
- **Lamp life hours: 10,000**
- **Sampling Module: Diffuse reflective sampling module**
- **Collection Region: Typ. 16mm in diameter**
- **Working Distance: Typ. 8mm from the sample surface to the sampling module**
- **Fiber Connector: SMA905**
- **Time to stabilize: approximately 20 minutes**
- **Power Supply: DC 5V/2A**
- **Dimensions: 49 mm * 27 mm * 27 mm**
- **Weight: 34 g (without spacer), 39g (with spacer and screws)**
- **Accessory : Spacer (for contact measurement)**
- **Operating Temperature: 0 ~ 40 °C, RH Max. 85%**

What's inside the box

- NIR-A-DRP1 module (x1): for diffuse reflective measurement
- Wire harness (x1): for lamp on/off control
- Spacer (x1): for maintaining the measurement distance
- Power adapter (x1) and USB cable (x1): for powering the lamp



Appearance & Interface

Optical fiber interface

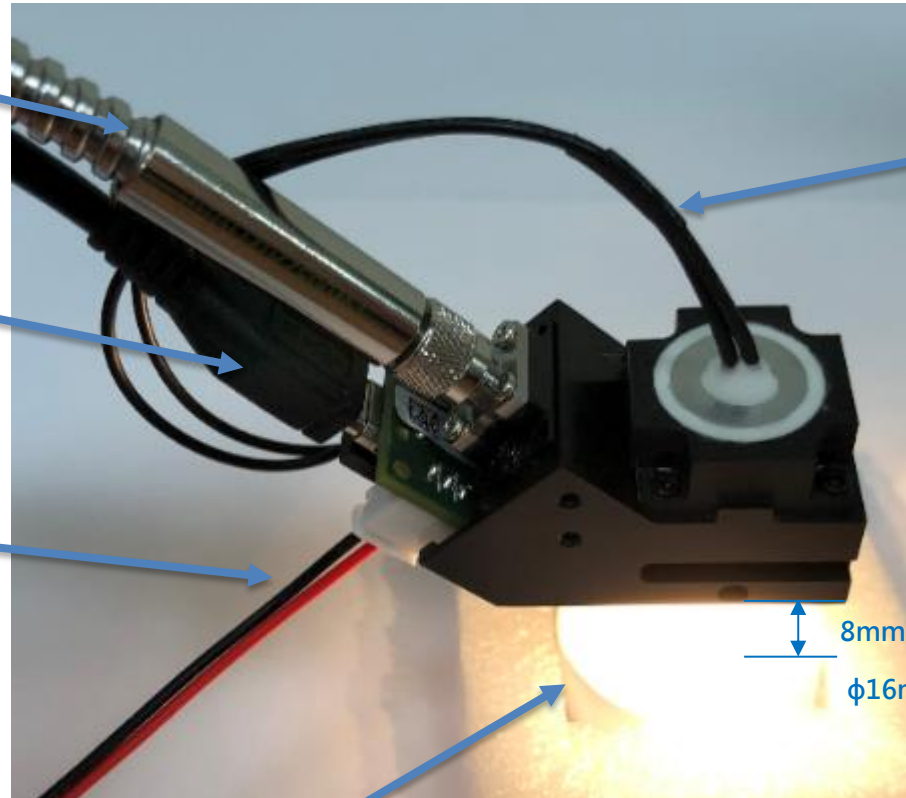
- SMA905

Power supply interface

- Micro USB

Ext. trigger interface

- JST PHR-3



Lamp interface

- 5V/1A

8mm

φ16mm

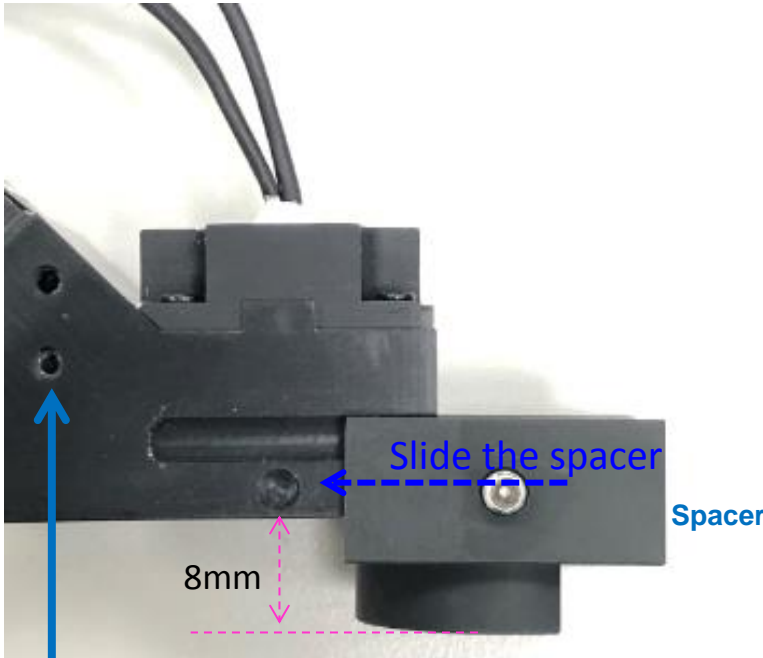
Sampling interface

- Collection region: φ16mm
- Working distance: 8mm from the sample surface to the sampling module

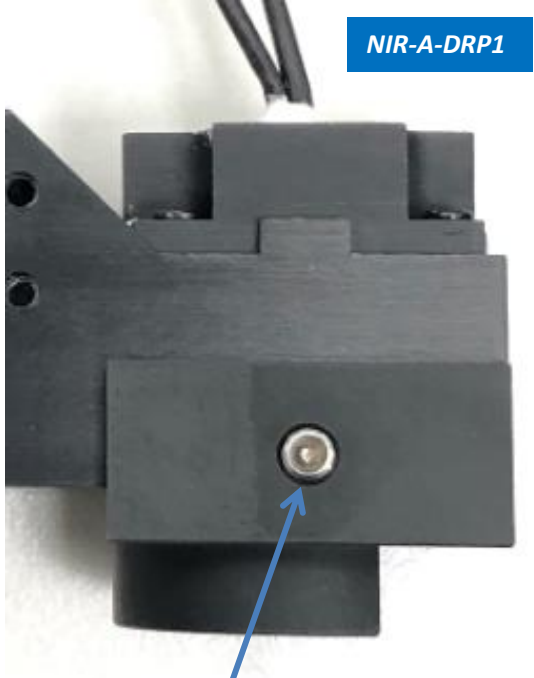
Measurement Setup



- NIR-A-DRP1 (Diffuse Reflective Probe with Lamp , Lenses & SMA905 Connector) can work with NIR-M-F1 & NIR-M-F11 for diffuse reflective measurement.



