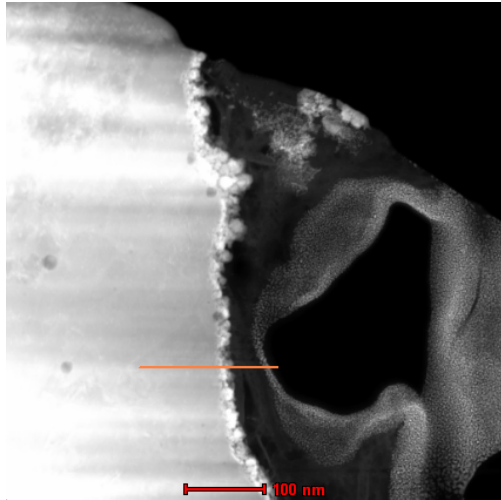


C180 EDX& EELS tracking of O

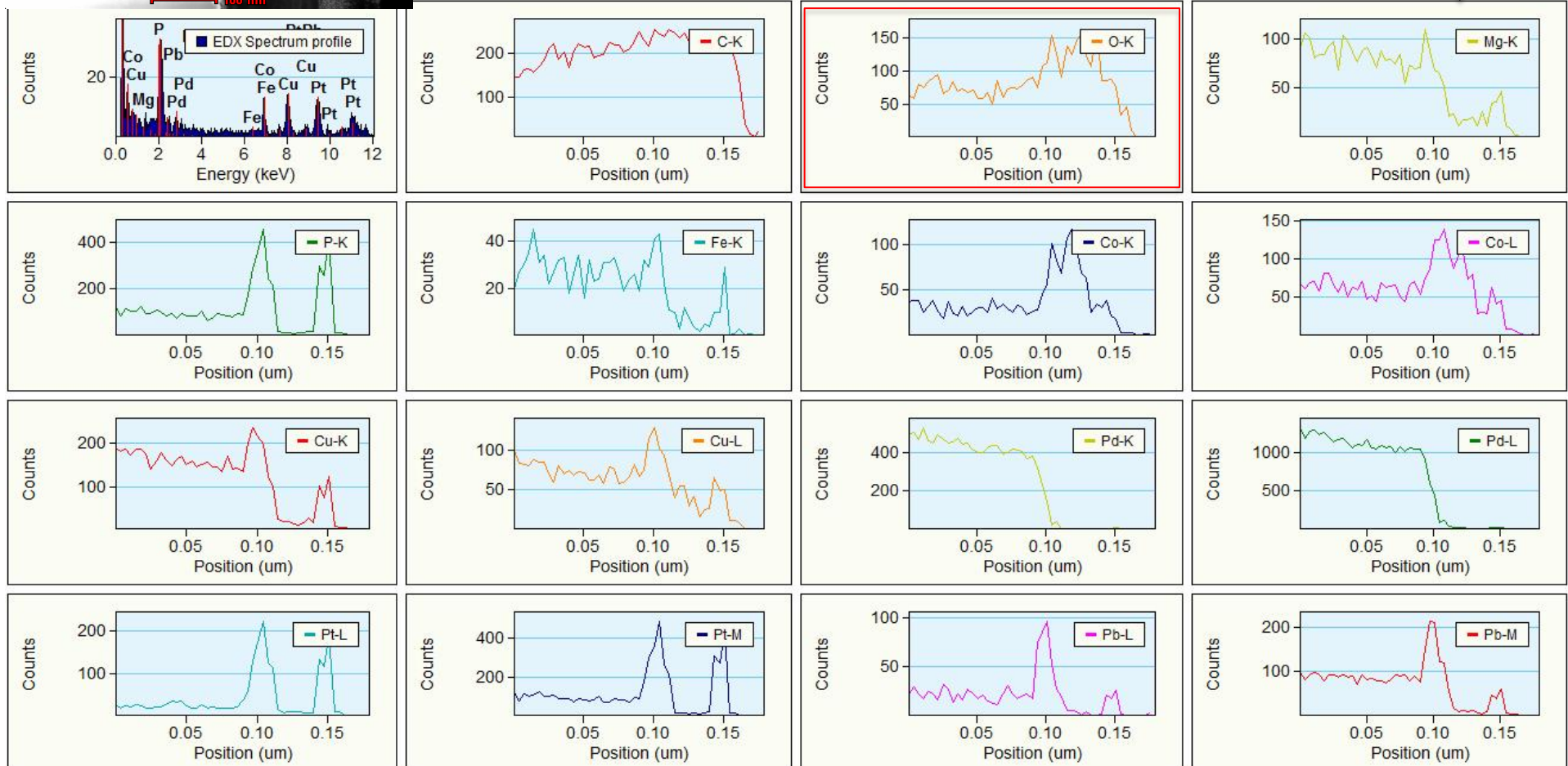
HC NERL

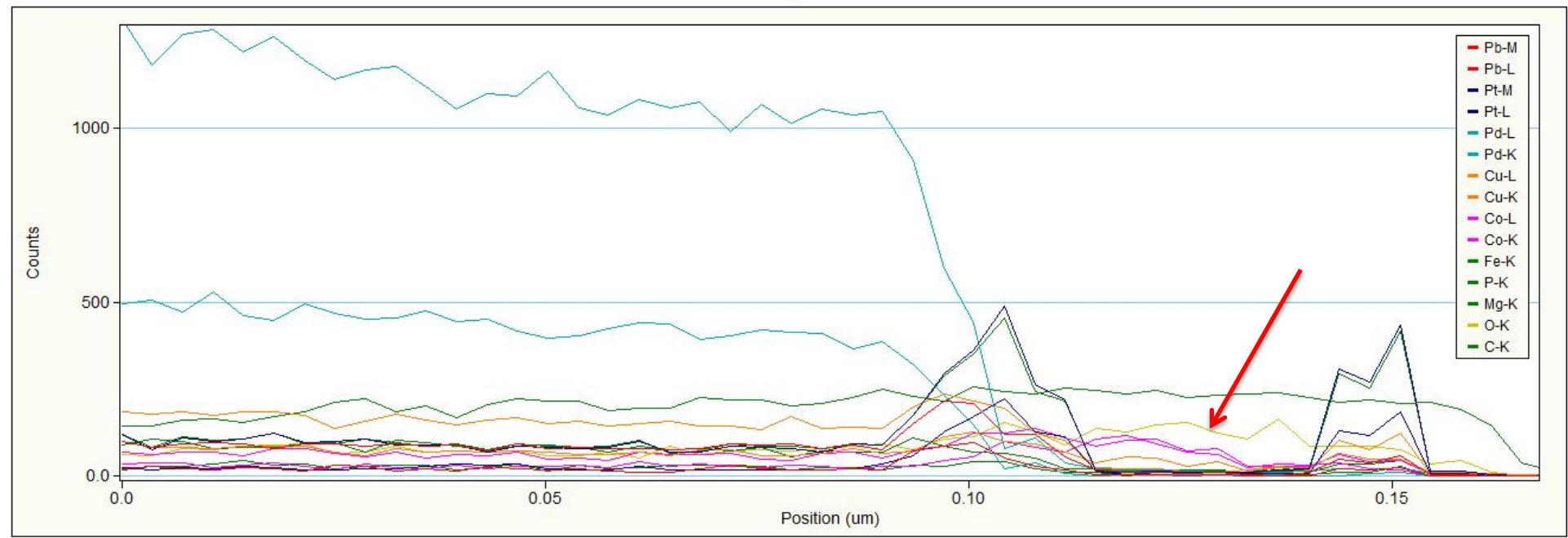
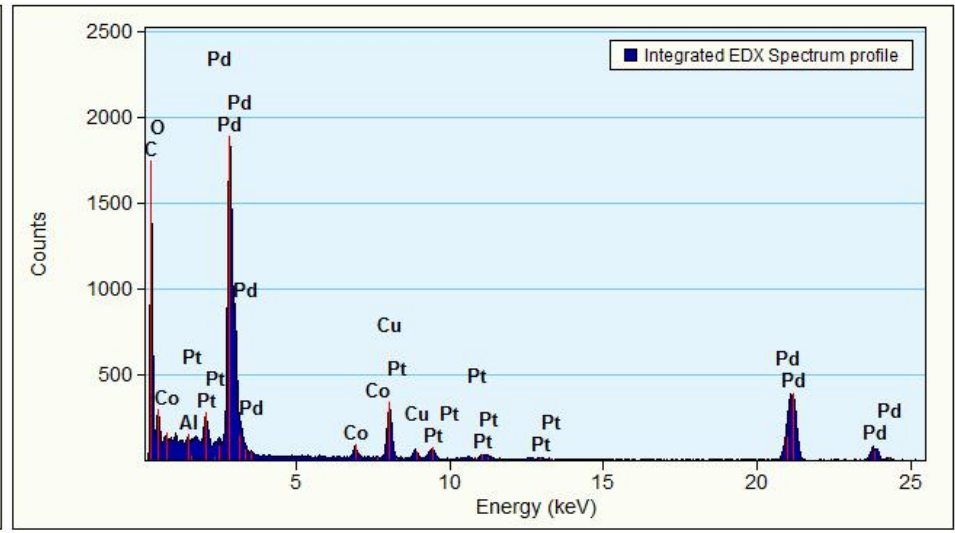
File: 2014-02-07_RR_lamella2_TEM+EDX_O/



