
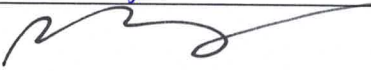
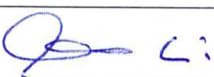

	<p style="text-align: center;">STANDARD OPERATING PROCEDURE</p> <p style="text-align: center;">Use and Maintenance of the Thermo-Scientific NanoDrop One Series UV-Vis Spectrophotometer</p>	<p>Document: QUC008-1 Effective Date: 20Mar2025 Status: Effective Page 1 of 3</p>
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Document Authorization:

	Name	Date	Signature
Owner	Sijin Guo	20Mar2025	
Operation Management	Baozhong Zhao	20Mar2025	
Quality Assurance	Xibo Li	20Mar2025	

Changes from previous version:

Section	Summary of Changes	Change Control Number
ALL	1. New document	

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1. PURPOSE

The purpose of this document is to describe the procedure for spectral and quantitative analysis of an analyte (or analytes) using the Thermo-Scientific NanoDrop One UV-Vis Spectrophotometer.

2. SCOPE

This SOP encompasses the principles, use, maintenance, and troubleshooting of the Thermo-Scientific NanoDrop One UV-Vis Spectrophotometer.

3. INTERNAL REFERENCES

Document ID	Title

4. EXTERNAL REFERENCES

Document ID	Title
NanoDrop One Series User Manual	Uv-Vis Instruments NanoDrop One Series User Guide (©2016 Thermo Fisher Scientific Inc. – Revision B)
ICH Q7 (API)	Good Manufacturing Practice Guidance for Active Pharmaceutical Ingredients
ICH Q9	Quality Risk Management
ICH Q10	Pharmaceutical Quality System

5. RESPONSIBILITIES

Job Function and/or Department	Responsibility
Operational Employees	Employees who are trained in the operation of the NanoDrop One UV/Vis spectrophotometer are responsible for adhering to this procedure.
Operational Management	Responsible for training operational employees on the operation of the NanoDrop One UV/Vis spectrophotometer and ensuring

6. DEFINITION

Term	Definition
NanoDrop One	Spectrophotometer system for measurement of absorbance.

7. PROCEDURE

7.1. Sample Preparation and Disposition

- 7.1.1. Only 1-2 µL of solution (sample) is needed on the lower Pedestal. At Synoligo, most if not all of sample concentration measurement should read in **5-10 OD** to maintain the maximum consistence though the manufacturer suggest a higher concentration can be measured. Make a serial dilution if the measures concentration is outside this range. When making serial dilutions, avoid exceeding a 200-fold dilution at each step.
- 7.1.2. **DO NOT USE hydrofluoric acid (HF) or HF-containing sample on the pedestals.** Fluoride ions will permanently damage the quartz fiber optic cables.

7.2. Operation of the NanoDrop

- 7.2.1. **NOTE: NanoDrop must be rebooted every day. If this is the first time being used in the day, make sure reboot the system.**
- 7.2.2. Turn on the power switch on the back of the spectrophotometer. Wait for the system to initialize. The power indicator on the keypad stops blinking when initialization is complete.
- 7.2.3. Before taking pedestal measurements with the NanoDrop One instrument, lift the instrument arm and clean the upper and lower pedestals. At a minimum, wipe the pedestals with a new laboratory wipe.

FIGURE 1: INSTRUMENT



7.3. General Data Acquisition

- 7.3.1. From the main screen, select the appropriate application.
- 7.3.2. Specify a baseline correction if desired.
- 7.3.3. Pipette 1-2 uL blanking solution on the lower pedestal and lower the arm.
- 7.3.4. Tap Blank and wait for the measurement to complete. If Auto-Blank is On, the blank measurement starts automatically after you lower the arm.
- 7.3.5. Lift the arm and clean both pedestals with a new laboratory wipe.
- 7.3.6. **NOTE: Calibrate the system by measuring the standard sample. If the measured concentration falls into the range, proceed measuring the real sample. If not, notify management.**
- 7.3.7. Pipette 1-2 uL sample solution onto the pedestal and lower the arm.
- 7.3.8. Start the sample measurement. If Auto-Measure is On, lower arm; if Auto-Measure is Off, lower arm and tap Measure. When the sample measure is completed, the spectrum and reported values are displayed.
- 7.3.9. When you finished measuring samples, tap End Experiment.
- 7.3.10. Lift the arm and clean both pedestals with a new wipe.