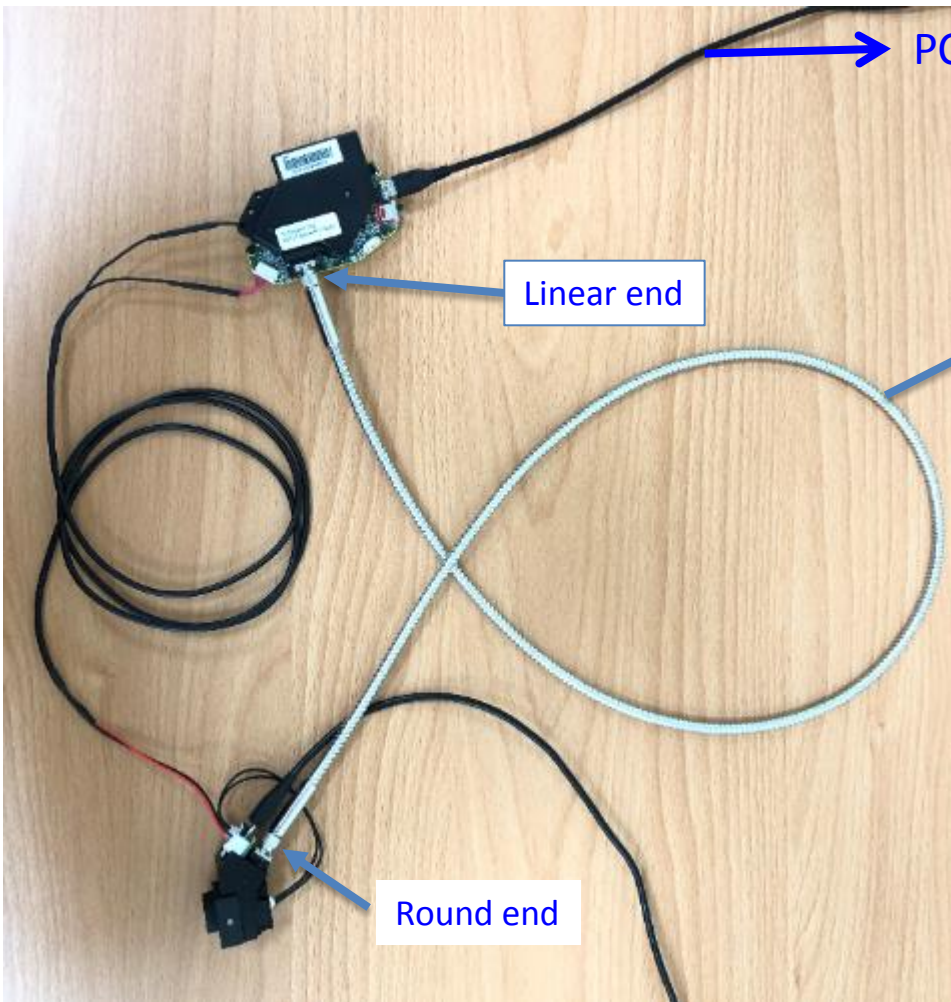
Two M2 depth-5mm screw holes on each side for system integration



Tighten the M3 set screw by using 1.5mm wrench (not included)



Measurement Setup (NIR-M-F1)



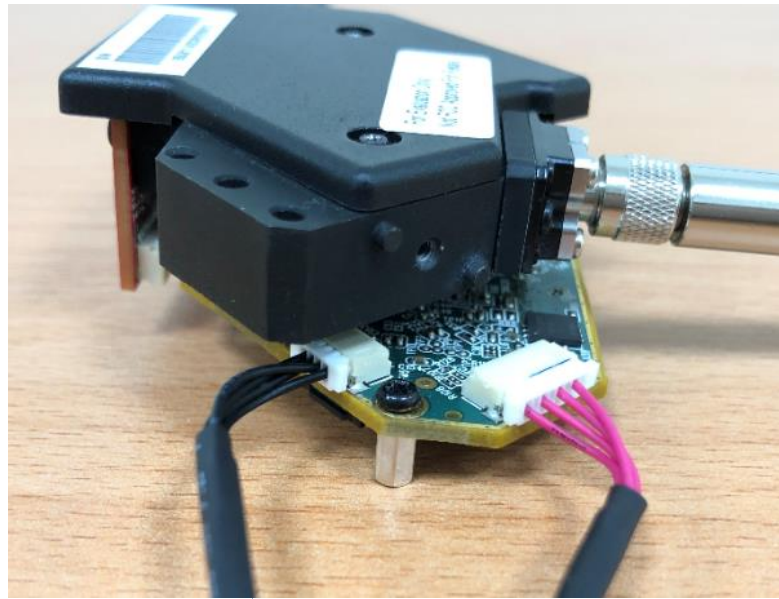
PC USB port

Linear end

Round-to-linear fiber bundle (Note 1)

Round end

PC USB port or USB power adapter

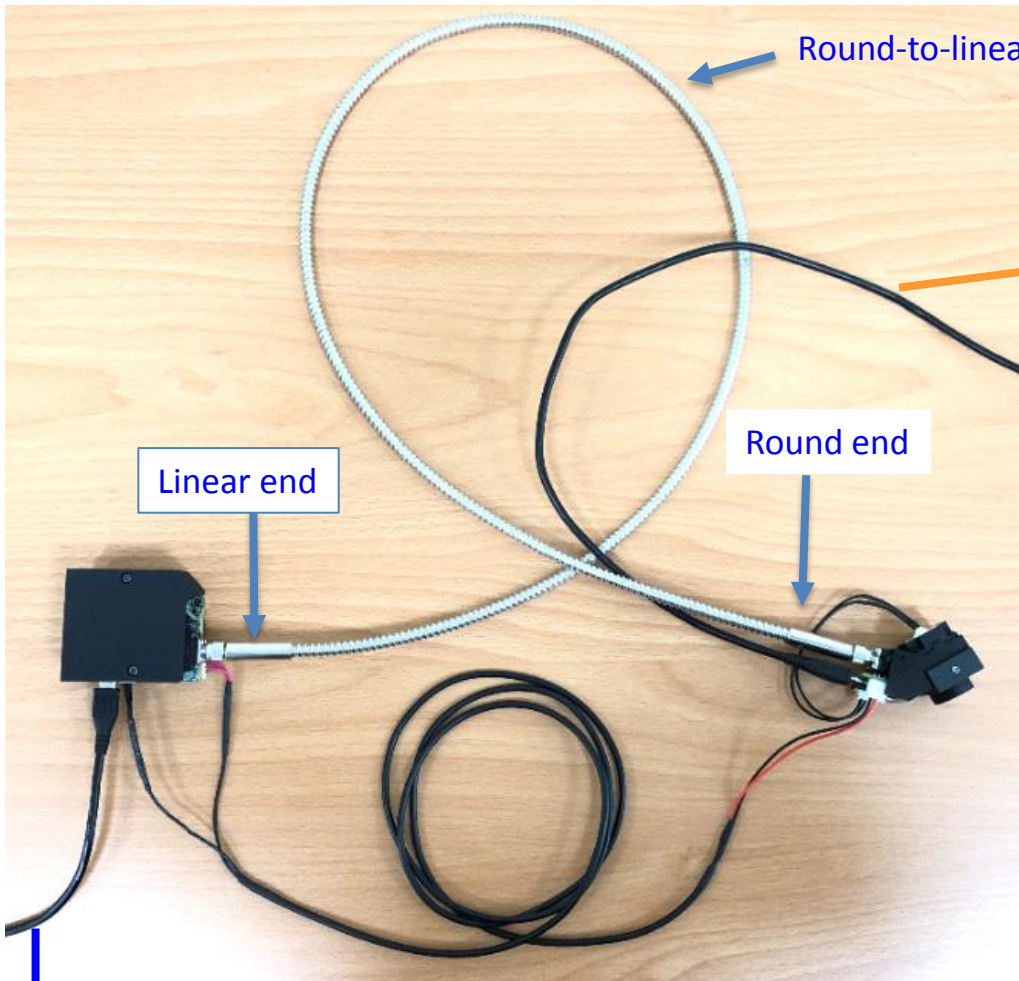


Black wire to UART GND

Red wire to Lamp driver Vout (Note 2)

- Note:
- 1. Please refer to next page for our recommendation.
 - 2. Not all spectrometers support external trigger function.

