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Supplement of

Online differentiation of mineral phase in aerosol particles by ion formation mechanism using a LAAP-TOF single-particle mass spectrometer

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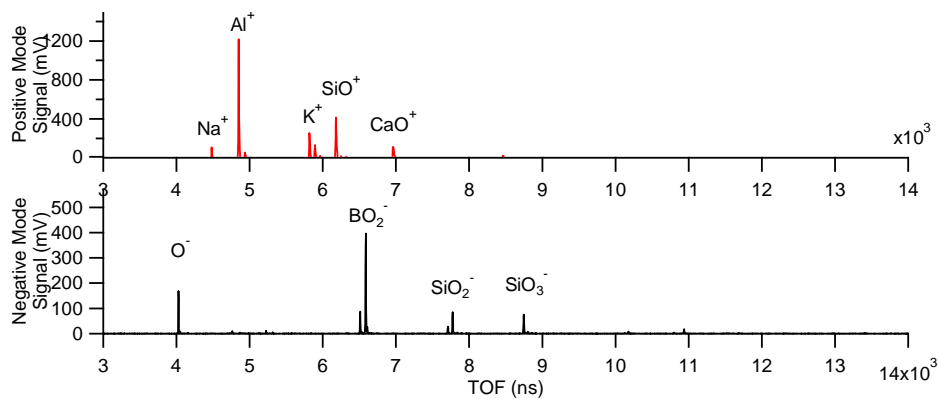
S1. Bipolar ToF ion optic Tuning Parameters

Setting	Negative Ion	Positive Ion
L-	1300	-1100
Defl	2340	-2350
RG	1530	-850
RBP	-270	880
2-	4990	-5000
Drift	2900	-2800
PA	1700	-3000
MCP	1800	1700

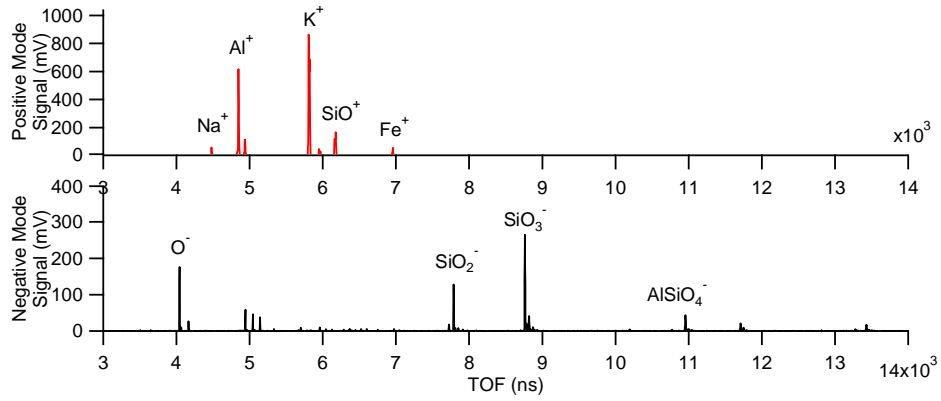
S2. Representative Mass Spectra

The following single particle mass spectra were selected to represent each particle type analysed. In the case of clay mineral standards which were differentiated by ion formation mechanism, a representative spectra of each class (as defined by Tables 7 of the main text) is given. It is noted that there is considerable variation in mass spectral patterns for each of the material types analysed, and the mass spectra displayed here were chosen as typical examples.

