APPENDIX 8. WDS spectra data from the Cameca SX-100 electron microprobe.

Each sample is listed with the most likely mineral identification based on the composition (name can be found below spectra). Samples are grouped by intrusion and further grouped by mineral type. Table 8-1 is a summary of the samples and identified minerals. Formulas for mineral species are in Table 3 of the main report.

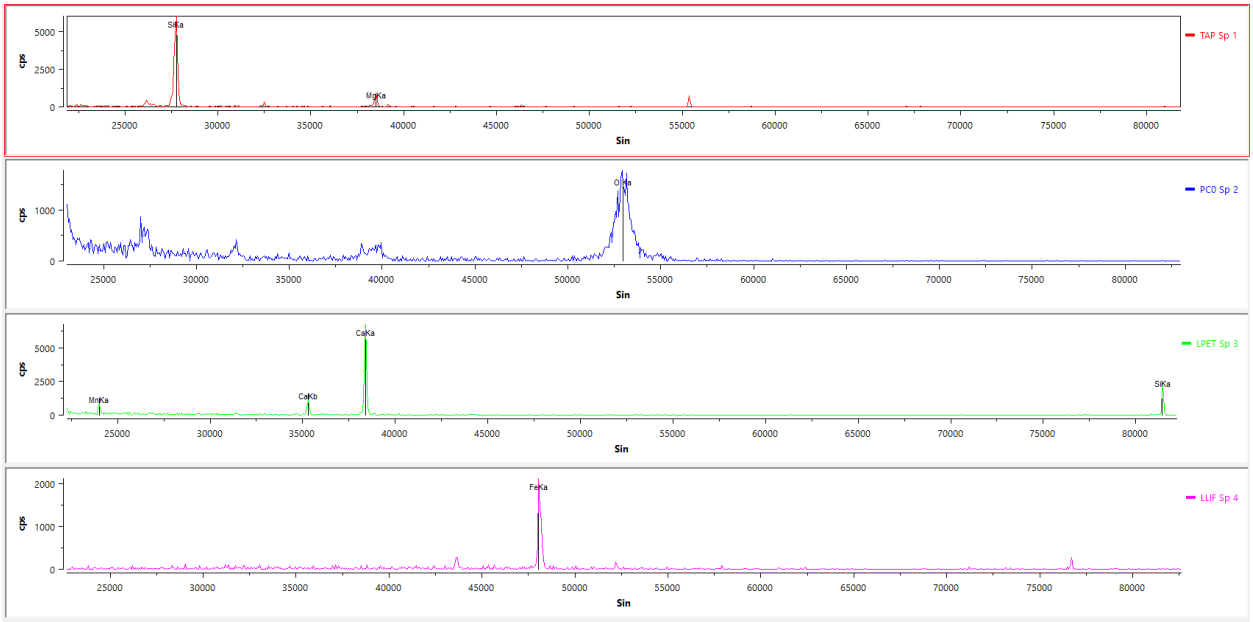
TABLE 8-1. Summary of mineral species identified by WDS. Latitude and longitude are in NAD27. *=whole rock chemistry in Appendix 4.

Sample No.	Latitude	Longitude	Locality, map unit	Minerals identified
CORN79*	32.03786131	-105.5356542	East Chess Draw nepheline syenite, PEnsc	augite
CORN104*	32.040332	-105.502815	Skarn north of Wind Mountain	Aegirine, analcime, k-feldspar, aqualite, pyrochlore
CORN108	32.022829	-105.498483	Skarn west Wind Mountain (Jones)	aegirine, cancrinite, k-feldspar, albite, plagioclase, eudialyte, magnoeudialyte, monazite, hastingsite, oxynatropyrochlore
CORN117*	32.0380377	-105.55546	Phonolite east of Flat Top	Titanomagnetite
CORN177*	32.04412722	-105.5451278	Northwest Chess Draw augite syenite, PEas	Augite, Anorthoclase, plagioclase, apatite, biotite, titanite, ilmenite
CORN181*	32.0524952	-105.531258	Phonolite dike north of Wind Mountain, PEp	Calderite, pyrolusite
CND208*	31.98449	-105.52530	Washburn Mountain nepheline syenite, PEns	Aegirine-augite, K-feldspar
CORN226*	32.067194	-105.481074	McVeigh Hills syenite, PEs, PEqs	Aegirine-augite
CORN805*	32.031388	-105.503856	Wind Mountain phonolite dike, PEp	K-feldspar, albite, aenigmatite
CORN812*	32.024994	-105.501797	Wind Mountain nepheline syenite, PENSP2	Aegirine, K-feldspar, albite, cancrinite, monazite, vitusite, Manganoeudialyte, Catapleiite, galena, rheniite?, sphalerite, copper sulfide
CORN814*	32.026128	-105.501646	Wind Mountain nepheline syenite, PENSP2	Arfvedsonite
CORN20-01*	32.015389	-105.522341	Wind Mountain nepheline syenite, PENSP2	Aegirine-augite, sodalite, nepheline, k-feldspar, manganoeudialyte, calciocatapleiite, monazite, bastnäsite, oxynatropyrochlore
CORN20-10*	32.033751	-105.543351	South Chess Draw nepheline syenite, PEnsc	Augite, analcime, biotite, plagioclase, bastnäsite, titanomagnetite
CORN20-12*	32.039244	-105.545798	Chess Draw breccia dike, PEbx	Calciocatapleiite, quartz
CORN20-34*	32.02384	-105.527451	Phonolite dike on Wind Mountain, PEp	Calciocatapleiite, Monazite, Lueshite, Hydroxymanganopyrochlore, Oxynatropyrochlore, sphalerite, copper sulfide

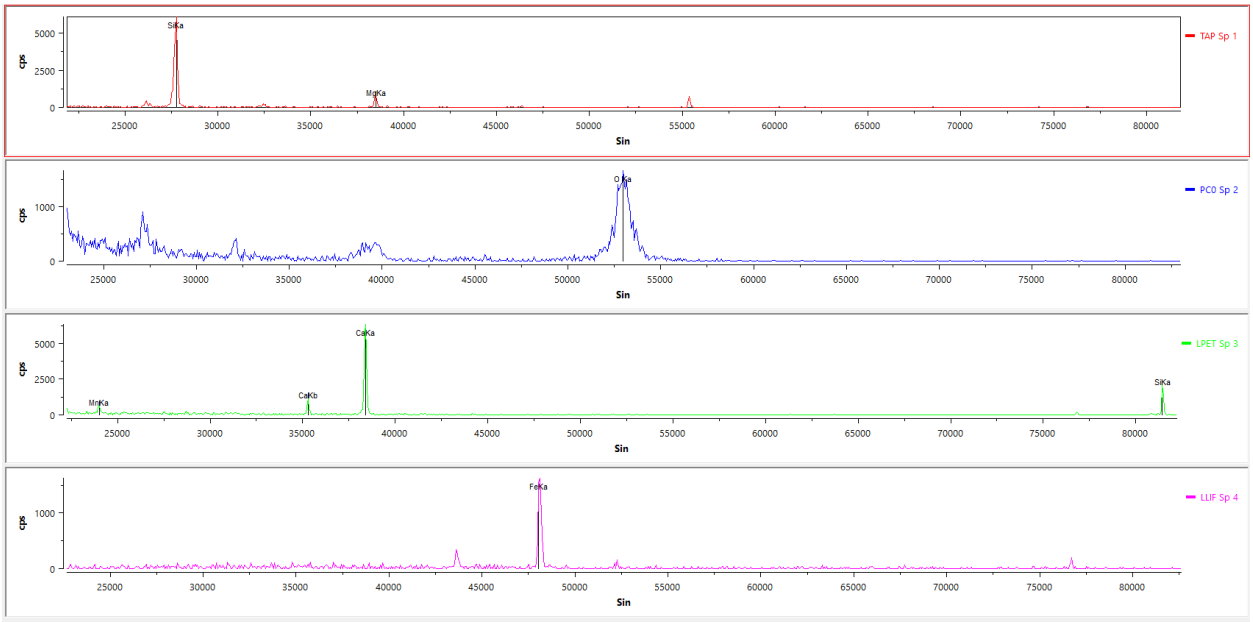
CORN4001*	32.037007	-105.631322	Alamo Mountain phonolite, PEp, PEm	Aenigmatite, titanomagnetite
CORN4005*	32.0189982	-105.531283	Lil' Windy nepheline syenite (west Wind Mountain), PENSP3	Aegirine-augite, anorthoclase, titanomagnetite
CORN4013*	32.000446	-105.556906	San Antonio Mountain nepheline syenite, PEns	Aegirine-augite, monazite, arfvedsonite, aenigmatite, fayalite, titanomagnetite
CORN4014			Chattfield Mountain phonolite sill, PEp	Aegirine-augite, albite, titanomagnetite
CORN4019*	32.087015	-105.522017	Syenite sill west of Cornudas Mountain, PEqs	Augite, calderite
CORN4020			Cornudas Mountain syenite, PEqs	Aegirine-augite, apatite, arfvedsonite, anatase
55615-01-015	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Aegirine-augite, apatite, K-feldspar, calciocatapleiite, zircon, monazite, aqualite, galena, sphalerite
55615-02-035	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Aegirine, bastnäsite, calciocatapleiite, monazite, albite, aqualite, rheniite?, spahalerite
WMEB6 (WMEB6-181-182)	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Analcime, K-feldspar, calciocatapleiite, bastnäsite, pyrite
N-WMEB	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Johannsenite, aegirine-augite, albite, bastnäsite, aqualite, sergevanite, monazite, calciocatapleiite
SWMEB	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Johannsenite, aqualite, sergevanite, bastnäsite, monazite, kerimasite, calciocatapleiite, hornblende, pyrolusite

CORN 79- East Chess Draw nepheline syenite

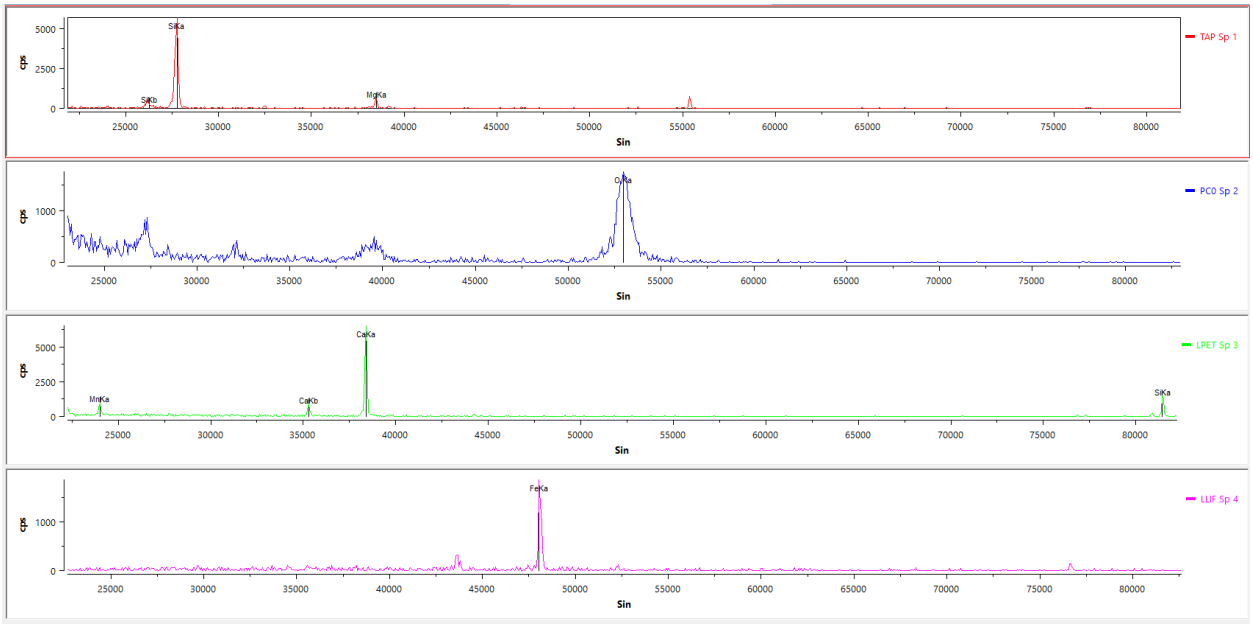
Pyroxenes



CORN79_1- Augite



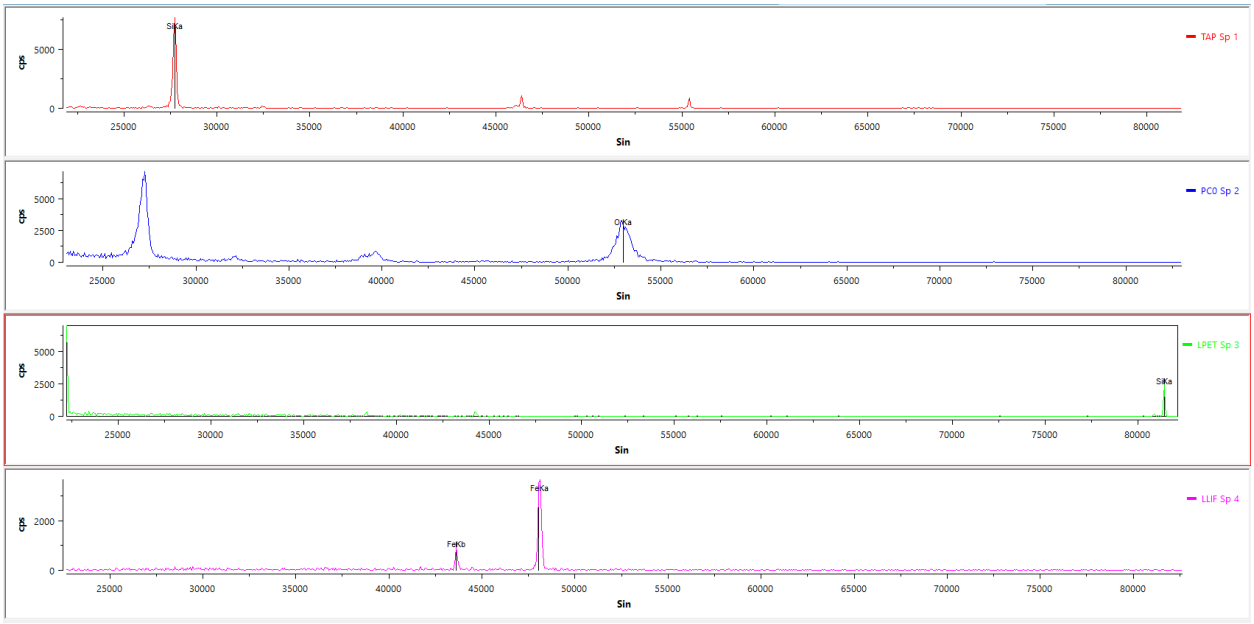
CORN79_2- Augite



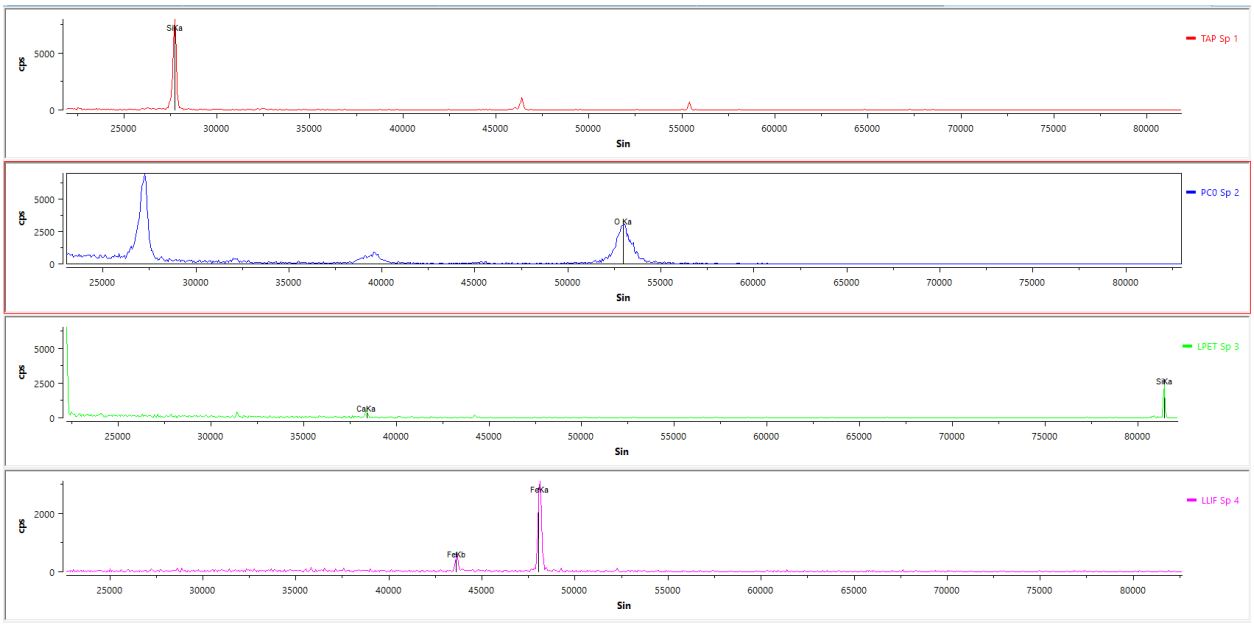
CORN79_3- Augite

CORN 104- Skarn North of Wind Mountain

Pyroxenes

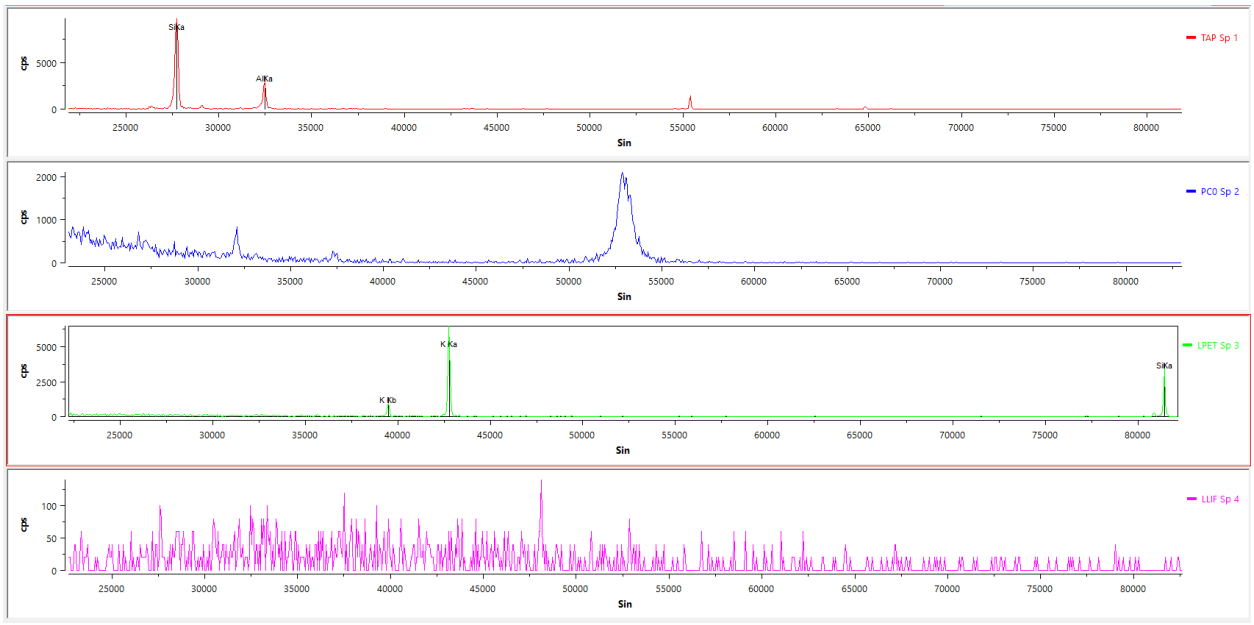


CORN104_5- Aegirine

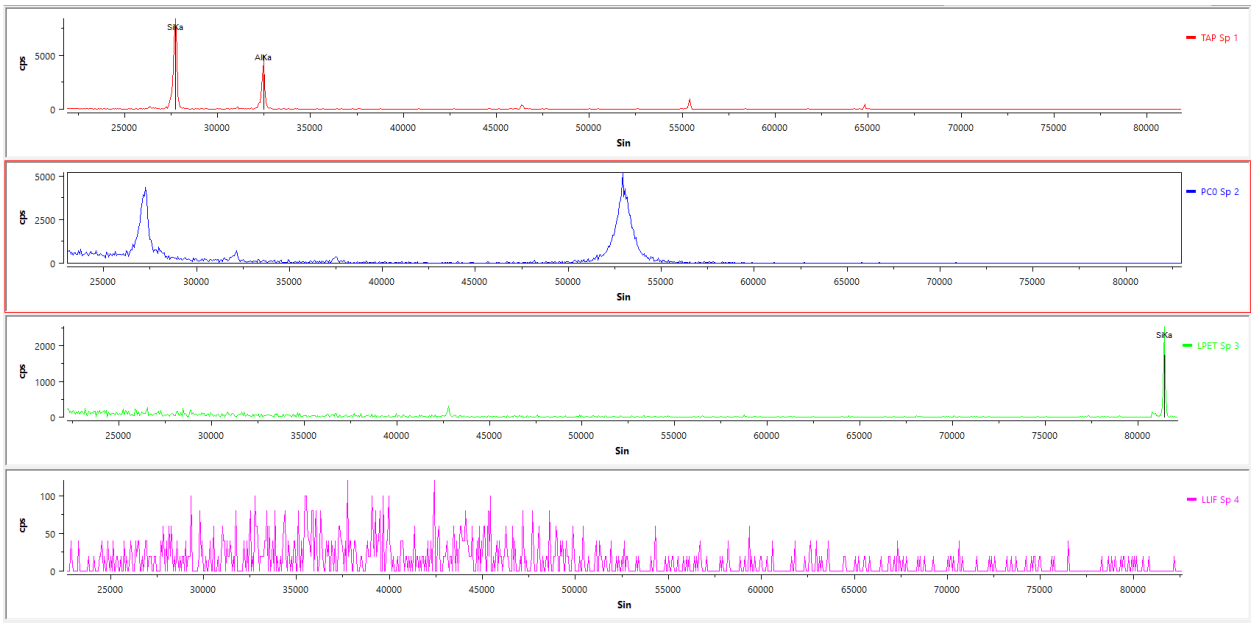


CORN104_7- Aegirine

Feldspars and Feldspathoids

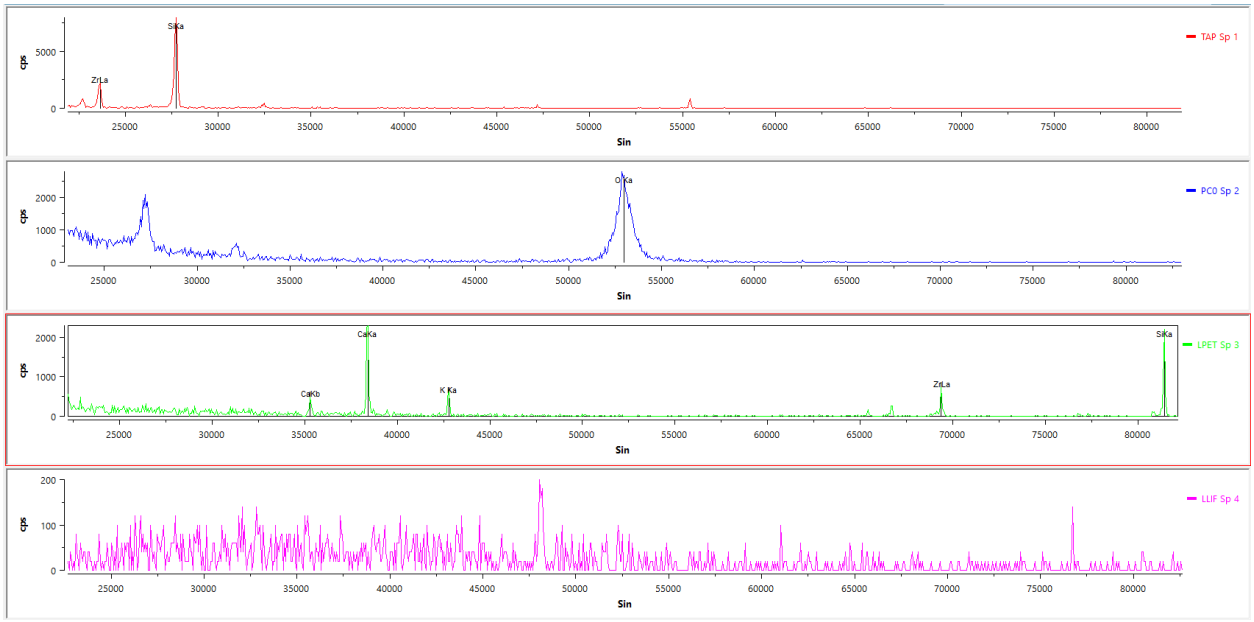


CORN104_8- Potassium Feldspar

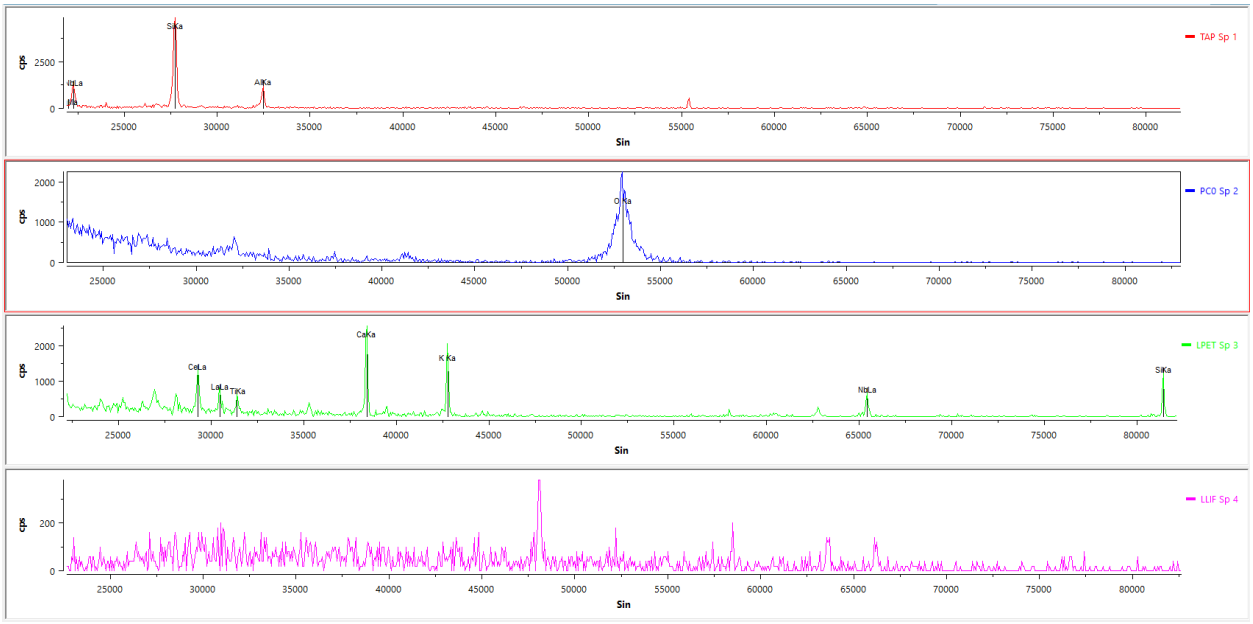


CORN104_9- Analcime

REE, Zr, and Nb Phases



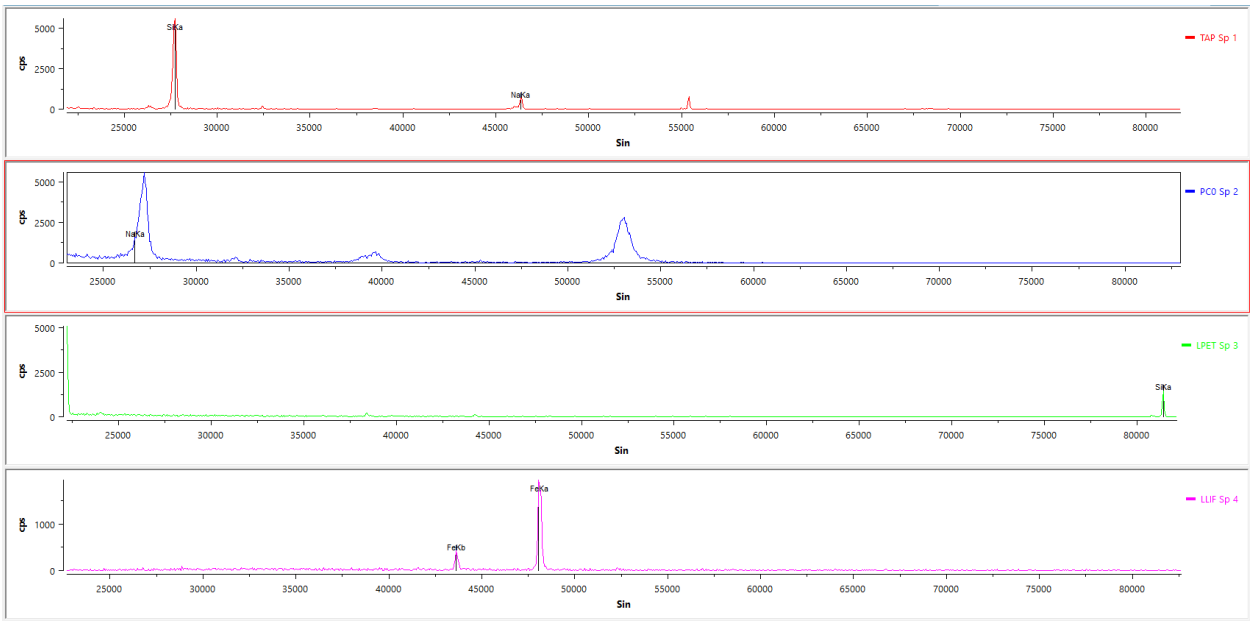
CORN104_6- Aqualite



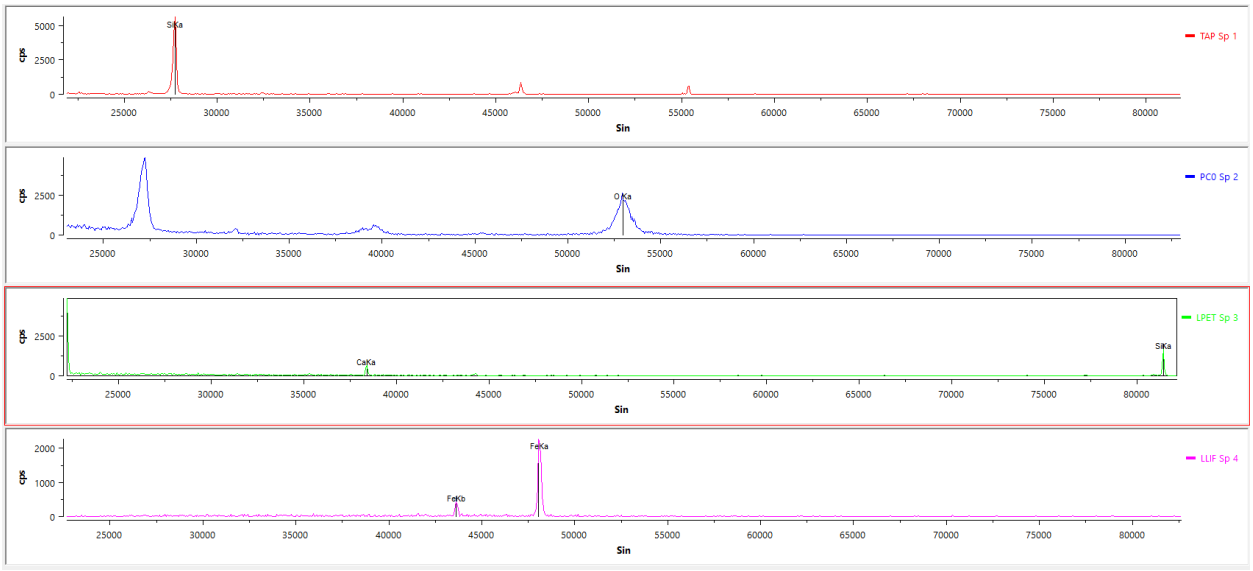
CORN104_10- Feldspar and Pyrochlore Mixed Phase

CORN 108-skarn east Wind Mountain (Jones prospect)