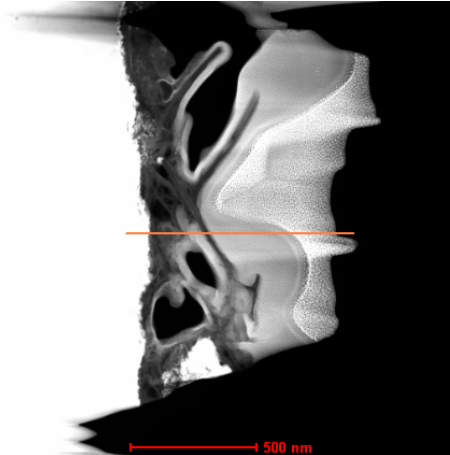
EDX 1

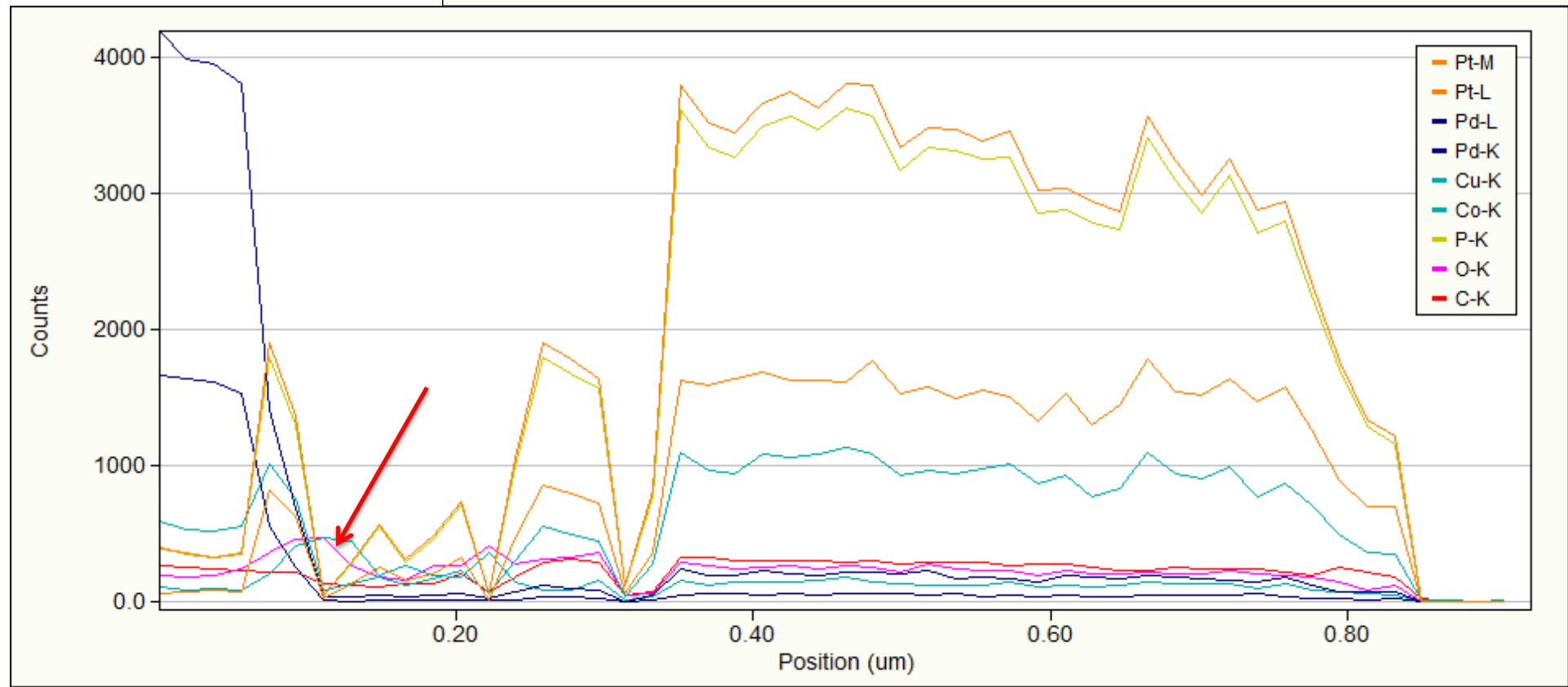
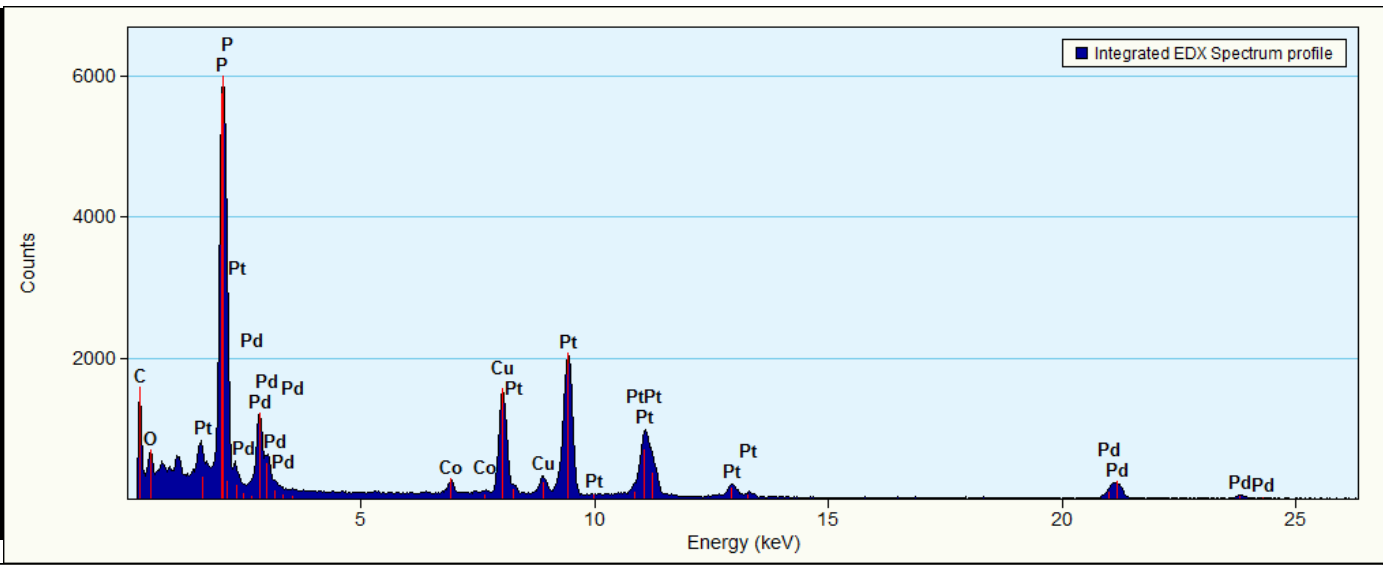
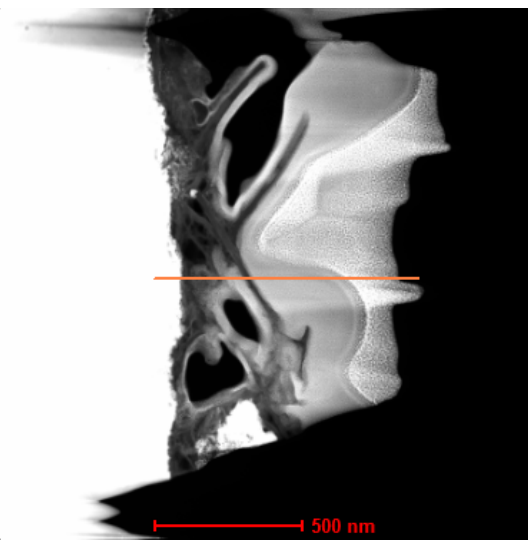
Maybe due to background ↓



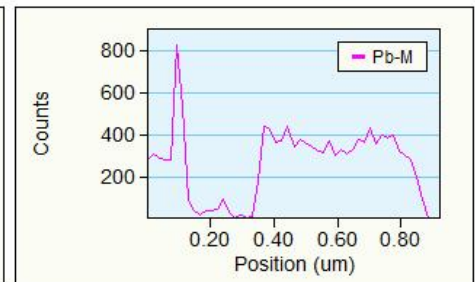
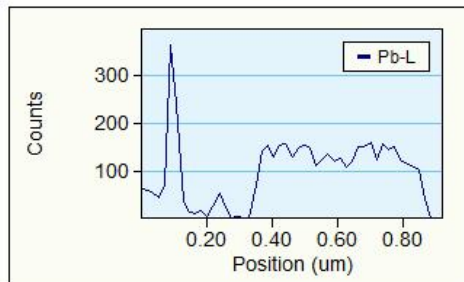
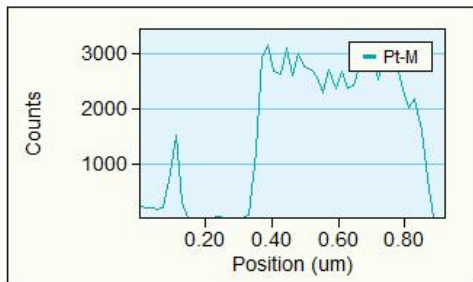
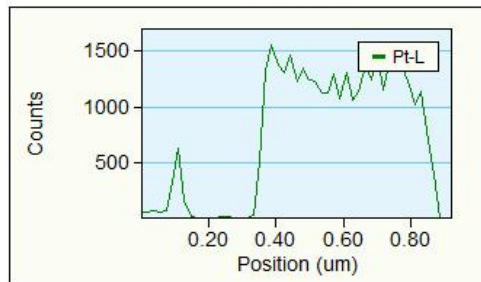
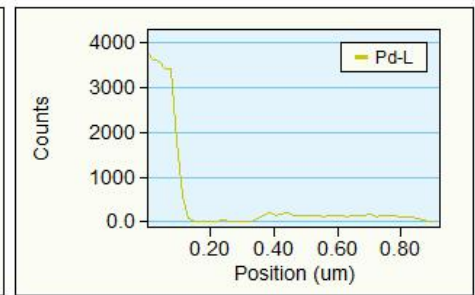
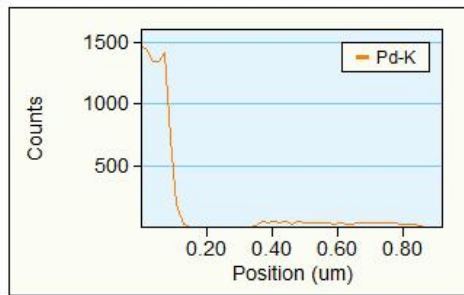
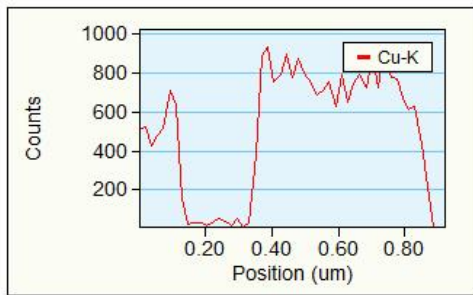
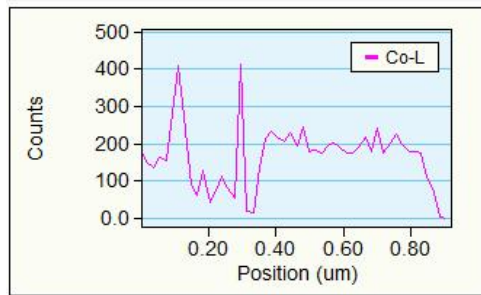
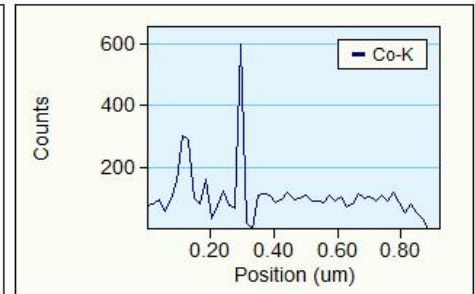
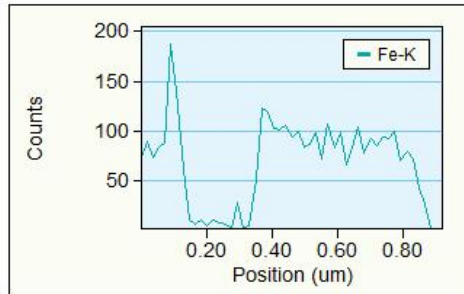
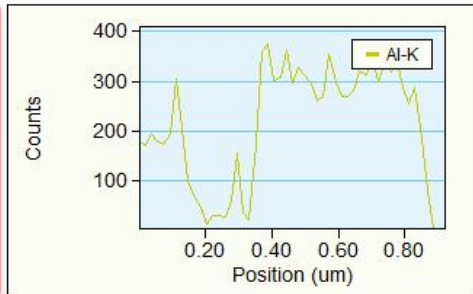
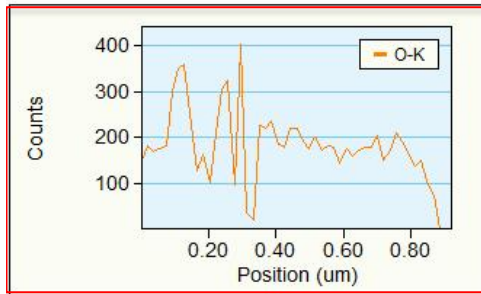
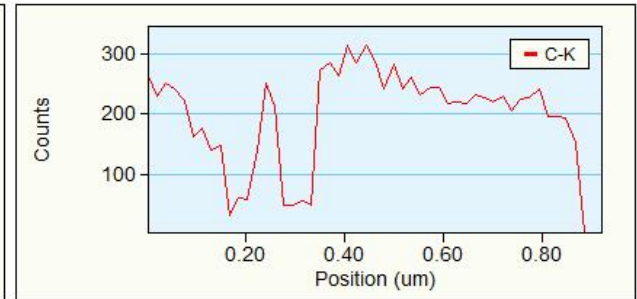
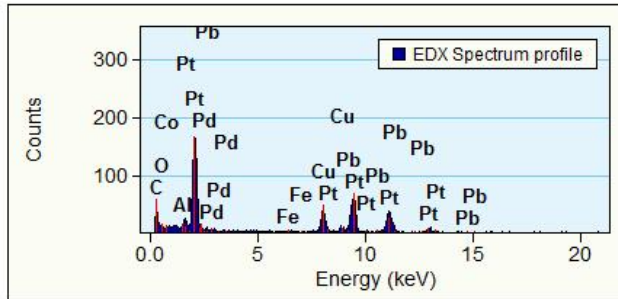
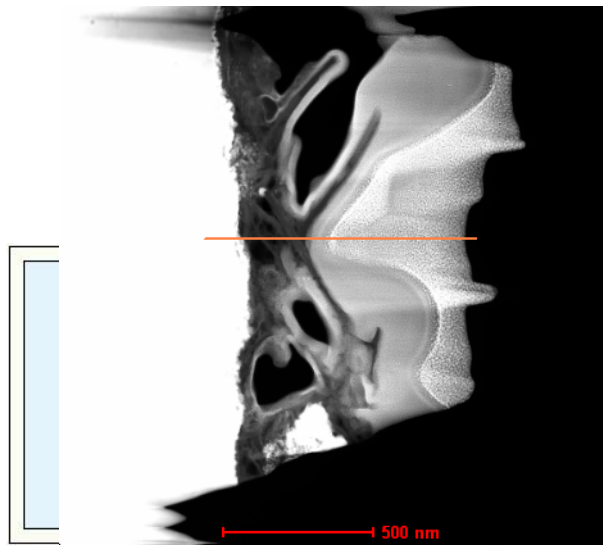