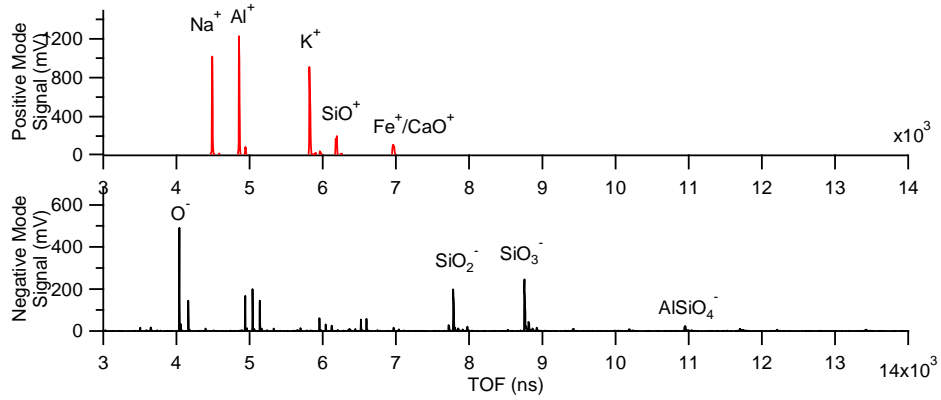
Borosilicate Glass



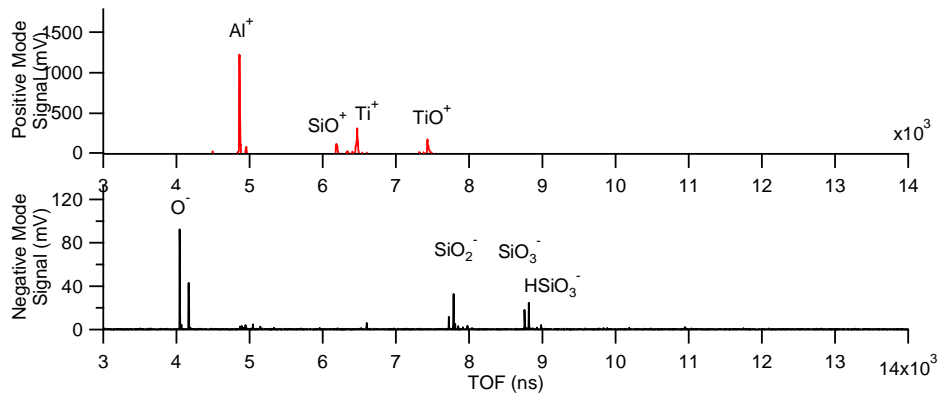
Orthoclase Feldspar



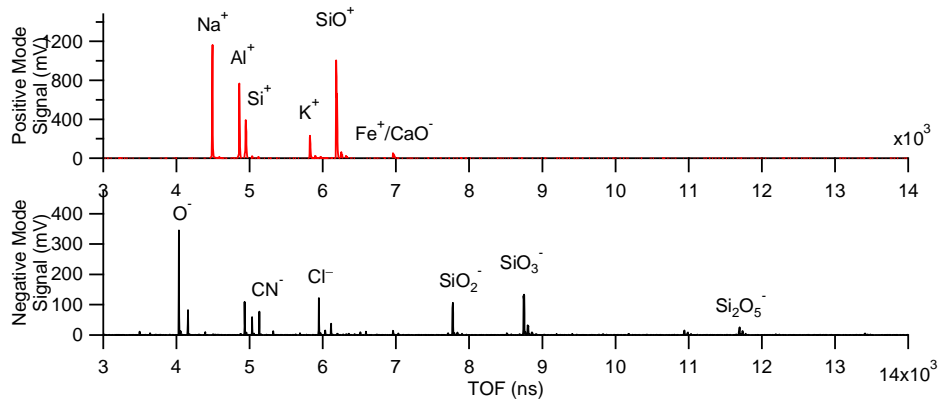
Plagioclase Feldspar



