

ANEXOS

Anexo 1. Procedimento de Produção de meio de cultura para *Acidithiobacillus ferrooxidans*.

T&K Mineral

Composição		pH (H ₂ SO ₄ concentrado)	1,8
• Solução A		Água destilada	200ml
(NH ₄) ₂ SO ₄	0,5g		
K ₂ HPO ₄	0,5g	• Amostra mineral	
MgSO ₄ ·7 H ₂ O	0,5g		
pH (H ₂ SO ₄ concentrado)	1,8	Preparo	
Água destilada	800ml	Misturar todos os componentes da Solução A, Solução B e Amostra mineral e esterilizá-los conforme informações abaixo, sem misturá-los.	
• Solução B			

Esterilização

A solução A será esterilizada em autoclave (120°C, 20min, 1atm), a solução B por filtração em membrana (0,45µm de diâmetro de poro - Millipore - HAWP 04700), e a amostra mineral deve ser primeiramente lavada em solução de etanol 70% por 15 minutos e posteriormente com água destilada estéril. Apenas no momento do uso, as soluções A e B serão misturadas na proporção 4:1 e adicionada a amostra mineral.

Armazenamento

Armazenar em frasco estéril. Não é necessário resfriar ou deixar no escuro. Abrir o frasco somente em ambiente estéril. Deve ser descartado se apresentar alguma turbidez.

Uso e Características

Meio pobre (podendo ser definido ou complexo), usado para *Acidithiobacillus ferrooxidans*. (Modificado de TUOVINEN; KELLY, 1973)

Observações

Para a obtenção de células para os experimentos, a cultura de *A. ferrooxidans* LR foi obtida por inóculo (10% v/v) da cultura estoque em meio T&K, sendo o crescimento conduzido a 30°C e 150 rpm em mesa agitadora (New Brunswick Scientific) ou inóculo (2% v/v) com crescimento conduzido em biorreator agitado a 30°C. As células crescem aproximadamente após 24 - 48 horas e é possível confirmar através da oxidação dos íons ferrosos pela coloração marrom-avermelhada.

Anexo 2. Procedimento de análise de Ferro (II) – Fe^{2+} .

Protocolo de Análise Fenantrolina

Reagentes

Solução de Acetato de Sódio 1M

Solução de Fenantrolina 2.5% g/ml

Analito

Curva de Calibração

Preparar 6 béqueres, cada um com:

0/20/40/60/80/100 μ l de Fe^{2+} 1mM

40 μ l de ACONa 1M

108 μ l de Fenantrolina 2,5% g/ml

Completar com água até 2 ml (1852 - 1752 μ l com as concentrações acima)

Esperar 10 minutos para medir a absorbância após colocar os reagentes

Análise

Cada béquer usado terá:

100 μ l de analito

40 μ l de ACONa 1M

108 μ l de Fenantrolina 2.5% g/ml

Completar com água até 2 ml (1752 μ l com as concentrações acima)

Esperar 10 minutos para medir a absorbância (510nm) após colocar os reagentes

Anexo 3. Procedimento de análise de Ferro (III) – Fe³⁺

Procedimento de análise de Ferro (III) em solução por reação com Tiocianato

Materiais:

Solução 0,1 M de Tiocianato de Potássio (KSCN);

Solução 1 M de Ácido Sulfúrico (H₂SO₄);

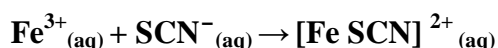
Solução de 1 mM de Cloreto de Ferro (FeCl₃);

Água destilada;

Amostra a ser analisada.

Introdução

Em meio ácido, o íon Fe³⁺ reage com o íon SCN⁻ formando um complexo colorido de [FeSCN]²⁺ segundo a reação a seguir:



A reação, porém, só ocorre com a espécie Fe³⁺ e não com o Fe²⁺ assim, mediremos apenas o Ferro oxidado pelo *Acidithiobacillus ferrooxidans* para obtenção de energia. Ainda assim, é esperado que todo o Fe²⁺ disponível em solução no início do experimento tenha sido convertido em Fe³⁺ transcorrido o tempo do cultivo.

No começo do experimento estava disponível para o organismo 0,12 M de Fe²⁺, assim é esperado que a concentração máxima de Fe³⁺ em solução ao final do crescimento do organismo seja também 0,12 M. Esse valor pode variar tanto devido a erros analíticos e de manipulação do experimentador no preparo do experimento e da análise, quanto pode haver uma diminuição na concentração de Fe³⁺ no final do cultivo devido à precipitação de Fe³⁺ na forma do mineral Jarosita (*KFe₃³⁺ (SO₄) (OH)₆*). É esperado que todo o Ferro que não esteja solúvel na solução esteja presente em forma de precipitado que aparece no fundo do frasco e preso às paredes do mesmo.

Procedimento

Preparar 6 soluções padrão a partir das soluções iniciais de acordo com a tabela:

Solução	0,1 KSCN (ml)	1 mM FeCl ₃ (ml)	1 M H ₂ SO ₄ (ml)	H ₂ O (ml)
1	5,0	0,0	1,0	1,0
2	5,0	0,2	1,0	0,8
3	5,0	0,4	1,0	0,6
4	5,0	0,6	1,0	0,4
5	5,0	0,8	1,0	0,2
6	5,0	1,0	1,0	0,0

Deve-se ligar o espectrofotômetro, calibrar o mesmo com a amostra da Solução 1, também chamada de branco (sem Fe³⁺) no comprimento de onda de $\lambda = 470$ nm. A partir daí passar cada uma das 6 soluções pelo espectrofotômetro e ir anotando a absorbância, de forma a construir uma tabela relacionando a concentração de Fe³⁺ e a absorbância.

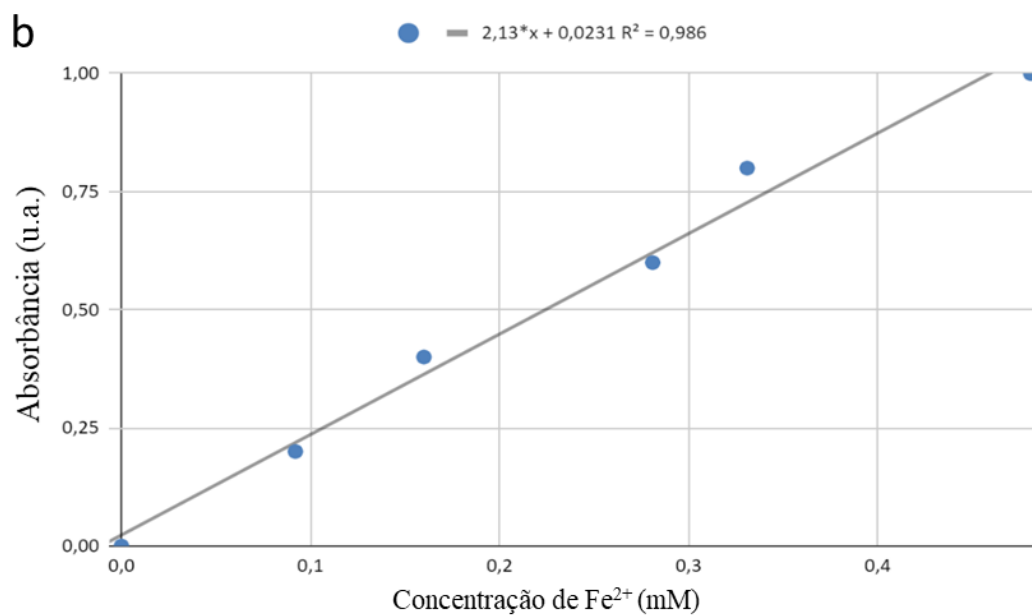
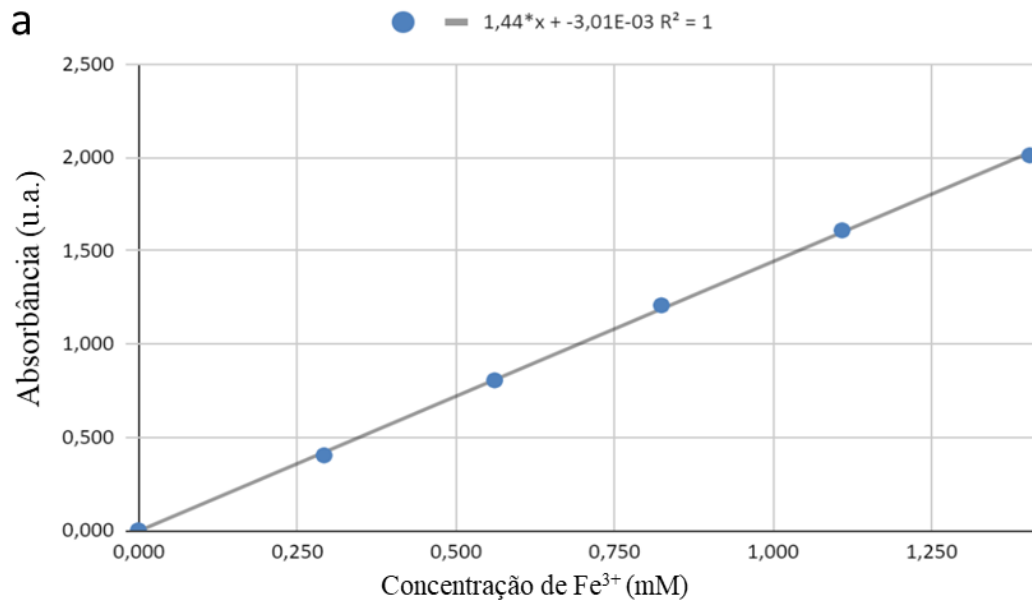
Com os valores das concentrações e absorbâncias das soluções padrão, construir uma curva de calibração (com auxílio do Excel, por exemplo), obtendo-se uma reta cuja equação relacione a absorbância (x) e a concentração (y) de acordo com a equação da reta $y = a \cdot x$ (sendo que, para isso, seja forçado que a reta cruze o ponto (0,0)).

Diluir as amostras do caldo de cultivo em 200 X (de modo que a concentração máxima esperada de Fe³⁺ seja de 0,6 mM). Repetir o procedimento de preparação da Solução 6 substituindo o FeCl₃ pelas amostras de caldo de cultivo diluído. Realizar as medidas de absorbância dos experimentos em triplicata em crescimento somente em Ferro e do crescimento em Fe e Ni. A partir das absorbâncias medidas e a equação da reta obtida pela análise das soluções padrão, estimar a concentração de Fe³⁺ em solução de cada experimento. Calcular a média e o desvio padrão de cada um dos dois experimentos.

Anexo 4. *Curvas de Calibração obtidas seguindo os protocolos dos Anexos 2 e 3:*

Tabela e representação gráfica obtidos para a curva de calibração do Fe^{3+} e Fe^{2+}

Curva de Calibração Fe^{3+}					Curva de Calibração Fe^{2+}				
Nº	Diluição	ABS	Cfe	Resultado	Nº	Diluição	ABS	Cfe	Resultado
			543,6					0,999	
2	0.0	-0,001	0	0	8	0.0	0	0	0
3	0.4	0,292	0,402	0,2	6	0.2	0,092	0,199	0,2
1	0.8	0,561	0,804	0,4	9	0.4	0,16	0,399	0,4
4	1.2	0,824	1,207	0,6	10	0.6	0,281	0,599	0,6
5	1.6	1,109	1,609	0,8	11	0.8	0,331	0,799	0,8
7	2.0	1,405	2,011	1	13	1.0	0,481	0,999	1



Anexo 5. Dados obtidos através do UV-VIS para os sistemas dinâmico e estático

Condição Dinâmica											
Sobrenadante						Substrato					
08 de maio 2021						09 de maio 2021					
Fe ³			Fe ²			Fe ³			Fe ²		
Amostra	ABS	C. Final	Amostra	ABS	C. Final	Amostra	ABS	C.Final	Amostra	ABS	C.Final
B-V	0,09	0,649	B-V	0,23	5,121	B-V	0,41	5,877	B-V	0,16	7,393
B-V-M	0,02	0,108	B-V-M	0,31	6,758	B-V-M	1,18	17,07	B-V-M	0,29	12,58
B-V-A	0,08	0,563	B-V-A	0,46	9,947	B-V-A	0,4	5,703	B-V-A	0,16	7,223
B-V-M+A	0,02	0,144	B-V-M+A	0,28	6,184	B-V-M+A	0,73	10,53	B-V-M+A	0,22	9,944
A-V	0,02	0,115	A-V	0,17	3,909	A-V	0,34	4,88	A-V	0,15	6,798
A-V-M	0	0	A-V-M	0,14	3,229	A-V-M	0,67	9,661	A-V-M	0,24	10,67
A-V-A	0	0	A-V-A	0,14	3,186	A-V-A	0,08	1,14	A-V-A	0,03	1,823
A-V-A+M	0	0	A-V-A+M	0,19	4,186	A-V-A+M	0,67	9,661	A-V-A+M	0,23	10,24
A-M	0	0	A-M	0,15	0,334	A-M	0,22	3,162	A-M	0,04	2,333
A-A	0	0	A-A	0,09	0,204	A-A			A-A		
A-A+M	0	0	A-A+M	0,07	0,163	A-A+M	0,18	2,584	A-A+M	0,03	1,865
15 de maio 2021						20 de maio 2021					
Fe ³			Fe ²			Fe ³			Fe ²		
Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe
B-V	0,27	3,812	B-V	0,17	0,391	B-V	0,52	7,451	B-V	0,14	6,288
B-V-M	0	0,013	B-V-M	0,17	3,909	B-V-M	0,83	11,91	B-V-M	0,19	8,329
B-V-A	0,31	4,418	B-V-A	1,19	2,545	B-V-A	0,65	9,328	B-V-A	0,13	6,16
B-V-M+A	0,02	0,244	B-V-M+A	0,13	3,016	B-V-M+A	0,89	12,82	B-V-M+A	0,14	6,373
A-V	0,05	0,317	A-V	0,23	5,057	A-V	0,64	9,184	A-V	0,13	6,16
A-V-M	0	0,014	A-V-M	0,15	3,399	A-V-M	0,71	10,28	A-V-M	0,17	7,648
A-V-A	0,04	0,296	A-V-A	0,23	5,036	A-V-A	0,25	3,638	A-V-A	0,11	5,139
A-V-A+M	0,01	0,036	A-V-A+M	0,16	3,569	A-V-A+M	0,63	9,097	A-V-A+M	0,16	7,436
A-M	0,01	0,072	A-M	0,09	0,21	A-M	0,9	6,484	A-M	0,1	2,336
A-A	0	0	A-A	0,02	0,068	A-A			A-A		
A-A+M	0,01	0,043	A-A+M	0,06	0,157	A-A+M	0,56	4,014	A-A+M	0,07	1,741
22 de maio 2021						26 de maio 2021					
Fe ³			Fe ²			Fe ³			Fe ²		
Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe
B-V	0,28	3,97	B-V	0,04	2,12	B-V	0,71	10,25	B-V	0,15	6,755
B-V-M	0,02	0,288	B-V-M	0,08	3,821	B-V-M	1	14,44	B-V-M	0,2	9,136
B-V-A	0,38	5,501	B-V-A	0,06	2,843	B-V-A	0,68	9,718	B-V-A	0,11	5,267
B-V-A+M	0,05	0,735	B-V-A+M	0,02	1,27	B-V-M+A	1,35	19,45	B-V-M+A	0,07	3,439
A-V	0,04	0,49	A-V	0,29	12,62	A-V	0,33	4,664	A-V	0,13	5,82
A-V-M	0,01	0,057	A-V-M	0,2	9,094	A-V-M	0,83	11,91	A-V-M	0,18	8,201
A-V-A	0,03	0,36	A-V-A	0,36	15,69	A-V-A	0,22	3,147	A-V-A	0,09	4,289
A-V-A+M	0,01	0,114	A-V-A+M	0,31	13,52	A-V-A+M	0,72	10,43	A-V-A+M	0,16	7,18
A-M	0,01	0,05	A-M	0,02	0,635	A-M	0,49	7,047	A-M	0,07	1,677
A-A	0,01	0,057	A-A	0,02	0,55	A-A			A-A		
A-A+M	0,01	0,057	A-A+M	0,03	0,763	A-A+M	0,32	2,31	A-A+M	0,05	1,252
05 de junho 2021						06 de junho 2021					
Fe ³			Fe ²			Fe ³			Fe ²		
Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe
B-V	0,68	4,924	B-V	0,13	1,455	B-V	0,33	11,7	B-V	0,09	5,574
B-V-M	0,01	0,021	B-V-M	0,33	7,183	B-V-M	0,48	17,26	B-V-M	0,39	8,523
B-V-A	0,81	5,827	B-V-A	0,1	2,336	B-V-A	0,38	13,79	B-V-A	0,16	3,59
B-V-A+M	0,19	1,386	B-V-A+M	0,11	0,497	B-V-M+A	0,8	28,63	B-V-M+A	0,13	1,54
A-V	0,1	0,693	A-V	0,41	17,77	A-V	0,98	7,09	A-V	0,14	6,373
A-V-M	0	0,014	A-V-M	0,15	6,798	A-V-M	0,39	13,9	A-V-M	0,18	7,988
A-V-A	0,07	0,462	A-V-A	0,29	12,88	A-V-A	0,76	5,437	A-V-A	0,12	5,565
A-V-A+M	0,02	0,108	A-V-A+M	0,18	8,116	A-V-A+M	0,37	13,36	A-V-A+M	0,18	8,073
A-M	0,01	0,021	A-M	0,02	0,22	A-M	0,26	9,204	A-M	0,13	1,497
A-A	0,04	0,259	A-A	0,03	0,093	A-A			A-A		
A-A+M	0,01	0,028	A-A+M	0,04	0,216	A-A+M	0,82	5,921	A-A+M	0,09	1,115
19 de junho 2021						20 de junho 2021					
Fe ³			Fe ²			Fe ³			Fe ²		
Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe
B-V	0,4	5,747	B-V	0,11	1,317	B-V	0,43	15,31	B-V	0,28	6,078
B-V-M	0,01	0,129	B-V-M	0,19	8,584	B-V-M	0,53	19,1	B-V-M	0,13	14,98
B-V-A	0,51	7,35	B-V-A	0,07	1,655	B-V-A	0,24	8,626	B-V-A	0,12	2,846
B-V-A+M	0,12	1,645	B-V-A+M	0,06	0,764	B-V-M+A	0,74	26,5	B-V-M+A	0,18	3,952
A-V	0,21	1,516	A-V	0,19	21,46	A-V	0,24	8,626	A-V	0,14	6,458
A-V-M	0,01	0,113	A-V-M	0,17	7,776	A-V-M	0,47	17	A-V-M	0,19	10,73

A-V-A	0,1	0,707	A-V-A	0,3	13,05	A-V-A	0,17	6,207	A-V-A	0,11	5,267
A-V-A+M	0,01	0,042	A-V-A+M	0,2	9,094	A-V-A+M	0,39	14,04	A-V-A+M	0,22	9,647
A-M	0	0	A-M	0,02	0,254	A-M	0,25	8,987	A-M	0,14	1,604
A-A	0,02	0,137	A-A	0,03	0,076	A-A			A-A		0
A-A+M	0	0,014	A-A+M	0,12	0,274	A-A+M	0,17	6,135	A-A+M	0,05	2,588
Condição Estática – Sobrenadante											
9 de maio 2021						22 de maio 2021					
Fe³			Fe²			Fe³			Fe²		
Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe	Amostra	ABS	C de Fe
B-V	0,326	2,335	B-V	0,053	1,358	B-V	0,261	3,734	B-V	0,034	1,908
B-V-M	0,027	0,180	B-V-M	0,109	2,548	B-V-M	0,083	1,167	B-V-M	0,315	7,275
B-V-A	0,352	2,523	B-V-A	0,078	1,889	B-V-A	0,311	4,455	B-V-A	0,043	2,290
B-V-M+A	0,048	0,331	B-V-A+M	0,1	2,357	B-V-M+A	0,083	1,167	B-V-M+A	0,025	1,525
A-V	0,082	0,576	A-V	0,111	2,591	A-V	0,033	0,446	A-V	0,272	12,028
A-V-M	0,019	0,122	A-V-M	0,105	2,463	A-V-M	0,003	0,013	A-V-M	0,162	7,351
A-V-A	0,089	0,627	A-V-A	0,132	3,037	A-V-A	0,027	0,359	A-V-A	0,254	11,263
A-V-A+M	0,021	0,136	A-V-A+M	0,076	1,847	A-V-A+M	0,002	0,000	A-V-A+M	0,173	7,818
A-M	0,024	0,158	A-M	0,068	0,168	A-M	0,01	0,057	A-M	0,014	0,529
A-A	0,01	0,057	A-A	0,017	0,059	A-A	0,006	0,028	A-A	0,013	0,507
A-A+M	0,017	0,108	A-A+M	0,043	0,115	A-A+M	0,012	0,072	A-A+M	0,013	0,507

Tabela 5: Resultados das análises de UV-VIS para as condições Dinâmicas e Estáticas.

Anexo 6 – Dados de Raman correspondentes as Condição Dinâmica

A - A	Ponto 1				Ponto 2			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	117136.30	211.21	4362.30	20.98	115252.70	210.78	4378.29	20.56
Peak #2:	4799.46	267.54	923.97	3.95	5990.70	266.19	658.99	6.94
Peak #3:	11735.27	357.67	1627.24	5.49	14265.37	356.91	1914.03	5.67
Peak #4:	1520.72	394.94	368.80	3.13	4221.31	395.13	736.79	4.36
Peak #5:	1988.22	403.34	299.70	5.05	5589.29	402.91	847.76	5.02
Peak #6:	242697.20	467.05	20702.72	8.93	271555.10	467.05	23669.75	8.74
Peak #7:	9728.99	511.80	555.88	13.35	2853.11	698.11	382.81	5.67
Peak #8:	12101.68	809.83	821.12	11.22	6270.40	806.69	421.31	11.33
Peak #9:	7128.69	1083.20	597.99	9.08	7385.67	1160.50	576	9.78
Peak #10:	2488.82	1161.89	275.50	6.88				
	Ponto 3				Ponto 4			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	146687.50	209.98	5333.93	21.51	174642.20	209.95	5769.00	23.76
Peak #2:	6.94	15338.69	266.52	1522.22	10190.12	267.19	994.90	7.82
Peak #3:	5.67	3831.07	357.77	520.02	8131.17	357.57	1308.85	4.73
Peak #4:	4.36	3832.36	395.83	520.02	2037.27	404	367.68	4.21
Peak #5:	5.02	5674.78	402.23	704.57	300355.90	466.20	27901.55	8.20
Peak #6:	8.74	307508.20	466.37	25854.28				
Peak #7:	5.67	4516.32	696.60	448.57				
Peak #8:	11.33	8499.97	795.84	630.14				
Peak #9:	9.80	5069.58	1066.27	563.43				
Peak #10:	4387.77	1161.70	488.03	6.85				
	Ponto 5				Ponto 6			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	150656	209.64	5403.14	21.82	62624.62	210.23	2267.06	21.61
Peak #2:	8545.30	266.41	1160.77	5.61	1976.68	267.05	353.76	4.26
Peak #3:	2237.76	356.75	363.43	4.68	2656.66	357.12	344.99	5.86
Peak #4:	2601.73	395.27	422.43	4.68	1158.19	396.20	173.06	5.09
Peak #5:	4736.65	402.23	596.94	6.04	1938.07	403.89	389.63	3.78
Peak #6:	363605.70	466.70	28026	9.88	145896.80	466.17	12849.46	8.65
Peak #7:	4842.84	697.22	313.19	11.78	2368.91	697.15	204.68	8.81
Peak #8:	9186.98	796.50	720.26	9.71	7432.15	805.54	278.90	20.35
Peak #9:	5860.21	804.97	391.53	11.40	3396.65	1066.50	312.03	8.29
Peak #10:	9497.49	1066.82	671.70	10.78				
Peak #11	10385.14	1161.52	777.74	10.19				
	Ponto 7				Ponto 8			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	133057.80	209.57	4753.69	21.91	126761.2	209.46	4751.43	20.86
Peak #2:	2206.71	267.56	356.16	4.72	4789.02	266.81	753.96	4.84
Peak #3:	15478.75	356.67	1934.14	6.09	5211.33	356.43	819.25	4.84
Peak #4:	1648.03	394.99	230.64	5.44	9819.48	395.68	1169.65	6.39
Peak #5:	4389.28	404.28	851.05	3.92	313593	465.61	26714.08	8.94
Peak #6:	321772.80	465.63	26767.06	9.16	11260.37	1161.41	879.33	9.77
Peak #7:	2469.43	697.53	380.98	4.93				
Peak #8:	2968.17	809.29	339.40	6.65				
Peak #9:	8695.39	1161.74	560.98	11.83				
	Ponto 9				Ponto 10			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	145797.50	210.03	5053.95	22.60	74370.29	210.83	2721.87	21.36
Peak #2:	7279.12	266.66	743.51	7.48	9257.52	267.01	972.50	7.27
Peak #3:	3296.81	356.99	555.58	4.51	9238.10	357.45	1130.56	6.22
Peak #4:	11944.87	394.77	934.53	9.75	137536	465.52	13795.03	7.59
Peak #5:	331314.90	466.11	27338.88	9.23	12762.54	808.29	850.15	11.43
Peak #6:	3243.58	696.08	398.09	6.20	36381.57	983.51	1191.72	23.36
Peak #7:	10823.06	1162.51	871.12	9.47	53808.70	1049.55	1332.94	31.00
	Ponto 11				Ponto 12			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	127862.20	208.53	3948.99	25.95	350188.50	209.53	8217.31	33.93
Peak #2:	7111.24	266.96	998.46	5.43	80598.71	266.83	4874.78	12.68
Peak #3:	6714.91	356.87	1012.10	5.05	78591.47	356.78	4237.95	14.18
Peak #4:	6421.61	395.10	788.11	6.20	51646.05	395.26	4067.51	9.68
Peak #5:	4004.95	402.39	564.12	5.40	279748.50	465.52	28059.11	7.59
Peak #6:	251786.10	465.52	19411.68	9.88	179679.50	807.34	3923.17	35.13

Peak #7:	5239.29	696.24	351.30	11.36	181091.60	1162.94	3723.95	37.62
Peak #8:	7955.66	804.71	449.20	13.49				
Peak #9:	5053.98	1162.17	777.71	4.94				
	Ponto 13				Ponto 14			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	155457	209.88	5785.30	21.01	173833	209.76	5834.15	23.37
Peak #2:	4714.55	267.08	727.50	4.94	12297.10	267.14	1334.38	7.03
Peak #3:	17521.82	356.41	2432.68	5.48	12295.55	357.71	1700.60	5.50
Peak #4:	12308.22	403.84	1444.37	6.49	3200.81	395.47	405.09	6.01
Peak #5:	354121.40	465.74	30415.10	8.87	4911.45	404.40	673.84	5.55
Peak #6:	8253.90	696.95	598.22	10.51	309621.90	465.90	28047.92	8.41
Peak #7:	8334.82	809.21	676.88	9.37	9817.11	808.94	683.70	10.94
Peak #8:	8681.67	1161.51	724.70	9.13	4979.95	1083.07	583.14	6.50
	Ponto 15				Ponto 16			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	174638.40	209.67	6083.64	22.49	144344.40	209.70	4999.70	22.62
Peak #2:	15306.48	266.55	1596.00	7.32	10559.16	266.65	1028.99	7.83
Peak #3:	10946.62	357.89	1257.90	6.63	9461.53	357.45	1310.84	5.49
Peak #4:	174638.40	209.67	6083.64	22.49	5205.91	403.69	614.59	6.45
Peak #5:	323705.60	466.06	29132.59	8.46	254460.10	466.52	23089.20	8.39
Peak #6:					11268.79	808.23	742.76	11.55
Peak #7:					6700.20	1082.17	689.64	7.40
Peak #8:					3816.67	1161.82	333.92	8.71
	Ponto 17				Ponto 18			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	105601.70	210.74	4387.39	18.75	141266.10	209.71	5301.64	20.83
Peak #2:	5711.45	266.51	657.35	6.63	6180.50	267.40	861.24	5.47
Peak #3:	14803.43	356.82	1833.62	6.15	16540.93	356.84	2115.78	5.95
Peak #4:	7478.02	404.40	997.54	5.70	10011.72	404.69	1392.32	5.47
Peak #5:	307662.40	466.28	23476.67	9.98	373221.90	465.89	28499.29	9.98
Peak #6:	12409.38	809.57	938.74	10.06	10636.10	809.87	909.69	8.90
Peak #7:	8781.34	1160.74	729.73	9.18	10533.34	1160.46	863.02	9.30
	Ponto 19				Ponto 20			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	149960.10	209.90	5459.71	21.49	145233.10	209.64	5610.68	20.21
Peak #2:	2408.39	266.49	388.12	4.73	6740.73	267.24	885.32	5.81
Peak #3:	15314.23	356.86	2264.88	5.15	15131.72	357.06	2271.18	5.07
Peak #4:	3663.58	395.92	516.08	5.40	4145.29	394.96	621.99	5.07
Peak #5:	9874.21	403.77	1347.90	5.57	9342.95	404.92	1396.99	5.09
Peak #6:	350049.50	466.58	29560.81	9.02	387489.70	465.83	29728.08	9.93
Peak #7:	5457.73	697.98	566.81	7.32	7218.91	698.40	581.59	9.45
Peak #8:	9100.91	1161.53	774.69	8.96	12234.48	809.11	831.04	11.21
Peak #9:					10945.66	1160.23	803.77	10.39

A - M	Ponto 11				Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	55554.07	466	5742.15	7.36	20671.59	465.69	1828.58	8.61

A- M+A	Ponto 2			
	Area	Center X	Height	Width
Peak #1:	2654206	157.02	206563.50	10.29
Peak #2:	31281.82	197.39	5206.10	4.60
Peak #3:	162976.20	217.11	18379.86	6.79
Peak #4:	501704.10	249.62	48646.21	7.89
Peak #5:	251260.30	288.53	18396.65	10.44
Peak #6:	1347549	323.79	63095.58	16.37
Peak #7:	406927.30	369.14	34306.41	9.04
Peak #8:	317459.70	414.13	15102.44	16.07
Peak #9:	395873.50	461.03	15719.50	19.26
Peak #10:	240662.40	503.81	14929.70	12.29
Peak #11:	268319	547.52	9663.29	21.23
Peak #12:	90183.69	584.85	5338.91	12.87

A - V	Ponto 2				Ponto 3			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	167117	192.47	2283.02	62.68	138251.90	458.03	4876.14	21.71
Peak #2:	173422.10	457.88	5394.57	24.64	416900.50	984.20	60048.76	5.28
Peak #3:	51921.45	613.24	2803.60	14.12				
Peak #4:	41717.02	626.60	2453.84	12.96				
Peak #5:	560559.10	984.09	79854.70	5.34				
	Ponto 4				Ponto 5			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	101313.60	457.49	3630.36	21.362	76158.50	453.41	3932.74	14.78
Peak #2:	495360.20	983.99	49667.26	7.59	35765.26	628.50	2819.38	9.66
					482935.60	984.12	73673.30	4.99
	Ponto 6				Ponto 7			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	119869.90	199.73	3455.23	27.53	96630.42	453.66	4393.21	16.81
Peak #2:	349338.30	319.62	8503.57	31.79	17059.65	627.77	1341.56	9.68
Peak #3:	50580.40	431.64	3198.94	12.06	359958.10	984.21	58333.24	4.69
Peak #4:	40886.32	459.32	2782.06	11.20				
Peak #5:	70948.55	476.35	3236.04	16.75				
Peak #6:	47964.43	640.36	3194.02	11.44				
Peak #7:	188331	967.96	6112.81	23.57				
Peak #8:	130874	1023.58	4789.24	20.90				
Peak #9:	523972.60	1084.54	15360.97	26.17				
Peak #10:	61263.29	1259.01	2361.34	20.01				
	Ponto 8				Ponto 9			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	60087.91	452.87	3701.21	12.38	10811.79	151.24	611.46	14.98
Peak #2:	47580.27	627.51	2783.37	13.03	65287.07	309.53	1941.41	25.95
Peak #3:	489026	984.26	68353.21	5.44	18905.15	384.03	759.47	19.07
Peak #4:					72889.06	428.79	1982.07	28.25
Peak #5:					63326.82	529.79	2850.47	16.96
Peak #6:					68661.98	928.44	2202.11	23.85
Peak #7:					31567.69	984.00	4464.55	5.38
Peak #8:					26793.18	1005.45	2371.50	8.60
Peak #9:					58638.35	1029.44	2260.91	19.81
Peak #10:					177120.90	1092.10	3732.19	36.57
	Ponto 10				Ponto 11			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	110792.80	984.20	13783.39	6.11	120248.80	984.25	18117.96	5.05
Peak #2:	133231.20	1049.07	2784.25	36.83				
	Ponto 12				Ponto 13			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	126906.20	201.32	3754.40	28.06	155042.60	200.56	3803.92	32.59
Peak #2:	27120	263.38	1222.96	17.15	228490.60	320.28	6943.44	25.37
Peak #3:	383883.30	321.14	9048.33	32.98	90426.43	433.97	3368.43	20.55
Peak #4:	23815.02	431.95	1683.40	10.79	196963.70	459.85	8253.26	18.24
Peak #5:	109468.10	459.48	5594.96	14.94	44254.31	614.42	2321.93	14.53
Peak #6:	32334.12	613.25	1650.28	14.94	34161.04	639.09	2146.38	12.13
Peak #7:	56430.52	639.76	3655.02	11.76	454895.60	984.21	60425.65	5.725
Peak #8:	226353.30	967.48	7184.82	24.11	593104.70	1083.77	18545.36	24.52
Peak #9:	283140.90	984.22	34978.20	6.16				
Peak #10:	928926.50	1083.69	29644.92	24.02				
	Ponto 14				Ponto 15			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	132438.20	200.76	3358.12	31.47	183544.40	459.50	6776.87	20.72
Peak #2:	129399.60	294.97	4659.62	21.39	56178.58	615.63	2155.51	19.91
Peak #3:	221539.30	319.64	6475.36	26.39	506685.50	984.44	74157.07	5.19
Peak #4:	9086.59	432.24	894.19	7.74				
Peak #5:	83760.36	460.51	3694.57	17.32				
Peak #6:	58548.91	474.09	2790.98	16.02				
Peak #7:	41543.59	612.92	2124.28	14.91				

Peak #8:	37522.57	639.60	2597.37	11.00				
Peak #9:	272342.80	967.68	8583.57	24.28				
Peak #10:	264552.90	984.30	36011.36	5.59				
Peak #11:	67941.59	1025.26	2922.01	17.76				
Peak #12:	308640.50	1084.24	9561.78	24.75				
	Ponto 16				Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	105946.70	204.69	3339.07	25.32	233879.50	317.61	5918.05	30.57
Peak #2:	153482.30	295.36	5787.51	20.44	63631.93	429.20	2385.37	20.42
Peak #3:	304042.60	318.84	7599.42	31.00	9214.72	457.85	1016.66	6.90
Peak #4:	32529.01	433.50	2102.11	11.81	28353.37	475.48	1504.16	14.39
Peak #5:	14801.08	458.46	1400.80	8.05	50722.34	528.26	2514.69	15.39
Peak #6:	46204.74	475.21	2569	13.73	33281.47	611.23	1764	14.39
Peak #7:	367014.40	968.86	11009.44	25.52	15662.72	638.60	978.95	12.19
Peak #8:	160670.70	1084.82	6064.11	20.28	66294.53	968.38	2999.60	16.87
Peak #9:	194175.40	1258.37	6880.61	21.80	213822	1024.37	6514.28	25.14
Peak #10:					308905.40	1085.63	10014.97	23.64
Peak #11:					113667.80	1258.12	4250.90	20.63
	Ponto 20							
	Area	Center X	Height	Width				
Peak #1:	109887.50	309.53	3579.41	23.66				
Peak #2:	52186.95	528.65	2375.69	16.77				
Peak #3:	47224.86	1005.30	2955.35	12.18				
Peak #4:	78749.80	1032.05	2859.95	21.06				
Peak #5:	211971.3	1088.35	5670.51	28.71				

A - V - A	Ponto 1				Ponto 3			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	173307.90	210.02	6277.92	22.26	79078.65	209.15	3097.52	19.93
Peak #2:	9881.65	266.28	1047.42	7.22	4436.83	267.02	605.61	5.59
Peak #3:	7688.11	357.27	1138.06	5.14	6701.23	357.37	999.53	5.10
Peak #4:	5558.92	395.12	1029.77	4.11	165716.20	466.11	14425.13	8.75
Peak #5:	6583.51	400.04	885.06	5.66	7105.73	807.61	343.35	15.78
Peak #6:	378807.20	466.10	30944.15	9.32	6034.66	1082.38	451.35	10.19
Peak #7:	8297.66	696.20	616.40	10.25				
Peak #8:	5824.11	797.41	480.70	9.22				
Peak #9:	12478.48	1162.13	1160.64	8.19				
	Ponto 4				Ponto 5			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	76816.77	209.68	2579.45	23.66	125531.90	210	4740.70	21.55
Peak #2:	8299.98	357.37	1153.02	5.48	6283.92	266.33	667.13	7.21
Peak #3:	3646.04	404.52	629.30	4.41	8961.84	357.13	1234.64	5.53
Peak #4:	155497.20	466.61	14246.59	8.31	13718.96	396.08	1182.62	8.85
Peak #5:	194235.60	1033.95	1397.55	109.96	308465.80	465.67	25265.90	9.30
Peak #6:					7867.35	696.26	501.09	11.96
Peak #7:					12581.03	1162.44	901.38	10.65
	Ponto 7				Ponto 8			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	83897.45	208.88	2963.32	23.15	36207.38	465.52	2790.82	9.88
Peak #2:	5447.09	267.18	640.64	6.50	282136.50	1045.97	2098.35	106.29
Peak #3:	11538.91	356.83	1268.95	6.93				
Peak #4:	4594	394.99	761.64	4.59				
Peak #5:	5540.34	404.36	477.61	8.84				
Peak #6:	155235.50	466.52	15582.24	7.59				
Peak #7:	4195.25	809.45	483.75	6.60				
Peak #8:	4711.42	1161.18	423.58	8.48				
	Ponto 9				Ponto 10			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	10848.06	343.96	1062.72	7.78	62947.93	210.14	2261.10	22.46
Peak #2:	36117.21	376.00	3625.35	7.59	7943.56	356.67	992.88	6.09
Peak #3:	8308.20	464.38	640.39	9.88	8878.76	395.02	824.16	8.21
Peak #4:					138147.90	465.88	11701.36	8.99
	Ponto 12				Ponto 13			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	22606.99	209.93	769.27	23.04	9053.04	208.53	331.63	21.36

Peak #2:	2462.92	266.79	260.43	7.22	17953.46	465.52	1800.75	7.59
Peak #3:	4547.52	357.23	292.24	11.88				
Peak #4:	1787.95	403.38	216.44	6.29				
Peak #5:	42762.22	467.82	3296	9.88				
Peak #6:	2047.90	808.49	205.27	7.59				
	Ponto 14				Ponto 16			
Peak #1:	16690.31	207.38	554.19	23.66	584537.40	156.98	40063.89	11.86
Peak #2:	26730.32	466.67	2681.07	7.59	7780.02	196.93	787.41	7.60
Peak #3:					42507.37	217.59	4287.70	7.60
Peak #4:					106749	250.14	10593.96	7.70
Peak #5:					73422.59	288.26	4948.33	11.35
Peak #6:					252102.10	325.82	10978.42	17.61
Peak #7:					156876.60	369.01	11845.67	10.10
Peak #8:					8275.12	395.87	829.40	7.60
Peak #9:					28024.90	414.65	1696.65	12.61
Peak #10:					134120.60	464.09	5785.48	17.72
Peak #11:					36668.57	502.85	2217.86	12.61
Peak #12:					100758.80	546.66	4368.11	17.61
Peak #13:					38479.10	585.47	2117.01	13.86
Peak #14:					167678.20	638.62	4646.66	27.62
	Ponto 17				Ponto 18			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	208708.40	209.85	7011.55	23.35	107089.70	208.53	3942.18	22.16
Peak #2:	6755.30	267.07	1045.47	4.92	8876.44	266.80	1106.91	6.13
Peak #3:	17993.38	357.89	2757.46	4.97	4755.27	357.16	556.46	6.51
Peak #4:	361175.60	465.88	31612.17	8.70	3787.68	394.81	418.50	6.89
Peak #5:	6150.30	510.74	824.01	5.68	5583.99	402.83	693.59	6.13
Peak #6:	7276.16	810.33	643.04	8.61	321863.90	465.52	20161.81	12.18
Peak #7:	10676.59	1083.84	1034.44	7.86	3608.39	698.35	468.15	5.86
Peak #8:					7765.83	796.50	617.96	9.57
Peak #9:					5056.12	1067.52	534.58	7.20
Peak #10:					6199.45	1161.34	567.15	8.33
	Ponto 19				Ponto 20			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	202701.90	209.68	6823.90	23.36	104384.40	209.49	3896.34	21.22
Peak #2:	7529.07	267.39	930.89	6.17	12123.30	266.80	952	9.76
Peak #3:	19214.21	356.61	2604.36	5.62	10380.93	357.40	1631.27	4.84
Peak #4:	22173.22	395.95	2014.06	8.39	225723.60	466.03	19475.91	8.83
Peak #5:	364256	466.67	36536.41	7.59	3337.08	1082.51	610.02	8.83
Peak #6:	3645.83	697.67	554.55	5				
Peak #7:	18825.84	1162.76	1689.20	8.49				

A - V - M	Ponto 4				Ponto 18			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	31346.90	146.54	4971.62	5.06	63776.42	265.92	2926.53	16.77
Peak #2:	2395140	239.76	27769.21	70.30	640117.70	448.31	12429.63	39.72
Peak #3:	4738862	443.86	88939.36	41.13	523538.70	612.33	11438.25	35.13
Peak #4:	3054671	607.70	58720.79	40				
Peak #5:	391948.50	706.71	6024.48	50.14				
	Ponto 19							
	Area	Center X	Height	Width				
Peak #1:	126207.60	1355.66	2817.79	37.62				

A - V - A+M	Ponto 2				Ponto 3			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	112371.10	210.02	4186.91	20.98	173169.90	147.80	10962.26	13.84
Peak #2:	7832.85	267.69	1012.10	5.90	13486.27	466.76	1826.19	5.62
Peak #3:	7472.91	357.80	963.92	5.90				
Peak #4:	2612.11	396.05	680.19	2.92				
Peak #5:	3552.61	404.02	622.55	4.34				
Peak #6:	261001.30	466.70	21607.43	9.20				
Peak #7:	7954.52	1162.23	912.32	6.64				

	Ponto 5				Ponto 6			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	41790.56	208.46	1368.76	23.98	469907	147.80	51077.82	7.55
Peak #2:	76771.33	466.76	6498.92	9	24120.57	397.71	1923.26	9.56
Peak #3:	25062.75	516.19	2159.50	8.84	146937.10	466.74	14324.37	7.81
Peak #4:					69477.83	517.67	3147.73	16.85
Peak #5:					162243.50	639.72	6039.28	20.52
	Ponto 7				Ponto 8			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	194501.90	210.10	6807.21	22.83	116638.50	210.37	4501.92	20.67
Peak #2:	14259.72	267.52	1642.44	6.63	19656.40	267.13	1377.36	10.96
Peak #3:	11063.39	358.12	1545.77	5.45	21203.86	358.17	1919.09	8.43
Peak #4:	367094.10	466.53	31296.05	8.94	334614.40	454.30	7469.19	34.52
Peak #5:					267688.10	466.62	21813.41	9.35
Peak #6:					465257.10	614.36	11079.55	32.23
	Ponto 10				Ponto 12			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	101383	466.67	5347.38	14.48	32889.37	146.58	5799.60	4.57
Peak #2:					3194411	240.01	38826.90	66.85
Peak #3:					7229700	443.86	136642.60	40.84
Peak #4:					4636985	609.13	90037.30	39.59
	Ponto 14				Ponto 15			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	140172.10	210.33	4741.16	23.45	151379	209.40	5555.49	21.31
Peak #2:	11559.34	357.76	1698.39	5.18	13349.31	267.07	1684.88	6.04
Peak #3:	191733	466.65	17536.80	8.33	341775.30	467.05	31112.92	8.36
	Ponto 16				Ponto 17			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	173838.30	210.13	6221.51	21.87	152489.80	209.49	5645.59	21.12
Peak #2:	8830.48	268.10	1039.92	6.48	12666.68	358.42	1718.02	5.61
Peak #3:	17170.37	357.89	2185.63	5.98	285403.90	466.88	26232.05	8.28
Peak #4:	275357.80	466.66	27412.29	7.65				
	Ponto 18				Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	56528.24	208.54	2022.93	21.88	139322	210.15	5227.80	21.16
Peak #2:	4445.88	268.63	555.13	6.11	13292.37	267.32	1349.02	7.53
Peak #3:	8010.92	357.79	917.14	6.65	9050.89	357.40	1725.29	3.99
Peak #4:	112103.90	466.83	11493.74	7.42	8332.69	396.11	1422.73	4.45
Peak #5:					8115.22	403.54	1102.27	5.60
Peak #6:					244451.10	466.45	24607	7.56

B - V	Ponto 1				Ponto 3			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	195692.30	254.44	1222.86	138.43	270936.70	264.77	1673.74	138.43
Peak #2:	123923.80	465.52	1538.20	62.68	180080.80	464.38	1898.10	74.16
Peak #3:	461283.60	1009.24	4848.78	74.16	510370.90	1011.54	5709.75	69.56
	Ponto 4				Ponto 5			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	4971.92	222.31	314.40	12.18	210252.10	257.88	1308.46	138.43
Peak #2:	9625.39	340.52	594.59	12.37	131403.50	467.82	1630.86	62.68
Peak #3:	26521.99	372.56	2046.42	9.88	123233.50	597.41	932.41	103.80
Peak #4:	5833.92	427.48	371.37	11.98	455307.10	1010.39	4934.93	71.86
Peak #5:	2671.34	433.44	448.57	4.53				
Peak #6:	1572.96	624.95	315.94	3.78				
Peak #7:	77219.60	1011.81	956.41	62.68				
	Ponto 6				Ponto 7			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	17692.89	985.14	1773.98	7.59	128750.30	259.03	789.13	140.72
Peak #2:					90203.49	467.82	896.80	78.75
Peak #3:					248522.30	1010.40	2693.66	71.86
	Ponto 9				Ponto 10			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	191108.10	255.59	1192.54	138.43	20761.65	983.99	2081.67	7.59
Peak #2:	100006.20	468.96	1241.15	62.68				
Peak #3:	75309.98	607.74	621.79	94.81				

Peak #4:	332903.20	1010.39	3980.67	64.97				
	Ponto 11				Ponto 12			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	11690.87	342.56	992.61	8.98	5989.91	526.35	452.78	10.08
Peak #2:	37259.07	373.67	3030.56	9.37	3806.29	602.00	293.19	9.88
Peak #3:	102101.50	1014.92	1111.82	71.53	7085.98	985.14	1796.42	3
	Ponto 13				Ponto 14			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	215468.80	256.74	1361.88	136.13	10811.79	151.24	611.46	14.98
Peak #2:	123308.10	466.67	1428.63	67.27	151.24	309.53	1941.41	25.95
Peak #3:	403287.90	1010.39	4511.57	69.56	309.53	384.03	759.47	19.07
Peak #4:					384.03	428.79	1982.07	28.25
Peak #5:					428.80	529.79	2850.47	16.96
Peak #6:					529.79	928.44	2202.11	23.85
Peak #7:					928.44	984.00	4464.55	5.38
Peak #8:					984.00	1005.45	2371.50	8.60
Peak #9:					58638.35	1029.44	2260.91	19.83
Peak #10:					177120.90	1092.10	3732.19	36.57
	Ponto 15				Ponto 16			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	247536.30	1010.39	2602.09	74.16	184495	252.15	1225.27	129.24
Peak #2:					90891.07	470.11	1127.93	62.68
Peak #3:					411718.30	1012.69	4328.37	74.16
	Ponto 17				Ponto 18			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	312424.30	259.03	1998.46	133.84	41283.65	985.14	5929.45	5.29
Peak #2:	186547.80	466.67	1966.00	74.16				
Peak #3:	113796	602.00	962.28	92.52				
Peak #4:	106334.70	983.99	6653.66	12.18				
Peak #5:	229932.50	1029.90	6242.49	28.25				
	Ponto 20							
	Area	Center X	Height	Width				
Peak #1:	38326.16	982.85	2398.16	12.18				

B - V - A	Ponto 1				Ponto 2			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	161103.10	208.53	5346.47	23.66	152829.10	209.68	5595.87	21.36
Peak #2:	9865.44	266.66	983.87	7.66	13440.36	267.11	1353.21	7.58
Peak #3:	10810.47	356.46	1401.83	5.87	13141.85	357.80	1703.47	5.87
Peak #4:	13668.82	395.85	1271.54	8.19	343206.20	466.67	26453.65	9.88
Peak #5:	301017.20	465.89	26028.80	8.81	11988.77	808.69	954.97	9.56
Peak #6:	10155.23	1161.85	758.26	10.22	7589.79	1081.97	669.07	8.64
	Ponto 3				Ponto 4			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	137078.40	209.94	4760.20	22.82	185903.10	209.30	6275.00	23.56
Peak #2:	8720.42	267.30	969.66	6.87	8103.54	267.04	755.10	8.21
Peak #3:	10456.52	357.08	1371.13	5.81	18479.19	356.79	2385.56	5.90
Peak #4:	239140.10	466.44	21925.42	8.31	9721.30	396.09	1176.40	6.29
Peak #5:	4645.91	810.63	565.09	6.25	9212.18	400.56	1054.43	6.65
Peak #6:	6130.93	1083.14	510.81	9.14	347876.90	466.37	30660	8.64
Peak #7:					8303.10	696.69	574.61	11.00
Peak #8:					12112.69	1162.10	1005.11	9.19
	Ponto 5				Ponto 6			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	181989.10	208.53	6117.05	23.66	135914.70	209.81	4412.84	24.19
Peak #2:	9669.05	267.35	923.01	8.01	8229.58	266.98	751.72	8.37
Peak #3:	21560.90	356.94	2628.75	6.25	11717.52	357.63	1699.86	5.25
Peak #4:	13114.17	395.21	1693.56	5.89	272193.50	465.52	20980.31	9.88
Peak #5:	9115.02	405.07	866.82	8.01	7286.56	510.33	726.28	7.64
Peak #6:	474240.60	465.52	29698.73	12.18	9039.32	809.16	614.61	11.20
Peak #7:	11339.02	1162.23	978.82	8.83	13244.68	1083.14	895.60	11.28
	Ponto 7				Ponto 8			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	259203.70	208.53	8005.45	25.95	190648.30	209.08	5526.58	27.82

Peak #2:	21546.06	356.89	2911.31	5.64	9416.18	265.01	844.03	8.54
Peak #3:	20210.57	395.40	2120.25	7.26	10596.47	357.06	1150.95	7.02
Peak #4:	537277	467.82	41421.02	9.88	13286.22	395.36	1368.23	7.40
Peak #5:	5276.47	697.20	538.39	7.46	294246.60	466.67	26847.34	8.35
Peak #6:	15664.23	1162.47	1358.87	8.79	4403.23	696.82	379.21	8.84
Peak #7:					15146.86	1162.30	1171.75	9.88
	Ponto 9				Ponto 10			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	200157.50	209.23	6910.32	23.18	140984.40	209.76	5043.63	22.34
Peak #2:	17300.37	357.15	2522.29	5.22	13174.69	267.45	1305.27	7.72
Peak #3:	8944.30	395.38	1441.16	4.72	17725.82	357.41	1871.88	7.22
Peak #4:	6040.80	403.38	880.28	5.22	5661.25	395.45	755.33	5.71
Peak #5:	448693.80	466.67	34593.74	9.88	6597.42	405.28	803.46	6.25
Peak #6:	4579.54	696.95	404.37	8.62	325008.40	466.67	25058.04	9.88
Peak #7:	7023.28	1162	734.39	7.28	8520.11	511.35	836.51	7.75
Peak #8:					10795.85	809.41	985.29	8.34
Peak #9:					4773.78	1161.82	631.97	5.75
	Ponto 11				Ponto 12			
Peak #1:	194868.10	209.68	6571.10	23.66	124160.70	209.70	4127.48	24.04
Peak #2:	13258.34	266.46	1006.47	10.10	11638.73	266.84	1342.46	6.62
Peak #3:	14807.67	356.93	1913.22	5.89	7038.13	357.29	962.90	5.57
Peak #4:	18669.68	396.07	2275.29	6.25	1712.91	396.17	377.57	3.45
Peak #5:	433311.30	466.67	33406.58	9.88	261132.3	465.52	20132.72	9.88
Peak #6:	13977.44	696.05	944.68	11.27	7852.42	808.19	687.88	8.69
Peak #7:	18050.63	1162.50	1366.35	10.08	3421.34	1082.80	274.41	9.50
Peak #8:					2599.37	1163.42	208.68	9.50
	Ponto 13				Ponto 14			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	187375.10	209.42	6378.39	3.40	144370.40	209.65	5228.33	22.06
Peak #2:	13412.97	266.75	1149.88	8.93	13013.38	267.27	1512.05	6.58
Peak #3:	22318.49	356.88	2678.39	6.35	12292.58	357.28	1544.59	6.06
Peak #4:	15347.12	395.11	2197.82	5.31	4880.01	395.37	814.02	4.56
Peak #5:	420527.40	466.67	32420.62	9.88	4625.30	403.84	580.85	6.06
Peak #6:	14262.24	696.50	899.14	12.08	322222.30	466.67	24843.24	9.89
Peak #7:	12697.61	1162.27	1441.26	6.71	12565.11	808.68	928.96	10.30
Peak #8:					3676.38	1162.74	505.38	5.54
	Ponto 15				Ponto 16			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	169800.40	209.53	6001.51	22.57	90945.69	207.44	3043.96	23.46
Peak #2:	8640.80	266.75	1066.60	6.19	10005.80	267.43	1027.42	7.44
Peak #3:	12486.78	357.55	1820.70	5.22	95422.99	293.87	4007.46	18.30
Peak #4:	354733.30	465.52	27349.46	9.88	191282.30	317.02	4566.45	32.44
Peak #5:	5448.08	809.02	501.37	8.27	12927.19	357.16	1245.68	7.91
Peak #6:	6507.26	1083.21	864.71	5.72	7973.99	431.09	563.09	10.80
Peak #7:					160773.40	466.67	12392.09	9.88
Peak #8:					6708.23	611.21	422.82	12.09
Peak #9:					23574.37	639.32	1560.34	11.51
Peak #10:					1351.43	809.99	312.33	3.29
Peak #11:					225032.80	969.75	5913.70	29.17
Peak #12:					92956.51	983.96	9346.09	7.57
Peak #13:					126118.30	1020.95	3896.06	24.79
Peak #14:					49315.10	1083.38	2010.14	18.76
Peak #15:					51649.86	1257.64	1669.53	23.93
	Ponto 17				Ponto 18			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	108601.90	209.12	3499.63	24.38	138562.20	209.27	4889.98	22.51
Peak #2:	10675.63	266.36	878.09	9.30	7785.17	267.97	662.48	9
Peak #3:	44234.20	292.55	1832.65	18.56	50405.39	293.08	1730.47	22.51
Peak #4:	16212.94	308.54	2044.91	6.04	63523.43	316.15	1996.95	24.56
Peak #5:	101666.80	318.58	2343.27	33.62	54841.29	335.23	1657.37	25.52
Peak #6:	65330.21	335.40	1931	26.06	18133.04	357.05	2129.59	6.49
Peak #7:	9759.52	357.50	1159.06	6.41	8042.01	394.94	1239	4.94
Peak #8:	15196.31	432.24	801.62	14.48	5013.52	404.73	637.67	5.98
Peak #9:	201784	467.82	15552.97	9.88	234378.90	466.67	23512.12	7.589
Peak #10:	13202.01	638.86	894.93	11.24	17417.41	637.53	840.36	15.81
Peak #11:	149868.70	977.07	3514.18	32.73	79421.84	978.75	1691.78	36.08
Peak #12:	131267.60	1015.72	2864.30	35.23	95150.37	1021.19	2347.41	31.12

Peak #13:	95593.30	1085.60	3218.99	22.75	82907.84	1085.74	2055.22	31.01
Peak #14:	36048.33	1251.86	1070.28	26.08	12842.97	1162.32	912.16	10.74
Peak #15:					29868.59	1252.89	936.23	24.68
	Ponto 19				Ponto 20			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	118787.50	209.56	4330.43	21.85	86322.14	209.37	3217.39	21.33
Peak #2:	11430.51	266.78	1105.45	7.91	26597.33	228.49	1565.59	13.16
Peak #3:	17712.35	292.17	783.34	17.41	7379.83	266.50	864.17	6.52
Peak #4:	12134.86	318.04	692.36	13.43	20737.30	299.94	828.53	19.29
Peak #5:	8420.05	357.10	999.53	6.42	6756.88	357.08	1030.14	4.99
Peak #6:	9886.79	395.92	1165.54	6.46	3864.26	395.09	649.66	4.52
Peak #7:	8243.19	401.15	702.26	8.95	6256.55	403	791.95	6.01
Peak #8:	214342.10	466.67	21502.87	7.59	6806.59	413.46	732.40	7.01
Peak #9:	9512.59	638.66	838.36	8.64	256045.20	465.52	16035.67	12.18
Peak #10:	4150.08	697.14	530.03	5.95	81665.88	674.31	1008.93	62.68
Peak #11:	10284.19	805.07	542.68	14.45	9633.72	1161.79	729.36	10.06
Peak #12:	32129.50	970.37	757.94	32.53	190672.80	1330.50	2558.87	62.68
Peak #13:	32586.60	1020.71	973.55	25.64				
Peak #14:	45637.03	1084.84	1049.36	33.47				
Peak #15:	12329.80	1161.89	921.04	10.21				

B - V - M	Ponto 17			
	Area	Center X	Height	Width
Peak #1:	133957	147.68	13188.40	8.36
Peak #2:	1588040	445.68	36742.64	33.25
Peak #3:	2122701	611.82	43329.59	37.64

B - V - A+M	Ponto 1				Ponto 3			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	124395.20	209.46	4262.18	23.33	4420.54	152.93	578.39	6.04
Peak #2:	9107.36	266.58	936.27	7.44	89106.37	210.54	3024.12	23.10
Peak #3:	14489.87	356.95	1697.84	6.50	12961.17	292.31	1074.90	9.21
Peak #4:	8919.44	394.88	811.66	8.38	7013.66	357.12	1047.59	5.09
Peak #5:	8498.14	403.78	1268.71	5.10	150849.80	466.37	12855.43	8.94
Peak #6:	235088.60	466.54	21079.27	8.49	23504.81	480.87	2101.36	8.51
Peak #7:					25860.99	509	2431.23	8.10
	Ponto 4				Ponto 16			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	150343.50	209.71	5072.51	23.24	62543.46	466.67	4820.72	9.88
Peak #2:	17913.23	268.15	1598.17	8.57				
Peak #3:	13326.38	357.44	1834.41	5.53				
Peak #4:	297812.20	466.64	26333.35	8.61				
	Ponto 17				Ponto 18			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	113170.60	210.08	3991.93	22.20	138554.80	209.77	5057.30	21.43
Peak #2:	5400.37	266.56	266.56	6	7839.43	267.26	1492.13	4.00
Peak #3:	5913.43	357.57	1017.75	4.42	7793.93	357.48	1193.03	4.97
Peak #4:	216148.20	466.50	21673.86	7.59	10791.76	401.13	1278.14	6.43
Peak #5:					285535.40	466.69	24956.98	8.71
	Ponto 19				Ponto 20			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	128062.20	208.78	5105.96	23.56	112577.50	208.53	3464.73	25.95
Peak #2:	8341.85	266.41	1073.62	7.30	15415.11	357.64	1548.22	7.59
Peak #3:	217707.90	466.27	23300.30	8.78	152477	466.67	15295.72	7.59

Anexo 7 - Dados de Raman correspondentes as Condição Estática

A - A	Ponto 4				Ponto 5			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	153469.90	210.11	5349.32	22.47	143257.20	208.81	4942.79	22.72
Peak #2:	10517.61	266.70	1216.37	6.60	7312.97	266.44	1012.76	5.50
Peak #3:	8981.72	357.06	1216.37	5.62	7471.96	357.33	1033.08	5.50
Peak #4:	3673.88	403.23	552.08	5.06	225686.60	465.63	20182.48	8.52
Peak #5:	255727.10	466.11	25271.84	7.70	18656.19	975.84	3097.24	4.58
	Ponto 6				Ponto 8			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	161344.40	209.47	5459.48	23.57	177898.50	209.14	5899.28	23.67
Peak #2:	13156.87	266.57	1291.61	7.80	10934.76	266.69	1223.01	6.82
Peak #3:	12902.73	356.94	1333.48	7.37	9918.80	357.00	1295.11	5.83
Peak #4:	304602.70	465.19	24424.56	9.50	307752.50	466.44	27341.61	8.57
Peak #5:					11100.66	612.31	975.40	8.66
Peak #6:					96329.02	975.19	13873.52	5.28
Peak #7:					8721.87	1083.68	975.65	6.80
	Ponto 9				Ponto 10			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	85612.87	208.81	2874.46	23.37	70978.59	209.15	2793.59	19.83
Peak #2:	6235.94	267.48	821.80	5.79	2102.59	266.31	371.83	4.31
Peak #3:	9229.35	357.04	1214.24	5.79	5611.17	356.53	921.92	4.63
Peak #4:	4057.33	395.30	700.75	4.40	33279.29	394.99	1852.41	13.72
Peak #5:	56356.46	453.97	3026.11	14.21	26537.98	403.46	1382.71	14.66
Peak #6:	132068.30	465.89	13893.32	7.23	248597.70	465.19	16329.78	11.61
Peak #7:	18530.04	616.73	1301.70	10.84	2776.74	975.56	561.32	3.76
Peak #8:	10346.02	625.19	1228.49	6.40				
Peak #9:	148832.10	976.32	19937.01	5.68				
	Ponto 11				Ponto 12			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	139462.40	208.83	5009.90	21.79	183709.60	209.66	6201.33	23.62
Peak #2:	5992.54	267.54	989.52	4.61	17069	356.97	2327.34	5.58
Peak #3:	13252.24	356.58	1994.13	5.06	4510.44	395.74	920.82	3.72
Peak #4:	3986.55	394.87	726.97	4.17	6020.29	403.27	745.44	6.15
Peak #5:	5823.37	403.90	959.99	4.61	360450.80	466.09	32028.93	8.57
Peak #6:	330714.20	465.19	25991.12	9.69	7038.05	1161.91	870.32	6.16
Peak #7:	12873.77	807.98	1010.90	9.69				
Peak #8:	11954.73	1162.06	940.56	9.69				
	Ponto 13				Ponto 14			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	142448.80	208.10	4762.60	23.85	83515.81	210.20	3715.10	17.73
Peak #2:	7850.17	267.30	790.83	7.59	4385.54	267.05	662.72	5.05
Peak #3:	16589.51	356.06	1666.21	7.59	8871.37	356.87	1182.77	5.71
Peak #4:	5148.02	394.91	891.06	4.39	5717.76	396.30	647.70	6.72
Peak #5:	8596.50	402.25	1288.09	5.08	7172.47	402.54	901.10	6.06
Peak #6:	246225.90	466.24	24699.66	7.59	300618.20	467.29	19752.36	11.61
Peak #7:	7744.78	1161.48	1042.36	5.66	5934.99	975.32	783.79	5.76
Peak #8:					5726.82	1161.12	751.89	5.80
	Ponto 15				Ponto 16			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	55589.38	207.14	1566.27	28.057	102229.40	209.95	4097.02	19.46
Peak #2:	97197.93	453.17	5869.96	12.63	6691.40	267.27	958.07	5.32
Peak #3:	56453.39	465.93	4284.01	10.04	6115.49	357.21	1030.69	4.51
Peak #4:	48649.55	616.62	3707.16	9.99	234474.40	465.96	19205.12	9.30
Peak #5:	15720.87	624.95	1615.88	7.40				
Peak #6:	410814.10	976.05	45933.66	6.80				
Peak #7:	17331.03	998.92	2518.88	5.23				
	Ponto 18				Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	145244.70	208.78	4940.14	23.51	157410	209.15	5764.05	21.74
Peak #2:	10814.01	266.92	1332.53	6.20	7732.73	267.30	623.55	9.50
Peak #3:	9761.83	356.59	1187.82	6.26	17540.37	356.06	2434.70	5.49
Peak #4:	7997.94	395.11	1091.84	5.58	11273.13	394.80	1564.09	5.49
Peak #5:	26143.45	451.90	2244.05	8.88	296913.40	466.24	29785.23	7.59
Peak #6:	263607.80	466.20	24509.40	8.19	16742.38	975.39	2413.56	5.27
Peak #7:	18685.71	803.96	804.36	17.73	10397.32	1161.93	1011.92	7.83

Peak #8:	13146.46	1162.06	1055.07	9.50				
	Ponto 20							
	Area	Center X	Height	Width				
Peak #1:	168763.20	209.15	5617.67	24.04				
Peak #2:	6991.47	267.64	958.52	5.57				
Peak #3:	19316.45	356.63	2449.58	6.01				
Peak #4:	10120.69	395.48	1383.68	5.57				
Peak #5:	8194.47	404.52	911.06	6.85				
Peak #6:	277898.50	466.37	28758.05	7.36				
Peak #7:	15565.91	612.23	1376.04	8.61				
Peak #8:	104809.80	975.85	16333.75	4.88				
Peak #9:	15113.61	1161.99	1272.35	9.06				

A- M+A	Ponto 1				Ponto 5			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	109010.30	208.10	3589.85	23.85	165985.90	212.21	5916.81	21.94
Peak #2:	6630.83	267.30	921.58	5.49	14582.82	267.30	1467.35	7.59
Peak #3:	9558.03	357.11	959.62	7.59	6046.27	356.78	854.46	5.39
Peak #4:	11019.41	395.85	724.44	11.60	7648.50	395.06	1369.50	4.25
Peak #5:	228345.40	465.19	18305.98	9.50	28304.21	451.69	3186.13	6.76
Peak #6:					360802.30	465.88	32729.09	8.39
Peak #7:					11635.02	1162.91	1149.03	7.72
	Ponto 6				Ponto 7			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	37853.21	467.29	3796.53	7.59	174950.20	209.06	5921.89	23.17
Peak #2:					7992.60	266.64	1132.73	5.38
Peak #3:					17020.49	357.17	1899.79	6.82
Peak #4:					370625.30	465.19	29711.90	9.50
	Ponto 10				Ponto 11			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	70236.11	146.88	5865.40	10.11	127876	209.15	5032.96	19.83
Peak #2:					13400.99	267.30	1348.42	7.59
Peak #3:					243370.50	466.24	24409.25	7.59
	Ponto 12				Ponto 14			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	167453.10	209.62	5824.03	22.52	138842.20	209.68	4983.36	21.80
Peak #2:	10089.81	266.63	1551.65	4.96	7753.85	266.36	1029.30	5.74
Peak #3:	6369.35	356.85	1071.41	4.52	4706.81	356.88	748.23	4.79
Peak #4:	8521.80	395.41	951.88	6.82	7769.83	395.08	1029.30	5.74
Peak #5:	378974.90	465.57	29284.31	9.86	19926.78	452.16	2678.01	5.66
Peak #6:					298538	466.14	26771.81	8.49
	Ponto 15				Ponto 17			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	139569.5	209.14	5266.64	20.71	159412.20	209.48	5740.54	21.73
Peak #2:	9067.94	267.01	1265.06	5.46	13448.55	266.78	1535.25	6.68
Peak #3:	1351.03	308.30	552.92	1.84	3855.61	356.33	692.38	4.24
Peak #4:	5139.28	357.91	796.59	4.91	352843.80	467.29	28285.97	9.50
Peak #5:	2448.67	396.30	494.02	3.77				
Peak #6:	5156.74	403.53	1040.26	3.77				
Peak #7:	11416.85	451.43	1768.57	4.91				
Peak #8:	257942.80	465.86	24737.31	7.94				
	Ponto 18				Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	146611	209.65	5341.48	21.47	98912.45	145.93	15327.66	5.20
Peak #2:	10356.12	267.40	1519.01	5.20				
Peak #3:	18352.15	357.02	2392.24	5.84				
Peak #4:	4092.19	404.14	1136.53	2.74				
Peak #5:	260560.60	466.28	28050.13	7.07				
	Ponto 20							
	Area	Center X	Height	Width				
Peak #1:	67808.58	209.26	2736.40	19.33				
Peak #2:	2370.21	357.26	730.55	2.47				
Peak #3:	195083.50	465.19	15639.25	9.50				

A - V	Ponto 1				Ponto 3			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	29658.82	452.95	1948.46	11.61	104109.30	459.07	4488.56	17.73
Peak #2:	21068.28	616.21	1382.79	11.61	71114.52	618.22	3430.07	15.81
Peak #3:	187720.30	975.36	18820.82	7.59	393080	983.49	83616.47	3.57
	Ponto 4				Ponto 5			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	49382.07	452.95	2748.64	13.71	102423.50	459.88	4062.25	19.28
Peak #2:	38081.26	616.21	2117.25	13.71	39713.67	614.96	1941.18	15.60
Peak #3:	216081.90	976.32	29953.72	5.49	36563.31	626.21	1985.92	14.04
Peak #4:	538020.90	984.54	74581.16	5.49				
	Ponto 6				Ponto 7			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	33066.07	452.94	2292.27	11	96929.88	460.12	3738.71	19.83
Peak #2:	24333.40	617.30	1407.31	13.18	55061.23	619.28	1765.65	23.85
Peak #3:	16594.81	624.94	1552.68	8.13	558470.20	983.49	55993.64	7.59
Peak #4:	179479.40	976.32	24042.41	5.68				
	Ponto 8				Ponto 9			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	89509.42	457.06	2853.07	24.04	39835.89	452.86	2751.17	11.04
Peak #2:	38752.41	619.28	1650.77	17.92	27921.76	616.91	2054.99	10.35
Peak #3:	269371.70	983.49	57301.08	3.57	24146.55	623.64	1891.77	9.72
Peak #4:					294030.20	975.95	32656.72	6.85
	Ponto 10				Ponto 11			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	45975.61	452.56	2818.82	12.44	26357.21	452.95	1467.06	13.71
Peak #2:	24281.32	615.91	2052.99	9.00	39527.40	622.34	1906.50	15.81
Peak #3:	10892.07	624.41	1309.00	6.33	179748.90	975.36	18021.61	7.59
Peak #4:	218959	976.32	30351.85	5.49				
	Ponto 12				Ponto 13			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	42550.14	983.49	5898.48	5.49	82259.41	455.05	3173.11	19.83
Peak #2:	50735.69	1002.91	5087.24	7.59	44468.36	613.15	1426.02	23.85
Peak #3:	55396.69	1018.21	7421.75	5.68	641525.90	984.54	64321.24	7.59
	Ponto 14				Ponto 15			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	60117.65	457.96	2075.56	22.18	75153.21	975.36	10417.86	5.49
Peak #2:	25992.18	618.82	1013.82	19.58				
Peak #3:	307437	983.19	39766.94	5.88				
	Ponto 16				Ponto 17			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	55918.08	201.10	2257.76	19.38	54603.73	451.37	3558.12	11.70
Peak #2:	70140.72	294.78	3235.82	16.64	31804.69	616.08	2226.62	10.88
Peak #3:	147295.30	317.52	4060.58	28.01	21236.51	623.99	1782.79	9.07
Peak #4:	11519.75	431.19	867.83	10.12	296913.50	975.76	38306.32	5.89
Peak #5:	31388.82	457.84	1466.35	16.35				
Peak #6:	44022.70	475.02	2424.59	13.85				
Peak #7:	23221.15	614.36	880.63	20.14				
Peak #8:	6509.00	624.30	878.38	5.63				
Peak #9:	14447.34	640.08	1621.87	6.77				
Peak #10:	286870.90	963.12	8462.58	25.95				
Peak #11:	127575.20	976.32	12790.51	7.59				
Peak #12:	47648.34	1025.29	2299.87	15.81				
Peak #13:	226070	1079.42	7960.16	21.74				
Peak #14:	85550.45	1264.02	3716.64	17.73				
	Ponto 18				Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	45824.27	529.61	2356.81	14.83	9829.58	975.36	772.14	9.69
Peak #2:	59929.36	606.25	1629.20	28.17				
Peak #3:	38588.73	925.42	1342.53	21.97				
Peak #4:	65611.25	983.55	5667.92	8.81				
Peak #5:	281509.10	1009.33	7335.03	29.44				
Peak #6:	68917.11	1097.28	2080.79	25.41				
	Ponto 20							
	Area	Center X	Height	Width				
Peak #1:	43703.15	983.49	6058.31	5.49				

A - V - A	Ponto 1				Ponto 3			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	144321.90	208.10	4380.56	25.95	89165.57	209.15	2934.94	23.85
Peak #2:	4340.79	266.29	483.22	6.86	5873.22	267.44	1008.11	4.44
Peak #3:	13700.94	356.52	1901.68	5.48	6657.51	357.23	911.12	5.56
Peak #4:	4608.63	395.50	785.46	4.46	139149.70	465.58	15319.64	6.91
Peak #5:	8107.06	402.31	820.29	7.53				
Peak #6:	295371.70	466.24	23213.34	9.69				
Peak #7:	6396.47	1161.10	736.55	6.61				
Ponto 4				Ponto 5				
Area	Center X	Height	Width	Area	Center X	Height	Width	
Peak #1:	137662.40	209.15	4617.25	23.85	98121.04	209.15	3546.23	21.94
Peak #2:	12933.51	266.98	1478.99	6.68	8308.82	357.21	1205.13	5.25
Peak #3:	12644.52	357	1441.83	6.68	4214.34	395.81	744.26	4.31
Peak #4:	7497.80	395.20	854.52	6.68	3428.77	403.81	529.67	4.92
Peak #5:	9103.11	403.81	1037.37	6.68	181245.70	466.16	16484.67	8.38
Peak #6:	224487.30	466.24	22519.72	7.59	2801.61	697.94	292.11	7.30
Peak #7:	8282.14	697.99	747.44	8.43	4884.21	1163.32	509.97	7.30
Peak #8:	7484.07	808.04	738.73	7.71				
Peak #9:	6474.35	1083.61	652.36	7.56				
Peak #10:	8725.23	1161.21	708.13	9.40				
Ponto 6				Ponto 7				
Area	Center X	Height	Width	Area	Center X	Height	Width	
Peak #1:	120269.30	210.20	4383.29	21.74	85088.63	210.07	2979.09	22.82
Peak #2:	6720.69	266.62	835.20	6.14	6696.67	266.75	662.24	7.74
Peak #3:	11125.99	356.91	1487.52	5.70	7967.64	356.88	1120.30	5.41
Peak #4:	5437.56	395.42	942.16	4.39	3338.75	394.88	742.29	3.42
Peak #5:	2879.33	403.46	384.77	5.70	3313.90	402.86	390.65	6.46
Peak #6:	224389	466.24	22509.13	7.59	159491.60	466.03	14736.53	8.24
Peak #7:	1075.26	696.58	177.24	4.61	1296.71	696.86	186.33	5.29
Peak #8:	4628.83	806.93	417.00	8.45	2952.41	807.91	357.12	6.29
Peak #9:	5882.21	1161.86	600.27	7.47	2360.48	1163.41	428.03	4.19
Ponto 8				Ponto 9				
Area	Center X	Height	Width	Area	Center X	Height	Width	
Peak #1:	106195.50	209.15	3495.49	23.85	115530.20	209.44	4836.64	22.44
Peak #2:	4189.49	267.21	574.30	5.56	3567.95	267.42	654.19	5.12
Peak #3:	9090.71	357.00	1318.21	5.25	9221.26	356.67	1864.19	4.65
Peak #4:	3816.90	395	721.36	4.02	5184.50	395.19	1153.56	4.22
Peak #5:	2794.16	403.50	457	4.65	4446.42	403.49	857.82	4.87
Peak #6:	130402.10	467.29	17473.06	5.68	211099.20	466.24	25216.23	7.86
Peak #7:	2907.34	697.75	292.94	7.55	3787.32	696.95	565.21	6.29
Peak #8:	3014.41	807.45	267.86	8.56	5705.30	807.97	565.21	9.48
Peak #9:	11469.89	1161.50	735.45	11.91	5930.49	1160.79	871.26	6.39
Ponto 10				Ponto 11				
Area	Center X	Height	Width	Area	Center X	Height	Width	
Peak #1:	87944.05	211.16	3073.77	22.57	94736.71	209.63	3399.33	22.06
Peak #2:	1939.34	267.47	366.61	4.03	12360.44	266.64	1112.44	8.50
Peak #3:	6904.58	357.18	1116.40	4.71	13432.03	357.06	1265.61	8.09
Peak #4:	3735.37	395.33	652.85	4.35	8870.30	394.86	1002.10	6.74
Peak #5:	1714.61	403.58	297.46	4.38	9888.35	403.58	985.74	7.64
Peak #6:	222464.30	467.67	16506.42	10.27	167664.60	467.29	16818.43	7.59
Peak #7:	2380.95	696.46	204.70	8.85	12746.80	694.86	557.97	17.43
Peak #8:	4399.26	805.94	274.55	12.21	11608.12	806.85	758.01	11.66
Peak #9:	9078.83	1162.12	483.97	14.34	7269.06	1161.15	624.75	8.87
Ponto 12				Ponto 13				
Area	Center X	Height	Width	Area	Center X	Height	Width	
Peak #1:	145285.40	209.29	5041.46	22.93	145518	210.20	4897.9	23.85
Peak #2:	9167.25	266.90	1059.90	6.61	15672.72	266.90	1535.91	7.81
Peak #3:	15344.51	356.45	1902.62	6.14	8624.97	357.45	1127.61	5.83
Peak #4:	6592.53	394.82	1233	4.07	6713.92	394.97	789.47	6.48
Peak #5:	248966.20	466.24	24974.75	7.59	9353.47	403.89	1154.82	6.17
Peak #6:	7254.00	696.35	464.07	11.91	305480.40	465.19	24014.99	9.69
Peak #7:	10730.25	807.17	686.43	11.91	7440.38	699.16	645.83	8.77
Peak #8:	13420.17	1161.72	948.88	10.79	12149.61	807.96	940.30	9.84
Peak #9:					5122.06	1064.78	564.92	6.90
Peak #10:					3315.70	1082.86	576.33	4.37
Peak #11:					10548.02	1160.78	738.17	10.90

