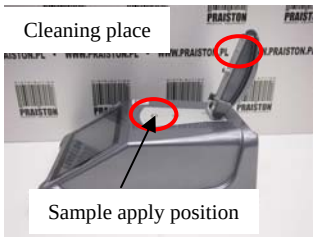
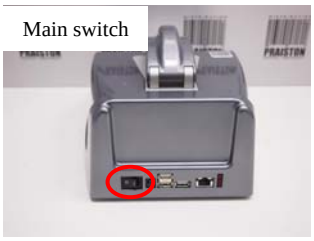
How to use DS-11+ (Nucleic acid measurement)

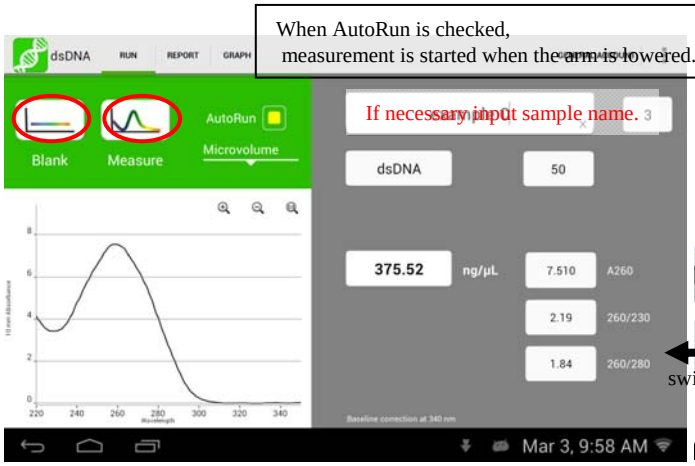
※The minimum required volume is 0.5ul. 1ul or more is recommended.
※Because the optical path length is constant, the resultant density does not change due to the difference in volume.
※Measure immediately after putting the sample in the measuring position.
※Low concentration samples take time to measure, but it is not a malfunction.

1. Clean the measuring position. Turn on the DS-11+.
2. From the home menu tap measurement mode. (dsDNA , RNA , ssDNA)
3. Put a blank solution and tap 'Blank'. Wipe blank solution.
   (Wipe both the top and bottom of the arm.)
4. (If necessary input sample name.) Put the sample and tap 'Measure'.
   Waveform and density results are displayed. Wipe the sample.
5. Repeat sample measurement.
   Swipe the measurement screen to the left to see a list of results.
   Swipe to the left again and the graph will be displayed.
   Tap on the sample name to display the graph.
   Swipe to the right to return.
6. How to save data to USB memory.
   Select sample name in result table or graph.
   Select 'Export Selected Samples' or 'Screen Capture' from the button at the upper right of the screen.
   'Export Selected Samples' stores the csv file of the result table.
   'Screen Capture' stores the jpeg file of the graph.
7. When all measurement is completed, select 'Exit' from the button at the upper right of the screen.
   Clean the measuring position.
8. Confirm that write operation is not in progress and disconnect USB.
9. Write the record.

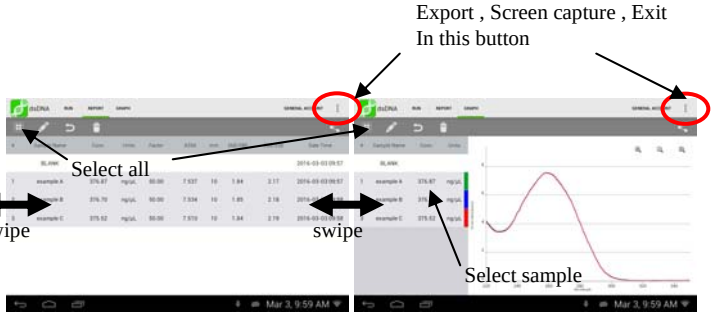




Mode selection



Measurement screen (RUN)