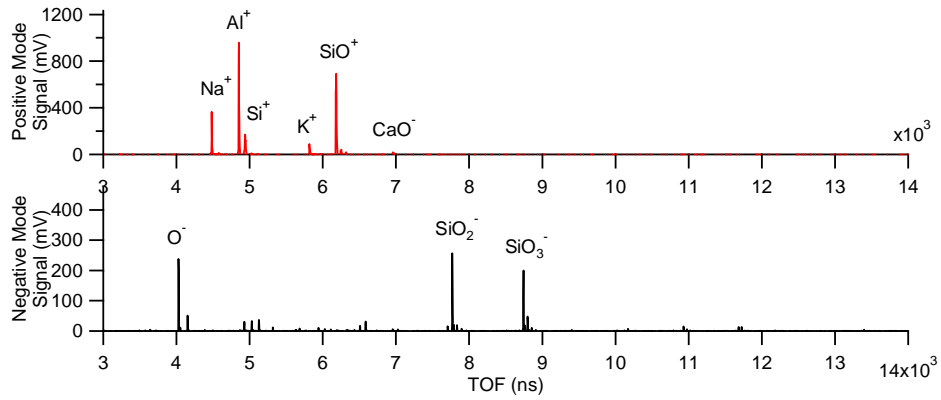
KGa-1b (Kaolinite)



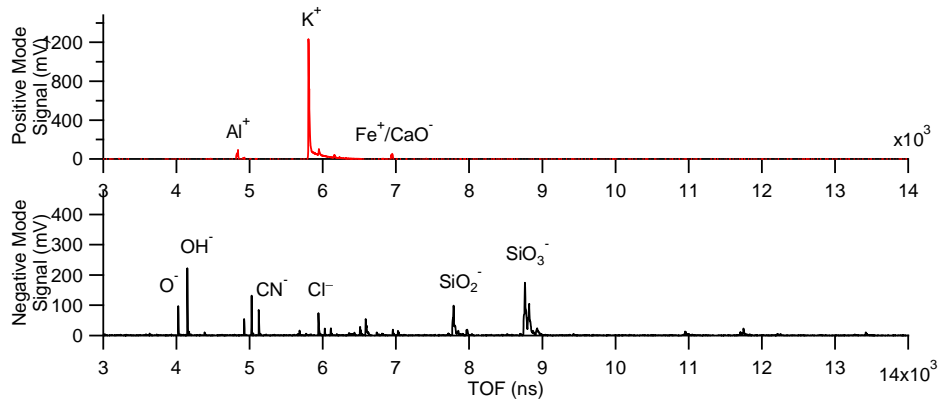
SWy-3 (Na Montmorillonite)



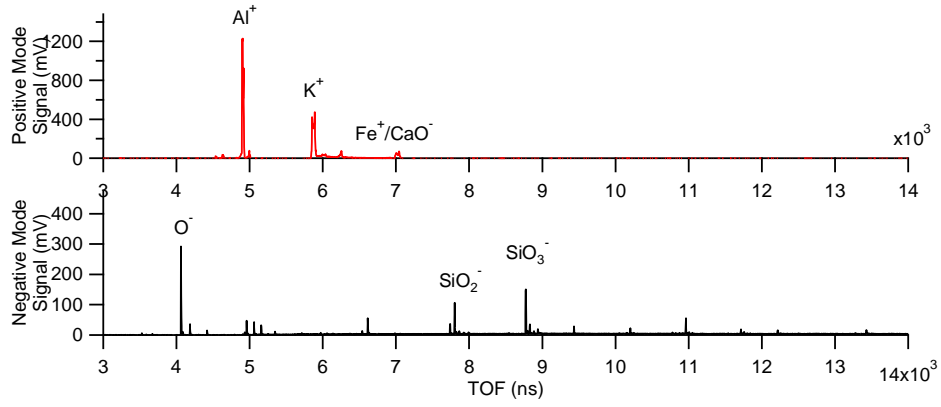
STx-1b (Ca Montmorillonite)