Measurement Setup (NIR-M-F11)



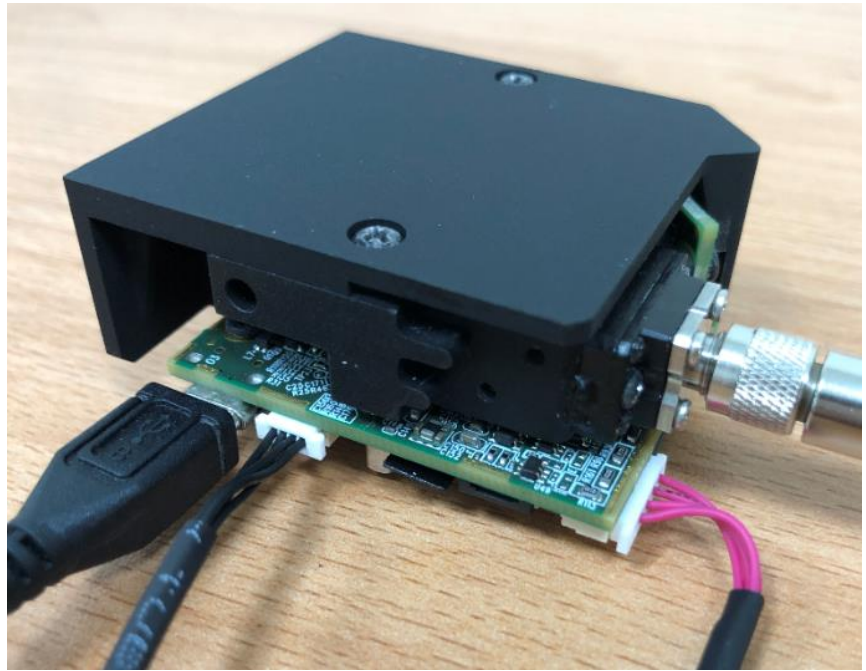
Round-to-linear fiber bundle (Note 1)

PC USB port or USB power adapter

Linear end

Round end

PC USB port



Black wire to
UART GND


Red wire to
Lamp driver Vout
(Note 2)

- Note:
- 1. Please refer to next page for our recommendation.
 - 2. Not all spectrometers support external trigger function.

Round-to-Linear Fiber Optic Bundles



Vendor name: Nanjing Shenglue Technology Co.,LTD
<http://www.njshenglue.com/>
 Mobile: +86-18951906546(We Chat)
 Email: shuai@njshenglue.com

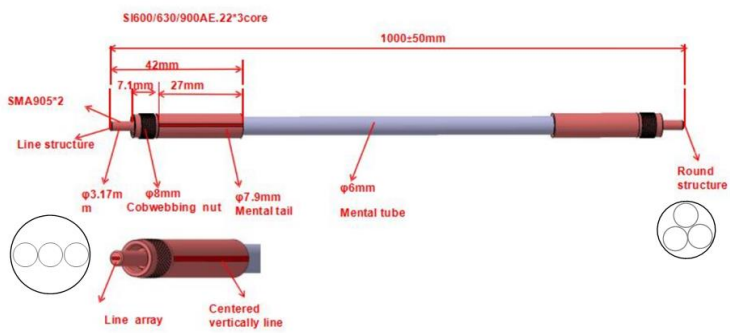
 南京盛略科技有限公司
 Nanjing ShengLue Technology Co, LTD.


SI600/630/900AE.22*3 Optical Fiber Patch Core Specification

1、Product Information

Product Code : 2SMA-SI0.6*3-1m
 SI600/630/900AE.22*3/1000mm/1-1/2SMA905 (Liner to
 Product description: round/6mm metal tube)
 Version number: A01

2、Product Drawing



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 Nanjing ShengLue Technology Co, LTD.

3、Technical Parameters

Product name	Optical fiber Patch Cord_		
Product Code	2SMA-SI0.6*3-1m		
Length(mm)	1000 + 100		
Diameter of fiber (μm)±2%	Core(μm)+2%	Cladding(μm)+2%	Coating(μm)+5%
	600	630	900
Numerical aperture(NA)	0.22±0.02		
Transmittance spectrum(nm)	400-2500		
OH-	Low-OH		
Branch structure	1-1		
Connector	SMA905		
SMA905 size (mm)	3.172-3.165		
SMA905 Material	SUS303		
Minimum bending radius(mm)	Short time	Long time	
	60	180	
Tube	6mm soft metal tube		
Tube material	SUS 201		
Transmission	≥90%		
Temperature	-40℃~+100℃		

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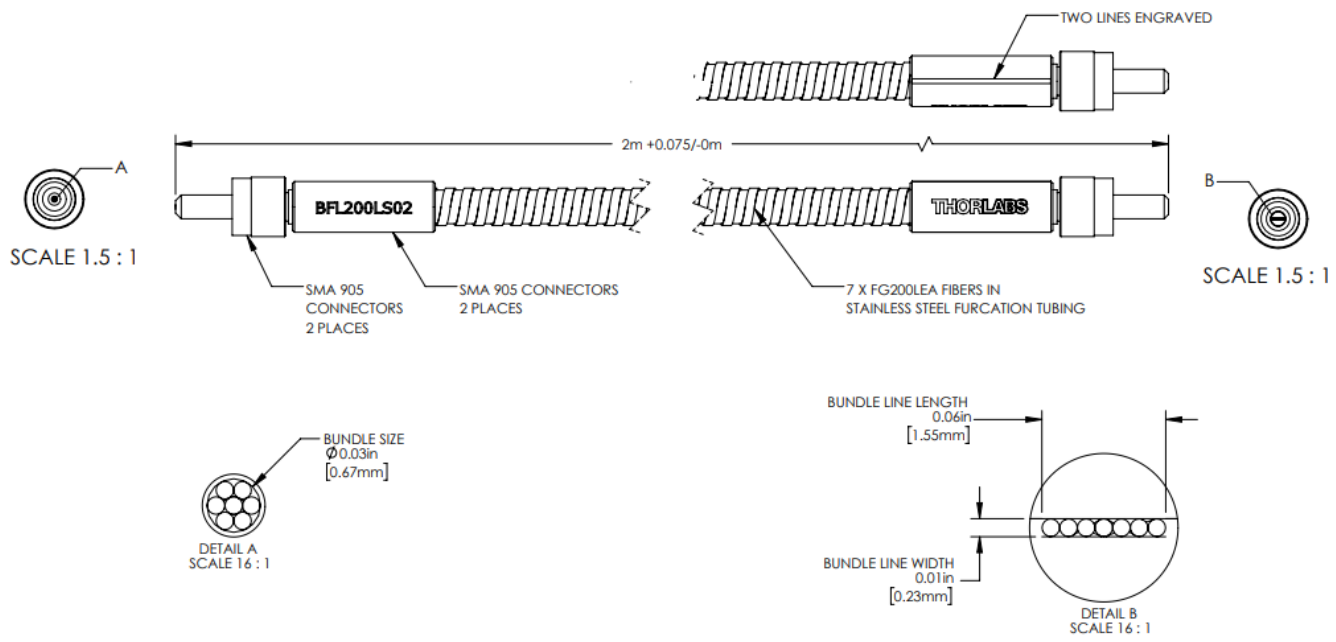
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Round-to-Linear Fiber Optic Bundles



