OPTIZENVIEW BIO

User's Guide

For PC Interface software OptizenView BIO

Feb 2012

Mecasys Co., Ltd.

Better solutions
in Spectroscopic analysis
MECASYS

Notice!

For more detail information on Optizen® and OptizenView™,
you may refer to “Technical Support”
in the last Chapter of this guide or visit our websites below.

http://english.mecasys.co.kr

Contents

Part I. Introduction & General Information

Part II. OptizenView BIO Measuring Mode

Part III. OptizenView BIO Quick Guideline

Part IV. Technical Supports

Part I. Introduction & General Information

1. Setup OptizenView BIO

1) Introduction

Personnel computer can be used with installing OptizenView BIO into your personnel computer.

2) Before Starting

OptizenView BIO is the exclusive S/W for Optizen BIO Series and helps you measure, check and control experimental results on the real time in Windows-98/NT/2000/XP system. It also helps you manage the instrument easier.

3) PC System Required

OptizenView BIO can be installed with the required system as below.

- **IBM PC Pentium or equivalent**
- **over 256MB system memory**
- **VGA Display (more than reso ution of 1024 X 768)**
- **MS-Windows 98/NT/2000/XP**
- **more than HDD 50MB**
- **Mouse and keyboard**
- **Higher version of IE 6.0**
- **Printer (Optional)**

4) Installation

- **Start "Setup.exe"**

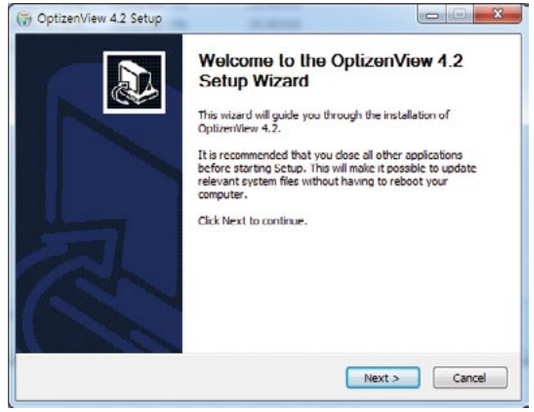
Find and Execute setup.exe at drive E.

※**Caution : Above shows drive E, however, you must check your own CD-ROM drive.**

5) Installation with Install Wizard

Process1.

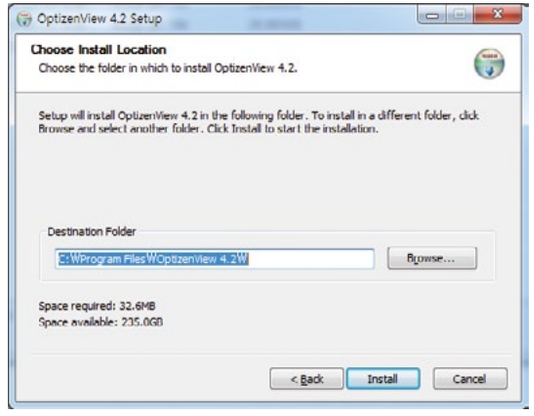
OptizenView BIO install wizard prepares to install OptizenView BIO.



To continue install program, press [Next], When you like to stop installing, press [Cancle].

Process2.

Select folder for software OptizenView BIO.



Choose folder for software OptizenView BIO.

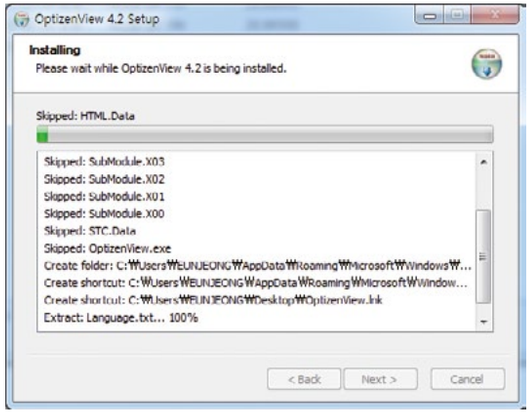
For updating software for future reference and information, suggest saving files that has been served by install wizard. (Suggested folder **C:₩Program Files\OptizenView4.2**)

※**Attention : 4.2 means the version of the S/W. It may change without notice.**

Part I. Introduction & General Information
1. Setup OptizenView BIO

Process3.

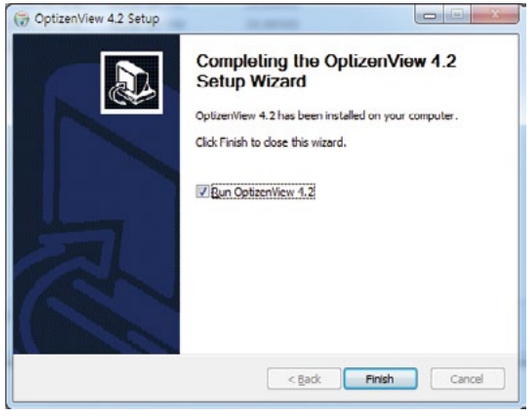
Start to install.



OptizenView BIO is now on process of installation.

Process4.

Installation has been successfully completed.



All process of setup has been successfully completed, and new icon of OptizenView BIO shall be on your Display.

Complete all the process of installation, click [Finish].

6) Troubleshooting (on process of installation)

On process of installation, you might encounter to reboot computer.

This incident of rebooting computer might happen after process 2 or on process 5. Proceed as below.

• Case 1: After process 2

On process 2, 'Restart' message appears. Press [Yes] to restart.
After rebooting Windows, Process 3 starts automatically. According to the process 3, proceeds setup.

• Case 2: On process 5

On process 5, message box appears to restart as above.
Click [Yes] to proceed 'restart'.

After rebooting Windows, Process 5 will start continuously.
When process alert to stop, click [Next] to precede setup.

※Attention : "Window restart" might repeat 2-3 times according to PC pecifications.

7) Confirmation after installation

Check installation of OptizenView BIO

After installation, check existence of a directory as below has composed.

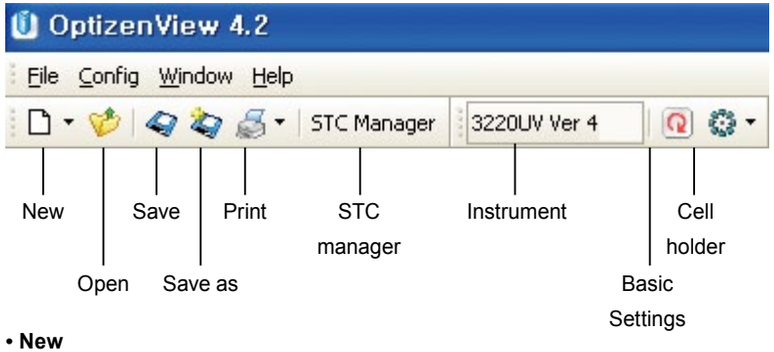
• In case of installing at the suggested folder.

	address
Folder	C:₩Program Files\OptizenView4.2

※Attention : 4.2 means the version of the S/W. It may change without notice.

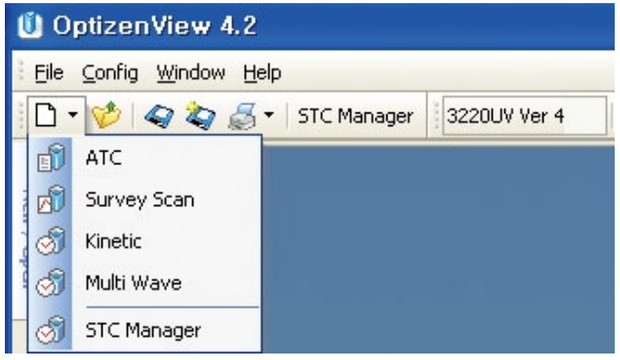
2. Menu And Basic Control

1) Toolbox



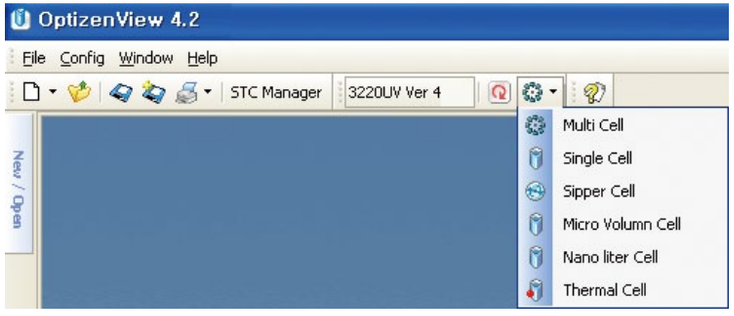
• New

Select measuring mode.



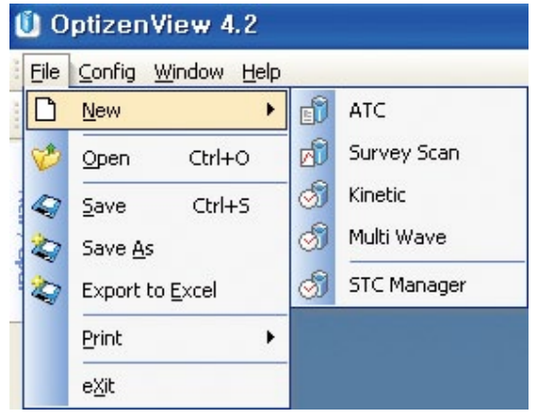
• Cell Holder

Select cell type.



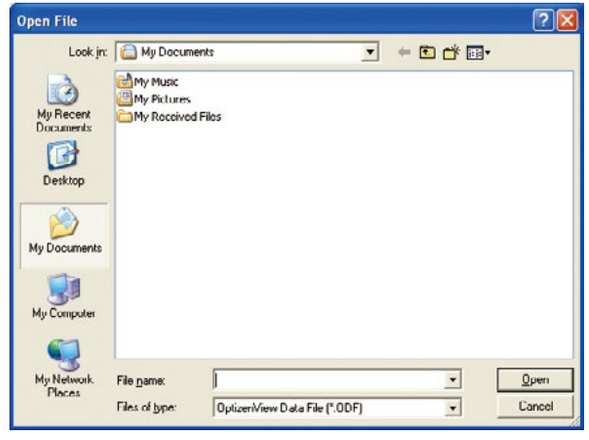
2) File Management And Mode Selection

• New File



Select measuring mode at [File(F)] → [New(N)], or select [New] icon in tool box.

• Open/Save File (Save as)



Interface of File saving and opening mostly like designed operated same way as Windows.

- **Open :** [File(F)] → [Open(O)] or select [Open] icon in tool box
- **Save :** [File(F)] → [Save(S)] or select [Save], [Save as] icon in tool box

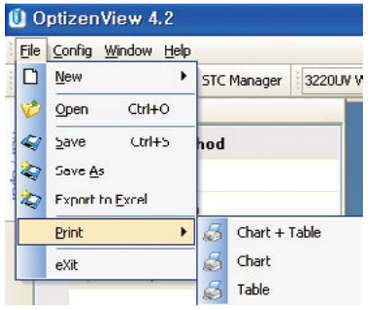
  ※**Data files are saved as *.ODF file.**

• Export to Excel (E)

Using [Export to Excel(E)], you can save as MS-Excel(*.csv) form.

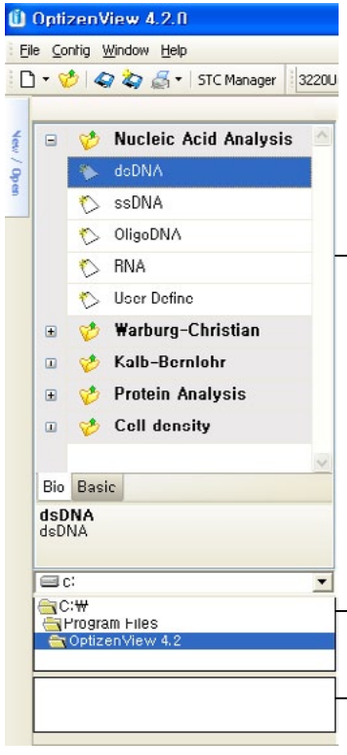
• **Print(P)**

[File(F)] → [Print(P)], or select [print] icon in tool box. You can choose the report form among Graph+Table, Graph or Table.



• **Mode selection and File management**

Move cursor to left side of display of OptizenView BIO, [New/Open]. And you can see modes display as below.



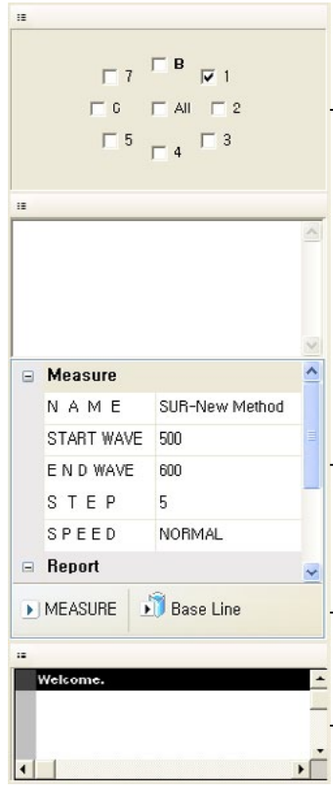
Ⓐ Mode select : Select mode for measuring

Ⓑ Folder select : Select folder for data.

Ⓒ File select : Confirm the saved data, then double click will open file.

3) Common Function Keys And Input Windows

On the right side of display of OptizenView BIO, you can see Cell selecting box, message box, buttons, and box of inputting measuring conditions.



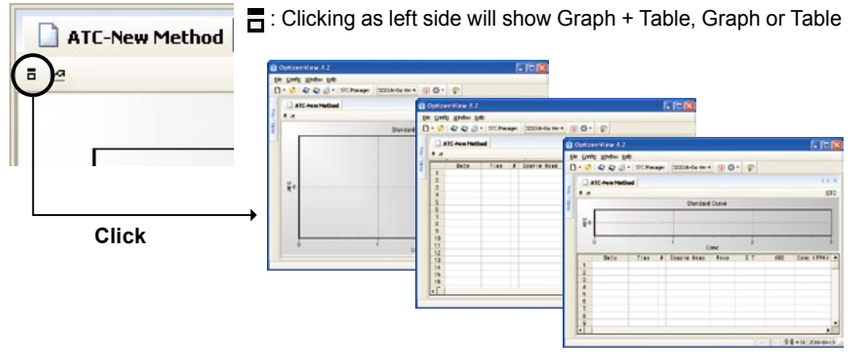
Ⓐ Select cell : Select the number of cells for measuring.

Ⓑ Set measuring condition : Input experiment name and set measuring condition.

Ⓒ Measure/Auto Zero : Measure & Auto Zero buttons.

Ⓓ Message box : Windows for status of measuring, or error message.

