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LAMPIRAN

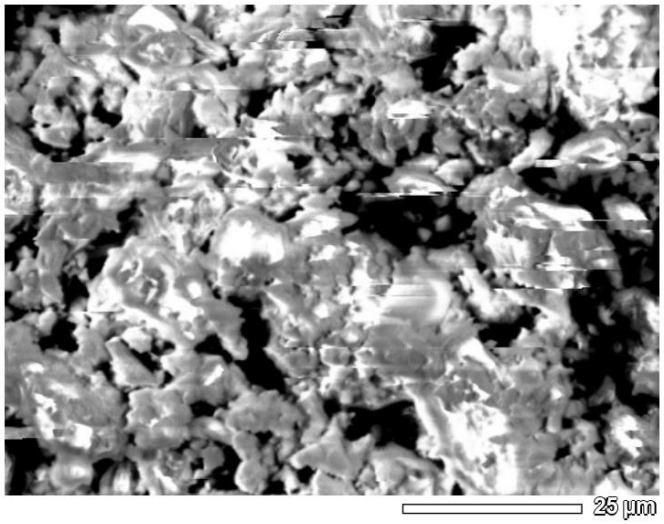
Lampiran 1. Pengambilan Sampel


GARMIN


GARMIN

Lampiran 2. Metode SEM-EDS

View007



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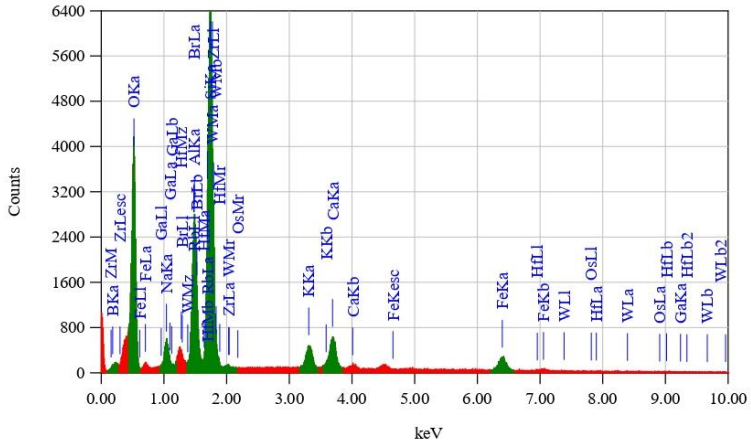
Mag.	: x 1,300
Date	: 2022/08/29
Pixel	: 512 x 384

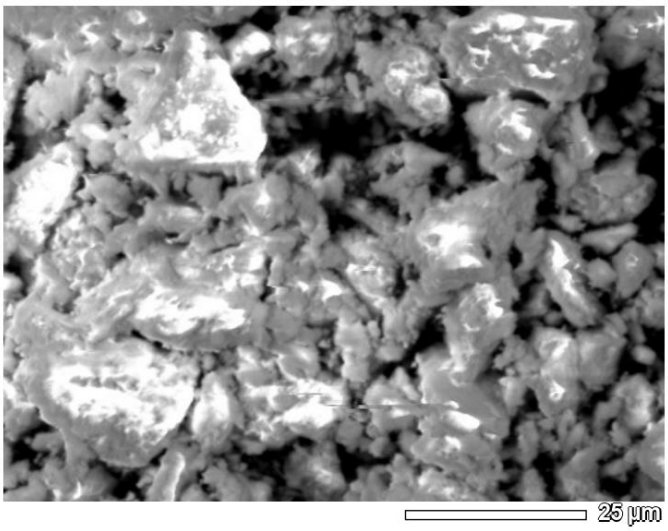


Acquisition Parameter
Instrument : JCM-6000PLUS
Acc. Voltage : 15.0 kV
Probe Current: 1.00000 nA
PHA mode : T3
Real Time : 51.05 sec
Live Time : 50.00 sec
Dead Time : 2 %
Counting Rate: 4389 cps
Energy Range : 0 - 20 keV

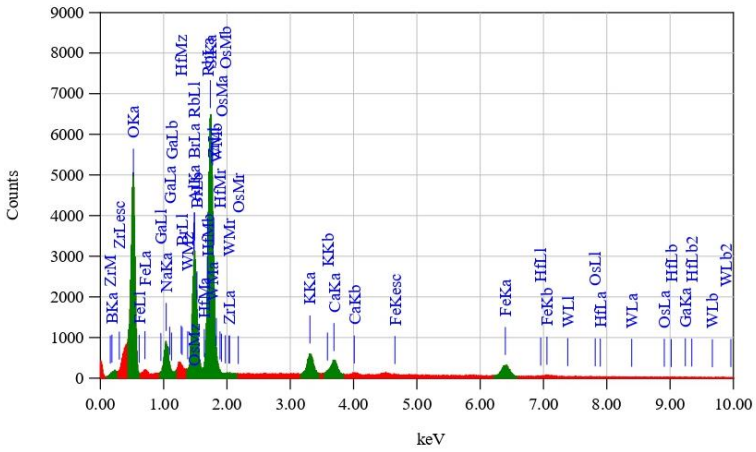
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0847

Element		(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B	K	0.183	2.83	313.82	0.04	9.33				18.6733
O	K	0.525	12.35	20765.57	0.10	27.51				1.2308
Na	K	1.041	1.58	3445.74	0.04	2.45				0.9481
Al	K	1.486	6.45	13696.38	0.23	8.52				0.9748
Si	K (Ref.)	1.739	21.91	45319.85	0.17	27.79				1.0000
K	K	3.312	2.99	3900.39	0.07	2.72				1.5846
Ca	K	3.690	4.65	5670.94	0.09	4.13				1.6953
Fe	K	6.398	5.71	3072.42	0.15	3.64				3.8436
Ga	L	1.098	1.38	700.95	0.11	0.70				4.0678
Br	L	1.480	10.17	5497.55	0.84	4.53				3.8263
Rb	L	1.694	11.11	5847.96	0.40	4.63				3.9313
Zr	L	2.042	2.01	971.56	0.12	0.78				4.2717
Hf	M	1.644	0.79	551.36	0.18	0.16				2.9742
W	M	1.774	11.86	7771.79	0.32	2.30				3.1562
Os	M	1.914	4.22	2340.26	0.18	0.79				3.7301
Total			100.00			100.00				

View003



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/26
Pixel	: 512 x 384

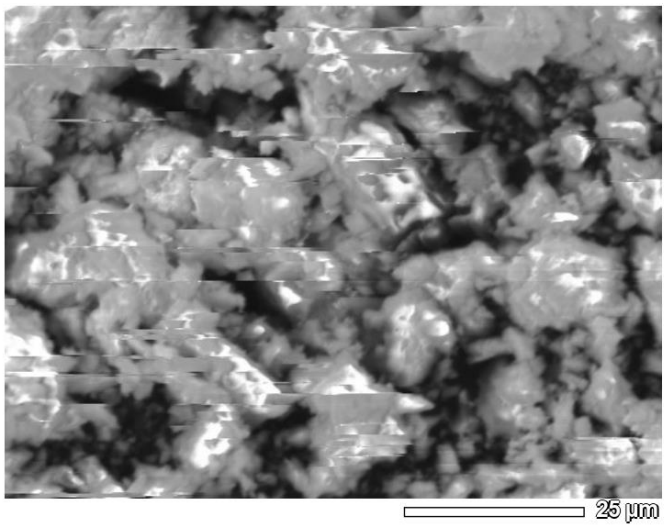


Acquisition Parameter
Instrument : JCM-6000PLUS
Acc. Voltage : 15.0 kV
Probe Current: 1.00000 nA
PHA mode : T3
Real Time : 50.95 sec
Live Time : 50.00 sec
Dead Time : 1 %
Counting Rate: 4659 cps
Energy Range : 0 - 20 keV

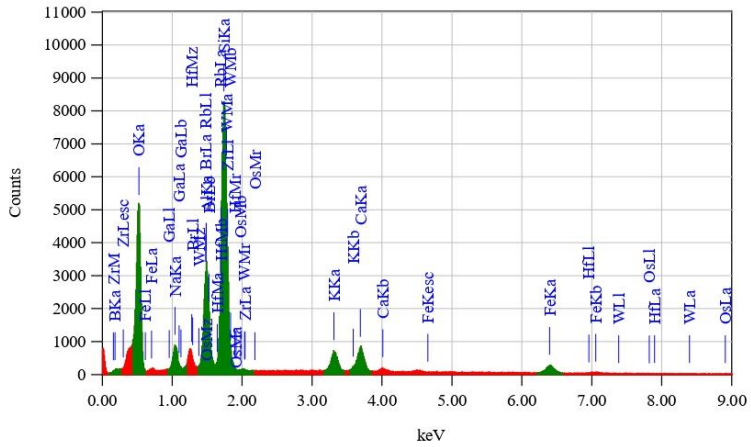
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0614

Element		(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B	K	0.183	2.43	290.80	0.03	8.02				18.6733
O	K	0.525	13.93	25312.72	0.10	31.10				1.2308
Na	K	1.041	2.29	5410.71	0.05	3.56				0.9481
Al	K*	1.486	5.53	12696.32	0.22	7.33				0.9748
Si	K (Ref.)	1.739	20.36	45526.63	0.16	25.89				1.0000
K	K	3.312	3.40	4794.50	0.07	3.10				1.5846
Ca	K	3.690	2.69	3548.82	0.07	2.40				1.6953
Fe	K	6.398	6.09	3542.67	0.15	3.89				3.8436
Ga	L	1.098	1.64	902.97	0.11	0.84				4.0678
Br	L	1.480	13.88	8110.52	0.81	6.20				3.8263
Rb	L	1.694	8.85	5034.83	0.37	3.70				3.9313
Zr	L*	2.042	1.60	837.28	0.11	0.63				4.2717
Hf	M	1.644	1.67	1257.06	0.17	0.33				2.9742
W	M	1.774	11.59	8210.57	0.30	2.25				3.1562
Os	M	1.914	4.05	2425.49	0.17	0.76				3.7301
Total			100.00			100.00				

View004



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/26
Pixel	: 512 x 384

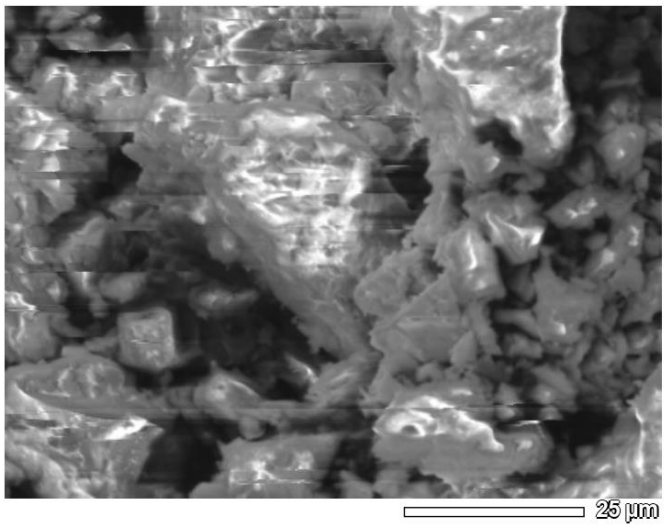


Acquisition Parameter
Instrument : JCM-6000PLUS
Acc. Voltage : 15.0 kV
Probe Current: 1.00000 nA
PHA mode : T3
Real Time : 51.08 sec
Live Time : 50.00 sec
Dead Time : 2 %
Counting Rate: 5490 cps
Energy Range : 0 - 20 keV

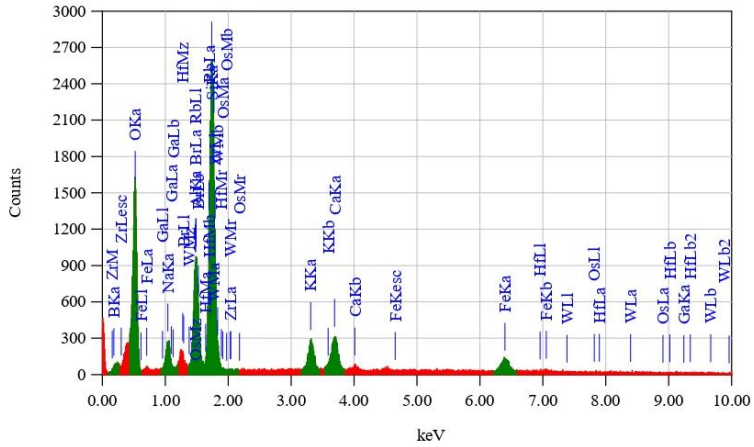
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0777