	Ponto 14				Ponto 15			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	135616	209.34	4700.69	23.06	134943.40	209.15	4910.87	21.94
Peak #2:	8156.71	266.56	881.61	7.07	12372.17	266.25	993.84	9.54
Peak #3:	14302.99	357.02	1866.89	5.83	11436.39	356.40	1895.15	4.59
Peak #4:	7595.06	395.24	1236.88	4.67	6888.61	394.75	1241.89	4.22
Peak #5:	313063.60	466.24	24610.12	9.69	6825.53	403.72	1058.97	4.90
Peak #6:	4346.58	696.70	397.59	8.32	307838	467.29	24684.53	9.50
Peak #7:	9948.24	807.34	799.50	9.47	10190.12	698.24	763.78	10.16
Peak #8:	8166.99	1162.86	845.51	7.36	7399.10	807.57	704.54	7.99
Peak #9:					14469.63	1163.36	1215.83	9.07
	Ponto 16				Ponto 17			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	135616	209.34	4700.69	23.06	164210	208.88	5734.12	22.86
Peak #2:	8156.71	266.56	881.62	7.07	14442.62	266.68	1045.40	10.60
Peak #3:	14302.99	357.02	1866.89	5.83	18635.96	356.46	2383.80	5.95
Peak #4:	7595.06	395.24	1236.88	4.67	11204.78	394.98	1545.61	5.52
Peak #5:	313063.60	466.24	24610.12	9.69	8782.44	403.66	1315.21	5.08
Peak #6:	4346.58	696.70	397.59	8.32	283642.30	466.24	28453.93	7.59
Peak #7:	9948.24	807.34	799.50	9.47	12342.67	697.01	857.47	10.96
Peak #8:	8166.99	1162.86	845.51	7.36	10979.66	808.38	829.17	10.08
					16849.86	1162.22	1286.21	9.99
	Ponto 18				Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	163250.70	209.29	5404.68	24.17	163195.20	209.50	5318.85	24.54
Peak #2:	10656.77	267.50	960.30	8.49	5292.21	267.14	772.60	5.23
Peak #3:	16008.26	357.28	2209.15	5.52	15073.61	357.23	2195.76	5.23
Peak #4:	9597.02	394.53	959.40	7.62	3438.28	395.14	747.05	3.50
Peak #5:	8508.91	404.28	1087.80	5.95	5041.08	404.35	796.47	4.81
Peak #6:	253145	466.24	25394.56	7.59	272540.10	465.19	27340.18	7.59
Peak #7:	6695.67	696.73	536.80	9.49	3982.09	697.22	359.56	8.43
Peak #8:	8744.73	810.39	635.78	10.47	4776.74	809.00	556.29	6.53
Peak #9:	9015.84	1160.30	922.93	7.44	12826.66	1160.91	753.82	13
	Ponto 20							
	Area	Center X	Height	Width				
Peak #1:	163067.40	209.44	5635.59	22.67				
Peak #2:	6668.91	267.36	848.93	5.99				
Peak #3:	15236.11	356.97	2445.09	4.74				
Peak #4:	4806.18	394.67	932.03	3.92				
Peak #5:	4165.74	404.89	807.84	3.92				
Peak #6:	289337.30	466.24	29019.57	7.59				
Peak #7:	11836.88	696.22	567.71	15.90				
Peak #8:	8817.35	807.88	588.23	11.42				
Peak #9:	7195.74	1160.49	790.78	6.93				

A - V - A+M	Ponto 1				Ponto 3			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	35404.79	204.08	1168.19	23.85	166301.50	209.15	5935.18	21.94
Peak #2:	33471.28	466.24	3357.11	7.59	11008.60	267.30	1530.01	5.49
Peak #3:	48256.16	952.89	2356.35	15.62	14782.79	357.11	2051.28	5.49
Peak #4:					273097.10	466.24	27391.17	7.59
	Ponto 4				Ponto 5			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	97639.20	208.10	3844.43	19.83	124127.70	207.59	4579.60	21.21
Peak #2:	7987.58	267.30	1110.15	5.49	13037.54	266.11	1685.10	5.90
Peak #3:	11818.15	358.07	1186.52	7.59	11021.81	356.93	1663.84	5.04
Peak #4:	226326.30	465.19	17787.40	9.69	268859.70	465.63	23779.37	8.61
	Ponto 6				Ponto 7			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	72273.58	1004.92	2133.07	25.95	110536	208.10	4352.22	19.83
Peak #2:					10947.40	267.30	1521.51	5.48
Peak #3:					15674.17	357.11	1573.68	7.59
Peak #4:					236858.60	465.19	23756.66	7.59
Peak #5:					12819.30	809.04	1006.63	9.69
	Ponto 8				Ponto 10			

	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	103615.50	207.14	3413.70	23.85	142564.60	209.15	5611.10	19.83
Peak #2:	11880.32	357.11	1648.53	5.485	4526.18	267.14	1025.58	3.36
Peak #3:	227028.30	465.19	17842.57	9.69	13641.84	356.87	1946.76	5.33
Peak #4:					5533.90	394.52	1252.39	3.36
Peak #5:					7389.51	403.30	980.35	5.74
Peak #6:					275288.80	465.82	26400.84	7.94
	Ponto 12				Ponto 13			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	185849.80	208.55	6669.77	21.82	180414	208.10	6496.53	21.74
Peak #2:	18784.16	356.93	2717.43	5.26	20896.12	356.06	2899.60	5.49
Peak #3:	3705.91	395.13	741.26	3.80	13435.90	398.91	1348.29	7.59
Peak #4:	8546.31	402.66	1235.90	5.26	332762.80	466.24	33375.54	7.59
Peak #5:	354871.20	465.19	35592.63	7.59	8109.97	1162.01	1034.88	5.97
	Ponto 15				Ponto 17			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	156282.60	208.10	5627.58	21.74	134307.60	209.51	4750.55	22.14
Peak #2:	6633.94	267.30	922.01	5.49	7607.01	266.43	887.15	6.54
Peak #3:	19822.87	356.06	2750.67	5.49	12540.71	356.34	1914.89	4.98
Peak #4:	12770.99	393.84	1771.55	5.49	7851.64	396.64	1082.39	5.52
Peak #5:	393397.50	465.19	30917.83	9.69	8401.62	403.39	1064.43	6.01
Peak #6:					258601.60	465.69	22511.88	8.75
	Ponto 18				Ponto 20			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	122346.20	209.59	4391.26	21.80	118063.50	465.19	9464.91	9.50
Peak #2:	6305.46	267.04	845.65	5.69				
Peak #3:	10714.66	356.81	1569.44	5.20				
Peak #4:	4424.36	396.95	592.17	5.69				
Peak #5:	5281.52	402.40	845.65	4.75				
Peak #6:	218067.40	466.08	20745.23	8.00				

B - V	Ponto 1				Ponto 2			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	84429.45	451.99	3640.47	17.73	56332.34	450.94	3641.11	11.80
Peak #2:	49475.50	615.16	3247.26	11.61	59564.91	616.21	3311.68	13.71
Peak #3:	224509.40	976.10	25161.73	6.79	204234.60	975.71	25155.03	6.175
Peak #4:	182738.90	983.50	30339.38	4.58	190592	983.66	30236.59	4.79
	Ponto 3				Ponto 4			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	55227.63	452.95	3074.00	13.71	125039	976.32	17333.17	5.49
Peak #2:	35046.57	615.16	2300.24	11.61				
Peak #3:	201938.50	975.79	25957.85	5.92				
Peak #4:	193461	983.48	25059.36	5.87				
	Ponto 5				Ponto 6			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	29779.93	201.02	1311.26	17.73	32716.32	452.80	2718.10	11.31
Peak #2:	45091.75	294.85	1933.67	17.92	14910.30	612.05	2252.82	6.22
Peak #3:	82858.40	319.33	2461.93	25.95	129553.60	975.70	20014.88	6.08
Peak #4:	8341.40	432.58	548.11	11.61	98095.87	983.26	16961.71	5.43
Peak #5:	18664.86	457.06	912.35	15.62				
Peak #6:	14662.82	476.38	947.54	11.80				
Peak #7:	9631.53	611.15	771.62	9.50				
Peak #8:	13857.43	640.70	1088.27	9.69				
Peak #9:	63711.93	963.12	2743.90	17.73				
Peak #10:	51449.98	976.32	2861.35	13.71				
Peak #11:	19149.62	1013.05	924.25	15.81				
Peak #12:	20964.16	1025.67	1345.33	11.88				
Peak #13:	162150	1081.44	5387.27	23.06				
Peak #14:	48556.88	1261.86	2203.63	16.90				
	Ponto 7				Ponto 8			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	61854.29	452.59	3955.62	11.92	25462.59	452.79	1594.90	12.18
Peak #2:	45248.77	616.14	2713.87	12.71	9532.69	617.19	1300.04	5.57
Peak #3:	310620	975.84	38252.48	6.18	138593.10	976.04	16615.52	6.34

	Ponto 9				Ponto 10			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	49968.84	452.58	2708.97	14.08	62348.74	452.97	4591.32	10.35
Peak #2:	25323.83	615.76	1607.31	12.00	38768.05	617.13	2633.15	11.21
Peak #3:	149606.40	975.94	17136.76	6.64	368632.40	975.51	46520.80	6.03
Peak #4:	132881	983.09	18232.37	5.54				
	Ponto 11				Ponto 12			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	69991.67	451.67	3957.37	13.50	51628.01	453.53	4035.93	9.75
Peak #2:	30319.73	618.84	2647.22	8.72	50911.22	614.74	2989.28	12.98
Peak #3:	38695.17	625.06	3157.64	9.33	319780.80	975.83	43870.71	5.54
Peak #4:	308270.50	975.86	38985.33	6.01				
	Ponto 13				Ponto 14			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	114239.70	976.32	6353.34	13.71	121437.50	975.91	15024.60	6.15
Peak #2:					126536.50	983.28	16921.61	5.69
	Ponto 15				Ponto 16			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	88220.35	975.75	9900.82	6.78	43098.61	976.94	4163.92	7.88
Peak #2:	13935.02	983.60	2459.39	4.31	46968.67	982.95	5723.22	6.24
	Ponto 18				Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	57113.48	976.27	6408.97	6.78	13838.98	218.33	918.27	11.61
Peak #2:	69846.83	983.16	8763.78	6.06	19380.41	339.71	1525.63	9.69
Peak #3:					55286.46	372.42	3081.32	13.71
	Ponto 20							
	Area	Center X	Height	Width				
Peak #1:	24978.33	452.06	1426.27	13.36				
Peak #2:	16678.98	624.68	1565.04	8.11				
Peak #3:	105059.10	975.85	13282.03	6.02				
Peak #4:	33478.50	983.20	5113.67	4.98				

B - V - A	Ponto 1				Ponto 2			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	120623	210.45	4304.48	21.93	92991.78	210.53	4326.32	20.19
Peak #2:	9625.84	266.52	1079.34	6.81	5860.69	266.84	1041.58	5.29
Peak #3:	325108.20	466.24	21355.37	11.61	1348.13	357.15	232.62	5.44
Peak #4:	7979.53	797.07	593.31	10.24	1858.02	395.96	345.05	5.06
Peak #5:	13347.37	976	1554.74	6.53	2851.65	402.82	444.09	6.03
Peak #6:	3713.29	1066.09	474.10	5.96	172147.20	467.29	21308.73	7.58
Peak #7:	2209.56	1082.41	250.11	6.72	6254.93	797.17	600.87	9.78
Peak #8:	3308.56	1162.06	355.56	7.09	8994.02	975.70	1543.98	5.47
Peak #9:					3300.18	1066.72	493.29	6.29
	Ponto 3				Ponto 4			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	153813.80	211.16	4661.91	25.96	97576.89	209.69	3374.79	22.65
Peak #2:	8119.54	265.91	1122.42	5.52	7634.82	266.61	847.07	6.88
Peak #3:	1979.07	356.80	429.83	3.50	2338.06	356.92	342.45	5.20
Peak #4:	2634.96	396.14	387.40	5.17	2535.34	394.85	416.43	4.63
Peak #5:	3153.70	402.74	624.10	3.84	2746.04	402.07	438.60	4.76
Peak #6:	13684.41	433.15	590.23	17.73	161455.20	465.19	16193.52	7.59
Peak #7:	211582	466.24	21220.98	7.59	1770.05	695.82	211.42	6.37
Peak #8:	5406.78	624.78	518.19	7.94	7154.24	798.57	471.83	11.55
Peak #9:	2075.89	698.54	416.80	3.78	3997.79	1066.07	408.90	7.44
Peak #10:	4521.78	796.29	501.04	6.86	4395.28	1161.49	525.65	6.37
Peak #11:	6535.67	1007.08	694.24	7.16				
Peak #12:	7450.80	1067.41	559.64	10.14				
Peak #13:	7312.88	1159.80	576.65	9.67				
	Ponto 5				Ponto 6			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	176646.90	209.06	6109.69	22.66	186200.40	209.48	6063.13	24.11
Peak #2:	5029.45	267.26	681.81	5.62	7015.27	267.35	833.65	6.42
Peak #3:	16918.65	356.77	2428.17	5.30	19546.72	357.06	2504.90	5.94
Peak #4:	4610.77	394.63	985.72	3.55	5379.01	394.74	746.13	5.49

Peak #5:	6507.30	403.81	958.18	5.17	6808	403.88	1032.25	5.02
Peak #6:	385724.30	465.56	30950.96	9.49	388508.70	465.73	30506.40	9.70
Peak #7:	7368.30	696.84	483.52	11.61	4094.53	696.79	433.35	7.19
Peak #8:	8186.27	808.44	608.49	10.24	4330.53	808.39	500.66	6.58
Peak #9:	10215.90	1161.42	767.24	10.16	8538.04	1160.15	873.60	7.45
Peak #10:					3789.38	1232.41	338.58	8.54
Ponto 7					Ponto 8			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	141492.10	210.20	5118.29	21.94	214412.20	209.52	7427.43	22.90
Peak #2:	2983.31	266.51	412.20	5.52	7136.11	266.05	645.82	8.45
Peak #3:	16673.31	356.69	2162.90	5.87	21181.89	356.87	2922.89	5.52
Peak #4:	7079.87	395.77	874.98	6.16	5368.89	395.32	1142.60	3.57
Peak #5:	7503.88	401.79	977.76	5.84	10566.01	401.03	1263.83	6.36
Peak #6:	262305.80	465.19	26313.09	7.59	462994.30	466.24	37123.40	9.50
Peak #7:	5950.61	697.80	467.31	9.69	6995.83	696.52	623.73	8.54
Peak #8:	9180.58	1163.01	921.60	7.59	3744.06	803.39	376.96	7.56
					12952.87	1162.46	1047.94	9.43
Ponto 9					Ponto 10			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	171271.40	209.13	5866.38	23.39	131642.60	210.56	4849.41	21.58
Peak #2:	5434.74	266.98	634.146	6.55	5404.65	267.02	498.08	8.30
Peak #3:	18202.05	356.77	2432.42	5.70	14650.14	357.12	2071.06	5.39
Peak #4:	9182.23	395.62	1226.50	5.70	7666.61	395.31	1167.53	5
Peak #5:	4825.78	402.09	757.22	4.85	3075.06	404.86	564.90	4.14
Peak #6:	295669.10	466.24	29660.89	7.59	281080	466.64	25095.51	8.53
Peak #7:	3189.48	694.56	435.74	5.57	5046.27	697.29	378.52	10.15
Peak #8:	3556.68	804.07	351.14	7.71	6456.20	807.88	442.93	11.10
Peak #9:	7263.80	982.57	637.13	8.68	9563.41	1161.77	883.52	8.25
Peak #10:	8773.37	1162.62	1006.88	6.64				
Ponto 11					Ponto 12			
Peak #1:	49185.33	210.61	2112.63	18.39	150558.50	209.76	5464.88	21.87
Peak #2:	5065.29	356.49	871.41	4.42	3223.41	267.35	465.21	5.26
Peak #3:	3179.57	395.31	546.80	4.42	14221.39	357.27	2232.76	4.85
Peak #4:	74879.24	466.24	10034.92	5.68	9135.21	395.97	1223.10	5.68
Peak #5:					5522.19	404.27	734.17	5.72
Peak #6:					198576.90	466.24	26611.58	5.68
Peak #7:					3231.74	697.17	311.72	7.89
Peak #8:					3289.43	808.75	365.68	6.84
Peak #9:					13299.28	1161.39	854.51	11.88
Ponto 13					Ponto 14			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	144555.10	209.68	5839.70	23.25469	170775.20	209.21	6191.08	21.85
Peak #2:	3617.91	267.29	549.11	6.189656	2879.79	266.83	473.68	4.63
Peak #3:	13449.67	356.92	2330.05	5.422681	17058.78	356.90	2556.92	5.08
Peak #4:	7028.18	395.31	1433.26	4.606655	8672.74	395.14	1384.84	4.76
Peak #5:	239515.80	466.24	29647.76	7.589446	4474.72	404.18	645.82	5.27
Peak #6:	6227.16	696.97	651.95	8.973131	406187.80	465.19	31928.71	9.69
Peak #7:	3838.41	808.91	536.27	6.724156	4838.01	697.30	421.60	8.73
Peak #8:	8670.11	1162	893.20	9.118944	4580.73	808.86	399.16	8.73
					12520.99	1161.99	967.99	9.87
Ponto 15					Ponto 16			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	99981.92	146.39	9358.34	8.94	21980.06	465.19	2204.58	7.59
Peak #2:	110252.90	209.38	3682.27	23.49				
Peak #3:	4358.49	267.69	683.20	4.86				
Peak #4:	13342.76	357.07	1691.55	6.01				
Peak #5:	17312.43	395.43	1701.65	7.75				
Peak #6:	10420.40	403.43	1024.14	7.75				
Peak #7:	131216.90	466.24	18194.09	5.49				
Peak #8:	35062.95	516.30	1149.90	23.34				
Peak #9:	49559.36	638.27	1619.68	23.39				
Peak #10:	9815.44	697.80	633.70	11.80				
Peak #11:	16171.25	1161.00	791.76	15.62				
Ponto 17					Ponto 19			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	185405	210.10	6551.21	22.50	150823	209.28	5208.40	23.10
Peak #2:	8553.64	266.66	875.61	7.47	5549.74	266.23	687.75	6.16

Peak #3:	19849.42	356.79	2887.80	5.23	7171.44	357	1130.58	4.85
Peak #4:	13399.33	394.56	1546.10	6.60	4217.76	395.71	727.37	4.41
Peak #5:	5053.48	404.27	797.86	4.82	7380.77	400.38	977.77	5.75
Peak #6:	323078.60	467.29	32409.25	7.59	256659.80	465.19	25747.12	7.59
Peak #7:	9393.85	696.74	635.13	11.26	2959.09	697.00	351.45	6.40
Peak #8:	7931.65	808.92	740.69	8.15	4132.76	797.65	336.48	9.35
Peak #9:	14718.86	1161.55	1150.58	9.76	9336.43	1161.97	841.63	8.46
Ponto 20								
	Area	Center X	Height	Width				
Peak #1:	15257.16	465.19	1199.09	9.69				
Peak #2:	20082.20	979.38	1577.54	9.69				

B - V - M	Ponto 10				Ponto 11			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	17581.39	153.82	2415.04	5.72	47425.35	981.48	2288.32	15.81
Peak #2:	11869.78	190.07	1169.95	7.82				
Peak #3:	8735.63	212.23	1139.03	5.88				
Peak #4:	15194.33	254.95	1757.01	6.61				
Peak #5:	12104.17	271.41	1077.20	8.59				
Peak #6:	21838.35	293.37	2364.83	7.04				
Peak #7:	7314.03	331.77	1298.08	4.29				
Peak #8:	4428.36	408.97	692.42	4.86				
Peak #9:	8043.78	419.02	939.35	6.52				
Peak #10:	36948.64	480.53	4338.84	6.48				
Peak #11:	81327.86	508.40	8449.20	7.32				
Peak #12:	14711.03	763.62	1478.30	7.57				
Peak #13:	11650.92	816.49	1165.88	7.60				
Ponto 13								
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	7146.83	153.42	1411.48	3.94	446711.70	1019.17	2955.49	119.88
Peak #2:	23172.12	189.63	2134.57	8.37				
Peak #3:	8800.21	213.04	1391.84	4.83				
Peak #4:	13377.51	272.28	1599.56	6.38				
Peak #5:	27893.44	293.33	3134.76	6.79				
Peak #6:	9315.11	457.85	2167.46	3.27				
Peak #7:	69584.50	480.49	7549.84	7.01				
Peak #8:	79147.62	508.65	8873.88	6.79				
Peak #9:	16690.91	764.30	2045.18	6.21				
Peak #10:	16855.50	816.27	1972.54	6.50				
Peak #11:	28836.87	1098.92	2403.13	9.14				
Ponto 15								
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	336490	167.35	27726.49	9.50	41729.64	208.10	1363.65	24.04
Peak #2:	406965	214.22	22940.47	13.71	60704.41	465.19	6088.59	7.59
Peak #3:	2091553	238.70	51150.15	32.07				
Peak #4:	2356288	256.11	91776.24	19.83				
Peak #5:	438745.70	318.28	28894.92	11.61				
Peak #6:	866643.70	336.64	37081.74	17.92				
Peak #7:	331759.30	427.51	18471.96	13.71				
Peak #8:	1543256	470.36	85882.21	13.71				
Peak #9:	1975287	543.81	47262	32.07				
Peak #10:	5492249	608.09	131314.50	32.07				
Peak #11:	69308.71	858.00	3383.13	15.62				
Peak #12:	238585.60	874.36	6098.71	29.97				
Peak #13:	363826	913.10	14012.08	19.83				
Ponto 16								
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	137659.40	210.10	4877.84	22.09	32519.54	146.89	4312.27	6.09
Peak #2:	3120.49	268.03	595.207	3.99	213922.20	166.30	23288.96	7.143
Peak #3:	11610.47	357.06	2018.35	4.38	610892.80	214.22	21946.15	21.74
Peak #4:					2122929	237.75	41877.17	40.11
Peak #5:					1822484	254.01	71005.17	19.83
					803077.90	318.28	23863.25	25.95
					861542.40	337.70	30180.37	21.94
					204367.10	426.46	16389.11	9.50
Ponto 17								
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	137659.40	210.10	4877.84	22.09	32519.54	146.89	4312.27	6.09
Peak #2:	3120.49	268.03	595.207	3.99	213922.20	166.30	23288.96	7.143
Peak #3:	11610.47	357.06	2018.35	4.38	610892.80	214.22	21946.15	21.74
Peak #4:					2122929	237.75	41877.17	40.11
Peak #5:					1822484	254.01	71005.17	19.83
					803077.90	318.28	23863.25	25.95
					861542.40	337.70	30180.37	21.94
					204367.10	426.46	16389.11	9.50
Ponto 18								
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	137659.40	210.10	4877.84	22.09	32519.54	146.89	4312.27	6.09
Peak #2:	3120.49	268.03	595.207	3.99	213922.20	166.30	23288.96	7.143
Peak #3:	11610.47	357.06	2018.35	4.38	610892.80	214.22	21946.15	21.74
Peak #4:					2122929	237.75	41877.17	40.11
Peak #5:					1822484	254.01	71005.17	19.83
					803077.90	318.28	23863.25	25.95
					861542.40	337.70	30180.37	21.94
					204367.10	426.46	16389.11	9.50
Ponto 19								
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	137659.40	210.10	4877.84	22.09	32519.54	146.89	4312.27	6.09
Peak #2:	3120.49	268.03	595.207	3.99	213922.20	166.30	23288.96	7.143
Peak #3:	11610.47	357.06	2018.35	4.38	610892.80	214.22	21946.15	21.74
Peak #4:					2122929	237.75	41877.17	40.11
Peak #5:					1822484	254.01	71005.17	19.83
					803077.90	318.28	23863.25	25.95
					861542.40	337.70	30180.37	21.94
					204367.10	426.46	16389.11	9.50

					1350886	469.30	66022.42	15.62
					1390573	545.82	35357.36	30.16
					3303268	608.09	90167.67	28.06
					200795.70	867.19	4506.51	34.18
					286080.80	913.10	11017.87	19.83
Ponto 20								
	Area	Center X	Height	Width				
Peak #1:	279270.20	1017.16	2211.03	99.41				

B - V - A+M	Ponto 4				Ponto 5			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	166630.70	263.19	1088.12	130.015	30325.35	1001.85	375.47	62.68
Peak #2:	78346.65	471.31	972.16	62.68				
Peak #3:	46629.96	602.92	391.15	93.287				
Peak #4:	307088	1008.93	2960.97	81.04				
Ponto 8					Ponto 20			
	Area	Center X	Height	Width	Area	Center X	Height	Width
Peak #1:	218884.90	264.24	1338.27	140.15	248783.20	1009.98	2345.21	82.96
Peak #2:	156067.90	462.13	1170.77	105.53				
Peak #3:	288103.40	1009.98	2849.91	78.94				

Anexo 8 – Tabela de assinaturas de moléculas para a espectroscopia de micro-Raman

Tabela de assinatura:

Dados espectroscopia micro Raman:

Montmorilonita (MMT)					
Amostra	Ponto	ν	Molécula	Tipo de Vibração	Referência
A-V-M	18	266			
A-M+A	2	289		Modos de rede estrutural	Bishop 2004
	2	504			
A-V-M	4	707			
Areia					
Amostra	Ponto	ν	Molécula	Tipo de Vibração	Referência
	1	211	Si - O	Estiramento, Deformação Angular e Torção	Rassetti 1932, Saksena 1940, Nidungadi 1940 e Santos et al 2019
A-A	1	268	O – Si - O		
	1	358	Si - O		
	1	394		Deformação Angular	Rassetti 1932, Saksena 1940, Nidungadi 1940 e Santos et al 2019
A-V-A	3	400	O – Si - O		
	1	467	O – Si - O	Estiramento e Deformação Angular	Rassetti 1932, Saksena 1940, Nidungadi 1940 e Santos et al 2019
A-A	5	697			Rassetti 1932 e Nidungadi 1940
	5	797			Rassetti 1932, Saksena 1940, Nidungadi 1940 e Santos et al 2019
A-V-A	3	809			
	5	1067	Si - O	Estiramento	Rassetti 1932, Saksena 1940 e Nidungadi 1940
A-A	1	1083			Rassetti 1932, Saksena 1940, Nidungadi 1940 e Santos et al 2019
	5	1162			Rassetti 1932, Saksena 1940 e Nidungadi 1940
Vivianita					
Amostra	Ponto	ν	Molécula	Tipo de Vibração	Referência
A-V-A	16	157			Piriou 1984
	6	200			Piriou 1984, Frost 2004 e Ogorodova 2017
A-V	2	222	Fe - O	Estiramento vibracional	Piriou 1984, Frost 2003, Frost 2004 e Taylor 2008
A-V-M+A	12	240			Piriou 1984, Frost 2002, Frost 2003, Frost 2004 e Ogorodova 2017
B-V-M+A	18	292		Modos de rede	Frost 2003, Frost 2004
A-V	9	306			Piriou 1984, Frost 2002, Frost 2003 e Frost 2004
A-V-A	16	326			Frost 2004
B-V-A	18	335		Modos de rede	Piriou 1984, Frost 2002 Frost 2003, Frost 2004 e Ogorodova 2017

A-V	2	341			Piriou 1984, Frost 2002, Frost 2003, Frost 2004 e Ogorodova 2017
A-V-A	16	415			Frost 2004
A-V	2	427		V2 - Modos de dobra no plano	Piriou 1984, Frost 2002, Frost 2003, Frost 2004, Taylor 2008 e Hsu 2014
A-V	6	459			Piriou 1984, Frost 2002 Frost 2003, Frost 2004, Taylor 2008 e Hsu 2014
B-V	9	469			Piriou 1984, Frost 2004, Taylor 2008 e Hsu 2014
A-V	6	476		V2 - Modos de dobra no plano	Frost 2003
A-V-M+A	6	518		V4 - Dobras fora do plano	Frost 2003 e Frost 2004
B-V	14	530	Fe - H ₂ O	Curvas fora do plano - Modos de dobra V4	Piriou 1984, Frost 2002, Frost 2003 e Frost 2004
A-V-A	16	547	Fe - H ₂ O	V4 - Dobras fora do plano	Piriou 1984 e Frost 2004
A-V-A	16	585		V4 - Dobras fora do plano	Piriou 1984, Frost 2002, Frost 2004 e Taylor 2008
A-V-M+A	12	609			Piriou 1984 e Frost 2004
A-V	2	625	P - O		Piriou 1984, Frost 2004 e Ogorodova 2017
B-V	4	984			Piriou 1984, Frost 2002, Frost 2004
A-V	2	1012		Estiramento vibracional antisimétrico	Frost 2002, Frost 2003, Frost 2004
A-V	6	1085			
A-V-M	19	1356			Frost 2004

Metavivianita

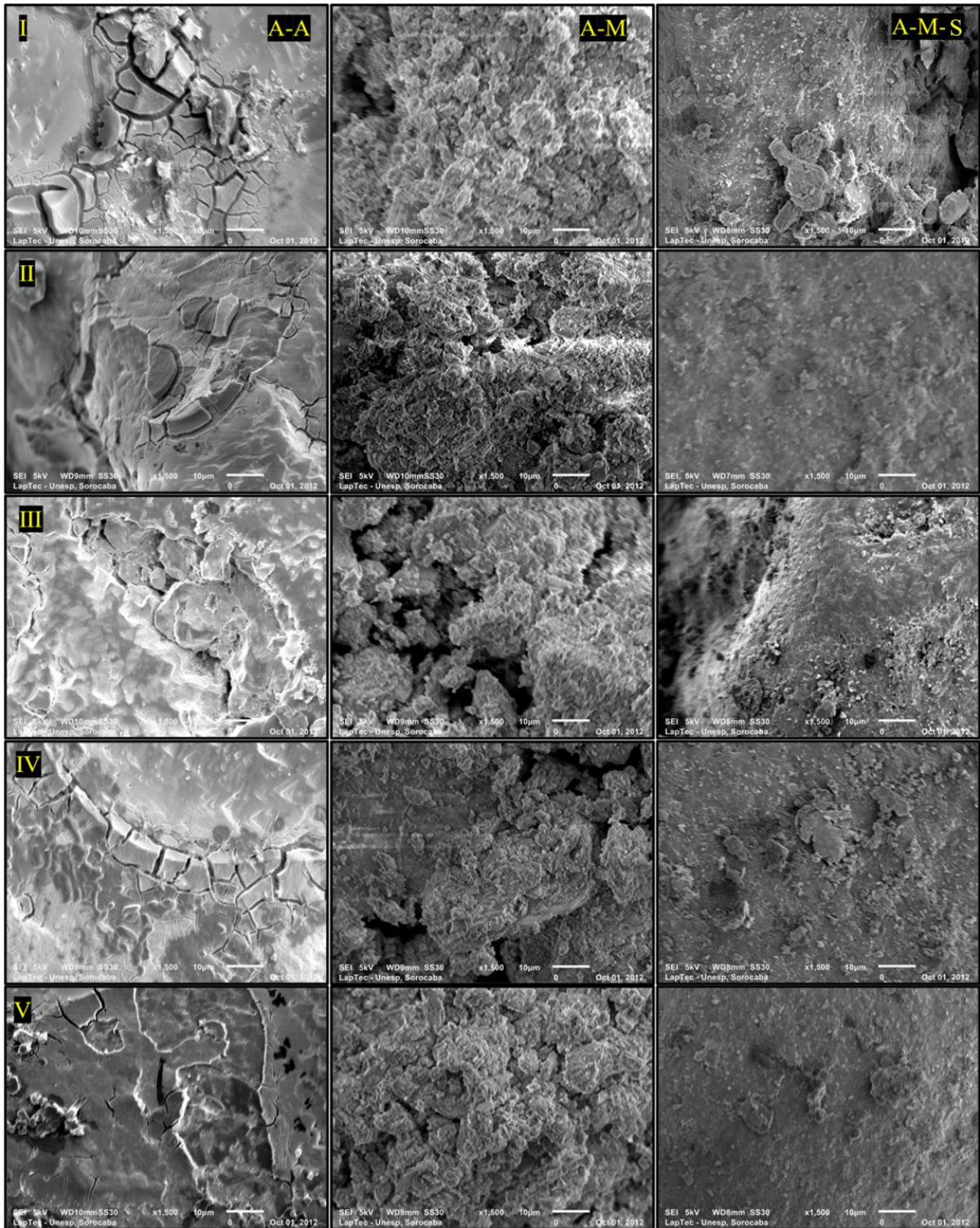
Amostra	Ponto	ν	Molécula	Tipo de Vibração	Referência
A-V	9	141			
A-V-A	16	197			
A-V-M	4	240			
B-V	9	256			
A-V-A	16	288			
B-V-A	16	294			
A-V	6	320			Chukanov et al 2012
A-V-A	16	369			
A-V	2	373			
B-V	4	458			
A-V-A	16	503			
A-V	6	968	P - O	Estiramento simétrico	
		1024		Estiramento assimétrico	

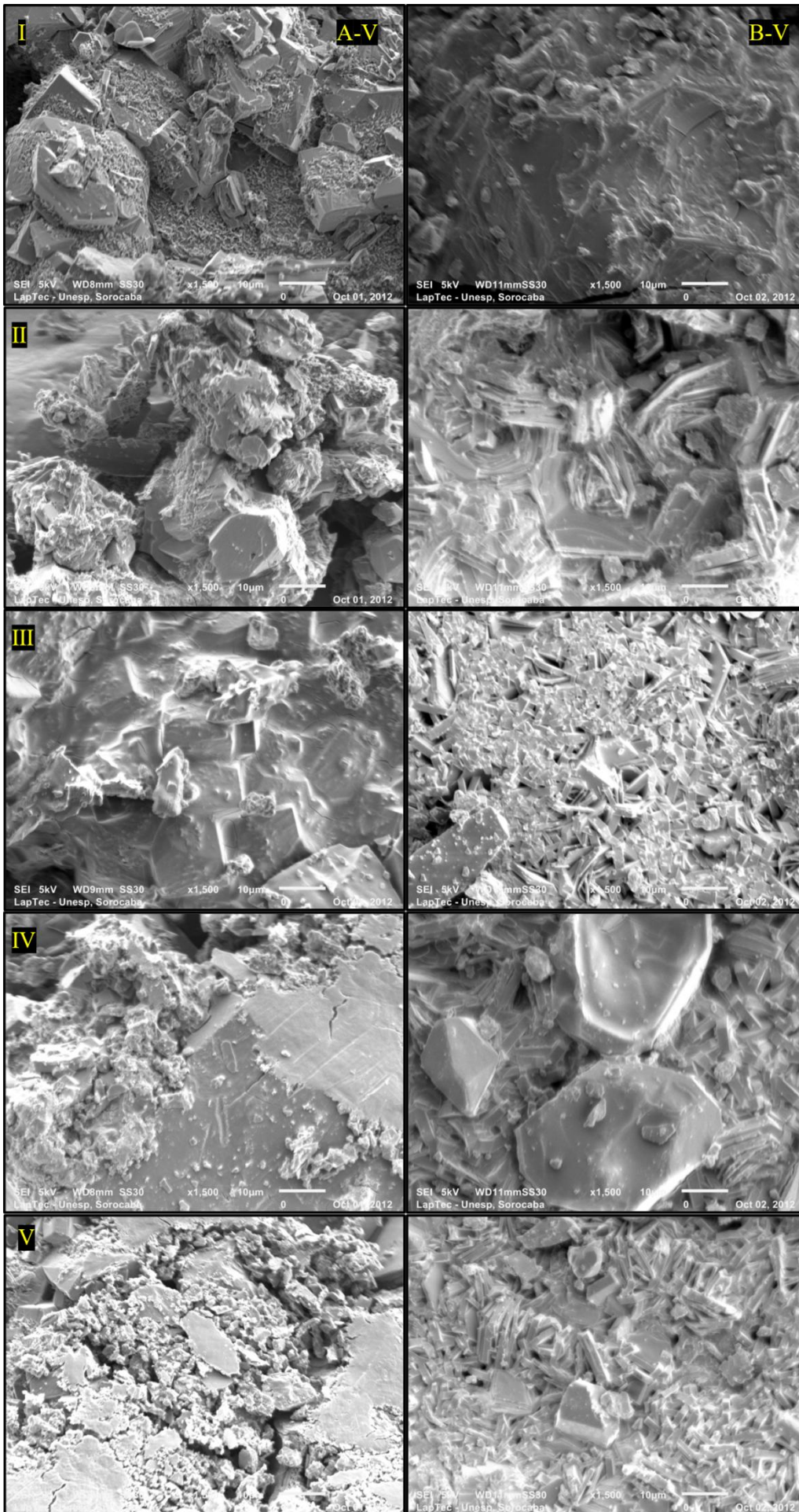
Santabarbaraita

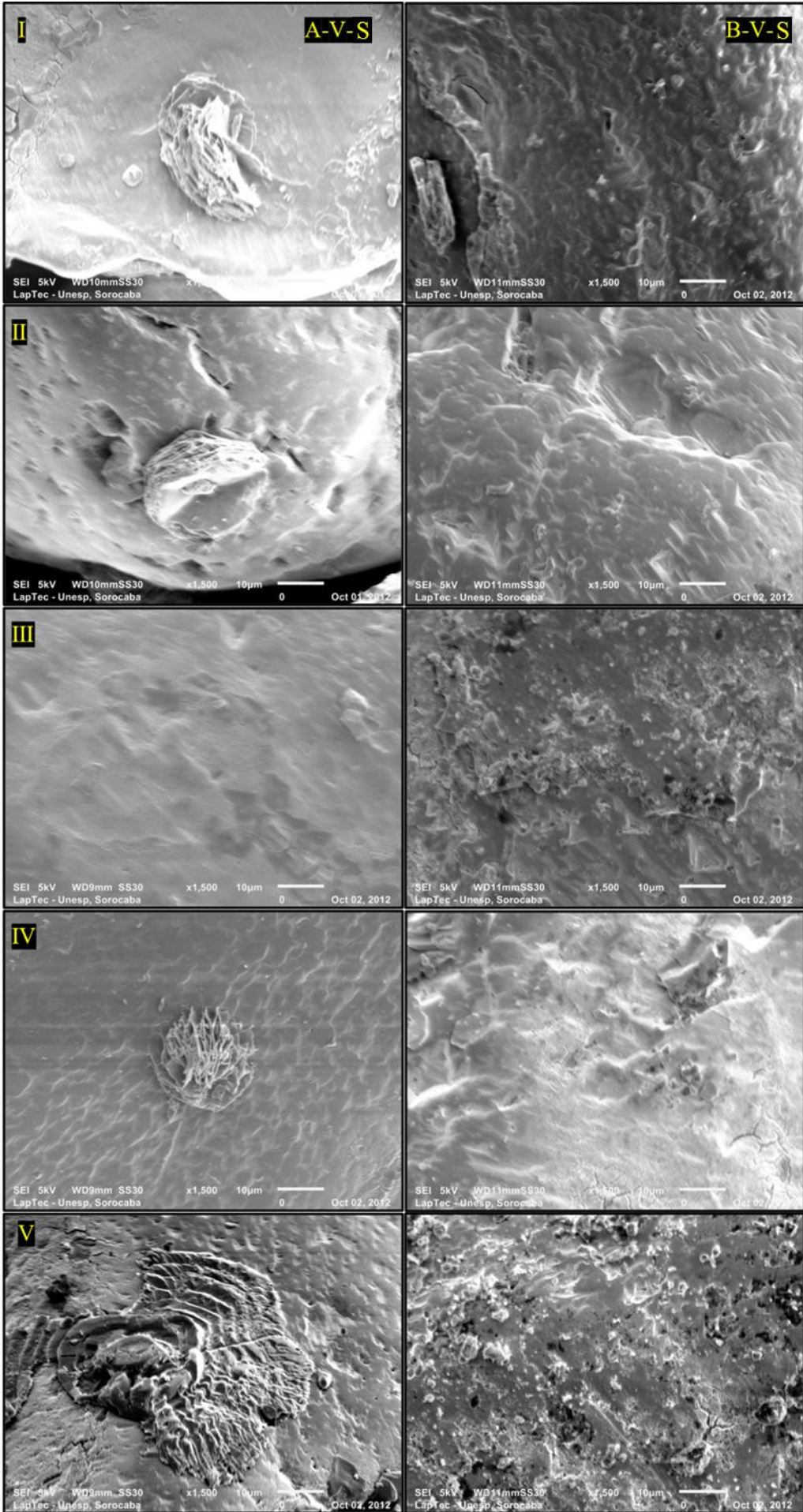
Amostra	Ponto	ν	Molécula	Tipo de Vibração	Referência
---------	-------	-------	----------	------------------	------------

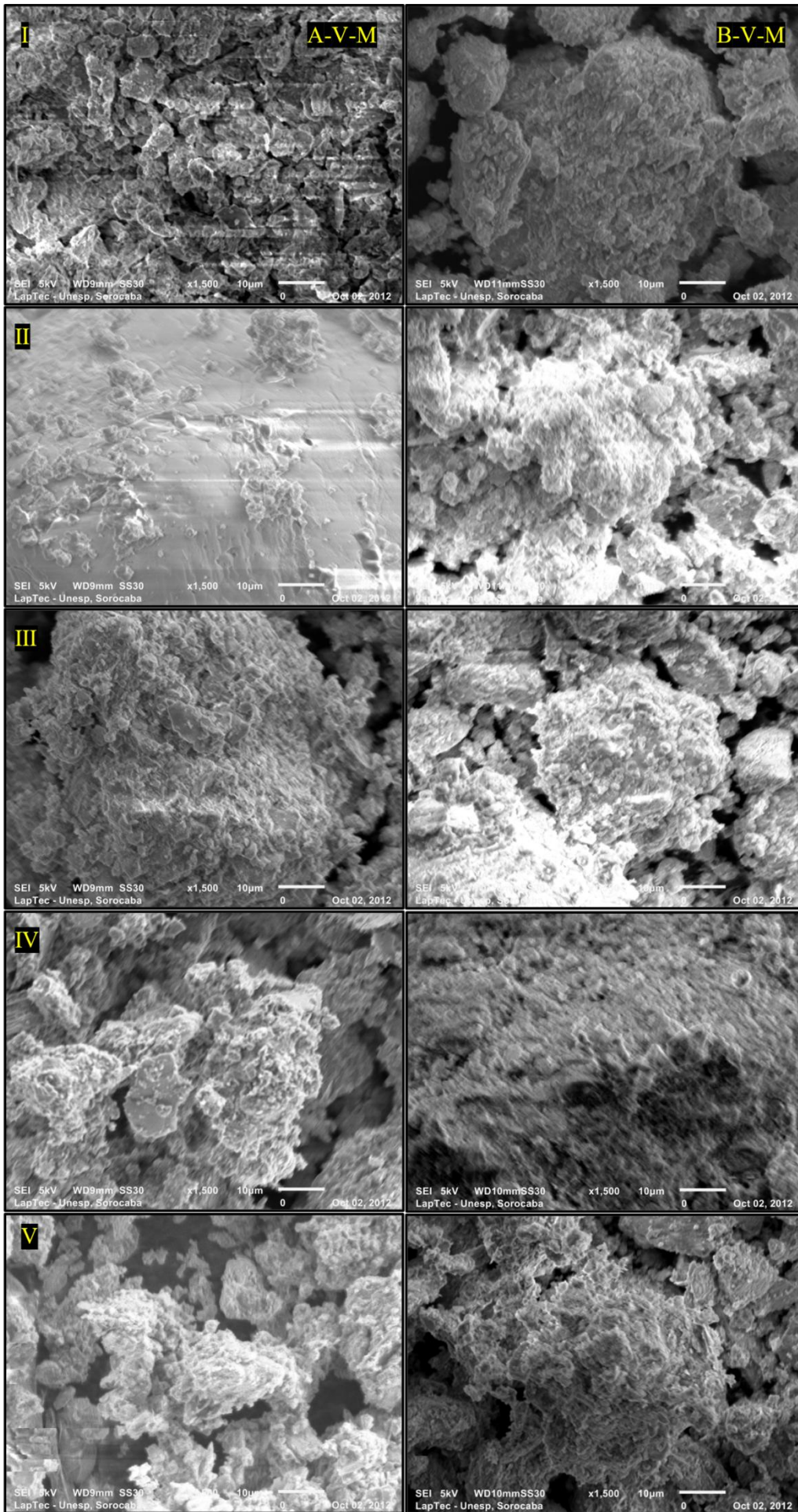
B-V	4	192		Vibrações de rede	
	6	267	O-Al-O	Relacionado com as vibrações de alongamento esquelético	
B-V-A		317	AlO6/AlOH 6	Atribuído aos modos vibracionais das unidades	
	16	431	PO43- e talvez H2PO4	V2 - Modos de dobra no plano	Frost 2016
B-V	4	627	PO43- e	Flexão do plano	
B-V-A	16	638	HOPO32-	Atribuído a v4 a fora dos modos de flexão do plano	
B-V	14	1092	PO43-	Vibrações de alongamento simétricas e antisimétricas	

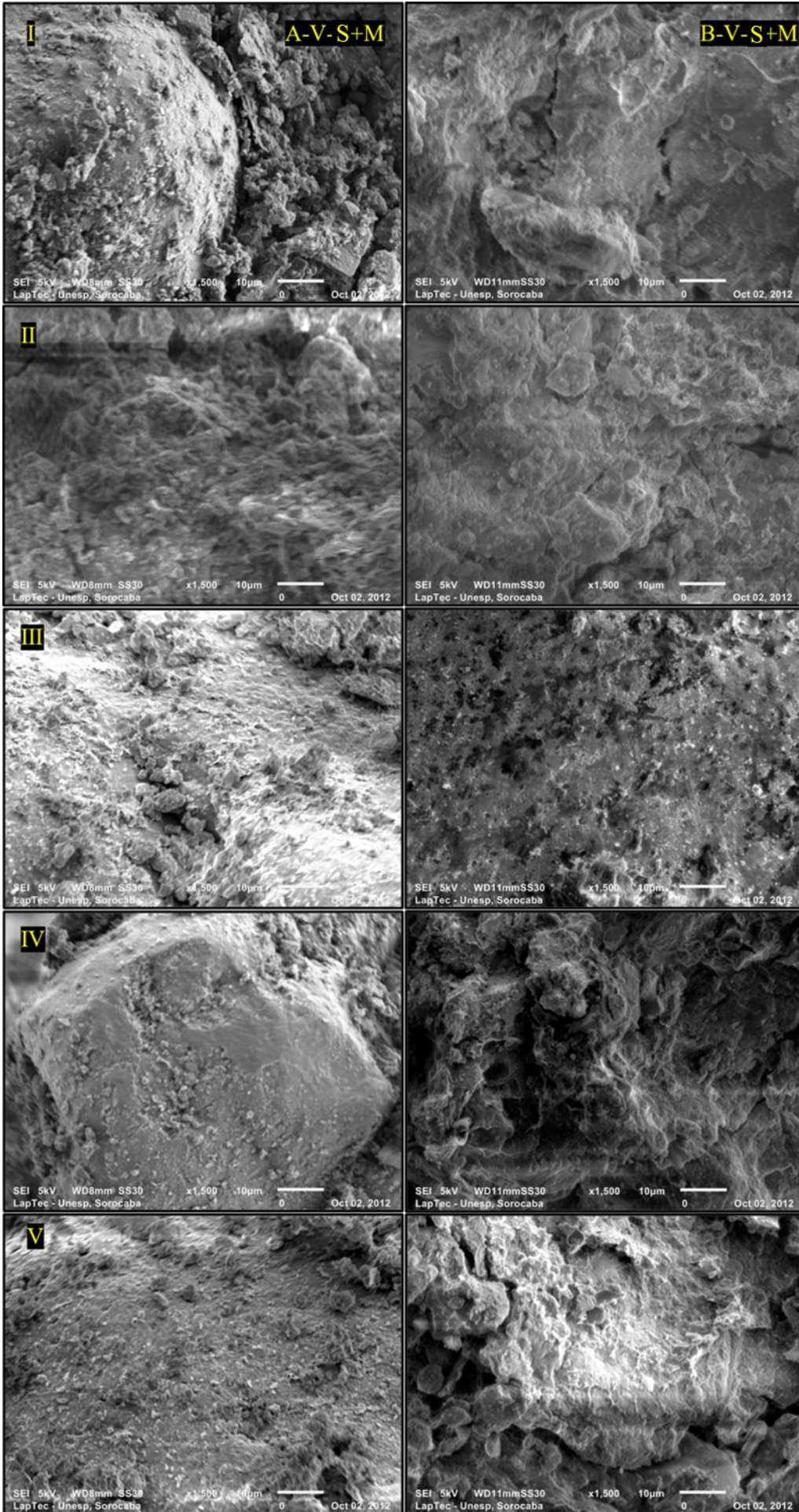
Anexo 9 - Imagens do MEV correspondentes as Condição Dinâmica



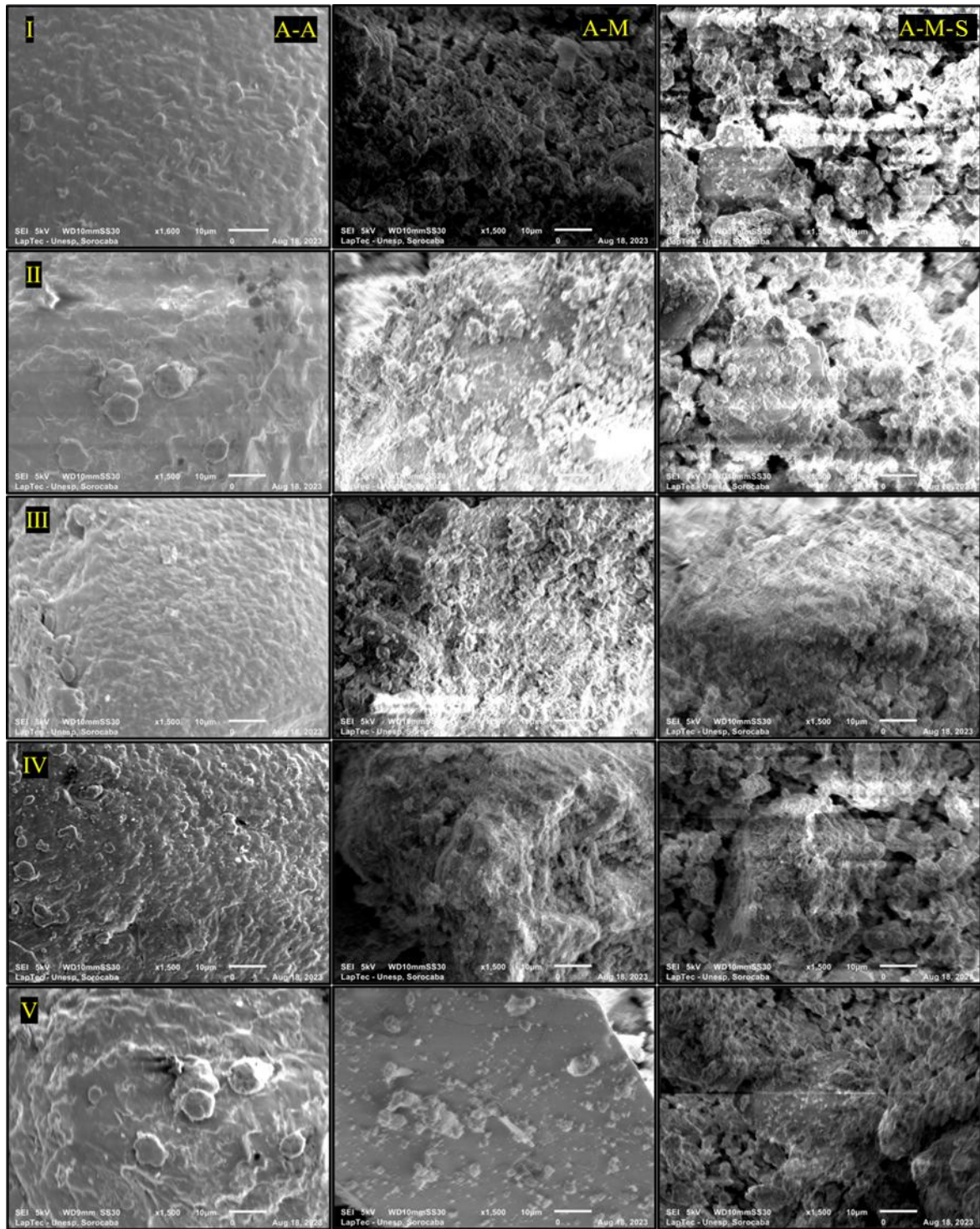


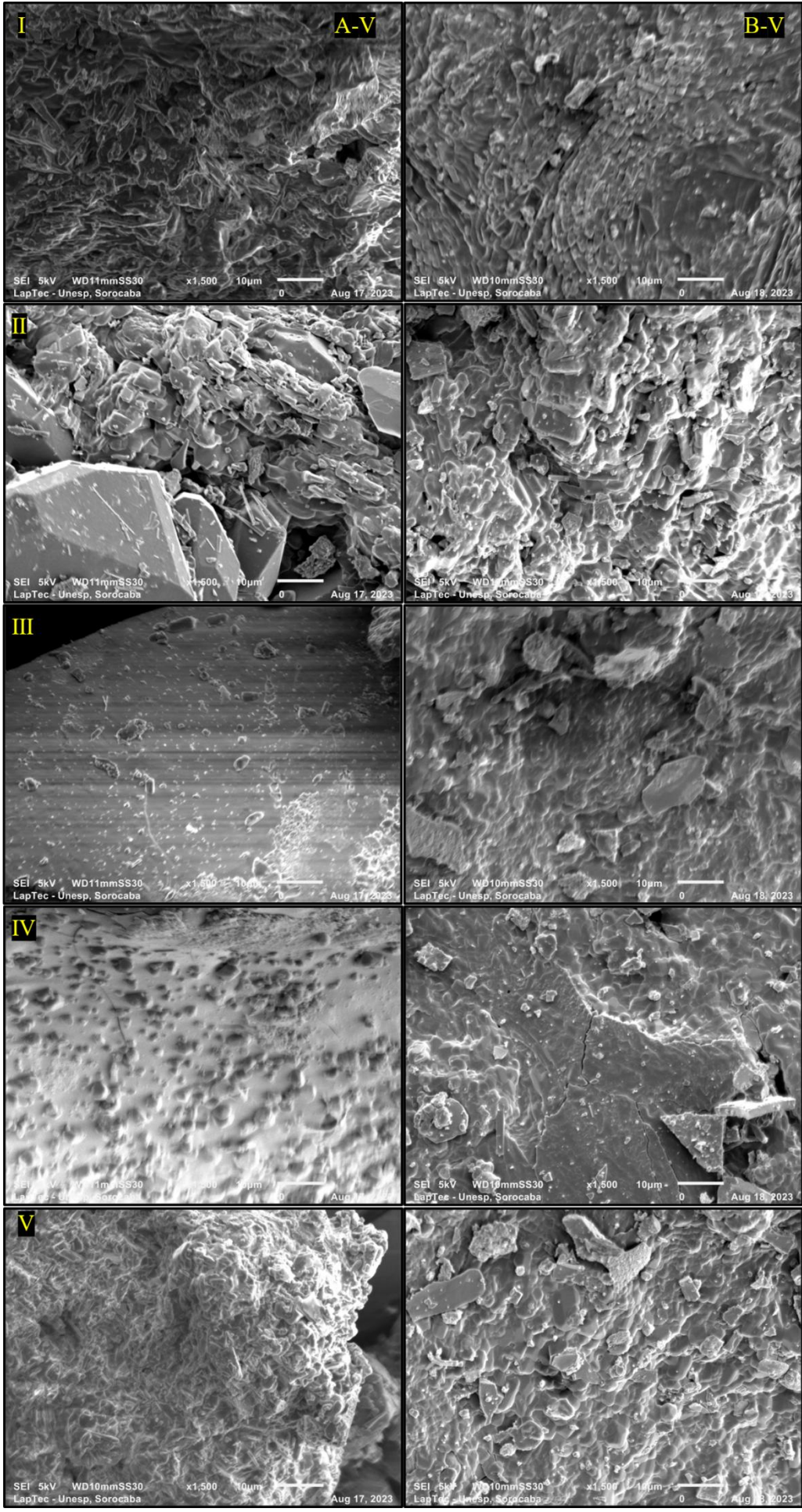


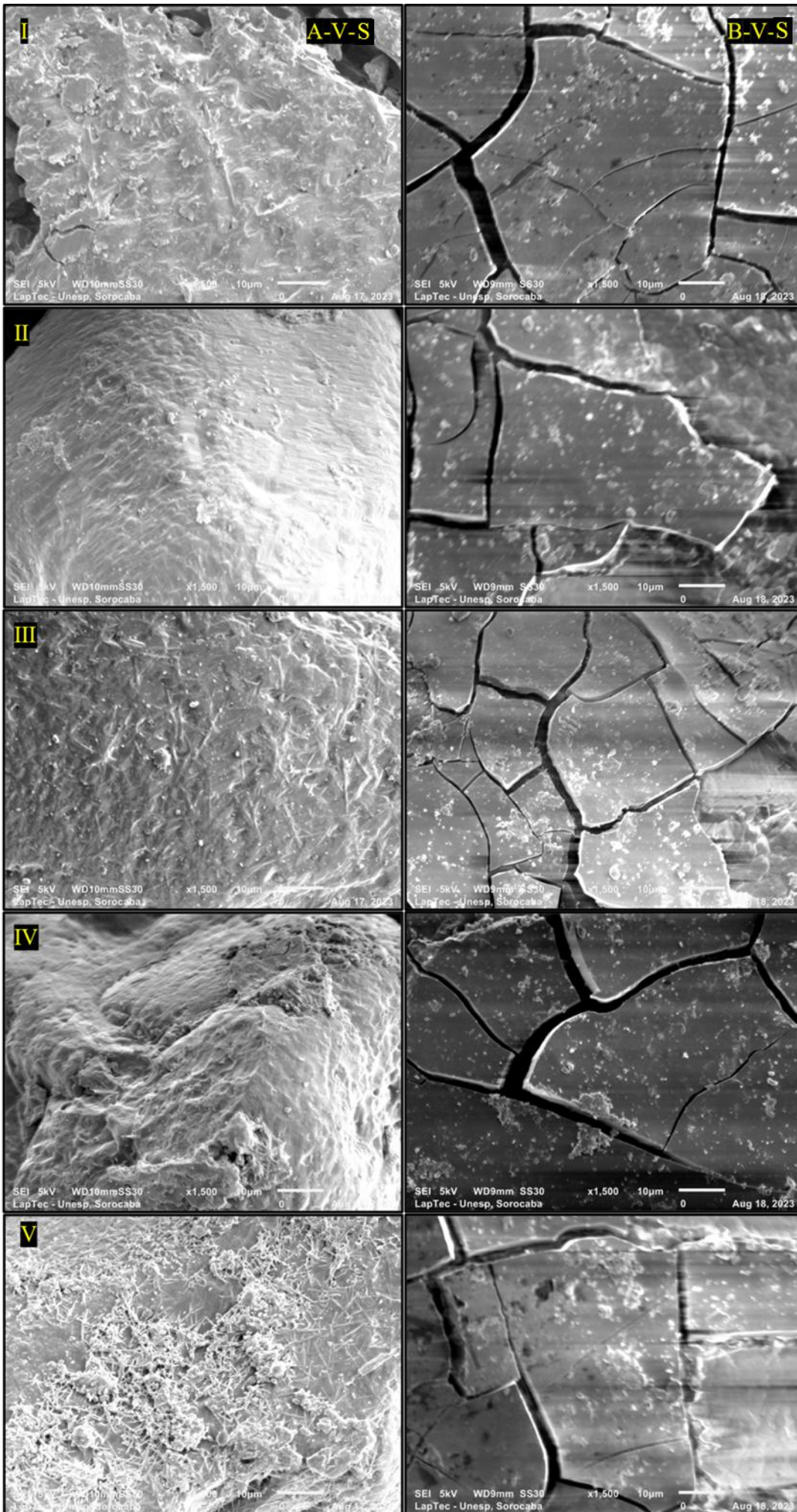


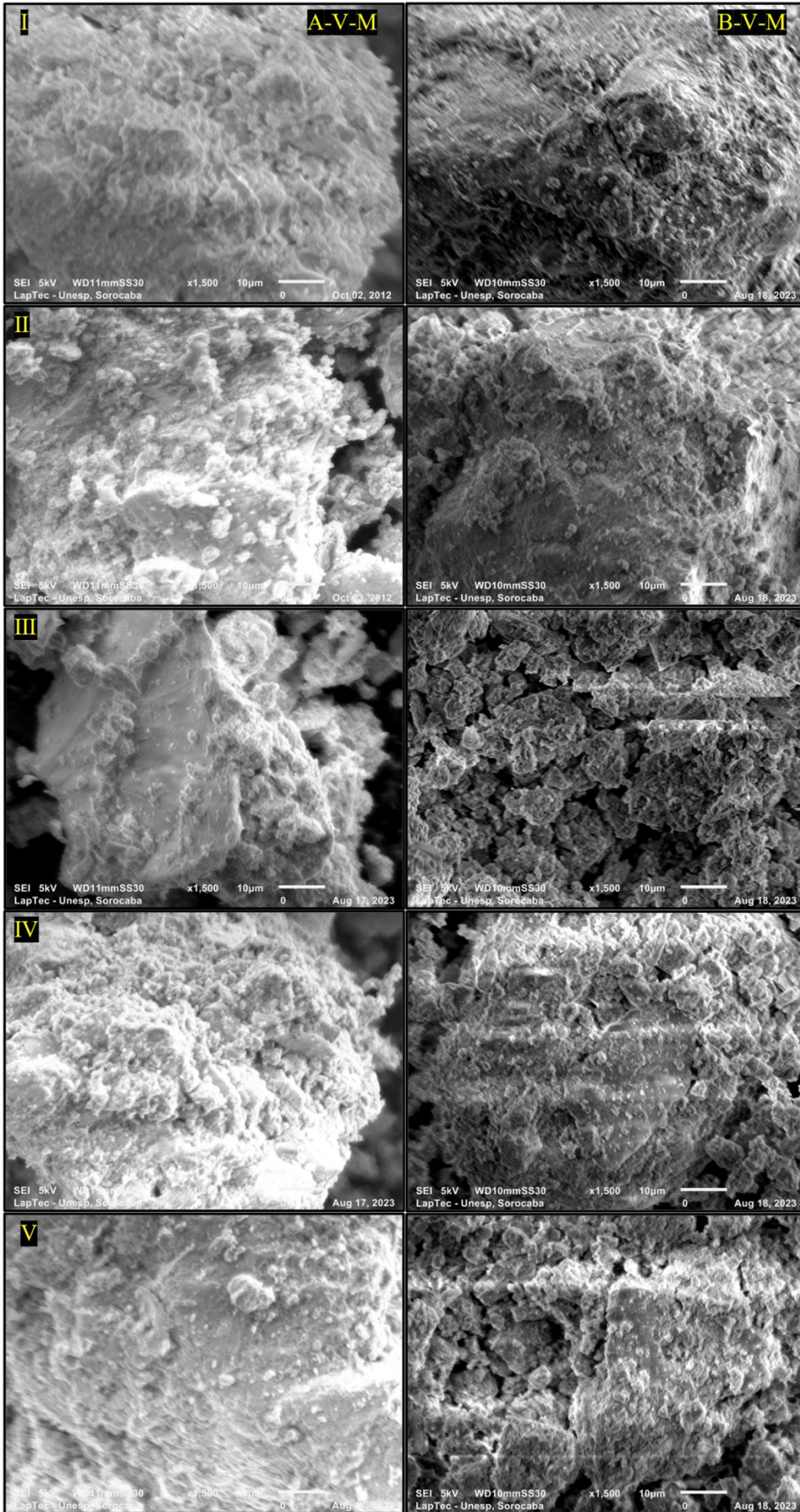


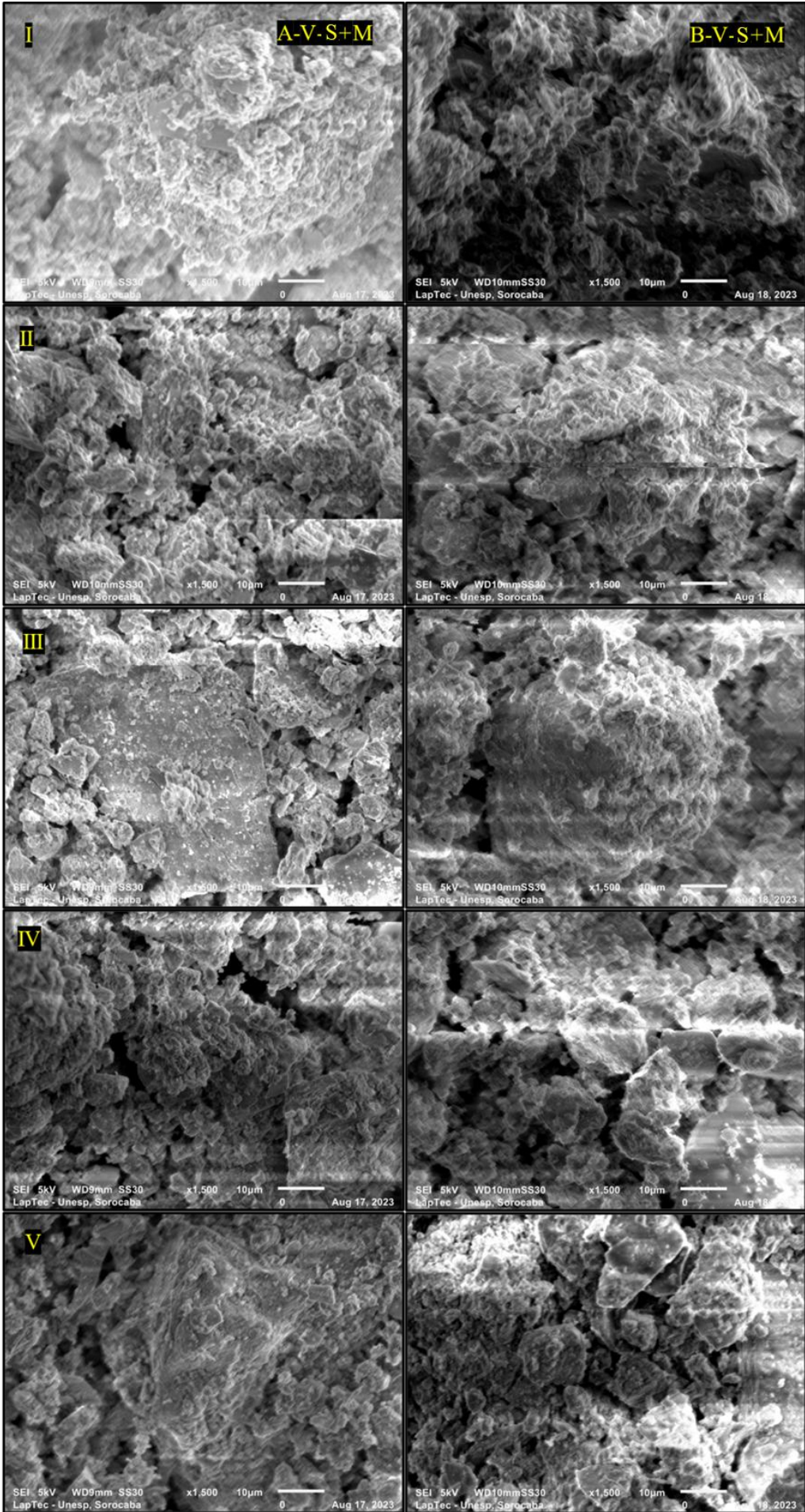
Anexo 10 - Imagens do MEV correspondentes a Condição Estática











Anexo 11 - Dados do EDS correspondentes as Condição Dinâmica:

A = A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	11.66	18.73	0.01	140419	0.017189
	N	7	0.11	0.15	0.03	954	0.000926
	O	8	43.5	52.47	0.03	1130797	0.407147
	Na	11	0.15	0.12	0.02	4652	0.001509
	Mg	12	0.13	0.11	0.03	3887	0.001274
	Al	13	0.77	0.55	0.03	19056	0.006957
	Si	14	36.05	24.77	0.09	736284	0.308087
	P	15	nd	nd			
	S	16	1.12	0.67	0.07	12769	0.006422
	K	19	1.2	0.59	0.16	3904	0.003761
	Ca	20	nd	nd			
	Fe	26	5.31	1.83	0.13	30821	0.032245
	Total:		100	100			
Área 2	C	6	11.61	18.33	0.01	175421	0.021474
	N	7	nd	nd			
	O	8	46.89	55.55	0.03	1488985	0.536113
	Na	11	0.23	0.19	0.02	8776	0.002846
	Mg	12	0.07	0.05	0.02	2302	0.000754
	Al	13	0.54	0.38	0.02	16145	0.005894
	Si	14	33.62	22.69	0.08	830780	0.347627
	P	15	nd	nd			
	S	16	0.71	0.42	0.05	9852	0.004955
	K	19	1.62	0.79	0.12	6358	0.006125
	Ca	20	0	0	0.21	10	0.0000113
	Fe	26	4.71	1.6	0.11	32640	0.034148
	Total:		100	100			
Área 3	C	6	9.96	15.97	0.01	149447	0.018294
	N	7	nd	nd			
	O	8	45.19	54.39	0.03	1520888	0.5476
	Na	11	0.1	0.09	0.02	4154	0.001347
	Mg	12	0.1	0.08	0.02	3738	0.001225
	Al	13	0.47	0.34	0.02	14977	0.005468
	Si	14	40.72	27.92	0.08	1065395	0.445798
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	nd	nd			
	Ca	20	0.15	0.07	0.21	325	0.000384
	Fe	26	3.3	1.14	0.1	24421	0.02555
	Total:		100	100			
Área 4	C	6	12.9	20.22	0.01	175035	0.021426
	N	7	3.49	4.69	0.03	31189	0.030267
	O	8	43.09	50.69	0.03	1147125	0.413026
	Na	11	0.2	0.17	0.02	6789	0.002202
	Mg	12	1.03	0.8	0.03	31590	0.010351
	Al	13	0.79	0.55	0.03	20691	0.007554
	Si	14	23.25	15.58	0.07	507420	0.212322
	P	15	nd	nd			
	S	16	6.42	3.77	0.07	79395	0.039929
	K	19	3.82	1.84	0.16	13284	0.012796
	Ca	20	0.15	0.07	0.27	270	0.000319
	Fe	26	4.85	1.63	0.13	29577	0.030944
	Total:		100	100			
Área 5	C	6	12.74	20.02	0.01	198846	0.024341
	N	7	nd	nd			

	O	8	46.35	54.67	0.03	1483157	0.534015
	Na	11	0.25	0.21	0.02	9525	0.003089
	Mg	12	0.04	0.03	0.02	1579	0.000518
	Al	13	0.77	0.54	0.03	23162	0.008456
	Si	14	31.89	21.43	0.08	796761	0.333392
	P	15	nd	nd			
	S	16	0.5	0.29	0.06	6990	0.003515
	K	19	2.06	1	0.14	8204	0.007903
	Ca	20	nd	nd			
	Fe	26	5.4	1.82	0.12	37898	0.03965
	Total:		100	100			

A = M							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	5.18	8.81	0.01	97664	0.011955
	N	7	nd	nd			
	O	8	44.23	56.49	0.02	1914338	0.689263
	Na	11	0.17	0.15	0.01	8799	0.002853
	Mg	12	1.13	0.95	0.01	52513	0.017207
	Al	13	7.41	5.61	0.03	294697	0.107585
	Si	14	34.6	25.17	0.06	1127638	0.471843
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.83	0.44	0.06	4362	0.004202
	Ca	20	0.09	0.05	0.1	244	0.000289
	Fe	26	6.36	2.33	0.06	60304	0.063091
	Total:		100	100			
Área 2	C	6	1.89	3.3	0	25699	0.003146
	N	7	nd	nd			
	O	8	45.08	59.07	0.03	1452877	0.523113
	Na	11	0.33	0.3	0.01	12208	0.003959
	Mg	12	1.08	0.93	0.02	37275	0.012214
	Al	13	8.15	6.33	0.03	240128	0.087663
	Si	14	36.34	27.12	0.07	876503	0.366759
	P	15	0	0	0.02	23	0.00001
	S	16	0.18	0.12	0.02	2473	0.001244
	K	19	1.15	0.62	0.07	4451	0.004288
	Ca	20	0.23	0.12	0.12	470	0.000556
	Fe	26	5.57	2.09	0.07	39087	0.040893
	Total:		100	100			
Área 3	C	6	6.23	10.45	0.01	129537	0.015857
	N	7	nd	nd			
	O	8	45.19	56.88	0.02	2121836	0.763973
	Na	11	0.1	0.08	0.01	5256	0.001705
	Mg	12	1.07	0.88	0.01	53744	0.01761
	Al	13	6.65	4.96	0.02	286443	0.104571
	Si	14	33.21	23.8	0.06	1174909	0.491623
	P	15	0.14	0.09	0.02	2985	0.001299
	S	16	0.19	0.12	0.02	3884	0.001953
	K	19	0.7	0.36	0.05	3984	0.003838
	Ca	20	0.16	0.08	0.09	465	0.000551
	Fe	26	6.37	2.3	0.06	65199	0.068212
	Total:		100	100			
Área 4	C	6	6.98	11.62	0.01	134621	0.016479
	N	7	nd	nd			
	O	8	44.9	56.1	0.02	1920217	0.69138

	Na	11	0.63	0.55	0.01	31397	0.010182
	Mg	12	0.94	0.77	0.01	43207	0.014157
	Al	13	8.38	6.21	0.03	329609	0.12033
	Si	14	30.58	21.77	0.06	986088	0.412614
	P	15	0.13	0.09	0.02	2652	0.001154
	S	16	0.14	0.09	0.02	2576	0.001296
	K	19	0.99	0.51	0.06	5160	0.004971
	Ca	20	0.28	0.14	0.09	756	0.000894
	Fe	26	6.06	2.17	0.06	56627	0.059244
	Total:		100	100			
Área 5	C	6	4.94	8.44	0	88620	0.010848
	N	7	nd	nd			
	O	8	43.7	56.06	0.02	1819215	0.655014
	Na	11	0.09	0.08	0.01	4373	0.001418
	Mg	12	1.21	1.03	0.01	54509	0.017861
	Al	13	7.16	5.44	0.03	274513	0.100216
	Si	14	35.7	26.09	0.06	1122476	0.469683
	P	15	0.14	0.09	0.02	2672	0.001163
	S	16	0.18	0.12	0.02	3210	0.001614
	K	19	0.82	0.43	0.06	4141	0.003989
	Ca	20	nd	nd			
	Fe	26	6.05	2.22	0.06	55380	0.057939
	Total:		100	100			

A = A + M							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	17.04	27.06	0.02	57652	0.007057
	N	7	nd	nd			
	O	8	35.51	42.33	0.06	255941	0.092153
	Na	11	0.06	0.05	0.04	515	0.000167
	Mg	12	0.69	0.54	0.05	5698	0.001867
	Al	13	4.64	3.28	0.08	32764	0.011961
	Si	14	36.57	24.83	0.17	212004	0.08871
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	nd	nd			
	Ca	20	0.36	0.17	0.54	176	0.000208
	Fe	26	5.13	1.75	0.22	8731	0.009135
	Total:		100	100			
Área 2	C	6	59.72	73.41	0.17	8458	0.001035
	N	7	nd	nd			
	O	8	19.59	18.08	0.31	3274	0.001179
	Na	11	1.28	0.82	0.25	309	0.0001
	Mg	12	0.19	0.11	0.28	42	0.0000137
	Al	13	0.52	0.28	0.33	97	0.0000355
	Si	14	7.97	4.19	0.6	1250	0.000523
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	nd	nd			
	Ca	20	2.53	0.93	1.74	33	0.0000388
	Fe	26	8.21	2.17	1.55	378	0.000396
	Total:		100	100			
Área 3	C	6	22.73	34.43	0.05	15508	0.001898
	N	7	nd	nd			
	O	8	35.56	40.44	0.13	46962	0.016909
	Na	11	0.32	0.25	0.09	527	0.000171

