Performance Verification Check

Introduction:

Recommended Schedule: Every 6 months

A vial of PV-1, {aqueous nicotinic acid ($C_6H_5NO_2$), potassium nitrate (KNO_3)}, is required to verify the performance of the pedestal of the NanoDrop One/One[C].

Materials Needed:

- Lint Free Laboratory Wipes
- Deionized Water (diH_2O)
- Calibrated Precision Pipettor (0-2 μL)
- PV-1 Solution {aqueous nicotinic acid ($C_6H_5NO_2$), potassium nitrate (KNO_3)}

Ensure Pedestals are Clean and Conditioned:

1. Clean both upper and lower pedestal surfaces using a dry, lint free laboratory wipe.
2. Pipette 1 μL diH_2O onto the lower pedestal surface and visually inspect droplet. If pedestal surface is properly conditioned, water sample will "bead up".

    Note: When the hydrophobic properties of the pedestal surfaces have become compromised droplet will "flatten out", refer to the Pedestal Cleaning and Reconditioning procedure.

3. Remove the water sample from the upper and lower pedestal surfaces with a dry laboratory wipe

Performance Check Procedure:

1. From the Home Screen, tap the **Diagnostics** icon , followed by **Performance Verification.**
2. Tap on the **Target #1 Abs** entry box to display a numerical keypad.
3. Enter Target Absorbance Value **#1** (found on PV-1 ampoule label) into corresponding **Target #1 Abs** entry box.
4. Repeat steps 2 and 3 for the **Target #2 Abs** entry box, using Target Absorbance Value **#2** found on PV-1 ampoule label.
    Note: Target Abs. values are **lot specific** and must be entered into the correct, corresponding entry box (see example below)

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5. Once the target values have been entered, tap **Done**.
6. Pipette 1 µL diH$_2$O onto pedestal, lower arm, and tap **Blank**.
7. Remove water from upper and lower pedestal surfaces using a clean, dry laboratory wipe.
8. Ensure PV-1 solution is thoroughly mixed by vigorously shaking the ampoule. Allow the solution to collect in the bottom portion of the ampoule, if needed gently tap the ampoule.
9. Carefully snap off top portion of ampoule using ampoule cracker, discard top along with ampoule cracker (use proper safety precautions for disposal).
10. Withdraw 1 µL of the PV-1 solution from the ampoule, pipette onto lower pedestal, lower arm.
     Note: If **Auto-Measure** feature is off, tap **Measure** to begin the measurement. If **Auto-Measure** feature is ON, the measurement will begin automatically after the arm is lowered.
11. After the measurement is complete, remove sample from both upper and lower pedestal using a dry laboratory wipe.
12. Repeat steps 10 and 11 to measure 9 additional individual replicates of the PV-1 solution (following the on screen prompts).
     A. <u>Always</u> use a fresh 1 µL aliquot of PV-1 for each measurement.
     B. In between each measurement, remove PV-1 solution from both pedestals using a dry laboratory wipe.
13. After each measurement is complete, the individual results will be displayed on screen and subsequently added to the existing results
14. After all ten replicates have been measured a summary of the performance check results will be displayed on screen.

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Interpreting Results

1. Results will display as Green Check Mark/Yellow Check Mark/FAIL.
    A. If results are not within specifications, repeat procedure using 2 µL aliquots of PV-1.
    B. If results fail to meet specifications using 2 µL aliquots, contact support or local distributor for assistance
2. Tap **End Experiment** when done
    A. Results can be exported and printed at this time or at a later time from the Data Viewer
    B. Experiment name can be changed at this time and Identifiers can be added
3. Tap **End Experiment** when done
4. To review results from a previous performance verification check, select Data Viewer from the Main Menu and locate the performance verification check results from the list of experiments

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