Element		(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B	K	0.183	2.58	371.16	0.03	8.70				18.6733
O	K	0.525	12.23	26698.31	0.08	27.87				1.2308
Na	K	1.041	1.97	5576.03	0.04	3.12				0.9481
Al	K	1.486	4.83	13301.68	0.20	6.52				0.9748
Si	K (Ref.)	1.739	21.91	58874.14	0.15	28.44				1.0000
K	K	3.312	3.41	5785.72	0.07	3.18				1.5846
Ca	K	3.690	4.61	7302.73	0.08	4.19				1.6953
Fe	K	6.398	4.20	2936.82	0.11	2.74				3.8436
Ga	L	1.098	1.84	1216.39	0.10	0.96				4.0678
Br	L	1.480	12.90	9055.65	0.73	5.88				3.8263
Rb	L	1.694	9.77	6674.35	0.35	4.17				3.9313
Zr	L	2.042	1.57	989.46	0.10	0.63				4.2717
Hf	M	1.644	1.98	1786.38	0.16	0.40				2.9742
W	M	1.774	12.12	10314.72	0.28	2.40				3.1562
Os	M	1.914	4.08	2941.93	0.16	0.78				3.7301
Total			100.00			100.00				

View005



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/29
Pixel	: 512 x 384

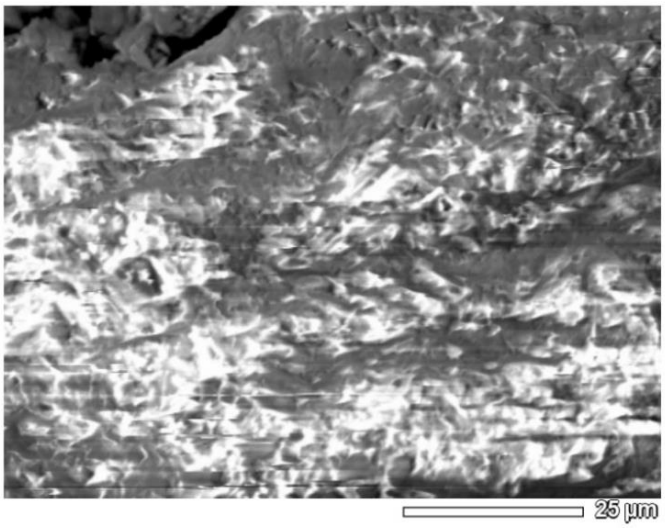


Acquisition Parameter
Instrument : JCM-6000PLUS
Acc. Voltage : 15.0 kV
Probe Current: 1.00000 nA
PHA mode : T3
Real Time : 50.93 sec
Live Time : 50.00 sec
Dead Time : 1 %
Counting Rate: 1950 cps
Energy Range : 0 - 20 keV

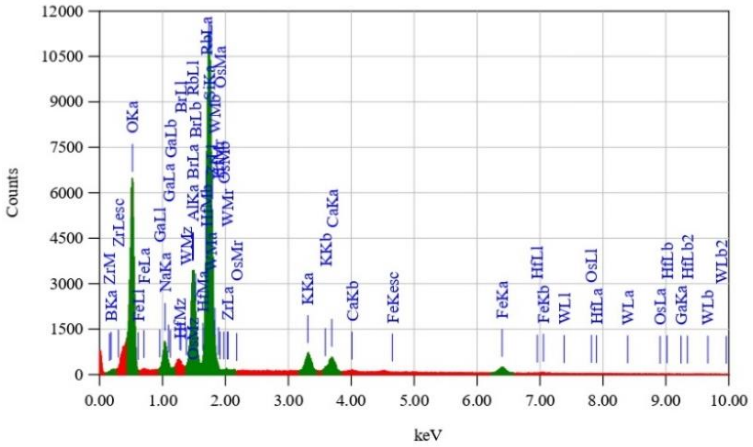
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0972

Element	(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B K	0.183	3.24	153.45	0.06	10.97				18.6733
O K	0.525	11.30	8116.98	0.14	25.85				1.2308
Na K	1.041	1.78	1664.29	0.07	2.84				0.9481
Al K	1.486	3.70	3356.17	0.33	5.02				0.9748
Si K (Ref.)	1.739	21.11	18660.79	0.26	27.50				1.0000
K K	3.312	4.35	2424.73	0.13	4.07				1.5846
Ca K	3.690	5.46	2846.64	0.16	4.98				1.6953
Fe K	6.398	5.95	1368.34	0.24	3.90				3.8436
Ga L	1.098	1.14	247.53	0.16	0.60				4.0678
Br L	1.480	14.06	3248.37	1.21	6.44				3.8263
Rb L	1.694	8.70	1956.51	0.58	3.73				3.9313
Zr L	2.042	1.49	307.52	0.17	0.60				4.2717
Hf M	1.644	1.57	467.25	0.27	0.32				2.9742
W M	1.774	11.98	3356.38	0.48	2.39				3.1562
Os M	1.914	4.17	987.93	0.27	0.80				3.7301
Total		100.00			100.00				

View006



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/29
Pixel	: 512 x 384



Acquisition Parameter

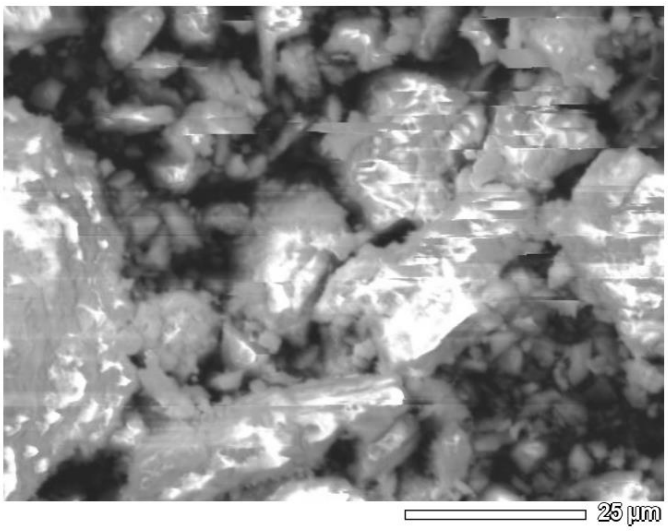
Instrument	: JCM-6000PLUS
Acc. Voltage	: 15.0 kV
Probe Current	: 1.00000 nA
PHA mode	: T3
Real Time	: 51.09 sec
Live Time	: 50.00 sec
Dead Time	: 2 %
Counting Rate	: 6309 cps
Energy Range	: 0 - 20 keV

Thin Film Standardless Standardless Quantitative Analysis

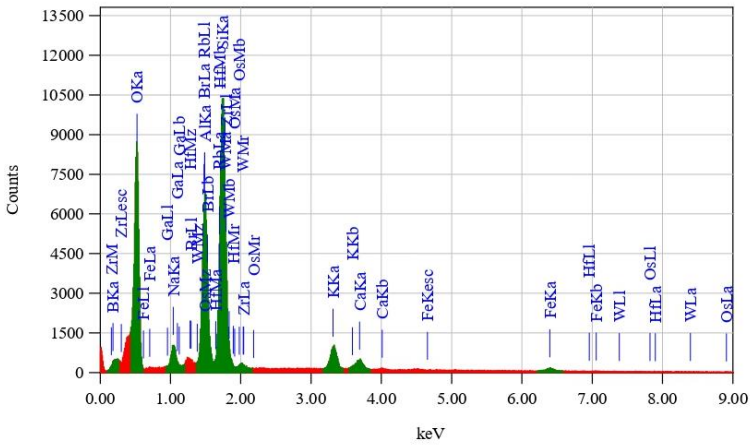
Fitting Coefficient : 0.0598

Element		(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B	K	0.183	1.97	337.45	0.03	6.70				18.6733
O	K	0.525	12.76	33112.30	0.08	29.29				1.2308
Na	K	1.041	1.87	6295.00	0.04	2.99				0.9481
Al	K	1.486	4.08	13358.04	0.17	5.55				0.9748
Si	K (Ref.)	1.739	25.22	80585.40	0.15	33.00				1.0000
K	K	3.312	2.80	5644.60	0.06	2.63				1.5846
Ca	K	3.690	2.44	4603.04	0.06	2.24				1.6953
Fe	K	6.398	2.94	2444.68	0.09	1.94				3.8436
Ga	L	1.098	1.09	859.19	0.09	0.58				4.0678
Br	L	1.480	11.88	9916.72	0.64	5.46				3.8263
Rb	L	1.694	11.77	9564.28	0.33	5.06				3.9313
Zr	L	2.042	1.77	1325.72	0.09	0.71				4.2717
Hf	M	1.644	1.02	1090.53	0.15	0.21				2.9742
W	M	1.774	13.89	14054.85	0.27	2.77				3.1562
Os	M	1.914	4.50	3858.39	0.15	0.87				3.7301
Total			100.00			100.00				

View008



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/29
Pixel	: 512 x 384

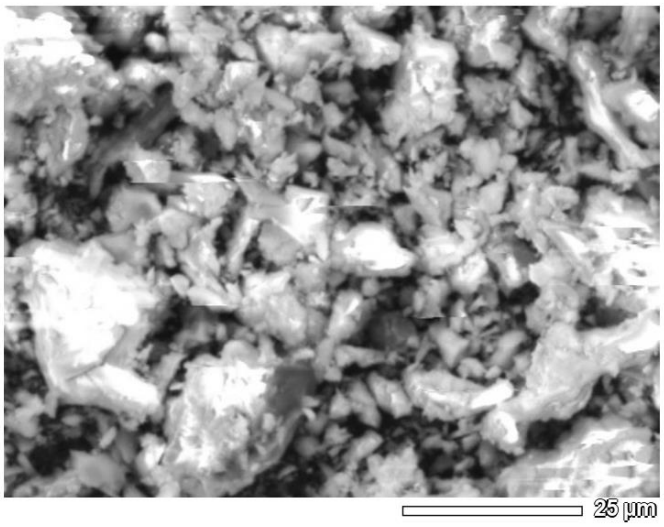


Acquisition Parameter
Instrument : JCM-6000PLUS
Acc. Voltage : 15.0 kV
Probe Current: 1.00000 nA
PHA mode : T3
Real Time : 51.19 sec
Live Time : 50.00 sec
Dead Time : 2 %
Counting Rate: 7565 cps
Energy Range : 0 - 20 keV

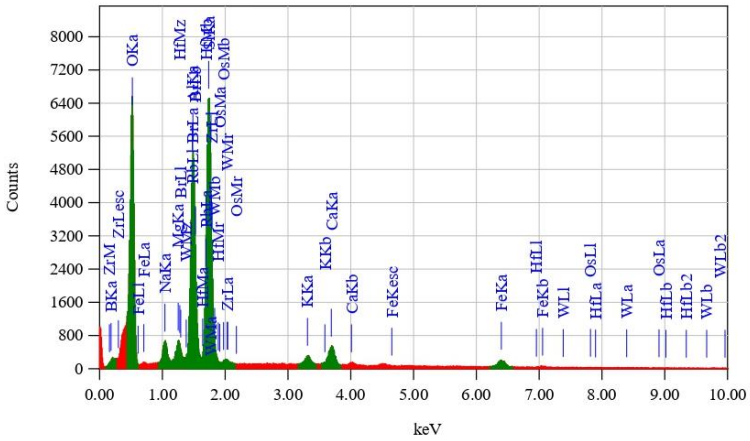
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0611

Element		(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B	K	0.183	4.27	887.31	0.03	13.56				18.6733
O	K	0.525	14.20	44743.00	0.07	30.45				1.2308
Na	K	1.041	1.44	5894.26	0.03	2.15				0.9481
Al	K	1.486	7.51	29889.96	0.18	9.55				0.9748
Si	K	(Ref.) 1.739	19.06	73916.21	0.12	23.28				1.0000
K	K	3.312	3.52	8604.45	0.06	3.08				1.5846
Ca	K	3.690	1.63	3718.08	0.04	1.39				1.6953
Fe	K*	6.398	1.40	1410.17	0.06	0.86				3.8436
Ga	L	1.098	0.94	897.61	0.07	0.46				4.0678
Br	L	1.480	17.21	17439.90	0.66	7.39				3.8263
Rb	L	1.694	9.60	9465.40	0.29	3.85				3.9313
Zr	L	2.042	2.14	1946.60	0.09	0.81				4.2717
Hf	M	1.644	1.56	2028.42	0.13	0.30				2.9742
W	M	1.774	11.63	14281.40	0.22	2.17				3.1562
Os	M*	1.914	3.89	4038.61	0.13	0.70				3.7301
Total			100.00			100.00				

View009



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/29
Pixel	: 512 x 384



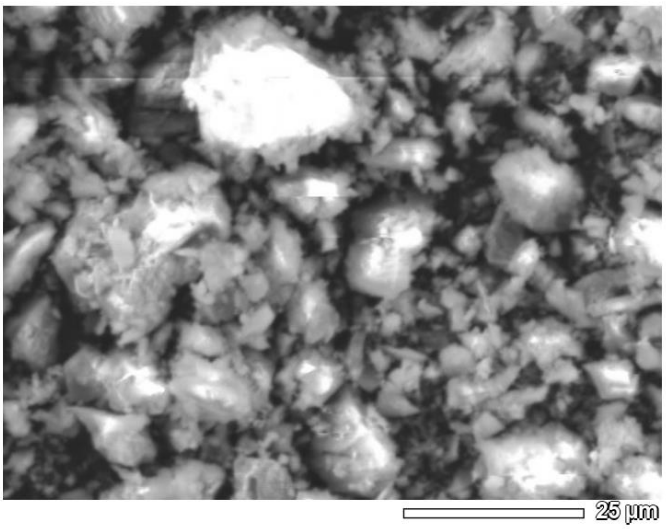
Acquisition Parameter

Instrument	: JCM-6000PLUS
Acc. Voltage	: 15.0 kV
Probe Current	: 1.00000 nA
PHA mode	: T3
Real Time	: 50.97 sec
Live Time	: 50.00 sec
Dead Time	: 1 %
Counting Rate	: 5402 cps
Energy Range	: 0 - 20 keV