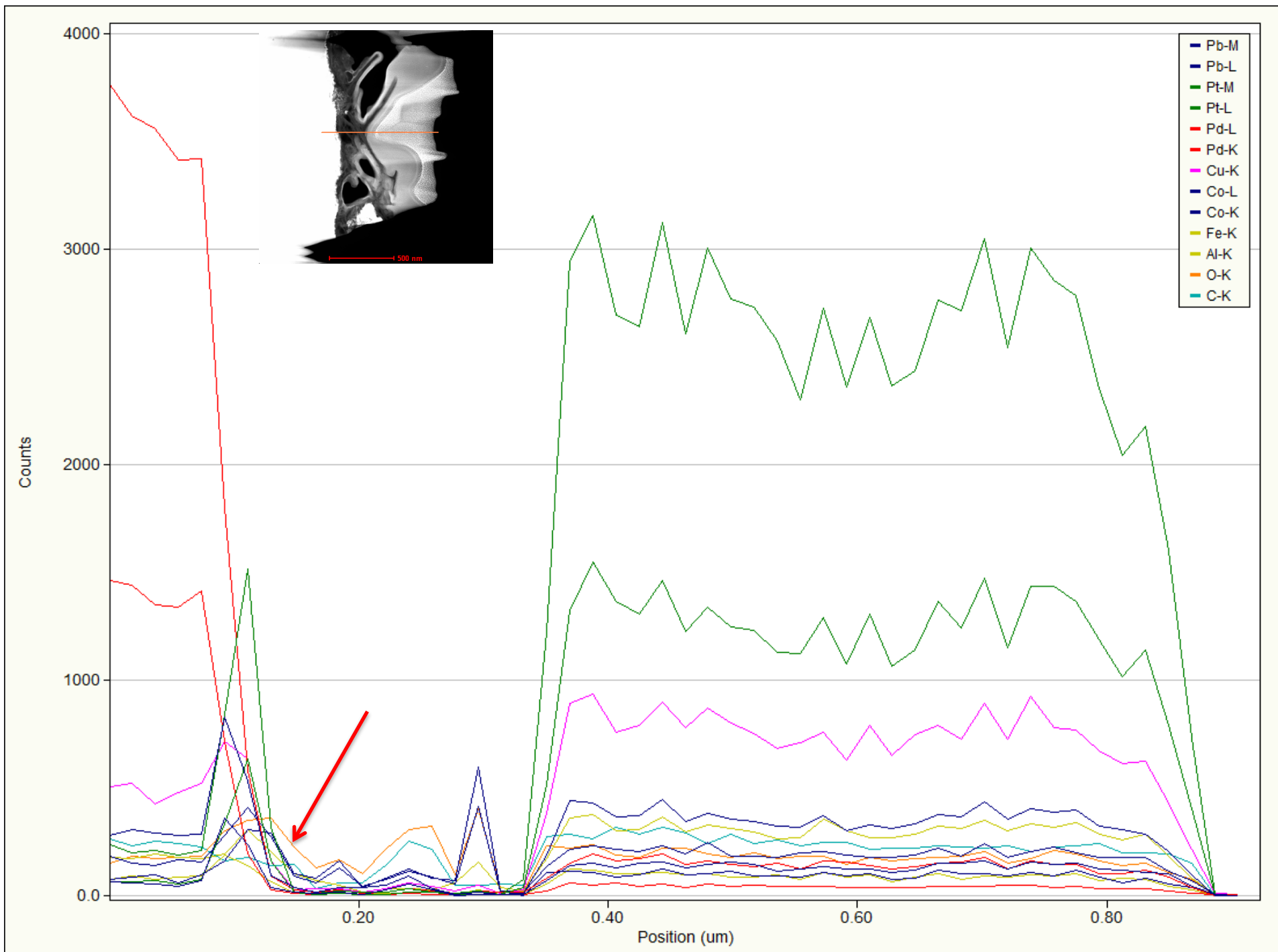
EDX 2 – analysis of layer on surface



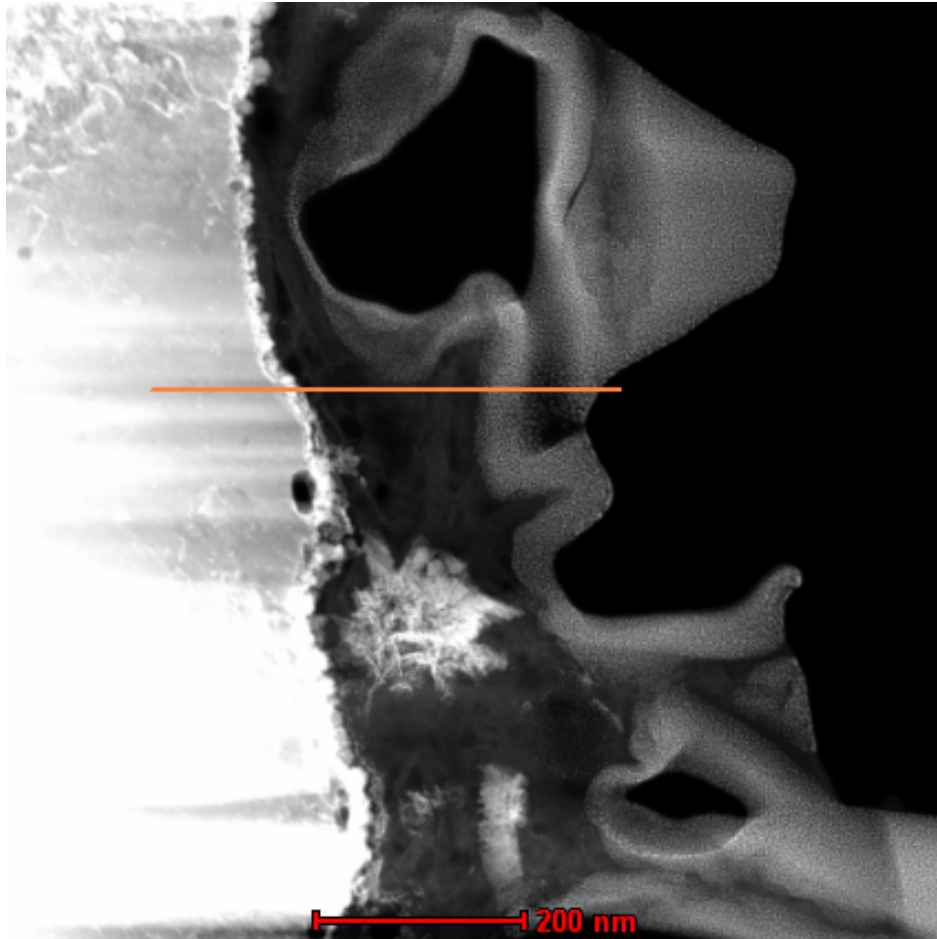


EDX 3 - analysis of layer on surface

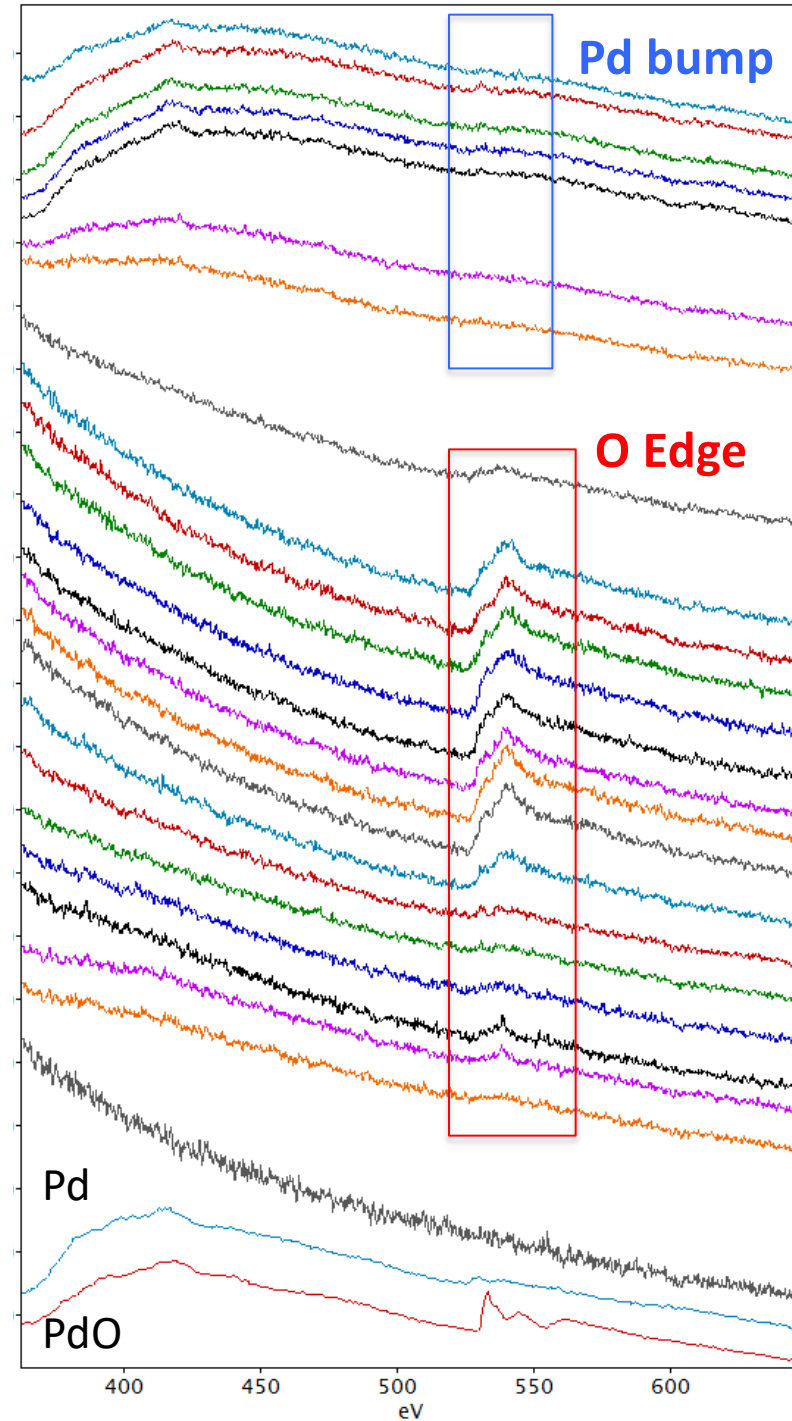




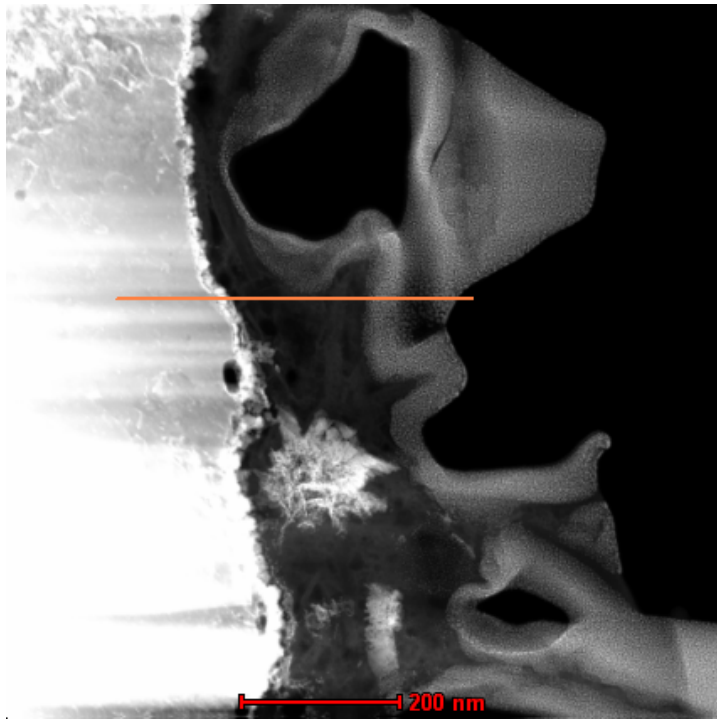
EELS 3 tracking of O



