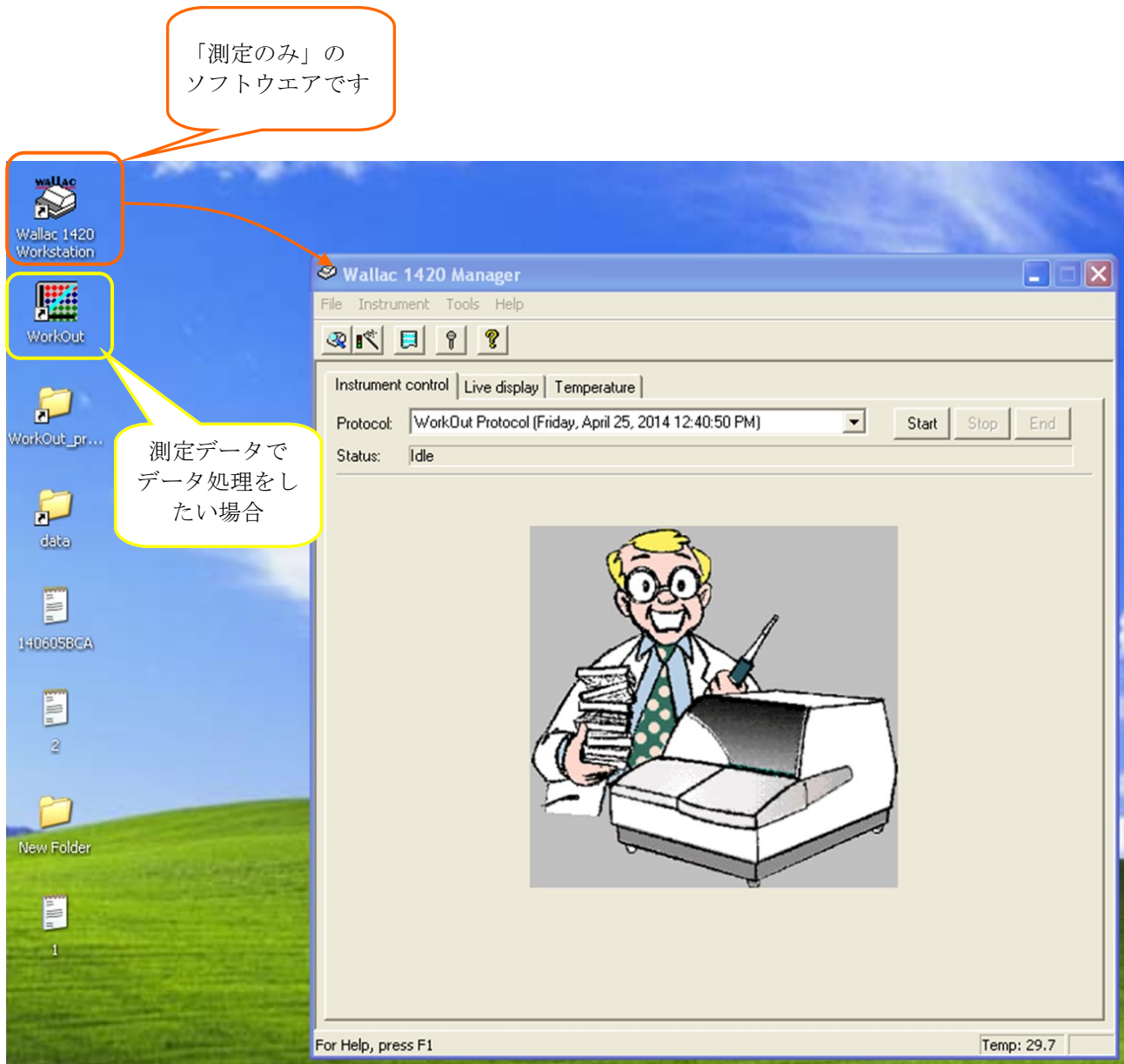


ALVO簡易操作ガイド

測定のみの場合と、検量線を作成し濃度を自動計算させる場合では使い方が異なります。

| 目的 | ソフトウェア | |
|----------------|-----------------------------------|-------------------------|
| 測定のみ | Wallc 1420 Workstation | 測定後、WorkOutでのデータ処理はできない |
| 測定データでデータ処理をする | Wallc 1420 Workstation WorkOut | 検量線を使って濃度を自動計算する |



測定のみ（検量線を作成しない測定）

ALVOの基本画面

The image shows two overlapping software windows: "Wallac 1420 Manager" and "Wallac 1420 Explorer".

Wallac 1420 Manager: Features a menu bar (File, Instrument, Tools, Help), a toolbar, and a main control area. The "Instrument control" section includes a "Live display" tab, a "Temperature" field, a protocol dropdown menu (currently "WorkOut Protocol (Friday, April 25, 2014 12:40:50 PM)"), and "Start", "Stop", and "End" buttons. The status is "Idle". A cartoon character is visible in the background.