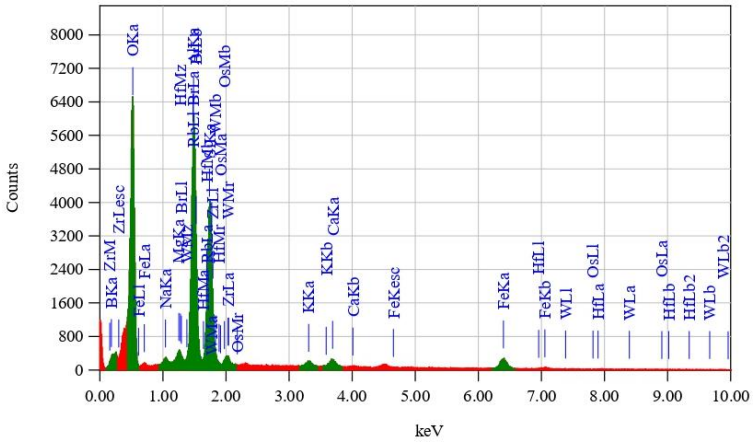
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0669

Element		(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B	K	0.183	3.77	547.07	0.04	11.96				18.6733
O	K	0.525	15.07	33215.12	0.09	32.33				1.2308
Na	K	1.041	1.16	3324.59	0.03	1.73				0.9481
Mg	K*	1.253	1.14	3350.00	0.03	1.61				0.9246
Al	K	1.486	7.52	20921.76	0.23	9.56				0.9748
Si	K	(Ref.) 1.739	17.08	46349.63	0.13	20.88				1.0000
K	K	3.312	1.16	1980.82	0.04	1.02				1.5846
Ca	K	3.690	2.97	4756.91	0.07	2.55				1.6953
Fe	K	6.398	3.03	2137.51	0.10	1.86				3.8436
Br	L	1.480	22.57	16002.92	0.84	9.70				3.8263
Rb	L	1.694	8.67	5982.64	0.33	3.48				3.9313
Zr	L	2.042	1.96	1243.65	0.11	0.74				4.2717
Hf	M	1.644	0.95	867.58	0.16	0.18				2.9742
W	M	1.774	9.63	8277.83	0.25	1.80				3.1562
Os	M	1.914	3.33	2424.33	0.15	0.60				3.7301
Total			100.00			100.00				

View012



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/29
Pixel	: 512 x 384

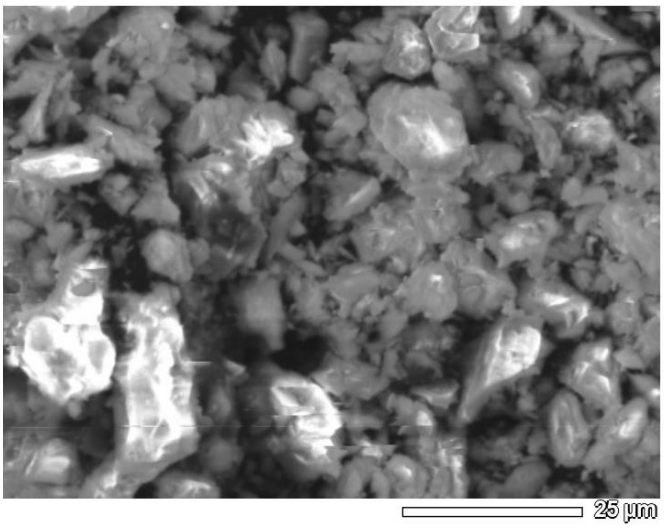


Acquisition Parameter
Instrument : JCM-6000PLUS
Acc. Voltage : 15.0 kV
Probe Current: 1.00000 nA
PHA mode : T3
Real Time : 50.91 sec
Live Time : 50.00 sec
Dead Time : 1 %
Counting Rate: 4854 cps
Energy Range : 0 - 20 keV

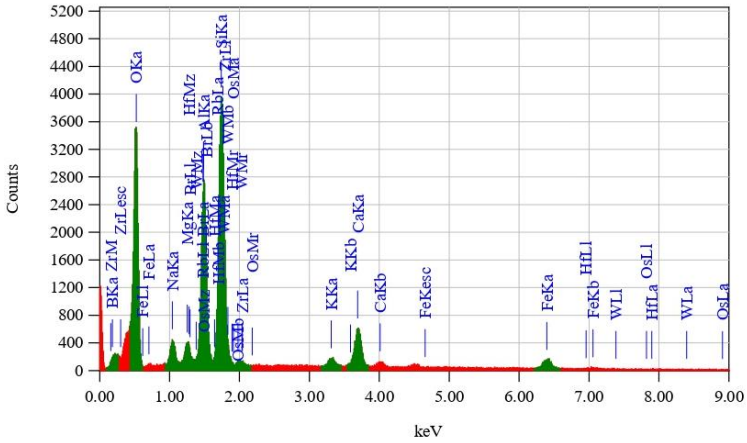
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0881

Element		(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B	K	0.183	6.36	804.71	0.05	18.51				15.1716
O	K (Ref.)	0.525	17.39	33390.00	0.11	34.20				1.0000
Na	K	1.041	0.37	918.78	0.02	0.50				0.7703
Mg	K	1.253	0.77	1967.18	0.03	1.00				0.7512
Al	K	1.486	11.54	27987.75	0.27	13.46				0.7920
Si	K	1.739	11.76	27797.04	0.12	13.18				0.8125
K	K	3.312	0.71	1059.32	0.04	0.57				1.2875
Ca	K	3.690	1.22	1705.50	0.05	0.96				1.3774
Fe	K	6.398	4.99	3070.16	0.13	2.81				3.1229
Br	L	1.480	24.36	15048.35	0.95	9.60				3.1088
Rb	L	1.694	6.24	3753.12	0.32	2.30				3.1941
Zr	L	2.042	2.66	1469.60	0.13	0.92				3.4707
Hf	M	1.644	1.45	1154.04	0.16	0.26				2.4165
W	M	1.774	7.97	5965.96	0.24	1.36				2.5644
Os	M	1.914	2.21	1401.19	0.15	0.37				3.0306
Total			100.00			100.00				

View011



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/29
Pixel	: 512 x 384

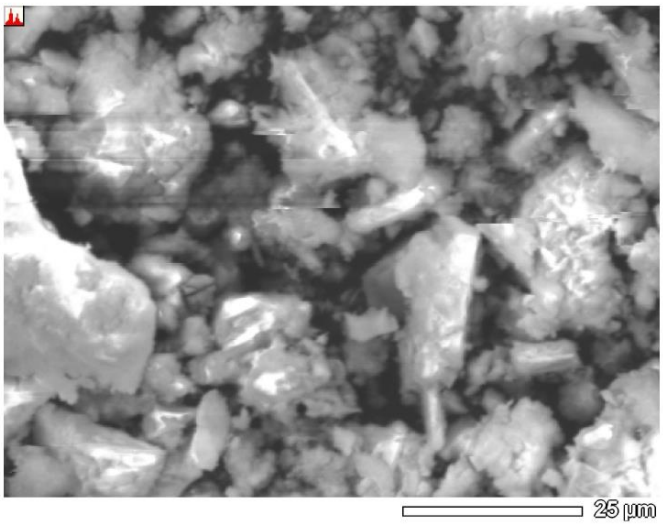


Acquisition Parameter
Instrument : JCM-6000PLUS
Acc. Voltage : 15.0 kV
Probe Current: 1.00000 nA
PHA mode : T3
Real Time : 50.90 sec
Live Time : 50.00 sec
Dead Time : 1 %
Counting Rate: 3412 cps
Energy Range : 0 - 20 keV

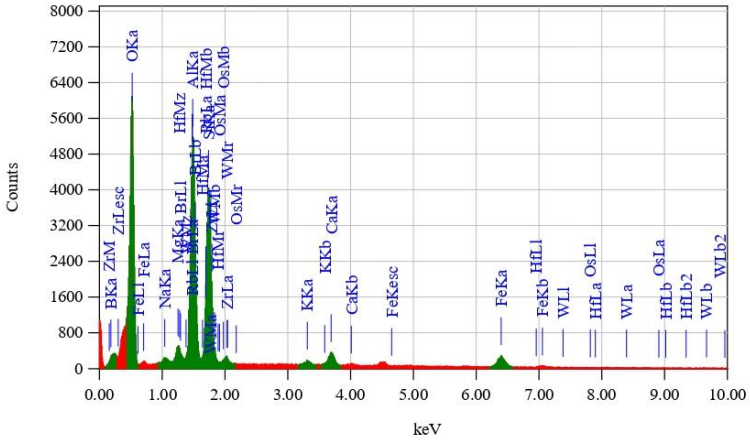
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0995

Element		(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B	K	0.183	5.79	516.83	0.06	17.87				18.6733
O	K	0.525	13.50	18277.52	0.11	28.14				1.2308
Na	K*	1.041	1.24	2176.65	0.04	1.80				0.9481
Mg	K	1.253	1.18	2127.71	0.04	1.62				0.9246
Al	K	1.486	5.78	9876.44	0.27	7.14				0.9748
Si	K (Ref.)	1.739	17.01	28354.14	0.17	20.20				1.0000
K	K*	3.312	1.09	1149.67	0.05	0.93				1.5846
Ca	K	3.690	5.85	5753.97	0.12	4.87				1.6953
Fe	K	6.398	4.09	1771.46	0.14	2.44				3.8436
Br	L	1.480	21.36	9304.79	1.01	8.92				3.8263
Rb	L	1.694	7.66	3248.98	0.41	2.99				3.9313
Zr	L	2.042	1.55	603.56	0.13	0.57				4.2717
Hf	M	1.644	1.54	865.38	0.20	0.29				2.9742
W	M	1.774	9.68	5110.09	0.32	1.76				3.1562
Os	M	1.914	2.68	1199.09	0.19	0.47				3.7301
Total			100.00			100.00				

View010



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/29
Pixel	: 512 x 384



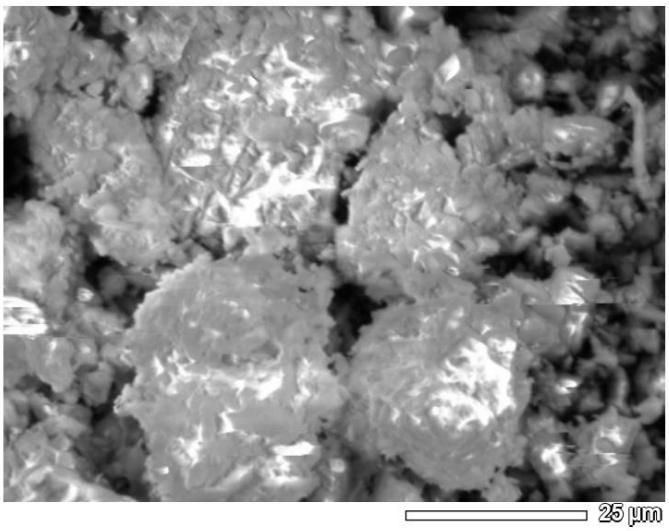
Acquisition Parameter

Instrument	: JCM-6000PLUS
Acc. Voltage	: 15.0 kV
Probe Current	: 1.00000 nA
PHA mode	: T3
Real Time	: 51.01 sec
Live Time	: 50.00 sec
Dead Time	: 1 %
Counting Rate	: 4563 cps
Energy Range	: 0 - 20 keV

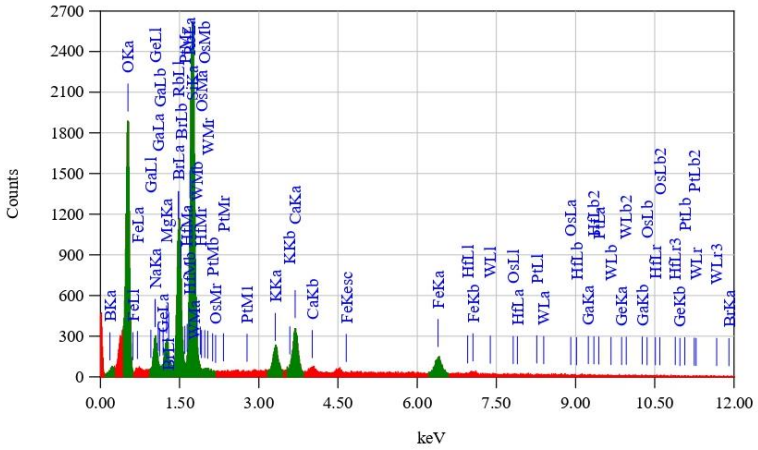
Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0873