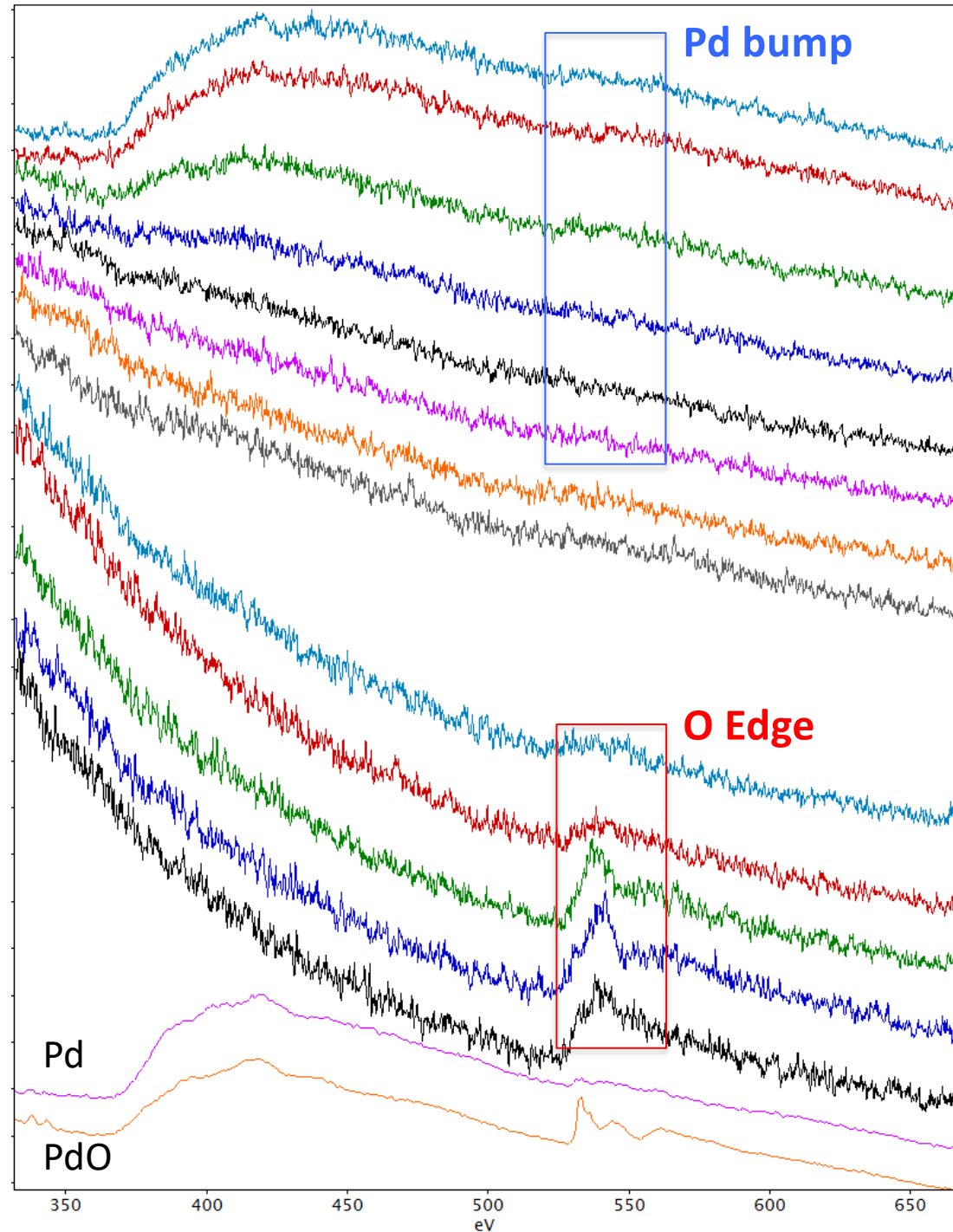
4 spectra summed per spectra shown – all spectra along red line were used



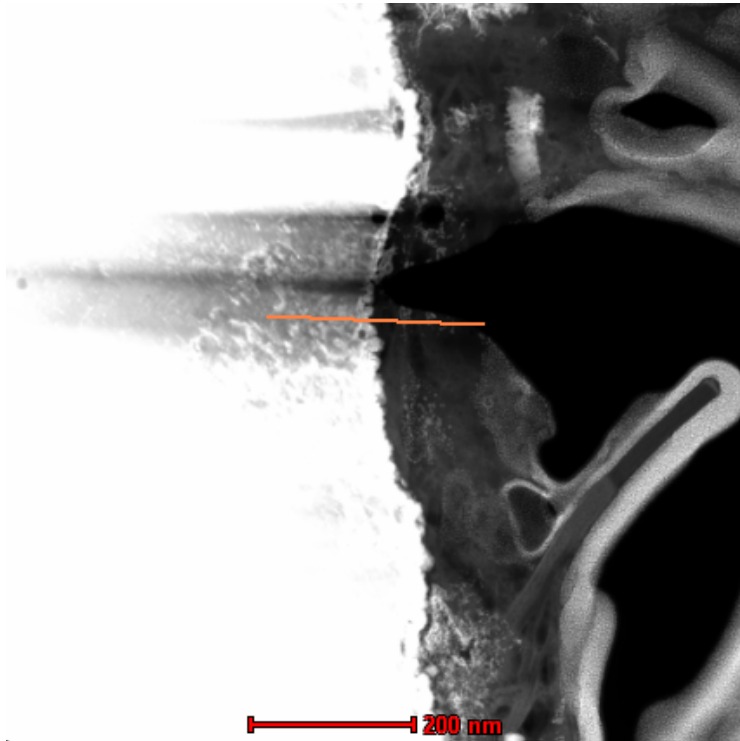
EELS 3 – focus on edge of lamella



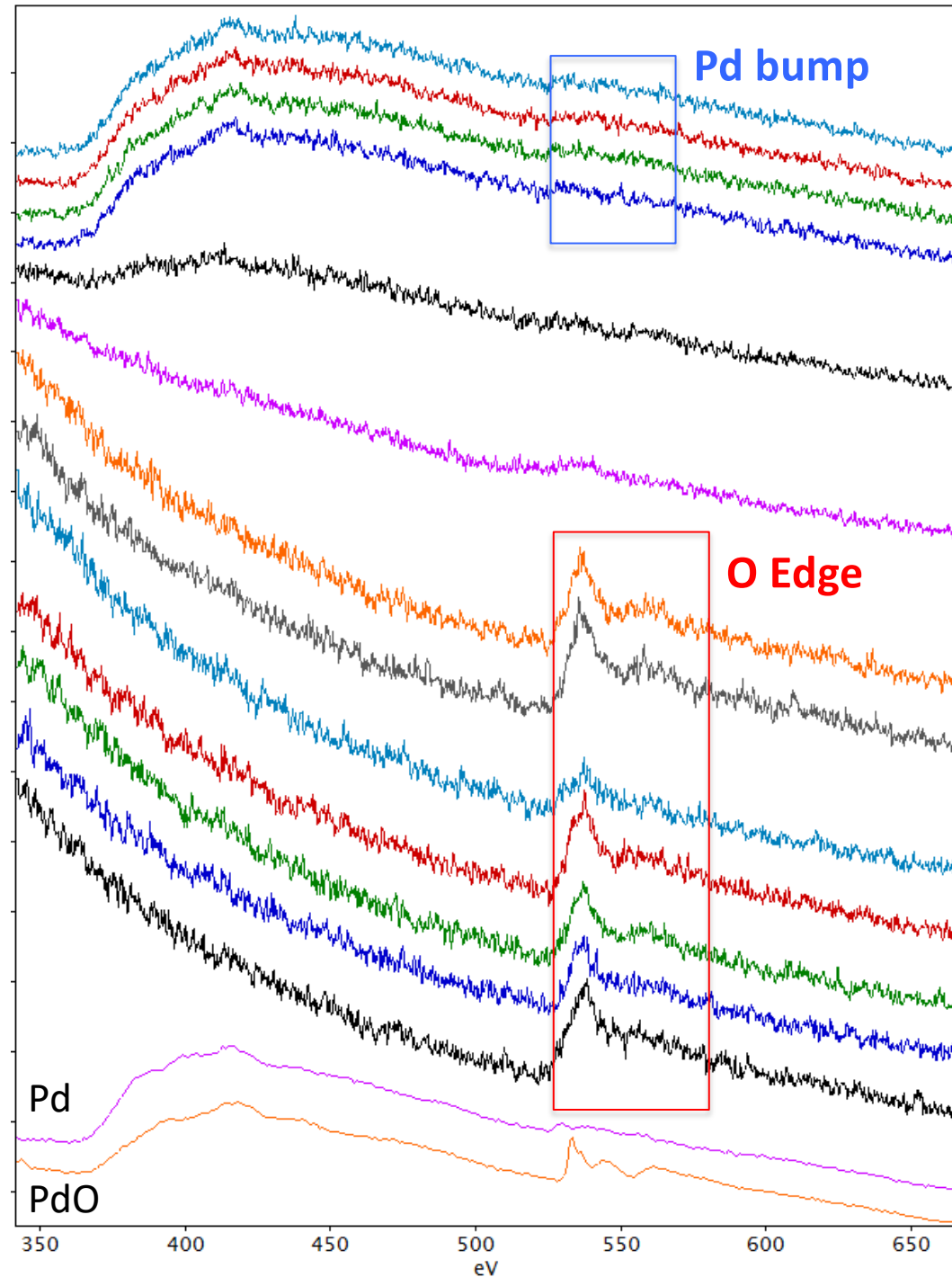
1 spectra steps – only using the spectra at the edge of spectra