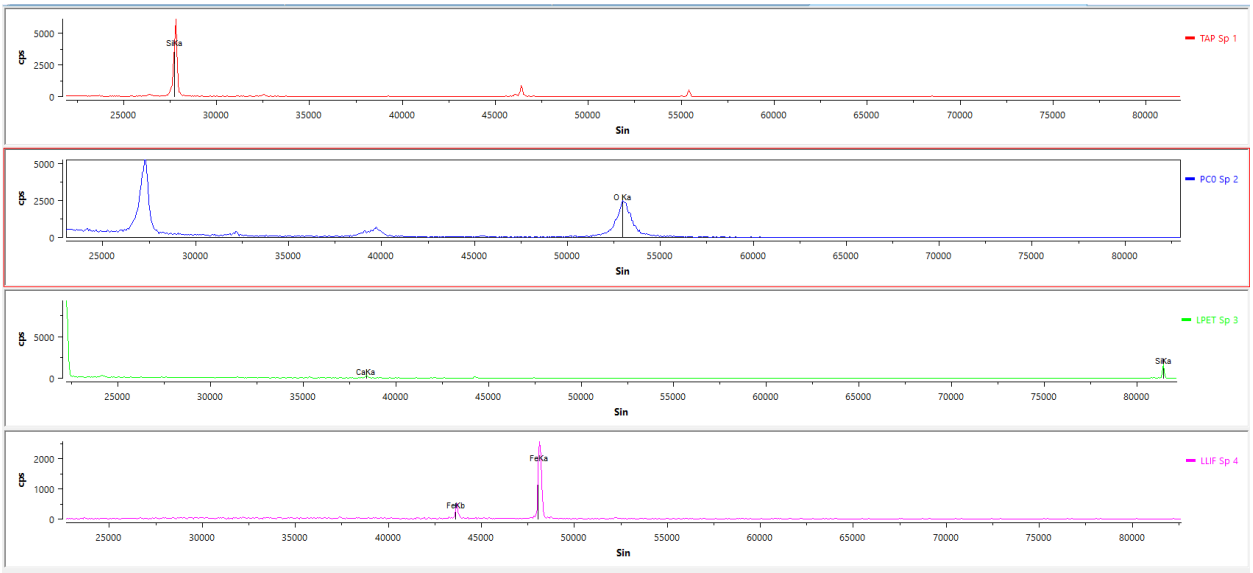
Pyroxenes



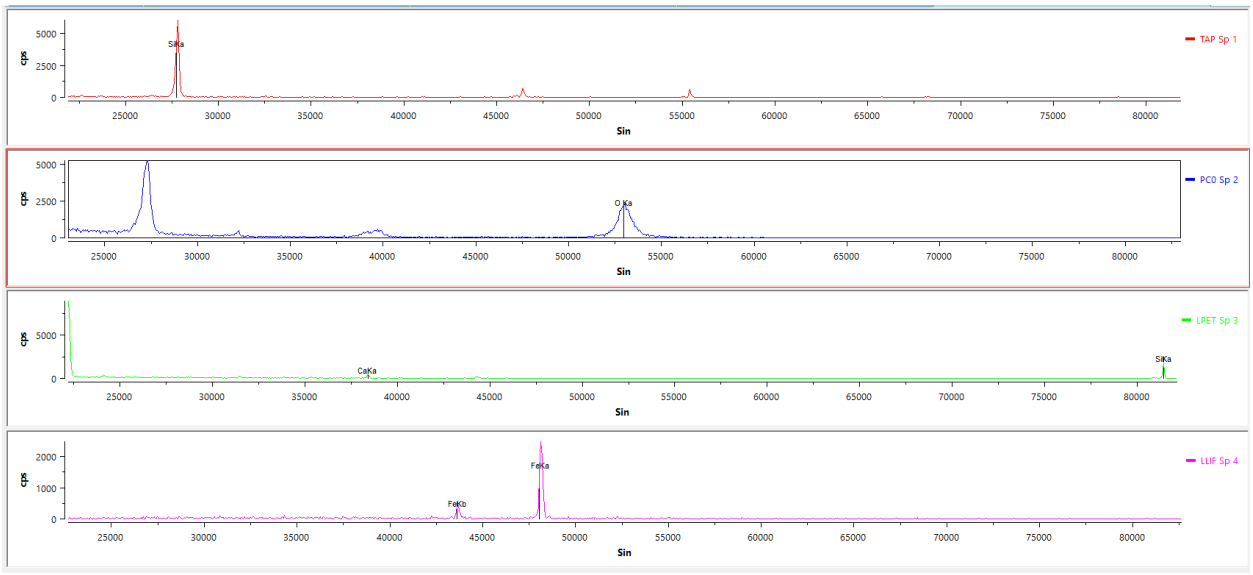
CORN-108_6- Aegirine



CORN-108_10- Aegirine

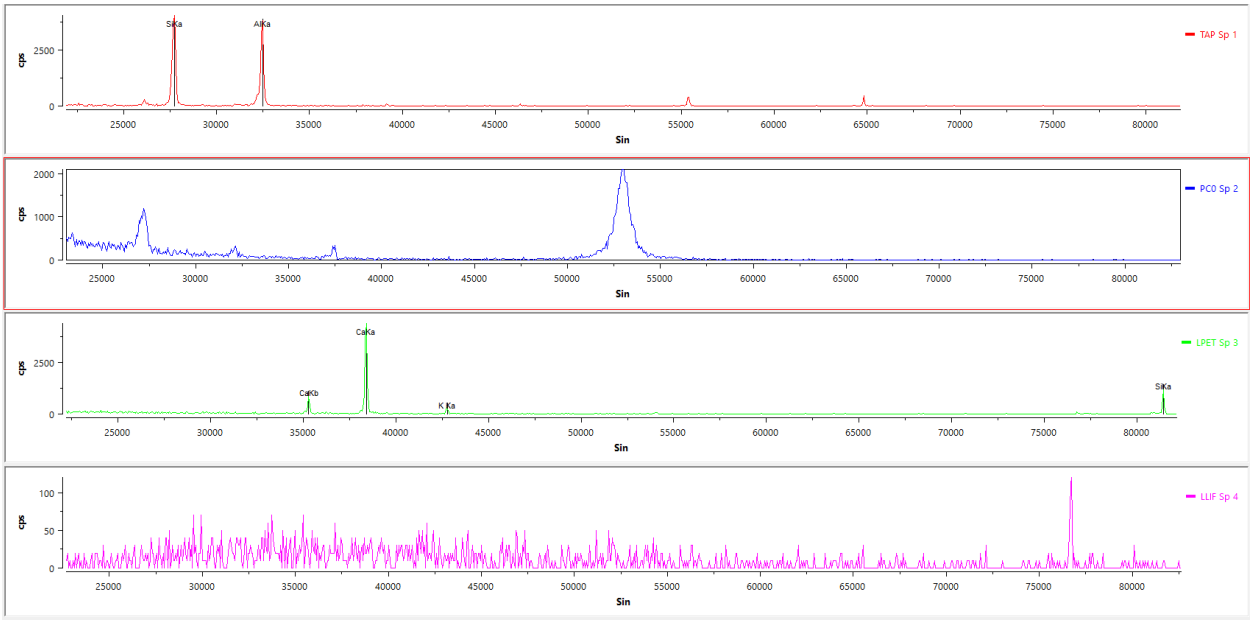


CORN-108_13- Aegirine

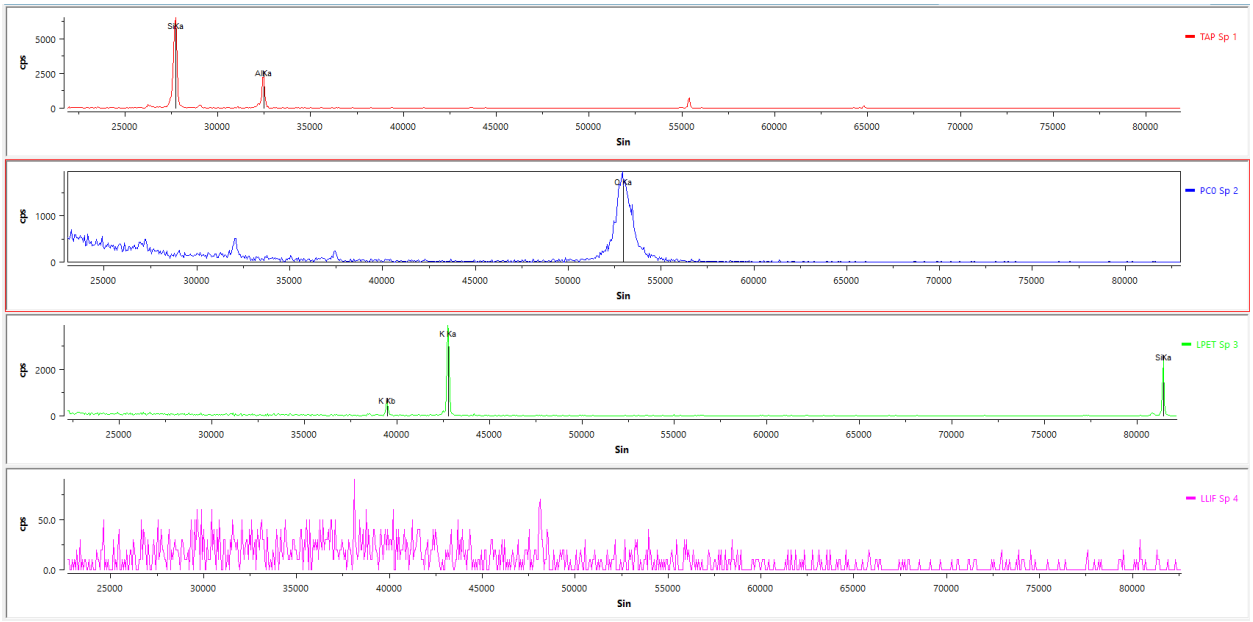


CORN-108_15- Aegirine

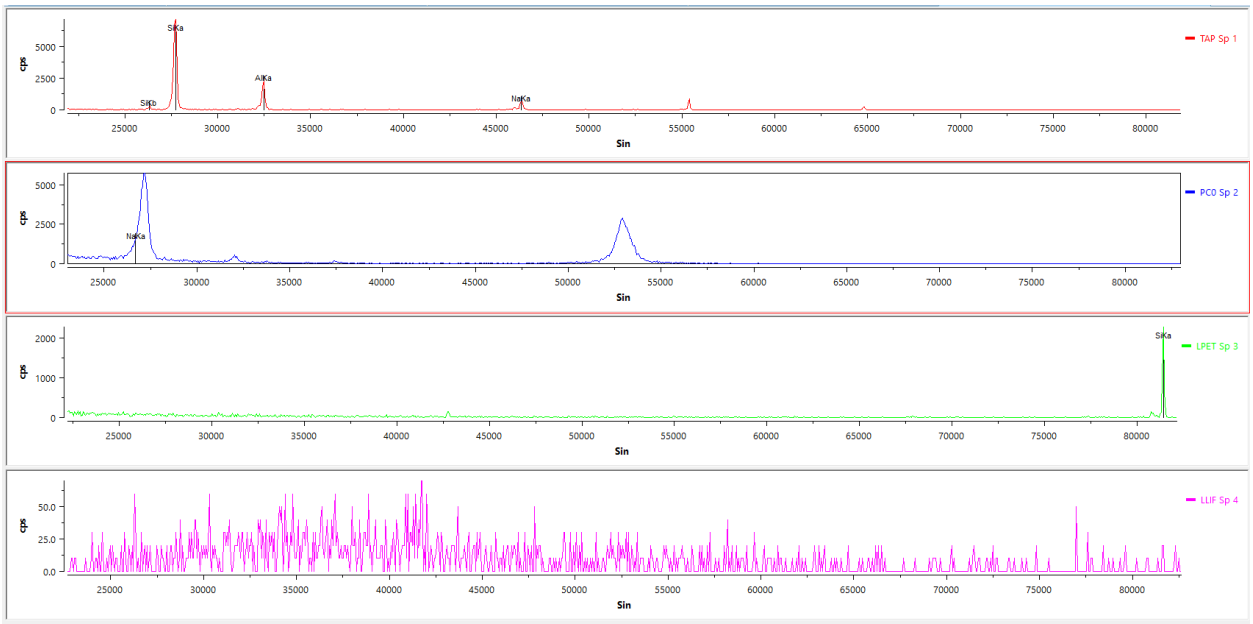
Feldspars and Feldspathoids



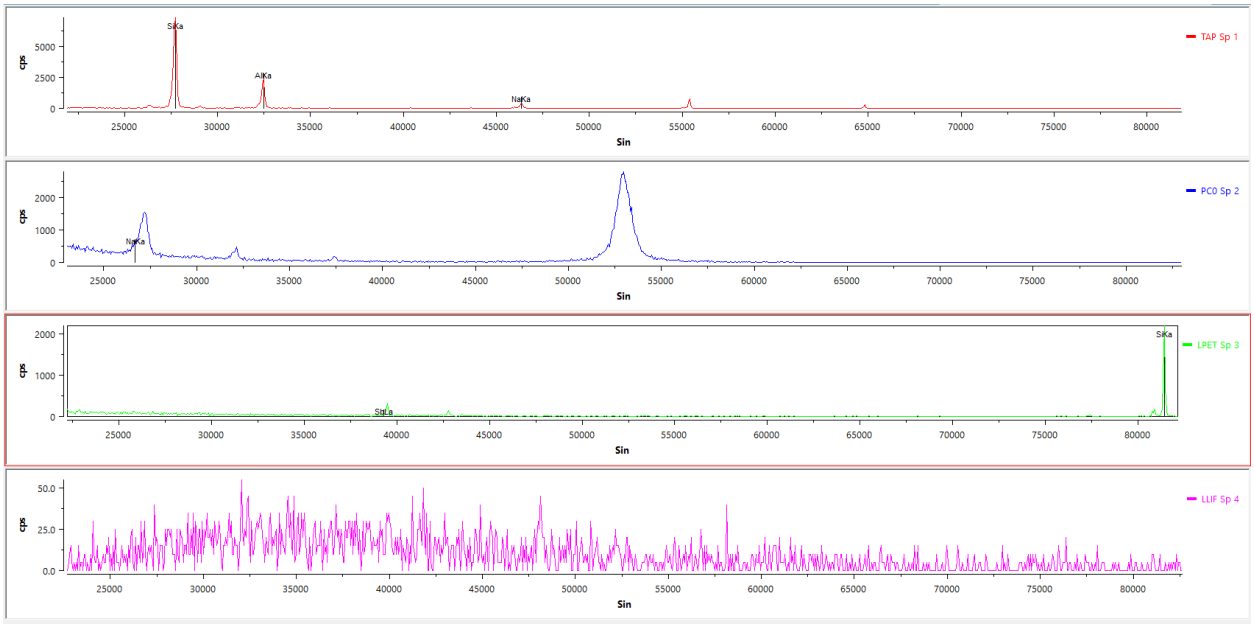
CORN-108_3- Cancrinite



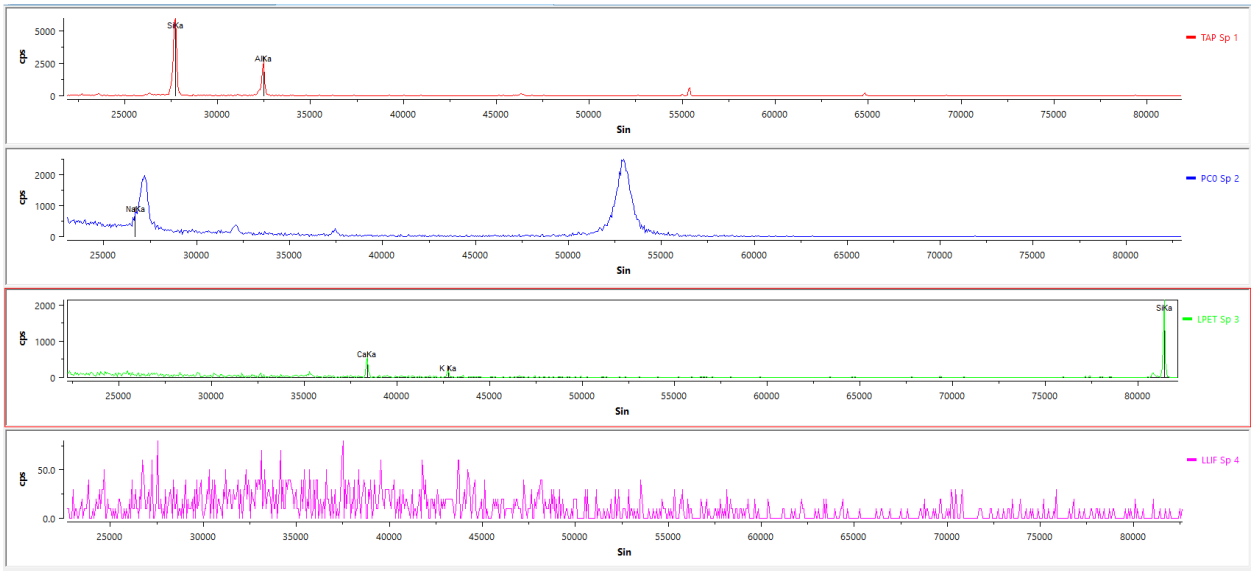
CORN-108_5- Potassium Feldspar



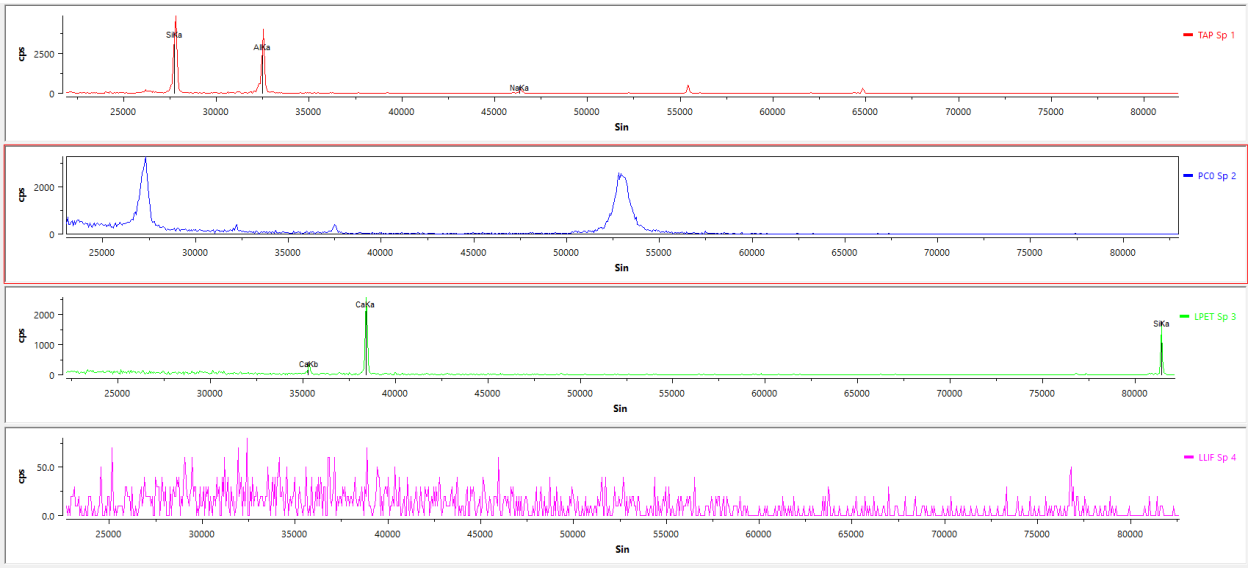
CORN-108_7- Albite



CORN-108_9- Albite

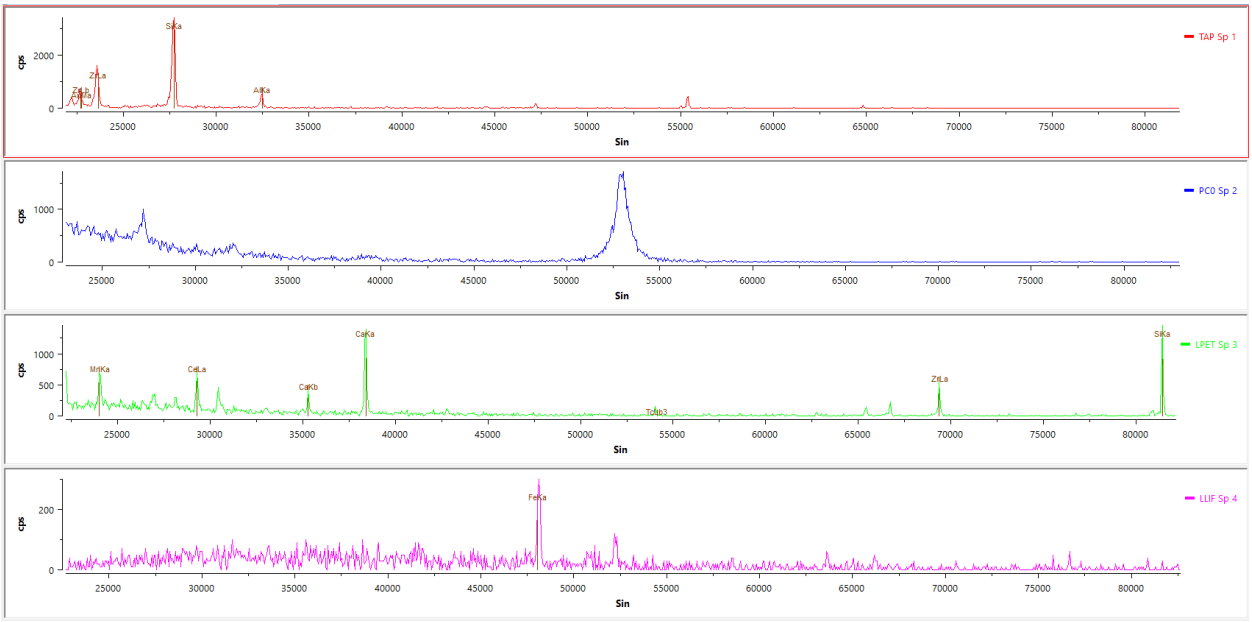


CORN-108_11- Plagioclase

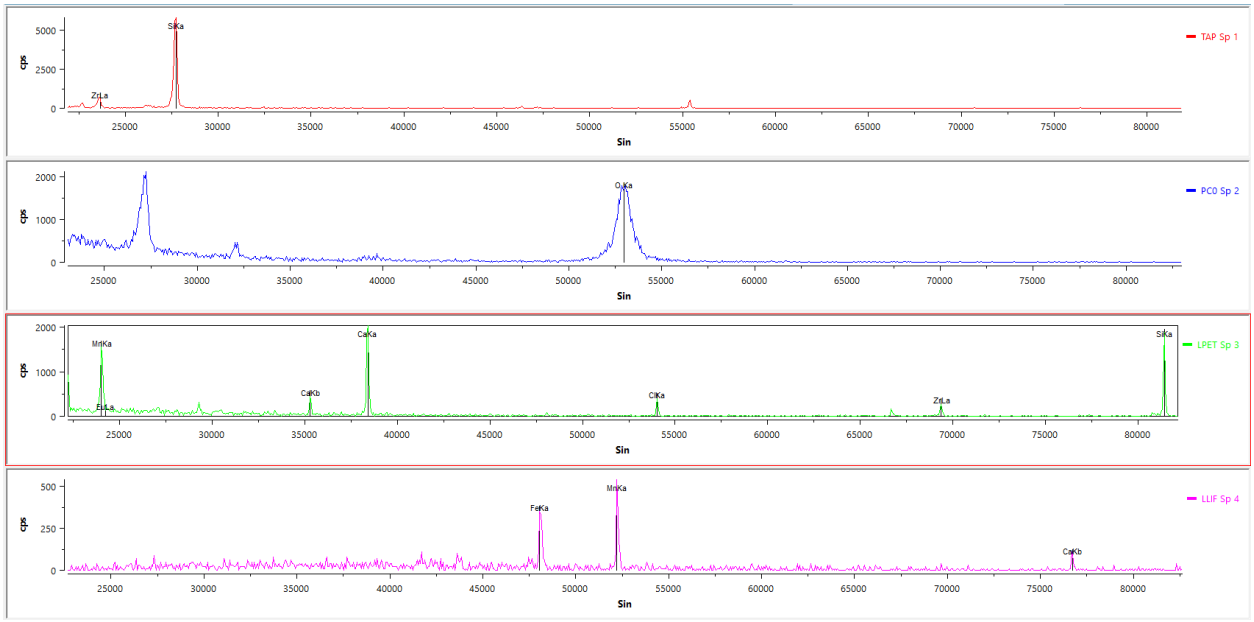


CORN-108_12- Plagioclase

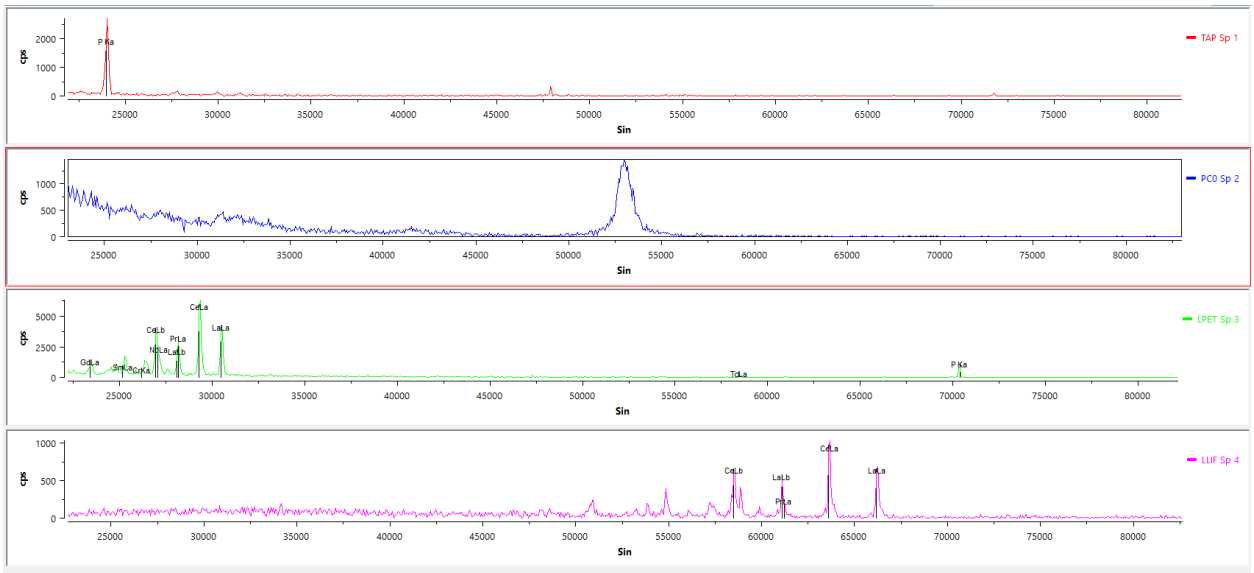
<u>REE, Zr, and Nb Phases</u>



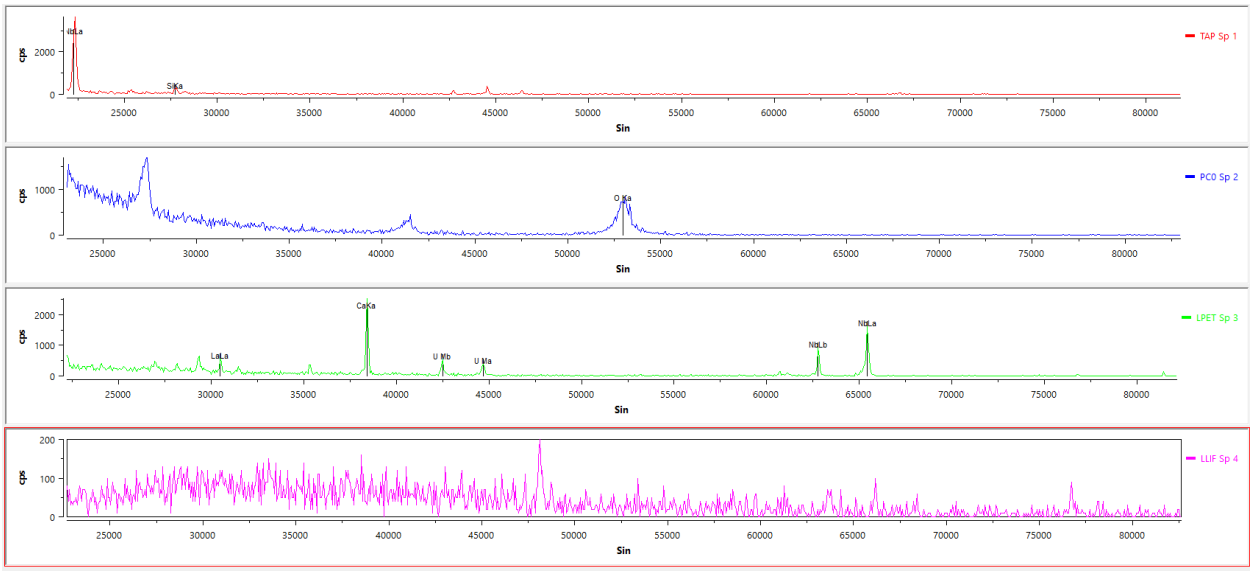
CORN-108_2- Eudialyte Group



CORN-108_4- Manganoeudialyte

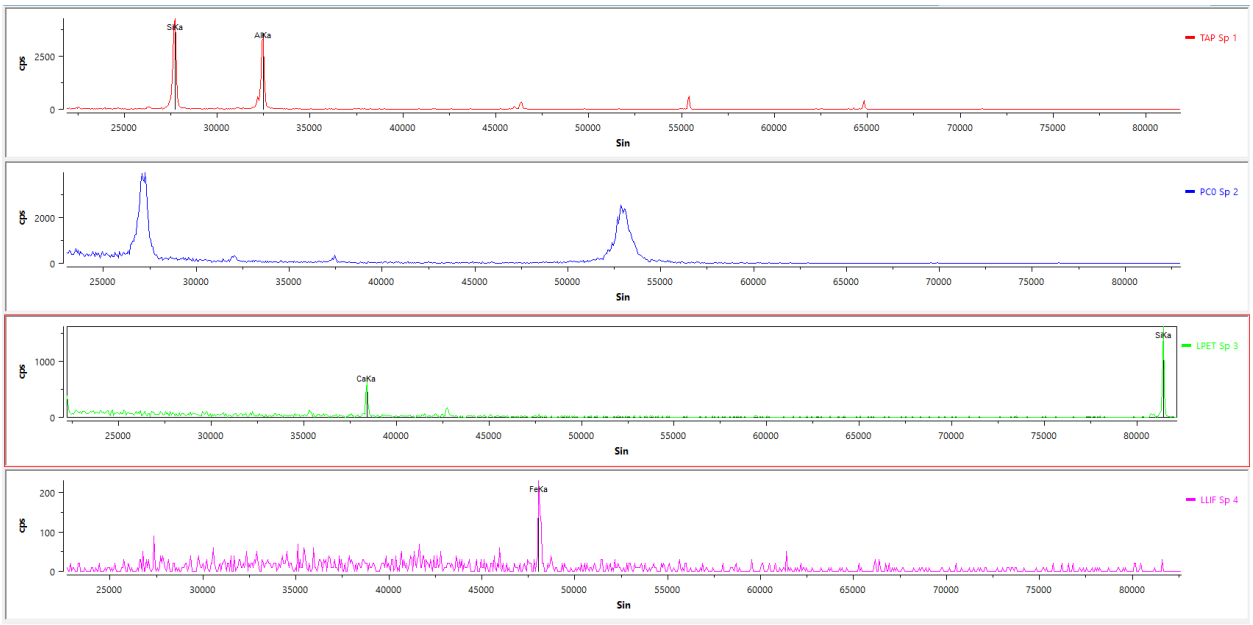


CORN-108_14- Monazite



CORN-108_16- Oxynatropyrochlore

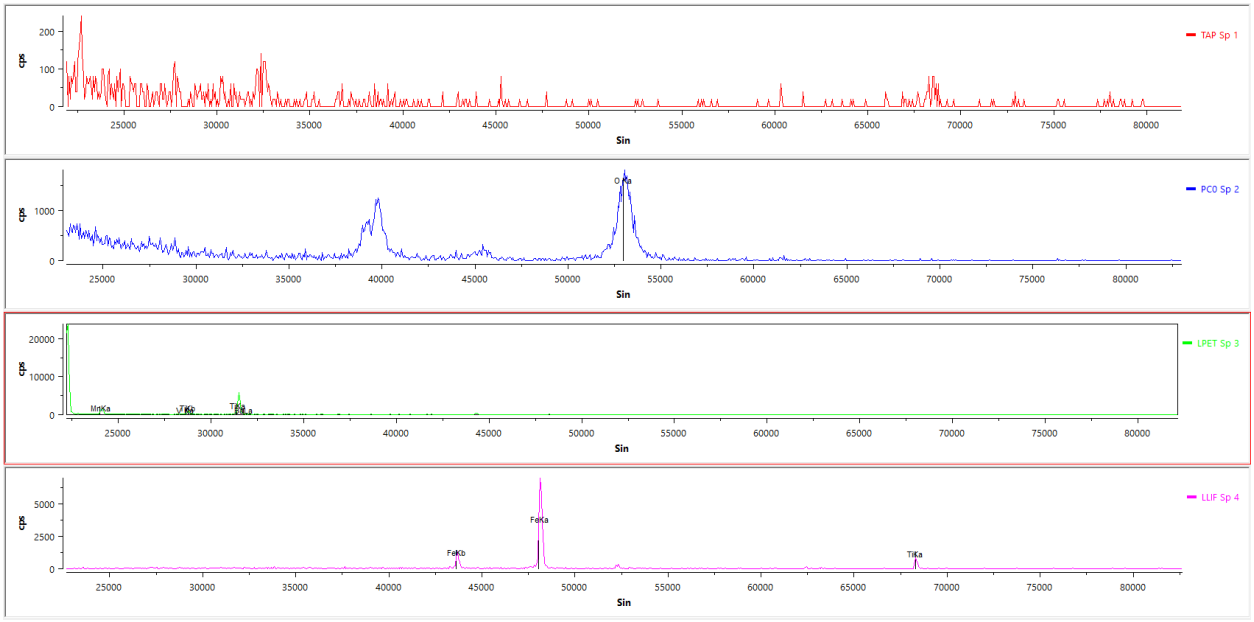
Amphiboles



CORN-108_8- Hastingsite

CORN 117- Dike East of Flat Top

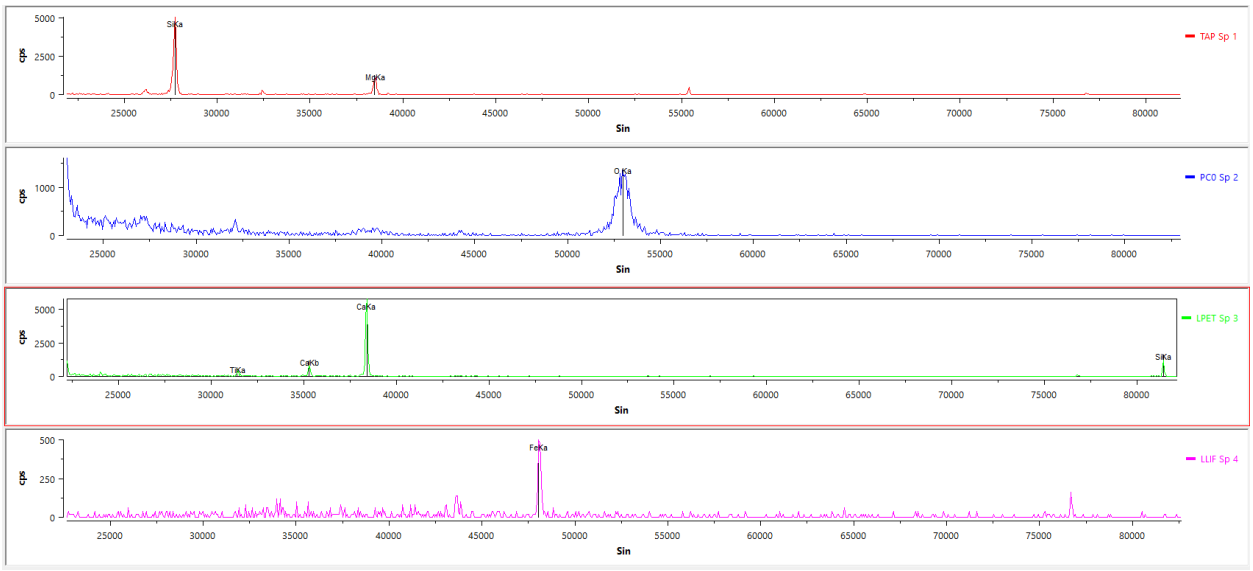
Oxides



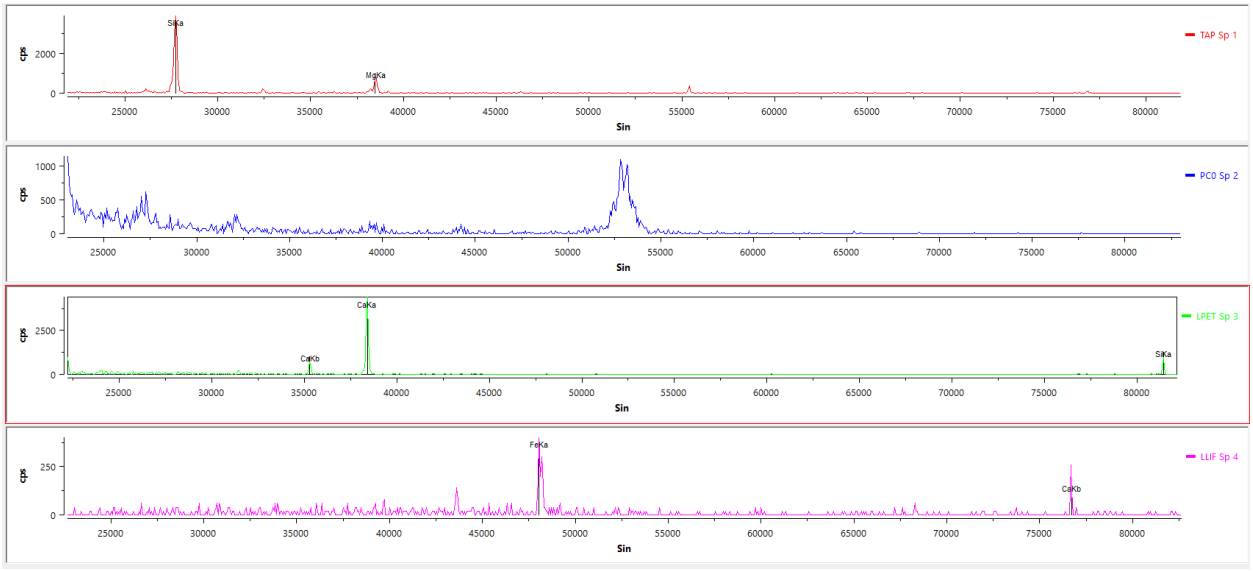
CORN117_1- Titanomagnetite

CORN 177- Augite Syenite

Pyroxenes

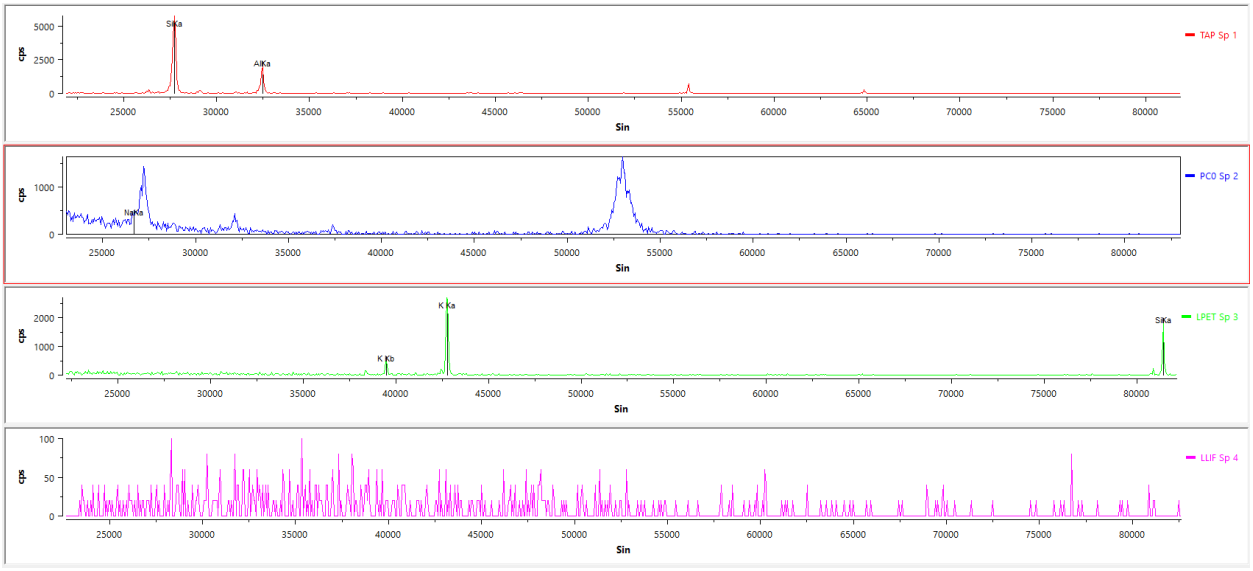


CORN177_Test1_4- Augite

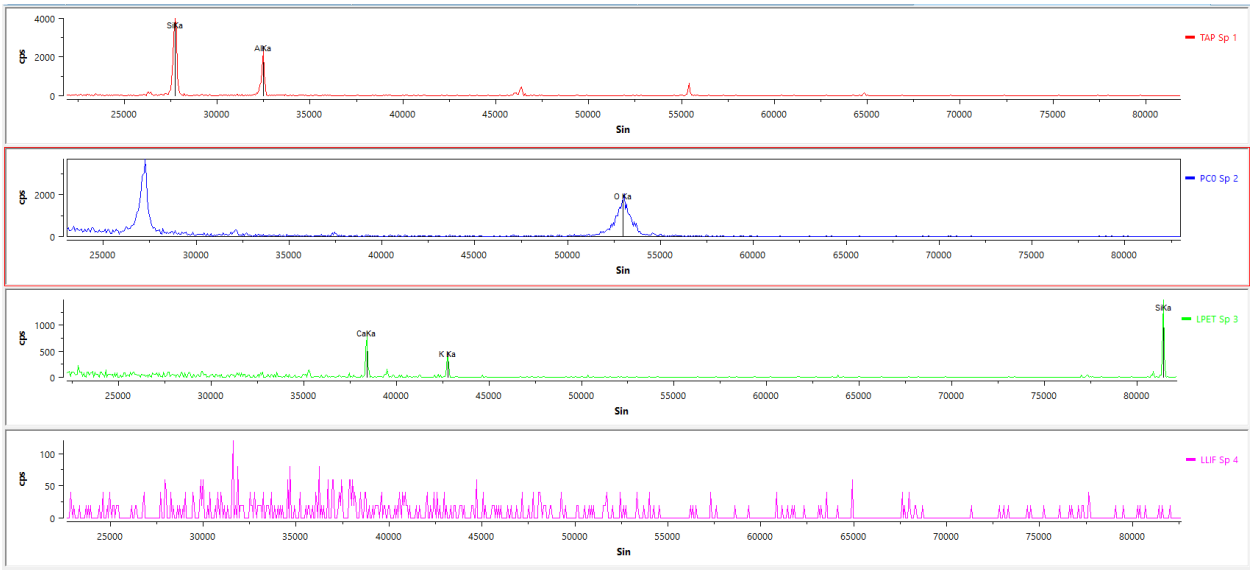


CORN177_Test1_11- Augite

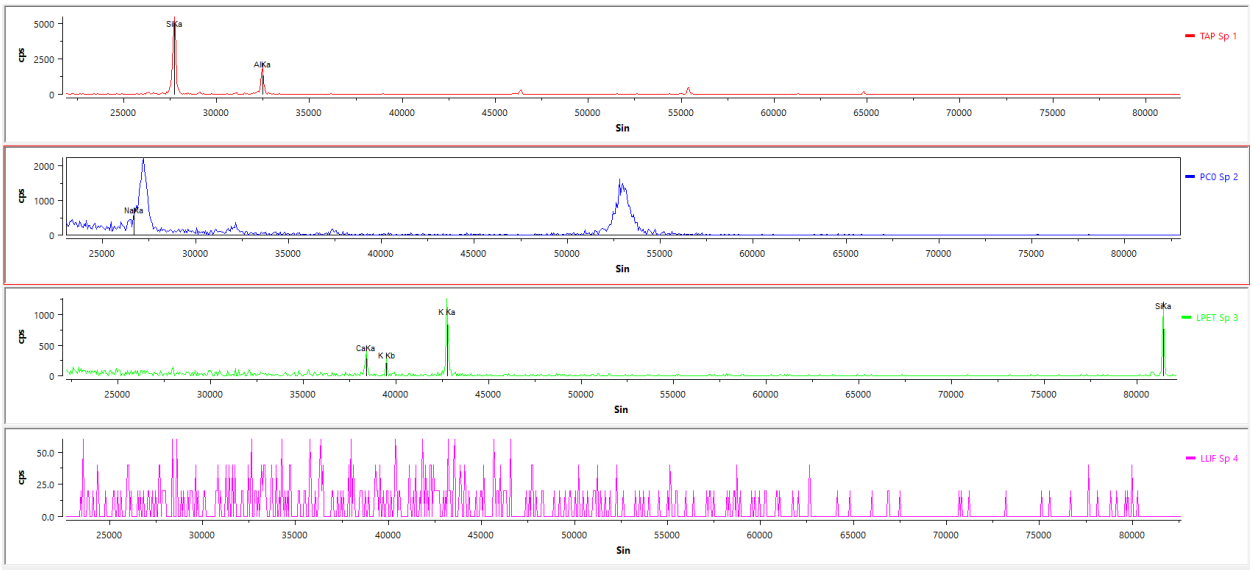
Feldspars and Feldspathoids



CORN177_Test1_5- Anorthoclase

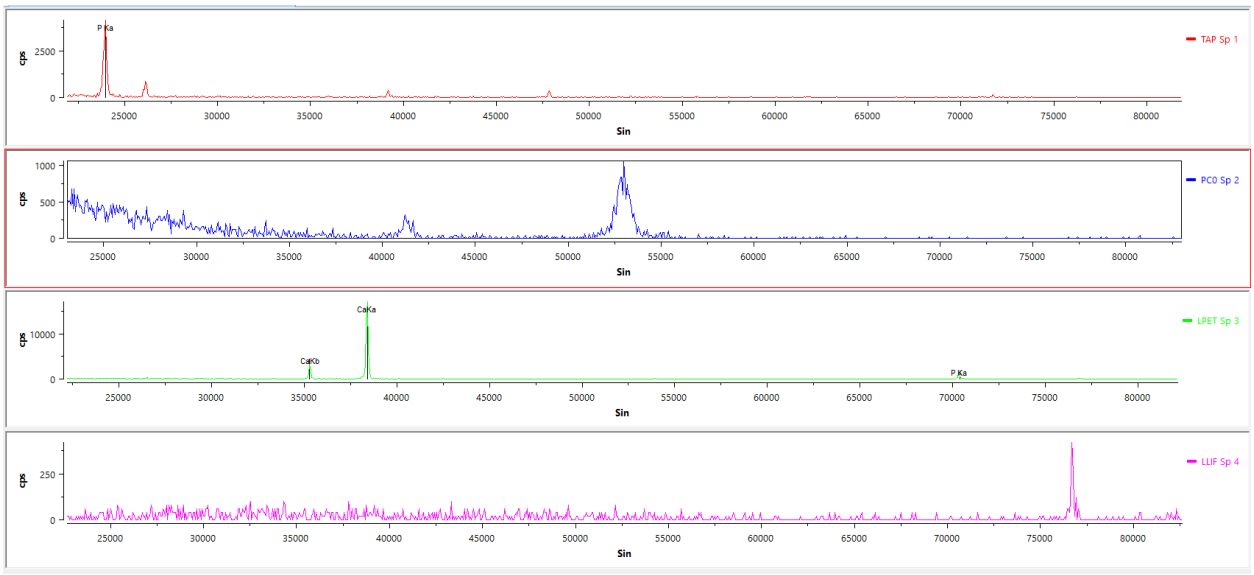


CORN177_Test1_9- Plagioclase

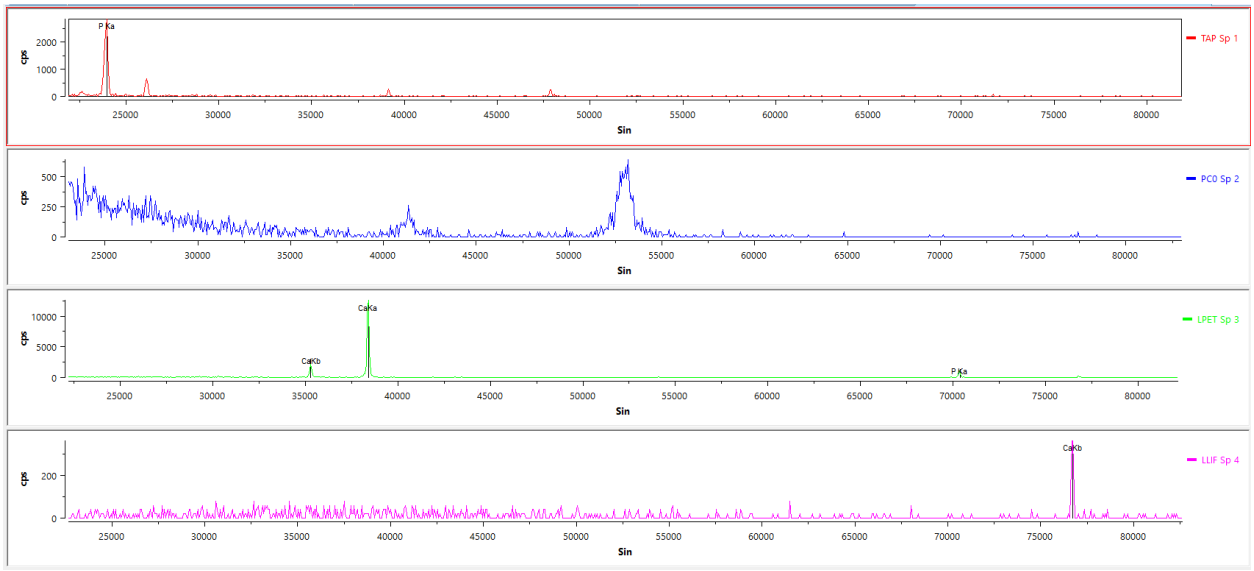


CORN177_Test1_10- Anorthoclase

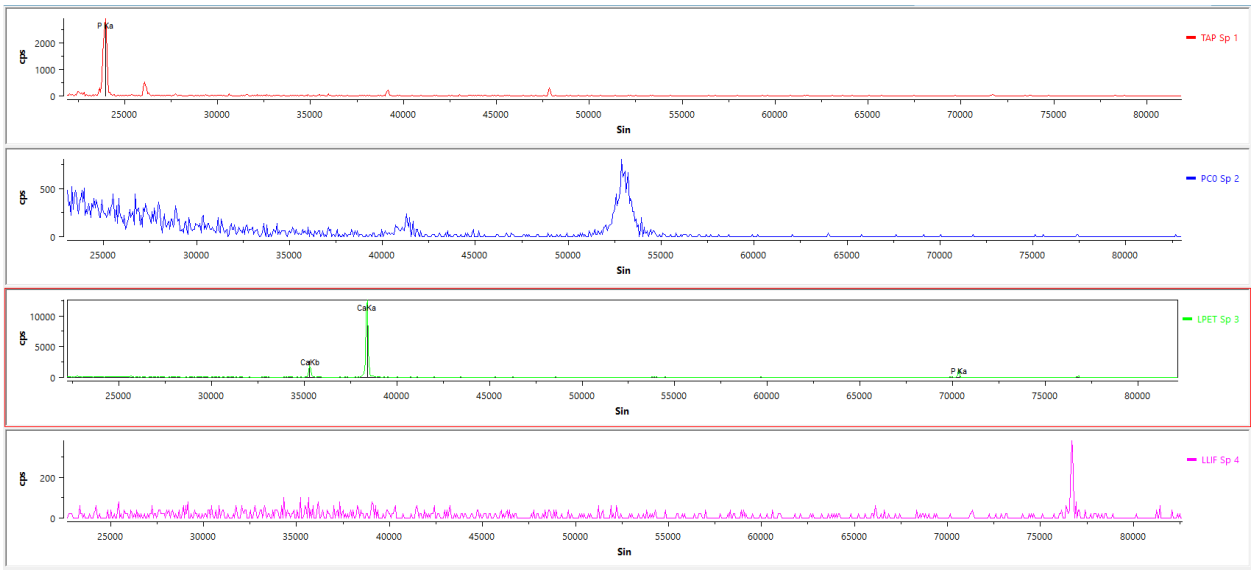
REE, Zr, and Nb Phases



CORN177_Test1- Apatite

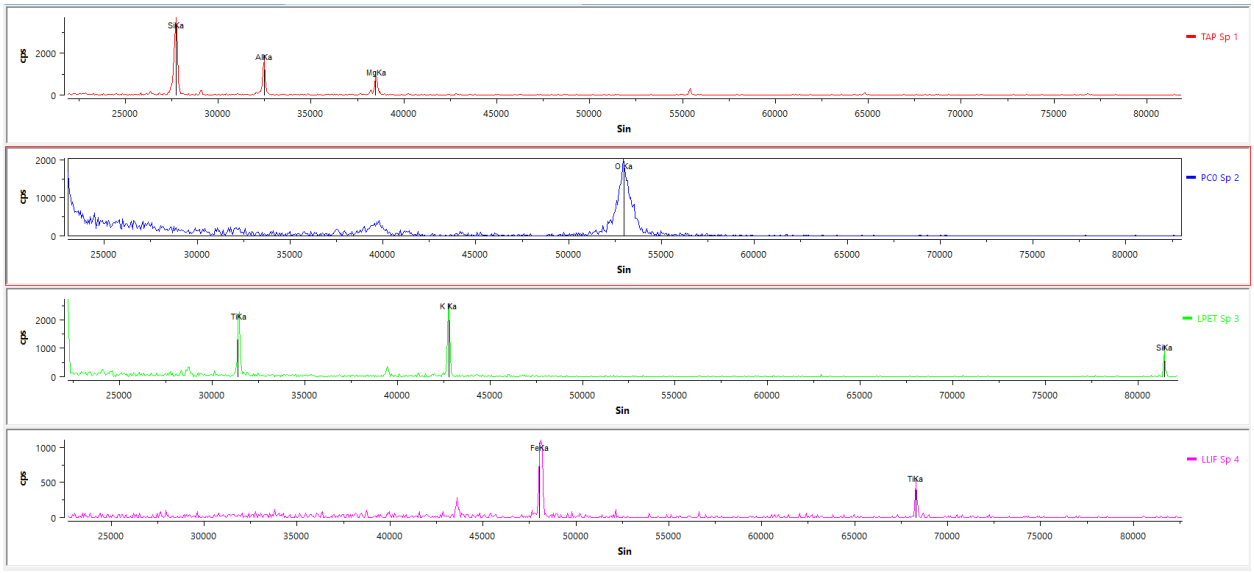


CORN177_Test1_6- Apatite

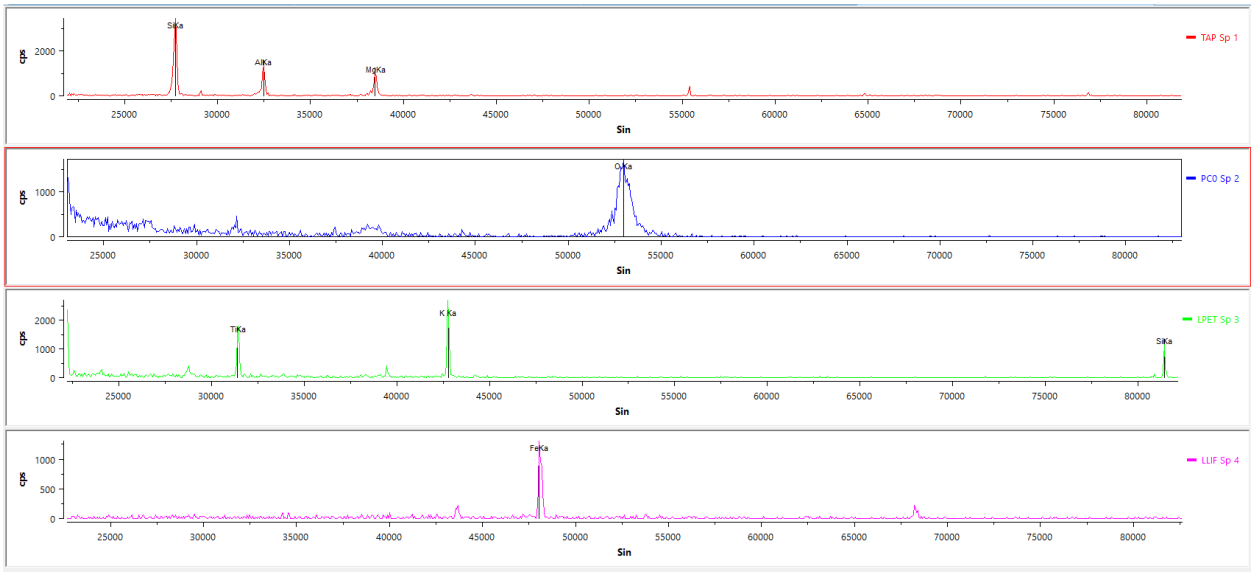


CORN177_Test1_7- Apatite

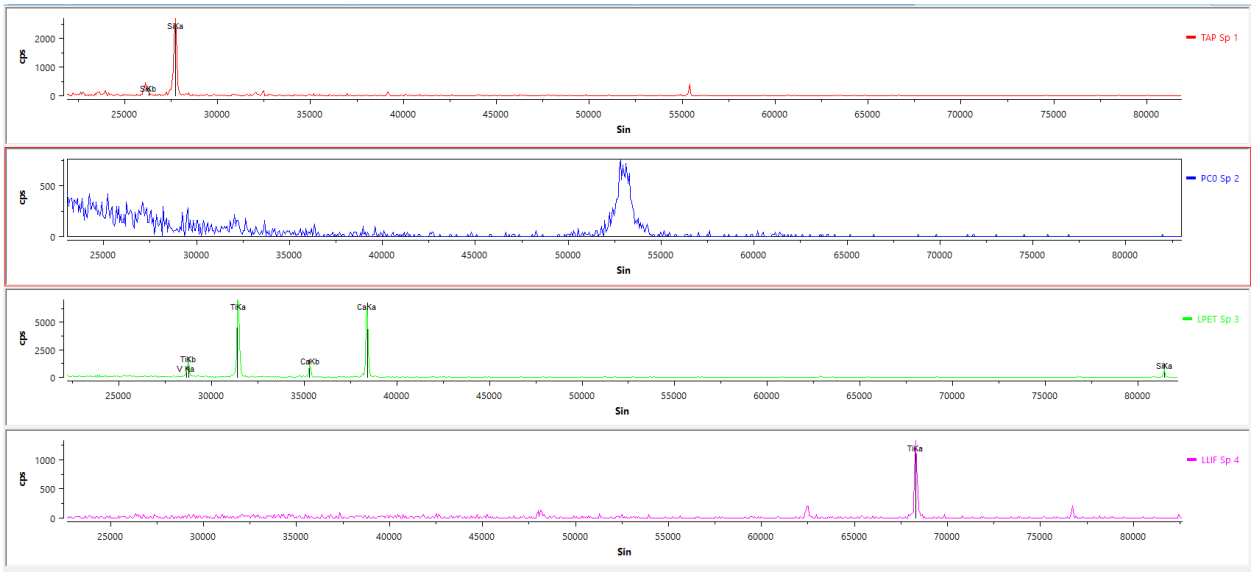
Other Silicates



CORN177_Test1_1- Biotite

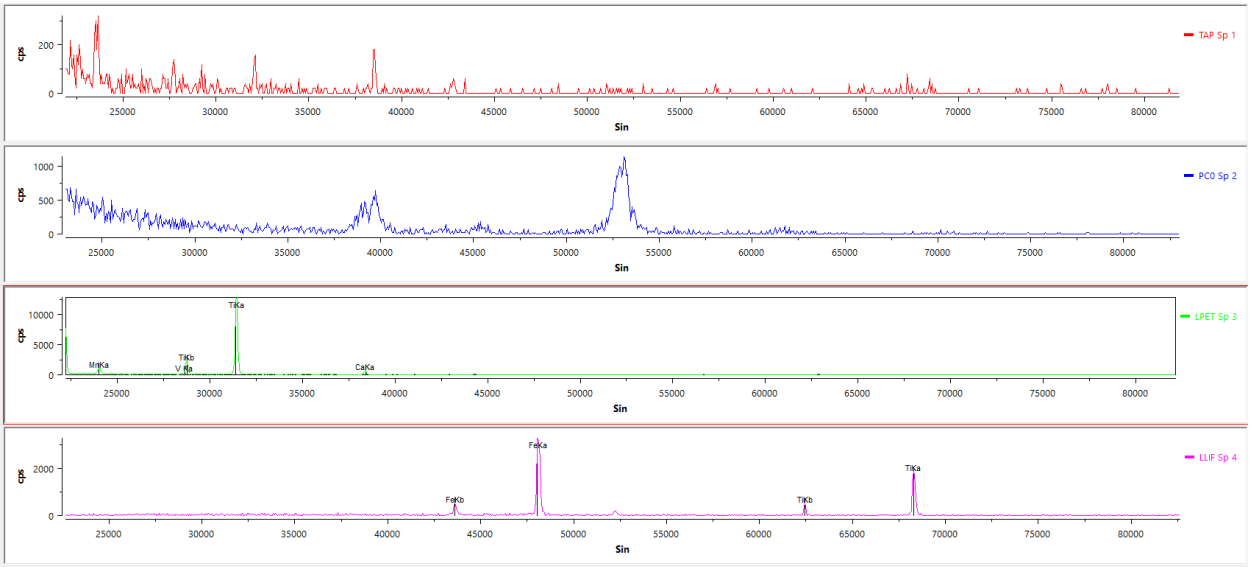


CORN177_Test1_3- Biotite



CORN177_Test1_8- Titanite

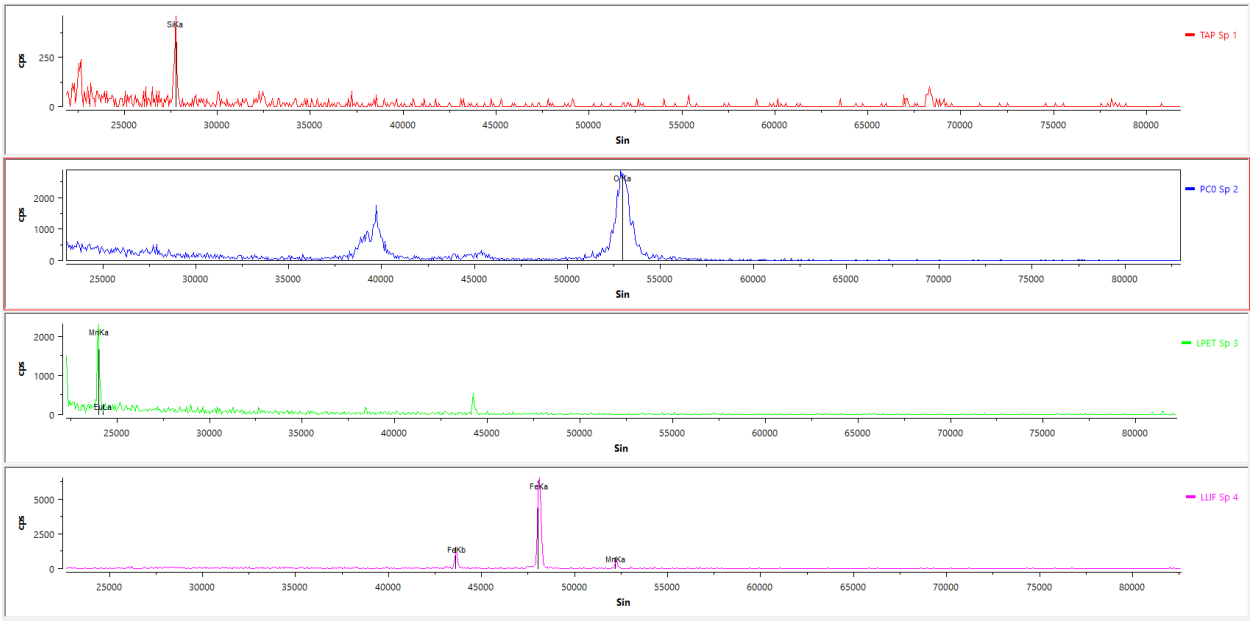
Oxides



CORN177_Test1_2- Ilmenite

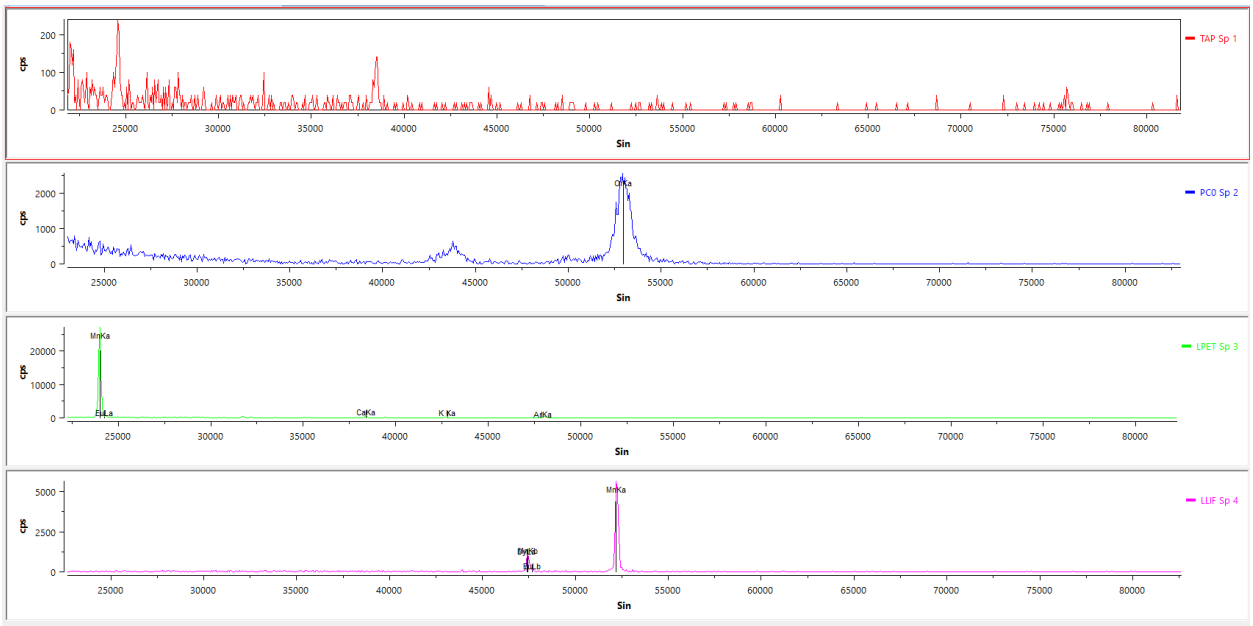
CORN 181- Dike North of Wind Mountain

Other Silicates



CORN79_3- Calderite

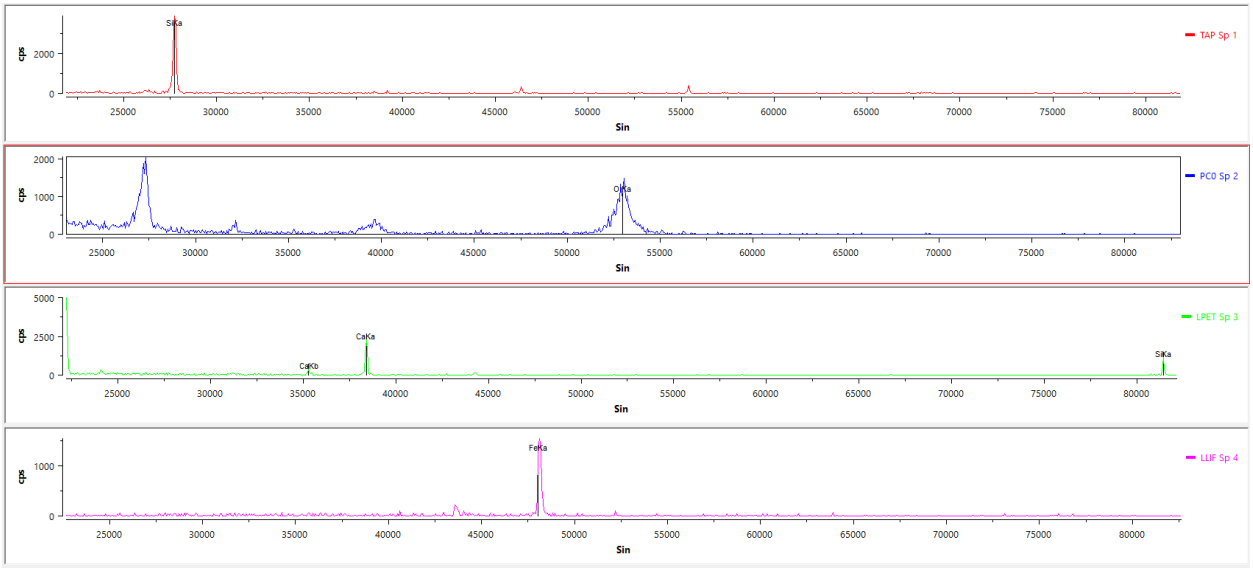
Oxides



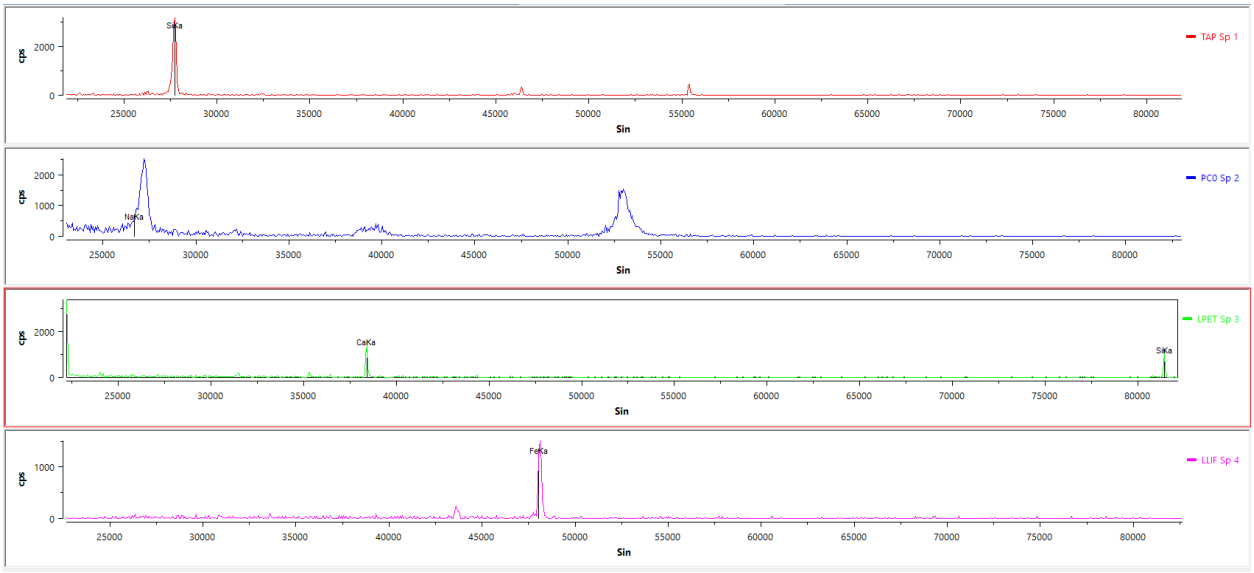
CORN181_13- Pyrolusite

CND 208- Washburn Mountain

Pyroxenes

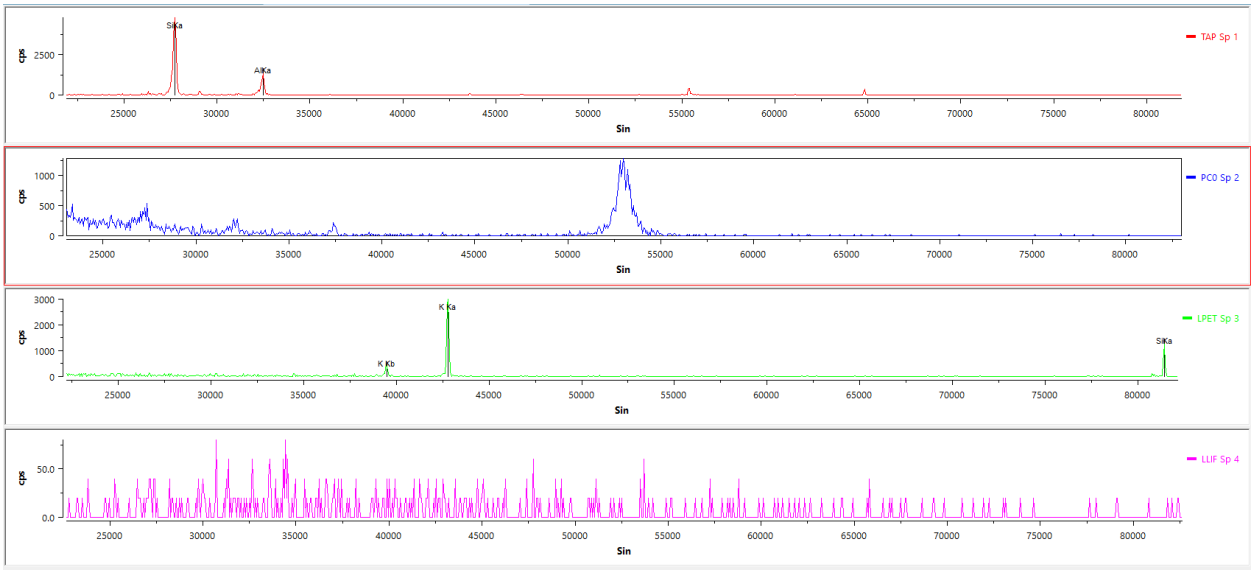


CND_Test_1- Aegirine-augite



CND_Test_3- Aegirine-augite

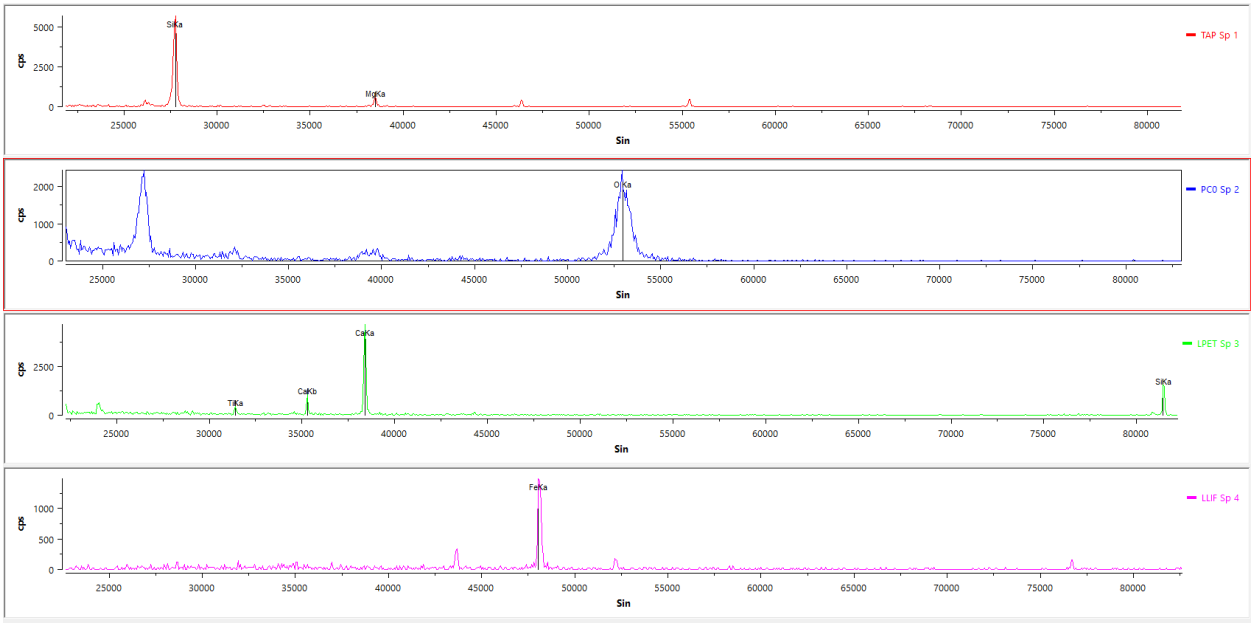
Feldspars and Feldspathoids



CND_Test_2- Potassium Feldspar

CORN 226- McVeigh Hills

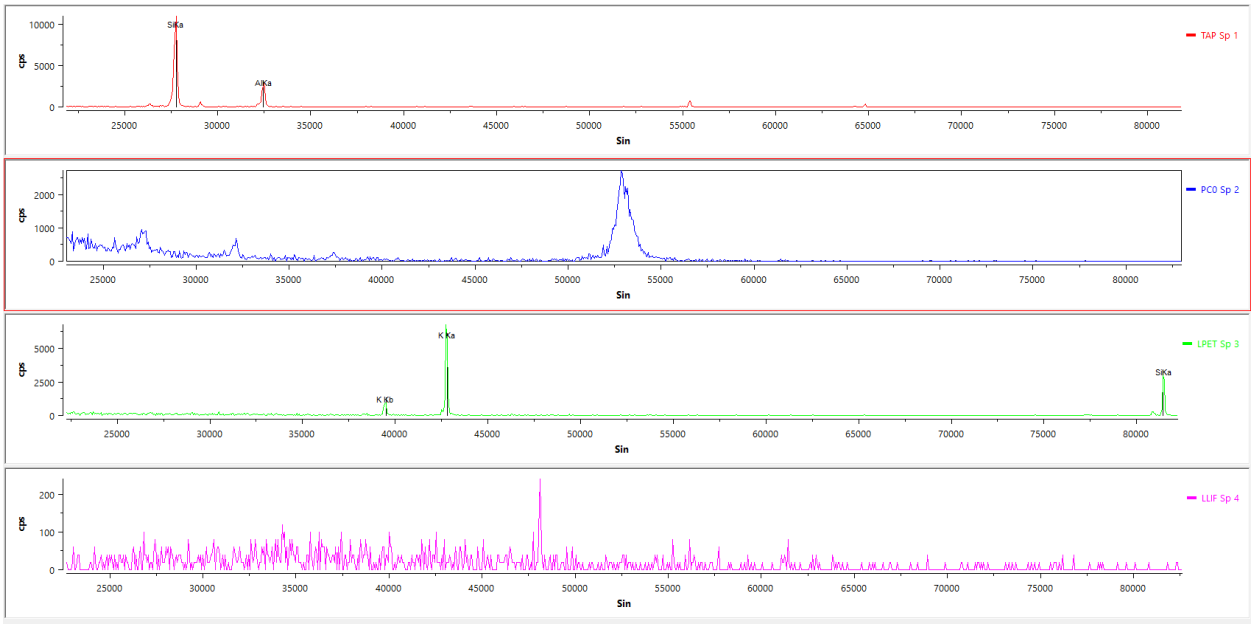
Pyroxenes



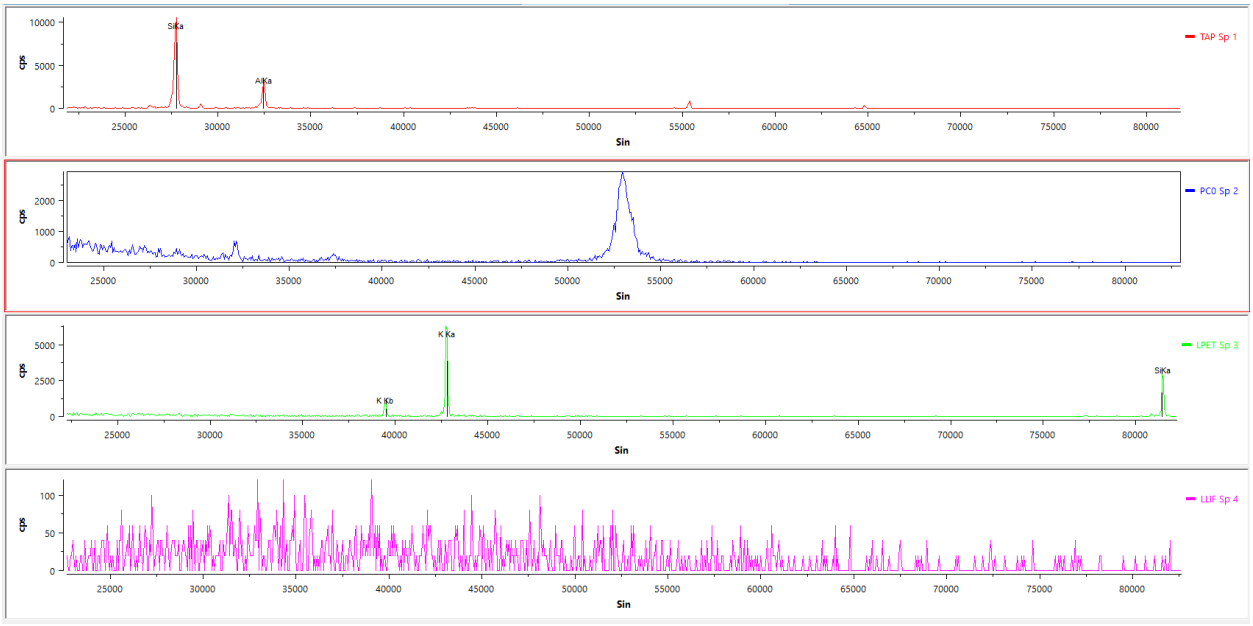
CORN226_1- Aegirine-augite

CORN 805- Wind Mountain Dike

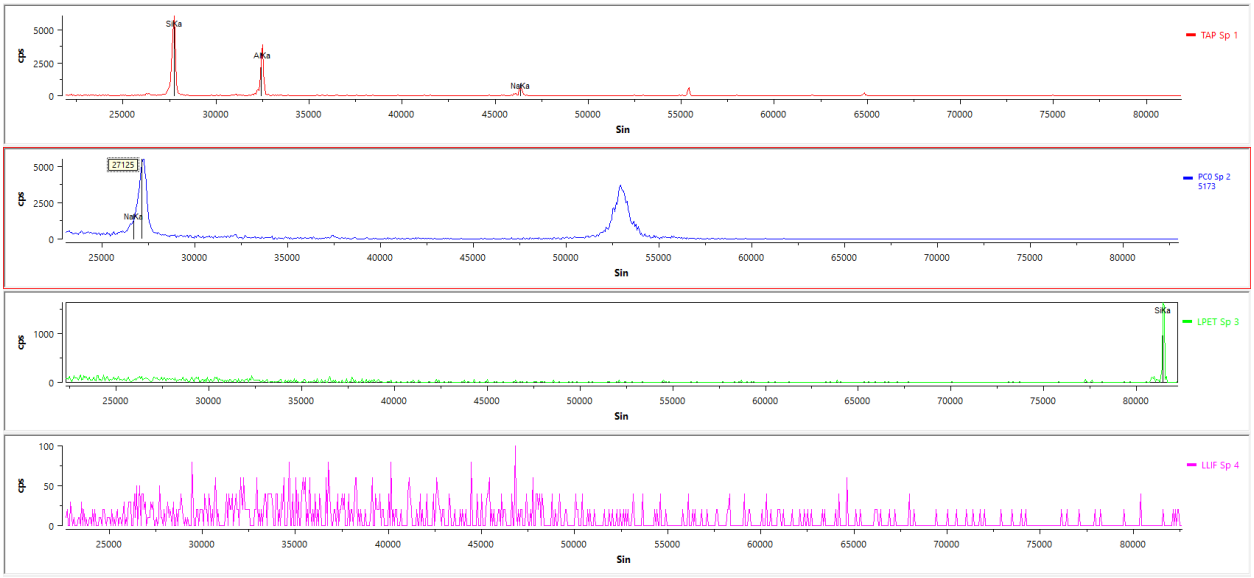
Feldspars and Feldspathoids



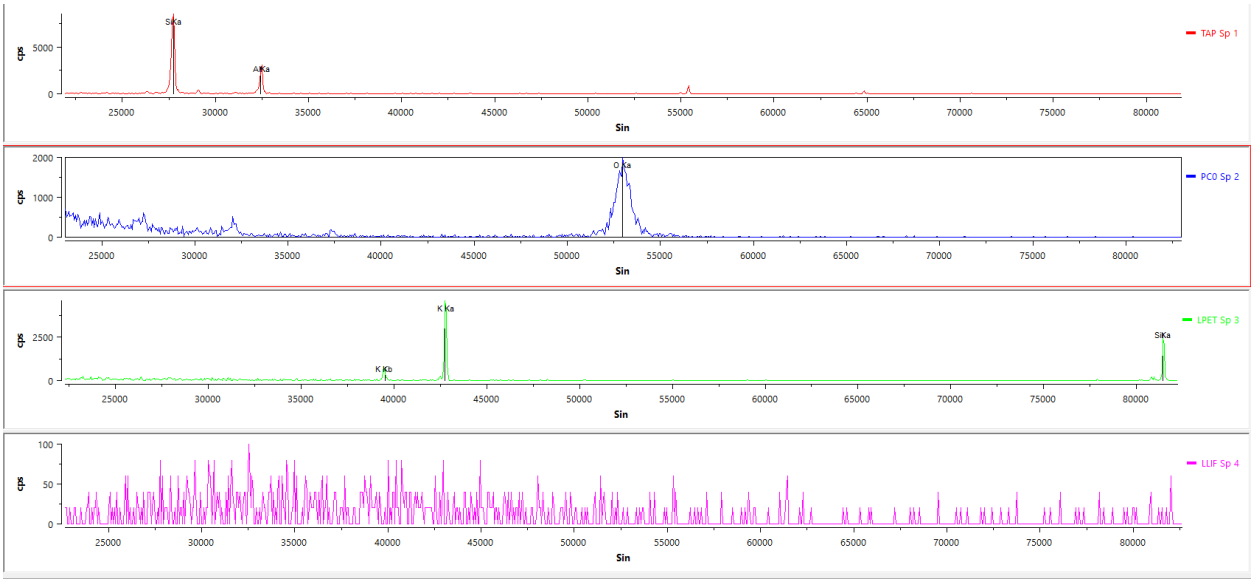
CORN805_1- Potassium Feldspar



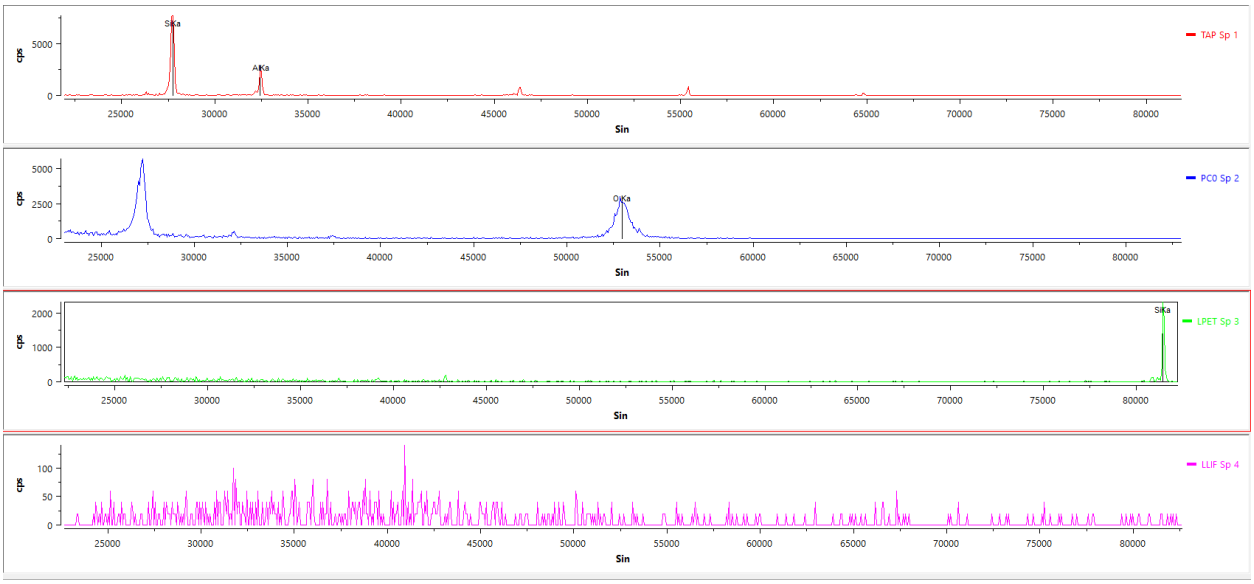
CORN805_3- Potassium Feldspar



CORN-805-WDS_1- Albite

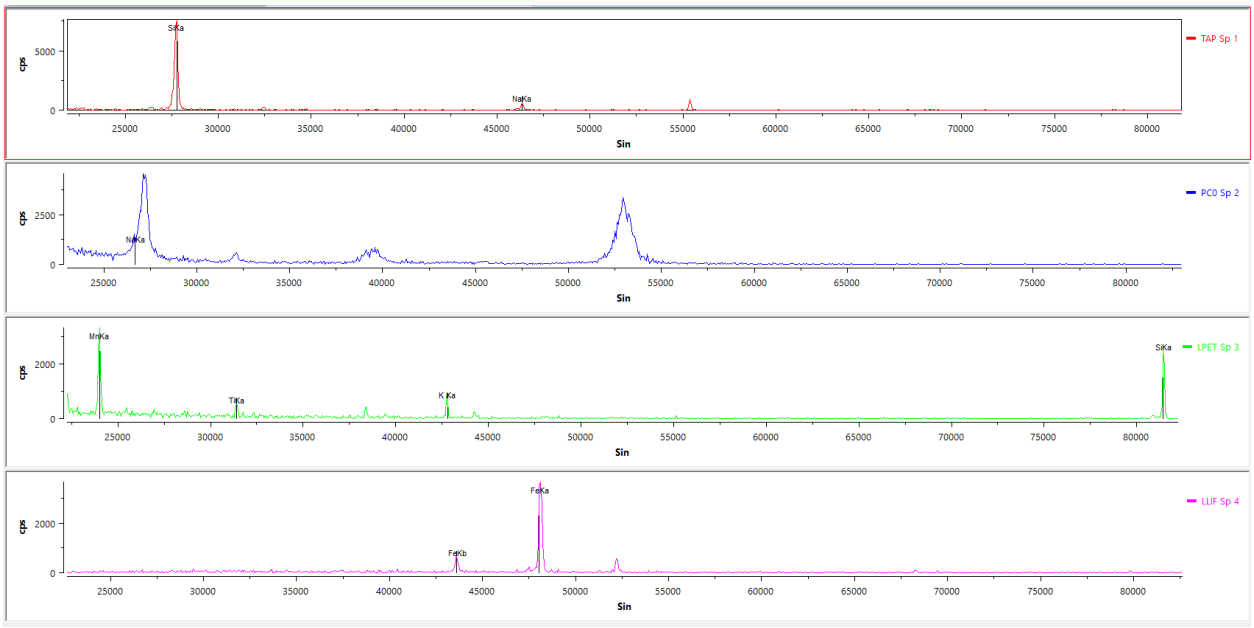


CORN-805-WDS_3- Potassium Feldspar

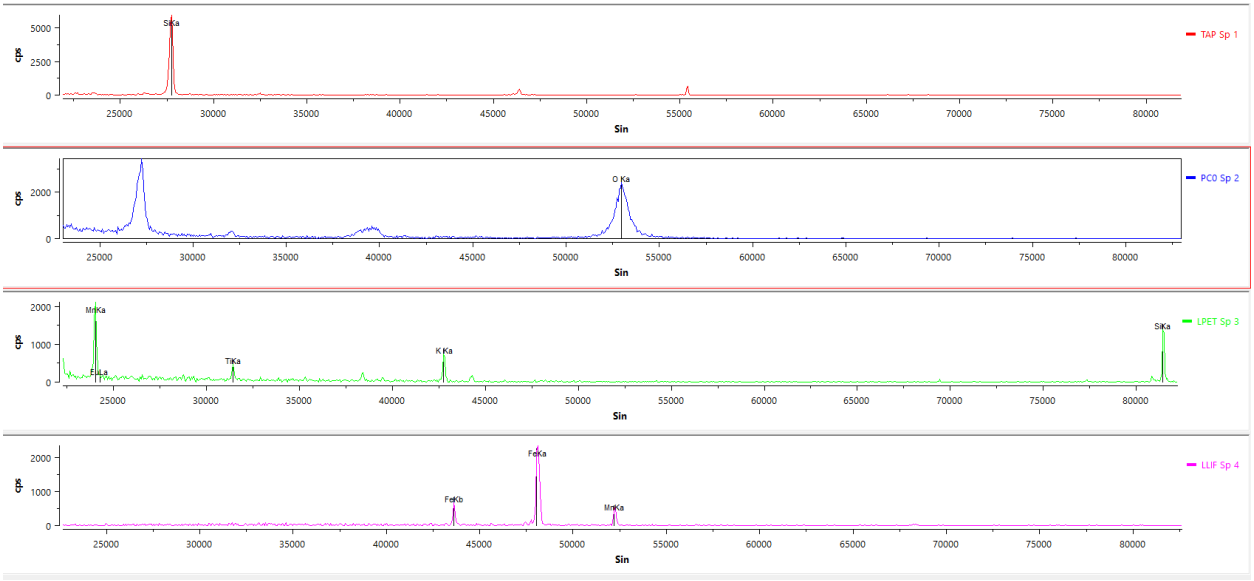


CORN-805-WDS_4- Albite

Amphiboles



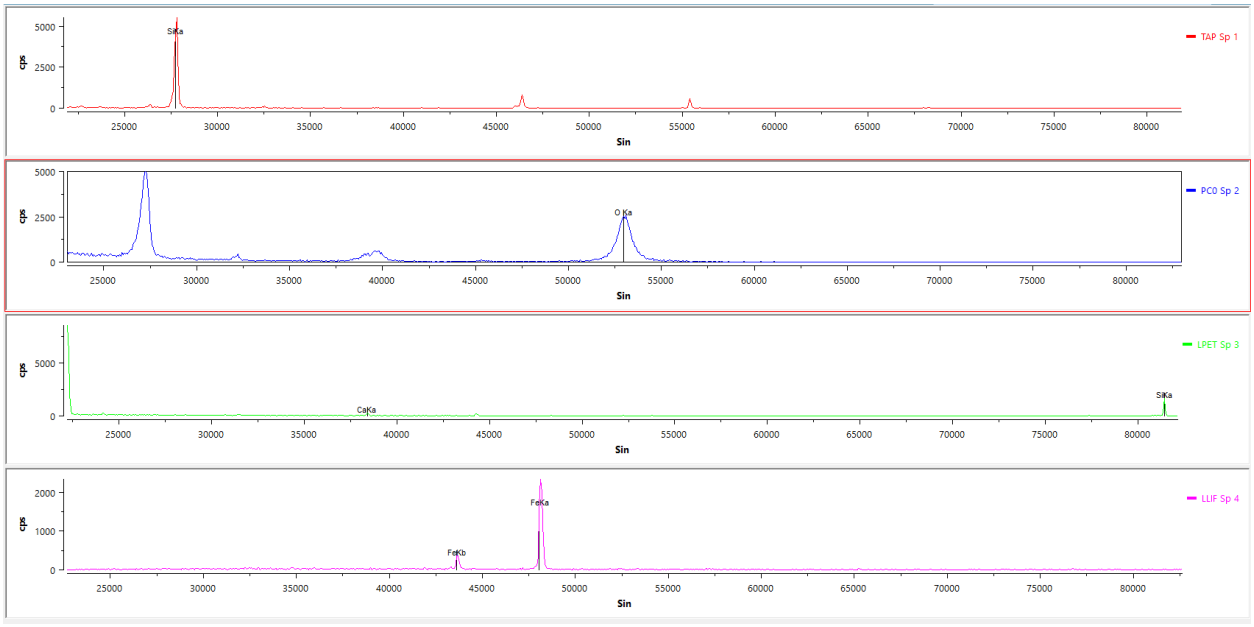
CORN805_2- Aenigmatite



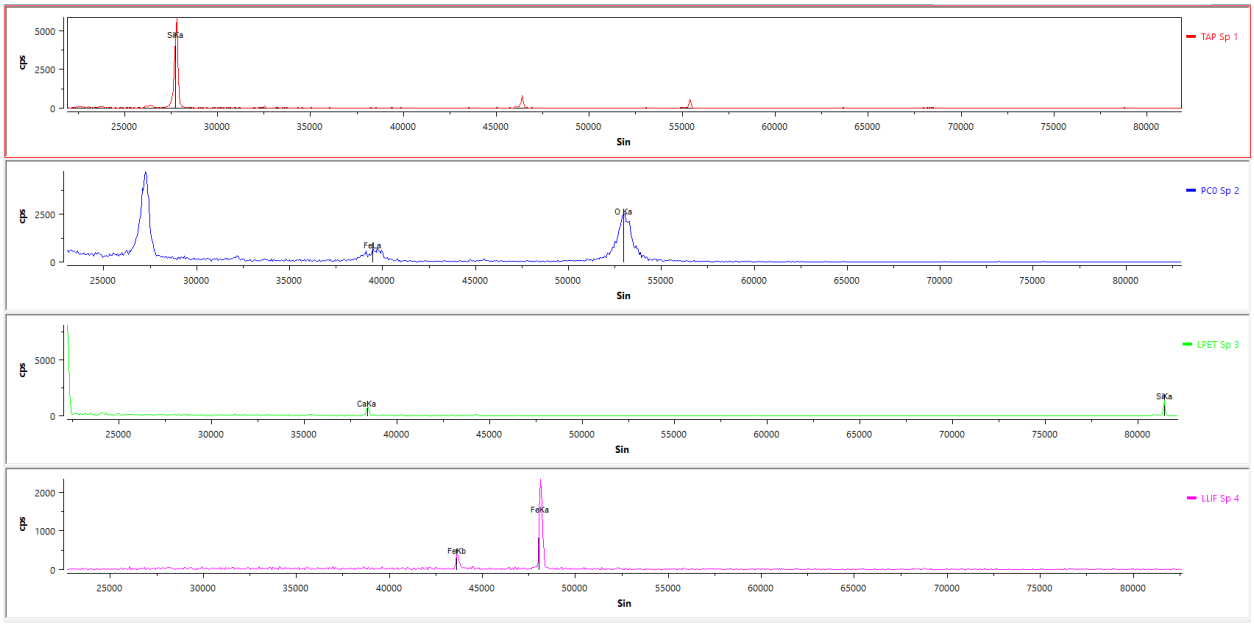
CORN-805-WDS_2- Aenigmatite

CORN-812- Wind Mountain

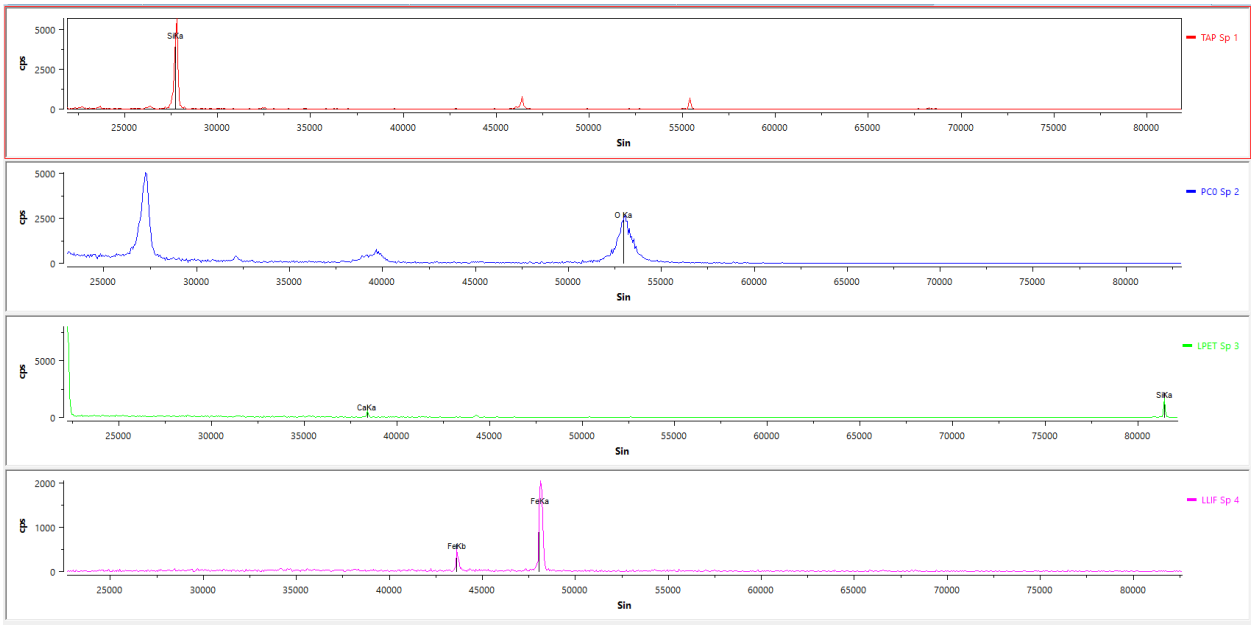
Pyroxenes



CORN-812_11- Aegirine

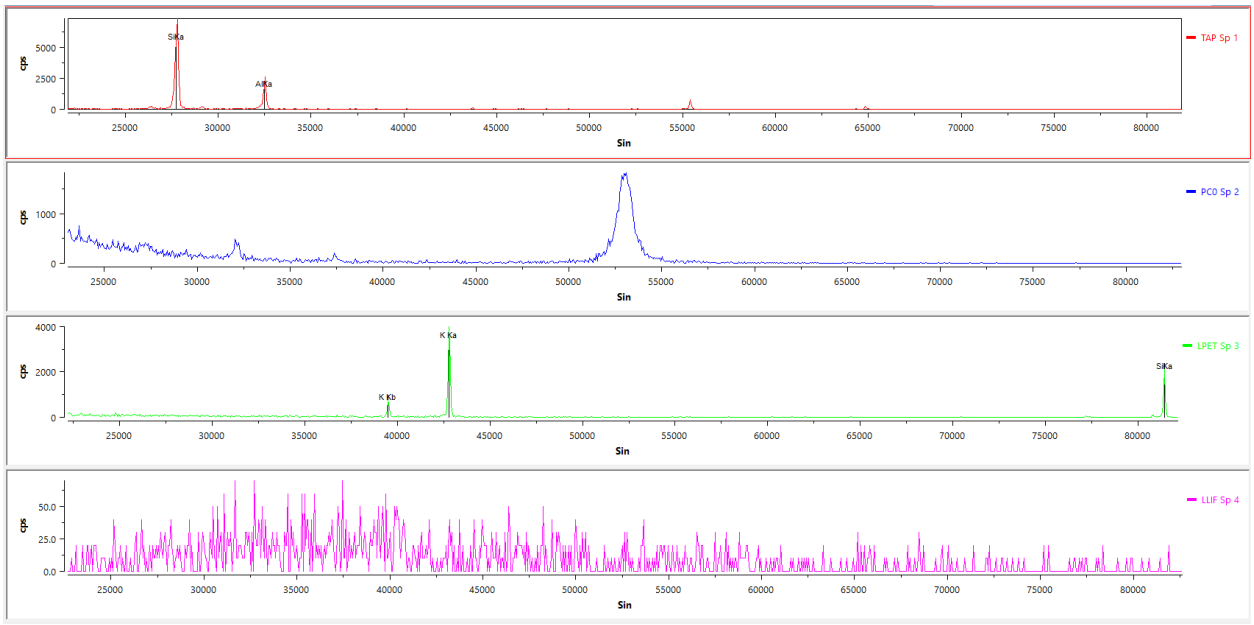


CORN-812_13- Aegirine

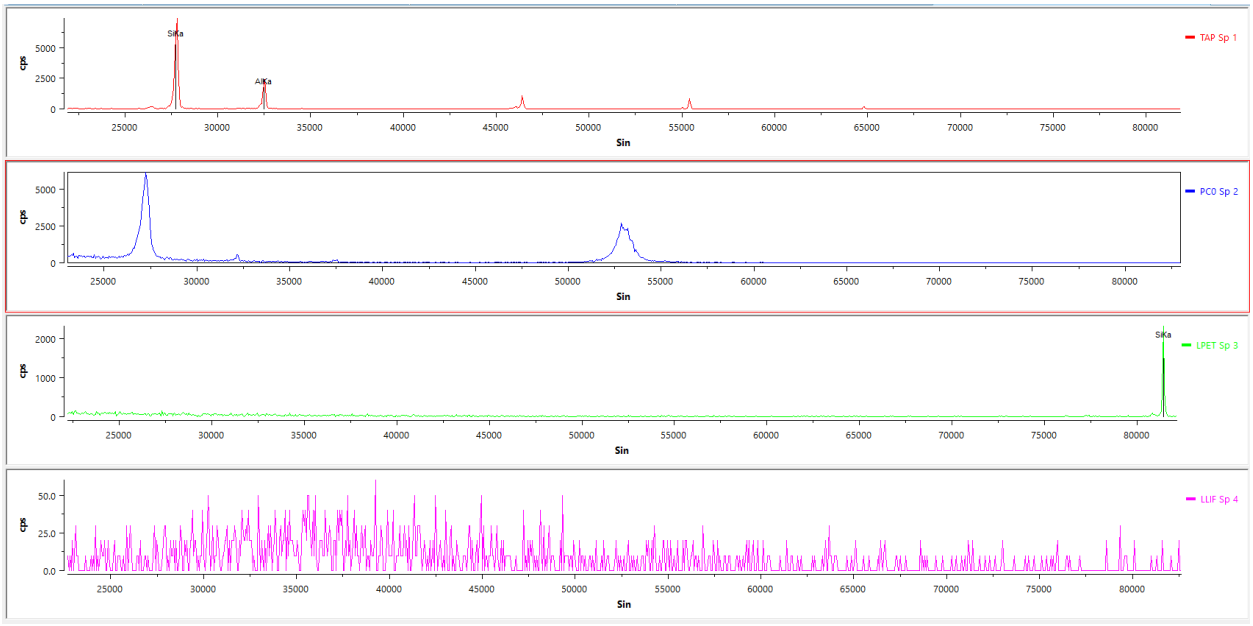


CORN-812_18- Aegirine

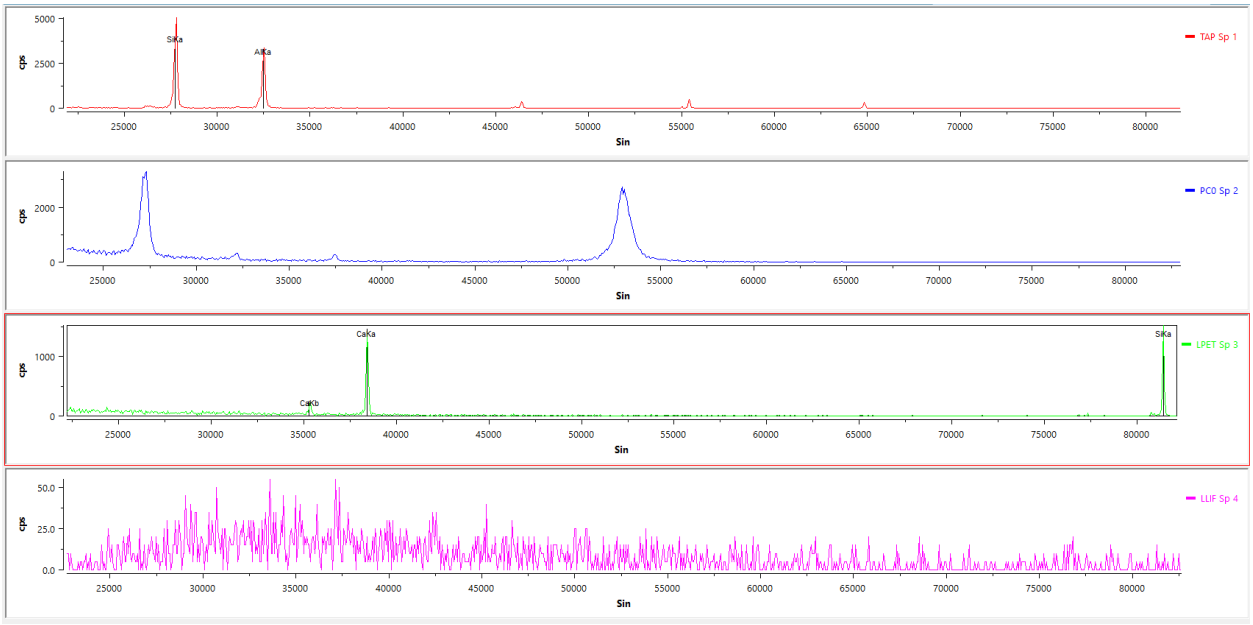
Feldspars and Feldspathoids



CORN-812_14- Potassium Feldspar

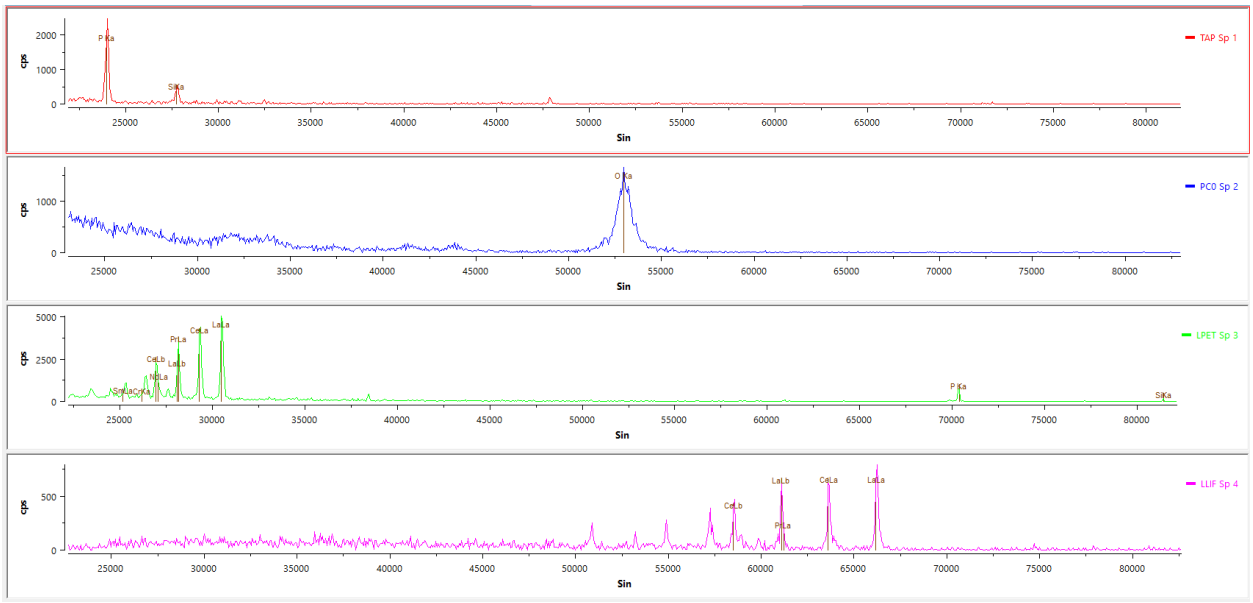


CORN-812_15- Albite

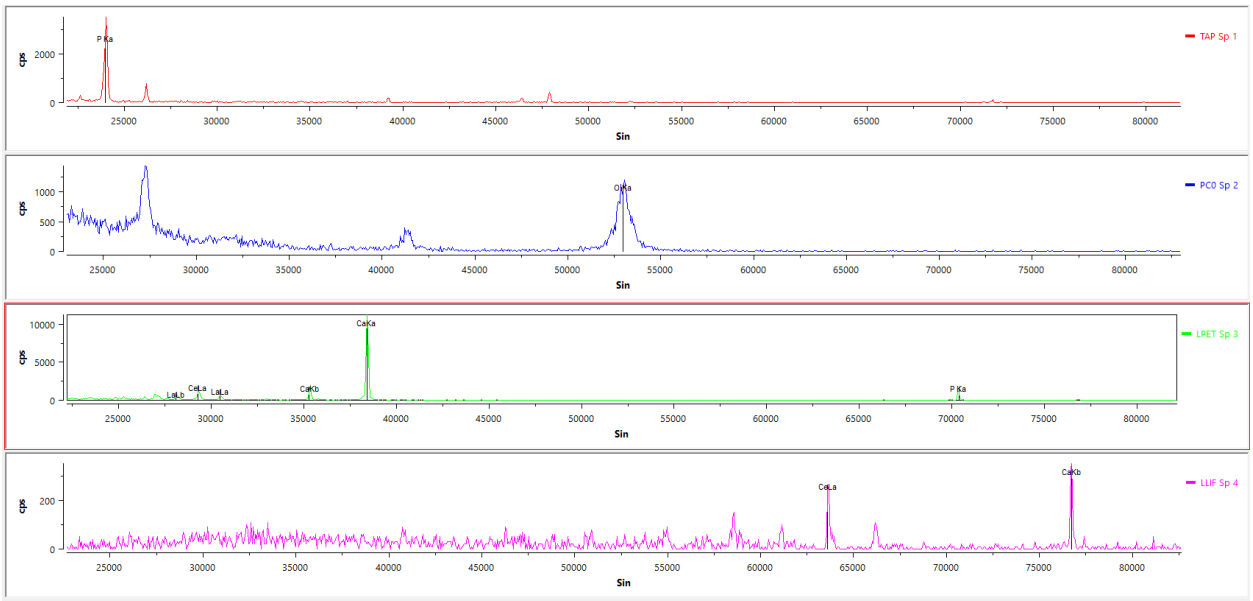


CORN-812_16- Cancrinite

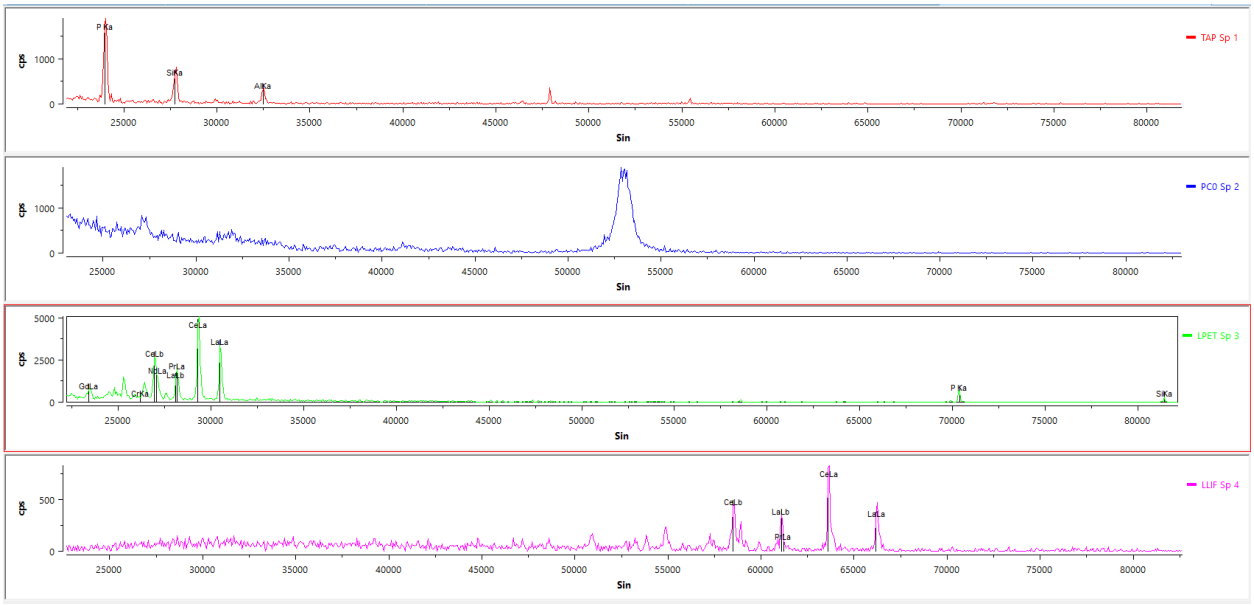
REE, Zr, and Nb Phases



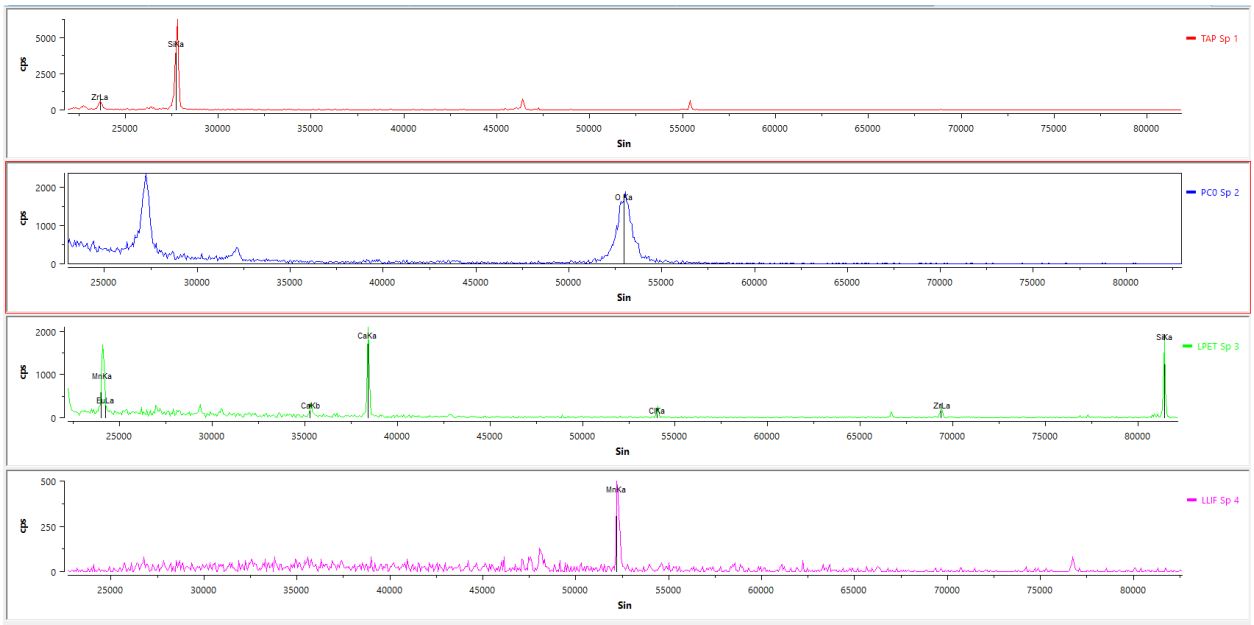
CORN-812_3- Monazite Mixed Phase



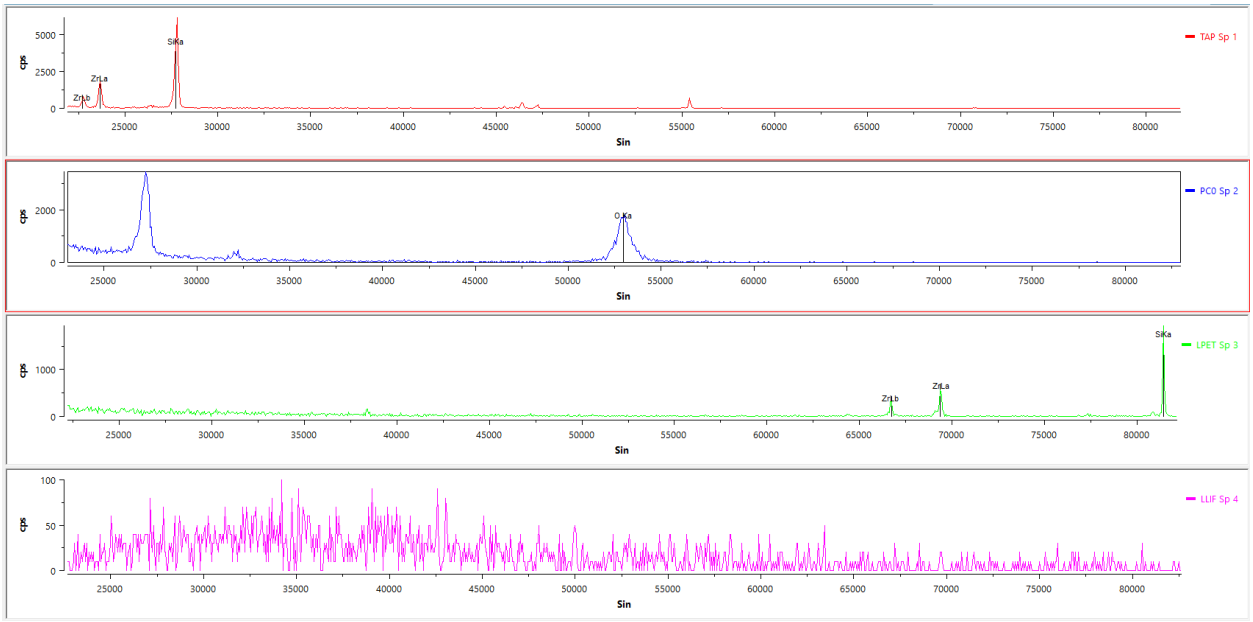
CORN-812_4- Vitusite



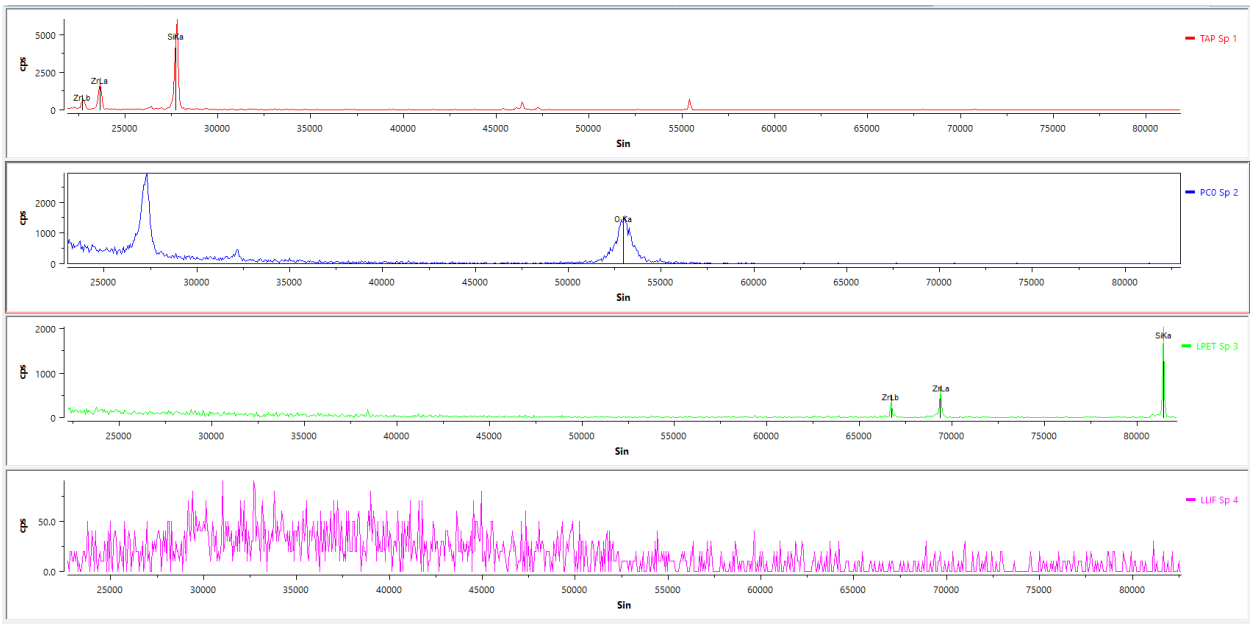
CORN-812_5- Monazite Mixed Phase



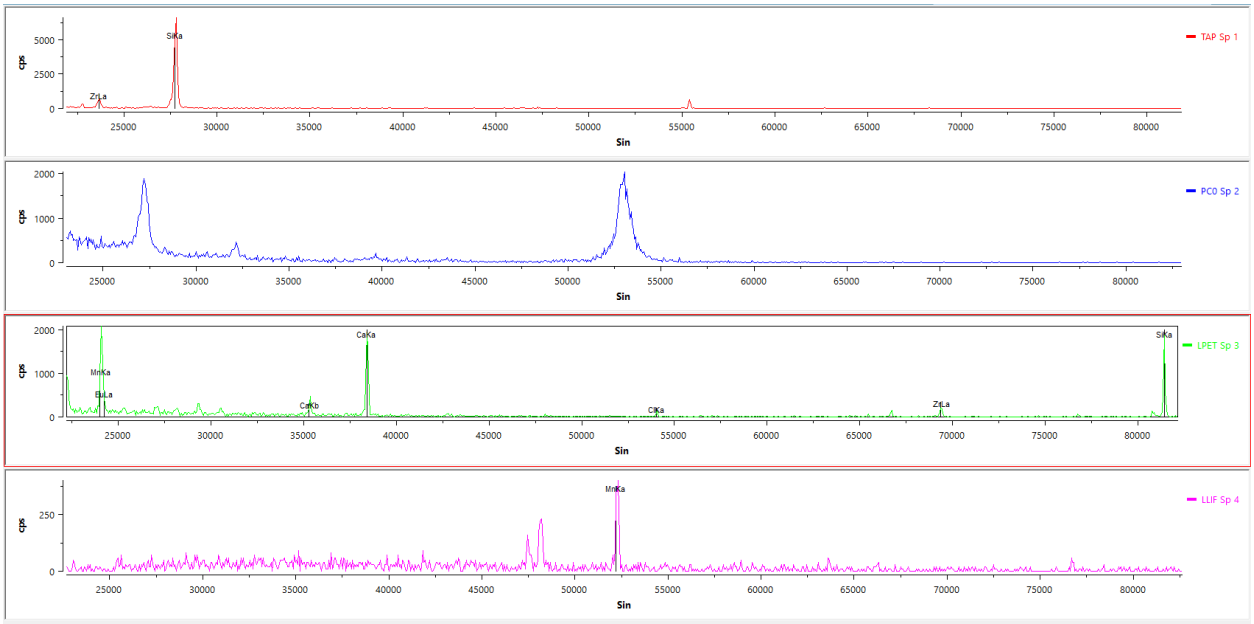
CORN-812_12- Manganoeudialyte



CORN-812_17- Catapleiite

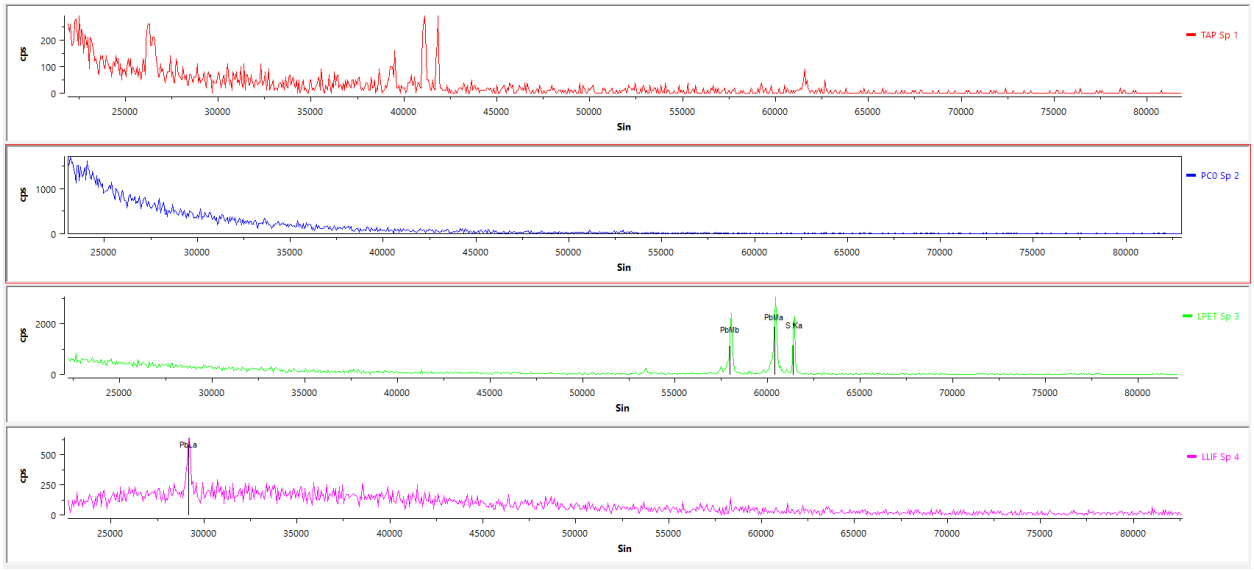


CORN-812_19- Catapleiite

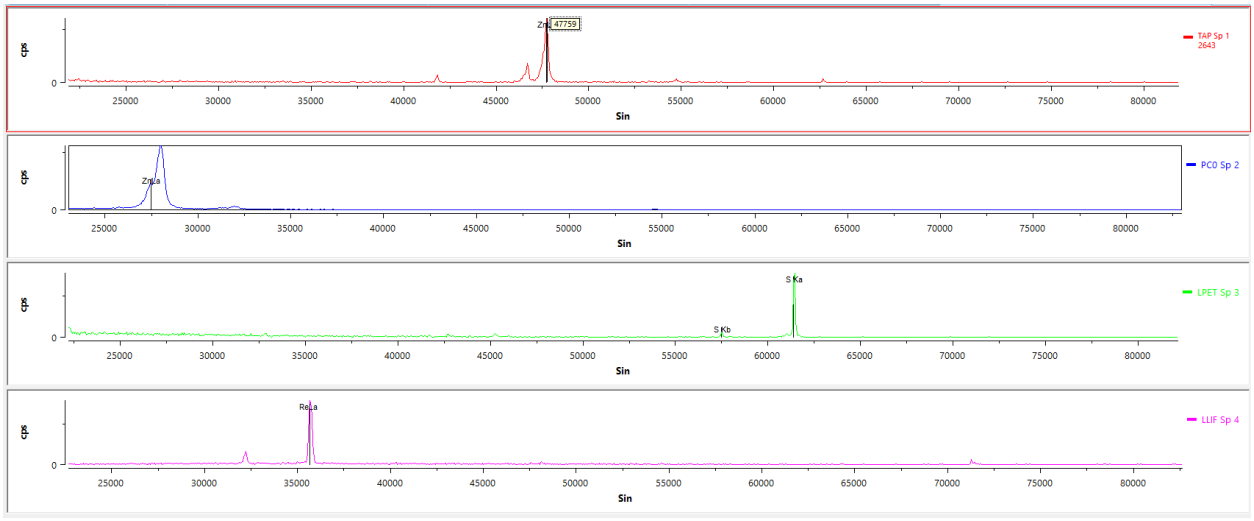


CORN-812_20- Manganoeudialyte

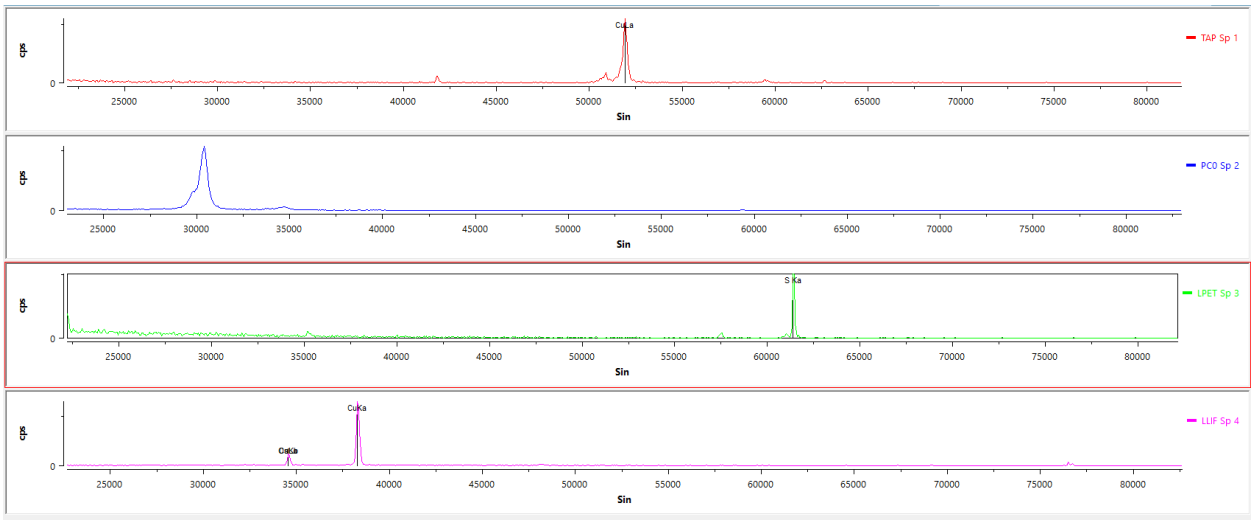
Sulfides



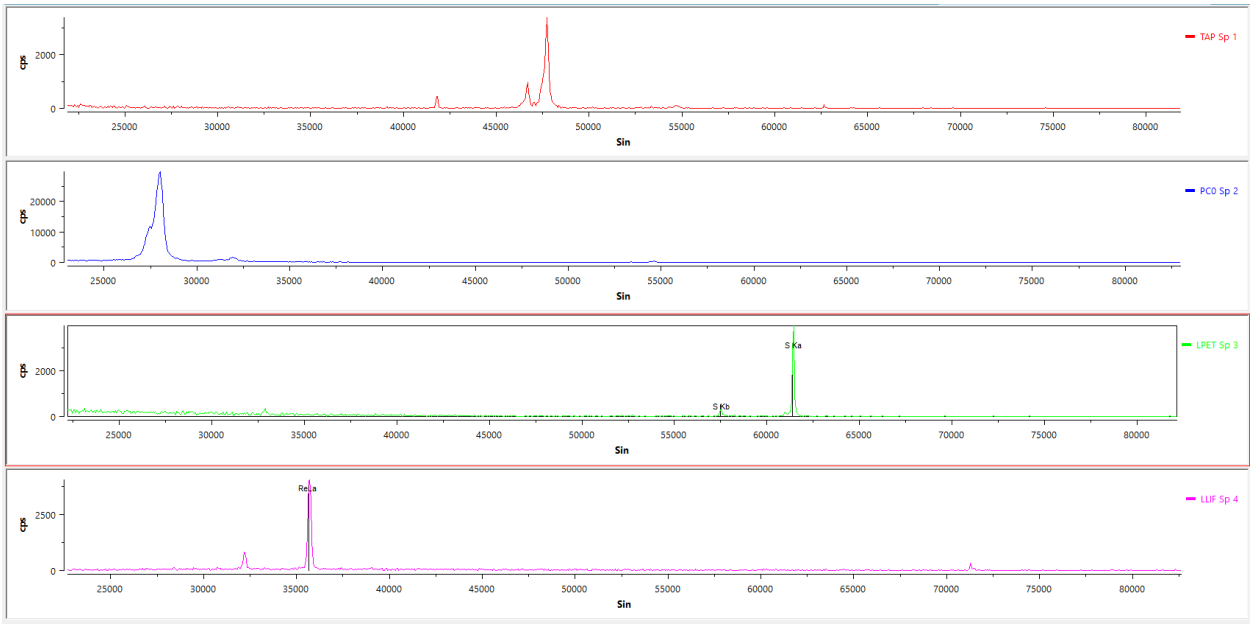
CORN-812_1- Galena



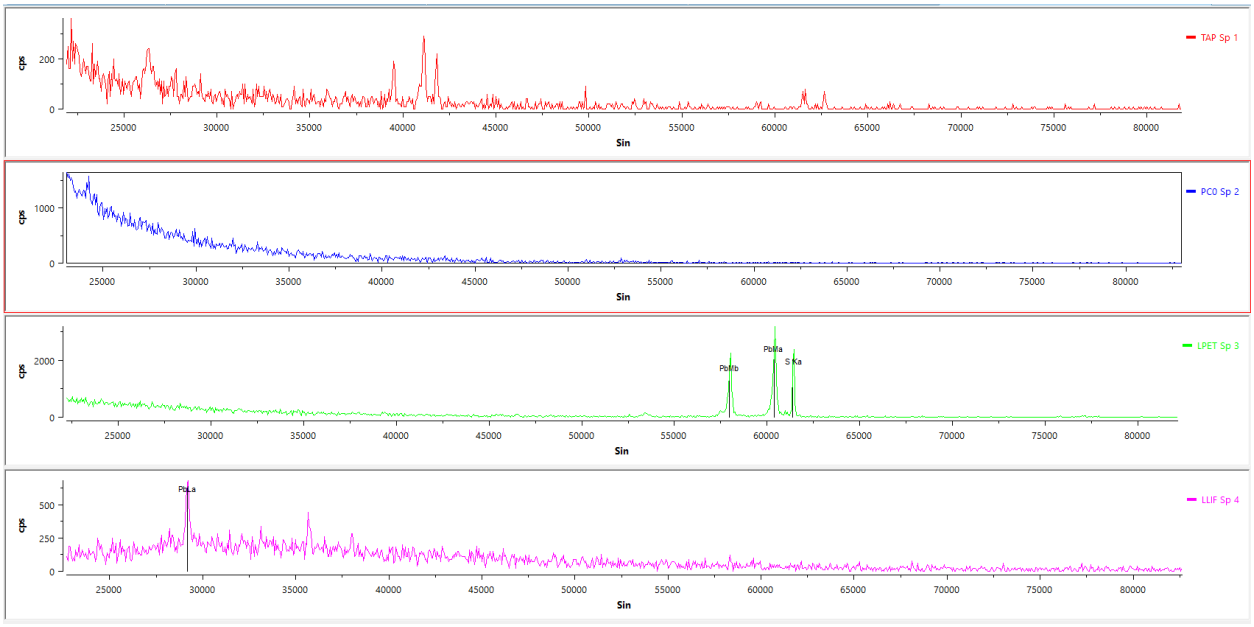
CORN-812_6- Rhenite + Sphalerite



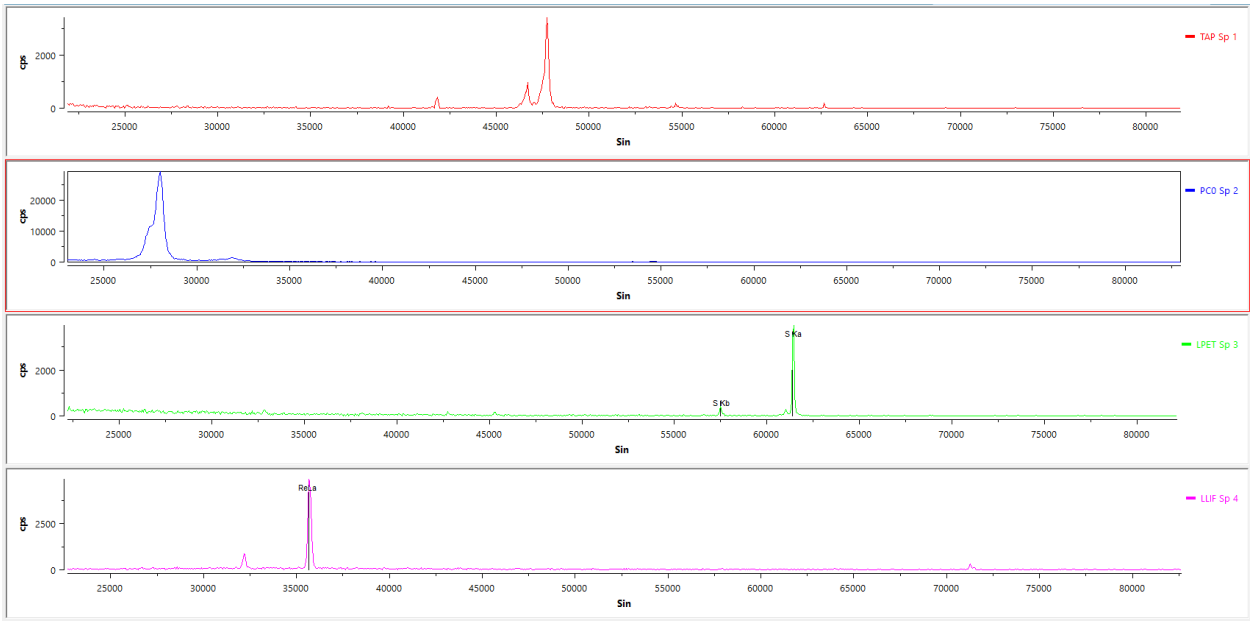
CORN-812_7- Copper Sulfide



CORN-812_8- Rhenite + Sphalerite



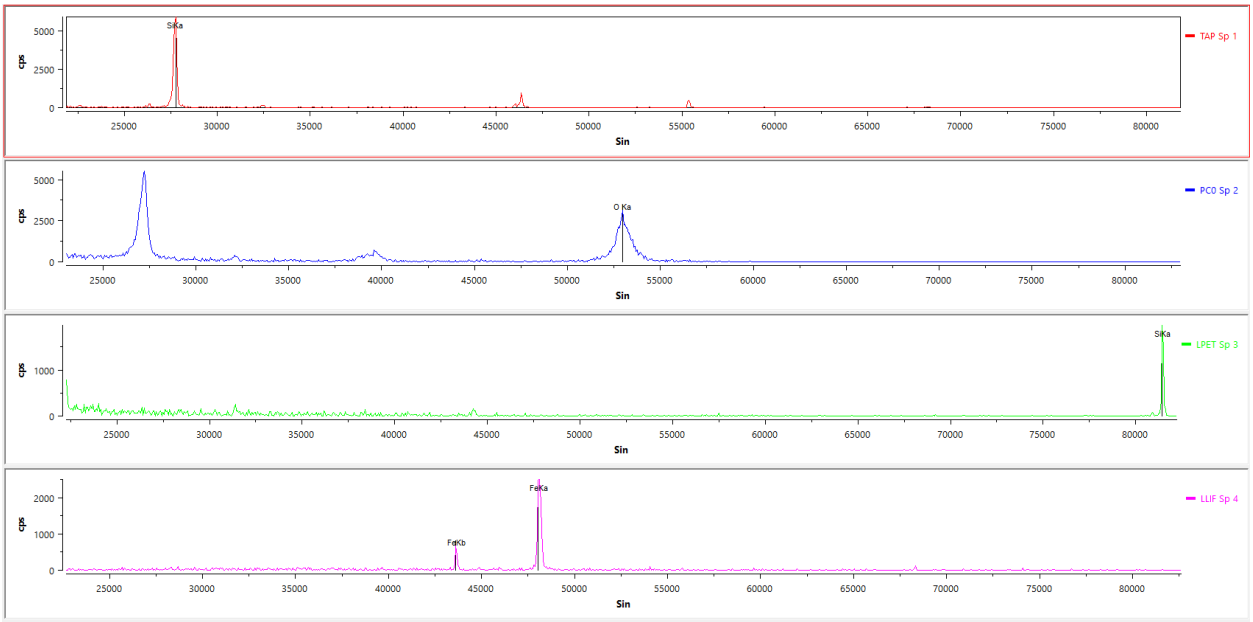
CORN-812_9- Galena



CORN-812_10- Rhenite + Sphalerite

CORN 814- Wind Mountain

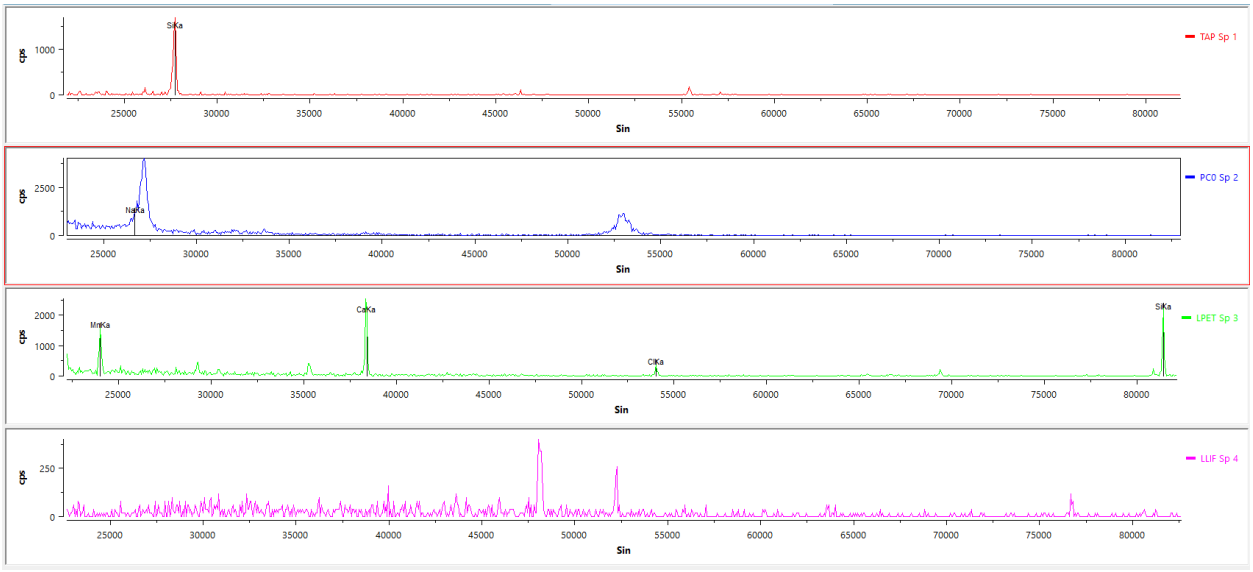
Amphiboles



CORN814_1- Arfvedsonite

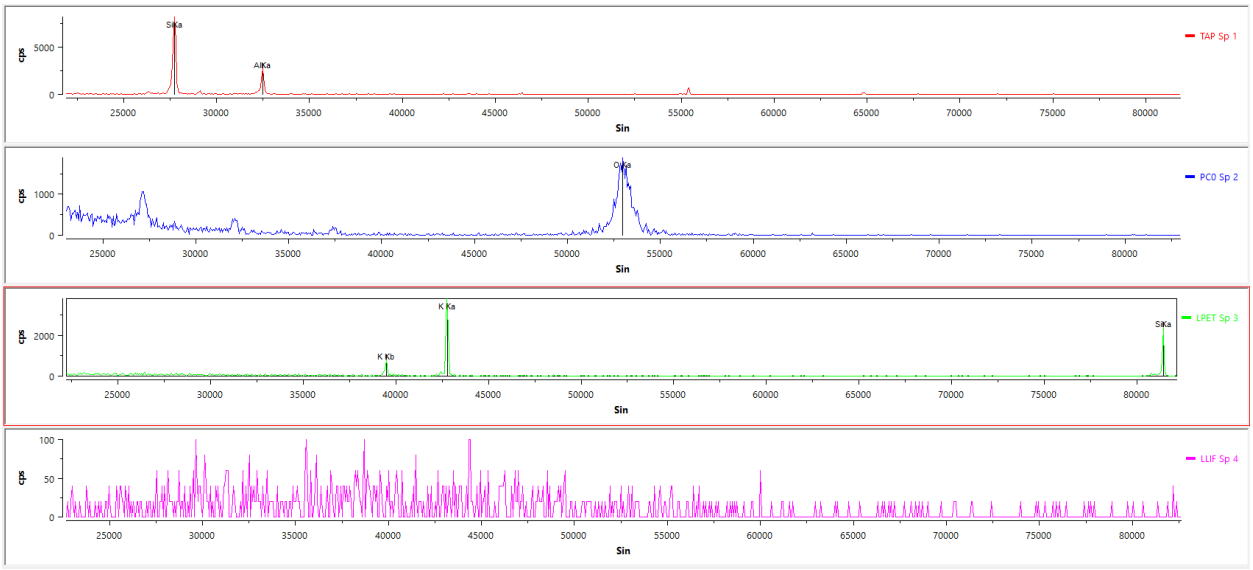
CORN 20-01- South Wind Mountain Sill

Pyroxenes

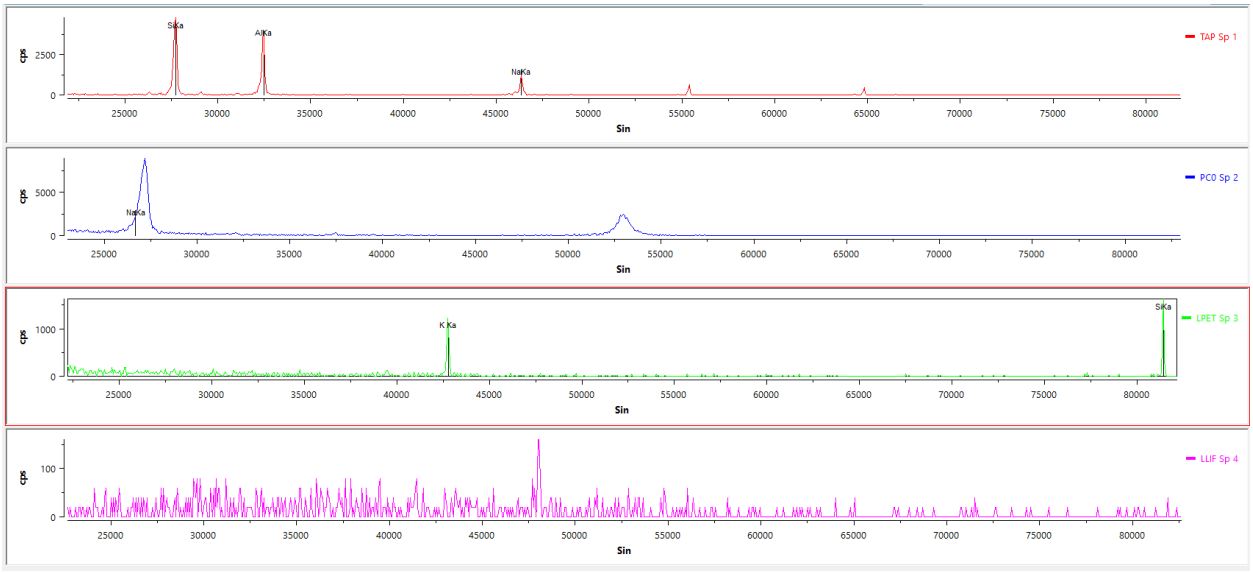


CORN-20-01_3- Aegirine-augite

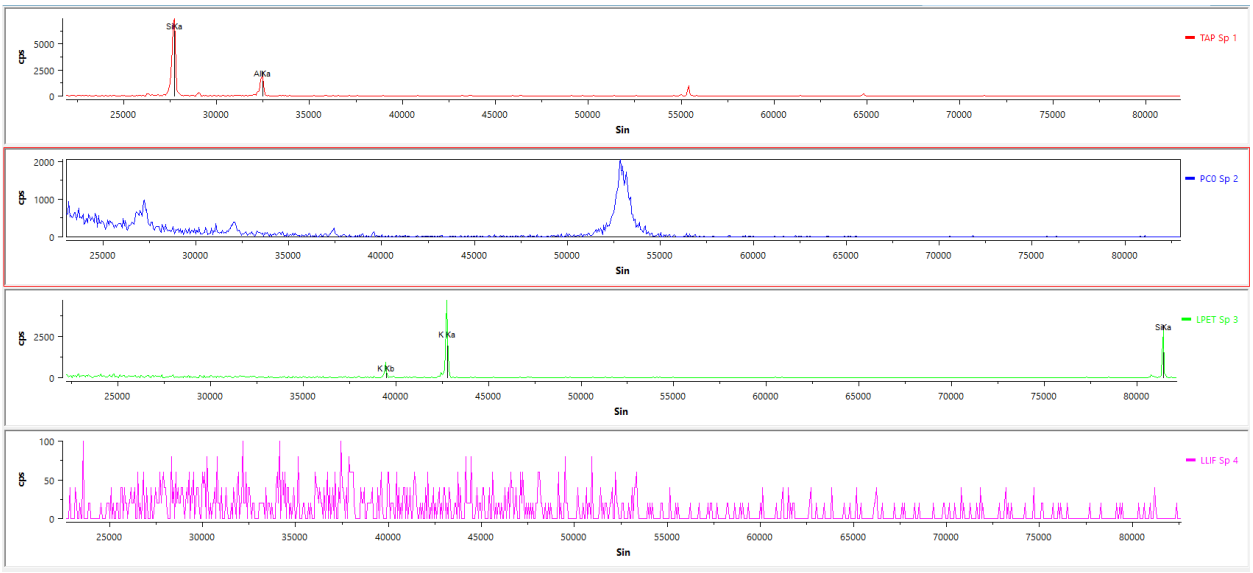
Feldspars and Feldspathoids



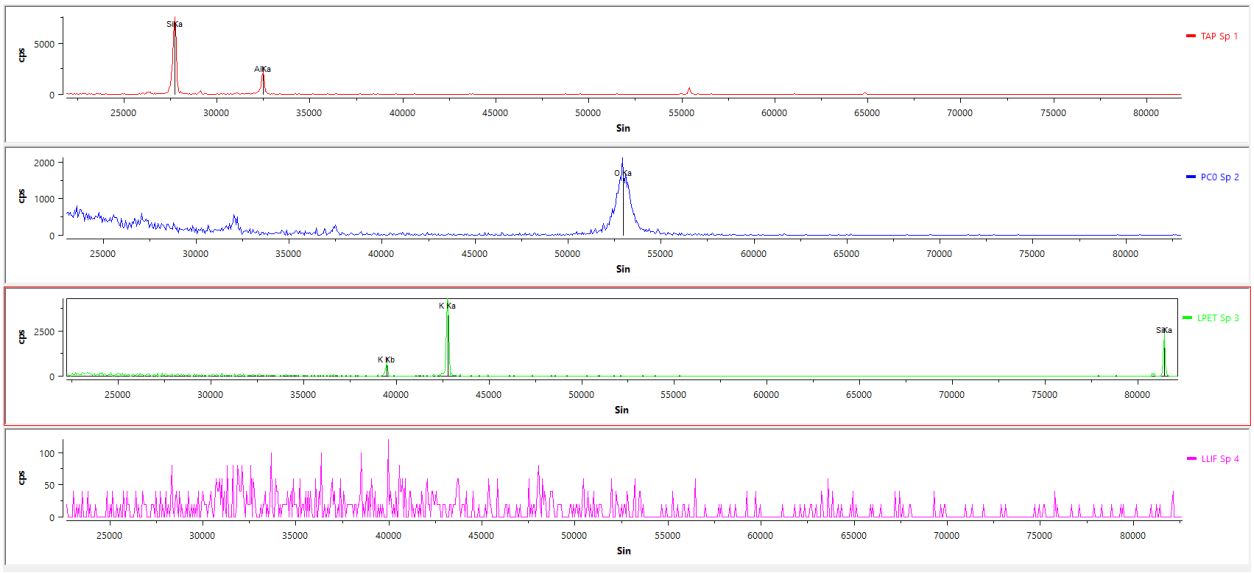
CORN-20-01_26



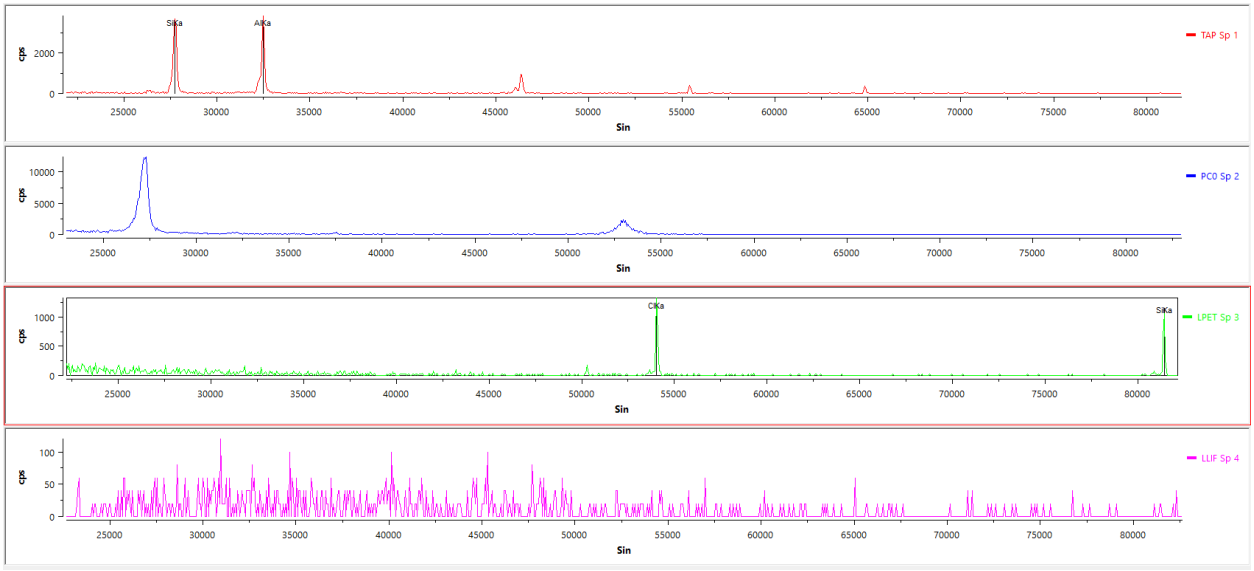
CORN-20-01_27- Nepheline



CORN-20-01_28-Potassium Feldspar



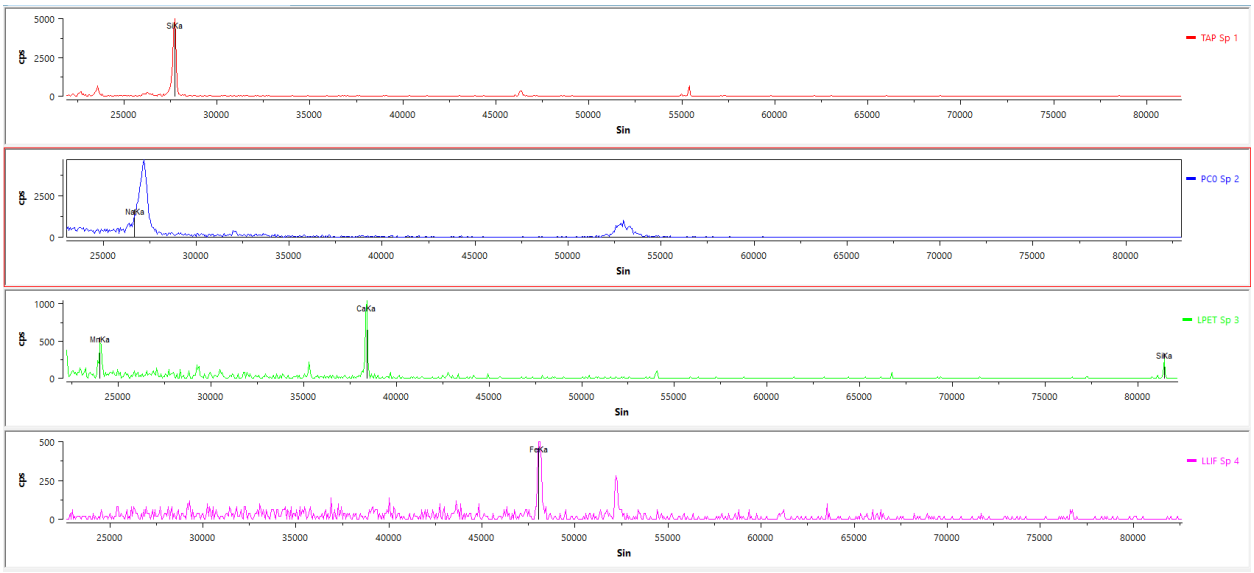
CORN-20-01_29- Potassium Feldspar



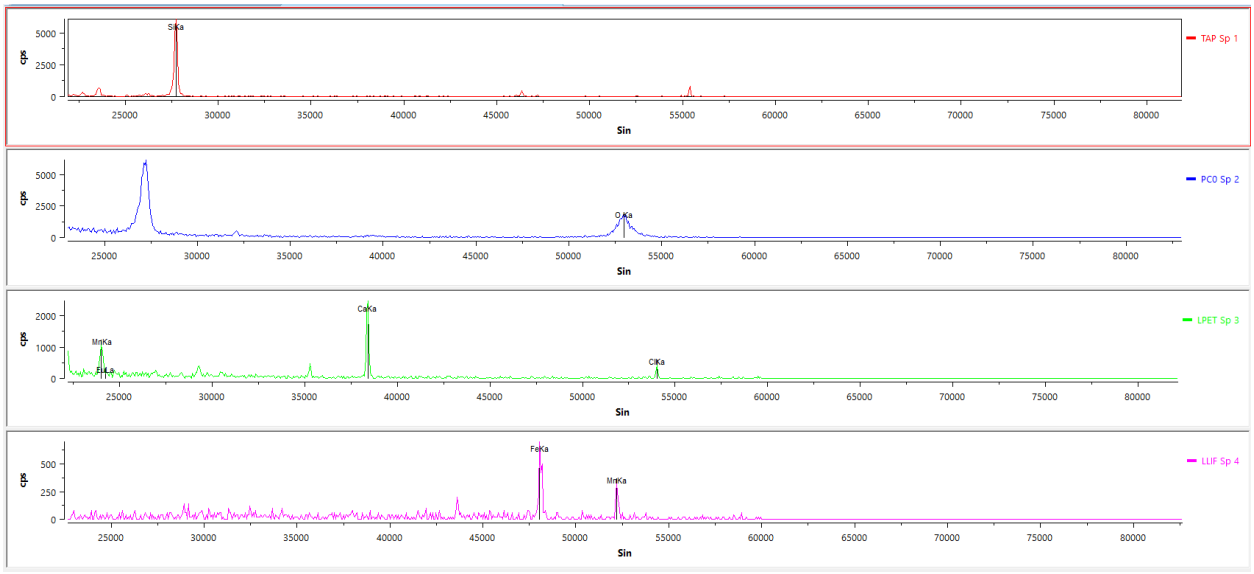
CORN-20-01_30- Sodalite

.