Element	(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B K	0.183	4.41	535.22	0.05	13.82				15.1716
O K (Ref.)	0.525	16.69	30732.62	0.11	35.35				1.0000
Na K*	1.041	0.29	695.27	0.02	0.43				0.7703
Mg K	1.253	0.99	2425.67	0.03	1.38				0.7512
Al K	1.486	9.09	21132.32	0.26	11.42				0.7920
Si K	1.739	12.54	28418.42	0.13	15.13				0.8125
K K*	3.312	0.53	759.59	0.04	0.46				1.2875
Ca K	3.690	2.18	2917.18	0.06	1.84				1.3774
Fe K	6.398	5.24	3087.02	0.14	3.18				3.1229
Br L	1.480	26.61	15762.41	0.95	11.29				3.1088
Rb L	1.694	6.18	3564.78	0.33	2.45				3.1941
Zr L	2.042	2.44	1294.43	0.13	0.91				3.4707
Hf M	1.644	1.64	1251.11	0.16	0.31				2.4165
W M	1.774	8.23	5911.43	0.25	1.52				2.5644
Os M	1.914	2.92	1776.79	0.16	0.52				3.0306
Total		100.00			100.00				

View002



Title	: IMG1
Instrument	: JCM-6000PLUS
Volt	: 15.00 kV
Mag.	: x 1,300
Date	: 2022/08/26
Pixel	: 512 x 384

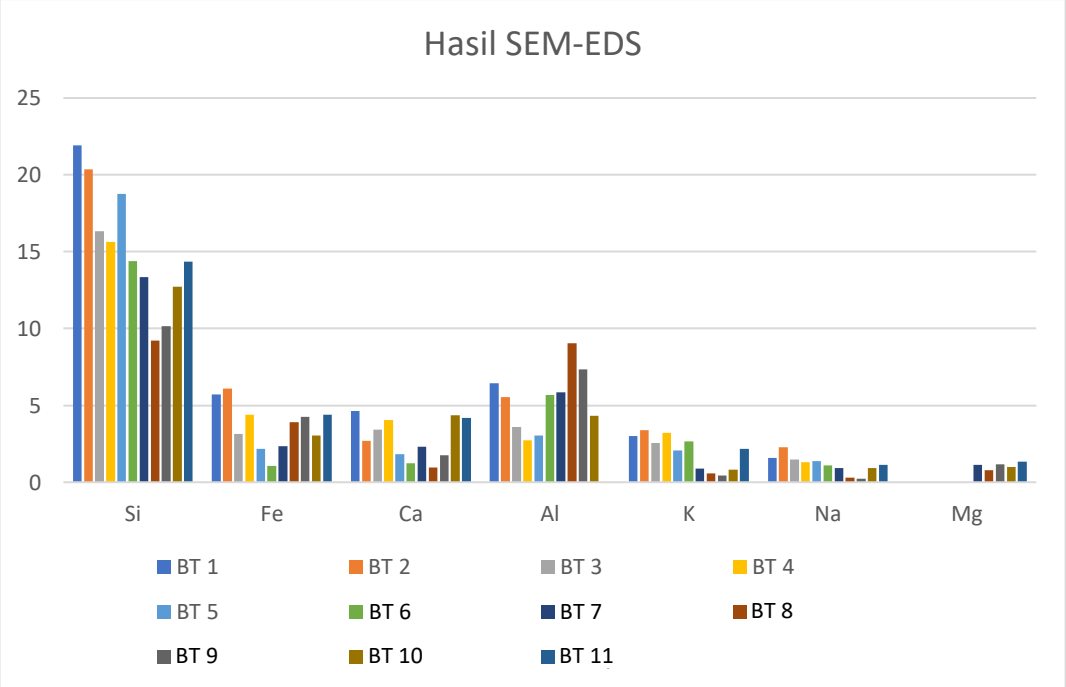


Acquisition Parameter
Instrument : JCM-6000PLUS
Acc. Voltage : 15.0 kV
Probe Current: 1.00000 nA
PHA mode : T3
Real Time : 50.77 sec
Live Time : 50.00 sec
Dead Time : 1 %
Counting Rate: 2008 cps
Energy Range : 0 - 20 keV

Thin Film Standardless Standardless Quantitative Analysis
Fitting Coefficient : 0.0927

Element	(keV)	Mass%	Counts	Sigma	Atom%	Compound	Mass%	Cation	K
B K	0.183	1.72	97.88	0.04	6.47				18.6733
O K	0.525	11.33	9786.54	0.13	28.82				1.2308
Na K	1.041	1.42	1591.65	0.06	2.51				0.9481
Mg K*	1.253	1.34	1543.08	0.06	2.25				0.9246
Si K* (Ref.)	1.739	17.83	18945.47	0.22	25.82				1.0000
K K*	3.312	2.69	1801.25	0.10	2.79				1.5846
Ca K*	3.690	5.22	3270.96	0.14	5.30				1.6953
Fe K	6.398	5.46	1510.98	0.20	3.98				3.8436
Ga L*	1.098	1.02	267.14	0.17	0.60				4.0678
Ge L*	1.188	1.35	359.01	0.17	0.75				3.9869
Br L	1.480	28.00	7776.90	0.45	14.26				3.8263
Rb L*	1.694	5.74	1550.65	0.47	2.73				3.9313
Hf M*	1.644	1.84	656.54	0.24	0.42				2.9742
W M*	1.774	10.39	3499.77	0.41	2.30				3.1562
Os M*	1.914	3.43	978.01	0.22	0.73				3.7301
Pt M*	2.048	1.23	331.87	0.14	0.26				3.9270
Total		100.00			100.00				

Nama Sampel	X (Easting)	Y (Northing)	Massa Unsur (%)						
			Si	Fe	Ca	Al	K	Na	Mg
BT 1	822738	9411963	21,91	5,71	4,65	6,45	2,99	1,58	-
BT 2	822576	9412443	20,36	6,09	2,69	5,53	3,40	2,29	-
BT 3	822086	9412574	16,33	3,13	3,43	3,60	2,54	1,47	-
BT 4	821536	9412563	15,62	4,40	4,04	2,74	3,22	1,32	-
BT 5	821379	9412807	18,76	2,19	1,82	3,03	2,08	1,39	-
BT 6	822088	9418876	14,38	1,05	1,23	5,67	2,65	1,09	-
BT 7	822124	9418492	13,33	2,36	2,32	5,86	0,90	0,91	1,14
BT 8	822834	9417055	9,21	3,91	0,96	9,04	0,56	0,29	0,77
BT 9	822844	9416879	12,72	3,05	4,37	4,32	0,82	0,93	1
BT 10	816728	9416132	10,15	4,24	1,77	7,36	0,43	0,24	1,18
BT 11	821959	9418885	14,35	4,40	4,20	-	2,16	1,14	1,34



Lampiran 3. Metode XRD

Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_1 UNHAS.raw
File path	E:/TA Mineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	10.080° - 90.080°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	0.08°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	58.4	Albite	Al Na O8 Si3
B	16.1	Wollastonite	Ca O3 Si
C	11.7	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
D	10.7	Quartz	O2 Si
E	3.1	Hematite	Fe2 O3
	8.1	*Unidentified peak area*	

A: Albite (58.4 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-2200
Figure-of-Merit (FoM)	0.858502
Total number of peaks	250
Peaks in range	250
Peaks matched	172
Intensity scale factor	0.60
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.1400 Å b= 12.7910 Å c= 7.1320 Å α= 93.940° β= 116.540 ° γ= 88.460 °
I/Icor	0.83
Calc. density	2.628 g/cm³
Reference	Meneghinello E., Alberti A., Cruciani G., "Order-disorder process in the tetrahedral sites af albite Sample: 1070-7d Note: this sample of feldspar is from Stintino, Sardinia, Italy", American Mineralogist **84**, 1144-1151 (1999)

B: Wollastonite (16.1 %)

Formula sum	Ca O3 Si
Entry number	96-900-5778
Figure-of-Merit (FoM)	0.805099
Total number of peaks	498
Peaks in range	498
Peaks matched	280
Intensity scale factor	0.19
Space group	P -1
Crystal system	triclinic (anorthic)
Unit cell	a= 7.9258 Å b= 7.3202 Å c= 7.0653 Å α= 90.055° β= 95.217 ° γ= 103.426 °
I/Icor	0.94
Calc. density	2.915 g/cm³
Reference	Ohashi Y., "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO1T", Physics and Chemistry of Minerals **10**, 217-229 (1984)

C: Epidote (11.7 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.764515
Total number of peaks	500
Peaks in range	418
Peaks matched	249
Intensity scale factor	0.13
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

D: Quartz (10.7 %)

Formula sum	O2 Si
Entry number	96-901-2605
Figure-of-Merit (FoM)	0.797303
Total number of peaks	31
Peaks in range	25
Peaks matched	22
Intensity scale factor	0.48
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.5940 Å c= 5.2000 Å
I/Icor	3.63
Calc. density	3.149 g/cm³
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 9.5 GPa", Solid State Communications **72**, 507-511 (1989)

E: Hematite (3.1 %)

Formula sum	Fe2 O3
Entry number	96-901-6458
Figure-of-Merit (FoM)	0.748769
Total number of peaks	34
Peaks in range	29
Peaks matched	22
Intensity scale factor	0.15
Space group	R -3 c
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 5.0066 Å c= 13.6411 Å
I/Icor	4.00
Calc. density	5.373 g/cm³
Reference	Finger L. W., Hazen R. M., "Crystal structure and isothermal compression of Fe2O3, Cr2O3, and V2O3 to 50 kbars Note: P = 43.9 kbar", Journal of Applied Physics **51**, 5362-5367 (1980)

Search-Match

Settings

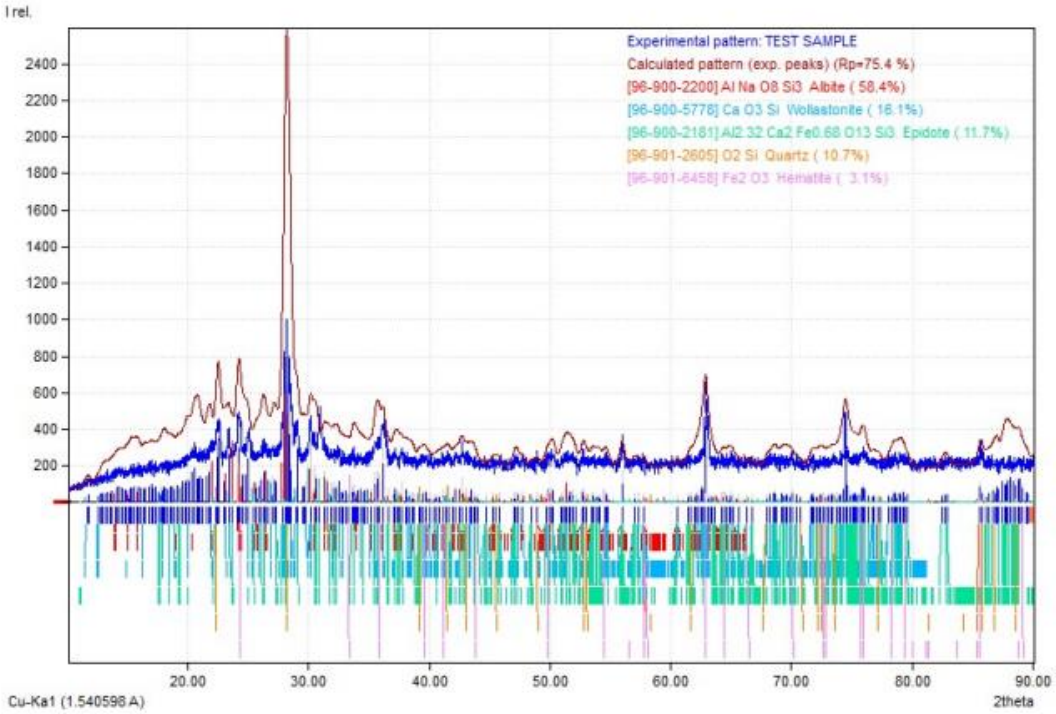
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_2 UNHAS.raw
File path	E:/TA Mineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	9.920° - 89.920°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	-0.08°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	57.4	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
B	25.0	Albite	Al Na O8 Si3
C	7.6	Wollastonite	Ca O3 Si
D	6.1	Quartz	O2 Si
E	3.9	Hematite	Fe2 O3
	14.1	*Unidentified peak area*	

A: Epidote (57.4 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.679350
Total number of peaks	500
Peaks in range	390
Peaks matched	121
Intensity scale factor	0.31
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