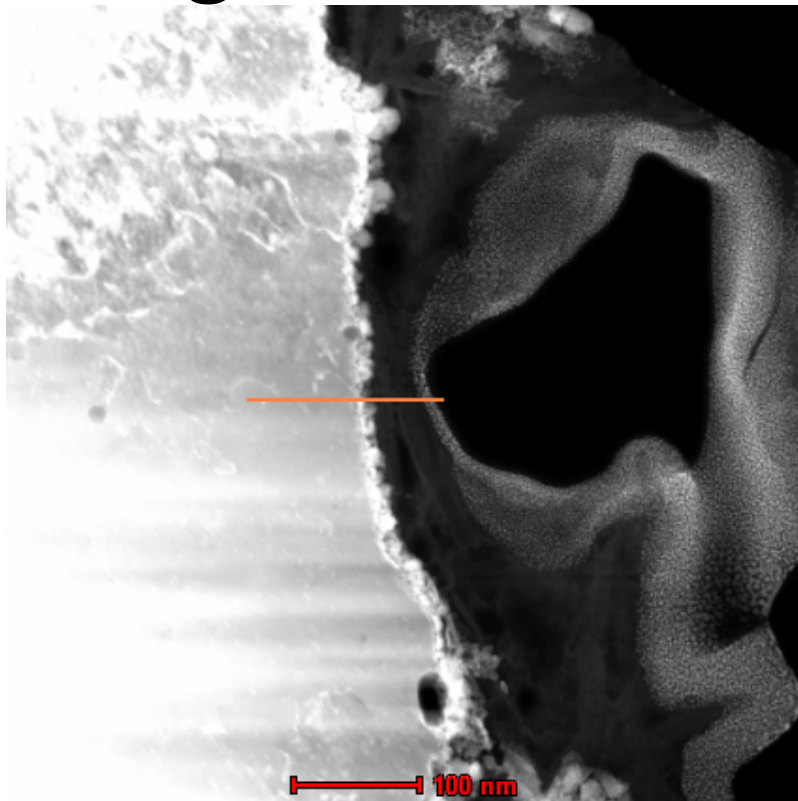
EELS 4 – focus on edge of lamella



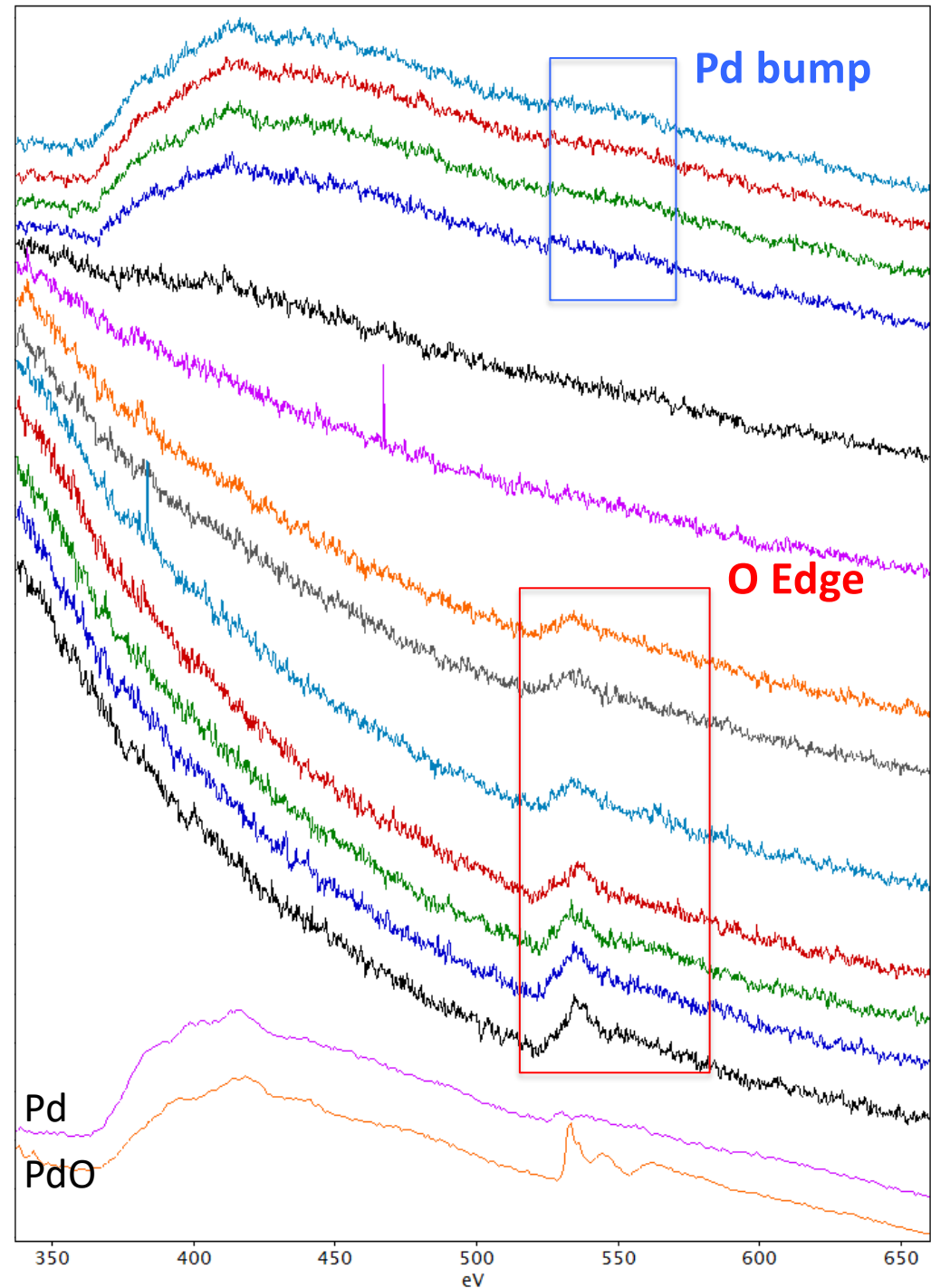
1 spectra steps – only using the spectra at the edge of spectra



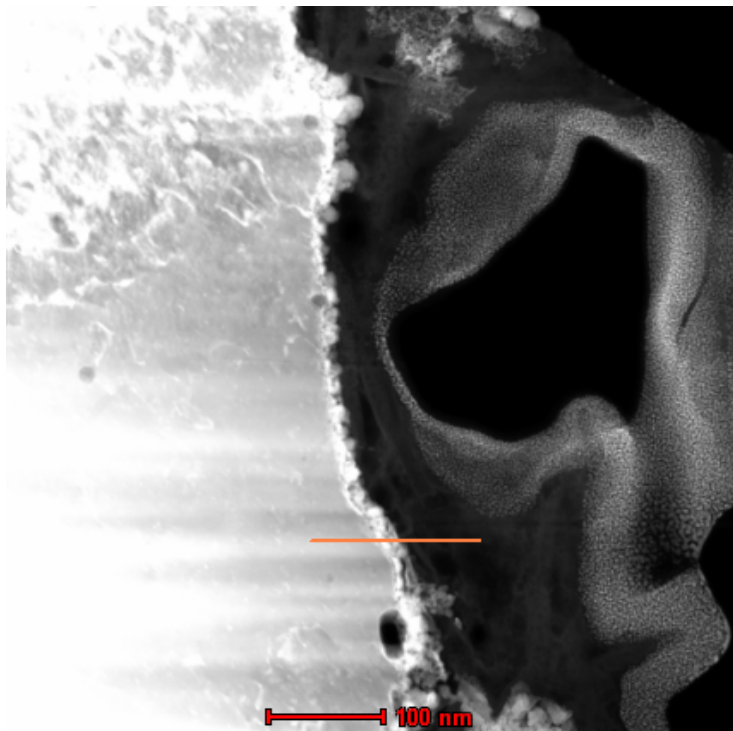
EELS 5 – focus on edge of lamella



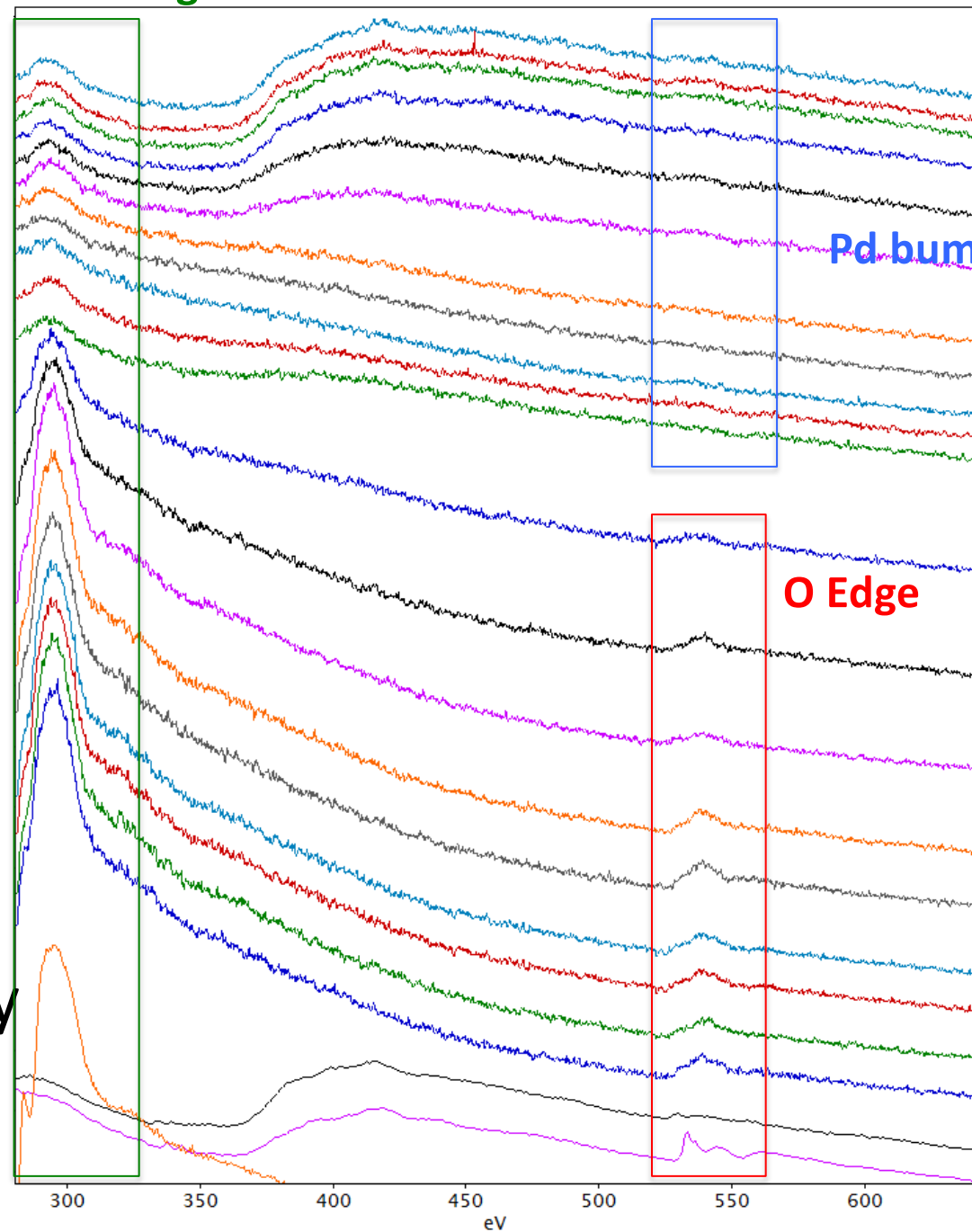
1 spectra steps – only using the spectra at the edge of spectra