Vendor name: Thorlabs, Inc.
<https://www.thorlabs.com/thorproduct.cfm?partnumber=BFL200LS02>

ITEM #	FIBER SPECIFICATIONS				
	CORE DIAMETER	CLADDING DIAMETER	COATING DIAMETER	NA	WAVELENGTH RANGE
FG200LEA	200 ±4 μm	220 ±2 μm	320 ±16 μm	0.22 ± 0.02	400-2400 nm



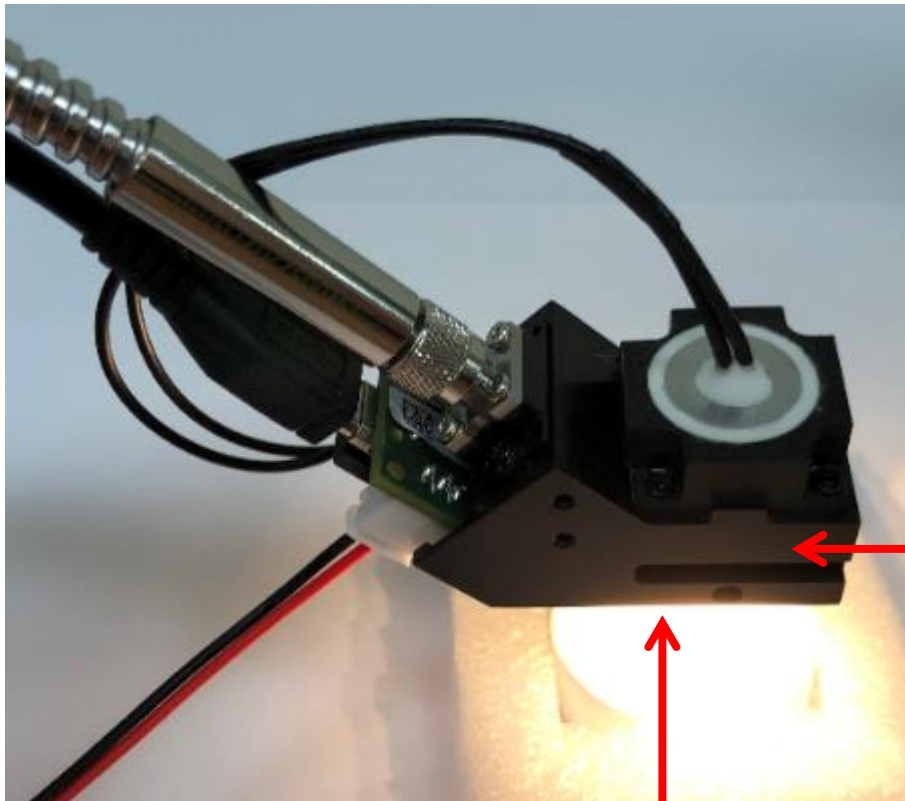
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 NOT FOR MANUFACTURING PURPOSES

DRAWING PROJECTION				THORLABS www.thorlabs.com	
NAME	DATE	LINEAR BUNDLE, 7 FIBERS, 200 μm CORE, LOW OH, SMA, 2m		MATERIAL	
DRAWN	SW 10/JAN/14	N/A		REV C	
APPROVAL	HC 19/APR/22	N/A		REV C	
COPYRIGHT © 2015 BY THORLABS		ITEM #	APPROX WEIGHT		
VALUES IN PARENTHESIS ARE CALCULATED AND MAY CONTAIN ROUND-OFF ERRORS		BFL200LS02	0.08 kg		

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Warning



Hot surface !



**High energy !
Avoid looking directly at light !**

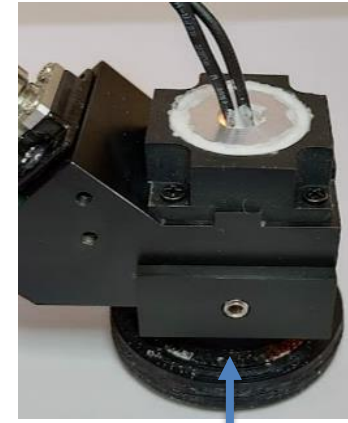
Example of Powder Medicine Measurement



- There is a recess in the middle of the plate.
- Pour powder medicine into the recess.
- The plate is made of carbon black plastic which will broadly absorb NIR.