B: Albite (25.0 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-0530
Figure-of-Merit (FoM)	0.732121
Total number of peaks	252
Peaks in range	252
Peaks matched	96
Intensity scale factor	0.11
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.2508 Å b= 12.9489 Å c= 7.1431 Å α= 91.161° β= 116.169 ° γ= 90.030 °
I/Icor	0.73
Calc. density	2.544 g/cm³
Reference	Prewitt C. T., Sueno S., Papike J. J., "The crystal structures of high albite and monalbite at high temperatures T = 950 deg C feldspar", American Mineralogist **61**, 1213-1225 (1976)

C: Wollastonite (7.6 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.663419
Total number of peaks	488
Peaks in range	488
Peaks matched	108
Intensity scale factor	0.09
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y, "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

D: Quartz (6.1 %)

Formula sum	O2 Si
Entry number	96-901-2602
Figure-of-Merit (FoM)	0.724389
Total number of peaks	34
Peaks in range	27
Peaks matched	10
Intensity scale factor	0.16
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.8120 Å c= 5.3270 Å
I/Icor	4.38
Calc. density	2.802 g/cm³
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 2.0 Gpa", Solid State Communications **72**, 507-511 (1989)

E: Hematite (3.9 %)

Formula sum	Fe2 O3
Entry number	96-901-2693
Figure-of-Merit (FoM)	0.615770
Total number of peaks	192
Peaks in range	145
Peaks matched	47
Intensity scale factor	0.09
Space group	P 43 21 2
Crystal system	tetragonal
Unit cell	a= 8.3396 Å c= 8.3220 Å
I/Icor	3.86
Calc. density	4.886 g/cm³
Reference	Greaves C., "A powder neutron diffraction investigation of vacancy ordering and covalence in gamma-Fe2O3 Locality: synthetic Sample: T = 4 K", Journal of Solid State Chemistry **49**, 325-333 (1983)

Search-Match

Settings

Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

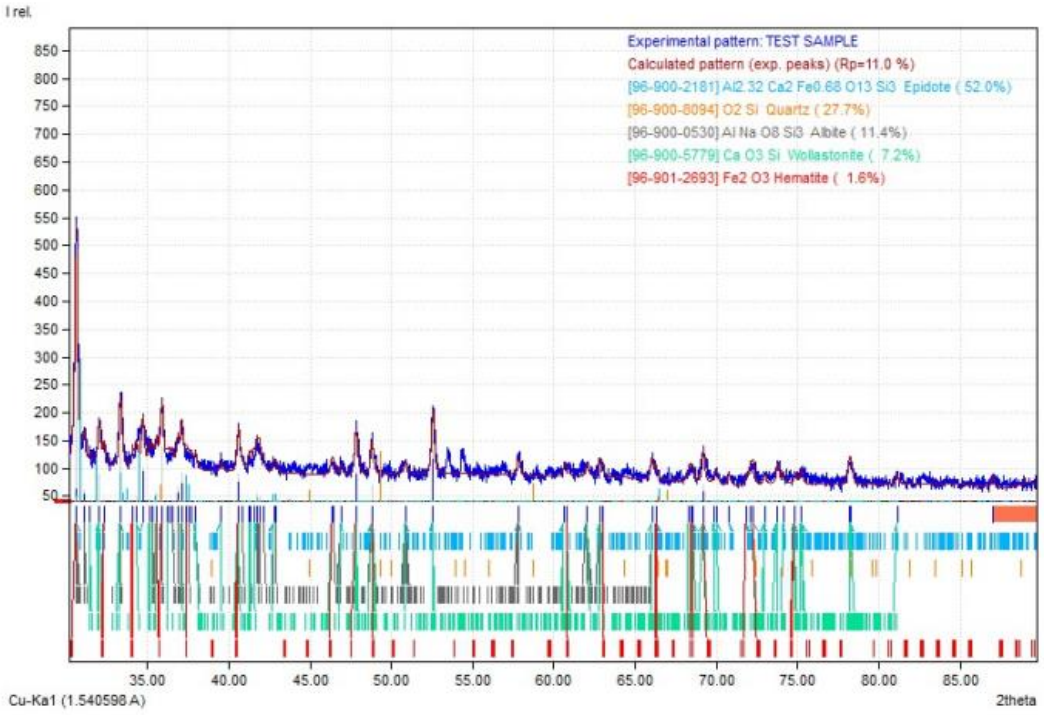
Selection Criteria

Elements:

Elements that must be present:	O, Na, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics

Calc. density	2.802 g/cm³
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 2.0 Gpa", Solid State Communications **72**, 507-511 (1989)



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_3 UNHAS.raw
File path	E:/TAMineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	9.970° - 89.970°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	-0.03°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	68.4	Albite	Al Na O8 Si3
B	21.4	Gobbinsite	Al3 Ca0.3 H12 K1.125 Na1.3 O21.325 Si5
C	7.6	Quartz	O2 Si
D	2.7	Hematite	Fe2 O3
	2.9	*Unidentified peak area*	

A: Albite (68.4 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-0529
Figure-of-Merit (FoM)	0.851650
Total number of peaks	251
Peaks in range	251
Peaks matched	168
Intensity scale factor	0.67
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.2296 Å b= 12.9336 Å c= 7.1357 Å α= 91.956° β= 116.232 ° γ= 90.078 °
I/Icor	0.74
Calc. density	2.556 g/cm³
Reference	Prewitt C. T., Sueno S., Papike J. J., "The crystal structures of high albite and monalbite at high temperatures T = 750 deg C feldspar", American Mineralogist **61**, 1213-1225 (1976)

B: Epidote (24.4 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.711783
Total number of peaks	500
Peaks in range	380
Peaks matched	179
Intensity scale factor	0.23
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

C: Quartz (8.5 %)

Formula sum	O2 Si
Entry number	96-901-2603
Figure-of-Merit (FoM)	0.794242
Total number of peaks	32
Peaks in range	25
Peaks matched	14
Intensity scale factor	0.36
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.7050 Å c= 5.2500 Å
I/Icor	3.93
Calc. density	2.974 g/cm³
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 5.1 GPa", Solid State Communications **72**, 507-511 (1989)

D: Wollastonite (5.7 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.719627
Total number of peaks	488
Peaks in range	488
Peaks matched	159
Intensity scale factor	0.12
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y., "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

E: Hematite (2.1 %)

Formula sum	Fe2 O3
Entry number	96-901-6458
Figure-of-Merit (FoM)	0.733390
Total number of peaks	34
Peaks in range	27
Peaks matched	14
Intensity scale factor	0.09
Space group	R -3 c
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 5.0066 Å c= 13.6411 Å
I/Icor	4.00
Calc. density	5.373 g/cm³
Reference	Finger L. W., Hazen R. M., "Crystal structure and isothermal compression of Fe2O3, Cr2O3, and V2O3 to 50 kbars Note: P = 43.9 kbar", Journal of Applied Physics **51**, 5362-5367 (1980)

Search-Match

Settings

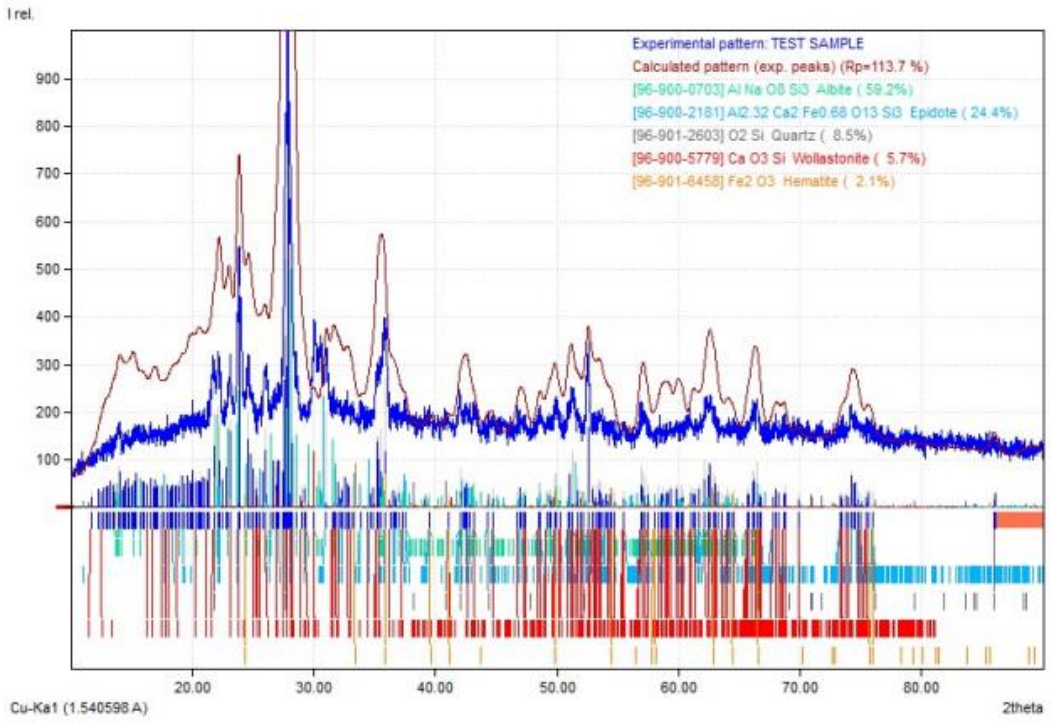
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_4 UNHAS.raw
File path	E:/TA Mineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	9.960° - 89.960°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	-0.04°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	66.5	Albite	Al Na O8 Si3
B	10.8	Quartz	O2 Si
C	10.4	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
D	9.0	Wollastonite	Ca O3 Si
E	3.2	Hematite	Fe2 O3
	3.1	*Unidentified peak area*	

A: Albite (66.5 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-0529
Figure-of-Merit (FoM)	0.865669
Total number of peaks	251
Peaks in range	251
Peaks matched	165
Intensity scale factor	0.63
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.2296 Å b= 12.9336 Å c= 7.1357 Å α= 91.956° β= 116.232 ° γ= 90.078 °
I/Icor	0.74
Calc. density	2.556 g/cm³
Reference	Prewitt C. T., Sueno S., Papike J. J., "The crystal structures of high albite and monalbite at high temperatures T = 750 deg C feldspar", American Mineralogist **61**, 1213-1225 (1976)

B: Quartz (10.8 %)

Formula sum	O2 Si
Entry number	96-901-2603
Figure-of-Merit (FoM)	0.777021
Total number of peaks	32
Peaks in range	25
Peaks matched	12
Intensity scale factor	0.54
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.7050 Å c= 5.2500 Å
I/Icor	3.93
Calc. density	2.974 g/cm³
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 5.1 GPa", Solid State Communications **72**, 507-511 (1989)

C: Epidote (10.4 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.637691
Total number of peaks	500
Peaks in range	405
Peaks matched	181
Intensity scale factor	0.12
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

D: Wollastonite (9.0 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.741167
Total number of peaks	488
Peaks in range	488
Peaks matched	151
Intensity scale factor	0.22
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Reference	Ohashi Y., "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

E: Hematite (3.2 %)

Formula sum	Fe2 O3
Entry number	96-400-2384
Figure-of-Merit (FoM)	0.708856
Total number of peaks	233
Peaks in range	177
Peaks matched	80
Intensity scale factor	0.12
Space group	P n a 21
Crystal system	orthorhombic
Unit cell	a= 5.0850 Å b= 8.7740 Å c= 9.4680 Å
I/Icor	2.99
Calc. density	5.022 g/cm³
Reference	Gich M., Frontera C., Ritter C., Roig A., Nogues J., Taboada E., Molins E., Macedo W.A.A., Ardisson J.D., Hardy V., Rechenberg H.R., Sort J., Skumryev V., "High- and low-temperature crystal and magnetic structure of epsilon-Fe2 O3 and their correlation to its magnetic properties", Chemistry of Materials (1,1989-) **18**, 3889-3897 (2007)

