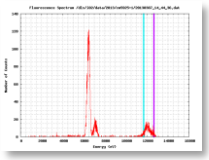
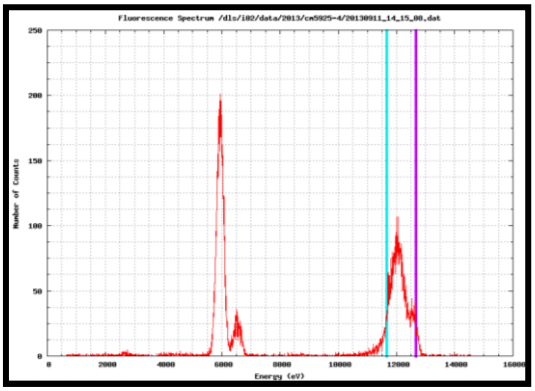


Interpreting AutoPyMCA Output

AutoPyMCA is an automated implementation of the PyMCA software used here at Diamond. This runs after an MCA spectrum is collected in the 'Fluorescence' perspective of the GDA Client and the results can be found in the 'View Today's Jpegs' html page view of your results.



The magenta line is the peak caused by the incident X-ray beam.

The cyan line marks the low energy edge of the peak caused by the elastic scatter of the X-ray beam.

Peaks at lower energy than your cyan line will give you an insight to what elements are present in the sample.

In AutoPyMCA the spectrum is searched for:

Arsenic, Bromine, Chromium, Cobalt, Copper, Gadolinium, Gold, Iodine, Iridium, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Osmium, Platinum, Selenium, Strontium, Titanium, Tungsten, Vanadium, Zinc.

The results table show the 6 most likely elements that PyMCA has found in your spectrum. They are presented as:

- The element abbreviation
- The fluorescence peaks detected (K or L)
- The number of counts under the peak for that edge
- The percentage of counts under the peak for that element.
- The main expected emission energies for that element as given in the X-ray data booklet (bold is the largest expected peak)

Automated PyMca results

Element	Counts	%age	Expected Emission Energies
Mn-K	7355.9	77.4	**5899**,6491
Gd-L	414.6	4.4	**6057**,6713,7103
Se-K	87.3	0.9	**11222**,12496
I-L	35.4	0.4	**3938**,4221
Zn-K	31.4	0.3	**8639**,9572
Ti-K	28.7	0.3	**4511**,4932

Counts (total): 9508.0 (background): 1048.0

Suggested Confidence
>10% - element is present
1-10% - element may be present
<1% - element is not present

Also given are the total number of detected counts and the number of counts discarded as background noise. Confidence levels are under constant review.

If not enough counts are detected above the noise level this is likely to mean you have no fluorescent elements in your sample. However, it may be worth increasing the transmission and/or collection time to enlarge barely detected peaks.

If AutoPyMCA did not find your element, try analysing the data with PyMCA:

http://www.diamond.ac.uk/Beamlines/Mx/Common/Common-Manual/Data-Analysis/Fluorescence-Data.html