EELS 6 – larger energy range



Carbon K edge



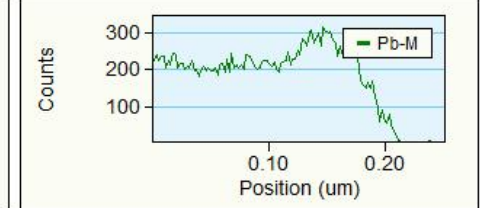
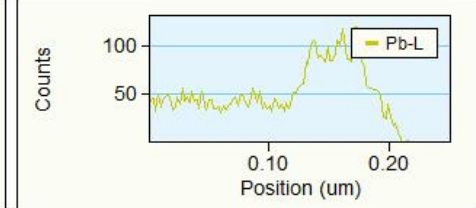
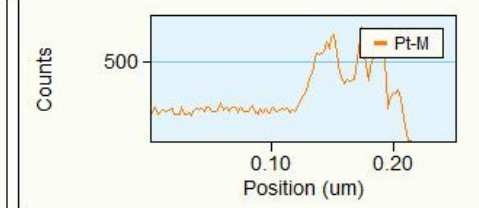
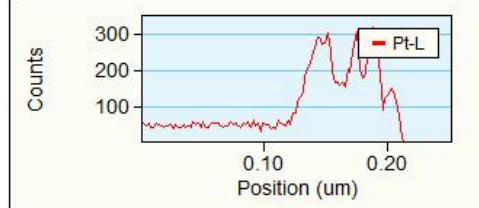
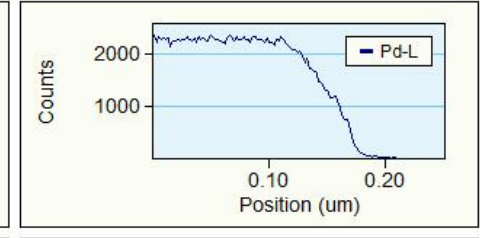
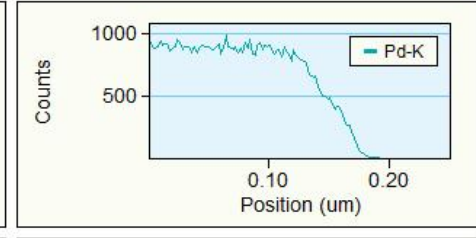
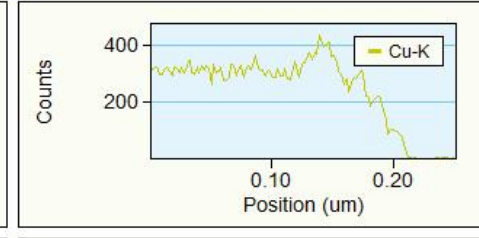
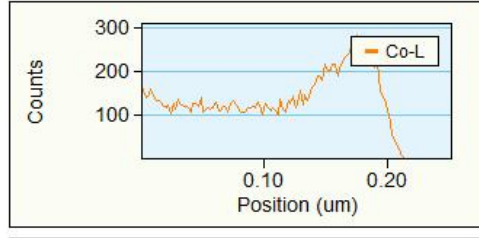
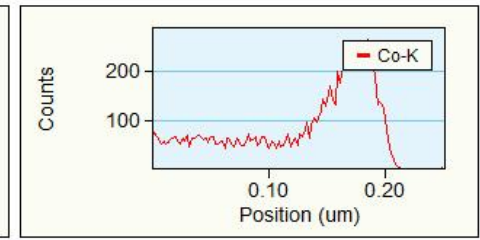
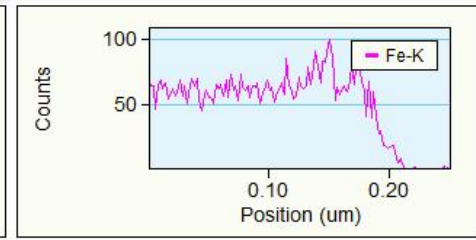
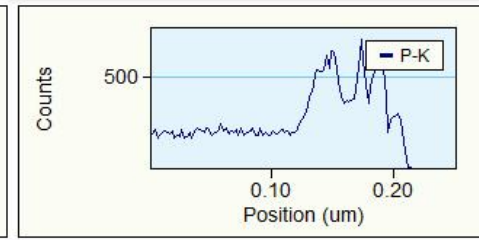
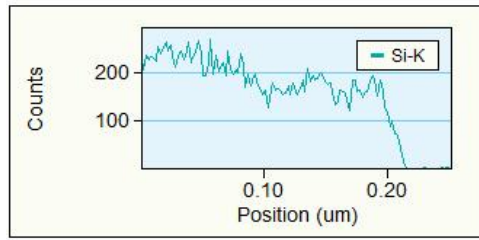
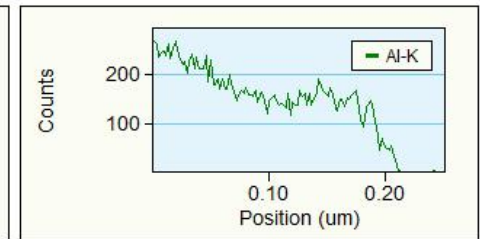
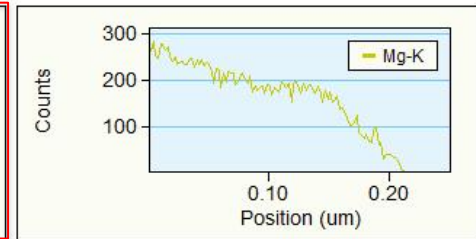
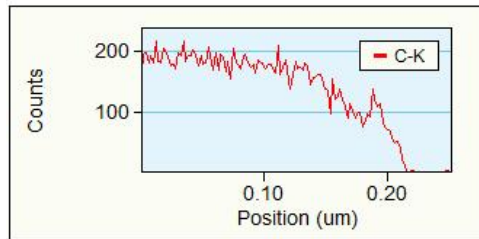
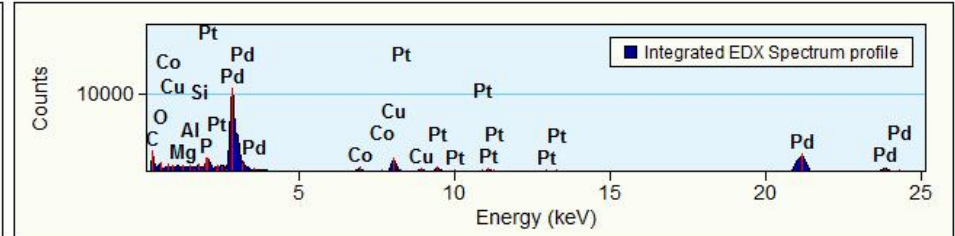
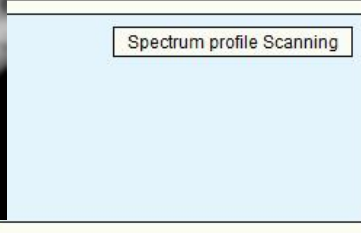
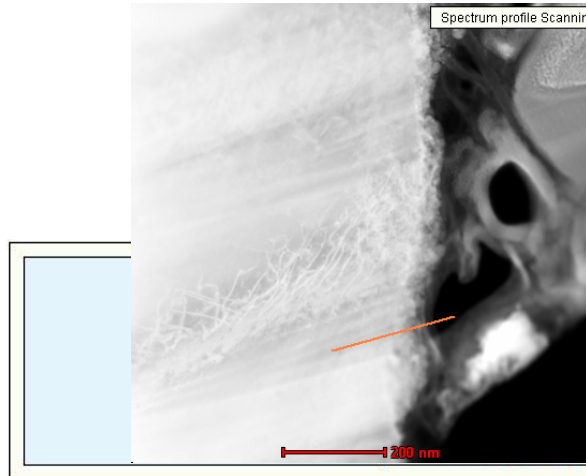
1 spectra steps – only using the spectra at the edge of spectra

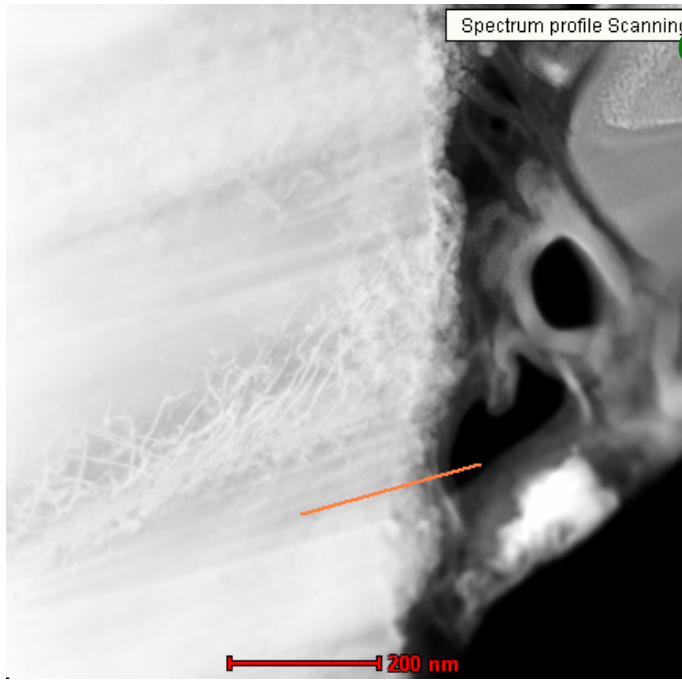
Aged Sample

Aim:

Repeated the EELS and EDX analysis on the same areas of the same sample after two weeks exposure to check for ageing of the sample.

