CHEMIASOFT

Standard Curve

Getting Started Guide

Revision 1

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By

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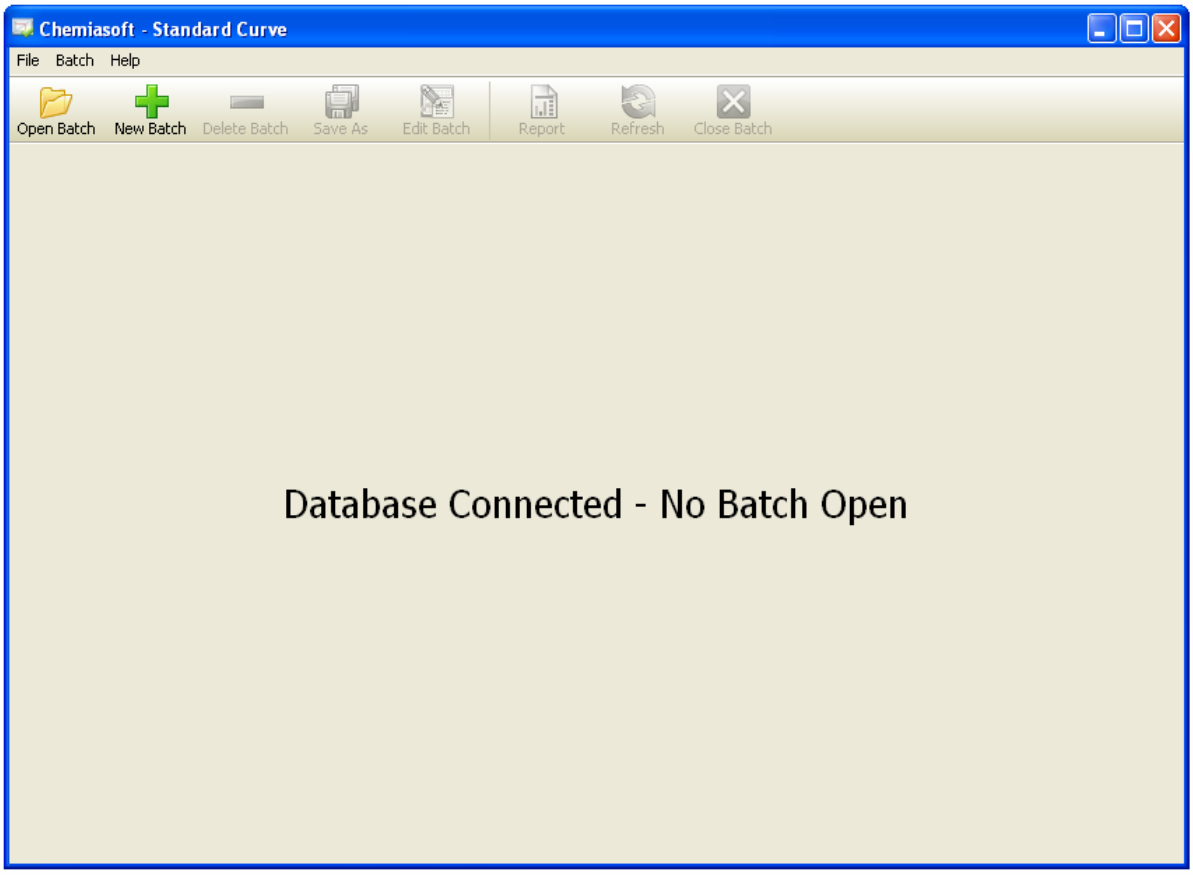
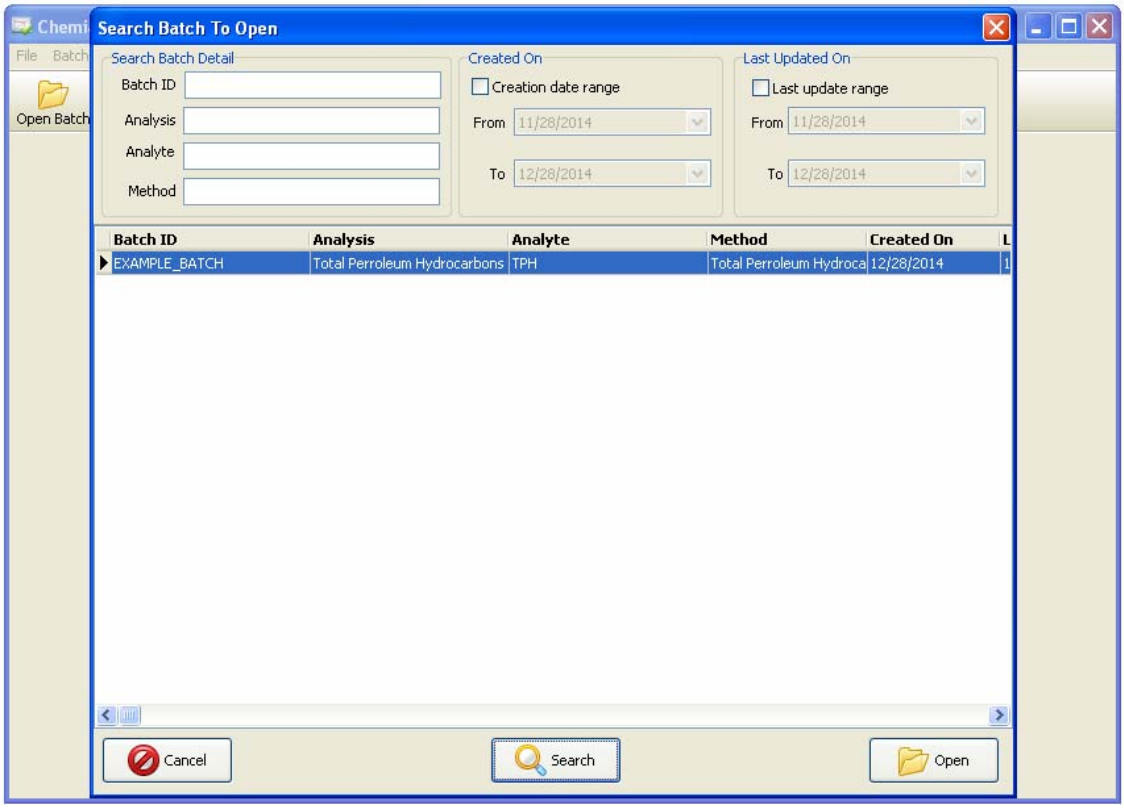
Note: There might be some differences between this manual and the software due to continuous development.
For the latest version of this manual please refer to online version.