Wallac 1420 Explorer: Features a menu bar (File, Edit, Tools, Help) and a toolbar. It displays a tree view of folders under "Protocols" and "Users". A table of assay results is shown on the right.

| Assay | Begin date | End date | Notes |
|-------|----------------------|----------------------|------------|
| 13418 | 6/3/2010 4:35:43 PM | 6/3/2010 4:48:39 PM | Run starte |
| 18432 | 10/11/2012 3:18:0... | 10/11/2012 3:19:0... | Run starte |
| 18433 | 10/11/2012 3:22:5... | 10/11/2012 3:24:0... | Run starte |

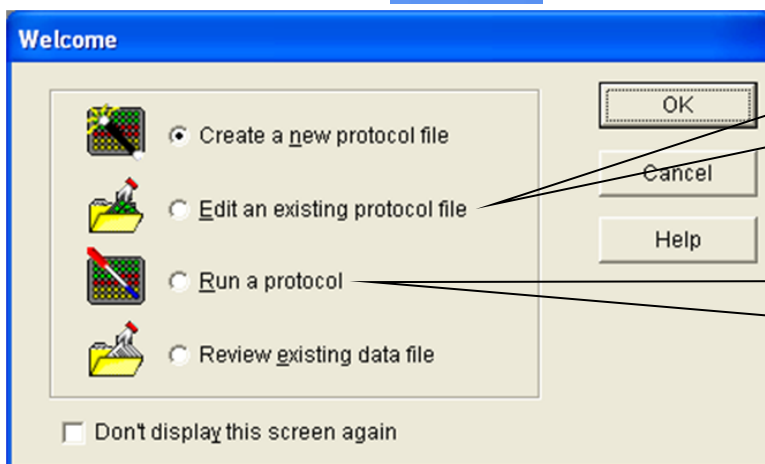
Callouts and Instructions:

- ①** 測定プロトコールをクリックして反転させる (Click the assay protocol to toggle)
- ②** 右クリック (Right-click)
- ③** startで測定開始 (Start measurement)
- ④** 測定結果が追加されていく (Measurement results are added)
- フォルダを開いていく (Open folders)

A "Wallac 1420 Workstation" logo is also present in the upper right area.

検量線を作成して、濃度を自動計算させる場合 < Work Out を使う >

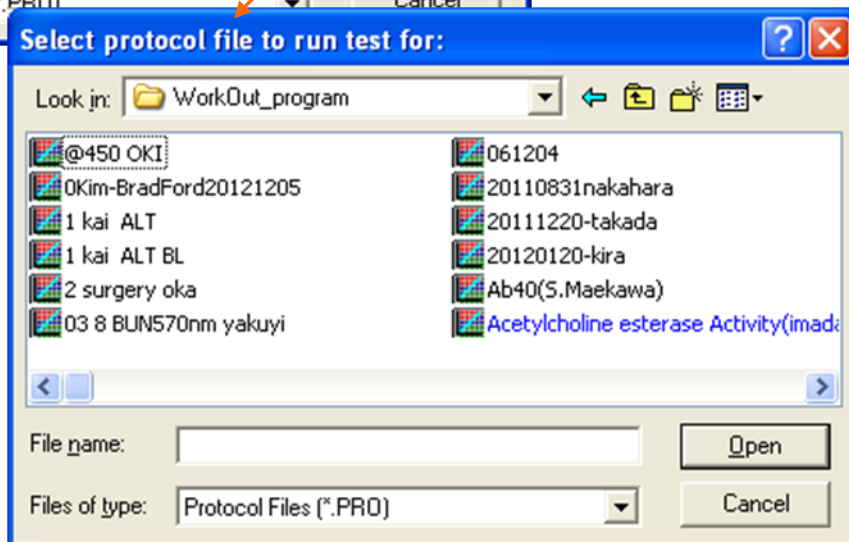
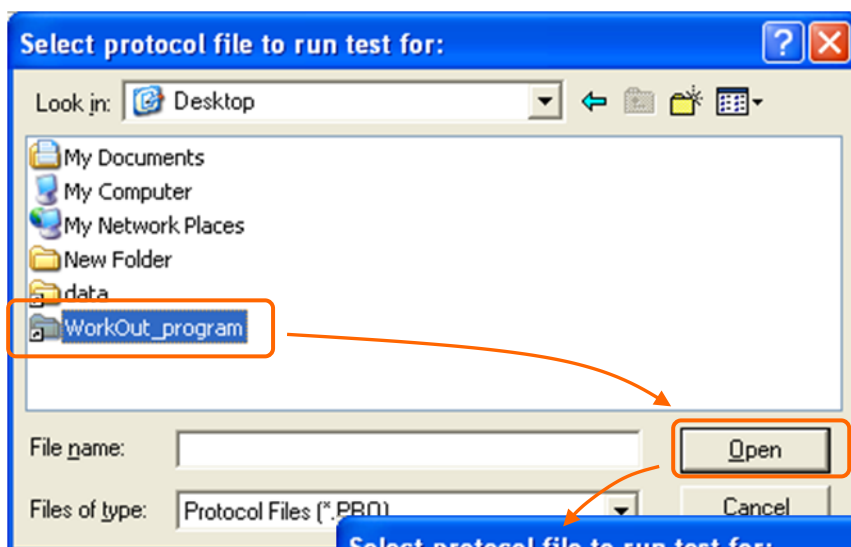
基本画面 (Wallac 1420 Manager) は開いたままにしておく
Work Out を立ち上げる



