

Export data to CasaXPS format:

1. Open Vernissage to export data
2. **'Open files'** => select the matrix file to open
3. Select the spectra you need to export
4. **'Export selected objects'** => save your data to your data folder on D: drive
5. Open CasaXPS software for data processing

CasaXPS: (refer to the CasaXPS manual for detailed instruction)

1. Click 'open and merge' and select the files you need to process
2. Merge the selected data blocks to the same dataset
3. Intensity calibration: F8 - spectrum processing window. In the intensity calibration tab, input a and b value according to the aperture you used. Then click 'change PHI'
4. Click F7 to open Quantification parameters window. Then create region for all the elements

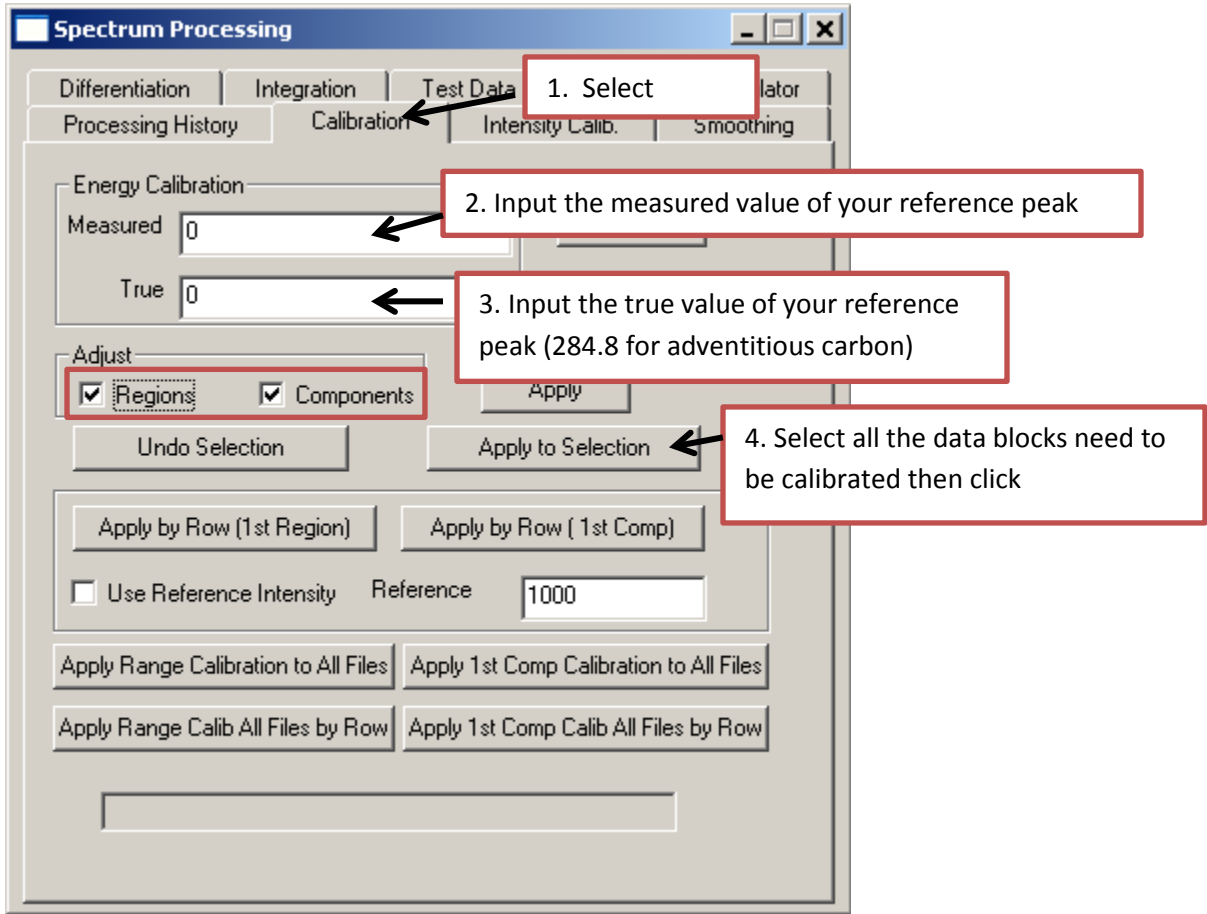
The screenshot displays the CasaXPS interface. On the left, a plot shows the C 1s spectrum with intensity in CPS (x 10<sup>2</sup>) on the y-axis and Binding Energy (eV) on the x-axis. A peak is visible at approximately 285 eV. On the right, the 'Quantification Parameters' window is open, showing a table of regions. A red box highlights the 'Exp Var' button in the top toolbar. Another red box highlights the 'C 1s' data set in the 'Data Set' table. A third red box highlights the 'Create' button in the 'Quantification Parameters' window. A fourth red box highlights the 'Area' field in the 'Regions' table, which is set to 731.3.