Getting Started

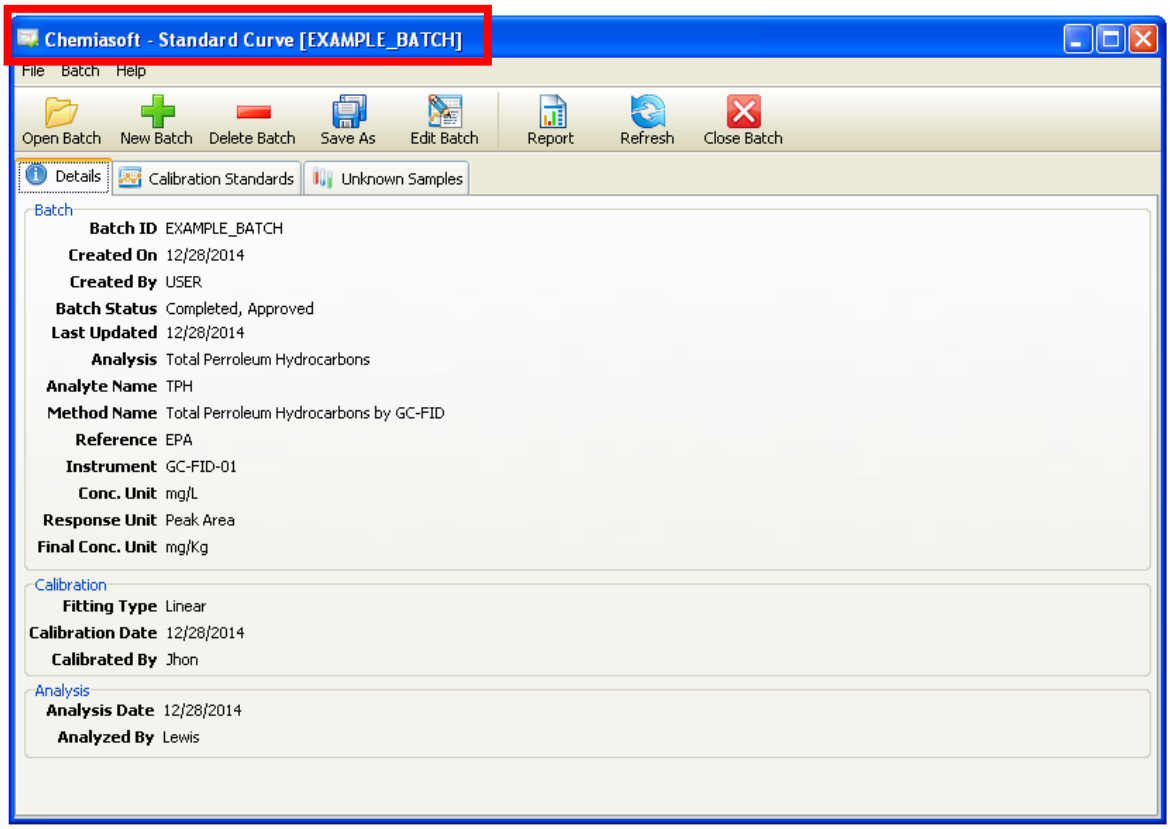
1. After installation of the software complete, run **Standard Curve** from desktop icon or from start menu. Once the software start, it will connect to local default database and the main software screen will appear



