

# Praying Mantis Accessory

for the Cary 4000, 5000, 6000i, 7000  
UV-Vis-NIR spectrophotometers

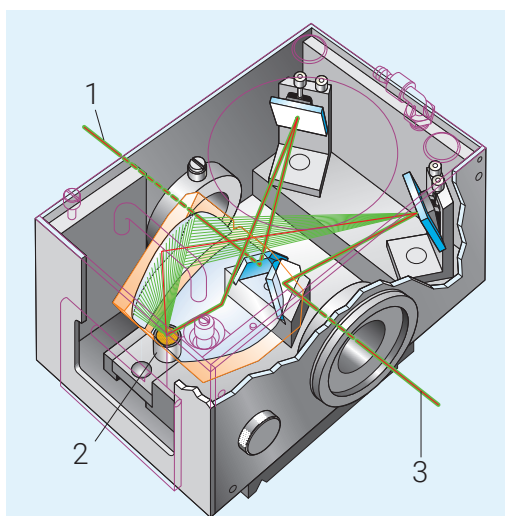


## Easily measure reflectance over an extended wavelength range

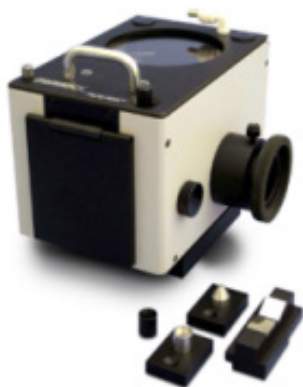
The Praying Mantis is an optional accessory for the Cary 4000, 5000, 6000i, or 7000 spectrophotometers. The accessory fits inside the extended instrument sample compartment (sold separately) and can be used to measure the reflection off sample surfaces.

The Praying Mantis has several advantages over integrating spheres:

- It is ideal for very small samples, as the image at the sample position is only 3 mm in diameter
- It can be used for samples that must be kept horizontal, such as powders, liquids or pastes
- The all-reflective optics of the Praying Mantis permit measurement over an extended wavelength range (dependent upon the type of instrument being used)
- The Praying Mantis can be used to perform experiments requiring controlled atmosphere, pressure and temperature environments



Optical diagram of the Cary Praying Mantis accessory  
1. Incoming light  
2. Sample cup  
3. Outgoing light



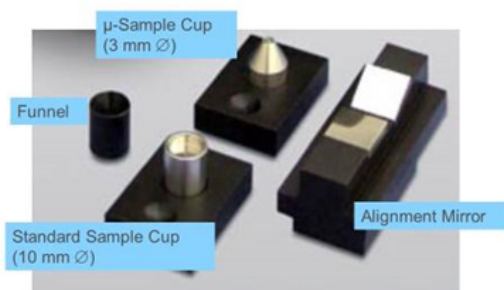
## Applications

Samples are mounted horizontally in the Praying Mantis, and there is a small image at the sample position. It is ideal for measuring the following sample types:

Sample	Example Measurement
Powders	Ore (mineral) composition and catalysis, cosmetics
Pastes, viscous liquids	Adhesives, foods, pharmaceuticals, tars
Solid surfaces	Polymer/composite coatings, paints, dyes and inks, organics, and gemstones
Fabrics	Color, UV absorbance/ reflectance properties
Forensic samples	Paint chips, drug residues, fabric sample

## Sample Sizes

Sample Sizes (max)	
Micro sample cup	0.3 mL (30 $\mu$ L)
Standard Sample cup	0.25mL (250 $\mu$ L)



The Praying Mantis is supplied with two different sized sample cups and a funnel to help fill the sample cups with sample. An alignment mirror is also supplied to ensure the accessory is correctly aligned in the instrument.

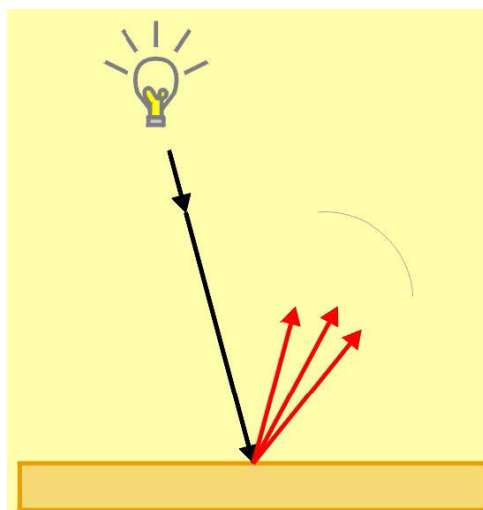
Learn more:

[www.agilent.com/chem/uv](http://www.agilent.com/chem/uv)

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The incident light (black) hits the sample and the Praying Mantis accessory collects light that is reflected from the sample surface (red)

## Additional optional accessories

- Low temperature reaction chamber for pressure and temperature operation down to -150 °C (under vacuum)
- High temperature reaction chamber for pressure and temperature operation up to 910 °C
- Vacuum chamber for both accessories: 133 mPa (10<sup>-6</sup> torr) to 133 kPa (1 ktorr)