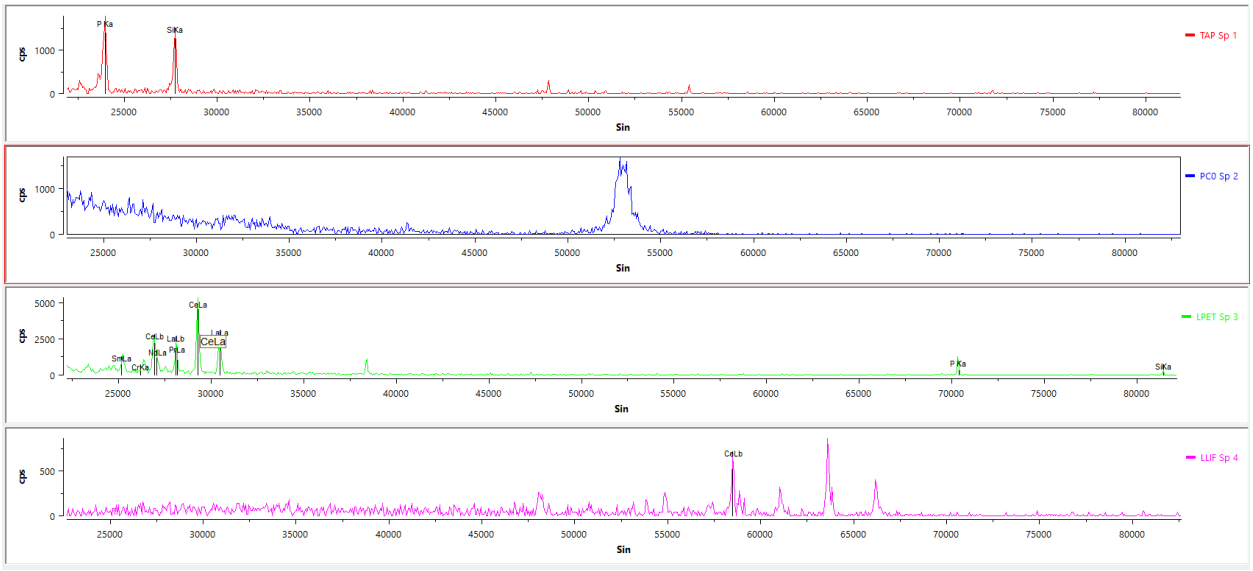
REE, Zr, and Nb Phases



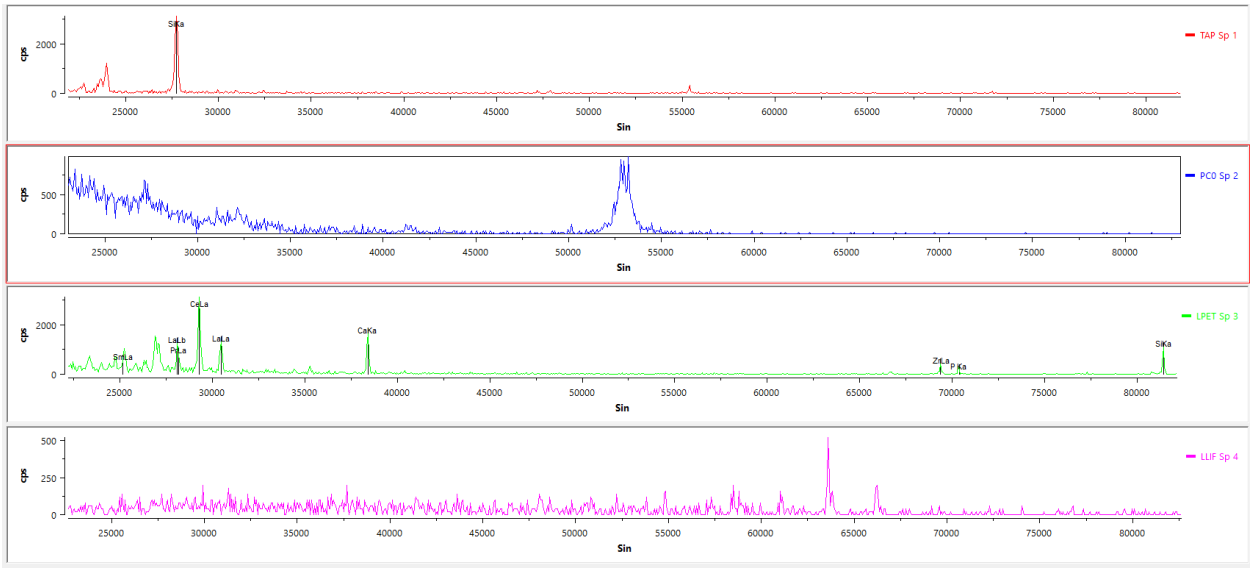
CORN-20-01_1- Manganoeudialyte



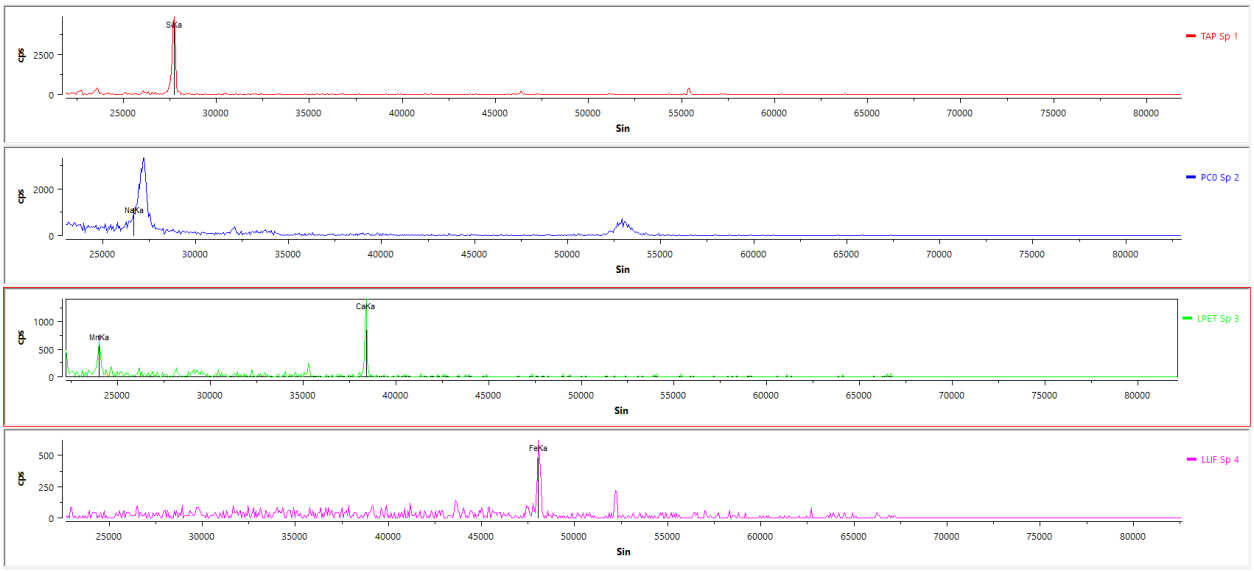
CORN-20-01_2- Manganoeudialyte



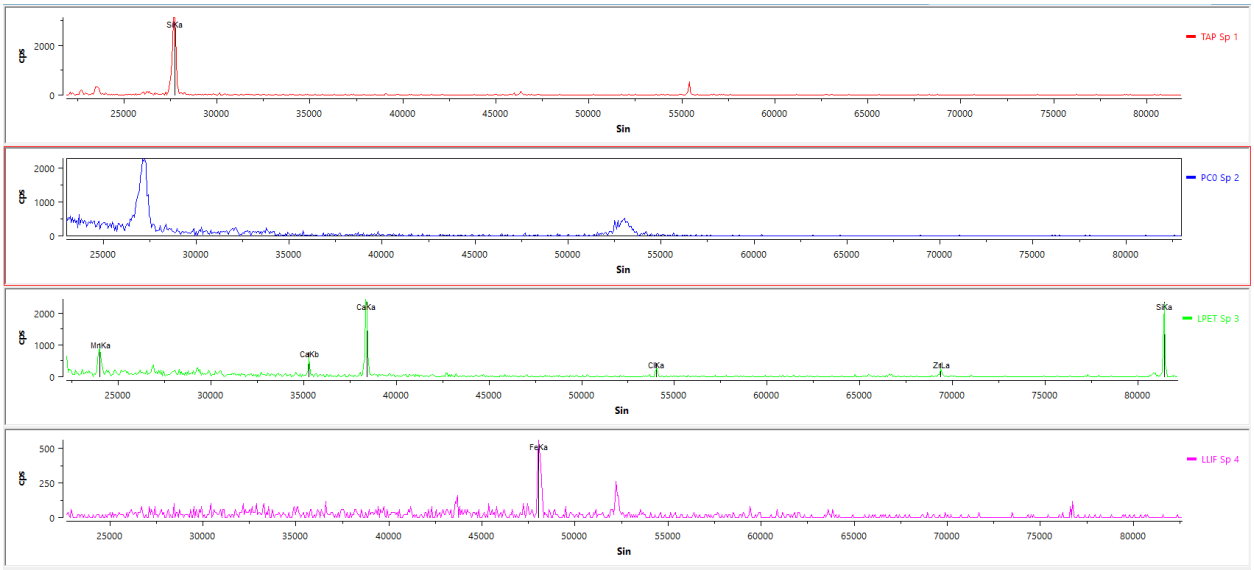
CORN-20-01_4- Monazite Mixed Phase



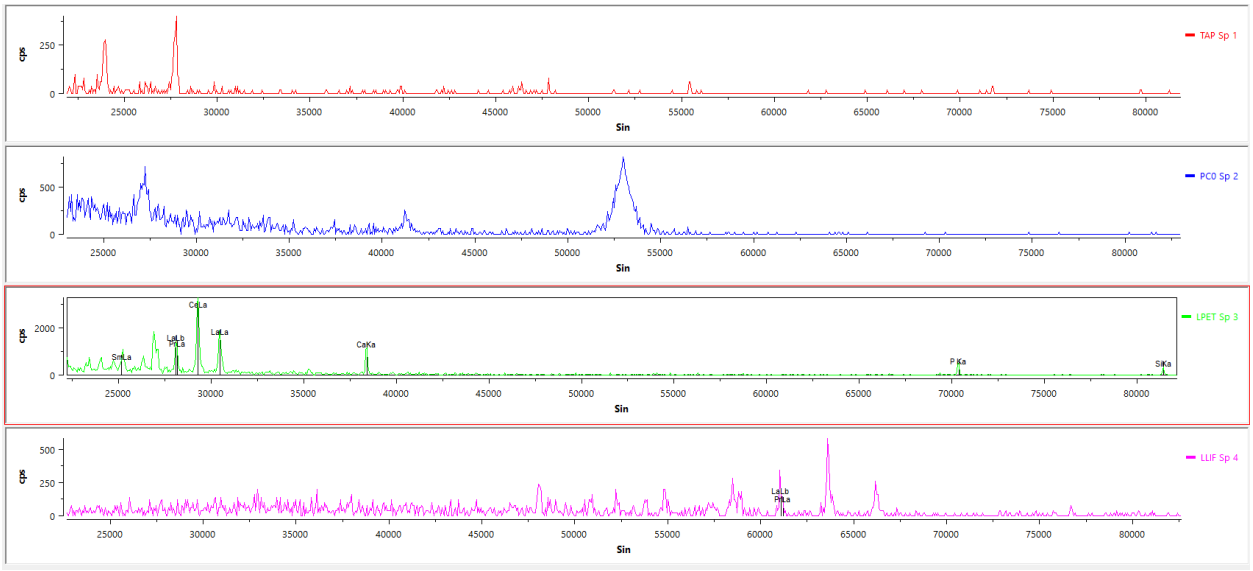
CORN-20-01_5- Calciocatapleiite + Monazite



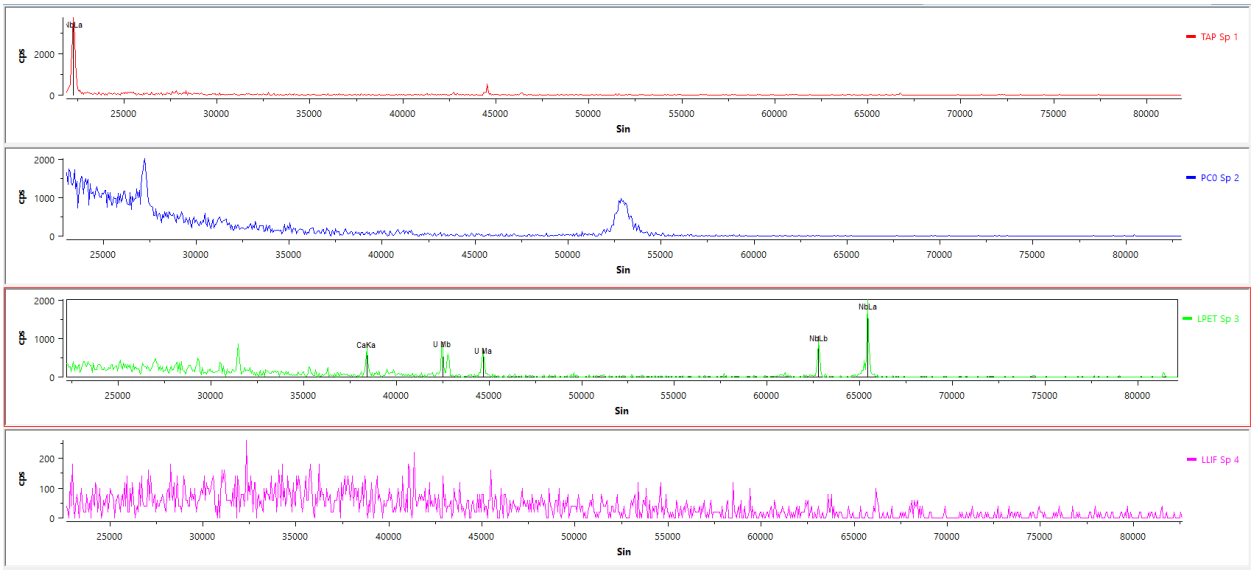
CORN-20-01_6- Manganoeudialyte



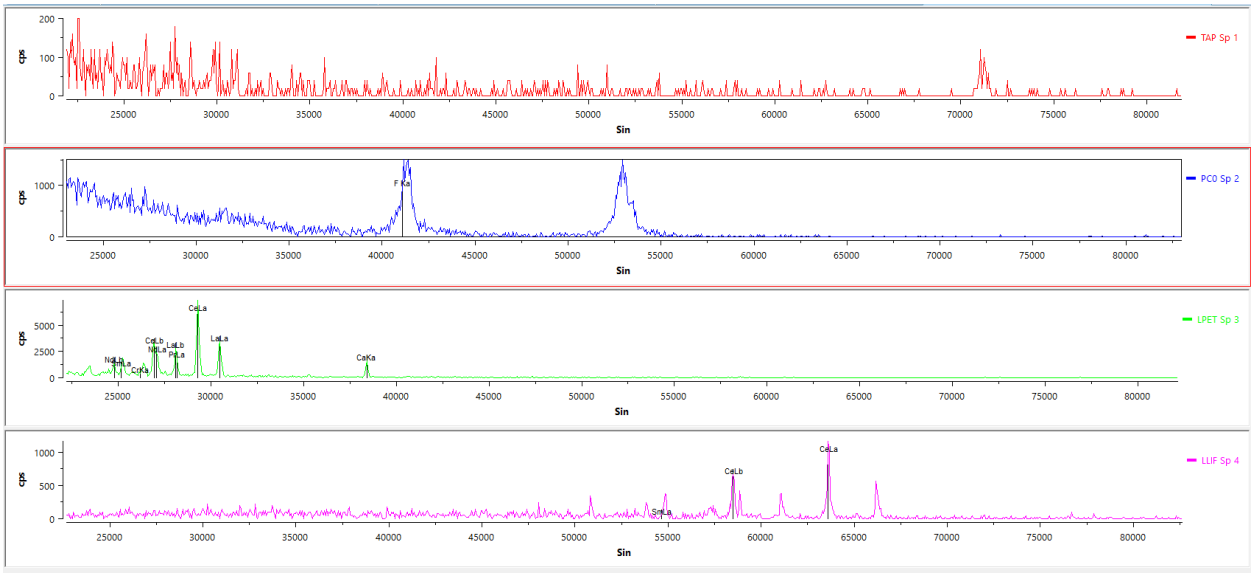
CORN-20-01_7- Manganoeudialyte



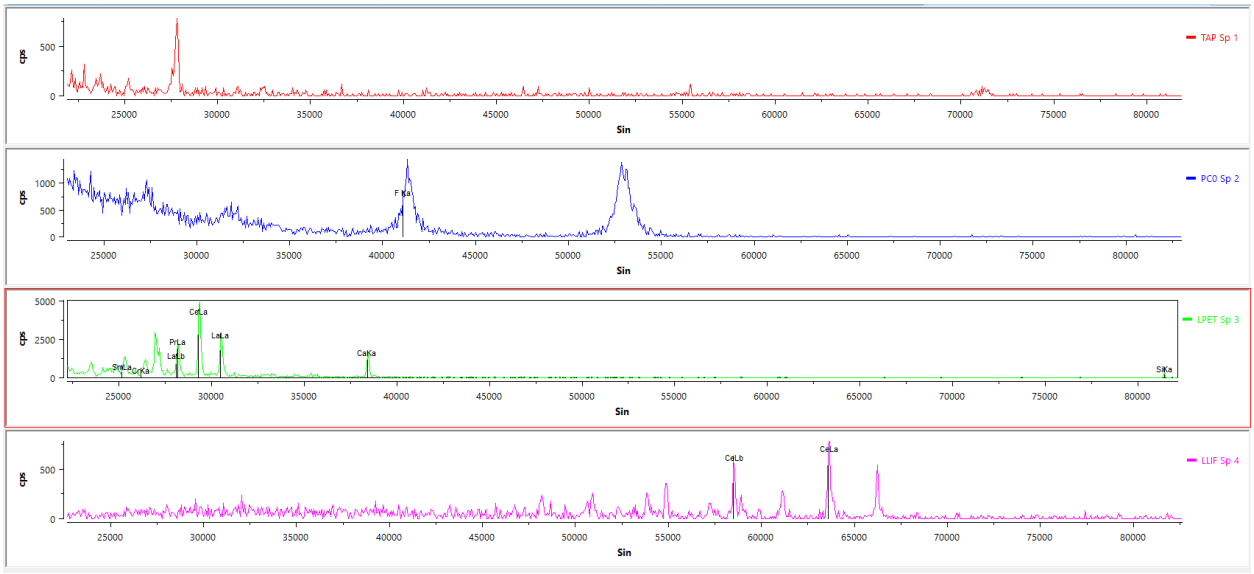
CORN-20-01_10- Monazite



CORN-20-01_14- Oxynatropyrochlore



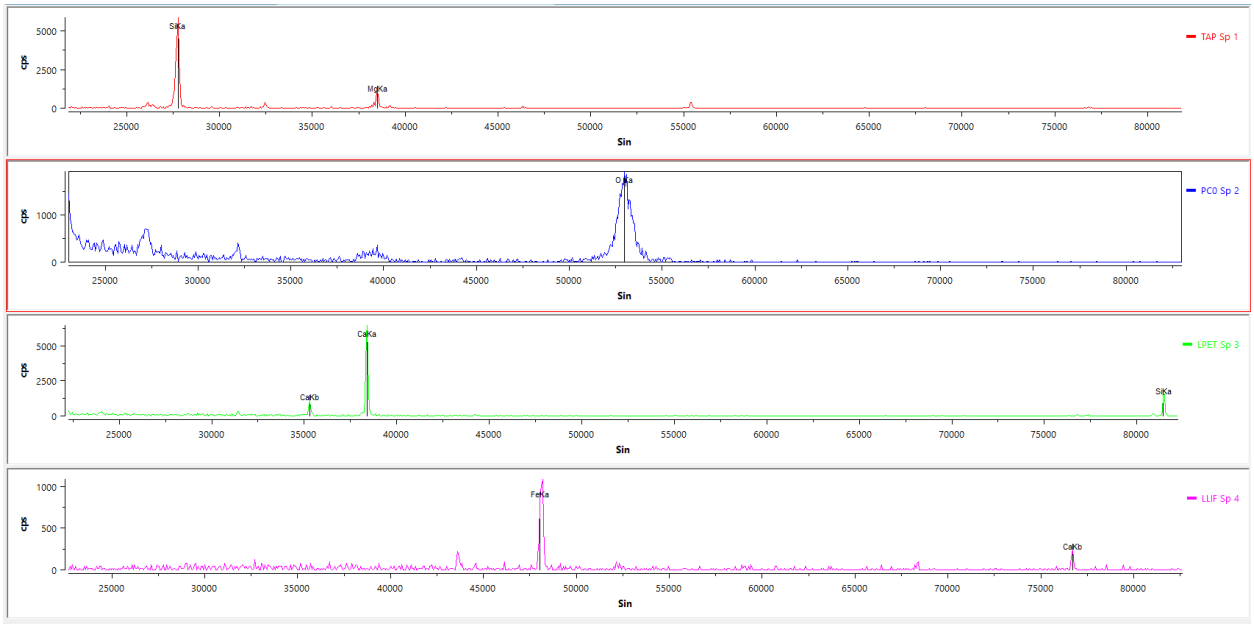
CORN-20-01_15- Bastnäsite



CORN-20-01_21- Bastnäsite

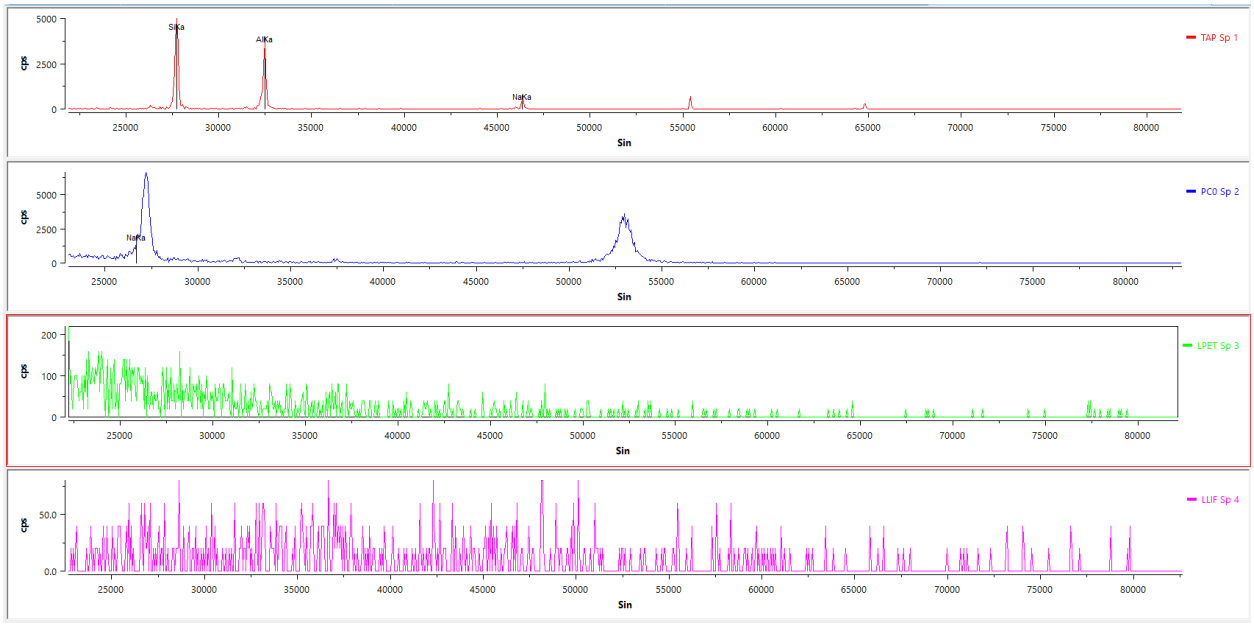
CORN 20-10- South Chess Draw Syenite

Pyroxenes

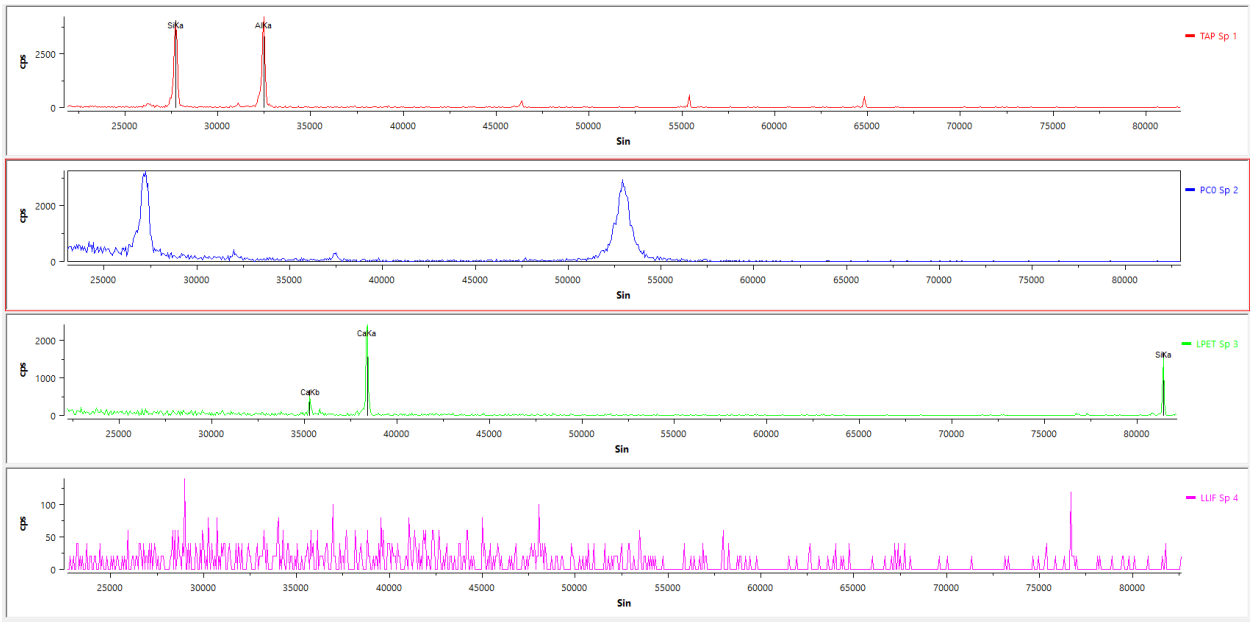


CORN20-10_2- Augite

Feldspars and Feldspathoids

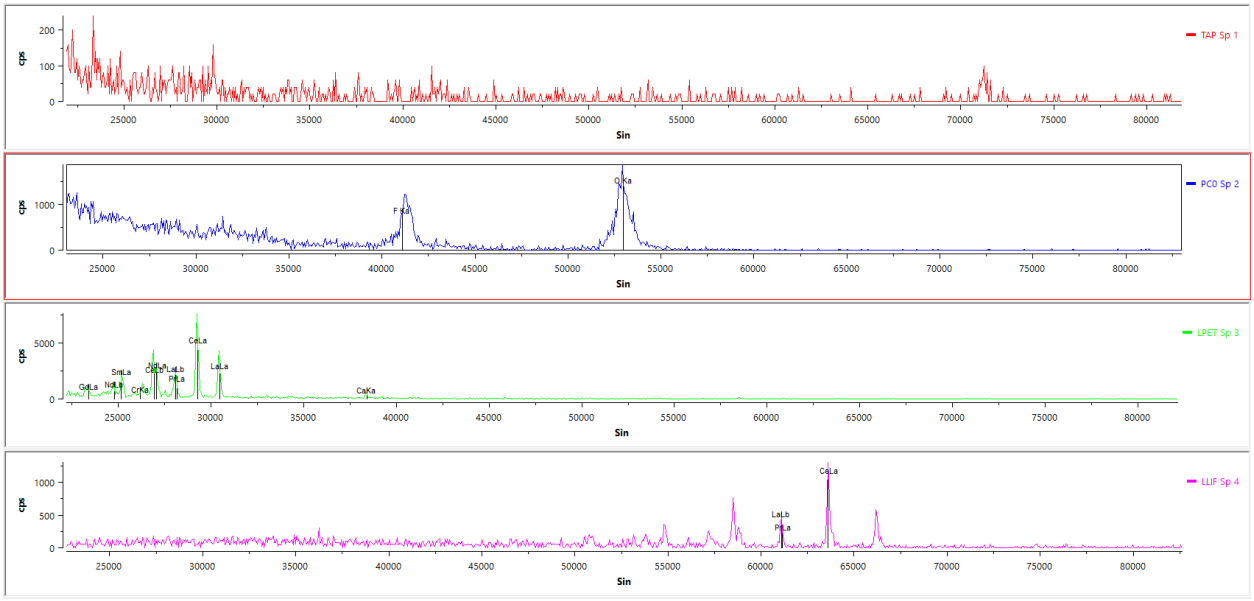


CORN-20-10_18- Analcime

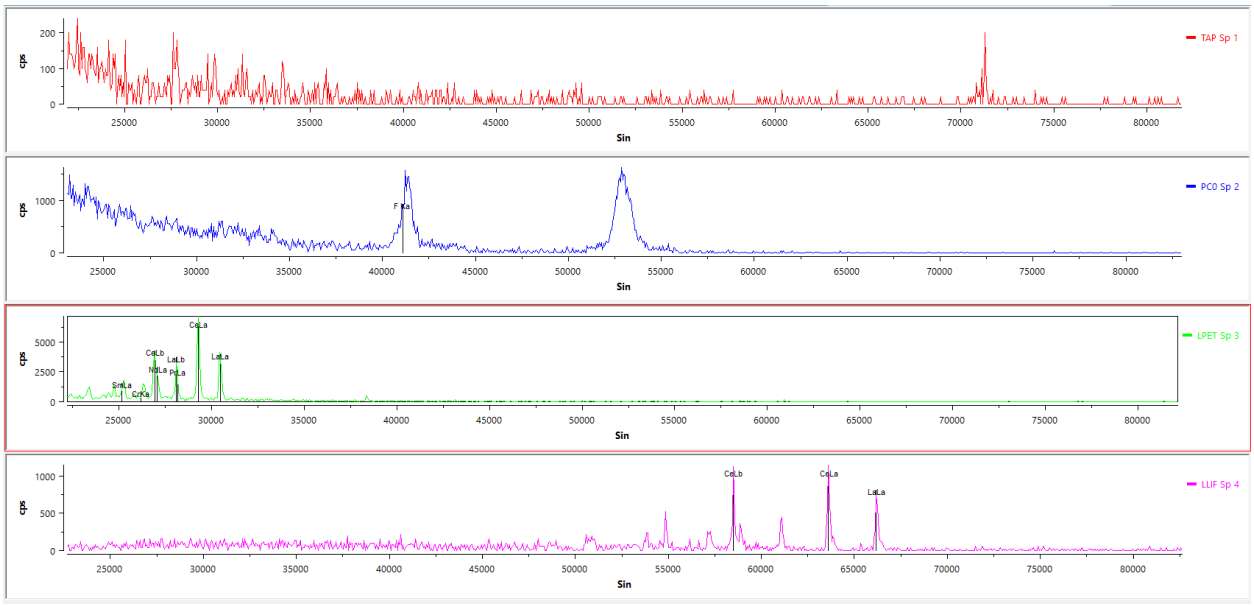


CORN-20-10_19- Plagioclase

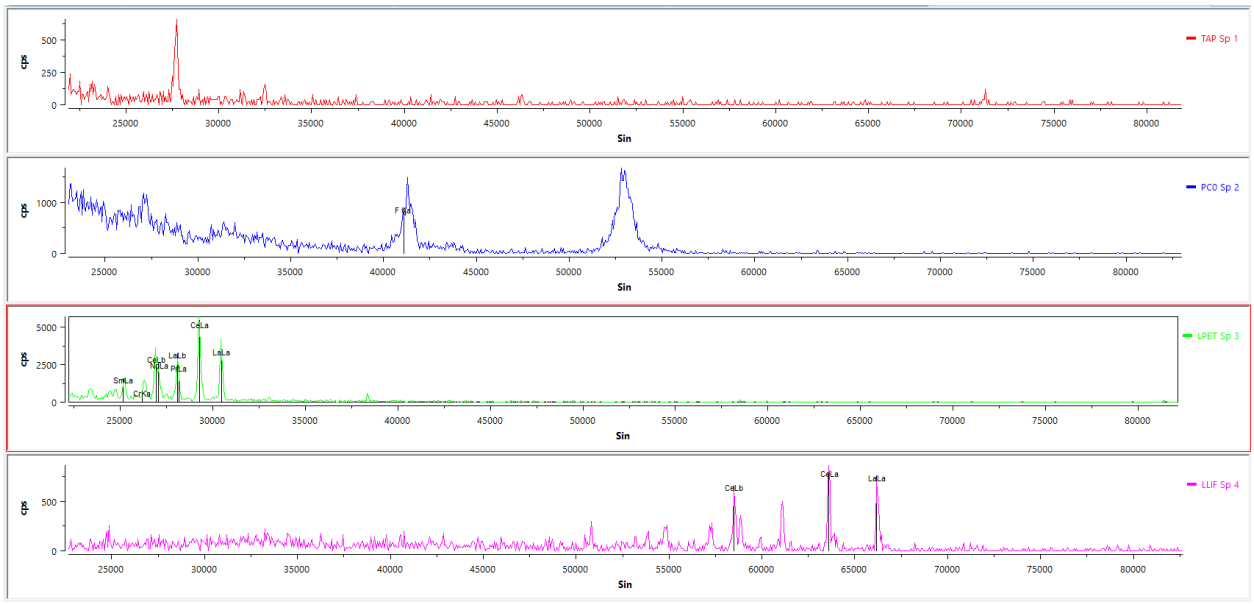
<u>REE, Zr, and Nb Phases</u>



CORN-20-10_13- Bastnäsite

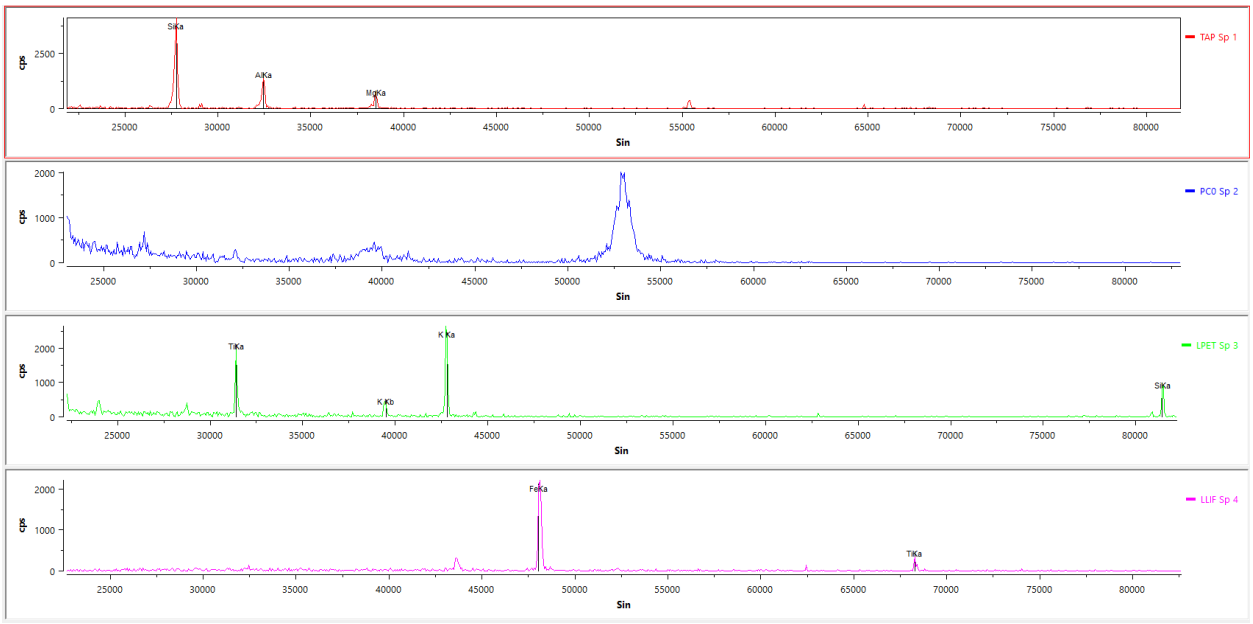


CORN-20-10_14- Bastnäsite



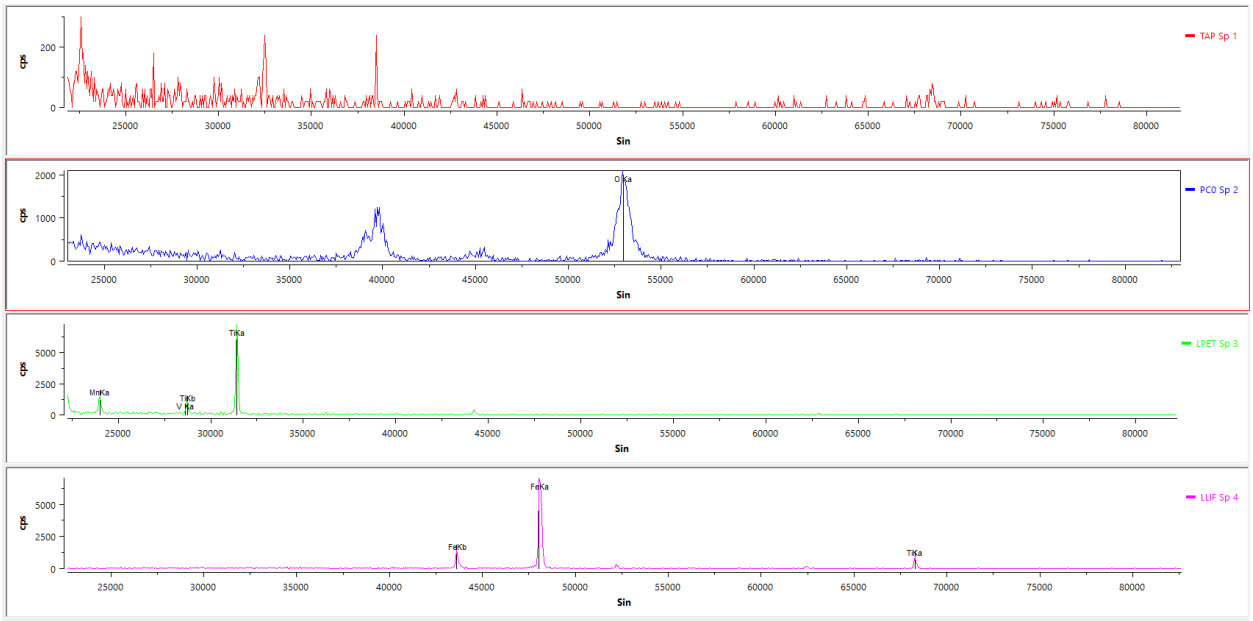
CORN-20-10_15- Bastnäsite

Other Silicates

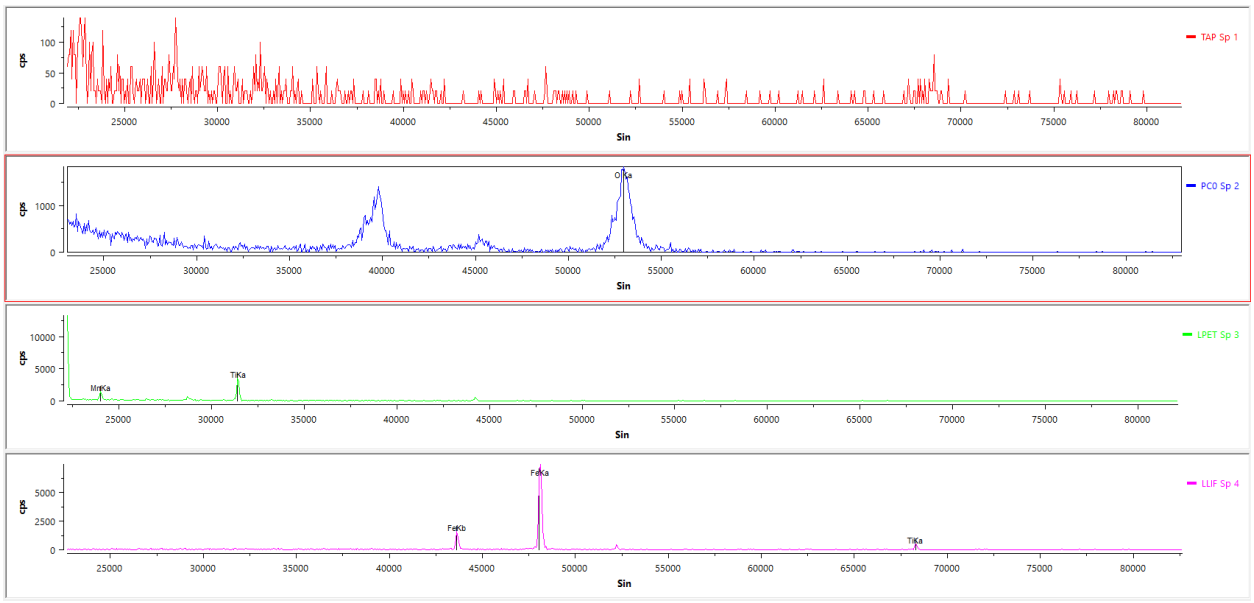


CORN20-10_3- Biotite

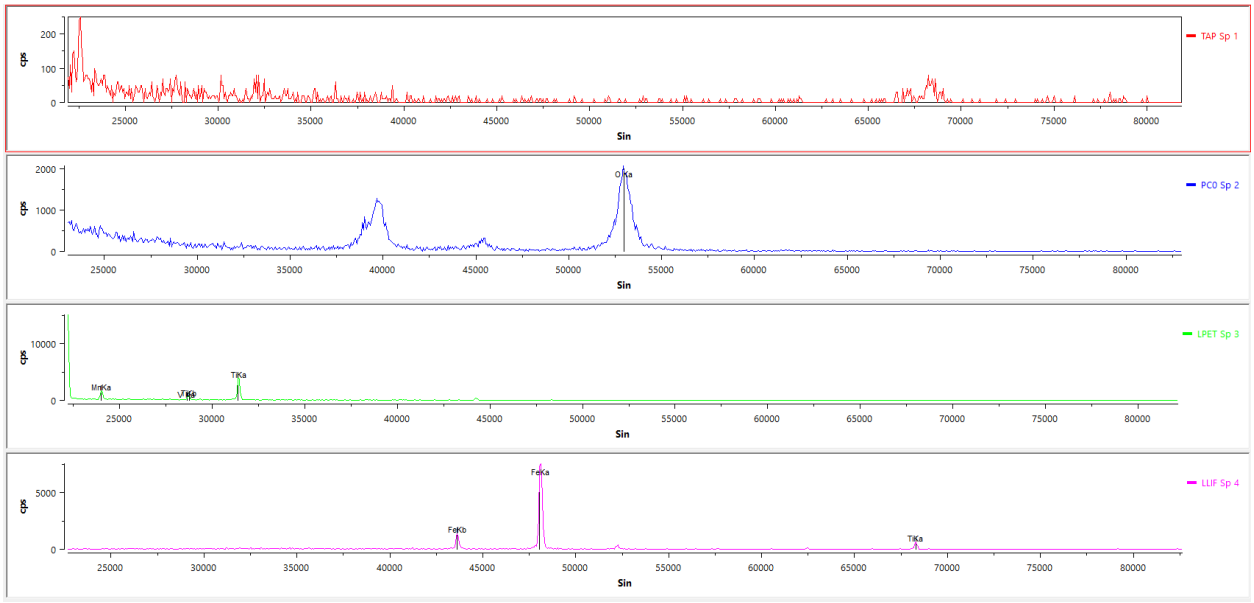
Oxides



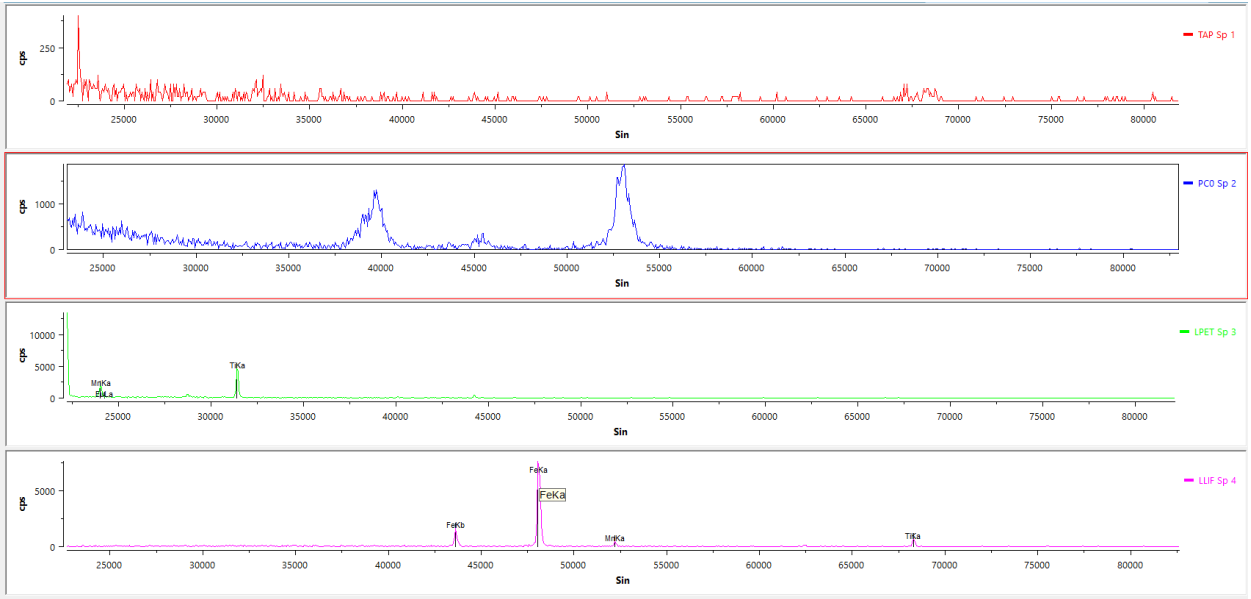
CORN20-10_1- Titanomagnetite



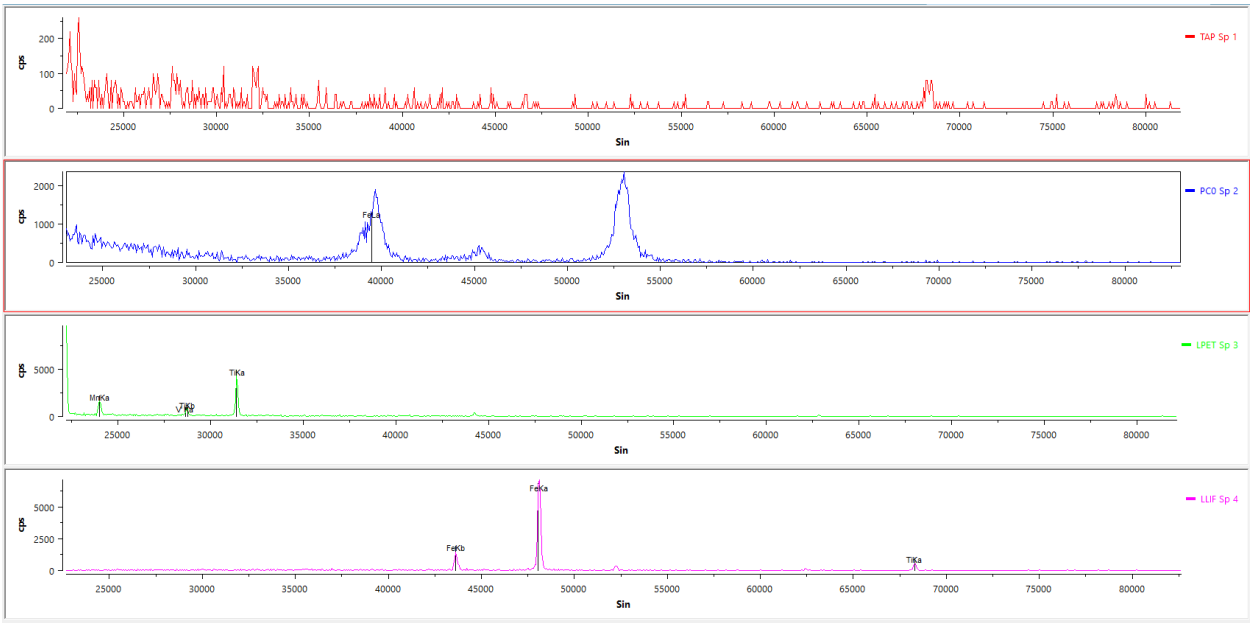
CORN-20-10_11- Titanomagnetite



CORN-20-10_12- Titanomagnetite



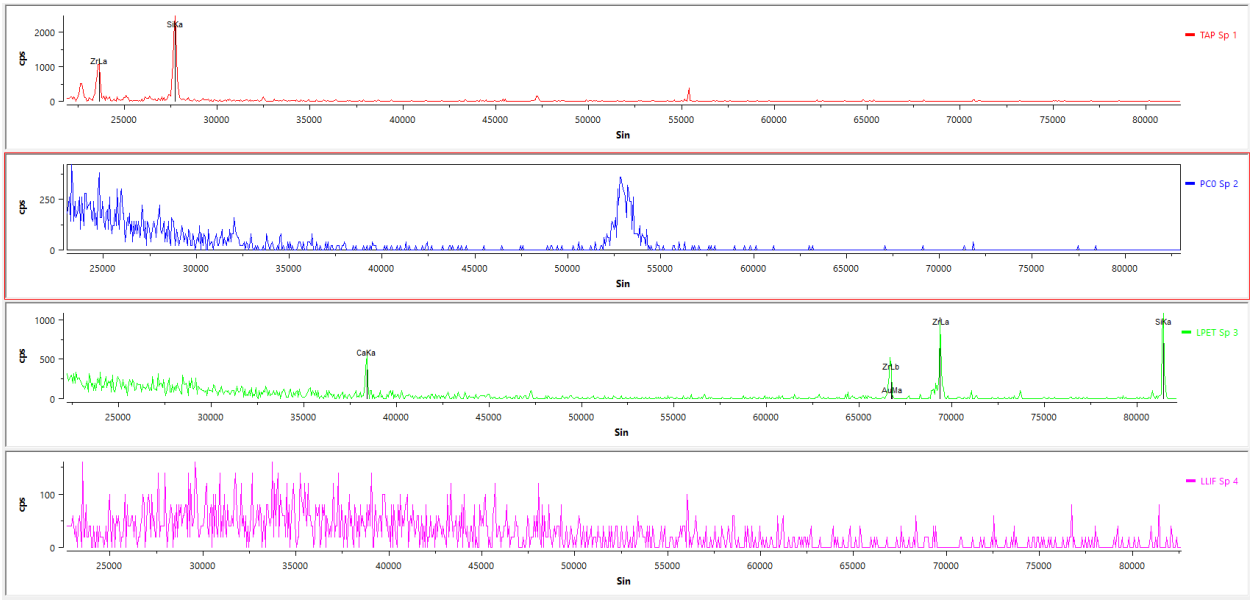
CORN-20-10_16- Titanomagnetite



CORN-20-10_17- Titanomagnetite

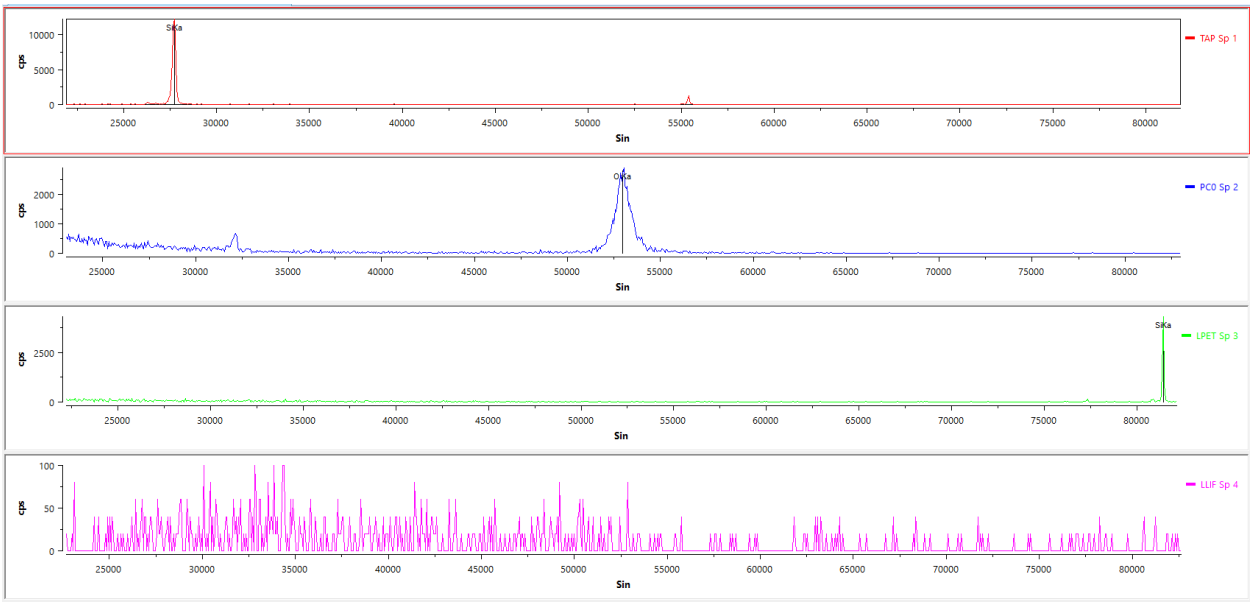
CORN 20-12- Chess Draw Breccia

<u>REE, Zr, and Nb Phases</u>



CORN20-12_02- Calciocatapleiite

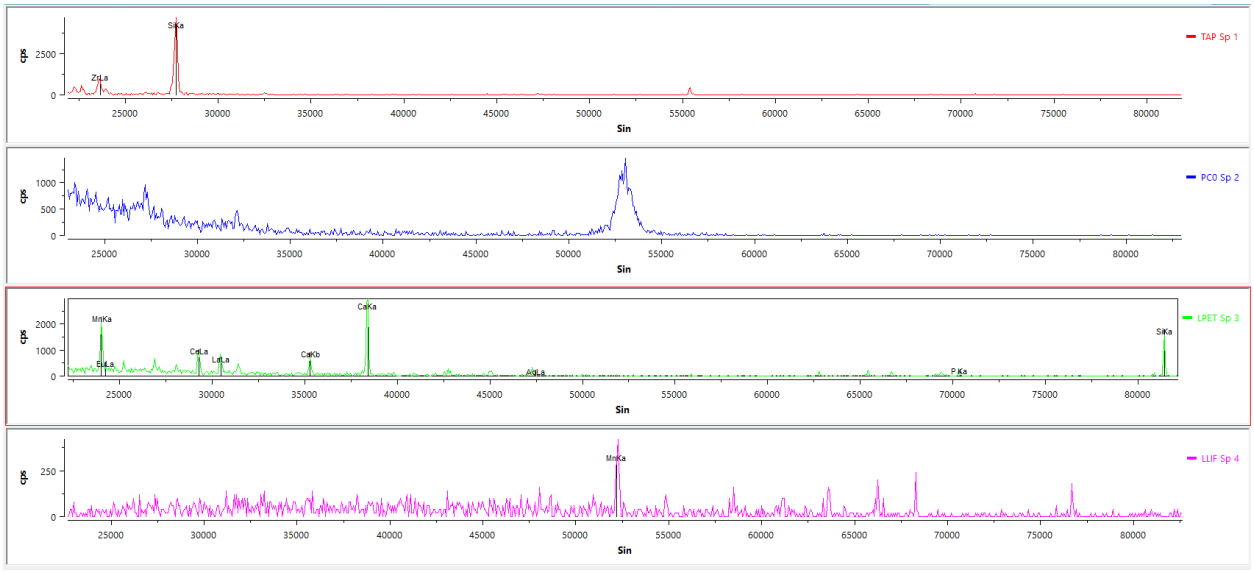
<u>Other Silicates</u>



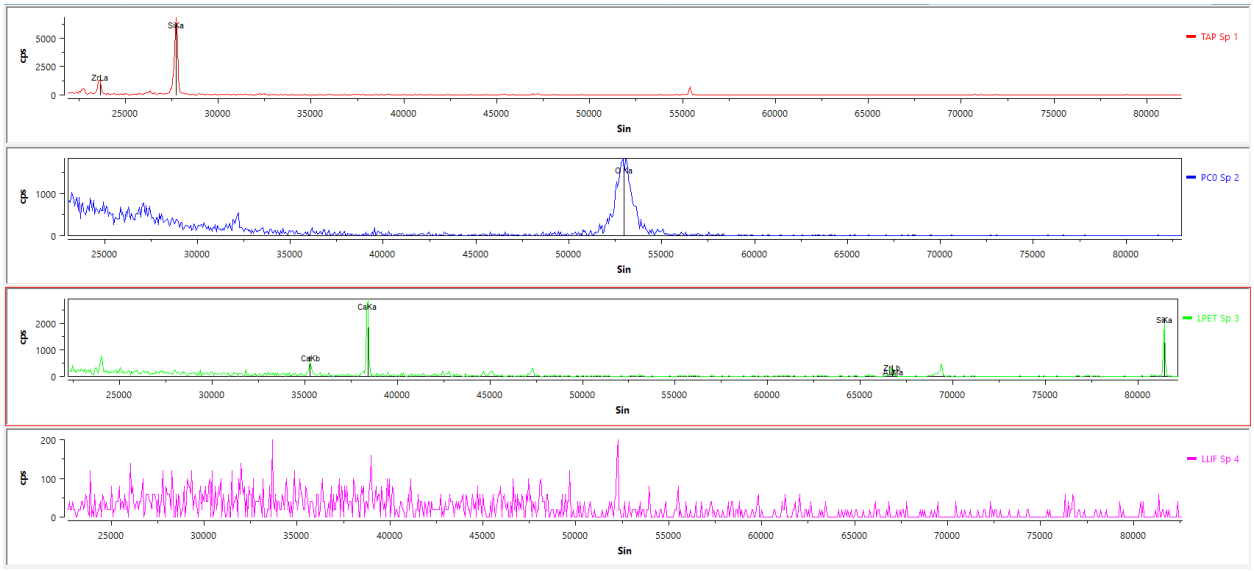
CORN20-12_01- Quartz

CORN-20-34- Dike on Wind Mountain

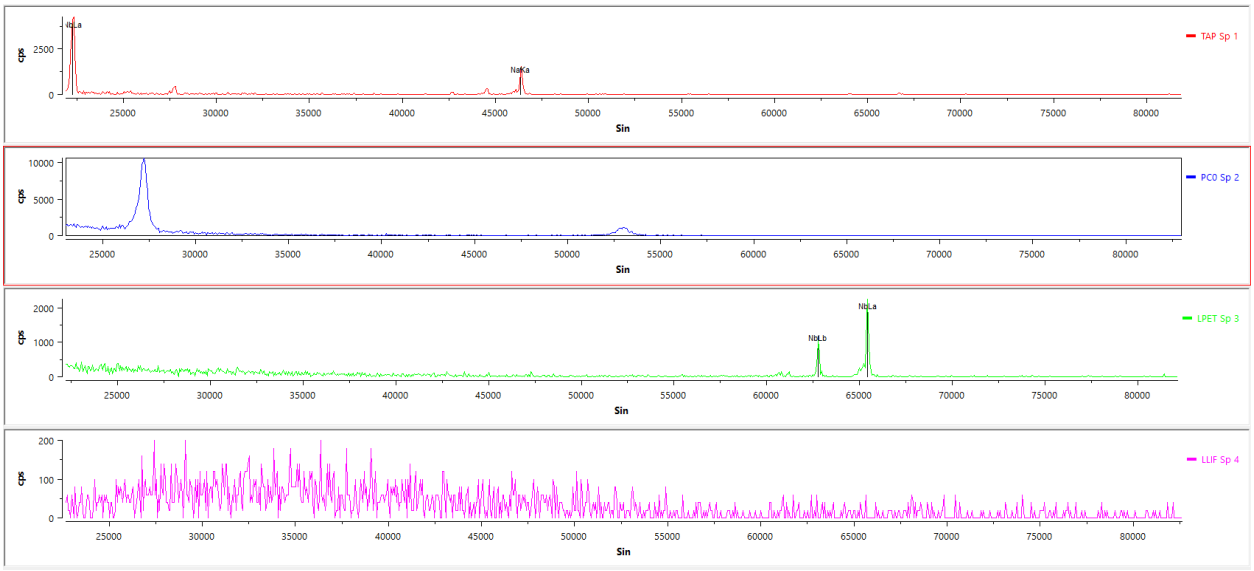
<u>REE, Zr, and Nb Phases</u>



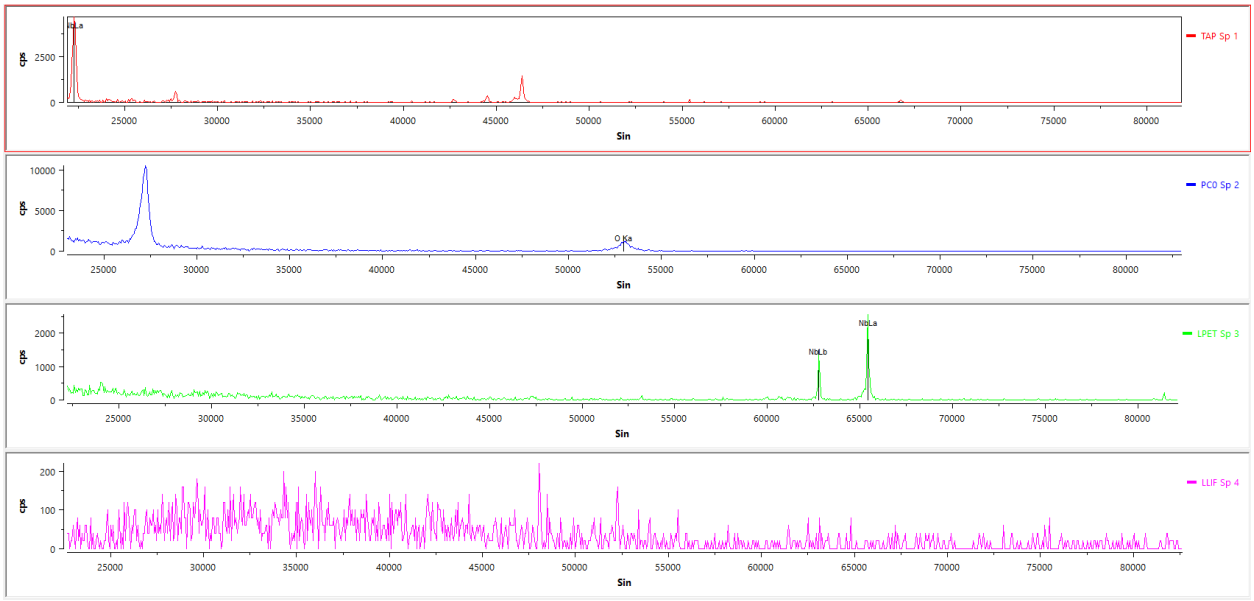
CORN-20-34_5- Calciocatapleiite + Monazite