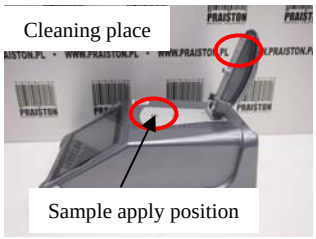


Result table (REPORT) Graph

How to use DS-11+ (Spectrum measurement)

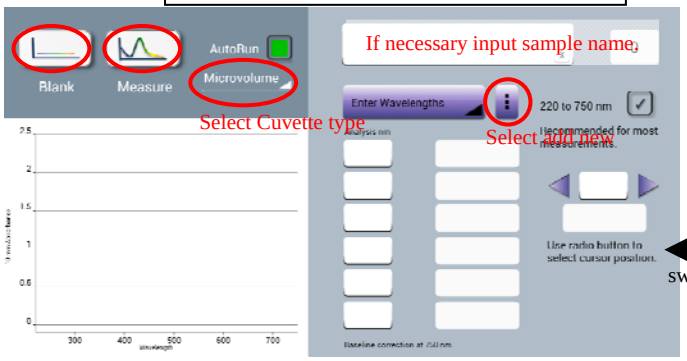
※The minimum required volume is 0.5ul. 1ul or more is recommended.
※Because the optical path length is constant, the resultant density does not change due to the difference in volume.
※Measure immediately after putting the sample in the measuring position.
※Low concentration samples take time to measure, but it is not a malfunction.

1. Clean the measuring position. Turn on the DS-11+.
2. From the home menu tap the 'UV-VIS'.
3. Select the cuvette type. When you want to use by drop, select 'microvolume'.
4. ⋮ Select 'Add new' from this icon. Enter the measurement wavelength in the lower row.
   Enter the 'List name' and tap the OK.
5. Put a blank solution and tap 'Blank'. Wipe blank solution.
   (Wipe both the top and bottom of the arm.)
6. (If necessary input sample name.) Put the sample and tap 'Measure'.
   Waveform and density results are displayed. Wipe the sample.
7. Repeat sample measurement.
   Swipe the measurement screen to the left to see a list of results.
   Swipe to the left again and the graph will be displayed.
   Tap on the sample name to display the graph. Swipe to the right to return.
8. How to save data to USB memory.
   Select sample name in result table or graph.
   Select 'Export Selected Samples' or 'Screen Capture' from the button at the upper right of the screen.
   'Export Selected Samples' stores the csv file of the result table.
   'Screen Capture' stores the jpeg file of the graph.
9. When all measurement is completed, select 'Exit' from the button at the upper right of the screen.
   Clean the measuring position.
10. Confirm that write operation is not in progress and disconnect USB.
11. Write the record.

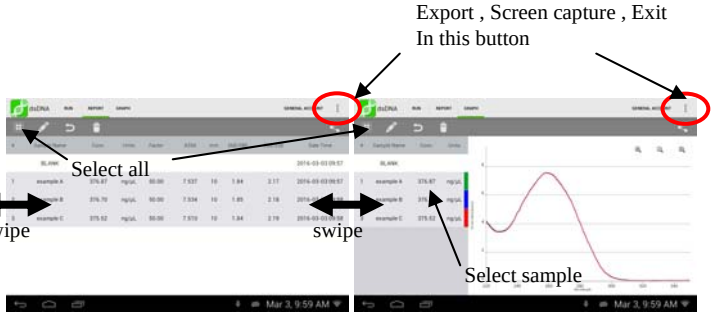



UV-Vis
Mode selection

When AutoRun is checked,
measurement is started when the arm is lowered.