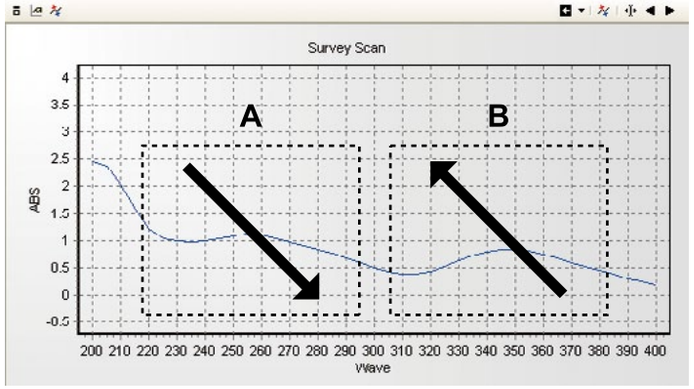
• **Display**



: Clicking as left side will show Graph + Table, Graph or Table

4) Chart Control

• Zoom In/Out



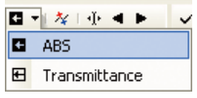
Use drag and drop will lead display bigger and smaller window.

Drag and drop like 'A'(right and down) in picture above, zoom out.
Drag and drop like 'B'(left and up) in picture above, zooms in.

• Move

Keep pressing the right button of mouse and move the graph as your will.

• Select



Select absorbance or transmittance to show in Y axis of graph.
By selecting, transform into either way for showing absorbance or transmittance.

• Chart Color Setting

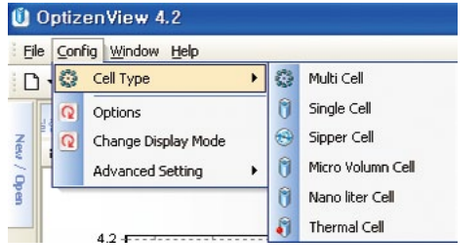
Choose color of line figment in graph from color box.

3. Configuration

Before measuring for accumulating data, check conditions as shown below.

1) Cell Type

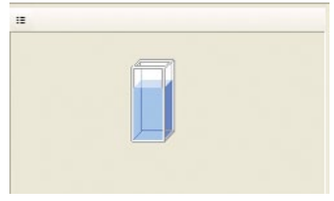
Select [Config(C)] → [Cell Type] in menu, cell holder types will show as below. Select cell holder type, then status of changes in cell holder type will appear as below.
You cannot select some cell types according to instruments.



• Multi Cell Holder Mode

Standard cell holder
(8 rotating cell holder) shows as left.
[Config(C)] → [Cell Type] → [Multi Cell].

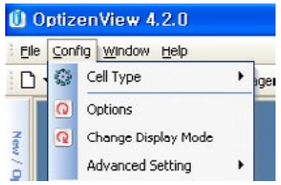
• Single Cell Holder Mode



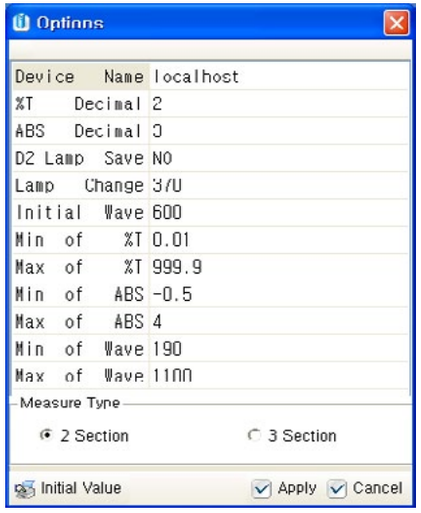
Standard setting applied cell holders like Round cell holder, Film cell holder and Long path cell holder.
Single cell holder shows as left.
[Config(C)] → [Cell Type] → [Single Cell].

2) Options

To set the basic conditions of the instrument, select [Config(C)] → [Options] in menu.



Select as above, table box appears as below.



• **Device Name** : In a case of Stand Alone Version, Write “Localhost”
When using 2120 or 1412, input the name of PC connected to the instrument.

• **%T(ABS) Decimal** : Set decimal point in absorbance and transmittance.

• **D2 Lamp Save** : If you use visible light source area mostly, you can save power and lengthen lifespan of D2 lamp by turning off D2 lamp. However, frequent switching power of D2 lamp might cause shortening lifespan of D2 lamp.
Attention : D2 lamp is one of expensive part in your instrument.

• **Lamp Change** : You can set wavelength change point in D2 lamp and W lamp.
wavelength range : 340nm ~ 410nm.

• **%T(ABS) Max/Min** : Set minimum/maximum of measured value in absorbance and transmittance.

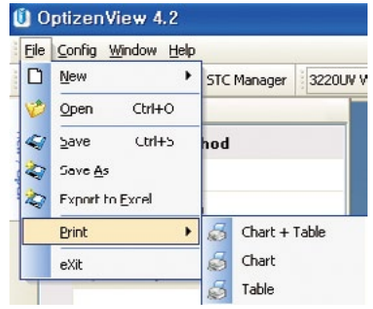
• **Wavelength Max/Min** : Select minimum/maximum wavelength range.
wavelength range : 190nm ~ 1100nm

4. Print Out

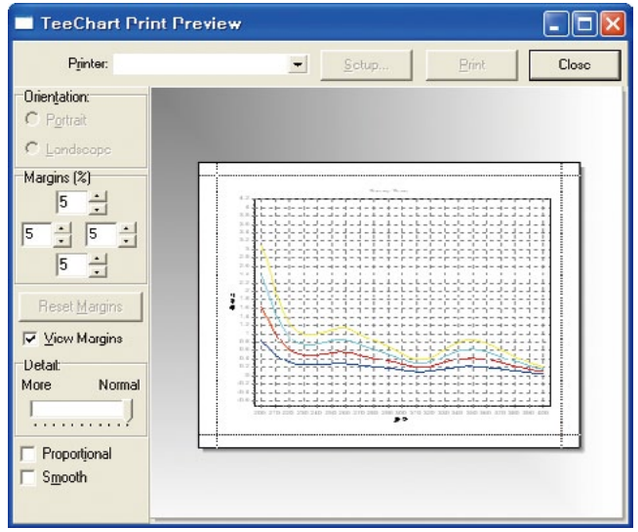
You can print he measured results, and you can select three forms, Graph, Table and Graph+Table.

• **Print form**

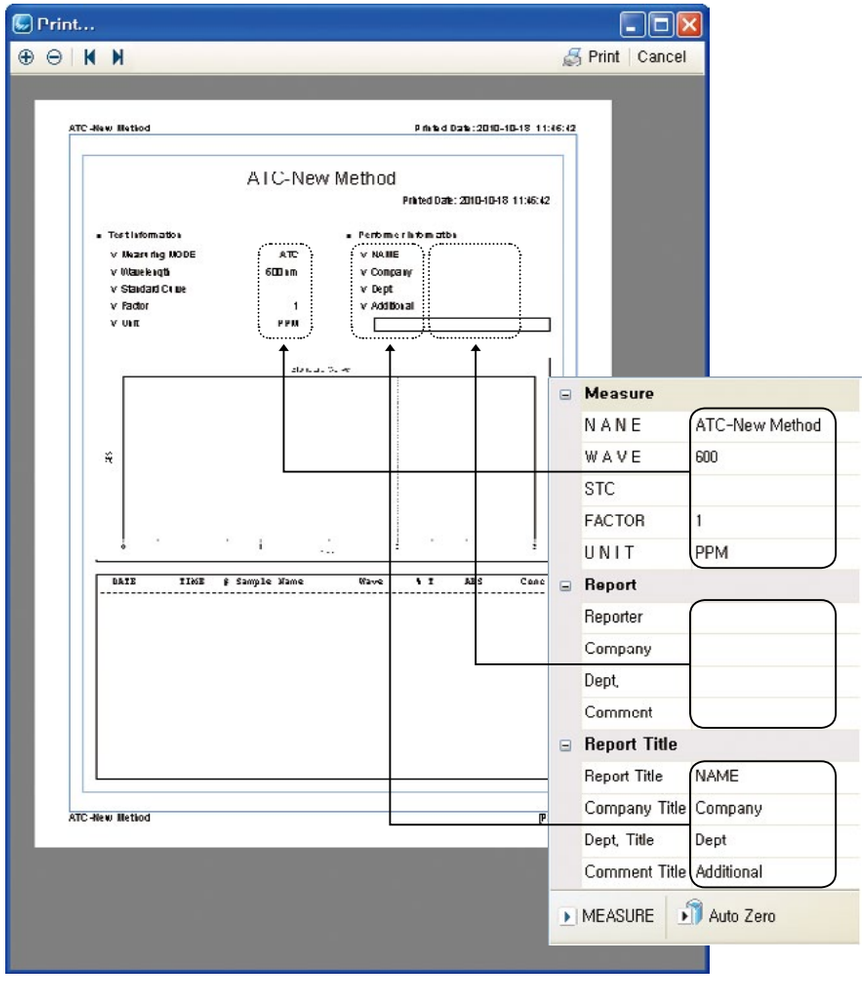
Select [Print(P)], and you can see three options as below. Select one and you can see preview for it.

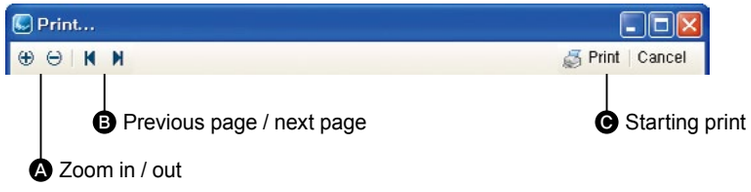


• **Graph form**



• **Table/Graph+Table form**





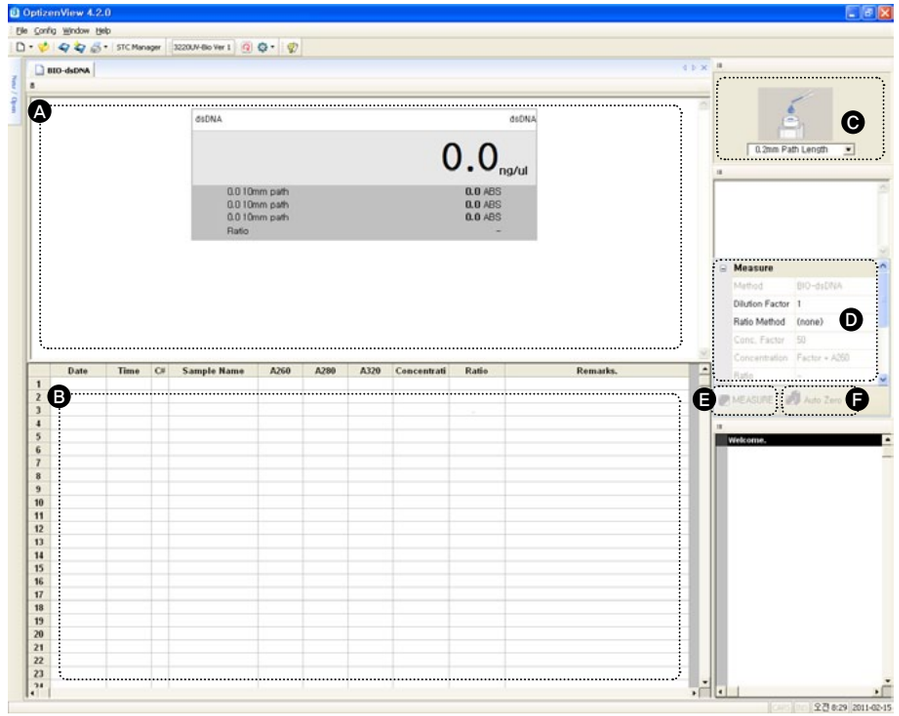
Part II. OptizenView BIO Measuring Mode

1. Nucleic Acid Mode

1) Introduction

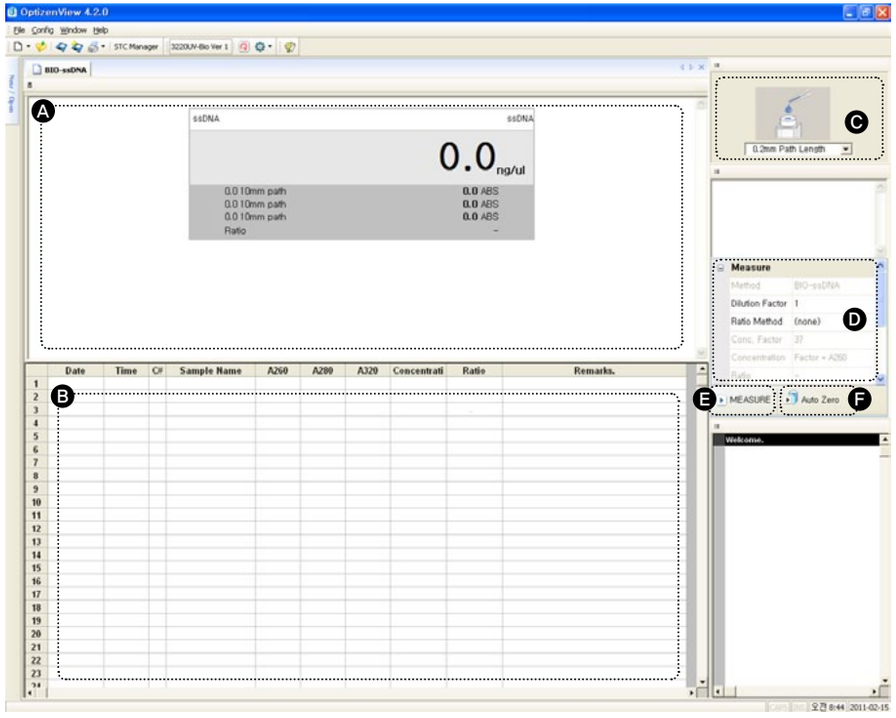
To Measure concentrations of dsDNA, ssDNA, OligoDNA, RNA, User Define at pre-set wavelength. You can see the results at Report Form(A) and Table(B).