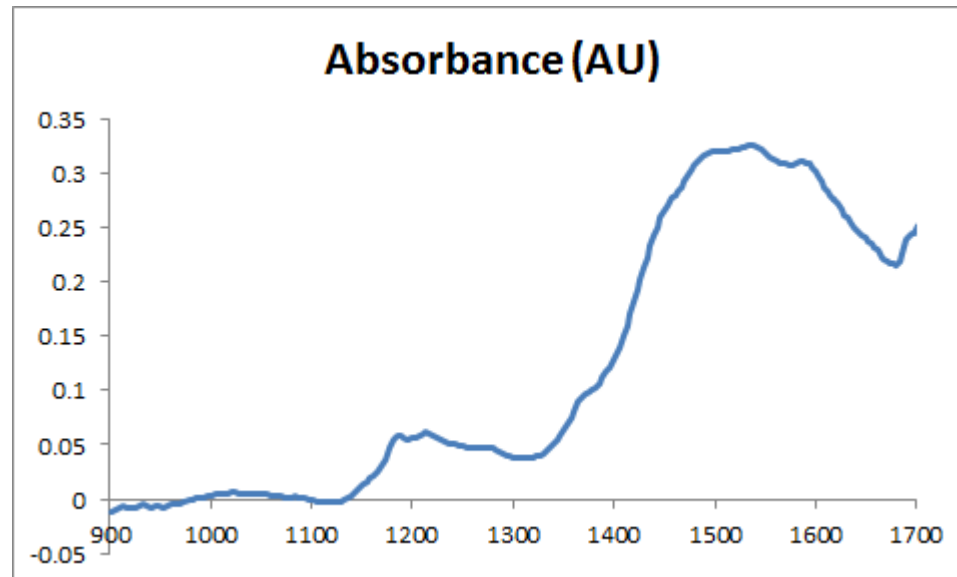
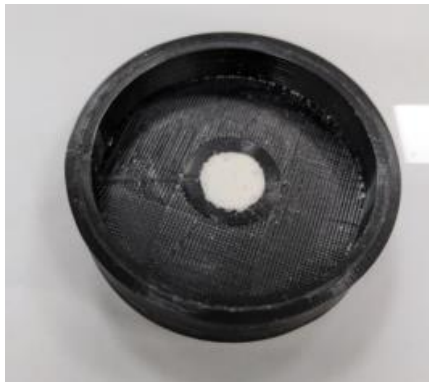
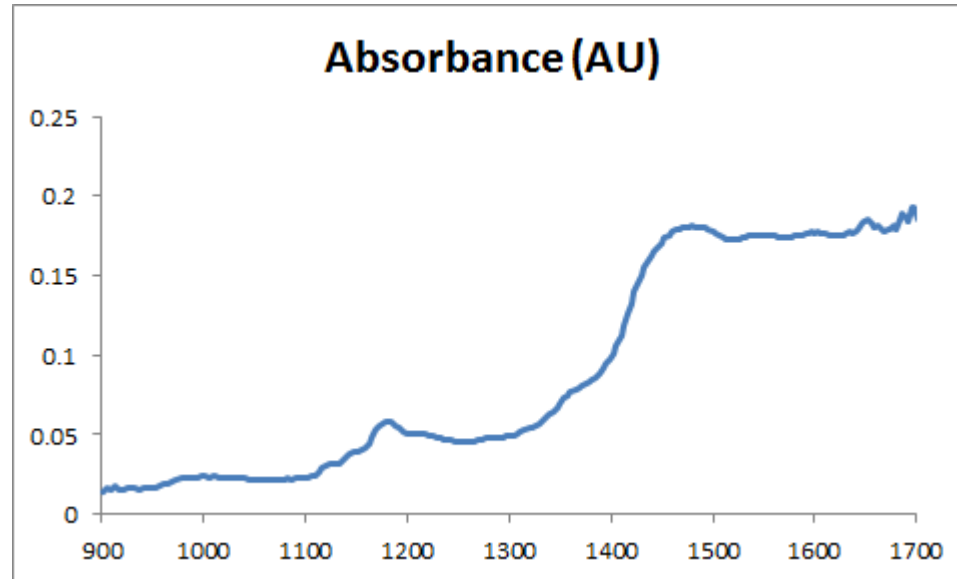
- There is a spacer attached with NIR-A-DRP1 to maintain a proper working distance.
- The illuminated area completely covers the sample area.



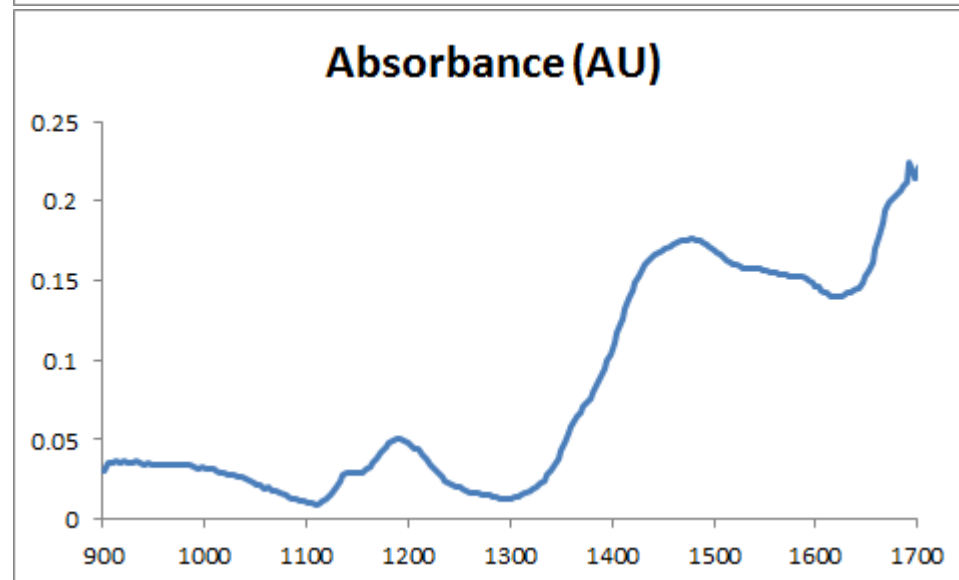
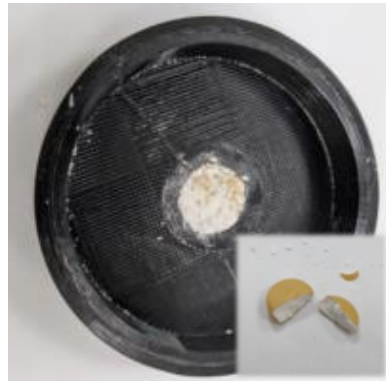
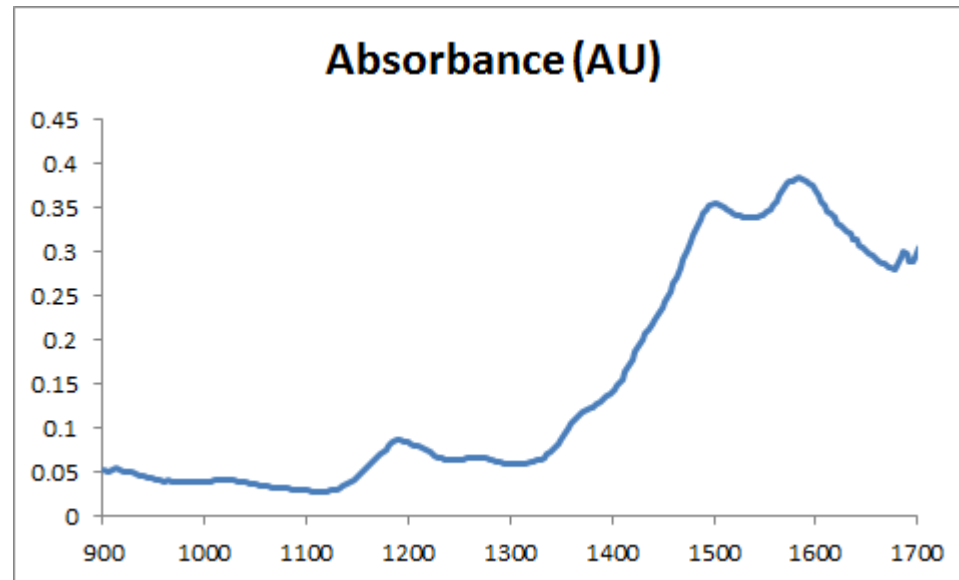
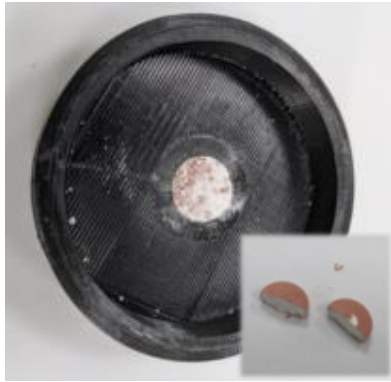
- Ambient light is blocked during sample measurement.