1. Double click to select the data

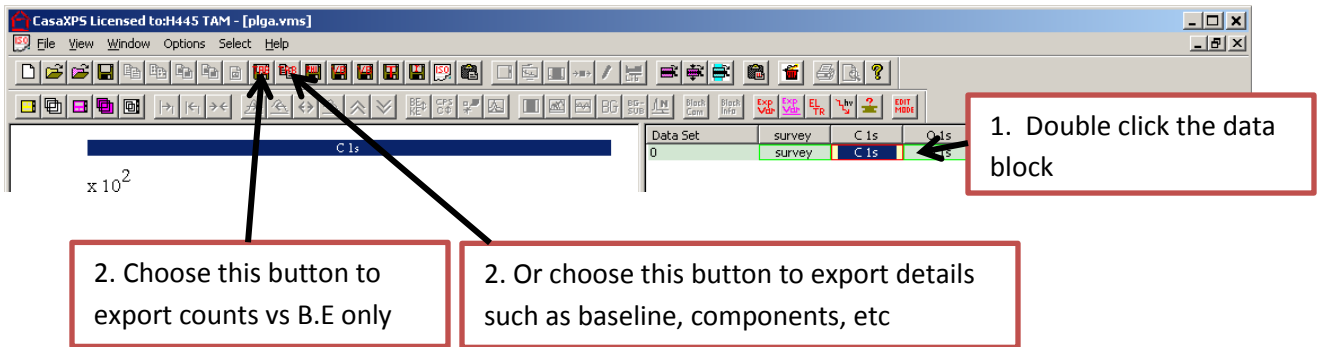
2. Create a region and adjust the area

Regions	A
Name	C 1s
R.S.F.	1
Start	291.047
End	278.436
BG Type	Step
Av. Width	1
St. Offset	0
End Offset	0
Cross Sec.	293.642 215
Tag	1
Area	731.3
Std Dev A.	0
Width	2.98114
Position	285.4000
% Concentr.	100.00
Max Height	38.38 6
Min Height	-1.66 7
Peak to P.	1.0000