2) dsDNA Measurement



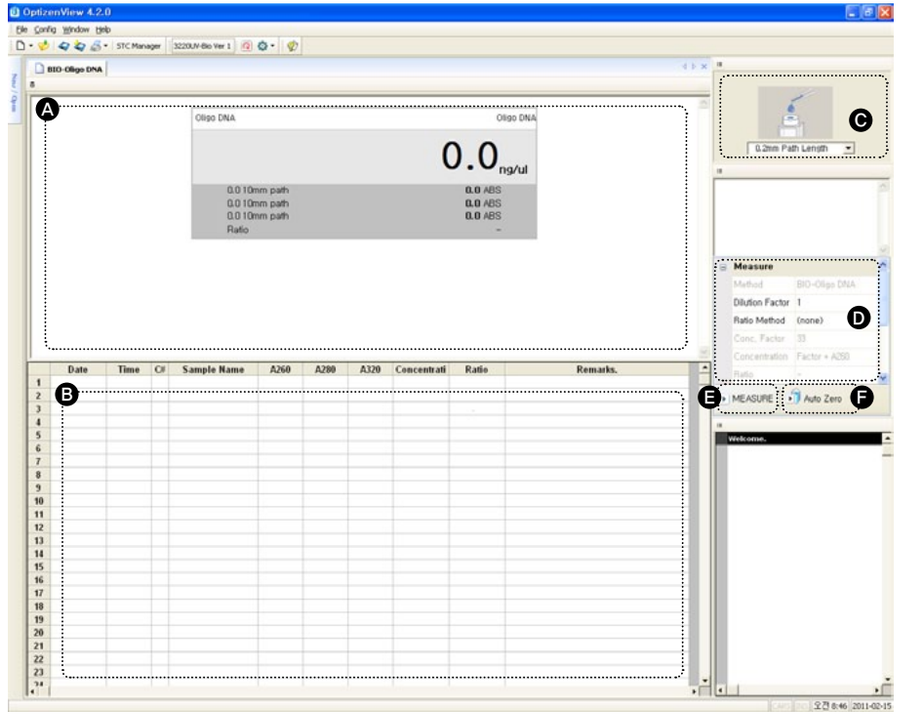
1. Select Cell type(C).
2. Set factors(D) such as Dilution Factor, Ratio Method.
3. Press Auto Zero(F).
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

3) ssDNA Measurement



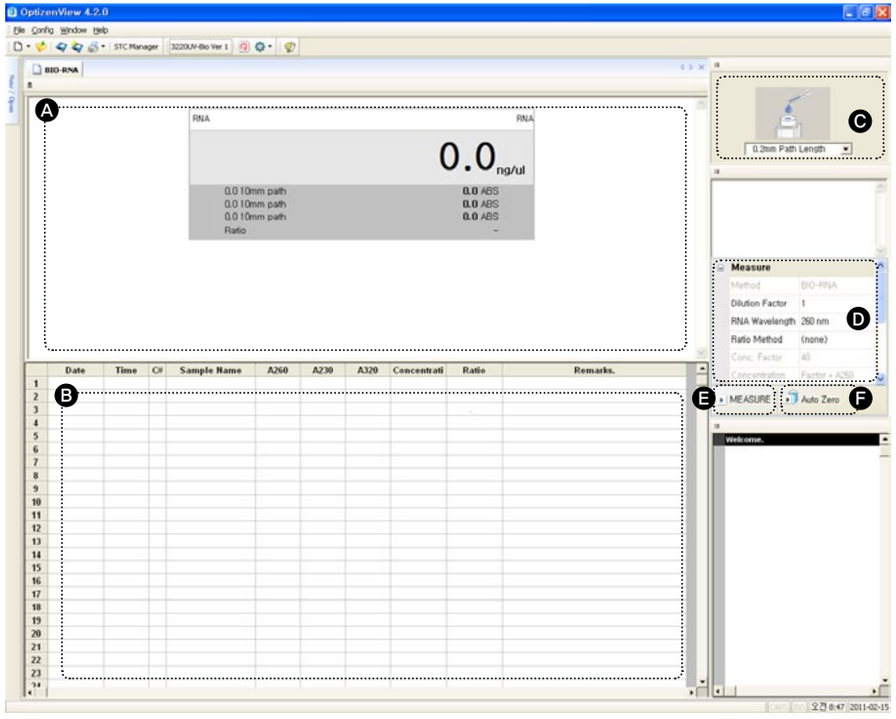
1. Select Cell type(C).
2. Set factors(D) such as Dilution Factor, Ratio Method.
3. Press Auto Zero(F).
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

4) OligoDNA Measurement



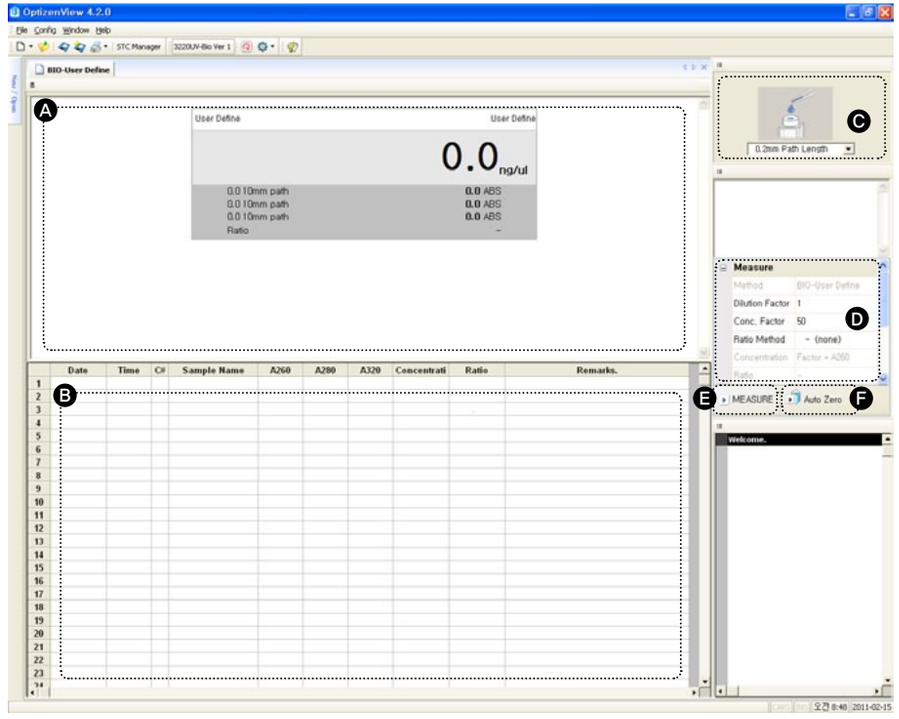
1. Select Cell type(C).
2. Set factors(D) such as Dilution Factor, Ratio Method.
3. Press Auto Zero(F).
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

5) RNA Measurement



1. Select Cell type(C).
2. Set factors(D) such as Dilution Factor, Ratio Method.
3. Press Auto Zero(F).
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

6) User Define Measurement



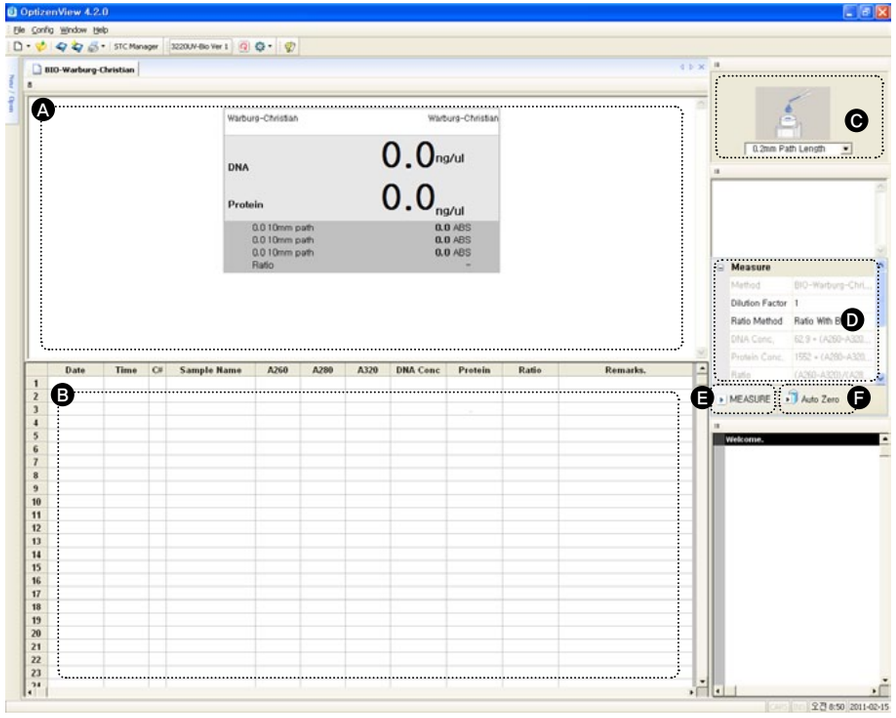
1. Select Cell type(C).
2. Set factors(D) such as Dilution Factor, Conc.factor, Ratio Method.
3. Press Auto Zero(F).
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

2. Warburg-Christian Mode

1) Introduction

To measure concentrations of DNA or Protein by Warburg-Christian Method.

2) Measurement



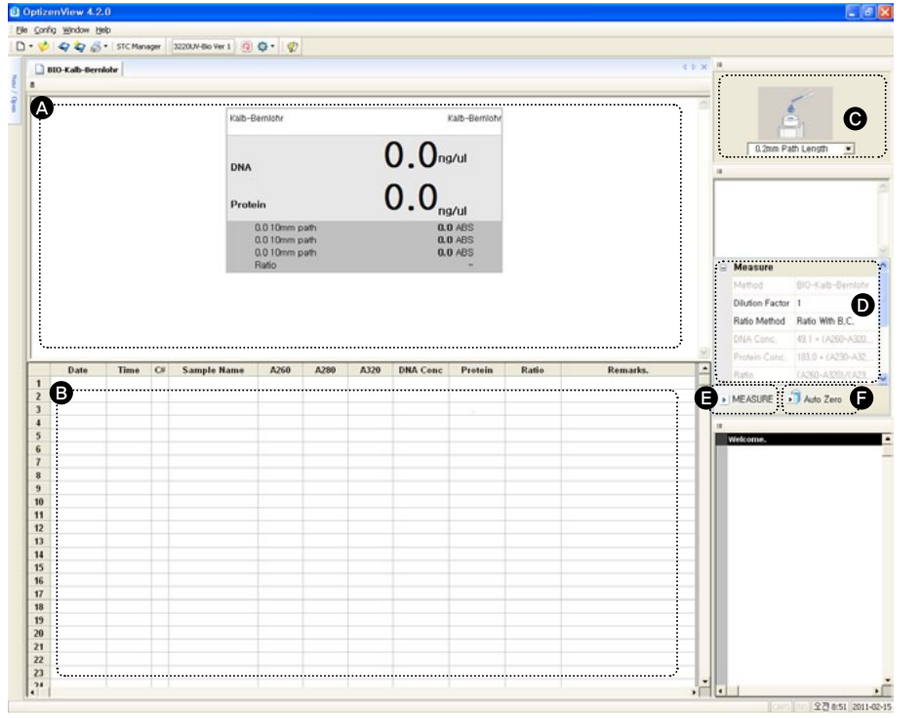
1. Select Cell type(C).
2. Set factors(D) such as Dilution Factor, Ratio Method. Ratio Method has two modes of Ratio with B.C. and Ratio without B.C.
3. Press Auto Zero(F).
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

3. Kalb-Bernlohr Mode

1) Introduction

To measure concentrations of DNA or Protein by kalb-Bernlohr Method.

2) Measurement



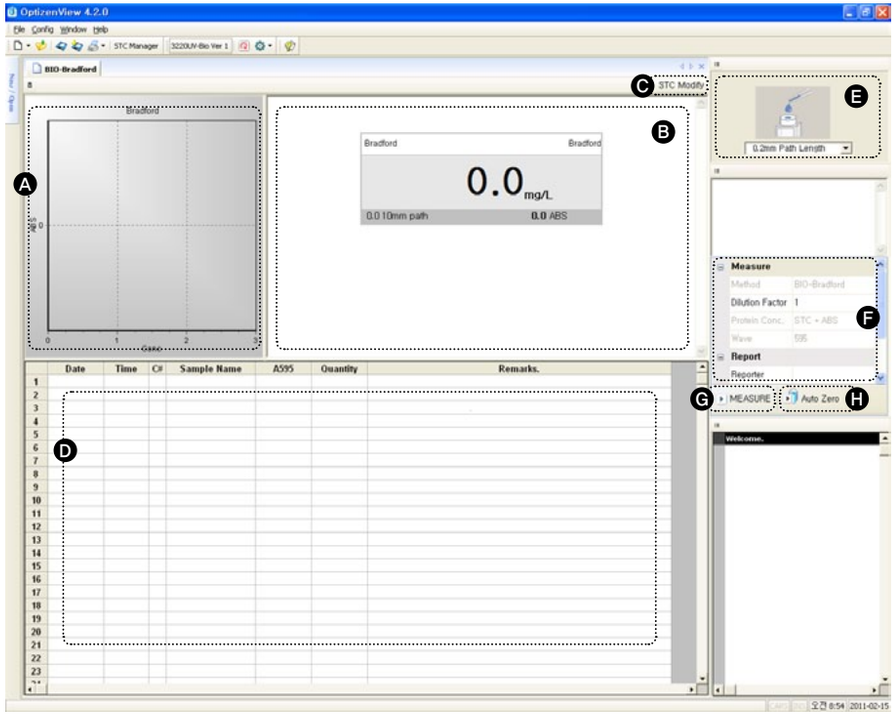
1. Select Cell type(C).
2. Set factors(D) such as Dilution Factor, Ratio Method. Ratio Method has two modes of Ratio with B.C. and Ratio without B.C.
3. Press Auto Zero(F).
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

4. Protein Analysis and Standard Curve Mode

1) Introduction

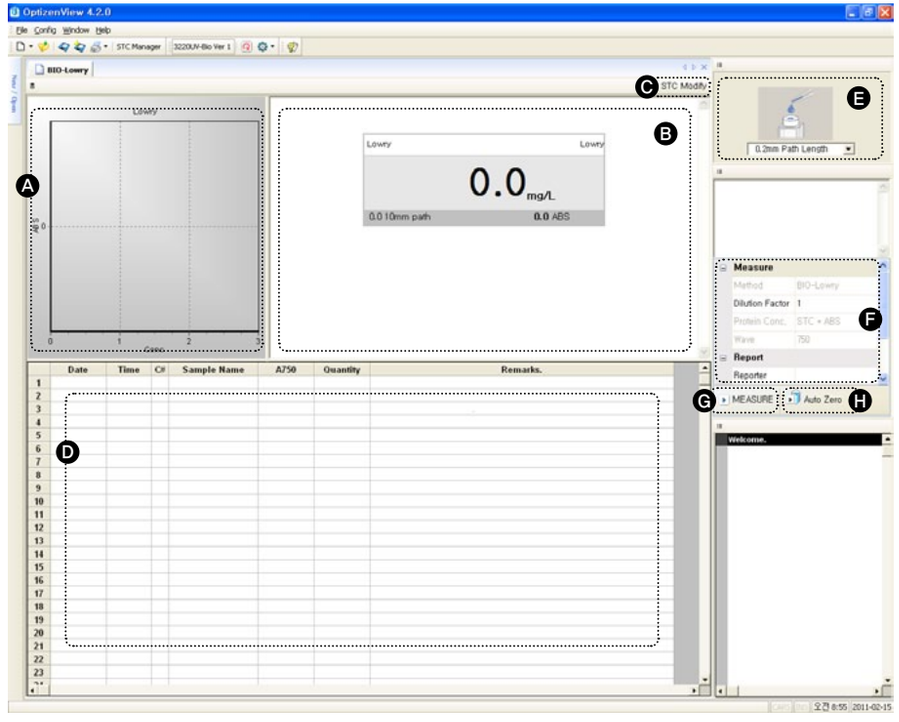
To measure concentrations of Protein by Bradford, Lowry, BCA, Biuret, Direct UV methods.