2-2-a)
プレートレイアウトを変更して
から測定する場合

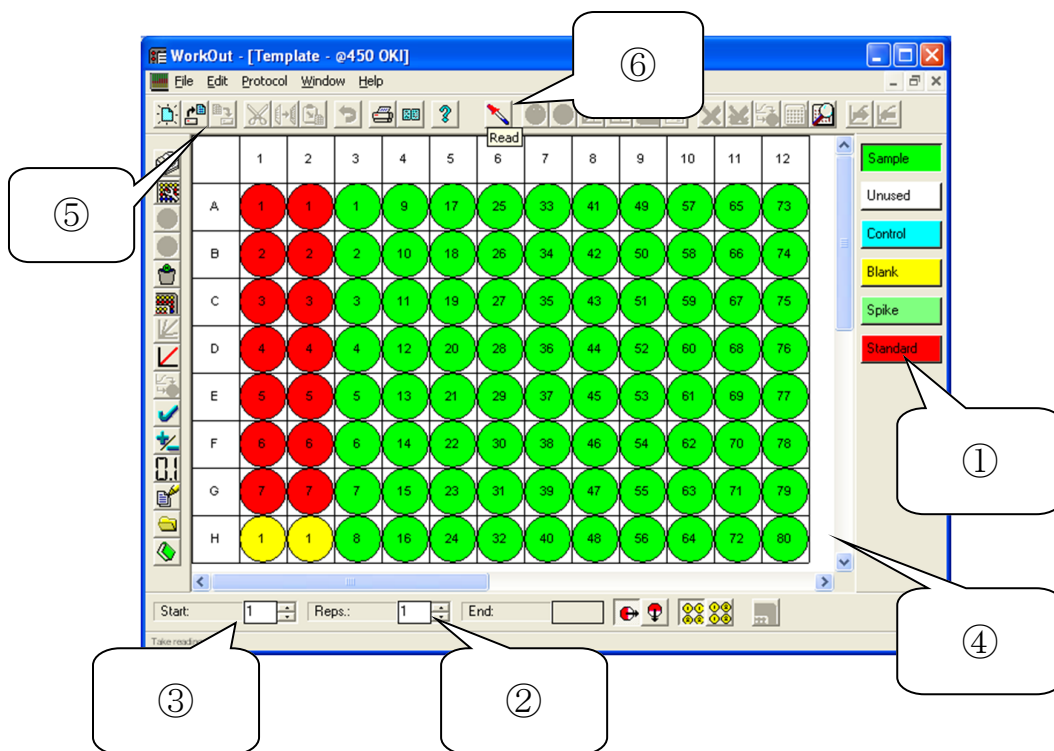
2-2-b)
プレートレイアウトを
変更しないで測定する場合

1) プロトコールファイルを選ぶ

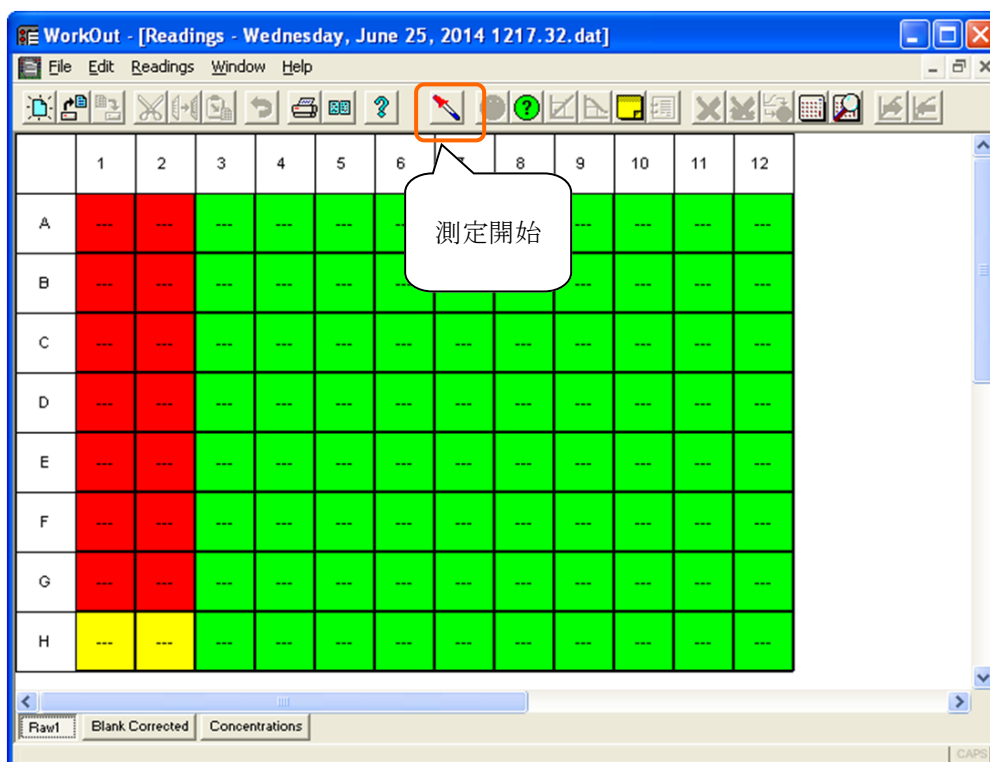


2-a) Edit an existing protocol file の場合 (プレートレイアウトを変更する場合)

- ① グループの選択
- ② 1サンプルあたりの測定回数 (デュプリケートの場合は 2)
- ③ グループの開始番号
- ④ ウェルの選択
- ⑤ 保存
- ⑥ 測定



2-b) Run a protocol の場合 (プレートレイアウトを変更しない場合)



3) データを持って帰る

The screenshot shows the WorkOut software interface with a data table. The table has columns 1-12 and rows A-H. A context menu is open over the table, showing options like Copy, Zoom In, Zoom Out, Show with Cut-Offs, Open Protocol, New 3D View, Make Excel Document, and Export Text File. Three callouts provide instructions:

- ① データを選択 (生データおよび計算結果データは別々のシートに保存されている)
- ② 持って帰るデータを選択
- ③ 右クリック & copy

An arrow points from the 'Export Text File' option to a callout: エクセルに貼り付けることができる

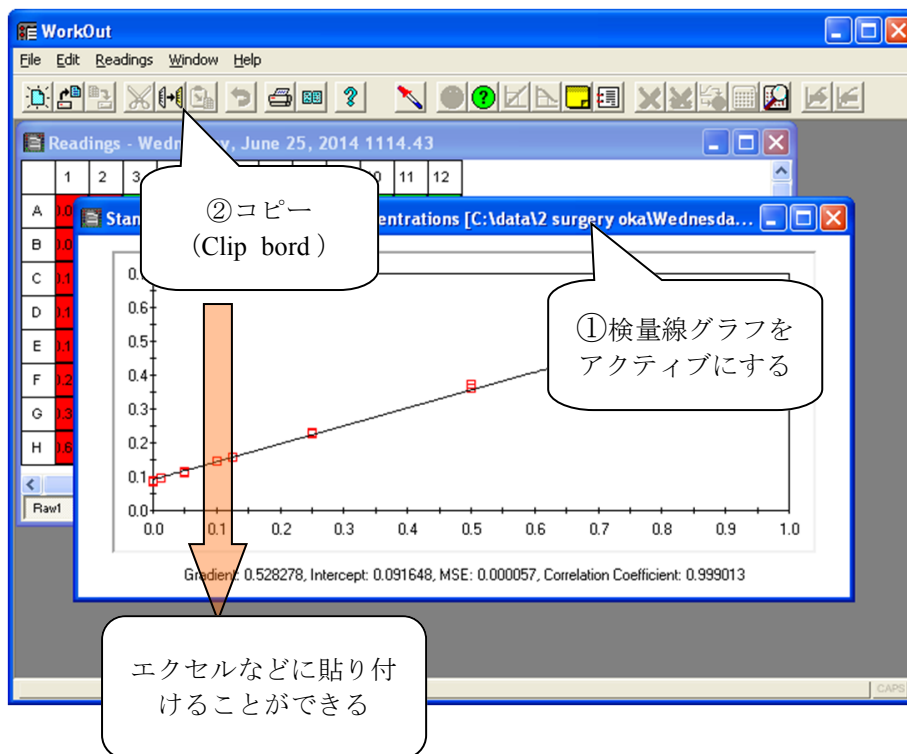
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 0.087 | 0.086 | 0.222 | 0.213 | 0.258 | 0.255 | 0.288 | 0.292 | 0.258 | 0.249 | 0.277 | 0.266 |
| B | 0.097 | 0.097 | 0.215 | 0.211 | 0.248 | 0.256 | 0.255 | 0.251 | 0.259 | 0.265 | 0.215 | 0.217 |
| C | 0.113 | 0.114 | 0.228 | 0.224 | 0.246 | 0.249 | 0.273 | 0.280 | 0.242 | 0.239 | 0.250 | 0.239 |
| D | 0.146 | 0.147 | 0.244 | 0.245 | 0.219 | 0.213 | 0.289 | 0.285 | 0.218 | 0.226 | 0.261 | 0.258 |
| E | 0.158 | 0.159 | 0.243 | 0.237 | 0.272 | 0.267 | 0.296 | 0.299 | 0.249 | 0.245 | 0.039 | 0.039 |
| F | 0.226 | 0.229 | 0.252 | 0.255 | 0.273 | 0.268 | 0.305 | 0.308 | 0.234 | 0.236 | 0.038 | 0.039 |
| G | 0.362 | 0.372 | 0.212 | 0.210 | 0.247 | 0.246 | 0.267 | 0.269 | 0.243 | 0.231 | 0.037 | 0.038 |
| H | 0.600 | 0.627 | 0.237 | 0.237 | 0.261 | 0.265 | 0.330 | 0.335 | 0.266 | 0.263 | 0.037 | 0.037 |

4) 検量線を表示させる

The screenshot shows the WorkOut software interface with the same data table as in the previous image. A callout points to the 'Show with Cut-Offs' option in the toolbar, with the text: 検量線の表示

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 0.087 | 0.086 | 0.222 | 0.213 | 0.258 | 0.255 | 0.288 | 0.292 | 0.258 | 0.249 | 0.277 | 0.266 |
| B | 0.097 | 0.097 | 0.215 | 0.211 | 0.248 | 0.256 | 0.255 | 0.251 | 0.259 | 0.265 | 0.215 | 0.217 |
| C | 0.113 | 0.114 | 0.228 | 0.224 | 0.246 | 0.249 | 0.273 | 0.280 | 0.242 | 0.239 | 0.250 | 0.239 |
| D | 0.146 | 0.147 | 0.244 | 0.245 | 0.219 | 0.213 | 0.289 | 0.285 | 0.218 | 0.226 | 0.261 | 0.258 |
| E | 0.158 | 0.159 | 0.243 | 0.237 | 0.272 | 0.267 | 0.296 | 0.299 | 0.249 | 0.245 | 0.039 | 0.039 |
| F | 0.226 | 0.229 | 0.252 | 0.255 | 0.273 | 0.268 | 0.305 | 0.308 | 0.234 | 0.236 | 0.038 | 0.039 |
| G | 0.362 | 0.372 | 0.212 | 0.210 | 0.247 | 0.246 | 0.267 | 0.269 | 0.243 | 0.231 | 0.037 | 0.038 |
| H | 0.600 | 0.627 | 0.237 | 0.237 | 0.261 | 0.265 | 0.330 | 0.335 | 0.266 | 0.263 | 0.037 | 0.037 |

検量線を持って帰る



5) 結果をエクスポートする

結果のエクスポートでは、測定結果のサンプルごとの平均値や%CV値を得ることができます。(個々のサンプルの測定結果を得ることはできません)

%CV: SDをグループの平均値で割ったもの (グループ内のバラツキを比較する指標)

$$\%CV = (SD/mean) * 100$$

Export...