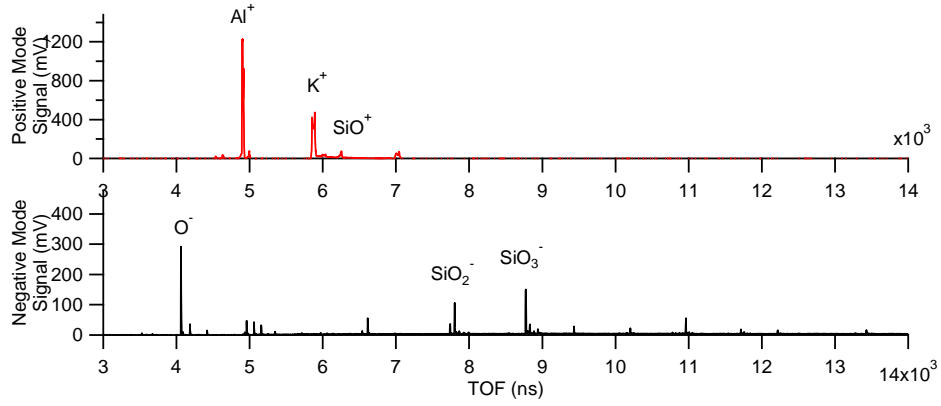
IMt-2 Class 1



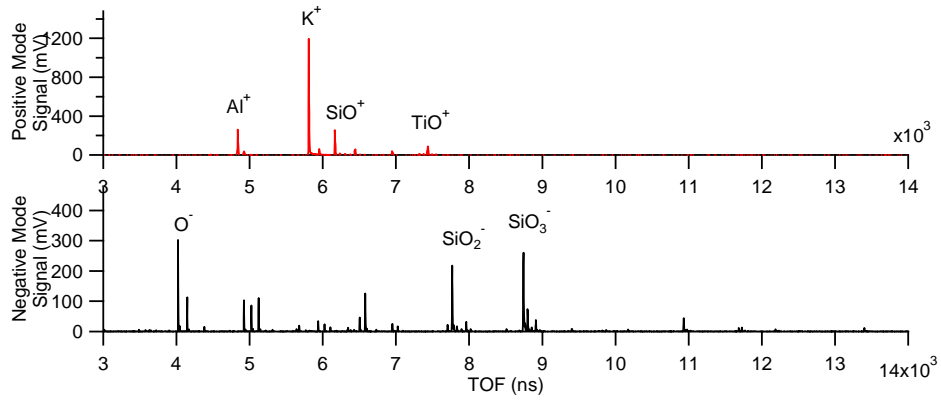
IMt-2 Class 2



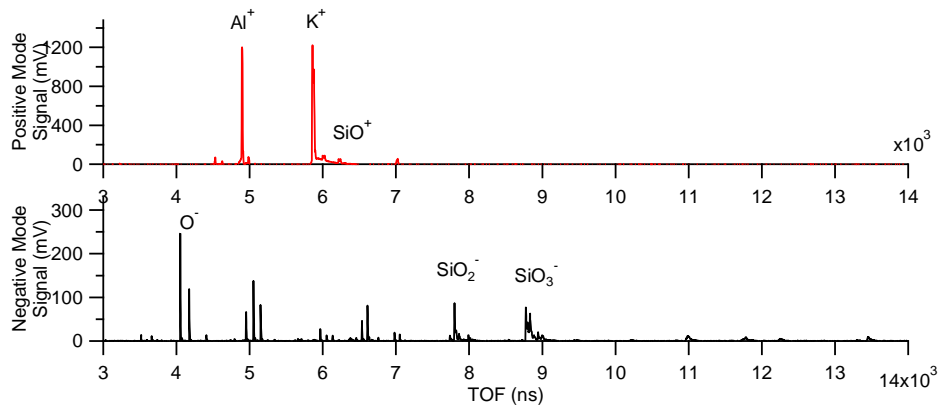
IMt-2 Class 3