2) Bradford Measurement



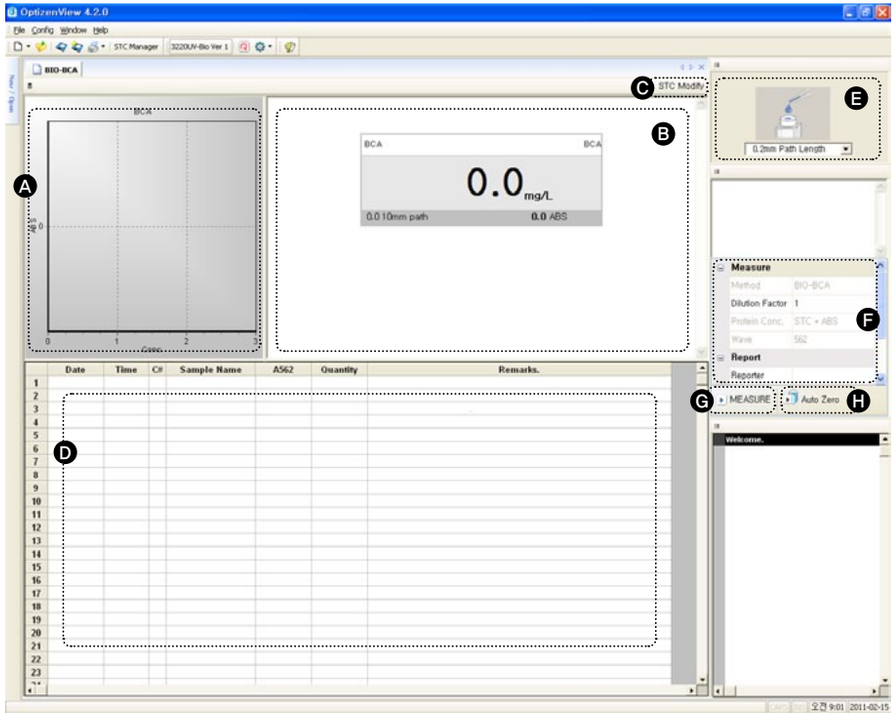
1. Set STC(A). To set STC, Double-click Graph(A) or open STC Modify(C).
   (Refer to 7) Usage of STC Manager)
2. Select Cell type(E).
3. Input Dilution Factor (F).
4. Press Auto Zero(H)
5. After Auto Zero, press Measure(G).
   You can see the results at Report Form(B) and Table(D).

3) Lowry Measurement



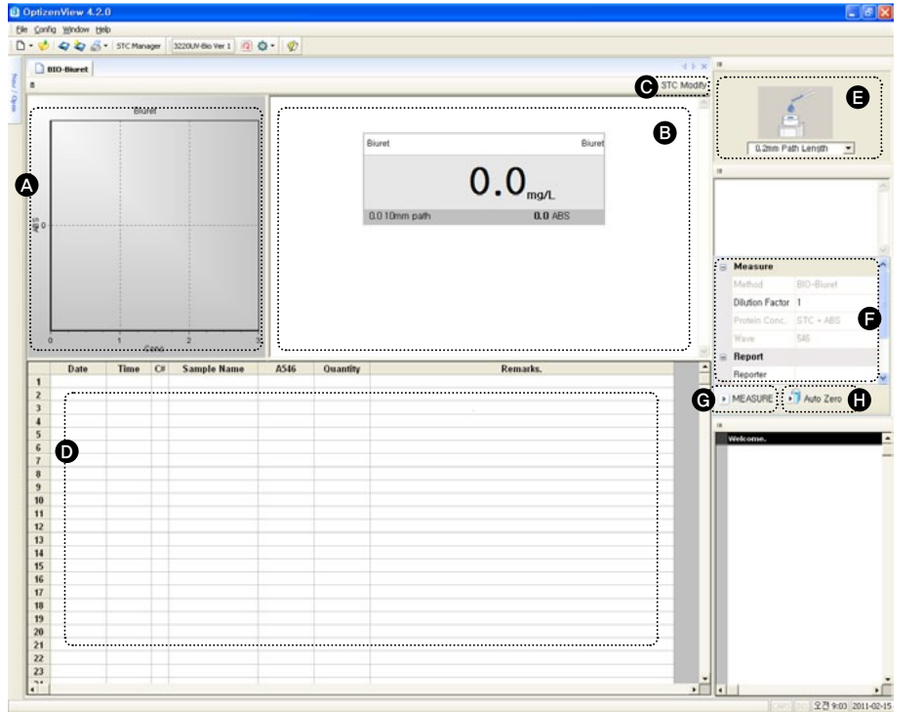
1. Set STC(A). To set STC, Double-click Graph(A) or open STC Modify(C).
   (Refer to 7) Usage of STC Manager)
2. Select Cell type(E).
3. Input Dilution Factor (F).
4. Press Auto Zero(H)
5. After Auto Zero, press Measure(G).
   You can see the results at Report Form(B) and Table(D).

4) BCA Measurement



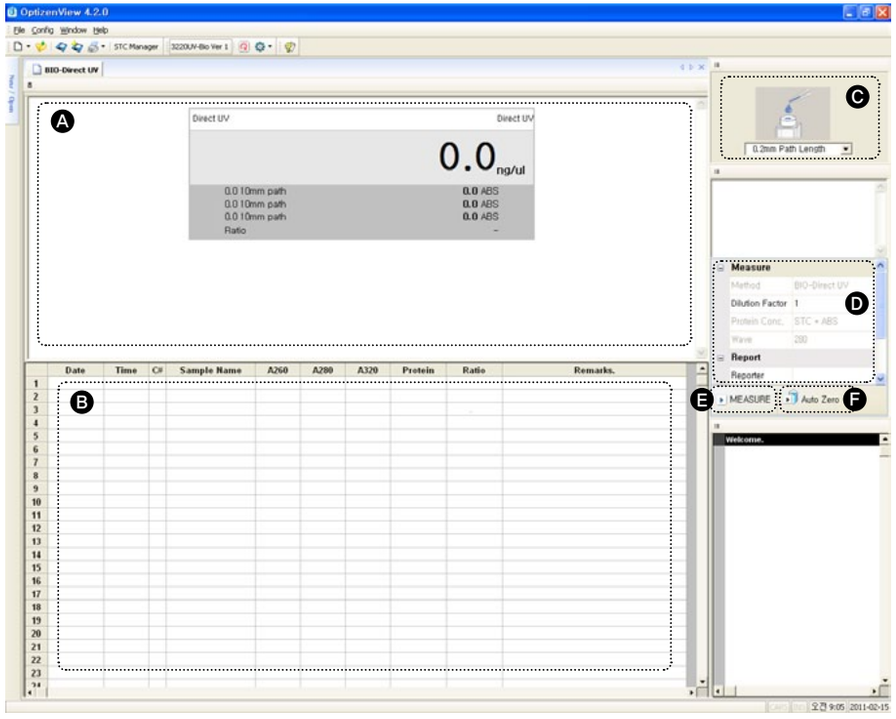
1. Set STC(A). To set STC, Double-click Graph(A) or open STC Modify(C).
   (Refer to 7) Usage of STC Manager)
2. Select Cell type(E).
3. Input Dilution Factor (F).
4. Press Auto Zero(H)
5. After Auto Zero, press Measure(G).
   You can see the results at Report Form(B) and Table(D).

5) Biuret Measurement



1. Set STC(A). To set STC, Double-click Graph(A) or open STC Modify(C).
   (Refer to 7) Usage of STC Manager)
2. Select Cell type(E).
3. Input Dilution Factor (F).
4. Press Auto Zero(H)
5. After Auto Zero, press Measure(G).
   You can see the results at Report Form(B) and Table(D).

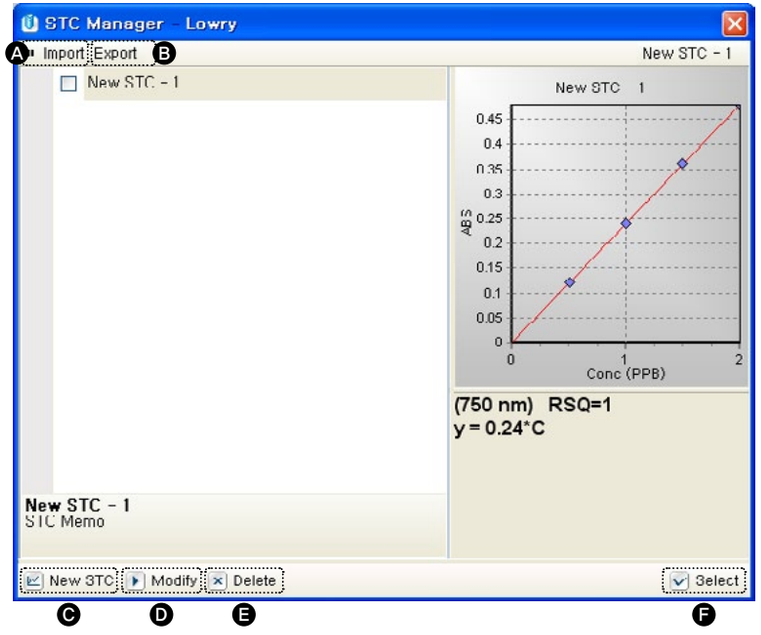
6) Direct UV Measurement



1. Select Cell type(C).
2. Input Dilution Factor, Conc.factor, Ratio Method (D).
3. Press Auto Zero(F)
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

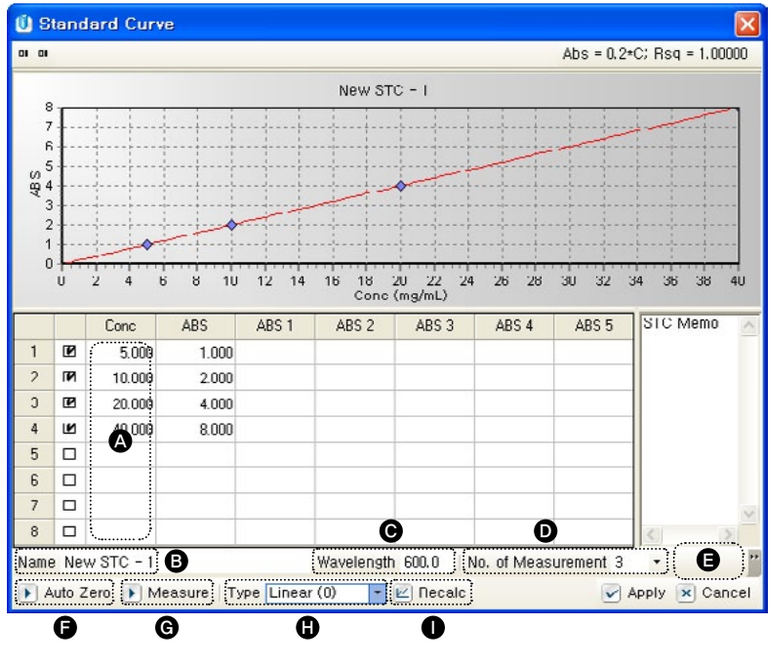
7) Usage of STC Manager

This mode is to make, modify, delete, find and open Standard Curve(STC).
STCs saved in STC Manager can be shared by several ATC modes.
To transfer STC to other PCs, click [Export] and save STC as a separate file.
And on the contrary, you can open STC file by selecting [Import].



- **Import (A)** : Open STC file that is exported from other instruments.
- **Export (B)** : Save STC as a separate file for transfer or backup purposes.
- **New STC (C)** : Register a new STC.
- **Modify (D)** : Modify selected STC.
- **Delete (E)** : Delete selected STC.
- **Select (F)** : Selected STC will be applied to ATC.

• **New STC (C) or Modify (D)**

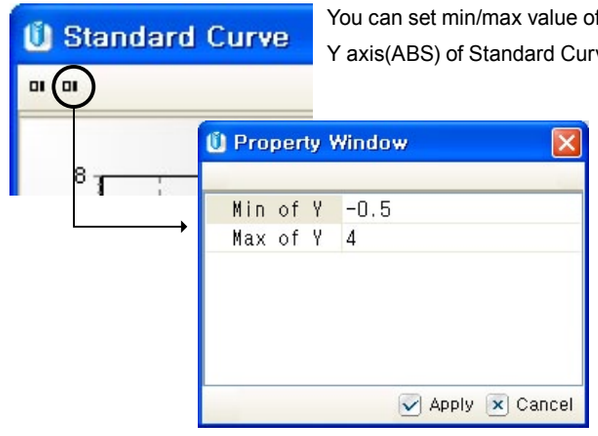


1. Input name of this STC. (B)
2. Input wavelength. (C)
3. Input measuring times. (D)
4. Set unit. (E)
5. Input the concentration of the standard sample. (A)
6. Press AutoZero. (F)
7. Press Measure to get the ABS value. (G)
8. After measuring, click Type(H) and Recalc(I) to get the proper STC.
9. Click [Apply] to save at STC manager.

• **Attentions while making & modifying STC**

1. No. of Measurement means the number of measuring times of each standard samples.
2. After measuring, if you discard the specific result, click square(left side of A) and then click Type(H) and Recalc(I).
3. If you use multi cell mode, the number of cell number and row must be the same.
For example, if you put the sample in cell no. 1, 3 and 5, you must input the concentration at row no. 1, 3 and 5.
4. You can make STC without measuring standard samples. Input ABS at ABS column, and then click Type(H) and Recalc(I).
5. We recommend that you make the backup file of STC.data which is in the folder, C:\Program Files\OptizenView 4.2, since STCs are saved on it.

• **Set Min/Max of Y axis**



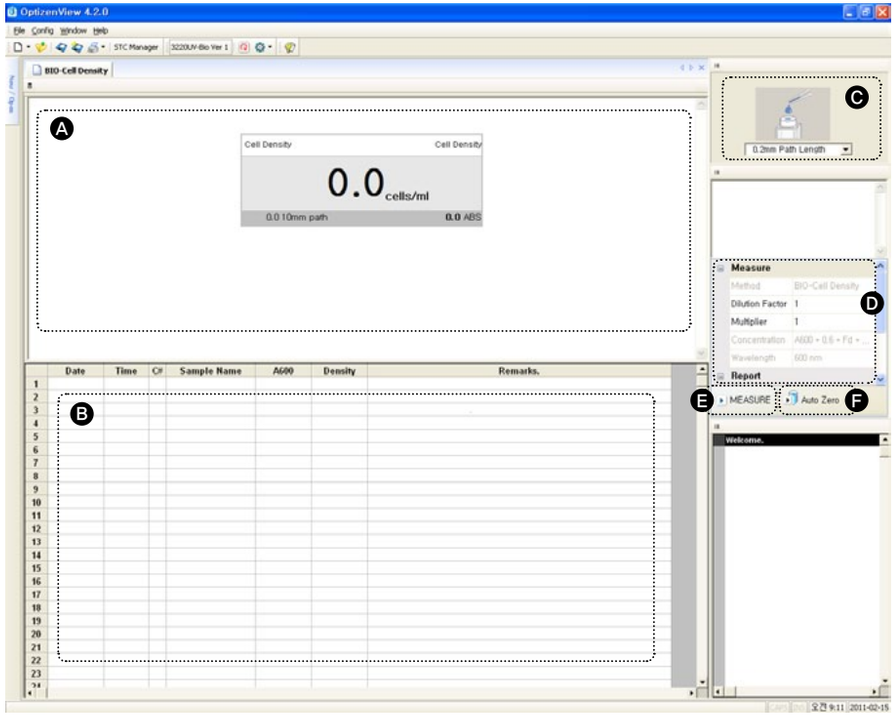
You can set min/max value of Y axis(ABS) of Standard Curve.