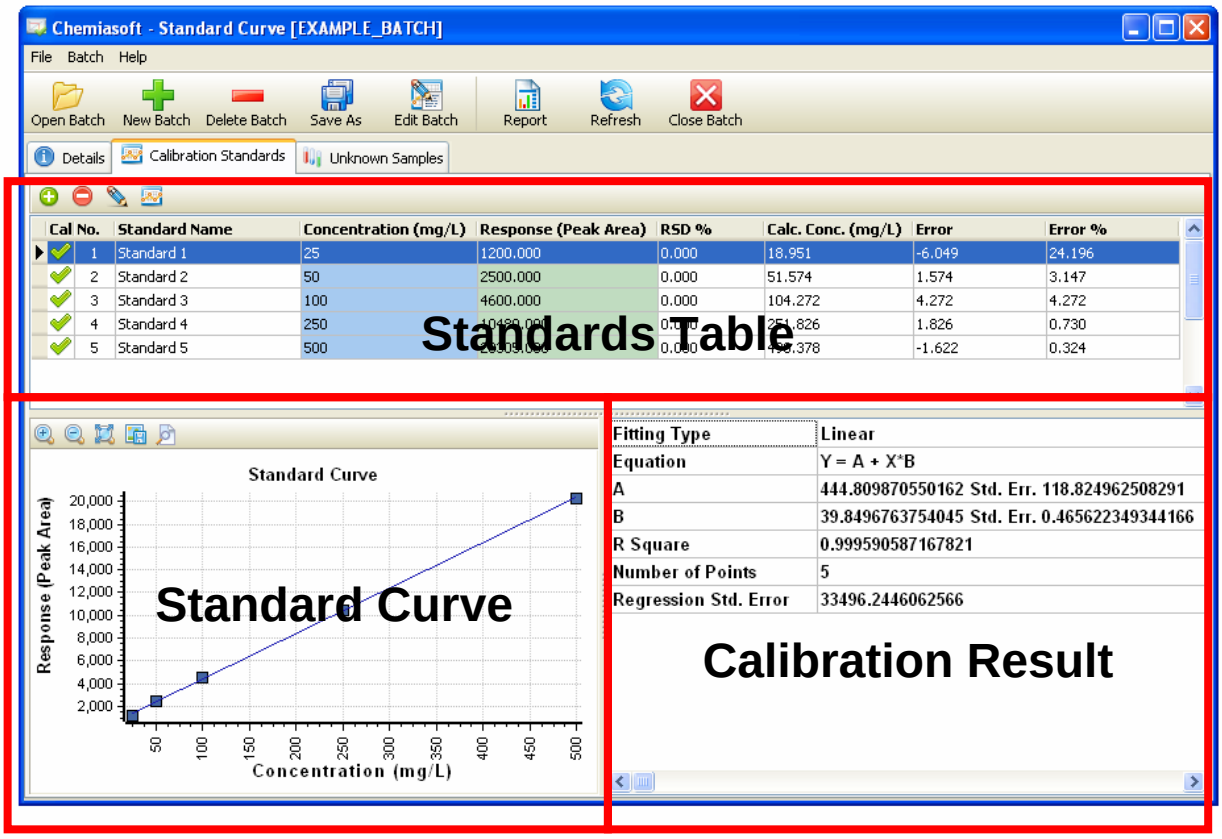
2. Once the main screen appeared, it will show "**Database Connected**". If there is any problem with database then refer to Database section.
3. Now press **Open** button on the main toolbar and search dialog will appear.
4. Leave all fields empty and press **Search** button. List of all available batches will appear.