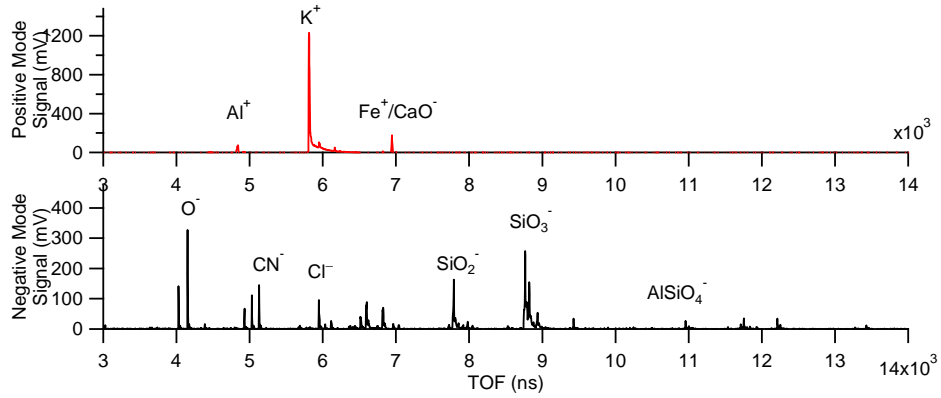
IMt-2 Class 4



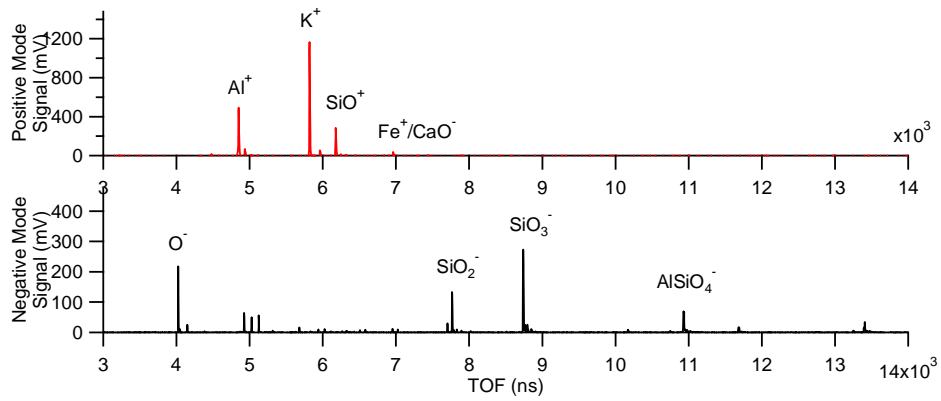
IMt-2 Class 5



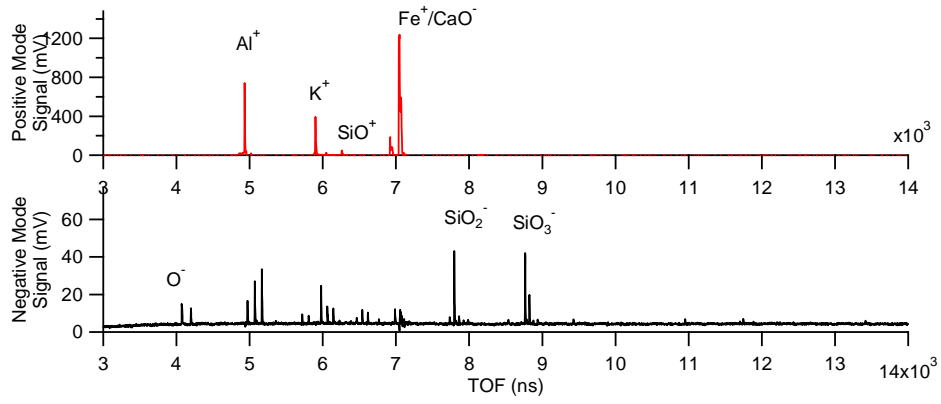
ISCz-1 Class1



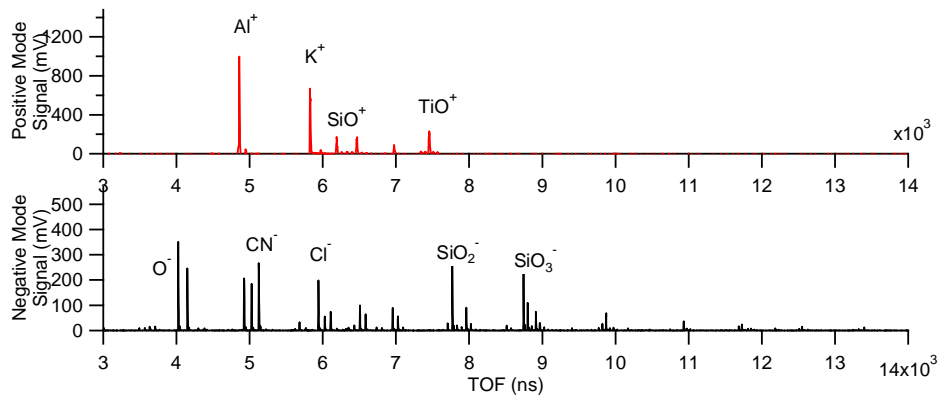