	Mg	12	0.53	0.4	0.11	814	0.000267
	Al	13	3.51	2.37	0.15	4601	0.00168
	Si	14	30.34	19.66	0.35	32744	0.013701
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.28	0.6	0.64	220	0.000212
	Ca	20	nd	nd			
	Fe	26	5.73	1.87	0.5	1798	0.001881
		Total:		100	100		
Área 4	C	6	22.1	33.87	0.02	102069	0.012495
	N	7	nd	nd			
	O	8	34.32	39.5	0.05	316994	0.114135
	Na	11	0.06	0.05	0.04	683	0.000222
	Mg	12	0.69	0.53	0.05	7429	0.002434
	Al	13	3.55	2.42	0.06	32448	0.011846
	Si	14	32.69	21.43	0.14	245870	0.102881
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.22	0.1	0.28	261	0.000252
	Ca	20	0.05	0.02	0.47	33	0.0000395
	Fe	26	6.32	2.08	0.21	13928	0.014571
		Total:		100	100		
Área 5	C	6	21.49	32.96	0.02	138632	0.01697
	N	7	nd	nd			
	O	8	34.18	39.36	0.04	445884	0.160542
	Na	11	0.05	0.04	0.03	797	0.000259
	Mg	12	0.6	0.46	0.04	9202	0.003015
	Al	13	3.96	2.7	0.05	51658	0.018859
	Si	14	34.51	22.64	0.12	369524	0.154622
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.84	0.4	0.24	1431	0.001378
	Ca	20	nd	nd			
	Fe	26	4.38	1.44	0.17	13698	0.014331
		Total:		100	100		

A = V							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	8.93	17.15	0.01	84366	0.010327
	N	7	0.57	0.95	0.03	3491	0.003388
	O	8	38.89	56.09	0.04	691585	0.249007
	Na	11	0.11	0.11	0.03	2010	0.000652
	Mg	12	0.32	0.31	0.03	5783	0.001895
	Al	13	0.36	0.31	0.03	5704	0.002082
	Si	14	0.07	0.06	0.04	892	0.000373
	P	15	nd	nd			
	S	16	10.82	7.78	0.08	84632	0.042562
	K	19	4.22	2.49	0.17	9261	0.008921
	Ca	20	nd	nd			
	Fe	26	35.72	14.76	0.19	143574	0.150209
		Total:		100	100		
Área 2	C	6	6.86	12.22	0.01	63081	0.007722
	N	7	4.88	7.46	0.03	30497	0.029596
	O	8	43.3	57.91	0.04	753119	0.271163
	Na	11	0.1	0.09	0.02	1818	0.00059
	Mg	12	2.07	1.82	0.03	37165	0.012178

	Al	13	0.21	0.17	0.03	3267	0.001193
	Si	14	0.44	0.33	0.04	5782	0.002419
	P	15	nd	nd			
	S	16	12.06	8.04	0.08	93216	0.046879
	K	19	2.66	1.45	0.16	5747	0.005536
	Ca	20	nd	nd			
	Fe	26	27.43	10.51	0.18	105995	0.110894
	Total:		100	100			
Área 3	C	6	7.16	13.52	0.01	90009	0.011018
	N	7	4.02	6.51	0.03	32625	0.031662
	O	8	38.62	54.73	0.03	888453	0.31989
	Na	11	0.19	0.19	0.02	4861	0.001576
	Mg	12	0.66	0.61	0.03	15701	0.005144
	Al	13	0.24	0.2	0.03	5024	0.001834
	Si	14	0.08	0.06	0.04	1379	0.000577
	P	15	nd	nd			
	S	16	11.22	7.93	0.07	116753	0.058716
	K	19	4.19	2.43	0.15	12238	0.011788
	Ca	20	1.05	0.6	0.23	1611	0.001906
Fe	26	32.56	13.22	0.16	171979	0.179926	
	Total:		100	100			
Área 4	C	6	9.97	17.52	0.02	47415	0.005804
	N	7	4.48	6.76	0.05	13834	0.013426
	O	8	39.59	52.25	0.05	351213	0.126455
	Na	11	0.09	0.08	0.03	868	0.000282
	Mg	12	2.63	2.28	0.05	25115	0.008229
	Al	13	0.3	0.24	0.05	2495	0.000911
	Si	14	0.23	0.17	0.06	1604	0.000671
	P	15	nd	nd			
	S	16	13.81	9.09	0.12	56424	0.028376
	K	19	4.25	2.3	0.23	4857	0.004679
	Ca	20	0	0	0.37	2	0.000028
Fe	26	24.65	9.32	0.25	50403	0.052733	
	Total:		100	100			
Área 5	C	6	13.54	23.29	0.02	61620	0.007543
	N	7	2.99	4.41	0.05	8600	0.008346
	O	8	39.96	51.61	0.06	330971	0.119167
	Na	11	0.21	0.19	0.04	1900	0.000616
	Mg	12	2.44	2.07	0.05	20982	0.006875
	Al	13	0.33	0.26	0.05	2496	0.000911
	Si	14	0.21	0.15	0.07	1311	0.000548
	P	15	nd	nd			
	S	16	10.3	6.64	0.12	38108	0.019165
	K	19	1.74	0.92	0.23	1806	0.001739
	Ca	20	nd	nd			
Fe	26	28.28	10.47	0.27	53049	0.055501	
	Total:		100	100			

A = V = A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	9.01	15.19	0.01	156281	0.019131
	N	7	nd	nd			
	O	8	46.04	58.26	0.03	1662548	0.598605
	Na	11	0.06	0.05	0.02	2357	0.000764
	Mg	12	0.46	0.39	0.02	17277	0.005661
	Al	13	0.32	0.24	0.02	10371	0.003786
	Si	14	26.94	19.42	0.07	723137	0.302586

	P	15	nd	nd			
	S	16	0.51	0.32	0.05	7715	0.00388
	K	19	0.54	0.28	0.11	2321	0.002235
	Ca	20	nd	nd			
	Fe	26	16.11	5.84	0.12	125214	0.131
	Total:		100	100			
Área 2	C	6	11.27	18.52	0.01	65927	0.00807
	N	7	nd	nd			
	O	8	42.72	52.71	0.05	528171	0.190169
	Na	11	0.09	0.08	0.03	1364	0.000442
	Mg	12	0.37	0.3	0.04	4994	0.001636
	Al	13	0.48	0.35	0.04	5545	0.002024
	Si	14	34.04	23.92	0.13	326241	0.13651
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.43	0.72	0.23	2195	0.002114
	Ca	20	nd	nd			
Fe	26	9.59	3.39	0.18	26460	0.027683	
	Total:		100	100			
Área 3	C	6	12.93	20.6	0.01	260319	0.031866
	N	7	nd	nd			
	O	8	45.39	54.29	0.03	1858965	0.669326
	Na	11	0.16	0.13	0.02	7538	0.002444
	Mg	12	0.65	0.52	0.02	28854	0.009454
	Al	13	0.47	0.33	0.02	17719	0.006469
	Si	14	29.86	20.34	0.06	940500	0.393538
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.06	0.52	0.11	5334	0.005138
	Ca	20	0.16	0.08	0.19	414	0.00049
Fe	26	9.32	3.19	0.11	83648	0.087514	
	Total:		100	100			
Área 4	C	6	12.31	20.95	0.01	106759	0.013069
	N	7	nd	nd			
	O	8	32.04	40.94	0.03	643833	0.231814
	Na	11	nd	nd			
	Mg	12	0.11	0.09	0.03	2571	0.000842
	Al	13	0.41	0.31	0.04	8223	0.003002
	Si	14	48.21	35.1	0.11	788220	0.329819
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.45	0.23	0.19	1156	0.001114
	Ca	20	nd	nd			
Fe	26	6.47	2.37	0.13	31327	0.032774	
	Total:		100	100			
Área 5	C	6	9.69	16.9	0.01	233430	0.028575
	N	7	nd	nd			
	O	8	43.54	57.01	0.02	2046060	0.73669
	Na	11	0.08	0.08	0.01	4354	0.001412
	Mg	12	0.24	0.21	0.02	11934	0.00391
	Al	13	0.34	0.26	0.02	14379	0.005249
	Si	14	18.27	13.63	0.05	650439	0.272166
	P	15	nd	nd			
	S	16	3.21	2.1	0.04	65599	0.03299
	K	19	3.04	1.63	0.1	17532	0.016888
	Ca	20	0.6	0.32	0.16	1825	0.002159
Fe	26	20.99	7.88	0.11	217752	0.227815	
	Total:		100	100			

A = V = M							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	4.09	7.02	0	84319	0.010322
	N	7	nd	nd			
	O	8	45.48	58.58	0.02	2163622	0.779058
	Na	11	0.12	0.11	0.01	6748	0.002188
	Mg	12	1.18	1	0.01	59147	0.019381
	Al	13	6.76	5.16	0.03	291281	0.106343
	Si	14	34.04	24.97	0.06	1204480	0.504022
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.5	0.26	0.06	2857	0.002752
	Ca	20	0.05	0.02	0.1	139	0.000165
Fe	26	7.78	2.87	0.07	80066	0.083771	
	Total:		100	100			
Área 2	C	6	5.94	9.94	0	167249	0.020473
	N	7	nd	nd			
	O	8	48.41	60.86	0.02	3058545	1.101238
	Na	11	0.16	0.14	0.01	11705	0.003796
	Mg	12	0.98	0.81	0.01	65911	0.021596
	Al	13	1.62	1.21	0.01	93173	0.034014
	Si	14	28.08	20.11	0.05	1341878	0.561488
	P	15	0.63	0.41	0.02	18940	0.008241
	S	16	4.69	2.94	0.02	126746	0.063742
	K	19	0.87	0.45	0.05	6647	0.006403
	Ca	20	0.16	0.08	0.07	638	0.000755
Fe	26	8.46	3.05	0.06	114543	0.119836	
	Total:		100	100			
Área 3	C	6	8.83	14.46	0.01	159549	0.019531
	N	7	nd	nd			
	O	8	45.35	55.75	0.03	1792275	0.645314
	Na	11	0.1	0.08	0.01	4498	0.001459
	Mg	12	1.12	0.9	0.01	47276	0.015491
	Al	13	6.35	4.63	0.03	230079	0.083995
	Si	14	30.2	21.15	0.06	899307	0.376301
	P	15	0.29	0.18	0.02	5337	0.002322
	S	16	0.19	0.12	0.02	3222	0.001621
	K	19	0.38	0.19	0.06	1838	0.00177
	Ca	20	0.02	0.01	0.09	55	0.0000646
Fe	26	7.17	2.52	0.07	61667	0.064517	
	Total:		100	100			
Área 4	C	6	21.76	32.42	0.01	214240	0.026225
	N	7	nd	nd			
	O	8	40.61	45.42	0.04	757741	0.272827
	Na	11	0.12	0.1	0.01	2835	0.000919
	Mg	12	0.83	0.61	0.02	17410	0.005704
	Al	13	5.5	3.64	0.04	98893	0.036103
	Si	14	24.14	15.38	0.08	357382	0.149541
	P	15	0.33	0.19	0.03	3075	0.001338
	S	16	nd	nd			
	K	19	0.44	0.2	0.08	1041	0.001003
	Ca	20	0.26	0.12	0.11	321	0.00038
Fe	26	6.01	1.93	0.09	25626	0.02681	
	Total:		100	100			
Área 5	C	6	35.98	48.43	0.01	673617	0.082458
	N	7	nd	nd			

	O	8	36.92	37.31	0.03	1108463	0.399105
	Na	11	0.18	0.12	0.01	6789	0.002202
	Mg	12	0.7	0.47	0.01	24918	0.008165
	Al	13	3.55	2.13	0.02	107424	0.039217
	Si	14	17.08	9.83	0.05	426317	0.178386
	P	15	0.17	0.09	0.02	2677	0.001165
	S	16	0.12	0.06	0.02	1729	0.000869
	K	19	0.12	0.05	0.05	486	0.000469
	Ca	20	nd	nd			
	Fe	26	5.18	1.5	0.07	36963	0.038672
	Total:		100	100			

A = V = M + A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	17.22	26.38	0.04	15130	0.001852
	N	7	nd	nd			
	O	8	42.27	48.61	0.12	75072	0.0270298
	Na	11	0	0	0.06	1	0.0000005
	Mg	12	0.75	0.56	0.08	1481	0.0004852
	Al	13	4.67	3.19	0.13	7924	0.002893
	Si	14	29.58	19.38	0.3	41265	0.0172665
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	nd	nd			
	Ca	20	0.5	0.23	0.71	58	0.0000689
Fe	26	5	1.65	0.4	2001	0.0020936	
	Total:		100	100			
Área 2	C	6	18.04	27.42	0.04	20353	0.002491
	N	7	nd	nd			
	O	8	43.72	49.88	0.11	94965	0.034192
	Na	11	0.31	0.25	0.06	802	0.00026
	Mg	12	0.95	0.71	0.08	2262	0.000741
	Al	13	5.4	3.66	0.12	11067	0.00404
	Si	14	23.6	15.34	0.24	39836	0.016669
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.52	0.24	0.37	141	0.000136
	Ca	20	0.53	0.24	0.58	75	0.000089
Fe	26	6.93	2.26	0.39	3352	0.003507	
	Total:		100	100			
Área 3	C	6	20.28	30.17	0.03	39212	0.0048
	N	7	nd	nd			
	O	8	43.73	48.85	0.09	161004	0.05797
	Na	11	0.04	0.03	0.05	162	0.0000524
	Mg	12	0.51	0.37	0.06	2084	0.0006827
	Al	13	3.08	2.04	0.08	10772	0.0039326
	Si	14	25.6	16.29	0.2	74078	0.0309966
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.57	0.26	0.31	262	0.0002528
	Ca	20	nd	nd			
Fe	26	6.2	1.99	0.31	5102	0.005338	
	Total:		100	100			
Área 4	C	6	31.59	45	0.09	8525	0.0010436
	N	7	nd	nd			
	O	8	33.66	36	0.22	15884	0.0057192
	Na	11	nd	nd			

	Mg	12	0.39	0.27	0.16	216	0.0000708
	Al	13	3.1	1.97	0.23	1470	0.0005365
	Si	14	23.72	14.45	0.52	9281	0.0038834
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	nd	nd			
	Ca	20	nd	nd			
	Fe	26	7.54	2.31	0.81	860	0.0008992
		Total:		100	100		
Área 5	C	6	20.31	30.38	0.04	24084	0.0029482
	N	7	nd	nd			
	O	8	42.25	47.44	0.11	97226	0.0350065
	Na	11	nd	nd			
	Mg	12	0.48	0.36	0.07	1243	0.0004072
	Al	13	2.82	1.88	0.1	6233	0.0022753
	Si	14	28.08	17.96	0.26	51156	0.0214052
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	nd	nd			
	Ca	20	0.32	0.14	0.7	48	0.0000568
	Fe	26	5.74	1.85	0.38	2983	0.0031211
		Total:		100	100		

B = V							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	9.8	16.03	0.01	127846	0.01565
	N	7	11.47	16.09	0.04	94217	0.091434
	O	8	38.67	47.48	0.03	881562	0.317409
	Na	11	0.08	0.06	0.02	2195	0.000712
	Mg	12	1.42	1.14	0.03	38371	0.012573
	Al	13	0.36	0.26	0.03	8440	0.003081
	Si	14	nd	nd			
	P	15	nd	nd			
	S	16	17.04	10.44	0.08	194157	0.097643
	K	19	6.87	3.45	0.17	21727	0.020929
	Ca	20	nd	nd			
Fe	26	14.3	5.03	0.15	78579	0.08221	
	Total:		100	100			
Área 2	C	6	8.98	16.62	0.01	58690	0.007184
	N	7	3.11	4.93	0.04	12729	0.012353
	O	8	36.97	51.36	0.05	448227	0.161385
	Na	11	0.07	0.07	0.03	1038	0.000337
	Mg	12	1.47	1.34	0.04	19559	0.006409
	Al	13	0.42	0.35	0.04	4884	0.001783
	Si	14	nd	nd			
	P	15	nd	nd			
	S	16	15.24	10.56	0.12	87124	0.043816
	K	19	7.36	4.18	0.28	11762	0.01133
	Ca	20	0.47	0.26	0.44	396	0.000468
Fe	26	25.91	10.31	0.22	74240	0.077671	
	Total:		100	100			
Área 3	C	6	8.59	16.08	0.01	112889	0.013819
	N	7	1.42	2.27	0.03	12207	0.011847
	O	8	41.25	57.99	0.03	1014253	0.365185
	Na	11	0.14	0.14	0.02	3571	0.001158
	Mg	12	1.39	1.28	0.03	33663	0.01103

	Al	13	0.4	0.34	0.03	8568	0.003128
	Si	14	nd	nd			
	P	15	nd	nd			
	S	16	8.8	6.17	0.08	93116	0.046829
	K	19	2.36	1.35	0.16	7000	0.006743
	Ca	20	nd	nd			
	Fe	26	35.66	14.36	0.17	193598	0.202545
	Total:		100	100			
Área 4	C	6	9.27	16.28	0.01	122204	0.014959
	N	7	4.79	7.21	0.03	41151	0.039935
	O	8	40.33	53.17	0.03	984912	0.35462
	Na	11	0.16	0.14	0.02	4317	0.0014
	Mg	12	3.49	3.03	0.03	91057	0.029836
	Al	13	0.38	0.3	0.03	8542	0.003119
	Si	14	nd	nd			
	P	15	nd	nd			
	S	16	12.65	8.32	0.08	141028	0.070924
	K	19	3.44	1.86	0.16	10740	0.010346
	Ca	20	0.47	0.25	0.26	761	0.0009
Fe	26	25.02	9.45	0.16	139677	0.146132	
	Total:		100	100			
Área 5	C	6	8.66	16.07	0.01	120593	0.014762
	N	7	2.87	4.56	0.03	25418	0.024667
	O	8	39.59	55.16	0.03	1007280	0.362674
	Na	11	0.12	0.11	0.02	3222	0.001045
	Mg	12	1.19	1.09	0.03	31317	0.010261
	Al	13	0.29	0.24	0.03	6647	0.002427
	Si	14	nd	nd			
	P	15	nd	nd			
	S	16	10.41	7.24	0.07	118499	0.059594
	K	19	4.54	2.59	0.16	14503	0.01397
	Ca	20	0.16	0.09	0.26	270	0.00032
Fe	26	32.17	12.84	0.16	185889	0.19448	
	Total:		100	100			

B = V = A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	12.57	21.08	0.01	140565	0.017207
	N	7	nd	nd			
	O	8	37.99	47.85	0.03	898233	0.323411
	Na	11	0.09	0.08	0.02	2598	0.000843
	Mg	12	0.47	0.39	0.03	12274	0.004022
	Al	13	0.44	0.33	0.03	9761	0.003564
	Si	14	35.2	25.25	0.09	654641	0.273925
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.18	0.61	0.17	3515	0.003386
	Ca	20	0.36	0.18	0.29	563	0.000666
Fe	26	11.7	4.22	0.14	63723	0.066668	
	Total:		100	100			
Área 2	C	6	11.57	18.45	0.01	198969	0.024356
	N	7	nd	nd			
	O	8	46.13	55.21	0.03	1682690	0.605857
	Na	11	0.05	0.04	0.02	2241	0.000727
	Mg	12	0.06	0.04	0.02	2249	0.000737
	Al	13	0.24	0.17	0.02	8004	0.002922

	Si	14	34.29	23.38	0.07	962178	0.402609
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.51	0.25	0.12	2282	0.002198
	Ca	20	nd	nd			
	Fe	26	7.15	2.45	0.11	56843	0.05947
	Total:		100	100			
Área 3	C	6	23.54	35.91	0.01	404440	0.049508
	N	7	nd	nd			
	O	8	38.14	43.67	0.03	1185184	0.426729
	Na	11	0.11	0.09	0.02	4142	0.001343
	Mg	12	0.14	0.11	0.02	4941	0.001619
	Al	13	1.09	0.74	0.03	32317	0.011798
	Si	14	22.39	14.6	0.07	551392	0.230722
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.66	0.31	0.13	2621	0.002525
	Ca	20	nd	nd			
Fe	26	13.92	4.57	0.12	99986	0.104607	
	Total:		100	100			
Área 4	C	6	13.73	22.44	0.01	224776	0.027515
	N	7	nd	nd			
	O	8	41.66	51.1	0.03	1388695	0.500004
	Na	11	0.03	0.02	0.02	1033	0.000335
	Mg	12	0.07	0.06	0.02	2545	0.000834
	Al	13	0.63	0.46	0.03	19501	0.007119
	Si	14	29.87	20.87	0.07	767777	0.321265
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.84	0.42	0.13	3446	0.00332
	Ca	20	nd	nd			
Fe	26	13.17	4.63	0.12	98313	0.102857	
	Total:		100	100			
Área 5	C	6	19.8	30.51	0.01	376219	0.046053
	N	7	nd	nd			
	O	8	41.05	47.49	0.03	1478088	0.53219
	Na	11	0.05	0.04	0.02	2010	0.000652
	Mg	12	0.44	0.34	0.02	17443	0.005715
	Al	13	1.52	1.04	0.02	51522	0.018809
	Si	14	24.98	16.46	0.06	704371	0.294733
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.68	0.32	0.11	3075	0.002962
	Ca	20	nd	nd			
Fe	26	11.48	3.8	0.1	93533	0.097856	
	Total:		100	100			

B = V = M							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	3.37	5.68	0.01	32934	0.004031
	N	7	nd	nd			
	O	8	49.85	63.18	0.04	1111866	0.400331
	Na	11	0.09	0.08	0.01	2321	0.000753
	Mg	12	1.05	0.88	0.02	24247	0.007945
	Al	13	5.9	4.43	0.04	116630	0.042578
	Si	14	31.13	22.48	0.08	507470	0.212343
	P	15	0.2	0.13	0.03	2031	0.000884

	S	16	0.15	0.1	0.02	1401	0.000705
	K	19	0.2	0.1	0.08	521	0.000502
	Ca	20	0.06	0.03	0.11	84	0.000099
	Fe	26	8	2.91	0.1	37407	0.039136
	Total:		100	100			
Área 2	C	6	9.28	15.08	0.01	161612	0.019783
	N	7	nd	nd			
	O	8	46.41	56.6	0.03	1747216	0.62909
	Na	11	0.08	0.07	0.01	3615	0.001172
	Mg	12	1.01	0.81	0.01	40327	0.013214
	Al	13	5.87	4.24	0.03	200912	0.073347
	Si	14	29.18	20.27	0.06	822915	0.344337
	P	15	0.18	0.11	0.02	3171	0.00138
	S	16	0.04	0.02	0.02	645	0.000324
	K	19	0.11	0.06	0.06	503	0.000484
	Ca	20	nd	nd			
Fe	26	7.83	2.74	0.07	63633	0.066573	
	Total:		100	100			
Área 3	C	6	nd	nd			
	N	7	46.83	57.89	0.02	2144817	0.772247
	O	8	0.09	0.08	0.01	4733	0.001535
	Na	11	1.09	0.89	0.01	52867	0.017322
	Mg	12	6.19	4.54	0.03	257010	0.093826
	Al	13	28.83	20.3	0.06	985795	0.412491
	Si	14	0.33	0.21	0.02	6988	0.003041
	P	15	0.25	0.15	0.02	4798	0.002413
	S	16	0.56	0.28	0.05	3063	0.002951
	K	19	nd	nd			
	Ca	20	8.05	2.85	0.07	79330	0.082996
Fe	26	nd	nd				
	Total:		100	100			
Área 4	C	6	6.12	10.31	0	185371	0.022692
	N	7	nd	nd			
	O	8	46.38	58.71	0.02	3109479	1.119577
	Na	11	0.15	0.13	0.01	11104	0.003601
	Mg	12	1.01	0.84	0.01	71443	0.023409
	Al	13	6	4.5	0.02	363925	0.132857
	Si	14	28.99	20.9	0.05	1449192	0.606392
	P	15	0.37	0.24	0.01	11491	0.005
	S	16	0.83	0.52	0.01	23434	0.011785
	K	19	0.88	0.46	0.04	7097	0.006837
	Ca	20	0.07	0.04	0.07	315	0.000372
Fe	26	9.21	3.34	0.06	133076	0.139226	
	Total:		100	100			
Área 5	C	6	6.85	11.42	0.01	133768	0.016375
	N	7	nd	nd			
	O	8	45.8	57.36	0.02	1991694	0.717115
	Na	11	0.17	0.15	0.01	8542	0.00277
	Mg	12	0.98	0.8	0.01	45147	0.014793
	Al	13	5.96	4.42	0.03	236159	0.086214
	Si	14	31.48	22.46	0.06	1027150	0.429795
	P	15	0.24	0.15	0.02	4818	0.002097
	S	16	0.26	0.16	0.02	4764	0.002396
	K	19	0.58	0.3	0.05	3045	0.002933
	Ca	20	0.07	0.03	0.09	185	0.000219
Fe	26	7.63	2.74	0.07	71878	0.0752	
	Total:		100	100			

B = V = M + A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	6.43	11.08	0.01	120597	0.0147625
	N	7	nd	nd			
	O	8	42.35	54.78	0.02	1757170	0.6326742
	Na	11	0.22	0.2	0.01	10713	0.0034742
	Mg	12	1.12	0.95	0.01	49846	0.0163327
	Al	13	7.78	5.97	0.03	296495	0.1082408
	Si	14	30.14	22.2	0.06	943569	0.3948222
	P	15	0	0	0.02	92	0.0000402
	S	16	0.4	0.26	0.02	7070	0.0035557
	K	19	1.71	0.9	0.07	8649	0.0083316
	Ca	20	nd	nd			
	Fe	26	9.84	3.65	0.07	90534	0.0947179
	Total:		100	100			
Área 2	C	6	7.79	13.13	0.01	148080	0.018127
	N	7	nd	nd			
	O	8	43.53	55.07	0.02	1810453	0.651859
	Na	11	0.13	0.11	0.01	6176	0.002003
	Mg	12	1.1	0.92	0.02	48845	0.016005
	Al	13	6.48	4.86	0.03	246561	0.090011
	Si	14	30.45	21.94	0.06	953899	0.399144
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.03	0.53	0.07	5183	0.004992
	Ca	20	nd	nd			
	Fe	26	9.49	3.44	0.08	86838	0.090851
	Total:		100	100			
Área 3	C	6	11.53	18.6	0.01	190796	0.023356
	N	7	nd	nd			
	O	8	42.69	51.69	0.03	1551200	0.558514
	Na	11	0.09	0.07	0.01	3836	0.001244
	Mg	12	0.45	0.36	0.02	18163	0.005951
	Al	13	2.31	1.66	0.03	78908	0.028807
	Si	14	37.09	25.58	0.07	1046257	0.43779
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.1	0.05	0.1	445	0.000429
	Ca	20	nd	nd			
	Fe	26	5.74	1.99	0.09	46579	0.048732
	Total:		100	100			
Área 4	C	6	8.67	14.67	0.01	142005	0.017383
	N	7	nd	nd			
	O	8	41.75	53.04	0.03	1470981	0.529631
	Na	11	0.1	0.09	0.01	4313	0.001399
	Mg	12	1.11	0.93	0.02	42283	0.013855
	Al	13	6.5	4.89	0.03	212374	0.077531
	Si	14	30.17	21.83	0.07	812026	0.33978
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.24	0.64	0.08	5374	0.005177
	Ca	20	0.72	0.36	0.14	1628	0.001925
	Fe	26	9.74	3.55	0.08	76761	0.080309
	Total:		100	100			
Área 5	C	6	6.98	12.33	0.01	135513	0.016588
	N	7	nd	nd			
	O	8	42.27	56.01	0.02	1743100	0.627608
	Na	11	0.09	0.08	0.01	4084	0.001324
	Mg	12	0.89	0.77	0.02	37777	0.012378

	Al	13	5.26	4.13	0.03	193581	0.07067
	Si	14	25.16	18.99	0.06	767893	0.321313
	P	15	0.42	0.28	0.03	7978	0.003471
	S	16	nd	nd			
	K	19	1.07	0.58	0.08	5291	0.005097
	Ca	20	0.18	0.1	0.13	478	0.000565
	Fe	26	17.69	6.72	0.09	160417	0.167831
	Total:		100	100			

Anexo 12 - Dados do EDS correspondentes as Condição estática:

A = A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	13.23	20.66	0.01	164281	0.02011
	N	7	nd	nd			
	O	8	44.47	52.11	0.03	1184834	0.426603
	Na	11	0.01	0.01	0.02	471	0.000153
	Mg	12	0.14	0.11	0.03	4203	0.001377
	Al	13	0.59	0.41	0.03	15036	0.005489
	Si	14	38.17	25.48	0.09	801999	0.335585
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.31	0.15	0.15	1039	0.001001
	Ca	20	0.36	0.17	0.26	619	0.000733
	Fe	26	2.72	0.91	0.13	16091	0.016834
		Total:		100	100		
Área 2	C	6	16.87	25.59	0.01	272609	0.0333704
	N	7	nd	nd			
	O	8	44.36	50.51	0.03	1459590	0.5255295
	Na	11	0.04	0.03	0.02	1675	0.0005433
	Mg	12	0.18	0.14	0.02	6736	0.002207
	Al	13	1.5	1.01	0.03	46958	0.0171427
	Si	14	32.82	21.29	0.07	850641	0.3559379
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.35	0.16	0.13	1419	0.001367
	Ca	20	nd	nd			
	Fe	26	3.88	1.26	0.11	28377	0.0296883
		Total:		100	100		
Área 3	C	6	10.6	16.78	0.01	158896	0.019451
	N	7	nd	nd			
	O	8	47.13	56.01	0.03	1517194	0.54627
	Na	11	nd	nd			
	Mg	12	0.65	0.51	0.02	22858	0.00749
	Al	13	0.51	0.36	0.03	15235	0.005562
	Si	14	36.17	24.48	0.08	902175	0.377501
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.22	0.59	0.13	4842	0.004664
	Ca	20	nd	nd			
	Fe	26	3.73	1.27	0.11	26120	0.027327
		Total:		100	100		
Área 4	C	6	11.77	18.48	0.01	153670	0.018811
	N	7	nd	nd			
	O	8	46.04	54.26	0.03	1301703	0.468682
	Na	11	0.06	0.05	0.02	2038	0.000661
	Mg	12	0.21	0.17	0.02	6649	0.002179

	Al	13	0.62	0.43	0.03	16540	0.006038
	Si	14	37.73	25.33	0.09	831487	0.347923
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.54	0.26	0.15	1872	0.001804
	Ca	20	nd	nd			
	Fe	26	3.03	1.02	0.12	18788	0.019656
		Total:		100	100		
Área 5	C	6	15.75	24.49	0.01	223168	0.027318
	N	7	nd	nd			
	O	8	41.86	48.86	0.03	1220450	0.439426
	Na	11	0.05	0.04	0.02	1694	0.000549
	Mg	12	0.2	0.15	0.02	6629	0.002172
	Al	13	1.33	0.92	0.03	37692	0.01376
	Si	14	35.29	23.47	0.08	823730	0.344677
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.77	0.37	0.14	2853	0.002748
	Ca	20	0.88	0.41	0.24	1694	0.002004
	Fe	26	3.87	1.29	0.11	25616	0.026799
		Total:		100	100		

A = M							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	5.17	8.69	0	120615	0.014765
	N	7	nd	nd			
	O	8	46.9	59.15	0.02	2474053	0.89079
	Na	11	0.14	0.12	0.01	8572	0.00278
	Mg	12	1.15	0.96	0.01	64408	0.021104
	Al	13	6.7	5.01	0.02	320359	0.116953
	Si	14	32.06	23.03	0.05	1259331	0.526948
	P	15	0.14	0.09	0.02	3505	0.001525
	S	16	0.16	0.1	0.02	3564	0.001792
	K	19	0.63	0.32	0.05	3954	0.003808
	Ca	20	0.07	0.04	0.08	246	0.000291
Fe	26	6.87	2.48	0.06	77890	0.081489	
	Total:		100	100			
Área 2	C	6	7.57	12.52	0.01	182842	0.022382
	N	7	nd	nd			
	O	8	45.62	56.66	0.02	2441833	0.879189
	Na	11	0.16	0.14	0.01	10144	0.00329
	Mg	12	1.15	0.94	0.01	65948	0.021609
	Al	13	6.58	4.84	0.02	321553	0.117389
	Si	14	30.8	21.79	0.05	1237898	0.51798
	P	15	0.17	0.11	0.02	4343	0.00189
	S	16	0.31	0.19	0.02	7060	0.00355
	K	19	0.52	0.27	0.05	3375	0.003252
	Ca	20	nd	nd			
Fe	26	7.11	2.53	0.06	82615	0.086433	
	Total:		100	100			
Área 3	C	6	6.43	10.83	0.01	118698	0.01453
	N	7	nd	nd			
	O	8	43.58	55.1	0.02	1837347	0.6615423
	Na	11	0.11	0.1	0.01	5453	0.0017685
	Mg	12	1.1	0.91	0.01	50242	0.0164624
	Al	13	5.79	4.34	0.03	226717	0.0827672

	Si	14	36.02	25.94	0.06	1158603	0.4847997
	P	15	0.14	0.09	0.02	2800	0.0012184
	S	16	0.22	0.14	0.02	4037	0.0020305
	K	19	0.76	0.39	0.06	3893	0.0037505
	Ca	20	0.25	0.13	0.1	680	0.0008049
	Fe	26	5.6	2.03	0.06	52135	0.0545448
	Total:		100	100			
Área 4	C	6	10.26	16.64	0.01	179213	0.0219377
	N	7	nd	nd			
	O	8	44.42	54.08	0.03	1674184	0.6027948
	Na	11	0.14	0.12	0.01	6343	0.002057
	Mg	12	1.16	0.93	0.02	47036	0.015412
	Al	13	5.76	4.16	0.03	200750	0.0732875
	Si	14	30.9	21.43	0.06	885626	0.3705767
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.39	0.2	0.08	1811	0.001744
	Ca	20	0.15	0.07	0.14	366	0.0004327
Fe	26	6.81	2.37	0.08	56355	0.0589597	
	Total:		100	100			
Área 5	C	6	7.17	12.58	0.01	41321	0.0050581
	N	7	nd	nd			
	O	8	36.75	48.45	0.04	444016	0.1598693
	Na	11	0.01	0.01	0.02	185	0.0000599
	Mg	12	1.38	1.2	0.03	19293	0.0063215
	Al	13	10.37	8.11	0.06	123566	0.0451102
	Si	14	30.96	23.25	0.11	300926	0.1259178
	P	15	0.12	0.08	0.03	741	0.0003224
	S	16	0.11	0.07	0.03	610	0.0003066
	K	19	7.97	4.3	0.17	12500	0.0120406
	Ca	20	nd	nd			
Fe	26	5.15	1.94	0.1	14671	0.015349	
	Total:		100	100			

A = A + M							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	1.04	1.84	0	16322	0.001998
	N	7	nd	nd			
	O	8	44.37	59.1	0.03	1650814	0.594381
	Na	11	0.24	0.22	0.01	10235	0.003319
	Mg	12	1.08	0.95	0.01	43061	0.014109
	Al	13	9.89	7.81	0.03	337122	0.123072
	Si	14	34.7	26.32	0.07	965720	0.404091
	P	15	0.07	0.04	0.02	1129	0.000491
	S	16	0.26	0.17	0.02	4081	0.002052
	K	19	2.08	1.13	0.07	9349	0.009005
	Ca	20	0.12	0.07	0.11	289	0.000342
Fe	26	6.16	2.35	0.07	50092	0.052407	
	Total:		100	100			
Área 2	C	6	1.29	2.24	0	28302	0.003464
	N	7	nd	nd			
	O	8	48.4	62.9	0.02	2489017	0.896178
	Na	11	0.18	0.16	0.01	10508	0.003408
	Mg	12	1.15	0.98	0.01	61732	0.020227
	Al	13	7.04	5.42	0.02	323942	0.118261
	Si	14	33.63	24.89	0.06	1271788	0.53216

	P	15	0.19	0.13	0.02	4445	0.001934
	S	16	0.38	0.25	0.02	8098	0.004073
	K	19	0.84	0.45	0.05	5114	0.004926
	Ca	20	0.07	0.04	0.08	225	0.000266
	Fe	26	6.84	2.55	0.06	74599	0.078047
	Total:		100	100			
Área 3	C	6	6.38	10.6	0.01	154984	0.0189718
	N	7	nd	nd			
	O	8	47.08	58.71	0.02	2530801	0.9112222
	Na	11	0.15	0.13	0.01	9275	0.0030078
	Mg	12	1.14	0.94	0.01	64940	0.0212785
	Al	13	6.37	4.71	0.02	310799	0.1134628
	Si	14	30.82	21.9	0.05	1236877	0.5175523
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.72	0.37	0.06	4651	0.00448
	Ca	20	0.18	0.09	0.09	592	0.0007008
	Fe	26	7.16	2.56	0.06	82745	0.0865694
	Total:		100	100			
Área 4	C	6	1.14	1.99	0	22362	0.0027373
	N	7	nd	nd			
	O	8	46.84	61.51	0.02	2175512	0.7832995
	Na	11	0.19	0.17	0.01	9909	0.0032135
	Mg	12	1.15	1	0.01	56540	0.0185259
	Al	13	7.4	5.76	0.03	310274	0.1132711
	Si	14	34.77	26.01	0.06	1196461	0.5006412
	P	15	0.28	0.19	0.02	6035	0.0026259
	S	16	0.28	0.18	0.02	5479	0.0027552
	K	19	1.12	0.6	0.06	6186	0.0059592
	Ca	20	0.16	0.09	0.09	472	0.0005585
	Fe	26	6.67	2.51	0.06	66481	0.069553
	Total:		100	100			
Área 5	C	6	2.96	5.1	0	58512	0.007163
	N	7	nd	nd			
	O	8	46.34	59.88	0.02	2110636	0.759941
	Na	11	0.24	0.22	0.01	12620	0.004093
	Mg	12	1.21	1.03	0.01	58716	0.019239
	Al	13	7.47	5.73	0.03	308955	0.11279
	Si	14	33.8	24.88	0.06	1146529	0.479748
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.08	0.57	0.07	5907	0.00569
	Ca	20	0.31	0.16	0.11	879	0.001039
	Fe	26	6.59	2.44	0.07	64687	0.067676
	Total:		100	100			

A = V							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	3.8	6.87	0.01	25106	0.003073
	N	7	9.99	15.5	0.04	43753	0.04246
	O	8	34.61	47.01	0.04	443832	0.159803
	Na	11	0.16	0.15	0.02	2854	0.000926
	Mg	12	0.18	0.16	0.02	2905	0.000952
	Al	13	0.2	0.16	0.03	2778	0.001014
	Si	14	0.22	0.17	0.03	2637	0.001103
	P	15	0.41	0.29	0.05	3111	0.001353
	S	16	27.45	18.6	0.09	186403	0.093744

	K	19	12.29	6.83	0.17	23103	0.022255
	Ca	20	0.6	0.33	0.21	594	0.000703
	Fe	26	10.09	3.93	0.13	32730	0.034242
	Total:		100	100			
Área 2	C	6	8.22	13.14	0.01	108517	0.013284
	N	7	13.45	18.44	0.03	114490	0.111107
	O	8	41.23	49.5	0.03	954951	0.343833
	Na	11	0.08	0.06	0.02	2288	0.000742
	Mg	12	0.63	0.5	0.02	17646	0.005782
	Al	13	0.34	0.25	0.03	8282	0.003024
	Si	14	nd	nd			
	P	15	nd	nd			
	S	16	18.48	11.07	0.07	216019	0.108638
	K	19	6.6	3.24	0.14	21381	0.020596
	Ca	20	0.18	0.08	0.2	299	0.000354
Fe	26	10.79	3.71	0.13	59709	0.062468	
	Total:		100	100			
Área 3	C	6	4.68	9.2	0.01	100641	0.01232
	N	7	3.98	6.7	0.02	60385	0.058601
	O	8	39.09	57.72	0.02	1621584	0.583856
	Na	11	0.28	0.29	0.01	11975	0.003883
	Mg	12	0.65	0.63	0.02	26112	0.008556
	Al	13	0.28	0.25	0.02	10096	0.003686
	Si	14	0.06	0.05	0.02	1870	0.000782
	P	15	4.58	3.49	0.04	89913	0.039123
	S	16	6	4.42	0.04	105775	0.053195
	K	19	0.88	0.53	0.07	4406	0.004245
	Ca	20	nd	nd			
Fe	26	39.52	16.72	0.12	364622	0.381473	
	Total:		100	100			
Área 4	C	6	7.19	12.59	0.02	11456	0.0014024
	N	7	8.95	13.45	0.09	8674	0.0084177
	O	8	38.14	50.17	0.09	104907	0.0377722
	Na	11	nd	nd			
	Mg	12	0.8	0.69	0.05	2569	0.0008418
	Al	13	0.11	0.08	0.06	299	0.0001091
	Si	14	0.38	0.28	0.07	878	0.0003673
	P	15	1.39	0.94	0.15	2104	0.0009153
	S	16	13.98	9.18	0.18	18995	0.0095527
	K	19	10.25	5.52	0.54	3881	0.0037382
	Ca	20	nd	nd			
Fe	26	18.82	7.09	0.34	12451	0.0130268	
	Total:		100	100			
Área 5	C	6	25.31	37.02	0.01	400854	0.049069
	N	7	7.99	10.03	0.03	69986	0.0679181
	O	8	36.17	39.71	0.03	920853	0.3315557
	Na	11	0.31	0.24	0.02	9973	0.0032341
	Mg	12	0.18	0.13	0.02	5420	0.0017759
	Al	13	0.34	0.22	0.02	8717	0.0031824
	Si	14	0.33	0.2	0.02	7089	0.0029662
	P	15	nd	nd			
	S	16	12.69	6.95	0.05	159810	0.0803698
	K	19	1.86	0.84	0.08	6498	0.0062593
	Ca	20	nd	nd			
Fe	26	14.83	4.67	0.11	91606	0.0958397	
	Total:		100	100			

A = V = A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	11.49	19.35	0.01	196180	0.024015
	N	7	nd	nd			
	O	8	42.59	53.86	0.03	1482944	0.533938
	Na	11	0.07	0.06	0.02	2730	0.000885
	Mg	12	0.34	0.28	0.02	12412	0.004067
	Al	13	0.5	0.37	0.02	15699	0.005731
	Si	14	26.98	19.44	0.07	707686	0.29612
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.62	0.32	0.12	2620	0.002524
	Ca	20	nd	nd			
Fe	26	17.41	6.31	0.12	133740	0.13992	
	Total:		100	100			
Área 2	C	6	11.49	19.35	0.01	196180	0.024015
	N	7	nd	nd			
	O	8	42.59	53.86	0.03	1482944	0.533938
	Na	11	0.07	0.06	0.02	2730	0.000885
	Mg	12	0.34	0.28	0.02	12412	0.004067
	Al	13	0.5	0.37	0.02	15699	0.005731
	Si	14	26.98	19.44	0.07	707686	0.29612
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.62	0.32	0.12	2620	0.002524
	Ca	20	nd	nd			
Fe	26	17.41	6.31	0.12	133740	0.13992	
	Total:		100	100			
Área 3	C	6	9.5	16.25	0.01	128079	0.015678
	N	7	nd	nd			
	O	8	40.95	52.6	0.03	1189257	0.428196
	Na	11	0.03	0.03	0.02	1100	0.000357
	Mg	12	0.13	0.11	0.02	4195	0.001375
	Al	13	0.44	0.34	0.03	11927	0.004354
	Si	14	34.31	25.1	0.08	764617	0.319942
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.13	0.59	0.14	4030	0.003882
	Ca	20	nd	nd			
Fe	26	13.5	4.97	0.12	87898	0.09196	
	Total:		100	100			
Área 4	C	6	8.77	15.05	0.01	170021	0.020813
	N	7	nd	nd			
	O	8	44.82	57.77	0.03	1771766	0.63793
	Na	11	0.07	0.06	0.02	2969	0.000963
	Mg	12	0.18	0.16	0.02	7546	0.002472
	Al	13	0.4	0.31	0.02	14106	0.00515
	Si	14	26.06	19.13	0.06	768916	0.321741
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.12	0.59	0.11	5361	0.005165
	Ca	20	0.53	0.27	0.18	1329	0.001573
Fe	26	18.04	6.66	0.11	154939	0.1621	
	Total:		100	100			
Área 5	C	6	7.11	12.95	0.01	144151	0.0176457
	N	7	1.54	2.4	0.02	21728	0.0210863
	O	8	41.88	57.31	0.03	1685170	0.6067504

	Na	11	0.04	0.03	0.02	1543	0.0005004
	Mg	12	0.35	0.32	0.02	14073	0.0046113
	Al	13	0.4	0.32	0.02	13846	0.0050547
	Si	14	17.25	13.44	0.05	508293	0.2126874
	P	15	1.7	1.2	0.05	31841	0.0138548
	S	16	0.6	0.41	0.04	10218	0.0051387
	K	19	1.11	0.62	0.1	5337	0.0051412
	Ca	20	0.03	0.02	0.17	81	0.0000962
	Fe	26	28.01	10.98	0.12	247106	0.2585255
	Total:		100	100			

A = V = M							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	5.07	8.41	0	104401	0.01278
	N	7	nd	nd			
	O	8	50.36	62.67	0.03	2293670	0.825842
	Na	11	0.13	0.11	0.01	6781	0.002199
	Mg	12	0.88	0.72	0.01	41824	0.013704
	Al	13	5.02	3.71	0.02	203878	0.074429
	Si	14	29.59	20.98	0.06	991652	0.414942
	P	15	0.23	0.15	0.02	4735	0.00206
	S	16	0.21	0.13	0.02	3989	0.002006
	K	19	0.25	0.13	0.05	1343	0.001294
	Ca	20	0.36	0.18	0.08	1002	0.001185
Fe	26	7.9	2.82	0.07	75422	0.078908	
	Total:		100	100			
Área 2	C	6	6	9.97	0.01	107774	0.013193
	N	7	nd	nd			
	O	8	48.31	60.25	0.03	1918743	0.690849
	Na	11	0.17	0.15	0.01	7731	0.002507
	Mg	12	1.04	0.85	0.01	43191	0.014152
	Al	13	5.95	4.4	0.03	212512	0.077581
	Si	14	29.36	20.86	0.06	863362	0.361261
	P	15	0.34	0.22	0.02	6253	0.002721
	S	16	0.25	0.16	0.02	4207	0.002116
	K	19	0.26	0.13	0.05	1228	0.001182
	Ca	20	0.29	0.14	0.08	709	0.000839
Fe	26	8.03	2.87	0.07	67768	0.0709	
	Total:		100	100			
Área 3	C	6	22.59	32.78	0.01	345221	0.042259
	N	7	nd	nd			
	O	8	44.16	48.11	0.03	1248866	0.449658
	Na	11	0.07	0.06	0.01	2526	0.000819
	Mg	12	0.67	0.48	0.01	21183	0.006941
	Al	13	3.95	2.55	0.03	106569	0.038905
	Si	14	22.76	14.13	0.06	506736	0.212036
	P	15	0.13	0.07	0.02	1779	0.000774
	S	16	0.1	0.05	0.02	1243	0.000625
	K	19	0.11	0.05	0.05	397	0.000382
	Ca	20	0.11	0.05	0.07	210	0.000249
Fe	26	5.34	1.67	0.08	33698	0.035256	
	Total:		100	100			
Área 4	C	6	8.41	13.69	0.01	163441	0.020007
	N	7	nd	nd			
	O	8	47.66	58.24	0.03	2000945	0.720446
	Na	11	0.08	0.06	0.01	3662	0.001188
	Mg	12	0.86	0.69	0.01	38449	0.012598

	Al	13	4.88	3.54	0.02	186248	0.067993
	Si	14	29.6	20.6	0.06	931373	0.389719
	P	15	0.26	0.16	0.02	5078	0.002209
	S	16	0.15	0.09	0.02	2715	0.001366
	K	19	0.3	0.15	0.05	1511	0.001455
	Ca	20	0.28	0.13	0.08	729	0.000862
	Fe	26	7.52	2.63	0.07	67641	0.070767
		Total:	100	100			
Área 5	C	6	6.97	11.78	0.01	99370	0.012164
	N	7	nd	nd			
	O	8	43.33	54.97	0.03	1381946	0.4975737
	Na	11	0.09	0.08	0.01	3279	0.0010632
	Mg	12	1.45	1.21	0.02	49779	0.0163107
	Al	13	7.08	5.33	0.03	207505	0.0757536
	Si	14	32.01	23.13	0.07	770412	0.3223674
	P	15	0.02	0.01	0.02	323	0.0001407
	S	16	0.19	0.12	0.02	2564	0.0012894
	K	19	0.93	0.48	0.07	3616	0.0034828
	Ca	20	nd	nd			
	Fe	26	7.92	2.88	0.08	55701	0.0582751
		Total:	100	100			

A = V = M + A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	2.34	4.35	0.01	8484	0.0010386
	N	7	nd	nd			
	O	8	34.86	48.62	0.05	309949	0.1115982
	Na	11	0.09	0.09	0.02	965	0.000313
	Mg	12	1.08	0.99	0.03	10783	0.0035332
	Al	13	7.43	6.14	0.06	63297	0.0231077
	Si	14	44.05	35.01	0.15	306812	0.1283809
	P	15	0.43	0.31	0.04	1844	0.0008025
	S	16	0.59	0.41	0.04	2301	0.0011572
	K	19	2.5	1.42	0.18	2785	0.0026829
	Ca	20	nd	nd			
Fe	26	6.63	2.65	0.12	13831	0.0144704	
	Total:	100	100				
Área 2	C	6	4.4	7.52	0	104095	0.0127424
	N	7	nd	nd			
	O	8	45.9	58.87	0.02	2467583	0.8884602
	Na	11	0.2	0.18	0.01	12197	0.0039553
	Mg	12	1.07	0.91	0.01	61070	0.0200103
	Al	13	7.64	5.81	0.02	371745	0.1357122
	Si	14	31.76	23.21	0.05	1268780	0.5309018
	P	15	0.03	0.02	0.02	742	0.000323
	S	16	0.14	0.09	0.02	3074	0.001546
	K	19	0.94	0.49	0.06	6033	0.0058118
	Ca	20	nd	nd			
Fe	26	7.92	2.91	0.06	91995	0.0962461	
	Total:	100	100				
Área 3	C	6	3.48	6.1	0.01	23262	0.002848
	N	7	nd	nd			
	O	8	42.13	55.54	0.04	667524	0.240344
	Na	11	0.37	0.34	0.02	6789	0.002202
	Mg	12	1.02	0.89	0.02	17369	0.005691
	Al	13	7.54	5.89	0.05	109796	0.040083

	Si	14	37.36	28.05	0.11	445757	0.18652
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.78	0.42	0.13	1506	0.001451
	Ca	20	nd	nd			
	Fe	26	7.32	2.76	0.11	25677	0.026864
	Total:		100	100			
Área 4	C	6	3.54	6.34	0.02	4594	0.000562
	N	7	nd	nd			
	O	8	38.42	51.68	0.08	119476	0.043018
	Na	11	0.07	0.06	0.03	245	0.0000794
	Mg	12	1.41	1.25	0.05	4847	0.001588
	Al	13	7.71	6.15	0.1	22612	0.008255
	Si	14	39.52	30.29	0.24	94786	0.039662
	P	15	0.73	0.51	0.07	1082	0.000471
	S	16	0.36	0.24	0.07	490	0.000247
	K	19	1.82	1	0.27	700	0.000674
	Ca	20	nd	nd			
Fe	26	6.42	2.47	0.22	4562	0.004773	
	Total:		100	100			
Área 5	C	6	5.58	9.54	0.01	64924	0.007948
	N	7	nd	nd			
	O	8	43.01	55.17	0.03	1160460	0.417827
	Na	11	0.09	0.08	0.01	3012	0.000977
	Mg	12	0.87	0.74	0.02	25577	0.00838
	Al	13	5.32	4.05	0.03	133282	0.048657
	Si	14	37.03	27.06	0.08	761967	0.318834
	P	15	0.26	0.17	0.02	3351	0.001458
	S	16	0.61	0.39	0.02	7030	0.003536
	K	19	0.84	0.44	0.08	2771	0.00267
	Ca	20	nd	nd			
Fe	26	6.37	2.34	0.08	38085	0.039845	
	Total:		100	100			

B = V							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	10.16	16.41	0.01	120156	0.014708
	N	7	14.17	19.61	0.04	102429	0.099403
	O	8	34.46	41.77	0.03	706431	0.254353
	Na	11	nd	nd			
	Mg	12	0.2	0.16	0.03	5275	0.001729
	Al	13	0.55	0.39	0.03	12612	0.004604
	Si	14	0.27	0.19	0.04	5250	0.002197
	P	15	nd	nd			
	S	16	22.78	13.78	0.09	252807	0.127139
	K	19	10.73	5.32	0.19	32875	0.031667
	Ca	20	0.38	0.18	0.28	603	0.000714
Fe	26	6.31	2.19	0.13	33065	0.034593	
	Total:		100	100			
Área 2	C	6	9.52	16.4	0.02	46381	0.005678
	N	7	11.68	17.26	0.06	35602	0.03455
	O	8	29.12	37.66	0.05	263211	0.09477
	Na	11	0.06	0.06	0.03	802	0.00026
	Mg	12	0.39	0.33	0.04	4747	0.001555
	Al	13	0.27	0.2	0.04	2747	0.001003
	Si	14	nd	nd			

	P	15	nd	nd			
	S	16	28.56	18.43	0.14	142934	0.071883
	K	19	13.22	6.99	0.3	18246	0.017576
	Ca	20	nd	nd			
	Fe	26	7.18	2.66	0.17	17215	0.018011
	Total:		100	100			
Área 3	C	6	9.89	17.31	0.01	64374	0.00788
	N	7	9.7	14.55	0.05	39160	0.038003
	O	8	29.63	38.91	0.04	358880	0.129216
	Na	11	nd	nd			
	Mg	12	0.36	0.31	0.03	5731	0.001878
	Al	13	0.48	0.38	0.04	6596	0.002408
	Si	14	0.26	0.19	0.06	2914	0.001219
	P	15	nd	nd			
	S	16	27.05	17.72	0.13	178138	0.089587
	K	19	13.08	7.03	0.27	23815	0.022941
	Ca	20	nd	nd			
Fe	26	9.54	3.59	0.16	30336	0.031738	
	Total:		100	100			
Área 4	C	6	9.28	14.9	0.01	140478	0.017196
	N	7	14.67	20.19	0.03	134770	0.130789
	O	8	37.12	44.74	0.03	944548	0.340087
	Na	11	nd	nd			
	Mg	12	0.28	0.23	0.02	9148	0.002997
	Al	13	0.33	0.24	0.03	9190	0.003355
	Si	14	nd	nd			
	P	15	nd	nd			
	S	16	19.38	11.66	0.07	260634	0.131075
	K	19	10.15	5	0.16	37730	0.036344
	Ca	20	0.13	0.06	0.24	253	0.000299
Fe	26	8.65	2.99	0.13	54914	0.057452	
	Total:		100	100			
Área 5	C	6	11.88	20.78	0.02	35865	0.0043902
	N	7	8.61	12.91	0.07	16120	0.0156441
	O	8	27.01	35.47	0.06	155520	0.0559955
	Na	11	0.06	0.05	0.04	473	0.0001533
	Mg	12	0.28	0.25	0.05	2181	0.0007147
	Al	13	0.76	0.59	0.06	5031	0.0018365
	Si	14	0.35	0.26	0.08	1944	0.0008133
	P	15	nd	nd			
	S	16	29.88	19.57	0.2	95146	0.0478497
	K	19	13.36	7.18	0.43	11740	0.0113086
	Ca	20	nd	nd			
Fe	26	7.8	2.94	0.22	12037	0.0125935	
	Total:		100	100			

B = V = A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	5.88	10.25	0.01	123868	0.015163
	N	7	nd	nd			
	O	8	47.45	62.11	0.03	2097608	0.75525
	Na	11	0.11	0.1	0.01	5018	0.001627
	Mg	12	0.17	0.14	0.02	7434	0.002436
	Al	13	0.26	0.2	0.02	10213	0.003729
	Si	14	25.82	19.25	0.06	835366	0.349546
	P	15	nd	nd			
S	16	0.51	0.33	0.03	9336	0.004695	

	K	19	0.78	0.42	0.09	4077	0.003928
	Ca	20	0.34	0.18	0.14	940	0.001112
	Fe	26	18.69	7.01	0.1	175338	0.183441
	Total:		100	100			
Área 2	C	6	8.26	14.75	0.01	150154	0.018381
	N	7	0.36	0.55	0.02	4506	0.004373
	O	8	44.36	59.48	0.03	1578664	0.568403
	Na	11	0.11	0.1	0.02	4132	0.00134
	Mg	12	0.27	0.23	0.02	9288	0.003043
	Al	13	0.46	0.36	0.02	13853	0.005057
	Si	14	17.55	13.4	0.06	449183	0.187954
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.69	0.38	0.11	2877	0.002771
	Ca	20	nd	nd			
Fe	26	27.95	10.74	0.13	213297	0.223154	
	Total:		100	100			
Área 3	C	6	8.93	16.72	0.01	184371	0.022569
	N	7	1.58	2.54	0.02	21340	0.020709
	O	8	40.09	56.35	0.03	1515123	0.545524
	Na	11	0.05	0.05	0.02	1832	0.000594
	Mg	12	0.35	0.32	0.02	12584	0.004123
	Al	13	0.56	0.46	0.02	17783	0.006492
	Si	14	9.6	7.68	0.05	259322	0.10851
	P	15	0.05	0.04	0.05	917	0.000399
	S	16	0.1	0.07	0.05	1611	0.00081
	K	19	1.07	0.62	0.12	4782	0.004606
	Ca	20	nd	nd			
Fe	26	37.63	15.15	0.14	311958	0.326375	
	Total:		100	100			
Área 4	C	6	10.16	19.49	0.01	176407	0.021594
	N	7	2.43	3.99	0.03	26083	0.025312
	O	8	37.07	53.36	0.03	1106528	0.398409
	Na	11	nd	nd			
	Mg	12	0.43	0.41	0.03	12401	0.004063
	Al	13	0.57	0.49	0.03	14470	0.005283
	Si	14	3.98	3.26	0.05	85082	0.035602
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	1.36	0.8	0.15	4856	0.004678
	Ca	20	0.32	0.18	0.25	600	0.00071
Fe	26	43.67	18.01	0.17	291366	0.304831	
	Total:		100	100			
Área 5	C	6	10.05	17.9	0.01	180838	0.022137
	N	7	0.49	0.74	0.02	5743	0.005573
	O	8	42.72	57.14	0.03	1452917	0.523127
	Na	11	0.15	0.14	0.02	5199	0.001686
	Mg	12	0.22	0.2	0.02	7460	0.002444
	Al	13	0.55	0.44	0.02	16196	0.005913
	Si	14	14.69	11.19	0.06	362852	0.15183
	P	15	0.17	0.11	0.05	2617	0.001139
	S	16	0.24	0.16	0.05	3392	0.001706
	K	19	1	0.55	0.12	4036	0.003888
	Ca	20	0.28	0.15	0.19	587	0.000695
Fe	26	29.46	11.29	0.14	217876	0.227945	
	Total:		100	100			

B = V = M							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	6.07	10.31	0.01	128980	0.015789
	N	7	nd	nd			
	O	8	45.35	57.81	0.02	2126470	0.765642
	Na	11	0.13	0.11	0.01	6816	0.00221
	Mg	12	1.08	0.91	0.01	53459	0.017517
	Al	13	6.77	5.12	0.03	287069	0.1048
	Si	14	29.8	21.64	0.06	1040312	0.435303
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.93	0.48	0.07	5232	0.00504
	Ca	20	0.1	0.05	0.11	294	0.000348
	Fe	26	9.77	3.57	0.07	99281	0.103869
	Total:		100	100			
Área 2	C	6	5.85	9.8	0	132407	0.0162081
	N	7	nd	nd			
	O	8	46.79	58.79	0.02	2371029	0.853696
	Na	11	0.14	0.12	0.01	8136	0.0026383
	Mg	12	0.89	0.74	0.01	48000	0.0157278
	Al	13	5.4	4.02	0.02	248482	0.090713
	Si	14	32.87	23.52	0.06	1246270	0.5214828
	P	15	nd	nd			
	S	16	nd	nd			
	K	19	0.41	0.21	0.06	2500	0.0024078
	Ca	20	0.36	0.18	0.09	1145	0.0013546
	Fe	26	7.29	2.62	0.06	79493	0.0831669
	Total:		100	100			
Área 3	C	6	1.77	3.13	0	26342	0.0032246
	N	7	nd	nd			
	O	8	44.64	59.17	0.03	1569572	0.5651289
	Na	11	0.09	0.08	0.01	3657	0.001186
	Mg	12	1.11	0.96	0.02	41295	0.0135308
	Al	13	7.07	5.56	0.03	226150	0.0825603
	Si	14	36.23	27.35	0.07	950857	0.3978717
	P	15	0.14	0.09	0.02	2203	0.0009586
	S	16	0.18	0.12	0.02	2607	0.001311
	K	19	1.26	0.68	0.07	5327	0.0051317
	Ca	20	nd	nd			
	Fe	26	7.52	2.86	0.07	57578	0.0602389
	Total:		100	100			
Área 4	C	6	1.62	2.94	0.01	9146	0.00112
	N	7	nd	nd			
	O	8	39.36	53.69	0.04	540016	0.194434
	Na	11	0.09	0.08	0.02	1452	0.000471
	Mg	12	1.19	1.07	0.02	17973	0.005889
	Al	13	7.69	6.22	0.05	99068	0.036167
	Si	14	41.44	32.2	0.12	436304	0.182565
	P	15	0.23	0.16	0.04	1498	0.000652
	S	16	nd	nd			
	K	19	1.83	1.02	0.14	3087	0.002974
	Ca	20	0.35	0.19	0.24	309	0.000365
	Fe	26	6.2	2.42	0.1	19296	0.020188
	Total:		100	100			
Área 5	C	6	4.69	8.03	0.01	68554	0.0083917
	N	7	nd	nd			
	O	8	44.75	57.55	0.03	1506474	0.5424104
	Na	11	0.07	0.06	0.01	2775	0.0008998
	Mg	12	1.1	0.93	0.02	39560	0.0129624

	Al	13	6.26	4.77	0.03	192219	0.0701729
	Si	14	34.28	25.11	0.07	865747	0.3622586
	P	15	0.34	0.23	0.02	5352	0.0023288
	S	16	0.23	0.15	0.02	3335	0.0016772
	K	19	0.66	0.35	0.07	2664	0.0025662
	Ca	20	0.07	0.04	0.11	158	0.0001874
	Fe	26	7.54	2.78	0.07	55345	0.057903
	Total:		100	100			

B = V = M + A							
	El	AN	Mass [%]	Atom [%]	Sigma	Net	K ratio
Área 1	C	6	1.17	2.1	0	11911	0.001458
	N	7	nd	nd			
	O	8	43.34	58.35	0.03	1049222	0.377775
	Na	11	0.11	0.1	0.01	3091	0.001003
	Mg	12	1.18	1.05	0.02	30553	0.010011
	Al	13	7.79	6.22	0.04	172643	0.063027
	Si	14	36.07	27.66	0.08	655188	0.274153
	P	15	0.44	0.3	0.03	4934	0.002147
	S	16	0.34	0.23	0.02	3482	0.001751
	K	19	1.85	1.02	0.09	5420	0.005221
	Ca	20	nd	nd			
	Fe	26	7.7	2.97	0.08	41022	0.042918
	Total:		100	100			
Área 2	C	6	2.07	3.6	0.01	17006	0.002082
	N	7	nd	nd			
	O	8	47.6	62.03	0.04	901042	0.324423
	Na	11	0.21	0.19	0.02	4601	0.001492
	Mg	12	1.04	0.89	0.02	20516	0.006722
	Al	13	6.94	5.36	0.04	117594	0.04293
	Si	14	32.07	23.8	0.09	447013	0.187046
	P	15	0.38	0.26	0.03	3310	0.00144
	S	16	0.22	0.14	0.03	1760	0.000885
	K	19	1.16	0.62	0.09	2599	0.002503
	Ca	20	nd	nd			
	Fe	26	8.31	3.1	0.11	33505	0.035053
	Total:		100	100			
Área 3	C	6	2.03	3.55	0.01	23877	0.002923
	N	7	nd	nd			
	O	8	46.29	60.74	0.03	1273008	0.45835
	Na	11	0.13	0.12	0.01	4204	0.001363
	Mg	12	0.99	0.86	0.02	28795	0.009435
	Al	13	6.11	4.75	0.03	151756	0.055401
	Si	14	34.69	25.93	0.08	708595	0.296501
	P	15	0.32	0.22	0.02	4079	0.001775
	S	16	0.37	0.24	0.02	4257	0.002141
	K	19	1.11	0.6	0.08	3656	0.003522
	Ca	20	nd	nd			
	Fe	26	7.95	2.99	0.08	47075	0.04925
	Total:		100	100			
Área 4	C	6	2.38	4.39	0.02	1207	0.0001477
	N	7	nd	nd			
	O	8	36.37	50.43	0.13	43640	0.0157127
	Na	11	0.11	0.1	0.05	155	0.0000504
	Mg	12	1.05	0.96	0.08	1420	0.0004652
	Al	13	7.88	6.48	0.16	9066	0.0033098
	Si	14	40.8	32.23	0.4	38396	0.0160661

	P	15	0.3	0.22	0.11	174	0.0000759
	S	16	0.23	0.16	0.11	122	0.0000612
	K	19	4.2	2.38	0.66	635	0.000612
	Ca	20	nd	nd			
	Fe	26	6.68	2.65	0.34	1867	0.0019532
	Total:		100	100			
Área 5	C	6	4.19	7.24	0	78334	0.009589
	N	7	nd	nd			
	O	8	44.74	58.04	0.02	1920631	0.691529
	Na	11	0.24	0.21	0.01	11622	0.003769
	Mg	12	1.12	0.96	0.01	51169	0.016766
	Al	13	6.57	5.05	0.03	256183	0.093524
	Si	14	32.93	24.33	0.06	1056238	0.441967
	P	15	0.35	0.23	0.02	6981	0.003038
	S	16	0.45	0.29	0.02	8157	0.004102
	K	19	0.74	0.39	0.06	3830	0.003689
	Ca	20	0.16	0.08	0.1	438	0.000518
	Fe	26	8.51	3.16	0.07	79523	0.083198
		Total:		100	100		

Anexo 13 - Mapas do EDS correspondentes as variáveis da Condição Dinâmica:

A-A

Imagem 1

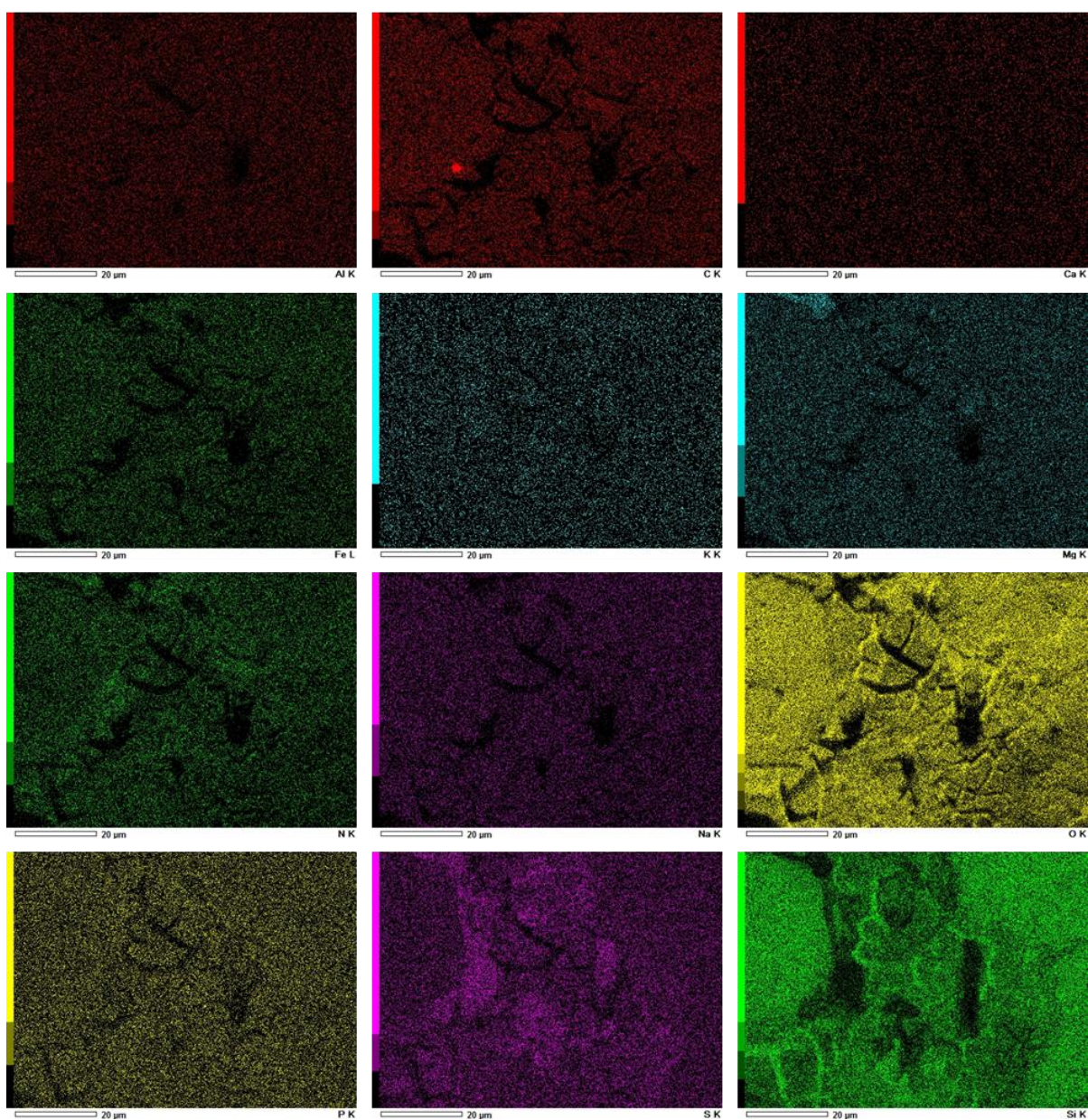
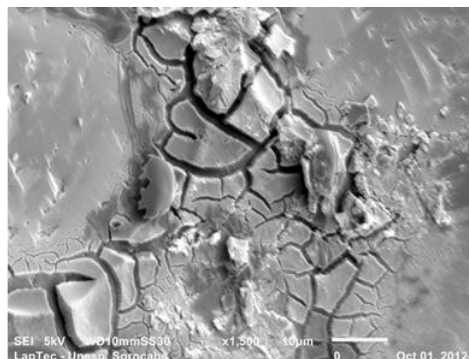
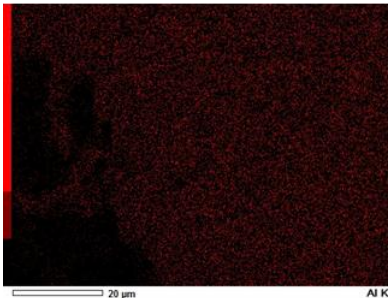
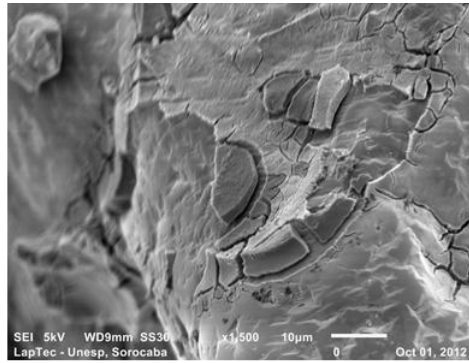
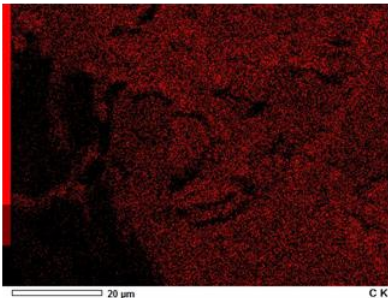


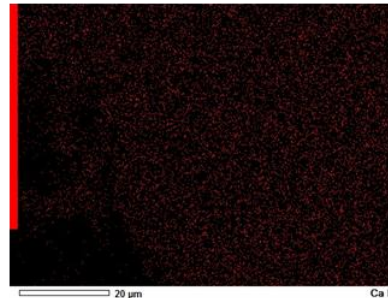
Imagem II



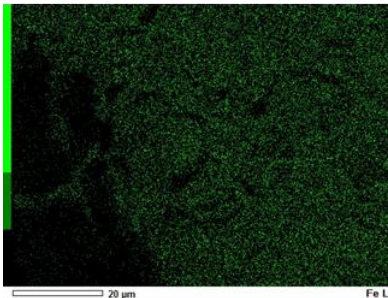
Al K



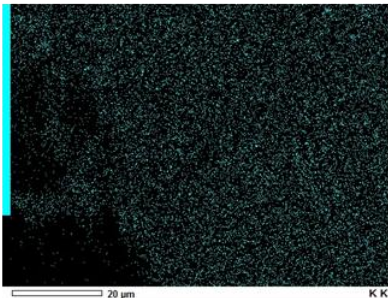
C K



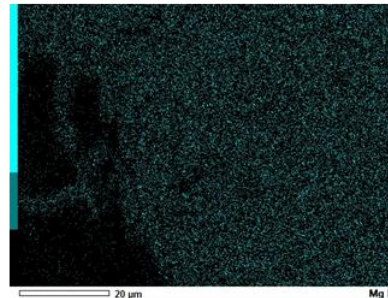
Ca K



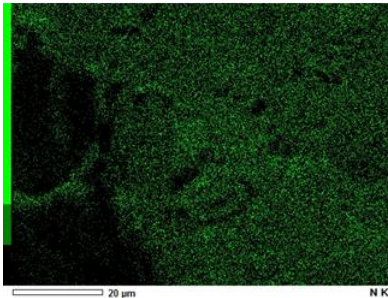
Fe L



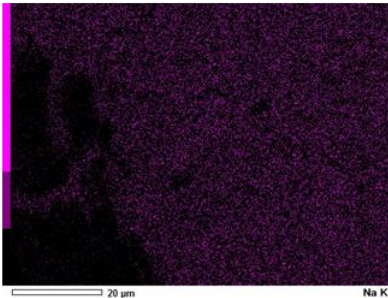
K K



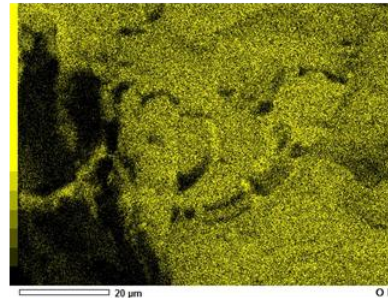
Mg K



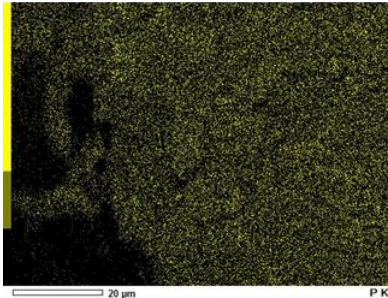
N K



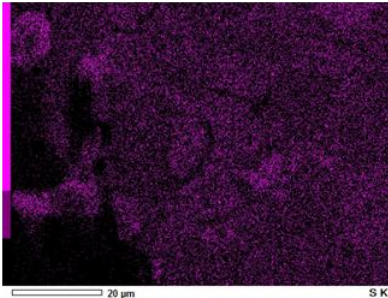
Na K



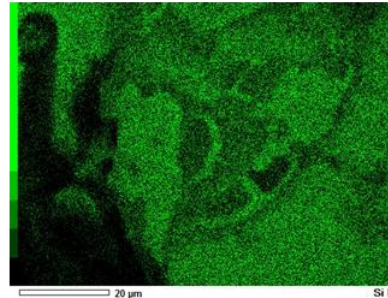
O K



P K



S K



Si K

Imagem III

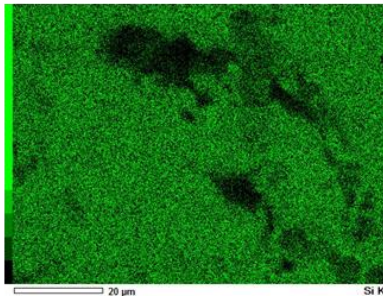
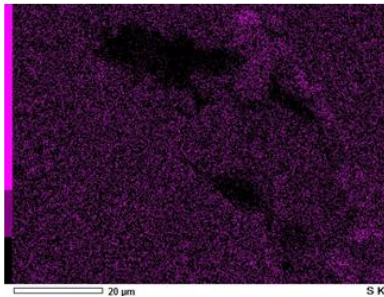
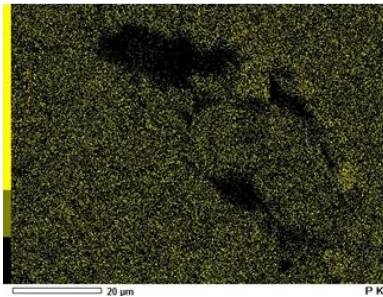
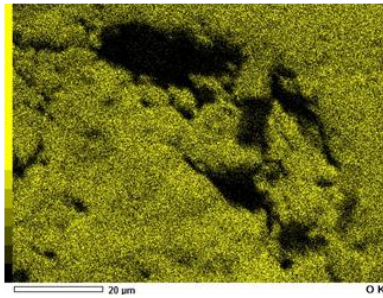
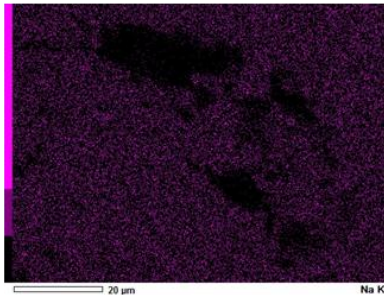
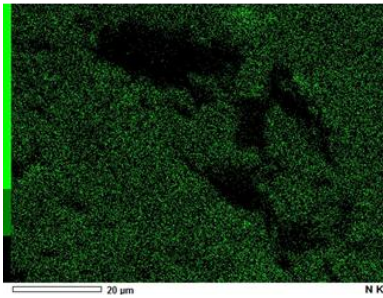
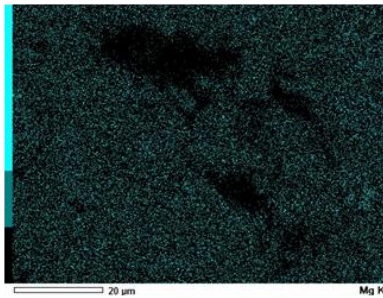
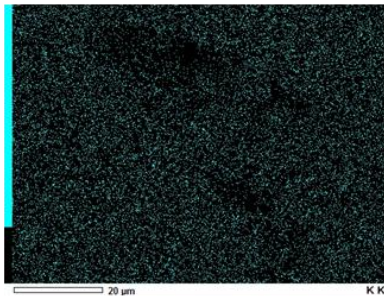
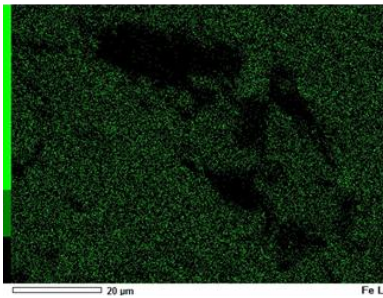
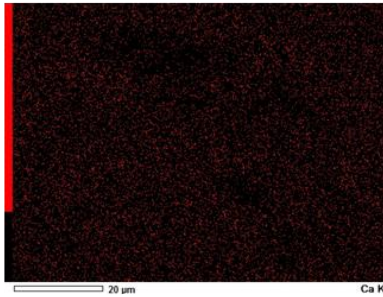
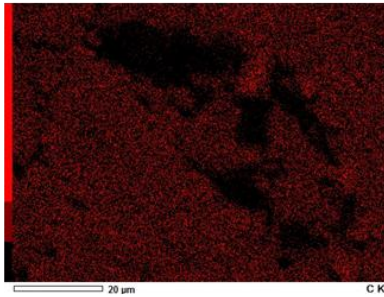
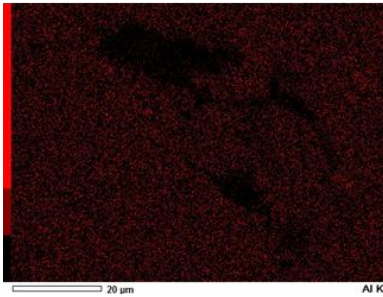
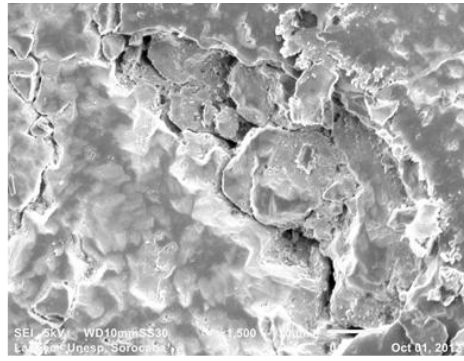