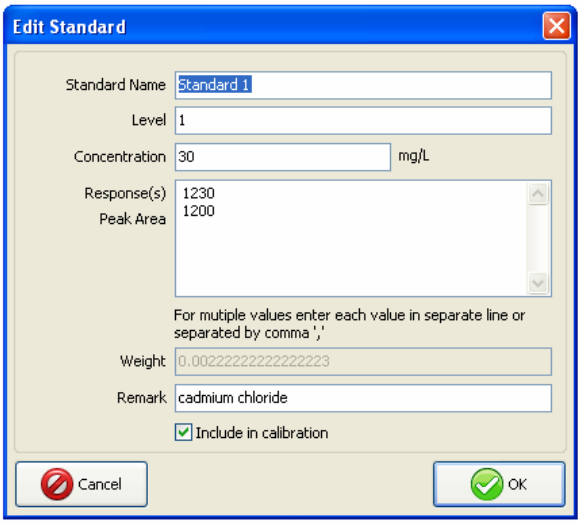
5. Double click on **EXAMPLE_BATCH** to open.
6. After selected batch open, main batch screen will appear. Batch name will show at title bar of the software between two brackets [EXAMPLE_BATCH].



Batch screen contains three tabs (**Details**, **Calibration Standards** and **Unknown Samples**). The Details tab contains information about the batch. Now switch to **Calibration Standards** tab.



7. On **Calibration Standards** tab screen become three parts, **Standards** table at the top which list all calibration standard solutions, **Standard curve** area at the left bottom shows the calibration curve. On the bottom right area there is **Calibration Result** table which contains fitting type, equations and other details related to calibration.
8. On **Standards** table, the first column "**Cal**" shows tick mark when the standard included in the calibration.
9. On the Standards table, double click on the standard 2 row. The dialog will appear as follow.