EELS 6 & EDX 1

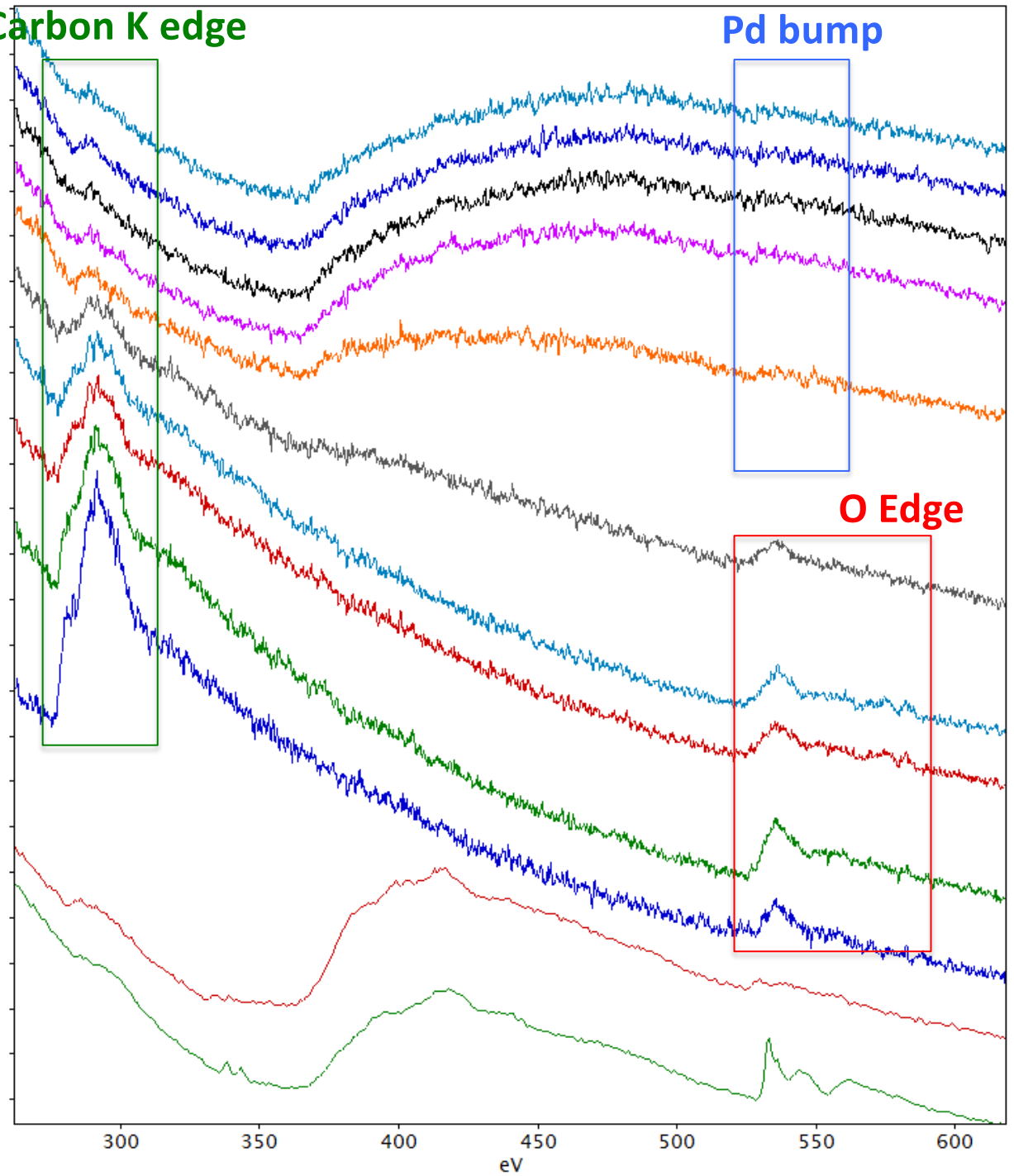




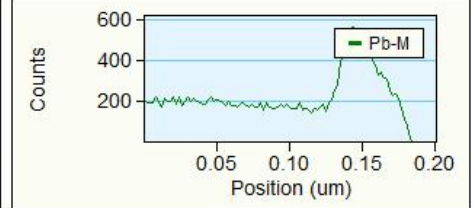
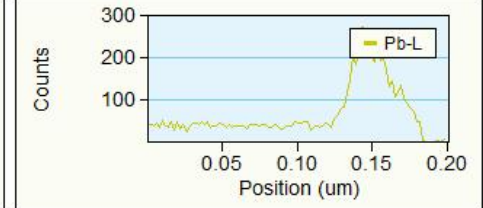
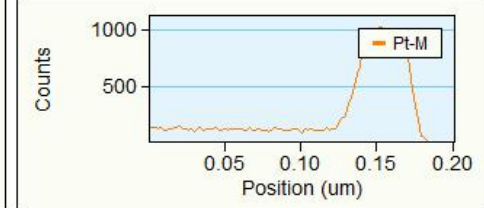
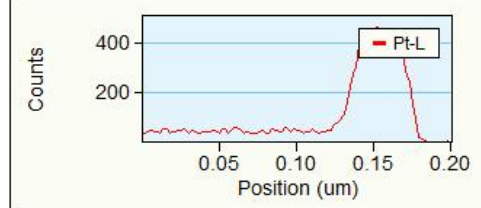
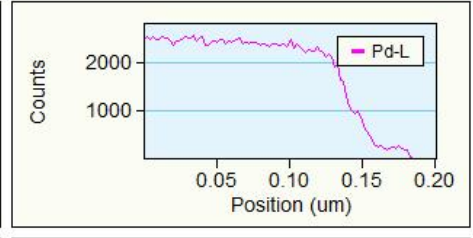
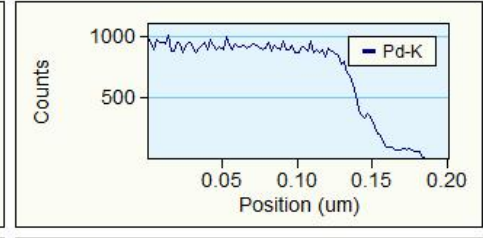
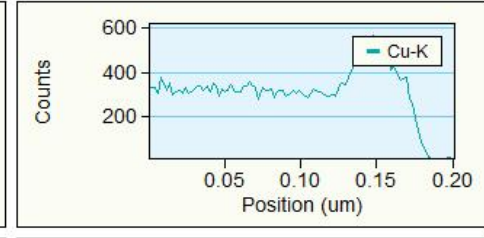
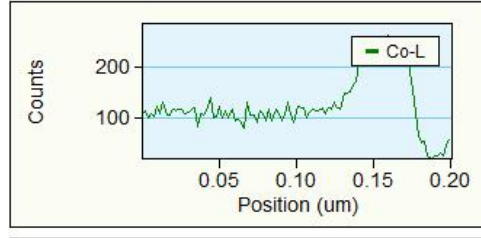
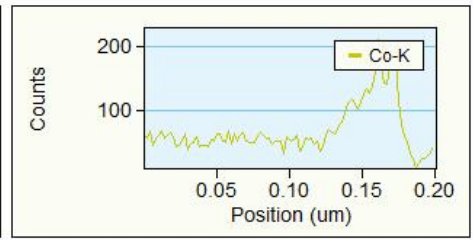
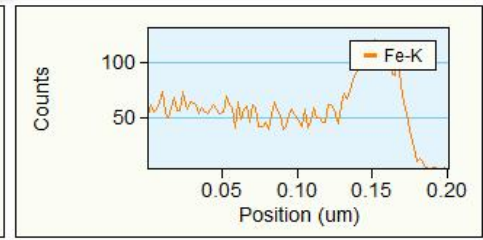
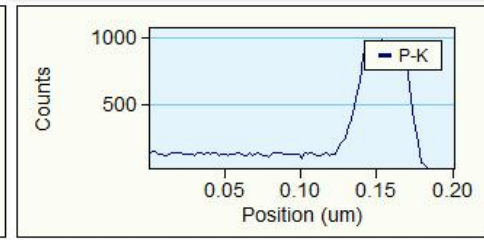
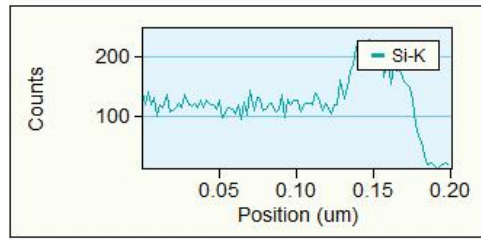
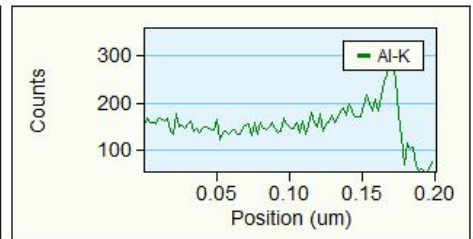
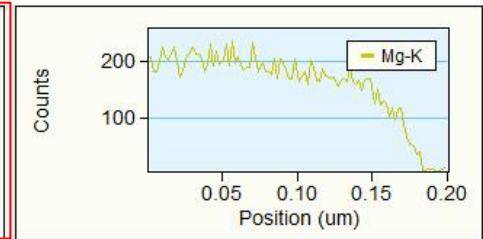
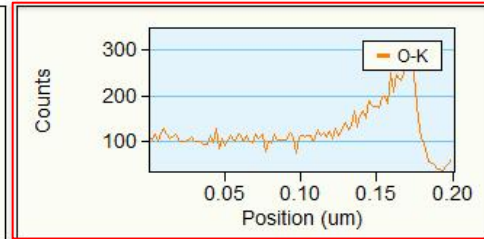
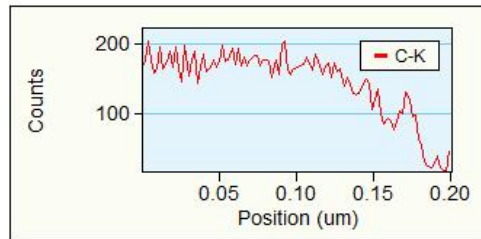
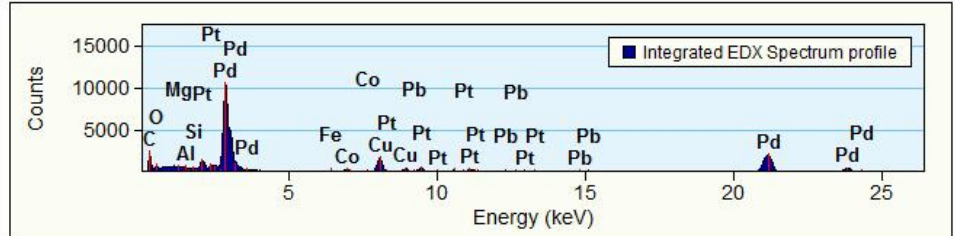
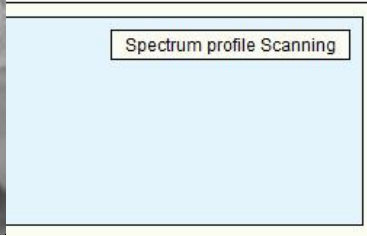
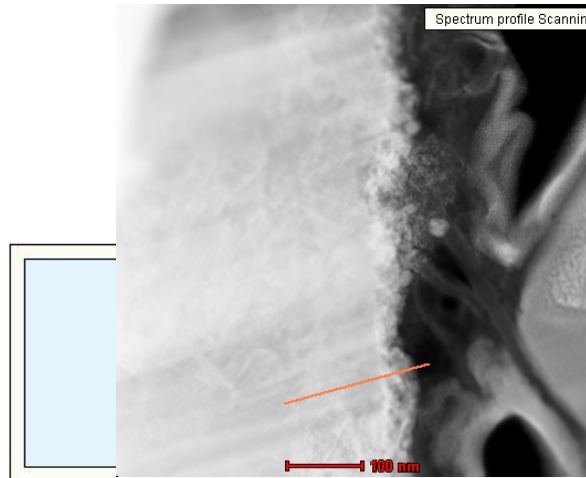
Carbon K edge

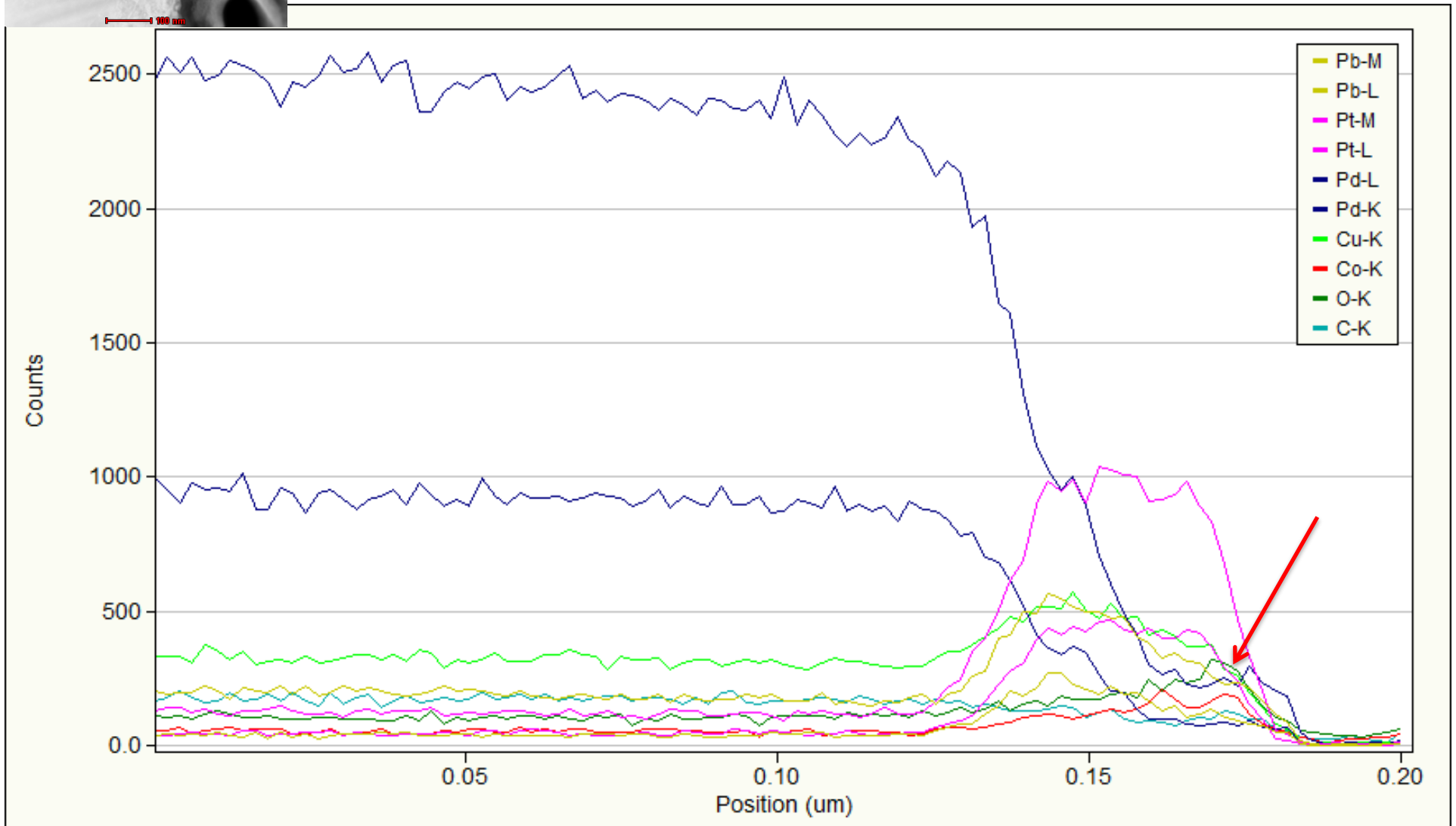
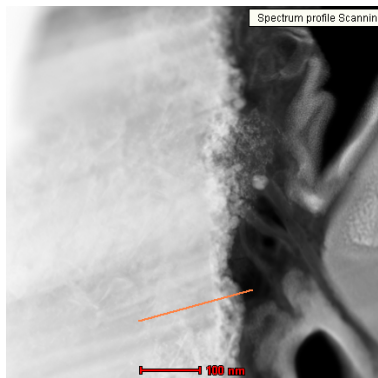
Pd bump