Note: Spectralon 99 is scanned as reference signal.

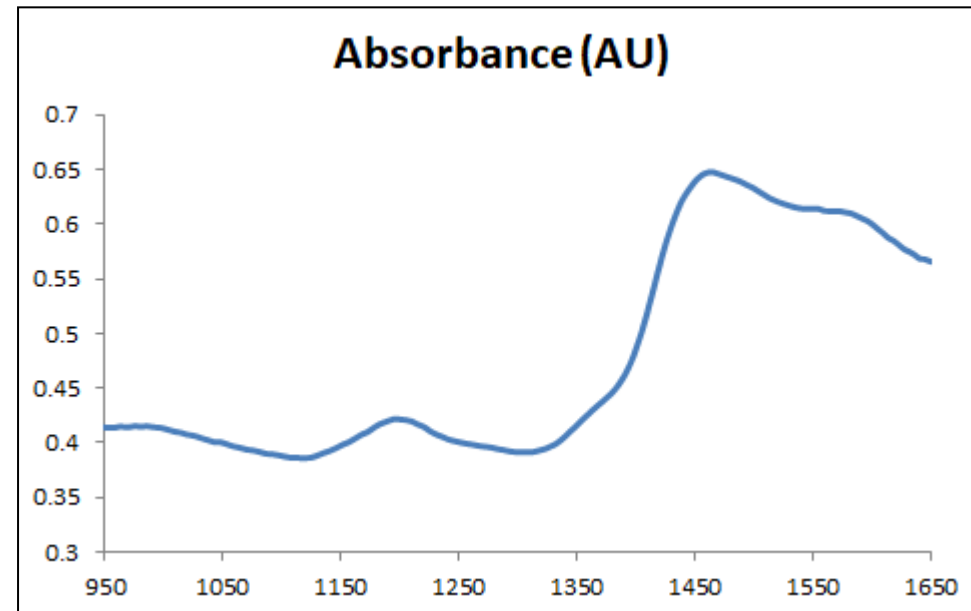
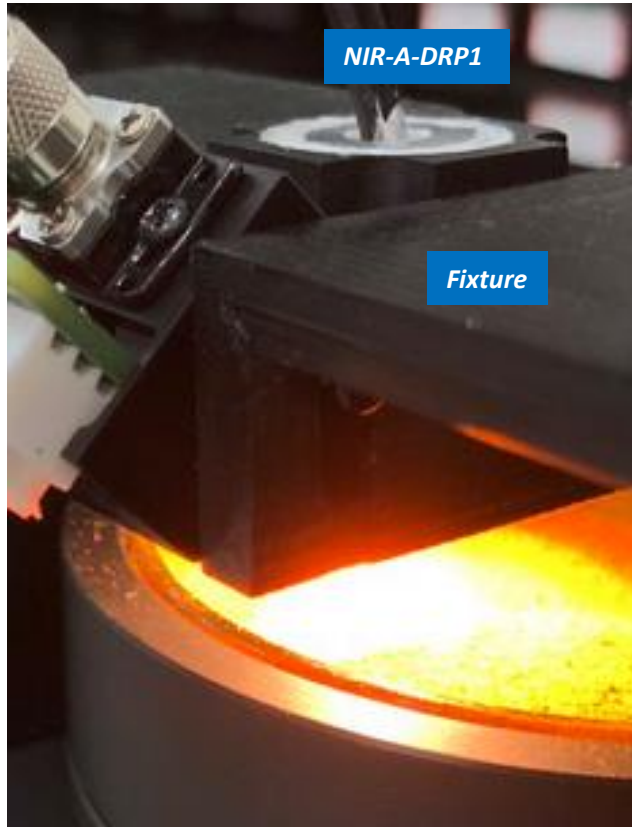
Spectrum of Powder Medicine



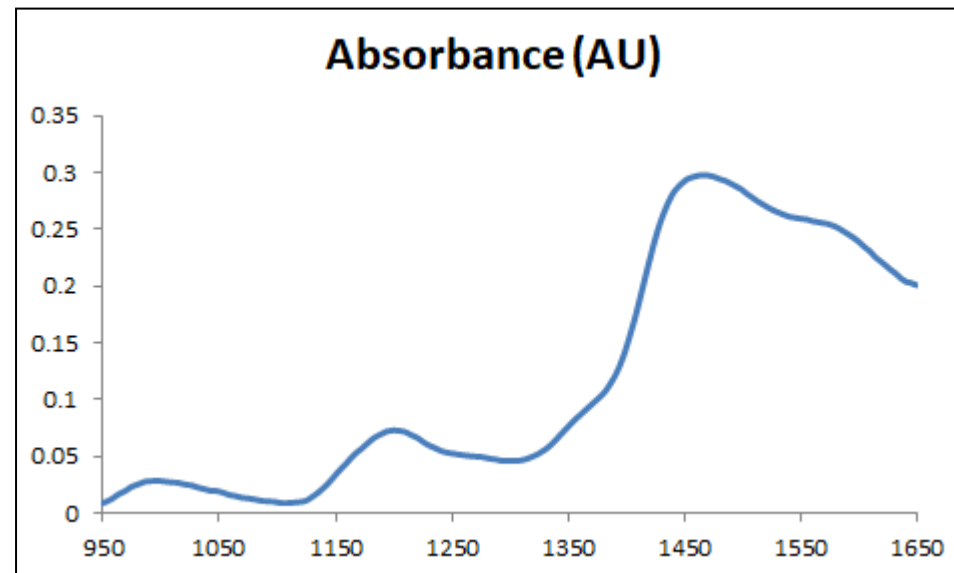
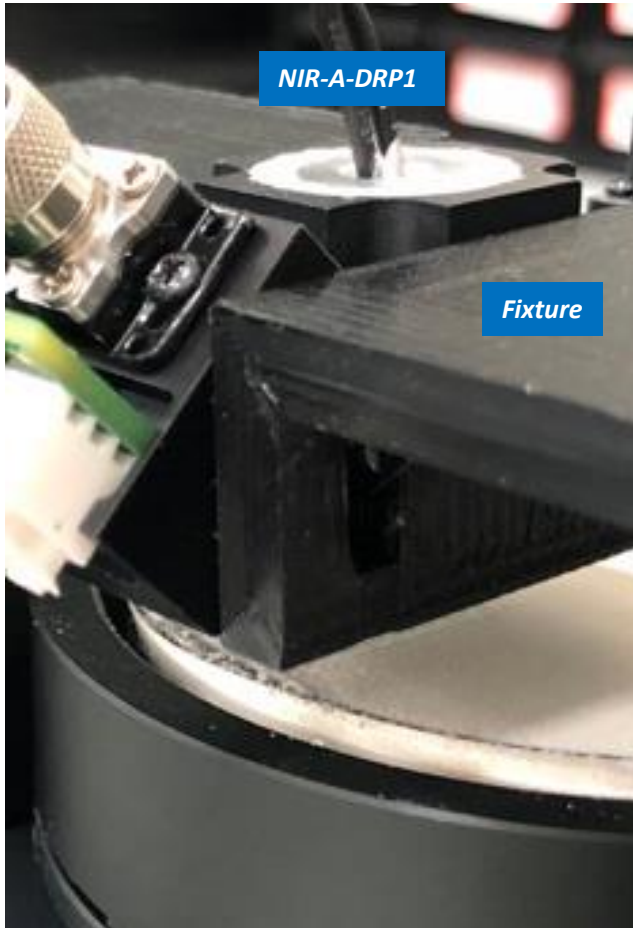
Spectrum of Powder Medicine