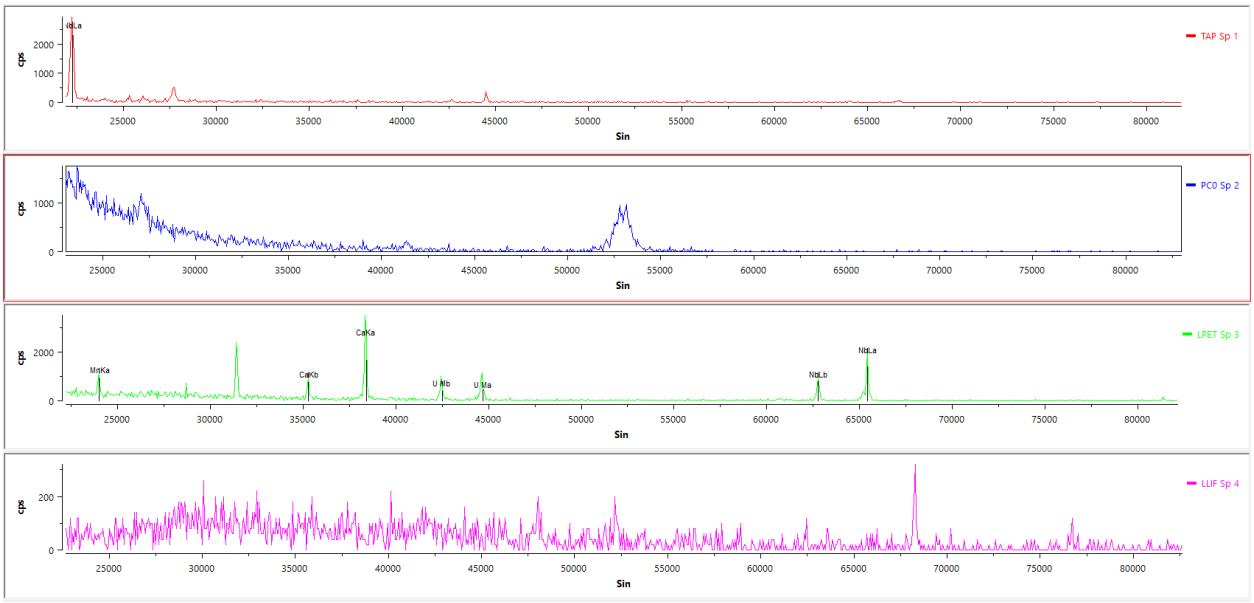
CORN-20-34_7- Calciocatapleiite



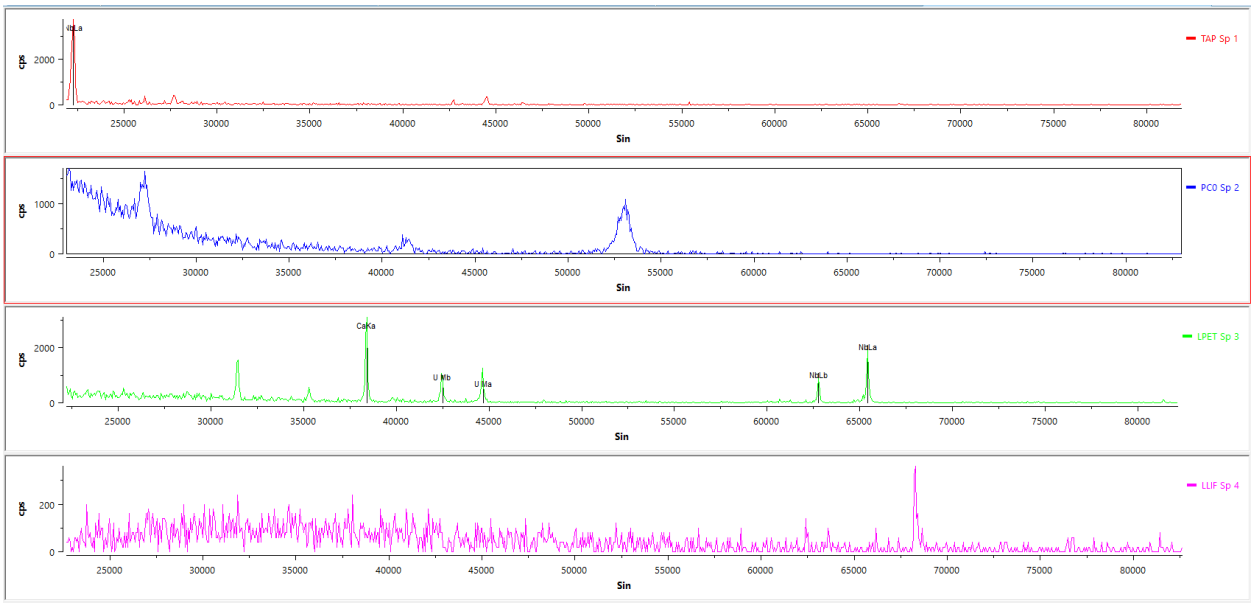
CORN-20-34_8- Lueshite



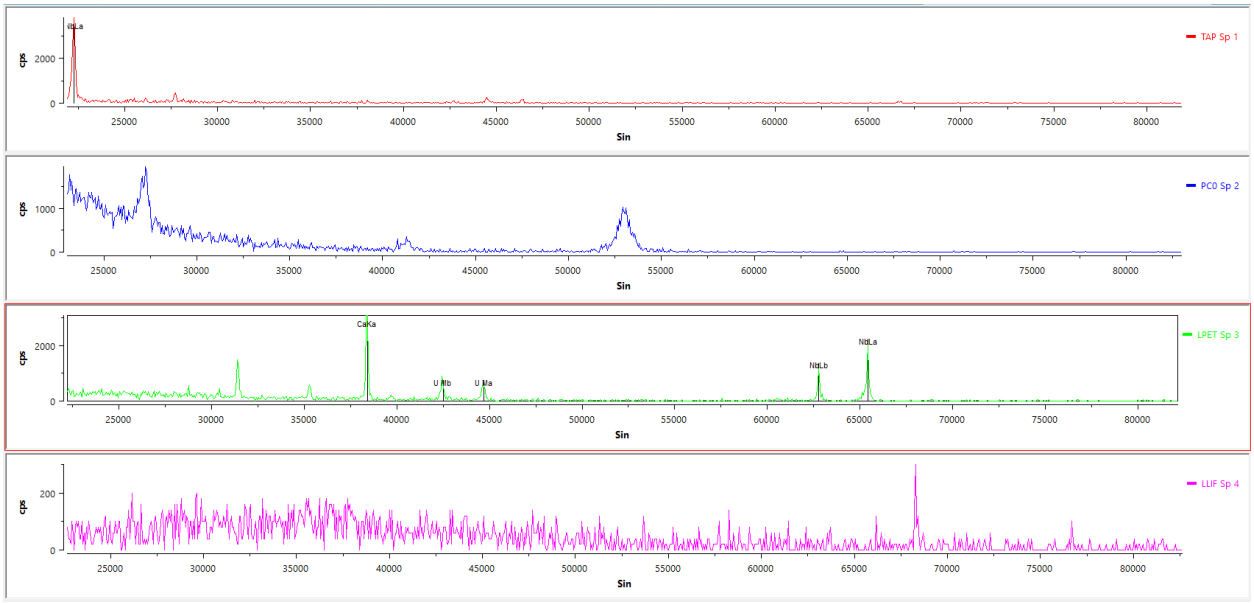
CORN-20-34_9- Lueshite



CORN-20-34_11- Hydroxymanganopyrochlore

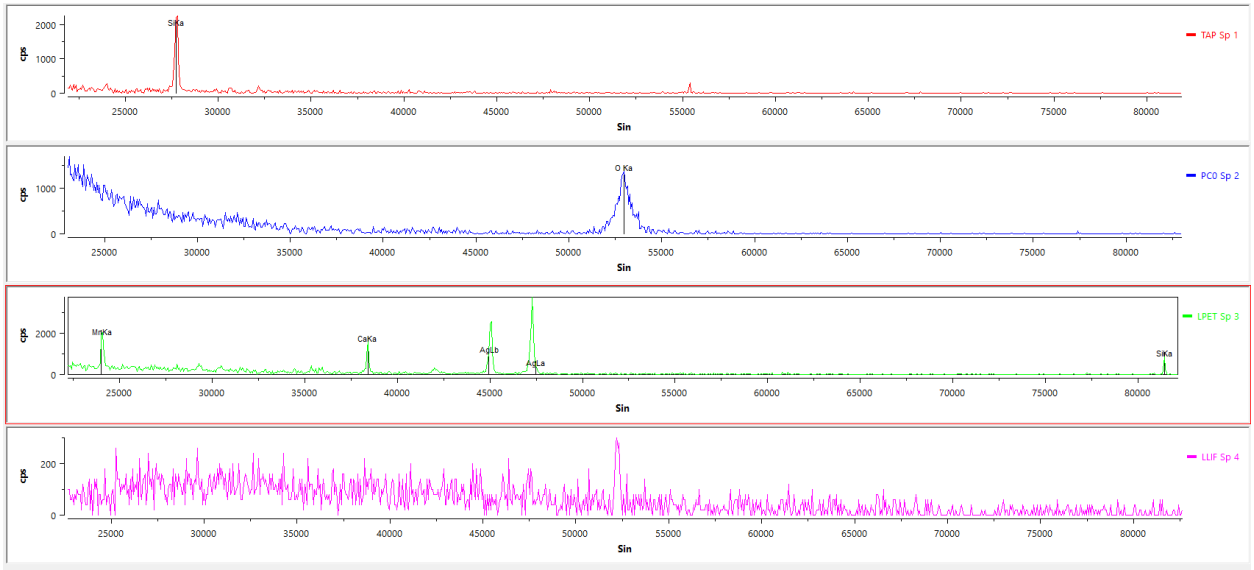


CORN-20-34_13- Oxynatropyrochlore

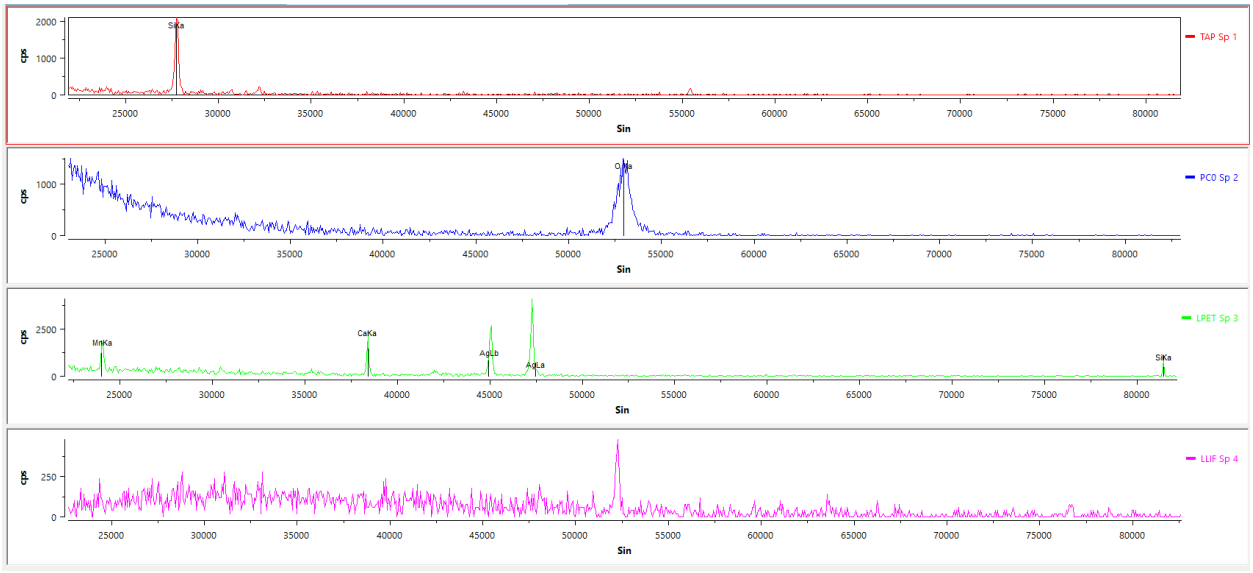


CORN-20-34_14- Oxynatropyrochlore

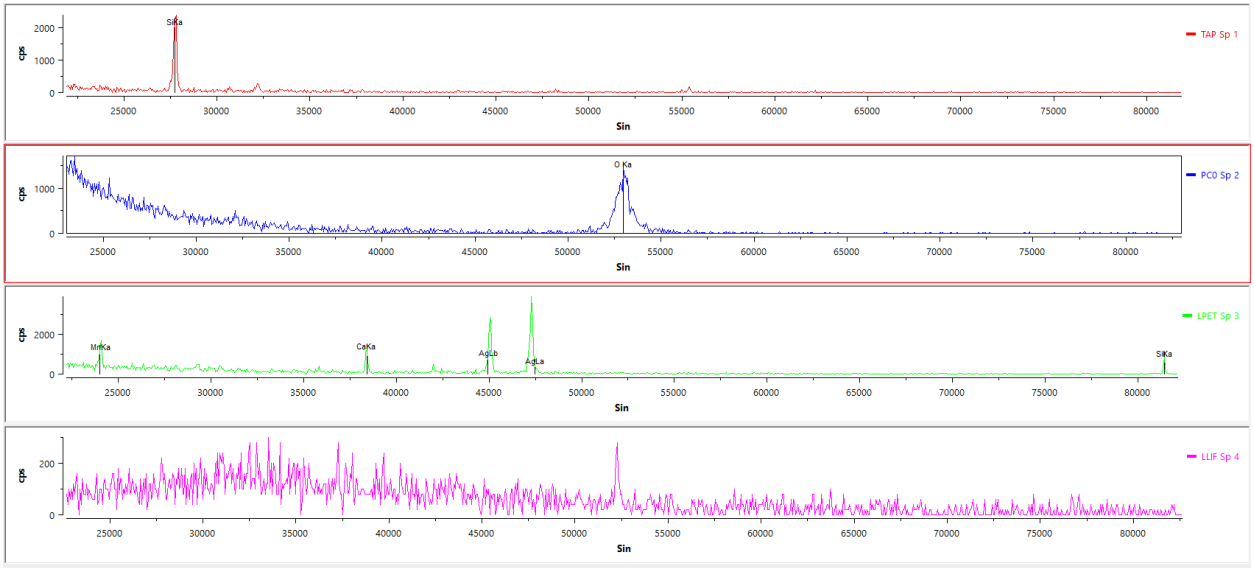
<u>Other Silicates</u>



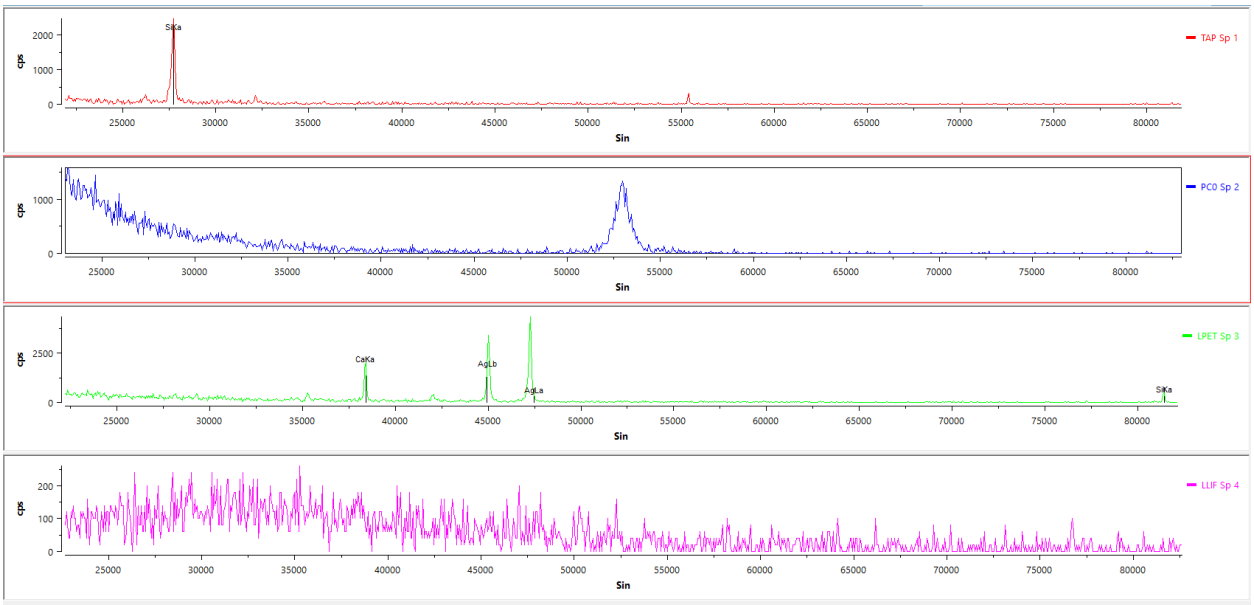
CORN-20-34_01- Undefined Mixed Phase



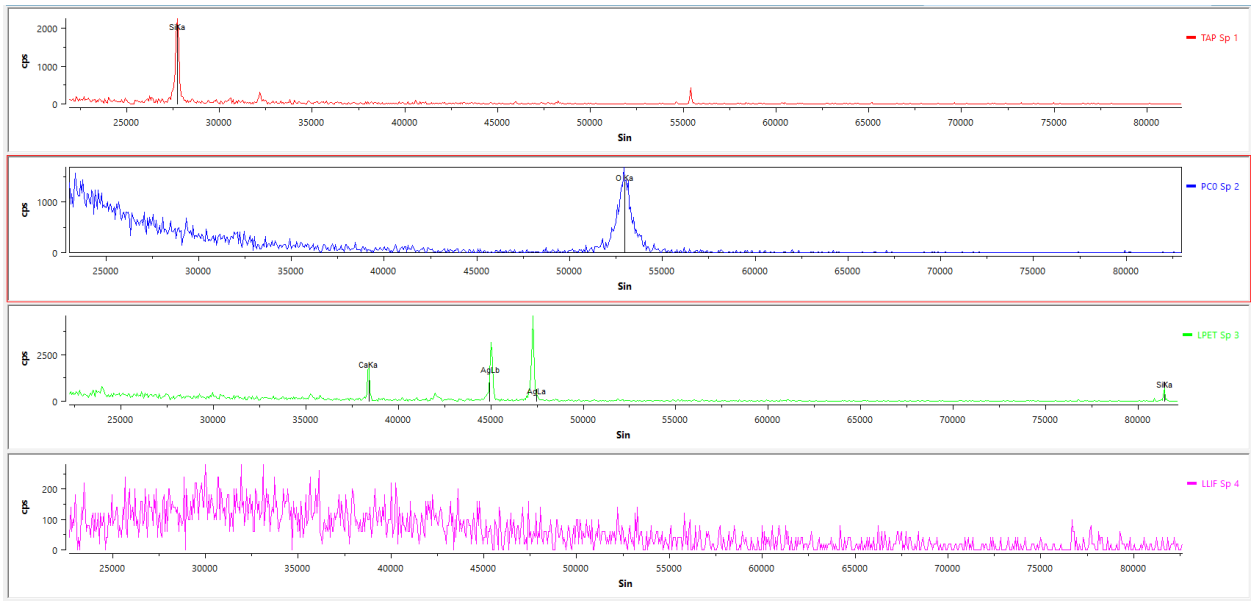
CORN-20-34_2- Undefined Mixed Phase



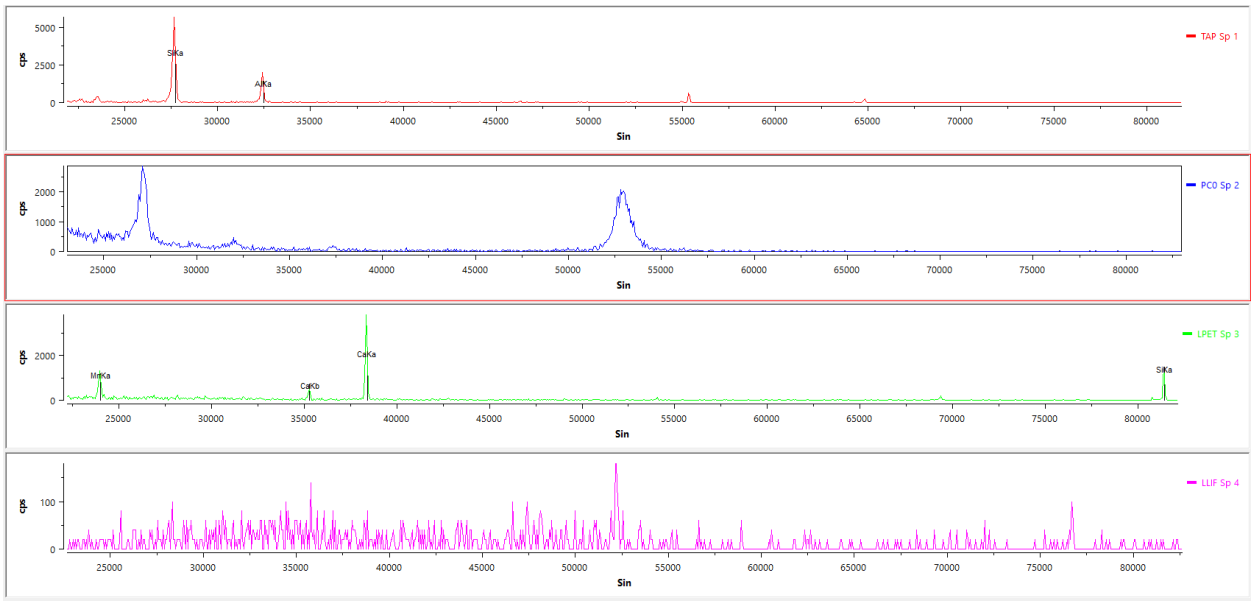
CORN-20-34_3- Undefined Mixed Phase



CORN-20-34_15- Undefined Mixed Phase

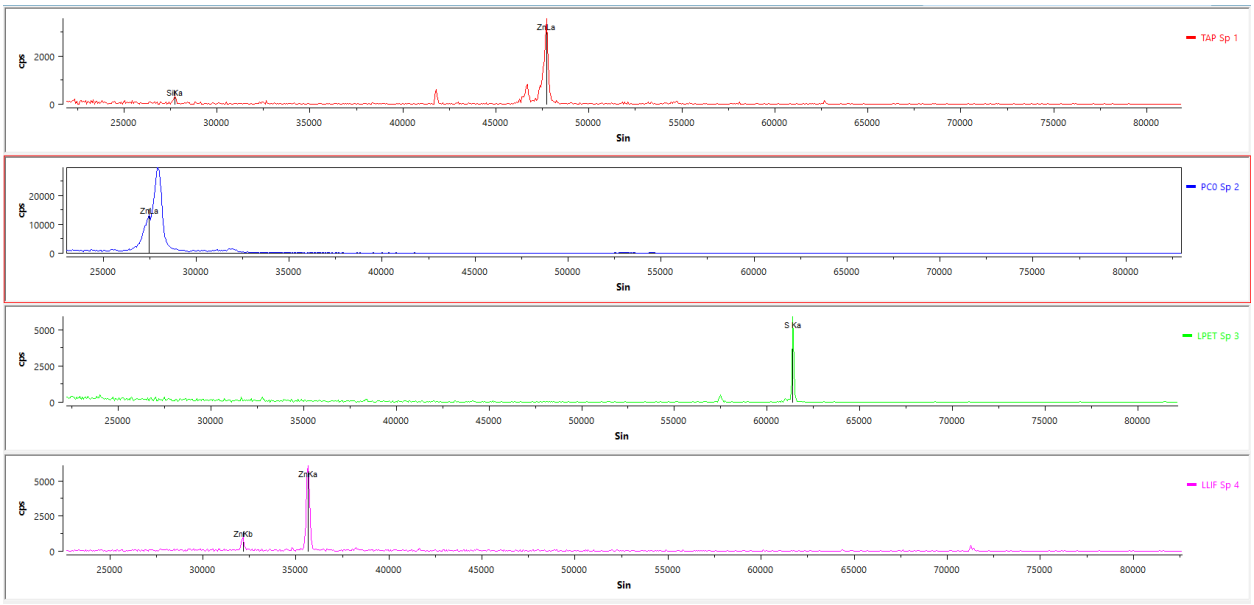


CORN-20-34_16- Undefined Mixed Phase

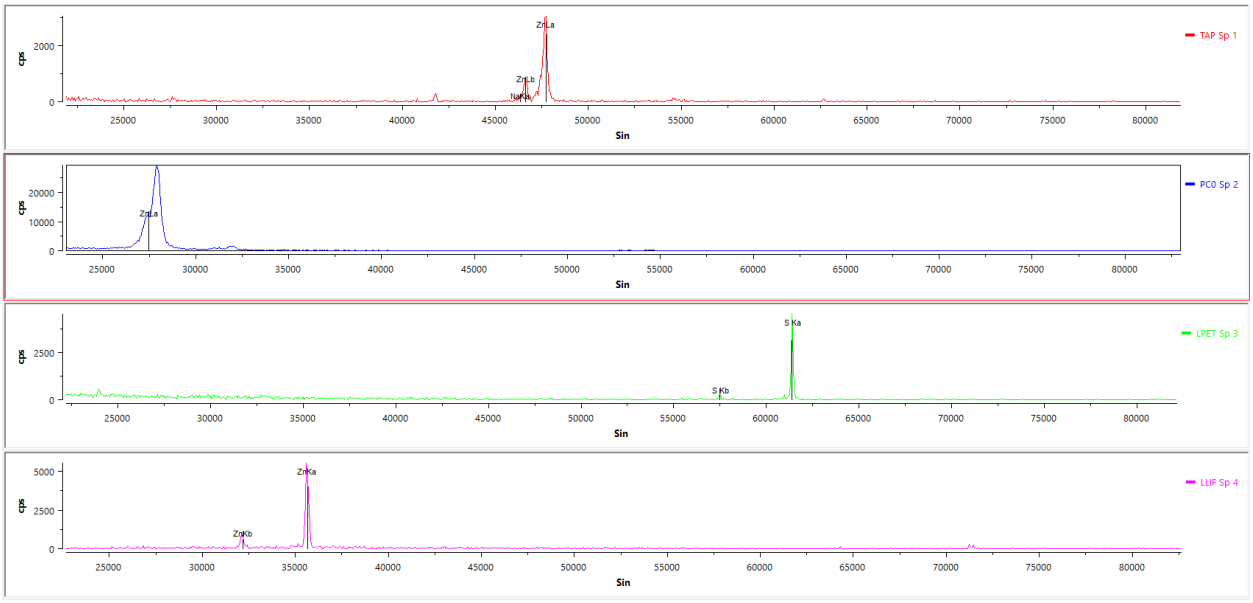


CORN-20-34_23- Silicate Mixed Phase

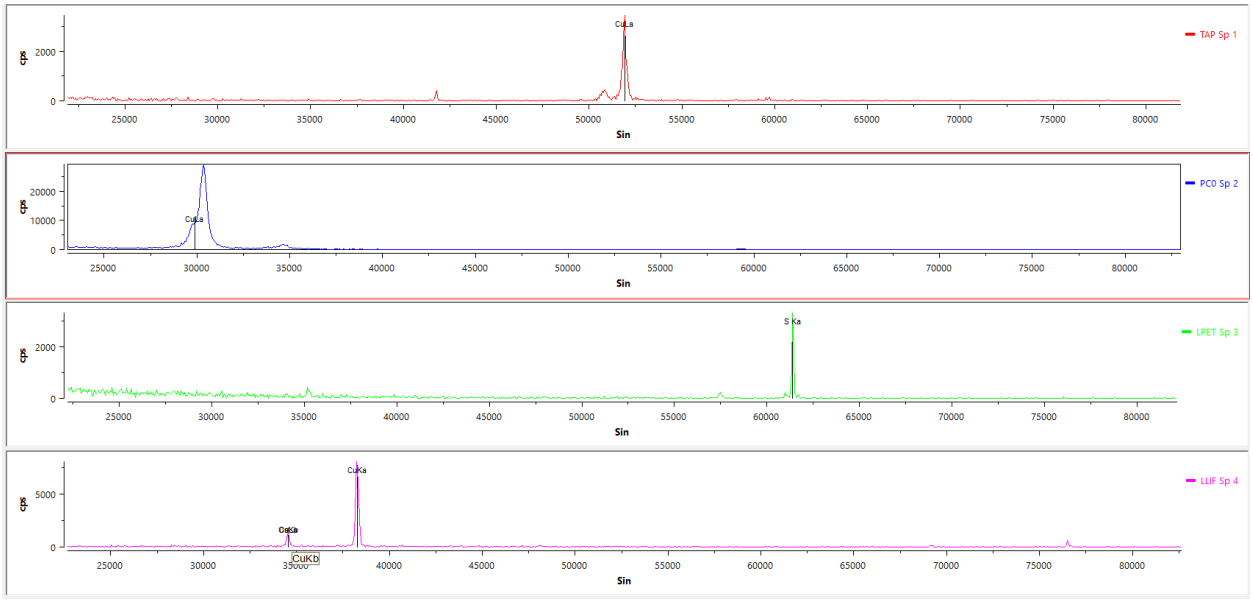
<u>Sulfides</u>



CORN-20-34_10- Sphalerite



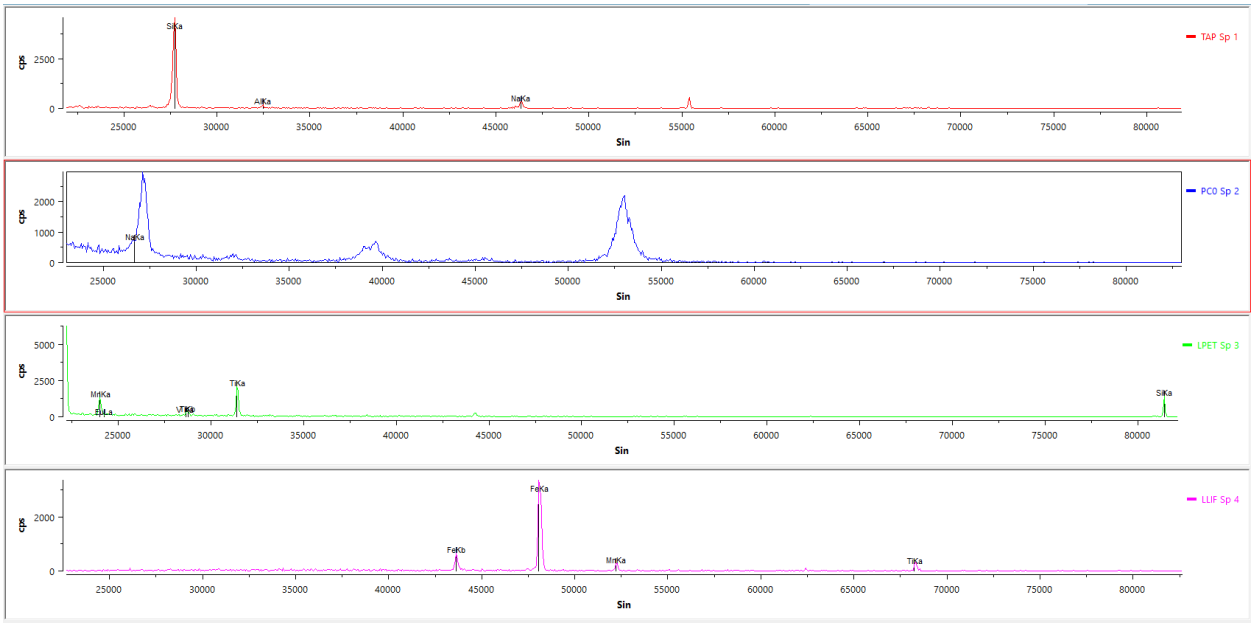
CORN-20-34_21- Sphalerite



CORN-20-34_22- Copper Sulfide

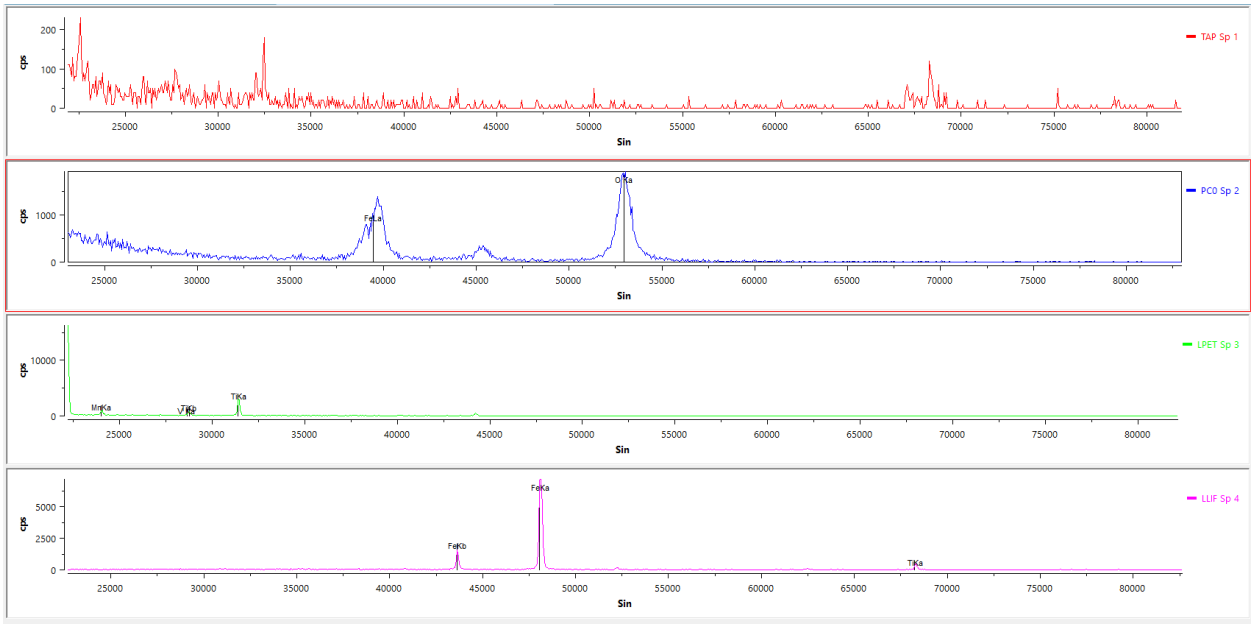
CORN 4001- Alamo Mountain

Amphiboles

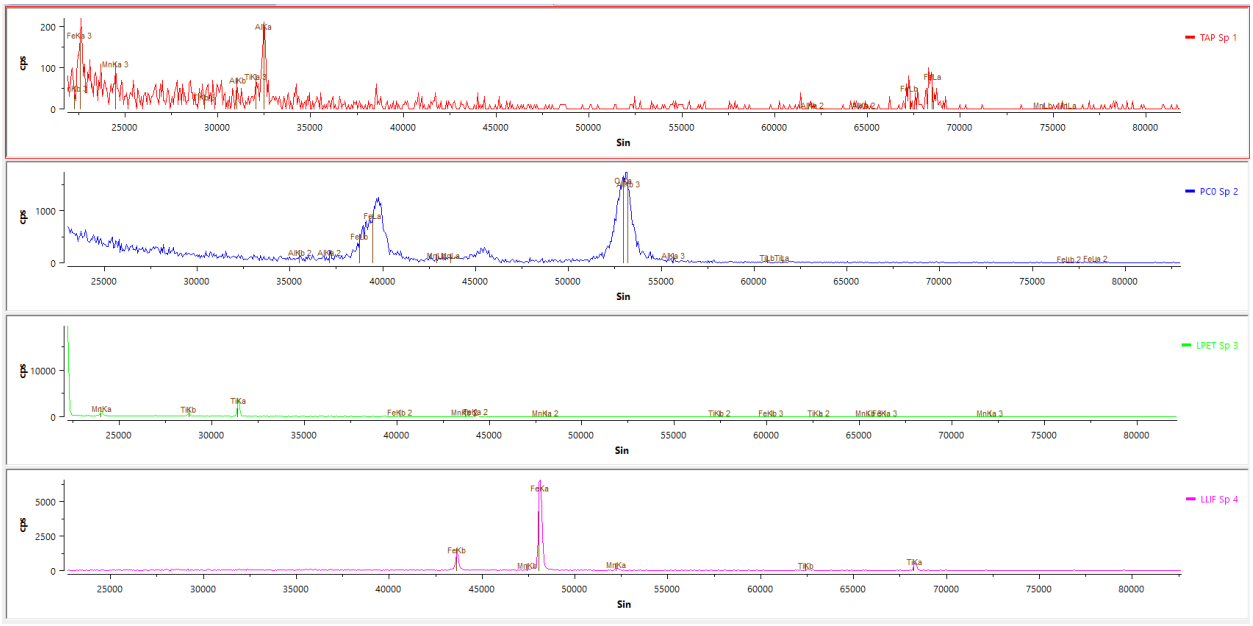


CORN-4001_4- Aenigmatite

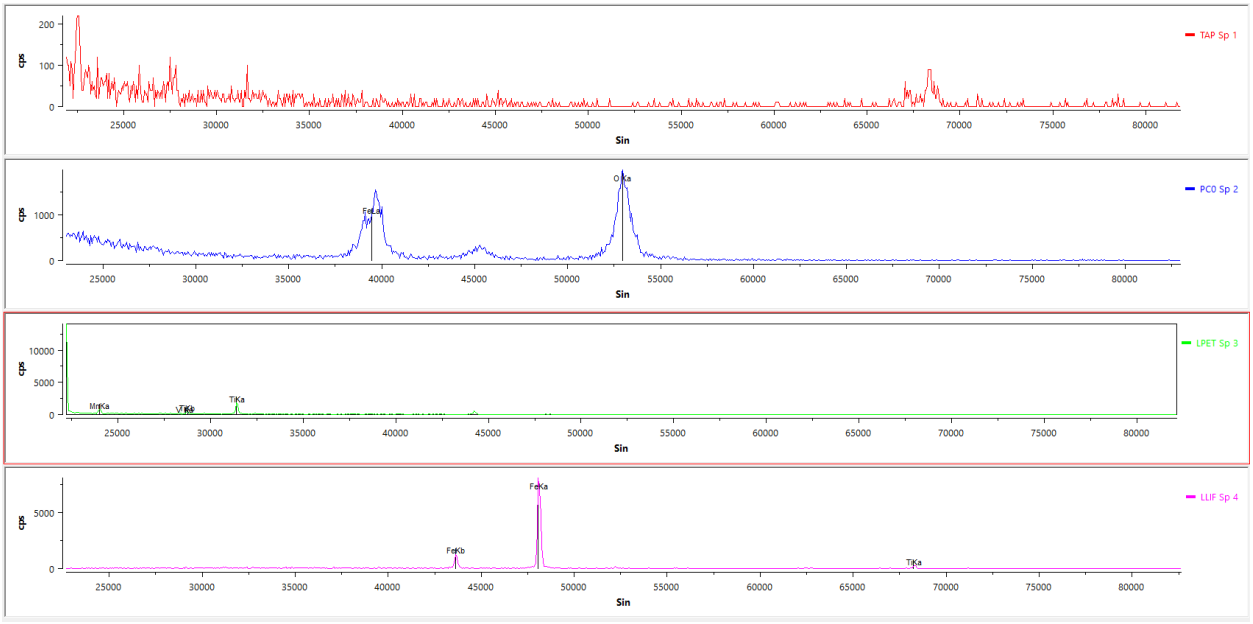
Oxides



CORN-4001_1- Titanomagnetite



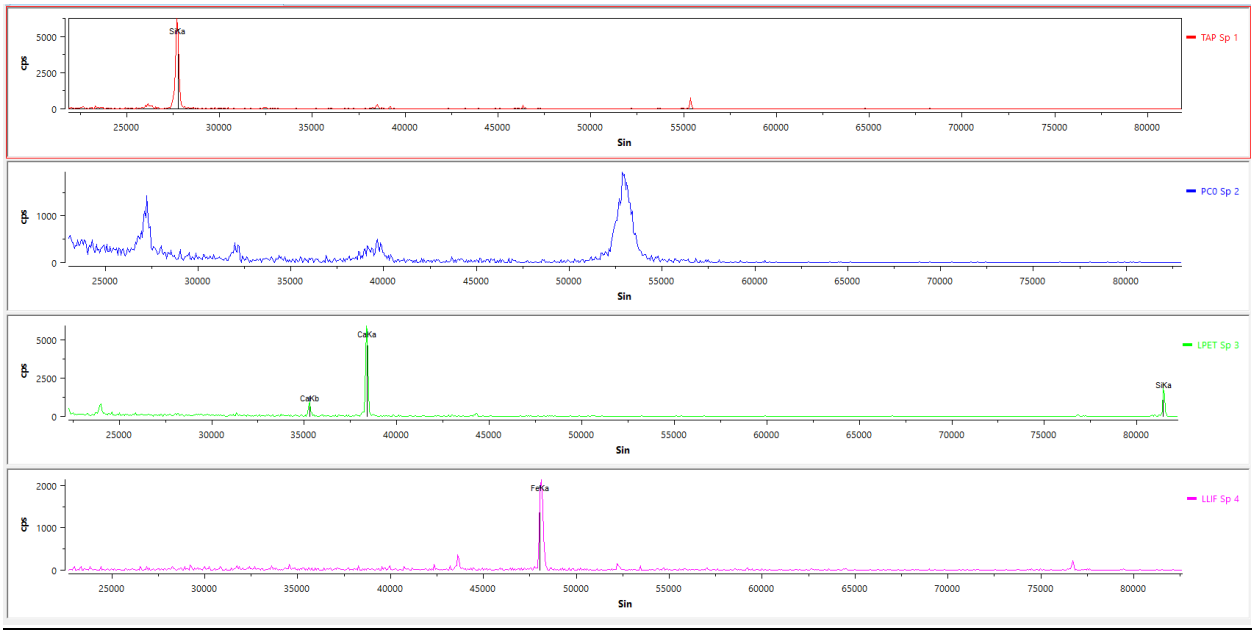
CORN-4001_2- Titanomagnetite



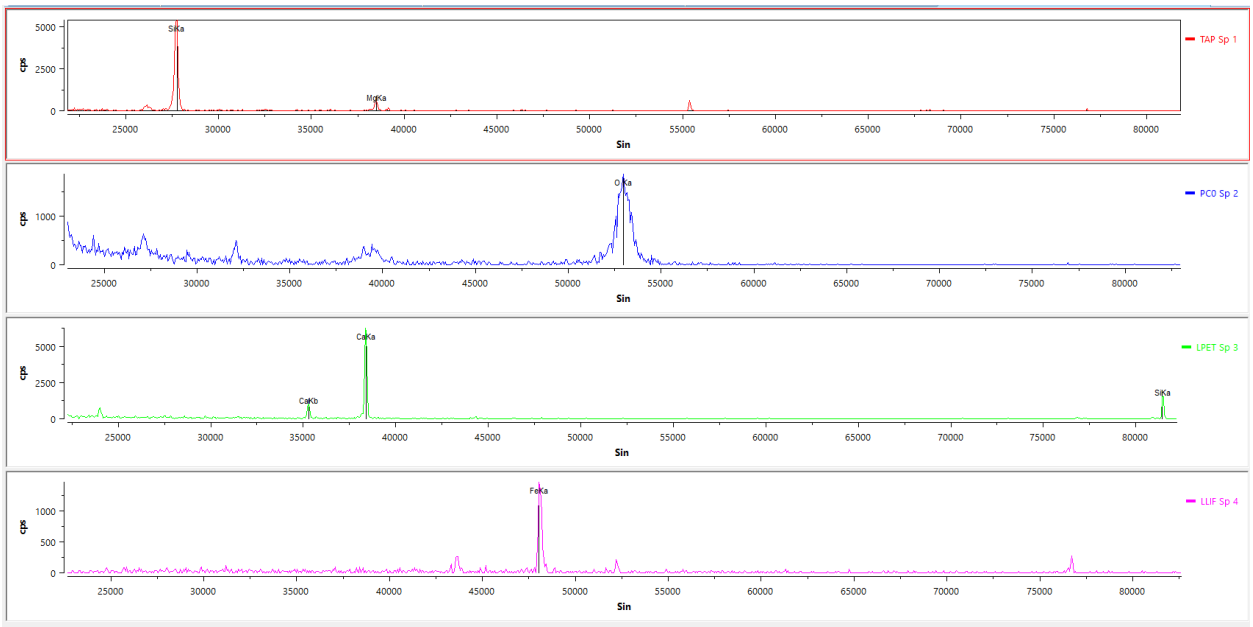
CORN-4001_3- Titanomagnetite

CORN 4005- Lil' Windy

Pyroxenes

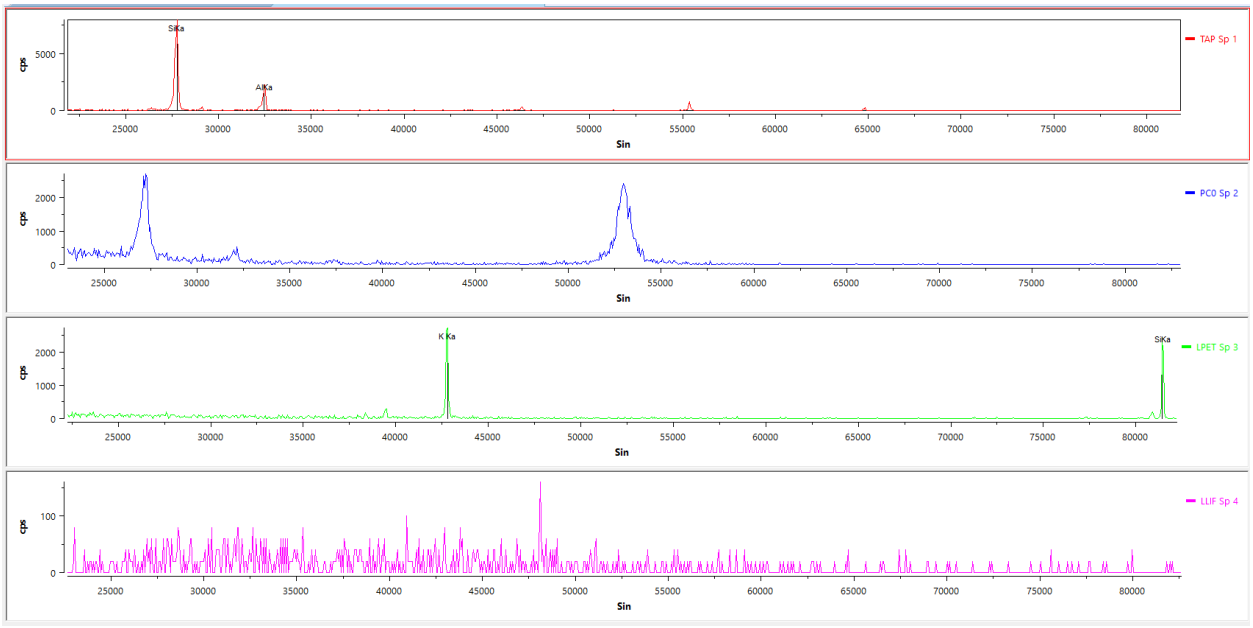


CORN4005_2- Aegirine-augite



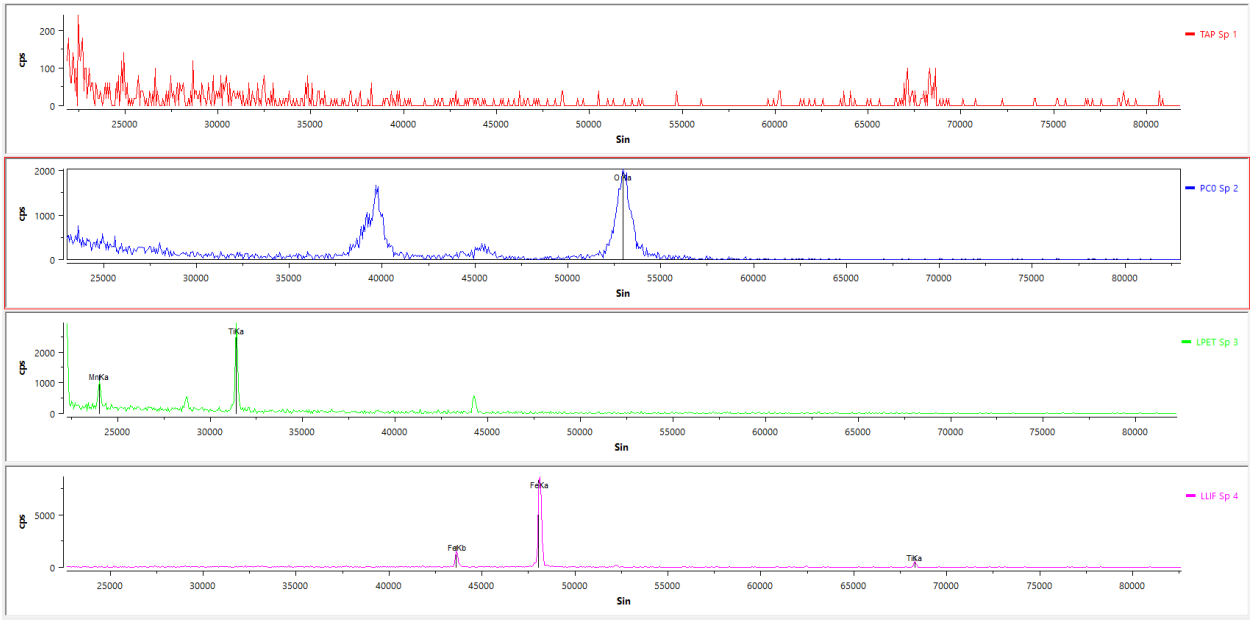
CORN4005_6- Augite

Feldspars and Feldspathoids

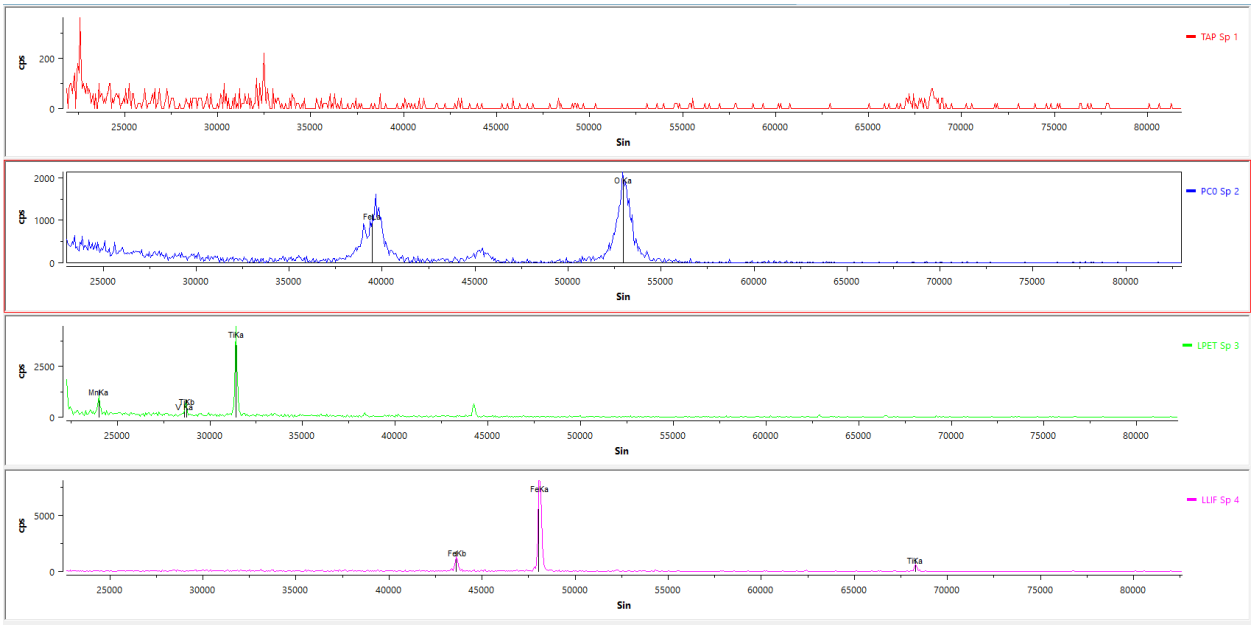


CORN4005_3- Anorthoclase

Oxides



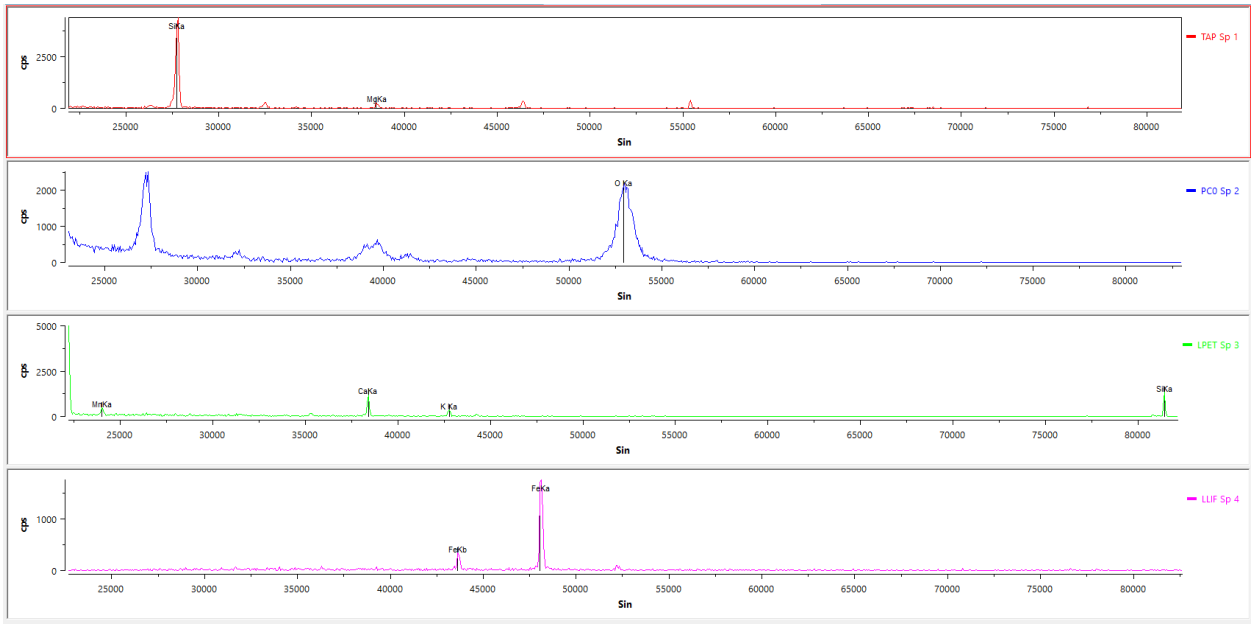
CORN4005_4- Titanomagnetite



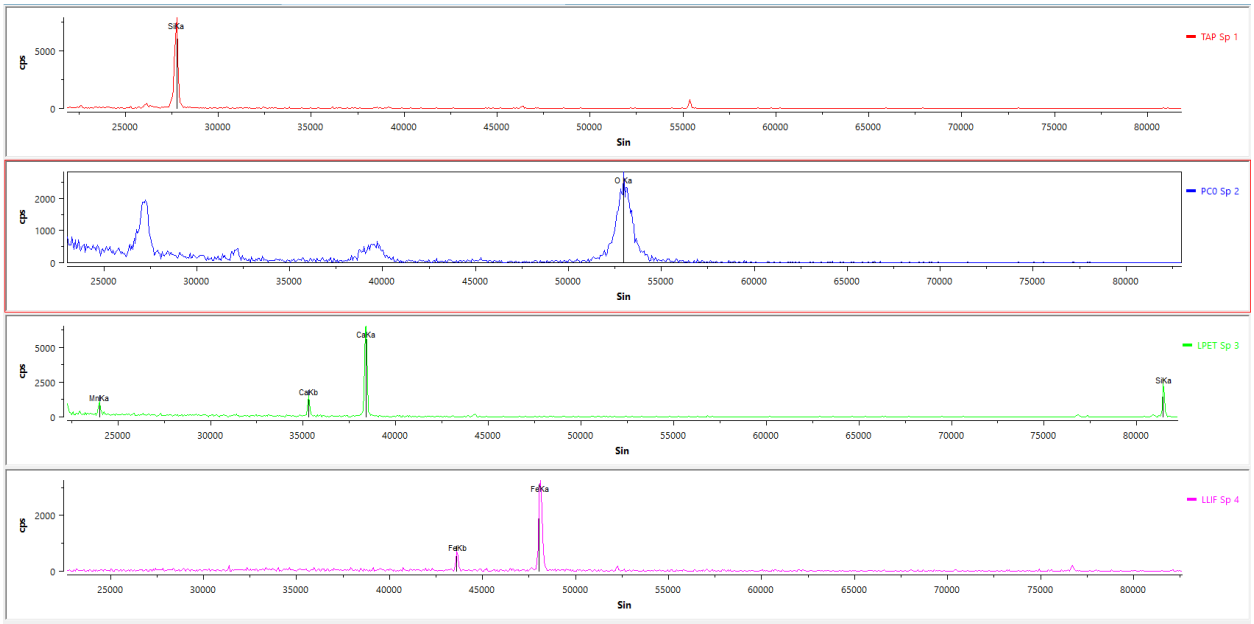
CORN4005_5- Titanomagnetite

CORN 4013- San Antonio Mountain

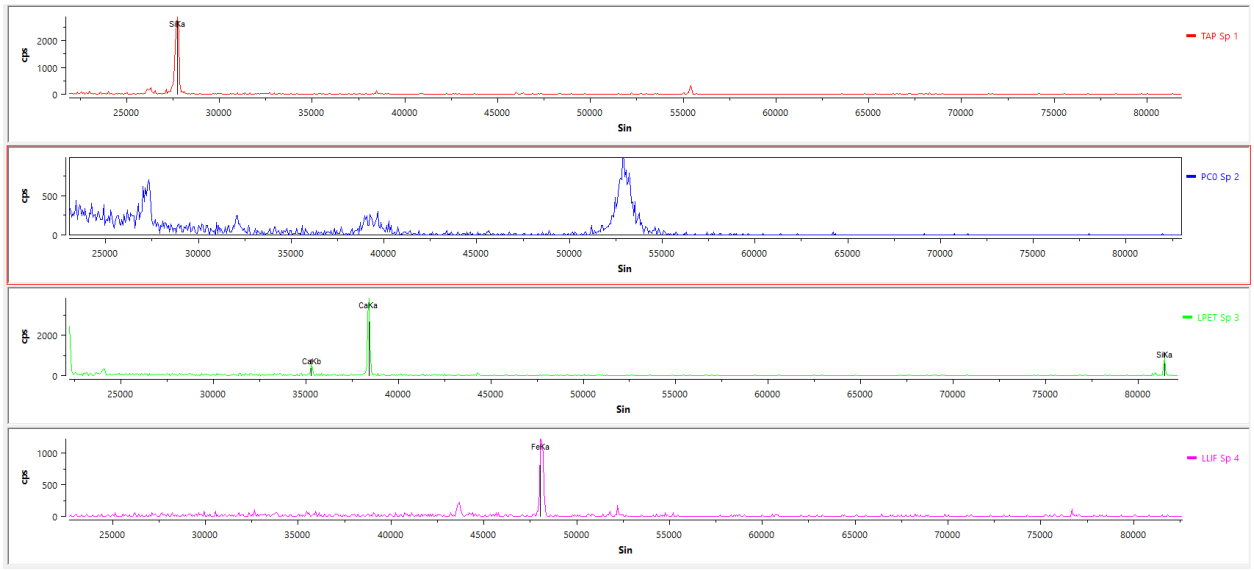
Pyroxenes



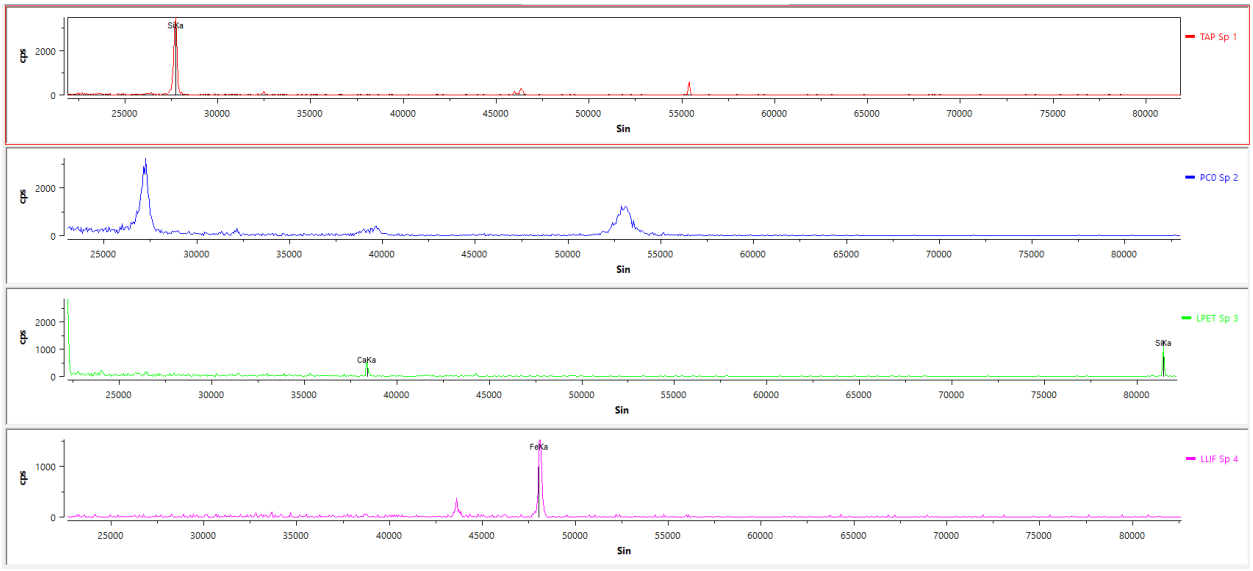
CORN-4013_3- Aegirine-augite



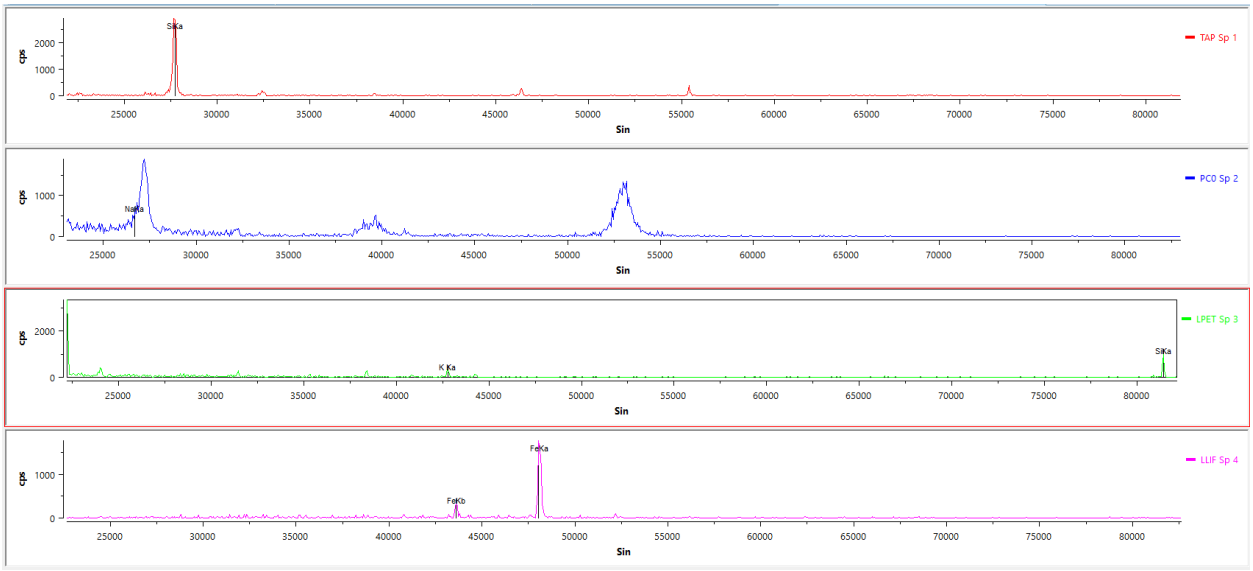
CORN-4013_12- Aegirine-augite



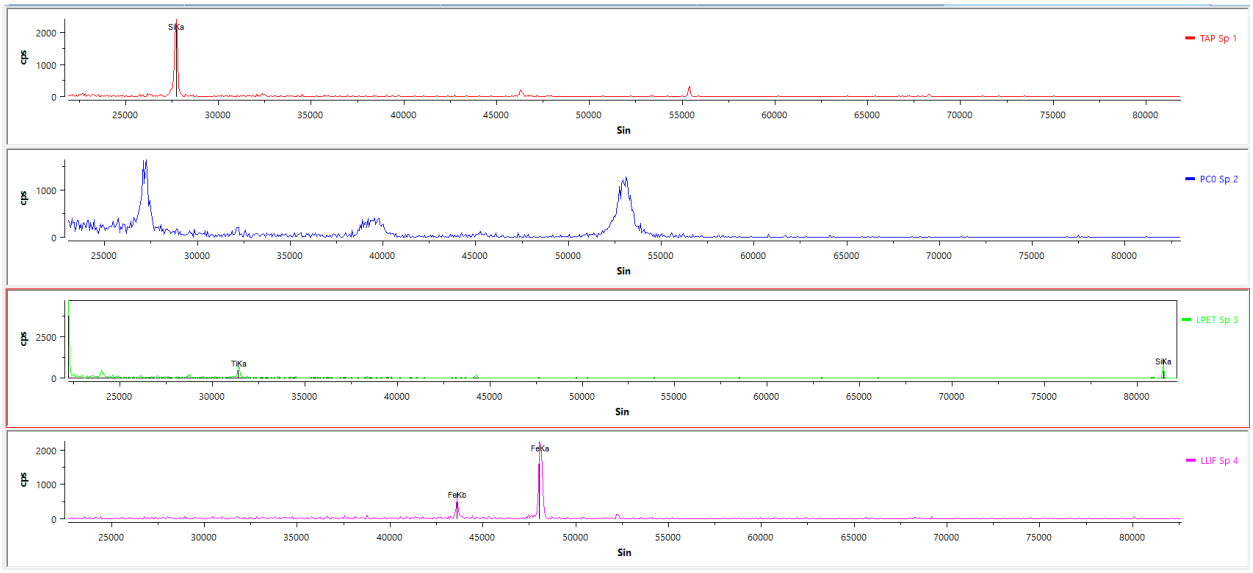
4013_Test_1- Augite



4013_Test_2- Aegirine-augite

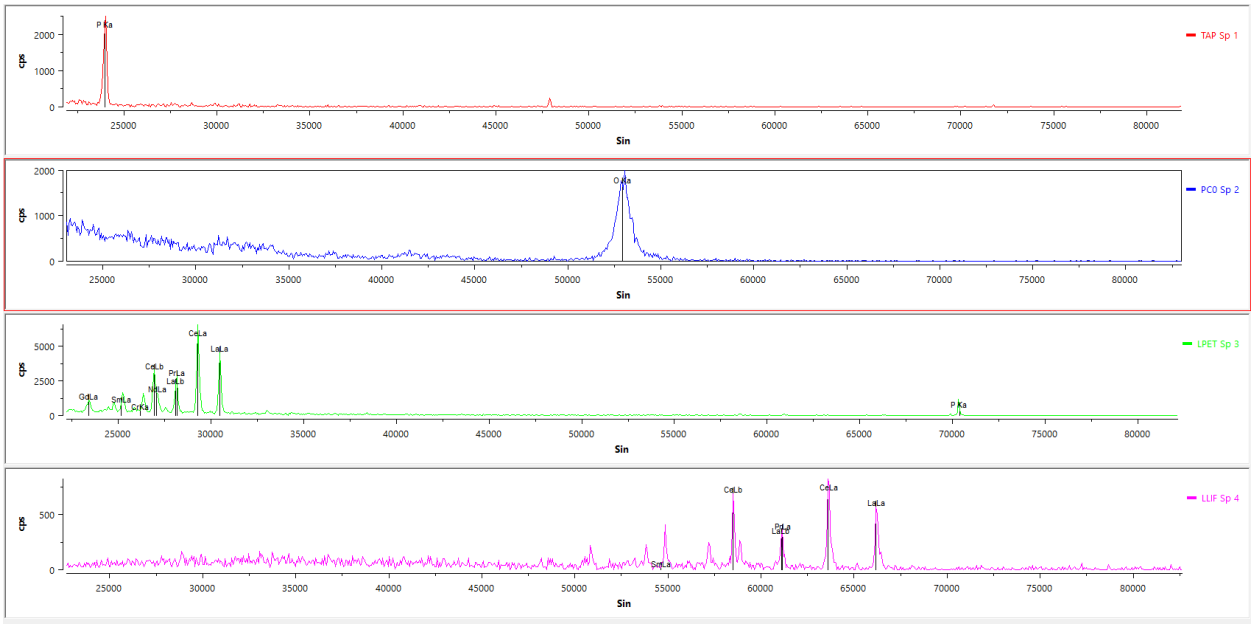


4013_Test_3- Aegirine



4013_Test_4- Aegirine

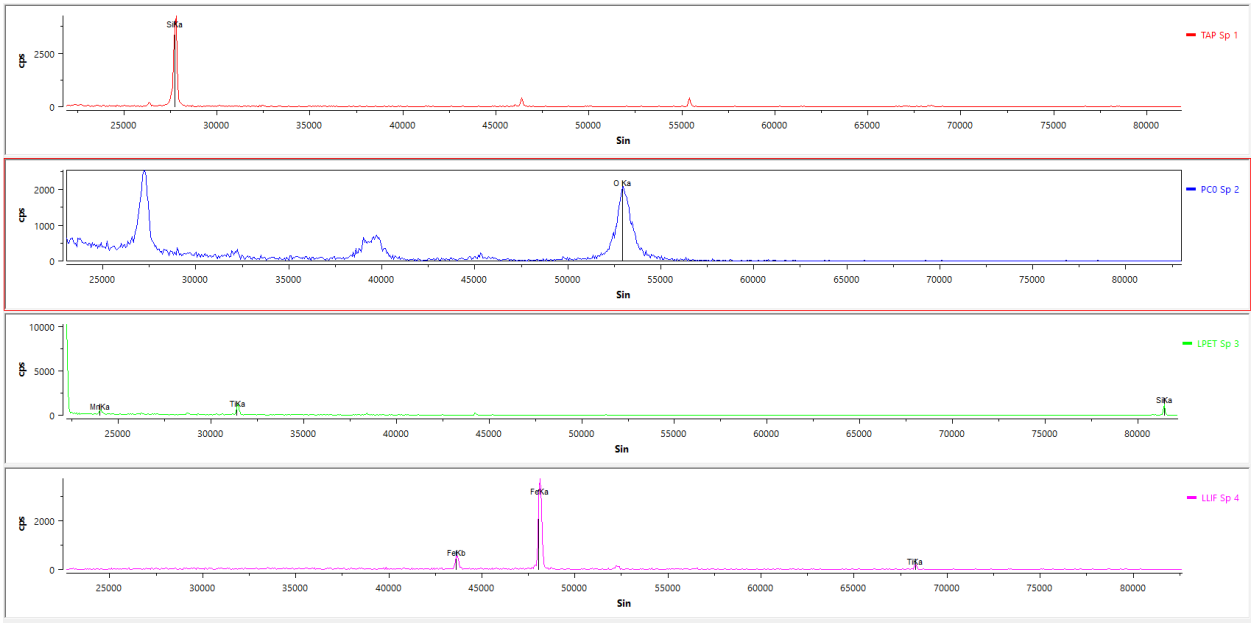
<u>REE, Zr, and Nb Phases</u>



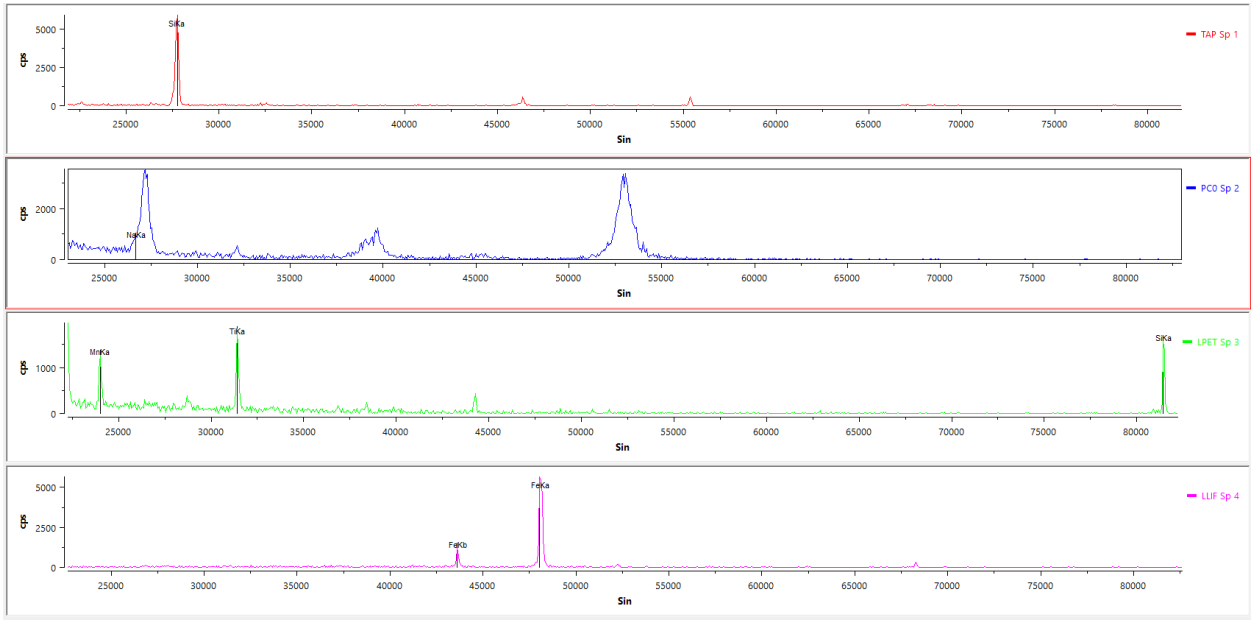
CORN-4013_7- Monazite

.

Amphiboles

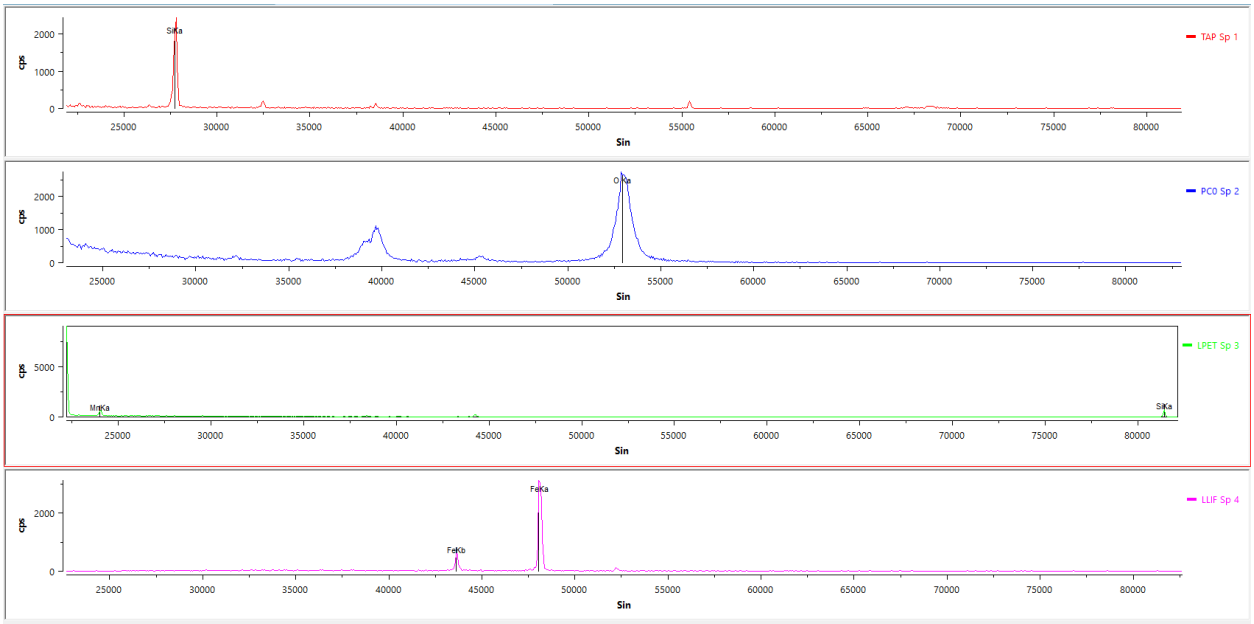


CORN-4013_8- Arfvedsonite

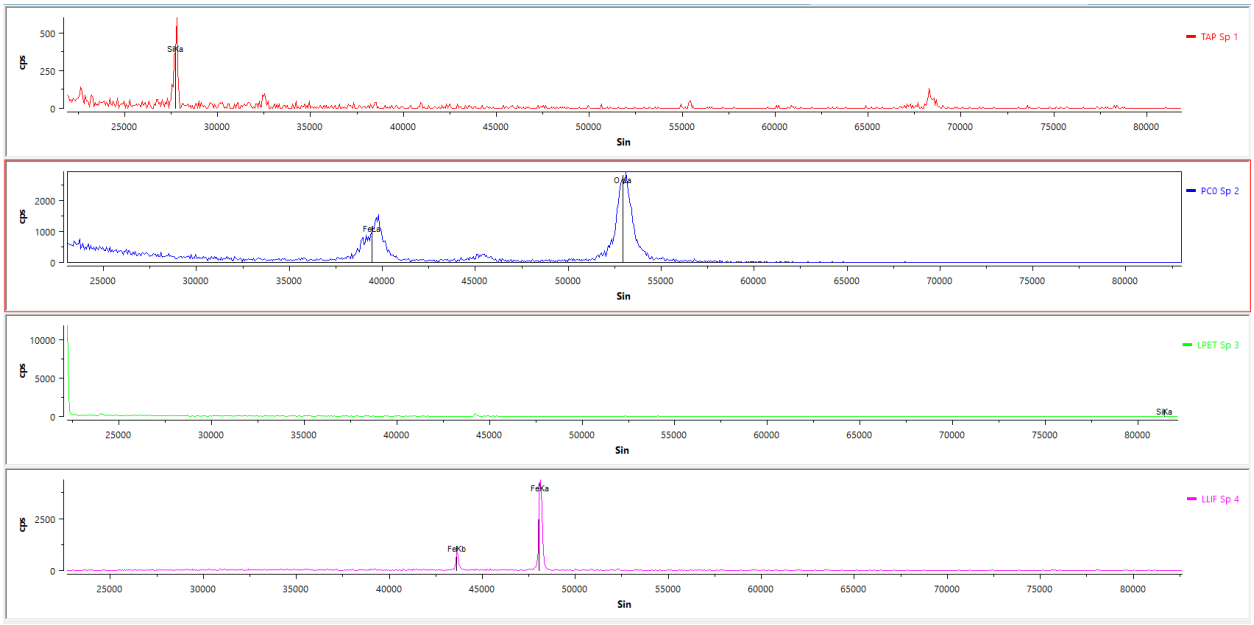


CORN-4013_11- Aenigmatite

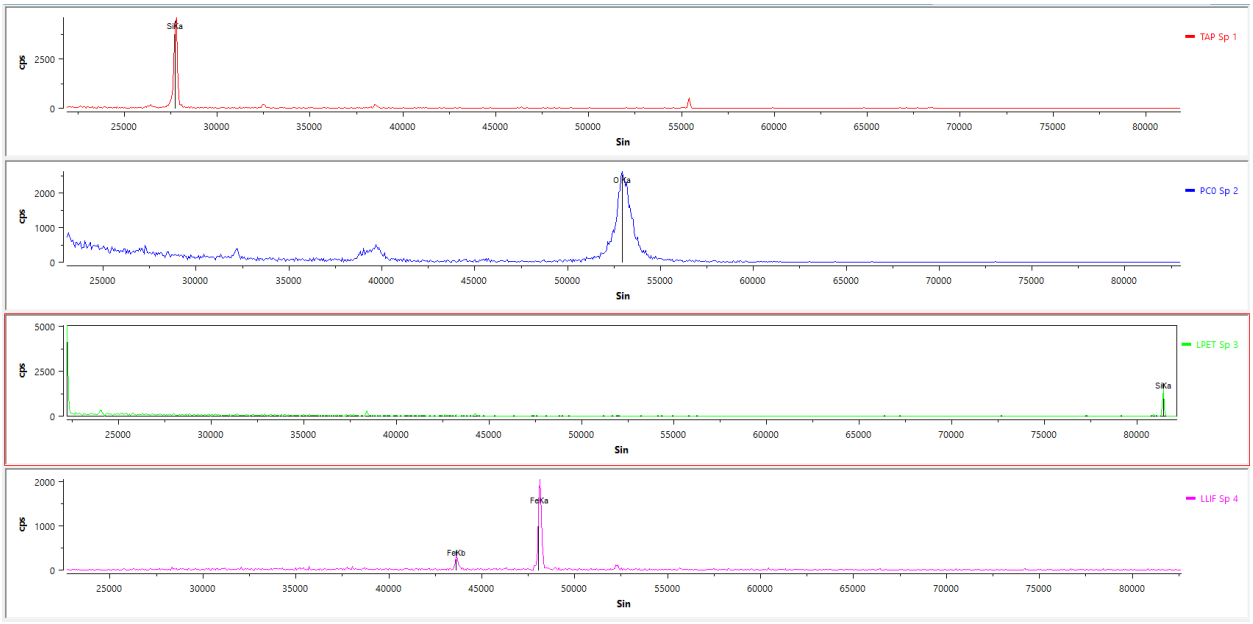
Other Silicates



CORN-4013_2- Fayalite

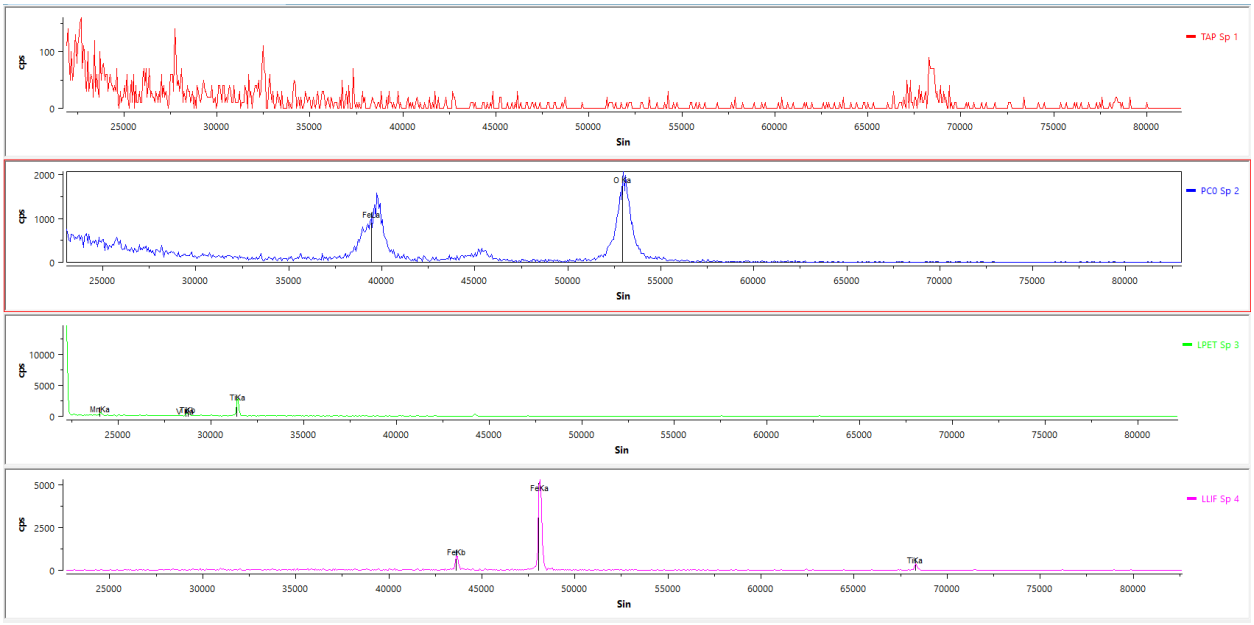


CORN-4013_4- Fayalite

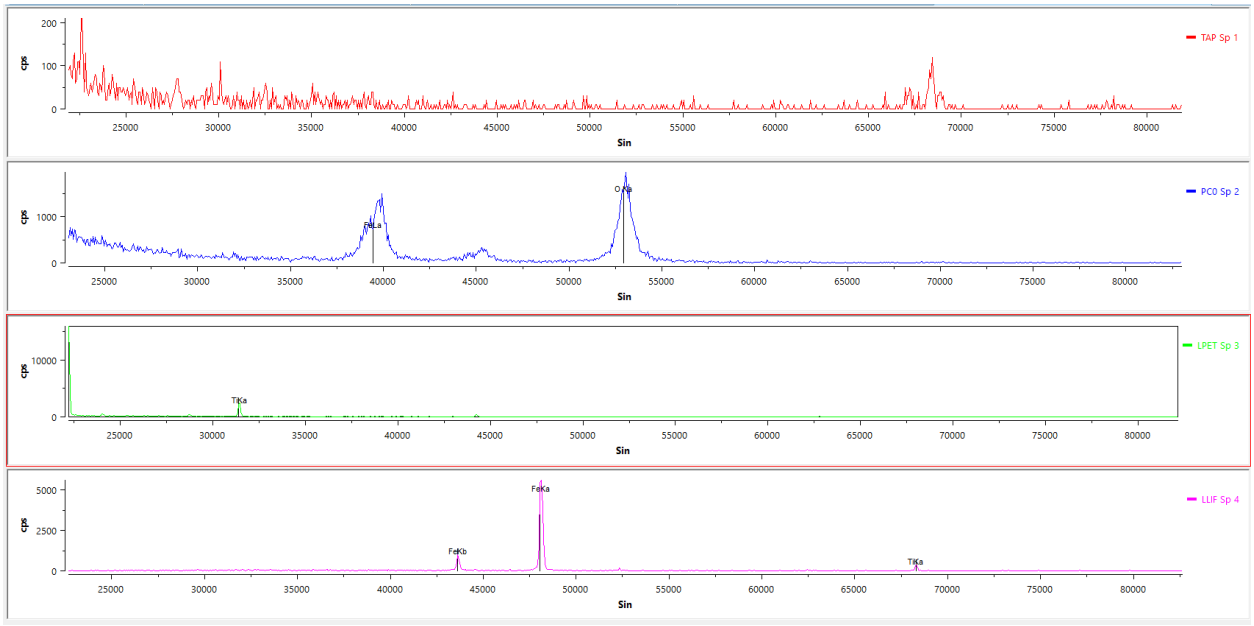


CORN-4013_5- Fayalite

Oxides



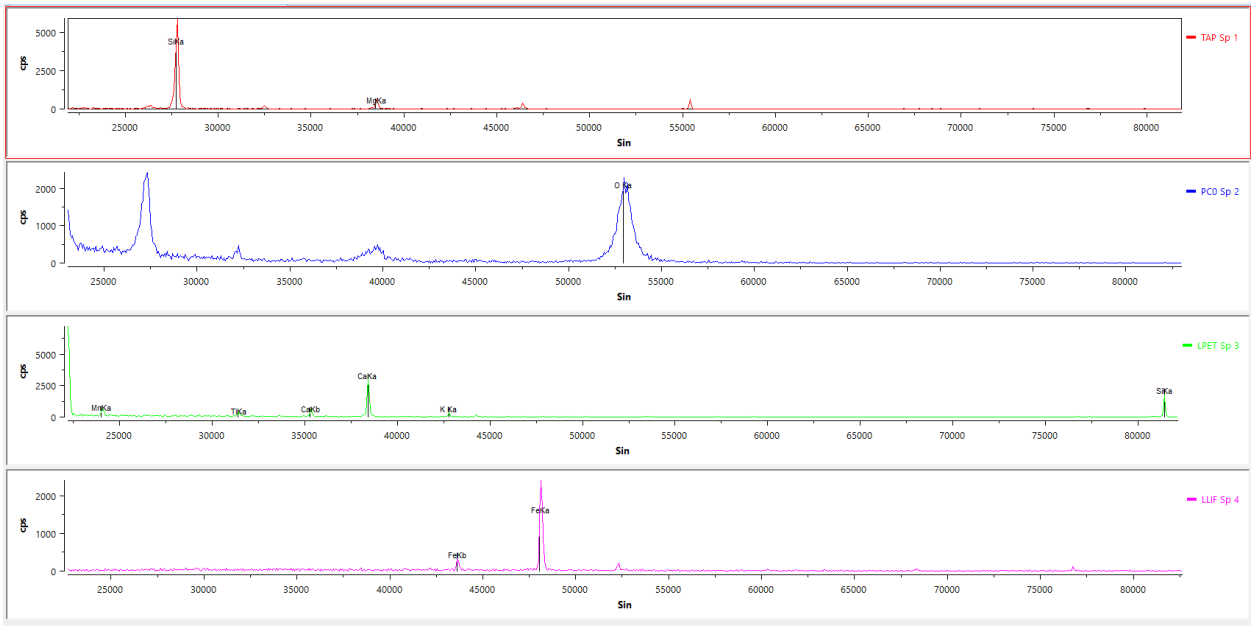
CORN-4013_1- Titanomagnetite



CORN-4013_6- Titanomagnetite

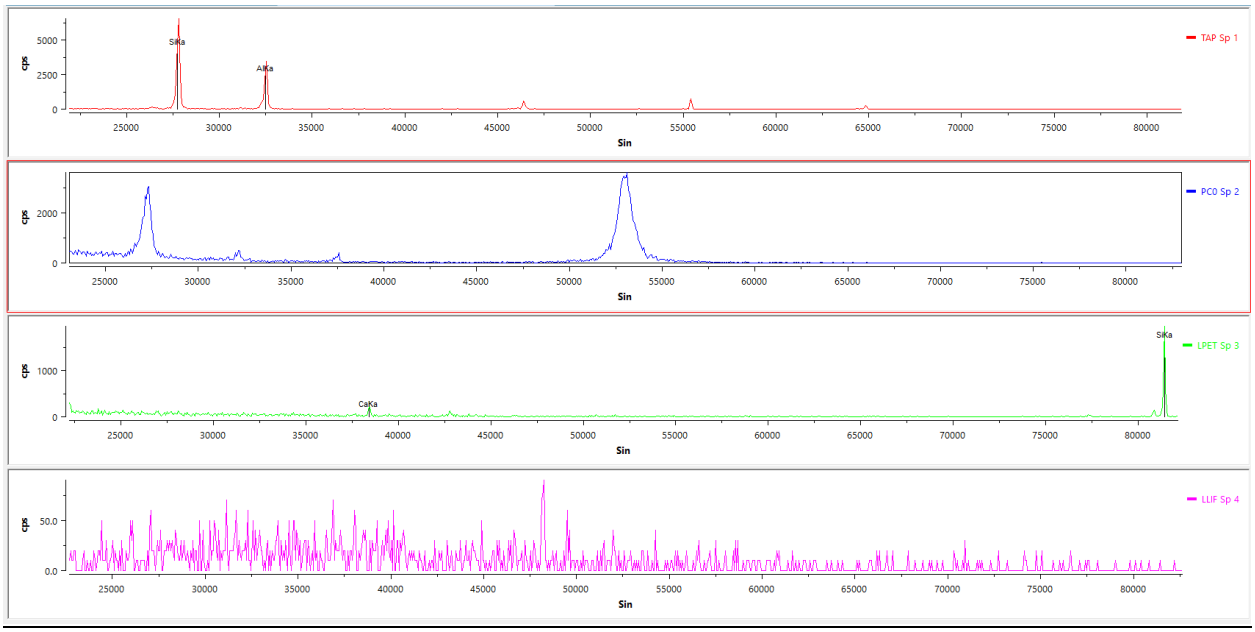
CORN 4014- Chatfield Mountain

Pyroxenes

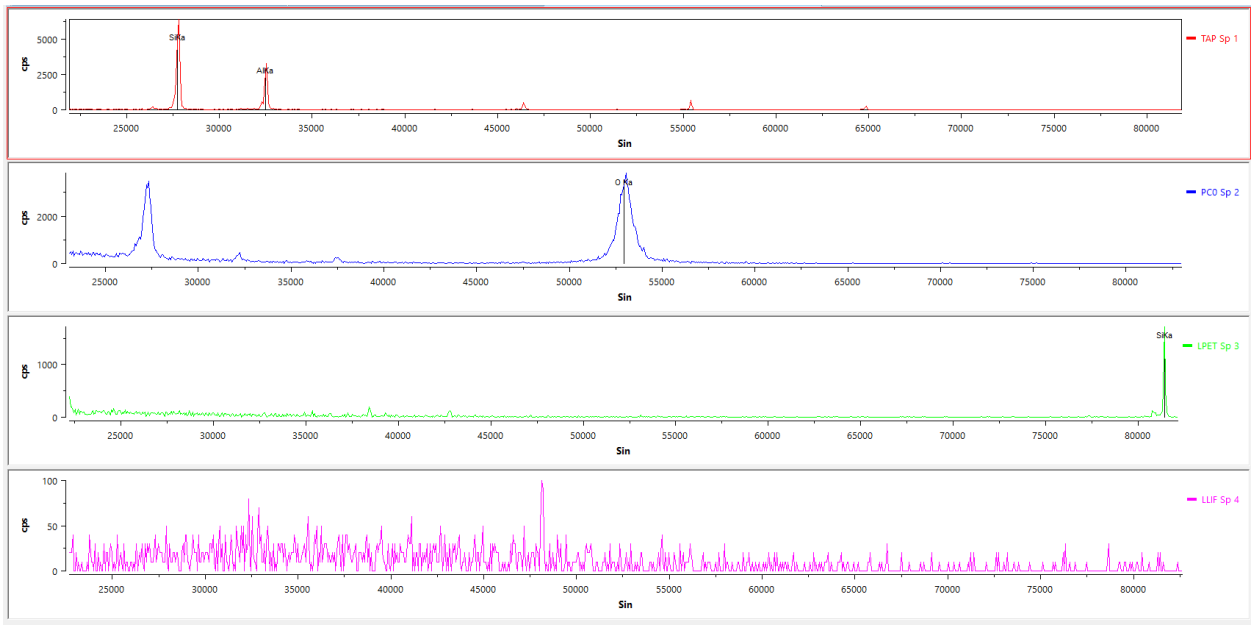


CORN-4014_1- Aegirine-augite

Feldspars and Feldspathoids

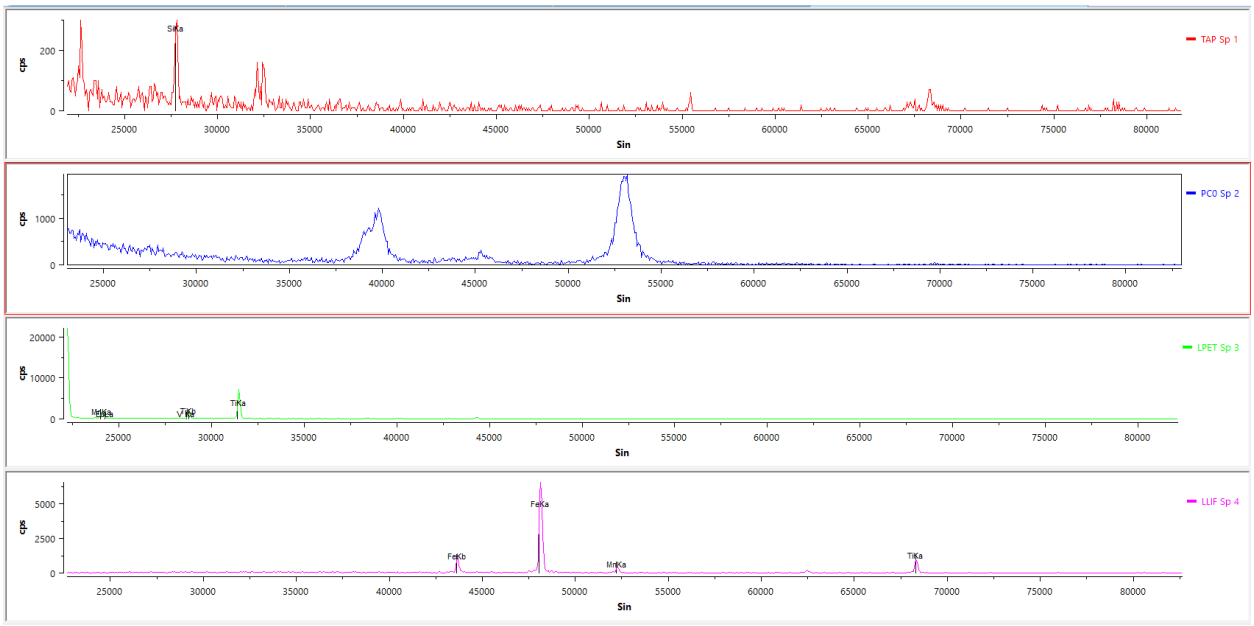


CORN4014_2- Albite



CORN-4014_3- Albite

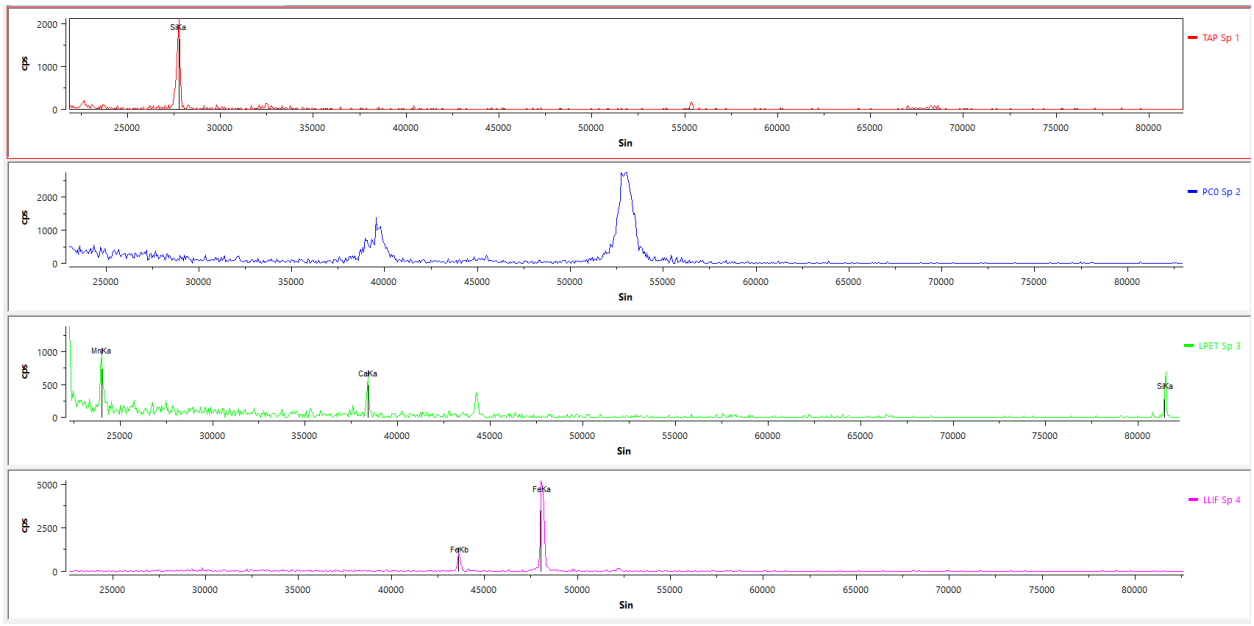
Oxides



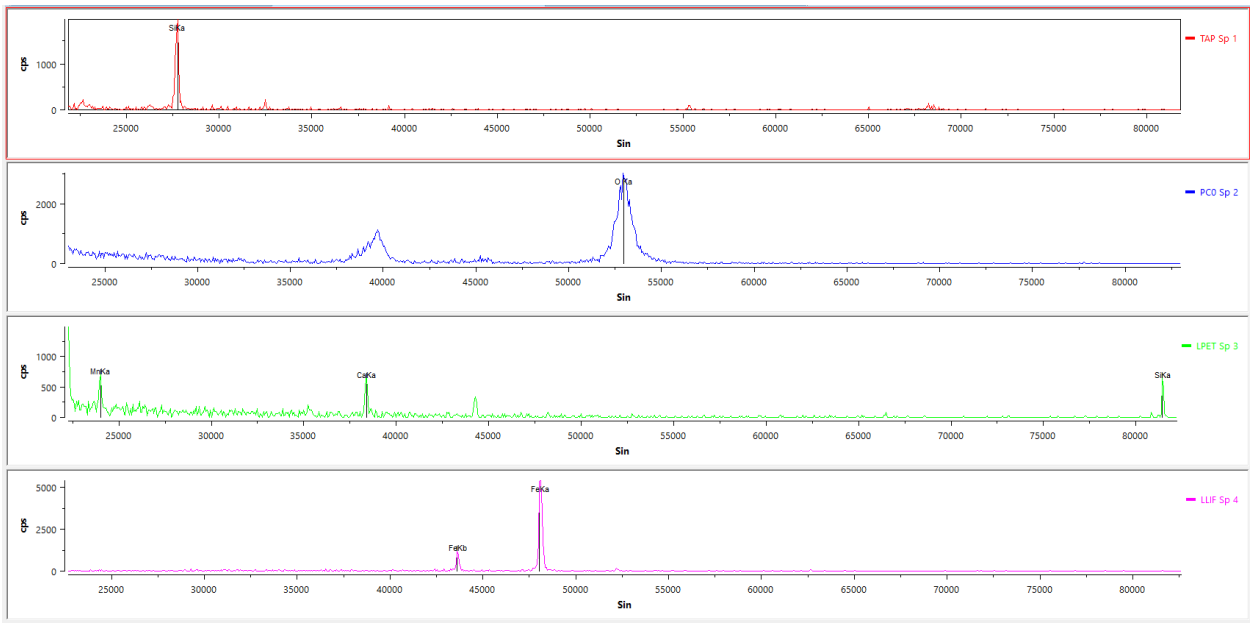
CORN-4014_4- Titanomagnetite Mixed Phase