Measurement screen (RUN)

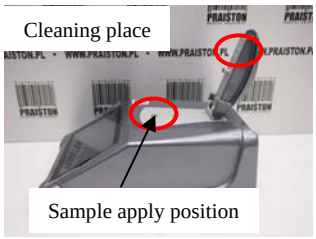


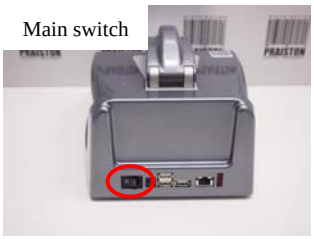
Result table (REPORT) Graph

How to use DS-11+ (Protein measurement)

※The minimum required volume is 0.5ul. 1ul or more is recommended.
※Because the optical path length is constant, the resultant density does not change due to the difference in volume.
※Measure immediately after putting the sample in the measuring position.
※Low concentration samples take time to measure, but it is not a malfunction.

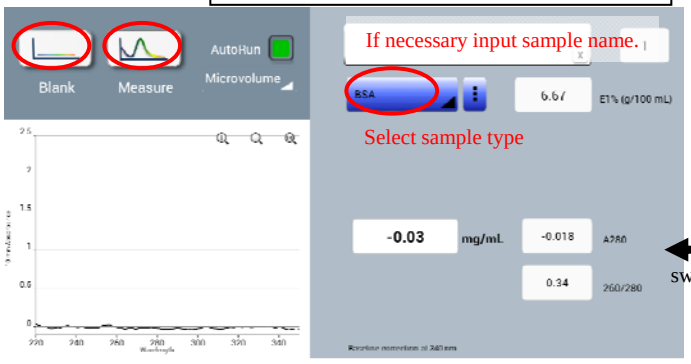
1. Clean the measuring position. Turn on the DS-11+.
2. From the home menu tap measurement mode. (Protein A280 , Labeled Proteins , Peptides)
3. Select sample type.
4. Put a blank solution and tap 'Blank'. Wipe blank solution.
   (Wipe both the top and bottom of the arm.)
5. (If necessary input sample name.) Put the sample and tap 'Measure'.
   Waveform and density results are displayed. Wipe the sample.
6. Repeat sample measurement.
   Swipe the measurement screen to the left to see a list of results.
   Swipe to the left again and the graph will be displayed.
   Tap on the sample name to display the graph.
   Swipe to the right to return.
7. How to save data to USB memory.
   Select sample name in result table or graph.
   Select 'Export Selected Samples' or 'Screen Capture' from the button at the upper right of the screen.
   'Export Selected Samples' stores the csv file of the result table.
   'Screen Capture' stores the jpeg file of the graph.
8. When all measurement is completed, select 'Exit' from the button at the upper right of the screen.
   Clean the measuring position.
9. Confirm that write operation is not in progress and disconnect USB.
10. Write the record.





Mode selection

When AutoRun is checked,
measurement is started when the arm is lowered.



Measurement screen (RUN)

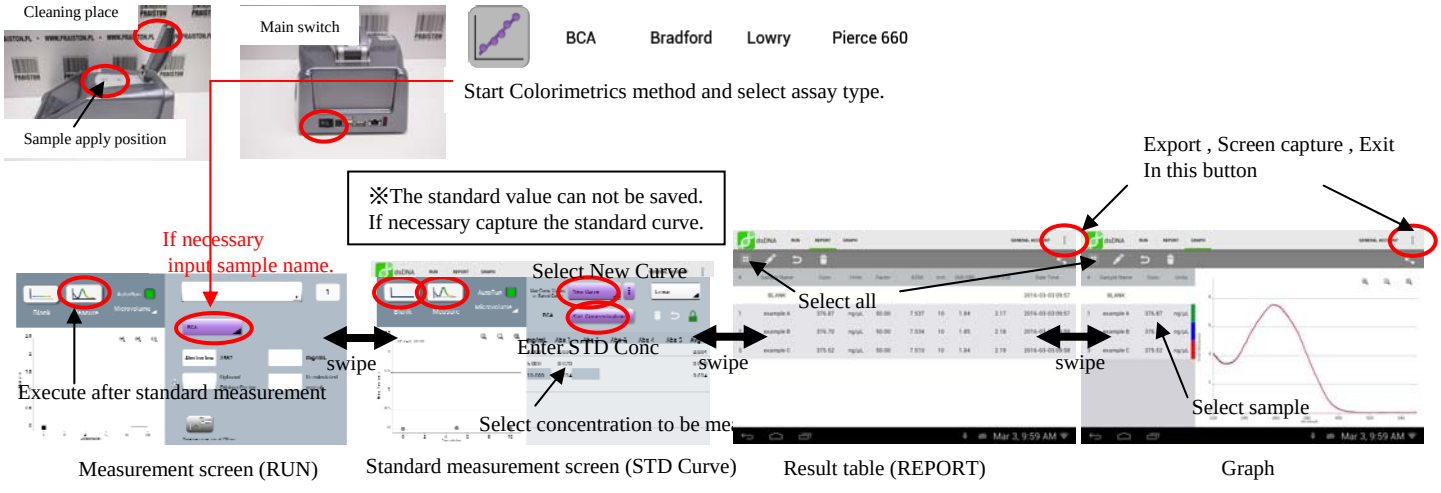
Result table (REPORT)