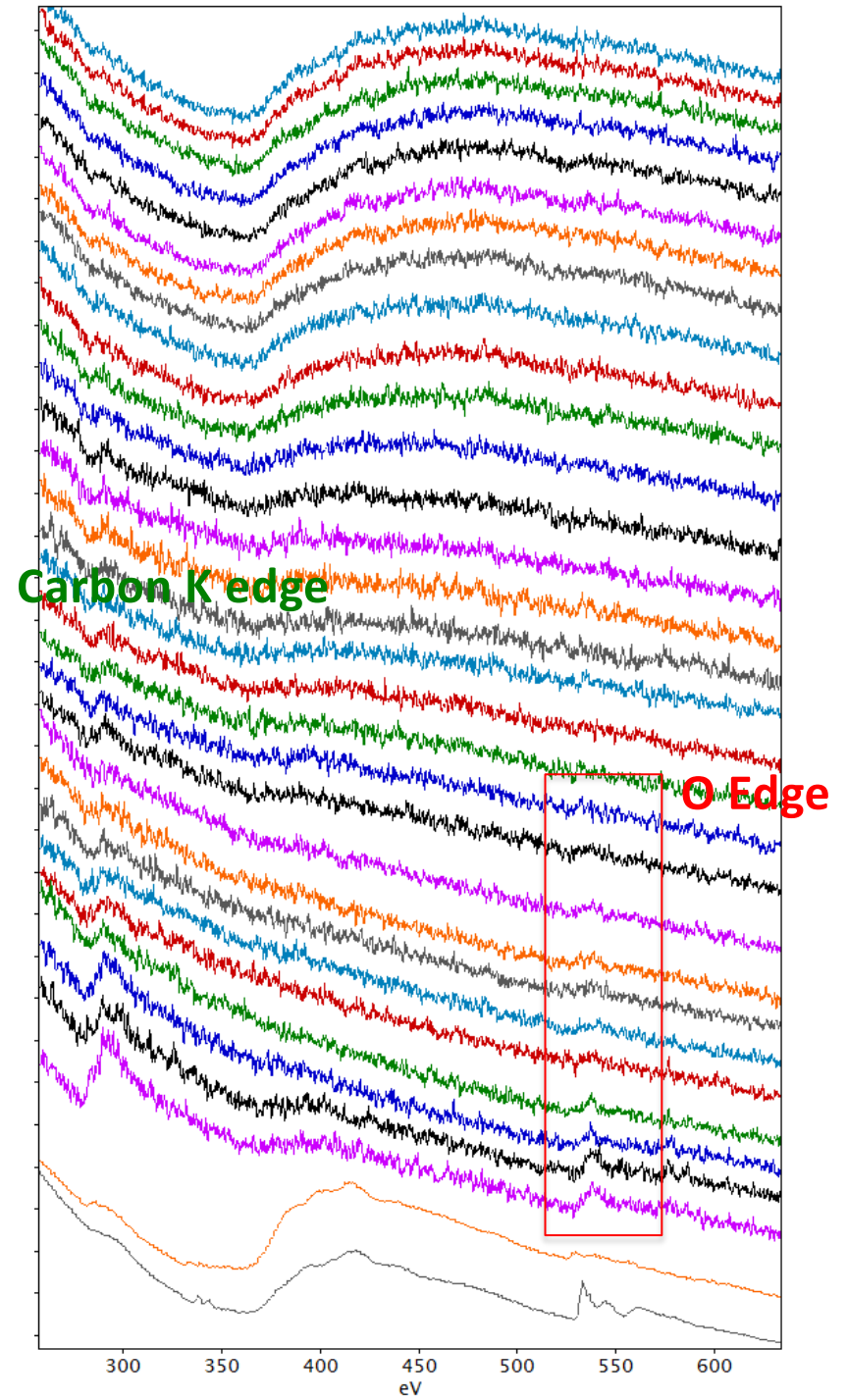
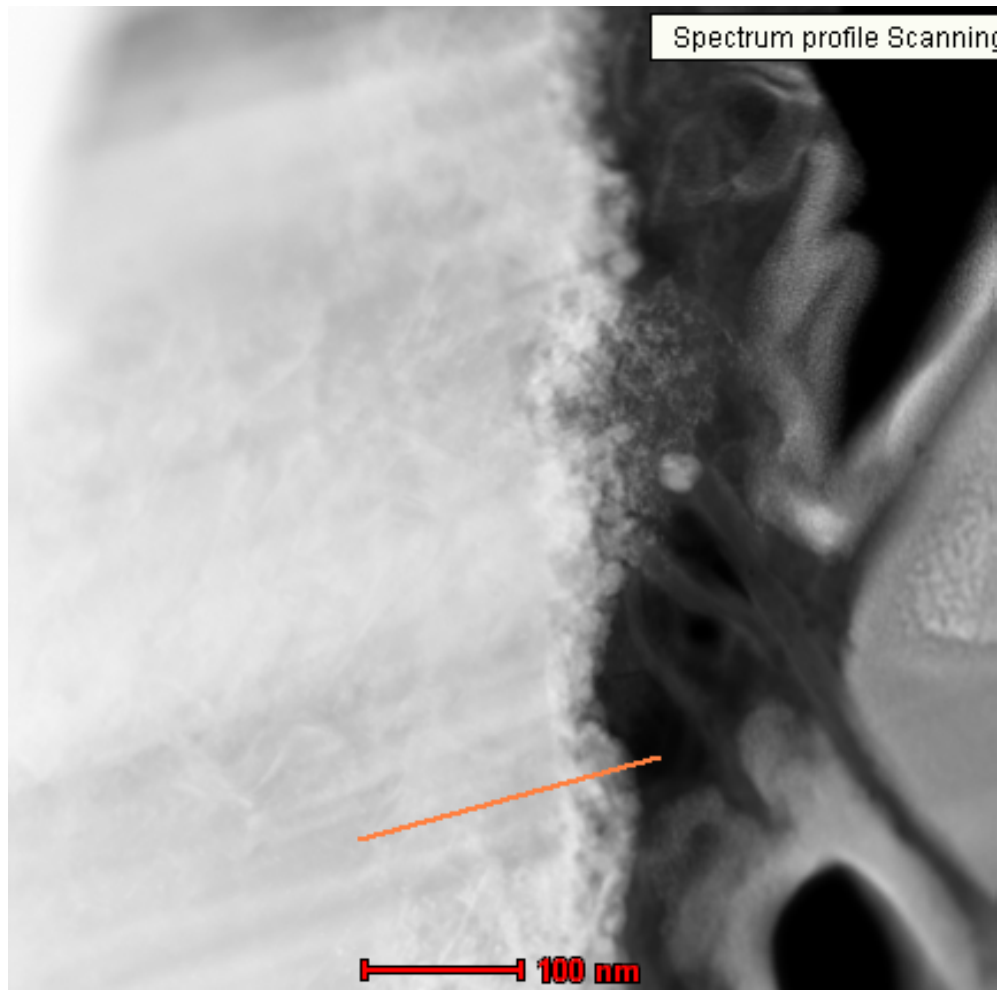
O Edge



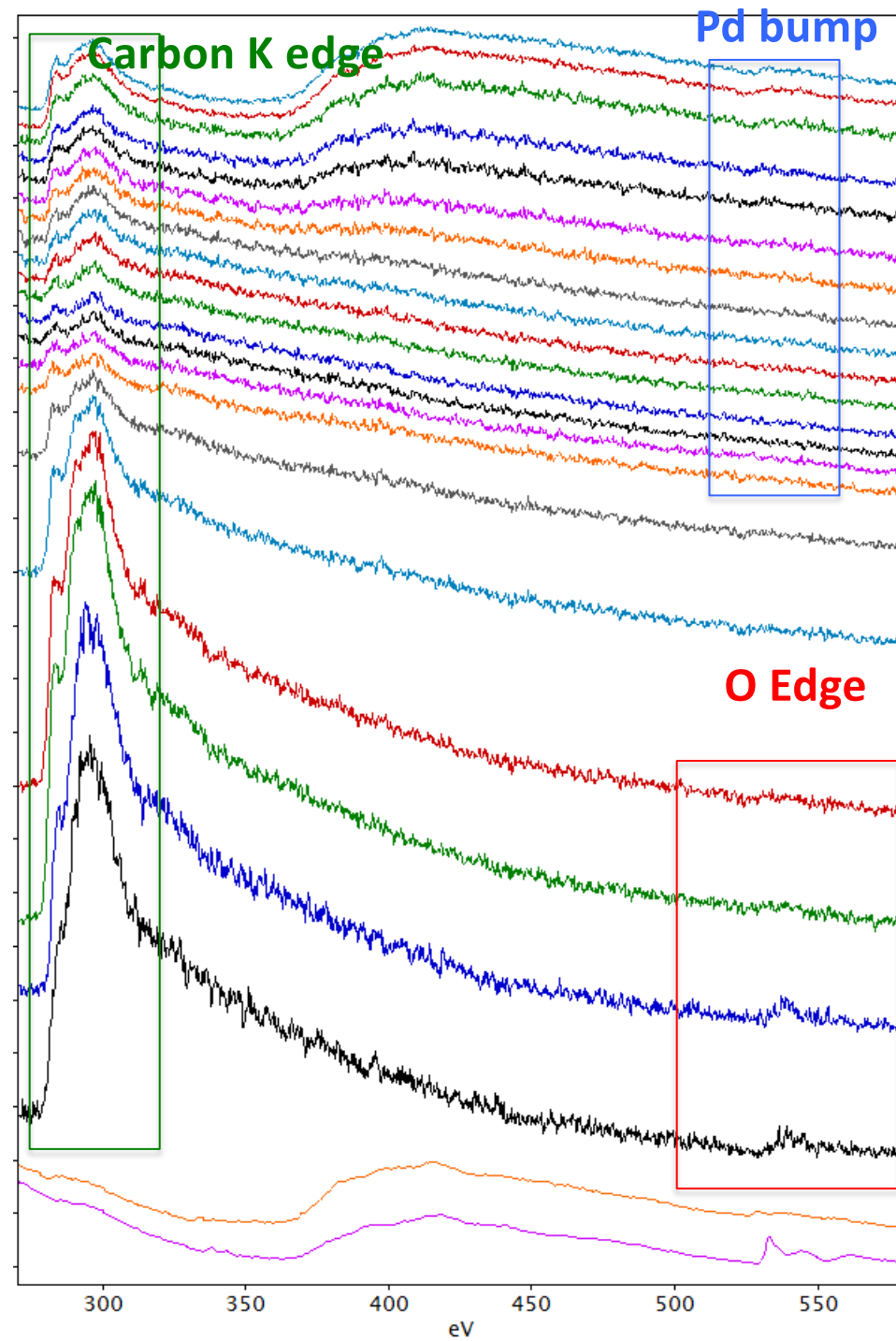
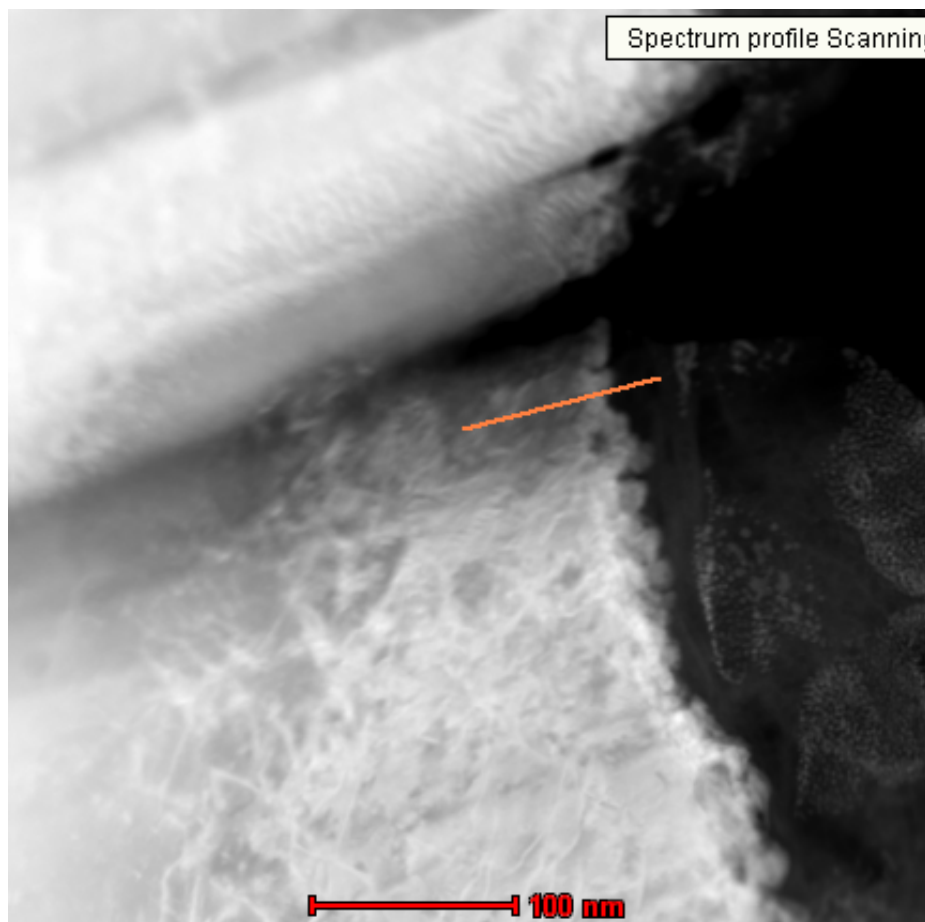
EELS 7 & EDX 2







EELS 3



Conclusions

Fresh sample :

1. The O signal was only present in the EELS acquired on the outside surface of the lamella and not on the inside of the material
2. Carbon signal was present in the layer on the surface edge of the sample and appeared to correlate with the O signal

Aged sample:

No difference in the presence/distribution of O was observed.