

## Operating Procedure for UV-Vis Spectroscop

### Purpose and Scope:

This document describes the procedures and policies for using the MSE Thermo Electron EVO 300 UV-Vis Spectroscop. The scope of this document is to establish user procedures. Instrument maintenance and repair are outside the scope of this document.

### Responsibilities:

This document is maintained by the department Lab manager. The Lab Manager is responsible for general maintenance and for arranging repair when necessary. If you feel that the instrument is in need of repair or is not operating correctly please notify the Lab Manager immediately. The Lab Manger will operate the instruments according to the procedures set down in this document and will provide instruction and training to users within the department. Users are responsible for using the instrument described according to these procedures. These procedures assume that the user has had at least one training session.

### Definitions:

#### Prerequisites:

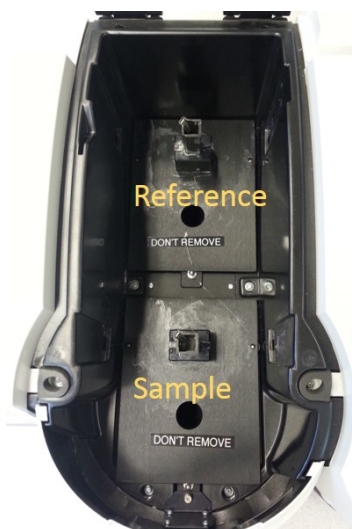
All users must read this document and obtain approval and training from the Lab Manager.

#### Precautions:

Do not use hazardous materials in this instrument or in the lab. Hazardous or noxious materials should be kept in a fume hood and we cannot move our instrument to accommodate them.

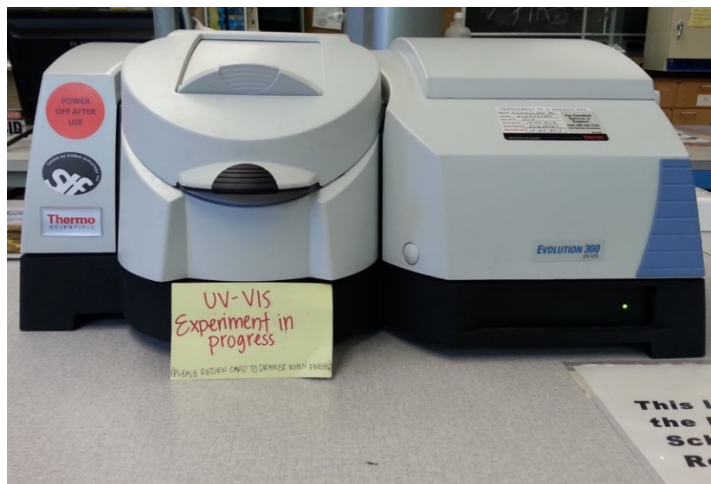
#### Operation of the UV-Vis is as follows:

- DO NOT CHANGE INSTRUMENT FIXTURES! Please contact the lab manager or assistant if you need a different fixture. The standard configuration shown below can accommodate cuvettes or flat samples for transmission/absorbance.



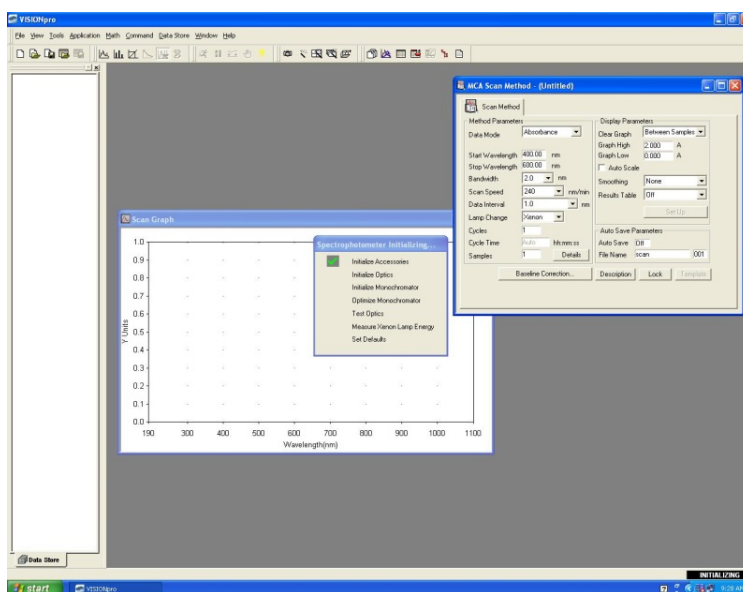
Standard Chamber  
Configuration

- There is a **minimum sample size** so you will want to make sure your sample meets that criteria.
- Before opening the software, or the instrument, check to see if the instrument is on and/or if there is an “Experiment in progress” card.



Instrument is on and there is an experiment in progress card – Do NOT open the chamber.  
 Contact the lab manager or tech for assistance.

- If no other experiment is in progress open the UV-Vis chamber to ensure that there isn't any samples or the integrated sphere inside the chamber.
- Close the lid and turn on the instrument.
- Open the <VisionPro> software from the shortcut on the desktop.
- A number of windows will open. Delete all but the <Scan> window and the <Scan Method> window. (Note: We do not have the necessary samples and fixtures for the calibration option)



Startup Window for VisonPro

- Allow the instrument to complete the initialization.
- If using the integrated sphere, it can now be installed by the technician.
- Set up the scan method. Choose Absorbance or Transmission as instructed.
- Select the starting and ending wavelengths.
- Use the default setting for bandwidth and Data interval.
- Xenon is the only lamp type.
- Input the number of samples for one run
- Be sure to include a file name seed.
- Select display parameters as instructed.
- Select the correct background correction. (Usually 100 % T).
- Place blanks in both the reference and measurement beam lines.
- Run a background. The icon in the tool bar is a line with two arrows facing down.



Tool bar for UV-Vis VisionPro software

- When the background has finished, remove the blank from the measurement beam. Leave the blank in the reference beam where it is.
- Place the sample in the measurement beam.
- Close the chamber and choose the running man icon to run the measurement.
- The data can be saved as a csv file. However, the software for analysis is available for download as well as on the MUE 170 lab computers.
- Make sure to save the results to the shared folder on the workgroup computer.
- When you have finished please remember to log out of the software and shut off the instrument.
- You can obtain your data from the workgroup computer – never use any external media on the instrument computer.

There are a number of different fixtures (Shown below) available for use with the instrument. **Users are not trained or authorized to install or uninstall any fixtures.** Please see the Lab tech or manager for more information.

**When you have completed your measurement please make sure to close out the CORAL session!  
Failure to do so may incur extra costs.**