Search-Match

Settings

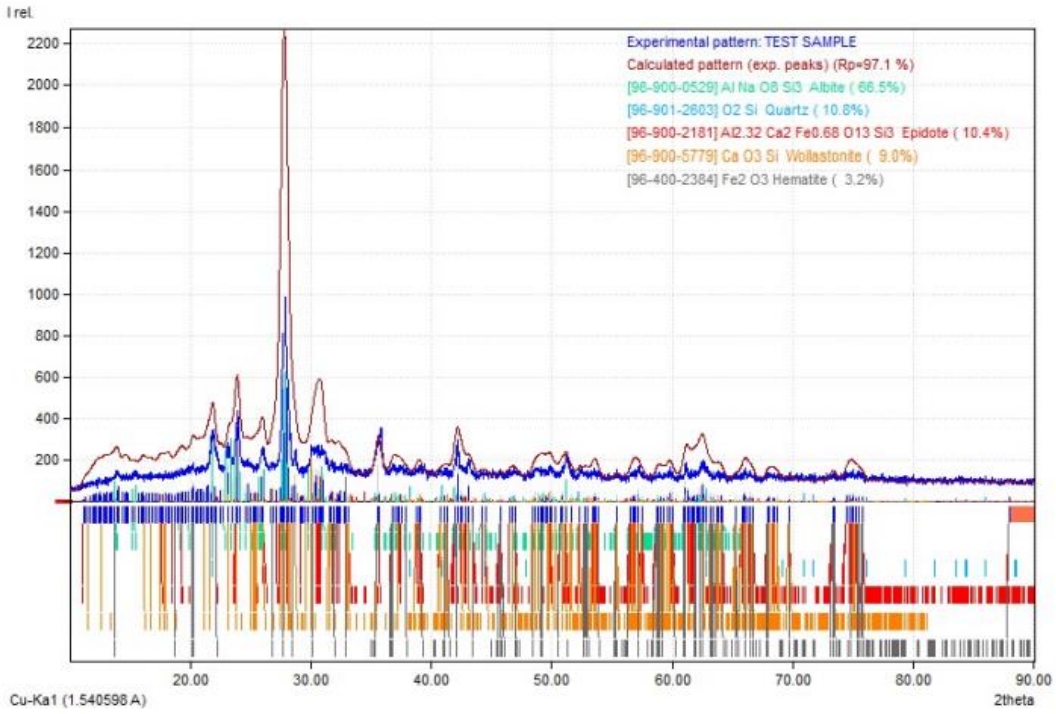
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_5 UNHAS.raw
File path	E:/TAMineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	10.040° - 90.040°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	0.04°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	46.5	Albite	Al Na O8 Si3
B	21.5	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
C	20.8	Quartz	O2 Si
D	8.4	Wollastonite	Ca O3 Si
E	2.8	Hematite	Fe2 O3
	1.8	*Unidentified peak area*	

A: Albite (46.5 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-2204
Figure-of-Merit (FoM)	0.854735
Total number of peaks	249
Peaks in range	249
Peaks matched	195
Intensity scale factor	0.48
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.1520 Å b= 12.8310 Å c= 7.1100 Å α= 93.460° β= 116.520 ° γ= 89.720 °
I/Icor	0.80
Calc. density	2.623 g/cm³
Reference	Meneghinello E., Alberti A., Cruciani G., "Order-disorder process in the tetrahedral sites af albite Sample: 1090-12d Note: this sample of feldspar is from Stintino, Sardinia, Italy", American Mineralogist **84**, 1144-1151 (1999)

B: Epidote (21.5 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.701345
Total number of peaks	500
Peaks in range	388
Peaks matched	235
Intensity scale factor	0.25
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

C: Quartz (20.8 %)

Formula sum	O2 Si
Entry number	96-901-1497
Figure-of-Merit (FoM)	0.733149
Total number of peaks	31
Peaks in range	24
Peaks matched	17
Intensity scale factor	0.71
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.6040 Å c= 5.2070 Å
I/Icor	2.64
Calc. density	3.129 g/cm³
Reference	Glinnemann J., King H. E., Schulz H., Hahn T., La Placa S. J., Dacol F., "Crystal structures of the low-temperature quartz-type phases of SiO2 and GeO2 at elevated pressure P = 10.2GPa = 102 kbar", Zeitschrift fur Kristallographie **198**, 177-212 (1992)

D: Wollastonite (8.4 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.783944
Total number of peaks	488
Peaks in range	488
Peaks matched	195
Intensity scale factor	0.21
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y., "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

E: Hematite (2.8 %)

Formula sum	Fe2 O3
Entry number	96-901-5066
Figure-of-Merit (FoM)	0.718321
Total number of peaks	34
Peaks in range	27
Peaks matched	21
Intensity scale factor	0.15
Space group	R -3 c
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 5.0249 Å c= 13.7163 Å
I/Icor	4.01
Calc. density	5.304 g/cm³
Reference	Finger L. W., Hazen R. M., "Crystal structure and isothermal compression of Fe2O3, Cr2O3, and V2O3 to 50 kbars Note: P = 15.4 kbar", Journal of Applied Physics **51**, 5362-5367 (1980)

Search-Match

Settings

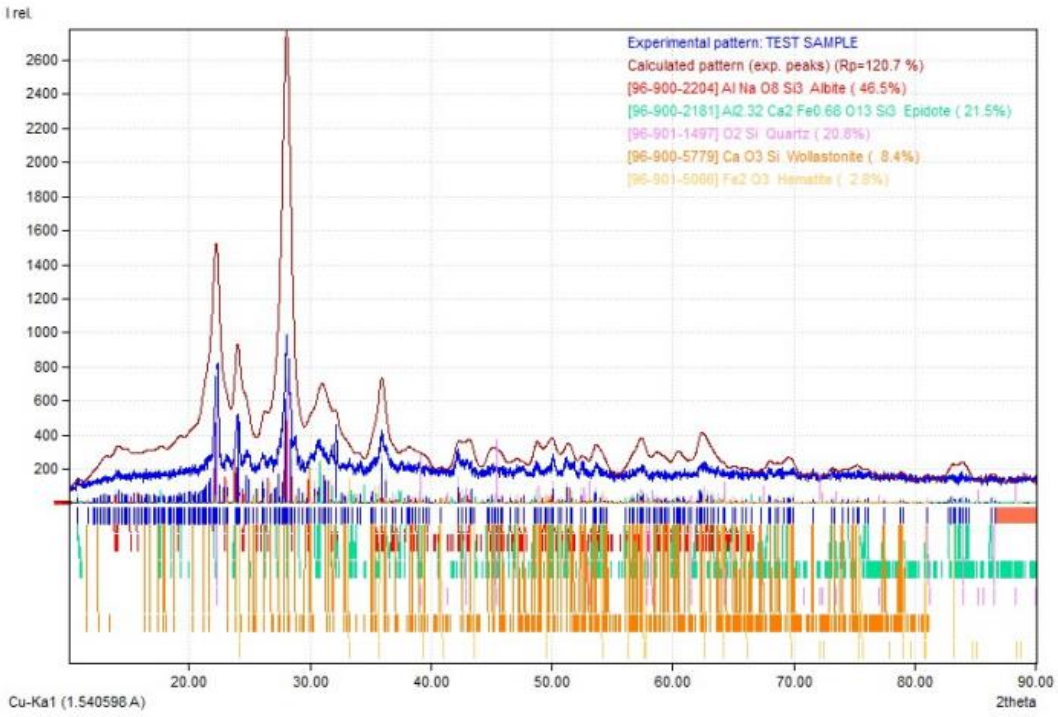
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

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File path	E:/TAMineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	10.060° - 90.060°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	0.06°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	52.1	Albite	Al Na O8 Si3
B	18.9	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
C	15.9	Quartz	O2 Si
D	10.6	Wollastonite	Ca O3 Si
E	2.5	Hematite	Fe2 O3
	3.6	*Unidentified peak area*	

A: Albite (52.1 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-0526
Figure-of-Merit (FoM)	0.863770
Total number of peaks	250
Peaks in range	250
Peaks matched	187
Intensity scale factor	0.56
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.1530 Å b= 12.8694 Å c= 7.1070 Å α= 93.521° β= 116.458 ° γ= 90.257 °
I/Icor	0.78
Calc. density	2.616 g/cm³
Reference	Prewitt C. T., Sueno S., Papike J. J., "The crystal structures of high albite and monalbite at high temperatures T = 24 deg C feldspar", American Mineralogist **61**, 1213-1225 (1976)
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 2.0 Gpa", Solid State Communications **72**, 507-511 (1989)

B: Epidote (18.9 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.703538
Total number of peaks	500
Peaks in range	380
Peaks matched	217
Intensity scale factor	0.23
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

C: Quartz (15.9 %)

Formula sum	O2 Si
Entry number	96-901-2602
Figure-of-Merit (FoM)	0.780634
Total number of peaks	34
Peaks in range	25
Peaks matched	15
Intensity scale factor	0.95
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.8120 Å c= 5.3270 Å
I/Icor	4.38
Calc. density	2.802 g/cm³
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 2.0 Gpa", Solid State Communications **72**, 507-511 (1989)

D: Wollastonite (10.6 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.790607
Total number of peaks	488
Peaks in range	488
Peaks matched	173
Intensity scale factor	0.27
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y, "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

E: Hematite (2.5 %)

Formula sum	Fe2 O3
Entry number	96-901-5504
Figure-of-Merit (FoM)	0.731588
Total number of peaks	34
Peaks in range	27
Peaks matched	20
Intensity scale factor	0.14
Space group	R -3 c
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 5.0020 Å c= 13.6202 Å
I/Icor	4.03
Calc. density	5.391 g/cm³
Reference	Finger L. W., Hazen R. M., "Crystal structure and isothermal compression of Fe2O3, Cr2O3, and V2O3 to 50 kbars Note: P = 52.4 kbar", Journal of Applied Physics **51**, 5362-5367 (1980)

Search-Match

Settings

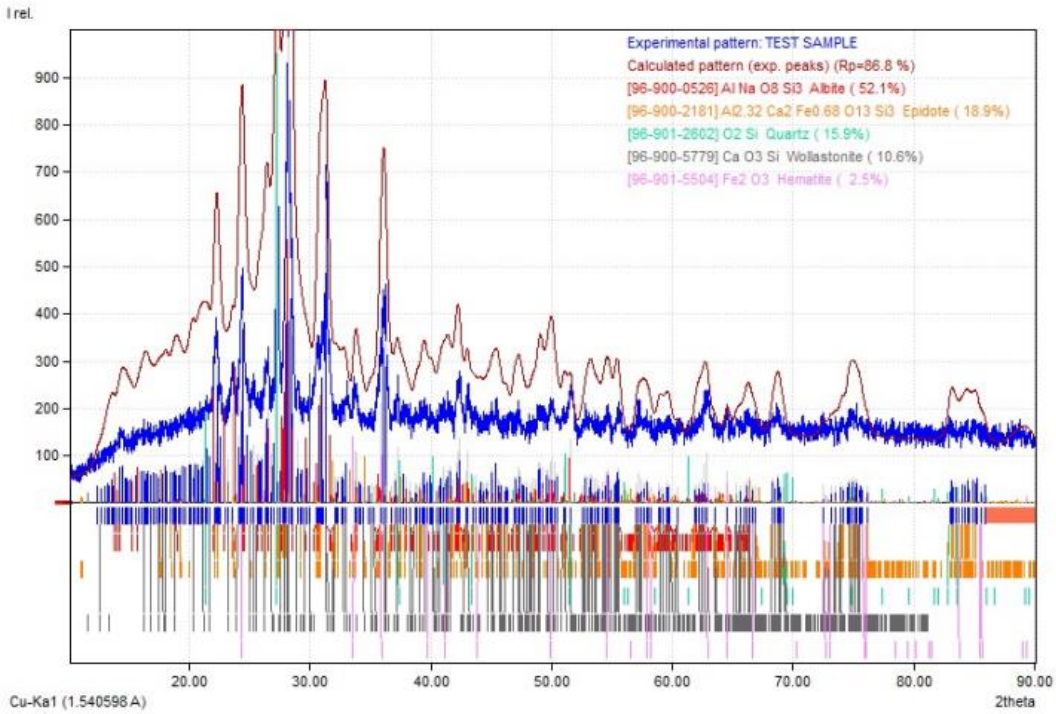
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_7 POS 1 1 BAWAKARAENG.raw
File path	E:/TAMineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	9.920° - 89.920°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	-0.08°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	36.9	Wollastonite	Ca O3 Si
B	28.1	Albite	Al Na O8 Si3
C	19.7	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
D	6.5	Quartz	O2 Si
E	6.0	Magnesioferrite	Fe2 Mg O4
F	2.8	Hematite	Fe2 O3
	8.6	*Unidentified peak area*	

A: Wollastonite (36.9 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.855583
Total number of peaks	488
Peaks in range	488
Peaks matched	196
Intensity scale factor	0.72
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y, "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

B: Albite (28.1 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-0526
Figure-of-Merit (FoM)	0.840026
Total number of peaks	250
Peaks in range	250
Peaks matched	192
Intensity scale factor	0.23
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.1530 Å b= 12.8694 Å c= 7.1070 Å α= 93.521° β= 116.458 ° γ= 90.257 °
I/Icor	0.78
Calc. density	2.616 g/cm³
Reference	Prewitt C. T., Sueno S., Papike J. J., "The crystal structures of high albite and monalbite at high temperatures T = 24 deg C feldspar", American Mineralogist **61**, 1213-1225 (1976)

C: Epidote (19.7 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.782438
Total number of peaks	500
Peaks in range	500
Peaks matched	215
Intensity scale factor	0.18
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

D: Quartz (6.5 %)

Formula sum	O2 Si
Entry number	96-901-1496
Figure-of-Merit (FoM)	0.777125
Total number of peaks	32
Peaks in range	32
Peaks matched	16
Intensity scale factor	0.18
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.6764 Å c= 5.2475 Å
I/Icor	2.65
Calc. density	3.012 g/cm³
Reference	Glinnemann J., King H. E., Schulz H., Hahn T., La Placa S. J., Dacol F., "Crystal structures of the low-temperature quartz-type phases of SiO2 and GeO2 at elevated pressure P = 7.2GPa = 72 kbar", Zeitschrift fur Kristallographie **198**, 177-212 (1992)

E: Magnesioferrite (6.0 %)