ISCz-1 Class2



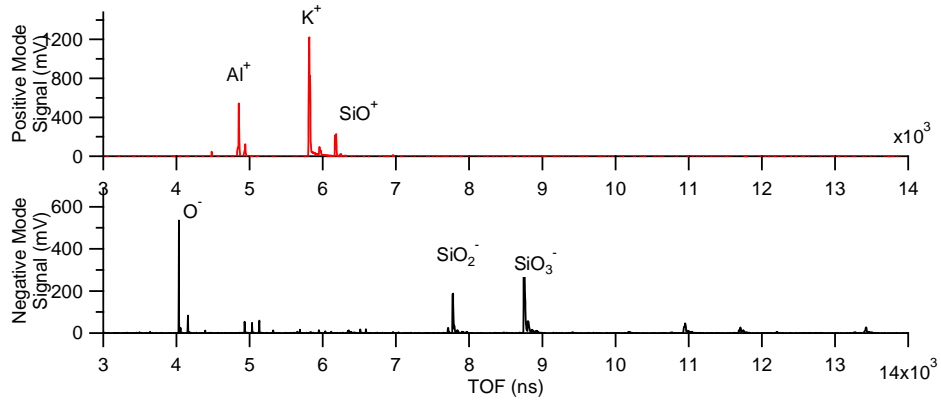
ISCz-1 Class3



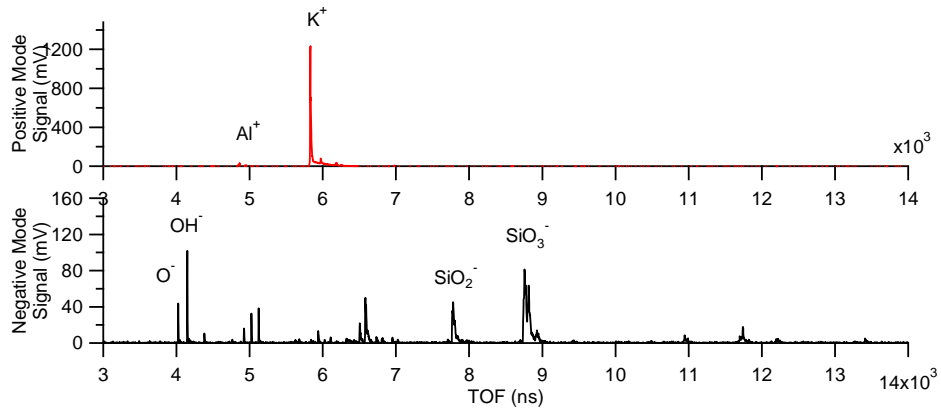
ISCz-1 Class4



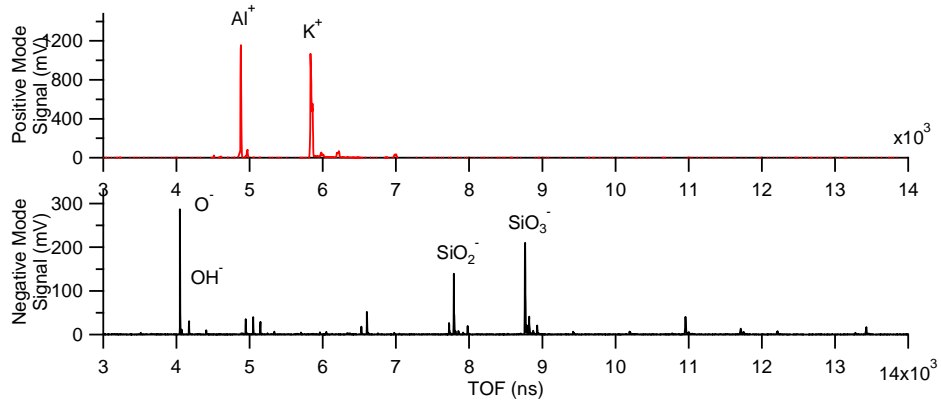
ISCz-1 Class5