Graph

How to use DS-11+ (Protein measurement by colorimetric method)

※The minimum required volume is 0.5ul. 1ul or more is recommended.
※Because the optical path length is constant, the resultant density does not change due to the difference in volume.
※Measure immediately after putting the sample in the measuring position.
※Low concentration samples take time to measure, but it is not a malfunction.

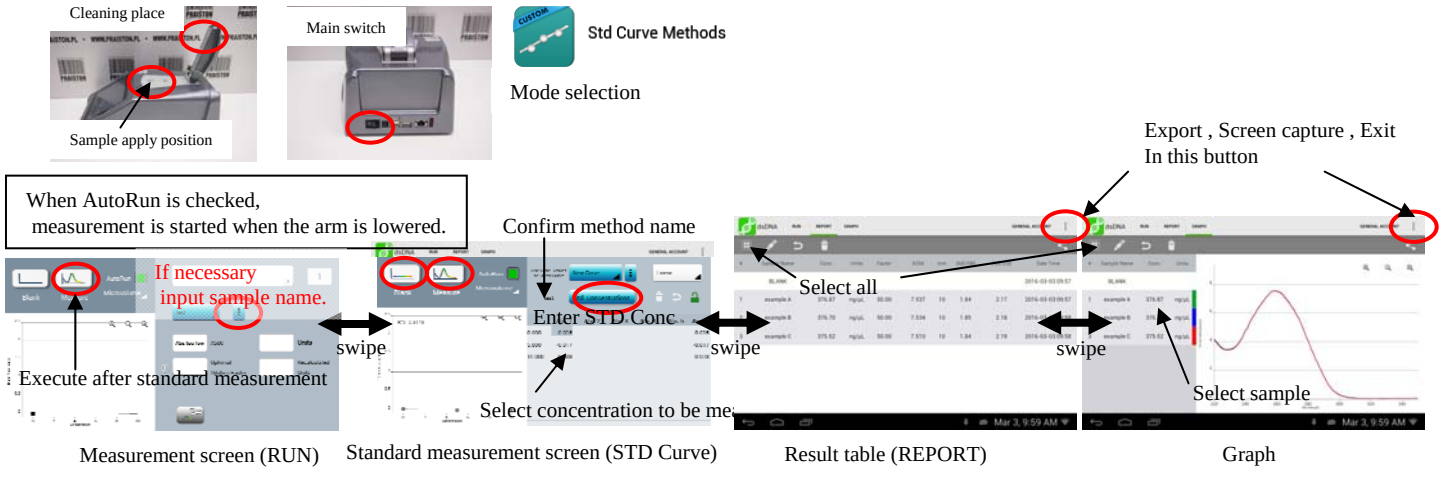
1. Clean the measuring position. Turn on the DS-11+.
2. From the home menu tap the 'Colorimetrics'.
3. Select cuvette type and assay type. When you want to use by drop, select 'microvolume'.
4. Displayed the 'STD Curve' screen when swipe to the left. (This is standard sample mesurement mode)
5. Select 'New Curve' from the pulldown.
   Tap the 'Std. Concentrations' and enter standard concentrations.
6. Put a blank solution and tap 'Blank'. Wipe blank solution.
   (Wipe both the top and bottom of the arm.)
7. Put a standard solution. Tap the standard concentration position in the table.
   (The row of ABS 2 represents the second measurement.) Tap the 'Measure'. Wipe the standard.
8. Repeat the standard measurement and measure all standard solutions. Confirm that the standard curve is correct.
9. Displayed the 'Run' screen when swipe to the right. (This is unknown sample mesurement mode)
10. (If necessary input sample name.) Put the sample and tap 'Measure'.
    Waveform and density results are displayed. Wipe the sample.
11. Repeat sample measurement.
    Swipe the measurement screen to the left twice to see a list of results.
    Swipe to the left again and the graph will be displayed. Tap on the sample name to display the graph.
    Swipe to the right to return.
12. How to save data to USB memory.
    Select sample name in result table or graph.
    Select 'Export Selected Samples' or 'Screen Capture' from the button at the upper right of the screen.
    'Export Selected Samples' stores the csv file of the result table. 'Screen Capture' stores the jpeg file of the graph.
13. When all measurement is completed, select 'Exit' from the button at the upper right of the screen.
    Clean the measuring position.
14. Confirm that write operation is not in progress and disconnect USB.
15. Write the record.