Imagem IV

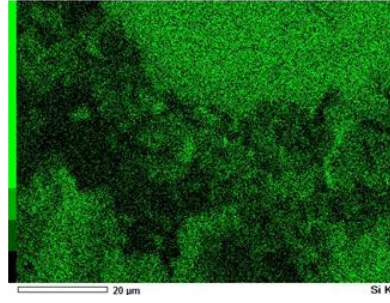
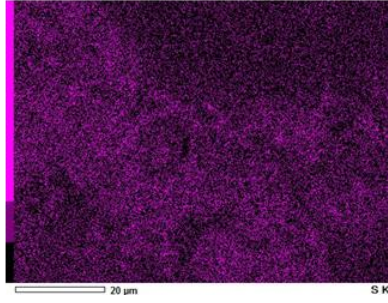
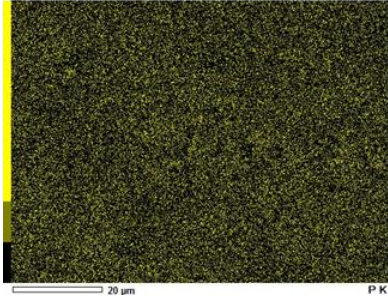
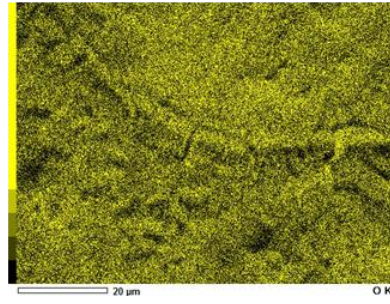
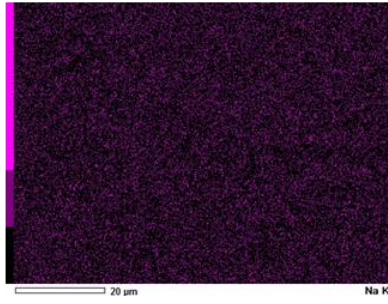
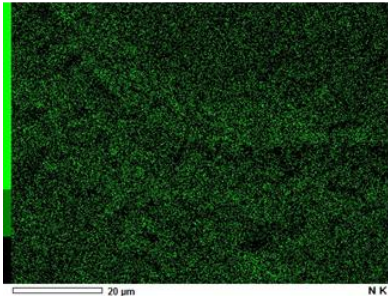
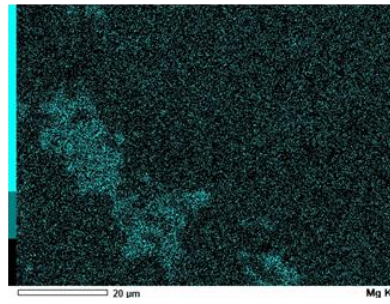
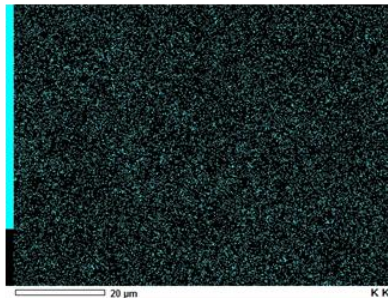
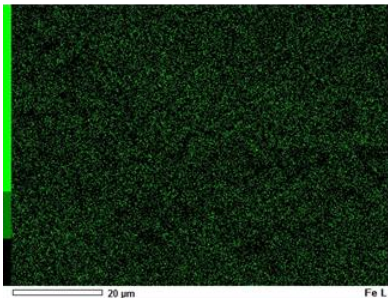
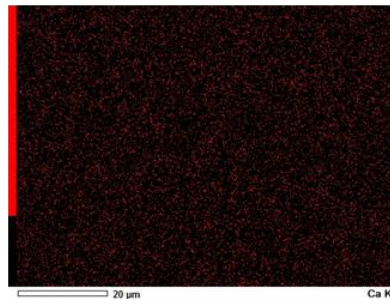
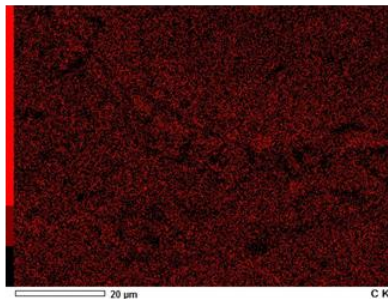
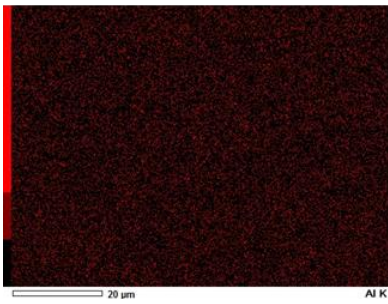
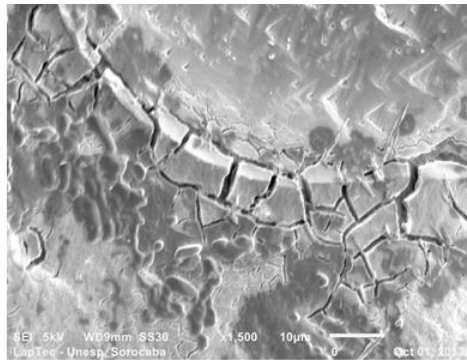
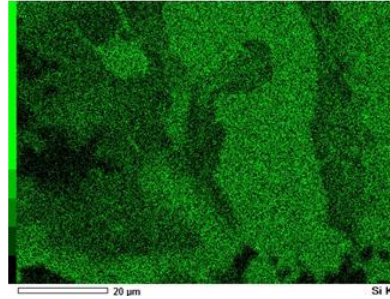
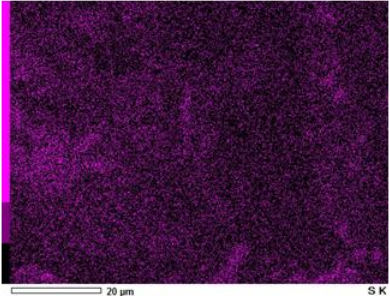
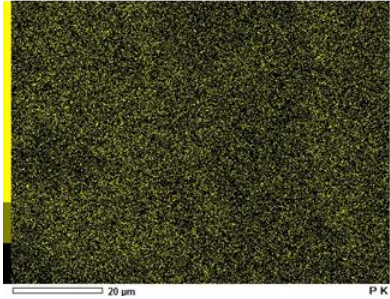
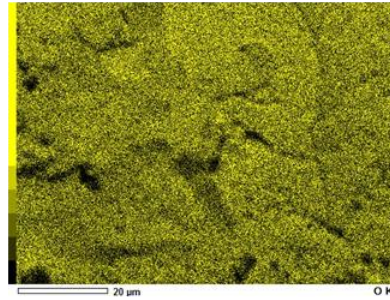
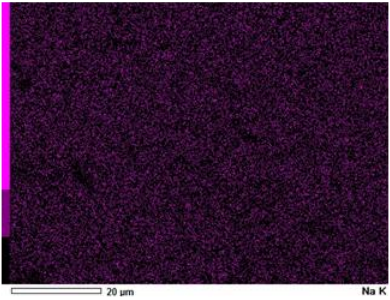
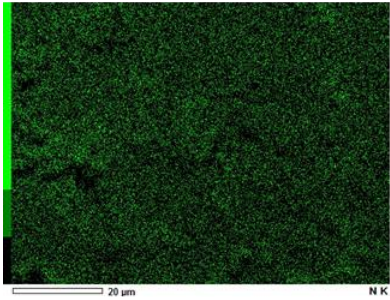
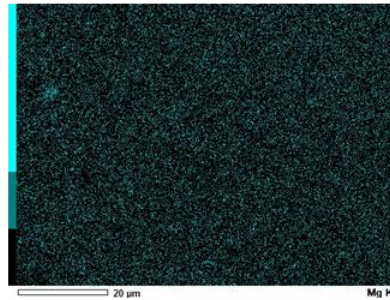
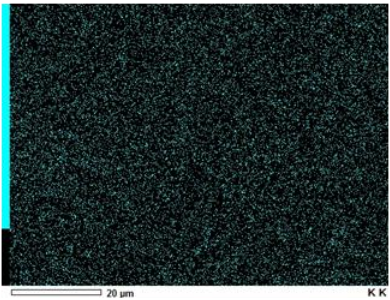
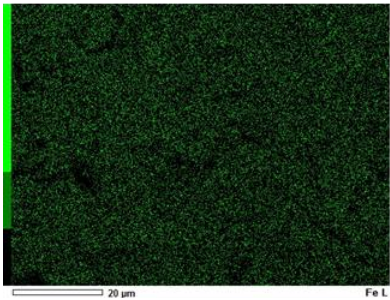
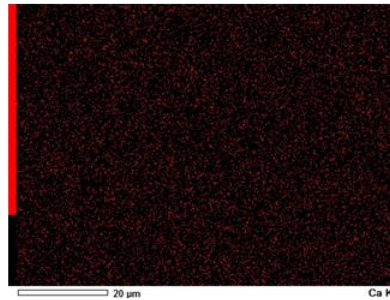
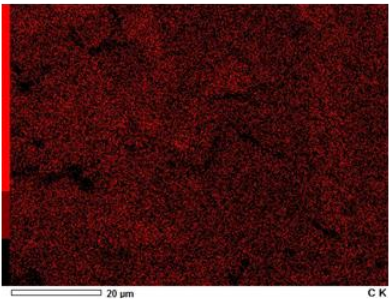
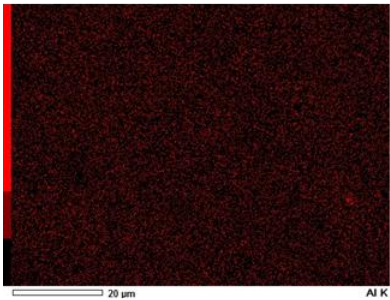
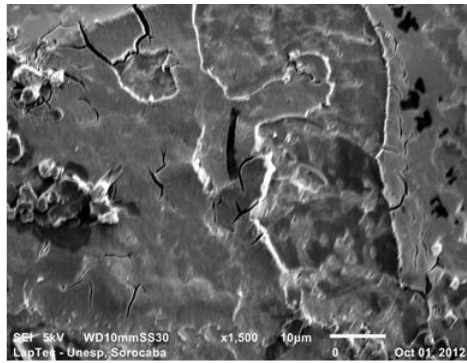


Imagem V



A-M
Imagem I

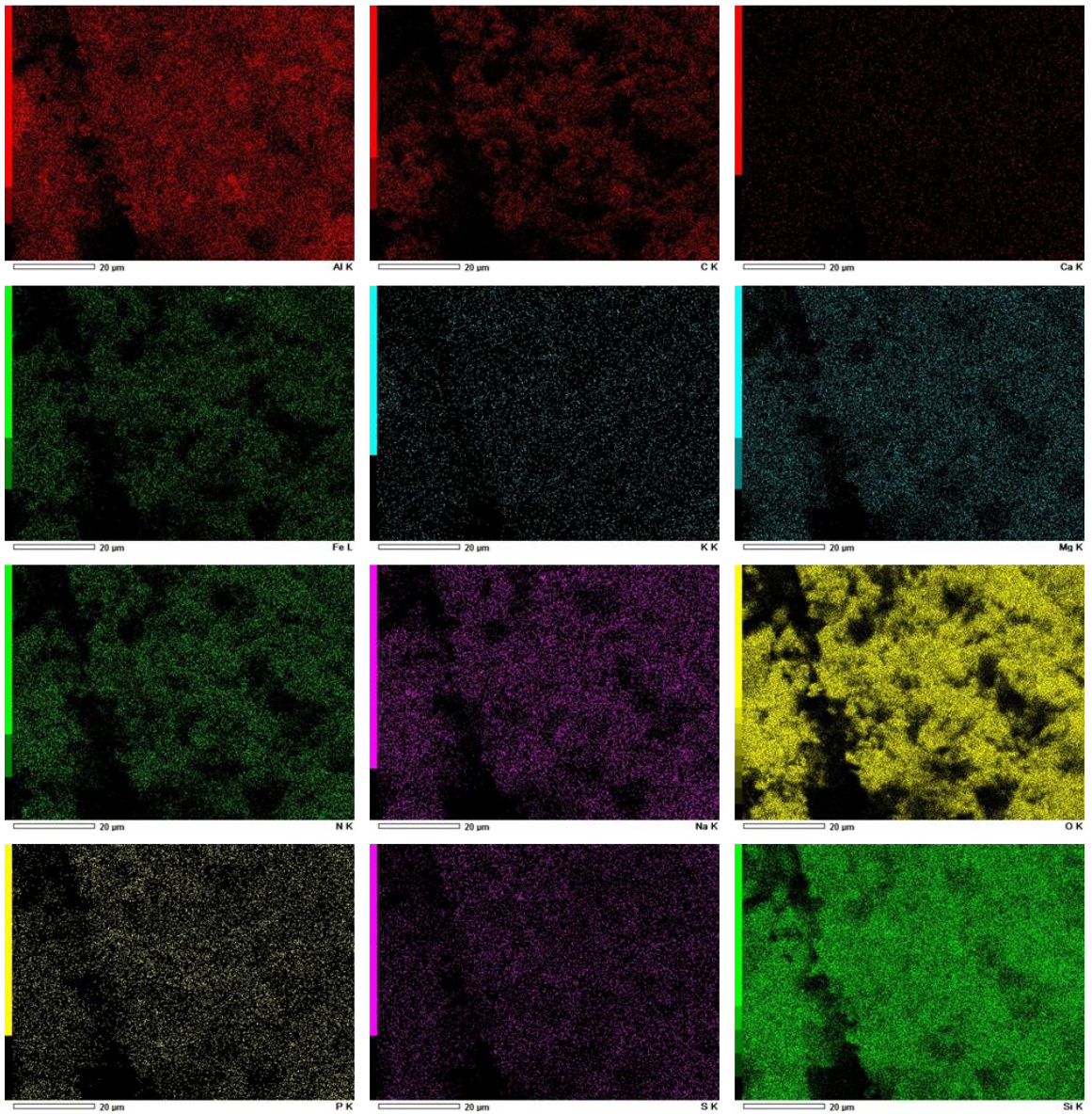
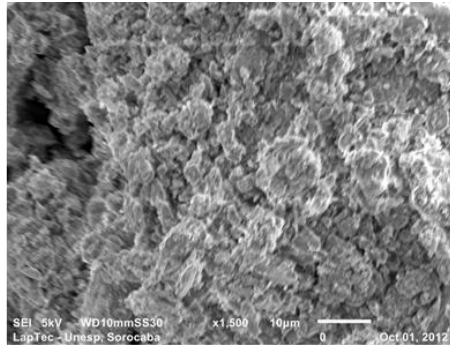


Imagem II

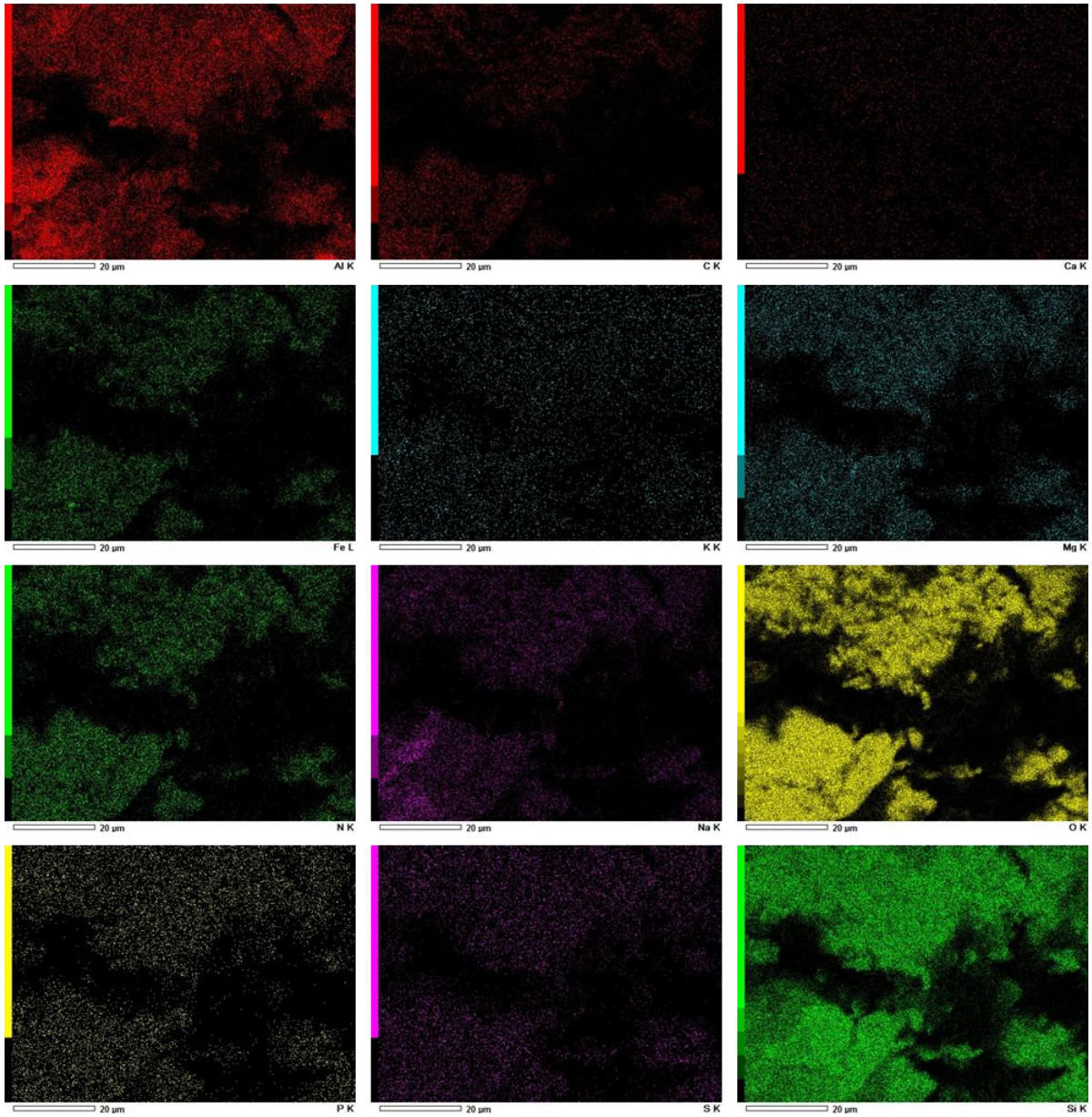
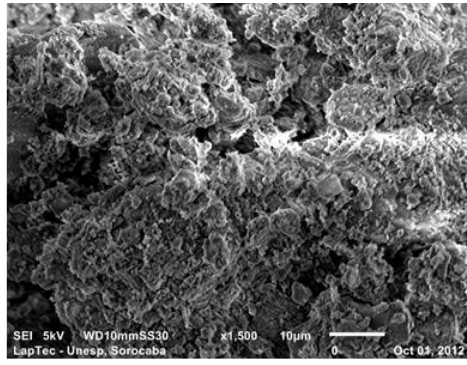


Imagem III

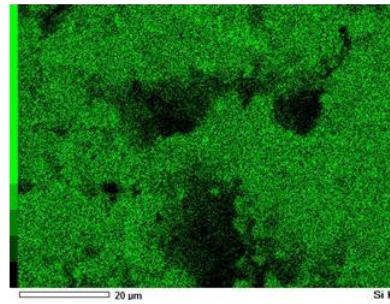
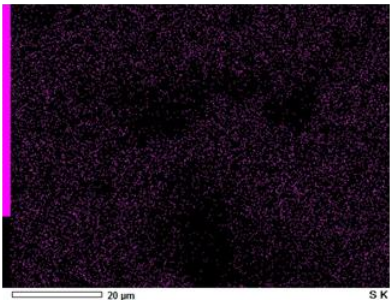
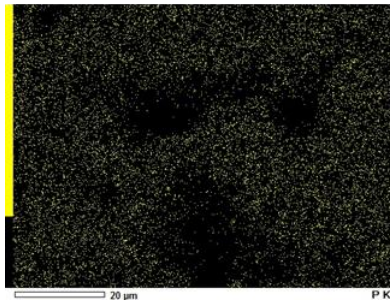
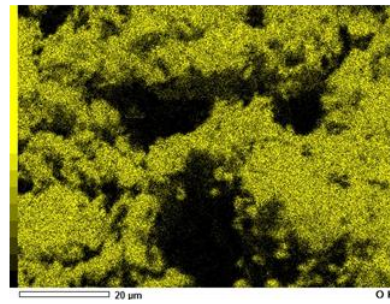
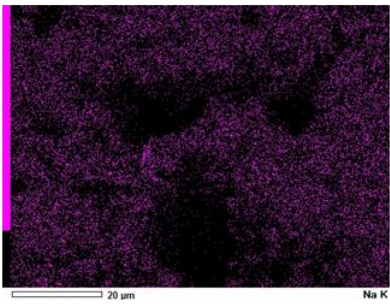
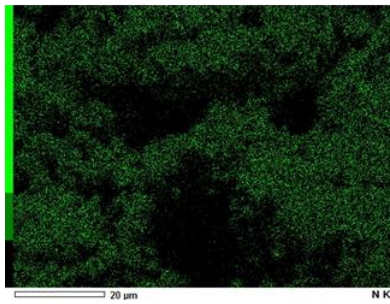
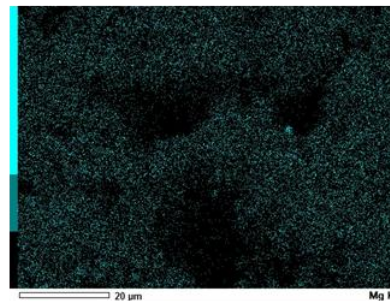
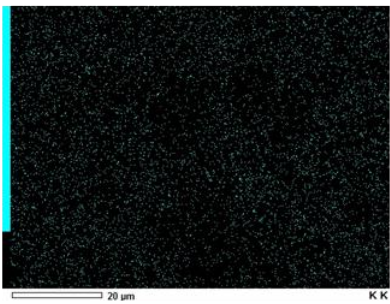
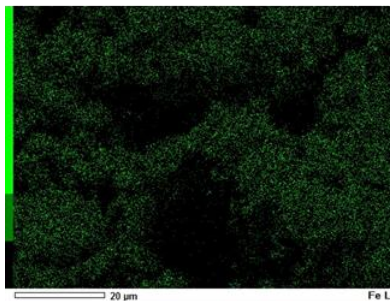
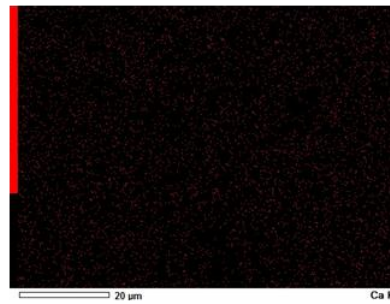
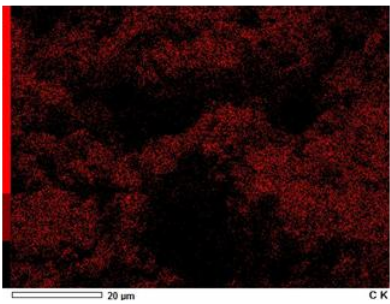
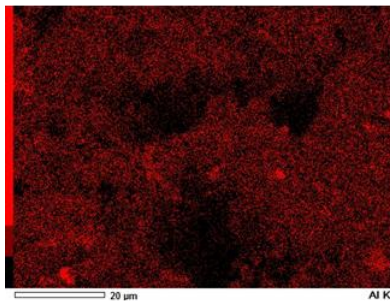
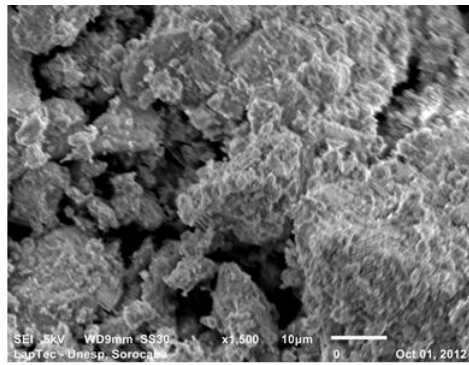


Imagem IV

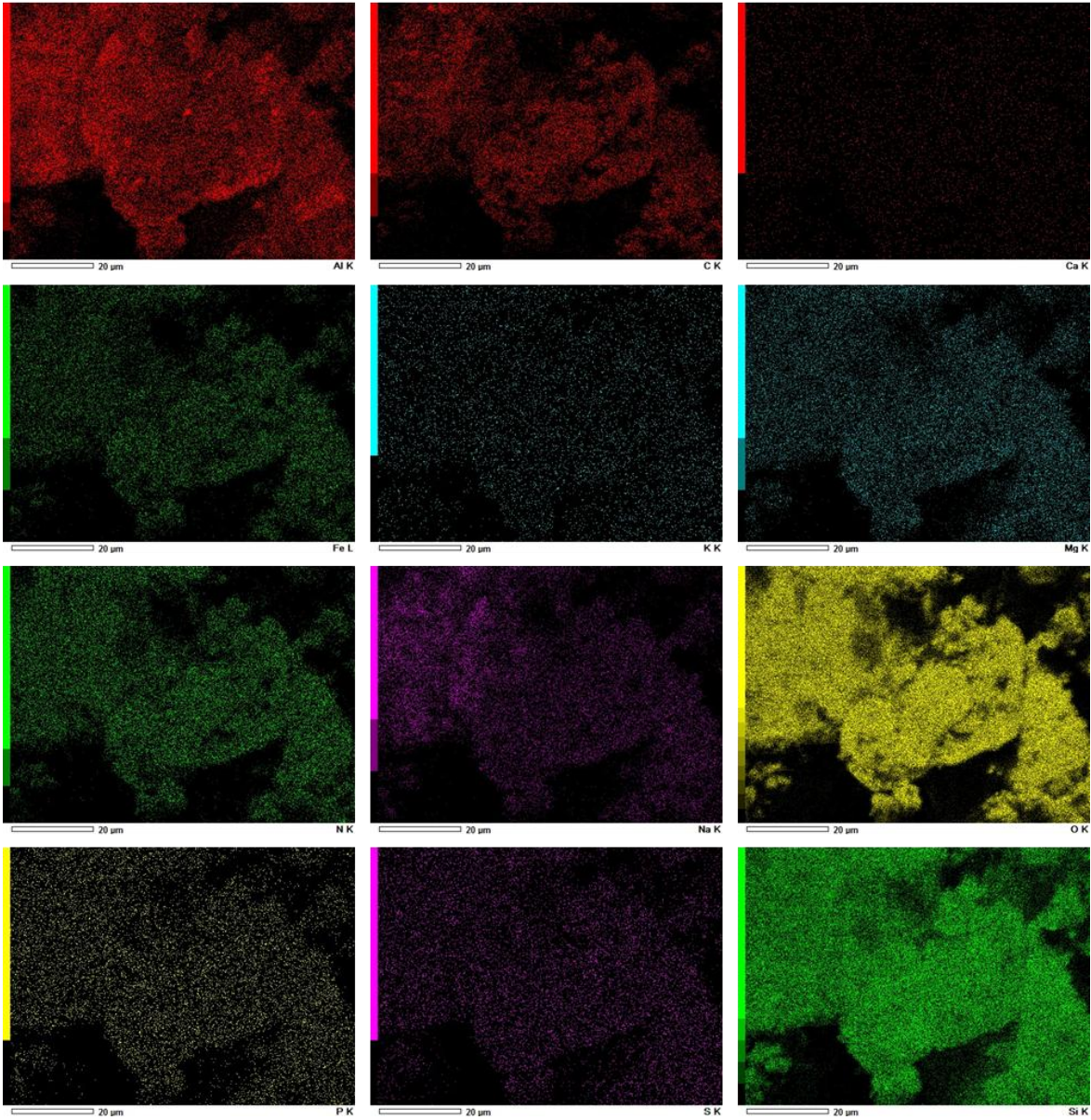
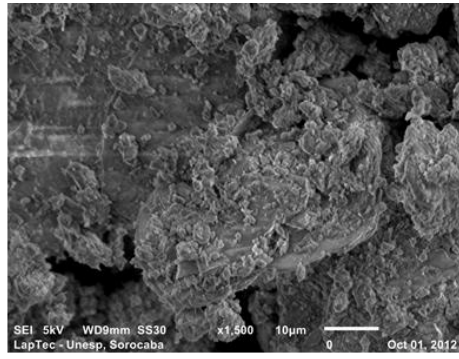
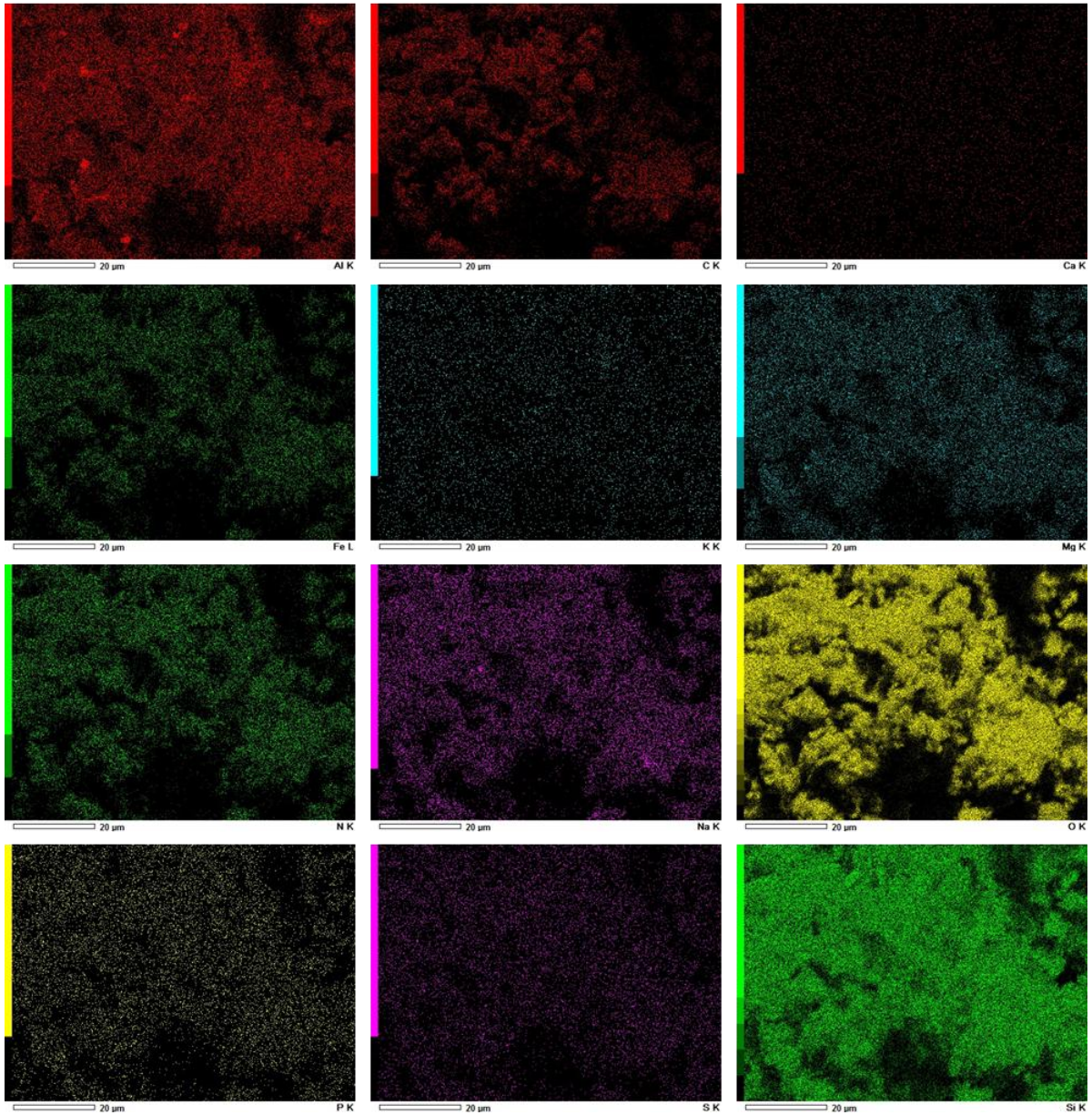
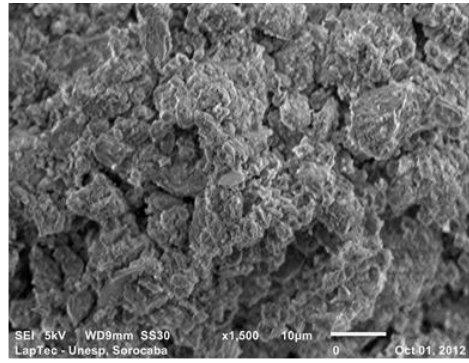


Imagem V



A-M+A

Imagem 1

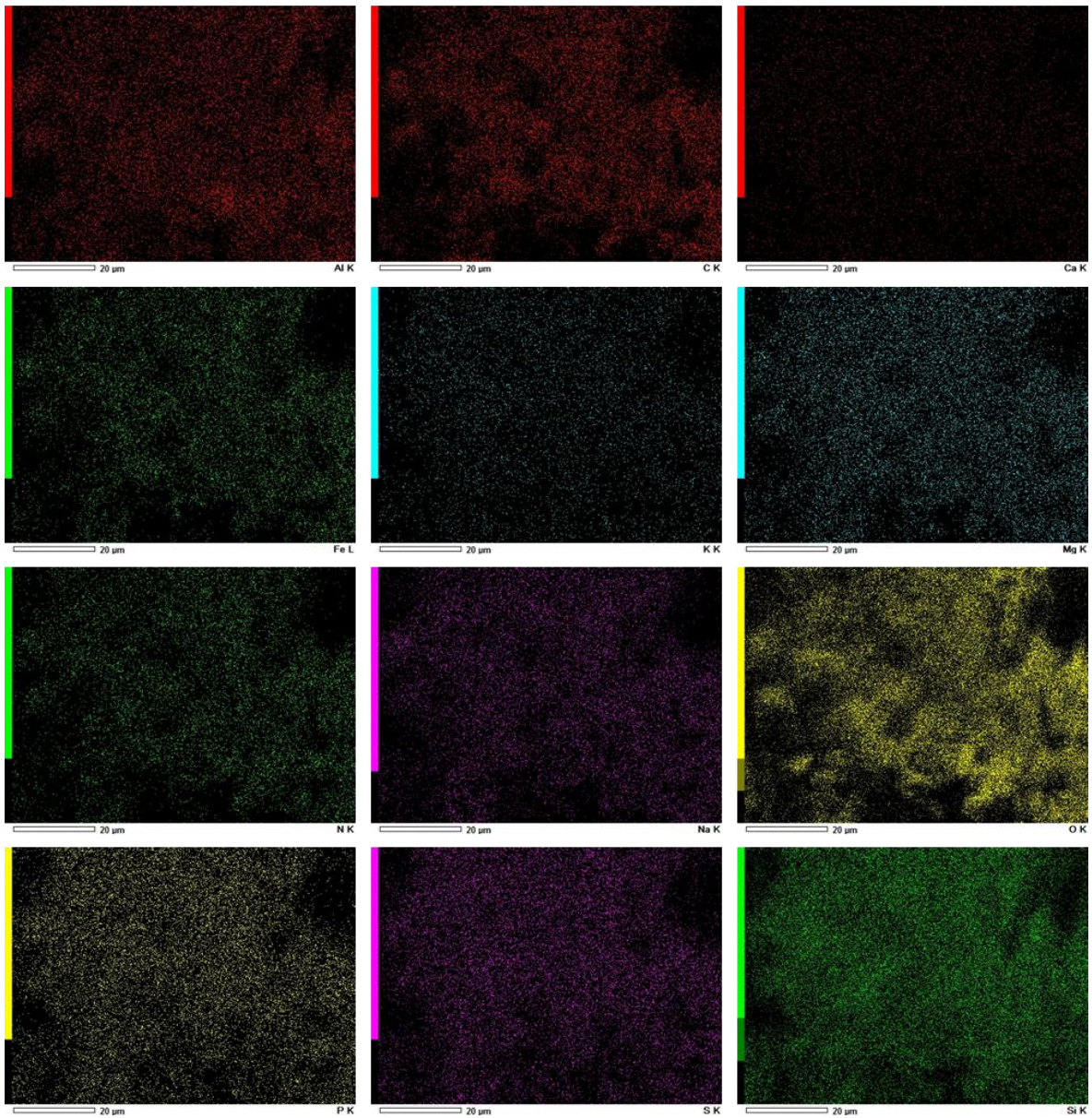
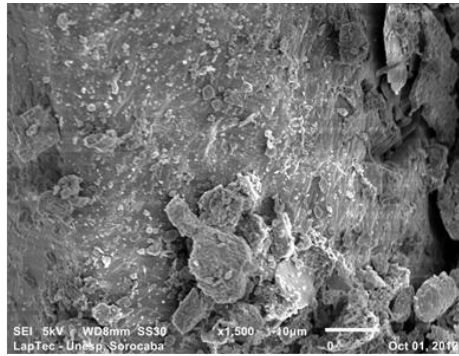


Imagem II

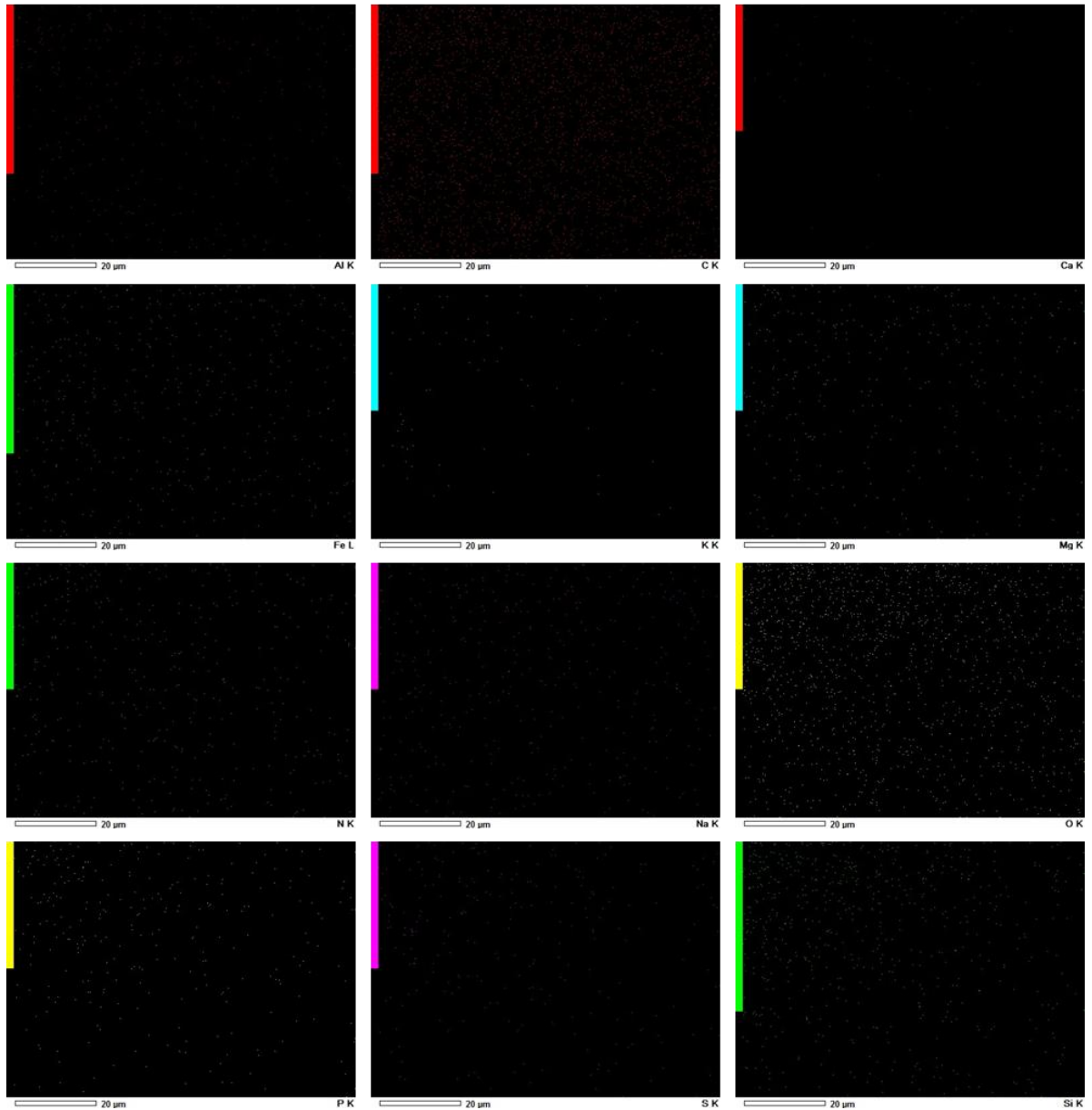
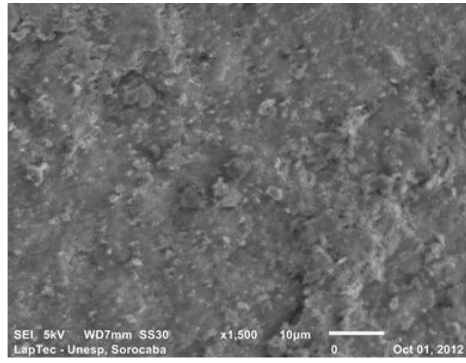


Imagem III

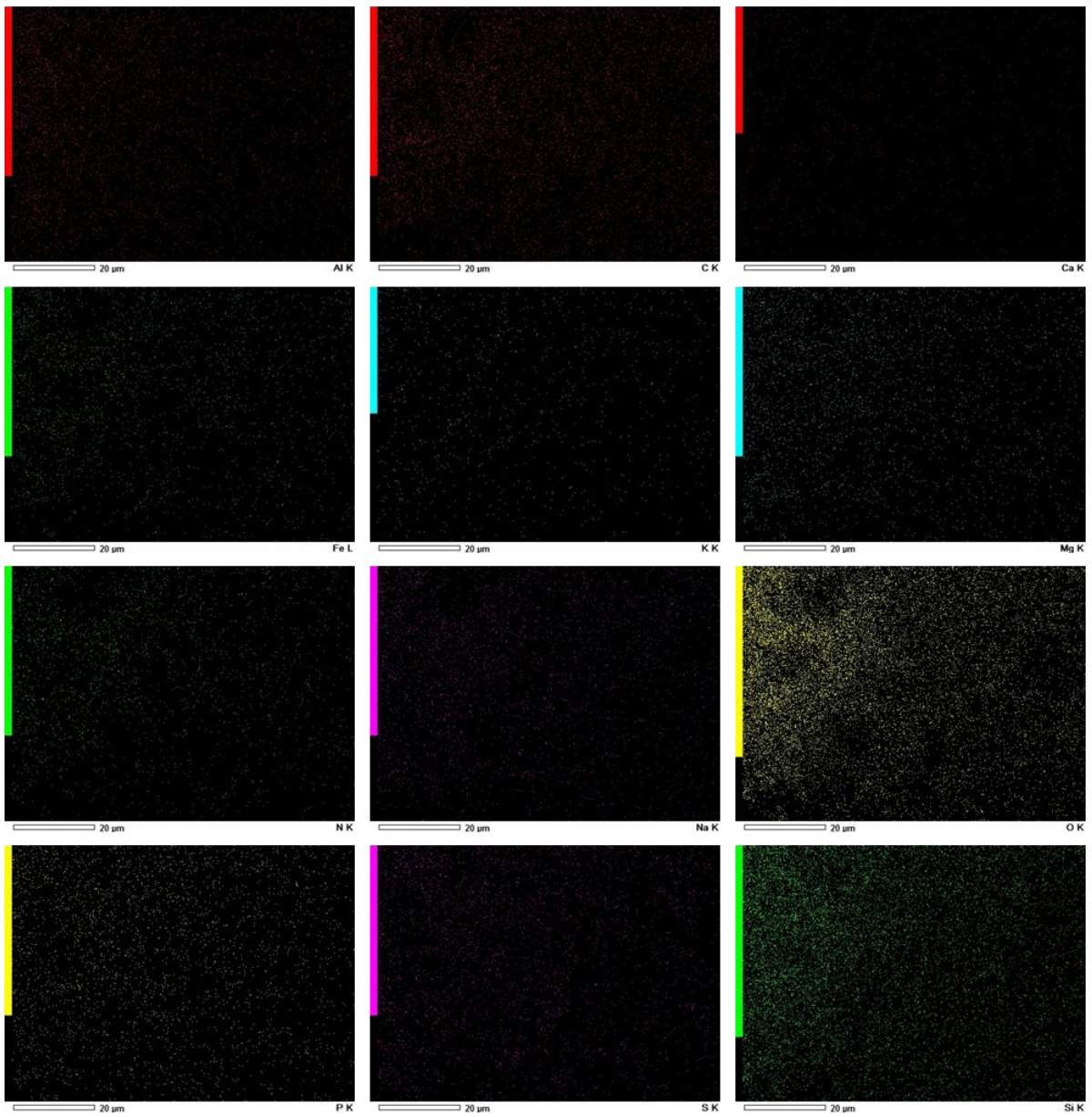
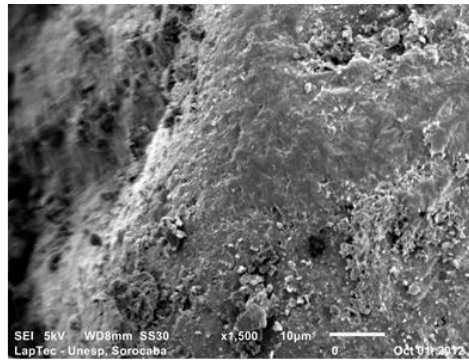


Imagem IV

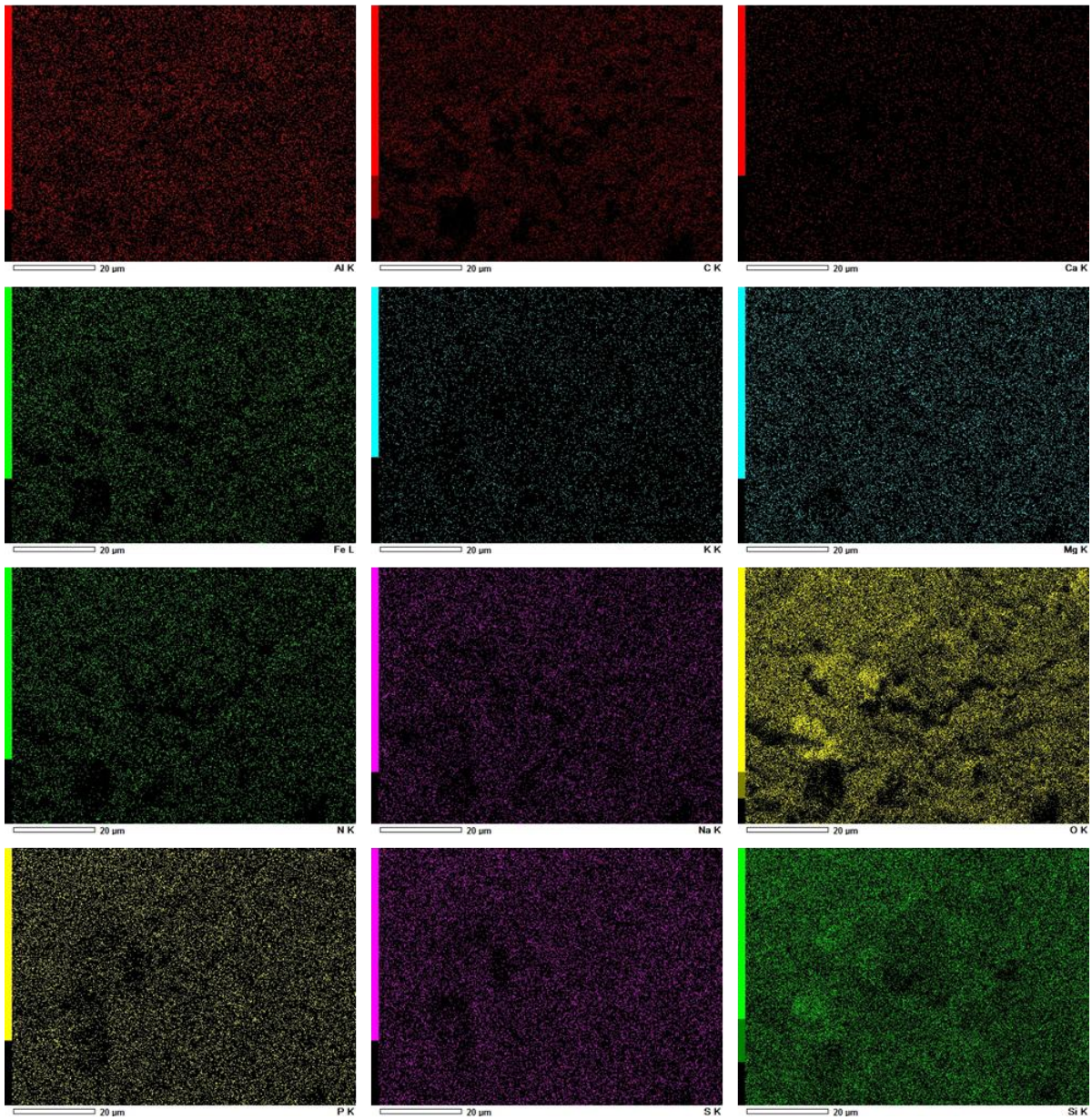
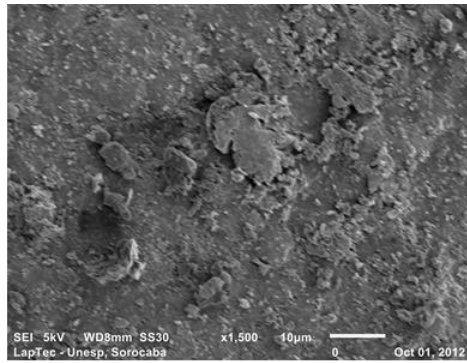
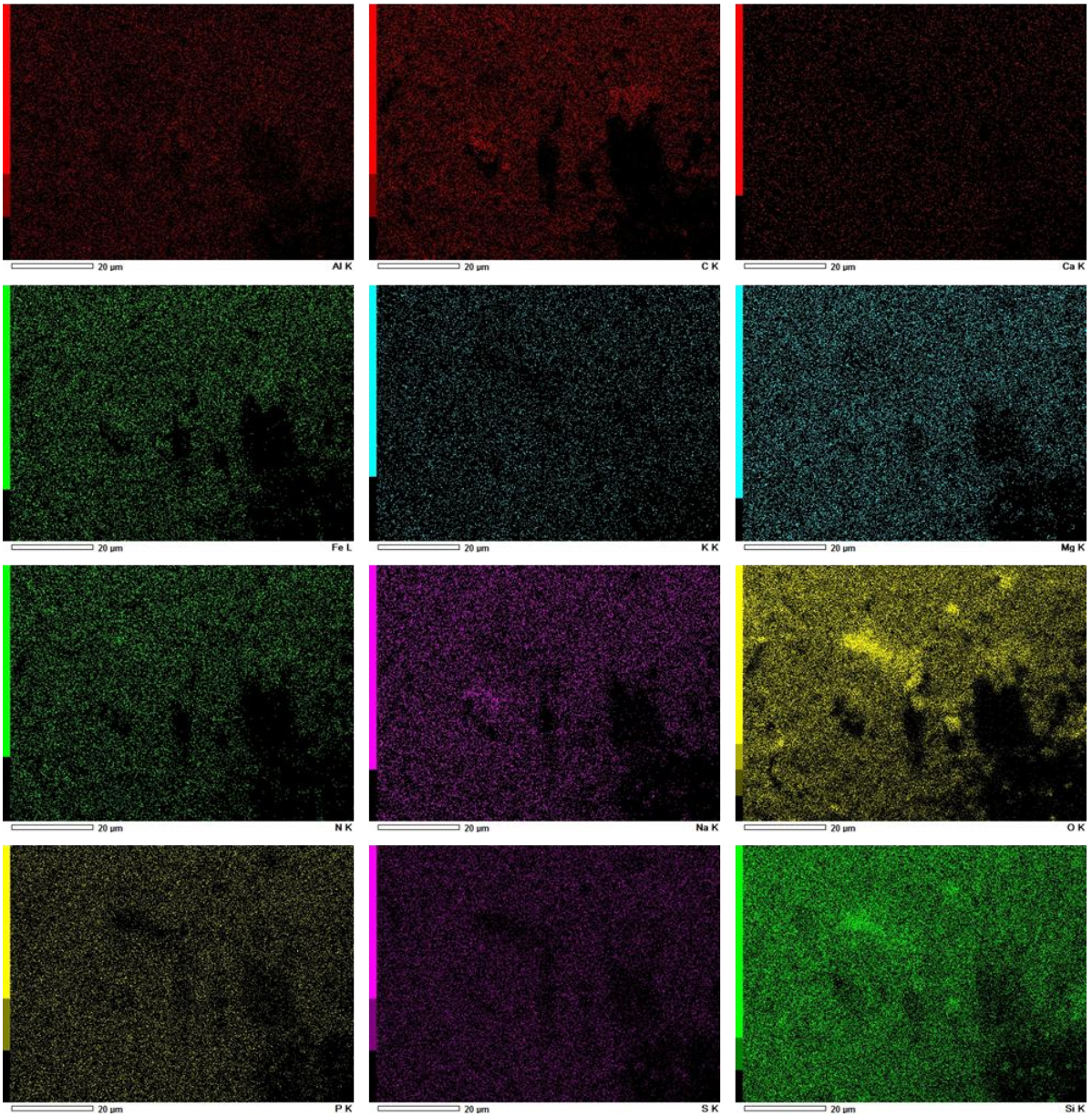
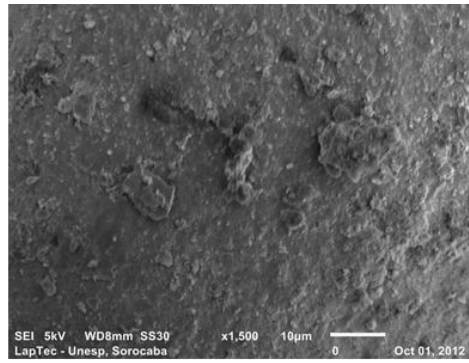


Imagem V



A-V

Imagem I

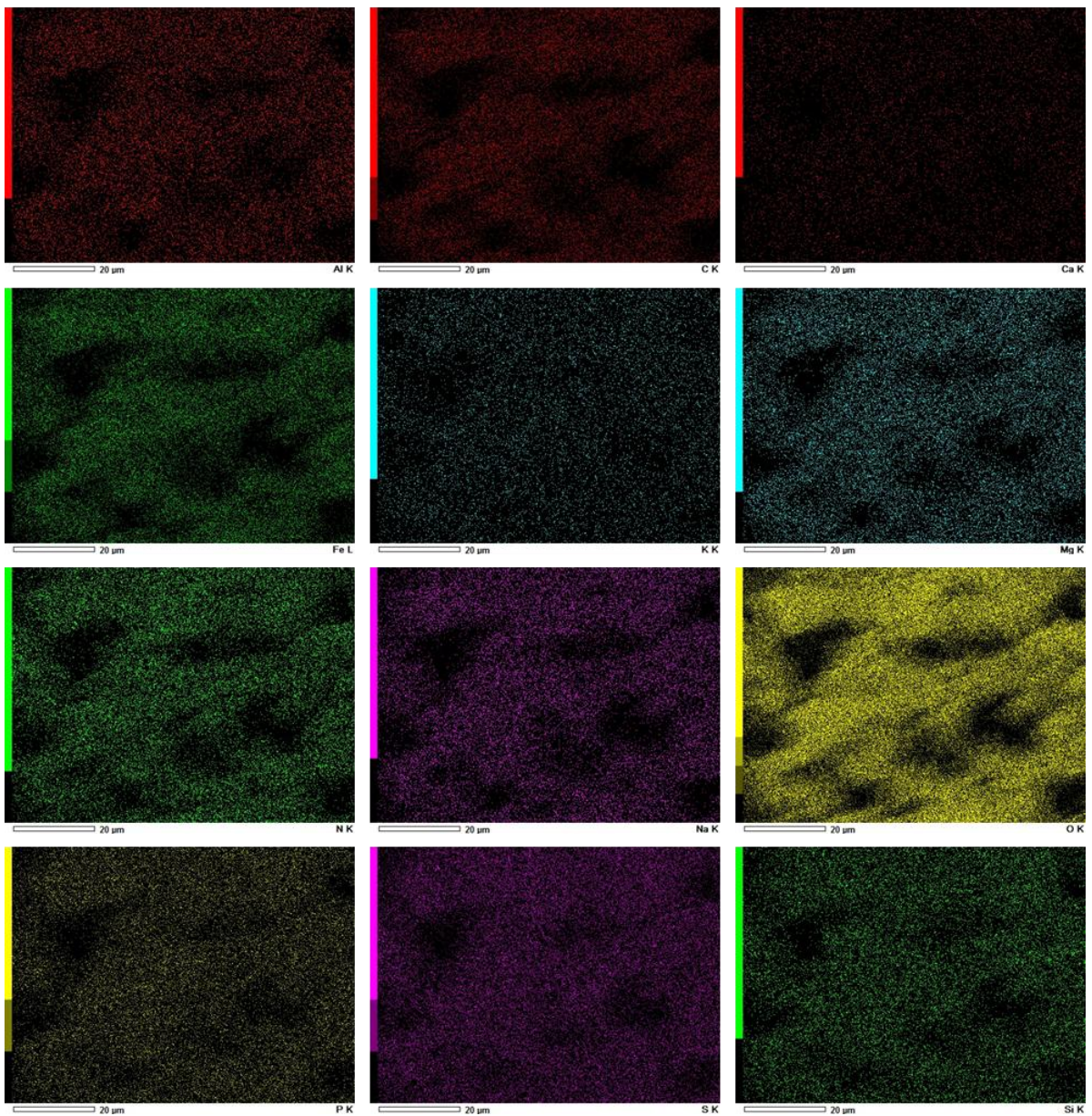
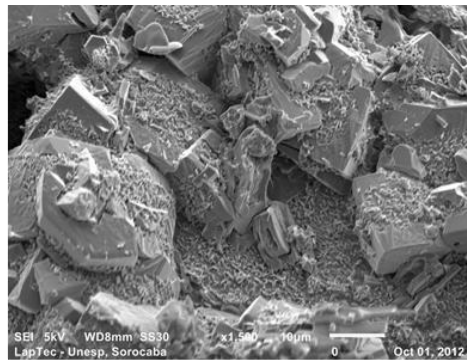


Imagem II

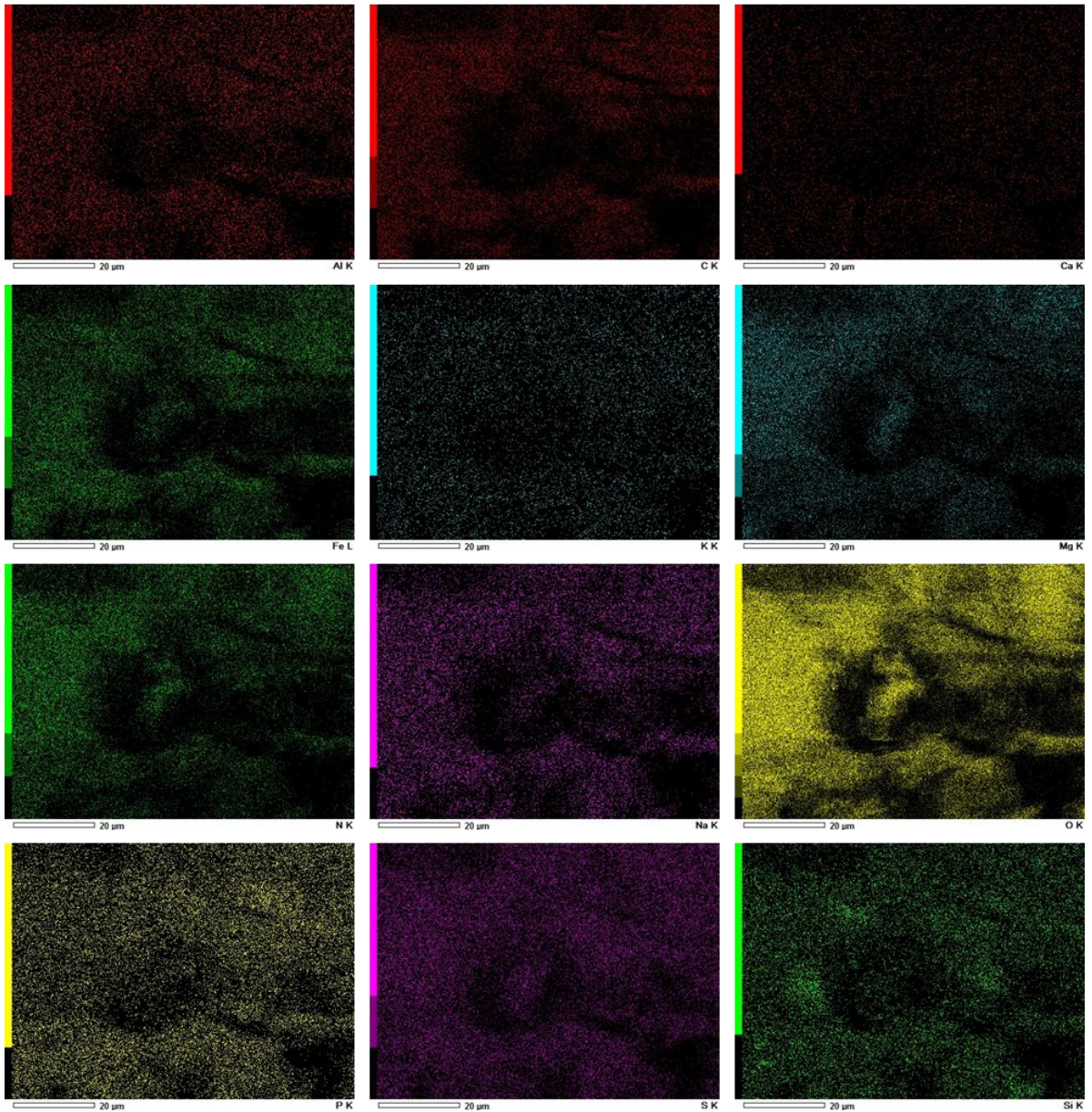
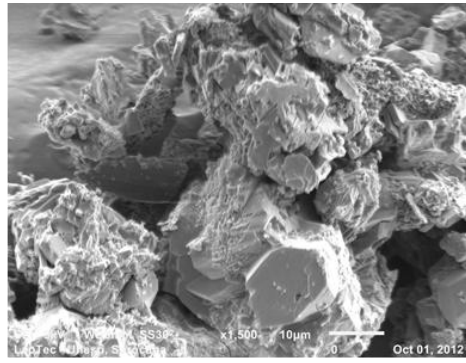


Imagem III

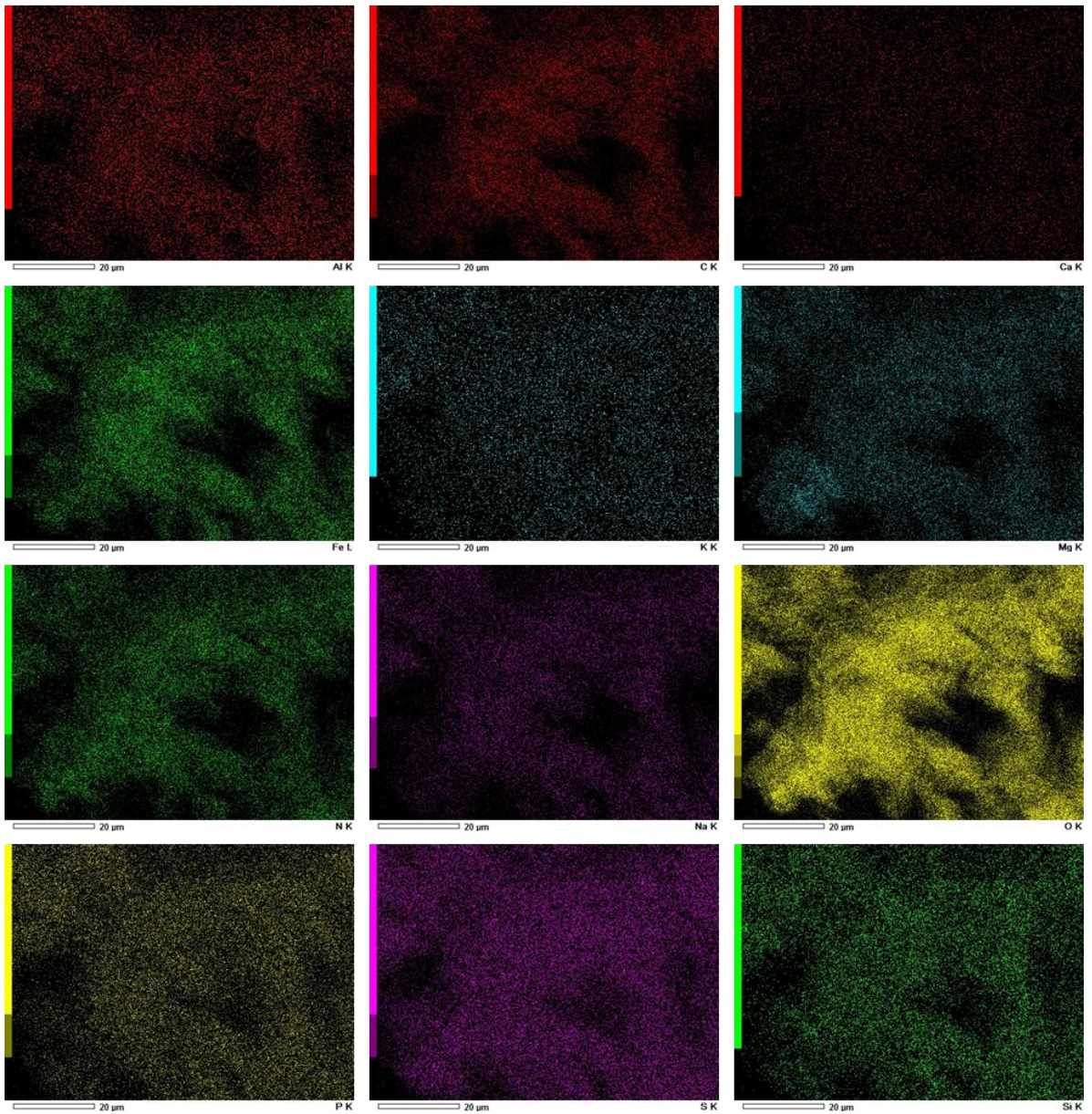
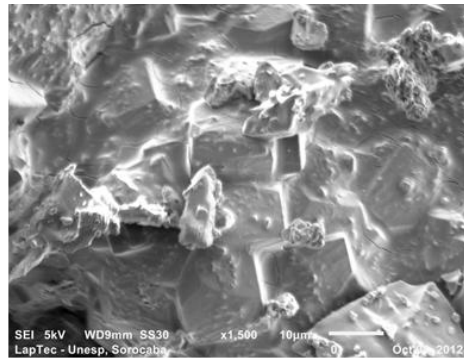


Imagem IV

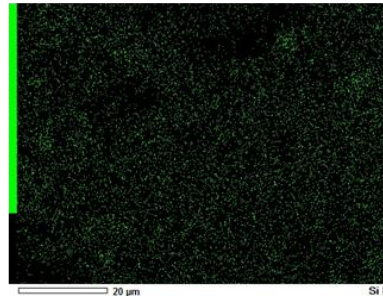
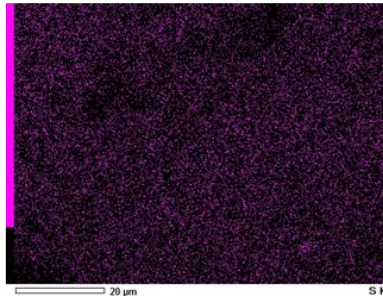
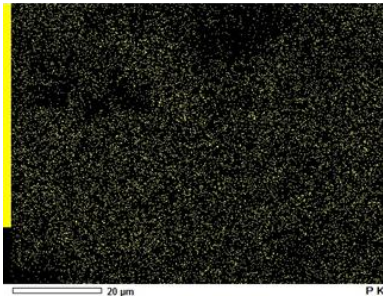
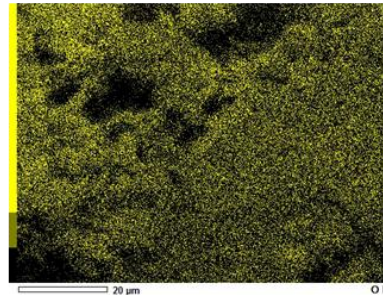
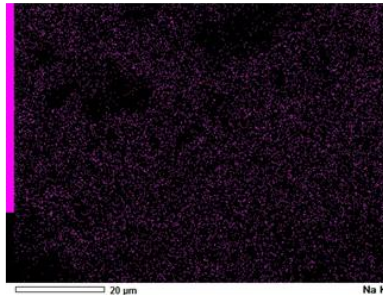
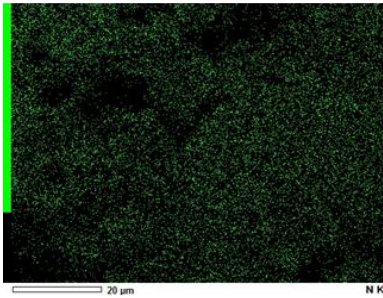
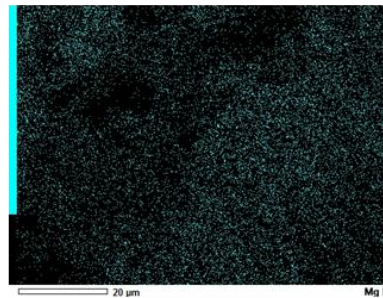
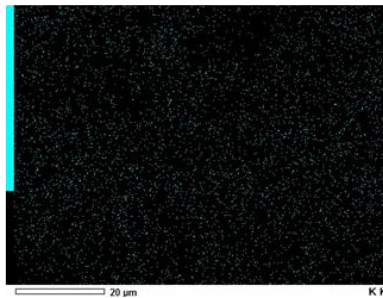
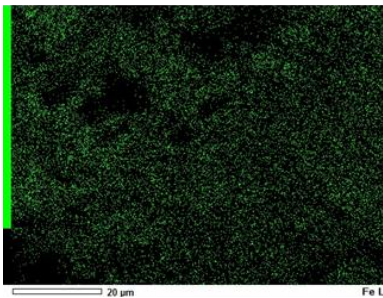
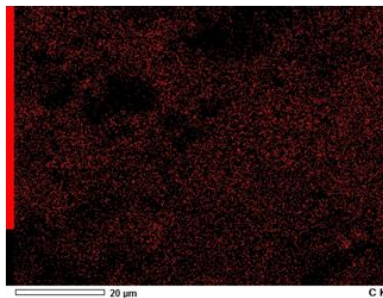
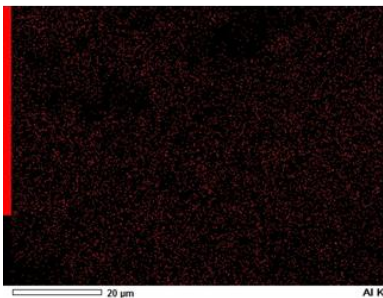
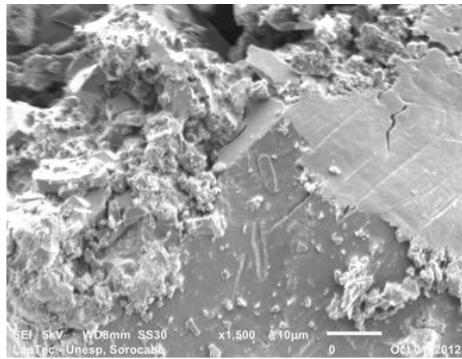
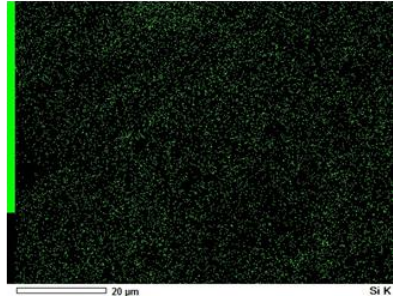
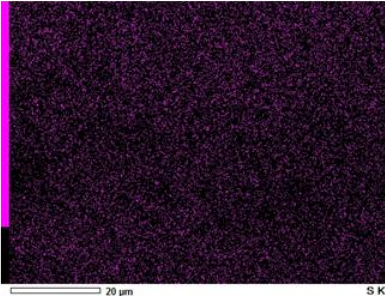
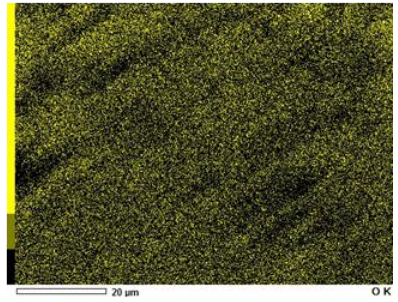
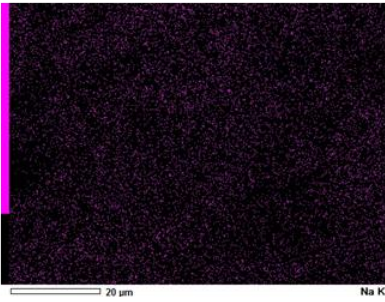
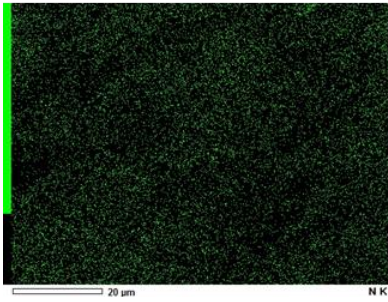
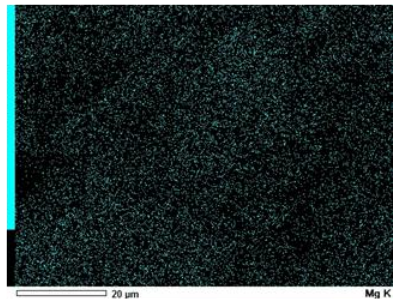
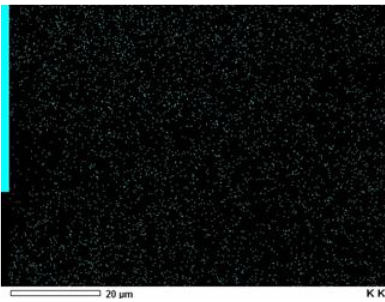
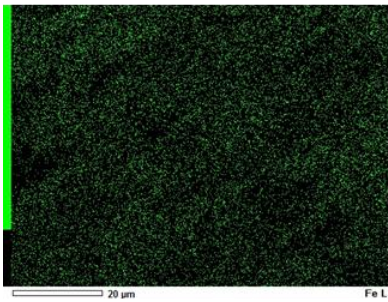
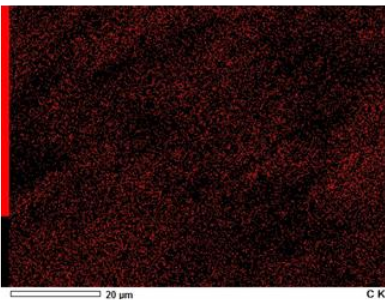
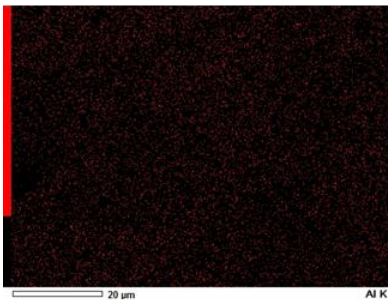
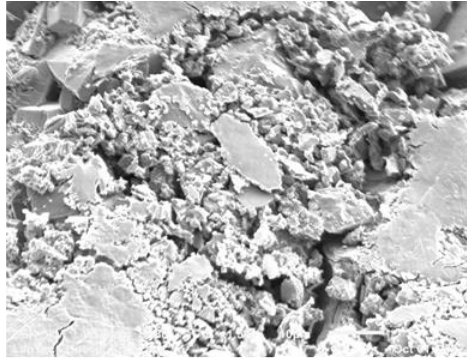