CORN 4019- Sill West of Cornudas Mountain

Pyroxenes

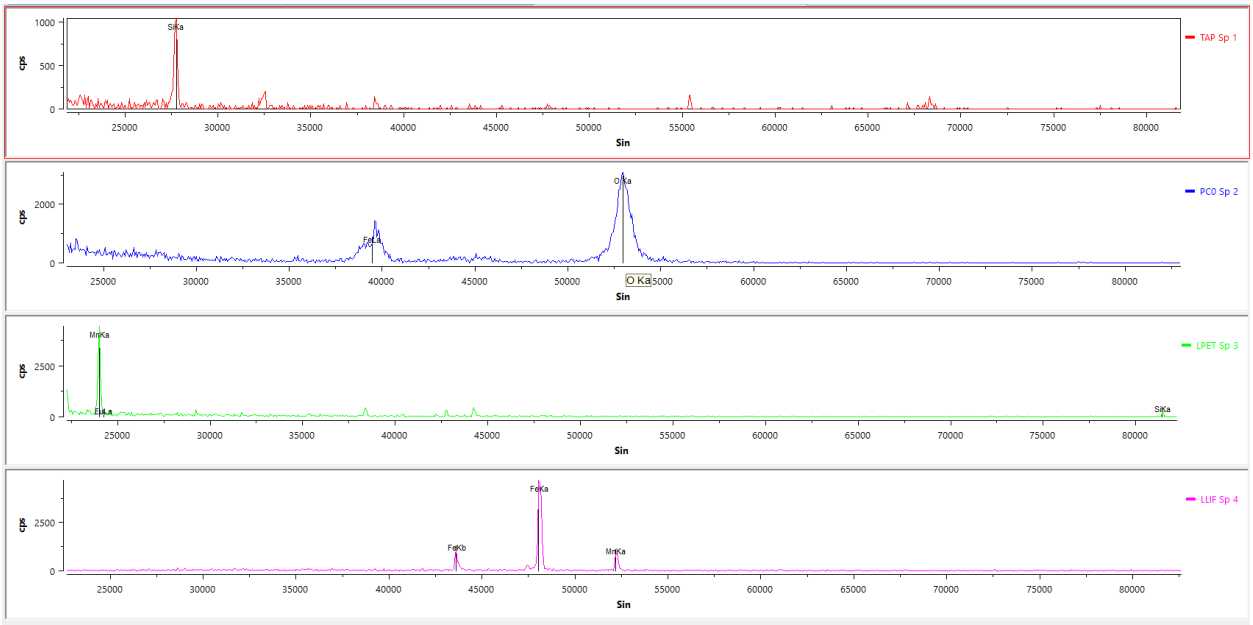


CORN4019_1- Augite



CORN4019_2- Augite

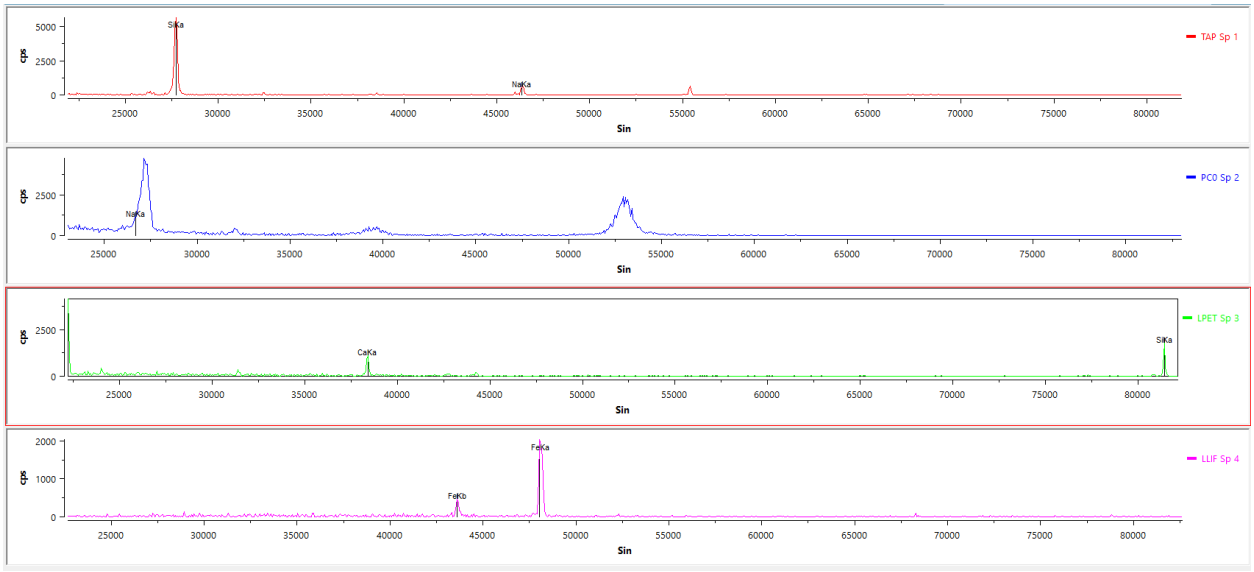
<u>Other Silicates</u>



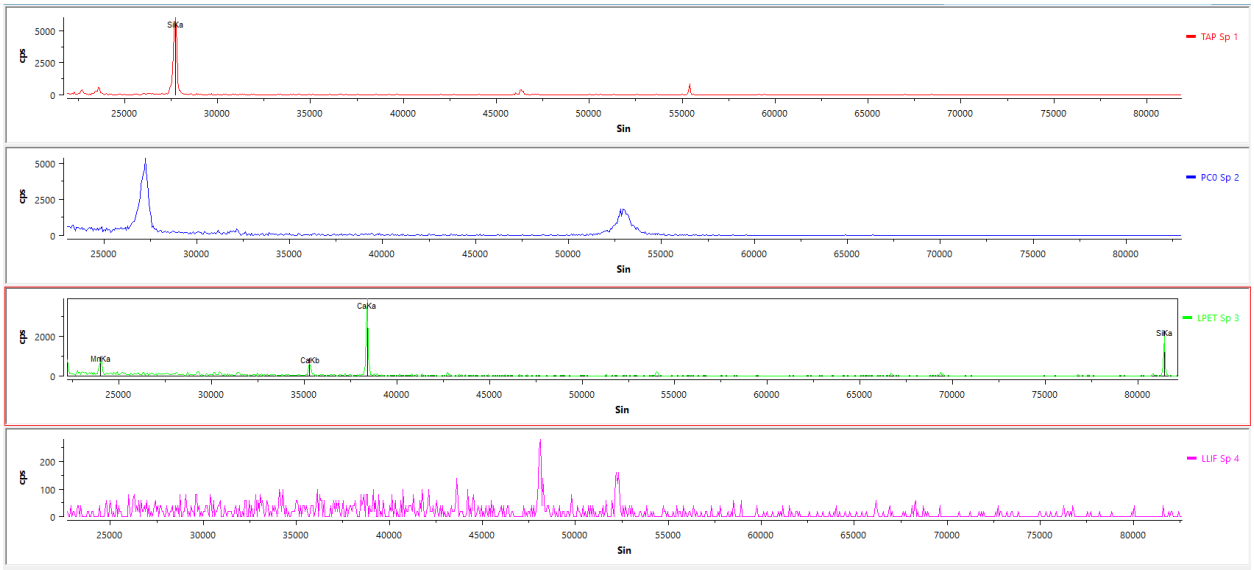
CORN4019_3- Calderite

CORN 4020- Cornudas Mountain

Pyroxenes

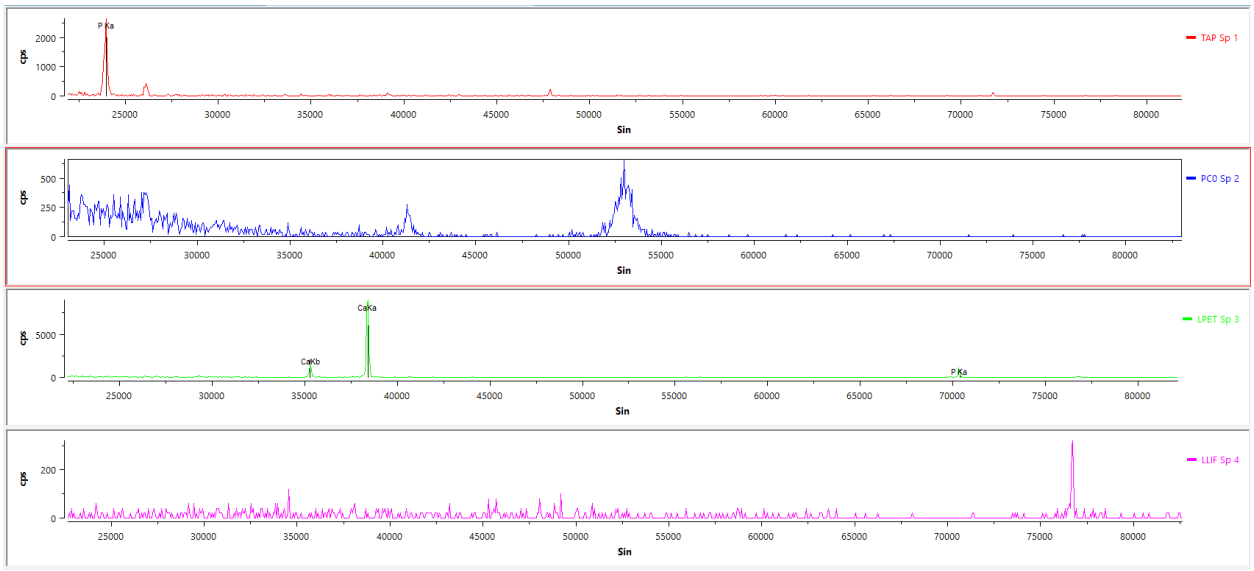


4020_Test_8- Aegirine-augite



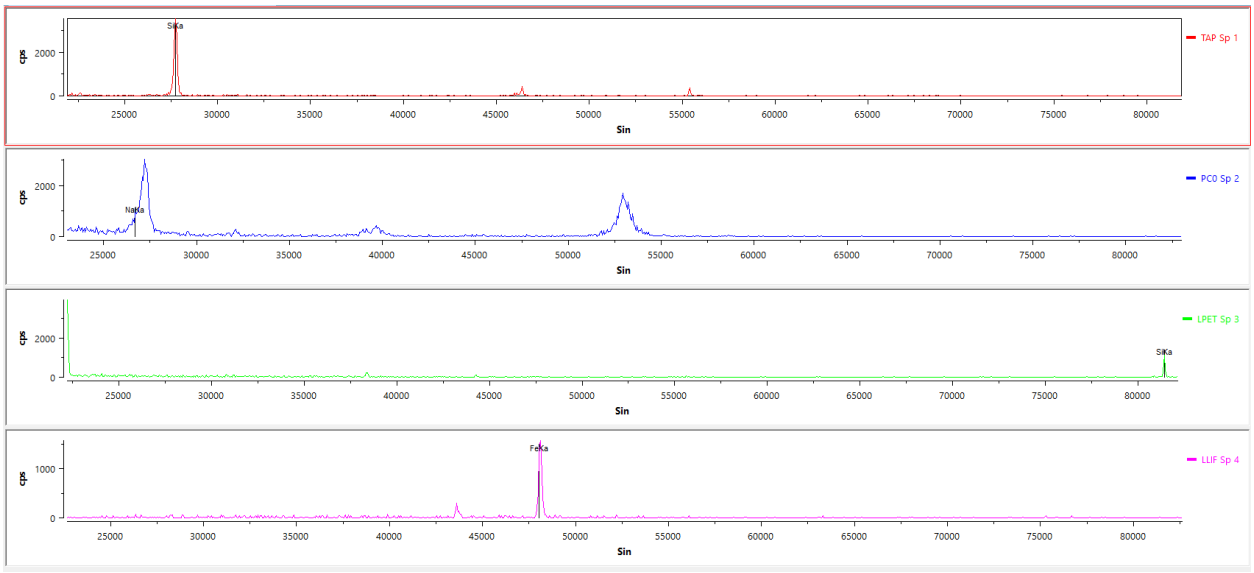
4020_Test_9- Aegirine-augite

REE, Zr, and Nb Phases

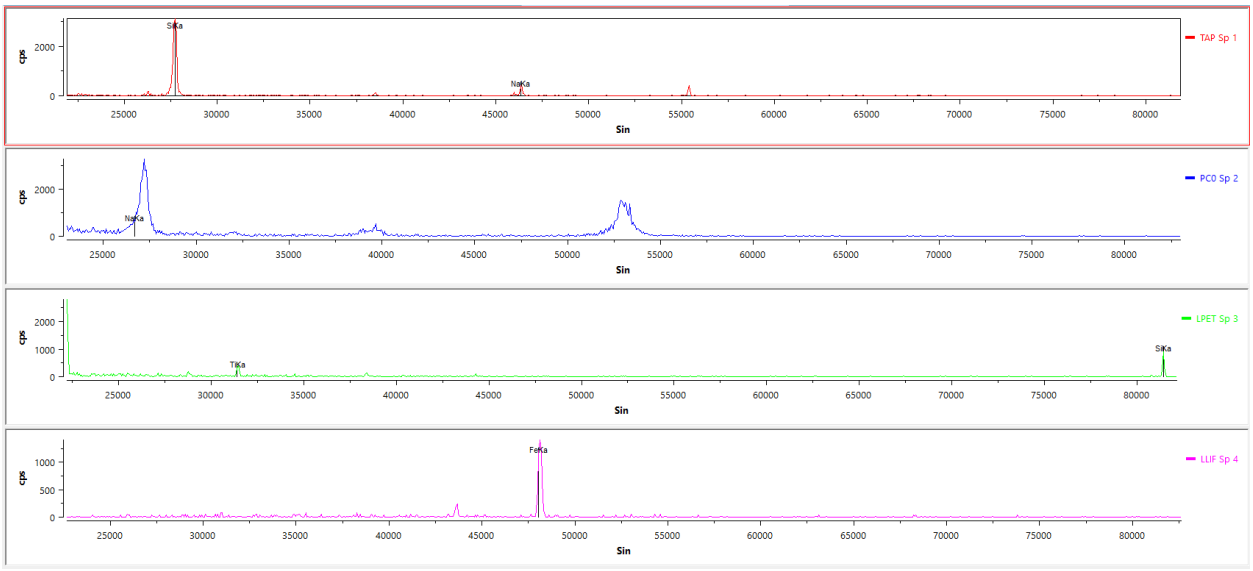


4020_Test_2- Apatite

Amphiboles

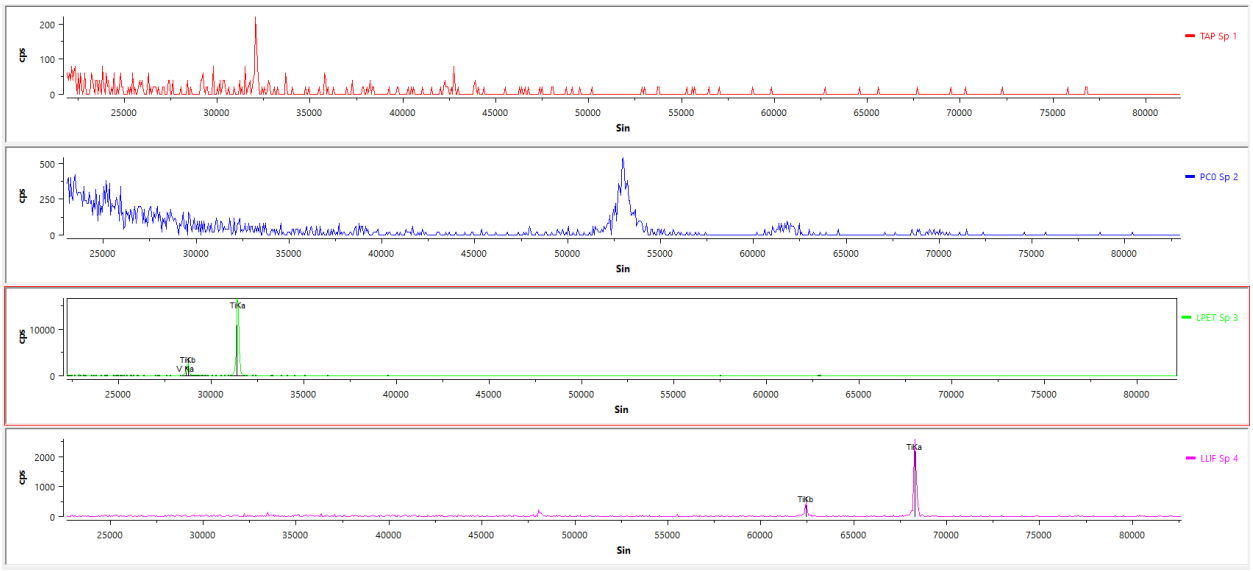


4020_Test_1- Arfvedsonite

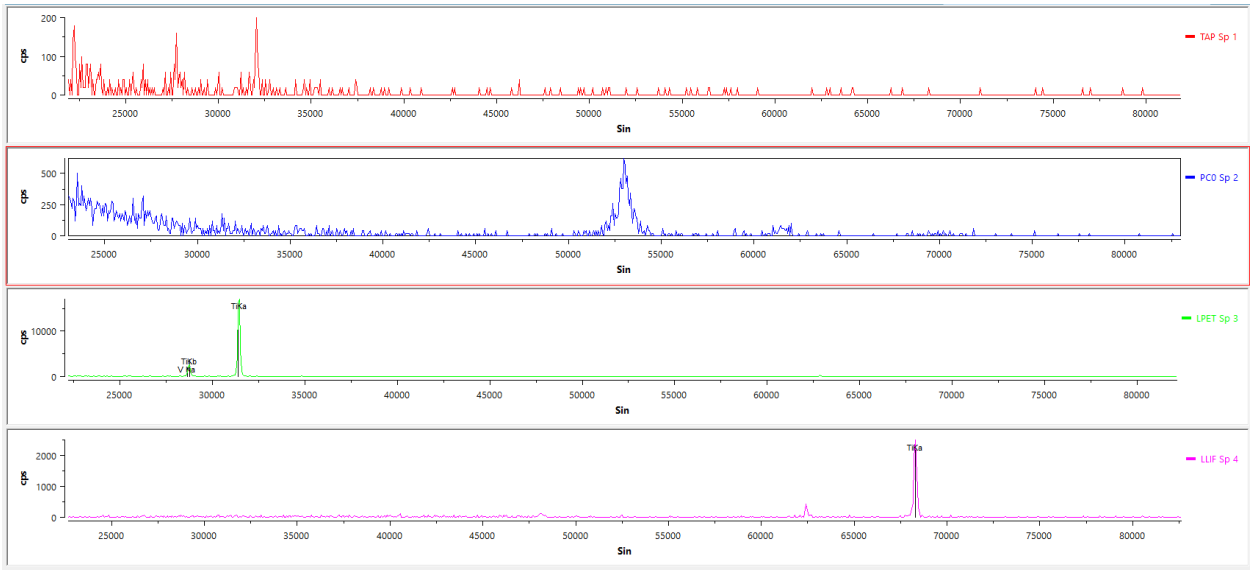


4020_Test_5- Arfvedsonite

Oxides



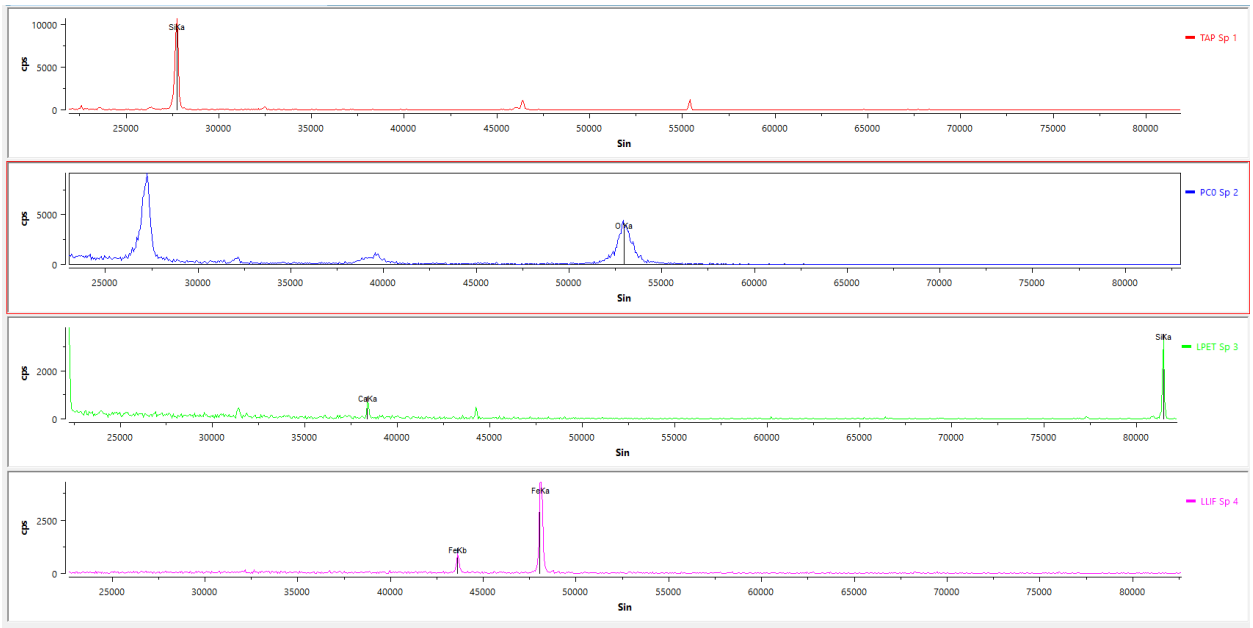
4020_Test_6- Anatase



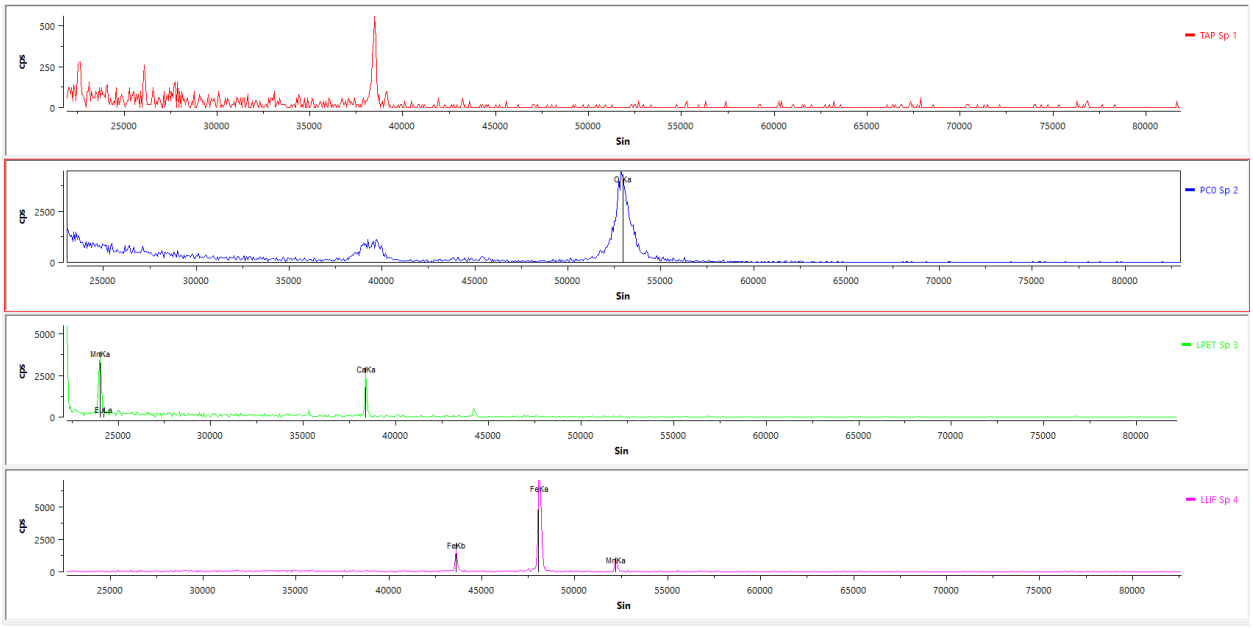
4020_Test_7- Anatase

55615-01-015- Wind Mountain

Pyroxenes

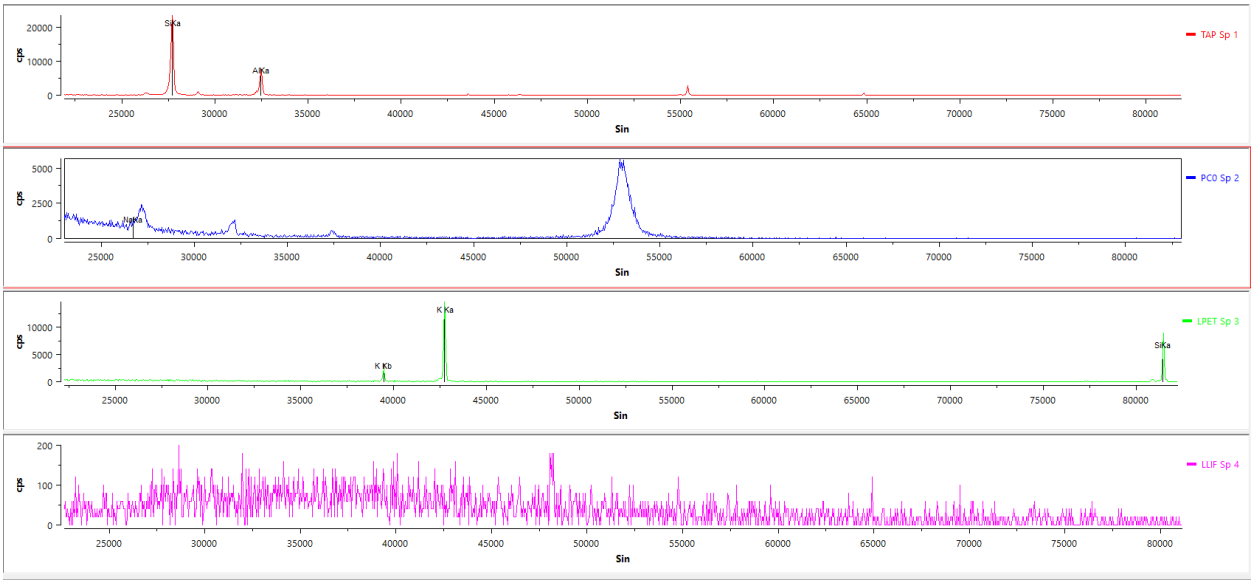


55615-01-015_2Test_1- Aegirine-augite



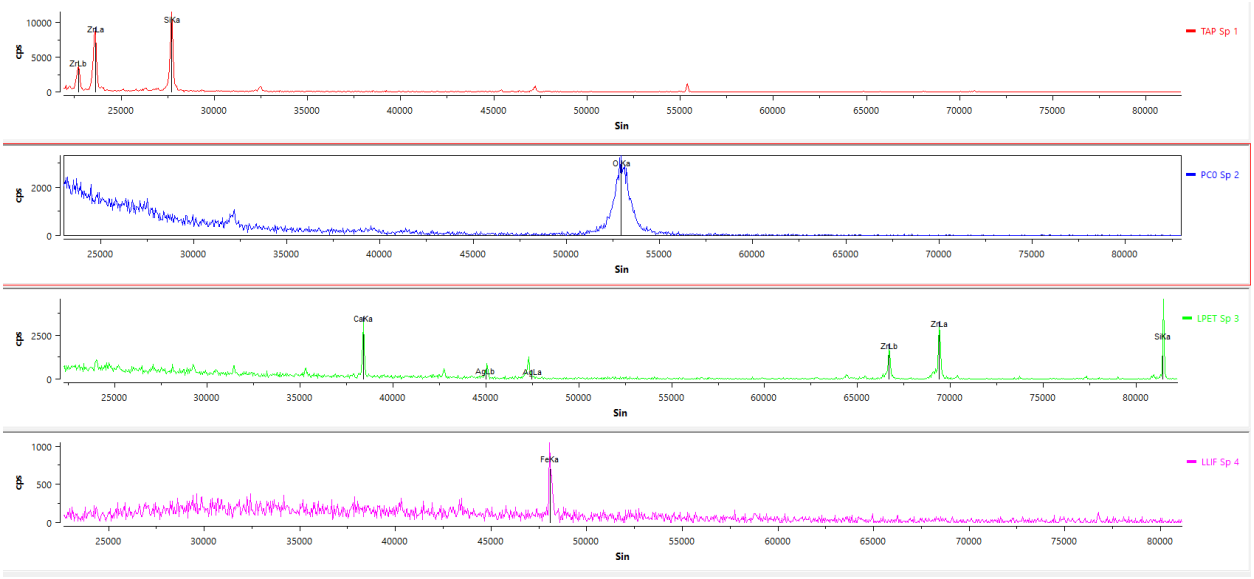
55615-01-015_2Test_4- Augite

Feldspars and Feldspathoids

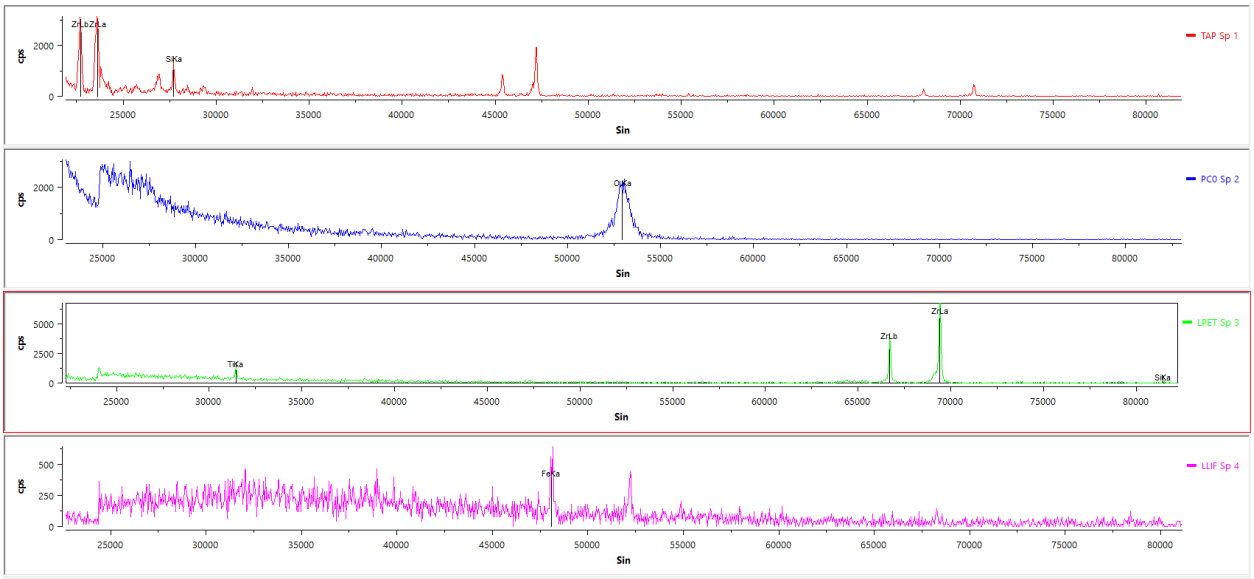


55615-01-015L-02_REE_4- Potassium Feldspar

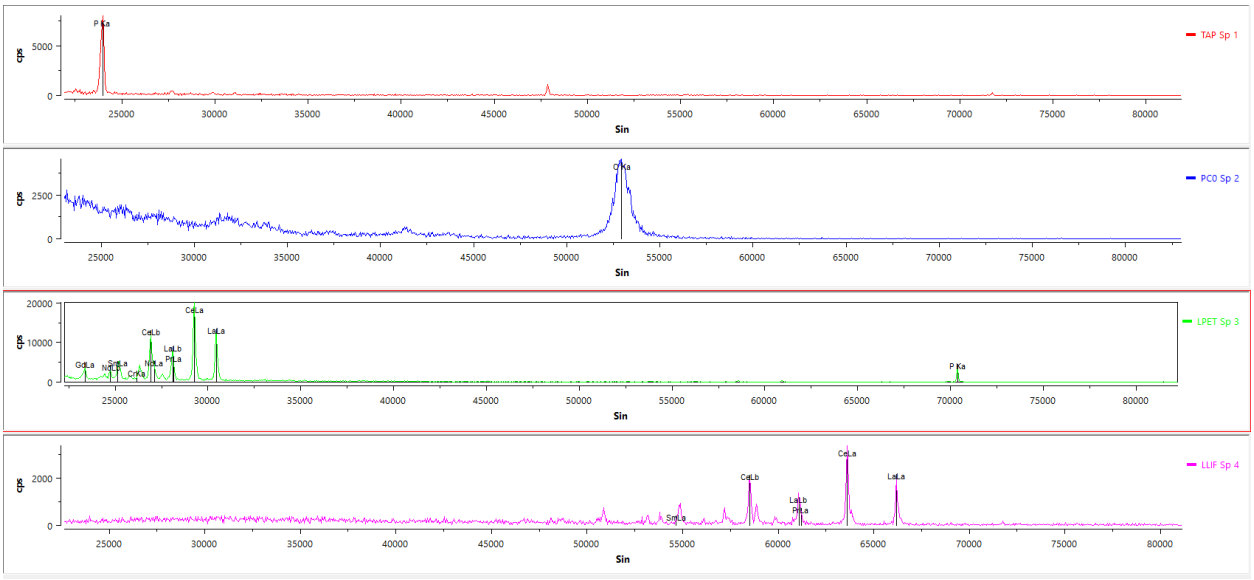
REE, Zr, and Nb Phases



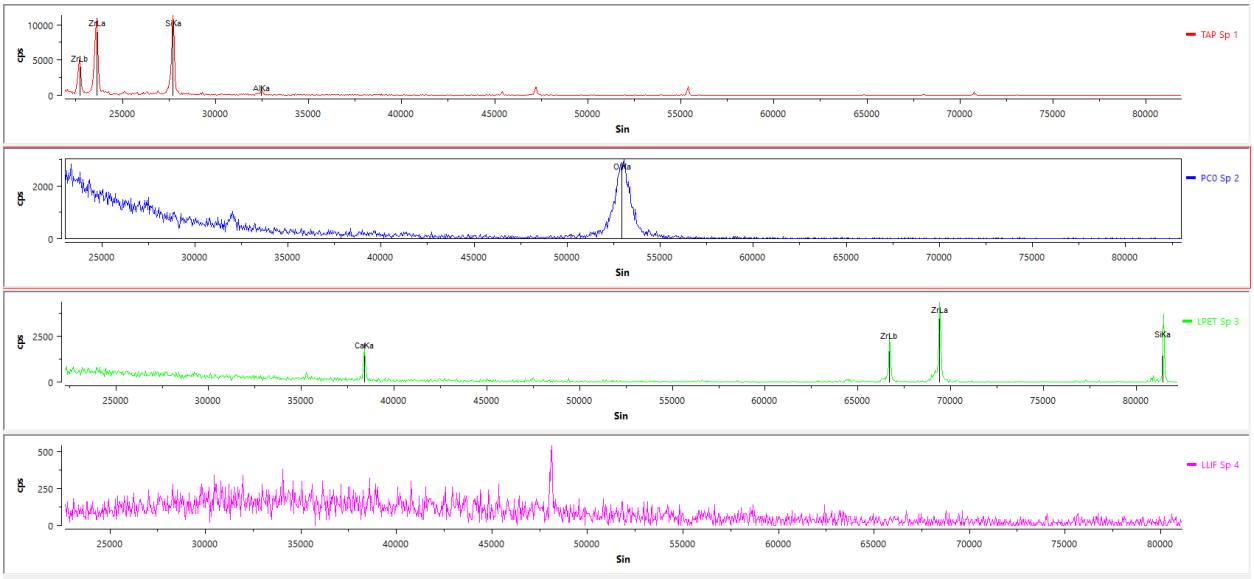
55615-01-015L-01_REE-1- Calciocatapleiite



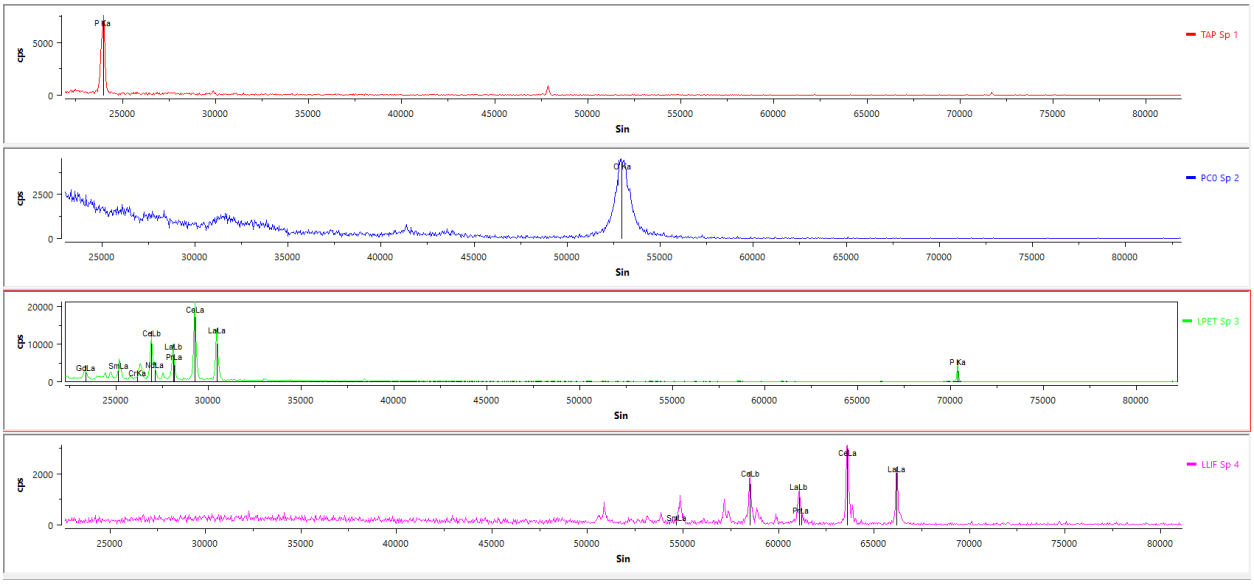
55615-01-015L-01_REE-2- Zircon



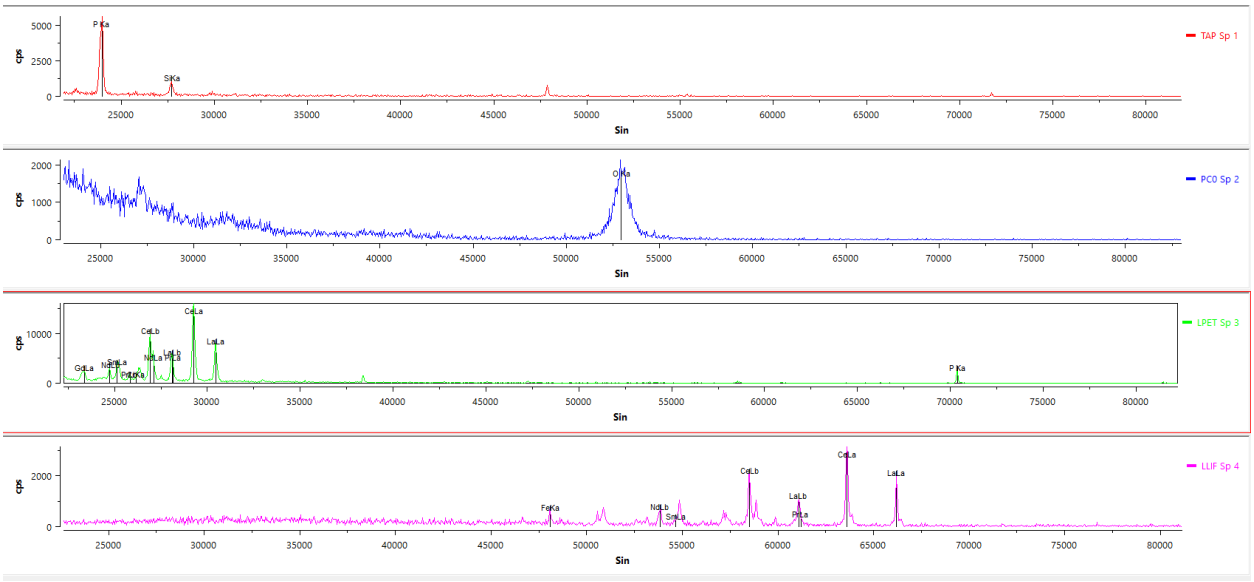
55615-01-015L-01_REE-4- Monazite



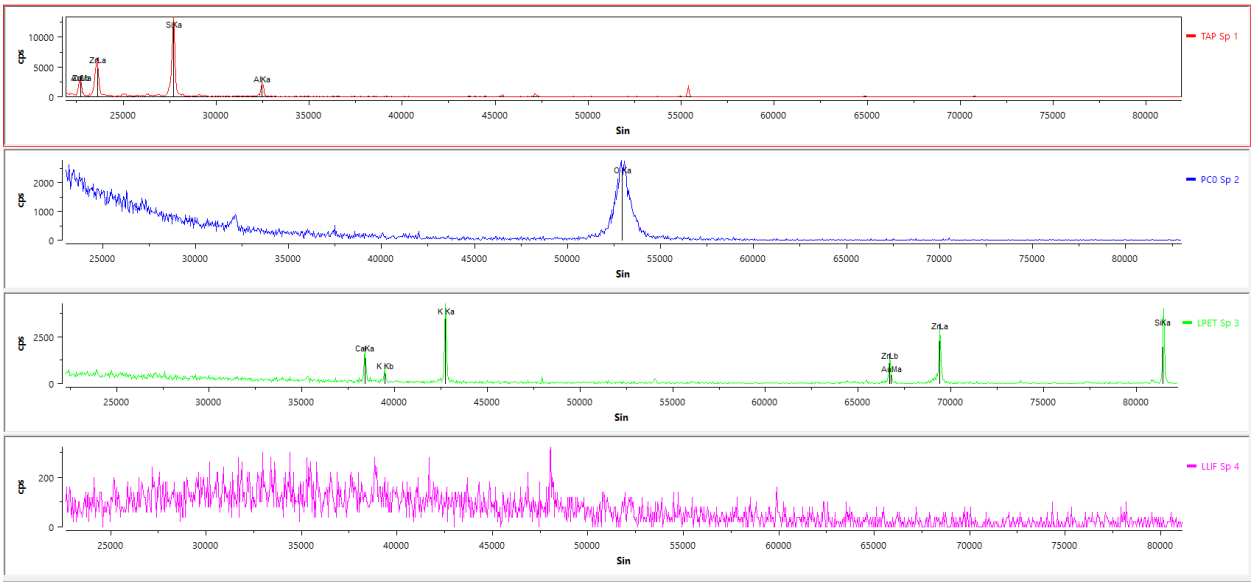
55615-04-015L-01_REE-5- Calciocatapleiite



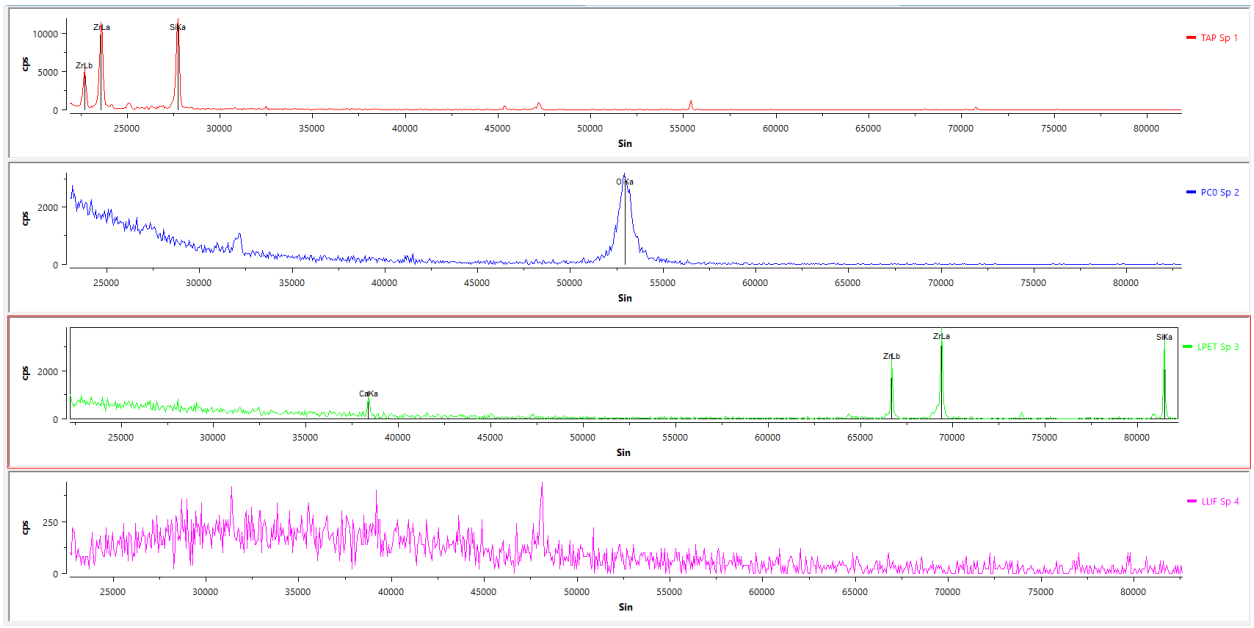
55615-01-015L-01_REE-6- Monazite



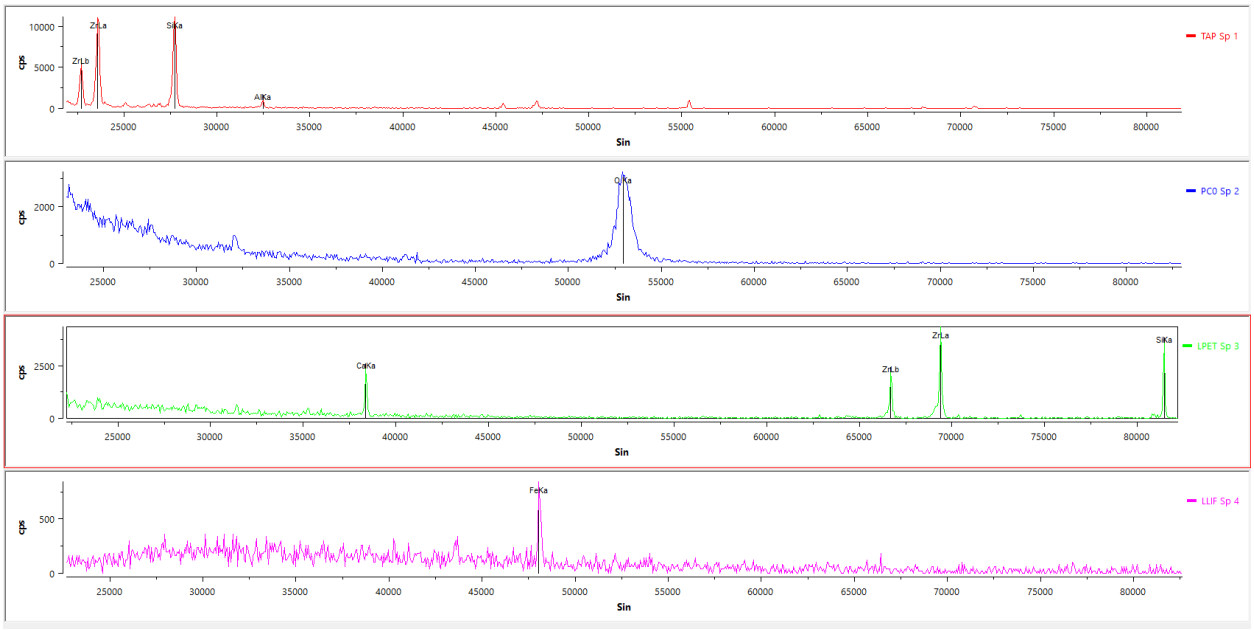
55615-01-015L-01_REE-7- Monazite



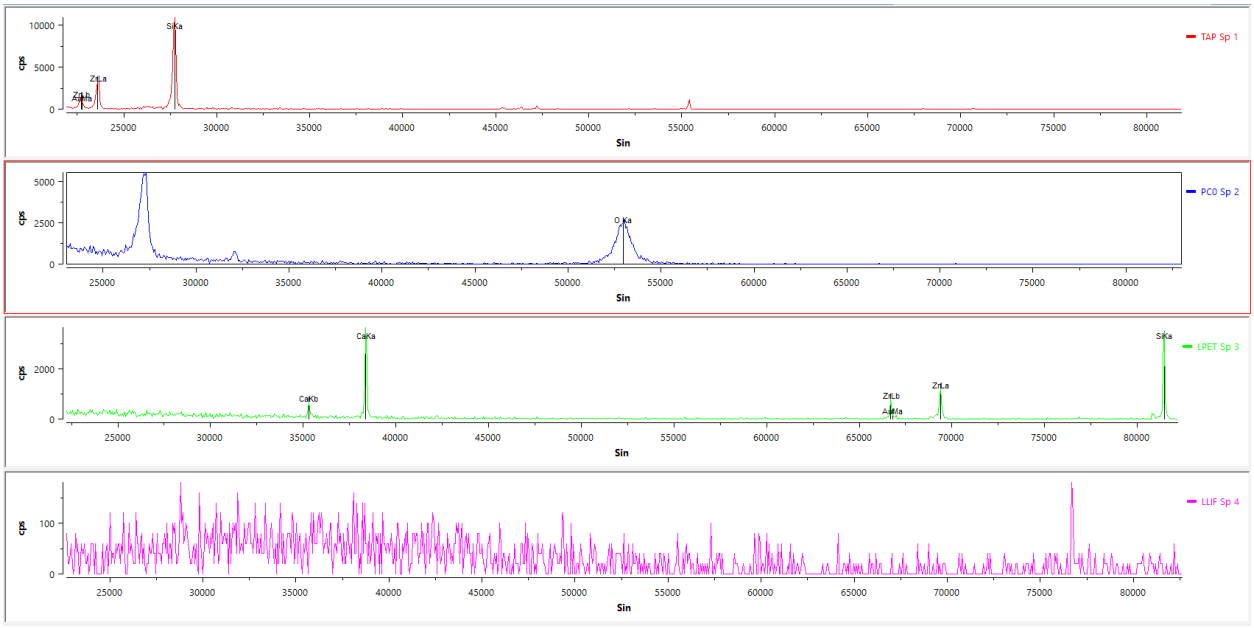
55615-01-015L-02_REE_1- Aqualite



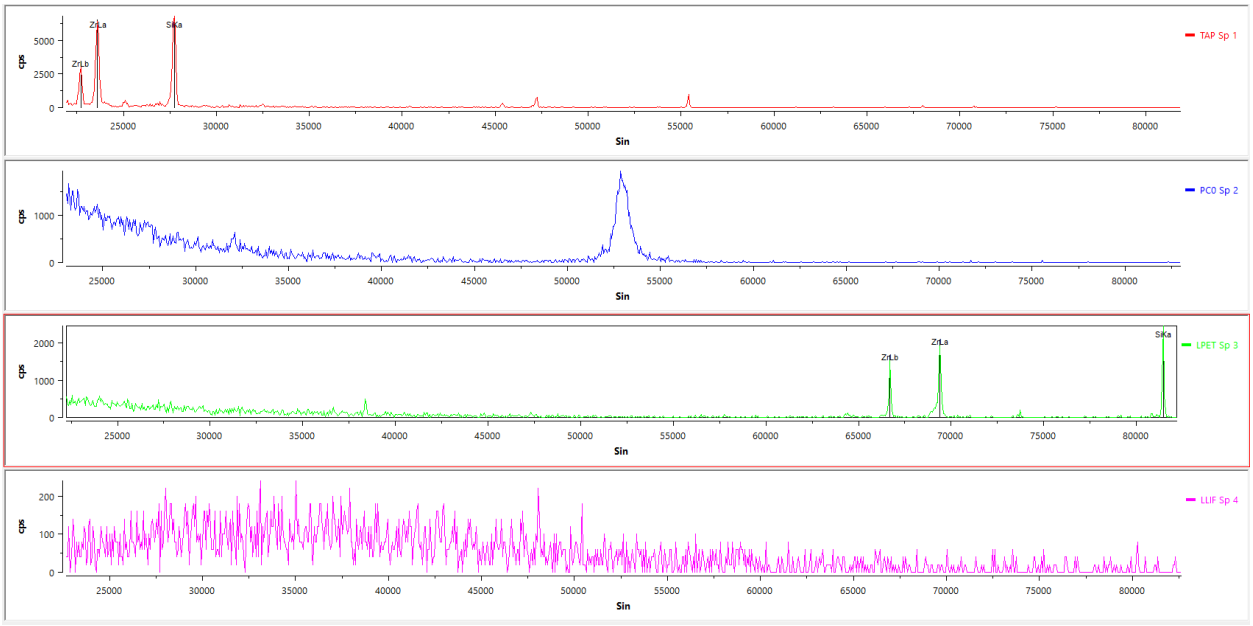
55615-01-015L-03z_1- Calciocatapleiite



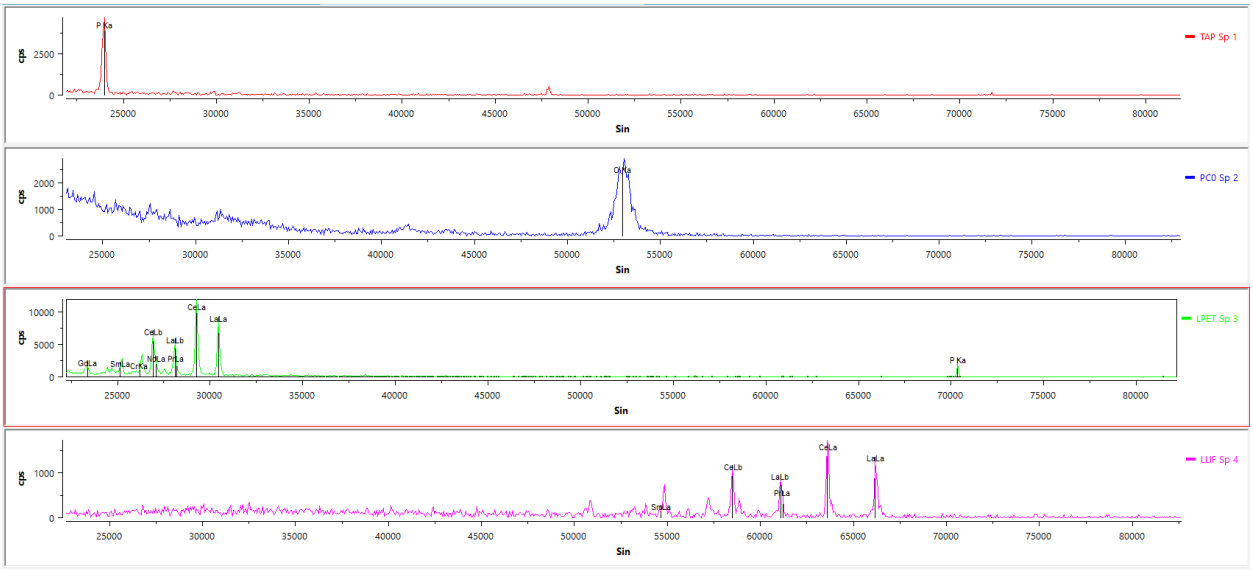
55615-01-015L-03z_2- Calciocatapleiite



55615-01-015_2Test_5- Calciocatapleiite

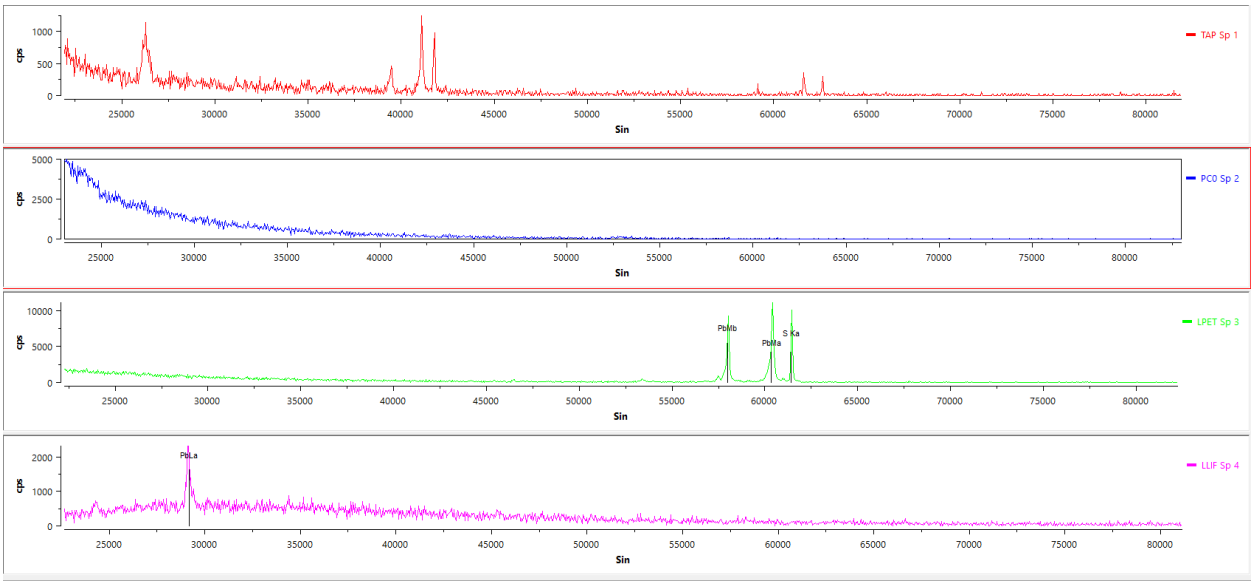


55615-01-015_2Test_10- Zircon

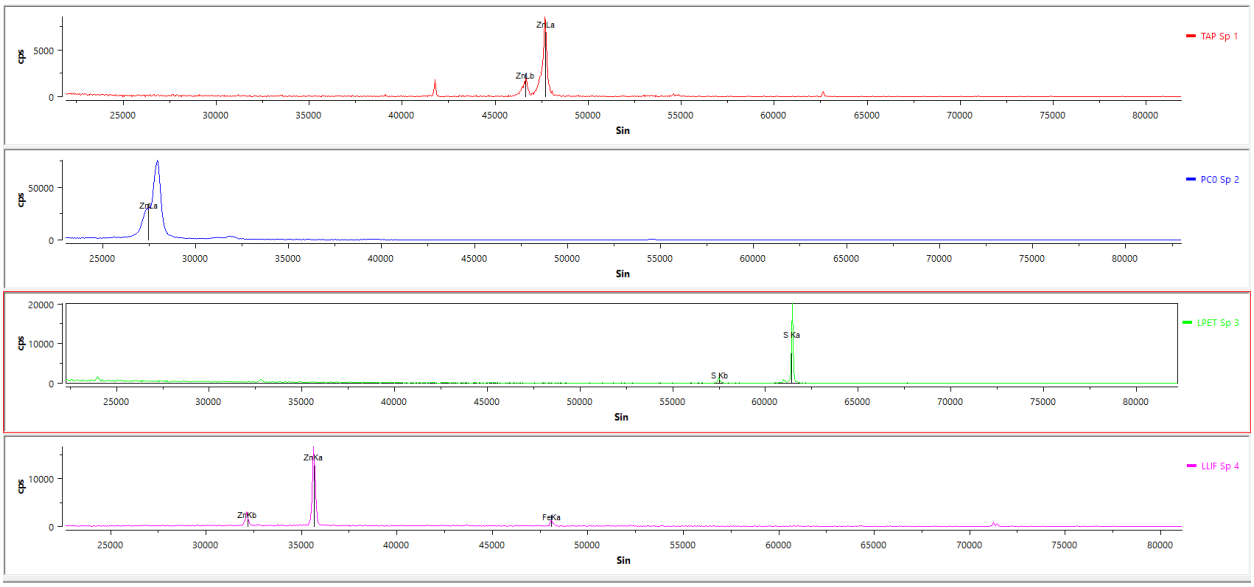


55615-01-015_2Test_13- Monazite

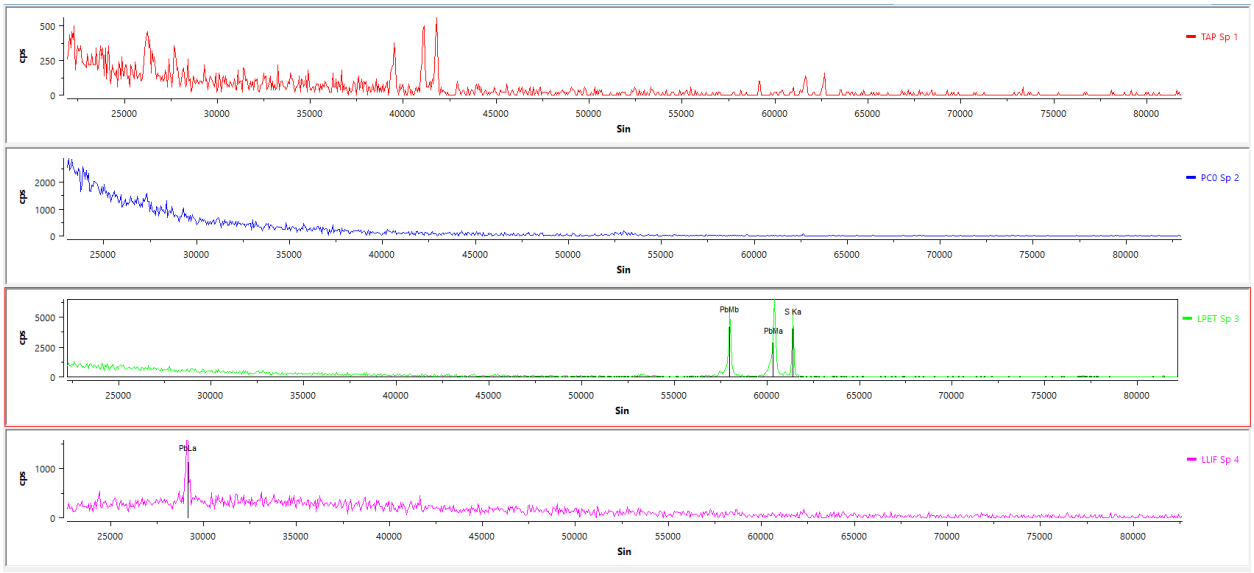
Sulfides



55615-01-015L-01_REE-3- Galena



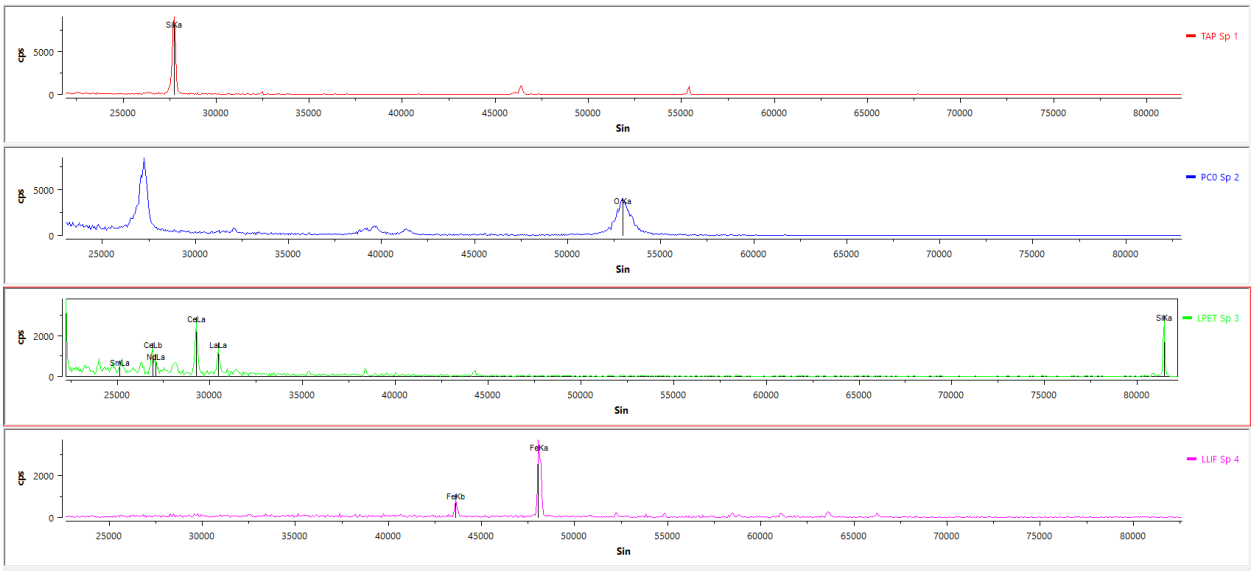
55615-01-015L-02_REE_3- Sphalerite



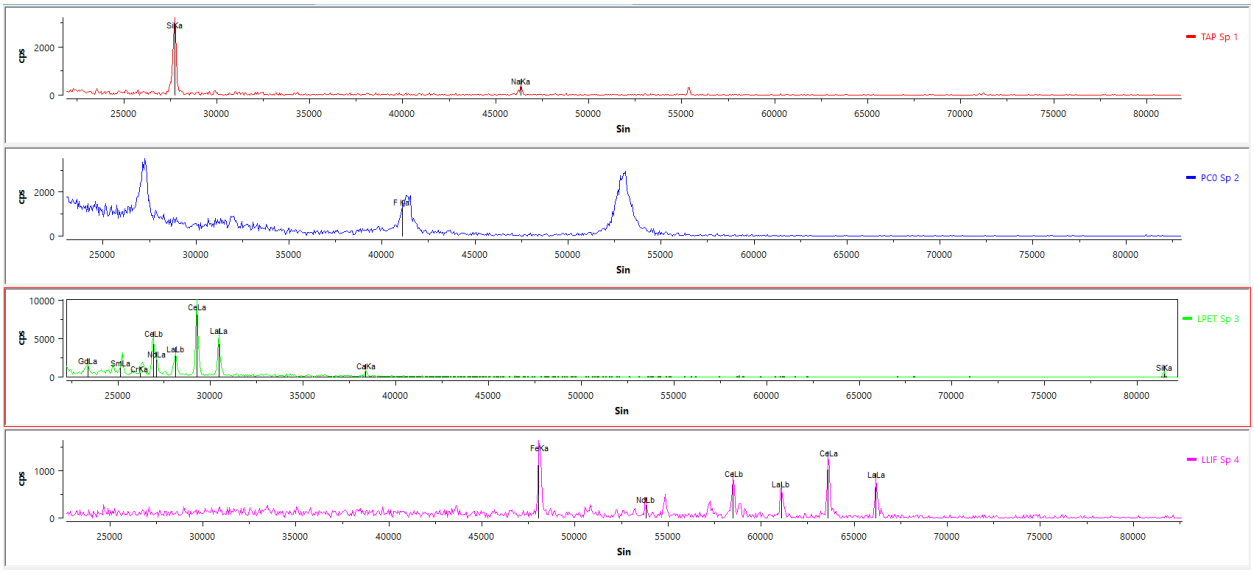
55615-01-015_3Test_5- Galena

55615-02-035- Wind Mountain

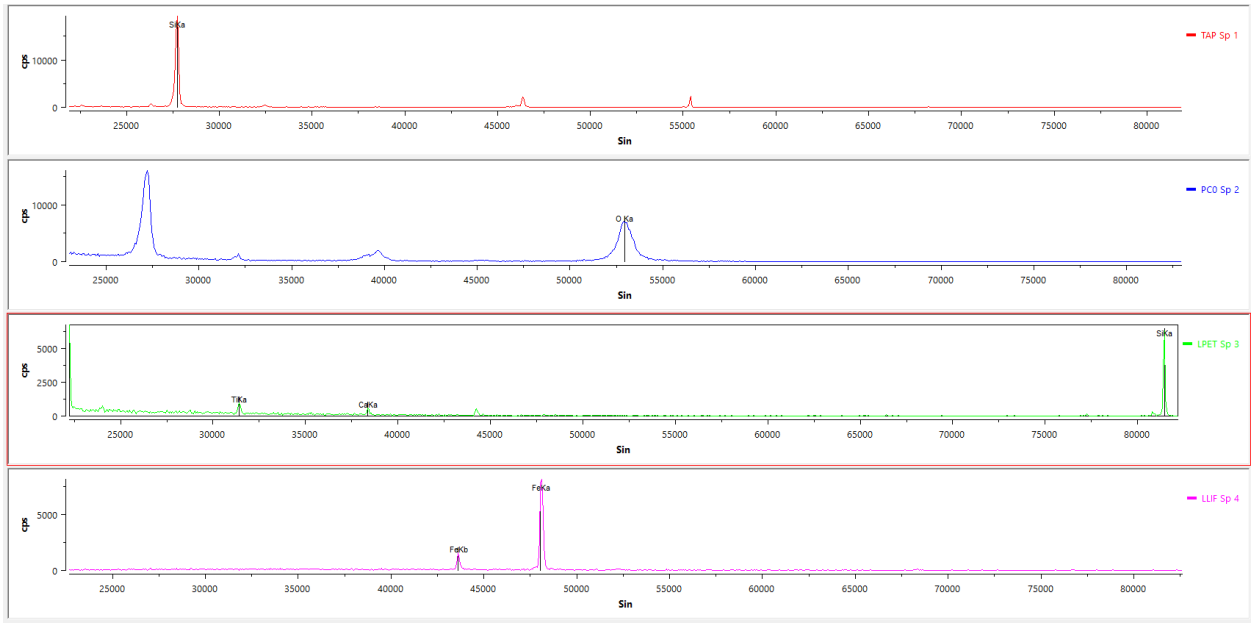
Pyroxenes



55615-02-035_1Test_1- Aegirine + Bastnäsite

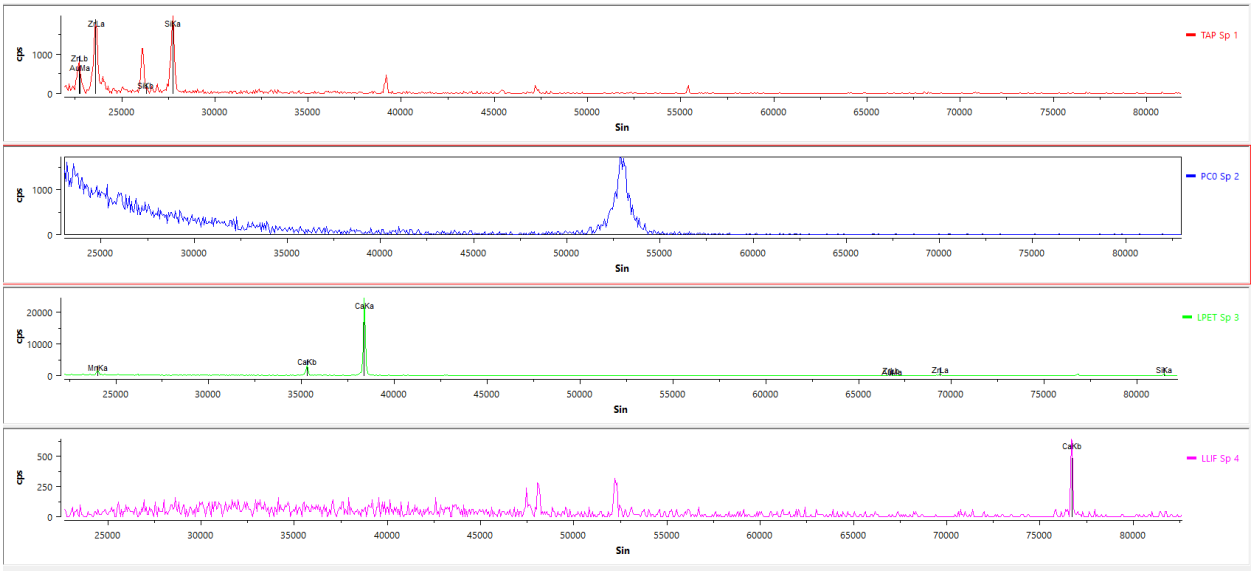


55615-02-035_1Test_2- Aegirine + Bastnäsite

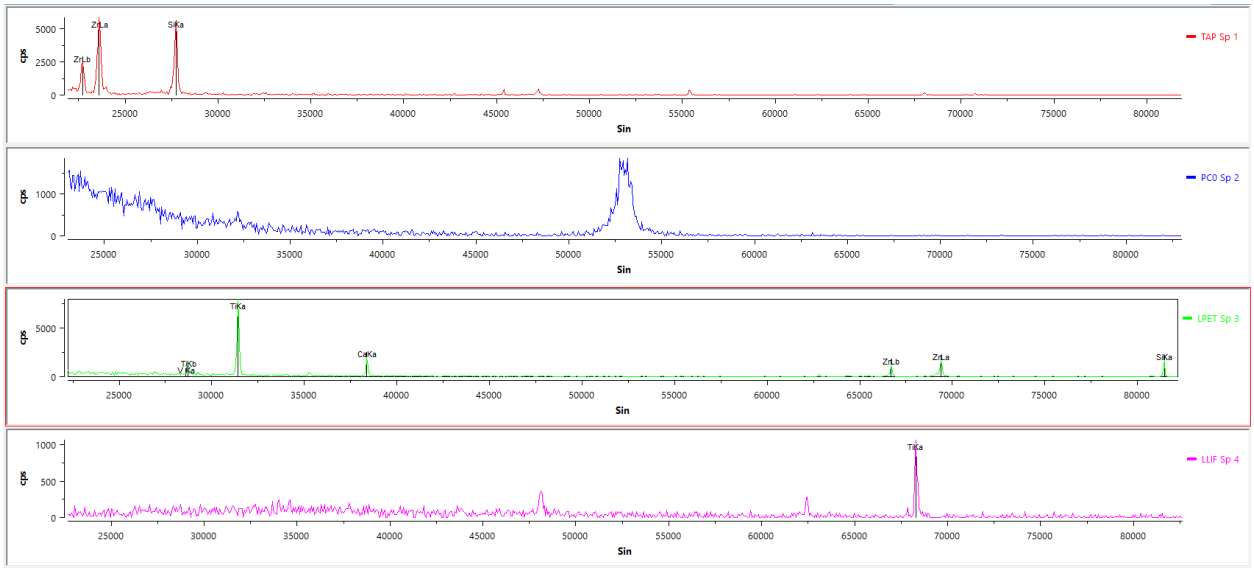


55615-2-35R-01-02_2- Aegirine

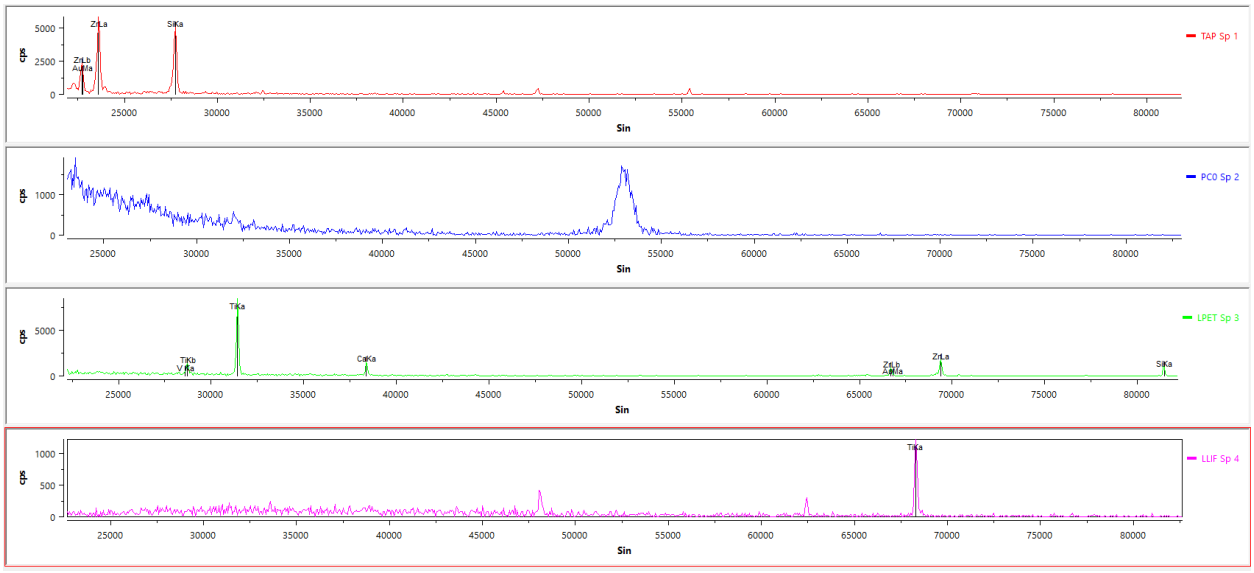
REE, Zr, and Nb Phases



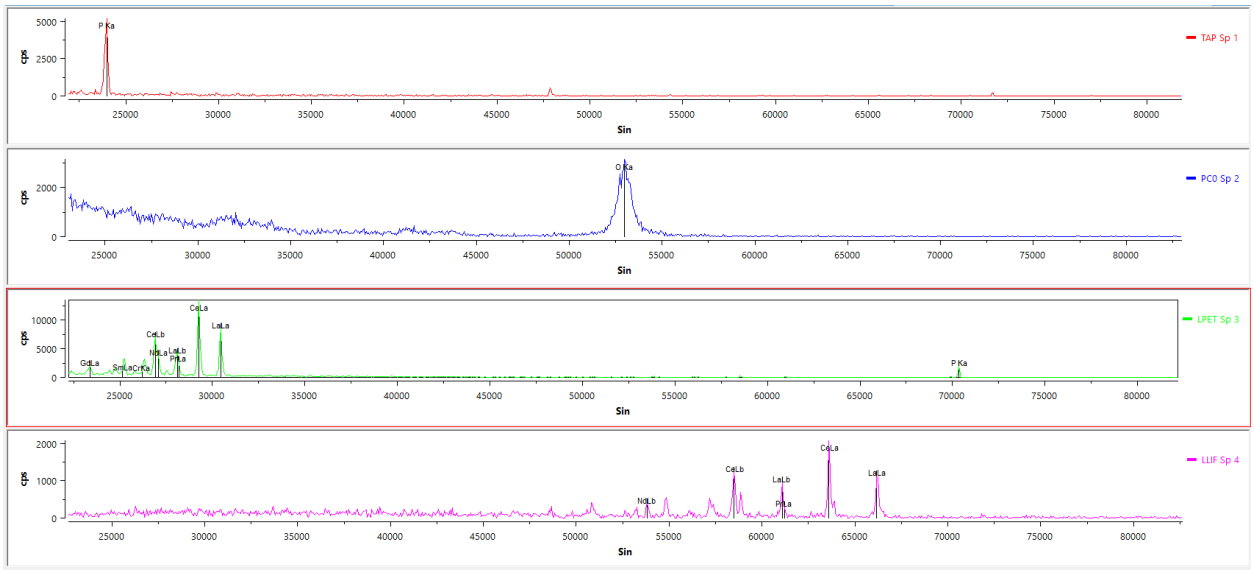
55615-02-035_1Test_4- Calciocatapleiite



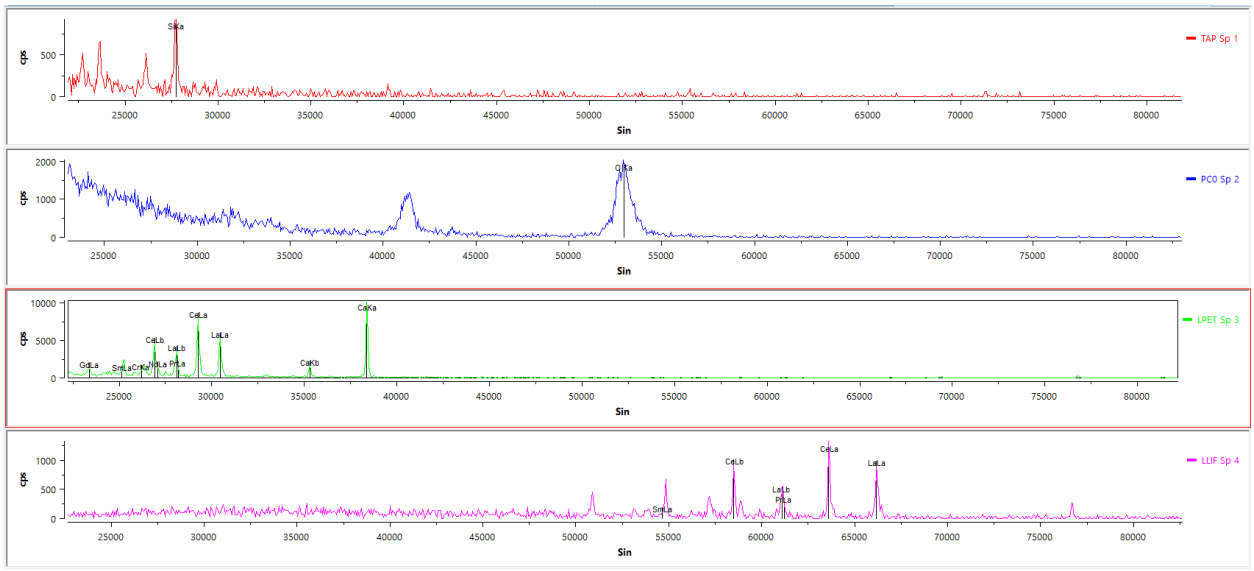
55615-02-035_1Test_6- Calciocatapleiite Mixed Phase



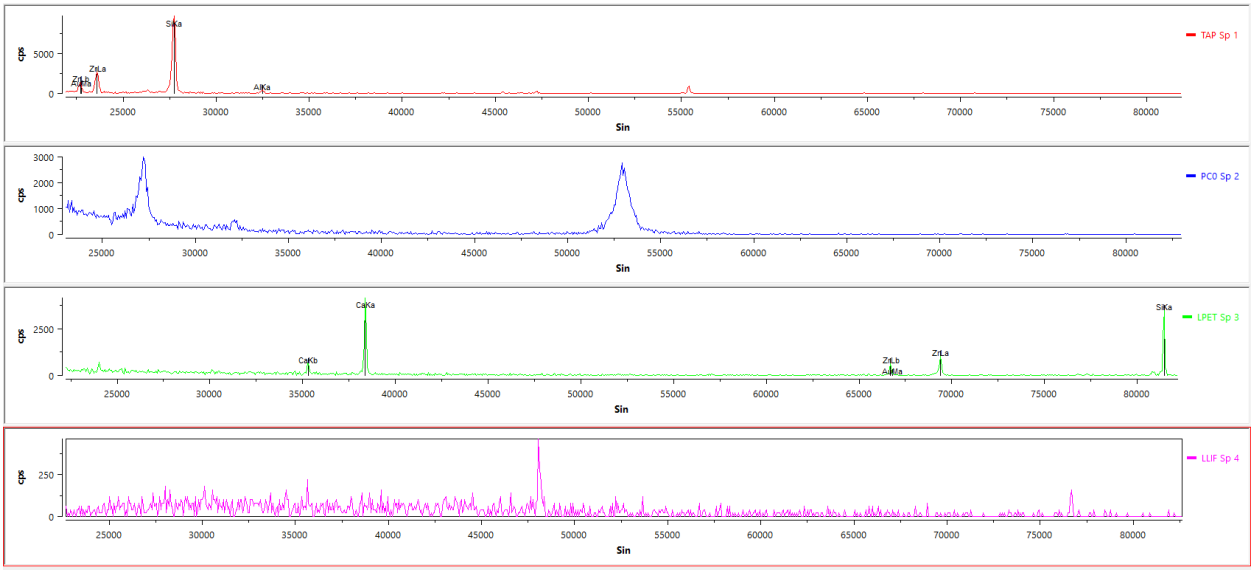
55615-02-035_1Test_7- Calciocatapleiite Mixed Phase



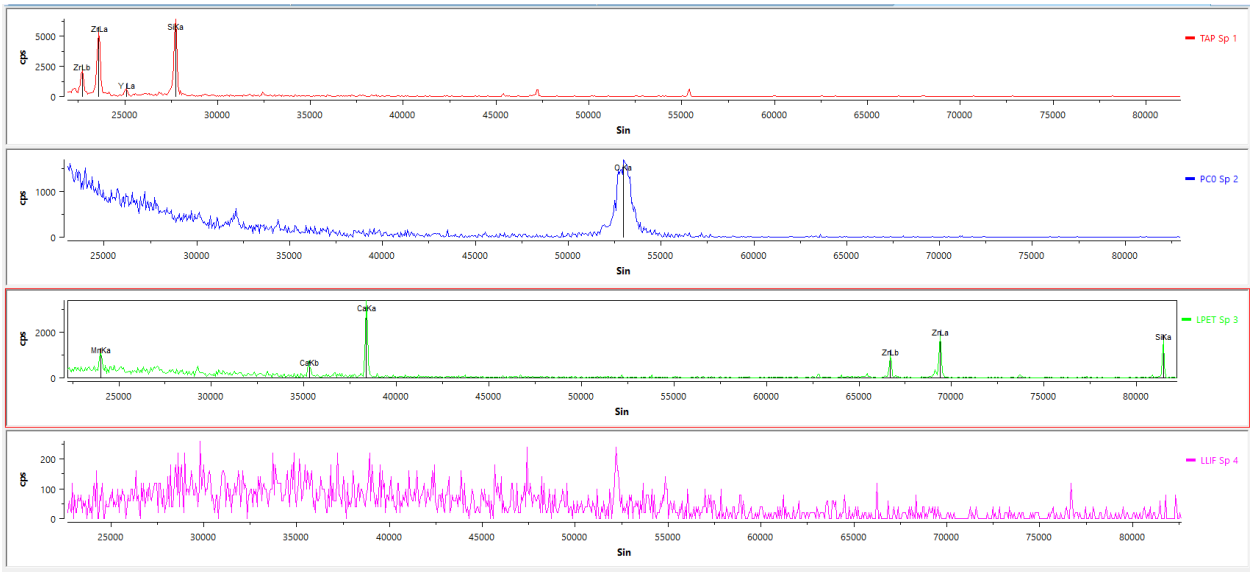
55615-02-035_3Test_1- Monazite



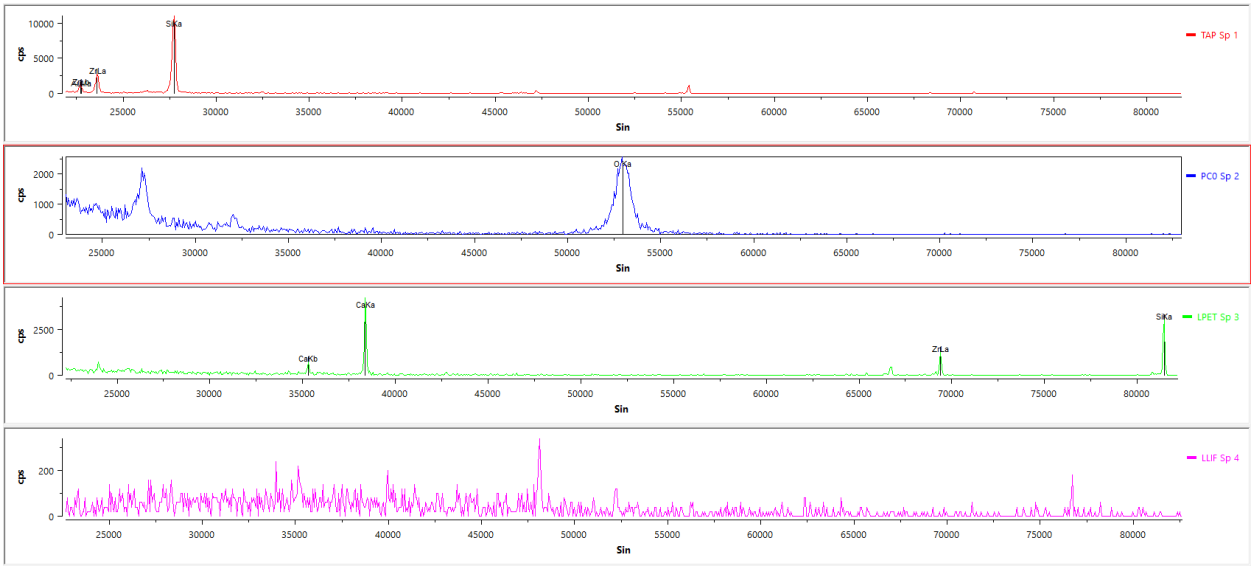
55615-02-035_3Test_3- Bastnäsite Mixed Phase