How to use DS-11+ (Standard curve method)

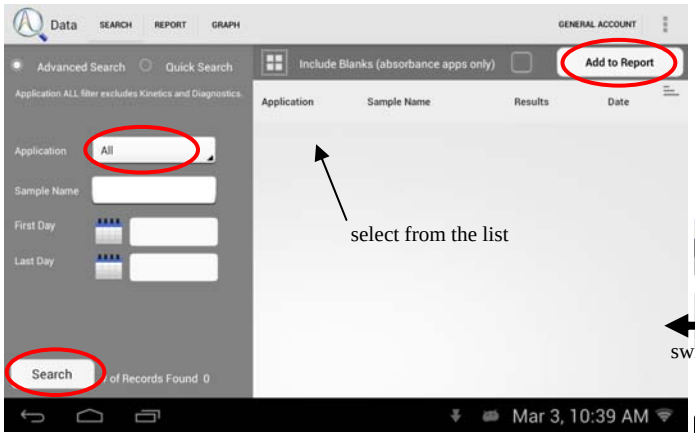
※The minimum required volume is 0.5ul. 1ul or more is recommended.
※Because the optical path length is constant, the resultant density does not change due to the difference in volume.
※Measure immediately after putting the sample in the measuring position.
※Low concentration samples take time to measure, but it is not a malfunction.

1. Clean the measuring position. Turn on the DS-11+.
2. From the home menu tap the 'STD Curve Method'.
3. Select the cuvette type. When you want to use by drop, select 'microvolume'.
4. ⋮ Select 'Add new' from this icon.
   Enter the measurement wavelength and baseline wavelength in 'Analysis nm' and 'Baseline nm' field.
   Enter the measurement range in the 'min nm' and 'max nm' fields. Enter the 'Method Name' and tap the OK.
5. Displayed the 'STD Curve' screen when swipe to the left. (This is standard sample mesurement mode)
   Confirm that the method name is displayed on the screen.
   Tap the 'STD. Concentrations'. Enter the concentration of the standard.
6. Put a blank solution and tap 'Blank'. Wipe blank solution.(Wipe both the top and bottom of the arm.)
7. Put a standard solution. Tap the standard concentration position in the table.
   (The row of ABS 2 represents the second measurement.) Tap the 'Measure'. Wipe the standard.
8. Repeat the standard measurement and measure all standard solutions. Confirm that the standard curve is correct.
9. Displayed the 'Run' screen when swipe to the right. (This is unknown sample mesurement mode)
10. (If necessary input sample name.) Put the sample and tap 'Measure'.
    Waveform and density results are displayed. Wipe the sample.
11. Repeat sample measurement.
    Swipe the measurement screen to the left twice to see a list of results.
    Swipe to the left again and the graph will be displayed. Tap on the sample name to display the graph.
    Swipe to the right to return.
12. How to save data to USB memory.
    Select sample name in result table or graph.
    Select 'Export Selected Samples' or 'Screen Capture' from the button at the upper right of the screen.
    'Export Selected Samples' stores the csv file of the result table. 'Screen Capture' stores the jpeg file of the graph.
13. When all measurement is completed, select 'Exit' from the button at the upper right of the screen.
    Clean the measuring position.
14. Confirm that write operation is not in progress and disconnect USB.
15. Write the record.