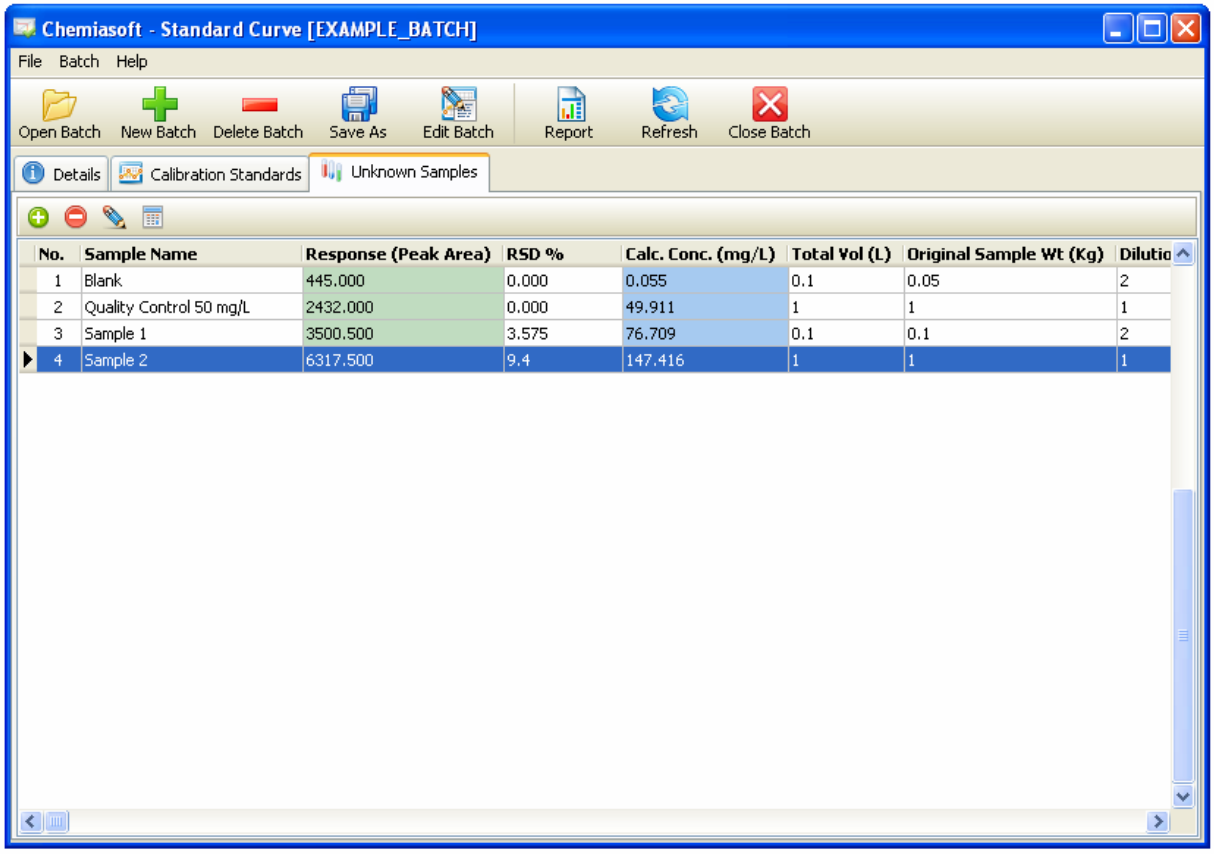


On **Edit Standard** dialog, there are several input fields include **standard name**, **level**, **remark**, **concentration** and **responses**. The concentration must be single value, but responses can accept several values by separate them with comma or enter each value in new line. The software will calculate average of all entered response(s) and calculate relative standard deviation (RSD).

Weight value required when using weighted calibration (WLS) and manual entry of weight factor.

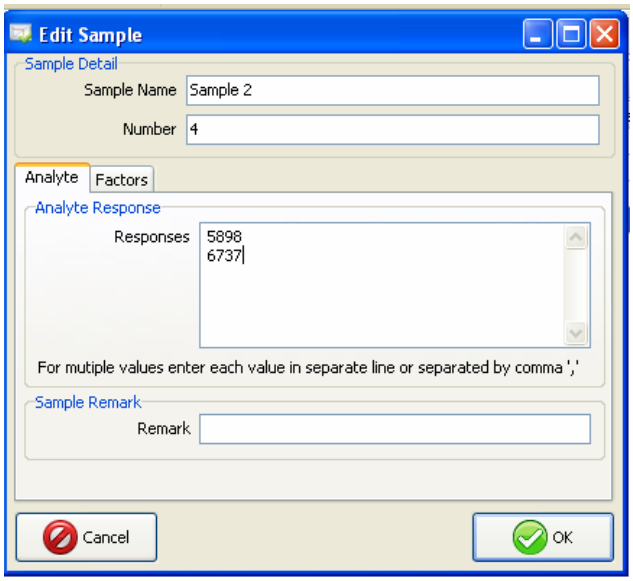
"**Include in calibration points**" to include or exclude standard from calibration curve. Uncheck the box to exclude from calibration and press **OK** to see the effect. Equation will be recalculated. All samples also will be recalculated base on new fitting.

10. Switch to **Unknown Samples** tab, table contains all samples in the batch with their responses and calculated concentrations