Imagem V



A-V-A

Imagem 1

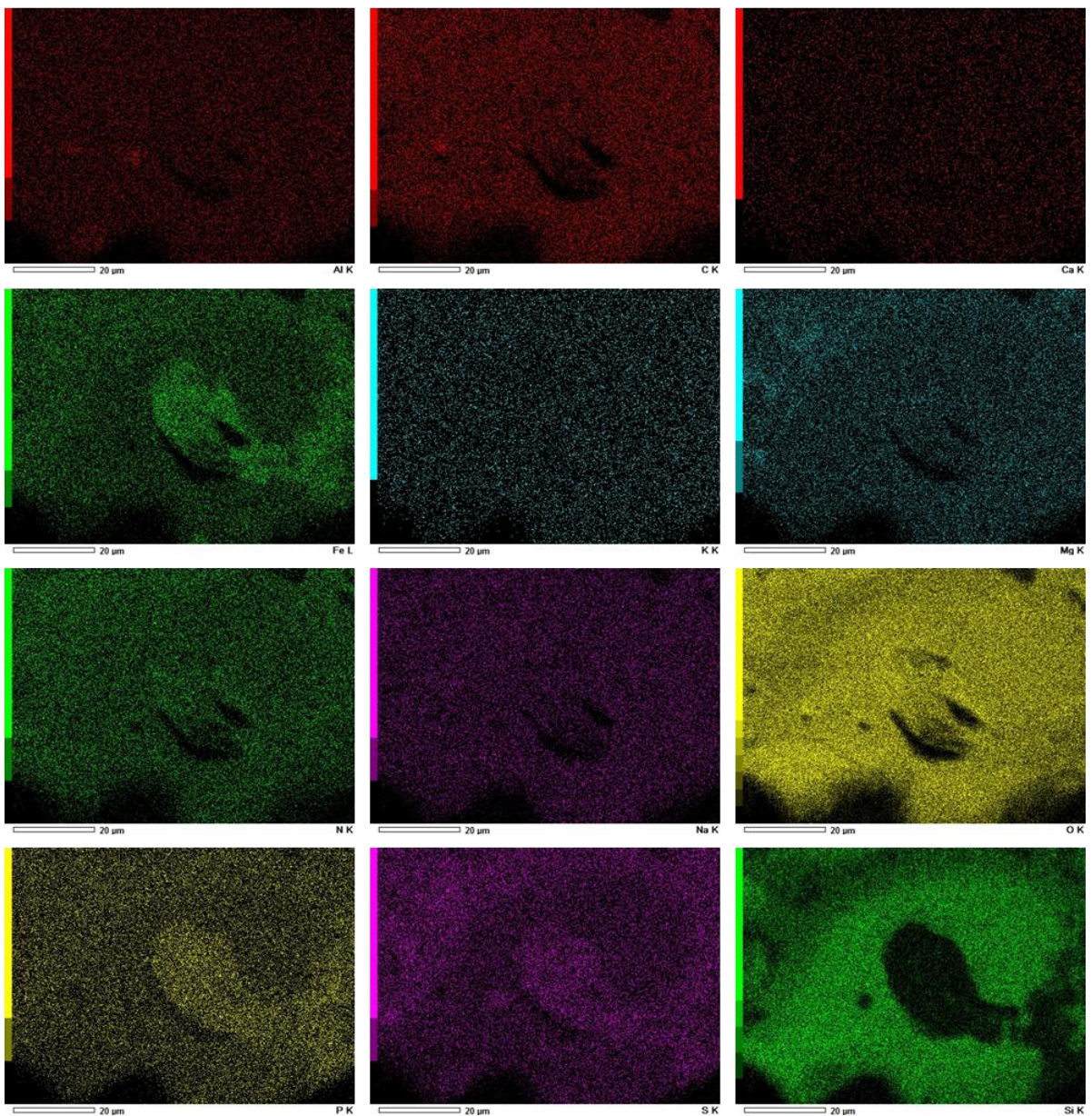


Imagem II

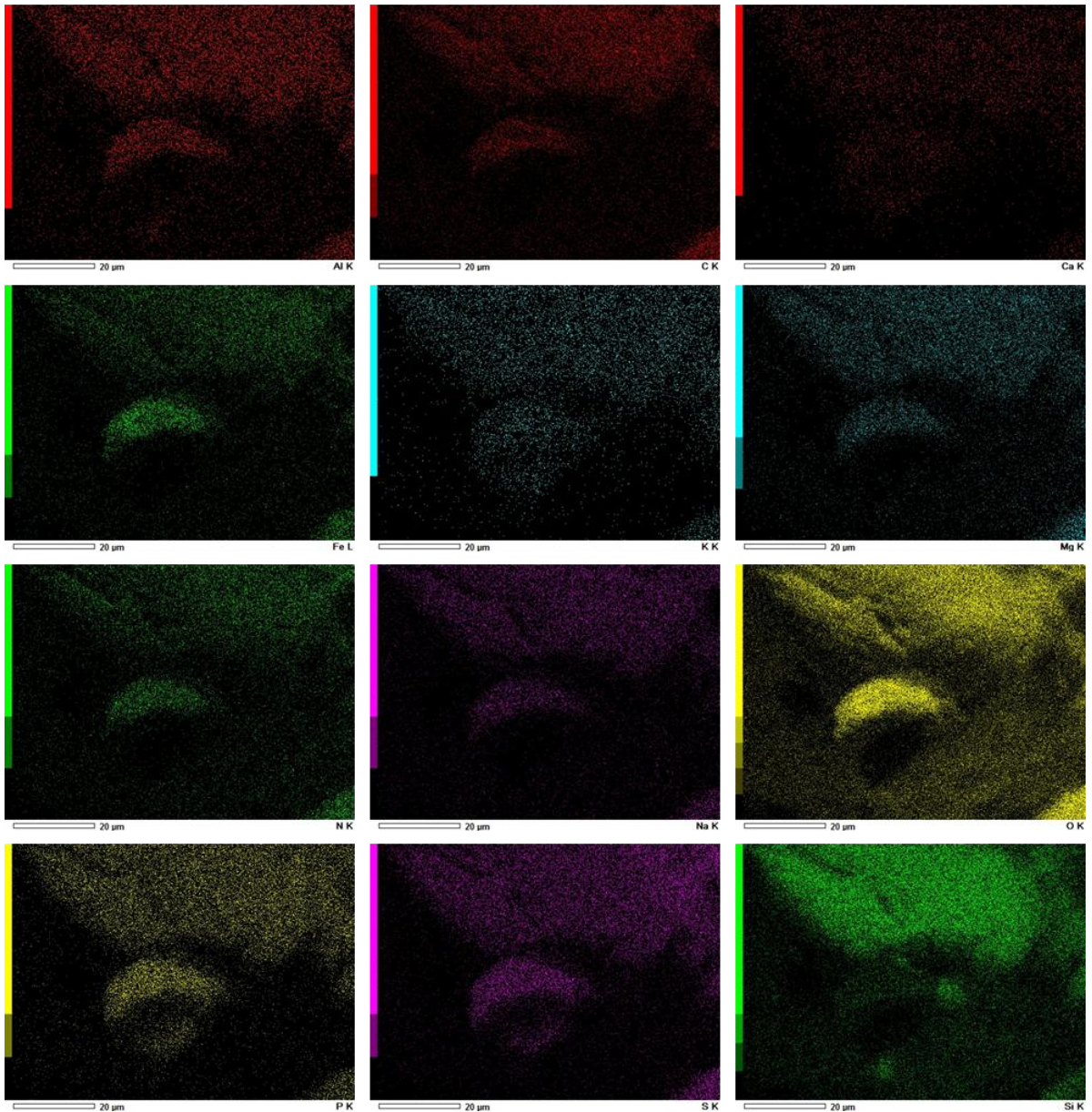
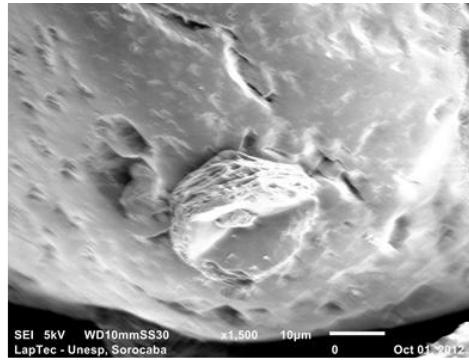


Imagem III

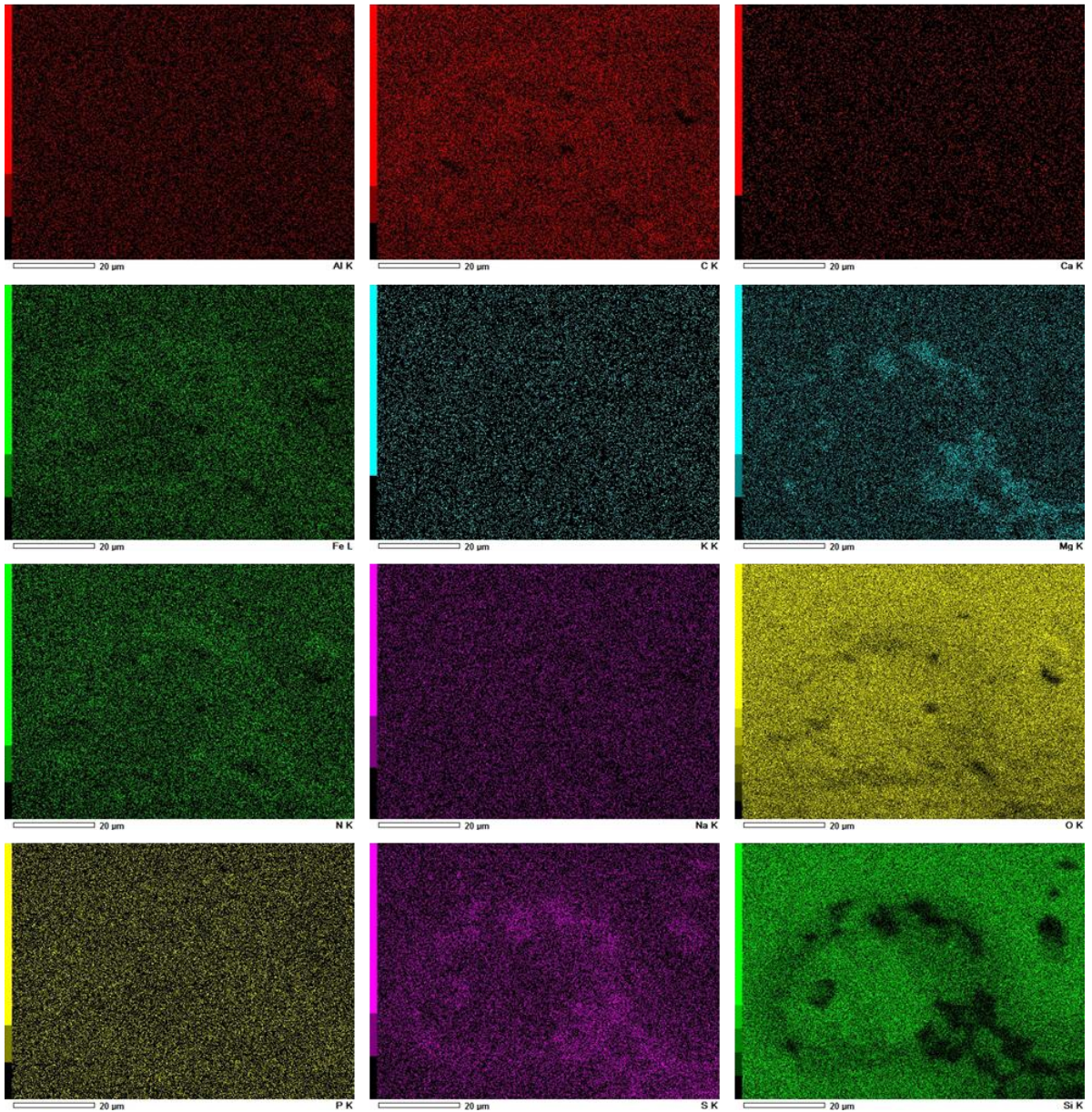
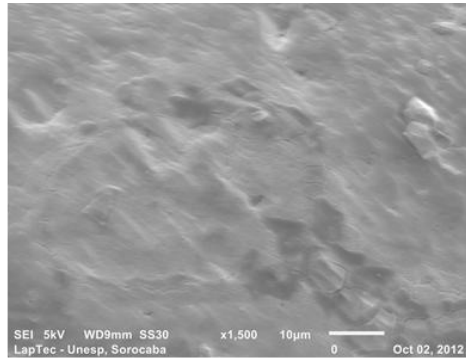


Imagem IV

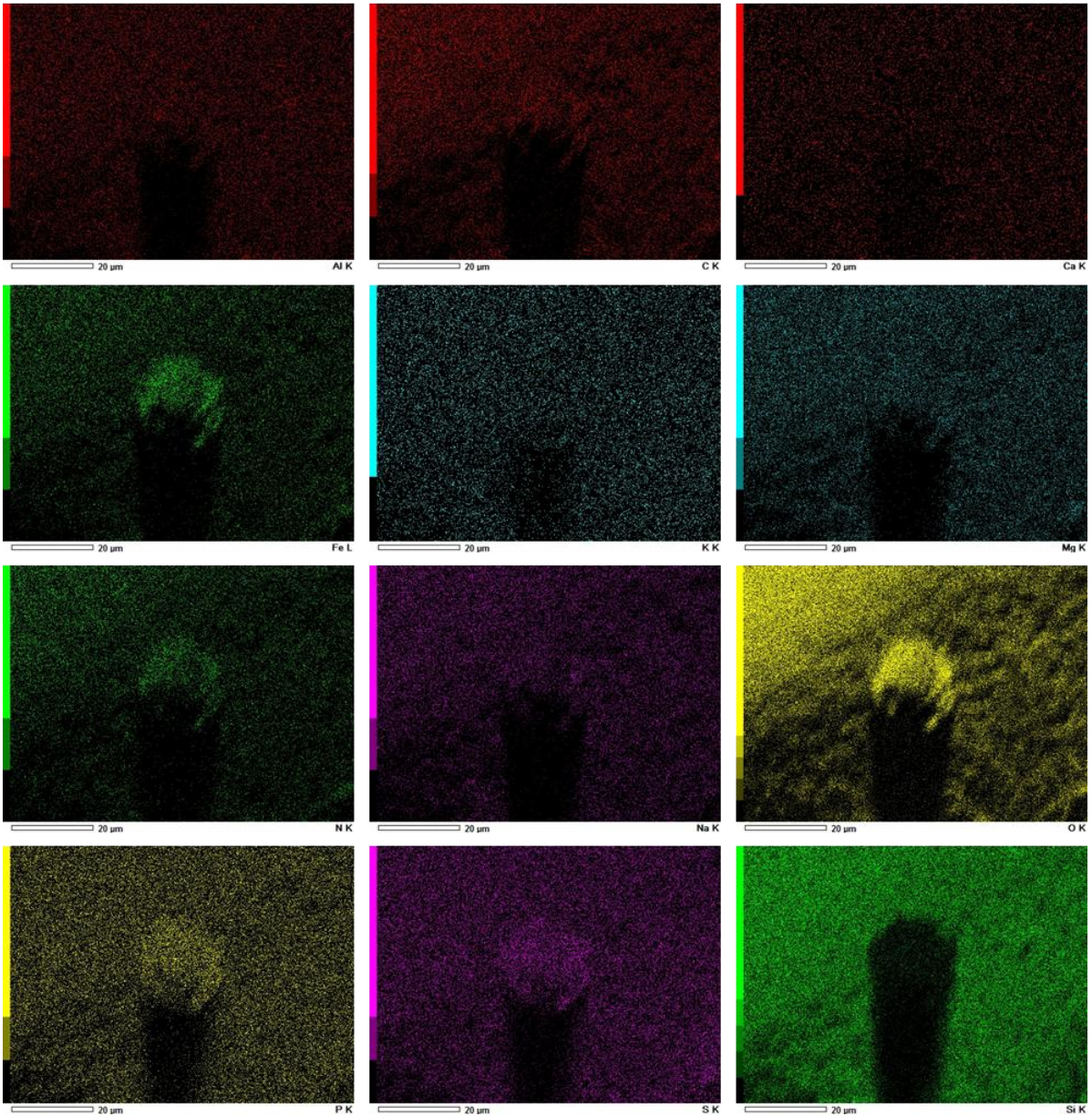
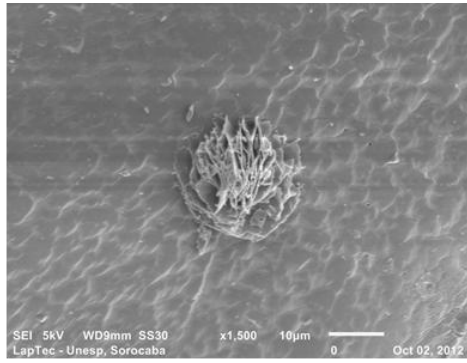
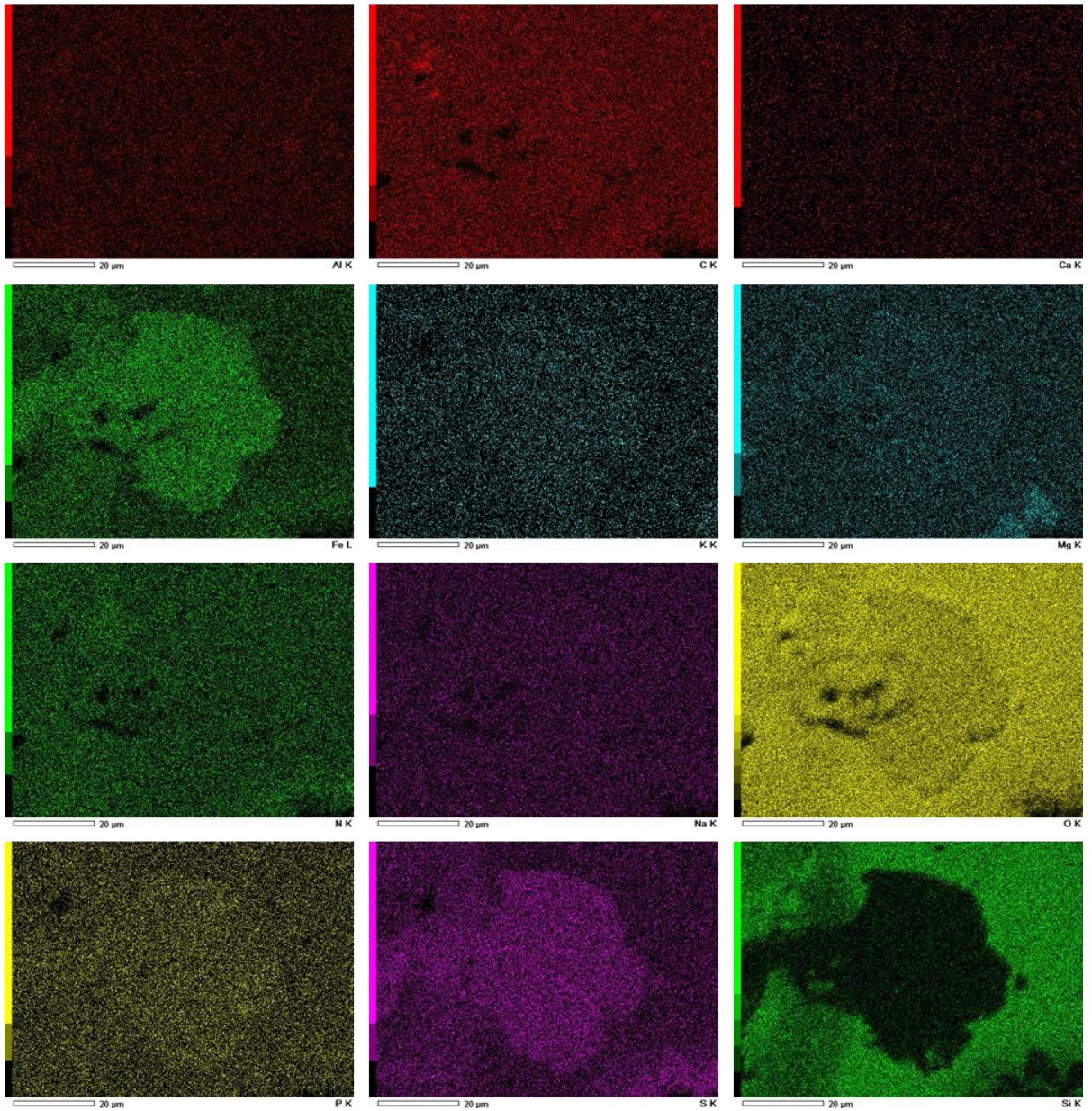


Imagem V



A-V-M

Imagem 1

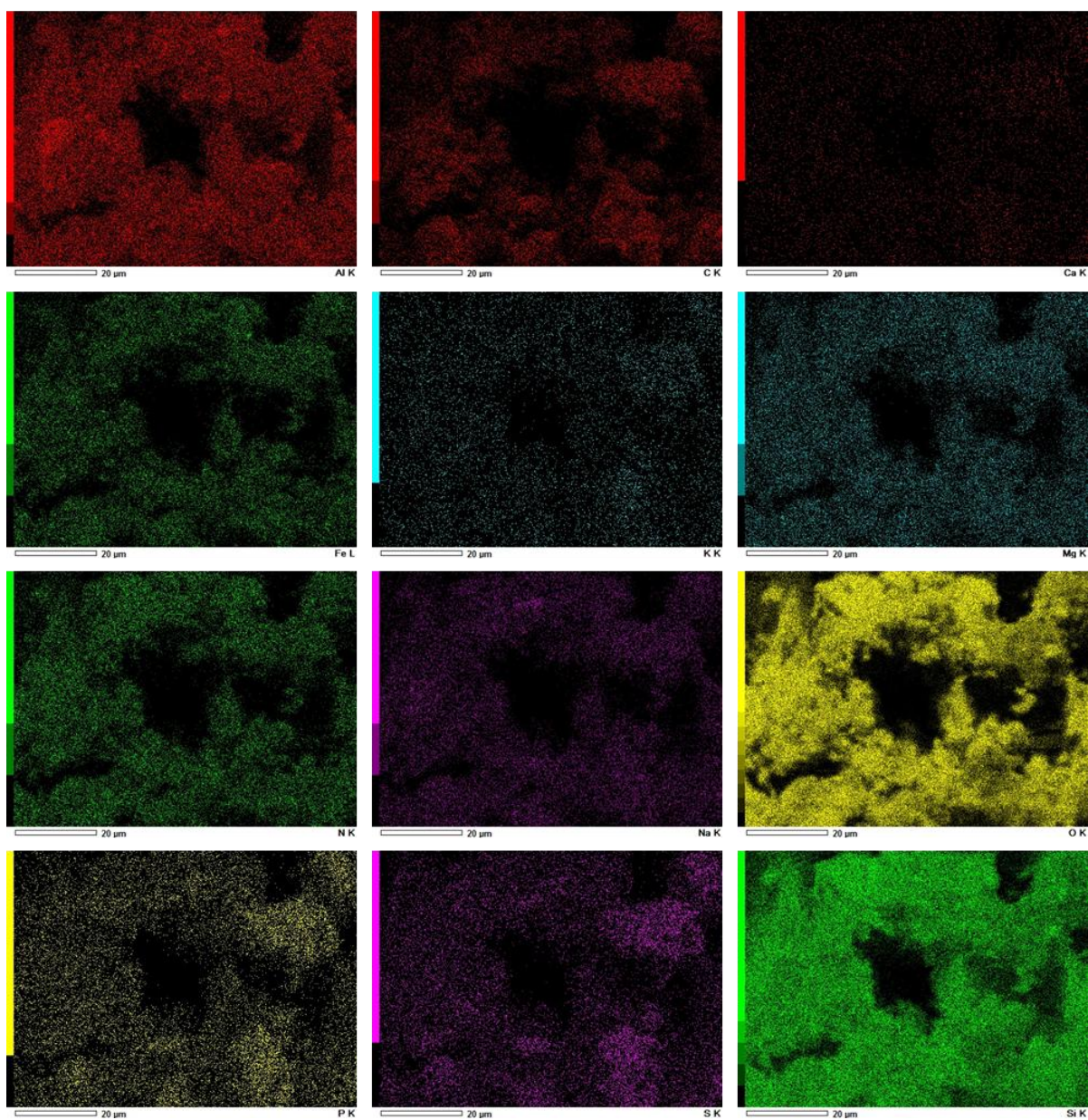
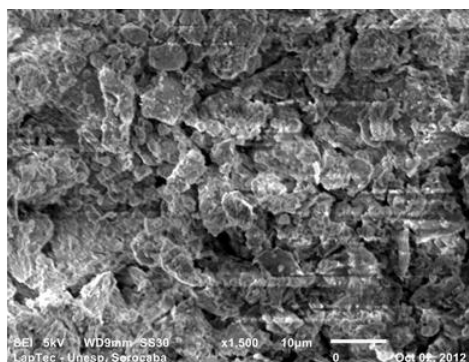


Imagem II

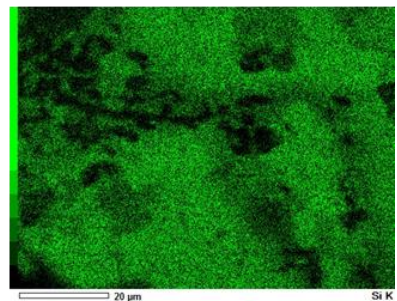
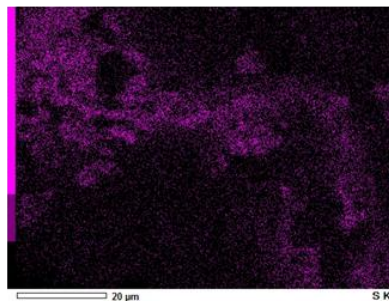
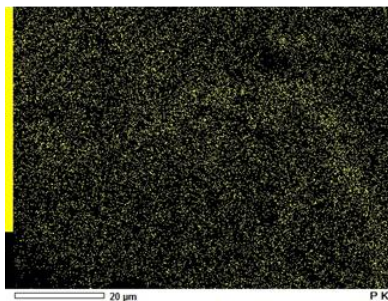
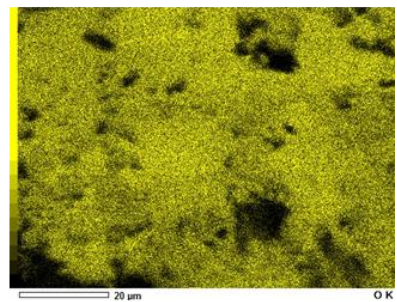
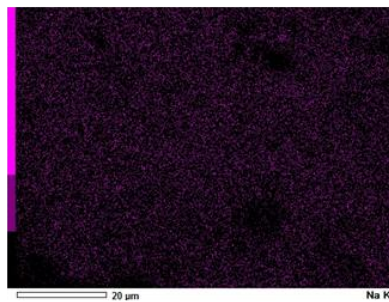
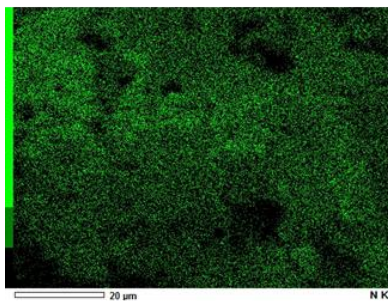
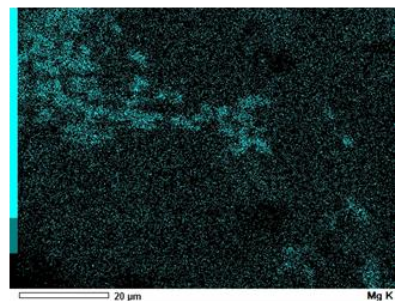
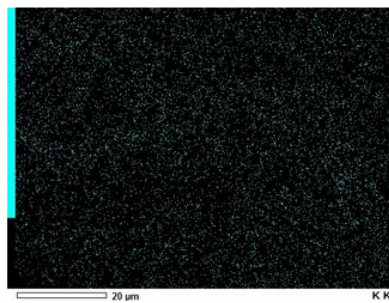
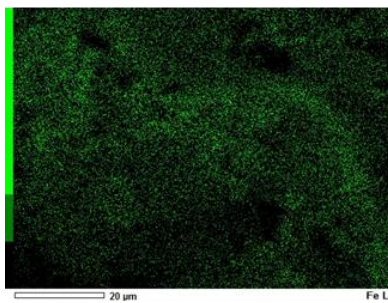
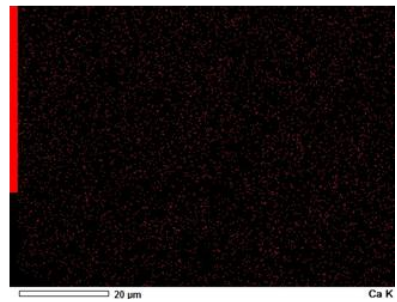
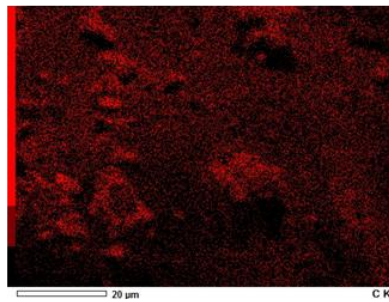
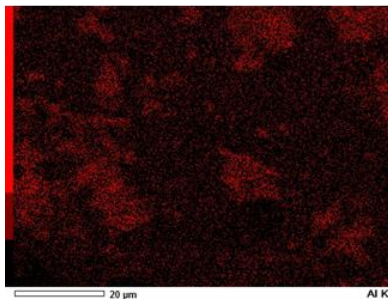
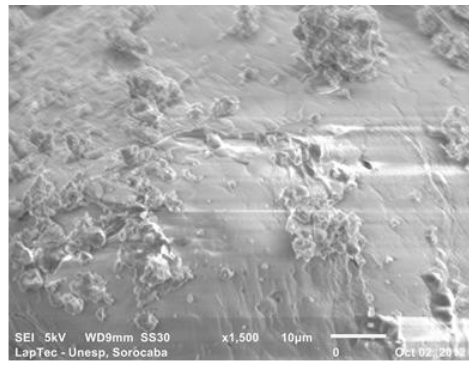


Imagem III

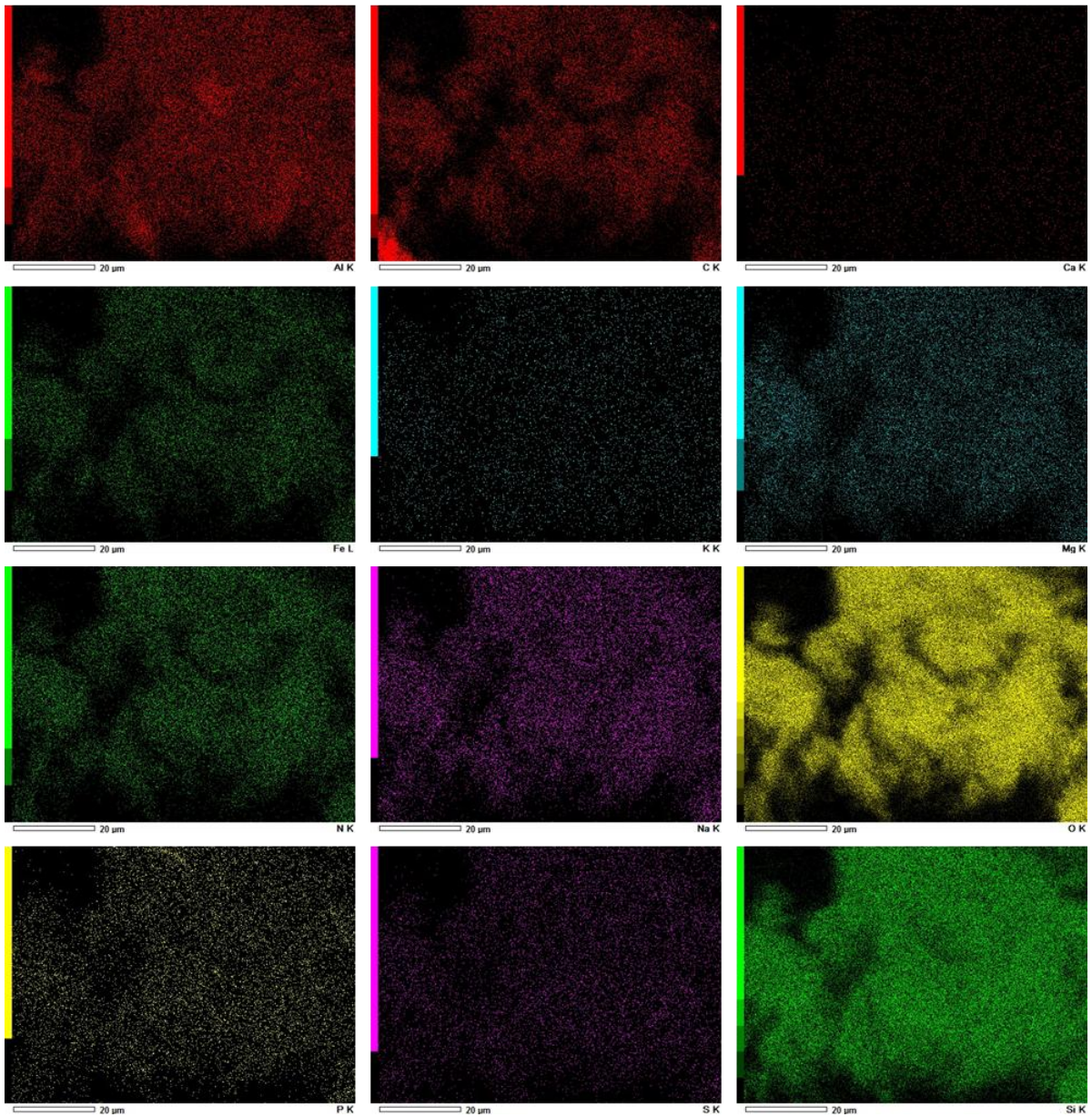
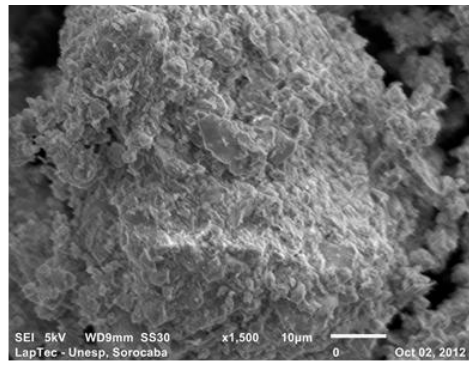


Imagem IV

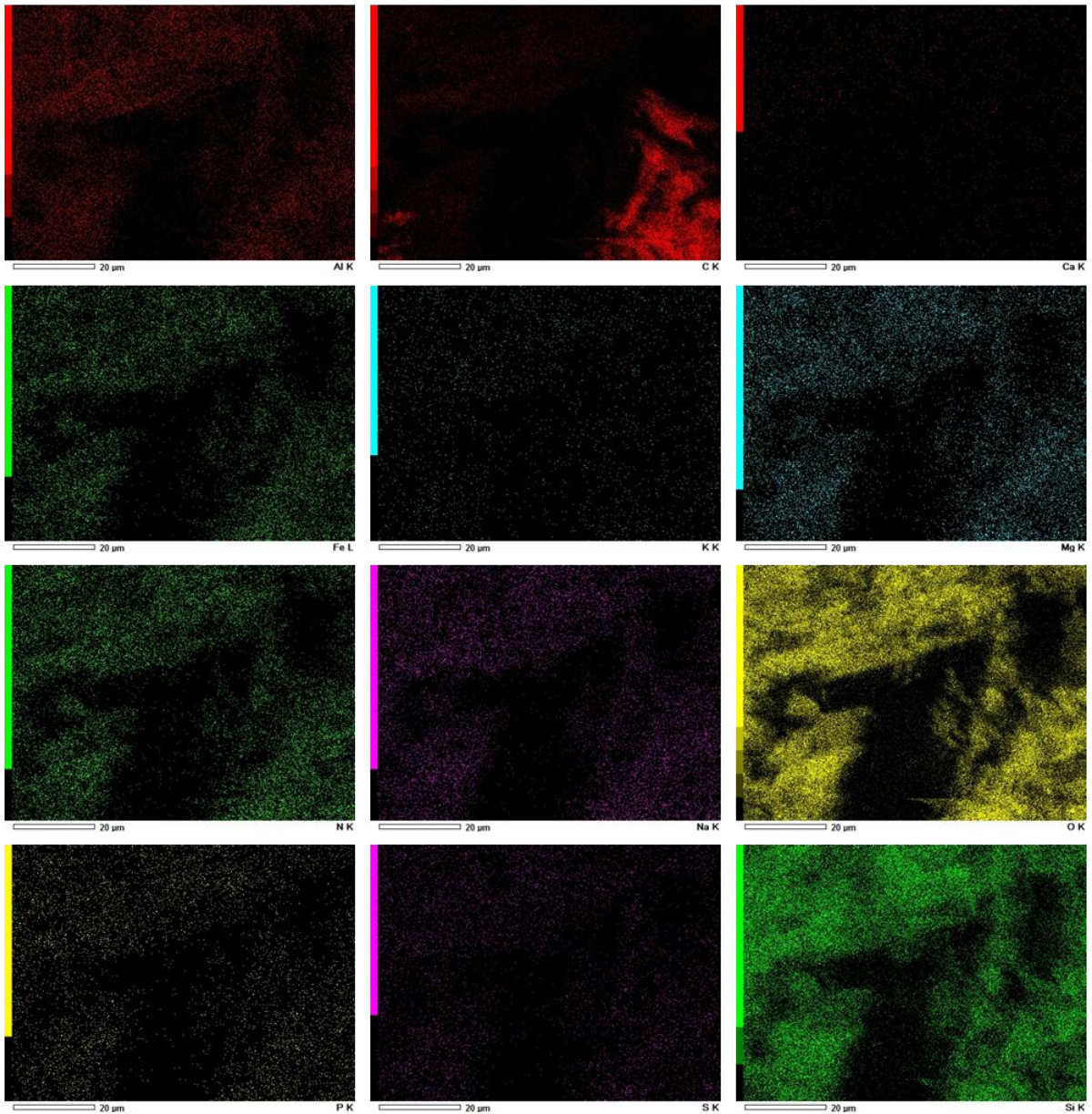
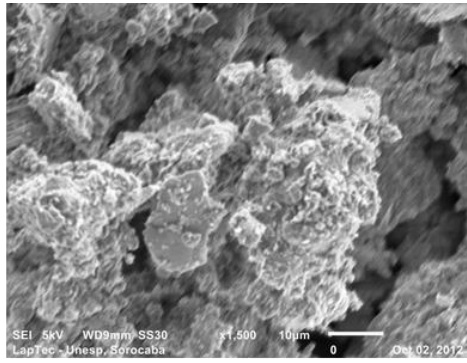
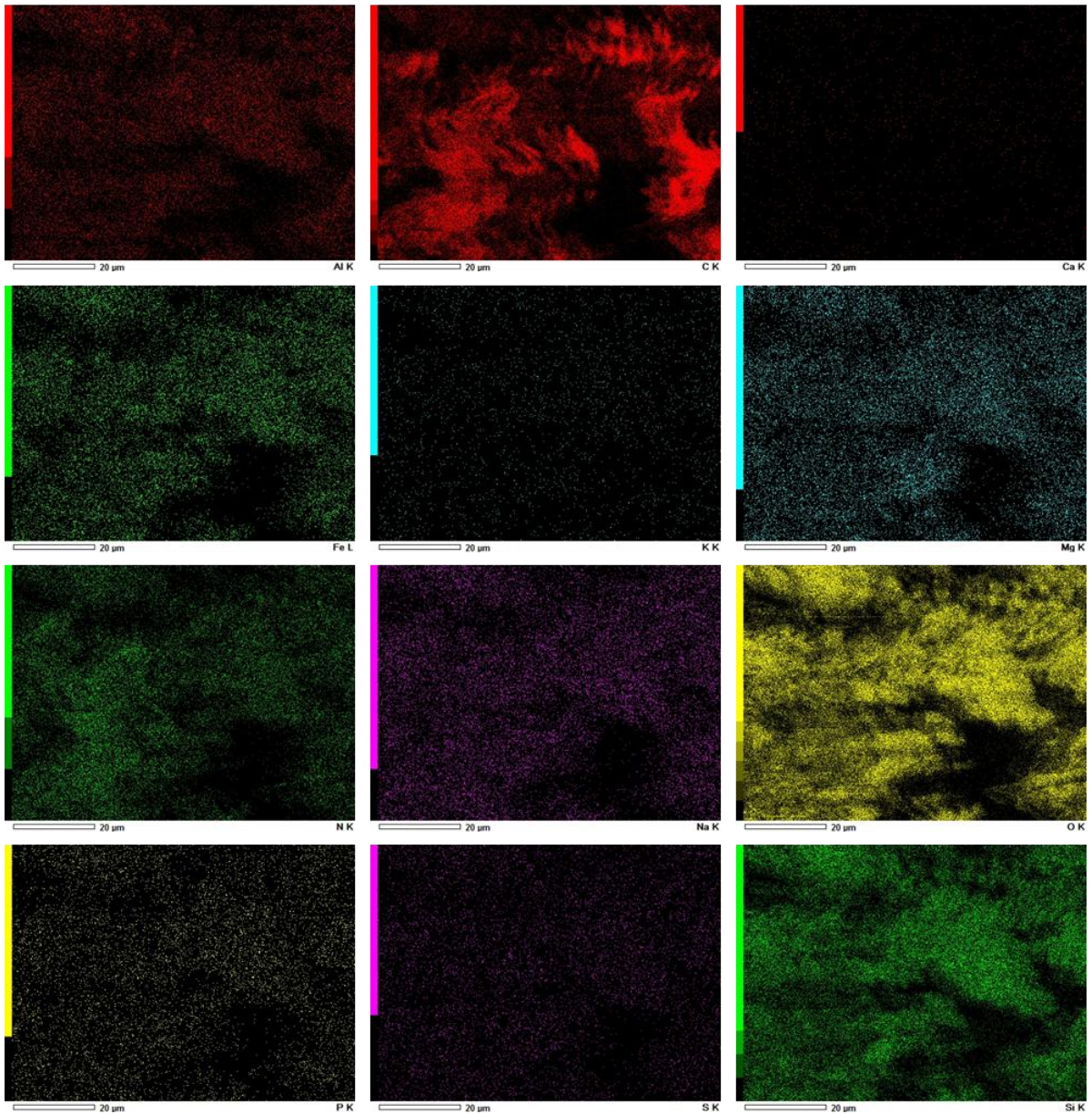
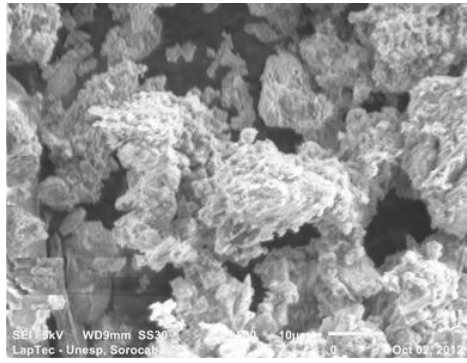


Imagem V



A-V-M+A

Imagem 1

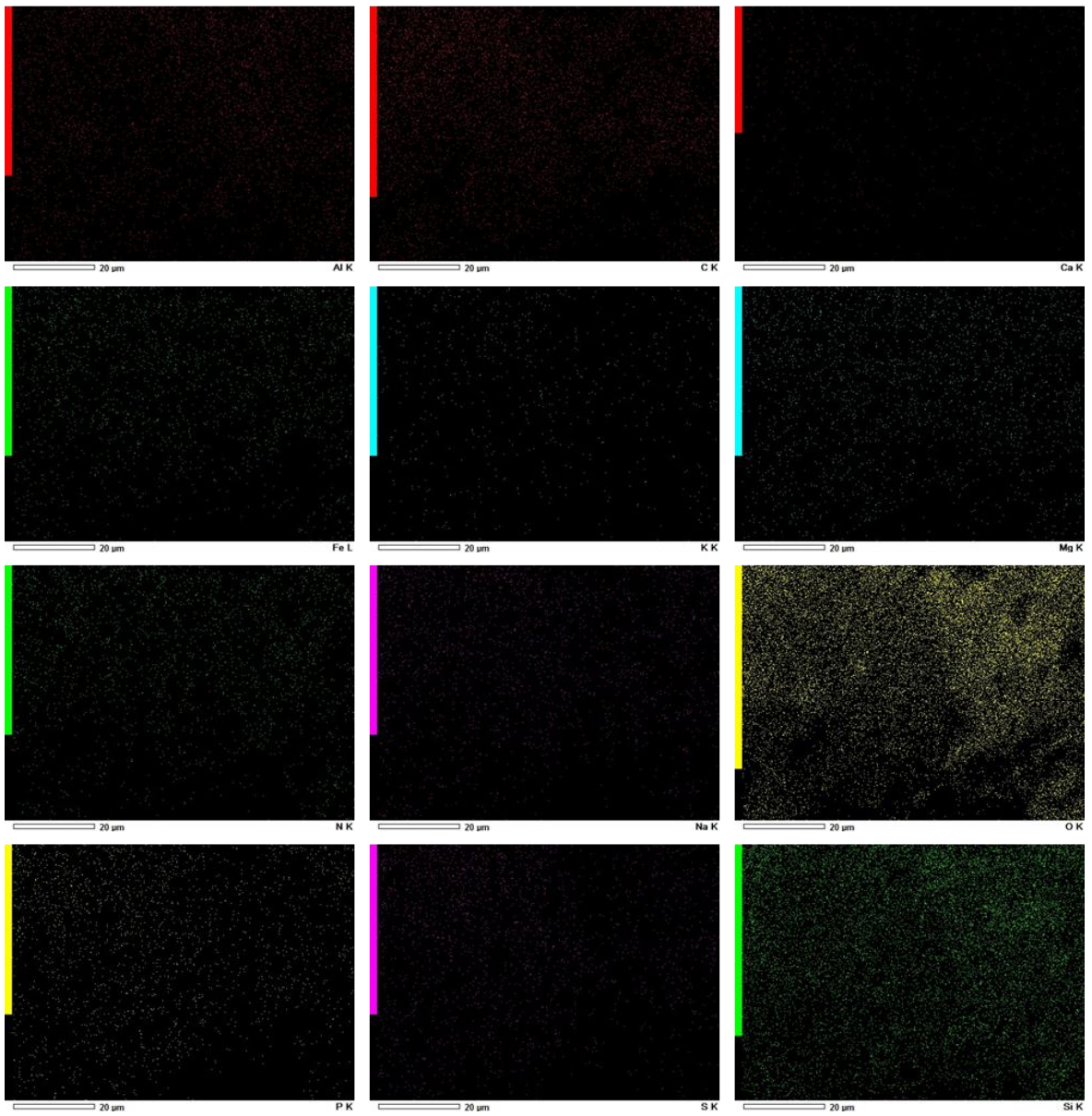
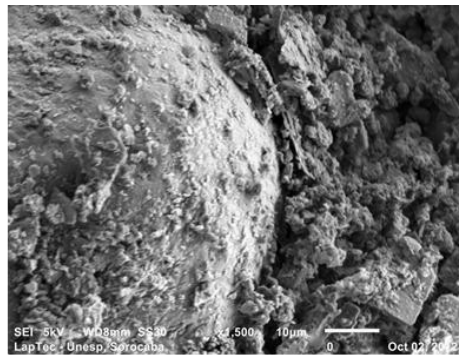


Imagem II

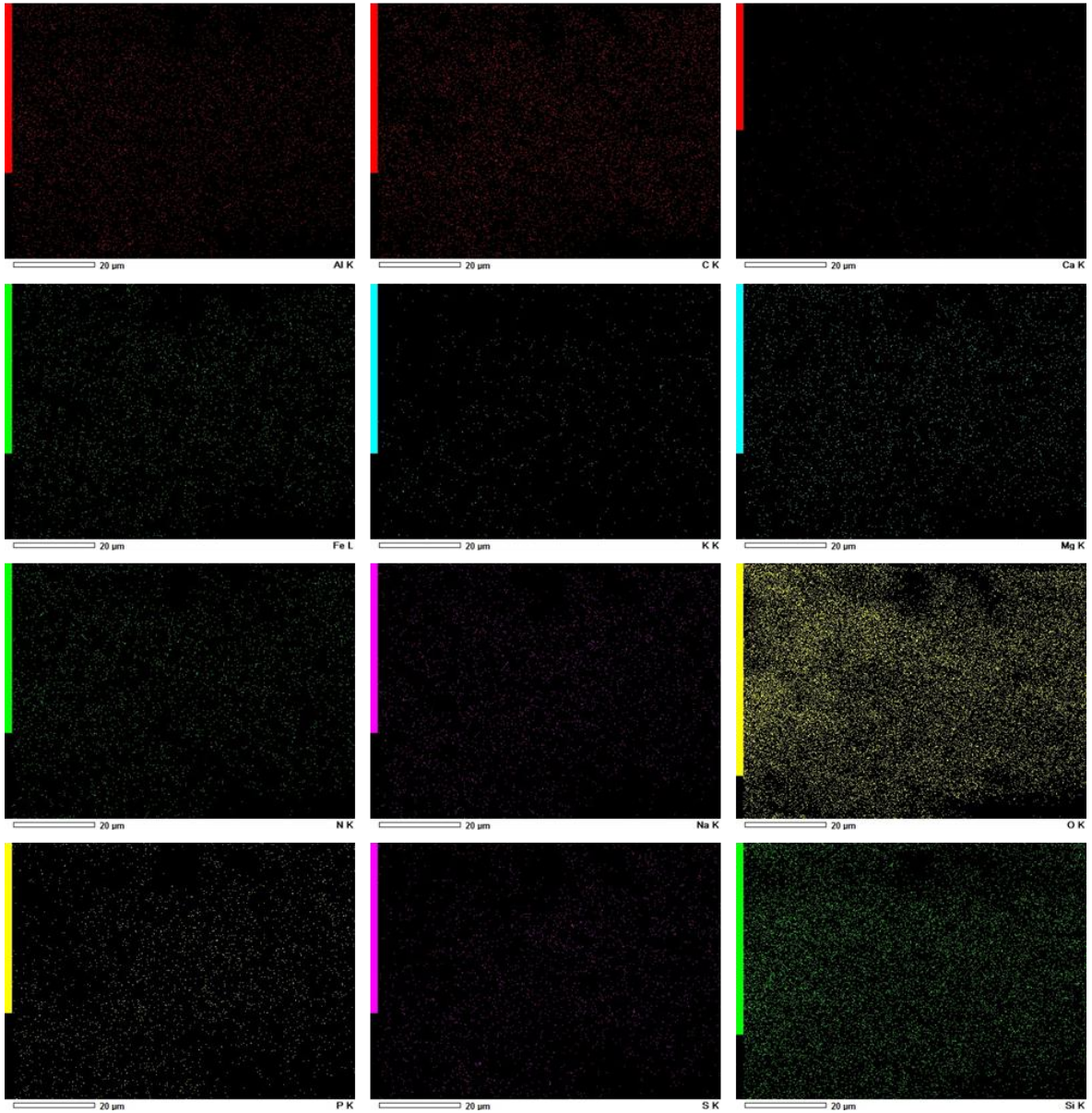
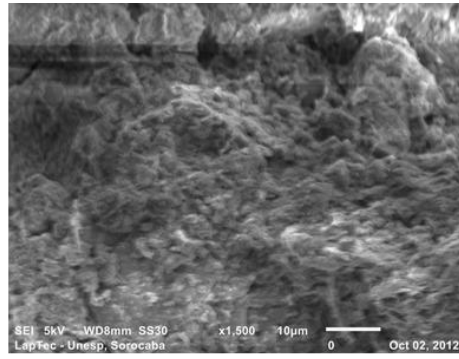


Imagem III

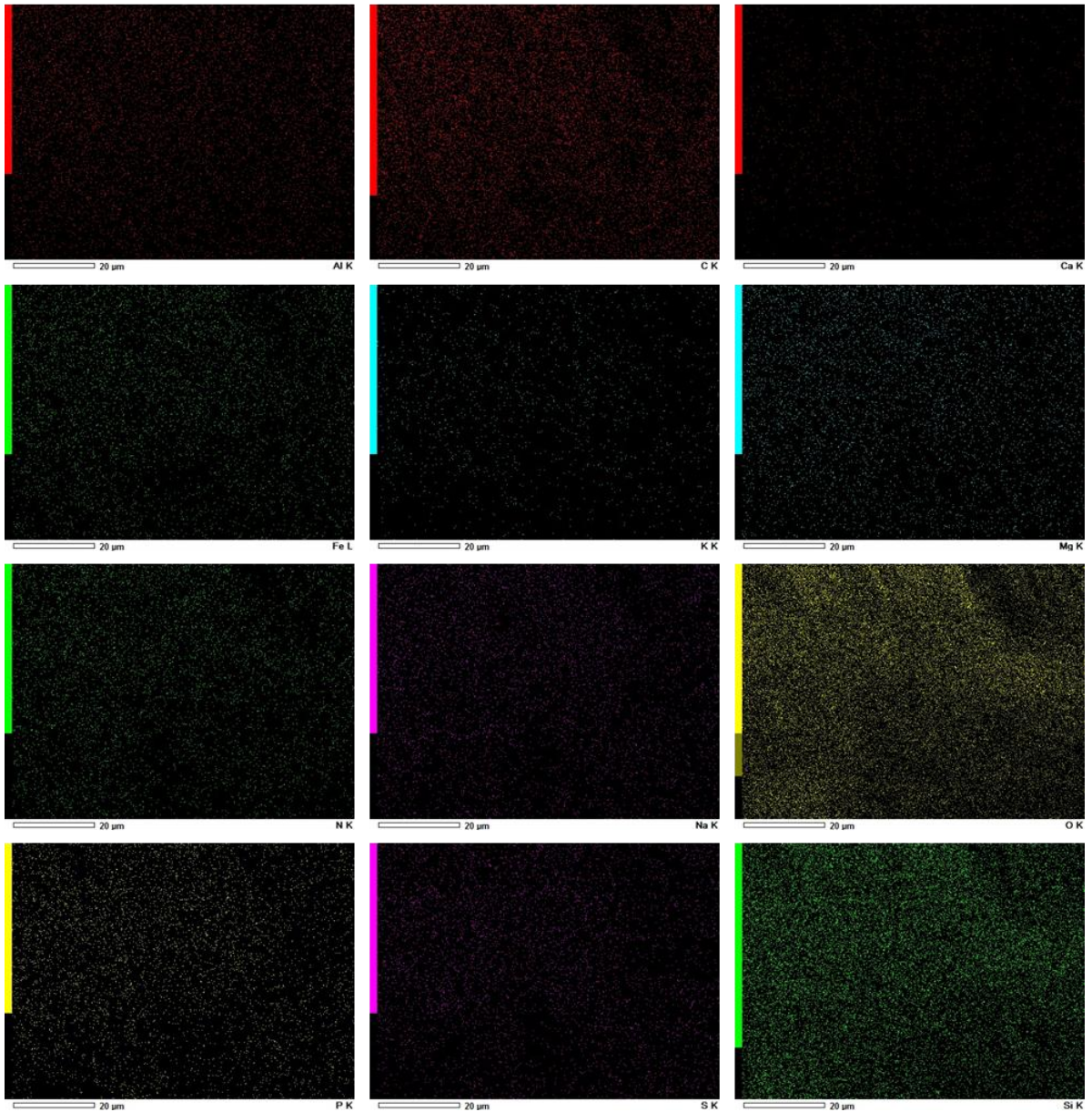
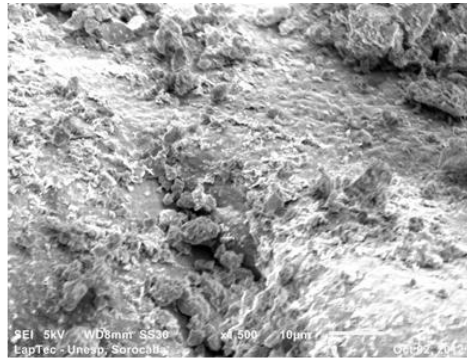


Imagem IV

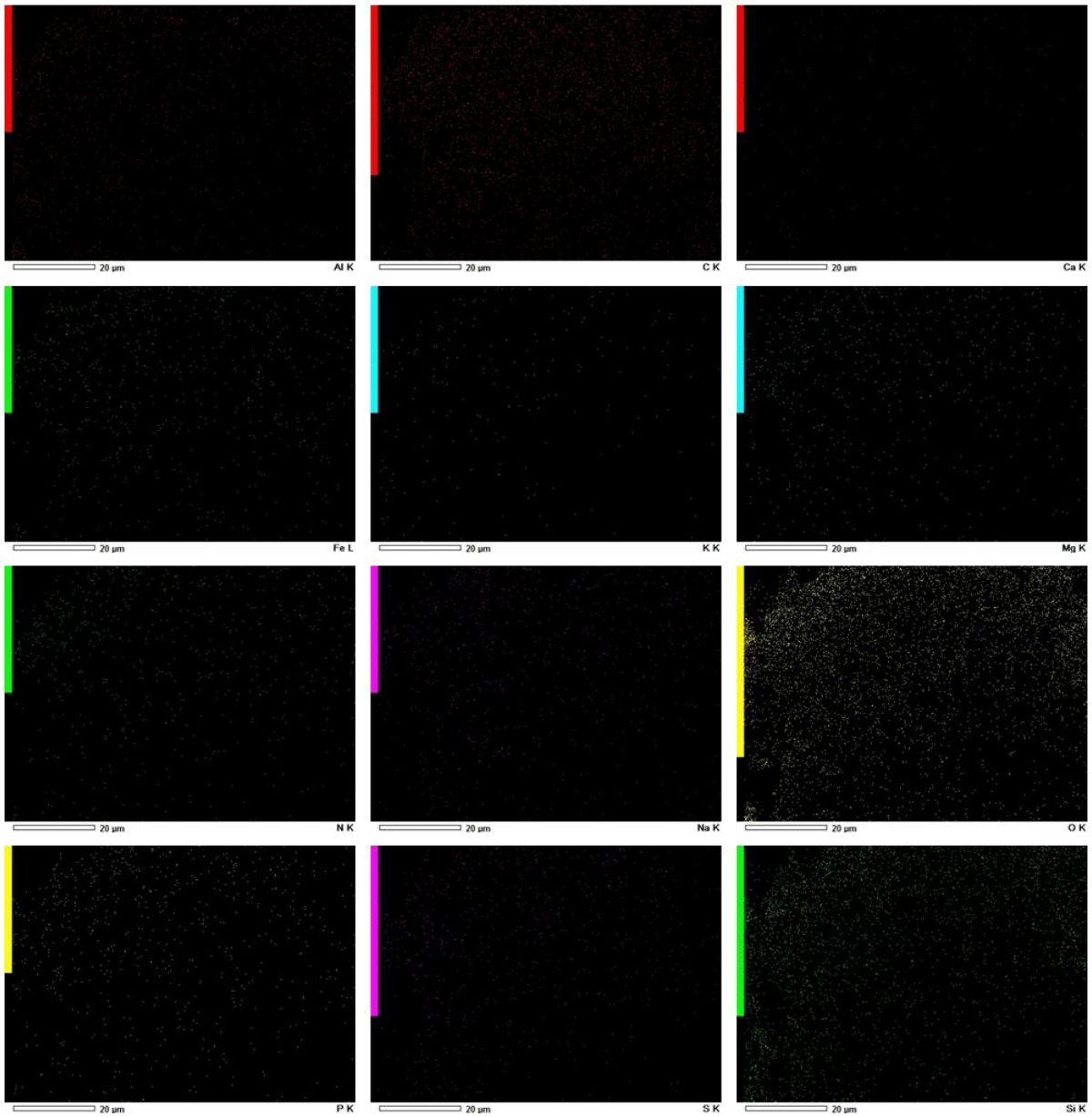
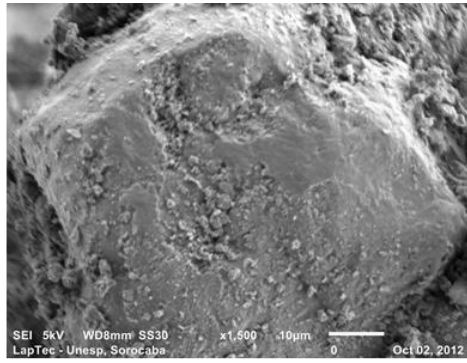
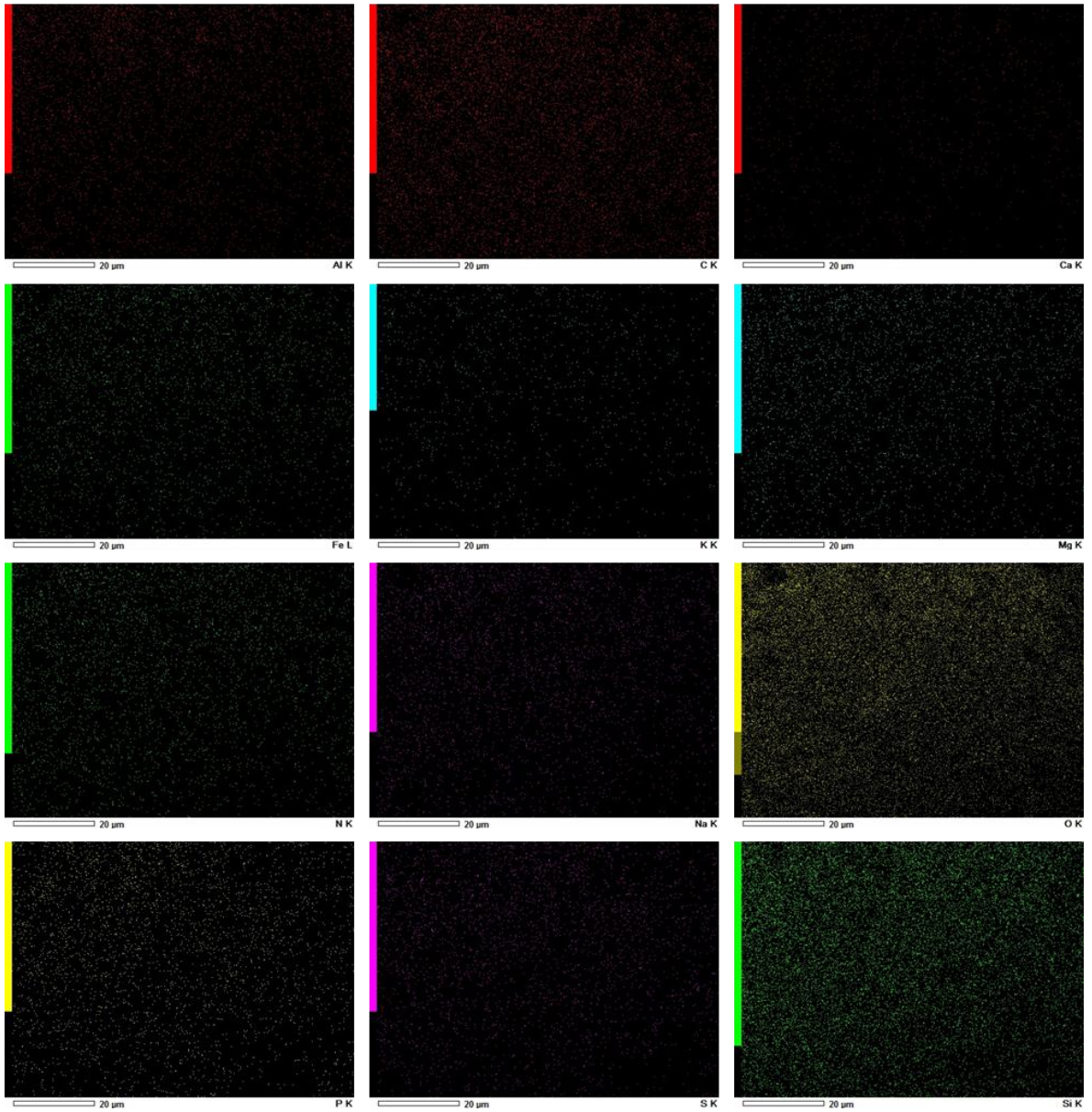
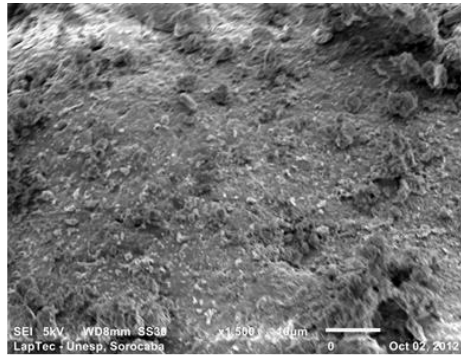


Imagem V



B-V

Imagem I

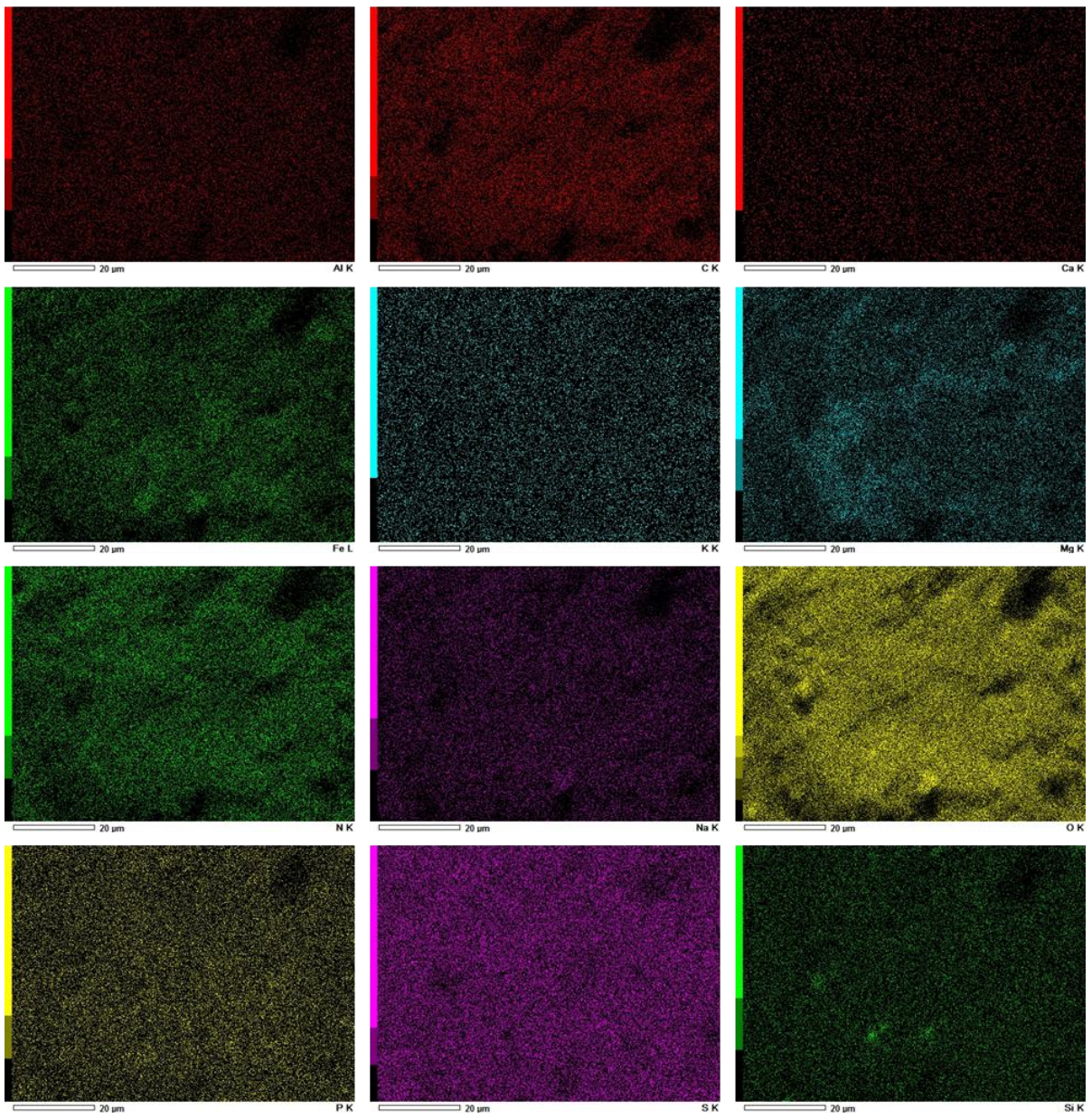
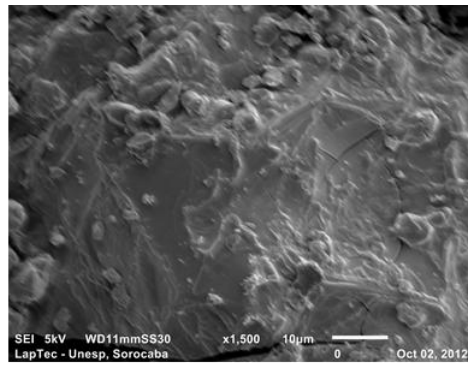


Imagem II

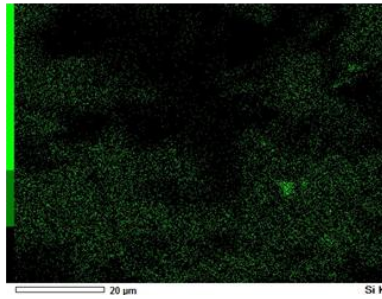
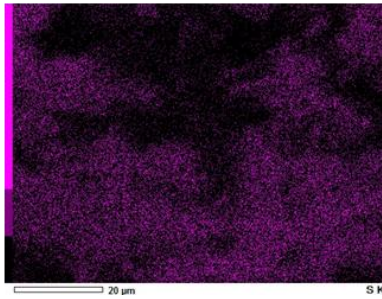
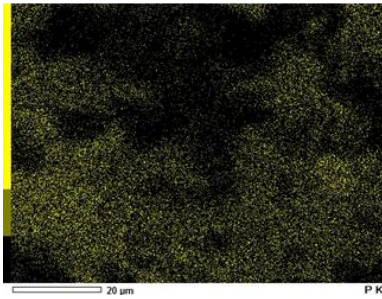
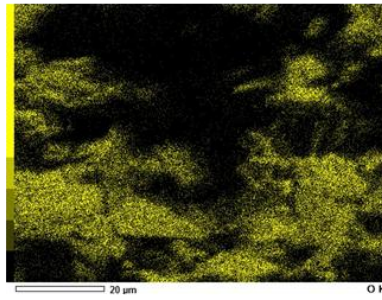
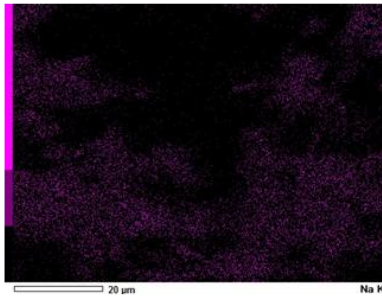
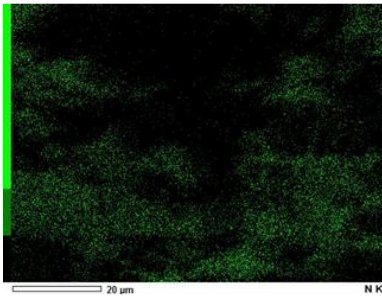
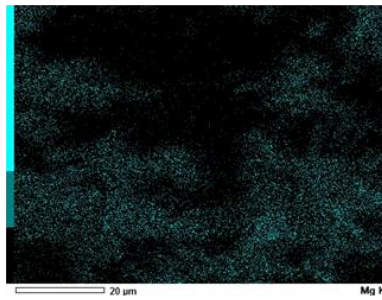
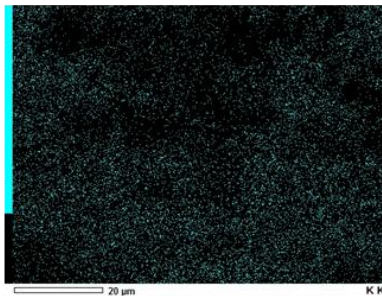
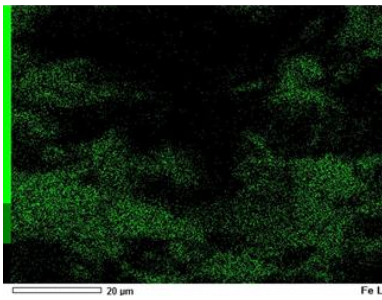
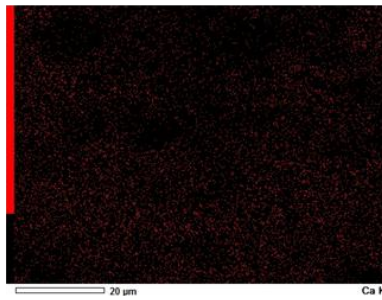
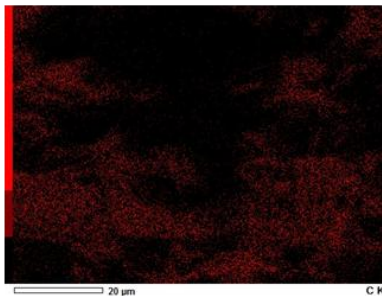
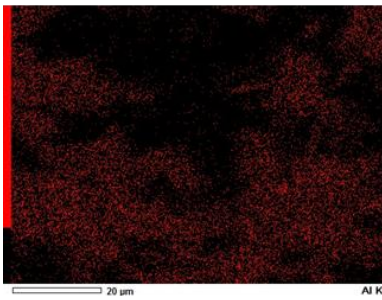
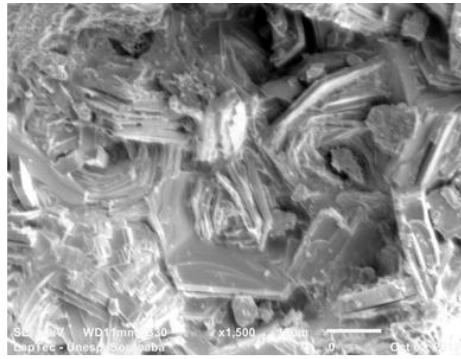