5. Cell-Density Mode

1) Introduction

To measure concentrations of Cell growth by Cell-Density Mode.

2) Measurement

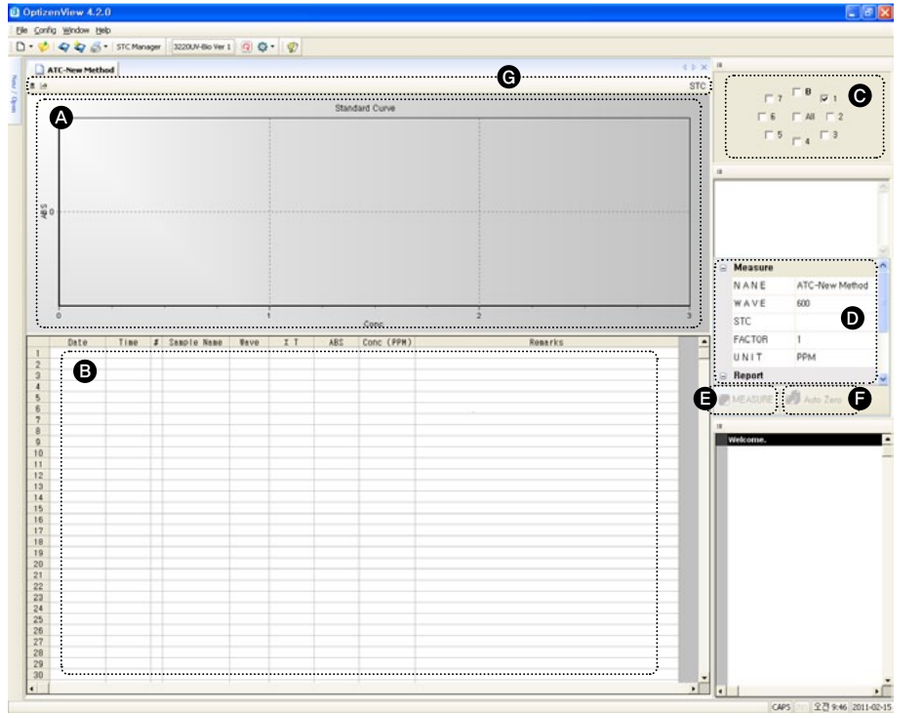


1. Select Cell type(C).
2. Input factors such as Dilution Factor, Multiplier(D).
3. Press Auto Zero(F).
4. After Auto Zero, press Measure(E).
   You can see the results at Report Form(A) and Table(B).

6. General Modes

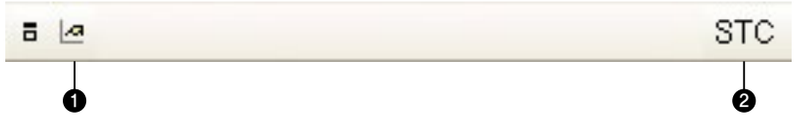
1) ABS/%T/CONC and Standard Curve Measurement

This mode is to set Standard Curve at the specific Wavelength to find out Absorbance, Transmittance and Concentration of samples.

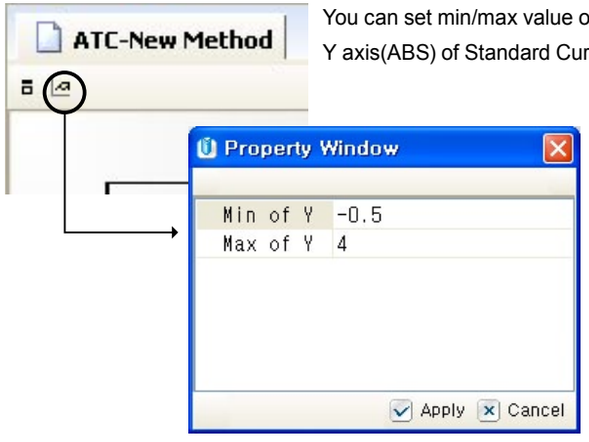


1. Select Cell number(C).
2. Input window (D) : Wavelength, Diluting proportion, and Unit.
   unit When measuring concentration by standard curve, click STC.
3. Click to execute Auto Zero(F).
4. Click start measurement(E), results will be displayed in table(B).

• Graph setting and Standard curve file management(G)



- Set Min/Max of Y axis (1)



You can set min/max value of Y axis(ABS) of Standard Curve.

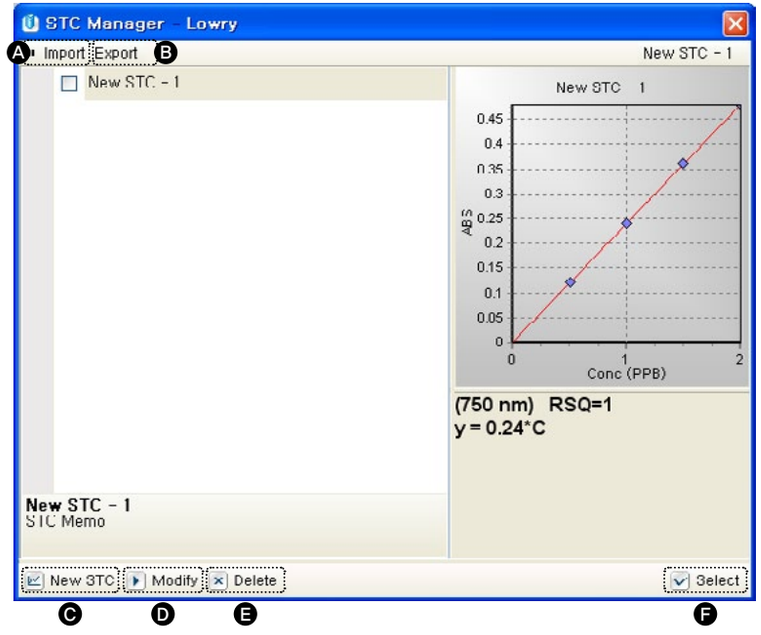
- STC open or Select (2)

Open STC Manager and select one STC (Standard Curve).

※ Refer to 7) Usage of STC Manager

• OptizenView BIO [Usage of STC Manager]

This mode is to make, modify, delete, find and open Standard Curve(STC).
STCs saved in STC Manager can be shared by several ATC modes.
To transfer STC to other PCs, click [Export] and save STC as a separate file.
And on the contrary, you can open STC file by selecting [Import].



- Import (A) : Open STC file that is exported from other instruments.

- Export (B) : Save STC as a separate file for transfer or backup purposes.

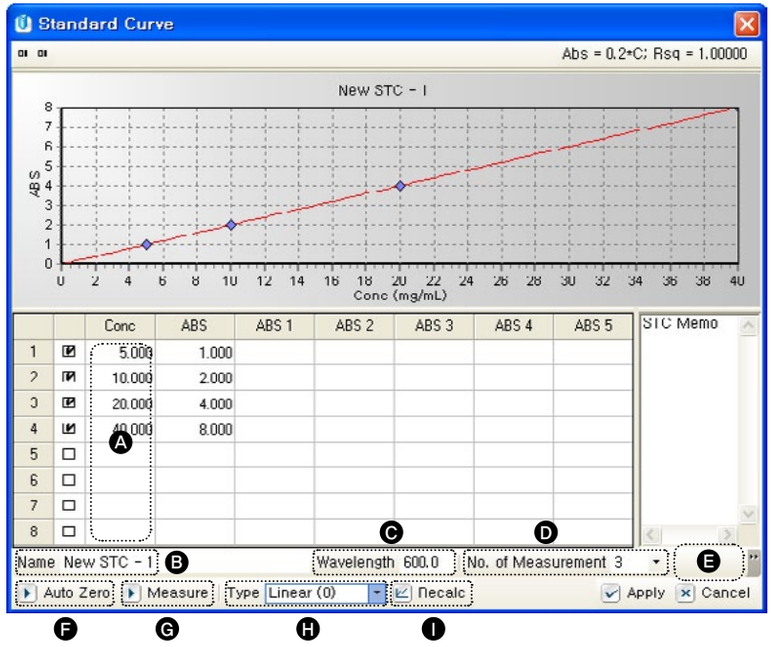
- New STC (C) : Register a new STC.

- Modify (D) : Modify selected STC.

- Delete (E) : Delete selected STC.

- Select (F) : Selected STC will be applied to ATC.

- New STC (C) or Modify (D)



1. Input name of this STC. (B)
2. Input wavelength. (C)
3. Input measuring times. (D)
4. Set unit. (E)
5. Input the concentration of the standard sample. (A)
6. Press AutoZero. (F)
7. Press Measure to get the ABS value. (G)
8. After measuring, click Type(H) and Recalc(I) to get the proper STC.
9. Click [Apply] to save at STC manager.

- Attentions while making & modifying STC

1. No. of Measurement means the number of measuring times of each standard samples.
2. After measuring, if you discard the specific result, click square(left side of A) and then click Type(H) and Recalc(I).
3. If you use multi cell mode, the number of cell number and row must be the same.
For example, if you put the sample in cell no. 1, 3 and 5, you must input the concentration at row no. 1, 3 and 5.
4. You can make STC without measuring standard samples. Input ABS at ABS column, and then click Type(H) and Recalc(I).
5. We recommend that you make the backup file of STC.data which is in the folder, C:\Program Files\OptizenView 4.2, since STCs are saved on it.

- Calculating value R in a regression line

Compensate maximum value of aberration and compute accurate value, an equation known as Pearson'R equation used when a linear line going through Zero point. And other linear line takes method of ordinary least square.

- Pearson'R

$$r = \frac{n(\Sigma XY) - (\Sigma X)(\Sigma Y)}{\sqrt{\left[n\Sigma X^2 - (\Sigma X)^2\right]\left[n\Sigma Y^2 - (\Sigma Y)^2\right]}}$$

When, X = Concentration
Y = Absorbance

- Method of Ordinary Least Square

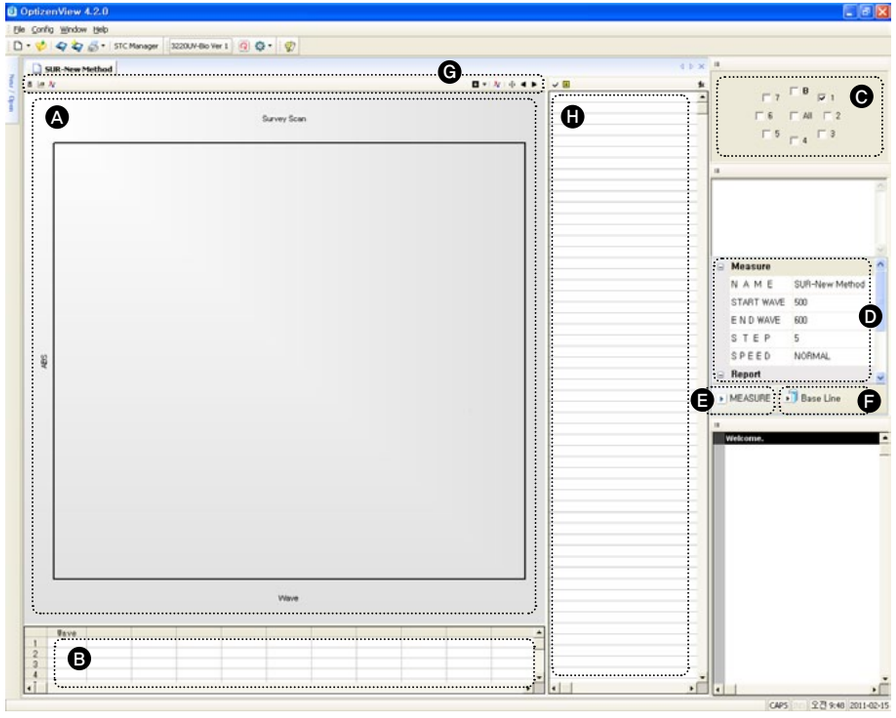
$$r^2 = \frac{\sum(\hat{Y}_i - \overline{Y})^2}{\sum(Y_i - \overline{Y})^2}$$

When, $\hat{Y}$ = Extended coefficient in slope of Selection Curve
$\overline{Y}$ = Average

Part II. OptizenView BIO Measuring Mode
6. General Modes

2) Survey Scan Measurement

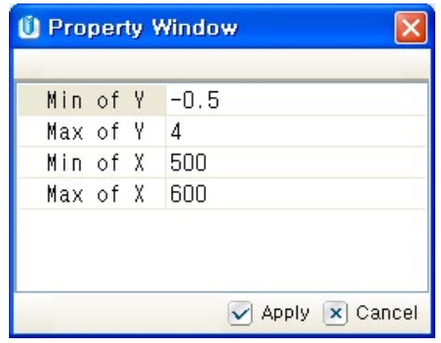
Survey scan allows you to have data with selected cell measured in selected wavelength range. After tested and measured absorbance and transmittance, test results will be shown as below table and graph.



1. Select Cell number (C).
2. Input starting wavelength, ending wavelength, interval wavelength, scanning speed in window (D).
3. Scan blank with inputted setup as (2) by clicking Base Line(F).
   After this step, preparation for measurement is ready.
4. Click measurement (E).
   Result will be shown as graph (A) and table (B).

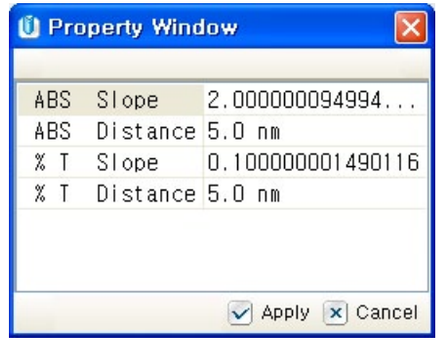
• Graph (G)

- Set Range (1)



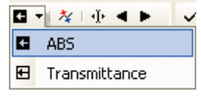
Set min/max wavelength (y-axis) and absorbance or transmittance (x-axis).

- Set Peak/Valley (2)



This is to set the condition of auto detecting of peak/valley.