5. Peak calibration: click F8 to open spectrum processing window



6. Export data to txt files:



7. Calculate atomic ratio: F7- Quantification parameters window

1. Select all the elements need to be calculated

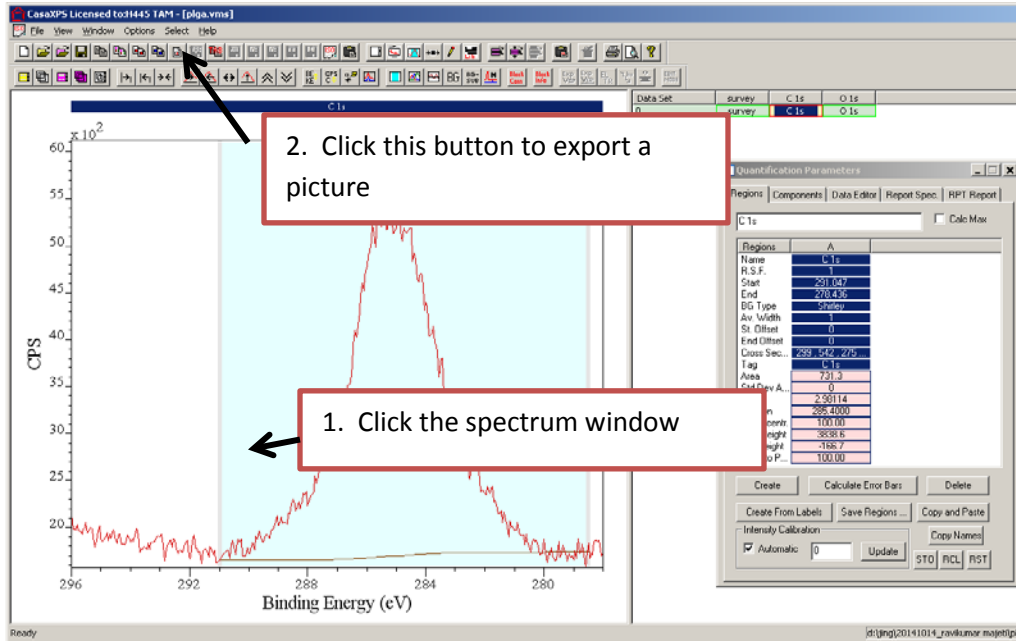
2. Select

3. Click

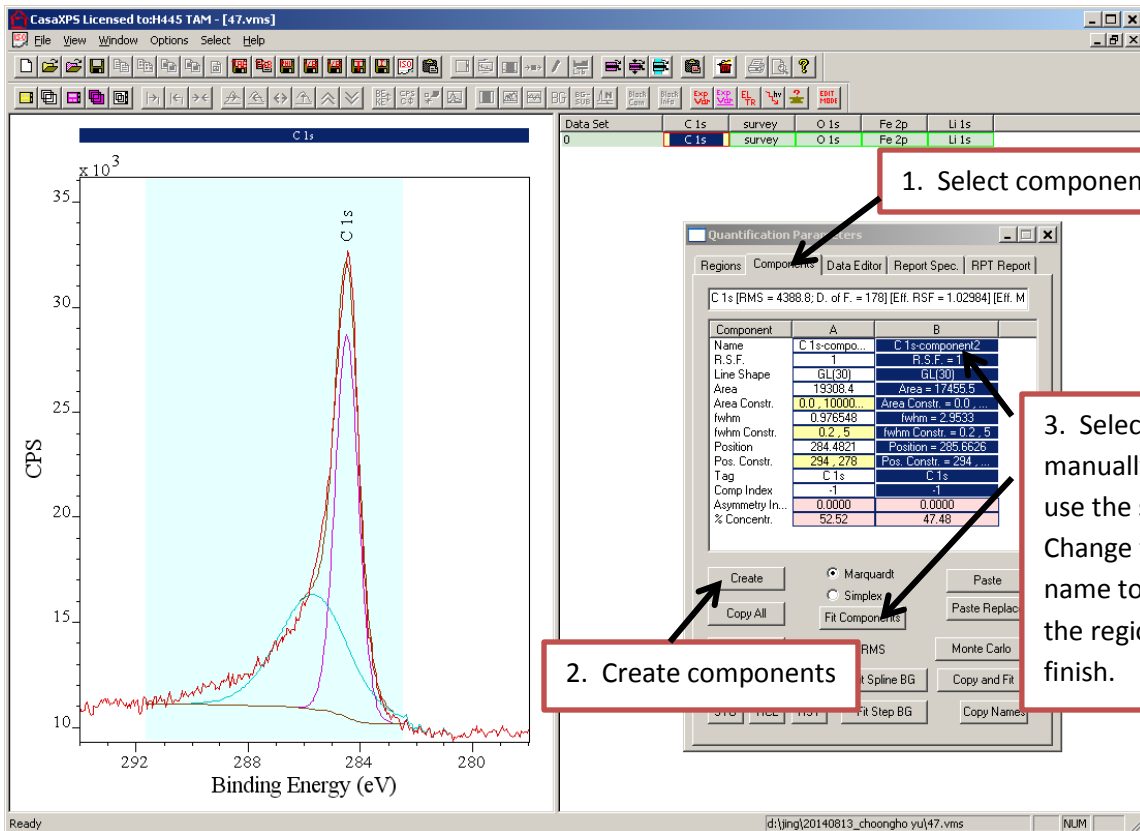
4. Click

Names	Formula
C 1s	C 1s
Fe 2p	Fe 2p
Li 1s	Li 1s
O 1s	O 1s

8. Export the spectrum as a picture



9. Peak deconvolution: F7- Quantification parameters window



10. To calculate components atomic ratio: F7- Quantification parameters windows

1. Double click to select the data

2. Select

3. Click

4. Click

Data Set	C 1s	survey	C 1s	Fe 2p	Li 1s
0	C 1s	survey	C 1s	Fe 2p	Li 1s

Quantification Parameters

Regions Components Data Editor Report Spec. RPT Report

Standard Reports

Regions Comps Use Config Use Profile Format

Regions and Comps Combined With Tags

Custom Report

Quantification Item Names

C 1s  
C 1s-component1  
C 1s-component2  
STDEV:C 1s

Regions Comps AI Clear

Ratio Region Ratio Comp Ratio

Names	Formula
C 1s-com...	C 1s-component1
C 1s-com...	C 1s-component2

Area Report Height Report Tag Defined Report