Imagem III

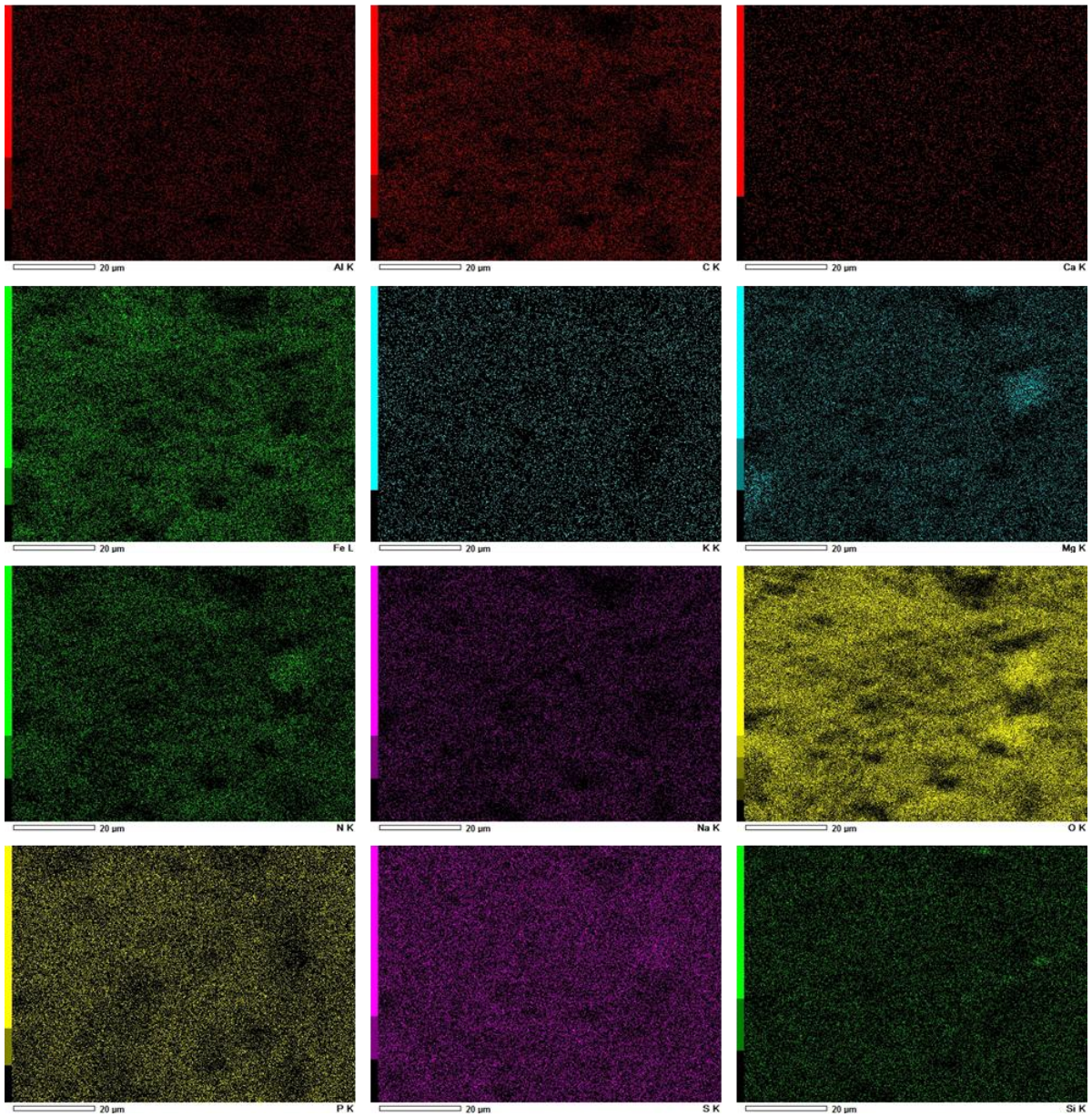
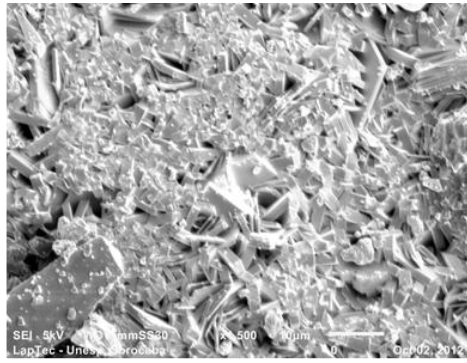


Imagem IV

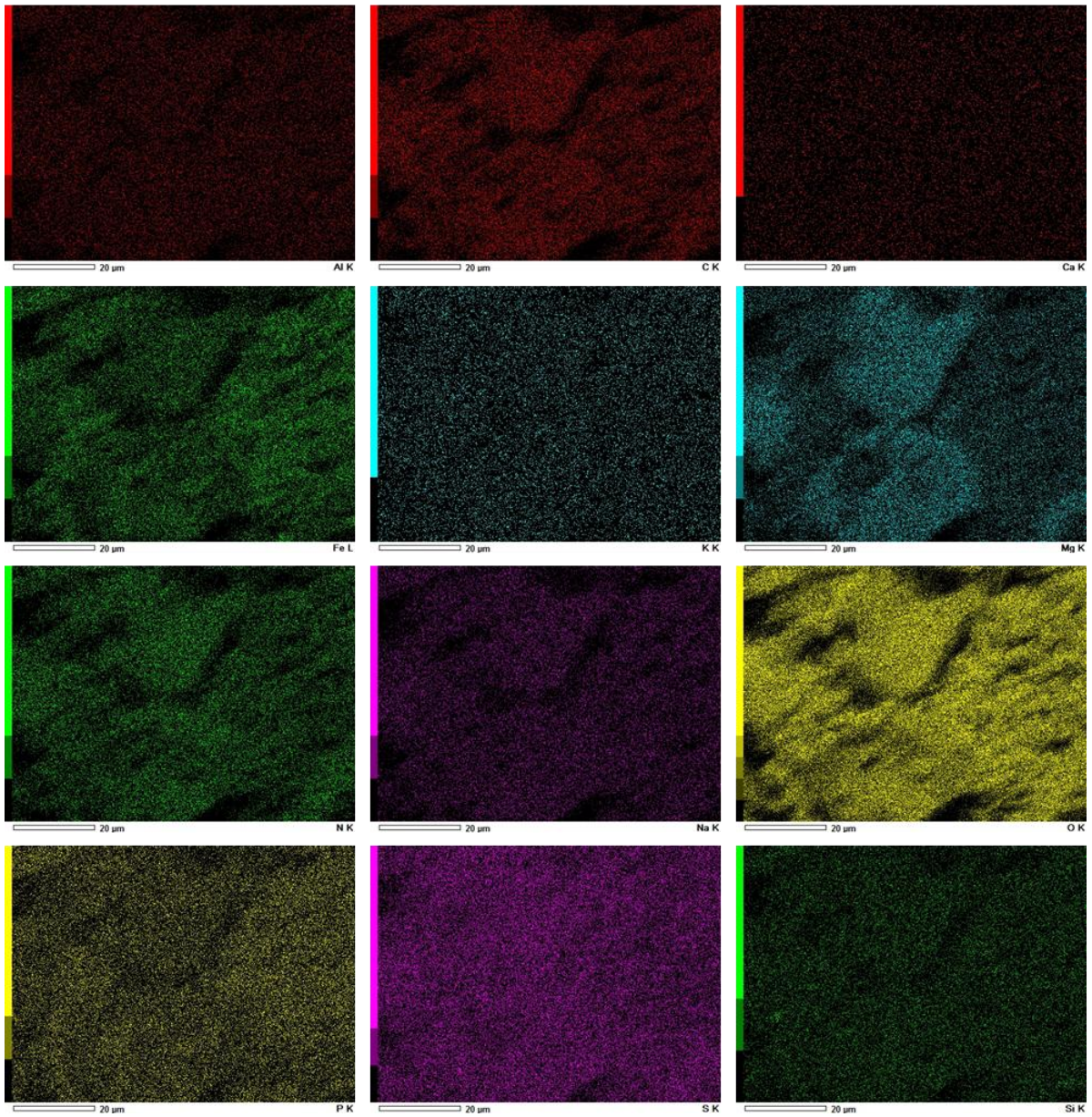
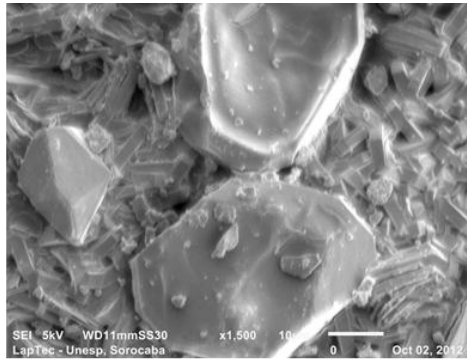
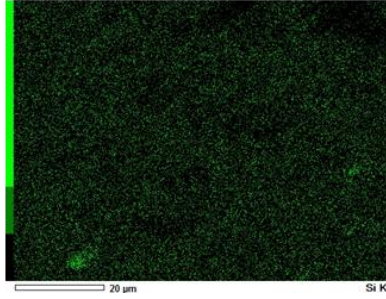
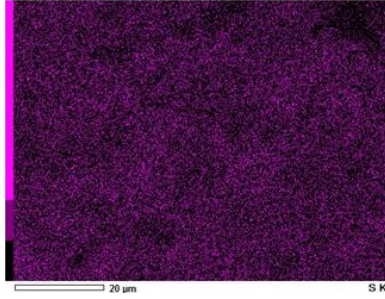
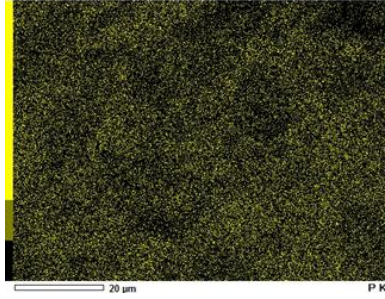
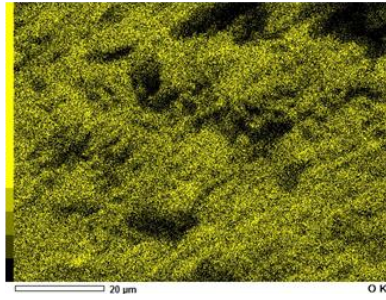
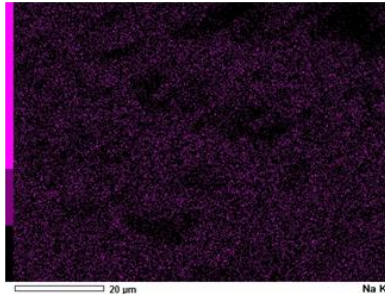
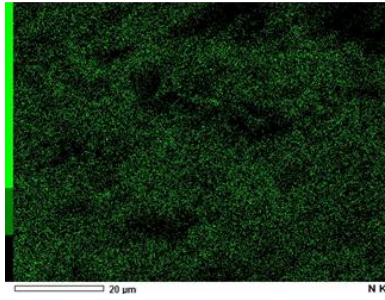
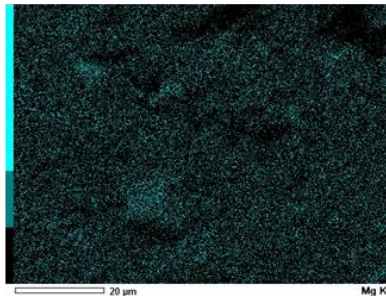
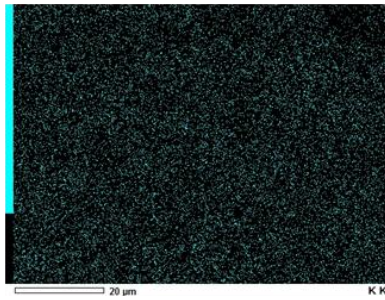
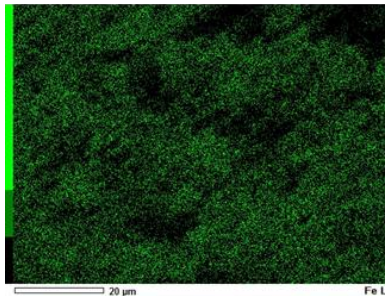
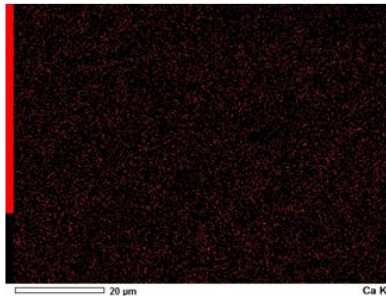
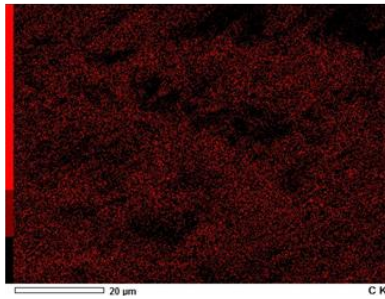
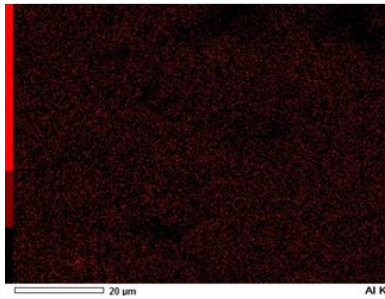
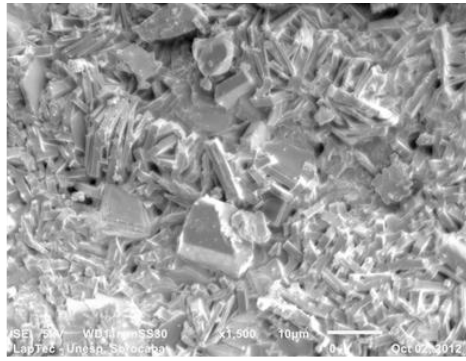


Imagem V



B-V-A

Imagem 1

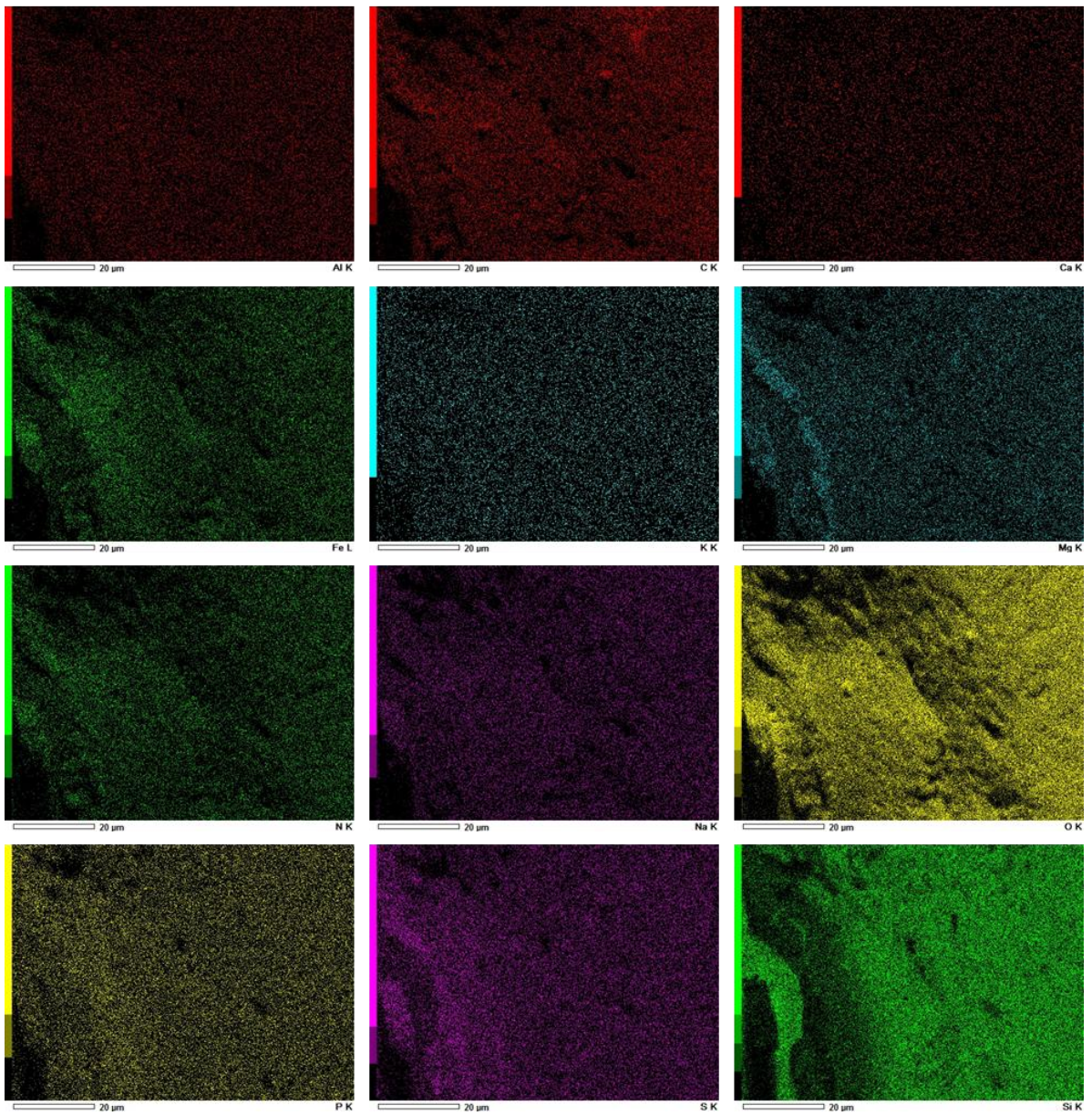
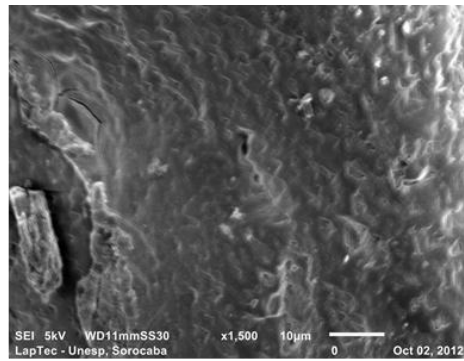


Imagem II

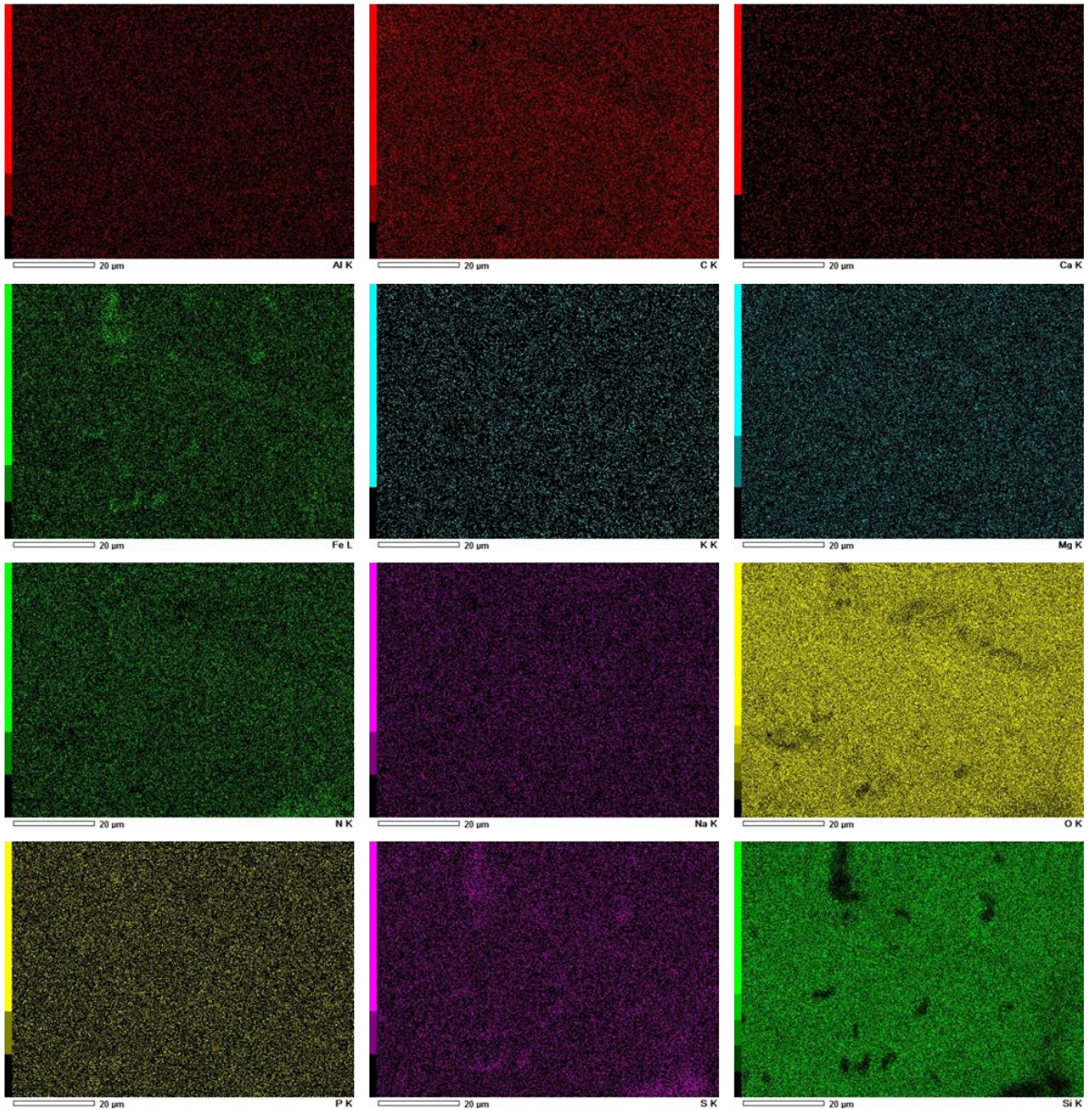
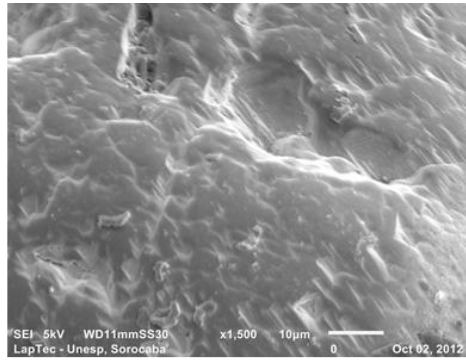


Imagem III

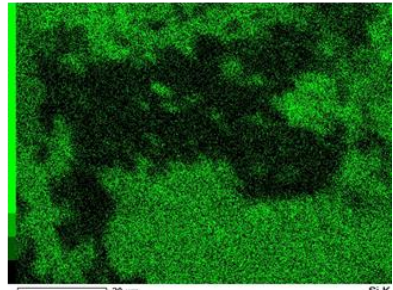
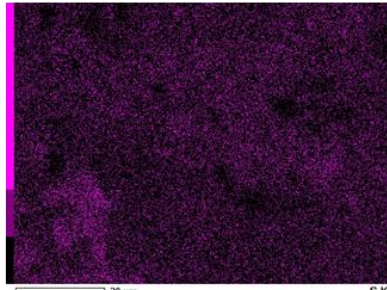
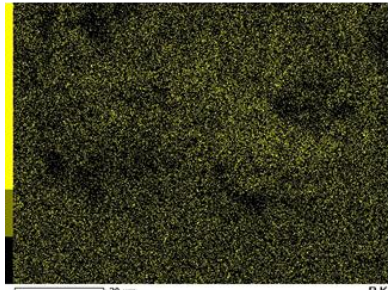
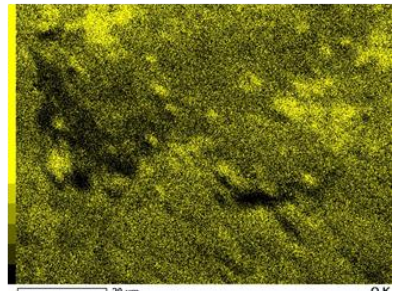
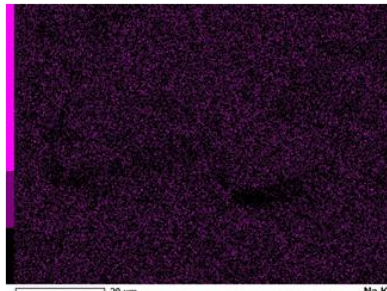
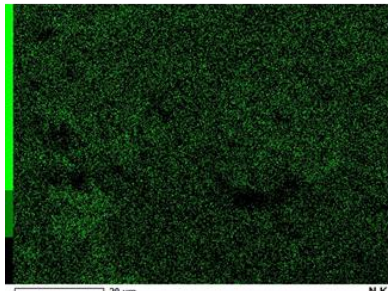
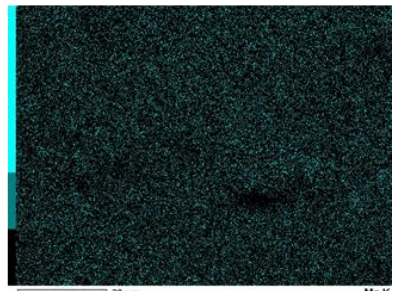
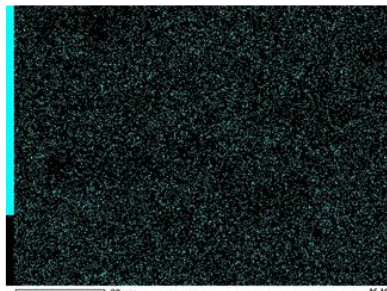
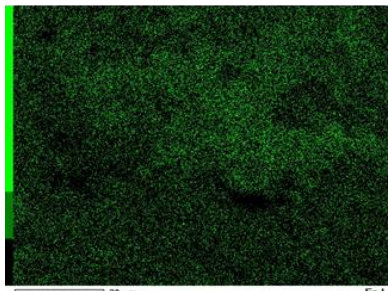
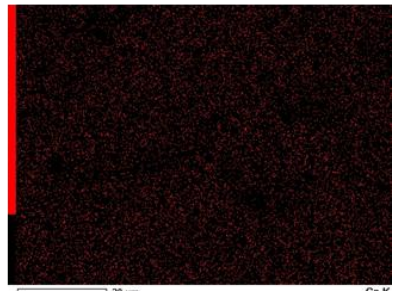
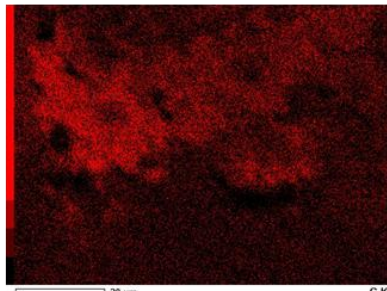
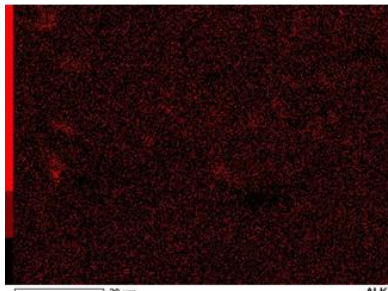
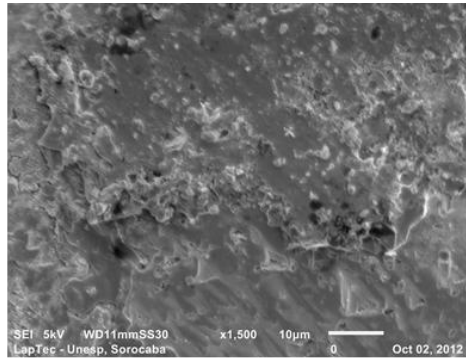


Imagem IV

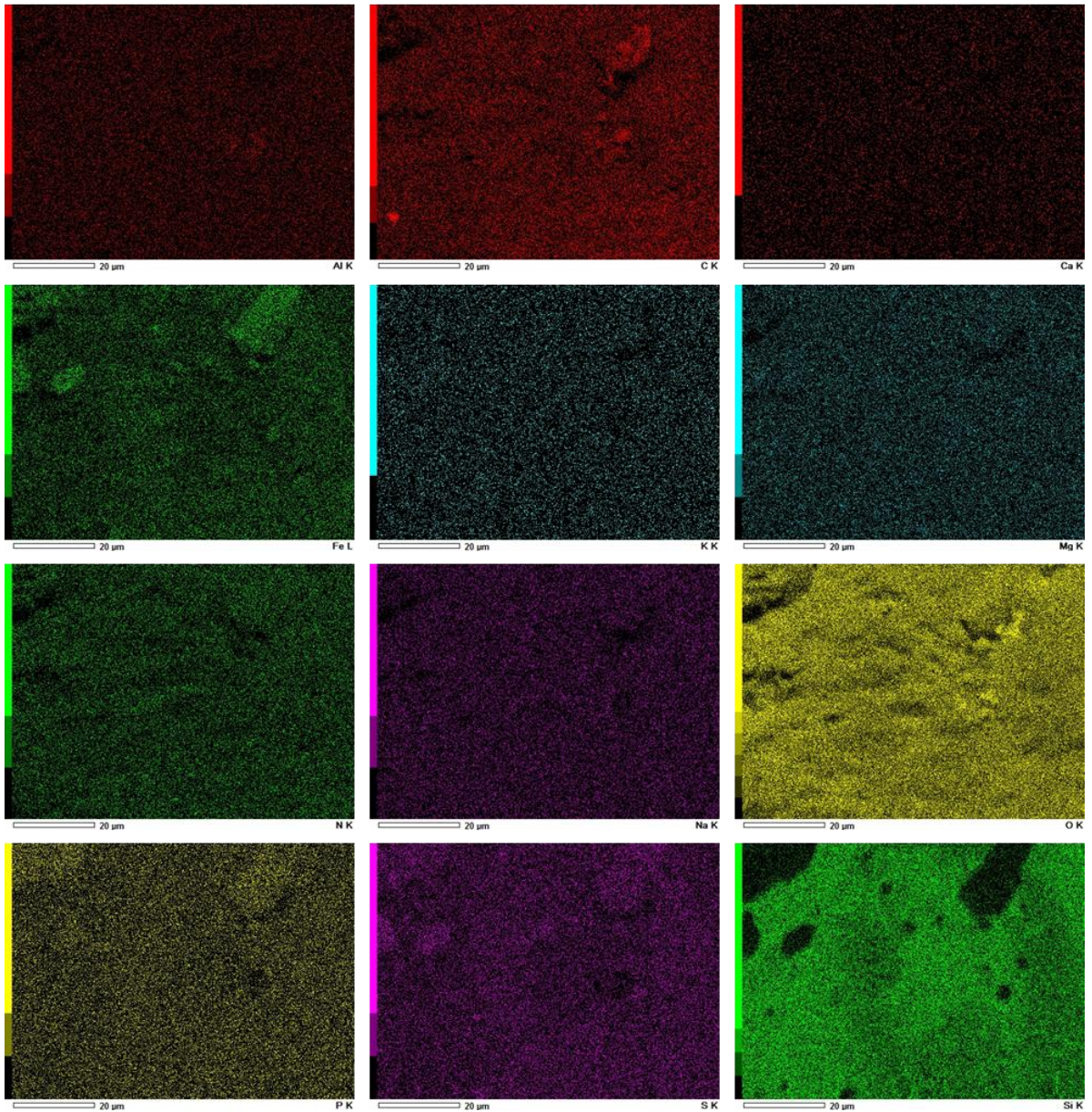
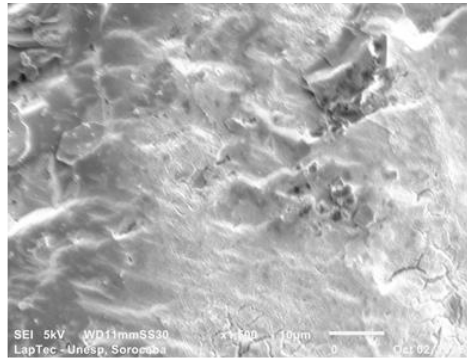
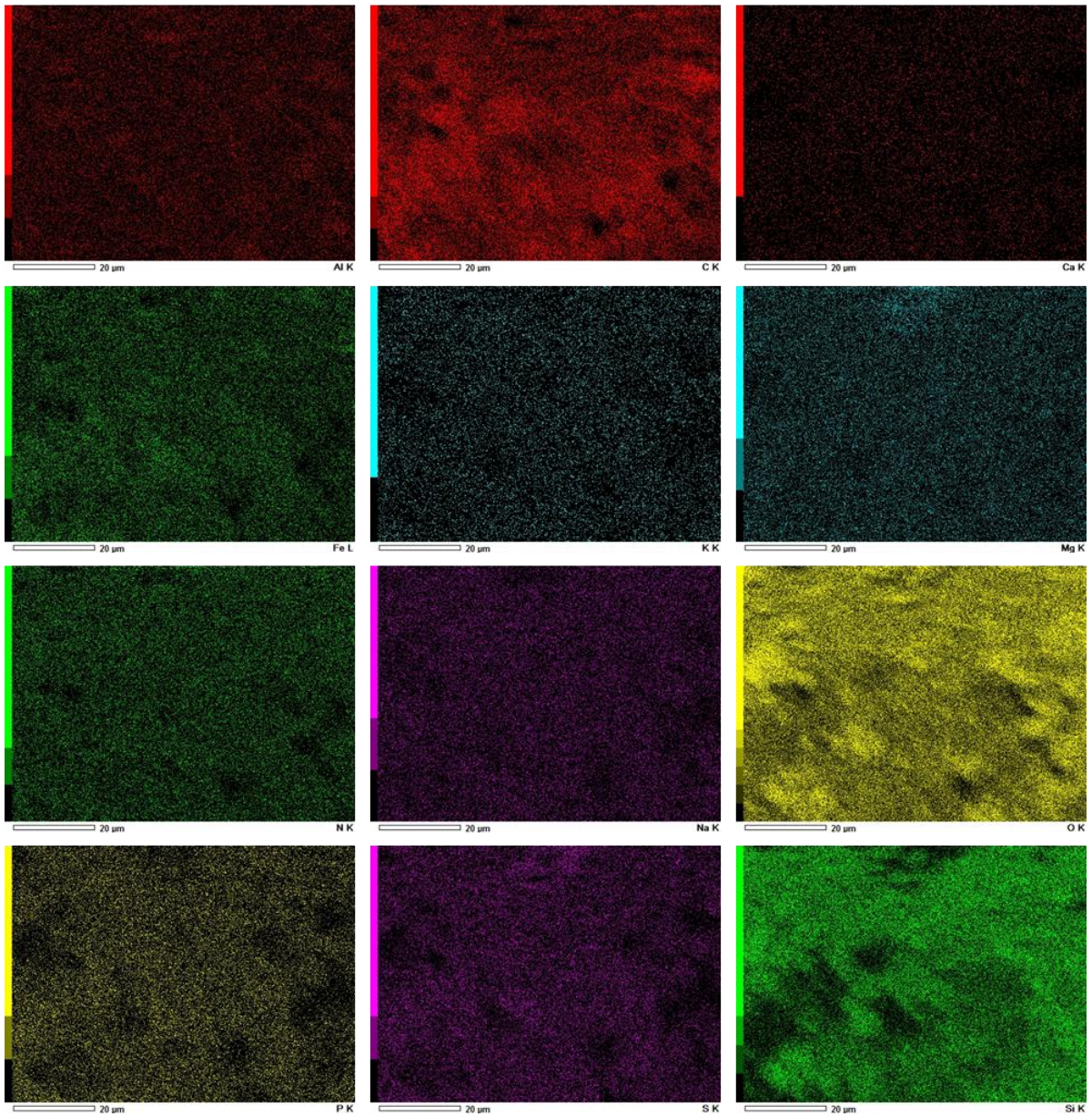
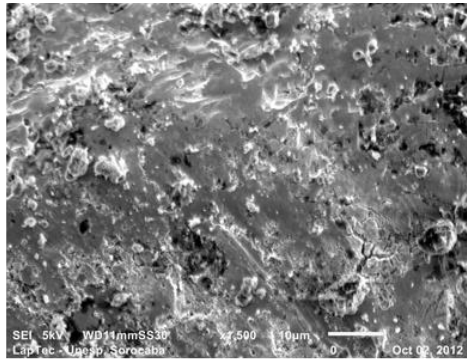


Imagem V



B-V- M

Imagem 1

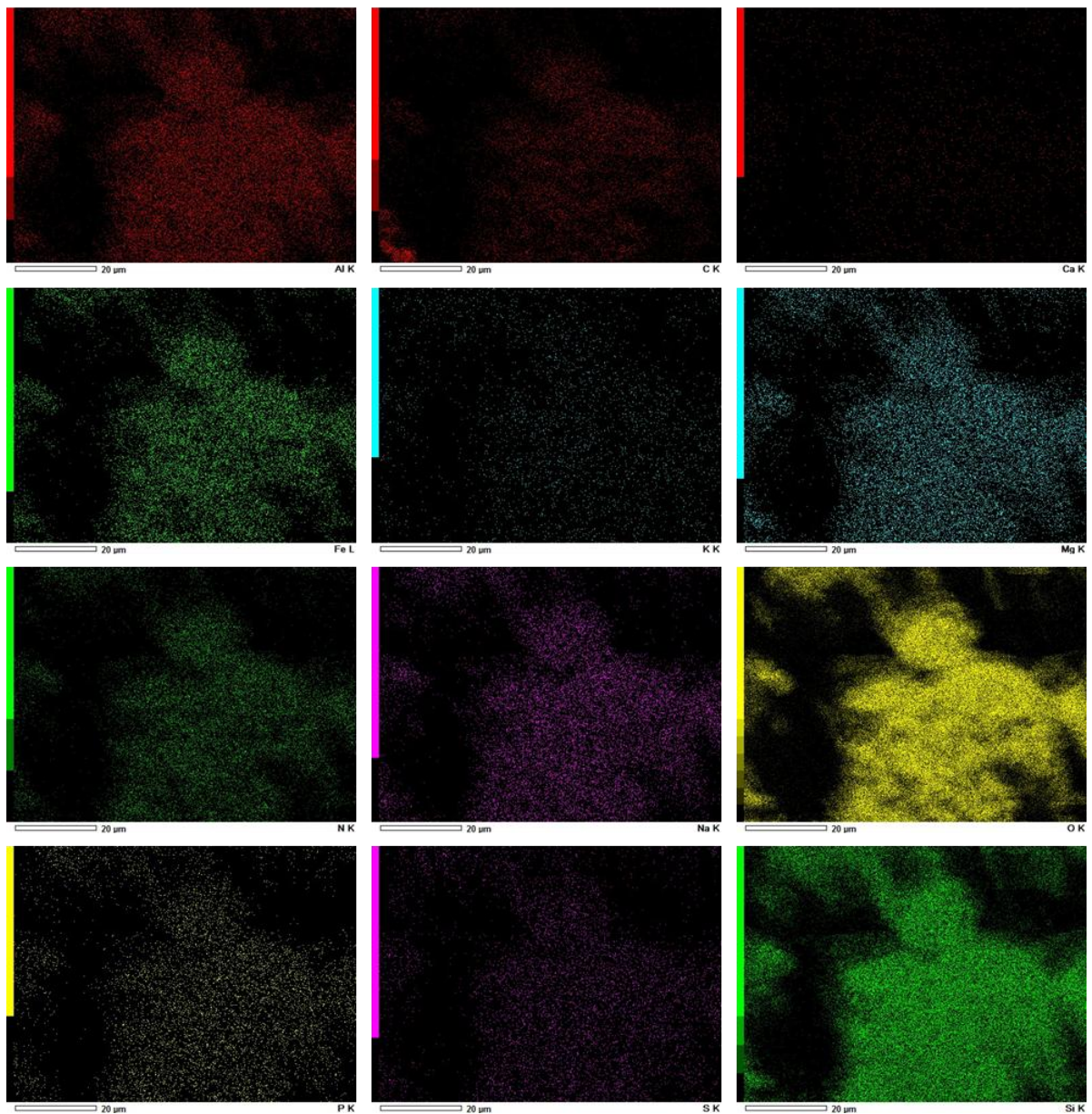
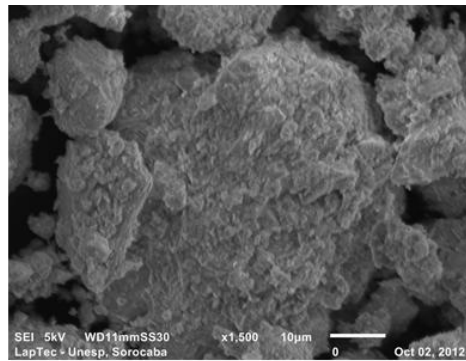


Imagem II

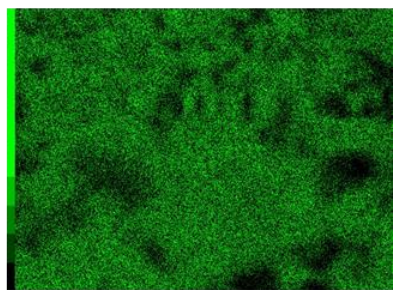
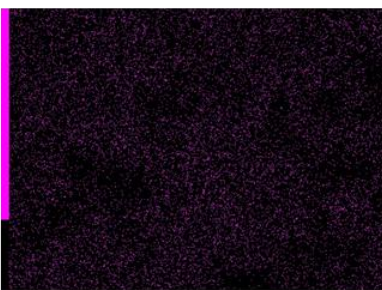
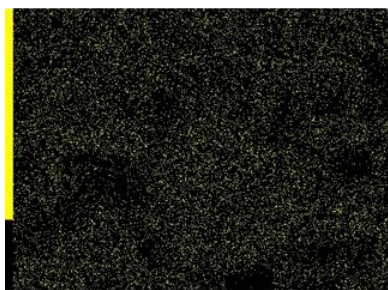
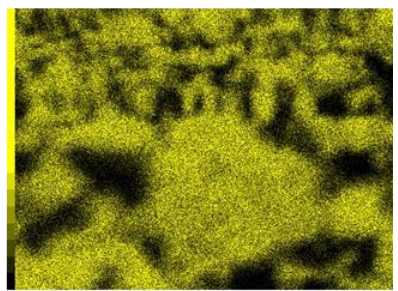
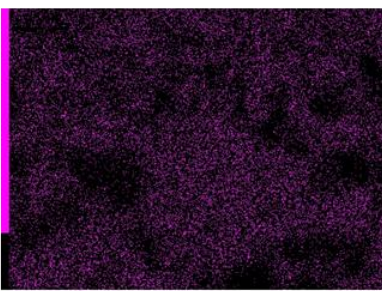
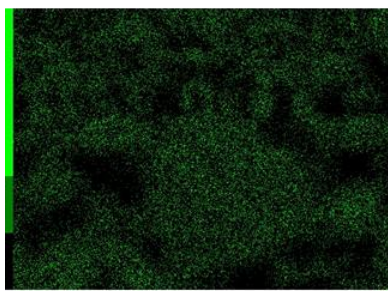
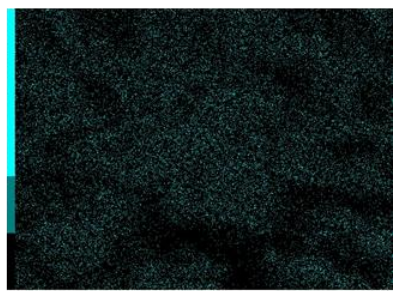
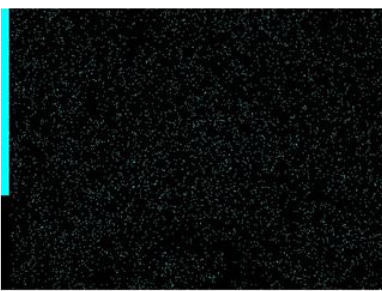
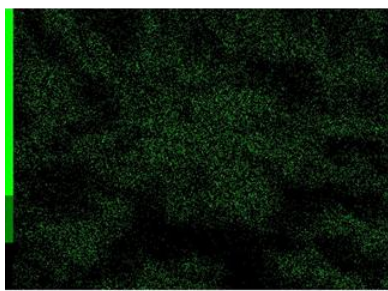
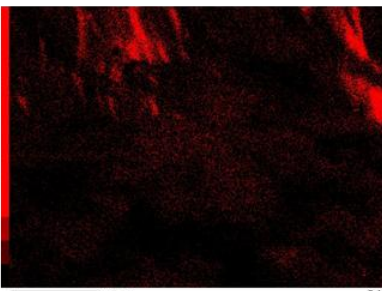
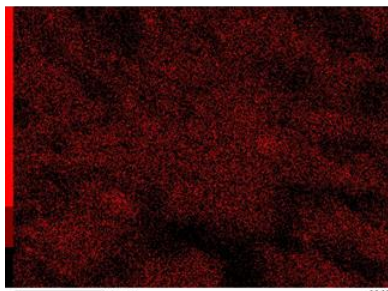
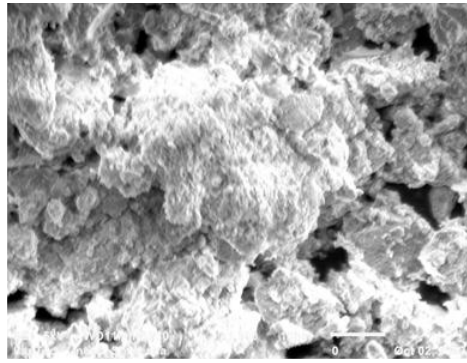


Imagem III

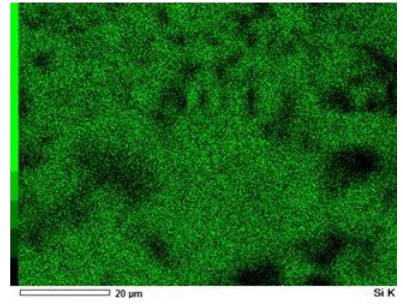
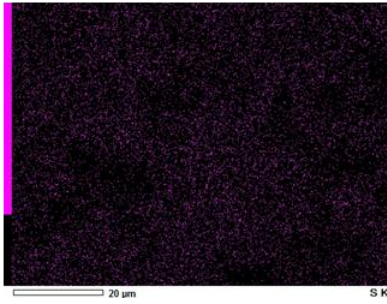
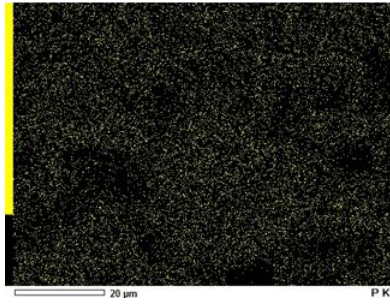
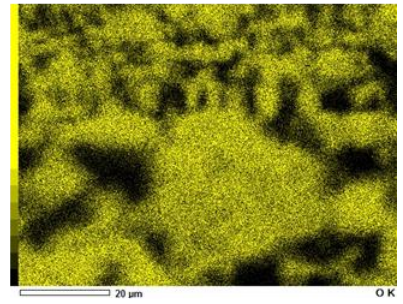
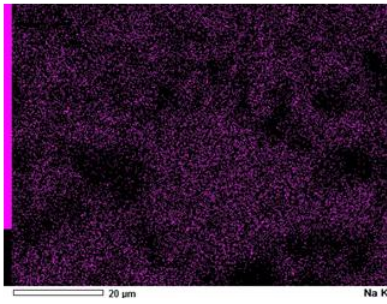
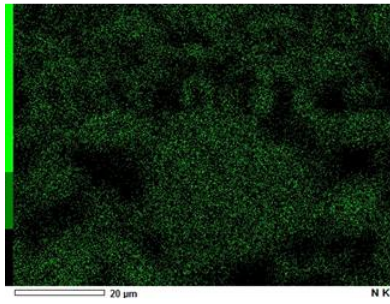
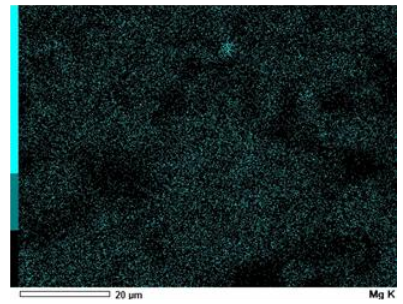
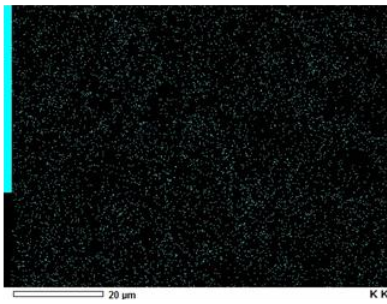
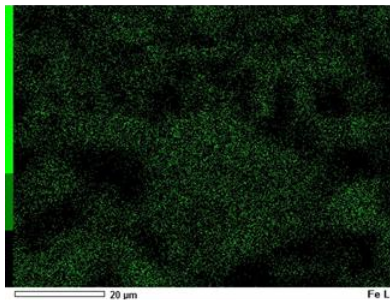
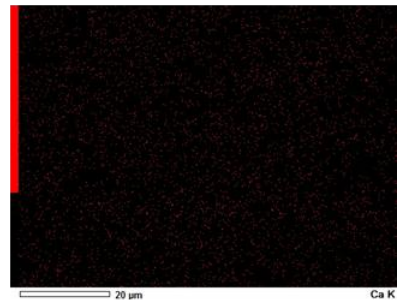
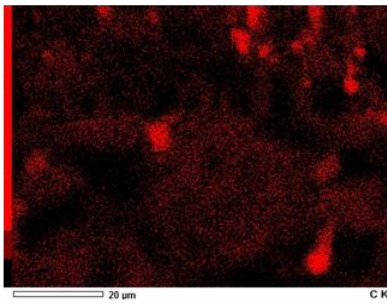
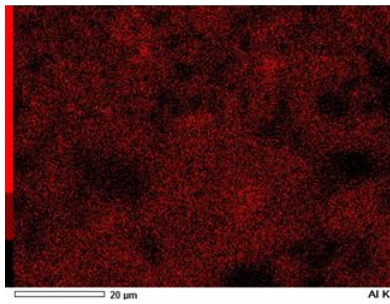
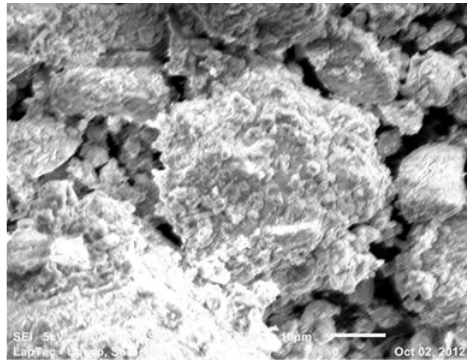


Imagem IV

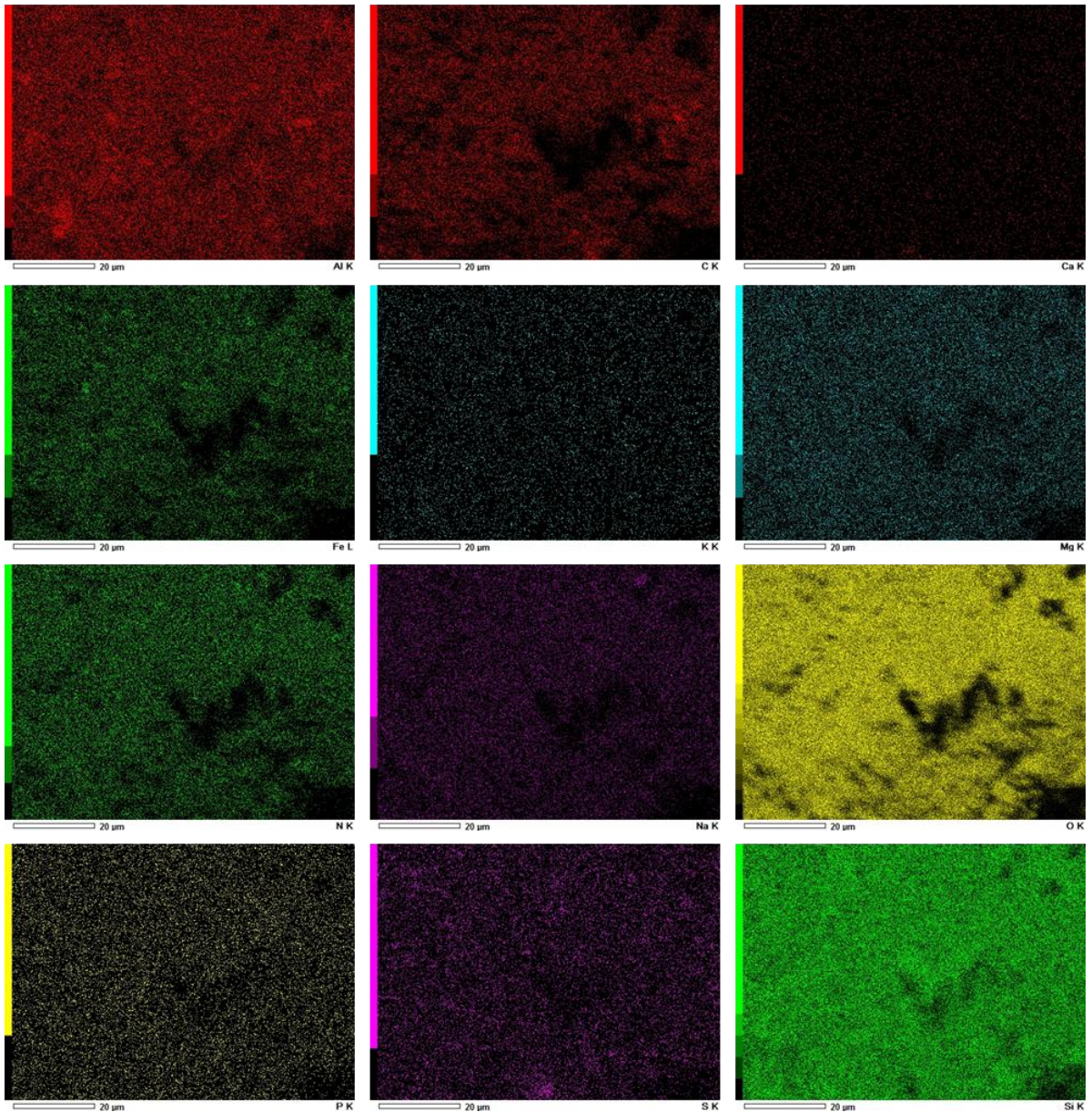
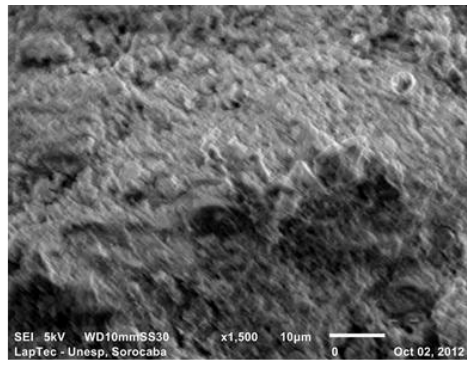
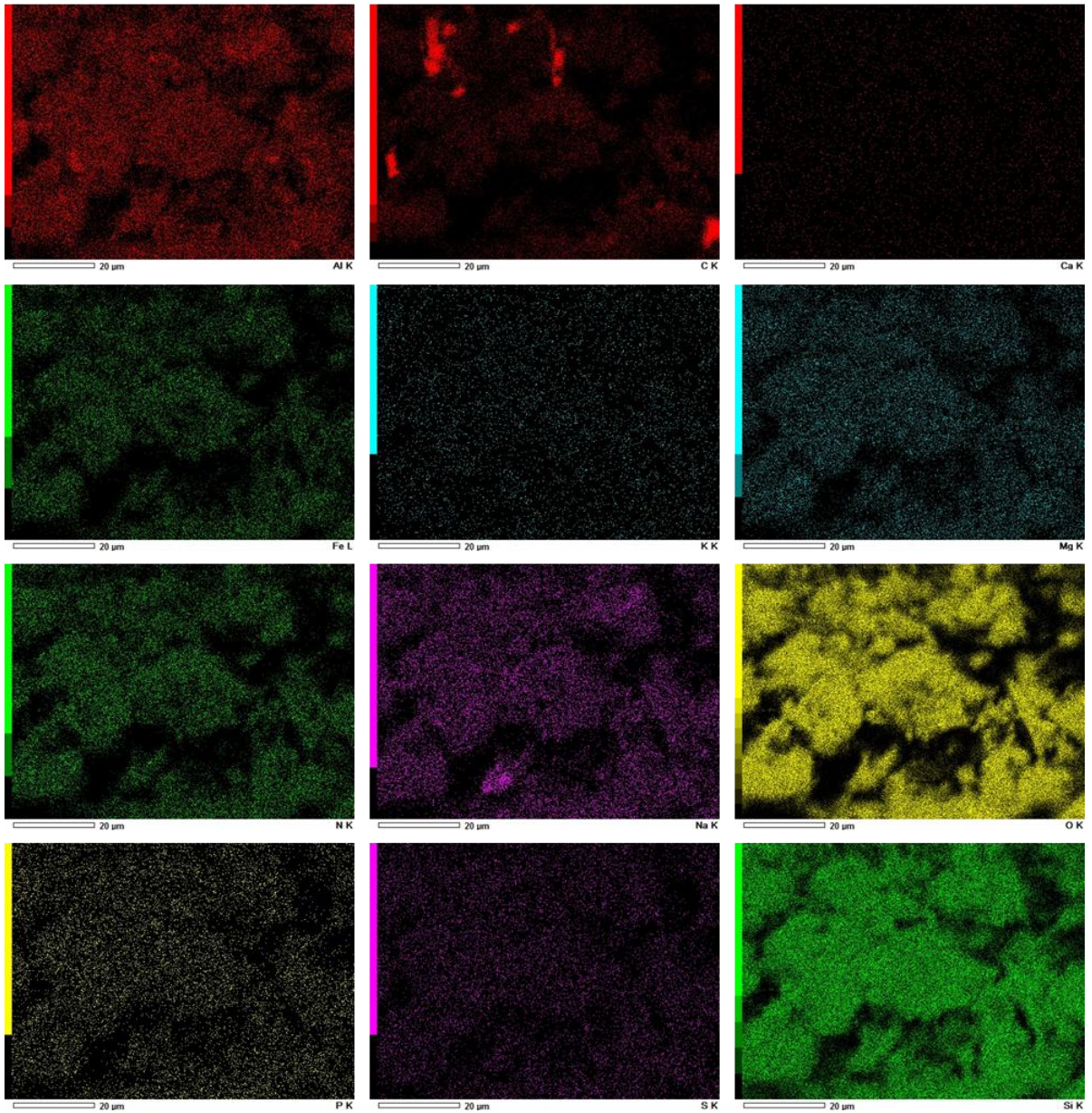
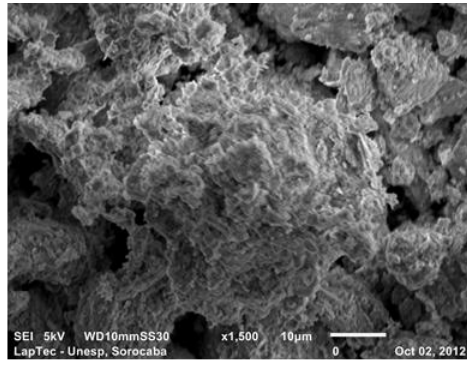


Imagem V



B-V- M+A

Imagem 1

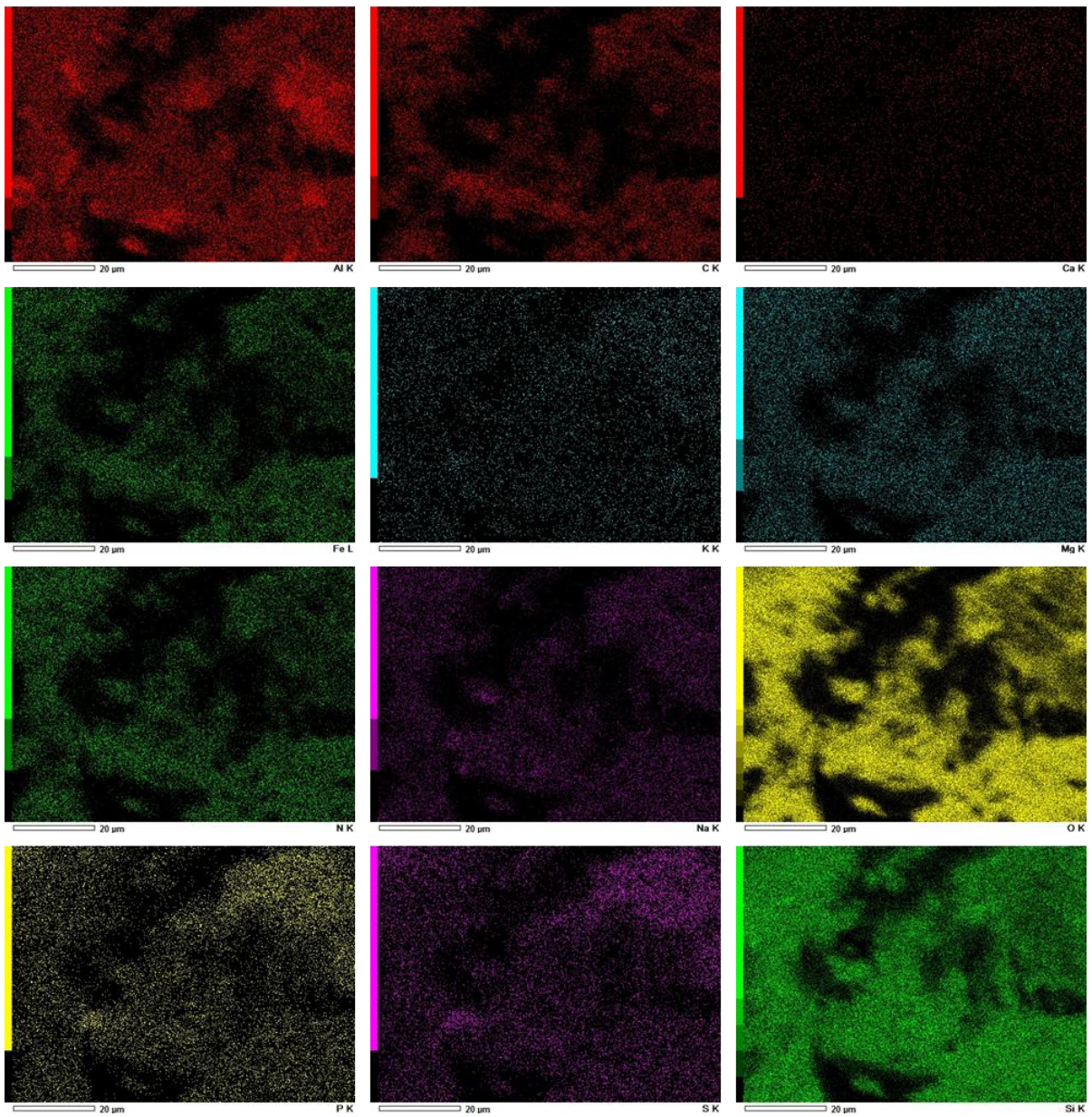
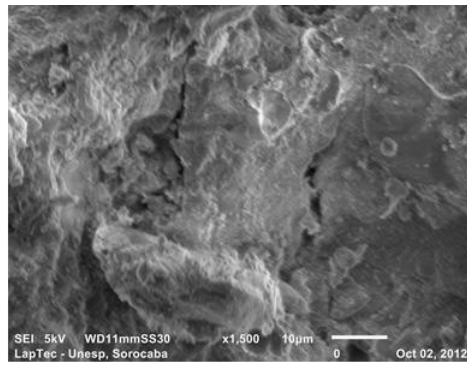


Imagem II

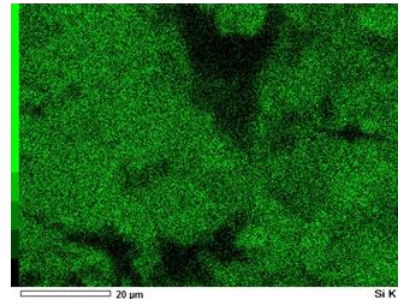
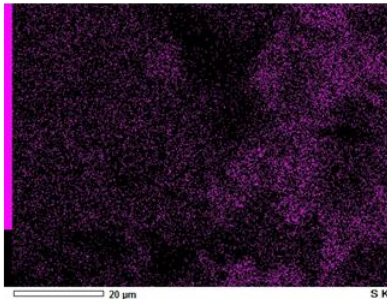
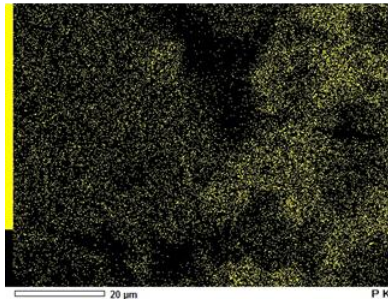
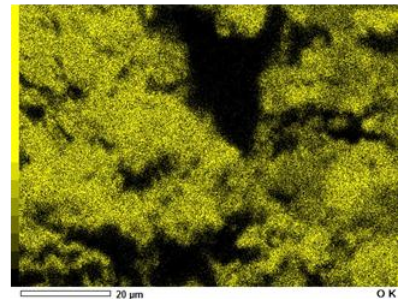
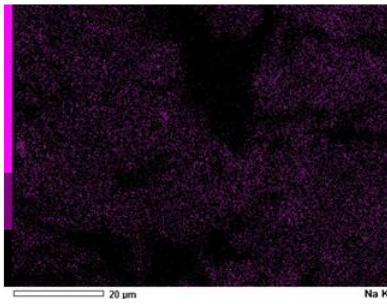
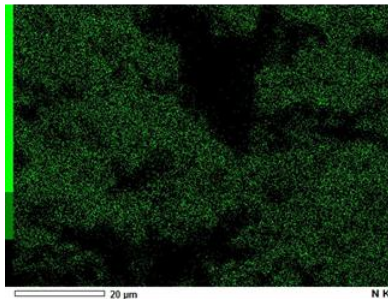
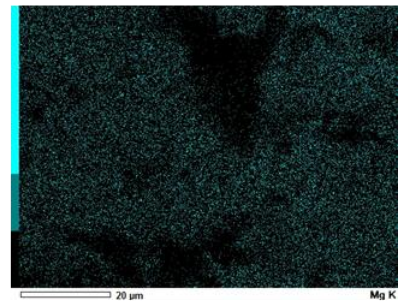
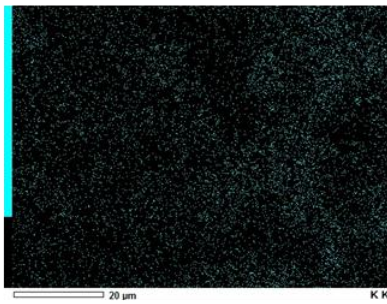
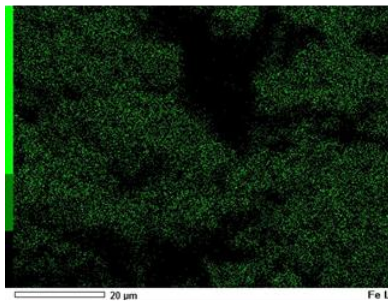
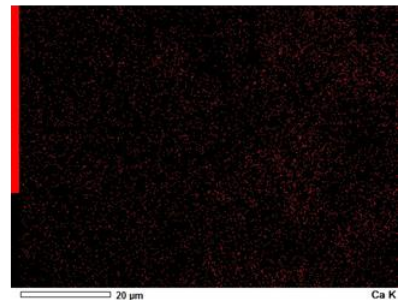
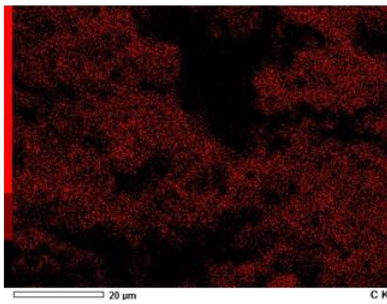
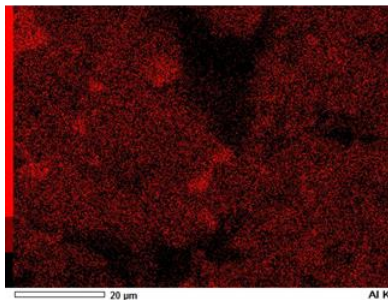
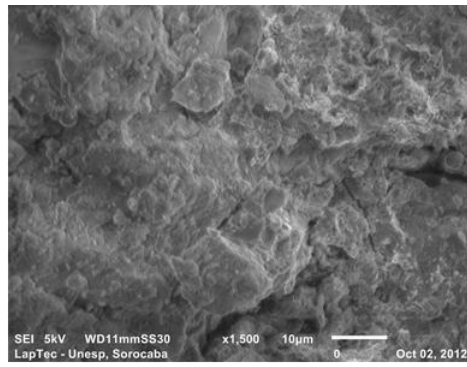


Imagem III

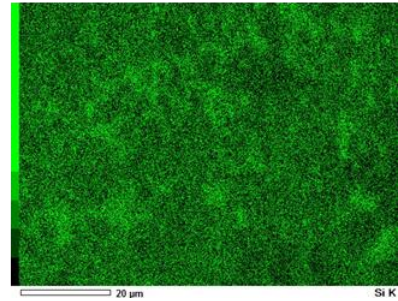
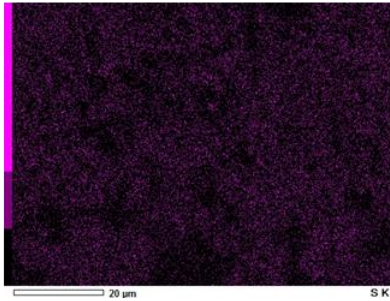
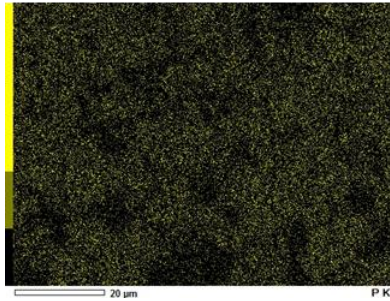
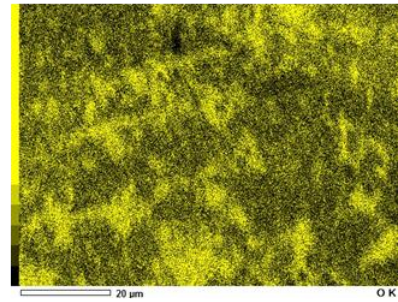
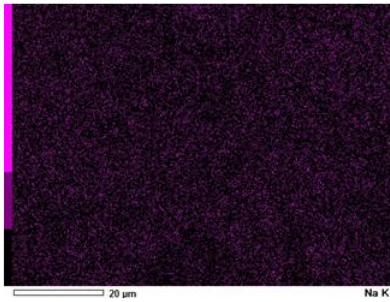
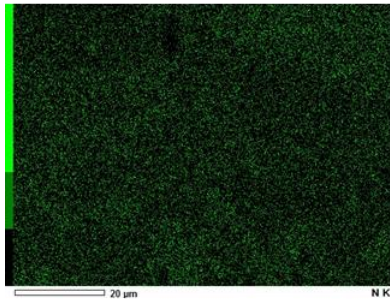
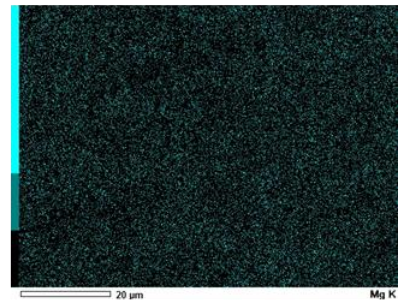
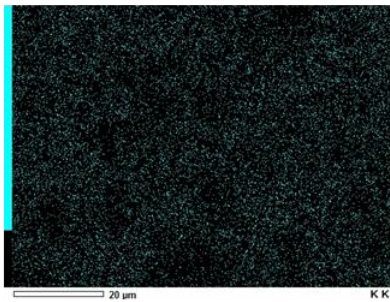
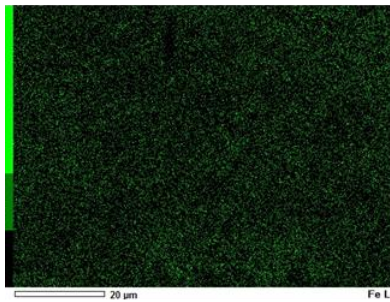
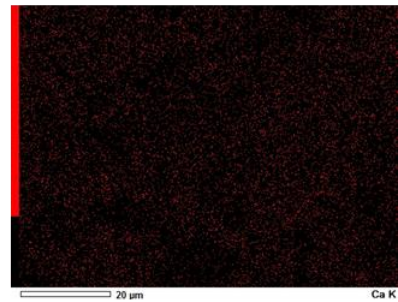
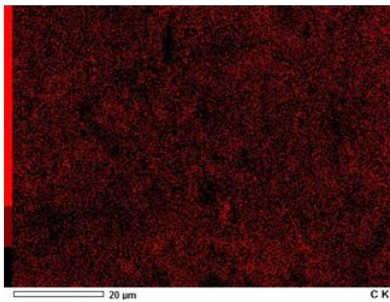
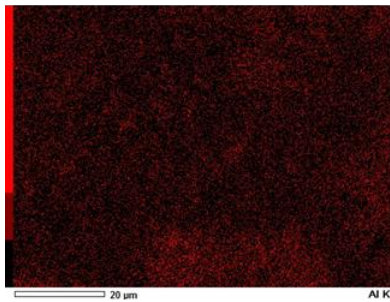
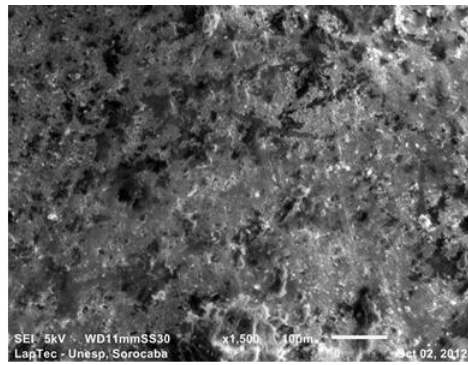


Imagem IV

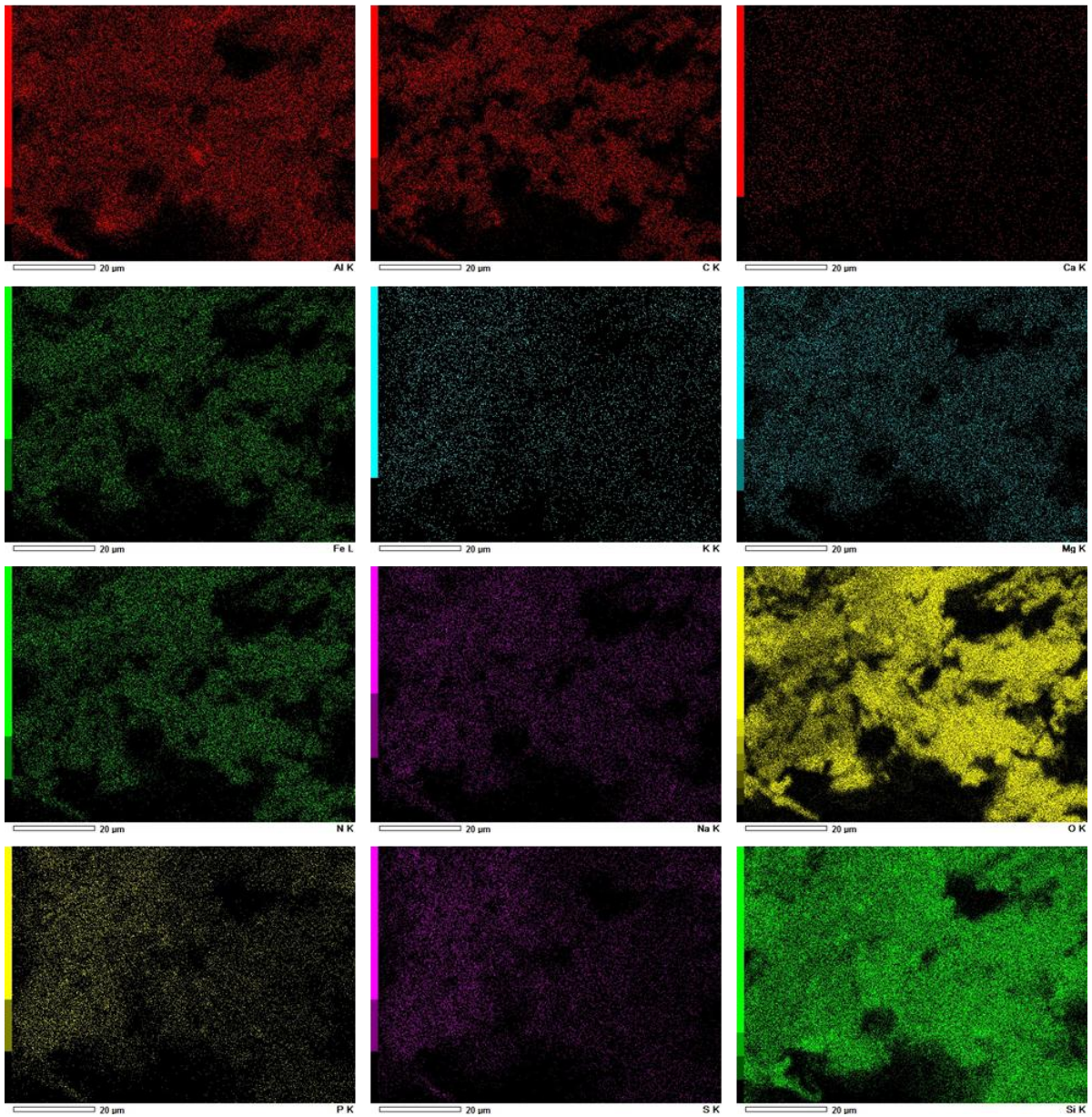
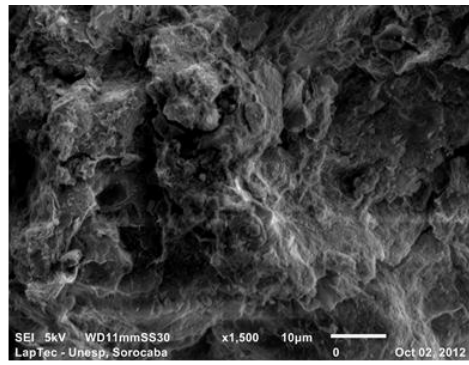
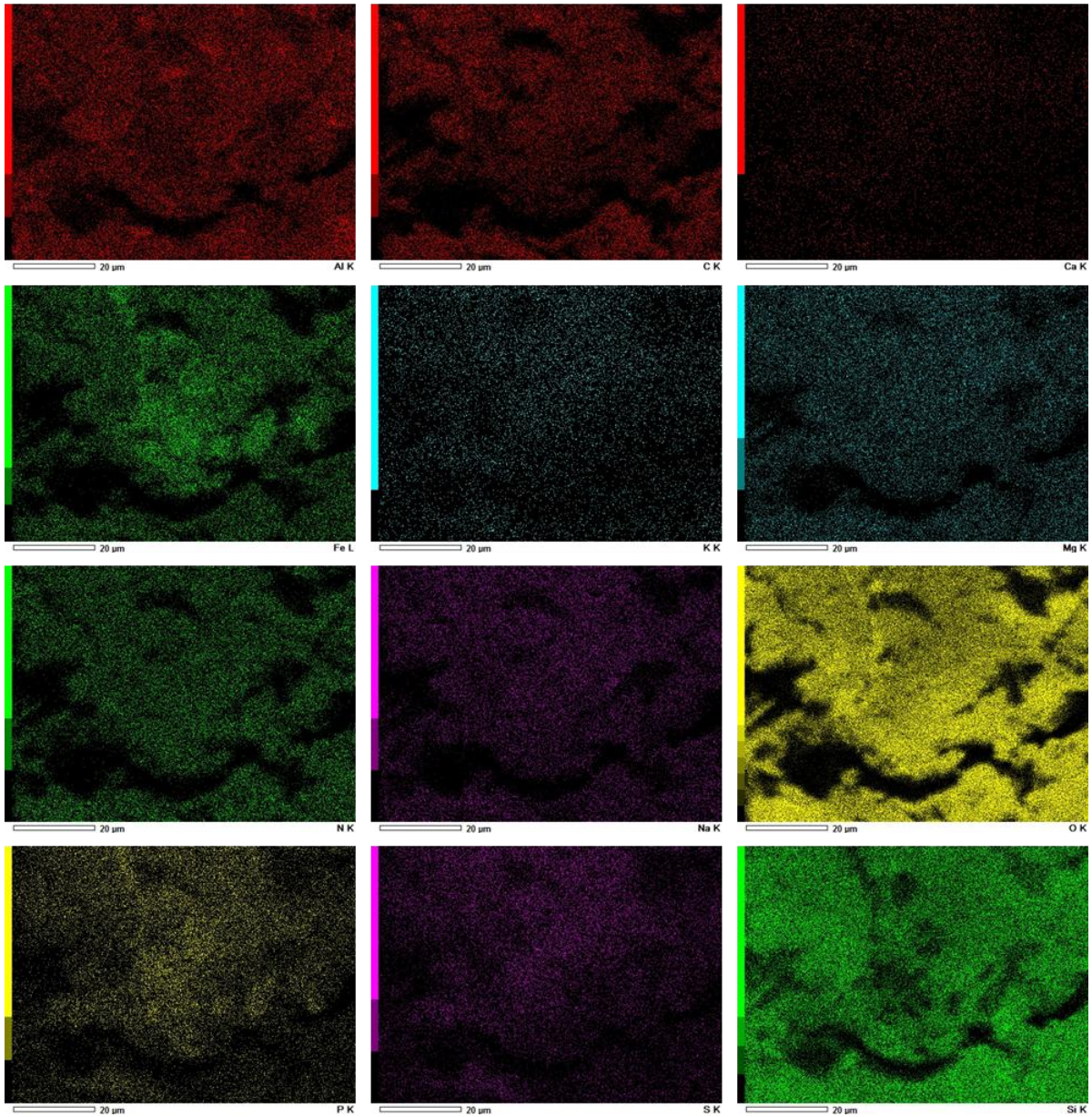
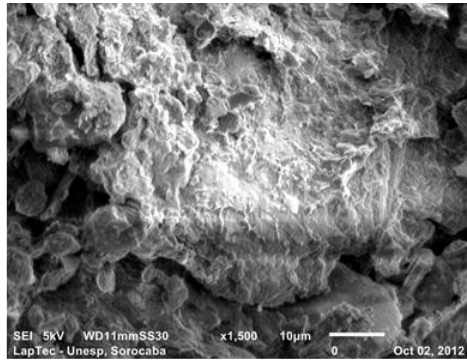