Formula sum	Fe2 Mg O4
Entry number	96-900-3786
Figure-of-Merit (FoM)	0.713709
Total number of peaks	34
Peaks in range	34
Peaks matched	12
Intensity scale factor	0.29
Space group	F d -3 m
Crystal system	cubic
Unit cell	a= 8.3730 Å
I/Icor	4.78
Calc. density	4.525 g/cm³
Reference	Antao S. M., Hassan I., Crichton W. A., Parise J. B., "Effects of high pressure and high temperature on cation ordering in magnesioferrite, MgFe2O4, using in situ synchrotron X-ray powder diffraction up to 1430 K and 6 GPa Sample: T = 1130 K, P = 5 GPa during heating", American Mineralogist **90**, 1500-1505 (2005)

F: Hematite (2.8 %)

Formula sum	Fe2 O3
Entry number	96-901-4881
Figure-of-Merit (FoM)	0.672333
Total number of peaks	34
Peaks in range	34
Peaks matched	16
Intensity scale factor	0.11
Space group	R -3 c
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 5.0143 Å c= 13.6733 Å
I/Icor	3.91
Calc. density	5.344 g/cm³
Reference	Finger L. W., Hazen R. M., "Crystal structure and isothermal compression of Fe2O3, Cr2O3, and V2O3 to 50 kbars Note: P = 31.4 kbar", Journal of Applied Physics **51**, 5362-5367 (1980)

Search-Match

Settings

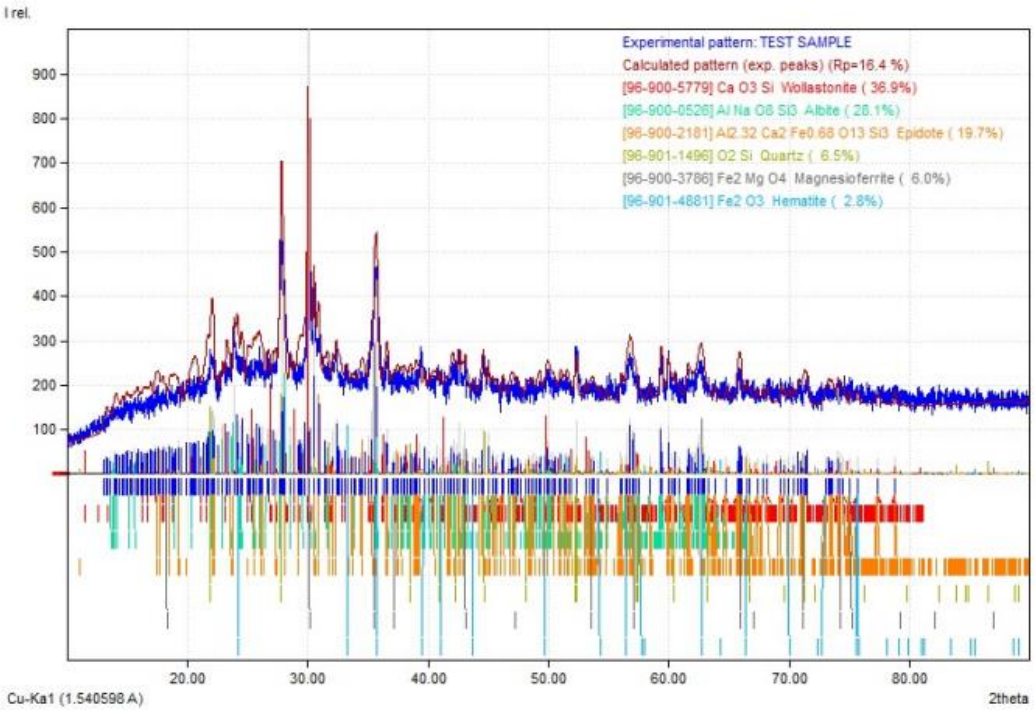
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Mg, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_8 KEBUN.raw
File path	E:/TAMineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	10.080° - 90.080°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	0.08°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	36.5	Albite	Al Na O8 Si3
B	26.9	Wollastonite	Ca O3 Si
C	24.6	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
D	6.8	Magnesioferrite	Fe2 Mg O4
E	3.6	Quartz	O2 Si
F	1.6	Hematite	Fe2 O3
	7.1	*Unidentified peak area*	

A: Albite (36.5 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-0587
Figure-of-Merit (FoM)	0.861927
Total number of peaks	251
Peaks in range	251
Peaks matched	189
Intensity scale factor	0.47
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.2770 Å b= 12.8600 Å c= 7.1810 Å α= 93.300° β= 116.200 ° γ= 87.600 °
I/Icor	0.82
Calc. density	2.544 g/cm³
Reference	Winter J. K., Ghose S., Okamura F. P., "Ahigh-temperature study of the thermal expansion and the anisotropy of the sodium atom in low albite T = 970 deg C Note: this sample of feldspar is from Tiburon, Marin County, California, USA", American Mineralogist **62**, 921-931 (1977)

B: Wollastonite (26.9 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.844714
Total number of peaks	488
Peaks in range	488
Peaks matched	207
Intensity scale factor	0.80
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y., "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

C: Epidote (24.6 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.819764
Total number of peaks	500
Peaks in range	418
Peaks matched	253
Intensity scale factor	0.34
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

D: Magnesioferrite (6.8 %)

Formula sum	Fe2 Mg O4
Entry number	96-900-3785
Figure-of-Merit (FoM)	0.825138
Total number of peaks	34
Peaks in range	17
Peaks matched	14
Intensity scale factor	0.51
Space group	F d -3 m
Crystal system	cubic
Unit cell	a= 8.3654 Å
I/Icor	4.82
Calc. density	4.538 g/cm³
Reference	Antao S. M., Hassan I., Crichton W. A., Parise J. B., "Effects of high pressure and high temperature on cation ordering in magnesioferrite, MgFe2O4, using in situ synchrotron X-ray powder diffraction up to 1430 K and 6 GPa Sample: T = 1070 K, P = 5 GPa during heating", American Mineralogist **90**, 1500-1505 (2005)

E: Quartz (3.6 %)

Formula sum	O2 Si
Entry number	96-901-3322
Figure-of-Merit (FoM)	0.754786
Total number of peaks	35
Peaks in range	29
Peaks matched	25
Intensity scale factor	0.27
Space group	P 32 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.9134 Å c= 5.4051 Å
I/Icor	4.74
Calc. density	2.649 g/cm³
Reference	Antao S. M., Hassan I., Wang J., Lee P. L., Toby B. H., "State-of-the-art high-resolution powder x-ray diffraction (HRPXRD) illustrated with Rietveld structure refinement of quartz, sodalite, tremolite, and meionite Locality: not specified", The Canadian Mineralogist **46**, 1501-1509 (2008)

F: Hematite (1.6 %)

Formula sum	Fe2 O3
Entry number	96-901-4881
Figure-of-Merit (FoM)	0.754279
Total number of peaks	34
Peaks in range	29
Peaks matched	24
Intensity scale factor	0.10
Space group	R -3 c
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 5.0143 Å c= 13.6733 Å
I/Icor	3.91
Calc. density	5.344 g/cm³
Reference	Finger L. W., Hazen R. M., "Crystal structure and isothermal compression of Fe2O3, Cr2O3, and V2O3 to 50 kbars Note: P = 31.4 kbar", Journal of Applied Physics **51**, 5362-5367 (1980)

Search-Match

Settings

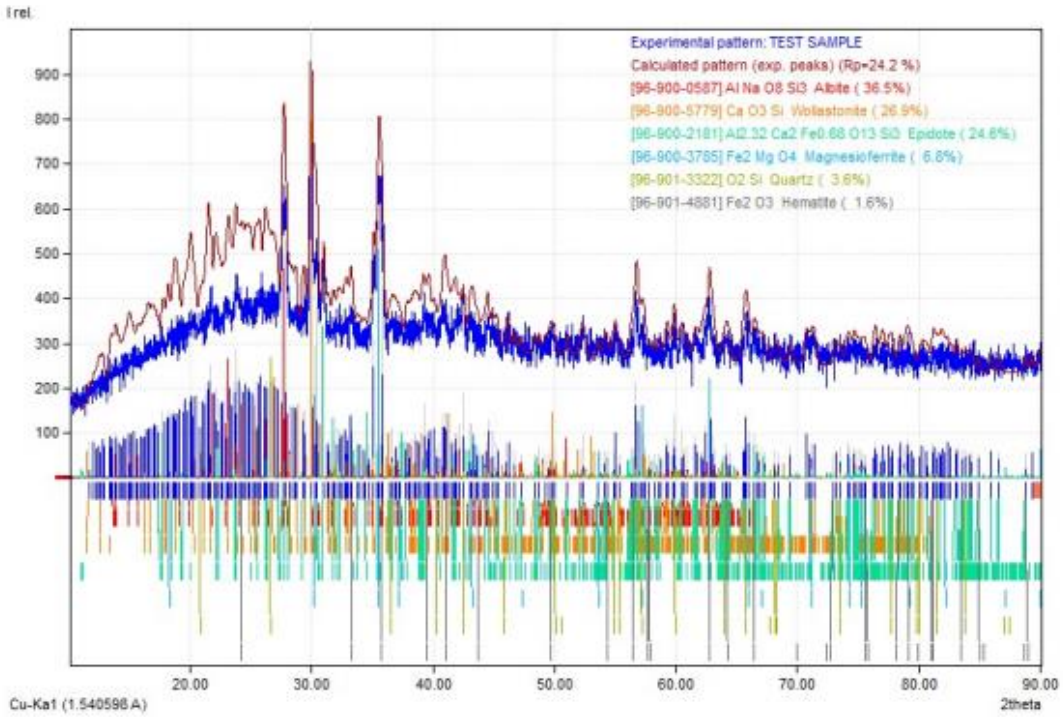
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Mg, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_9 Jembatan Merah.raw
File path	E:/TA Mineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	9.960° - 89.960°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	-0.04°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	47.3	Albite	Al Na O8 Si3
B	28.1	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
C	8.8	Wollastonite	Ca O3 Si
D	6.5	Magnesioferrite	Fe2 Mg O4
E	6.3	Quartz	O2 Si
F	3.0	Hematite	Fe2 O3
	3.8	*Unidentified peak area*	

A: Albite (47.3 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-0527
Figure-of-Merit (FoM)	0.889384
Total number of peaks	250
Peaks in range	250
Peaks matched	201
Intensity scale factor	0.72
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.1829 Å b= 12.8947 Å c= 7.1190 Å α= 93.041° β= 116.352 ° γ= 90.172 °
I/Icor	0.76
Calc. density	2.592 g/cm³
Reference	Prewitt C. T., Sueno S., Papike J. J., "The crystal structures of high albite and monalbite at high temperatures T = 350 deg C feldspar", American Mineralogist **61**, 1213-1225 (1976)

B: Epidote (28.1 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.857920
Total number of peaks	500
Peaks in range	412
Peaks matched	279
Intensity scale factor	0.50
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

C: Wollastonite (8.8 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.784959
Total number of peaks	488
Peaks in range	488
Peaks matched	228
Intensity scale factor	0.33
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y., "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

D: Magnesioferrite (6.5 %)

Formula sum	Fe2 Mg O4
Entry number	96-900-3798
Figure-of-Merit (FoM)	0.817313
Total number of peaks	36
Peaks in range	17
Peaks matched	16
Intensity scale factor	0.59
Space group	F d -3 m
Crystal system	cubic
Unit cell	a= 8.4479 Å
I/Icor	4.52
Calc. density	4.407 g/cm³
Reference	Antao S. M., Hassan I., Crichton W. A., Parise J. B., "Effects of high pressure and high temperature on cation ordering in magnesioferrite, MgFe2O4, using in situ synchrotron X-ray powder diffraction up to 1430 K and 6 GPa Sample: T = 1430 K, P = 3 GPa during heating", American Mineralogist **90**, 1500-1505 (2005)

E: Quartz (6.3 %)

Formula sum	O2 Si
Entry number	96-900-0781
Figure-of-Merit (FoM)	0.823753
Total number of peaks	32
Peaks in range	27
Peaks matched	25
Intensity scale factor	0.33
Space group	P 32 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.7020 Å c= 5.2560 Å
I/Icor	2.64
Calc. density	2.974 g/cm³
Reference	Levien L., Prewitt C. T., Weidner D. J., "Structure and elastic properties of quartz at pressure P = 61.4 kbar", American Mineralogist **65**, 920-930 (1980)

F: Hematite (3.0 %)

Formula sum	Fe2 O3
Entry number	96-901-6458
Figure-of-Merit (FoM)	0.767794
Total number of peaks	34
Peaks in range	27
Peaks matched	25
Intensity scale factor	0.24
Space group	R -3 c
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 5.0066 Å c= 13.6411 Å
I/Icor	4.00
Calc. density	5.373 g/cm³
Reference	Finger L. W., Hazen R. M., "Crystal structure and isothermal compression of Fe2O3, Cr2O3, and V2O3 to 50 kbars Note: P = 43.9 kbar", Journal of Applied Physics **51**, 5362-5367 (1980)