- Absorbance / Transmittance (3)



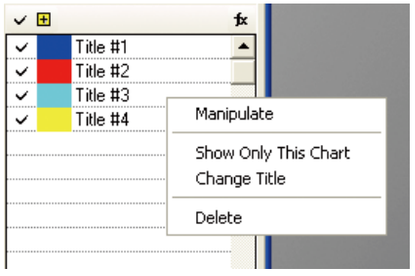
Select absorbance and transmittance.

- Peak/Valley, Cursor, Arrows (4, 5, 6)

Click Peak/Valley[4] to find Peak/Valley.

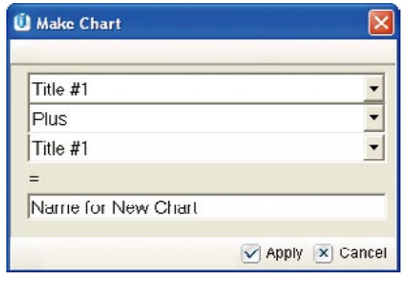
In Peak/Valley box, click Cursor[5] will show absorbance (transmittance) and wavelength. ← / → table arrows[6] can search before or next peak/valley Managing.

• Managing data value from Measurement (H)



Measured data (H), click right side of mouse will lead to be shown as left.

- Manipulate



You can Manipulate the measured data.
- Graph (+,-,*,/) Graph
- Graph (+,-,*,/) Constant
- Differentiate of graph.

- Show only this chart : You can see the only selected graph.

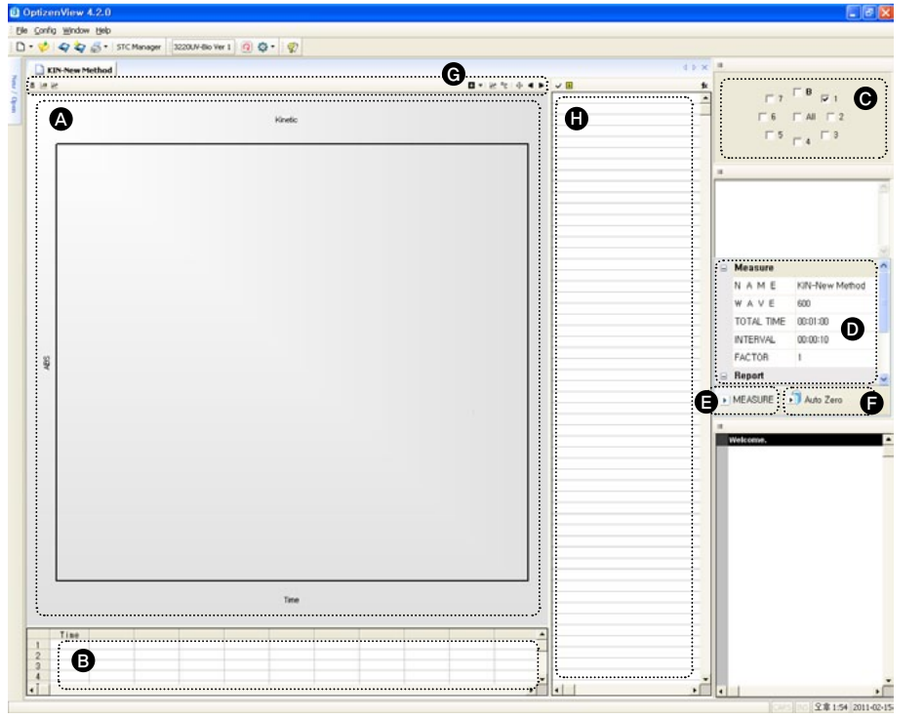
- Change title : Change the name of selected data.

Changing name of selected data will lead some changes in title of table.

- Delete : Delete measured data.

3) Simple Kinetic Measurement

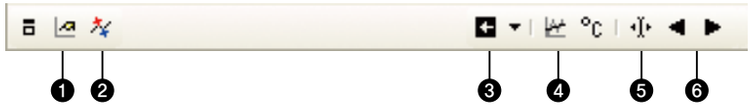
Simple kinetic allows mutation or variation of samples in time interval at selected wavelength. Test results will be shown as below table and graph.



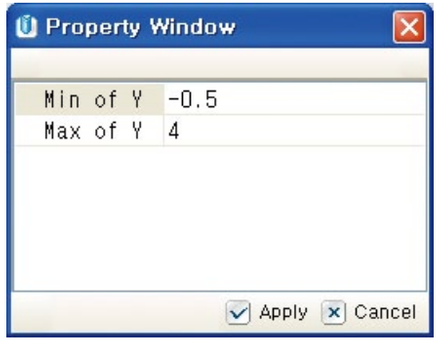
1. Select Cell number (C).
2. Input wavelength, measuring time, measuring interval, and factor in window (D).
3. Click to execute Auto Zero(F).
4. Start measuring (E) by click, data will be shown with the same time of measuring. Results will be shown in graph (A) and table. (B).

Part II. OptizenView BIO Measuring Mode
6. General Modes

• Graph (G)

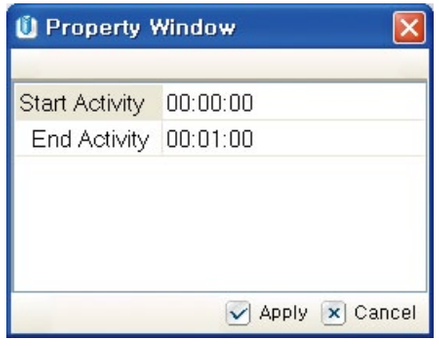


- Set Range (1)



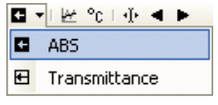
Y-axis shows transmittance or absorbance.
Set Minimum and maximum.

- Set Actiity Range (2)



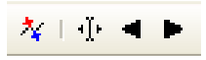
Set interval in time for activity.

- Absorbance / Transmittance (3)



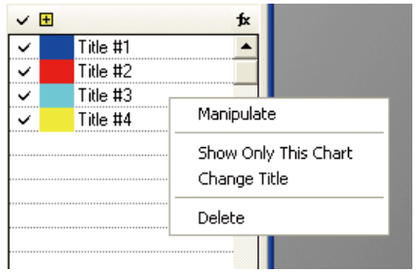
Select absorbance or transmittance.

- Activity, Cursor,Arrows (4, 5, 6)



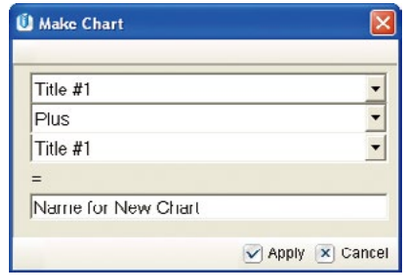
Click Activity will show interval in time and value will be shown on the right-upper part as a table.
Click Cursor [5] leads displaying value of absorbance [transmittance], testing time, and testing wavelength.
← / → Arrows Table [6] leads before or next value in a table.

• Managing data value from Measurement (H)



Measured data (H), click right side of mouse will lead to be shown as left.

- Manipulate



You can Manipulate the measured data.
- Graph (+,-,*,/) Graph
- Graph (+,-,*,/) Constant
- Differentiate of graph.

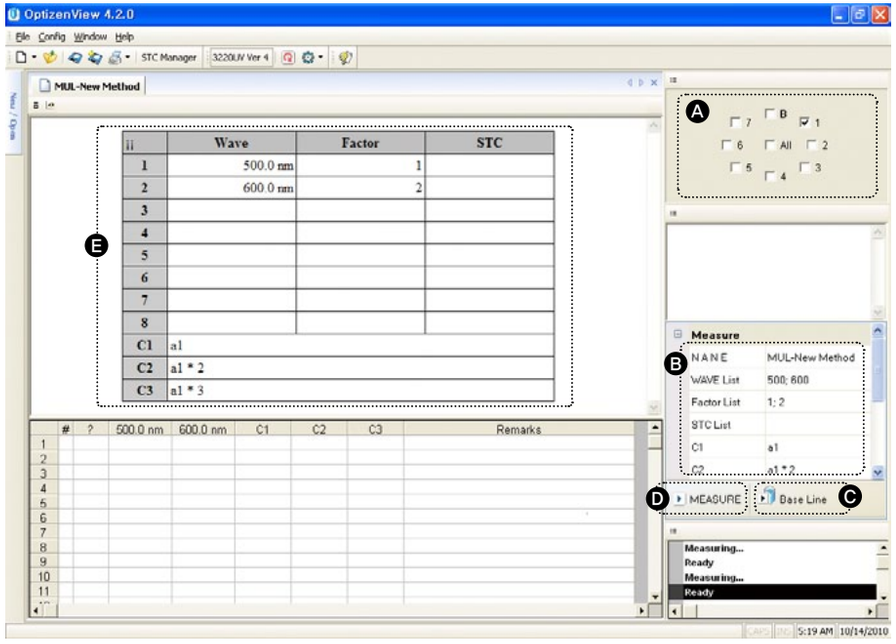
- Show only this chart : You can see the only selected graph.

- Change title : Change the name of selected data.
Changing name of selected data will lead some changes in title of table.

- Delete : Delete measured data.

4) Multiple Wave Scan Measurement

This mode is to measure absorbances and calculate with preset equations at multi wavelength.



1. Select Cell number (A).
2. Input Name, Wave List, Factor List, STC List, C1, C2, C3 and do on(B).
3. Click and perform Base Line(C).
4. Click Measure(D), and you will get the results at table.

• Terminology

Name	Description
Wave List	Wavelengths to be measured.
Factor List	Factors to be used in equation.
STC List	STCs to be used in equation.
C1, C2, C3	Calculated results
Variables	An : (n=1~8) The ABS of No. n wavelength at Wave List. If Wave List is 500; 600, A1 = ABS of 500 nm A2 = ABS of 600 nm Fn : (n=1~8) The Factor of No. n (kinds of a constant). If Factor List is 3; 5; 1.9, F1 = 3 F2 = 5 F3 = 1.9 Sn : (n=1~8) The calculated result of An by No. n STC If Wave List is 500; 600, and If STC List is STC_A; STC_B, S1 = the result that input ABS of 500 nm to STC_A S2 = the result that input ABS of 600 nm to STC_B

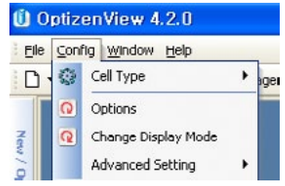
• Attentions while Multiple Wave Scan

1. The variables used in equations are not case-sensitive.
2. You cannot input at Table(E) directly. It will just show settings.
3. The variables not defined or out of range are determined as 0.
4. In case of errors in equations, the value will be determined as 0.
5. Calculate C1 first, and C2, C3 in order.
6. You can use C1 at C2 and C1 and C2 at C3.
7. If the wavelengths of STC and Wave list are different, it will obey the wavelength of Wave list.
8. These are examples that can be used at C1, C2, C3.

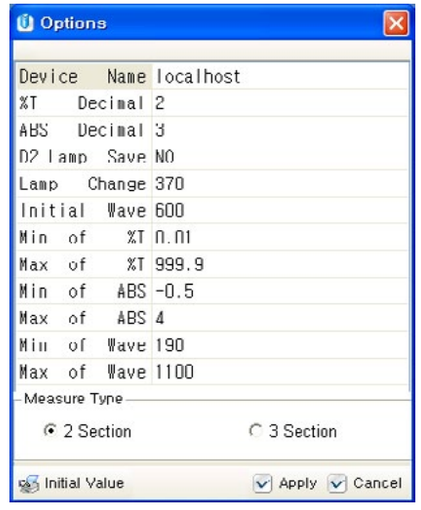
   A1
   A1 * A2
   A1 + A2
   A1 * 1.234 + A2 * 3.141592
   A1 * (A2 * A3)
   A1 * F1
   A1 * F2
   S1 + S2
   A3 * A2 + S1 * F3

Part III. OptizenView BIO Quick Guideline

• Confirmation before measurement



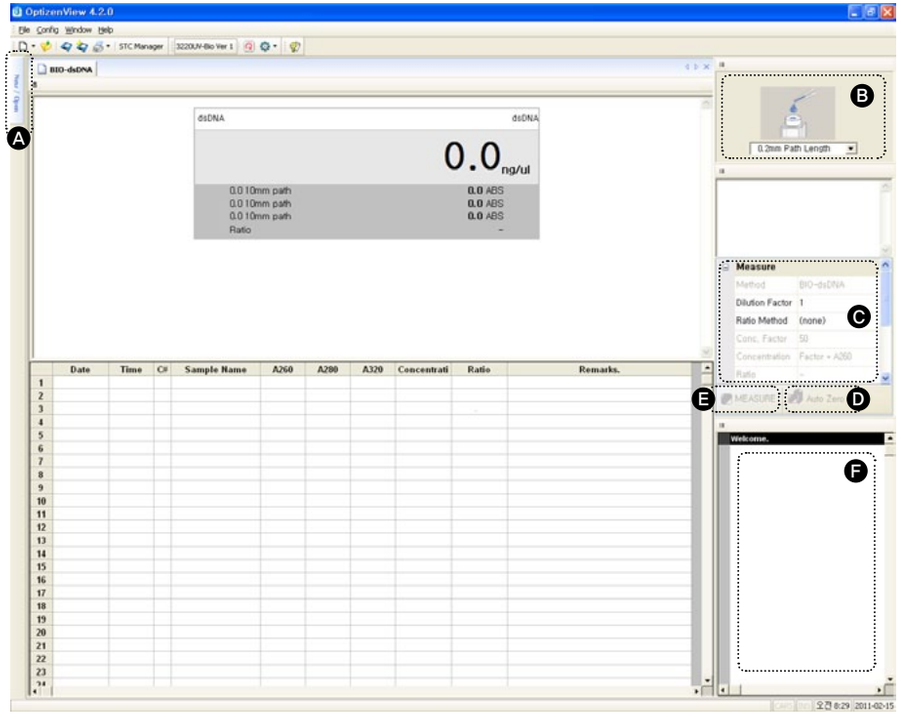
Click Configuration (C) → [Tool Setting] to check device name, type of cell, device information and other tool setting before measuring.

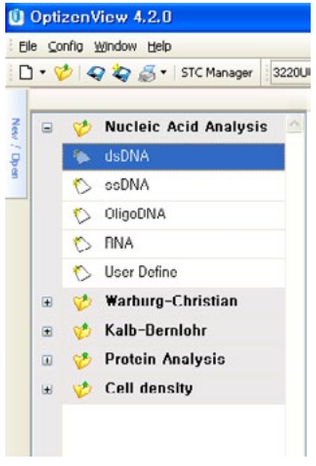


Set device name, select Cell type.
And set the display option and minimum/ maximum of measured value (ABS/%T).