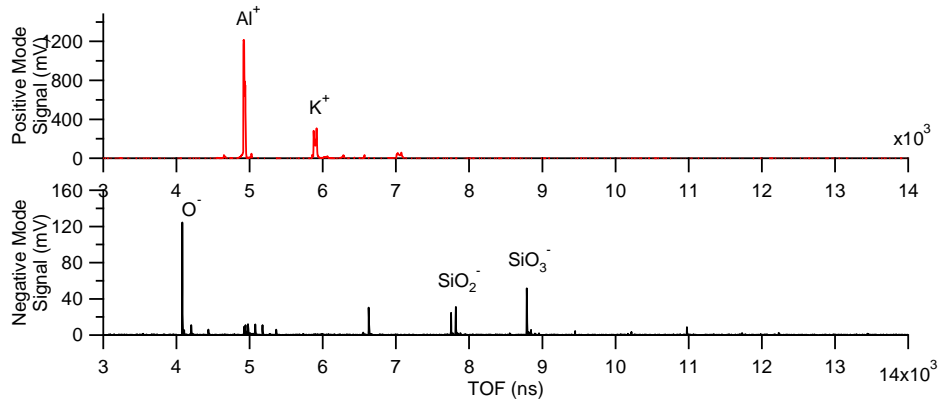
Illite nx Class 1



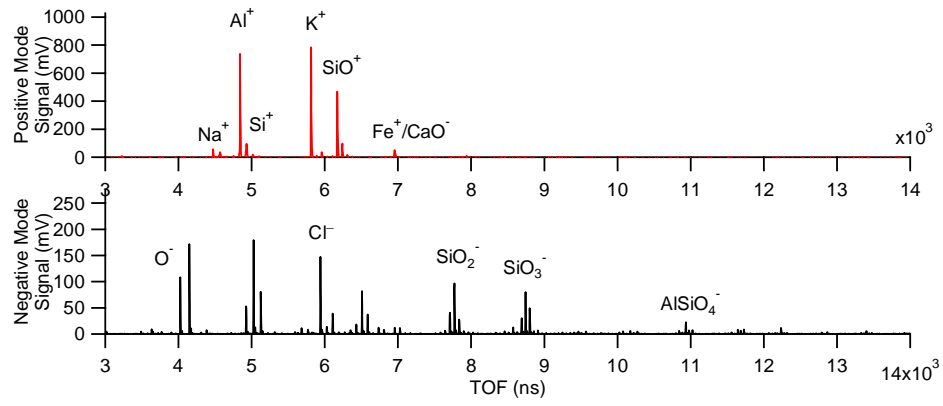
Illite nx Class 2



Illite nx Class 3



Illite nx Class 4



Illite nx Class 5