How to use DS-11+ (How to save the data stored in the device)

1. Turn on the DS-11+.
2. From the home menu tap the ‘Data’.
3. How to search data. Select the measurement mode in the Application field.
   Tap the ‘Search’ to display the corresponding data.
4. Select what you need from the list and tap the ‘Add to Report’.
5. Displayed result table or graph when swipe to left.
   Tap the sample name on the graph screen to display the graph.
6. How to save data to USB memory.
   Select sample name in result table or graph.
   Select ‘Export Selected Samples’ or ‘Screen Capture’ from the button at the upper right of the screen.
   ‘Export Selected Samples’ stores the csv file of the result table.
   ‘Screen Capture’ stores the jpeg file of the graph.
7. Confirm that write operation is not in progress and disconnect USB.
8. Select ‘Exit’ from the button at the upper right of the screen.



Search

Result table (REPORT)

Graph

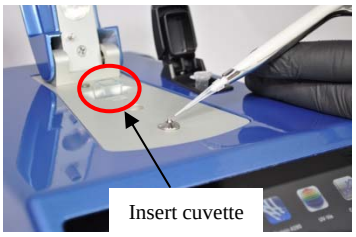
How to use DS-11+ (Kinetic)

※The minimum required volume is about 1 ml with standard cuvette.

※Because the optical path length is constant, the resultant density does not change due to the difference in volume.

1. Clean the measuring position. Turn on the DS-11+.
2. From the home menu tap the ‘Kinetics’.
3. Select the cuvette type.
4. ⋮ Select ‘New method’ from this icon.
   Enter the measurement wavelength and baseline wavelength in ‘Analysis nm’ and ‘Baseline nm’ field.
   Enter the measurement range in the ‘min nm’ and ‘max nm’ fields.
   Enter the temperature in the ‘Set Heater Temp’ field. (Uncheck when temperature control is not necessary.)
   When using a quartz cuvette, check the ‘Use Quartz Cuvette’.
   Enter delay time from start in ‘Delay before 1st Measurement’ field.
   Enter interval time in ‘Measurement Interval’ field.
   Enter measurement time in ‘Duration of Stage’ field. Enter the ‘Method Name’ and tap the confirm button.

   Caution!
   The display is stopped during the delay cycle.
5. To control the temperature, turn on the heater control. Wait until the temperature stabilizes.
6. Put a blank solution and tap ‘Blank’. Wipe blank solution.(Wipe both the top and bottom of the arm.)
7. (If necessary input sample name.) Put the sample and tap ‘Measure’.
   (A graph of measurement wavelength is displayed during measurement.)
8. (After measurement) A list of results is displayed on the report screen.
   The spectrum of each point is displayed on the graph screen. A kinetic graph is displayed on the trend screen.
9. How to save data to USB memory.
   Select sample name in result table or graph.
   Select ‘Export Selected Samples’ or ‘Screen Capture’ from the button at the upper right of the screen.
   ‘Export Selected Samples’ stores the csv file of the result table. ‘Screen Capture’ stores the jpeg file of the graph.
10. When all measurement is completed, select ‘Exit’ from the button at the upper right of the screen.
    Clean the measuring position.
11. Confirm that write operation is not in progress and disconnect USB.
12. Write the record.



Mode selection