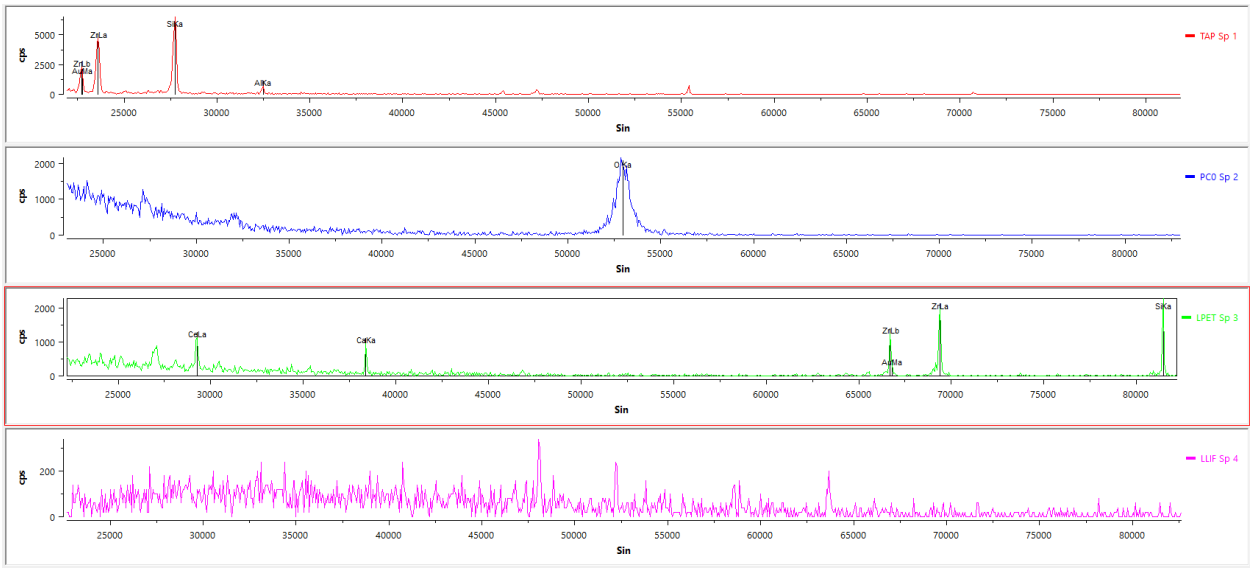
55615-02-035_3Test_4- Calciocatapleiite



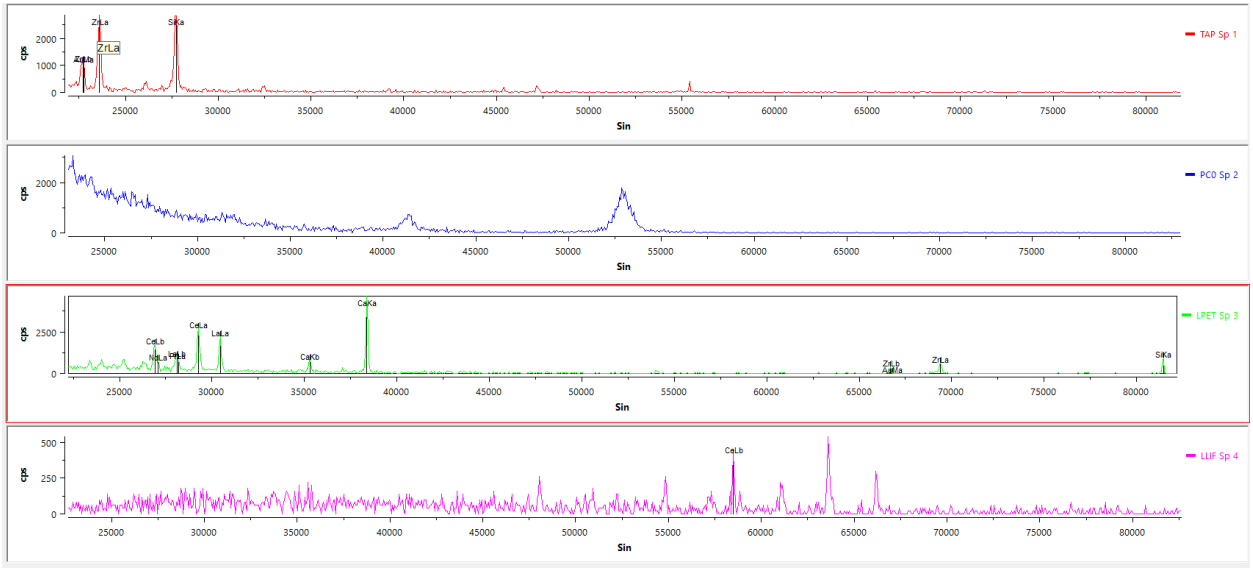
55615-02-035_3Test_5- Calciocatapleiite



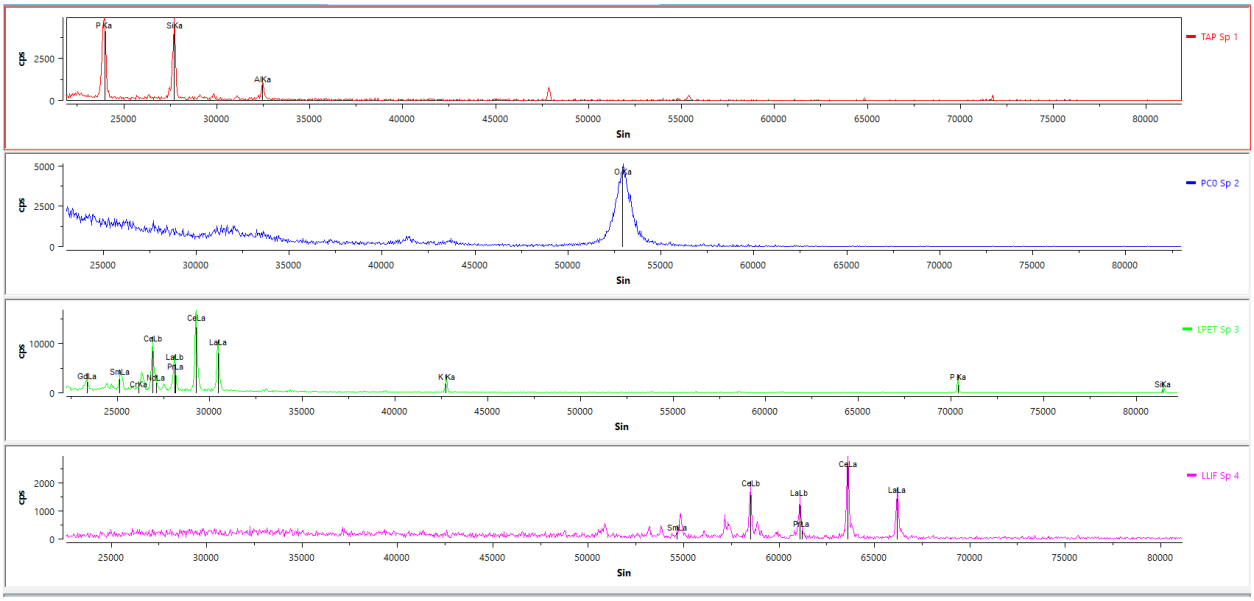
55615-02-035_3Test_6- Calciocatapleiite



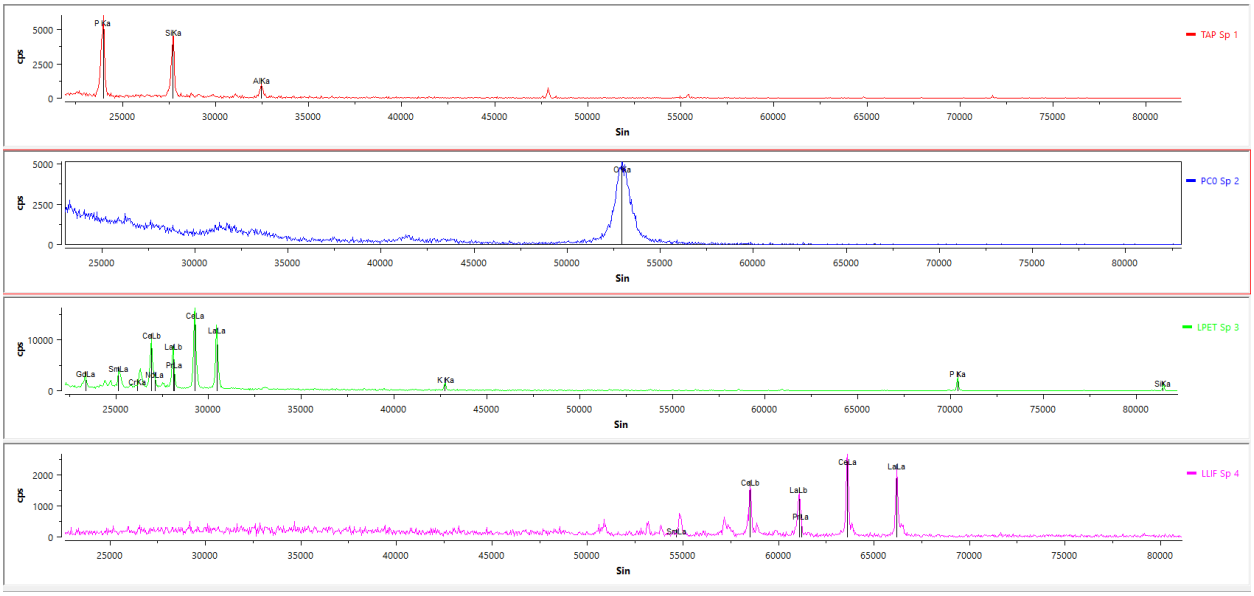
55615-02-035_3Test_7- Calciocatapleiite



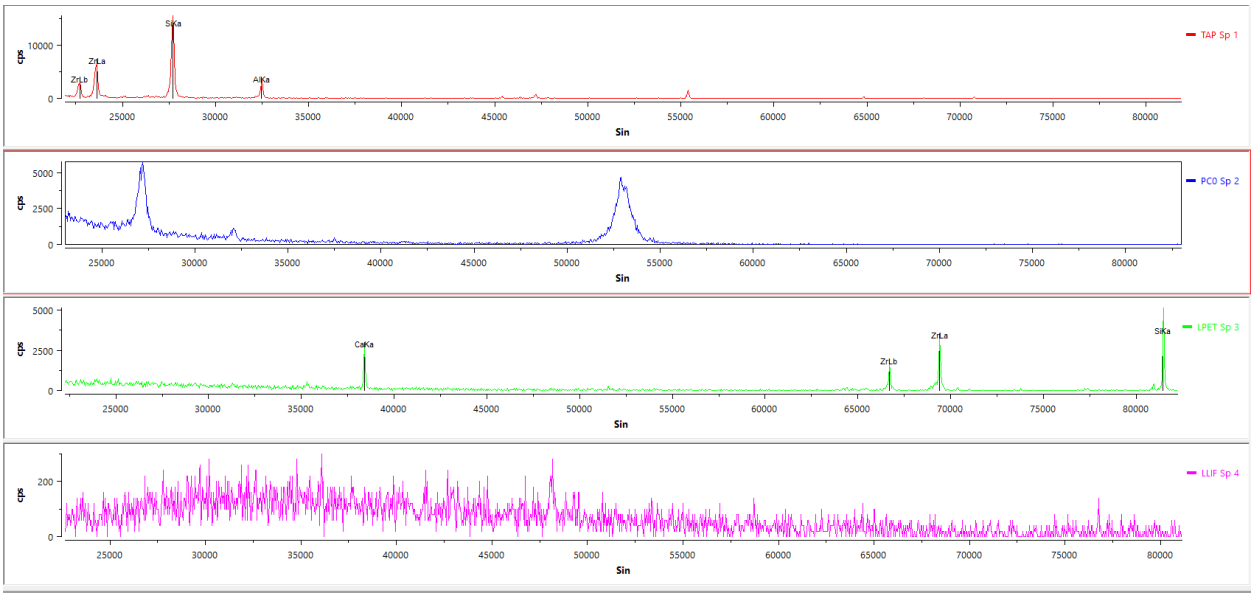
55615-02-035_3Test_8- Calciocatapleiite + Bastnäsite



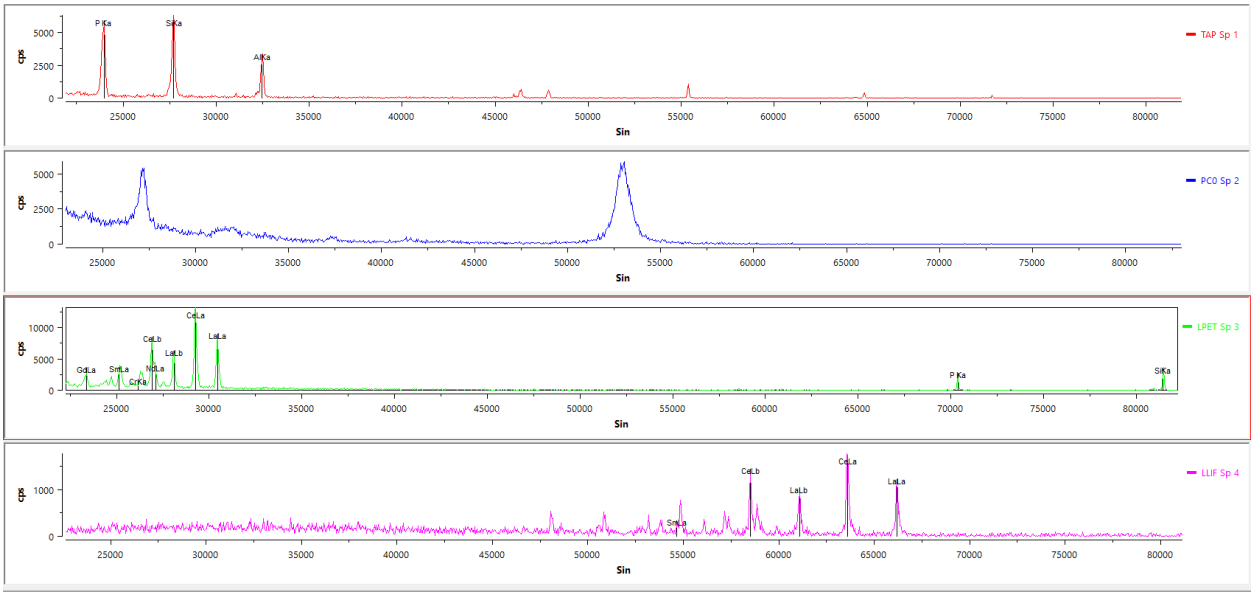
55615-02-035L-01_REE_2- Monazite Mixed Phase



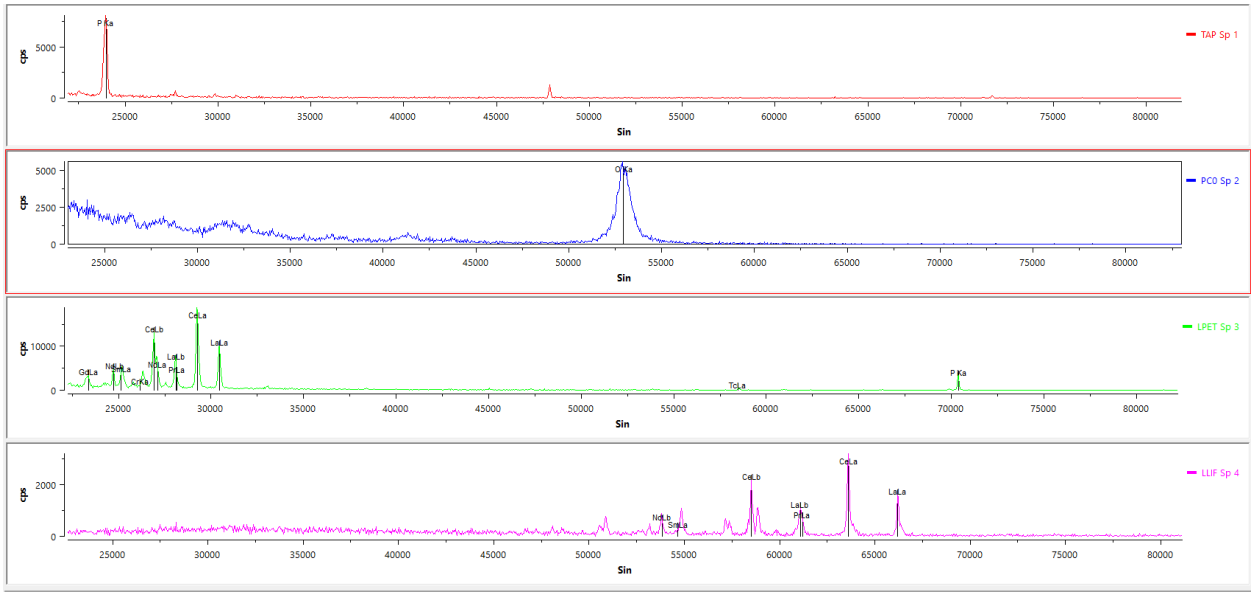
55615-02-035L-01_REE_3- Monazite Mixed Phase



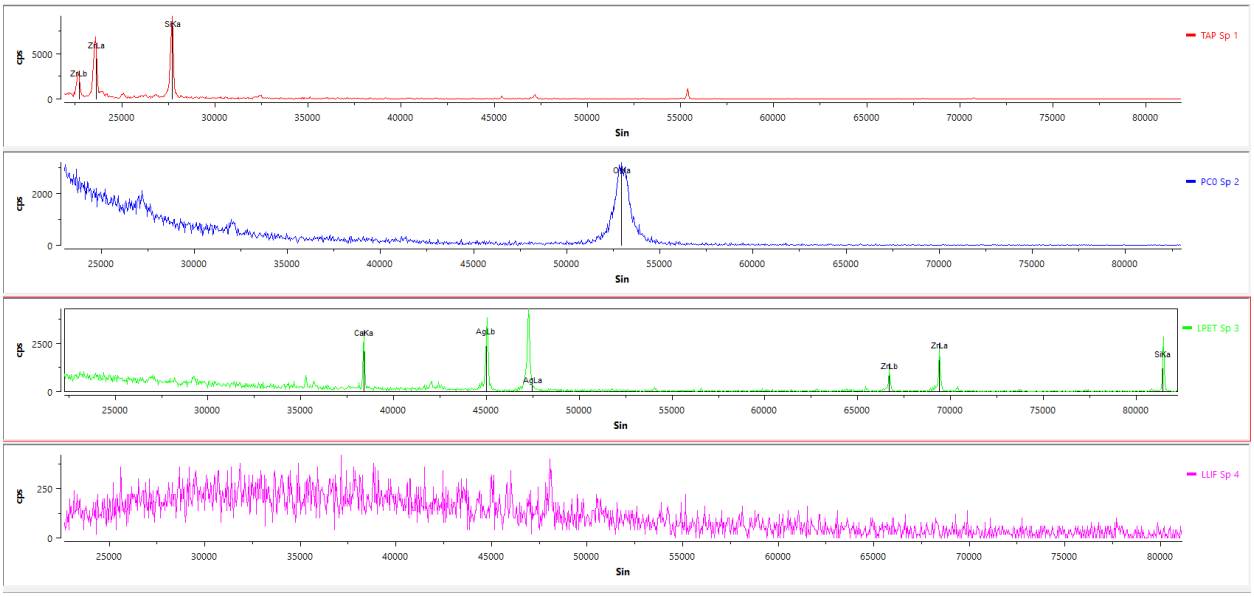
55615-02-035L-01_REE_4- Calciocatapleiite



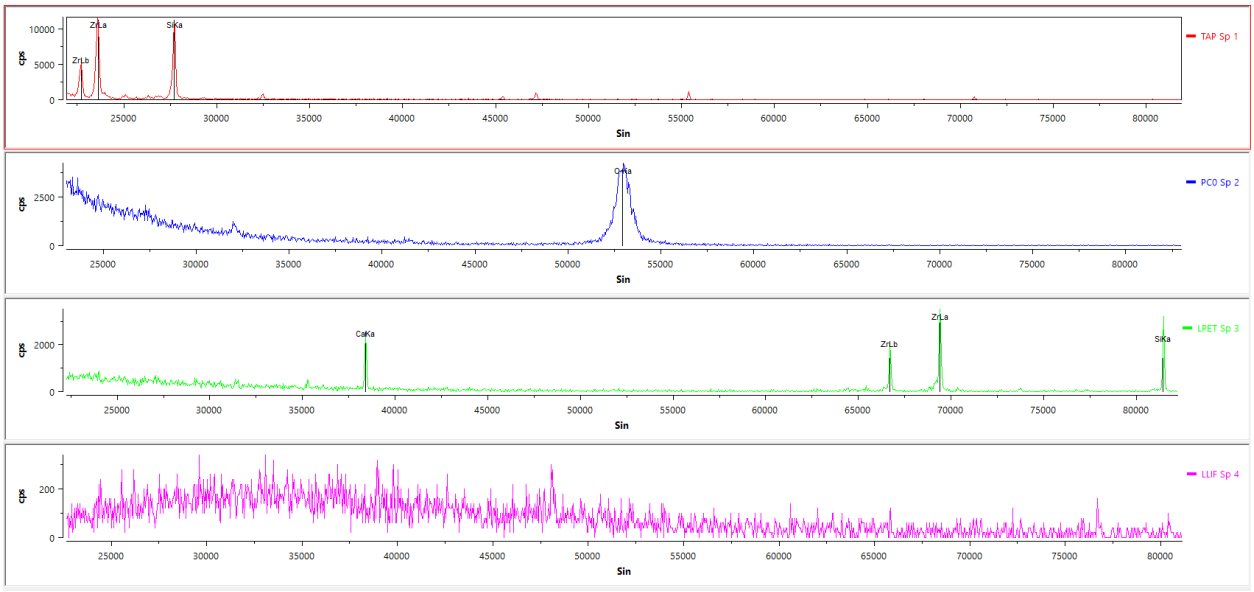
55615-02-035L-01_REE_5- Monazite + Albite



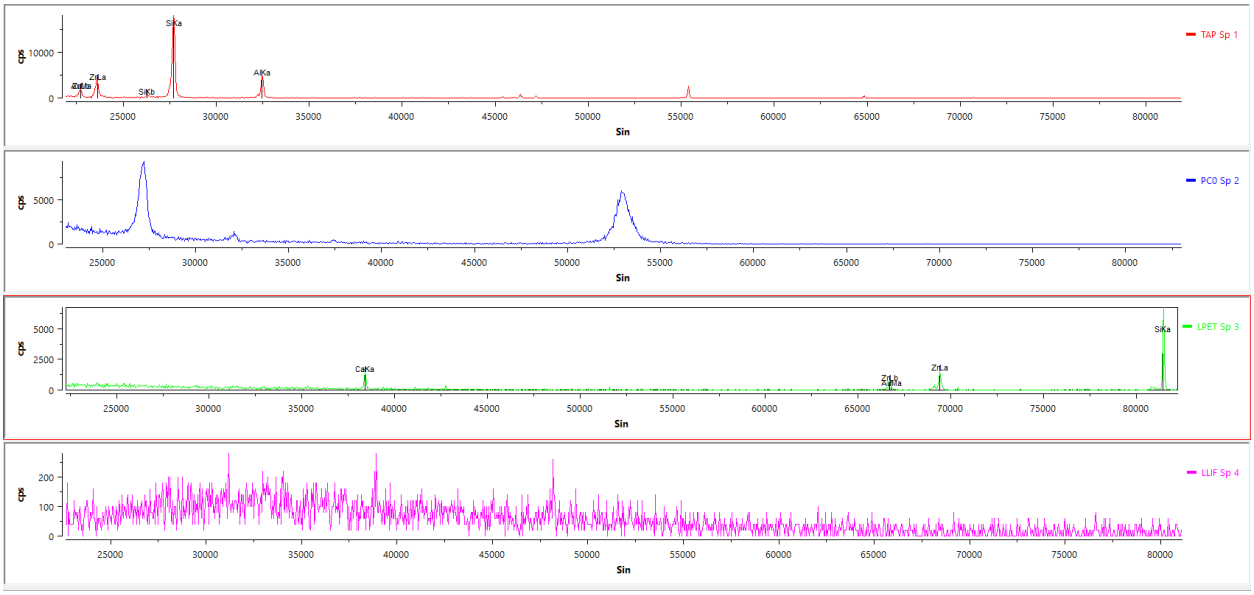
55615-02-035L-01_REE_6- Monazite



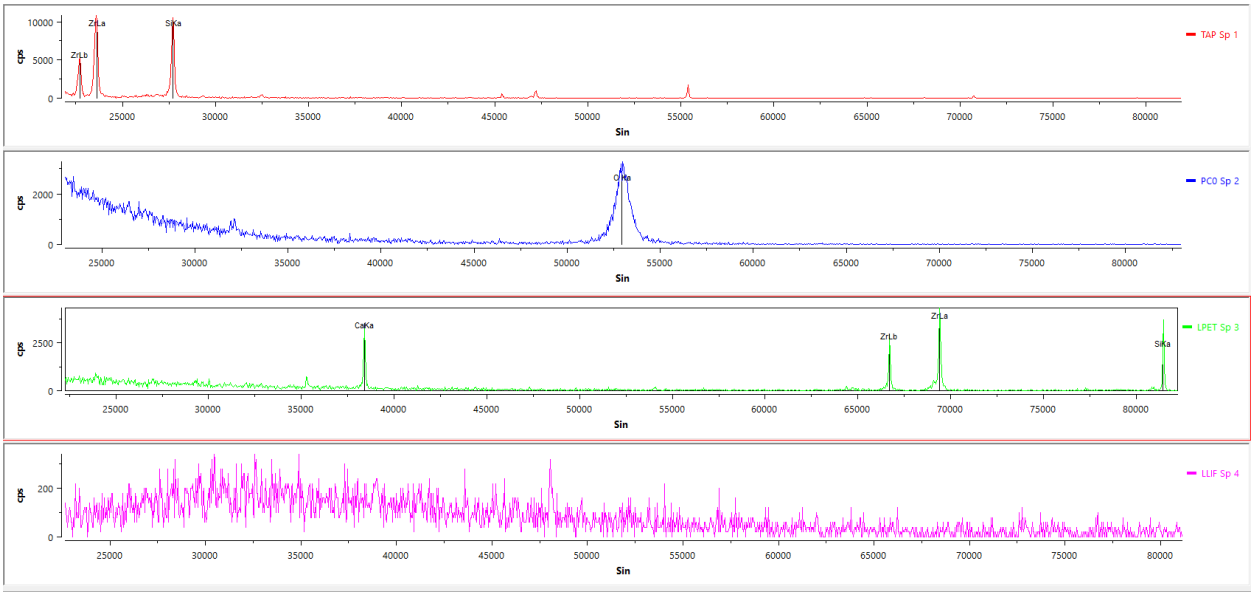
55615-02-035R-01_REE_1- Calciocatapleiite



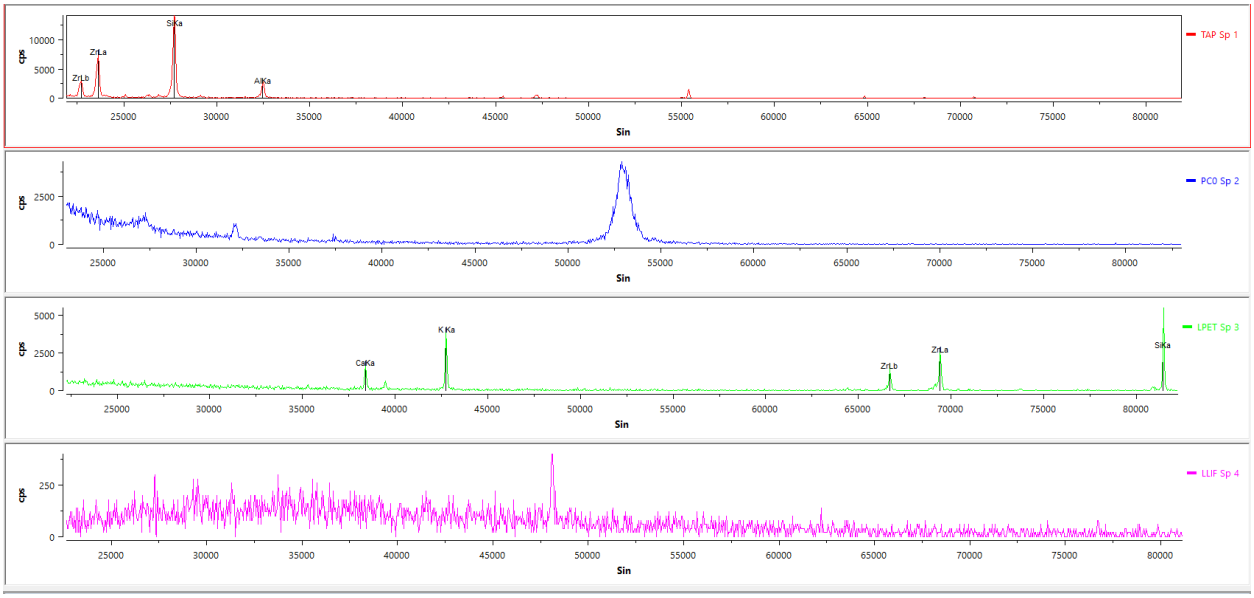
55615-02-035R-01_REE_2- Calciocatapleiite



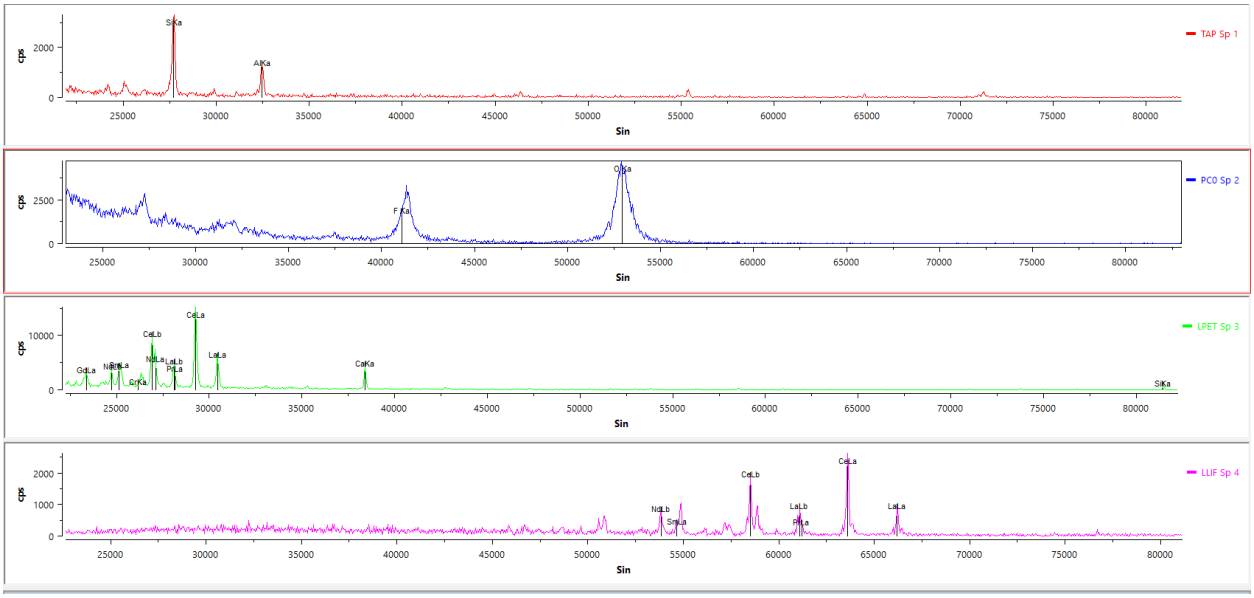
55615-02-035R-01_REE_3- Calciocatapleiite + Albite



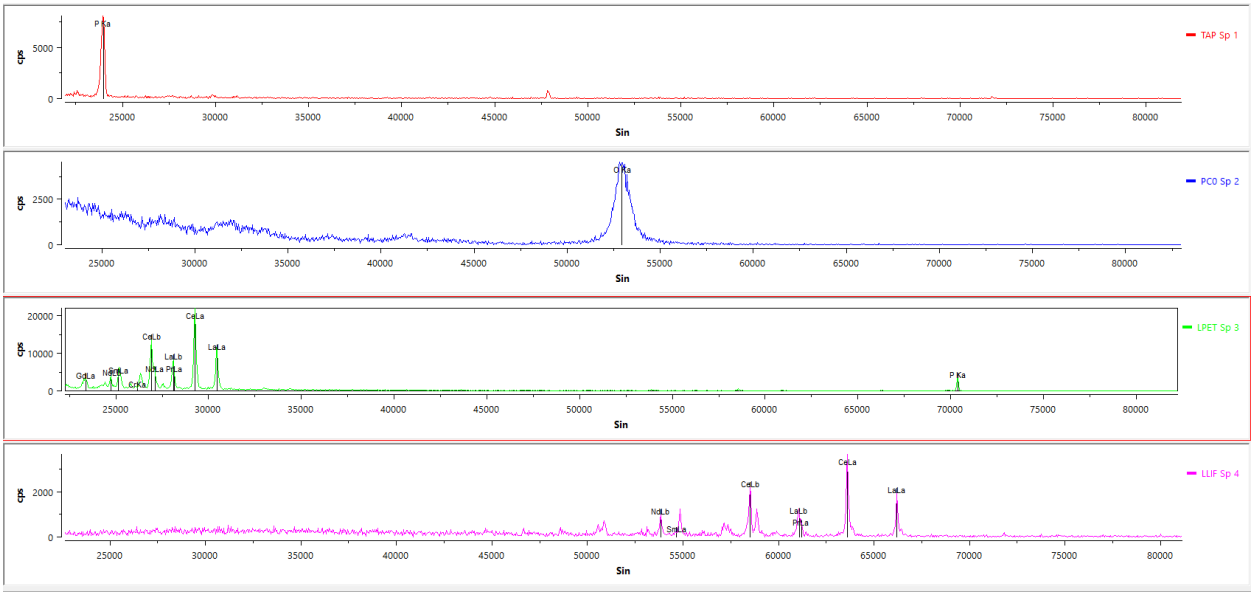
55615-02-035R-01_REE_4- Calciocatapleiite



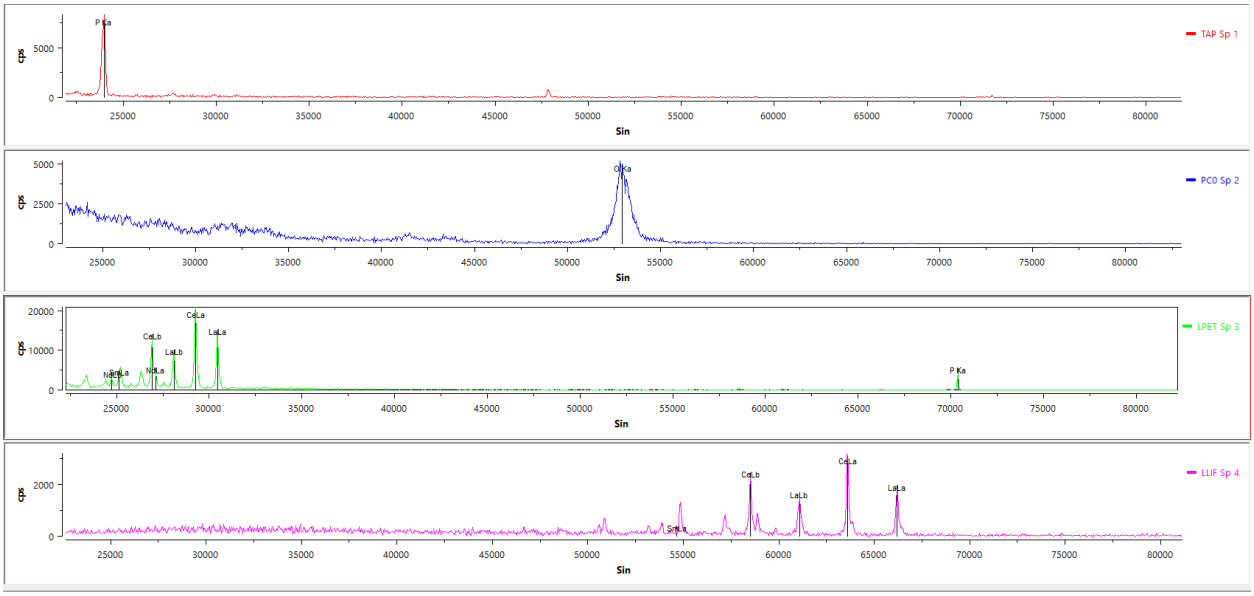
55615-02-035R-02_REE_1- Aqualite



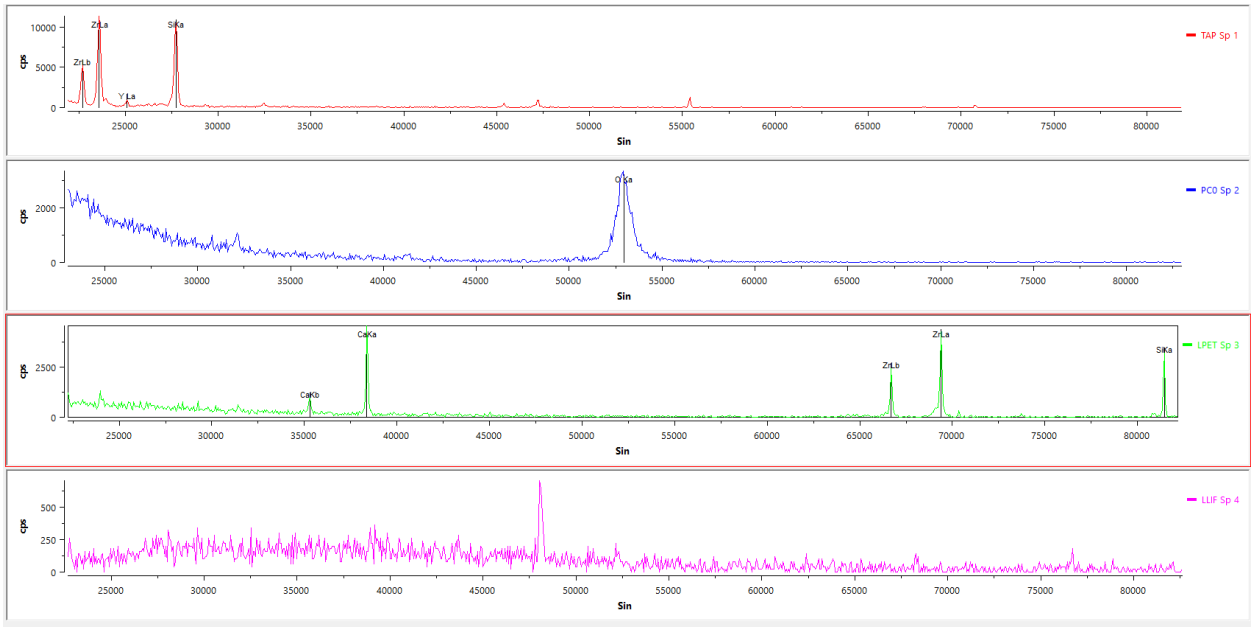
55615-02-035R-02_REE_2- Bastnäsite Mixed Phase



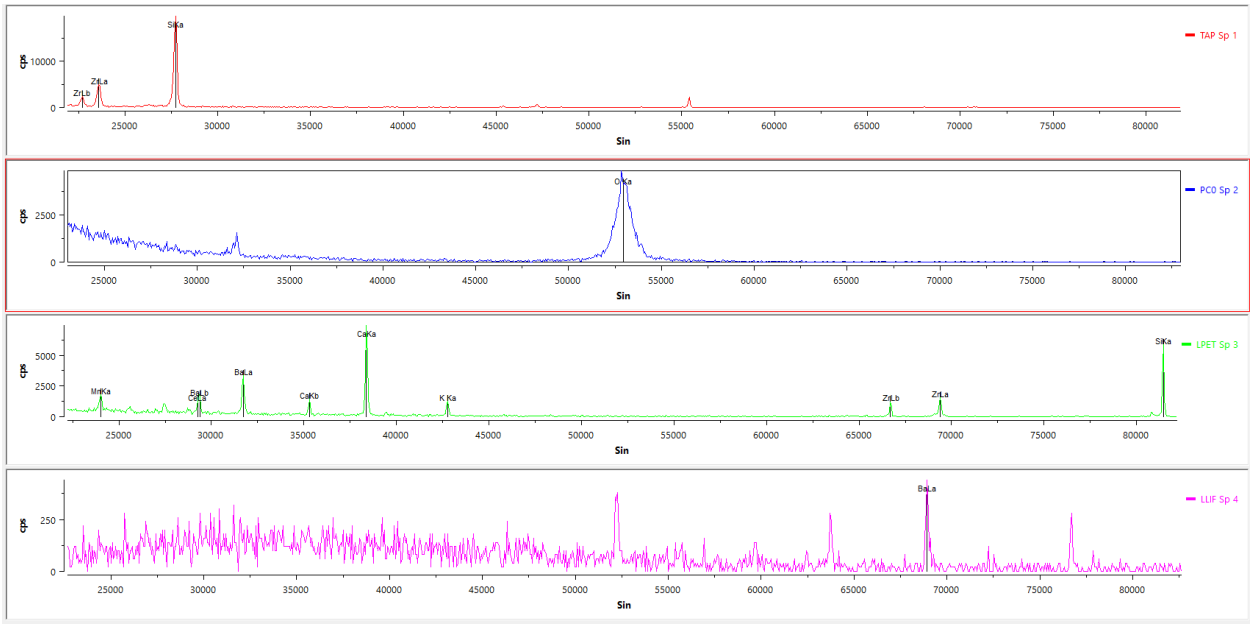
55615-02-035R-02_REE_3- Monazite



55615-02-035R-02_REE_4- Monazite

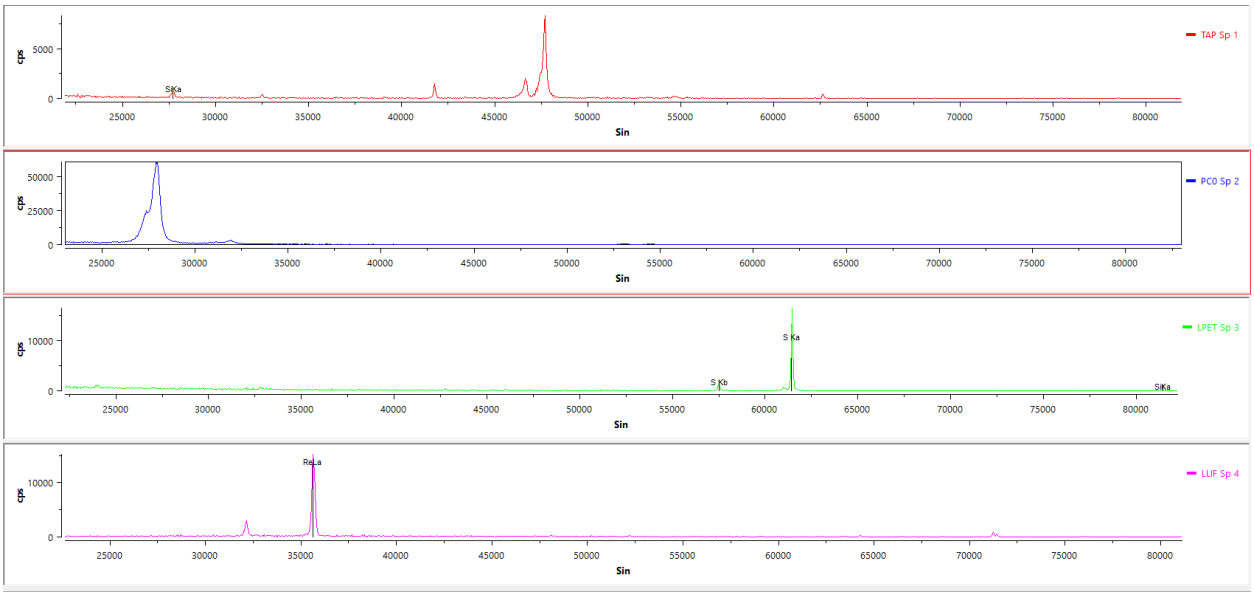


55615-02-035R-z_1- Calciocatapleiite



55615-02-035R-z_2- Aqualite

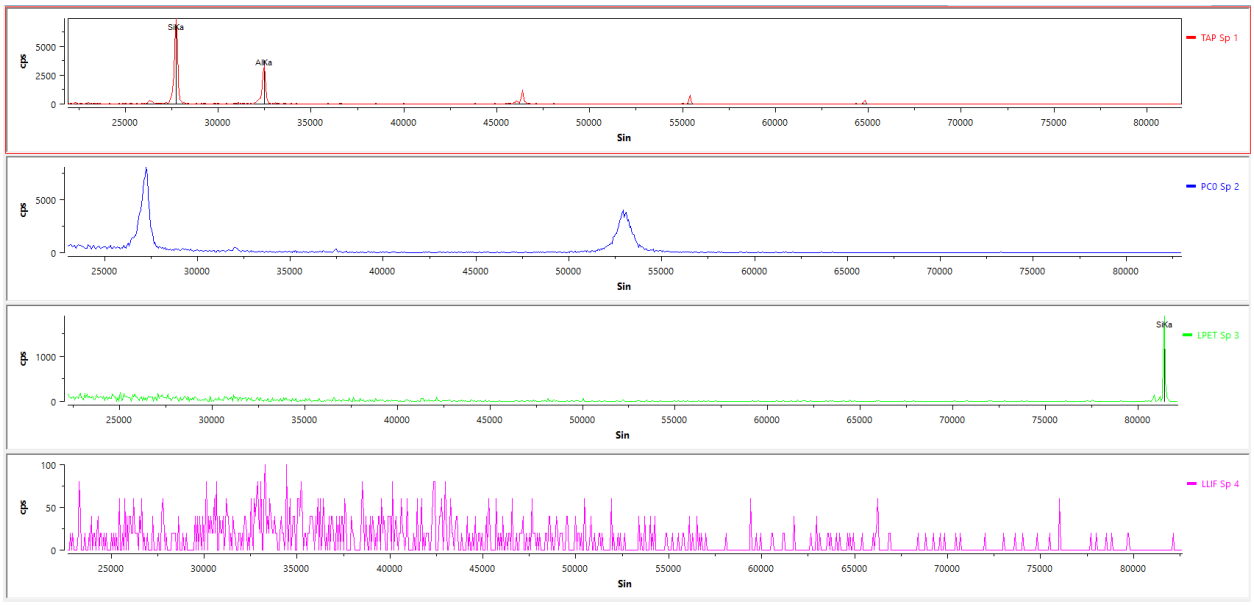
Sulfides



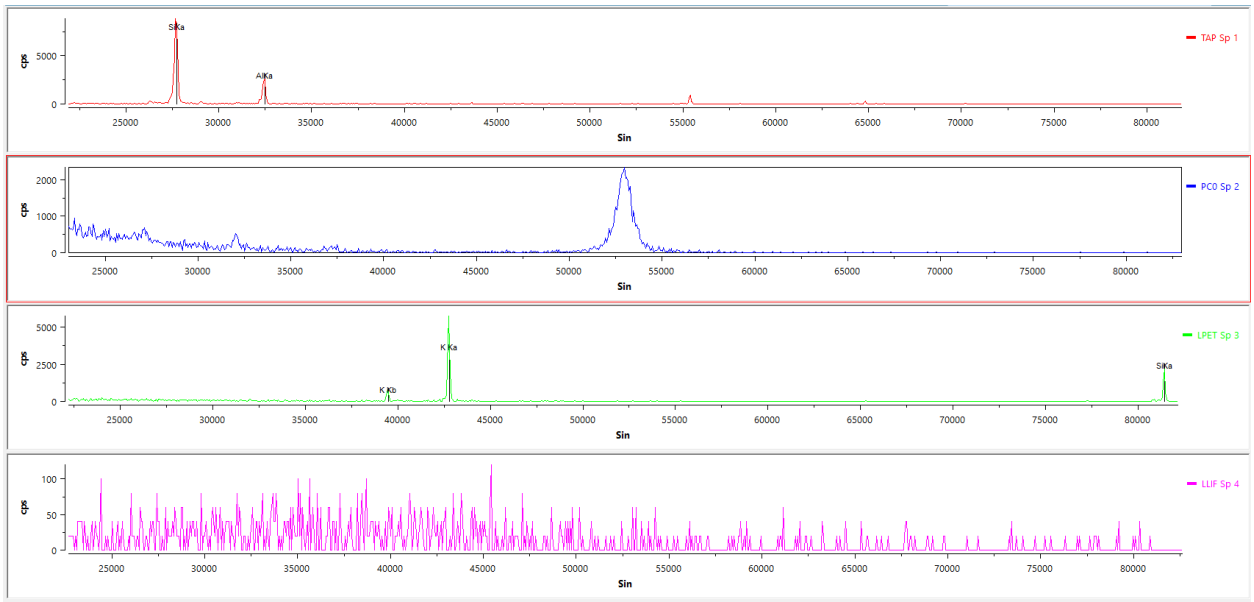
55615-02-035L-01_REE_1- Rhenite + Sphalerite