Ex) set device name
- Stand Alone Ver : localhost

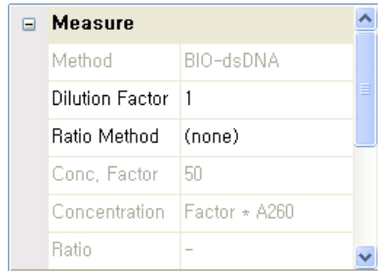
1. Measuring Nucleic Acid





Locate Mouse point Mode Selection(A) left side, and Mode selections will appear as shown left.

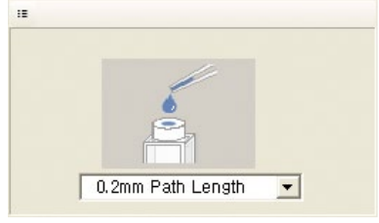
Double click dsDNA .



Input Dilution factor, Ratio method.

Click Auto Zero(D) to correspond the light intensity between Sample & Blank.

While Auto Zero is executing, “Executing Auto Zero” appears on Message Box(F), after execution “Ready” appears.



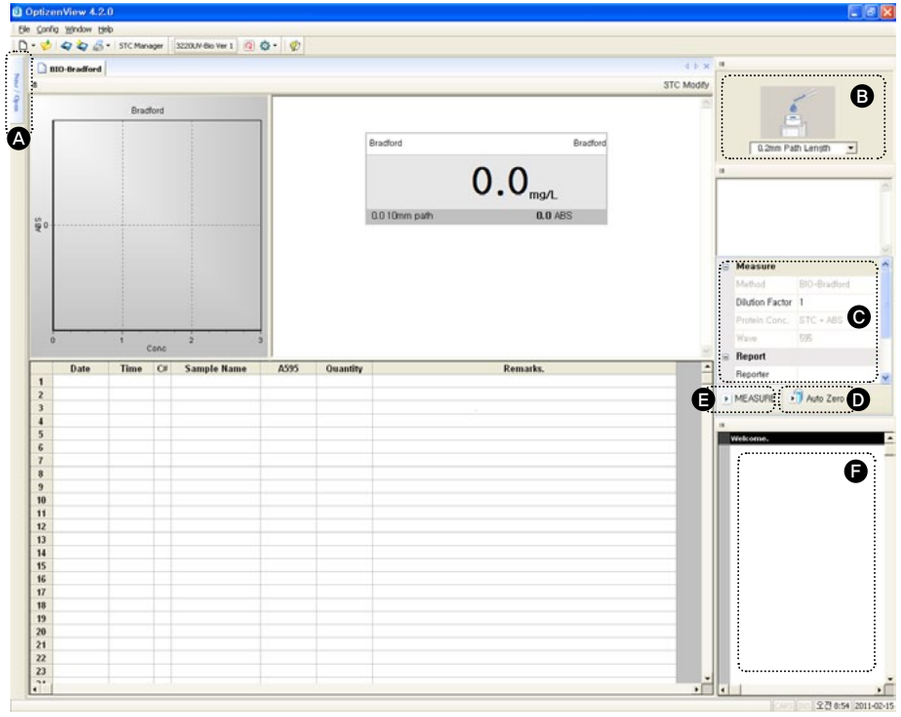
Select Cell type (0.2mm or 1.0mm)(B).

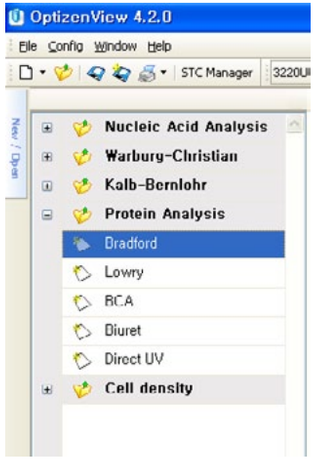
After Cell selection, Click Measure(E) to start measurement.

While execution, “Measuring” appears on Message Box, and after execution “Ready” appears.

.

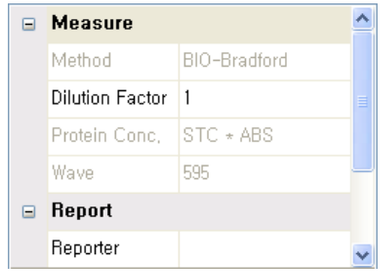
2. Measuring Protein-Analysis (Bradford, Lowry, BCA, Biuret, Direct UV)





Locate Mouse point Mode Selection(A) left side, and Mode selections will appear as shown left.

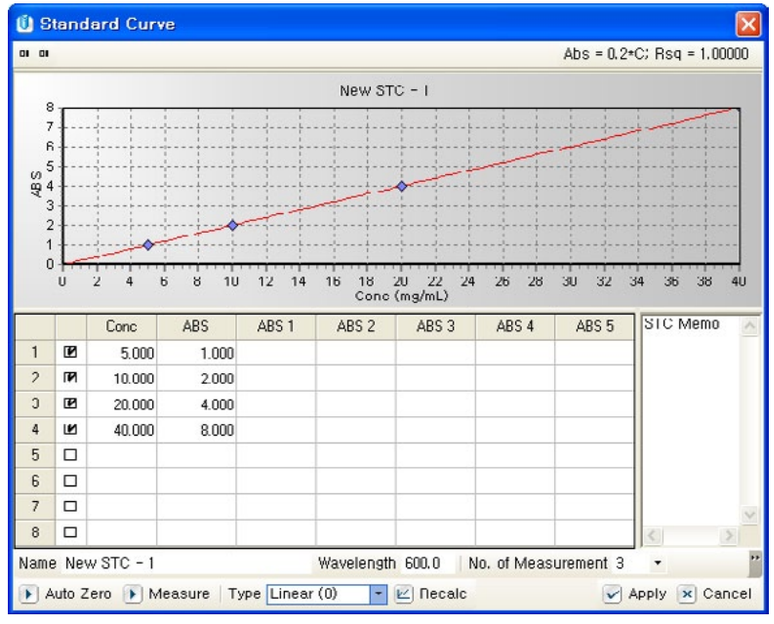
Double click Bradford.



Input Dilution factor.

Pop up Standard Curve window Double click Graph window or Click STC Modify upper right side of graph.

• Make STC



1. Input sample's concentration orderly from number 1.(Cell number 1 – Number 1)
2. Click Auto Zero.
3. Click Measure to start measurement.

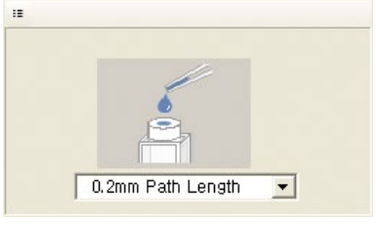
Part III. OptizenView BIO Quick Guideline 2. Measuring Protein-Analysis

4. When tests are done, absorbance value and data result appeared as graph.

5. Select Equation, and click Application to use framed graph into ATC.

Click Auto Zero(D) to correspond the light intensity between Sample & Blank.

While Auto Zero is executing, “Executing Auto Zero” appears on Message Box(F), after execution “Ready” appears.

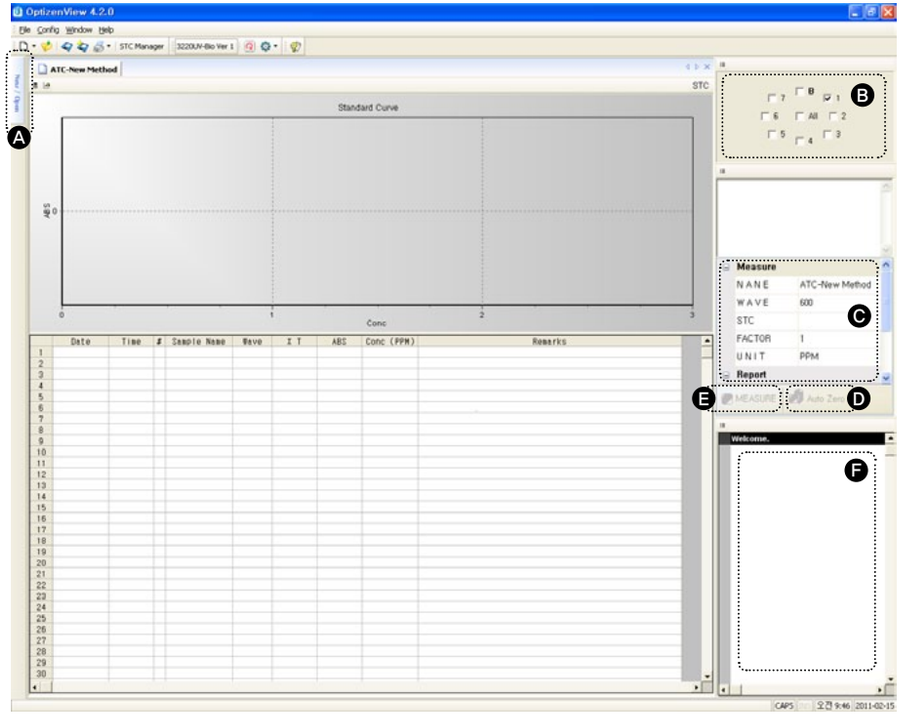


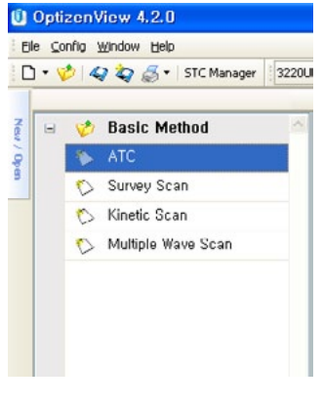
Select Cell type (0.2mm or 1.0mm)(B).

After Cell selection, Click Measure(E) to start measurement.

While execution, “Measuring” appears on Message Box, and after execution “Ready” appears.

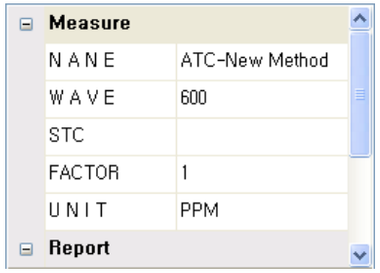
3. Absorbance(Transmittance) Measurement





Locate Mouse point Mode Selection(A) left side, and Mode selections will appear as shown left.

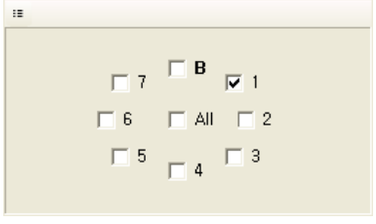
Double click ATC .



Input name of test, wavelength, Distillation factor.

Click Auto Zero(D) to correspond the light intensity between Sample & Blank.

While Auto Zero is executing, “Executing Auto Zero” appears on Message Box(F), after execution “Ready” appears.

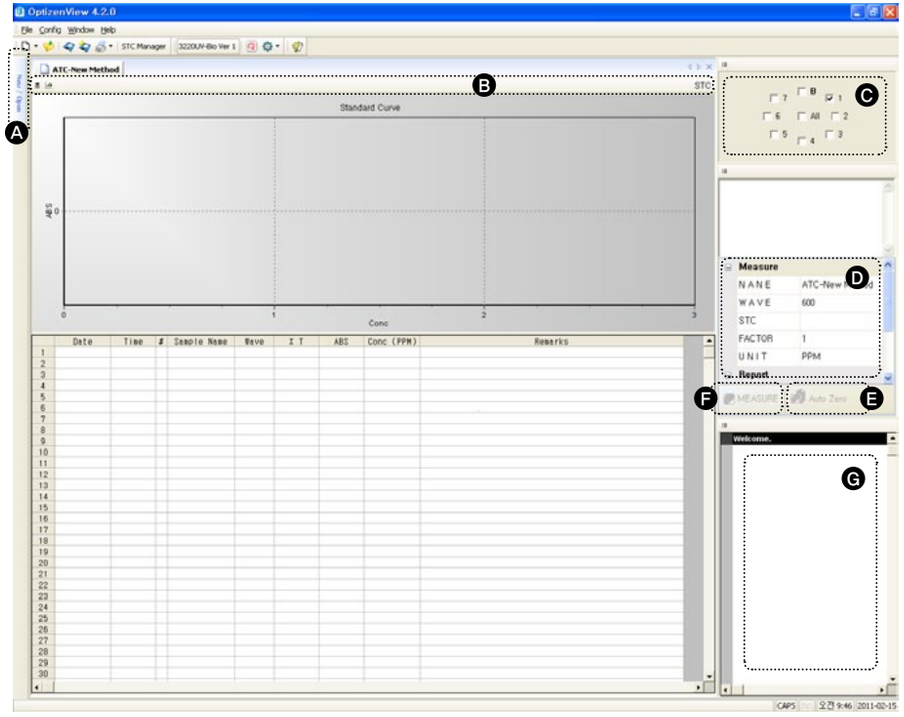


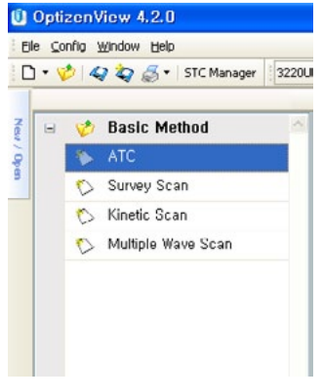
Select Cell Number(CELL 1-No. 1)(B).

After Cell selection, Click Measure(E) to start measurement.

While execution, “Measuring” appears on Message Box, and after execution “Ready” appears.

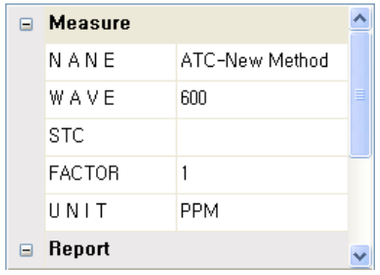
4. Measuring Concentration using Standard Curve



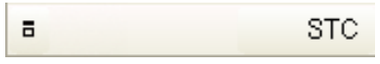


Locate Mouse point Mode Selection (A) left side, and mode selections will appear as shown left.

Double click ATC .

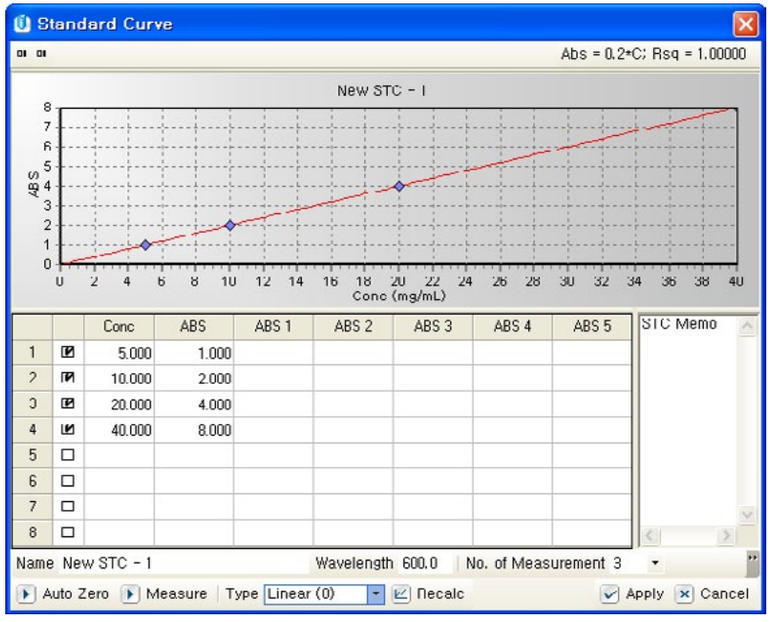


Input name of test, wavelength, Distillation factor and unit.(D)



Pop up Standard Curve window Double click Graph window or Click STC(B) upper right side of graph.