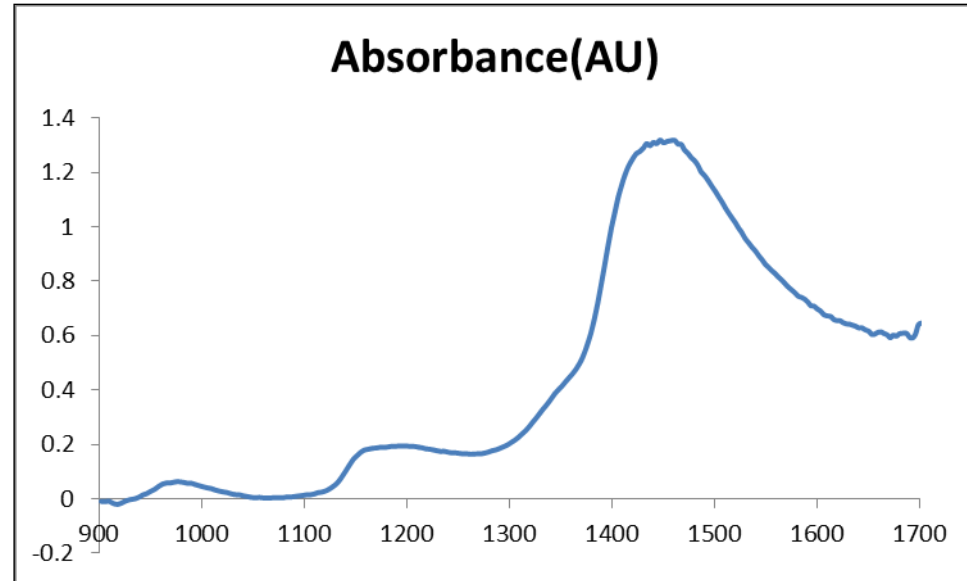
Spectrum of Turmeric Powder



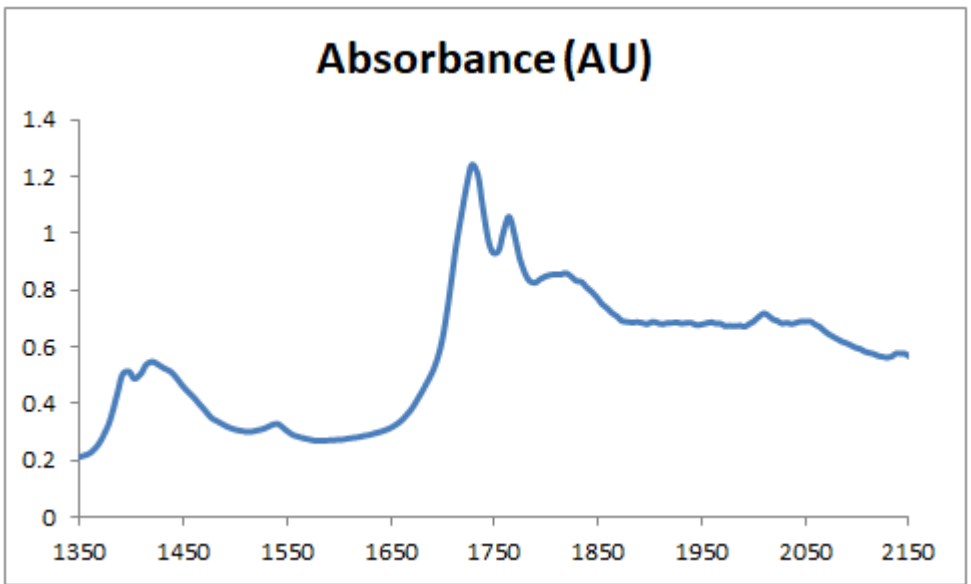
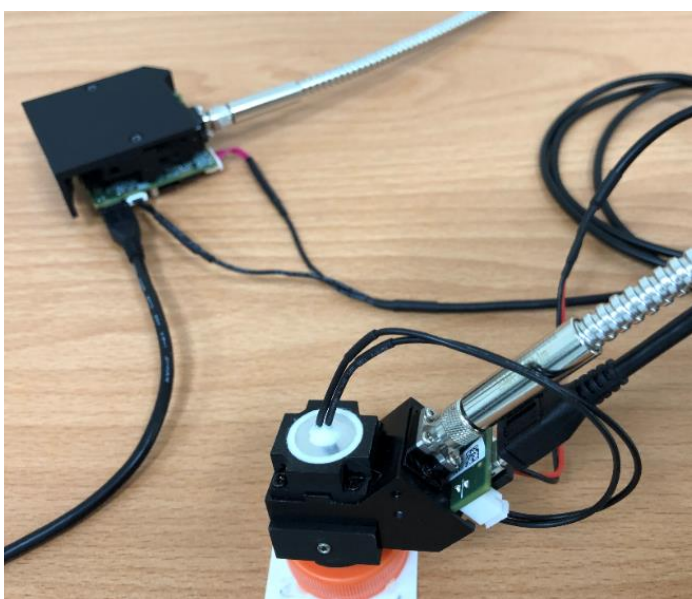
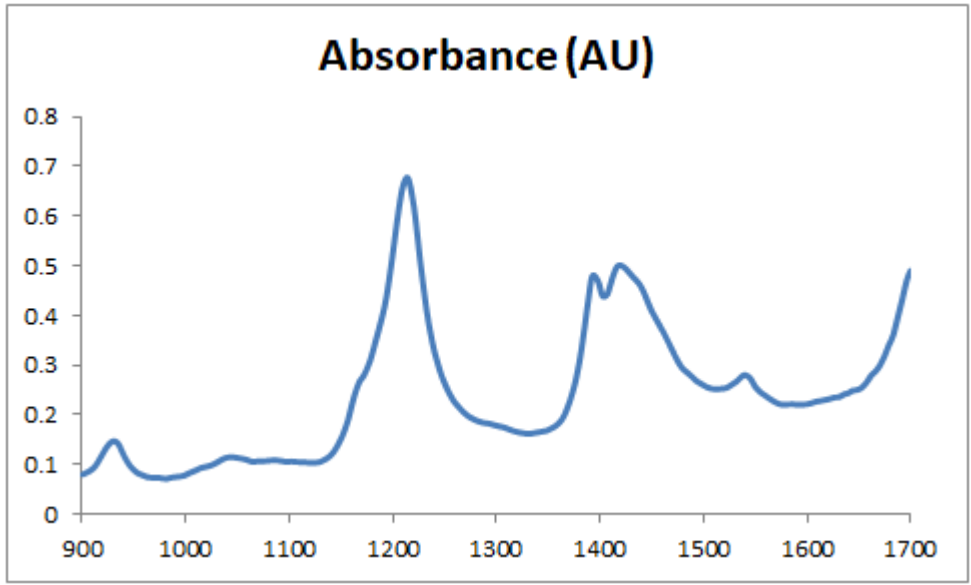
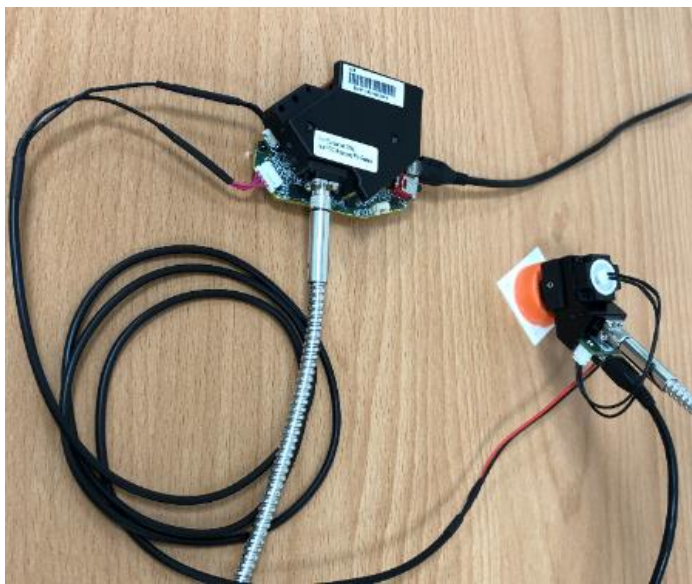
Spectrum of Flour