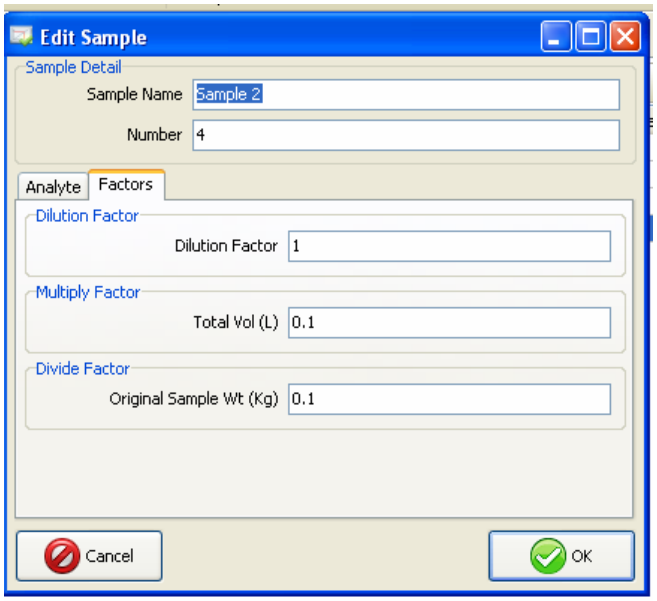


No.	Sample Name	Response (Peak Area)	RSD %	Calc. Conc. (mg/L)	Total Vol (L)	Original Sample Wt (Kg)	Dilutio
1	Blank	445.000	0.000	0.055	0.1	0.05	2
2	Quality Control 50 mg/L	2432.000	0.000	49.911	1	1	1
3	Sample 1	3500.500	3.575	76.709	0.1	0.1	2
4	Sample 2	6317.500	9.4	147.416	1	1	1

Double click on any sample by left mouse click, **Edit Sample** dialog will show up



The dialog contains sample input details, like (**sample name**, **order number** and **responses**) similar to the standards dialog. In addition, it contains **Factors** tab, click on factors tab to see the details.

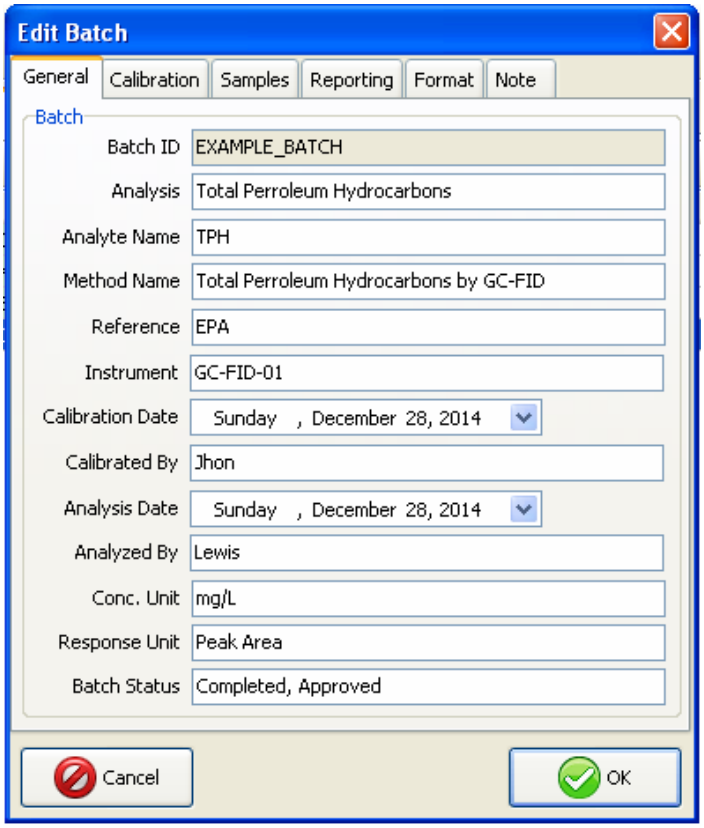


Different factors are appeared. **Dilution Factor,** how many times sample is diluted. **Total volume**, the total sample solution in liter. **Origin Sample Weight** the amount of the sample in sample preparation process in kilograms.

The factors are very essential in lab calculations. In this example, calculated concentration from calibration curve in mg/L will be multiplied by dilution factor and then multiplied by total volume of the sample solution. The result will be divided by origin sample weight (Kg) in this example 100 g = 0.1 Kg. The final calculated value will be in mg/kg, which is the concentration of the analyte in origin sample. (i.e. the reported concentration).

Click **OK** or **Cancel** button to hide **Edit Sample** dialog.

11. On the toolbar click on **Edit Batch** button. Edit batch dialog will appear



Edit Batch dialog contains all information about the batch and calibration. At the top there are several tabs, you can switch between tabs and discover the details. Make some changes and press **OK** button to see the effect.

That is all for now. Please refer to the **Table of Content** (page 2) and find out more details. If you can't find answer of your question, please contact us by sending an email to support@chemiasoft.com