WMEB6- Wind Mountain

Feldspars and Feldspathoids

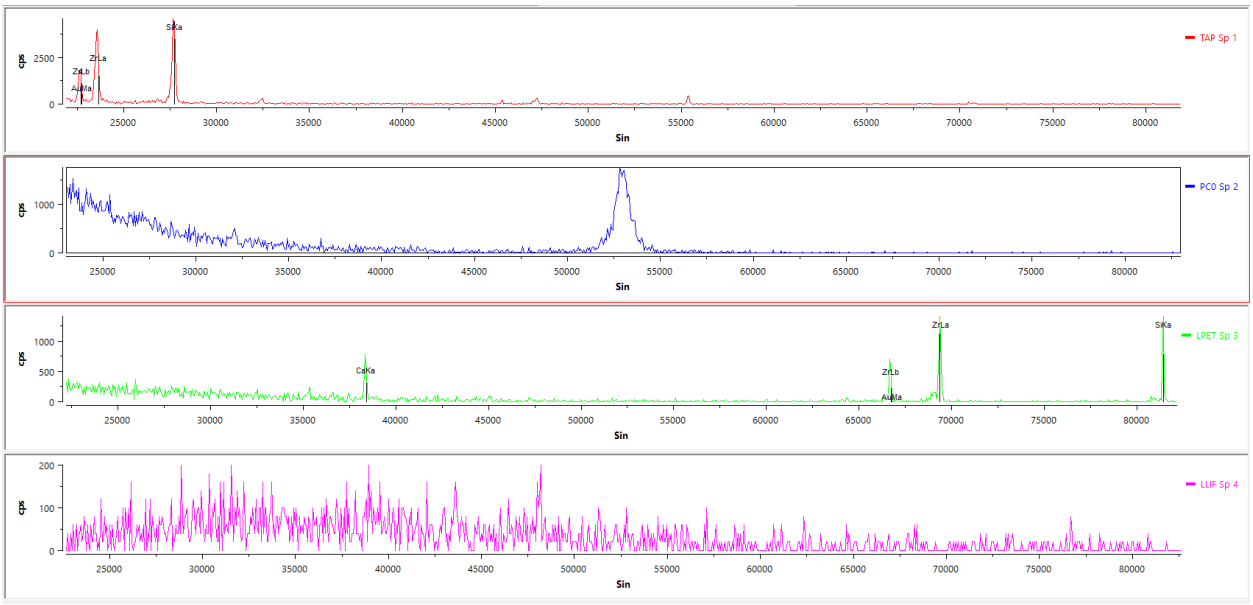


WMEB6_21- Analcime

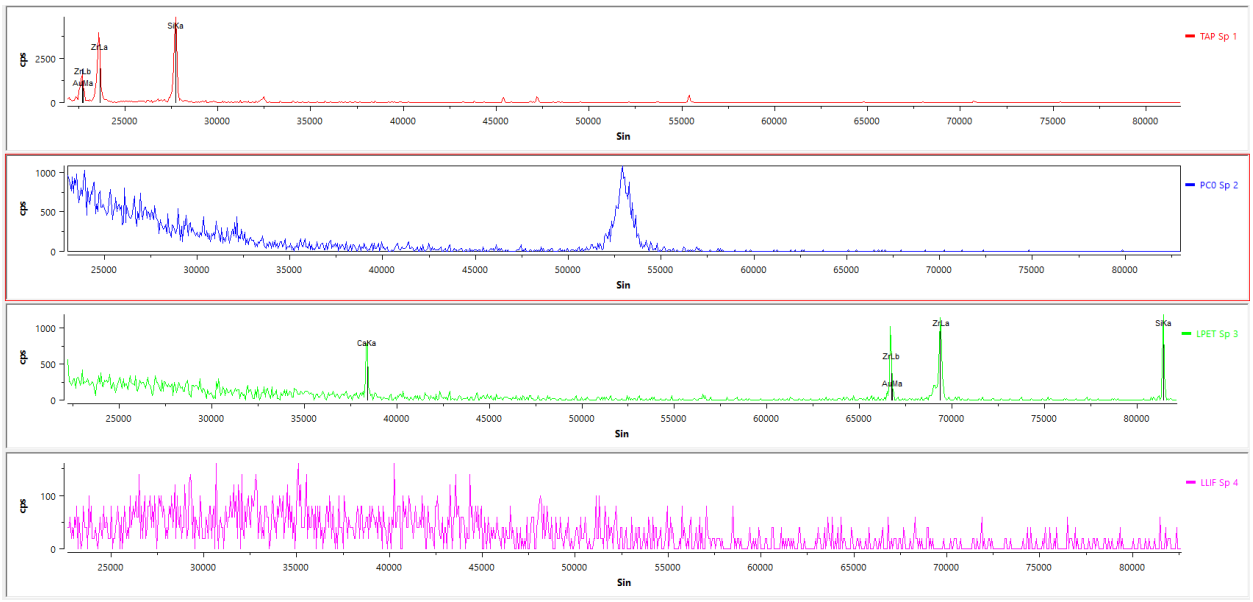


WMEB6- Potassium Feldspar

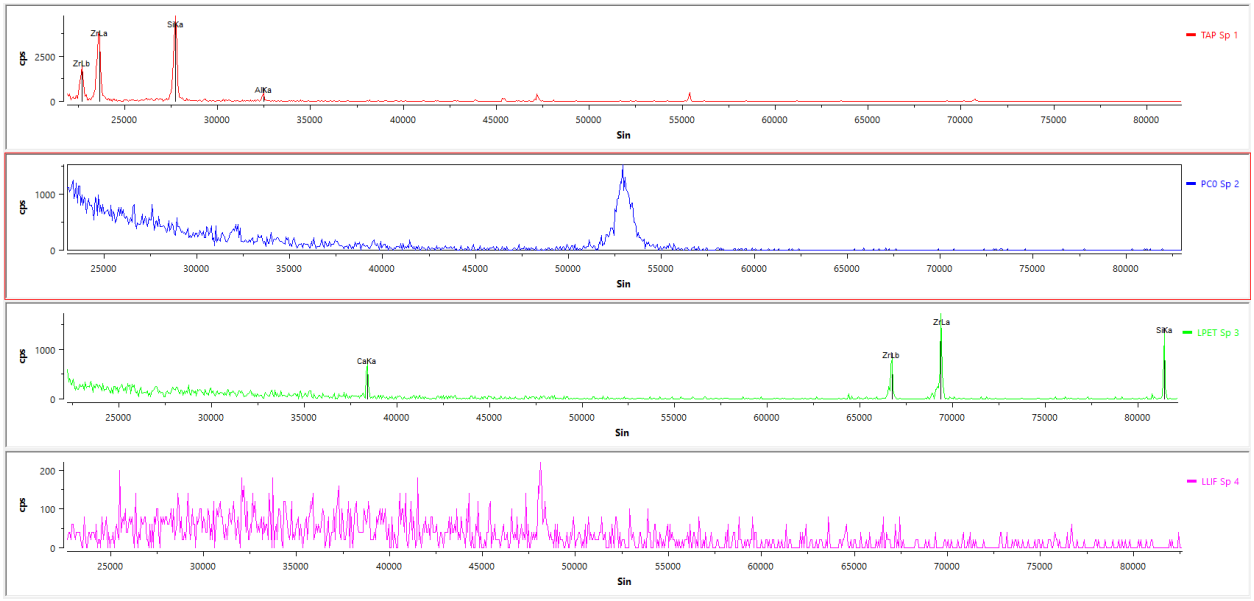
REE, Zr, and Nb Phases



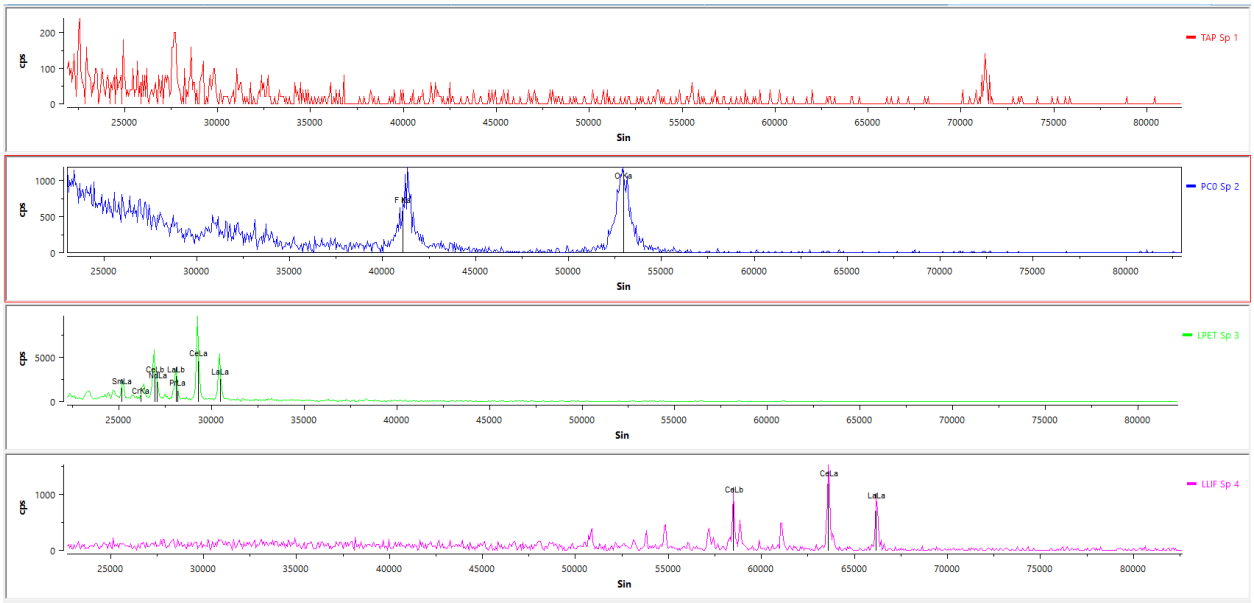
WMEB6_2- Calciocatapleiite



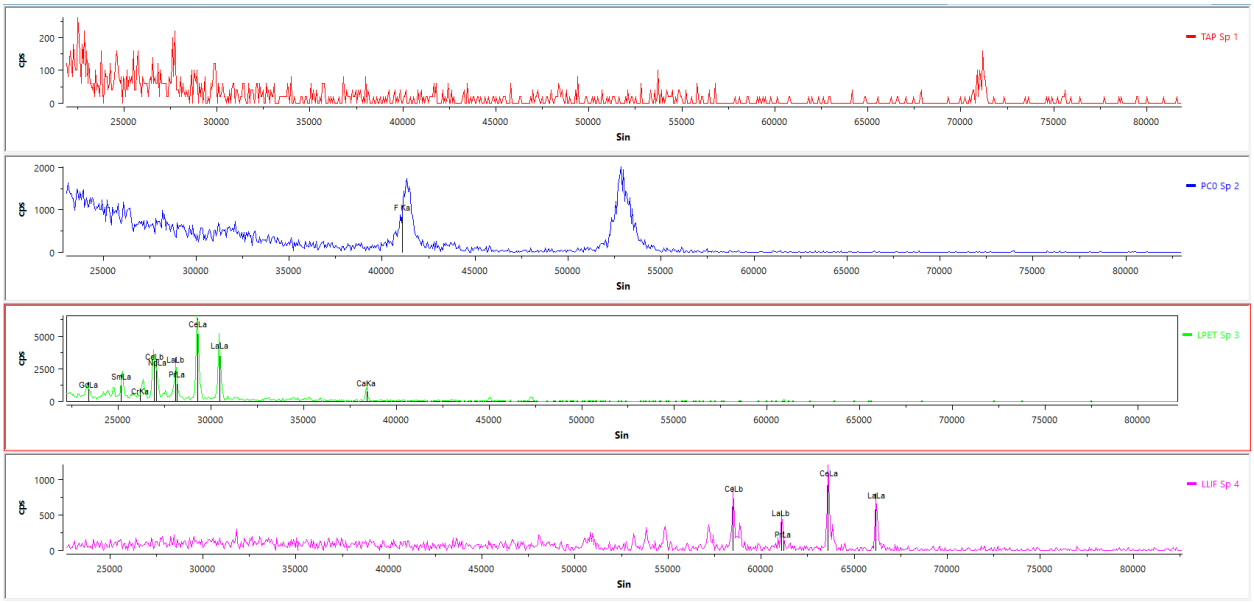
WMEB6_3- Calciocatapleiite



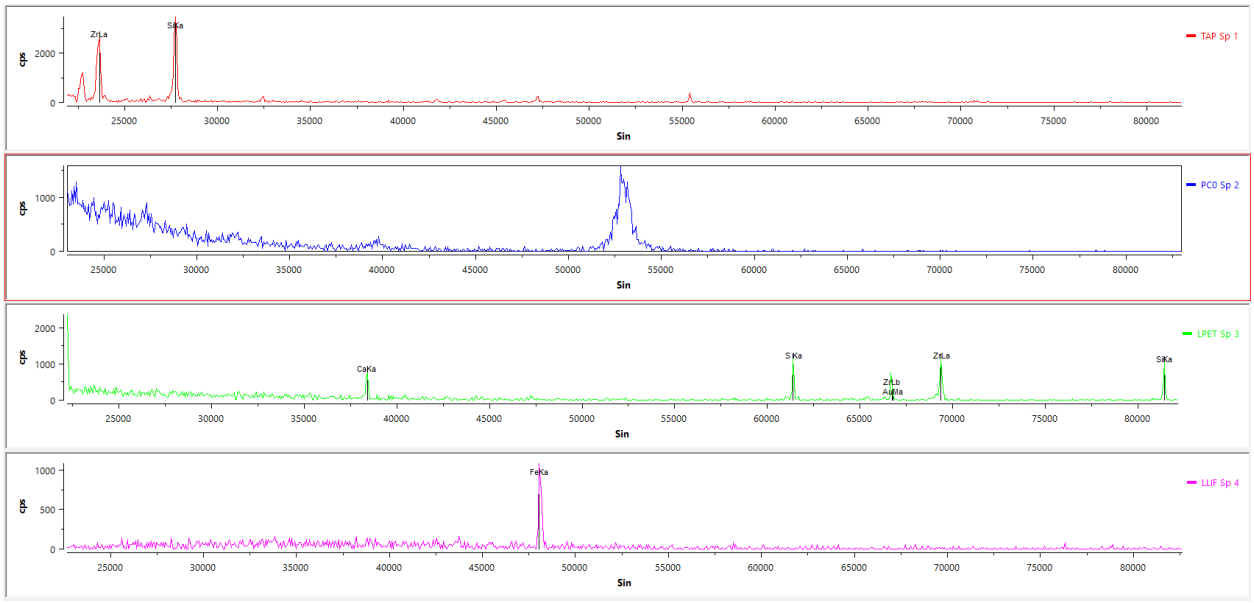
WMEB6_9- Calciocatapleiite



WMEB6_12- Bastnäsite



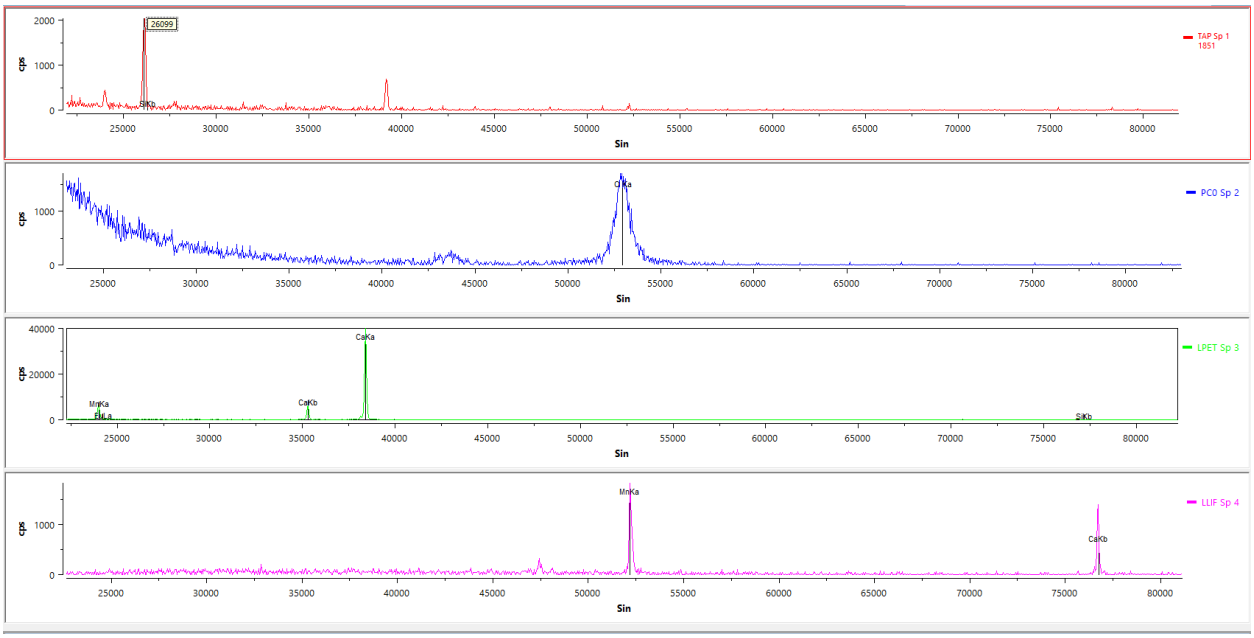
WMEB6_15- Bastnäsite



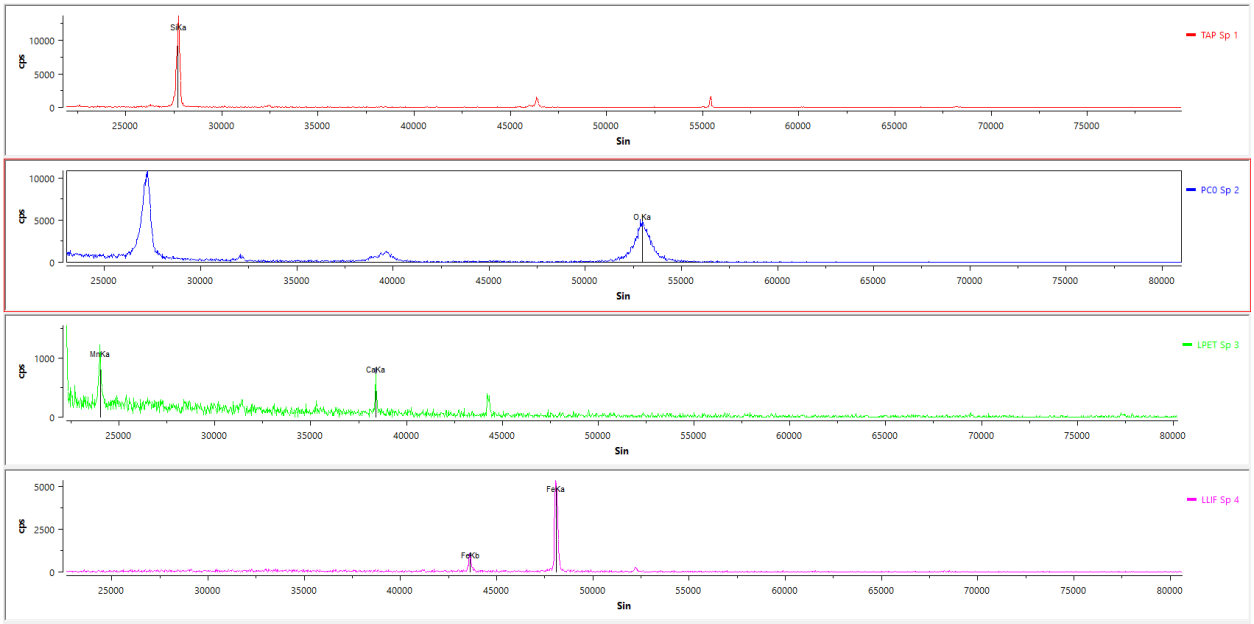
WMEB6_20- Calciocatapleiite + Pyrite

N-WMEB- Wind Mountain

Pyroxenes

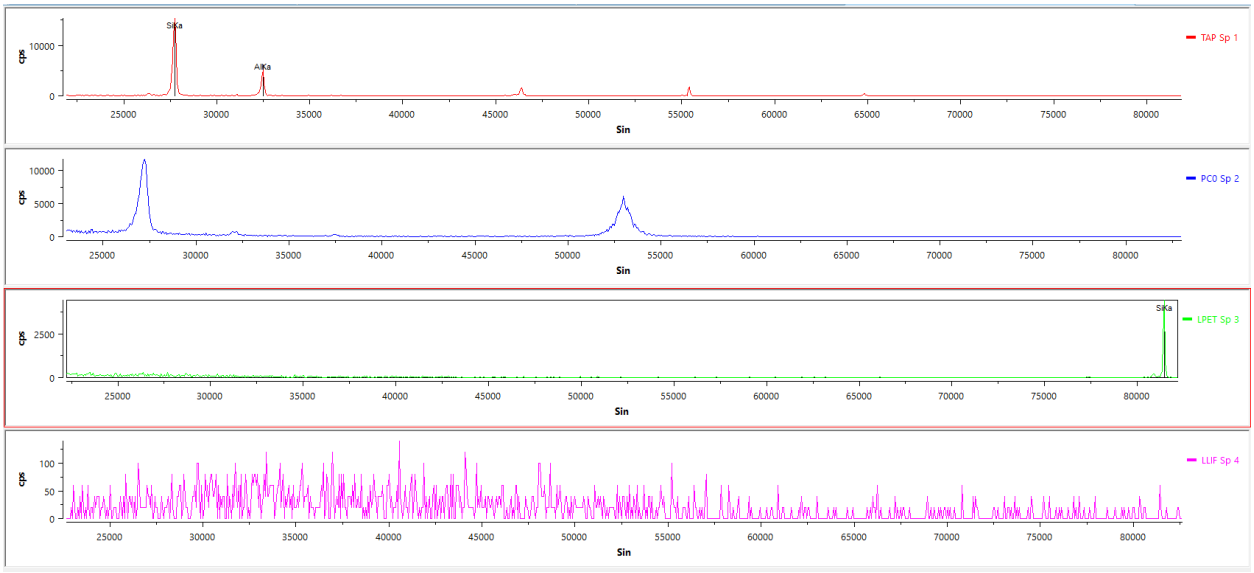


N-WMEB-01-bast_4- Johannsenite



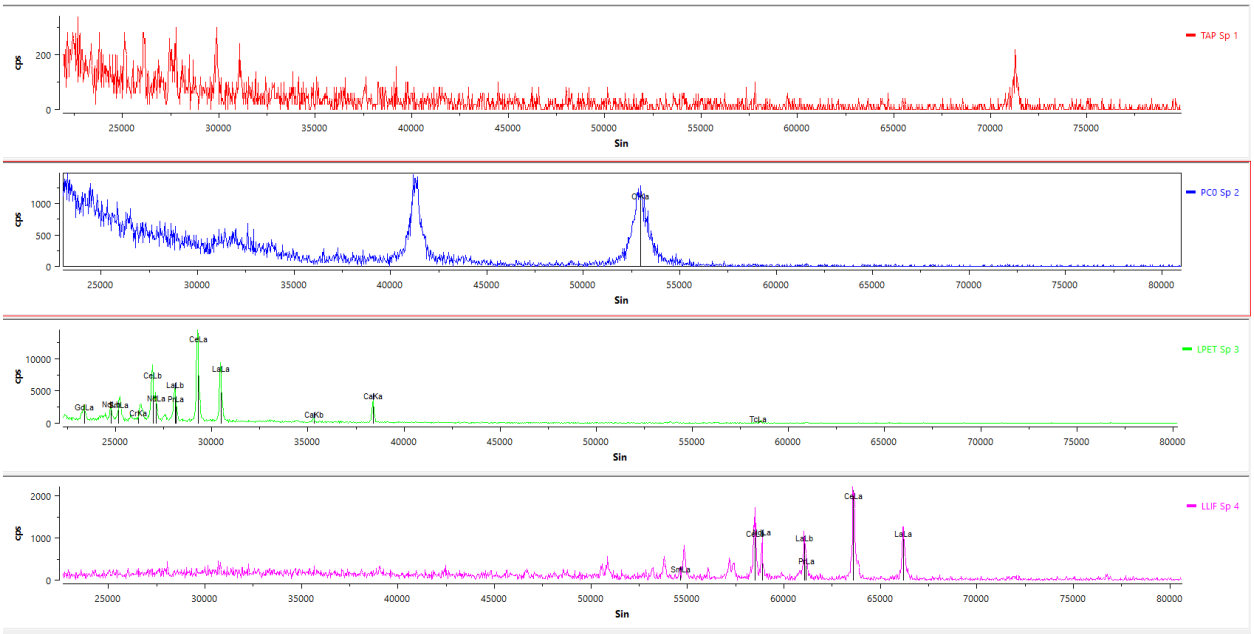
N-WMEB-01-mon_2- Aegirine-augite

Feldspars and Feldspathoids



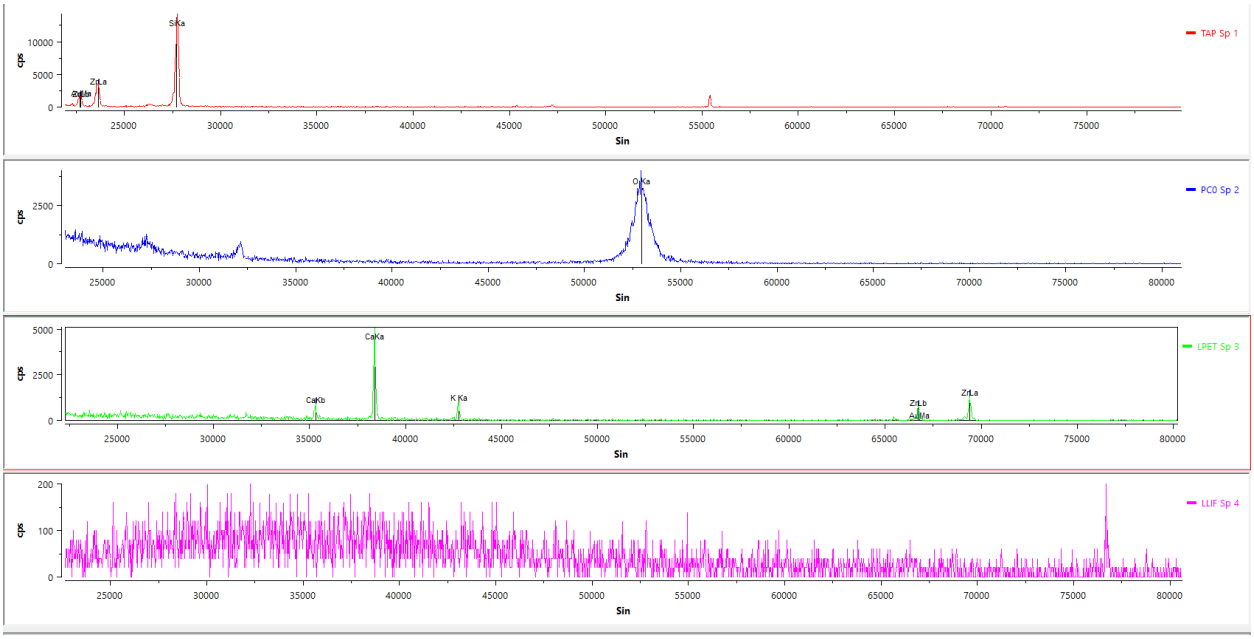
NWMEB_3Test_4- Albite

REE, Zr, and Nb Phases

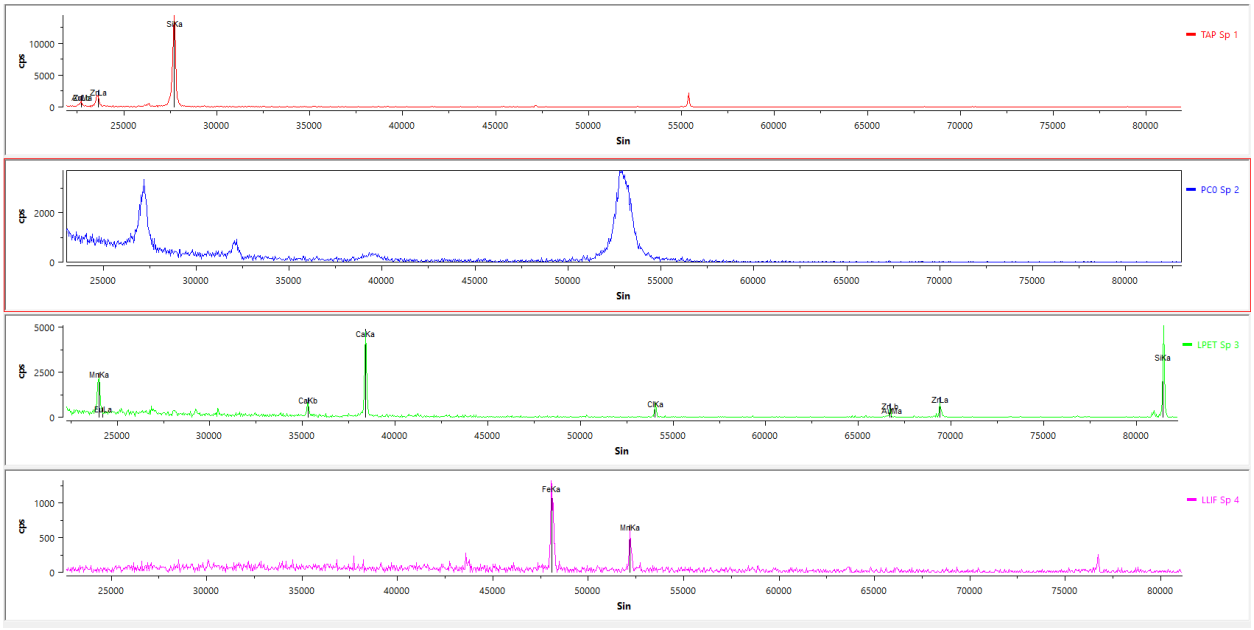


N-WMEB-01-bast_1- Bastnäsite

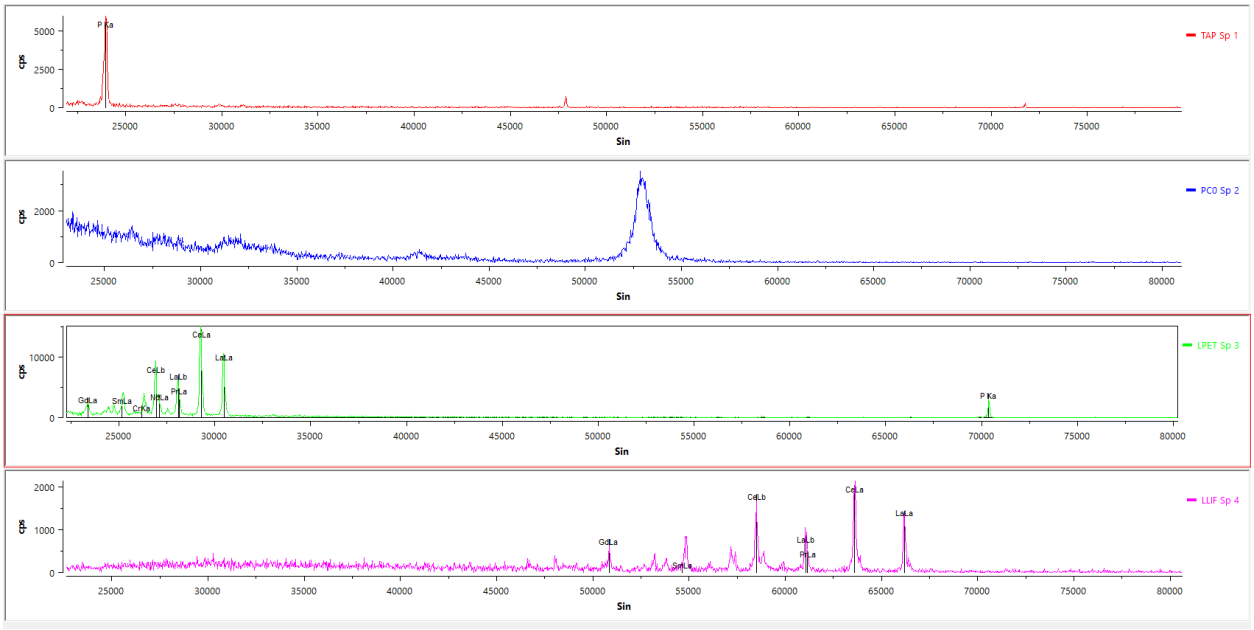
N-WMEB-01-bast_2- Bastnäsite



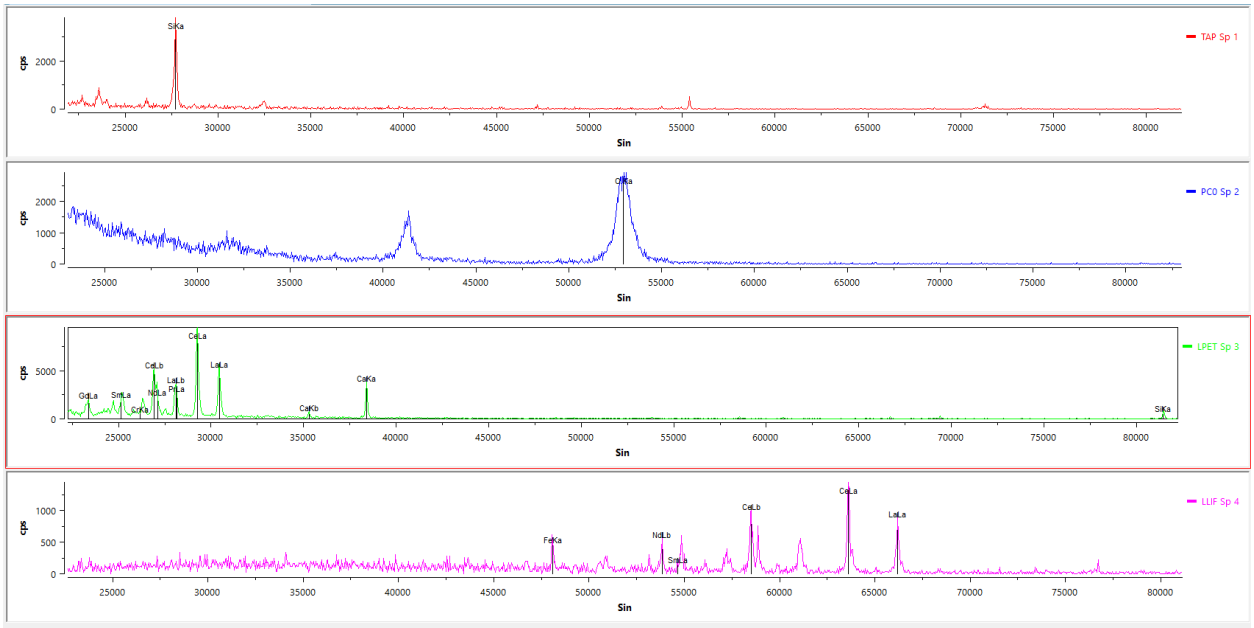
N-WMEB-01-bast_3- Aqualite



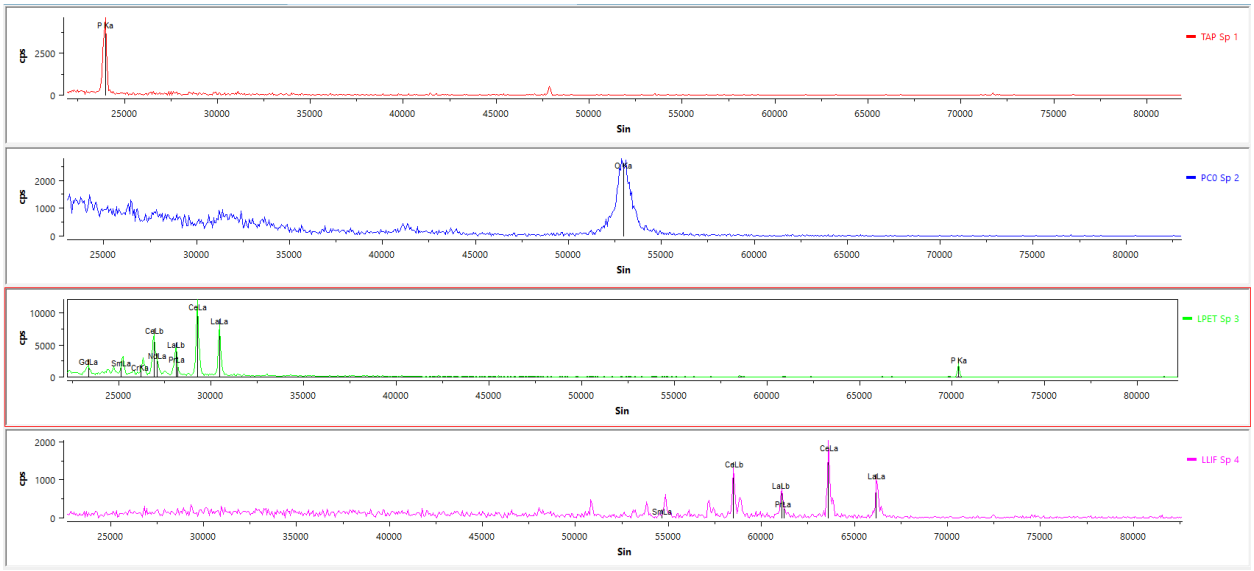
N-WMEB-01-bast_5- Sergevanite



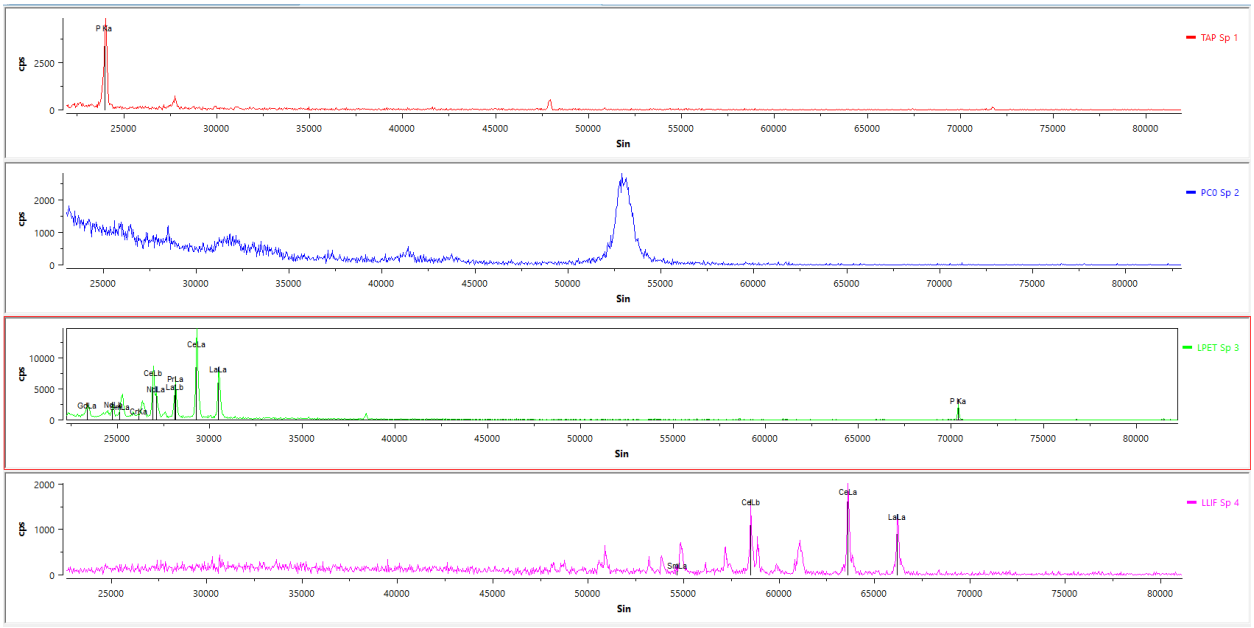
N-WMEB-01-mon_1- monazite



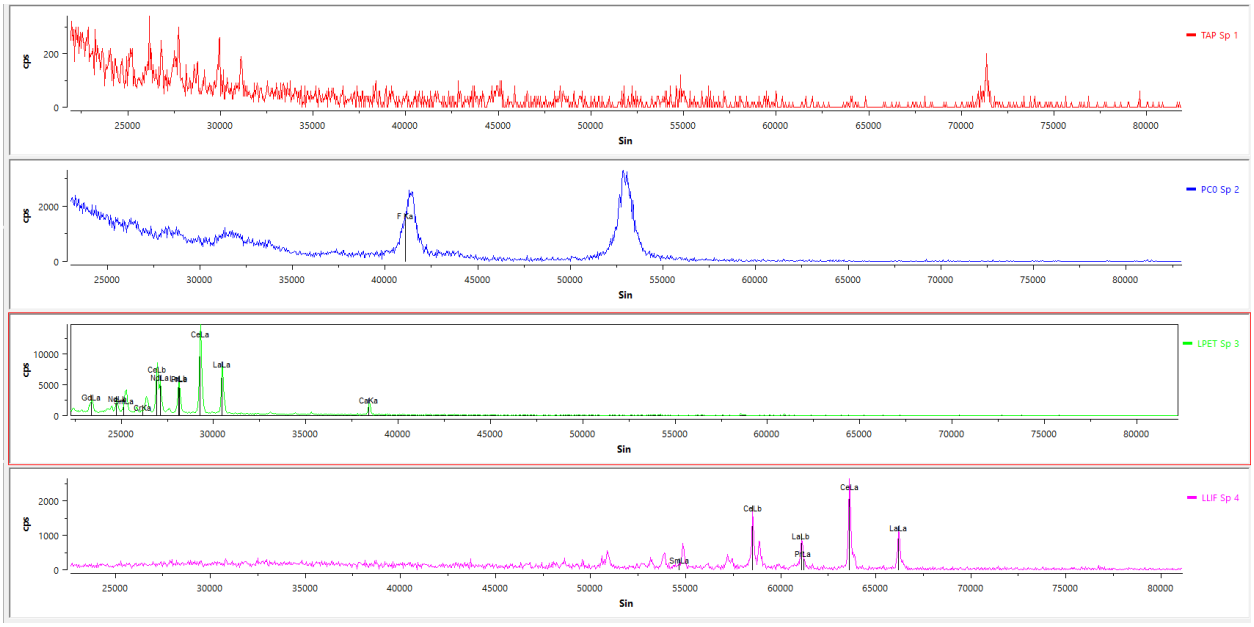
N-WMEB-01-REE_1- Bastnäsite



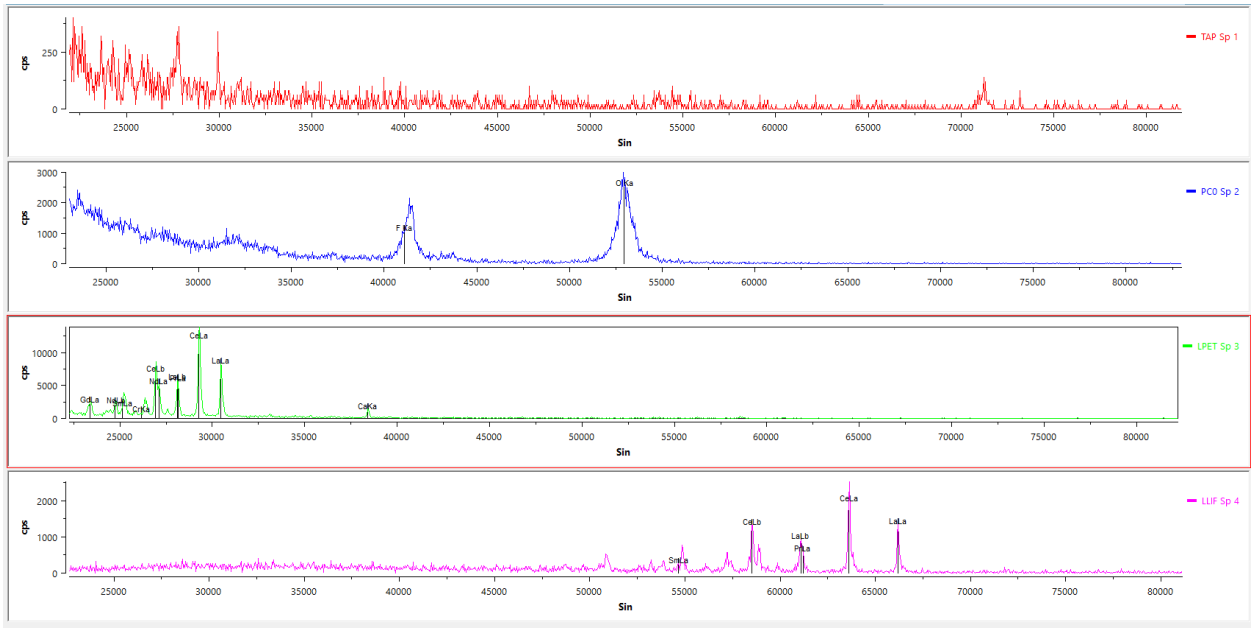
N-WMEB_1Test_2- Monazite



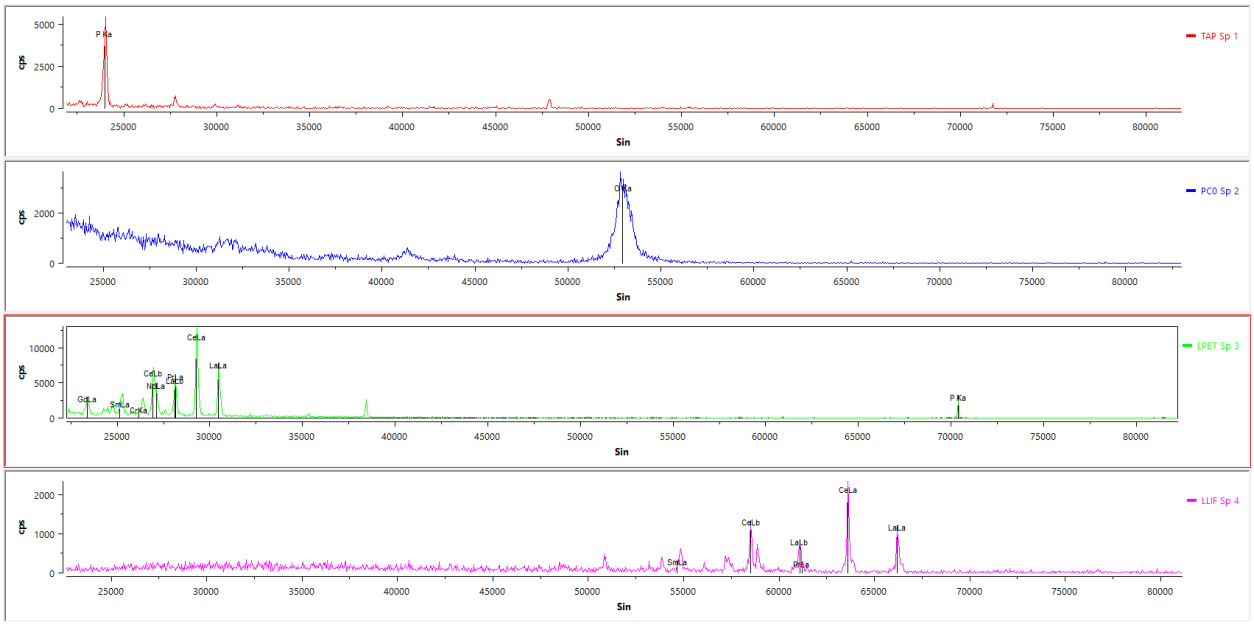
N-WMEB-02-REE_1- Monazite



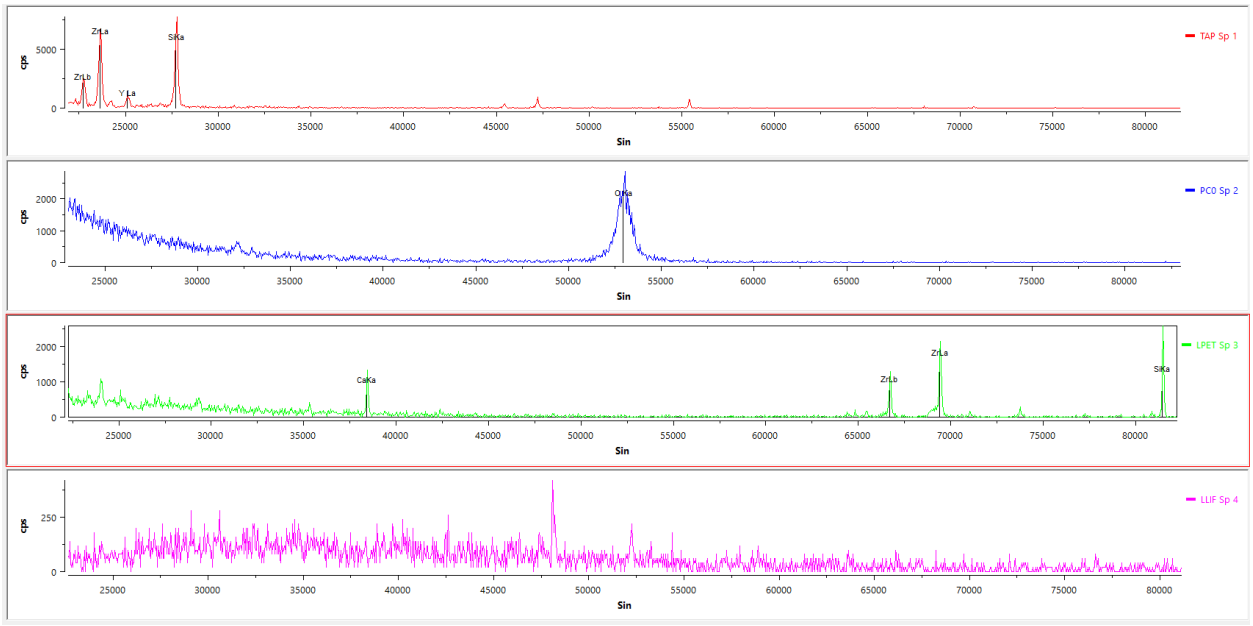
N-WMEB-02-REE_2- Bastnäsite



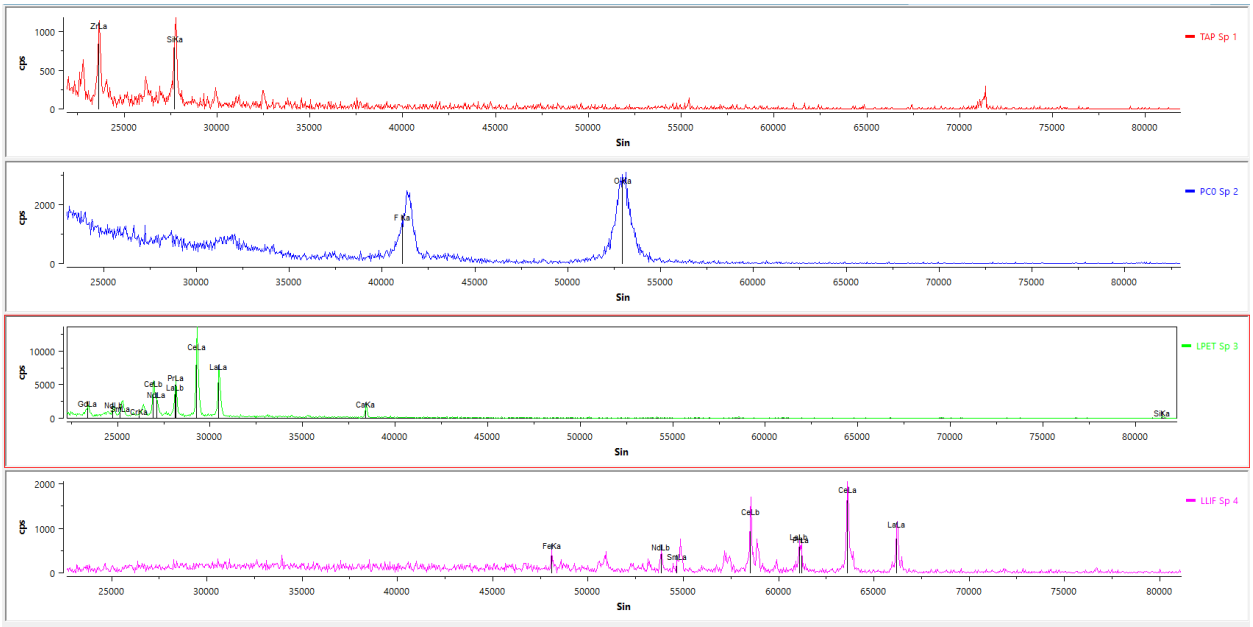
N-WMEB-02-REE_3- Bastnäsite



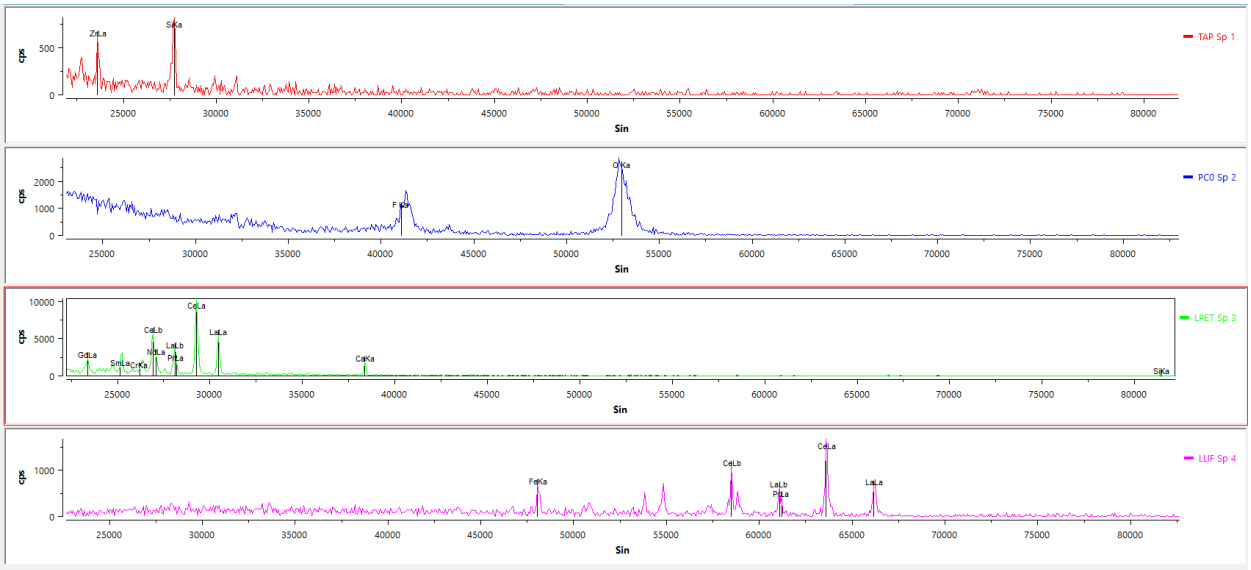
N-WMEB-02-REE_4- Monazite



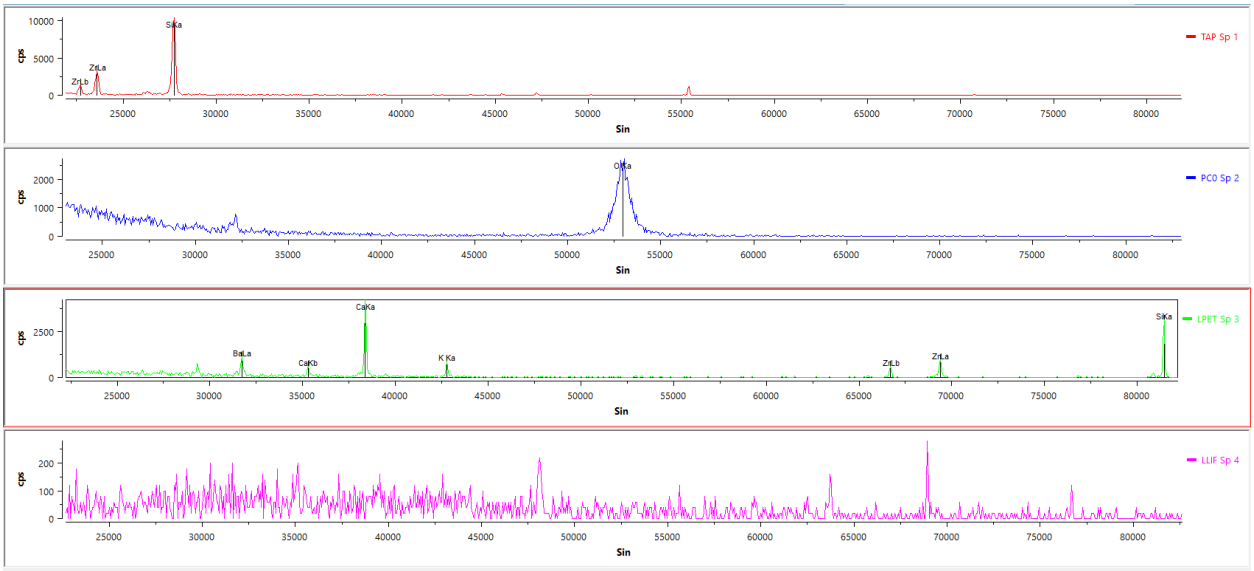
N-WMEB-02-REE_5- Calciocatapleiite



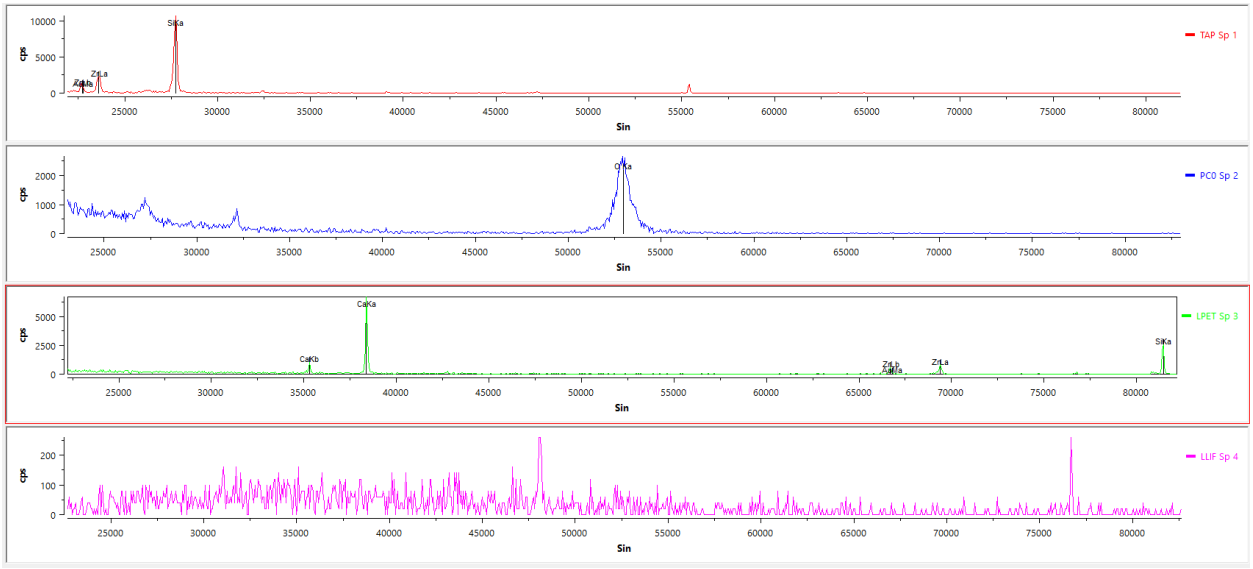
N-WMEB-02-REE_6- Bastnäsite Mixed Phase



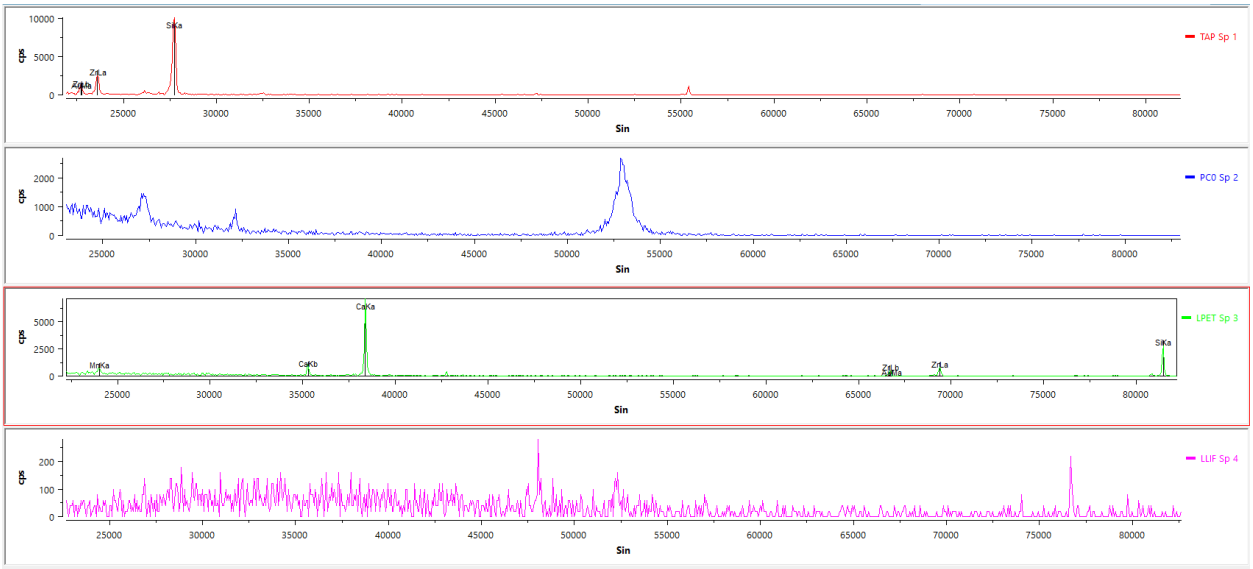
NWMEB_2Test_3- Bastnäsite Mixed Phase



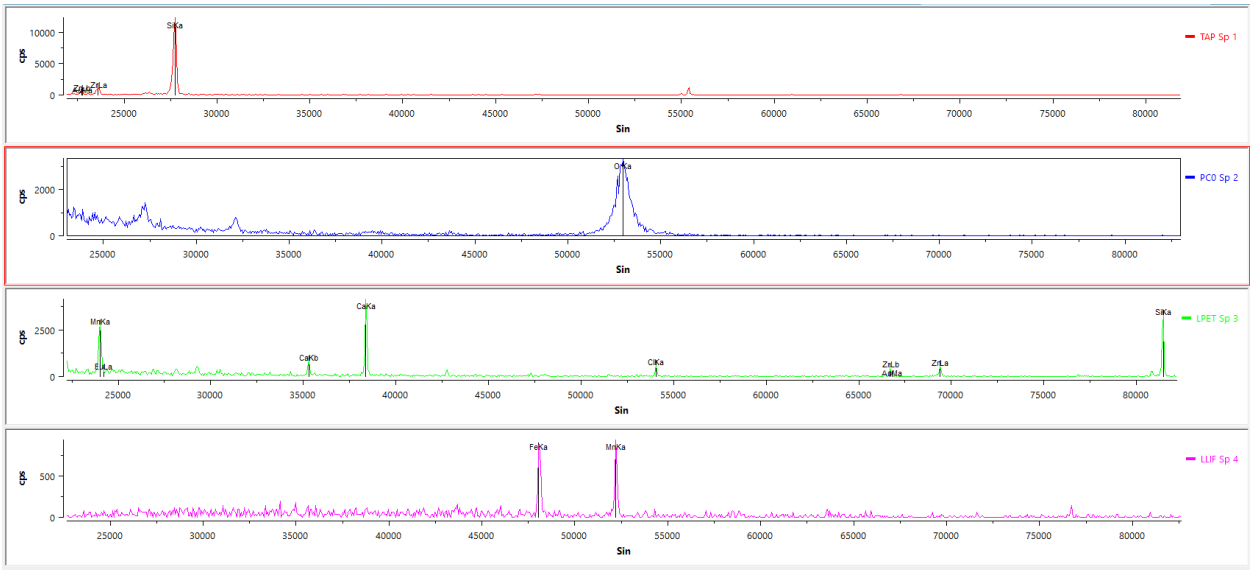
NWMEB_2Test_4- Aqualite



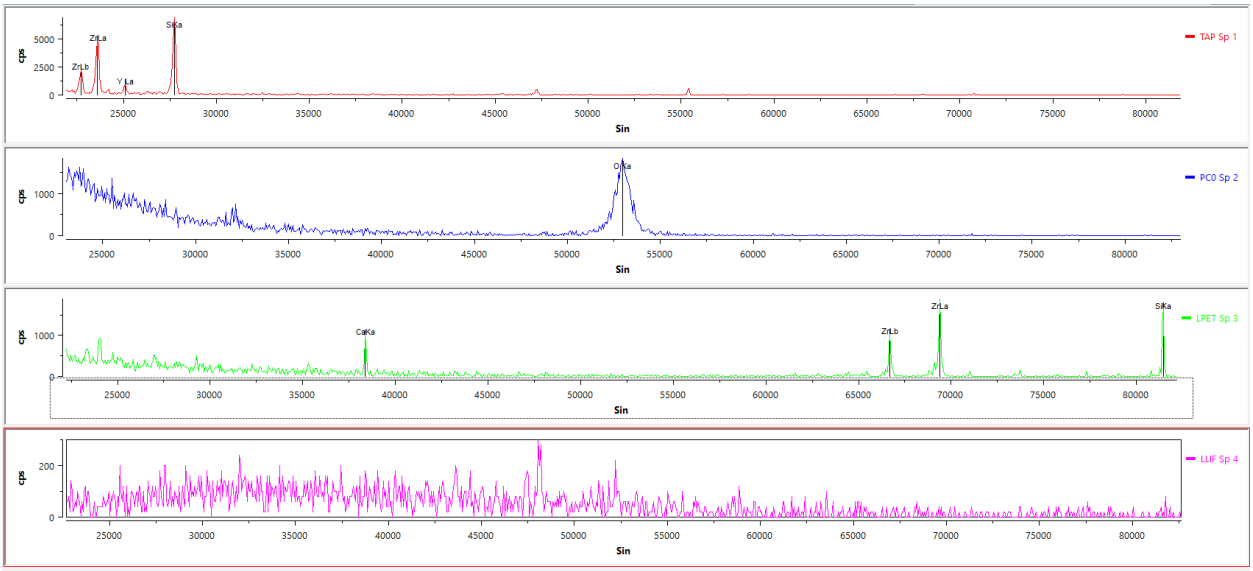
NWMEB_2Test_6- Calciocatapleiite



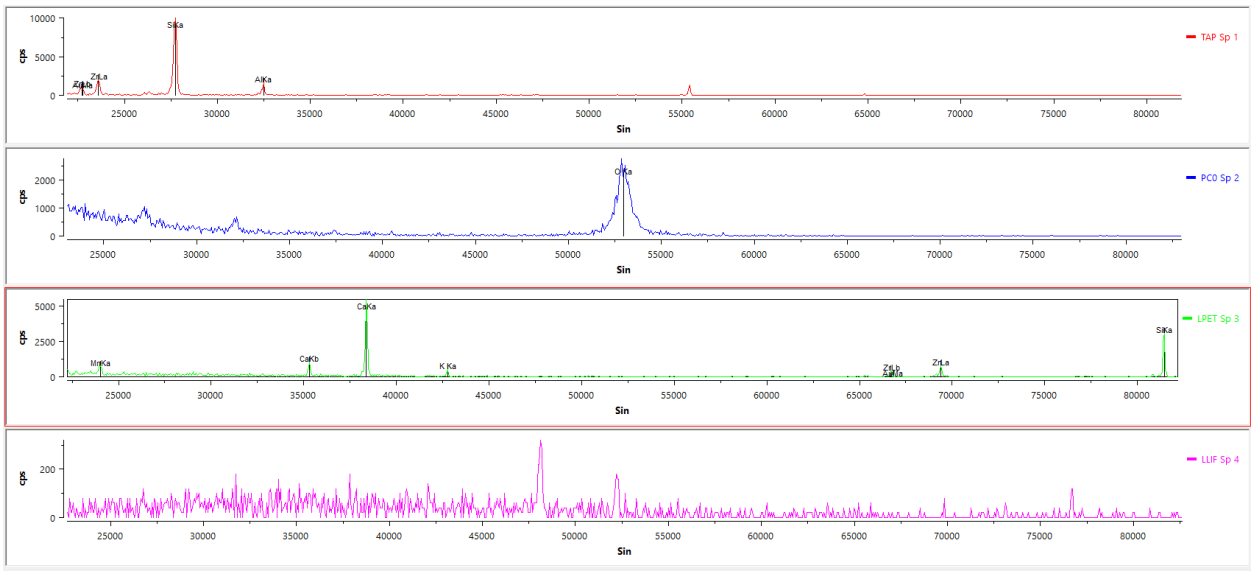
NWMEB_2Test_8- Calciocatapleiite



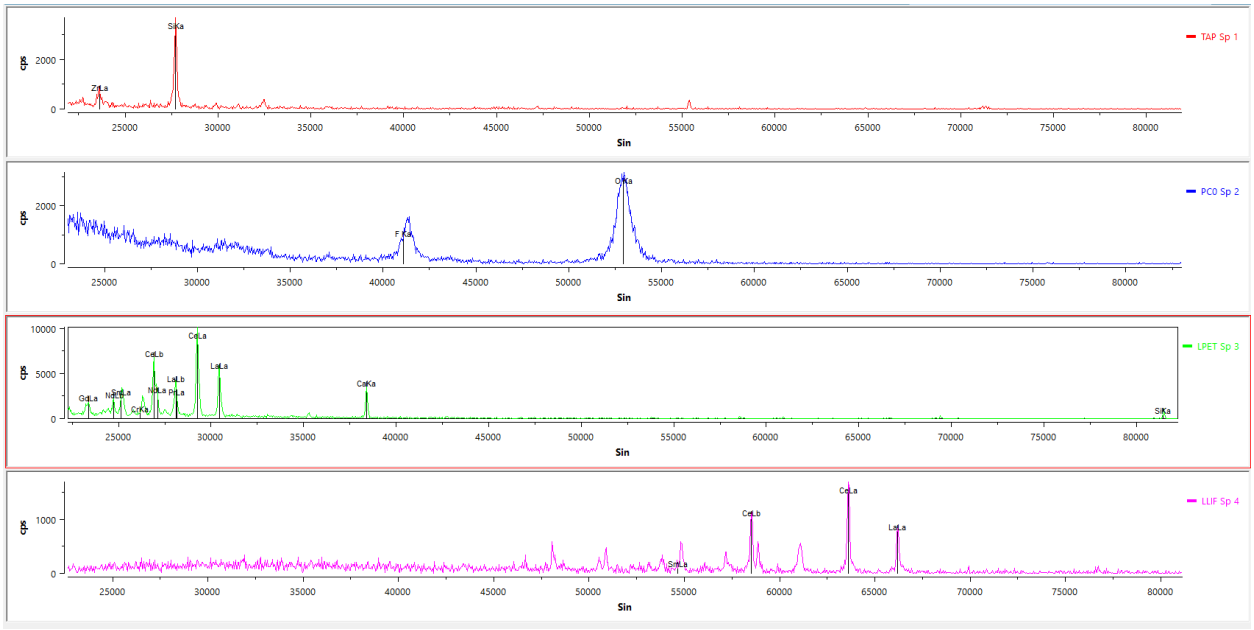
NWMEB_2Test_9- Sergevanite



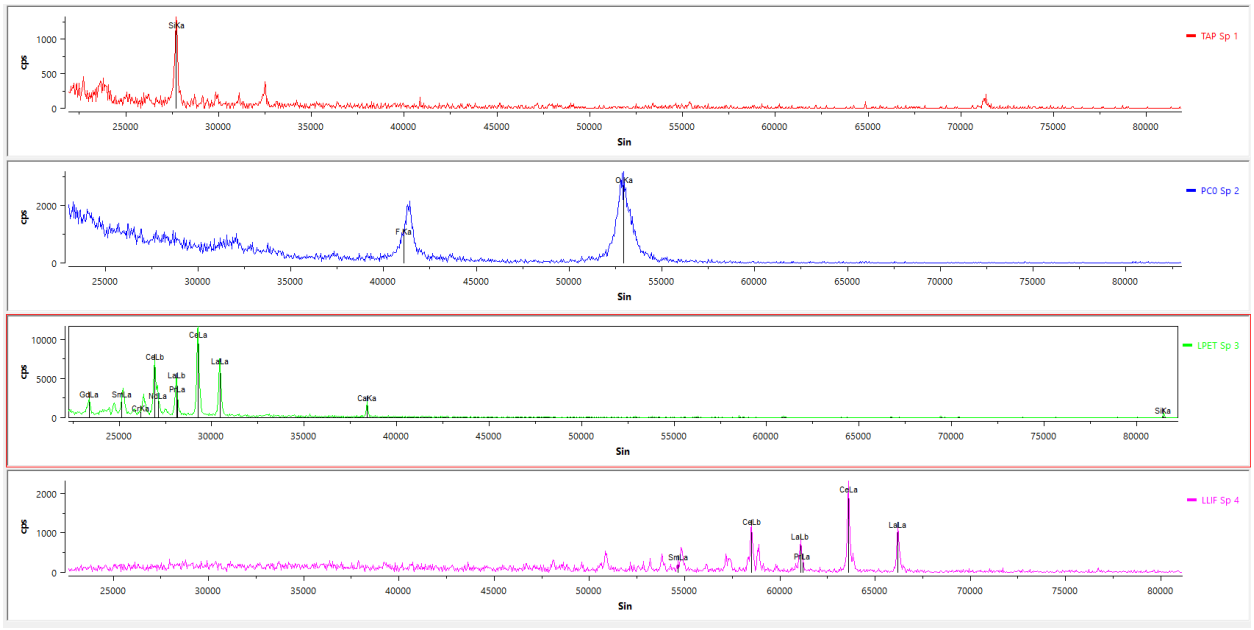
NWMEB_2Test_10- Calciocatapleiite



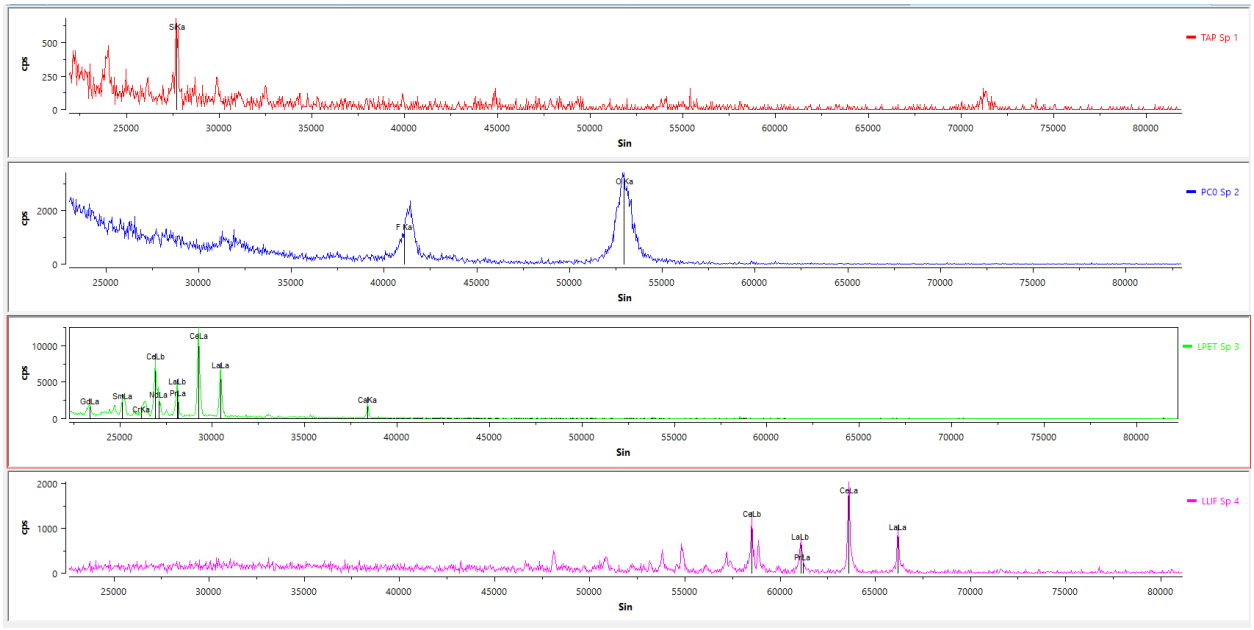
NWEMB_2Test_12- Calciocatapleiite Mixed Phase



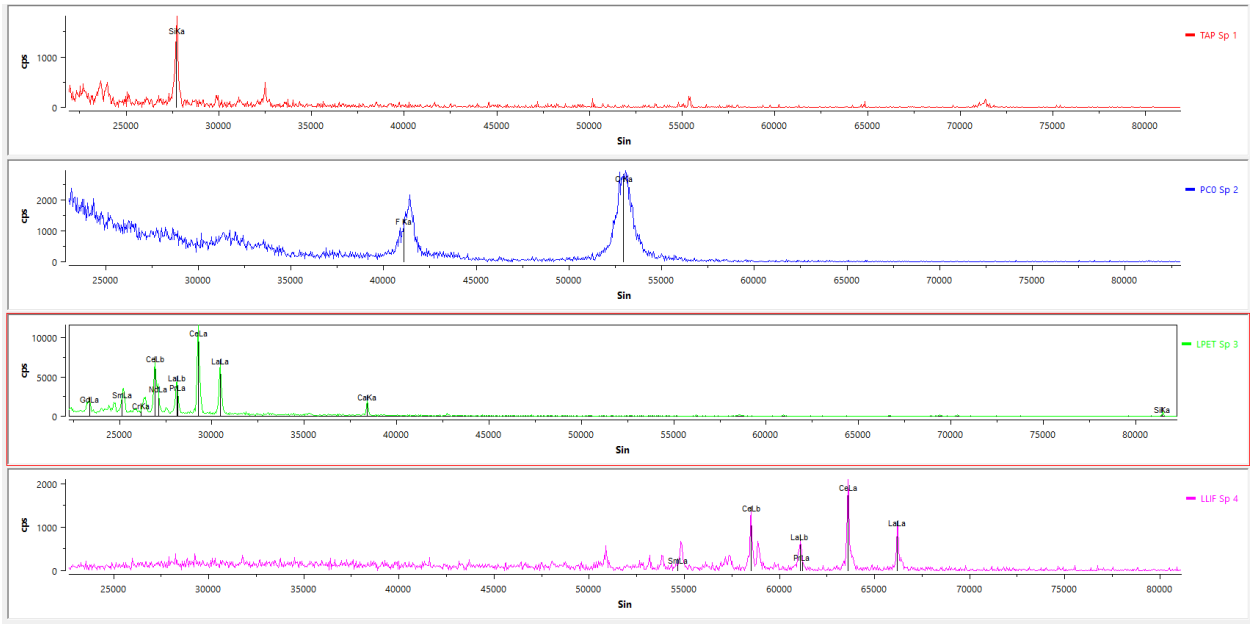
N-WMEB-03-REE_2- Bastnäsite + Calciocatapleiite



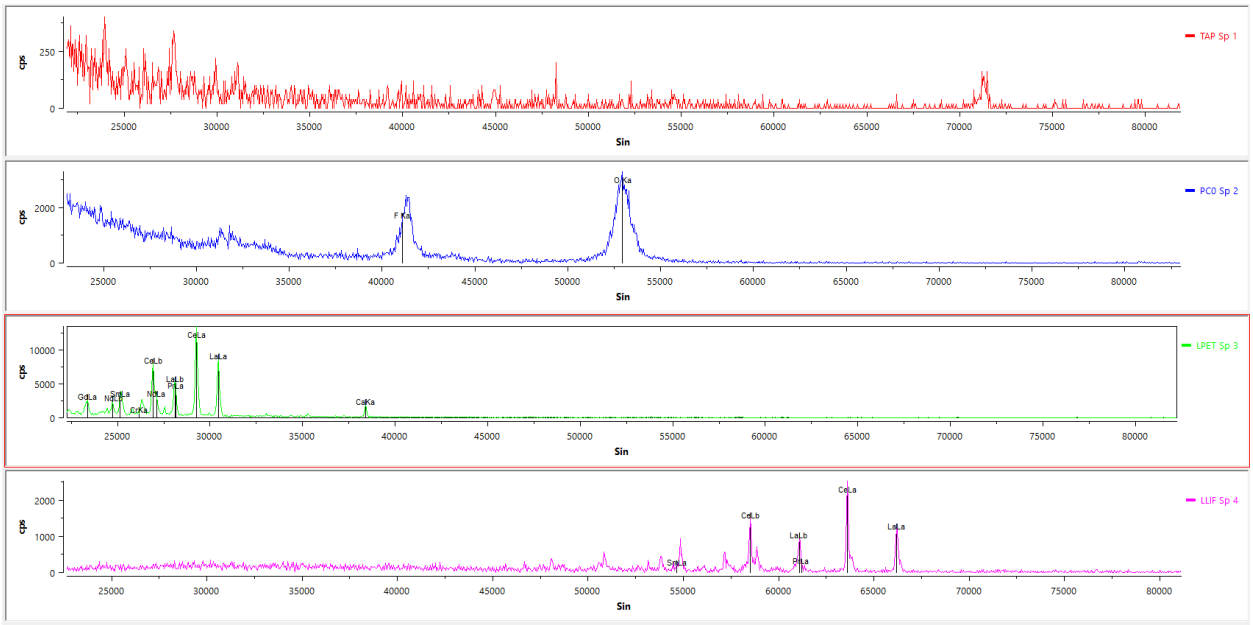
N-WMEB-03-REE_3- Bastnäsite Mixed Phase



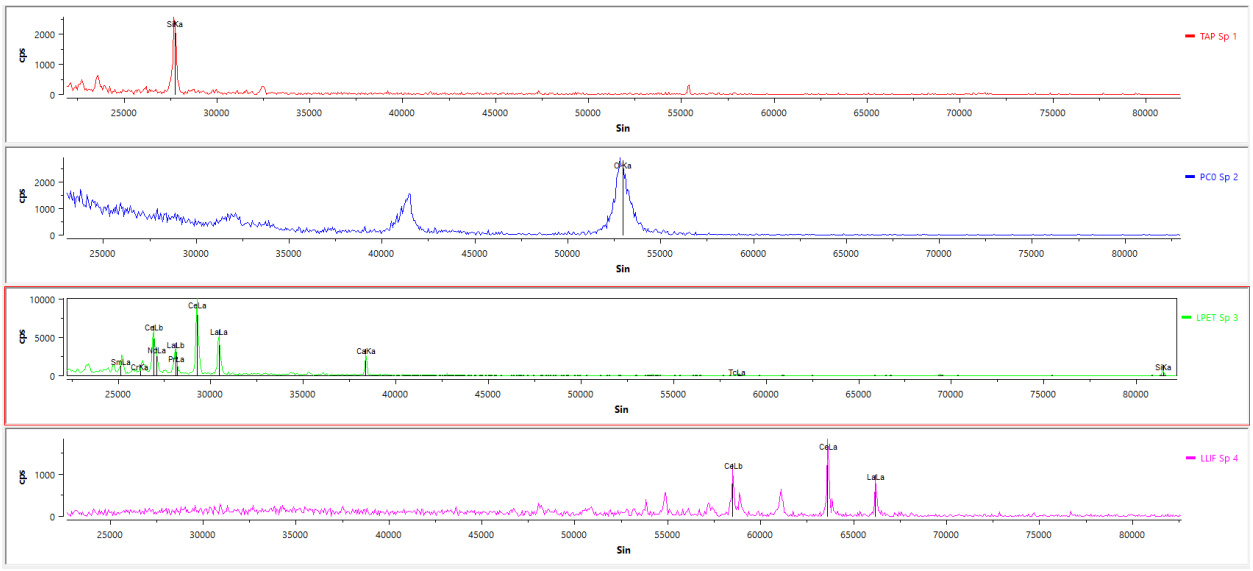
N-WMEB-03-REE_4- Bastnäsite Mixed Phase



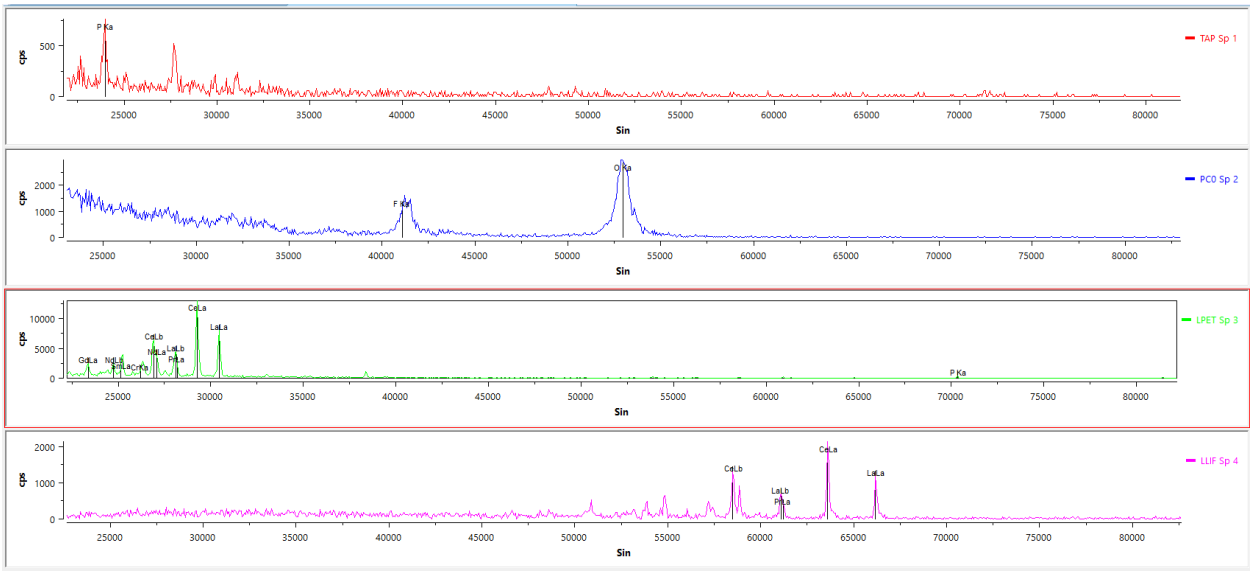
N-WMEB-03-REE_5- Bastnäsite Mixed Phase



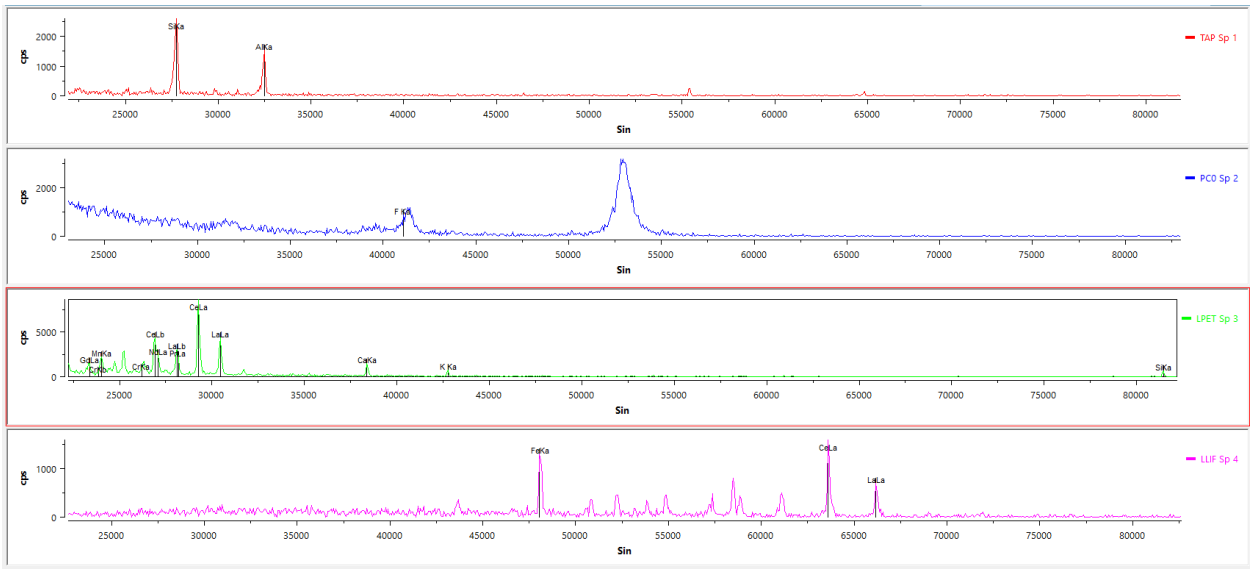
N-WMEB-03-REE_6- Bastnäsite



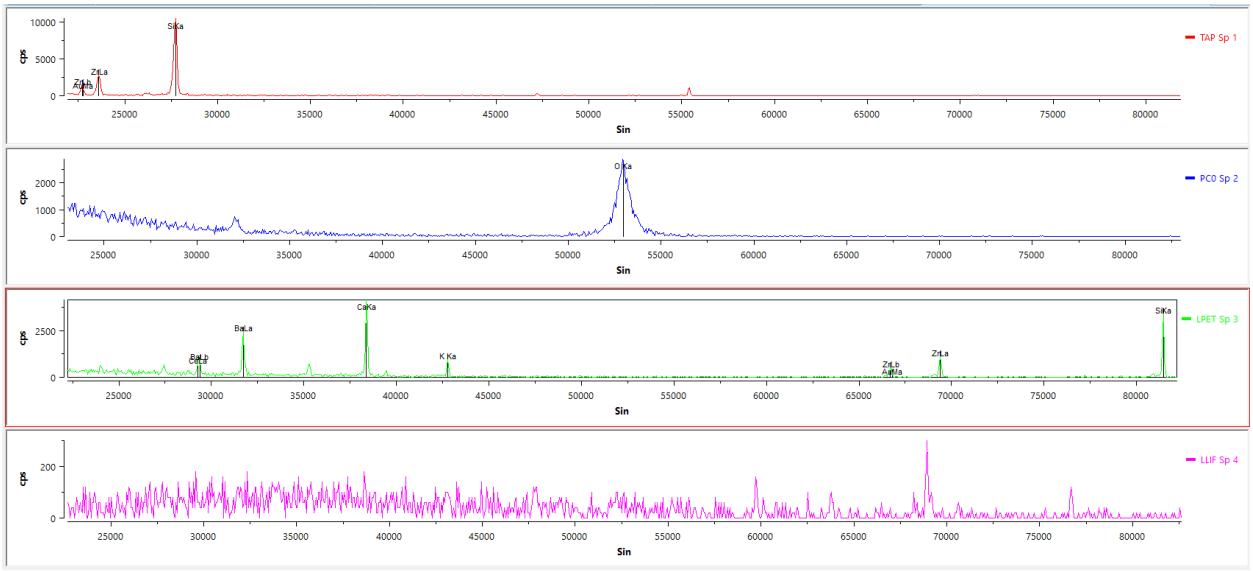
NWMEB_3Test_1- Bastnäsite Mixed Phase



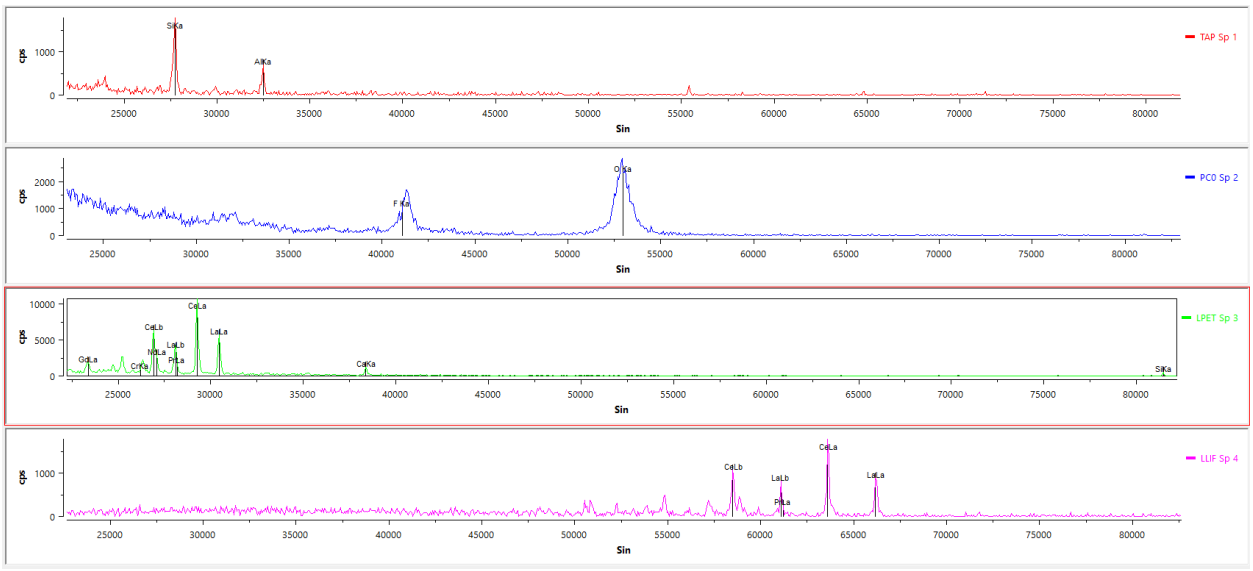
NWMEB_3Test_2- Bastnäsite + Monazite



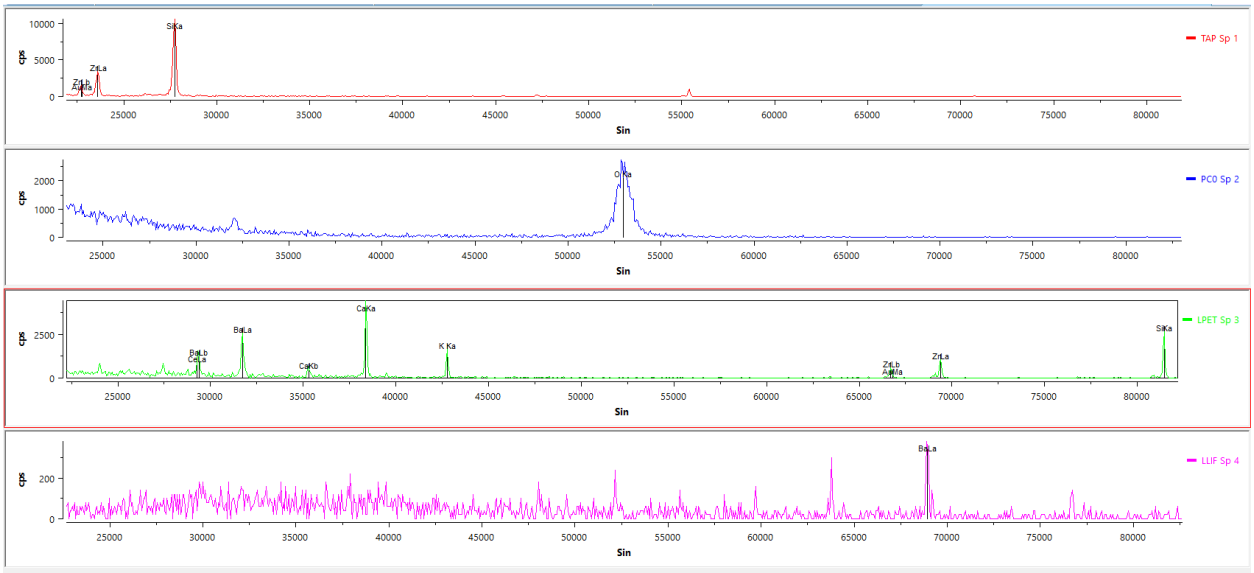
NWMEB_3Test_5- Bastnäsite Mixed Phase



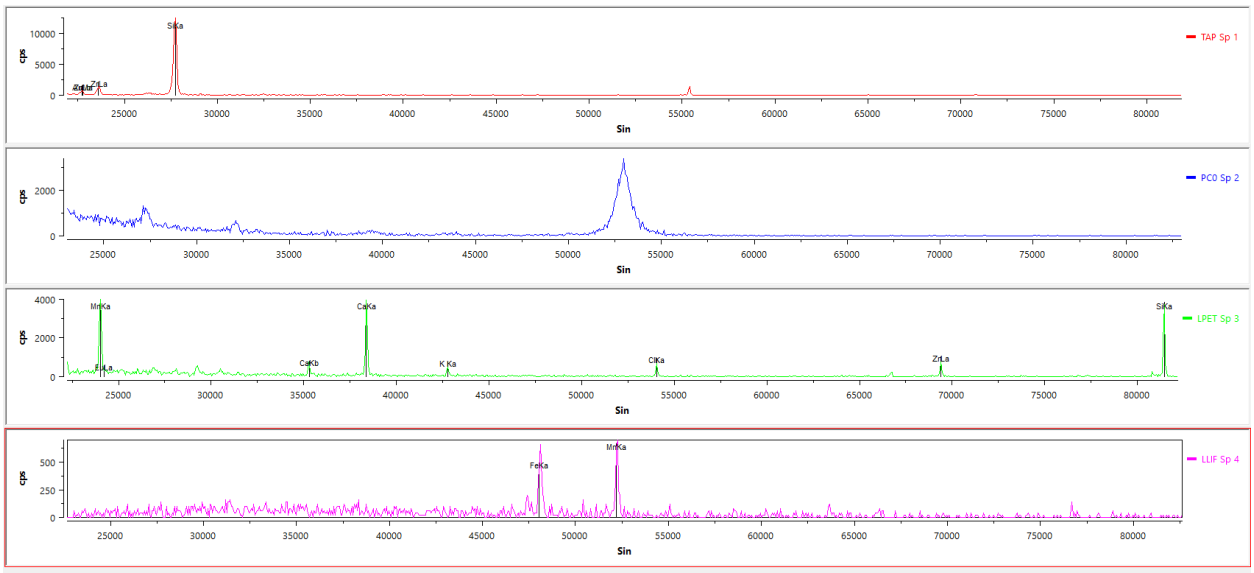
NWMEB_3Test_7- Aqualite



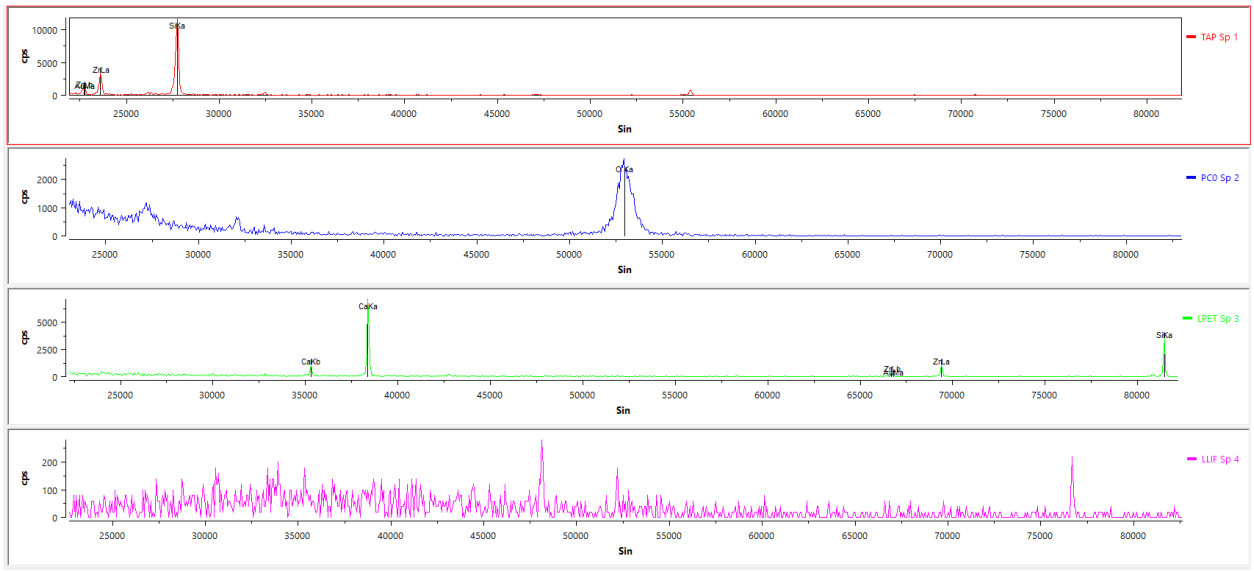
NWMEB_3Test_8- Bastnäsite Mixed Phase



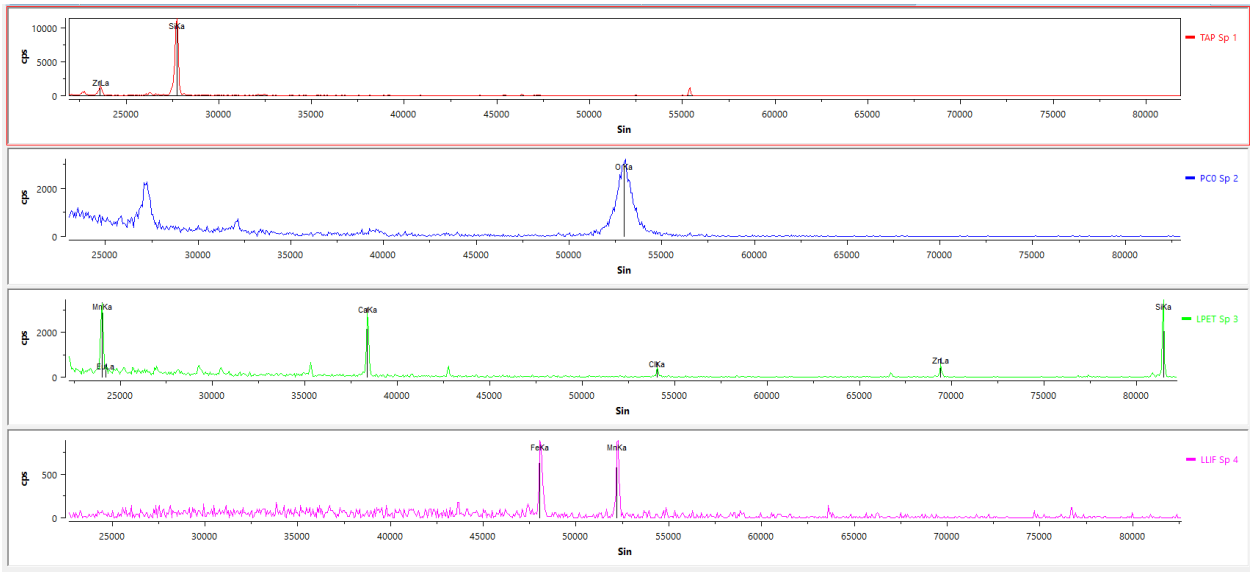
NWMEB_3Test_9- Aqualite



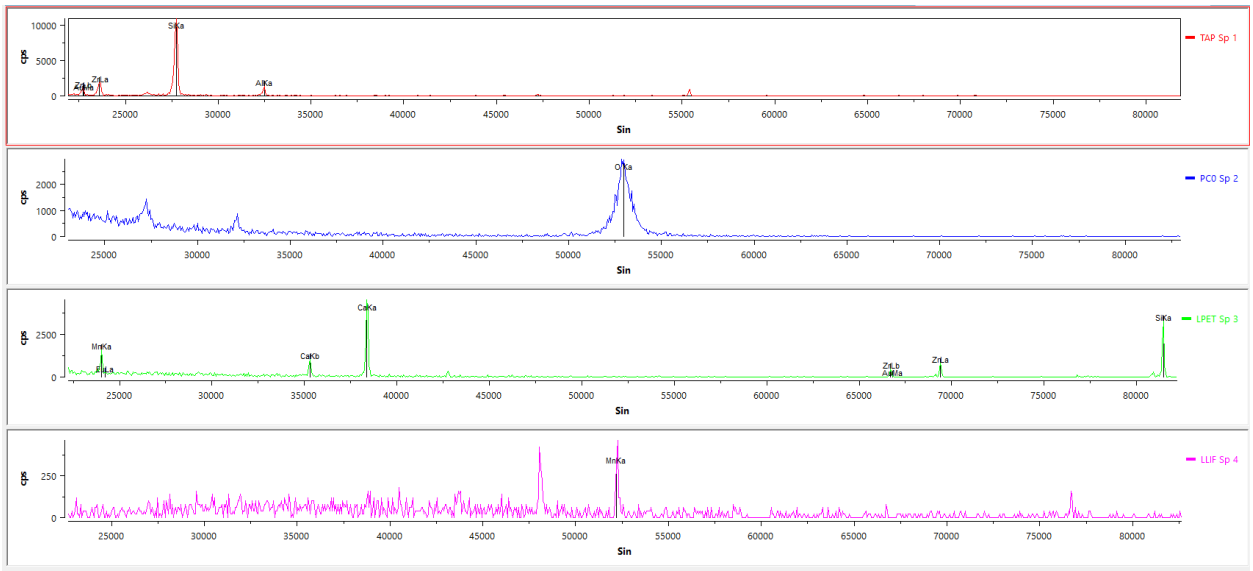
NWMEB_3Test_10- Sergevanite



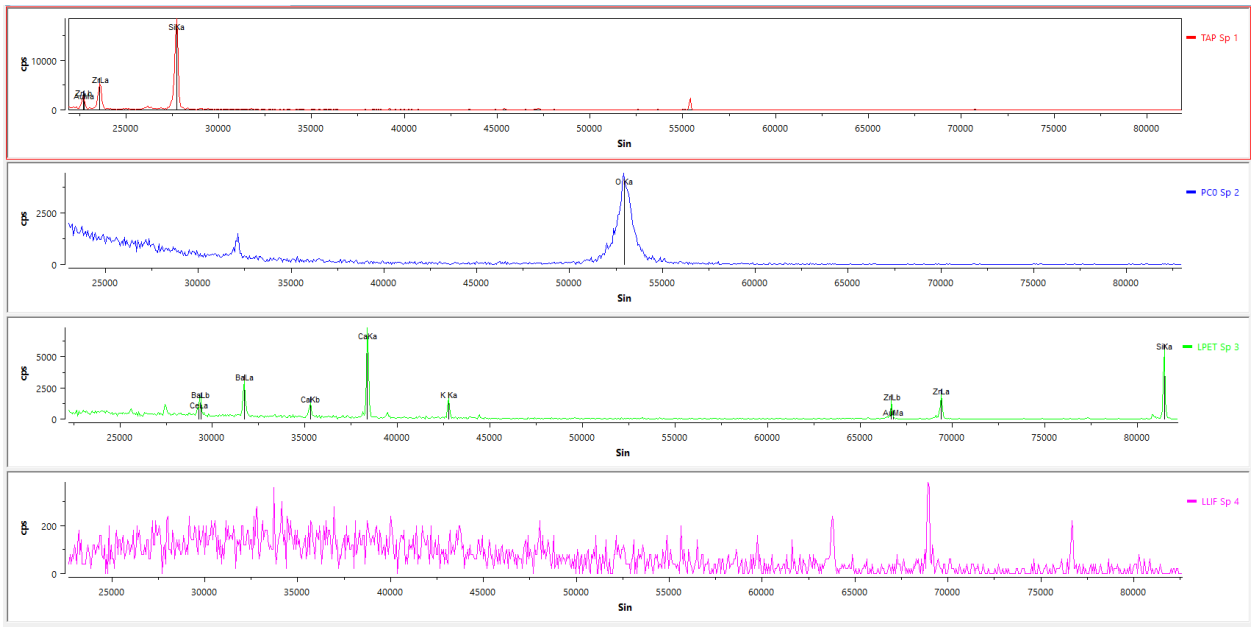
NWMEB_3Test_11- Calciocatapleiite



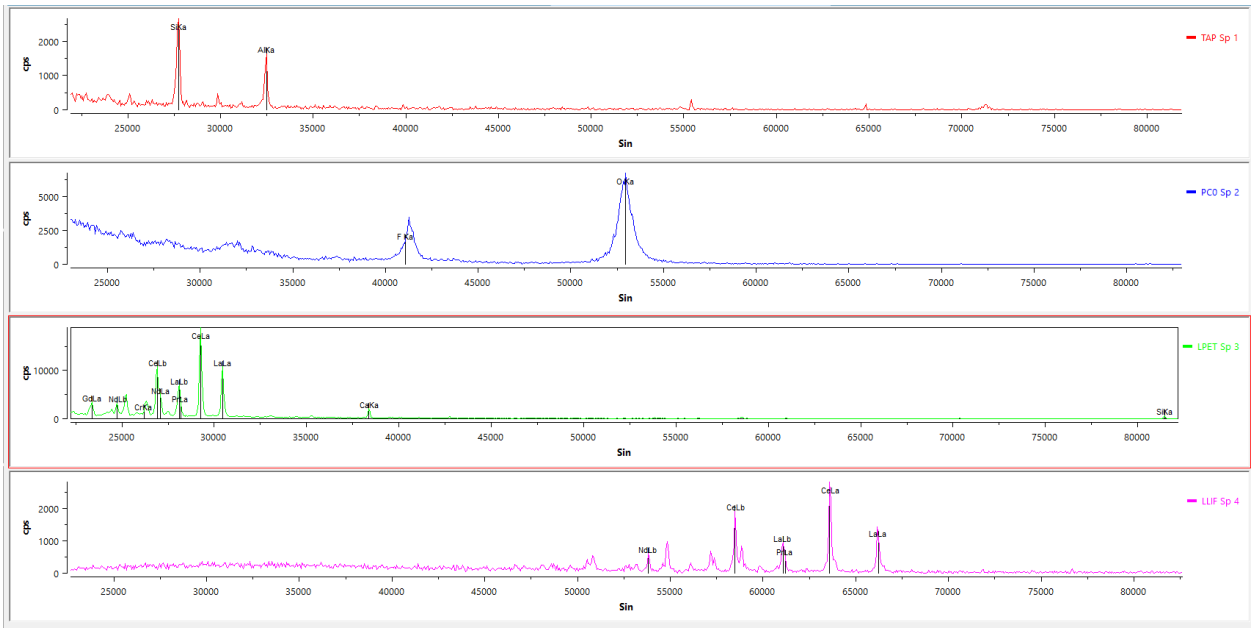
NWMEB_3Test_12- Sergevanite



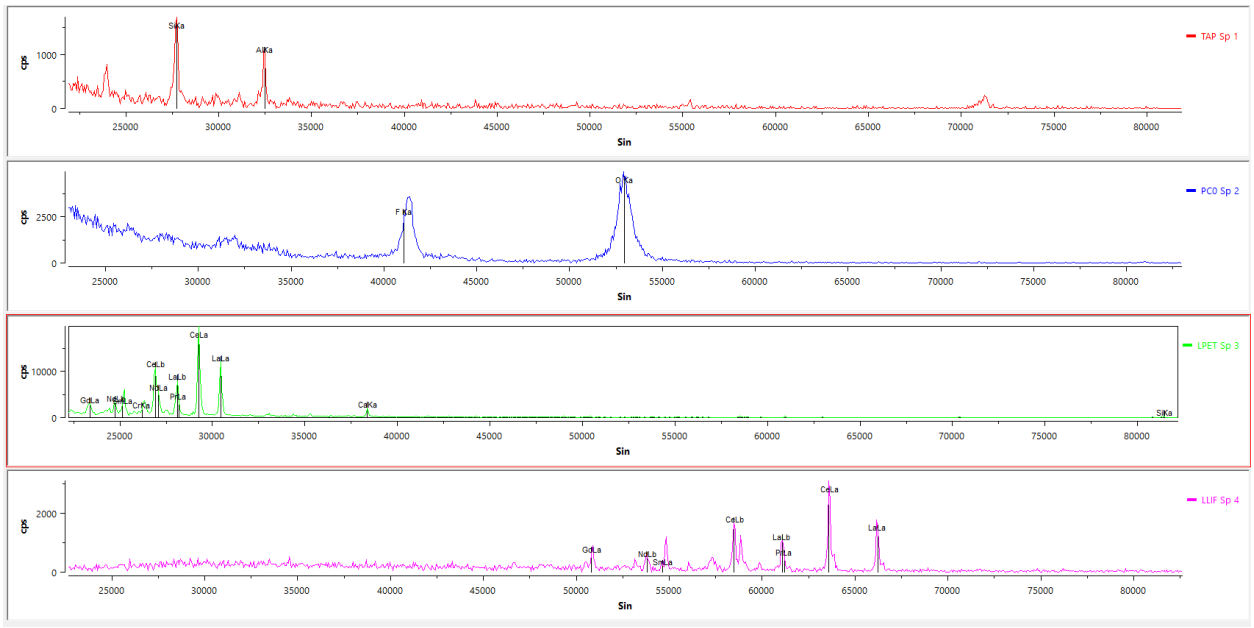
NWMEB_3Test_13- Calciocatapleiite Mixed Phase