Spectrum of Foliage



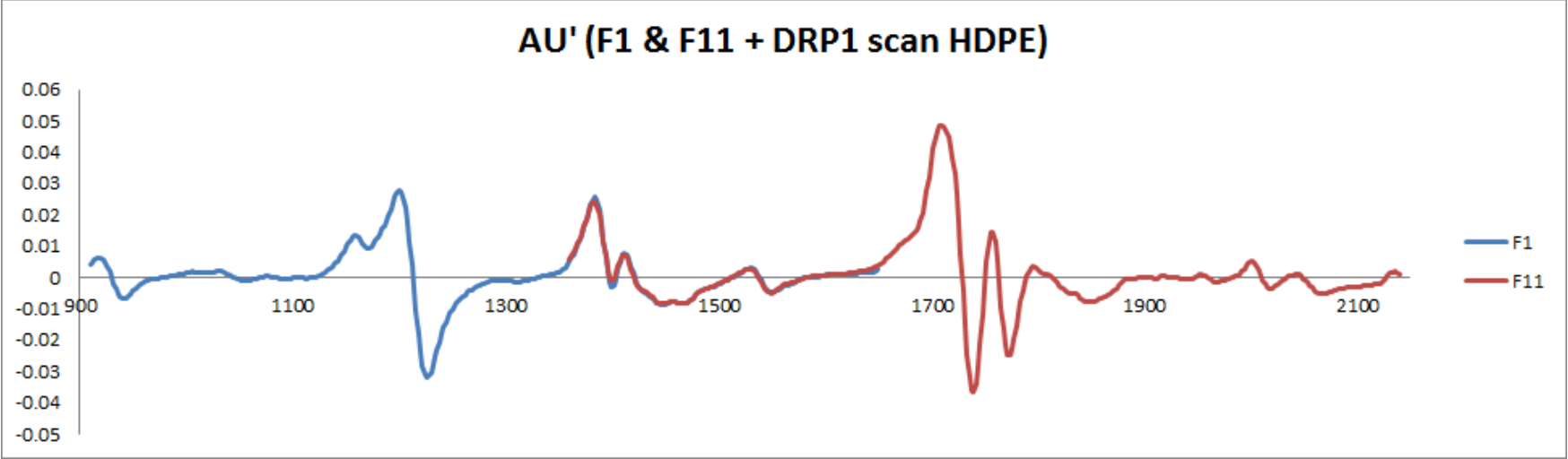
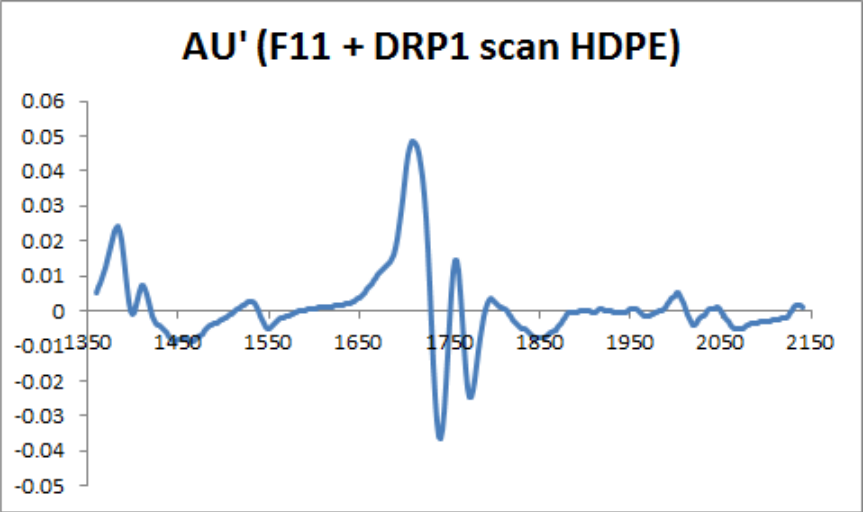
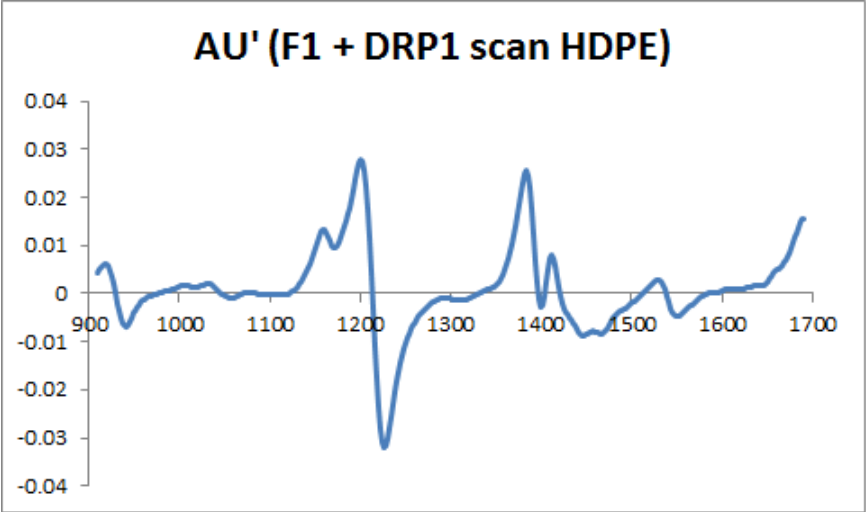
Spectrum of HDPE by F1 & F11



Spectrum of HDPE by F1 & F11

Cubic Spline Resampling: 2nm/step

Savitzky-Golay Derivative:1 Polynomial Order : 2 Window Size : 11



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Thank You!