

UV ABSORBANCE OF DMSO

1.0 PURPOSE

To measure the UV absorbance of DMSO.

2.0 SAFETY/HEALTH

2.1 PPE

Wear standard safety equipment consisting of safety glasses or goggles, flame retardant clothing and laboratory nitrile gloves when using these materials.

2.2 SAFETY SYSTEMS

N/A

2.3 HEALTH HAZARDS

Refer to the Material Safety Data Sheets located in the Catalog of Chemicals.

3.0 PROCESS DESCRIPTION

3.1 PROCESS OVERVIEW

N/A

3.2 SCOPE/BOUNDARIES

N/A

3.3 EQUIPMENT INVOLVED

- Agilent 8453 Diode Array UV/VIS
- W/ Chemstation Software
- Quartz Cell
- 40 mL vial
- Pasteur Pipet
- Dry Nitrogen
- Kimwipes tissues

4.0 PROCEDURE

- Pour approximately 20 mL DMSO into I-chem vial. Immerse gas dispersion tube into DMSO and attach to dry nitrogen line. Slowly turn on gas flow and increase until bubbles reach the neck of the vial. Purge for thirty (30) minutes.
- Turn on computer, monitor, printer, and 8453 instrument. Windows will automatically boot up.
- Select **CANCEL** at networking password screen. The Windows program files screen will appear on the monitor.
- Click on **Agilent8453 UV/VIS** icon. At the Chemstation password screen type your name and click on **OK**. The Chemstation UV/VIS program will automatically boot up.
- Open **FILES** listing and select **LOAD METHOD** command. Then click on **DMSO-UV** method. Instrument is now configured for UV analysis.

NOTE: Allow fifteen (15) minutes for instrument warm-up before analyzing samples.

- Fill the 1 cm quartz cell with Type I water and cap. Clean outside with Kimwipes and place in sample holder. Click on **BLANK**. Instrument will automatically display blank spectra and absorbance values. Remove water blank cell.
- Very carefully fill other 1 cm quartz cell with purged sample using clean Pasteur pipet. Clean outside with Kimwipes and place in sample holder. Click on **SAMPLE**. Instrument will automatically display sample spectra and absorbance values.
- Analyze all samples in this manner rinsing cell twice with new sample before analysis.

- After all samples have been analyzed use mouse to point to sample name column and keyboard to type in date and sample name for each sample (example: 3-18 DMSO STG). When finished naming samples click on **SAVE DATA TO FILE** icon. Type in the file name for the samples. For daily samples use that day's date as the file name (example: 0103019 for 3-19-01 samples). After typing the file name click on **OK**. Analysis and data storage to computer file are complete.
- To shutdown instrument, point mouse to **FILE** listing and select **EXIT**. Instrument will exit the Chemstation software and will return to Windows. Turn off power to UV/VIS. Computer can now be shut down if not required for other analytical work.

5.0 DOCUMENTATION

Transcribe UV data for each sample into Operator's lab notebook. Then transcribe into Daily or Weekly Report on Lab computer if applicable.

6.0 GLOSSARY

None associated with this procedure.

7.0 REFERENCES

None associated with this procedure.

8.0 TEST SPECIFICATIONS

PHS Spec = 0.30 max @ 275 nm

9.0 REVISION LOG

DATE	SECTION/PAR	CHANGE DESCRIPTION
10/23/2007	All	Last Revision Before Issued In Web-based QMS
10/23/2010	3.3, 4.0, Additional	Change Hewlett Packard to Agilent. Delete I-Chem and Fritted Tubes. 4.0 -Change Hewlett Packard to Agilent. Change Windows 95 to Windows. Add -Change from Greg Ashe to Quality Manager
8/19/2013	4.0, 8.0	4.0 changed tubes to I-chem vial. 8.0 changed Spec's.
7/15/2016	None	Went thru review process and no changes were made.

Comments, questions or suggestions, please e-mail

Quality Manager