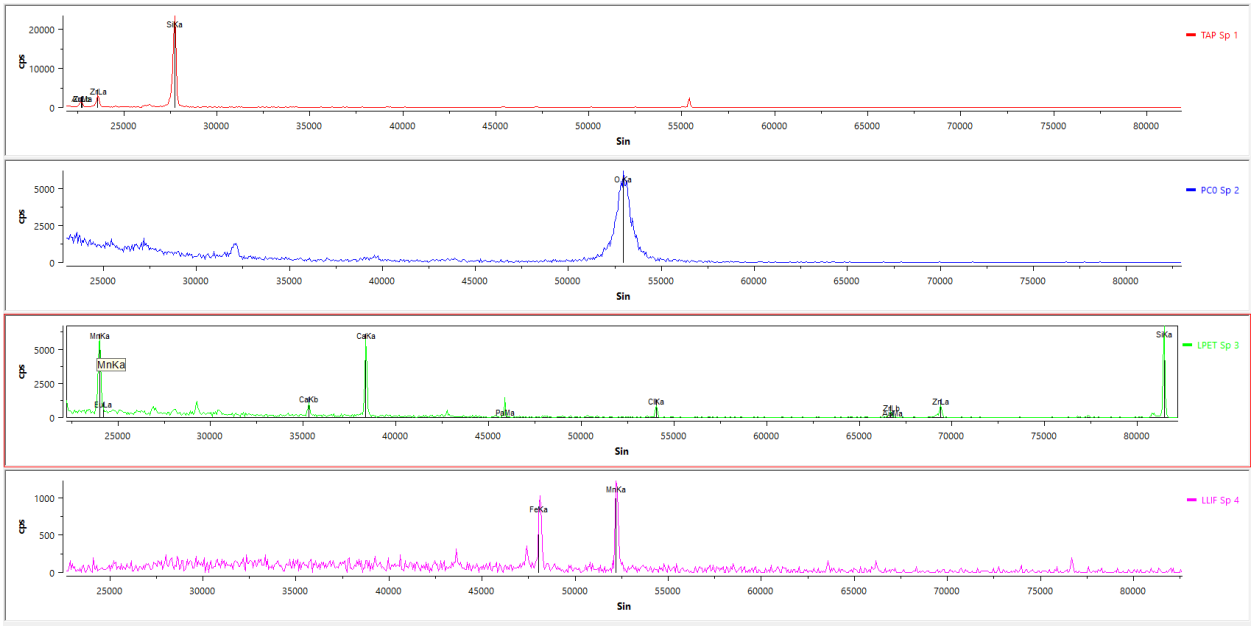
N-WMEB-04-REE_2- Aqualite



N-WMEB-04-REE-4- Bastnäsite Mixed Phase



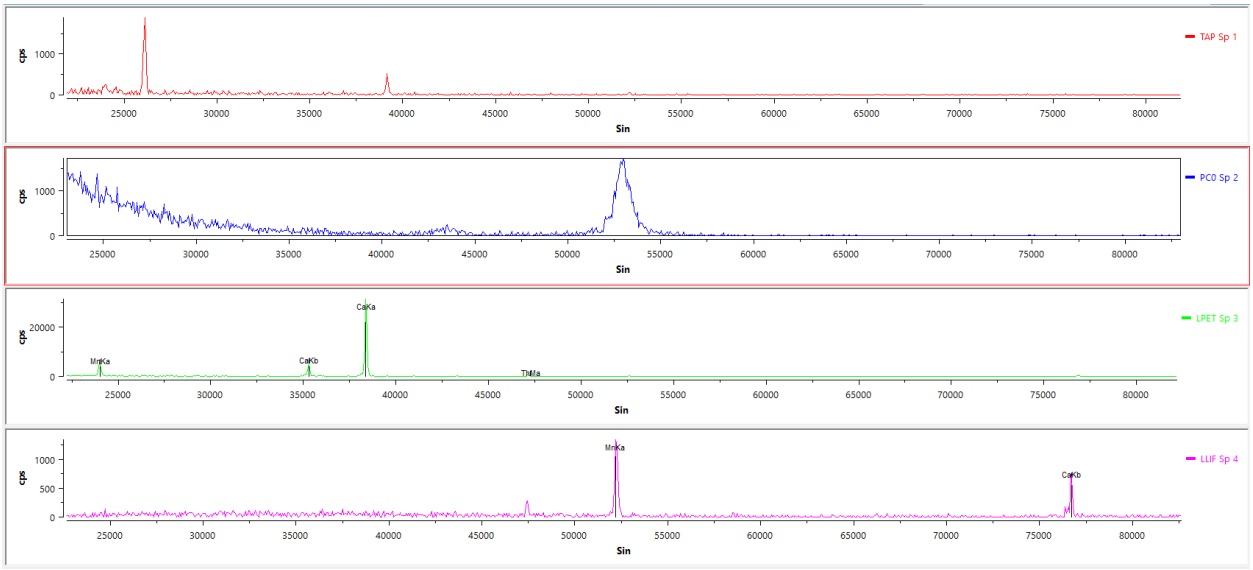
N-WMEB-04-REE_5- Bastnäsite Mixed Phase



N-WMEB-04-REE_6- Sergevanite

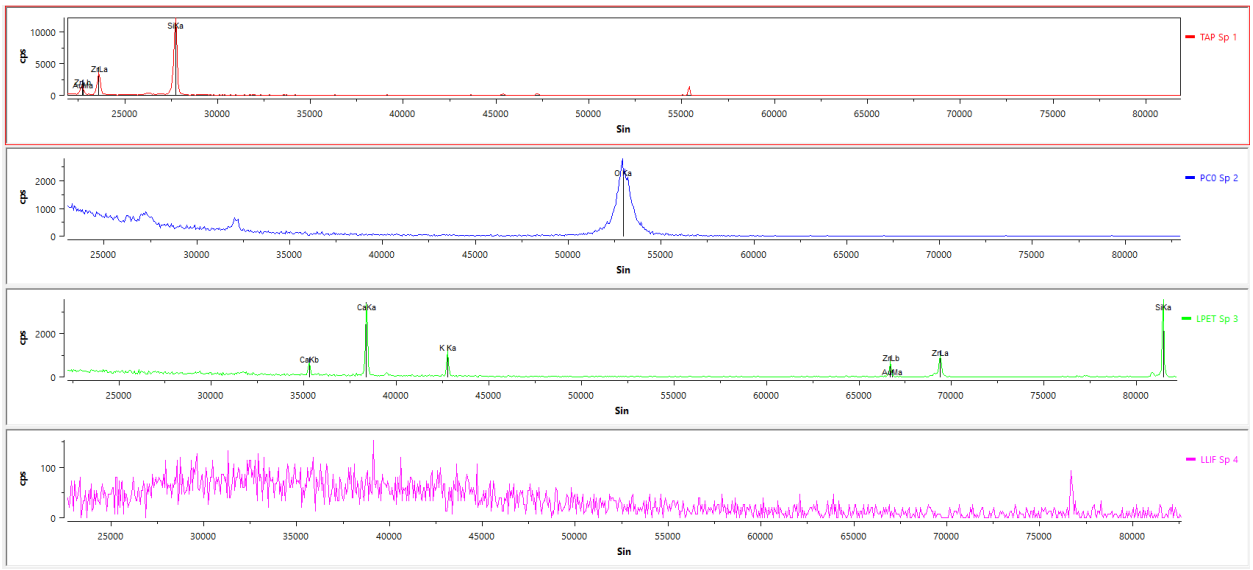
SWMEB- Wind Mountain

Pyroxenes

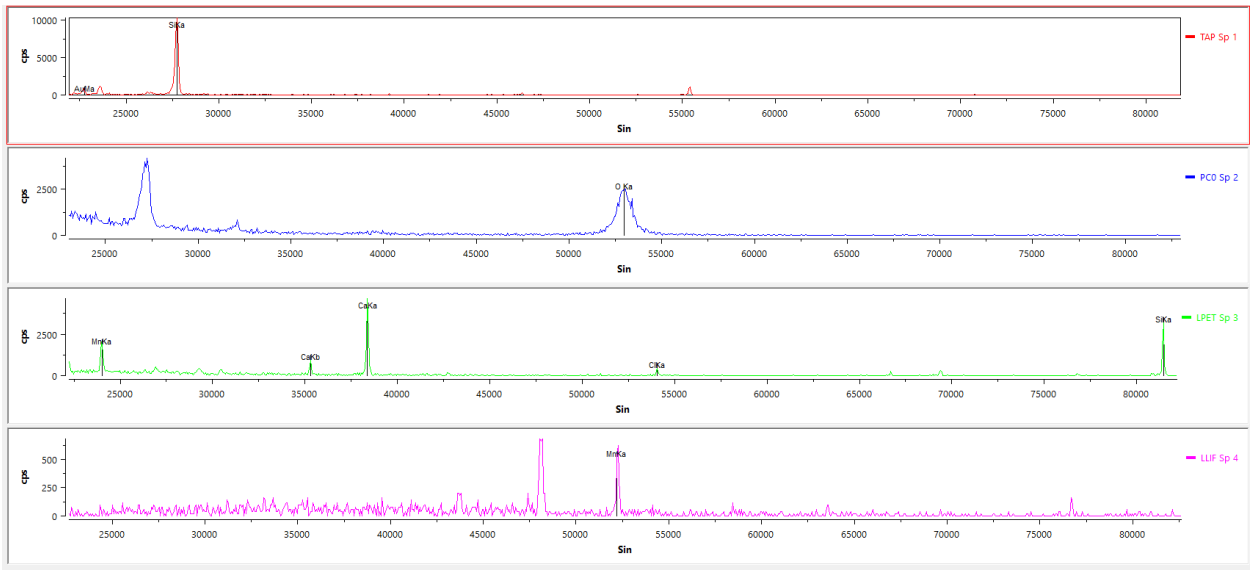


SWMEB_5 Test_2- Johannsenite

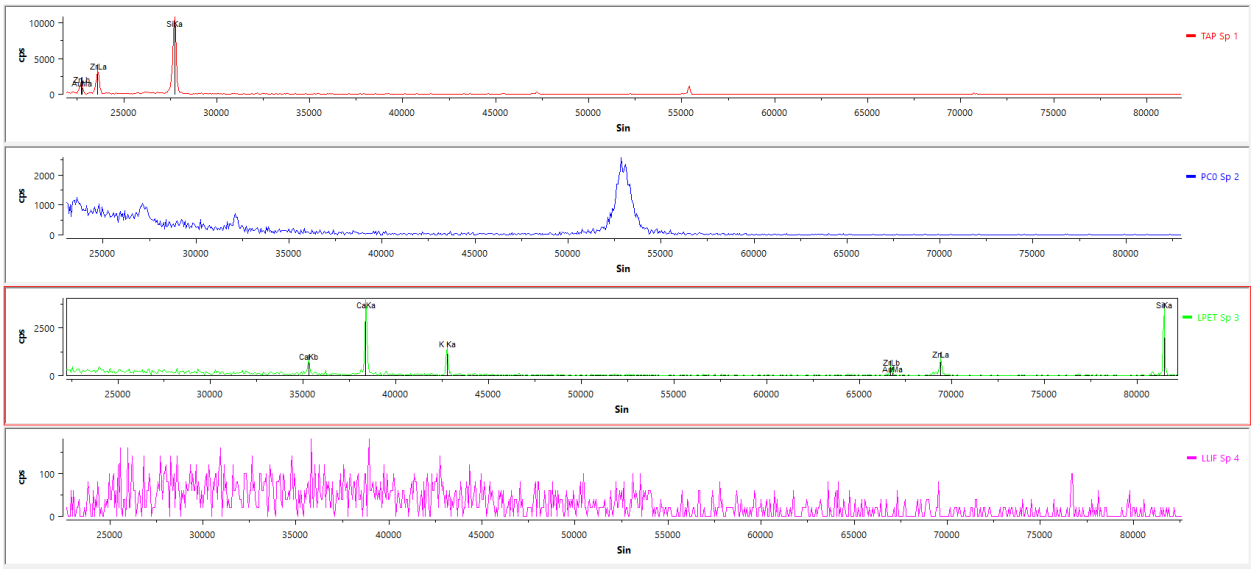
REE, Zr, and Nb Phases



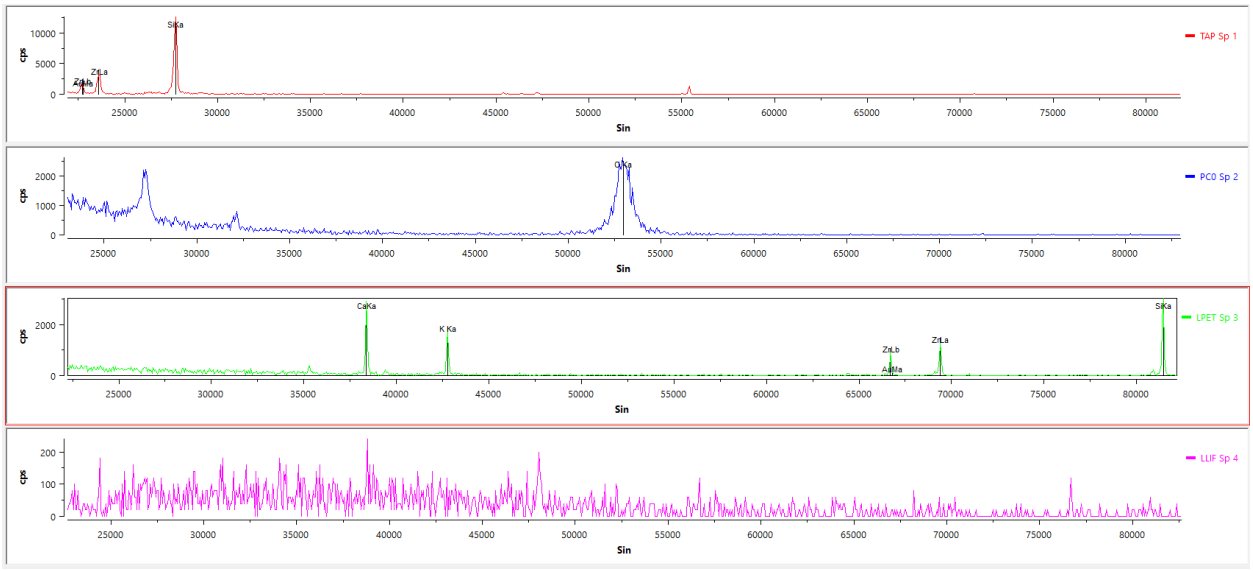
SWMEB Test_2- Aqualite



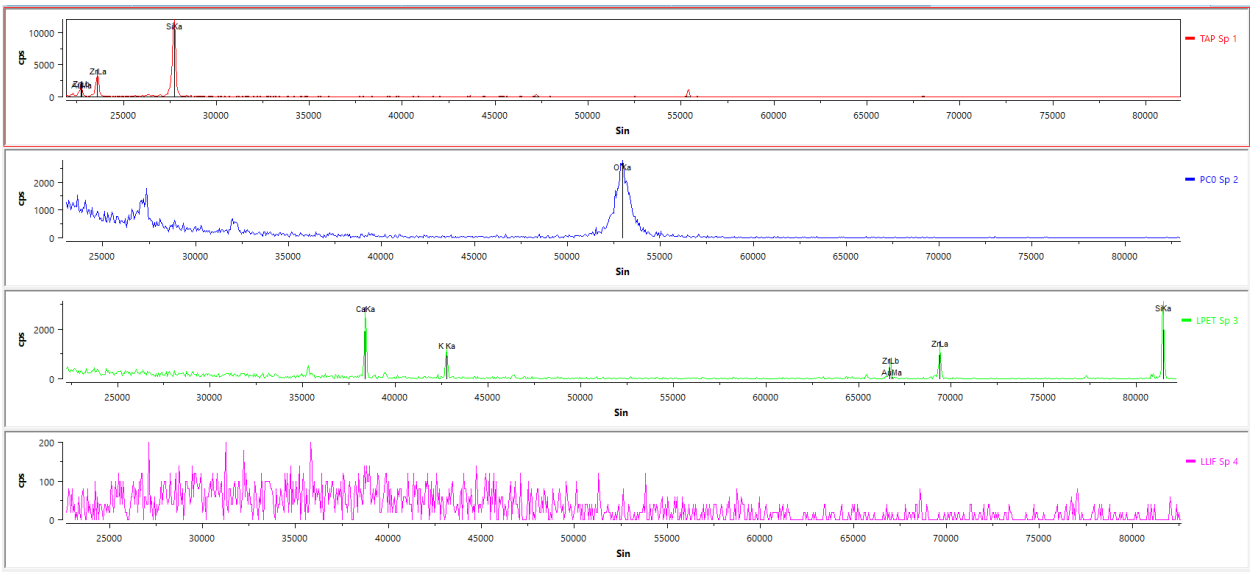
SWMEB Test_3- Sergevanite



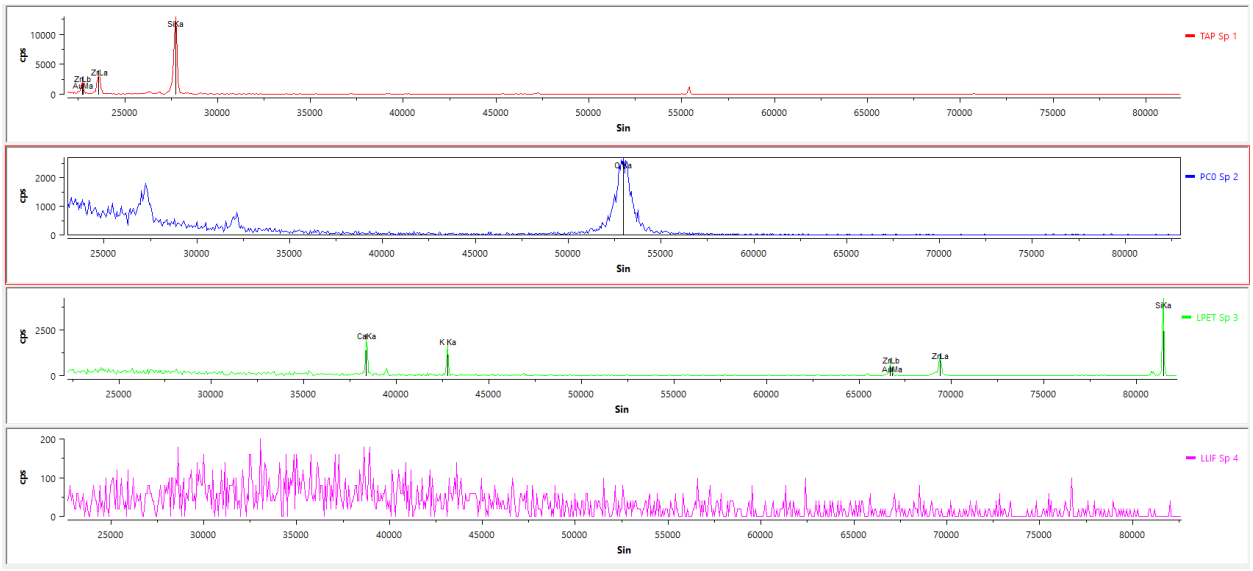
SWMEB Test_4- Aqualite



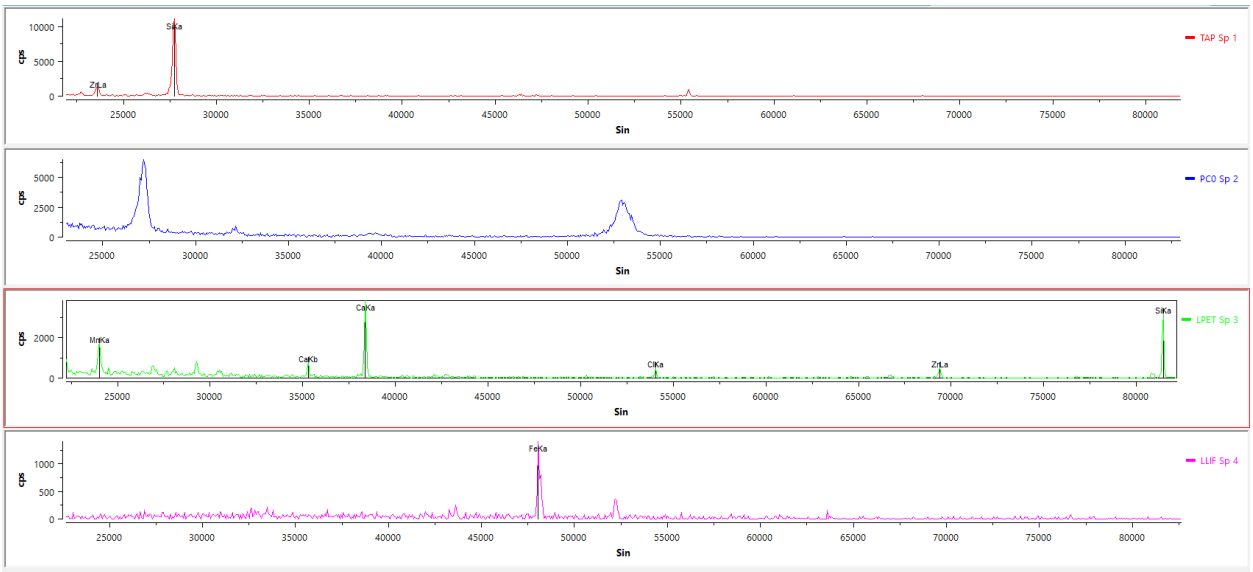
SWMEB Test_5- Aqualite



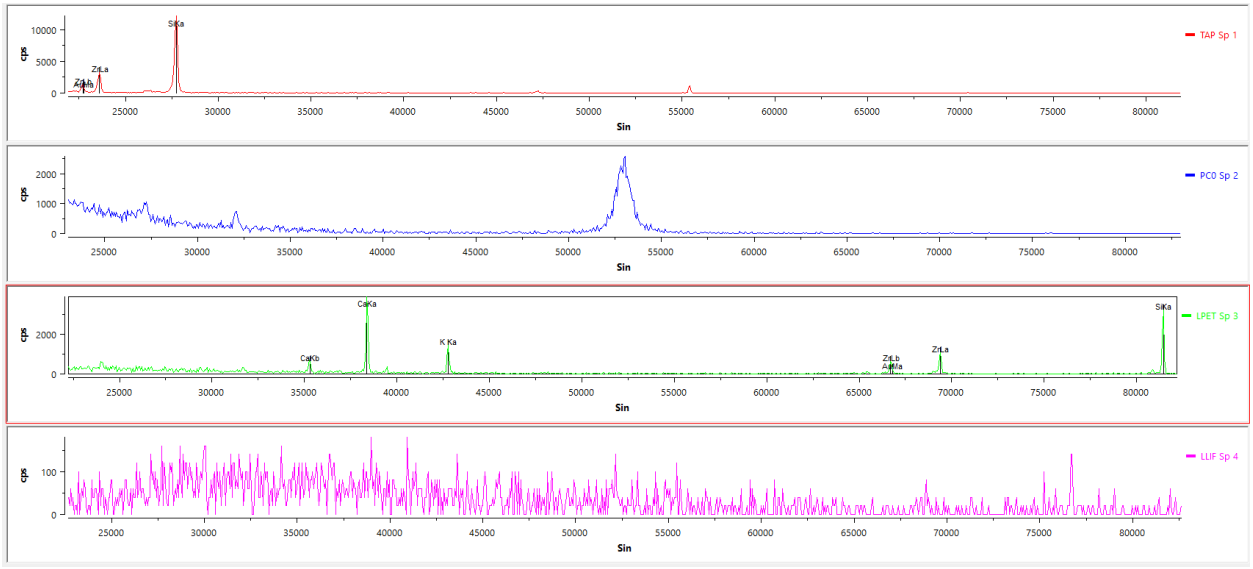
SWMEB Test_6- Aqualite



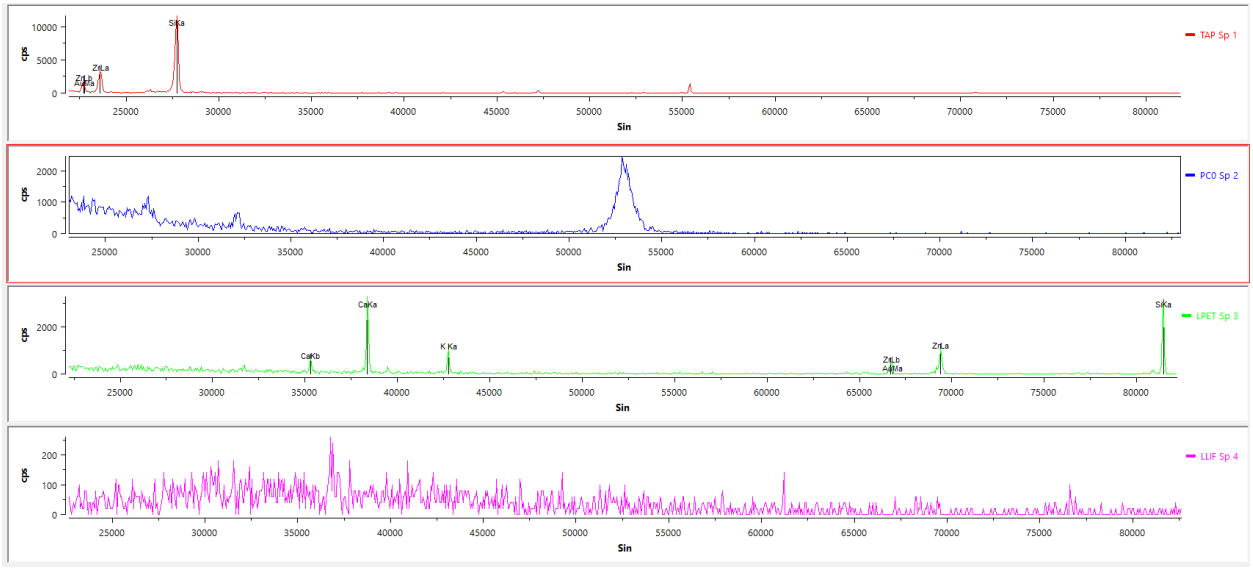
SWMEB Test_7- Aqualite



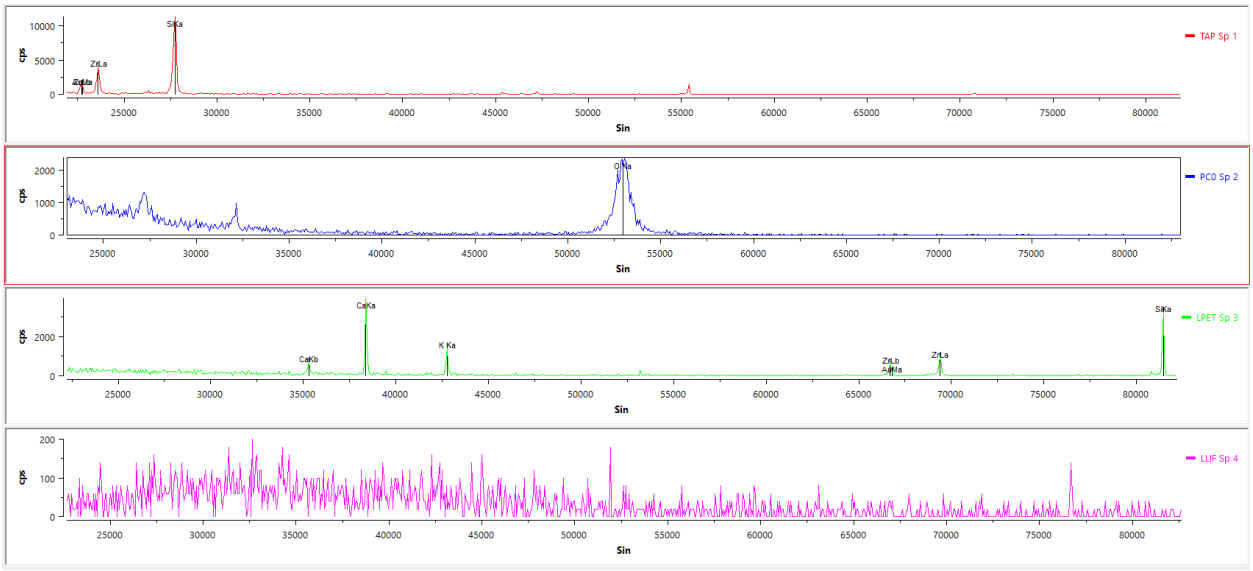
SWMEB Test_8- Sergevanite



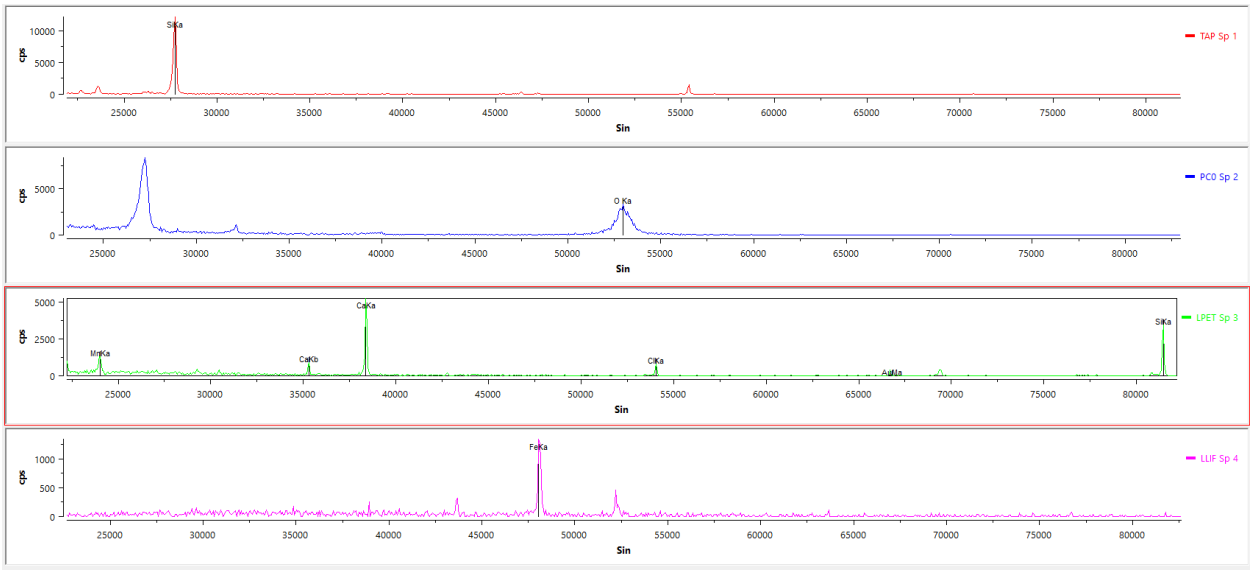
SWMEB Test_9- Aqualite



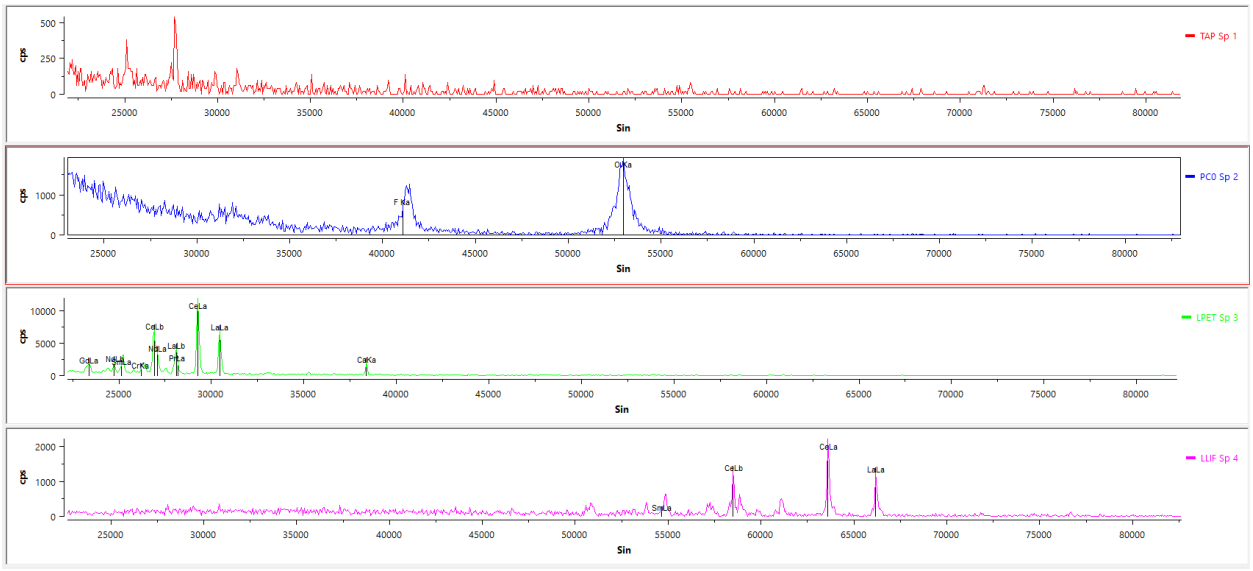
SWMEB Test_10- Aqualite



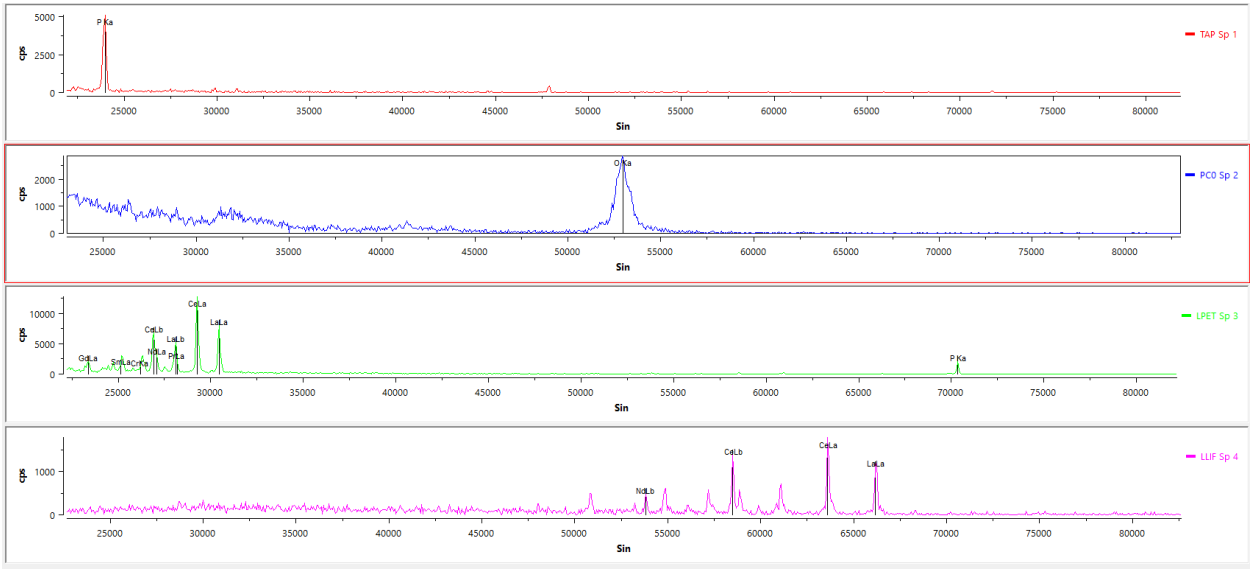
SWMEB Test_11- Aqualite



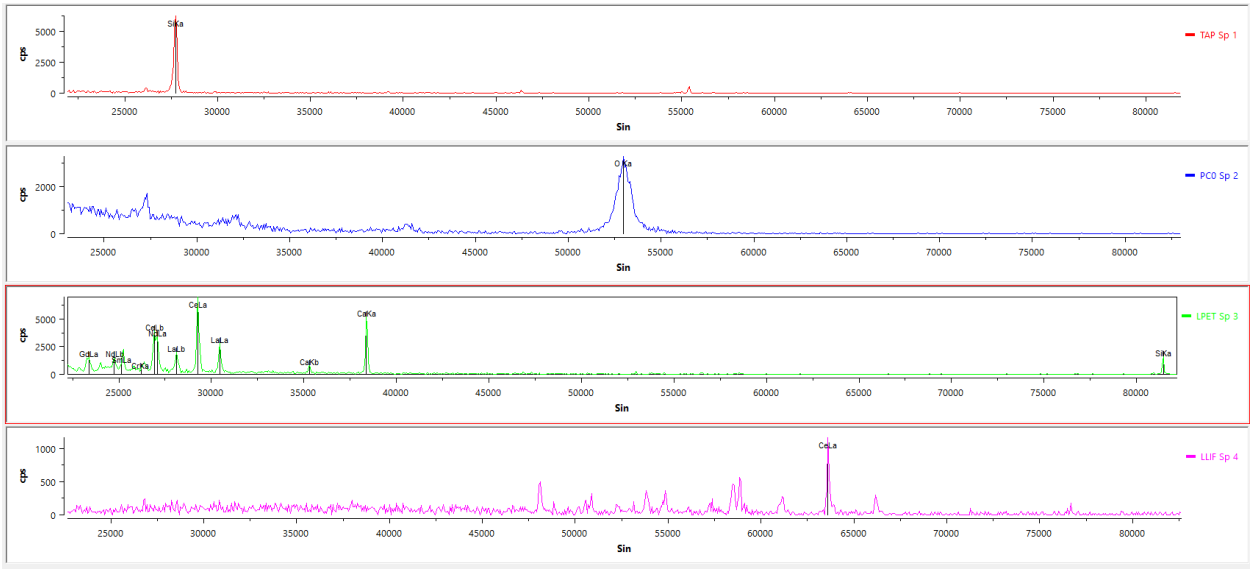
SWMEB Test_12- Sergevanite



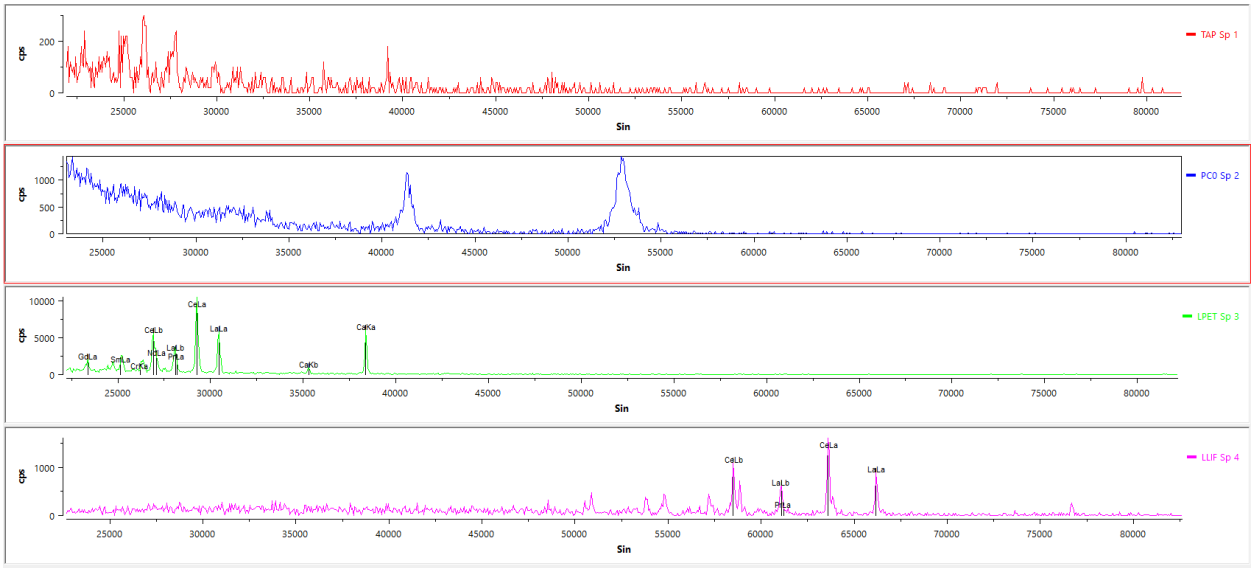
SWMEB_1 Test_1- Bastnäsite



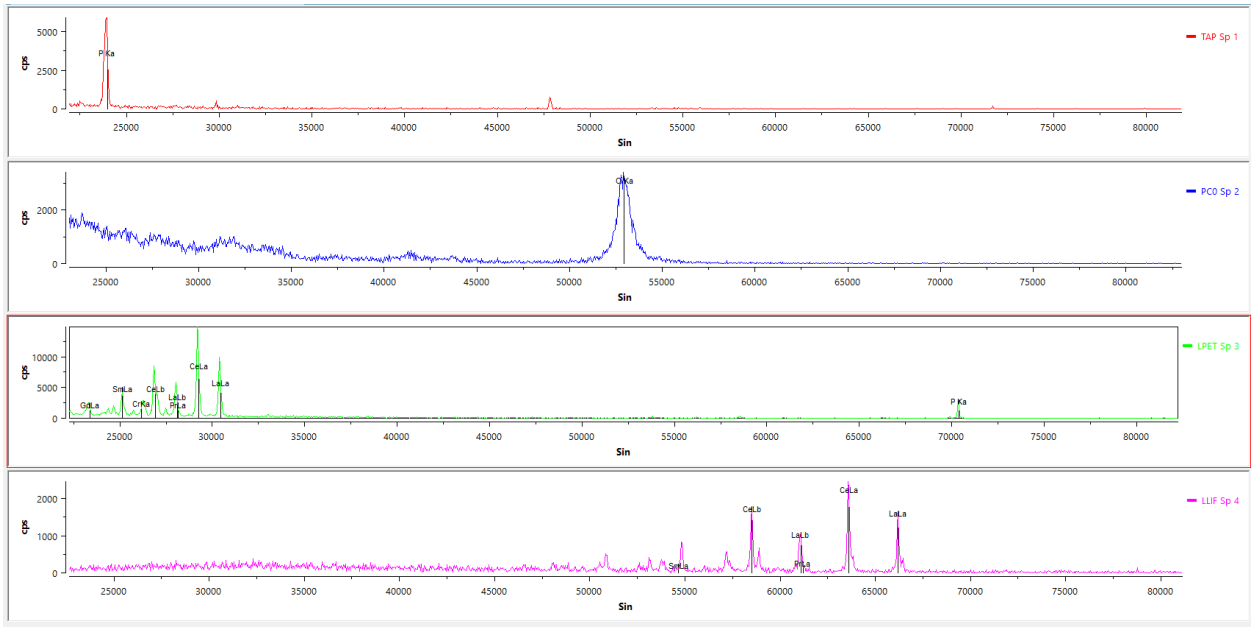
SWMEB_1 Test_8- Monazite



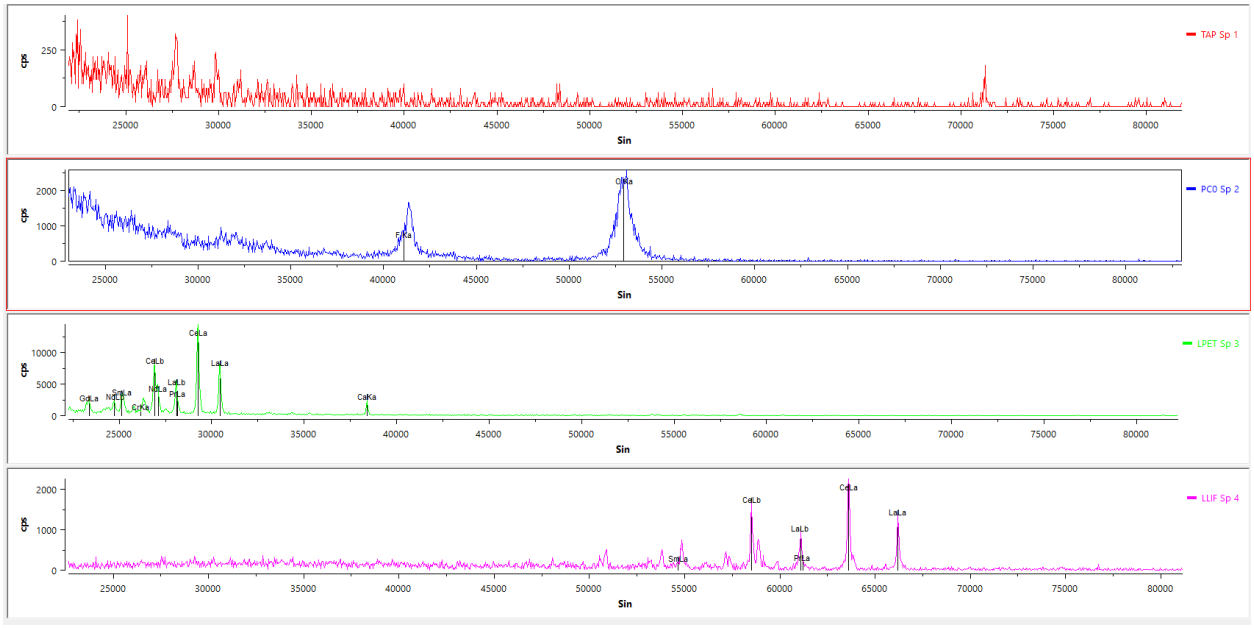
SWMEB_1 Test_18- Unknown REE Mixed Phase



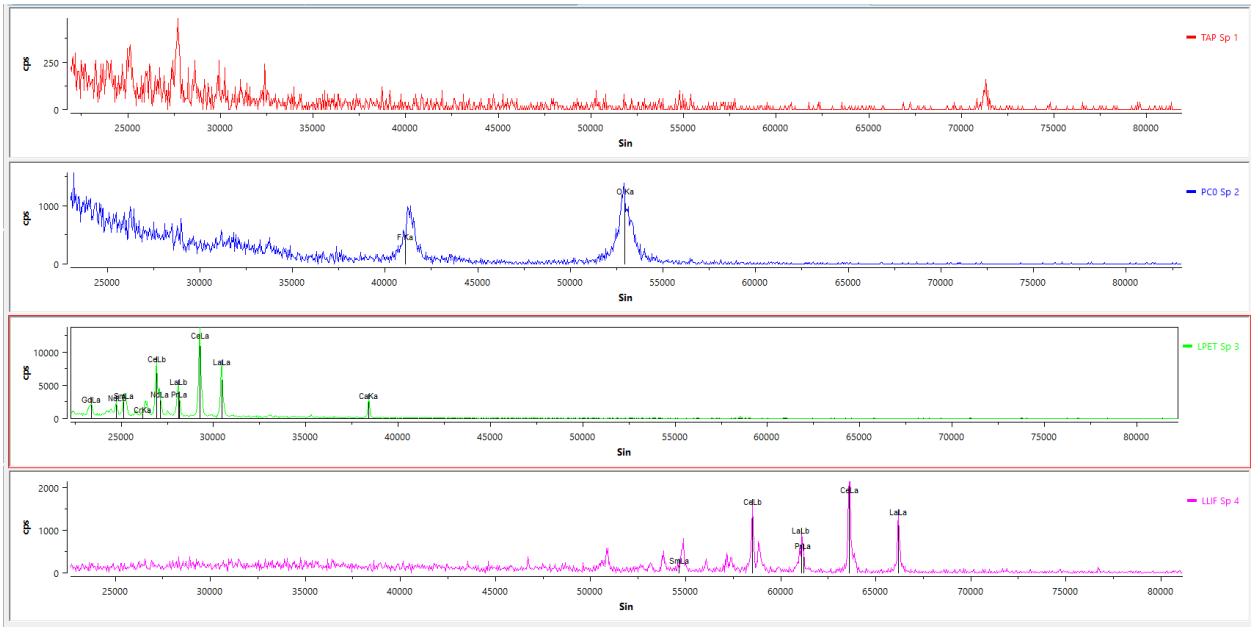
SWMEB_1 Test_22- Bastnäsite



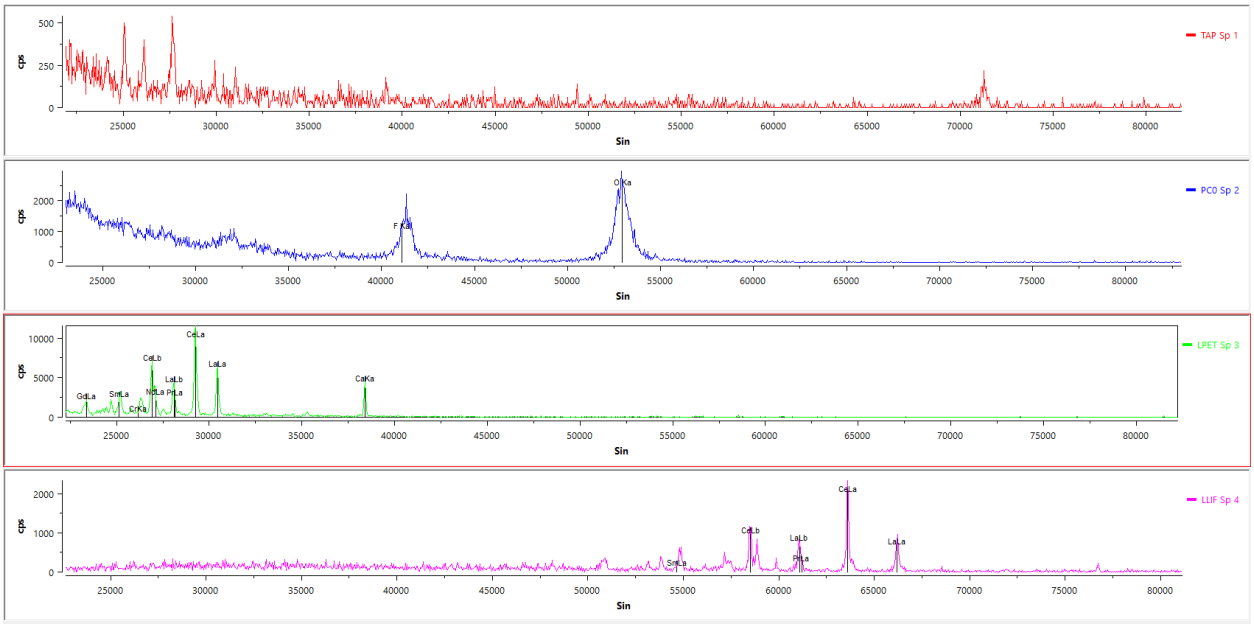
SWMEB-1-REE_1- Monazite



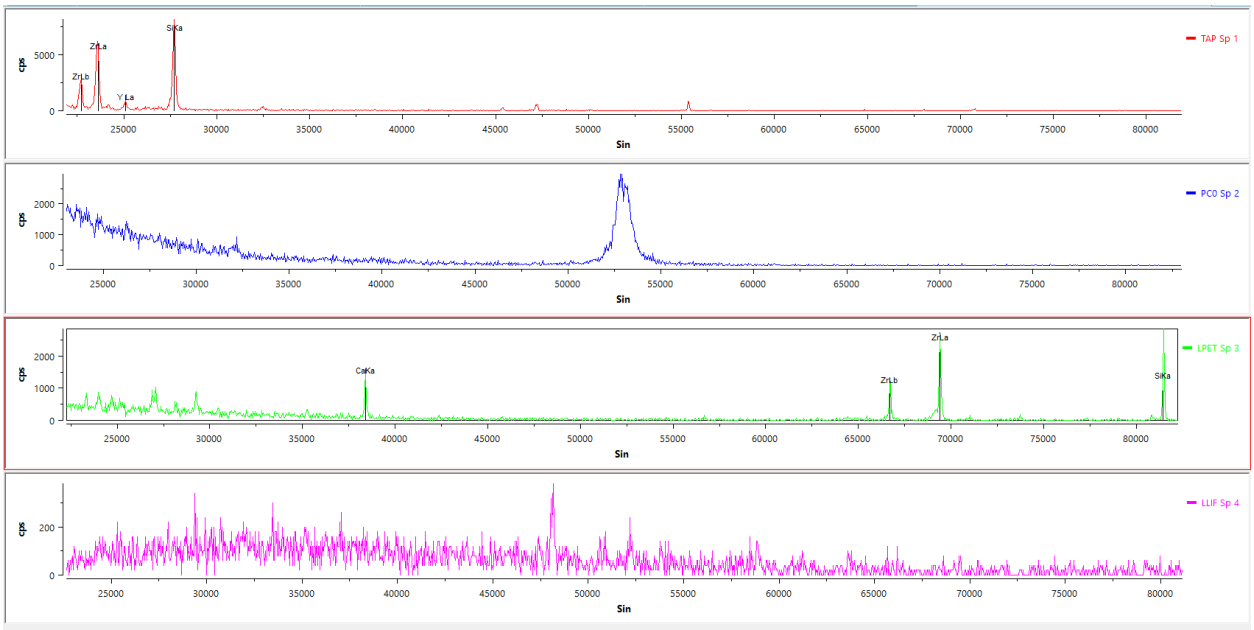
S-WMEB-1-REE_2- Bastnäsite



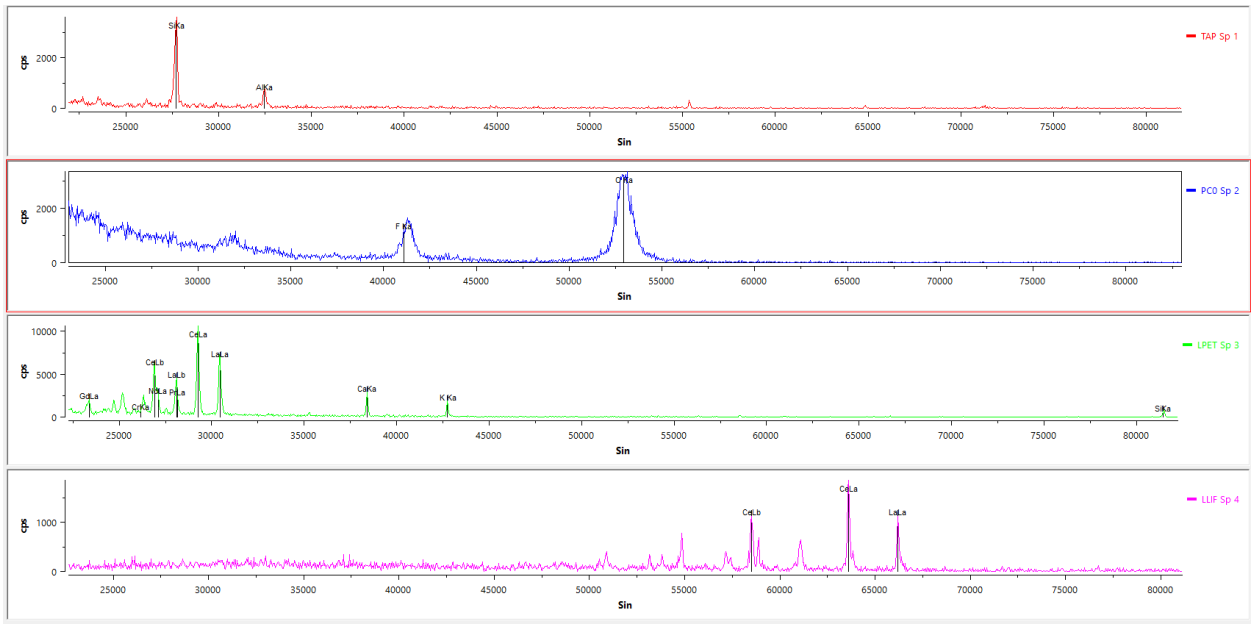
S-WMEB-1-REE_3- Bastnäsite



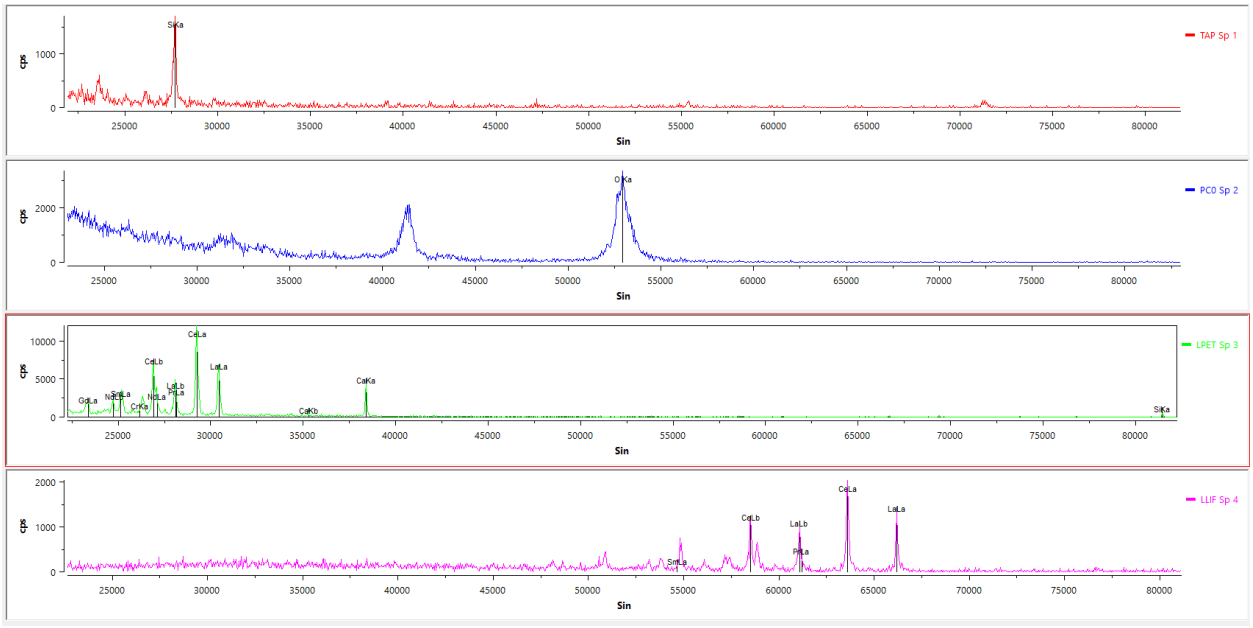
S-WMEB-1-REE_4- Bastnäsite



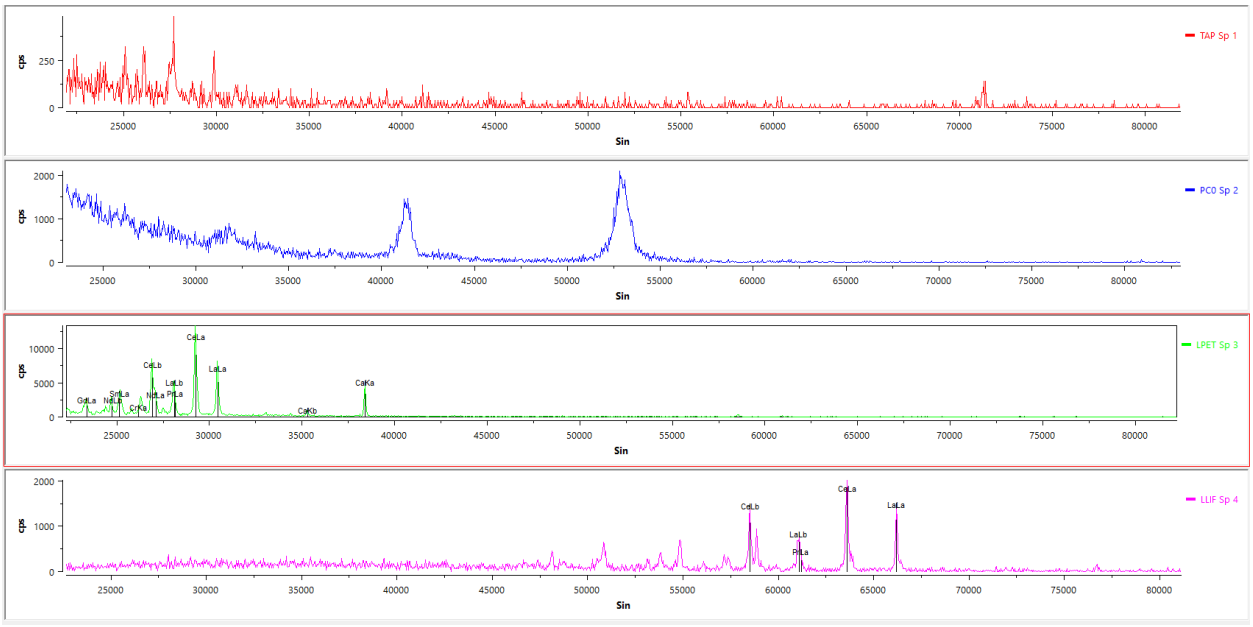
S-WMEB-1-REE_5- Calciocatapleiite



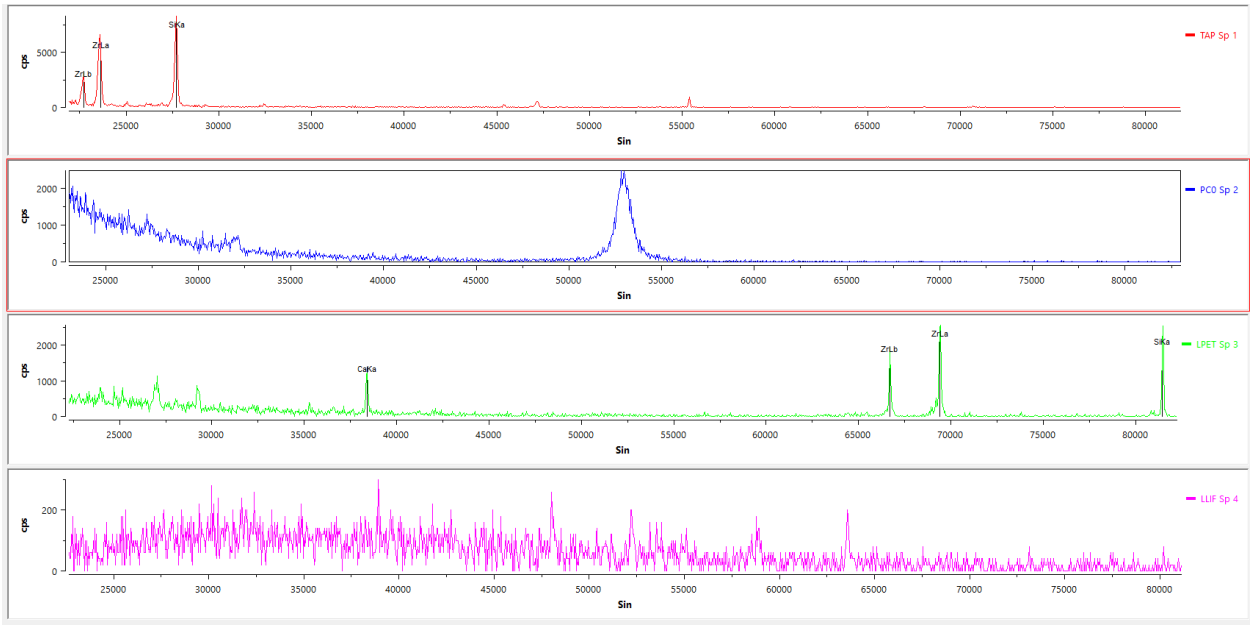
S-WMEB-2-REE_1- Bastnäsite Mixed Phase



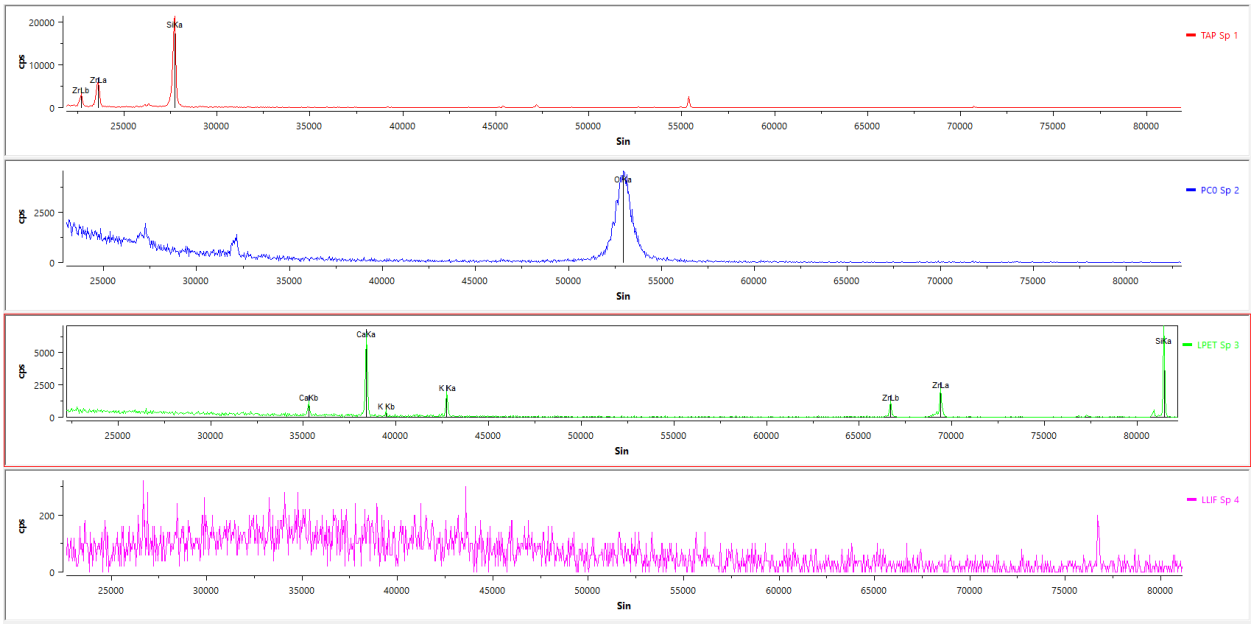
S-WMEB-2-REE_2- Bastnäsite



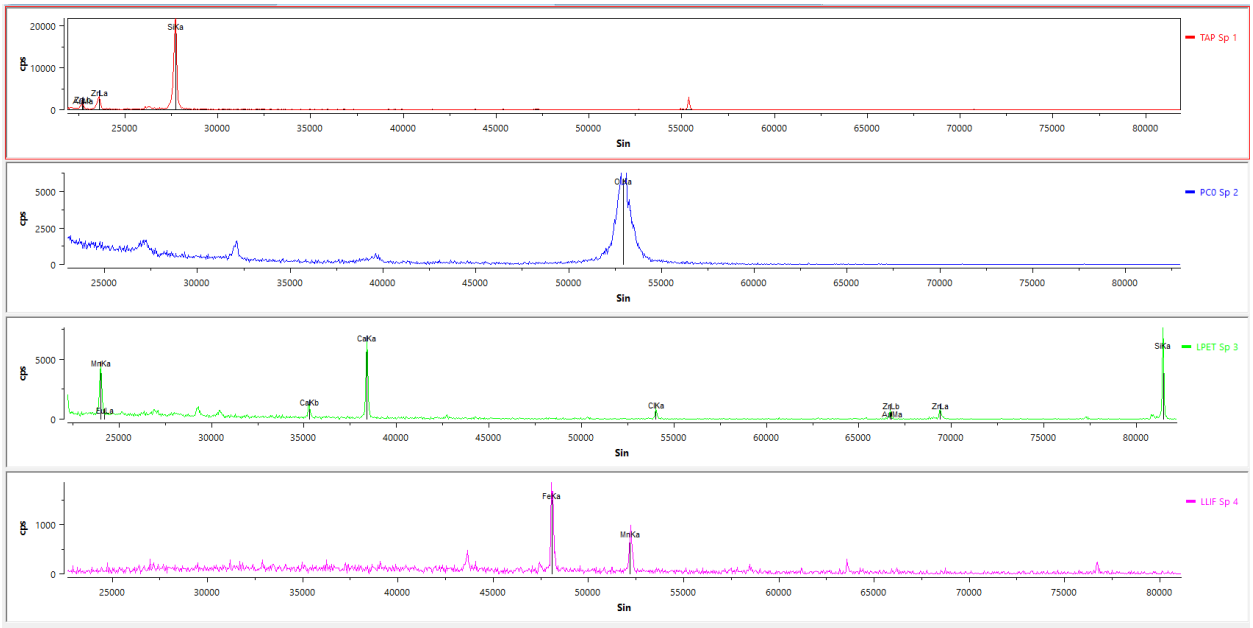
S-WMEB-2-REE_3- Bastnäsite



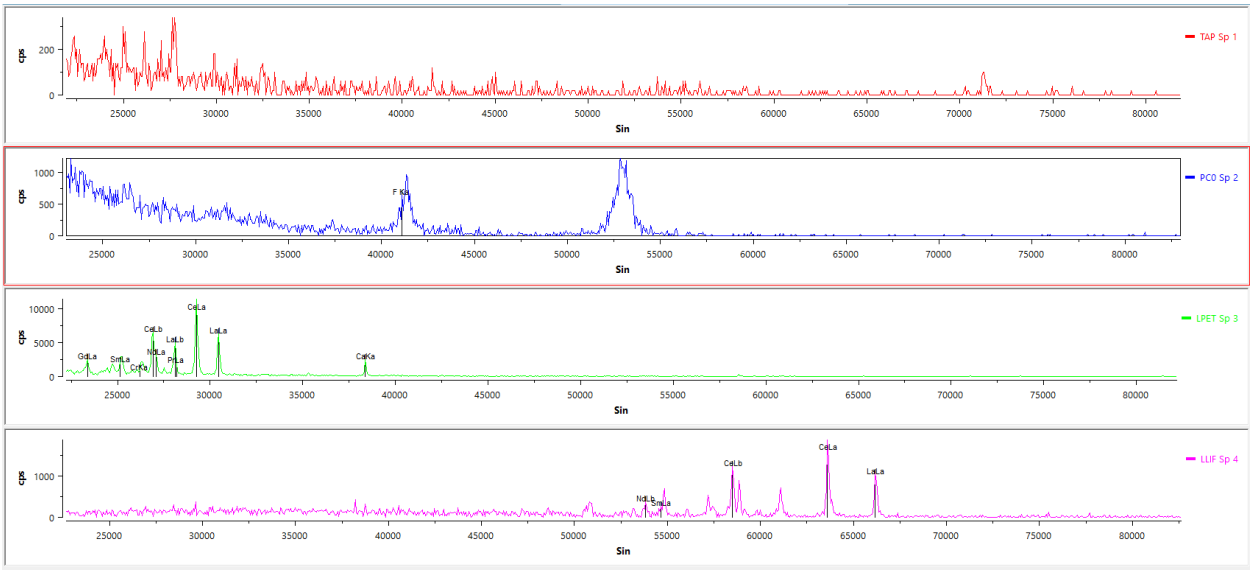
S-WMEB-2-REE_4- Calciocatapleiite



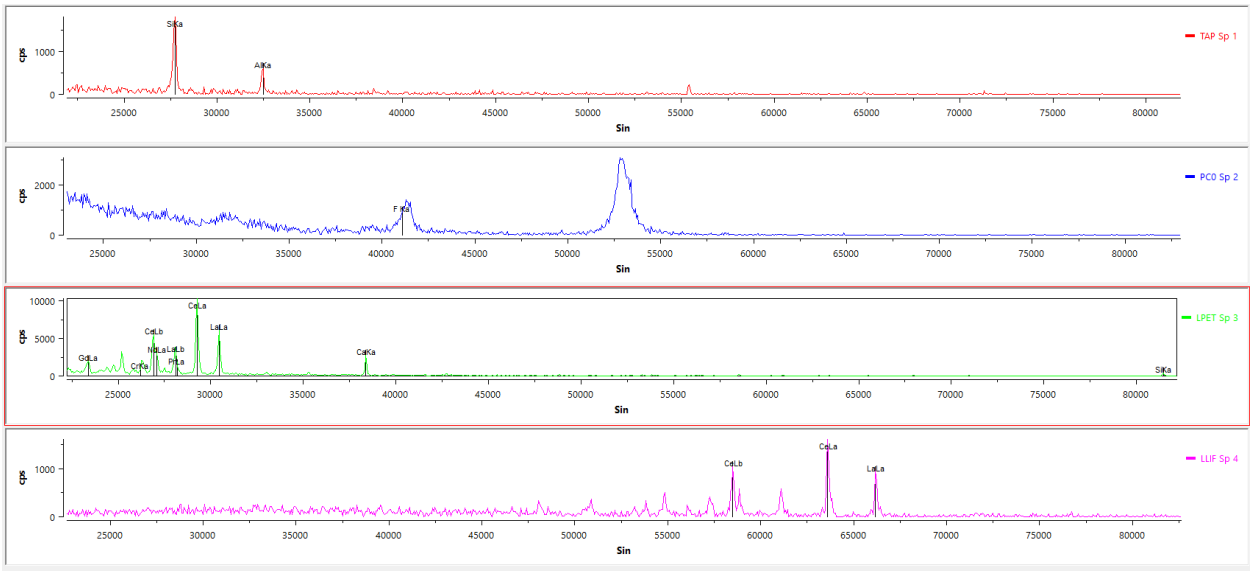
S-WMEB-03_2- Aqualite



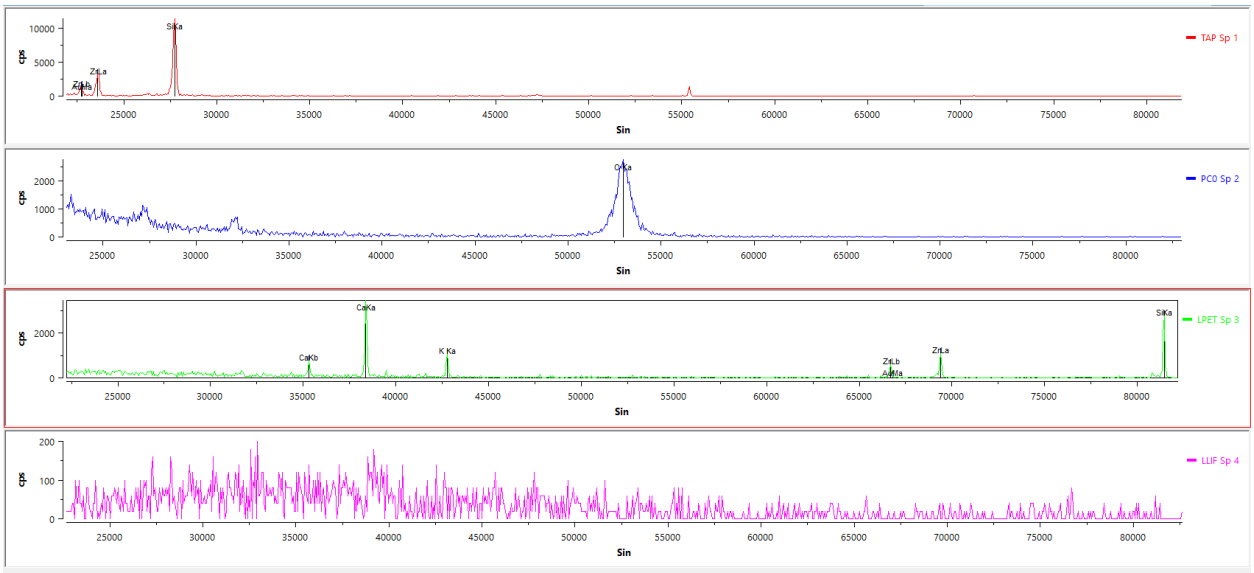
S-WMEB-03_3- Sergevanite



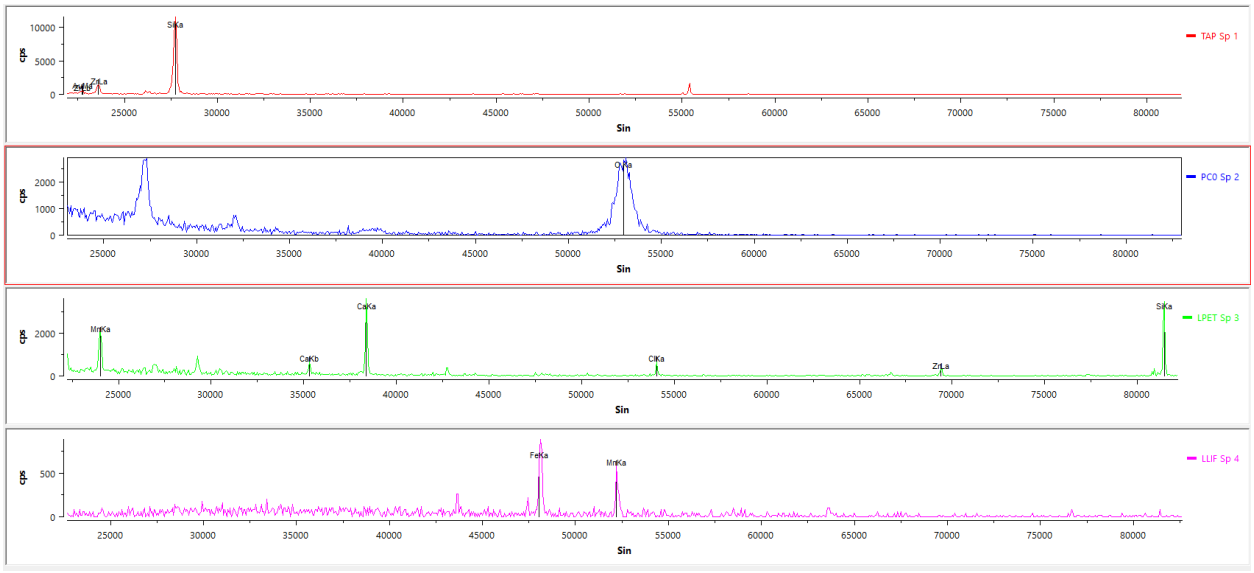
SWMEB_4 Test_1- Bastnäsite



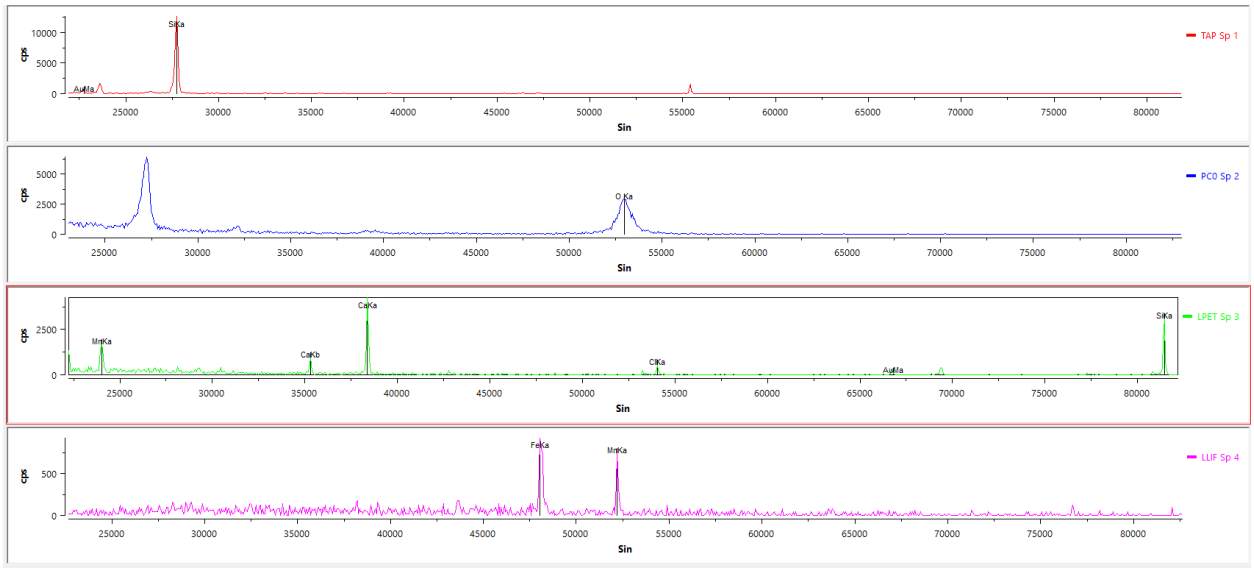
SWMEB_4 Test_2- Bastnäsite Mixed Phase



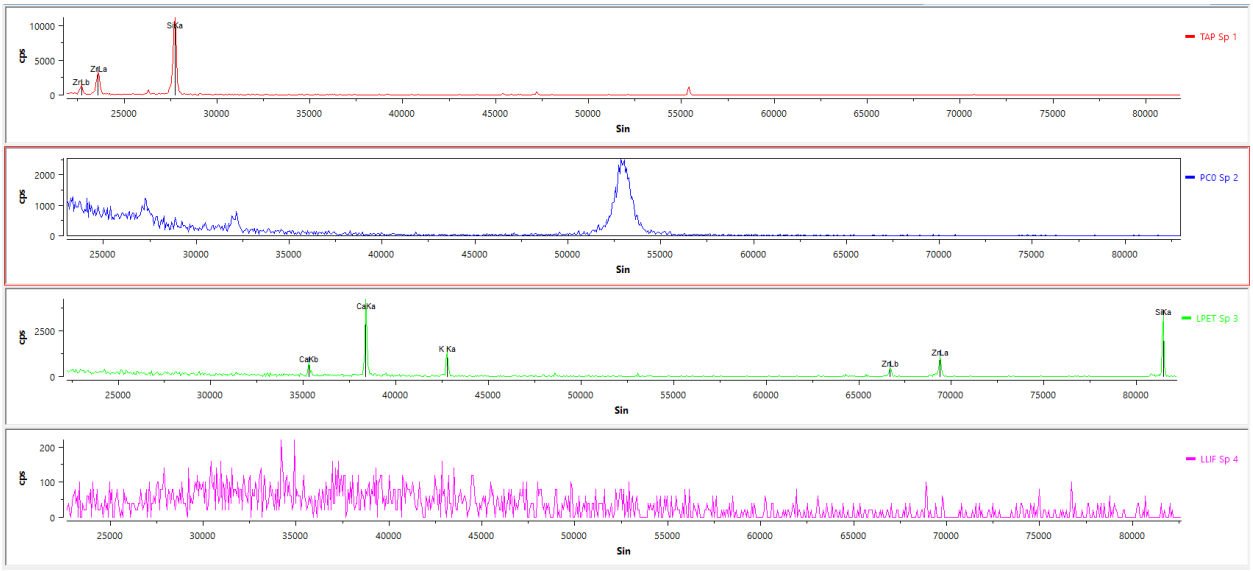
SWMEB_4 Test_3- Aqualite



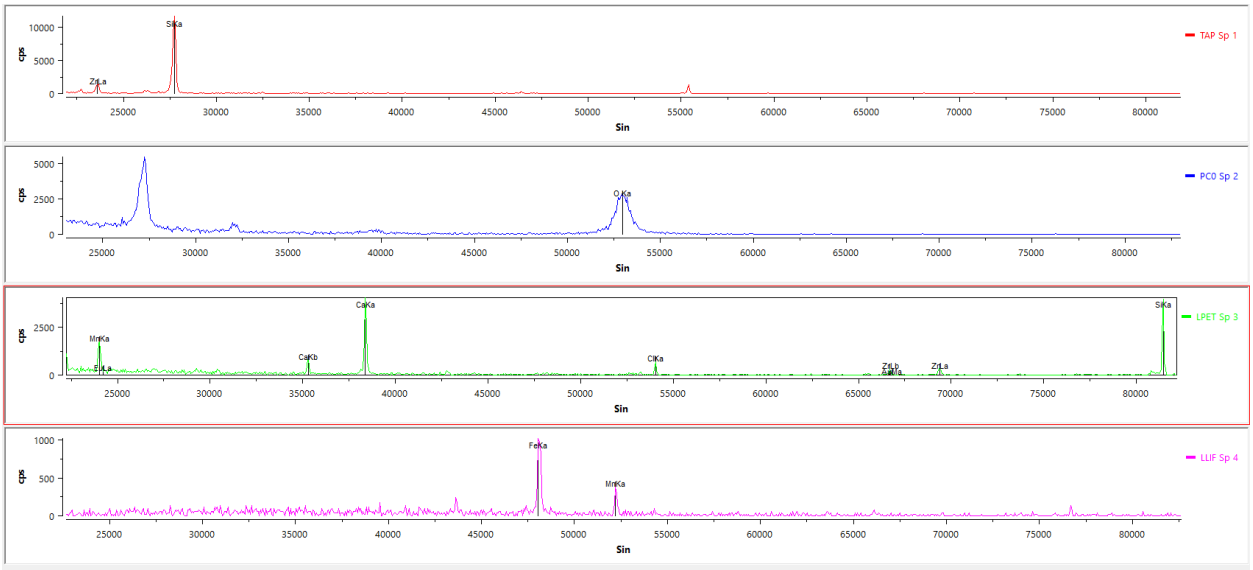
SWMEB_4 Test_4- Sergevanite



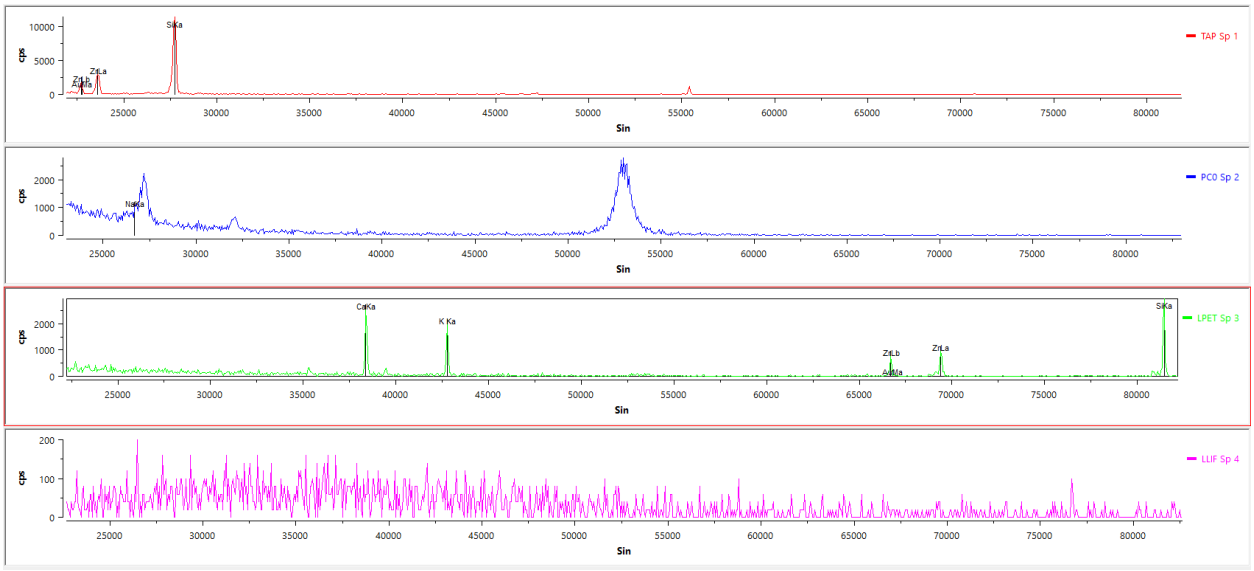
SWMEB_4 Test_5- Sergevanite



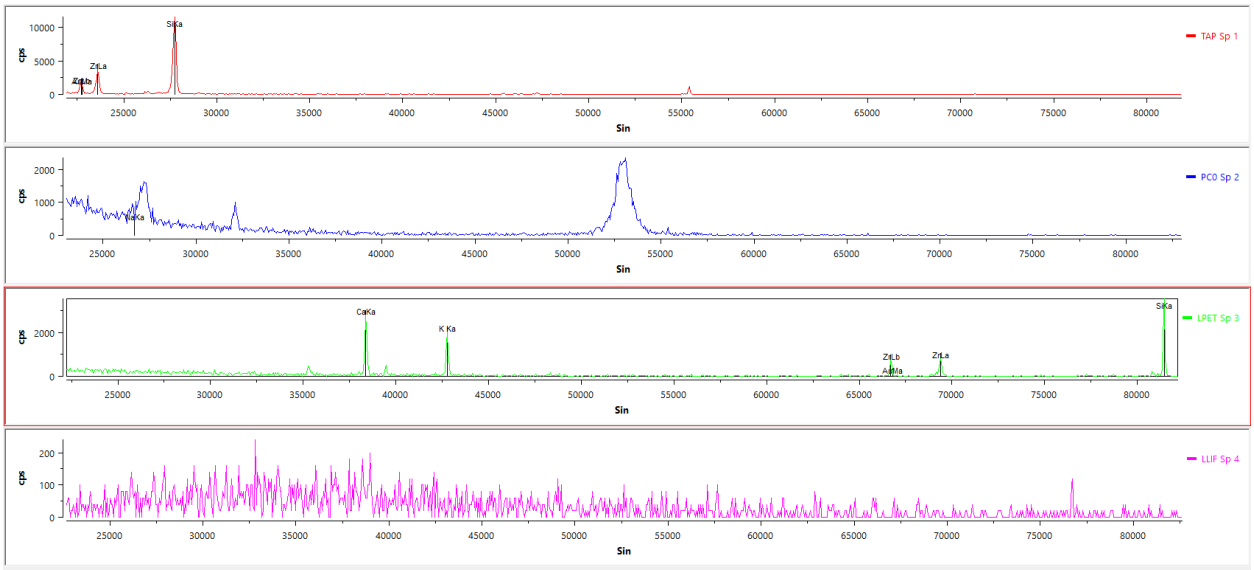
SWMEB_4 Test_6- Aqualite



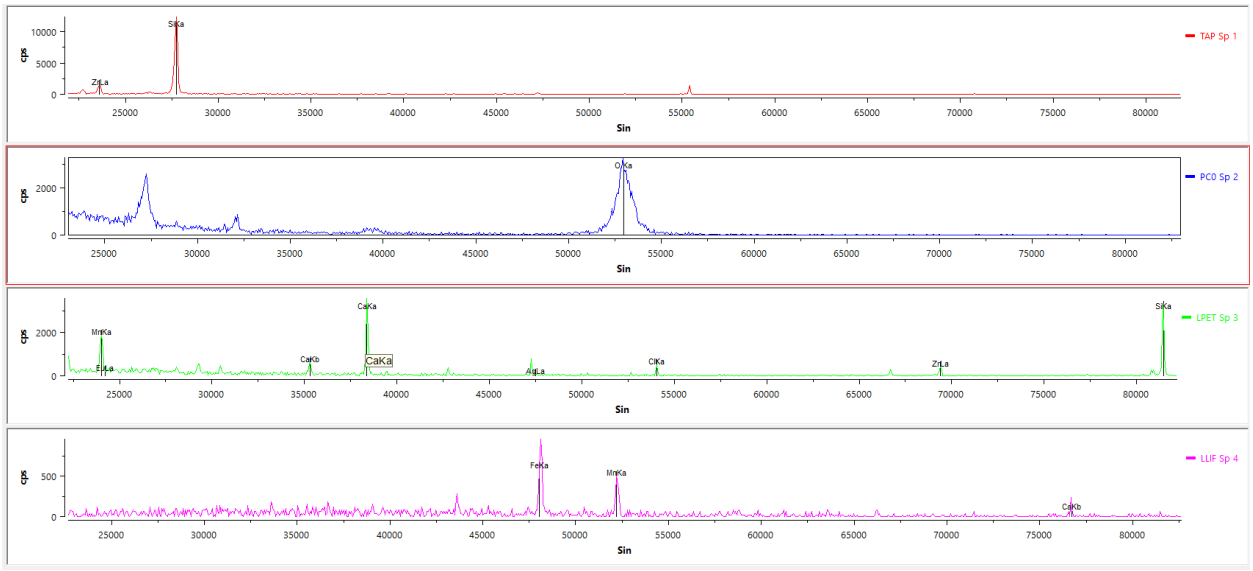
SWMEB_4 Test_7- Sergevanite



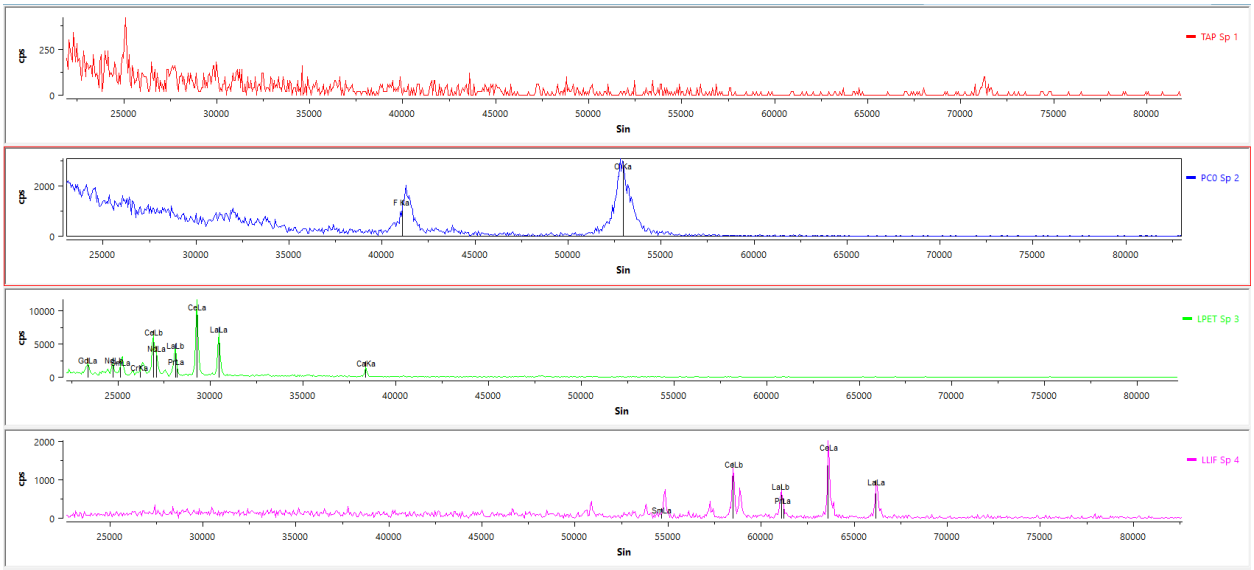
SWMEB_4 Test_8- Aqualite



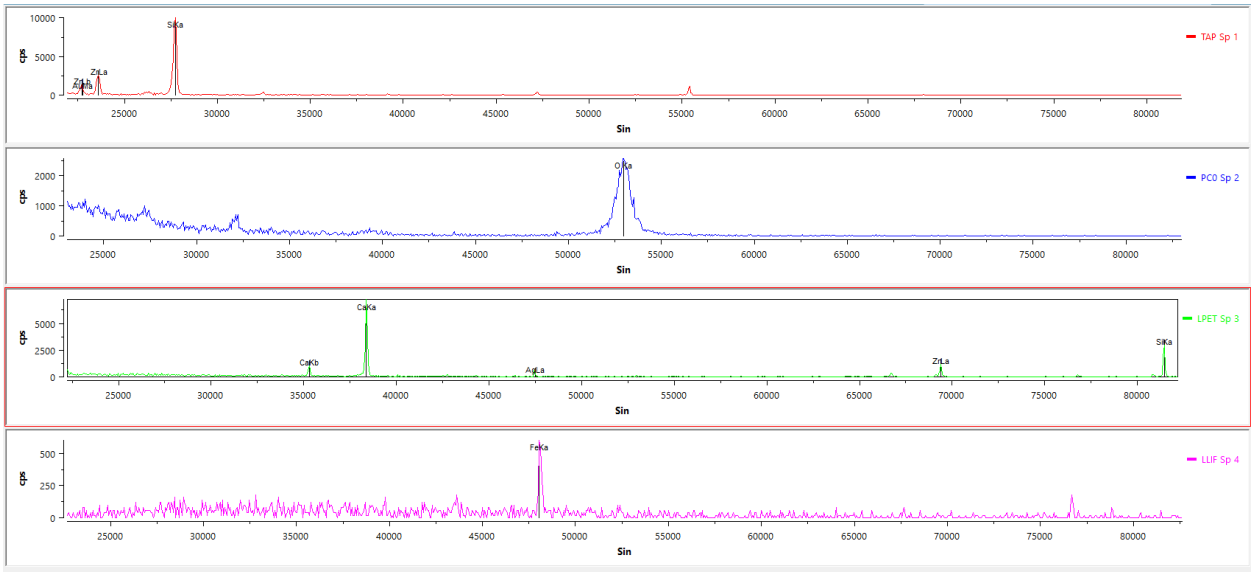
SWMEB_4 Test_9- Aqualite



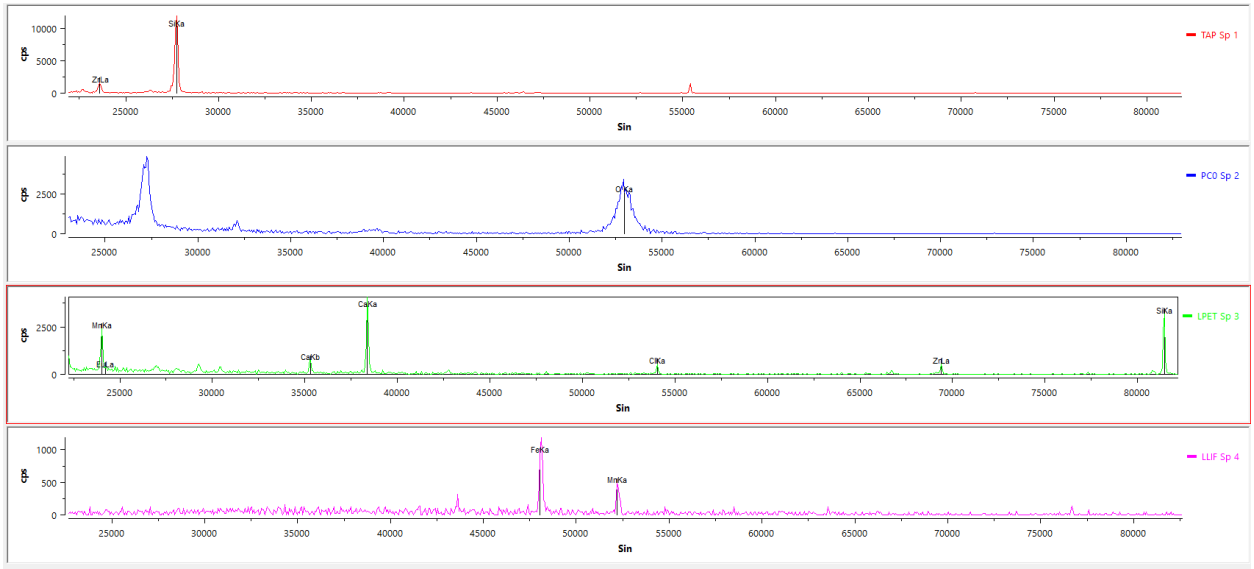
SWMEB_4 Test_10- Sergevanite



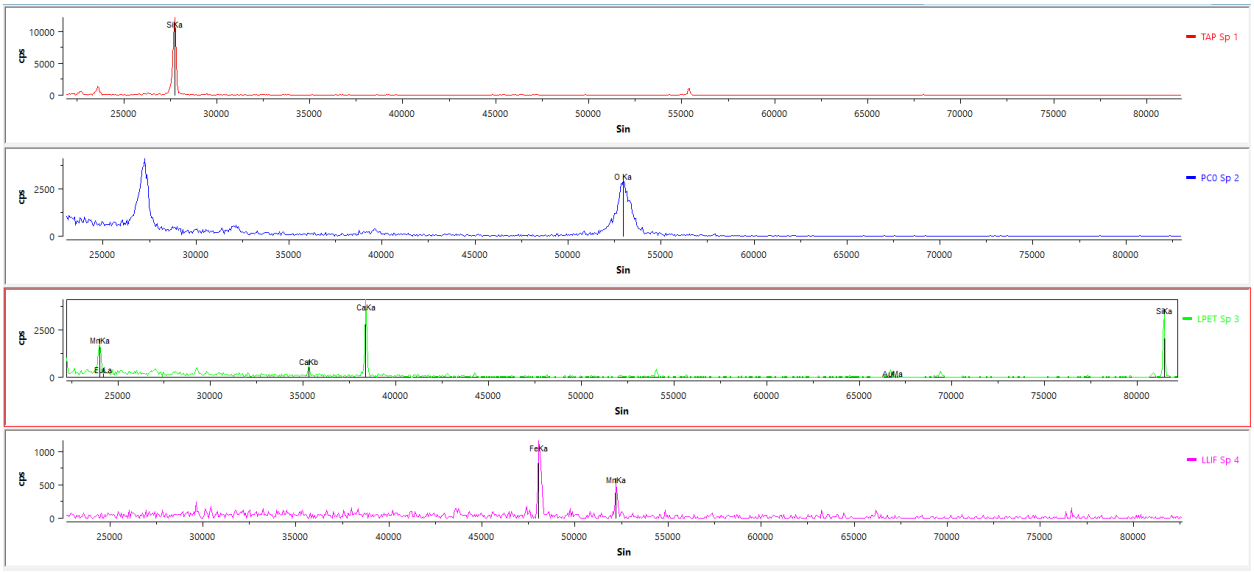
SWMEB_5 Test_1- Bastnäsite



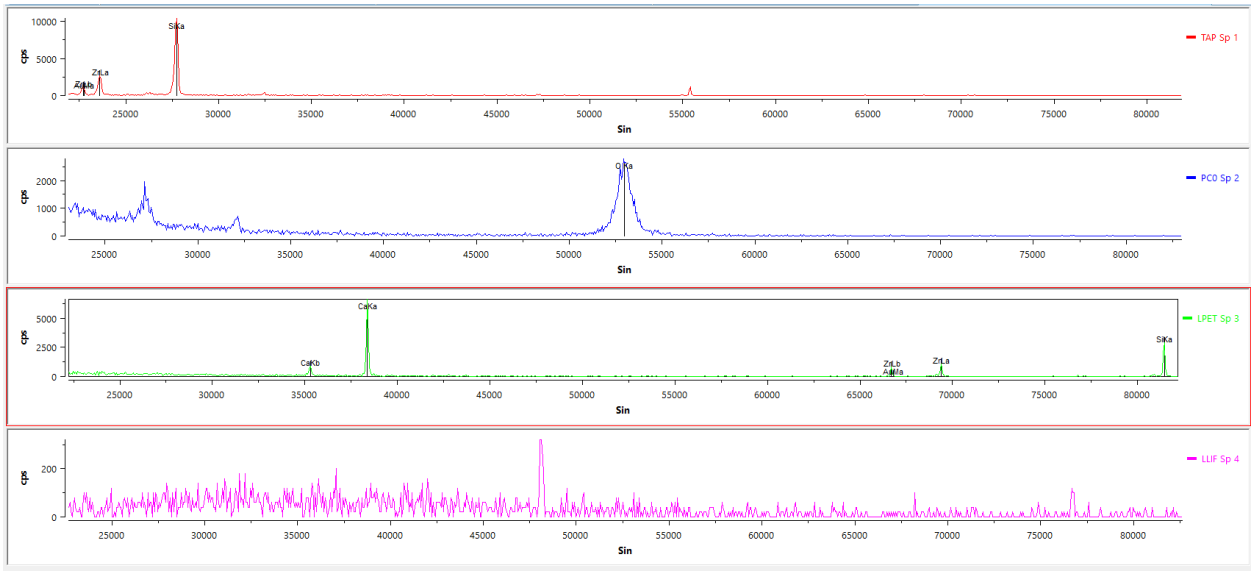
SWMEB_5 Test_3- Kerimasite



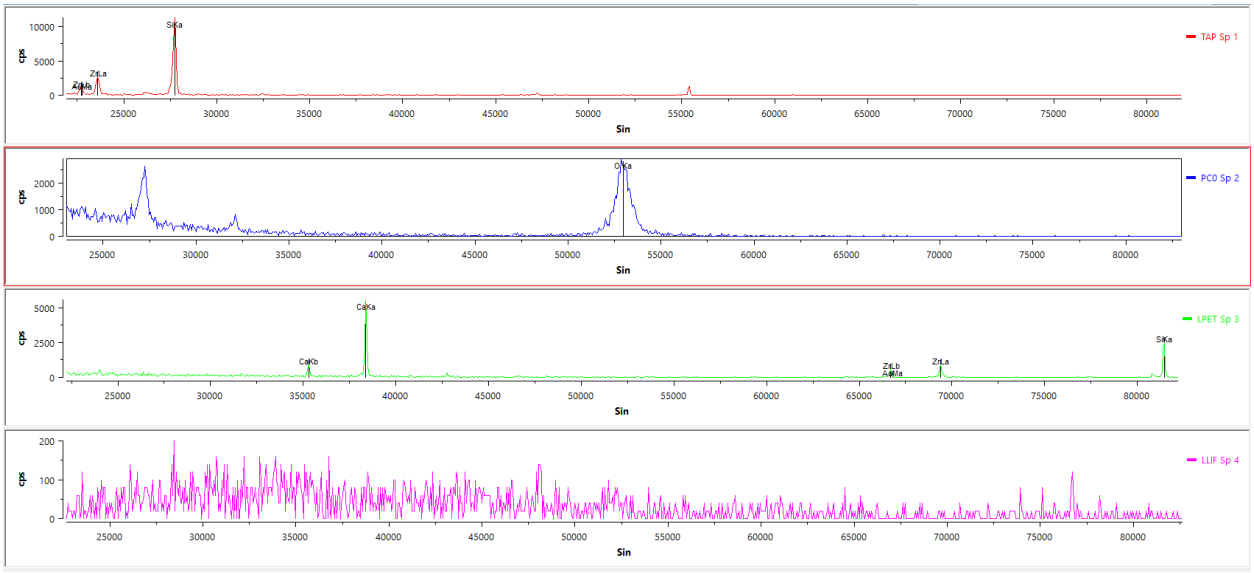
SWMEB_5 Test_5- Sergevanite



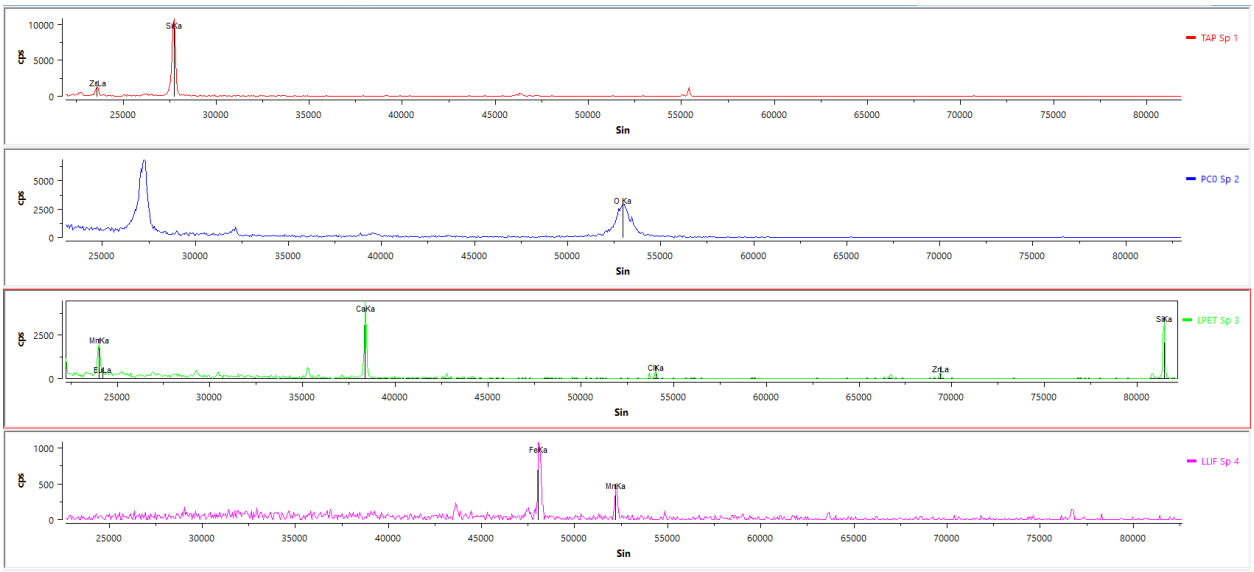
SWMEB_5 Test_6- Sergevanite



SWMEB_5 Test_10- Calciocatapleiite

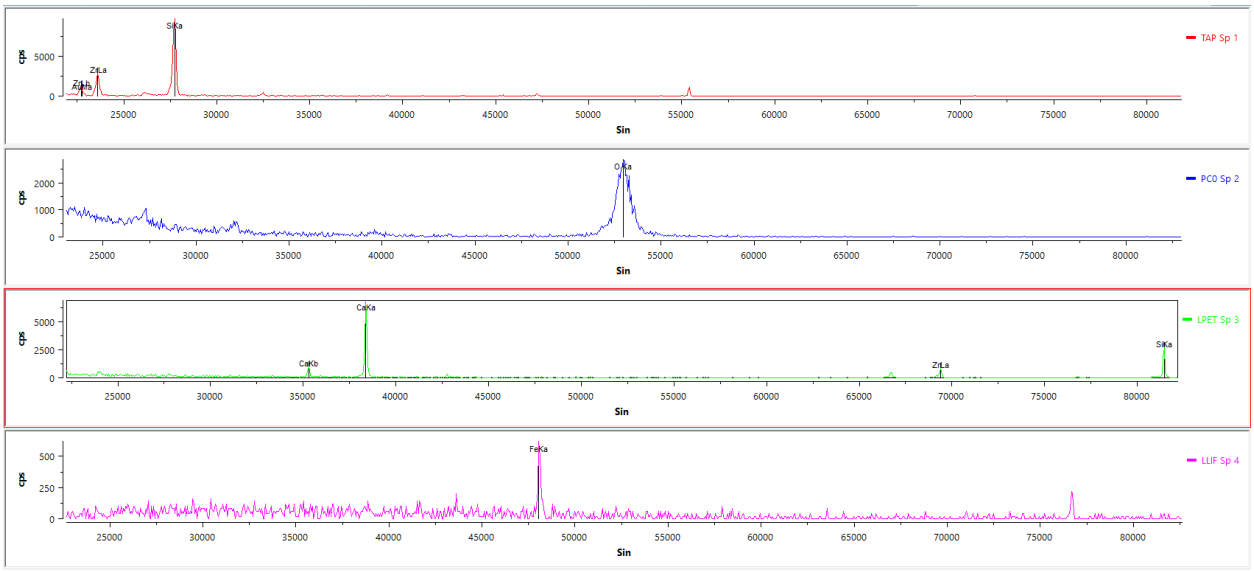


SWMEB_5 Test_11- Calciocatapleiite



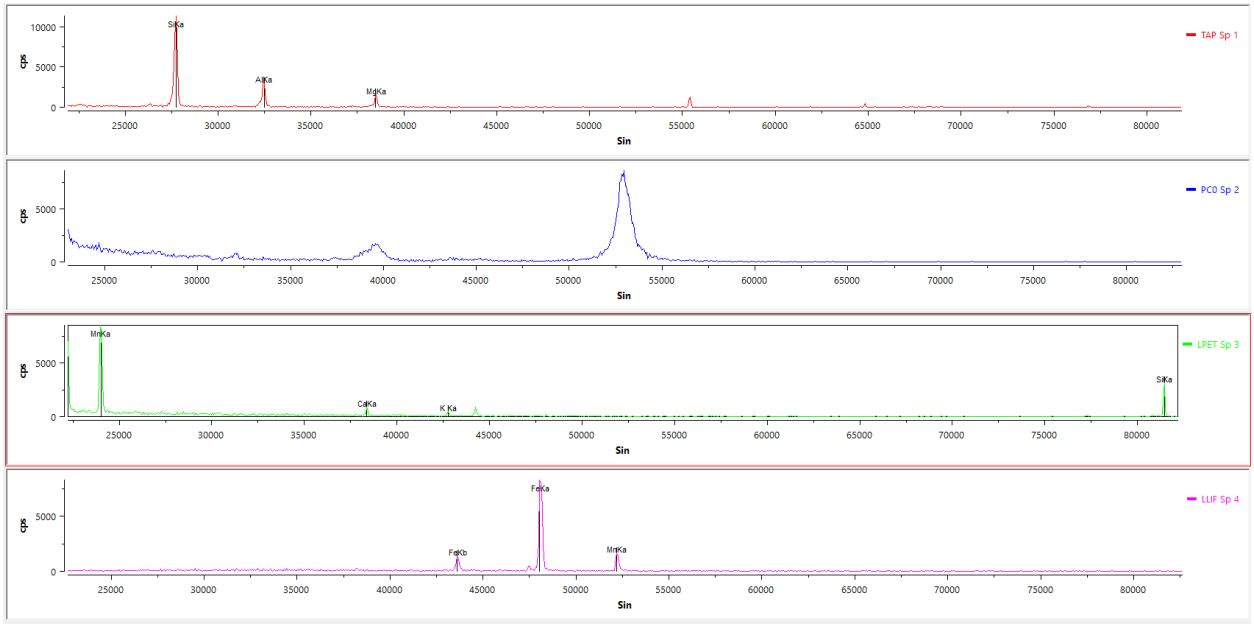
SWMEB_5 Test_12- Sergevanite

.



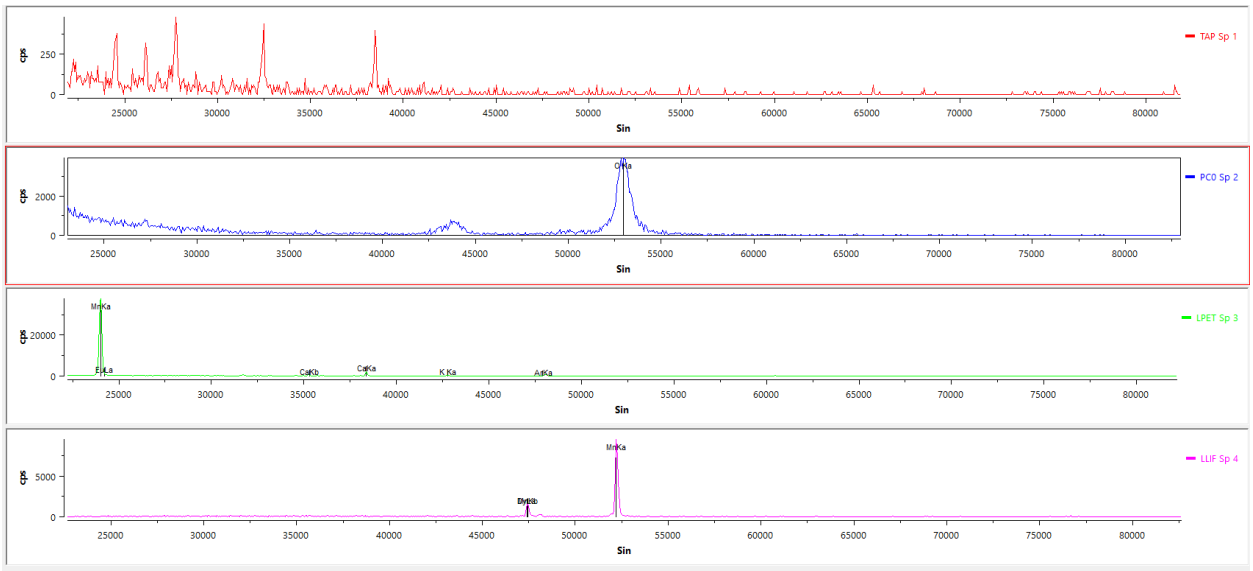
SWMEB_5 Test_14- Kerimasite

Amphiboles



S-WMEB-03_6- Hornblende

Oxides



SWMEB_1 Test_16- Pyrolusite