Export Filename:

File name: export

Save as type: Text Files

Alt+F4

エクセルなどに貼り付けることができる

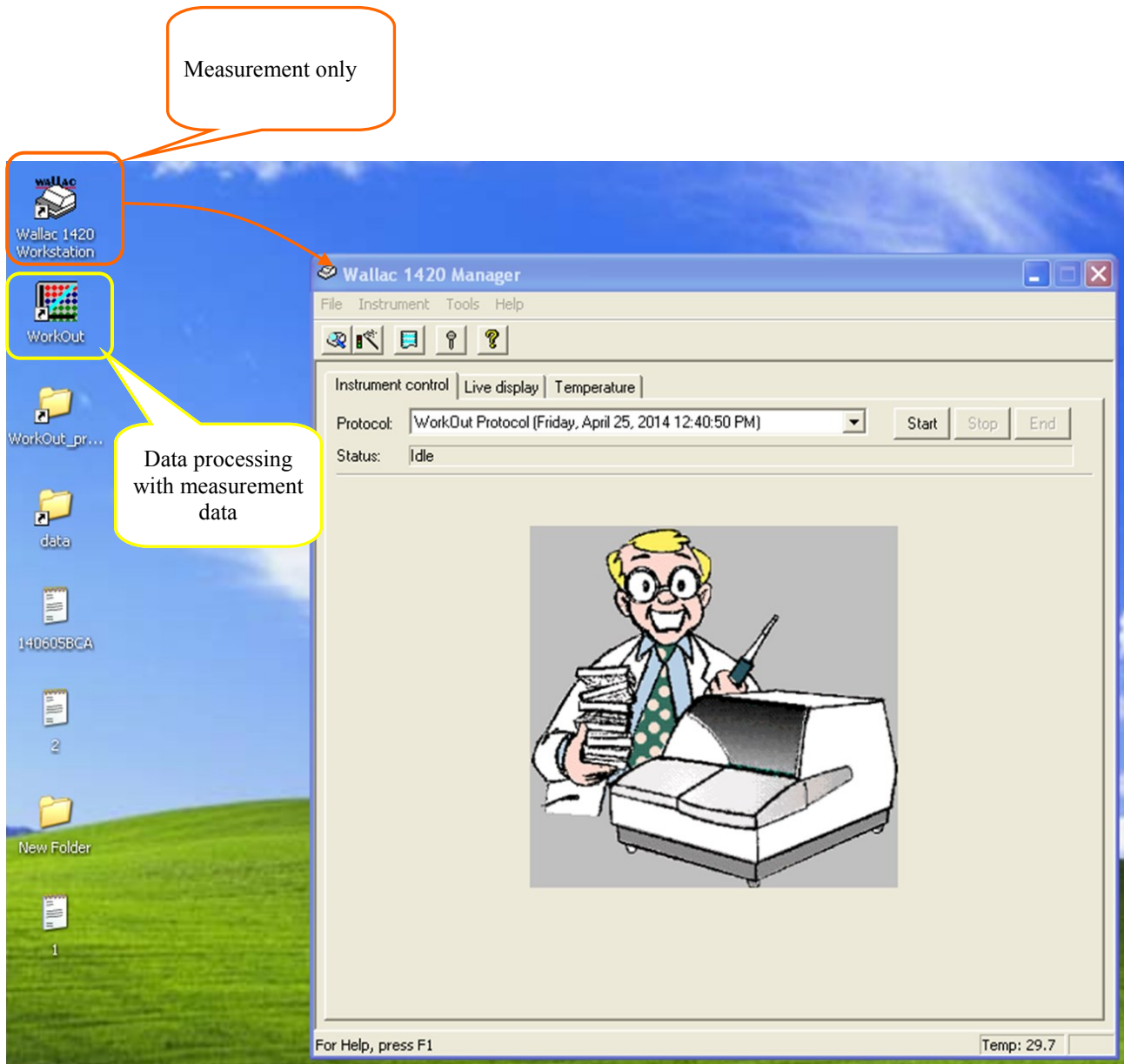
エクспорт形式はテキストになります

エクспортしたテキストファイルはエクセルで開くことができます。

| Group | Yreis | Raw1 | Concentrat %CV (Raw1) | |
|-----------|--------|-------|-----------------------|-------|
| standard1 | A1, A2 | 0.086 | -0.01 | 0.572 |
| standard2 | B1, B2 | 0.097 | 0.009 | 0.072 |
| standard3 | C1, C2 | 0.114 | 0.042 | 0.706 |
| standard4 | D1, D2 | 0.147 | 0.104 | 0.518 |
| standard5 | E1, E2 | 0.159 | 0.127 | 0.822 |
| standard6 | F1, F2 | 0.228 | 0.258 | 0.847 |
| standard7 | G1, G2 | 0.367 | 0.521 | 1.869 |
| standard8 | H1, H2 | 0.613 | 0.968 | 3.187 |
| sample1 | A3, A4 | 0.217 | 0.238 | 3.043 |
| sample2 | B3, B4 | 0.213 | 0.231 | 1.338 |
| sample3 | C3, C4 | 0.226 | 0.254 | 1.468 |
| sample4 | D3, D4 | 0.244 | 0.269 | 0.297 |
| sample5 | E3, E4 | 0.24 | 0.262 | 1.793 |
| sample6 | F3, F4 | 0.254 | 0.307 | 0.86 |
| sample7 | G3, G4 | 0.211 | 0.225 | 0.763 |