Imagem V



Anexo 14 - Mapas do EDS correspondentes as variáveis da Condição Estática:

A-A

Imagem I

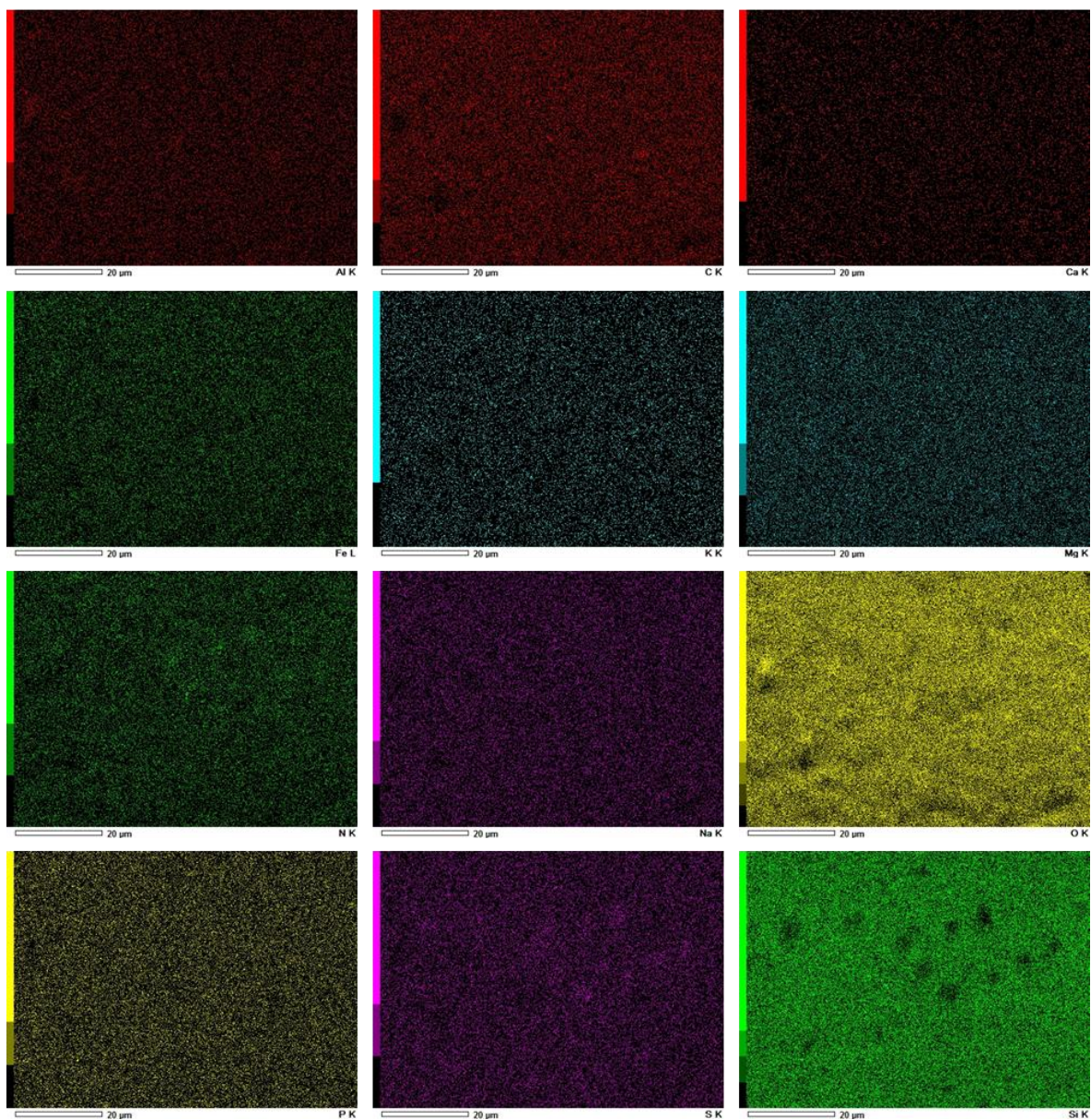
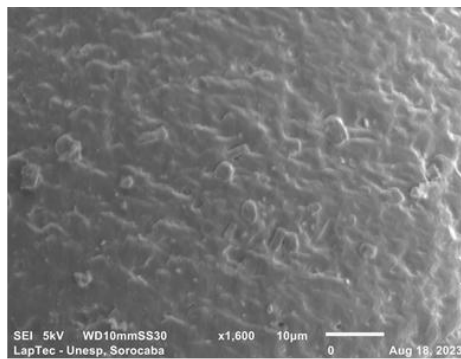


Imagem II

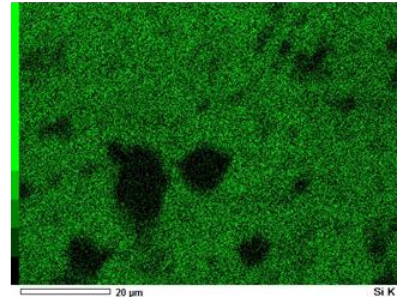
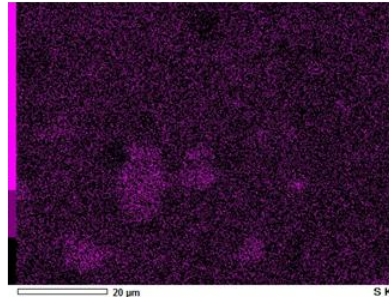
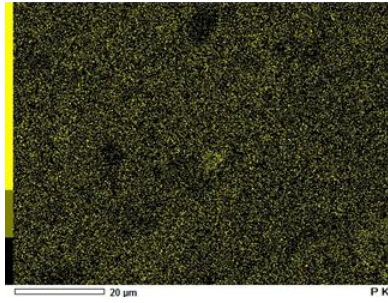
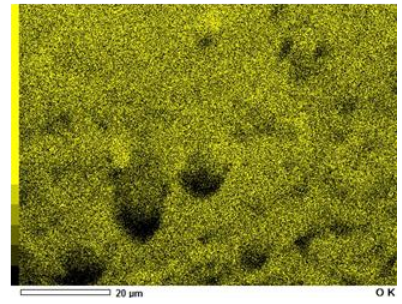
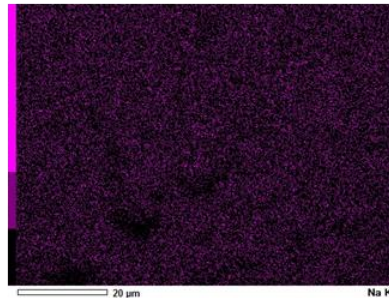
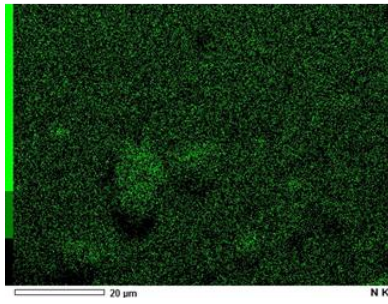
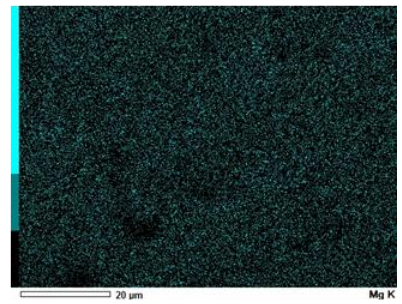
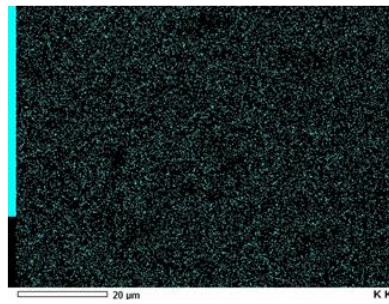
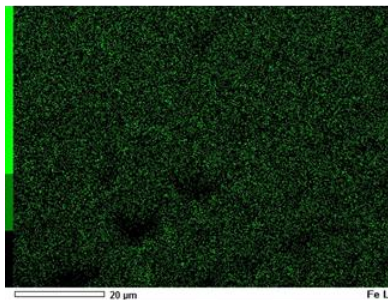
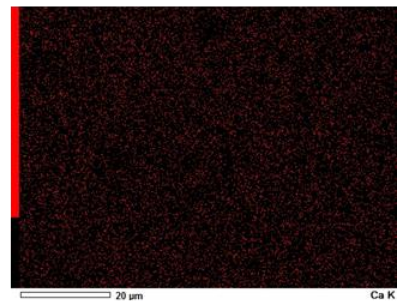
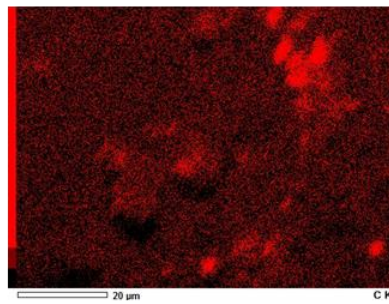
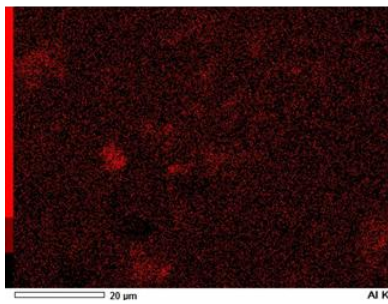
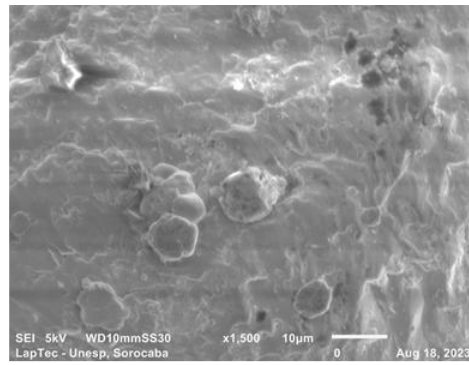


Imagem III

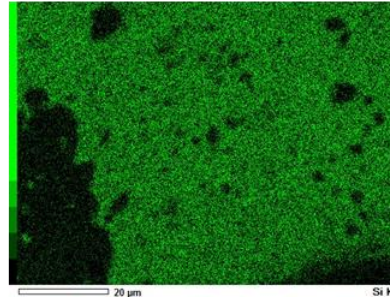
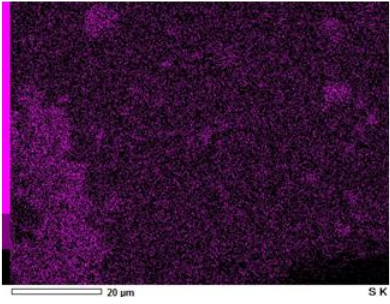
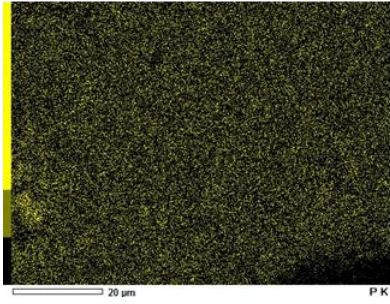
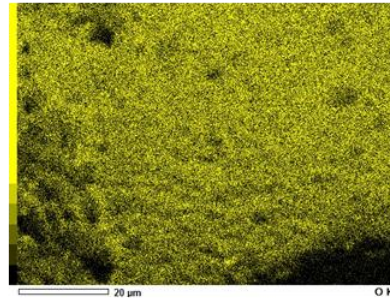
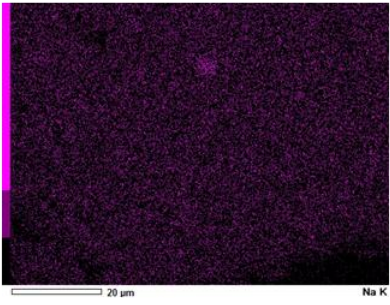
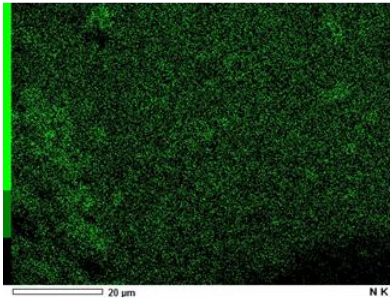
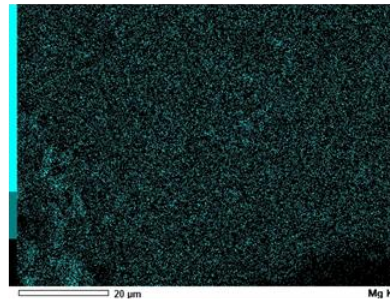
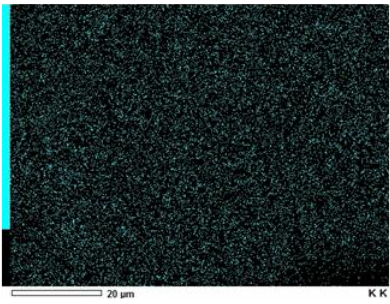
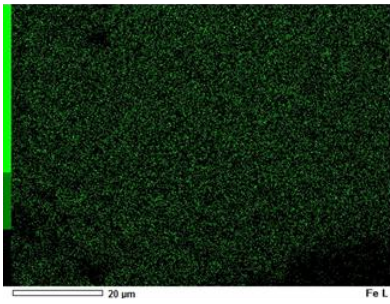
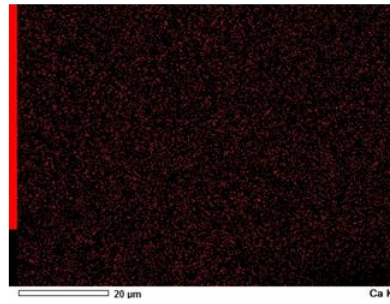
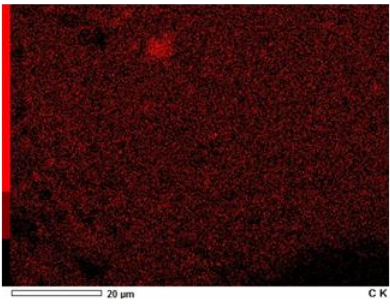
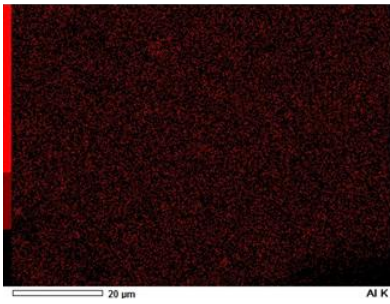
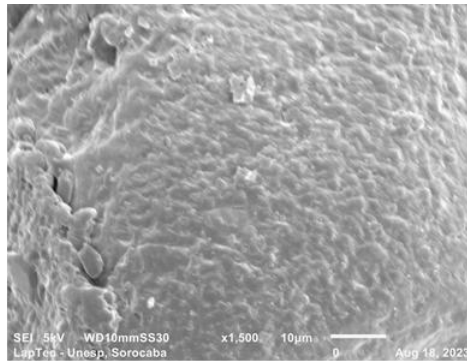


Imagem IV

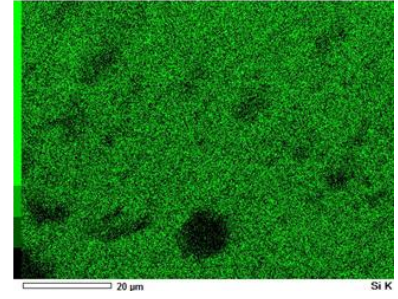
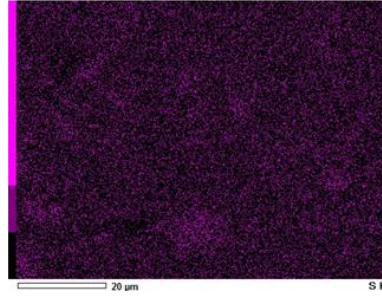
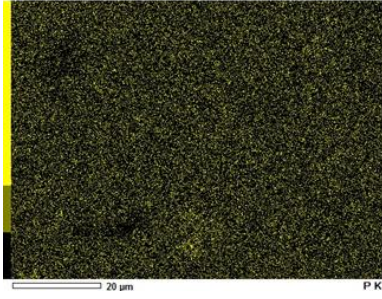
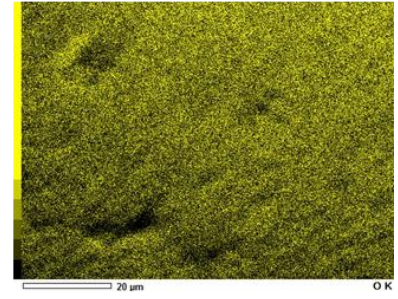
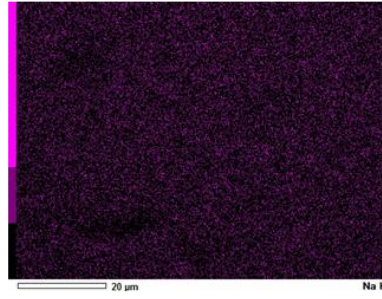
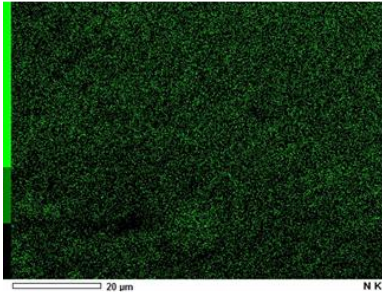
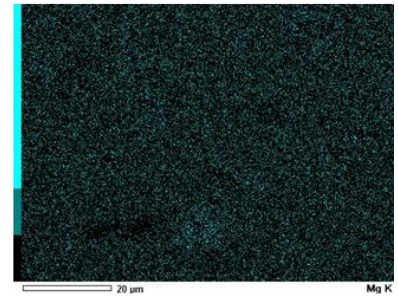
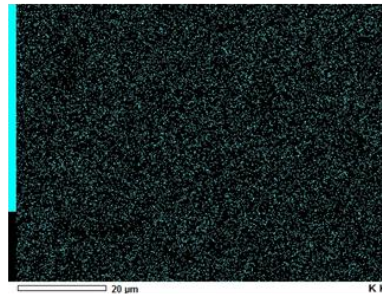
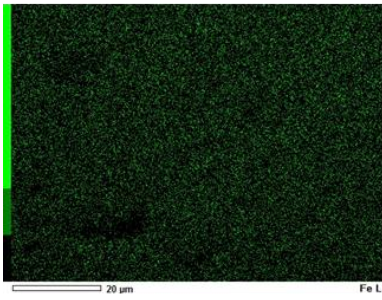
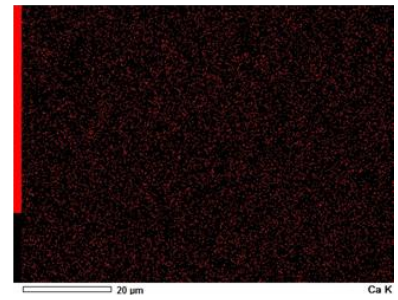
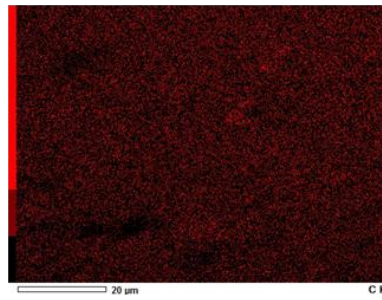
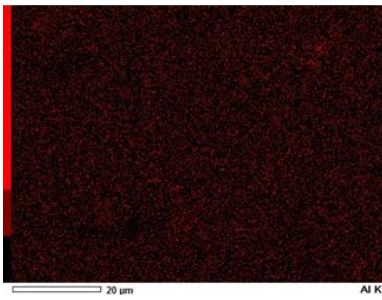
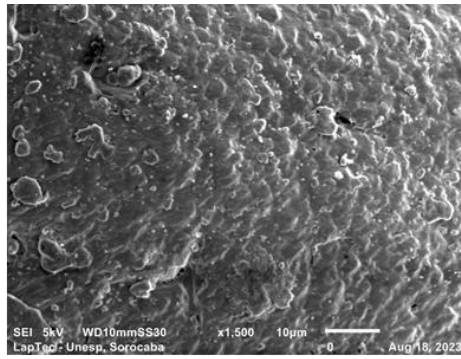
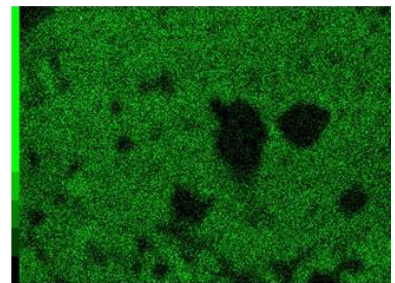
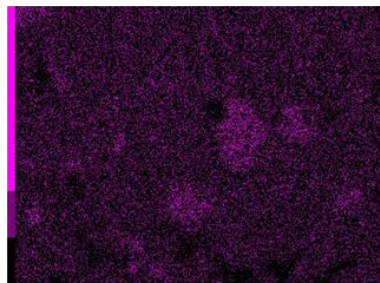
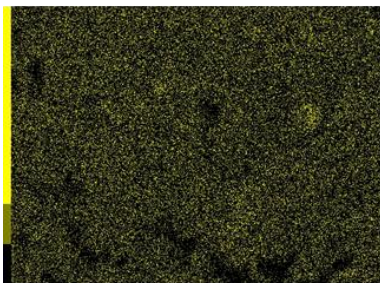
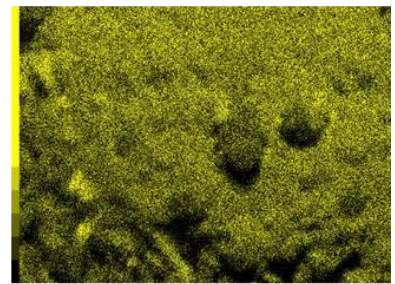
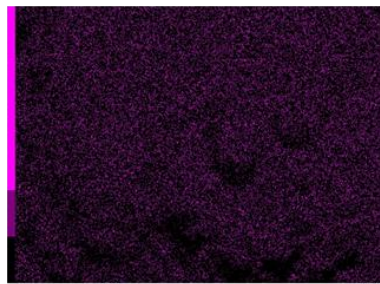
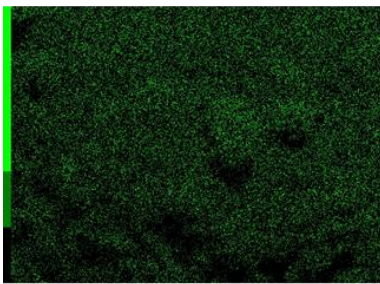
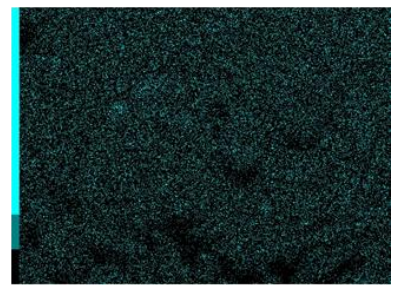
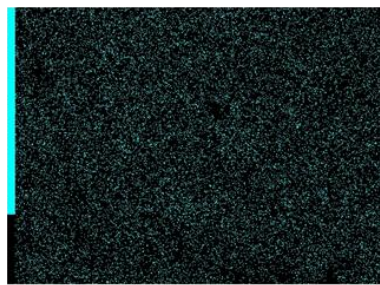
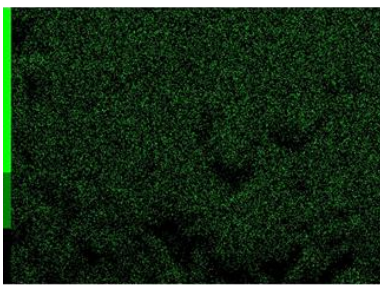
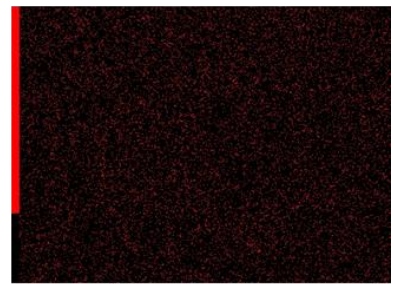
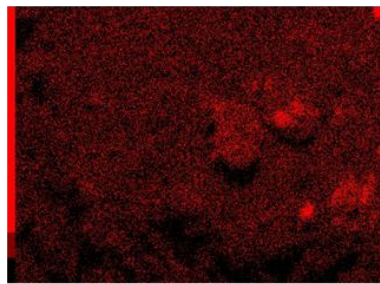
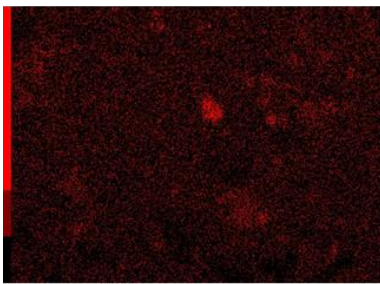
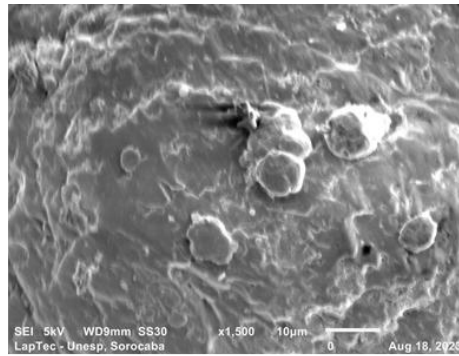


Imagem V



A-M

Imagem 1

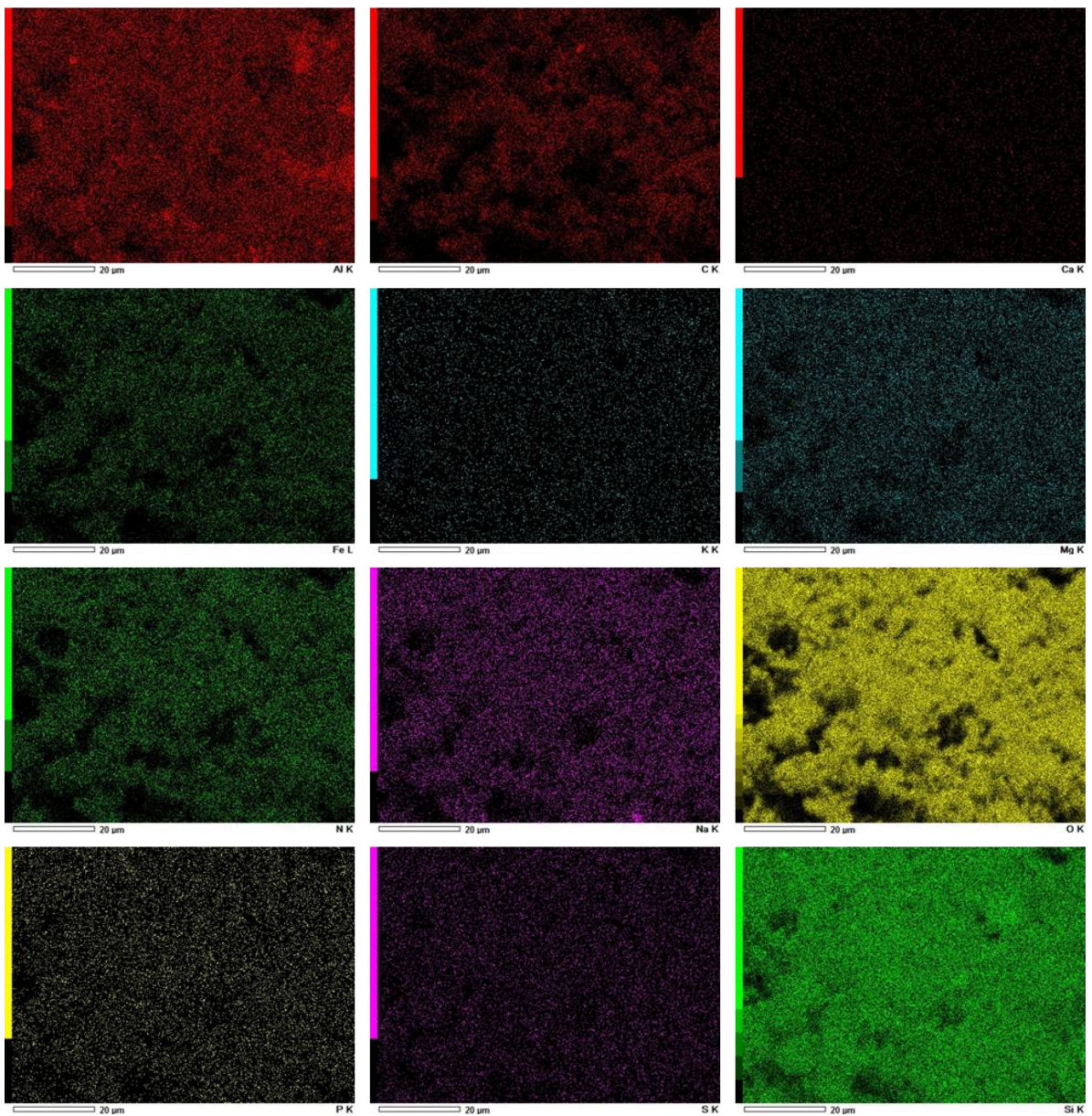
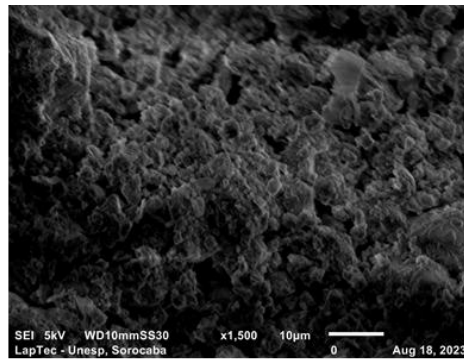


Imagem II

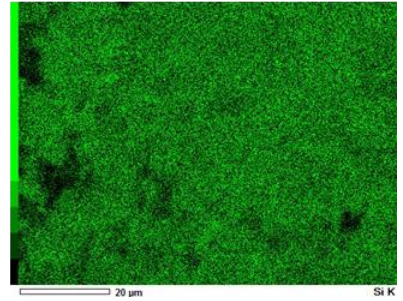
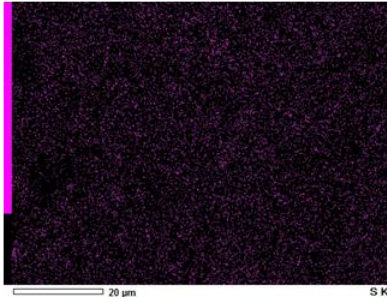
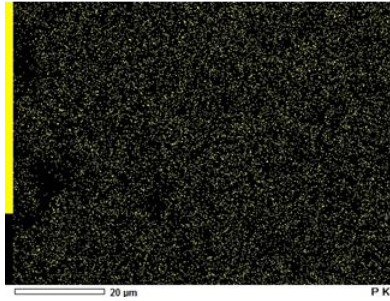
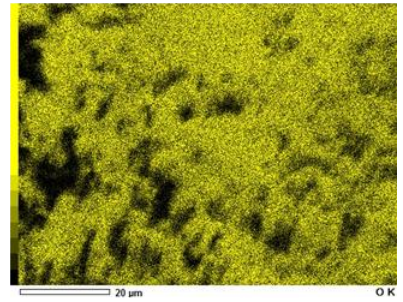
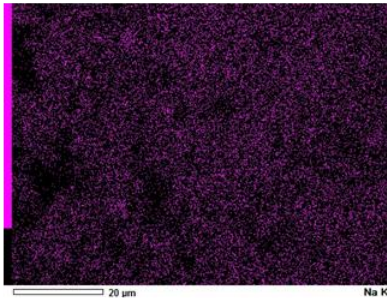
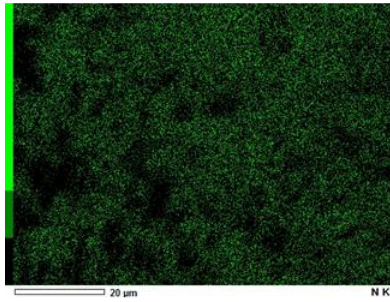
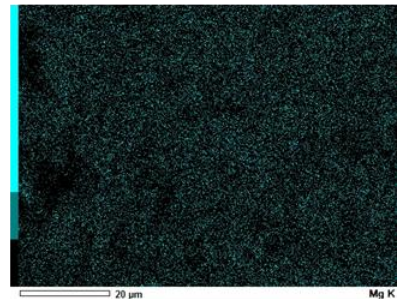
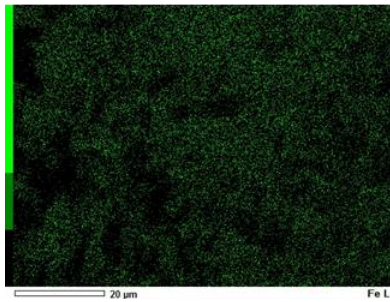
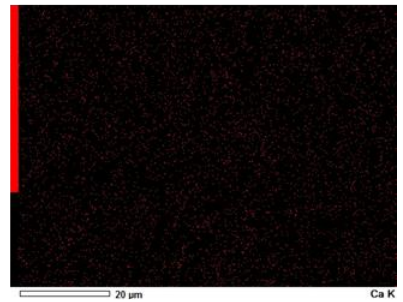
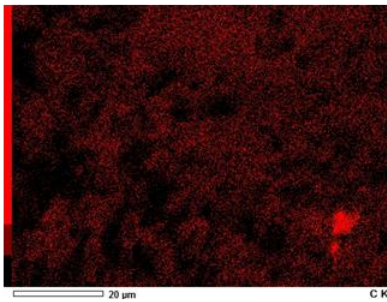
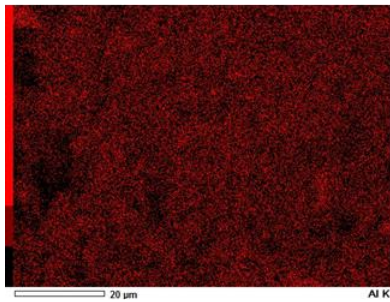
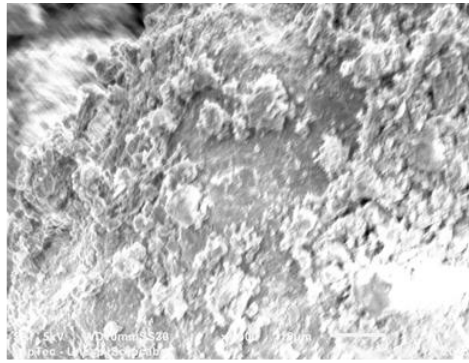


Imagem III

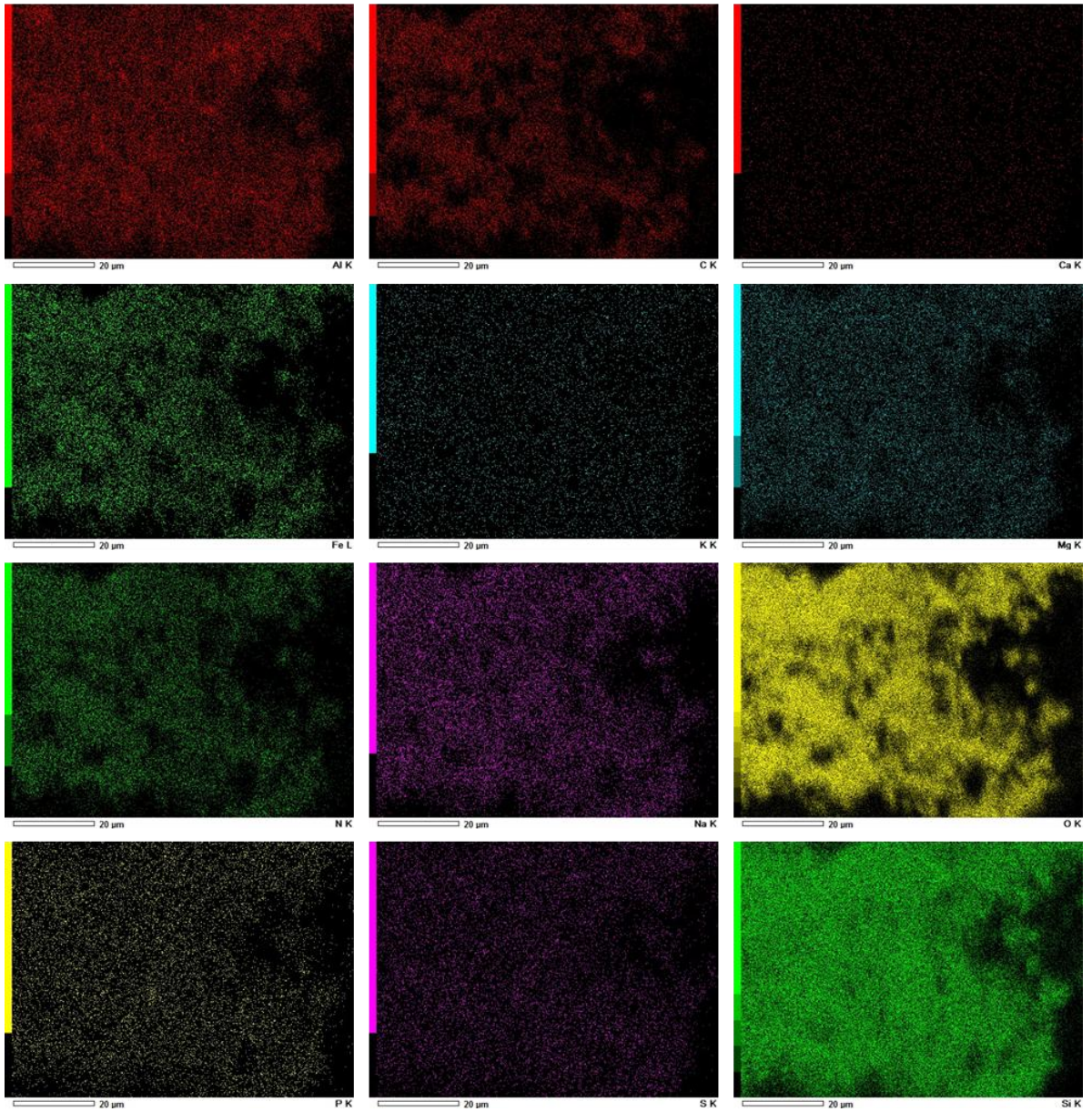
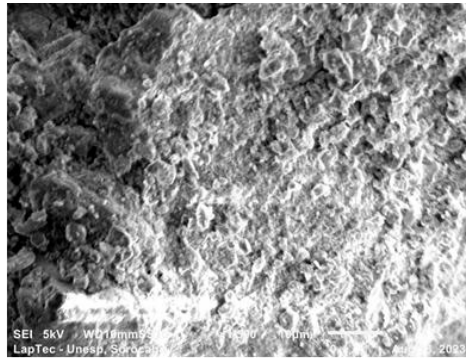


Imagem IV

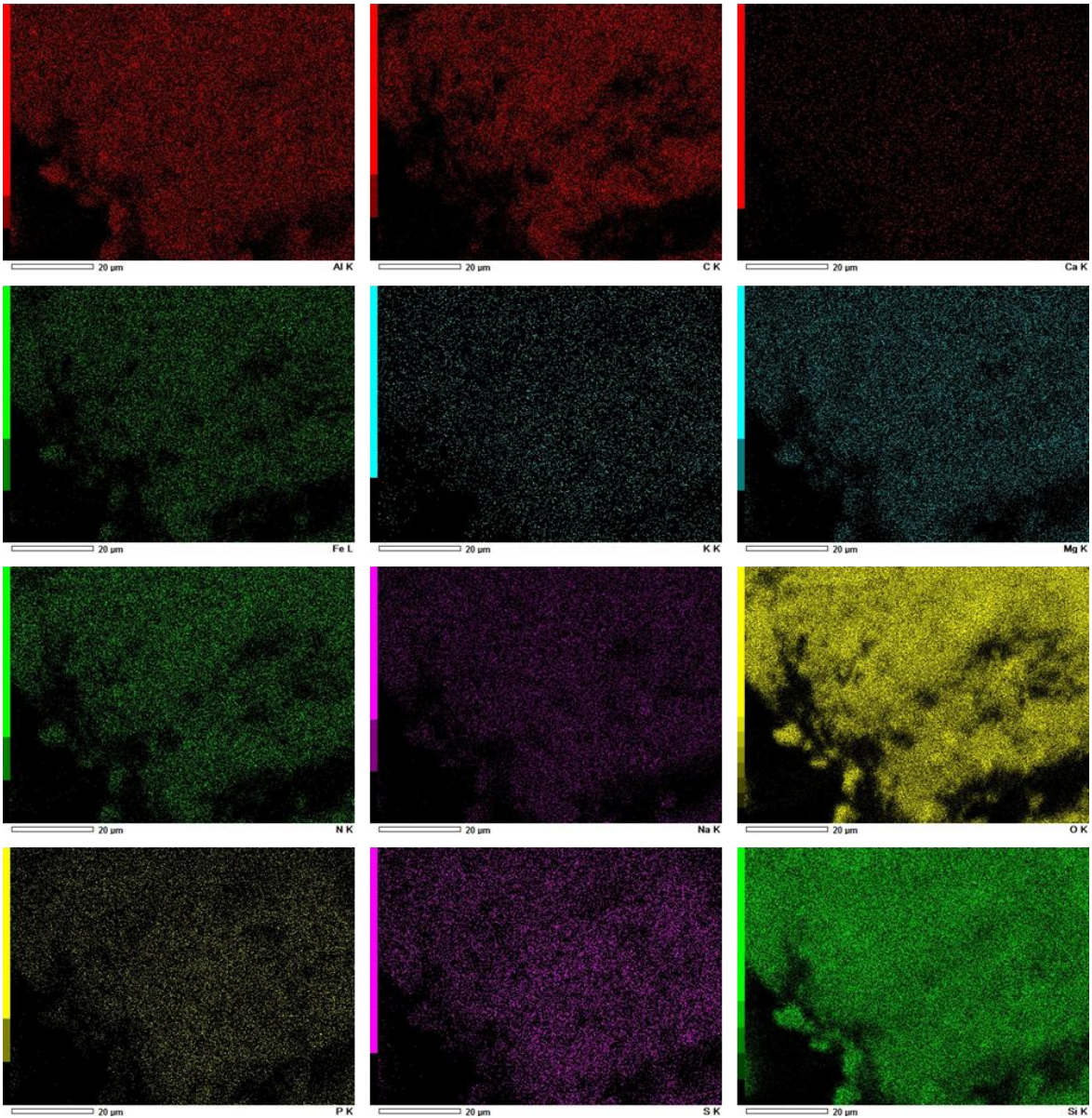
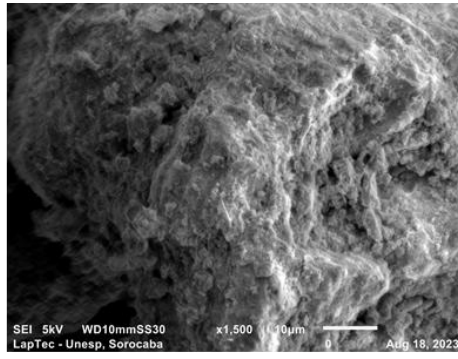
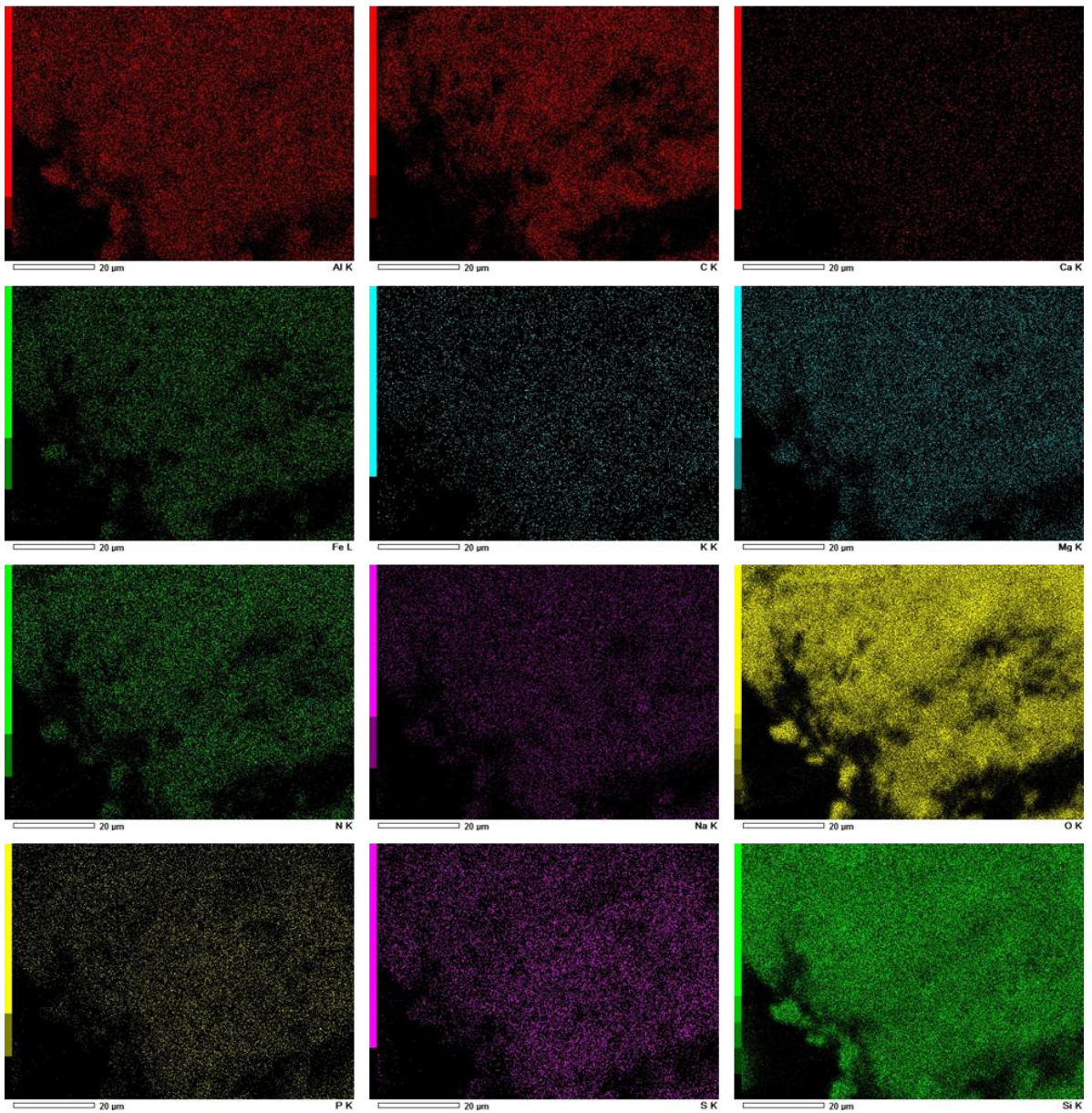
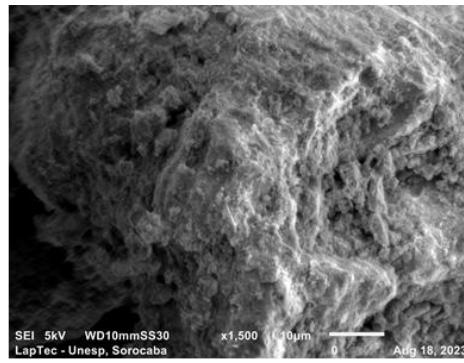


Imagem V



A-M+A

Imagem 1

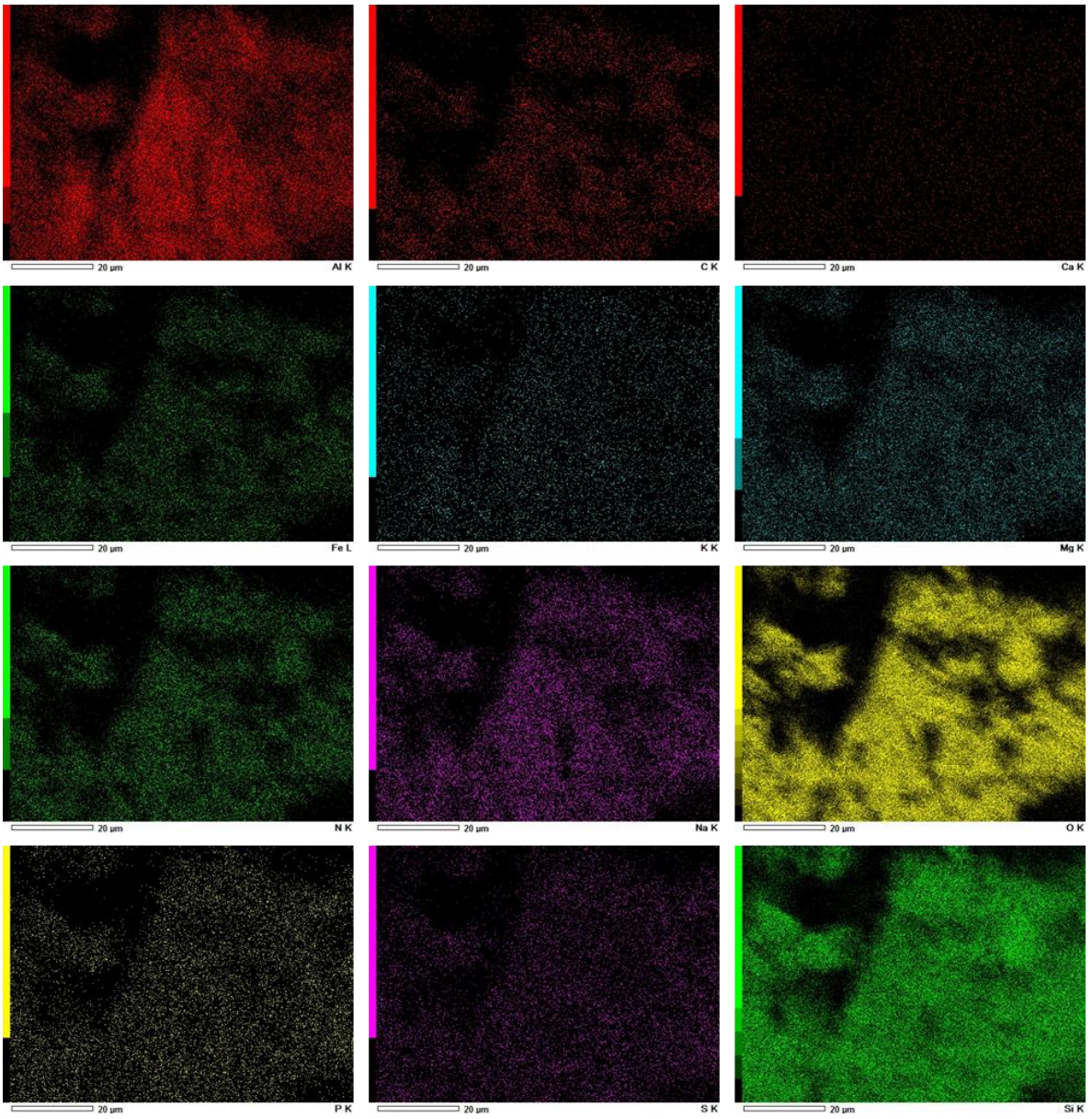
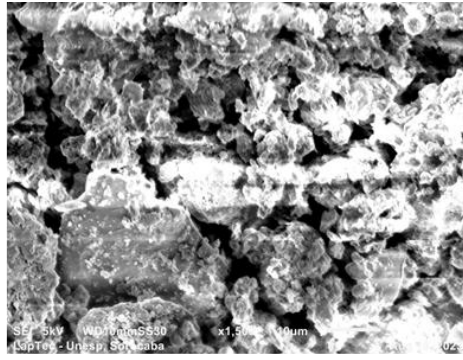


Imagem II

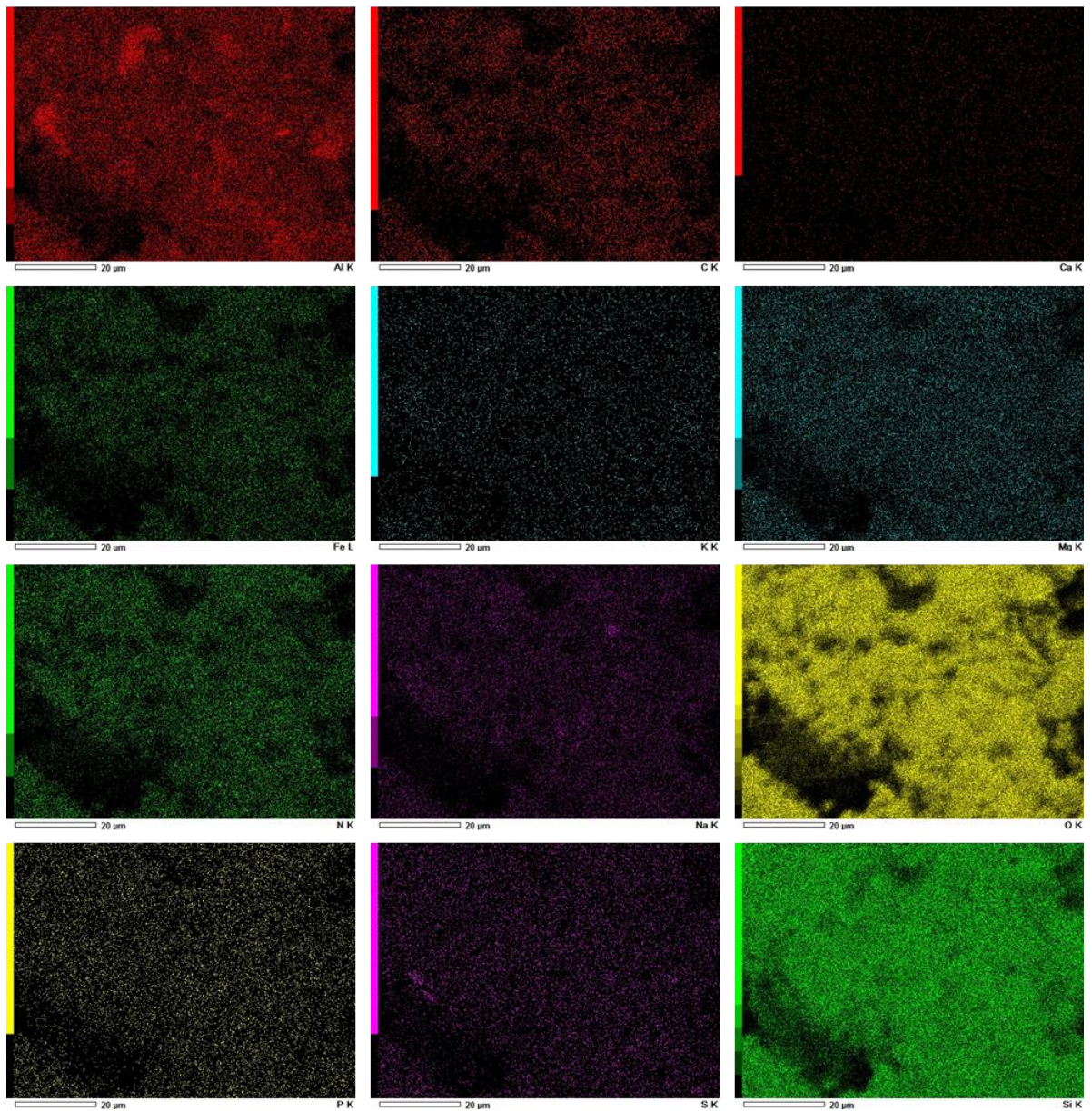
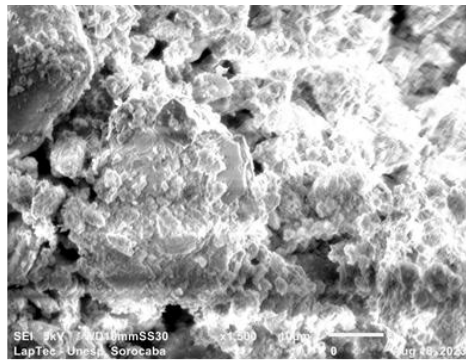


Imagem III

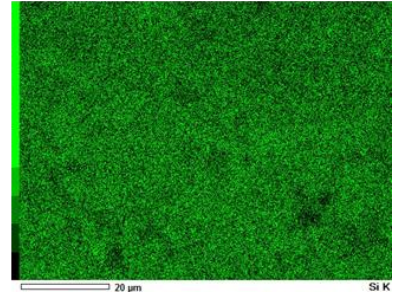
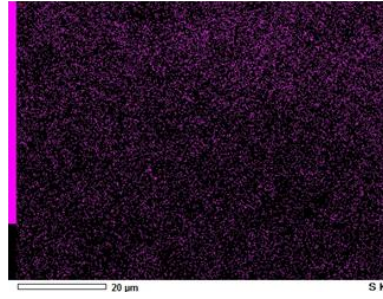
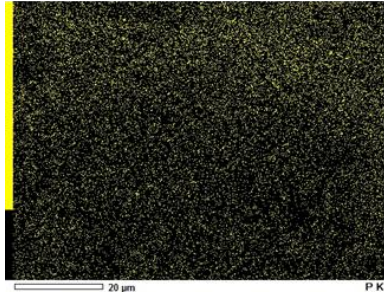
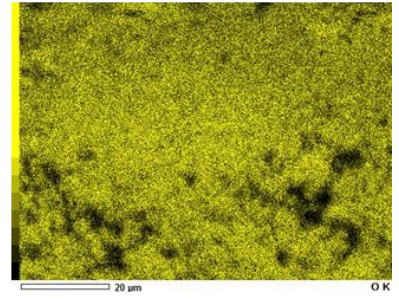
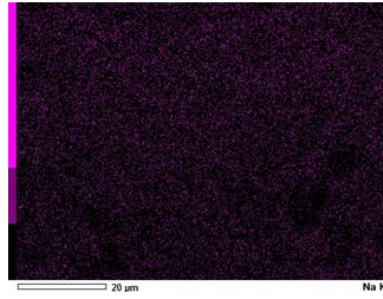
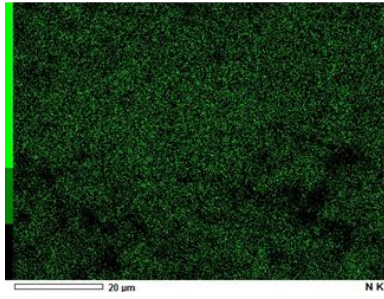
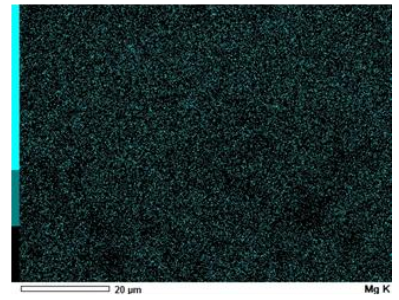
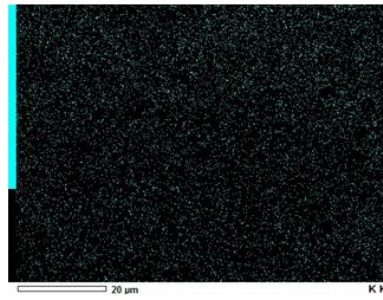
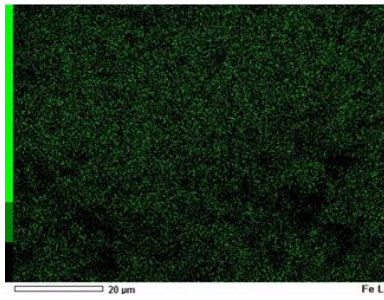
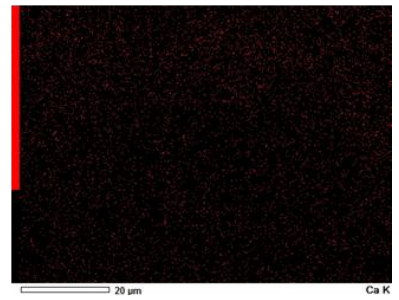
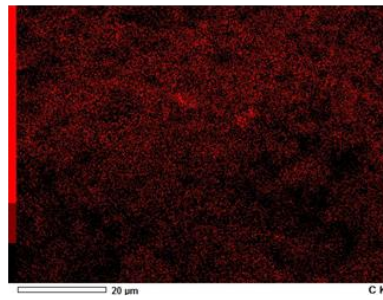
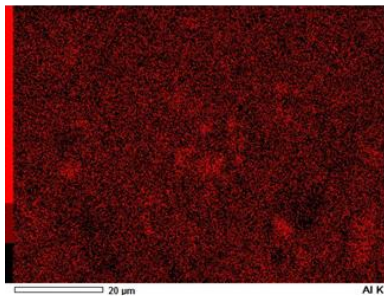
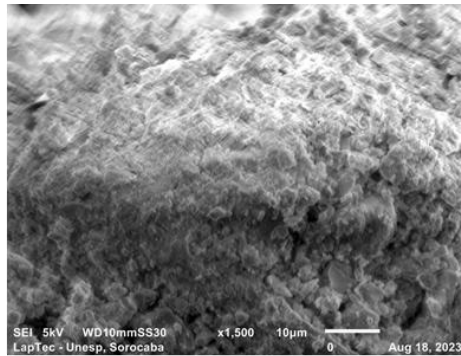


Imagem IV

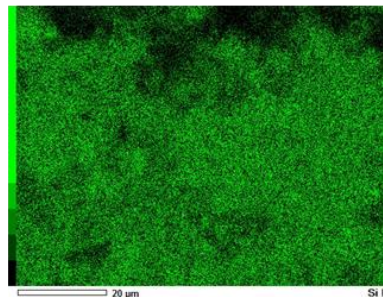
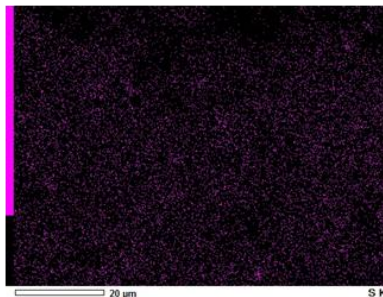
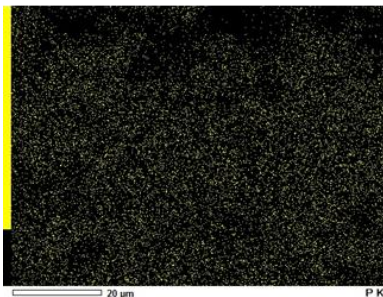
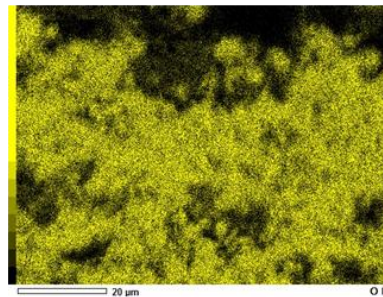
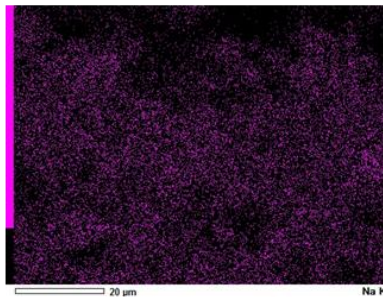
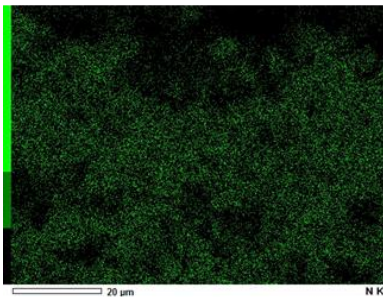
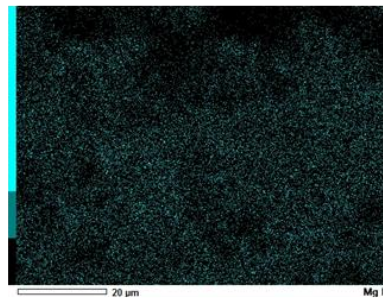
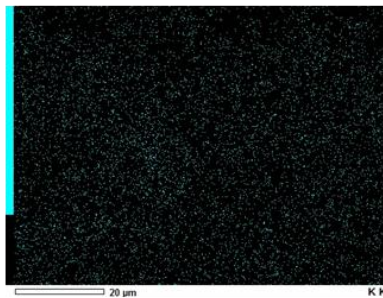
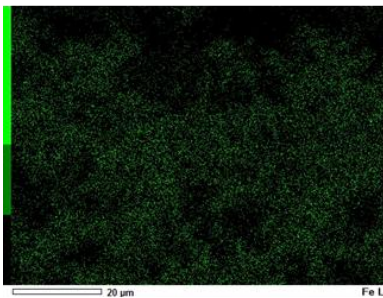
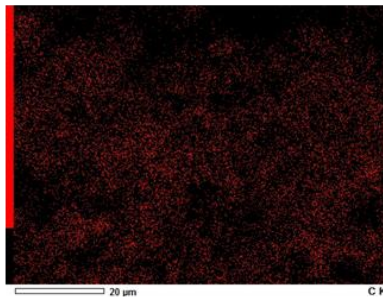
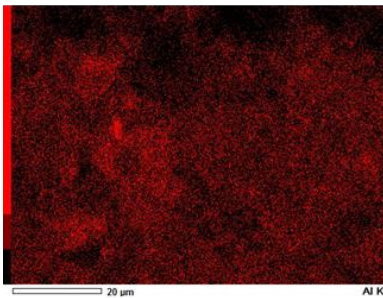
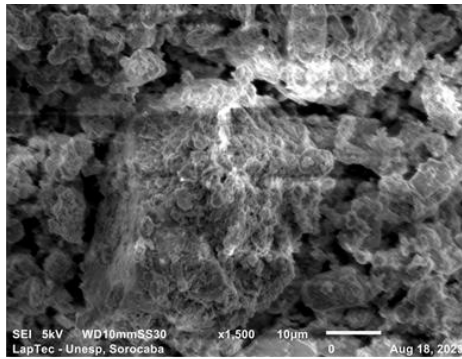
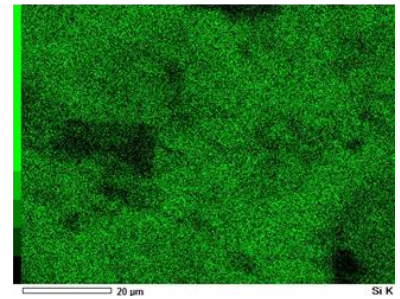
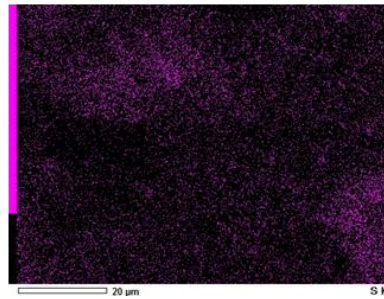
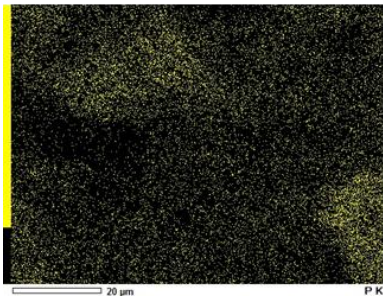
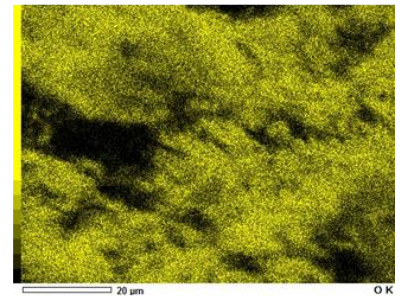
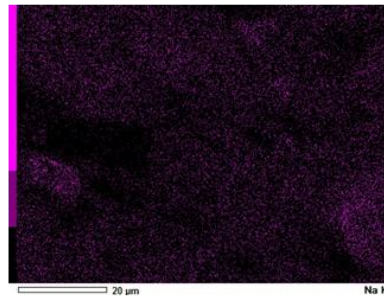
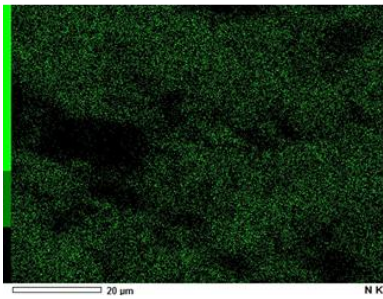
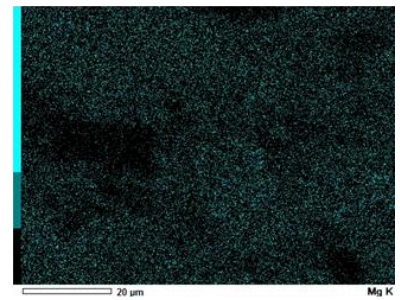
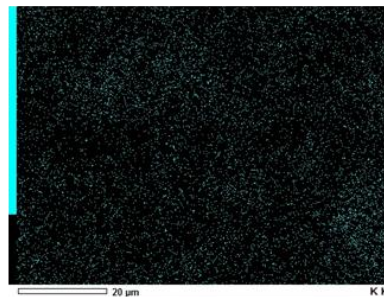
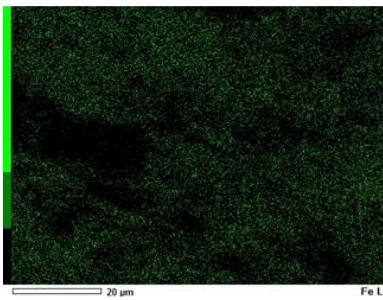
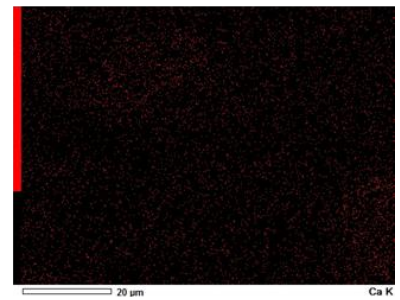
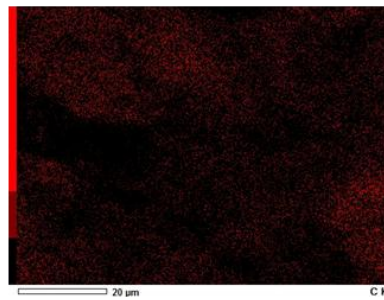
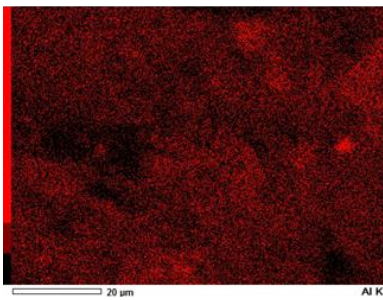
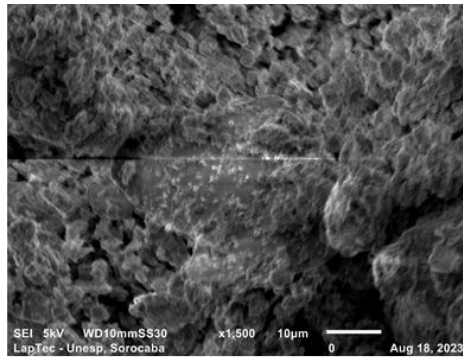


Imagem V



A-V

Imagem I

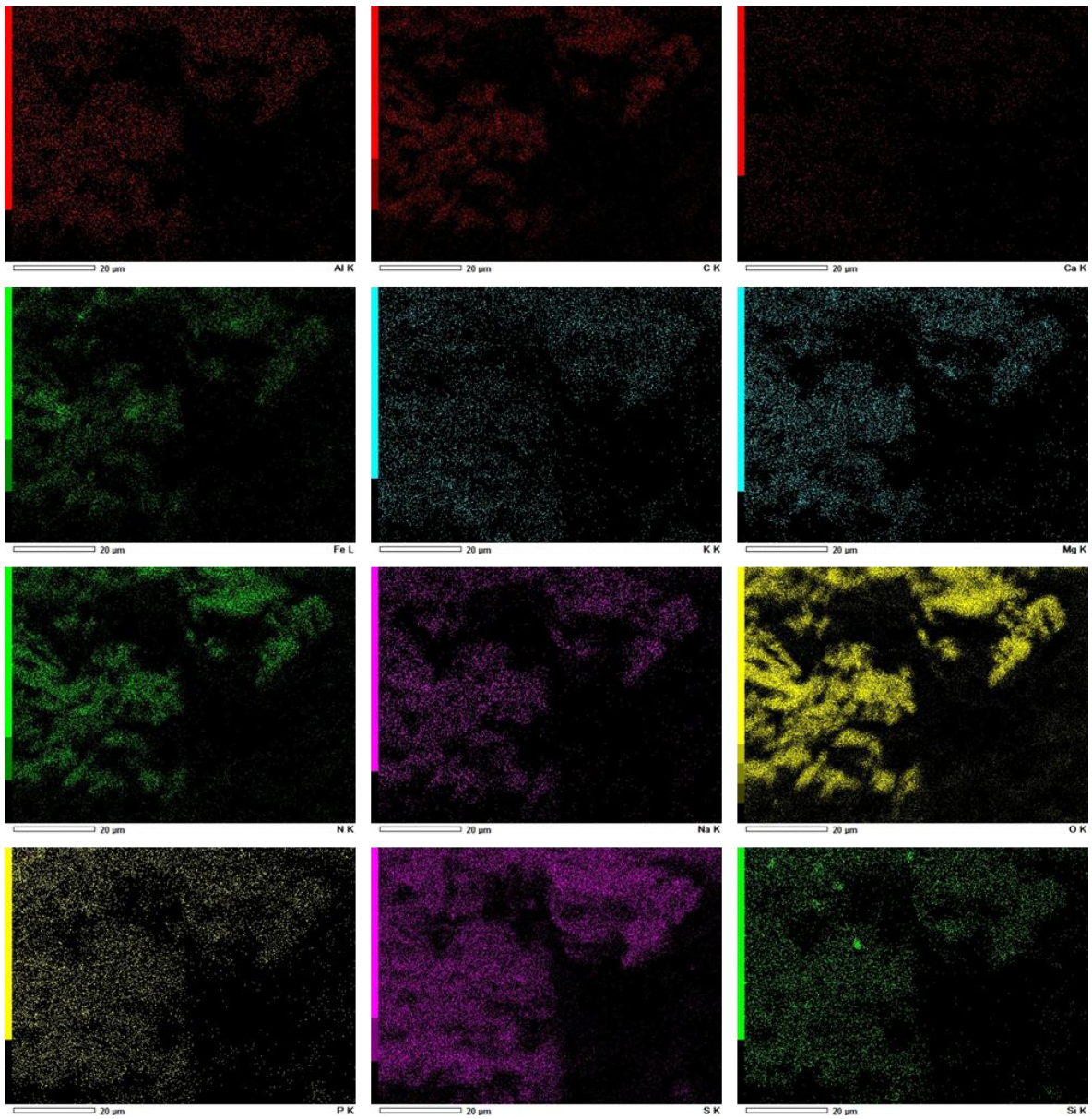
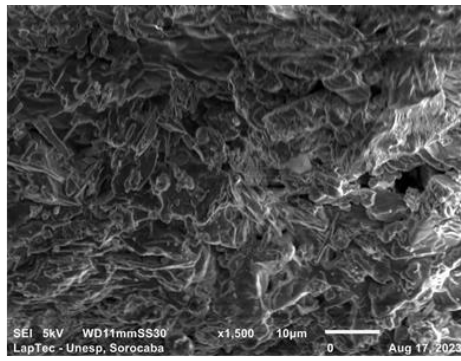