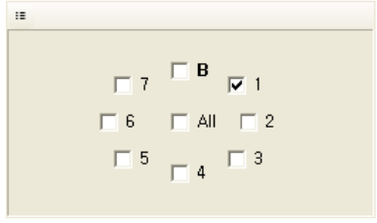
• Make STC



1. Input sample's concentration orderly from number 1.(Cell number 1 – Number 1)
2. Click Auto Zero.
3. Click Measure to start measurement.
4. When tests are done, absorbance value and data result appeared as graph.
5. Select Equation, and click Application to use framed graph into ATC.

Click Auto Zero(E) to correspond the light intensity between Sample & Blank.

While Auto Zero is executing, "Executing Auto Zero" appears on Message Box(G), after execution "Ready" appears.



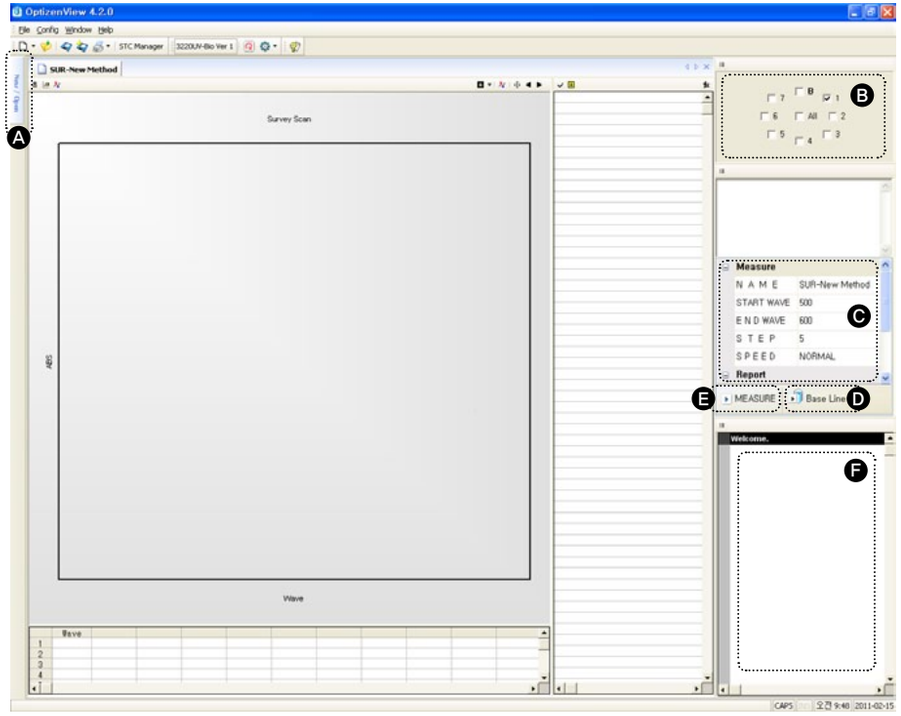
Select Cell Number(CELL 1-No. 1)(C).

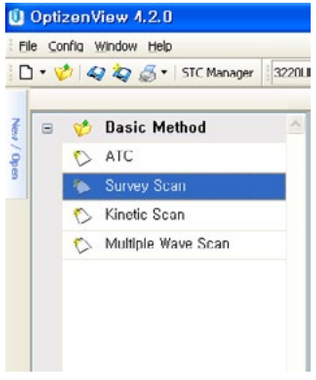
After Cell selection, Click Measure(F) to start measurement.

While execution, "Measuring" appears on Message Box(G), and after execution "Ready" appears on a message box and measured value will be displayed as a table and a graph.

Part III. OptizenView BIO Quick Guideline
4. Measuring Concentration using Standard Curve

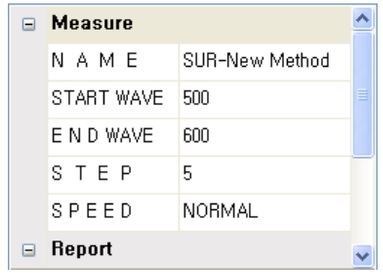
5. Measuring Absorbance(Transmittance) in Specific Wavelength ranges





Locate Mouse point Mode Selection(A) left side, and Modes will appear as left picture.

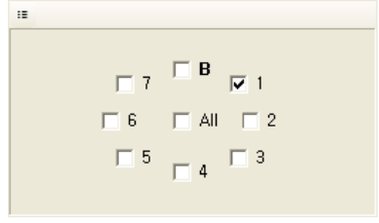
Double-click Survey Scan .



Input/select Name of Test, Start wavelength, finish point wavelength, Step and Scan Speed(C).

First and before measuring samples, click Base Line(D) for setting blank.

While execution, “Executing Base Line Collection” appears on Message Box(F), and after execution “Ready” appears.



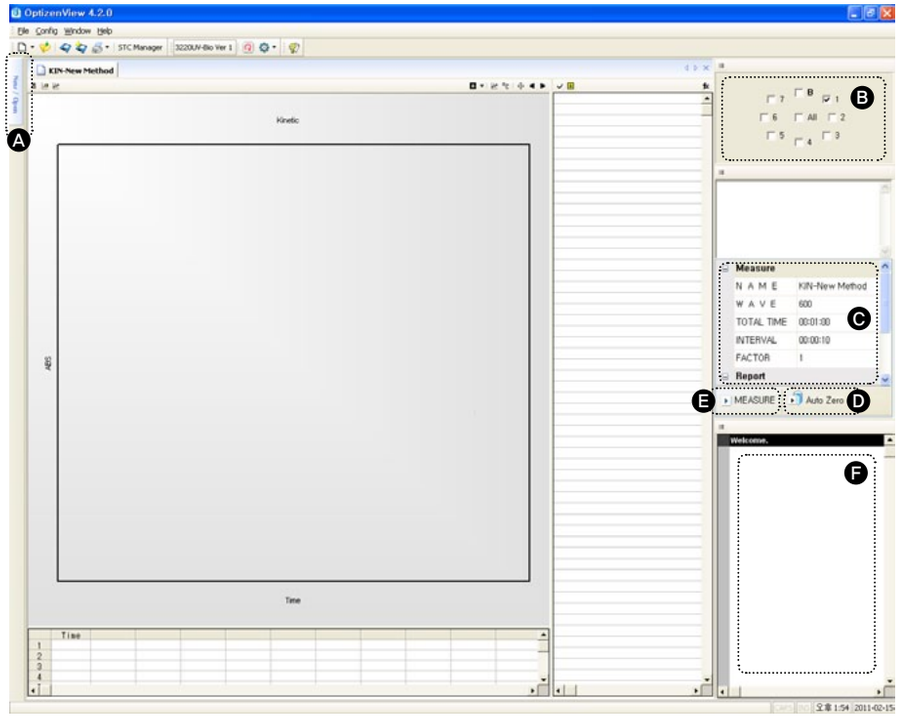
Select Cell Number(CELL 1-No. 1)(B).

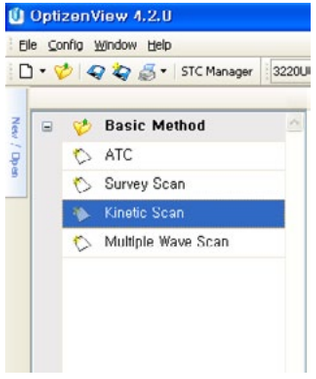
After selecting cell, click Measure(E) to start measurement.

While execution, “Measuring” appears on Message Box(F), and after execution “Ready” appears on a message box and measured value will be displayed on a table and a graph.

Part III. OptizenView BIO Quick Guideline
5. Measuring Absorbance in Specific Wavelength ranges

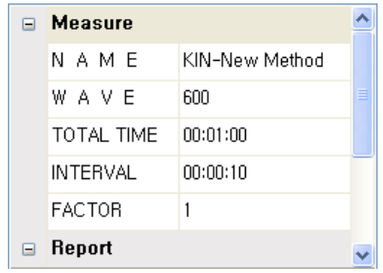
6. Measuring Absorbance(Transmittance) in Timely : Kinetic method





Locate Mouse point Mode Selection(A) left side, and Modes will appear as left picture.

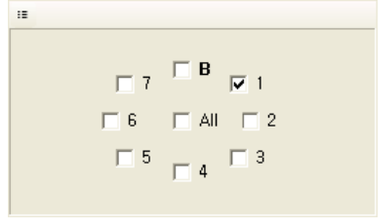
Double-click Kinetic Scan.



Input Name of Test, Wavelength, Total Time and Time interval.(C)

Click Auto Zero(D) to correspond the light intensity between Sample & Blank.

While Auto Zero is executing, “Executing Auto Zero” appears on Message Box(F), after execution “Ready” appears.



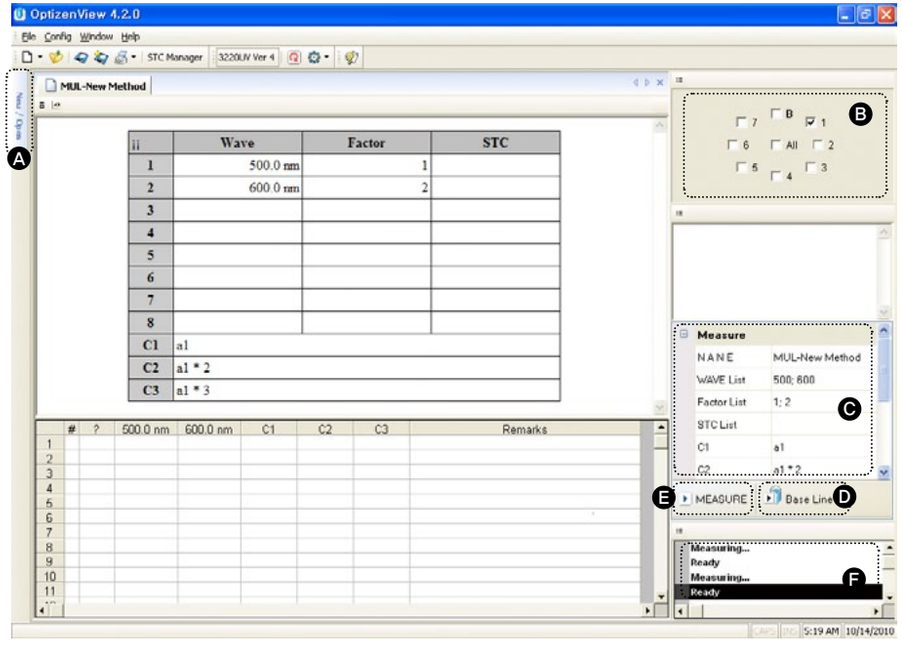
Select Cell Number(CELL 1-No. 1)(B).

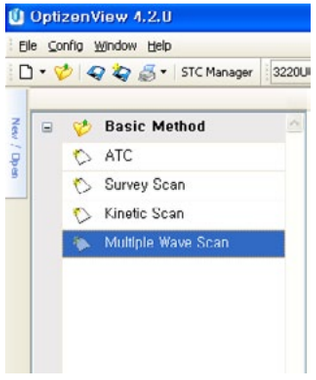
After Cell selection, Click Measure(E) to start measurement.

While execution, “Measuring” appears on Message Box(F), and after execution “Ready” appears on a message box and measured value will be displayed on a table and a graph.

Part III. OptizenView BIO Quick Guideline
6. Measuring Absorbance in Timely : Kinetic method

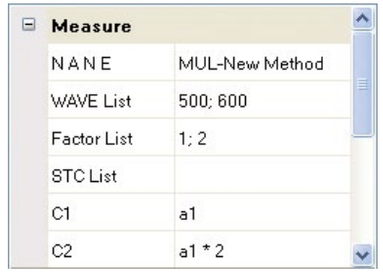
7. Measuring Multiple Wave Scan





Locate Mouse point Mode Selection(A) left side, and Modes will appear as left picture.

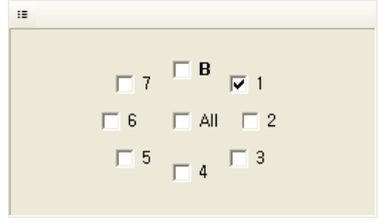
Double-click Multiple Wave Scan.



Input Name, Wave List, Factor List, STC List, C1, C2, C3 and do on(C).

First and before measuring samples, click Base Line(D) for setting blank.

While execution, “Executing Base Line Collection” appears on Message Box(F), and after execution “Ready” appears.



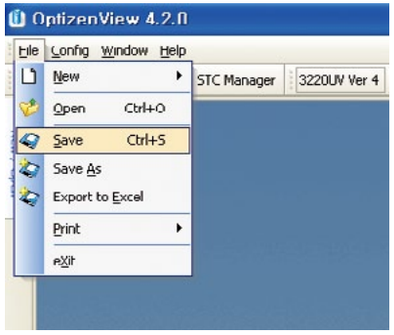
Select Cell Number(CELL 1-No. 1)(B).

After Cell selection, Click Measure(E) to start measurement.

While execution, “Measuring” appears on Message Box(F), and after execution “Ready” appears on a message box and measured value will be displayed on a table.

8. Save and Print out

• Save

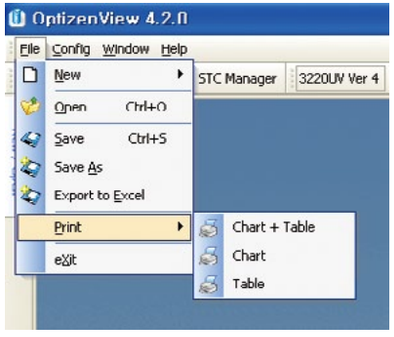


Select [File(F)]-[Save(S) or Save as(A)] to save measured data.

※ File format is *.ODF.

Select [File(F)] → [Save as Excel(E)] to save measured data as Excel form.

• Print



Select [File(F)]-[Print(P)] and choose print form to print out.

9. Trobleshooting

• When a message box [Instrument is not found] appears,

1. set up PC mode in window of Optizen instrument

2. Check Device name at [Options].
   - Stand Alone Version : localhost

3. Check the OptizenDevice icon(shape of mecasys logo) at system tray window.

Part IV. Technical Supports

1. Technical Supports

When you have any difficulties of installing Optizen 3220UV BIO and OptizenView BIO. Please go through and review with this user's guide. If troubleshooting does not help to solve troubles, please contact your nearest distributor or producer.

Caution: When contact for after service, must be reported symptom of trouble.

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