ALVO Operations Guide

| Purpose | Software | |
|-------------------------------|-----------------------------------|--|
| Measurement only | Wallc 1420 Workstation | |
| Measurement + data processing | Wallc 1420 Workstation WorkOut | Create standard curve with measurement data and determine concentrations |



Measurement only

*Create protocol file previously

The image shows two software windows: **Wallac 1420 Manager** and **Wallac 1420 Explorer**. The Manager window displays instrument control options like 'Live display' and 'Temperature', and a protocol dropdown menu. The Explorer window shows a file tree under 'Protocols' and a table of assay results.

Wallac 1420 Workstation logo is shown to the right of the Manager window.

Callouts and workflow steps:

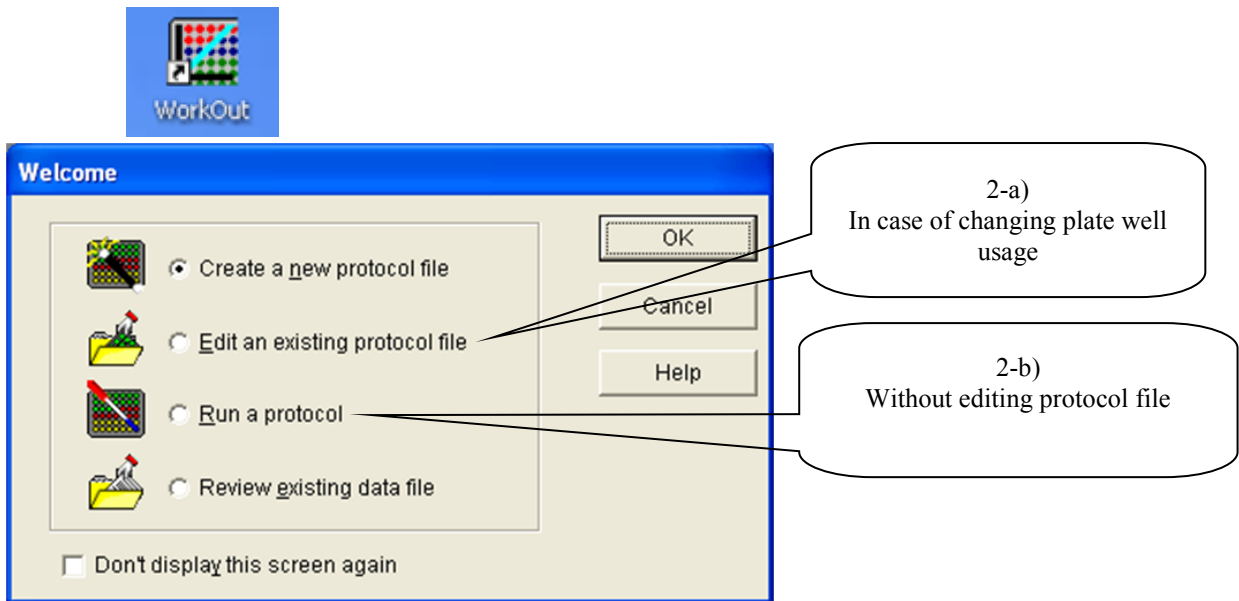
- 1** Select your protocol file (points to a file in the Explorer tree)
- 2** Right-click (points to the context menu)
- 3** start (points to the 'Start' option in the context menu)
- 4** Result (points to a row in the Assay table)

Assay Table Data:

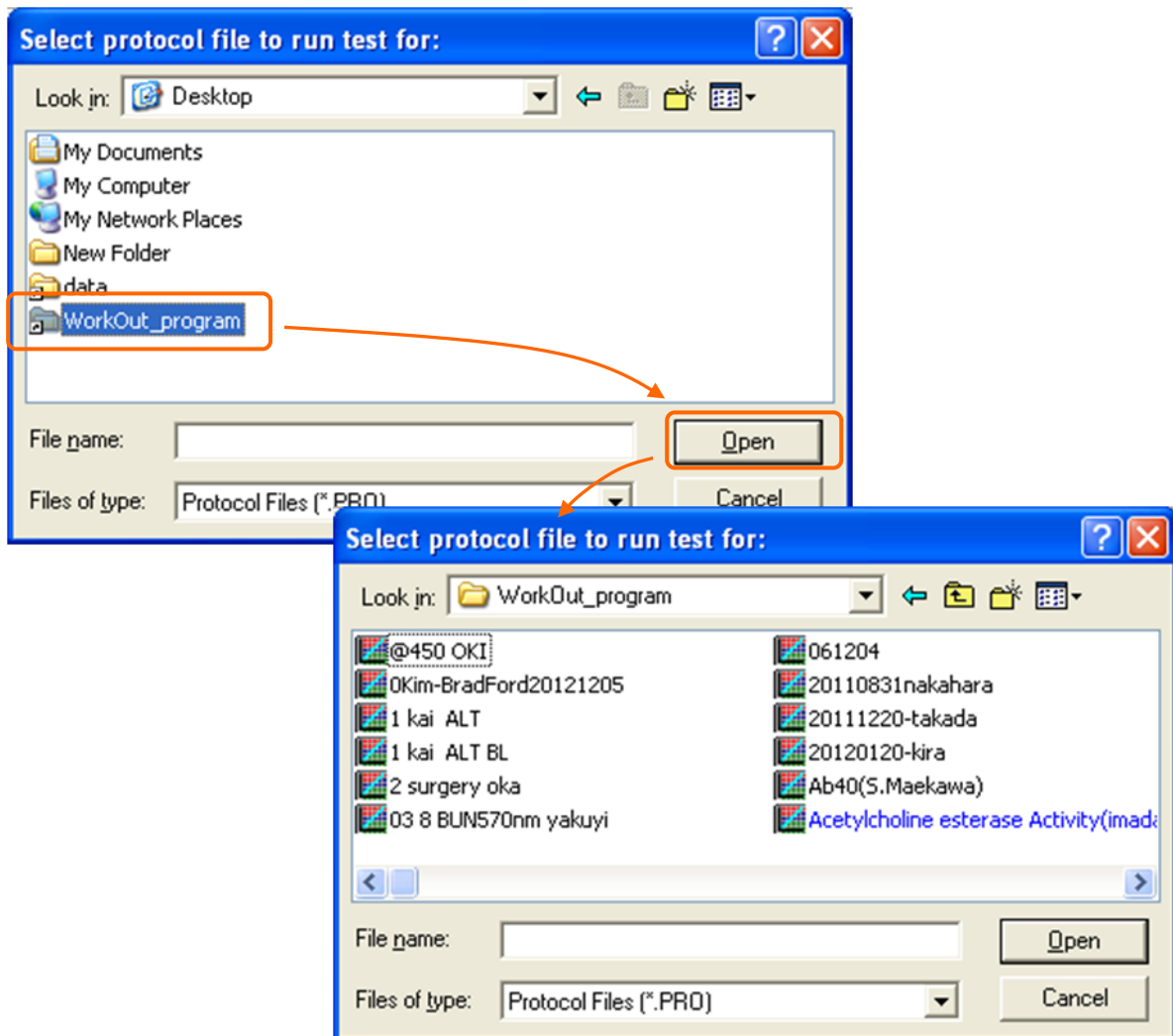
| Assay | Begin date | End date | Notes |
|-------|----------------------|----------------------|------------|
| 13418 | 6/3/2010 4:35:43 PM | 6/3/2010 4:48:39 PM | Run starte |
| 18432 | 10/11/2012 3:18:0... | 10/11/2012 3:19:0... | Run starte |
| 18433 | 10/11/2012 3:22:5... | 10/11/2012 3:24:0... | Run starte |

Data Processing with measurement data

*Create WorkOut Protocol File previously
Wallac 1420 Manager keep running
Work Out



1) Select protocol file



2-a) Edit an existing protocol file

- ① Edit a protocol file
- ② Save the protocol
- ③ Run the protocol

WorkOut - [Template - @450 OKI]

File Edit Protocol Window Help

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|----|----|----|----|----|----|----|----|----|
| A | 1 | 1 | 1 | 9 | 17 | 25 | 33 | 41 | 49 | 57 | 65 | 73 |
| B | 2 | 2 | 2 | 10 | 18 | 26 | 34 | 42 | 50 | 58 | 66 | 74 |
| C | 3 | 3 | 3 | 11 | 19 | 27 | 35 | 43 | 51 | 59 | 67 | 75 |
| D | 4 | 4 | 4 | 12 | 20 | 28 | 36 | 44 | 52 | 60 | 68 | 76 |
| E | 5 | 5 | 5 | 13 | 21 | 29 | 37 | 45 | 53 | 61 | 69 | 77 |
| F | 6 | 6 | 6 | 14 | 22 | 30 | 38 | 46 | 54 | 62 | 70 | 78 |
| G | 7 | 7 | 7 | 15 | 23 | 31 | 39 | 47 | 55 | 63 | 71 | 79 |
| H | 1 | 1 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |

Start: 1 Reps.: 1 End:

Save a protocol

Select a group type

Fill in "2" in case of duplicate measurement.

2-b) Run a protocol

WorkOut - [Readings - Wednesday, June 25, 2014 1217.32.dat]

File Edit Readings Window Help

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| B | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| D | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| F | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| G | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| H | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

read

Raw1 Blank Corrected Concentrations

3) Bring your data to your PC

The screenshot shows the WorkOut software interface with a data table. The table has columns 1-12 and rows A-H. The data is as follows:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 0.087 | 0.086 | 0.222 | 0.213 | 0.258 | 0.255 | 0.288 | 0.292 | 0.258 | 0.249 | 0.277 | 0.266 |
| B | 0.097 | 0.097 | 0.215 | 0.211 | 0.248 | 0.256 | 0.255 | 0.251 | 0.259 | 0.265 | 0.215 | 0.217 |
| C | 0.113 | 0.114 | 0.228 | 0.224 | 0.246 | 0.249 | 0.273 | 0.280 | 0.242 | 0.239 | 0.250 | 0.239 |
| D | 0.146 | 0.147 | 0.244 | 0.245 | 0.219 | 0.213 | 0.289 | 0.285 | 0.218 | 0.226 | 0.261 | 0.258 |
| E | 0.158 | 0.159 | 0.243 | 0.237 | 0.272 | 0.267 | 0.296 | 0.299 | 0.249 | 0.245 | 0.039 | 0.039 |
| F | 0.226 | 0.229 | 0.252 | 0.255 | 0.273 | 0.268 | 0.305 | 0.308 | 0.234 | 0.236 | 0.038 | 0.039 |
| G | 0.362 | 0.372 | 0.212 | 0.210 | 0.247 | 0.246 | 0.267 | 0.269 | 0.243 | 0.231 | 0.037 | 0.038 |
| H | 0.600 | 0.627 | 0.237 | 0.237 | 0.261 | 0.265 | 0.330 | 0.335 | 0.266 | 0.263 | 0.037 | 0.037 |