Search-Match

Settings

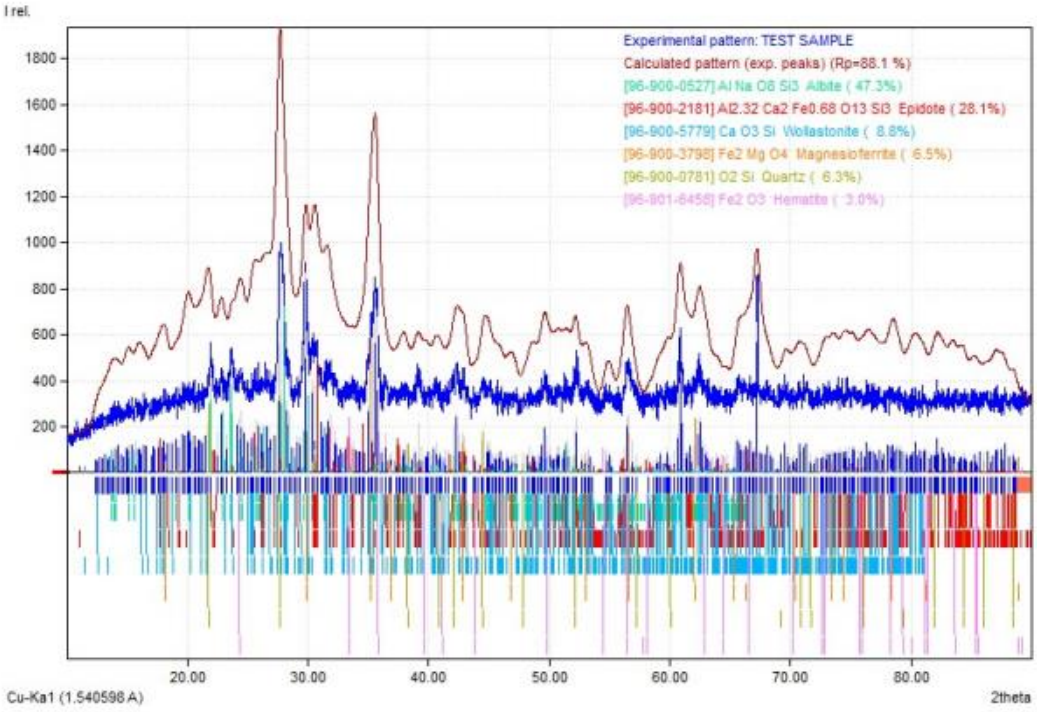
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Mg, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_10 Jalan Lembanna.raw
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Data collected	Aug 24, 2022 16:29:35
Data range	9.950° - 89.950°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	-0.05°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	38.6	Albite	Al Na O8 Si3
B	24.0	Wollastonite	Ca O3 Si
C	22.0	Epidote	Al2.32 Ca2 Fe0.68 O13 Si3
D	7.2	Hematite	Fe2 O3
E	4.6	Quartz	O2 Si
F	3.7	Magnesioferrite	Fe2 Mg O4
	9.1	*Unidentified peak area*	

A: Albite (38.6 %)

Formula sum	Al Na O8 Si3
Entry number	96-900-2204
Figure-of-Merit (FoM)	0.828025
Total number of peaks	249
Peaks in range	249
Peaks matched	165
Intensity scale factor	0.74
Space group	C -1
Crystal system	triclinic (anorthic)
Unit cell	a= 8.1520 Å b= 12.8310 Å c= 7.1100 Å α= 93.460° β= 116.520 ° γ= 89.720 °
I/Icor	0.80
Calc. density	2.623 g/cm³
Reference	Meneghinello E., Alberti A., Cruciani G., "Order-disorder process in the tetrahedral sites af albite Sample: 1090-12d Note: this sample of feldspar is from Stintino, Sardinia, Italy", American Mineralogist **84**, 1144-1151 (1999)

B: Wollastonite (24.0 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.858383
Total number of peaks	488
Peaks in range	488
Peaks matched	190
Intensity scale factor	1.09
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y, "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

C: Epidote (22.0 %)

Formula sum	Al2.32 Ca2 Fe0.68 O13 Si3
Entry number	96-900-2181
Figure-of-Merit (FoM)	0.804009
Total number of peaks	500
Peaks in range	416
Peaks matched	257
Intensity scale factor	0.46
Space group	P 1 21/m 1
Crystal system	monoclinic
Unit cell	a= 8.8910 Å b= 5.6240 Å c= 10.1640 Å β= 115.440 °
I/Icor	0.88
Calc. density	3.423 g/cm³
Reference	Giuli G., Bonazzi P., Menchetti S., "Al-Fe disorder in synthetic epidotes: A single-crystal X-ray diffraction study Sample: CC11c", American Mineralogist **84**, 933-936 (1999)

D: Hematite (7.2 %)

Formula sum	Fe2 O3
Entry number	96-152-8613
Figure-of-Merit (FoM)	0.808597
Total number of peaks	468
Peaks in range	437
Peaks matched	136
Intensity scale factor	0.57
Space group	P 41 21 2
Crystal system	tetragonal
Unit cell	a= 8.3320 Å c= 25.1130 Å
I/Icor	3.27
Calc. density	4.865 g/cm³
Reference	Jorgensen J.E., Mosegaard L., Hanson J.C., Jensen T.R., Thomsen L.E., "Formation of gamma-Fe2 O3 nanoparticles and vacancy ordering: an in situ x-ray powder diffraction study", Journal of Solid State Chemistry **180**, 180-185 (2007)

E: Quartz (4.6 %)

Formula sum	O2 Si
Entry number	96-901-2602
Figure-of-Merit (FoM)	0.745278
Total number of peaks	34
Peaks in range	27
Peaks matched	23
Intensity scale factor	0.48
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.8120 Åc= 5.3270 Å
I/Icor	4.38
Calc. density	2.802 g/cm³
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 2.0 Gpa", Solid State Communications **72**, 507-511 (1989)

F: Magnesioferrite (3.7 %)

Formula sum	Fe2 Mg O4
Entry number	96-900-3794
Figure-of-Merit (FoM)	0.747286
Total number of peaks	35
Peaks in range	17
Peaks matched	15
Intensity scale factor	0.41
Space group	F d -3 m
Crystal system	cubic
Unit cell	a= 8.4101 Å
I/Icor	4.70
Calc. density	4.466 g/cm³
Reference	Antao S. M., Hassan I., Crichton W. A., Parise J. B., "Effects of high pressure and high temperature on cation ordering in magnesioferrite, MgFe2O4, using in situ synchrotron X-ray powder diffraction up to 1430 K and 6 GPa Sample: T = 1090 K, P = 3 GPa during heating", American Mineralogist **90**, 1500-1505 (2005)

Search-Match

Settings

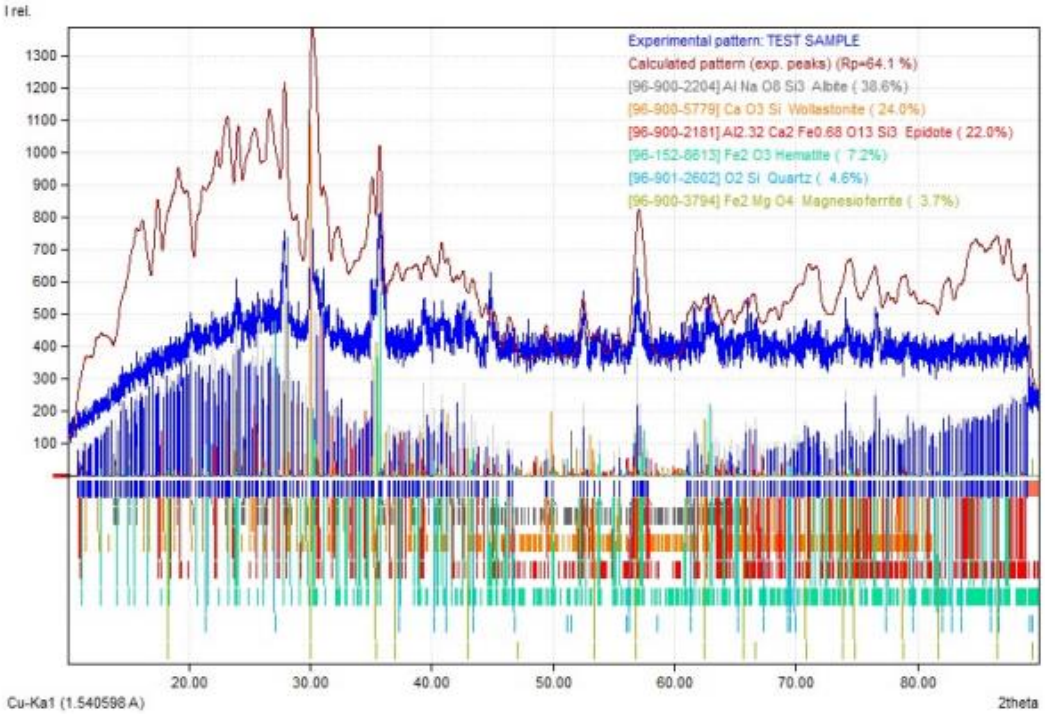
Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Mg, Al, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: TEST SAMPLE

Sample Data

File name	BT_11 Takapala.raw
File path	E:/TAMineralogi/Pengujian XRD
Data collected	Aug 24, 2022 16:29:35
Data range	10.110° - 90.110°
Number of points	4001
Step size	0.020
Rietveld refinement converged	No
Alpha2 subtracted	No
Background subtr.	No
Data smoothed	No
2theta correction	0.11°
Radiation	X-rays
Wavelength	1.540598 Å

Matched Phases

Index	*Amount (%)*	*Name*	*Formula sum*
A	41.7	Quartz	O2 Si
B	33.5	Wollastonite	Ca O3 Si
C	13.9	Hematite	Fe2 O3
D	10.9	Magnesioferrite	Fe2 Mg O4
	19.3	*Unidentified peak area*	

A: Quartz (41.7 %)

Formula sum	O2 Si
Entry number	96-901-2604
Figure-of-Merit (FoM)	0.771820
Total number of peaks	31
Peaks in range	24
Peaks matched	24
Intensity scale factor	0.61
Space group	P 31 2 1
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 4.6250 Å c= 5.2160 Å
I/Icor	3.59
Calc. density	3.096 g/cm³
Reference	Hazen R. M., Finger L. W., Hemley R. J., Mao H. K., "High-pressure crystal chemistry and amorphization of alpha-quartz Locality: synthetic Sample: P = 8.0 GPa", Solid State Communications **72**, 507-511 (1989)

B: Wollastonite (33.5 %)

Formula sum	Ca O3 Si
Entry number	96-900-5779
Figure-of-Merit (FoM)	0.778396
Total number of peaks	488
Peaks in range	488
Peaks matched	200
Intensity scale factor	0.26
Space group	P 1 21/a 1
Crystal system	monoclinic
Unit cell	a= 15.4240 Å b= 7.3240 Å c= 7.0692 Å β= 95.371 °
I/Icor	1.89
Calc. density	2.911 g/cm³
Reference	Ohashi Y, "Polysynthetically-twinned structures of enstatite and wollastonite Sample: WO2M", Physics and Chemistry of Minerals **10**, 217-229 (1984)

C: Hematite (13.9 %)

Formula sum	Fe2 O3
Entry number	96-901-6458
Figure-of-Merit (FoM)	0.771630
Total number of peaks	34
Peaks in range	27
Peaks matched	25
Intensity scale factor	0.23
Space group	R -3 c
Crystal system	trigonal (hexagonal axes)
Unit cell	a= 5.0066 Å c= 13.6411 Å
I/Icor	4.00
Calc. density	5.373 g/cm³
Reference	Finger L. W., Hazen R. M., "Crystal structure and isothermal compression of Fe2O3, Cr2O3, and V2O3 to 50 kbars Note: P = 43.9 kbar", Journal of Applied Physics **51**, 5362-5367 (1980)

D: Magnesioferrite (10.9 %)

Formula sum	Fe2 Mg O4
Entry number	96-900-3787
Figure-of-Merit (FoM)	0.778526
Total number of peaks	34
Peaks in range	16
Peaks matched	14
Intensity scale factor	0.21
Space group	F d -3 m
Crystal system	cubic
Unit cell	a= 8.3730 Å
I/Icor	4.76
Calc. density	4.525 g/cm³
Reference	Antao S. M., Hassan I., Crichton W. A., Parise J. B., "Effects of high pressure and high temperature on cation ordering in magnesioferrite, MgFe2O4, using in situ synchrotron X-ray powder diffraction up to 1430 K and 6 GPa Sample: T = 1010 K, P = 5 GPa during cooling", American Mineralogist **90**, 1500-1505 (2005)

Search-Match

Settings

Reference database used	COD-Inorg REV173445 2016.01.04
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Selection Criteria

Elements:

Elements that must be present:	O, Na, Mg, Si, K, Ca, Fe
Elements that must NOT be present:	All elements not mentioned above

Diffraction Pattern Graphics