Annotations and steps:

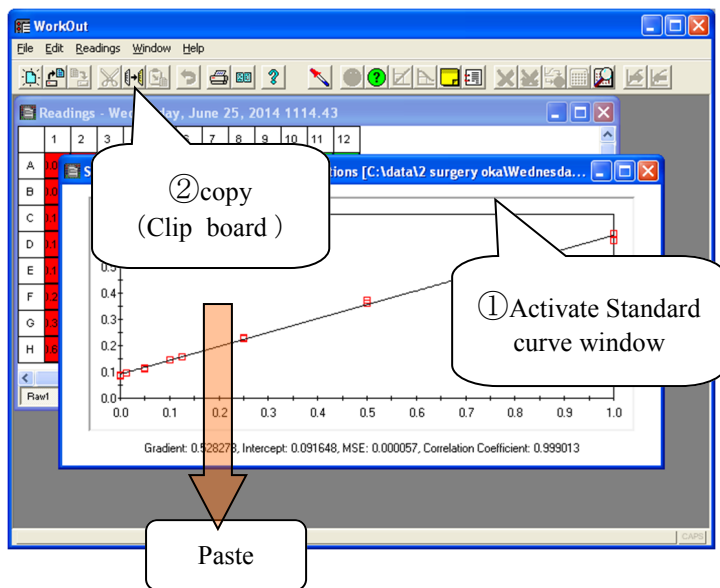
- ① Select a data sheet (Raw data and calculated data are saved in the individual sheet.)
- ② Select data
- ③ Right-click & copy
- Past data to EXCEL Sheet

4) Display standard curve

The screenshot shows the same data table as above, but with columns 1 and 2 highlighted in red and columns 3-12 highlighted in green. A callout box labeled "Standard" points to column 8. The data is as follows:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 0.087 | 0.086 | 0.222 | 0.213 | 0.258 | 0.255 | 0.288 | 0.292 | 0.258 | 0.249 | 0.277 | 0.266 |
| B | 0.097 | 0.097 | 0.215 | 0.211 | 0.248 | 0.256 | 0.255 | 0.251 | 0.259 | 0.265 | 0.215 | 0.217 |
| C | 0.113 | 0.114 | 0.228 | 0.224 | 0.246 | 0.249 | 0.273 | 0.280 | 0.242 | 0.239 | 0.250 | 0.239 |
| D | 0.146 | 0.147 | 0.244 | 0.245 | 0.219 | 0.213 | 0.289 | 0.285 | 0.218 | 0.226 | 0.261 | 0.258 |
| E | 0.158 | 0.159 | 0.243 | 0.237 | 0.272 | 0.267 | 0.296 | 0.299 | 0.249 | 0.245 | 0.039 | 0.039 |
| F | 0.226 | 0.229 | 0.252 | 0.255 | 0.273 | 0.268 | 0.305 | 0.308 | 0.234 | 0.236 | 0.038 | 0.039 |
| G | 0.362 | 0.372 | 0.212 | 0.210 | 0.247 | 0.246 | 0.267 | 0.269 | 0.243 | 0.231 | 0.037 | 0.038 |
| H | 0.600 | 0.627 | 0.237 | 0.237 | 0.261 | 0.265 | 0.330 | 0.335 | 0.266 | 0.263 | 0.037 | 0.037 |

Copy standard curve to EXCEL sheet



5) Export file to TEXT format

Export file to text format only

Exported file can be opened by Excel.

Mean value (Raw data and calculated value)

%CV
 $\%CV = (SD/Mean) * 100$
 (Index of dispersion)

| Group | Wells | Raw1 | Concentra | %CV (Raw1) |
|-----------|--------|-------|-----------|------------|
| standard1 | A1, A2 | 0.086 | -0.01 | 0.572 |
| standard2 | B1, B2 | 0.097 | 0.009 | 0.072 |
| standard3 | C1, C2 | 0.114 | 0.042 | 0.706 |
| standard4 | D1, D2 | 0.147 | 0.104 | 0.518 |
| standard5 | E1, E | 0.19 | 0.127 | 0.822 |
| standard6 | F1, F | 0.258 | 0.258 | 0.847 |
| standard7 | G1, G | 0.521 | 0.521 | 1.869 |
| standard8 | H1, H | 0.988 | 0.988 | 3.187 |
| sample1 | A3, A | 0.238 | 0.238 | 3.043 |
| sample2 | B3, E | 0.231 | 0.231 | 1.338 |
| sample3 | C3, C | 0.254 | 0.254 | 1.468 |
| sample4 | D3, D4 | 0.289 | 0.289 | 0.297 |
| sample5 | E3, E4 | 0.24 | 0.282 | 1.793 |
| sample6 | F3, F4 | 0.254 | 0.307 | 0.86 |
| sample7 | G3, G4 | 0.211 | 0.225 | 0.763 |