Imagem II

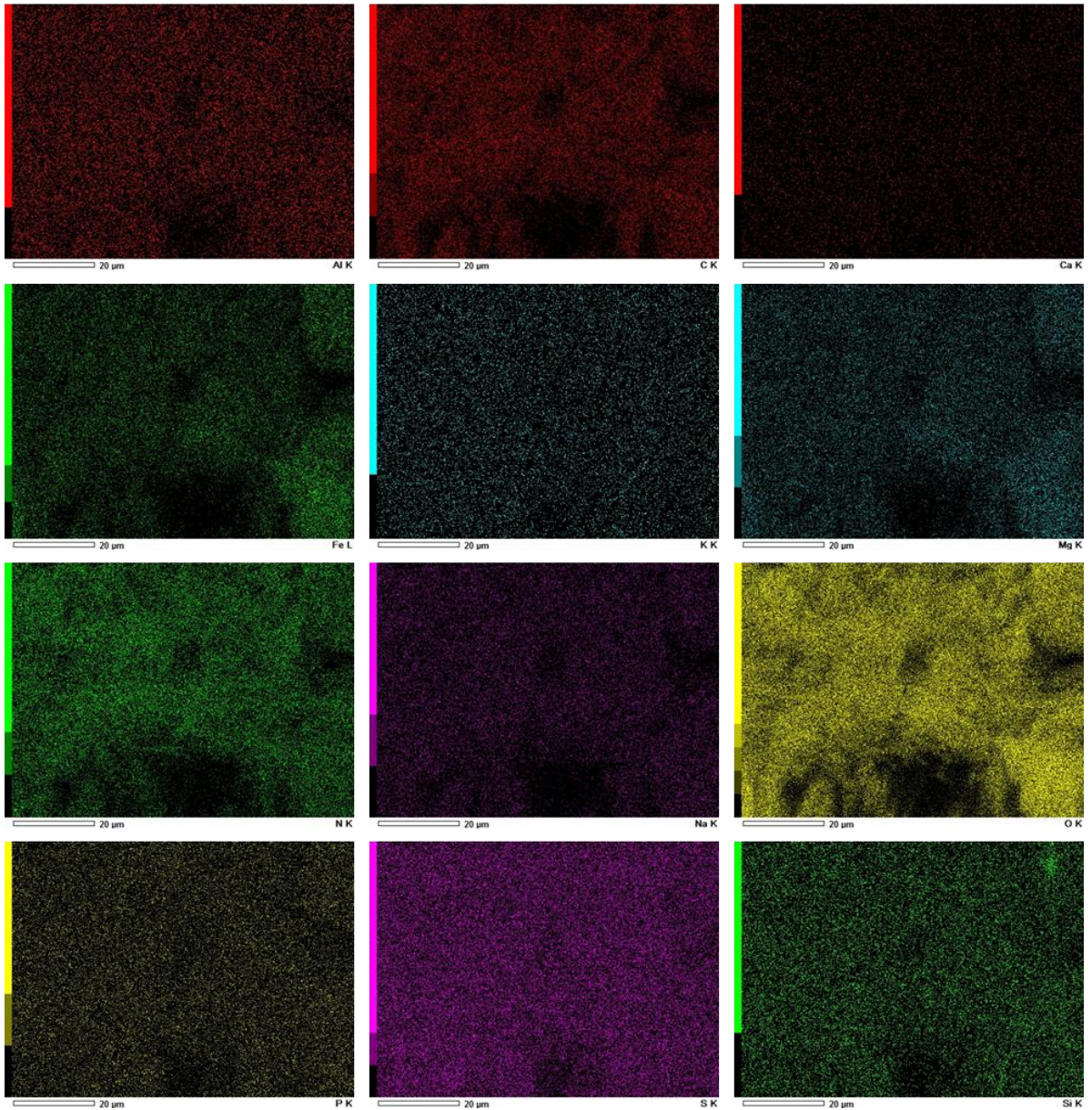
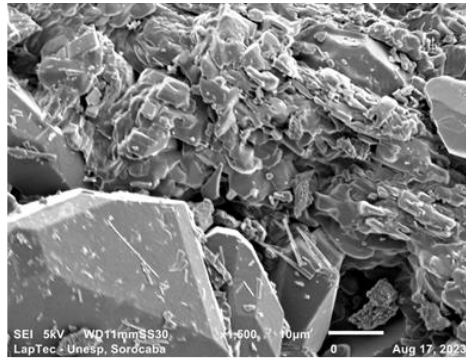


Imagem III

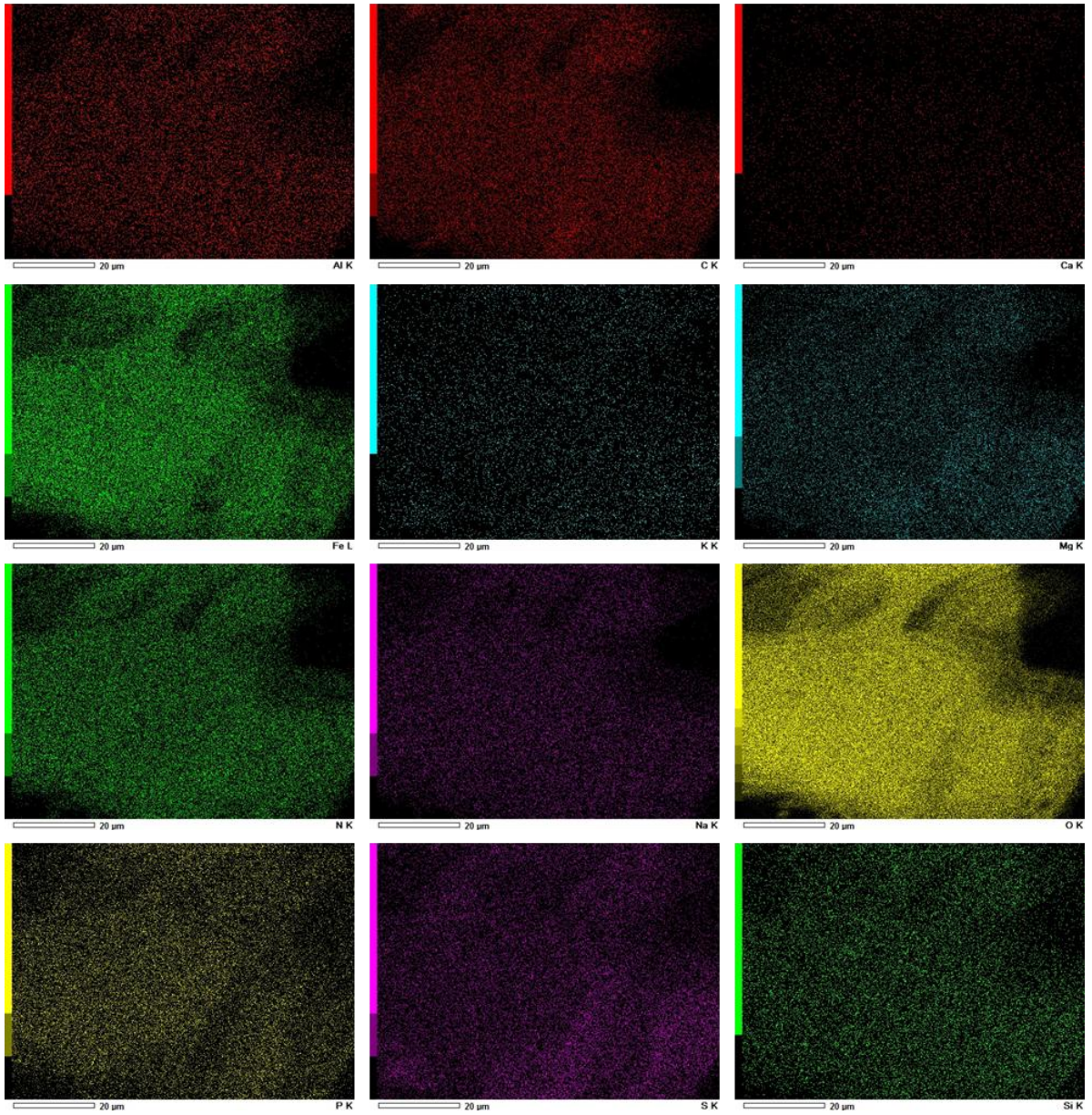
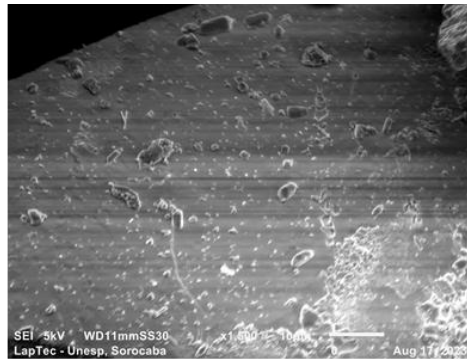


Imagem IV

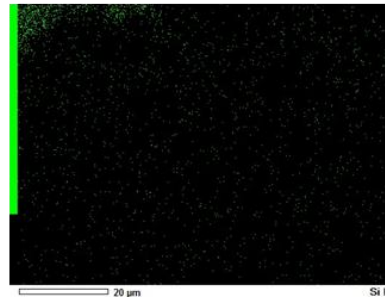
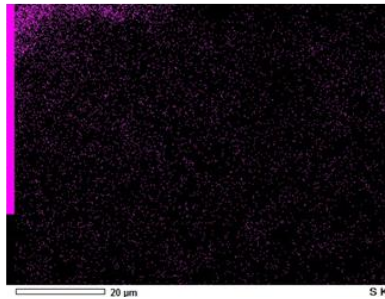
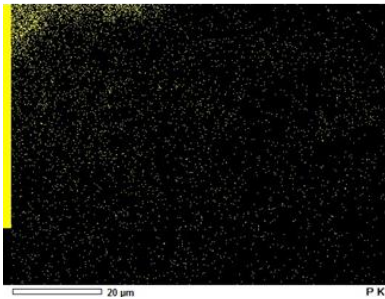
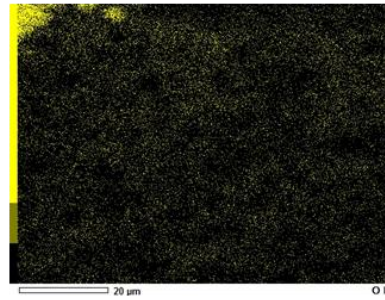
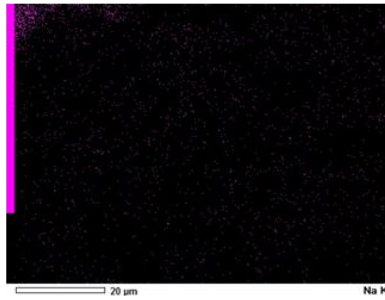
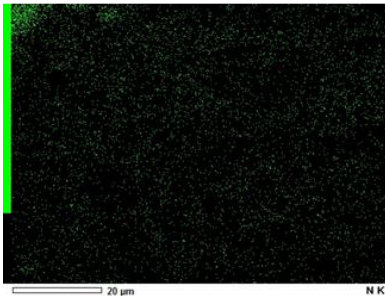
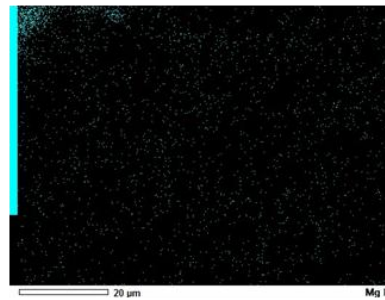
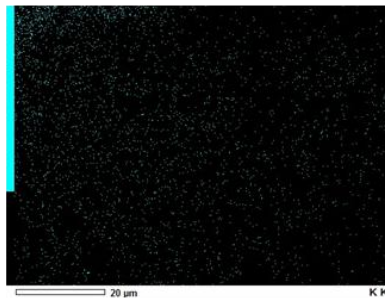
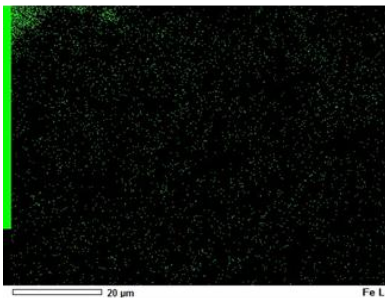
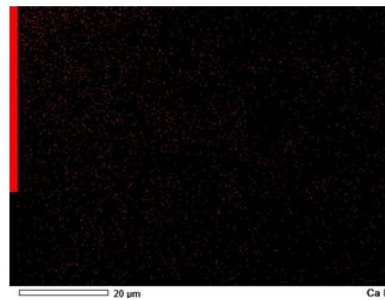
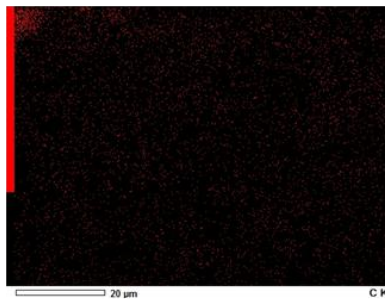
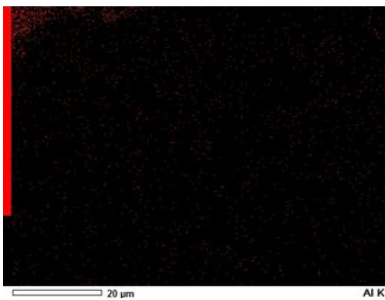
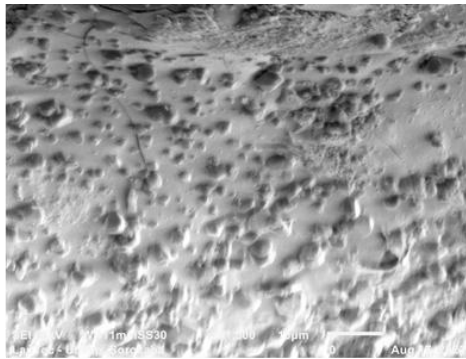
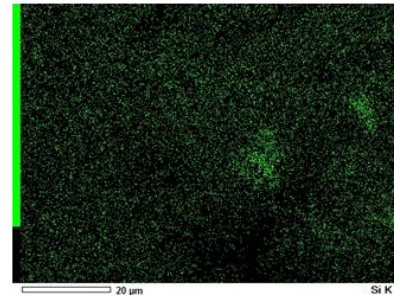
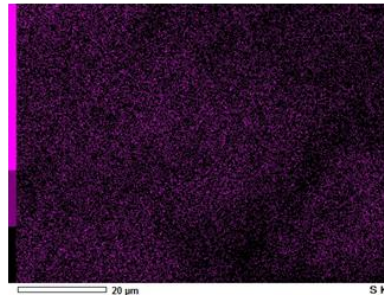
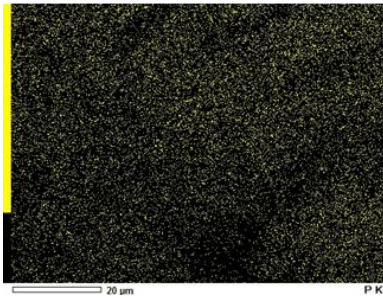
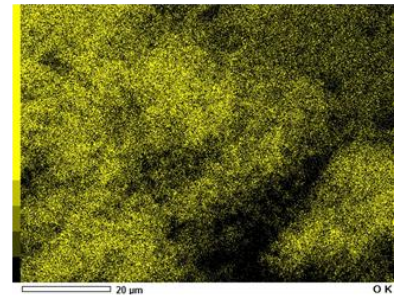
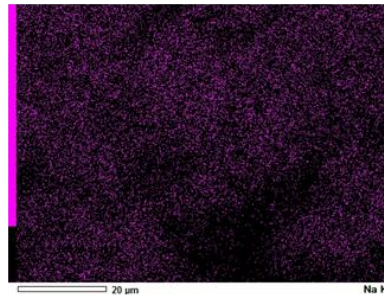
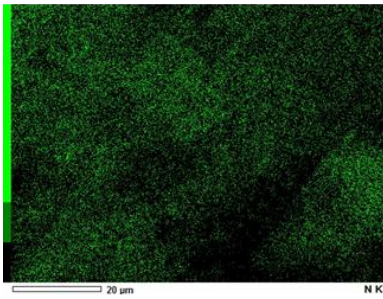
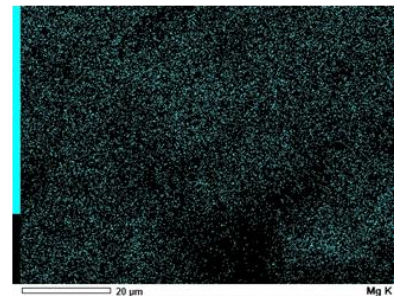
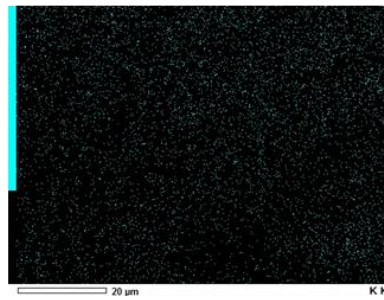
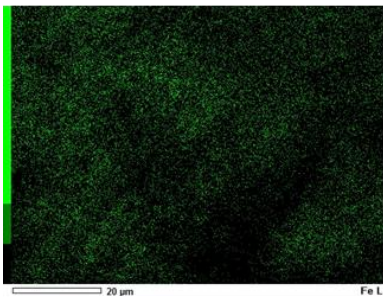
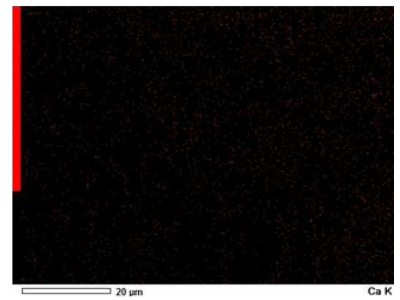
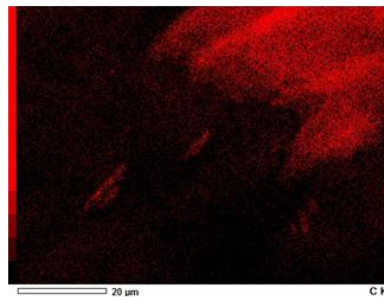
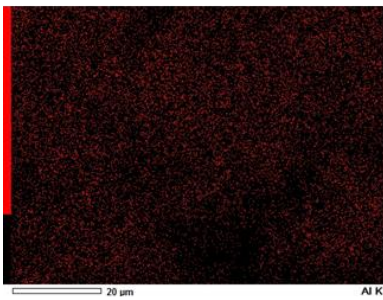
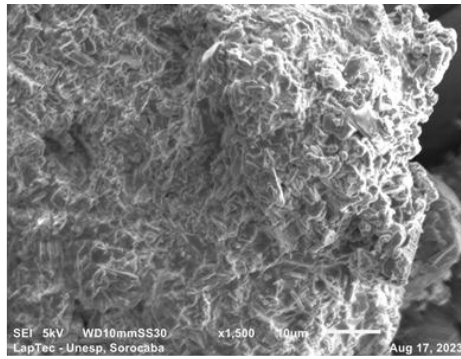


Imagem V



A-V-A

Imagem 1

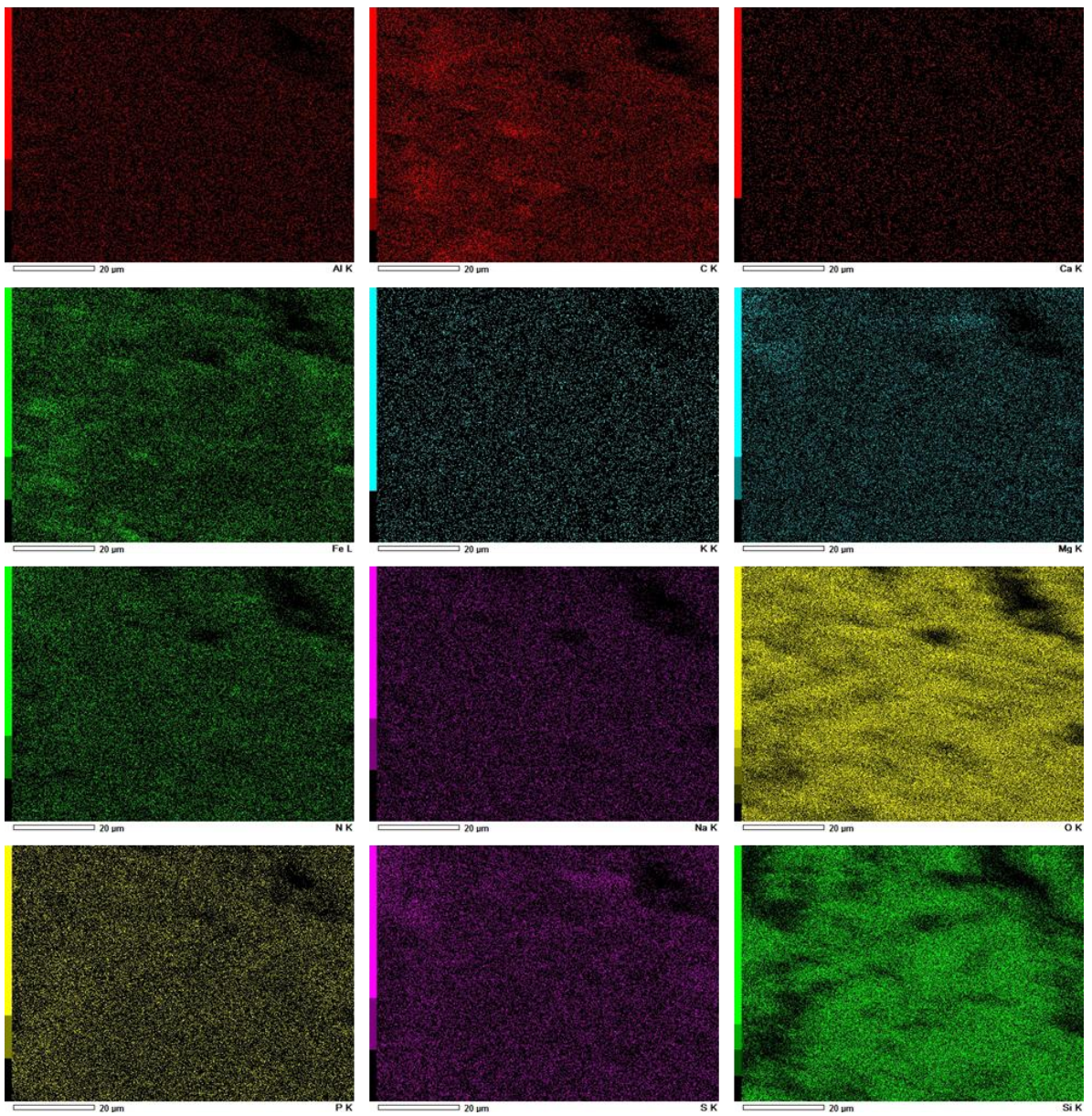
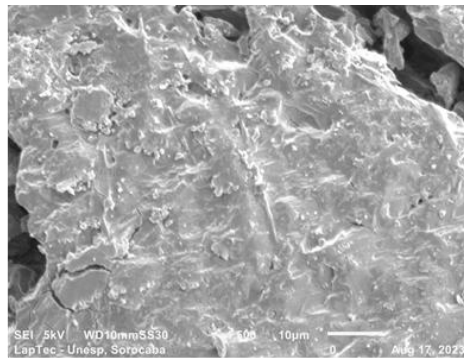


Imagem II

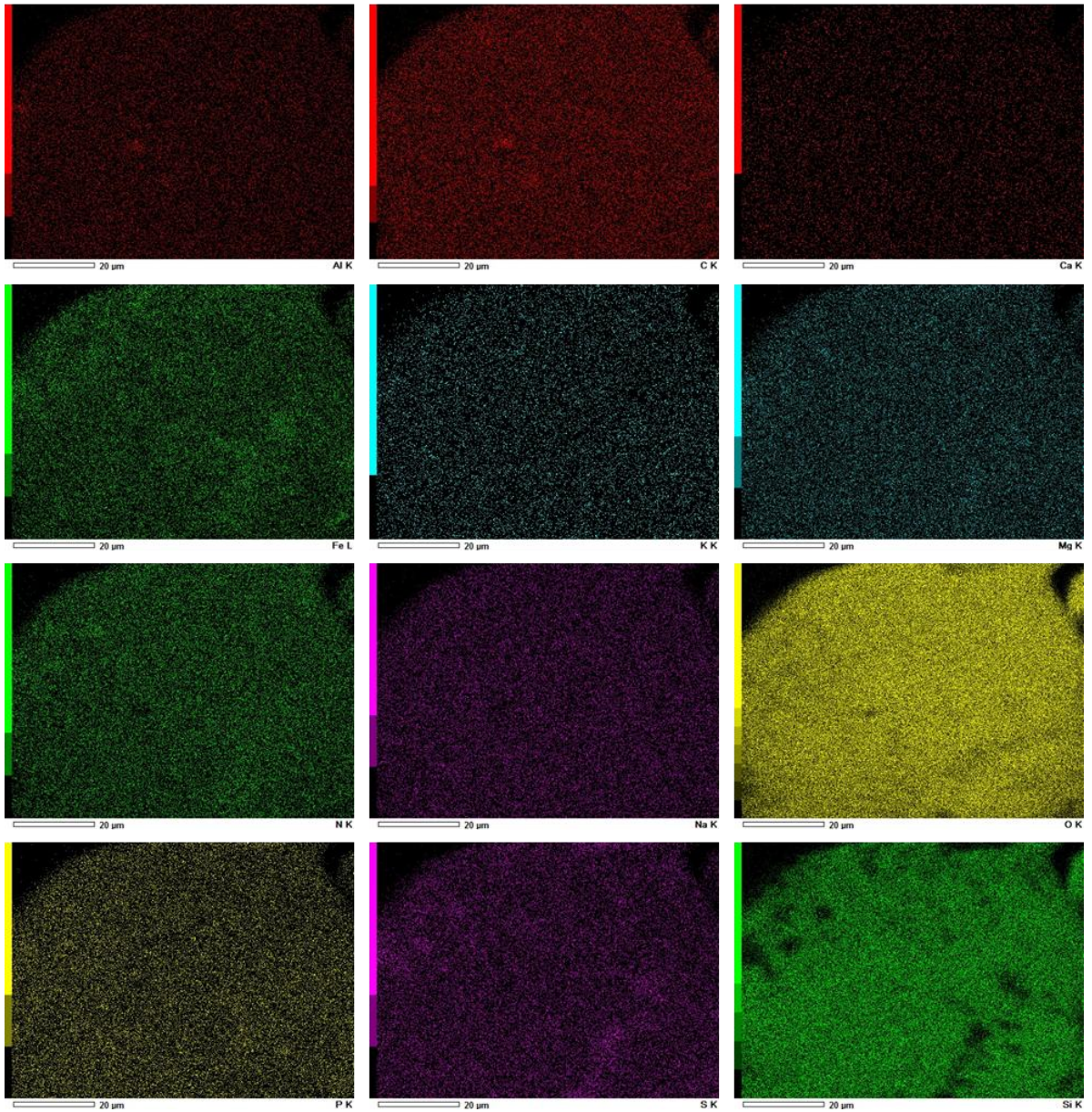
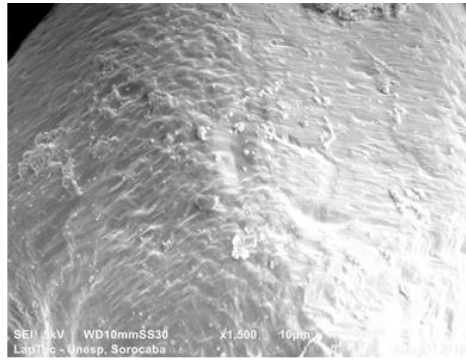


Imagem III

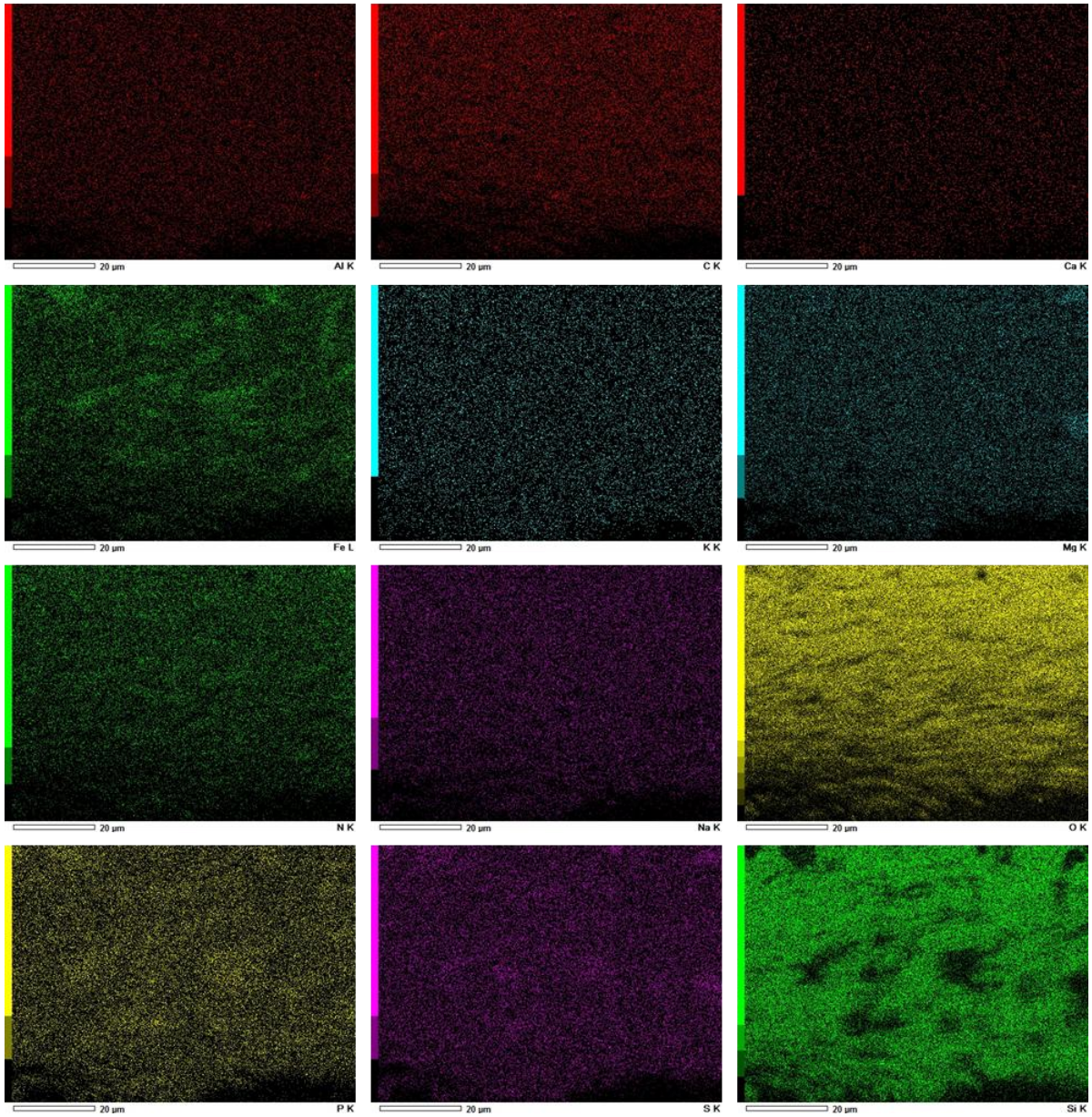
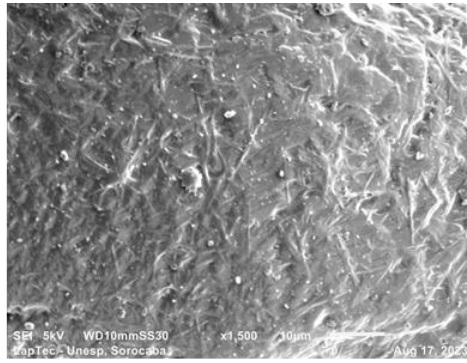


Imagem IV

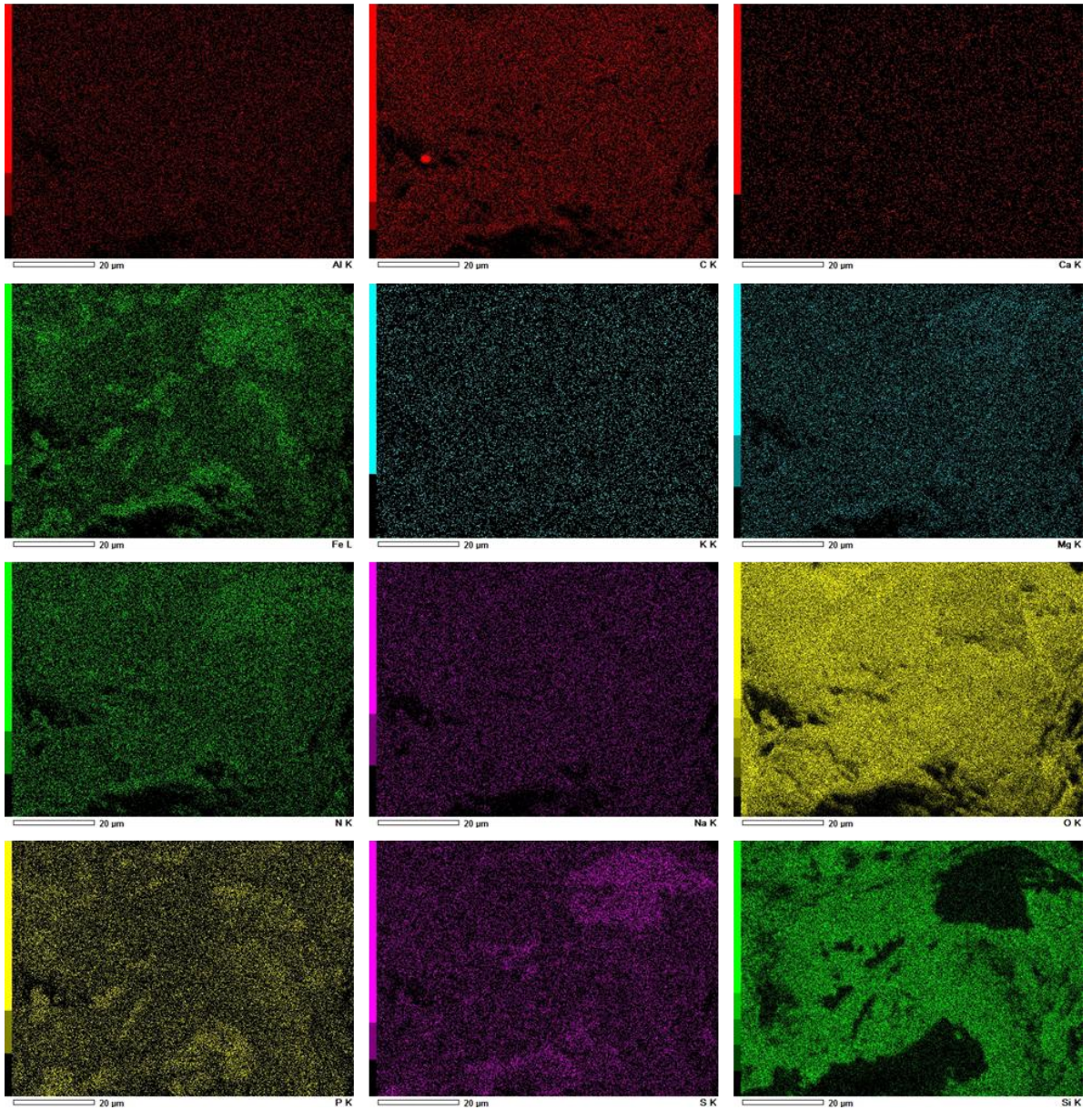
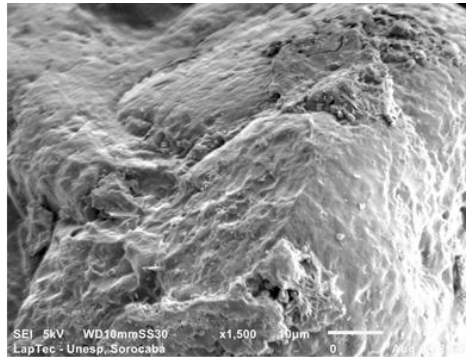
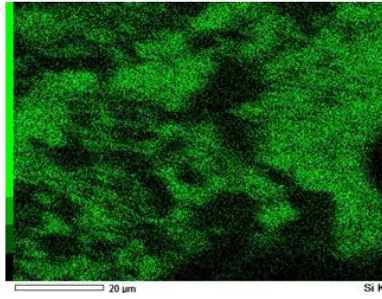
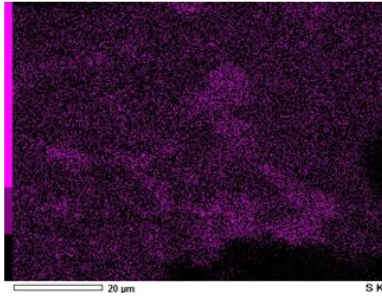
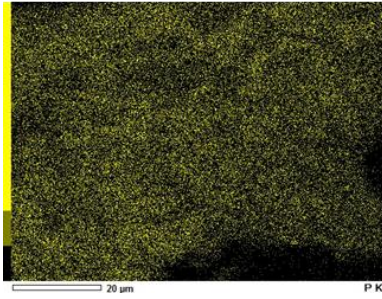
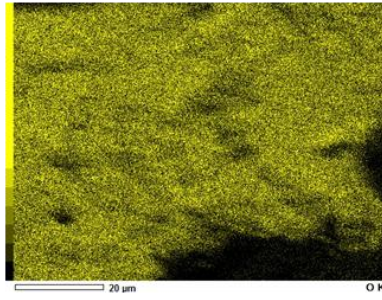
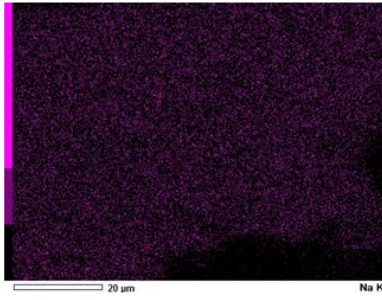
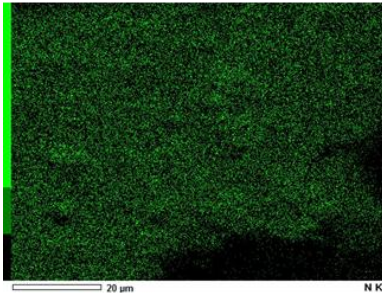
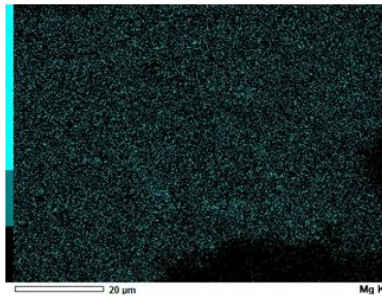
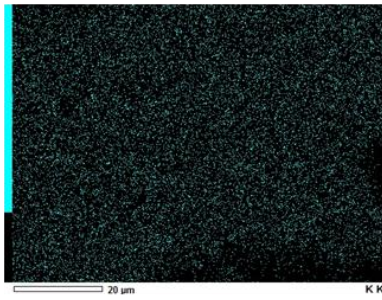
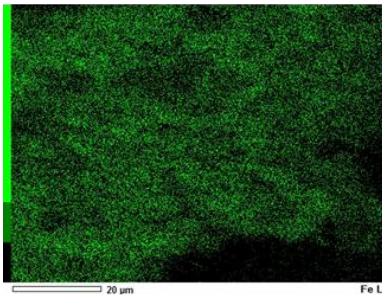
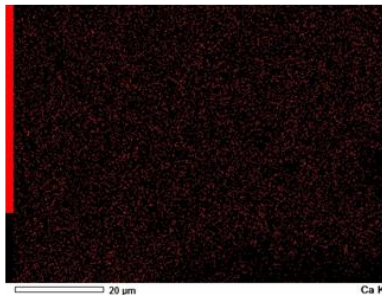
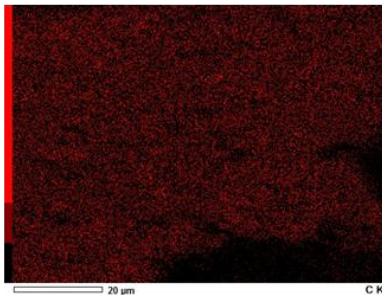
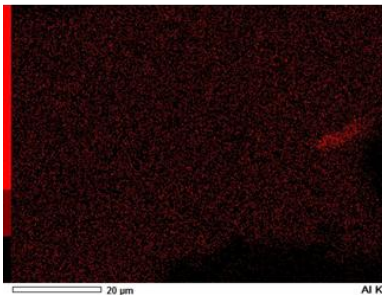
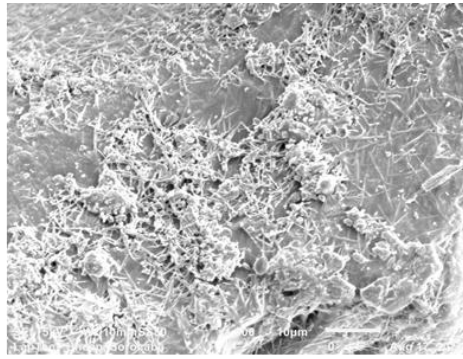


Imagem V



A-V-M

Imagem 1

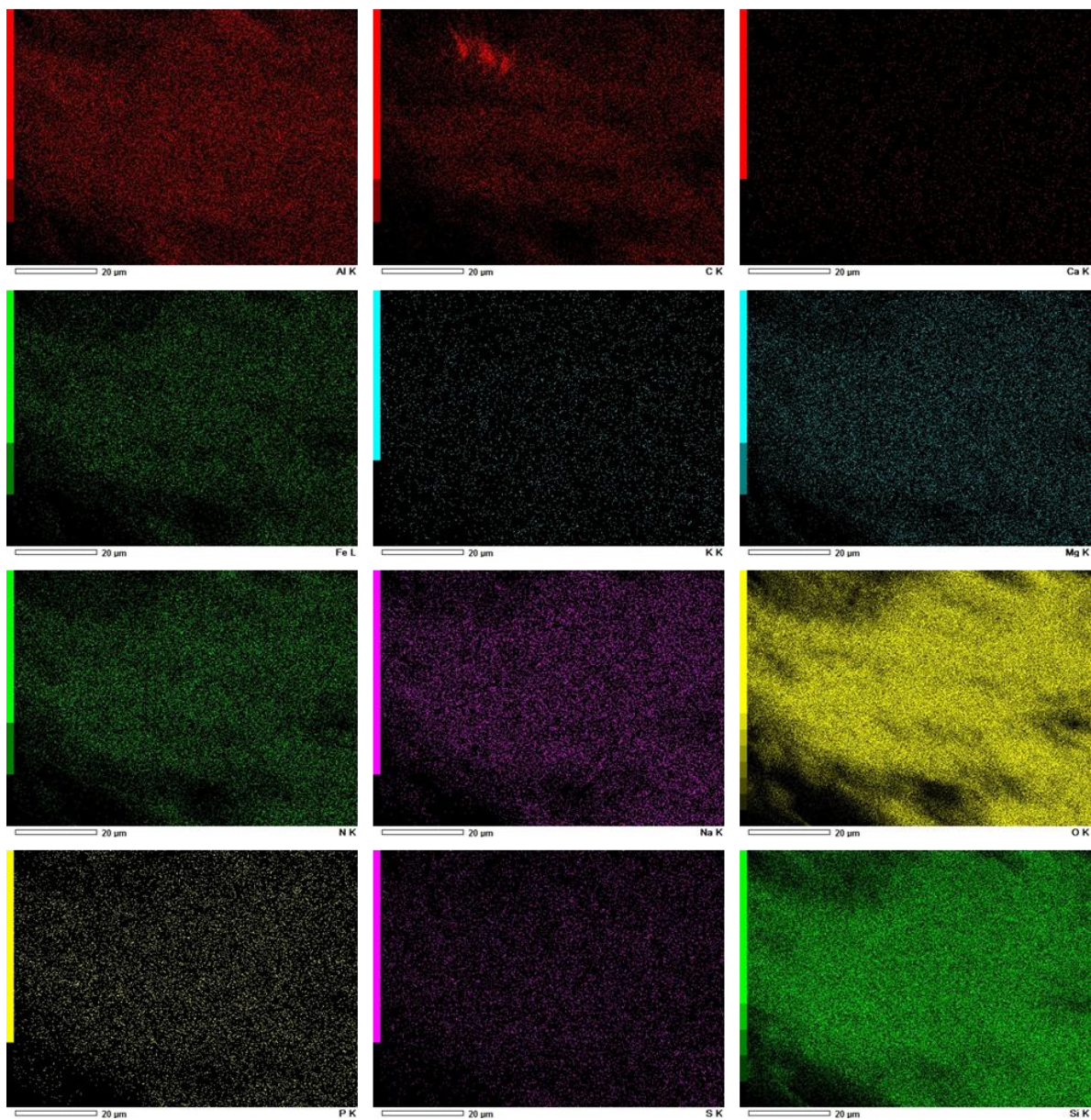
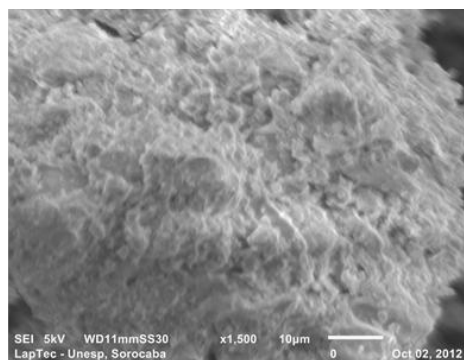


Imagem II

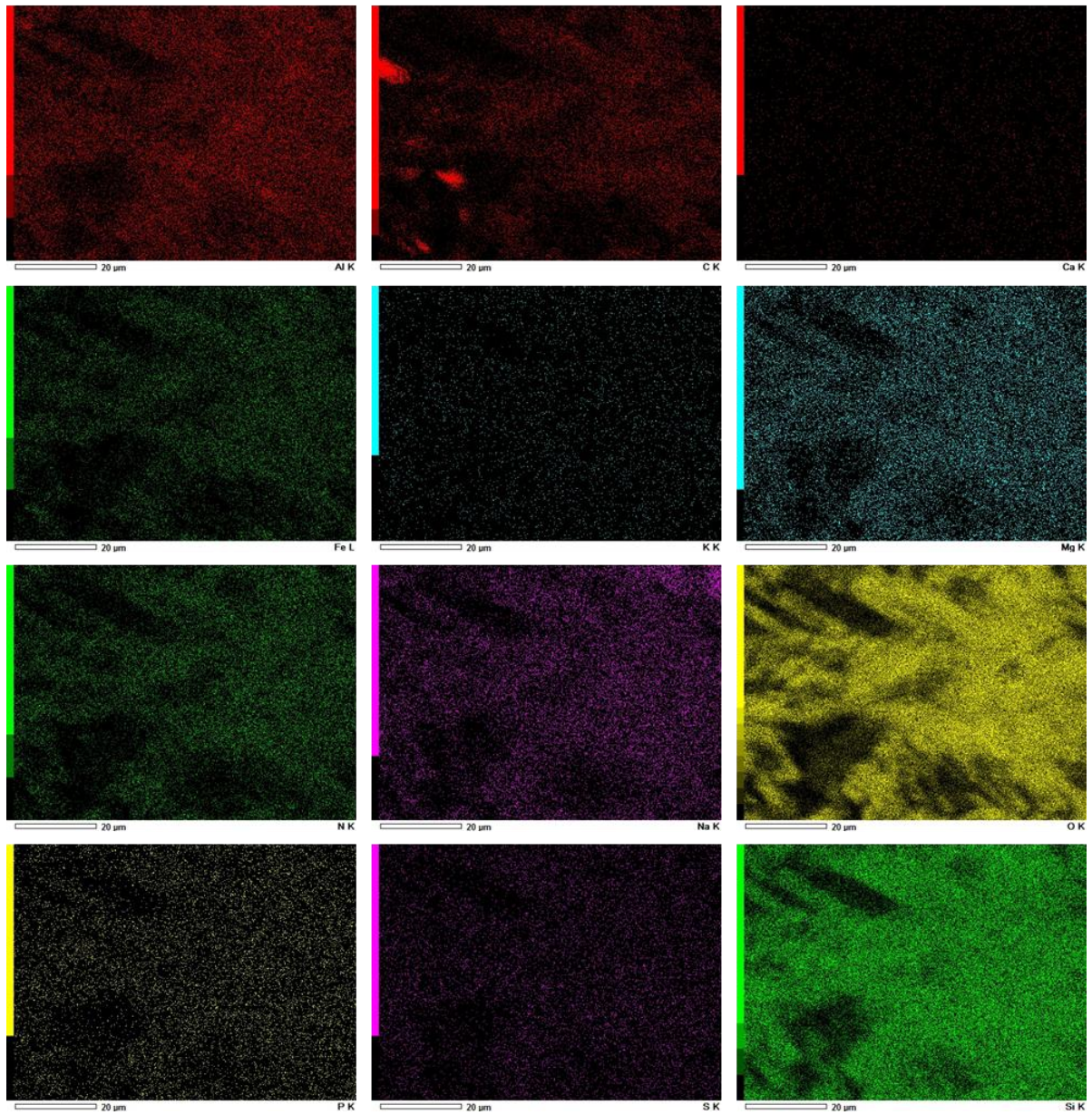
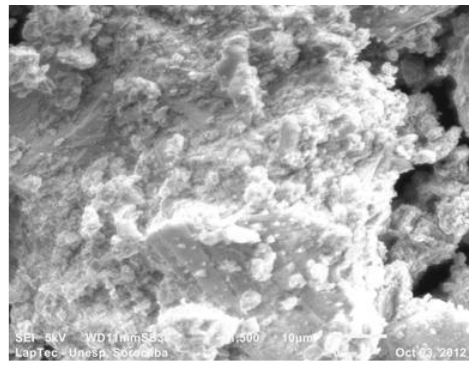


Imagem III

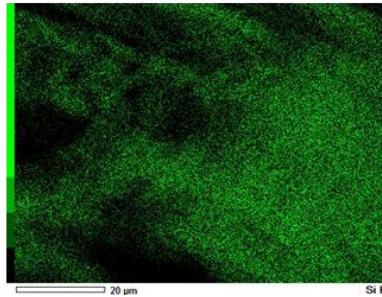
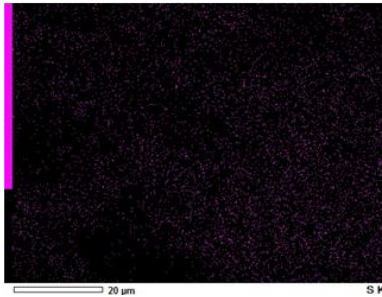
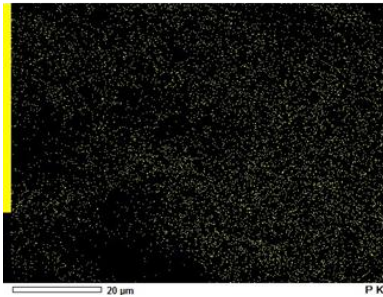
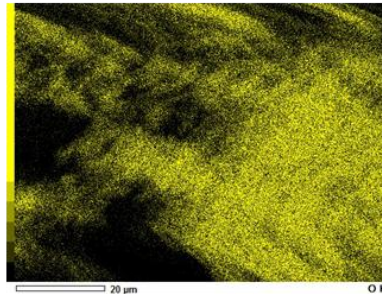
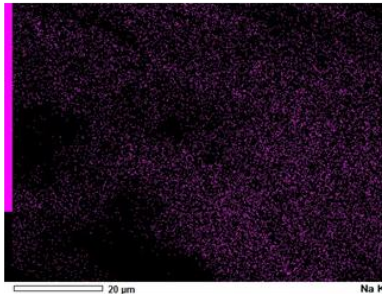
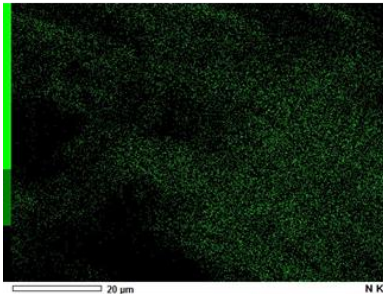
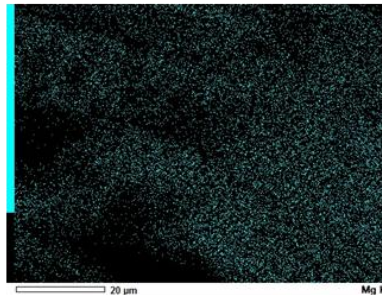
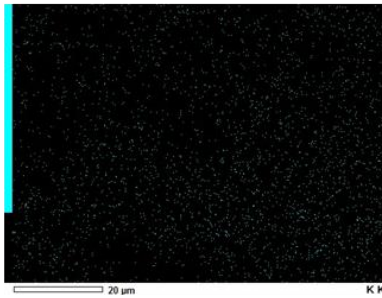
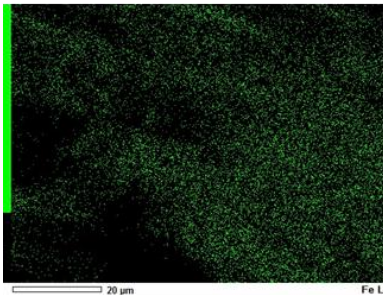
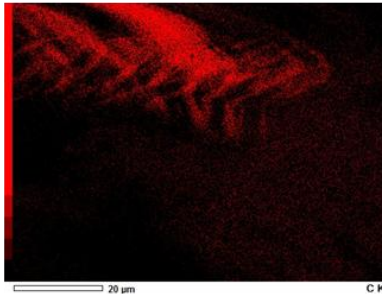
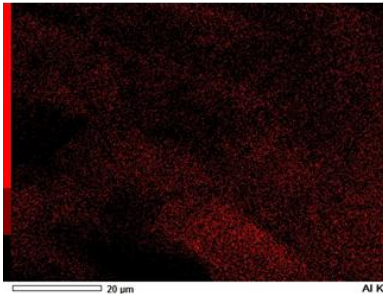
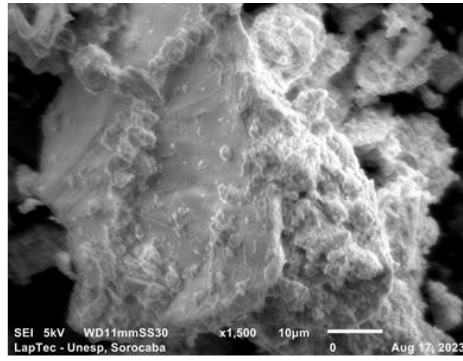


Imagem IV

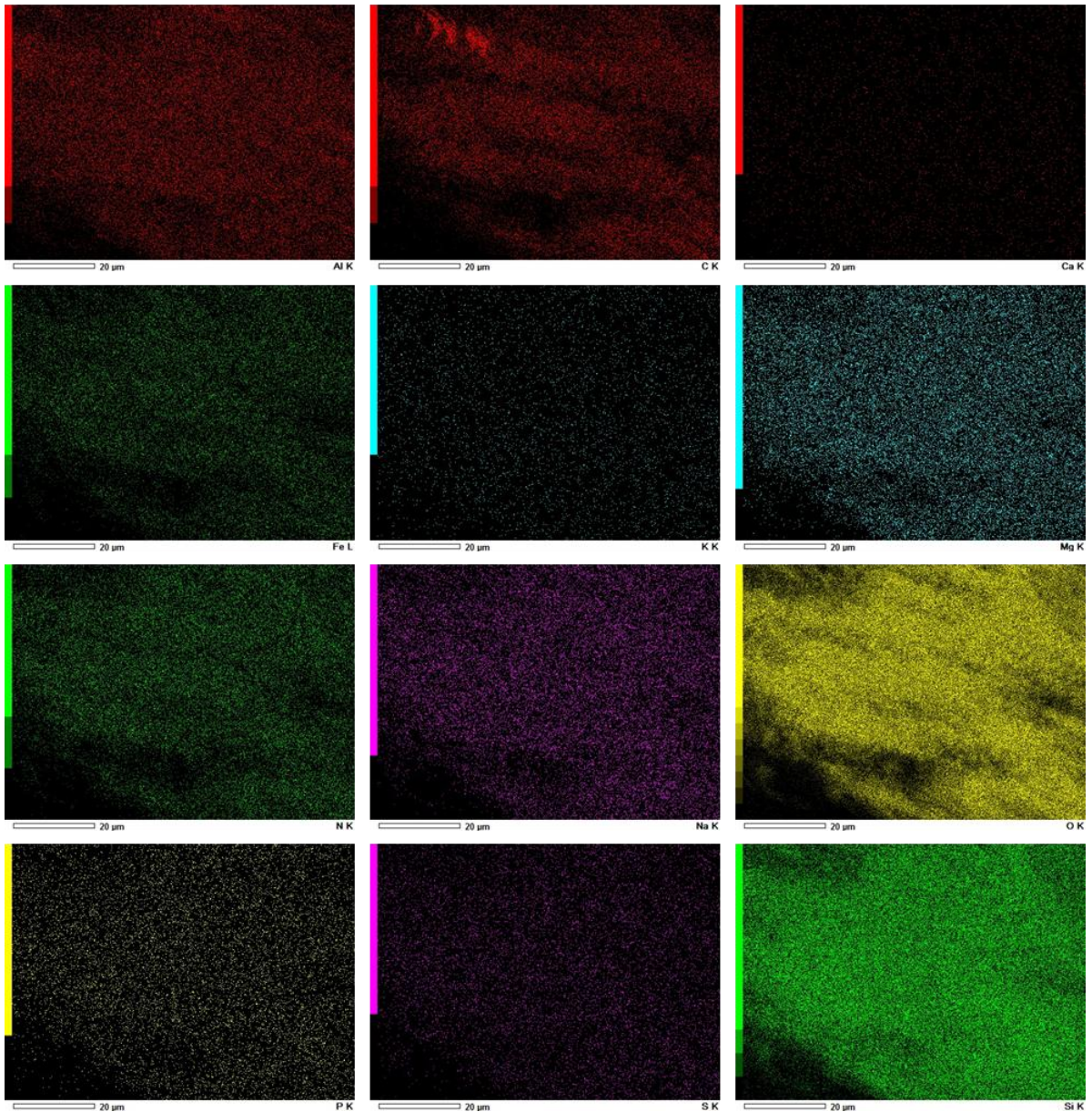
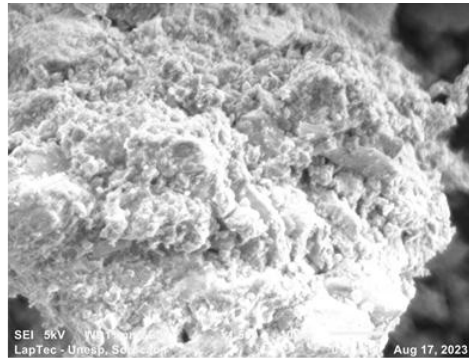
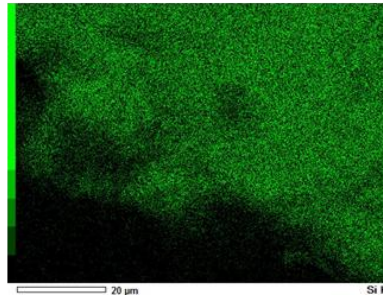
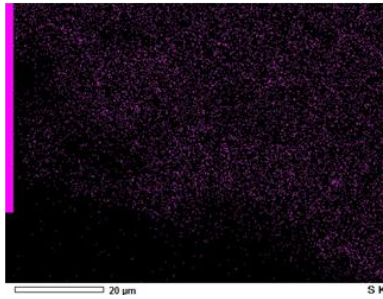
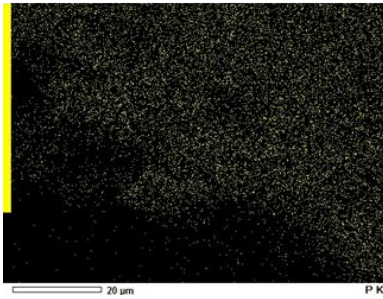
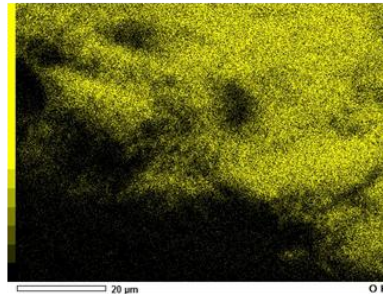
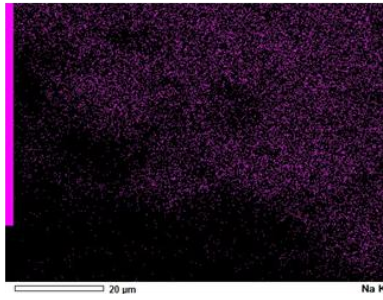
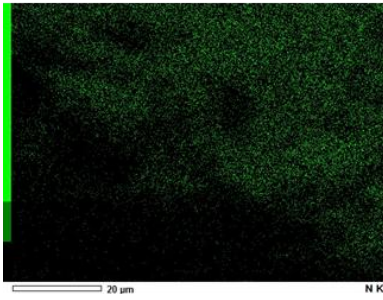
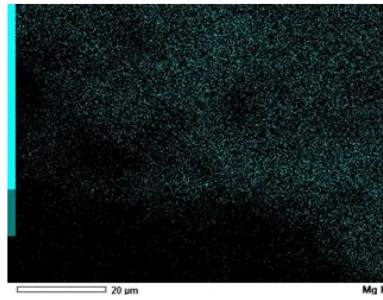
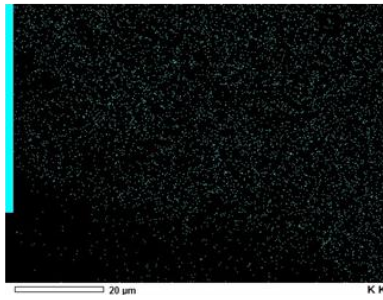
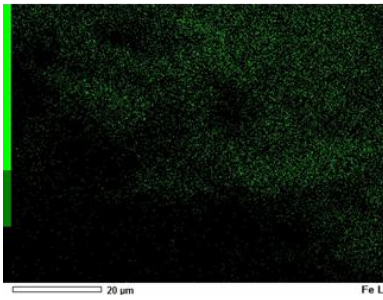
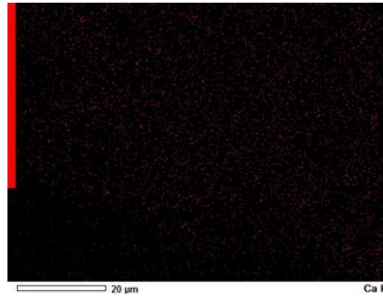
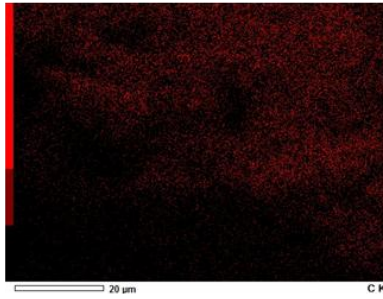
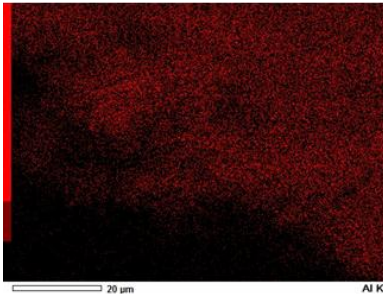
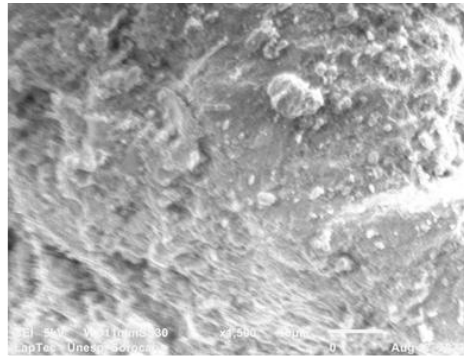


Imagem V



A-V-M+A

Imagem 1

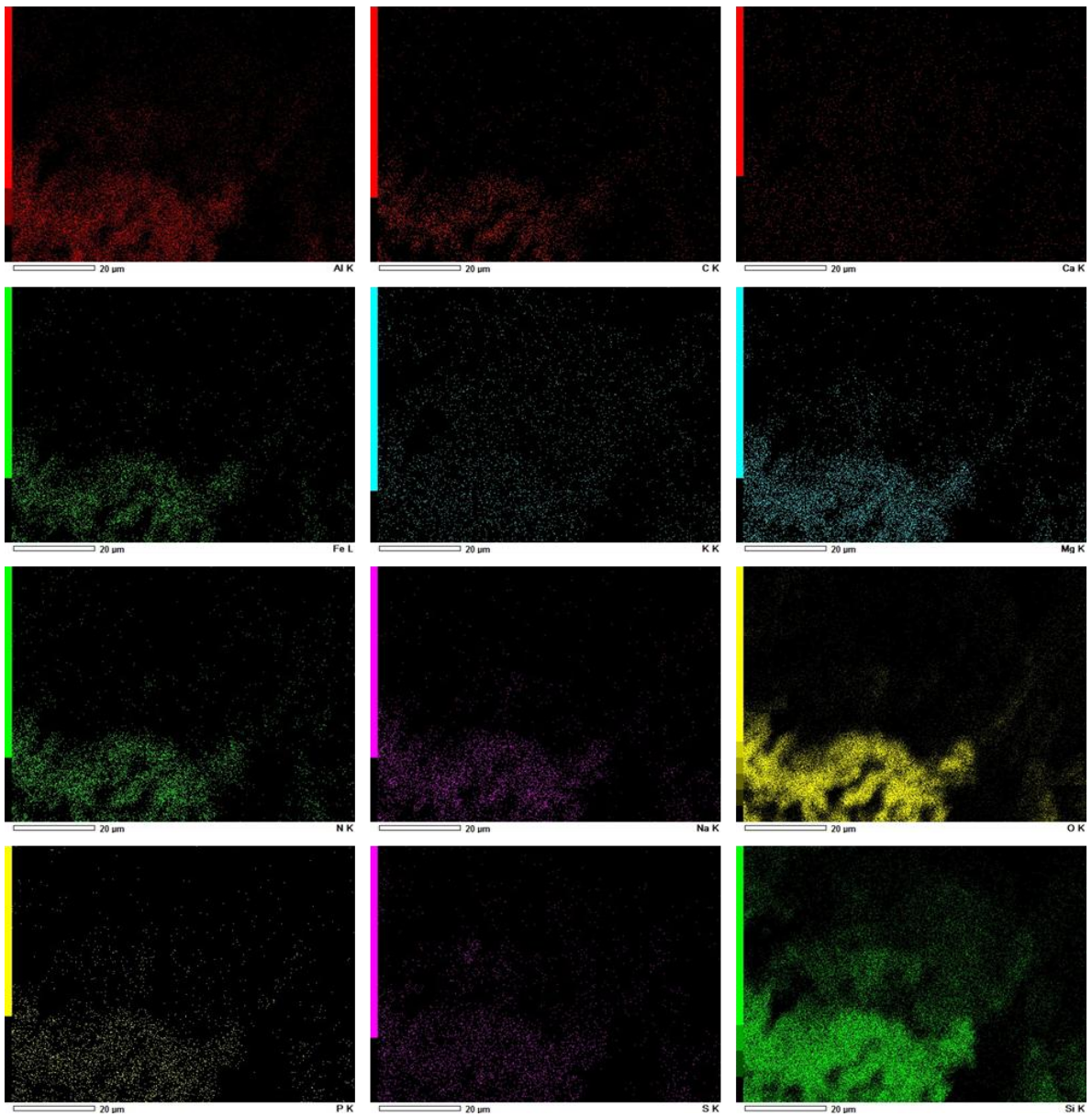
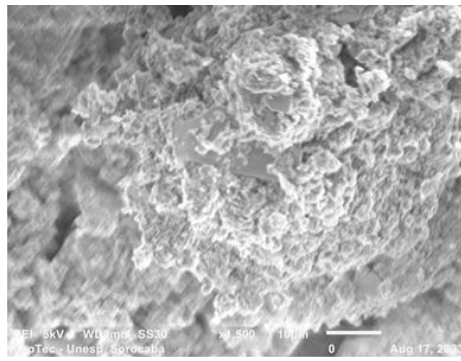


Imagem II

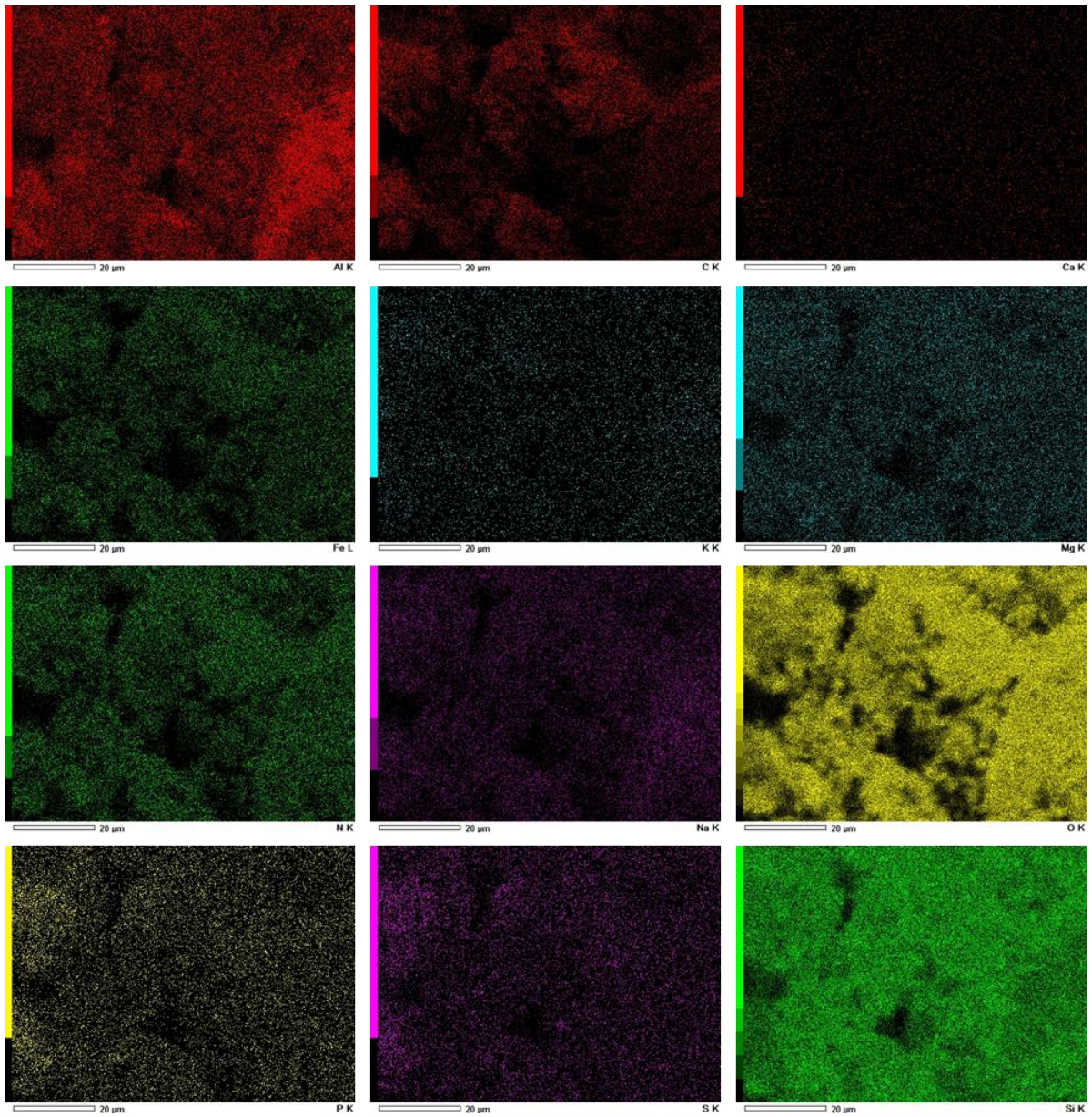
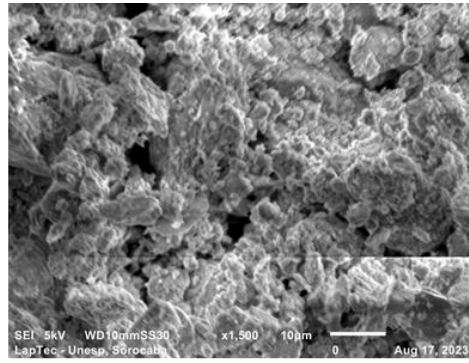


Imagem III

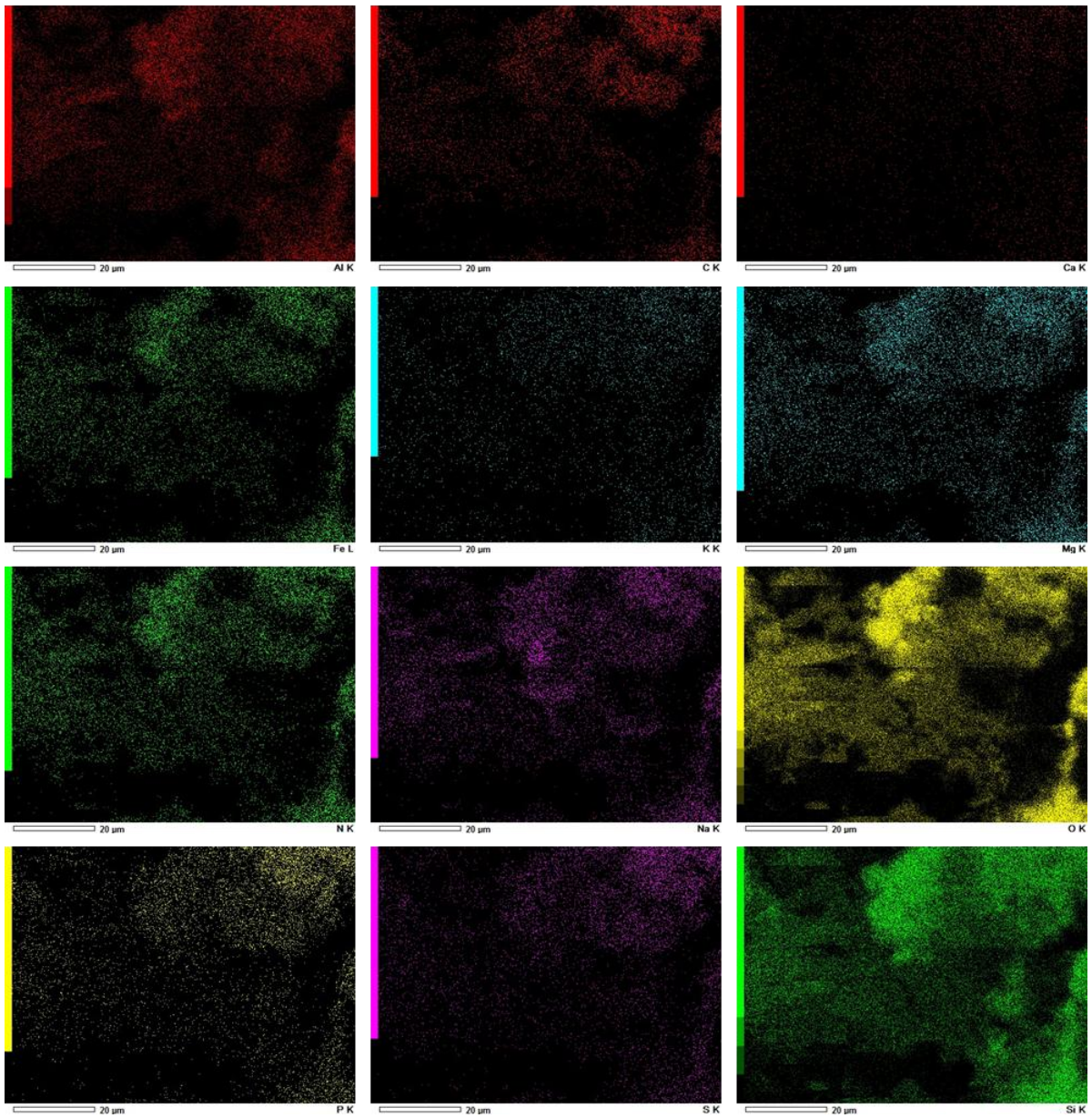
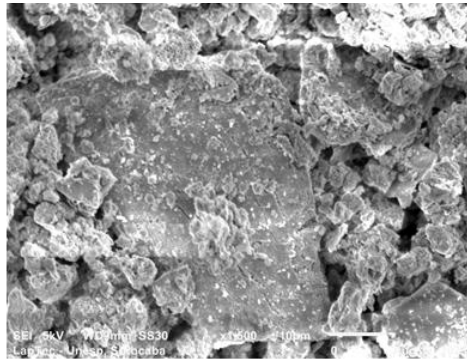


Imagem IV

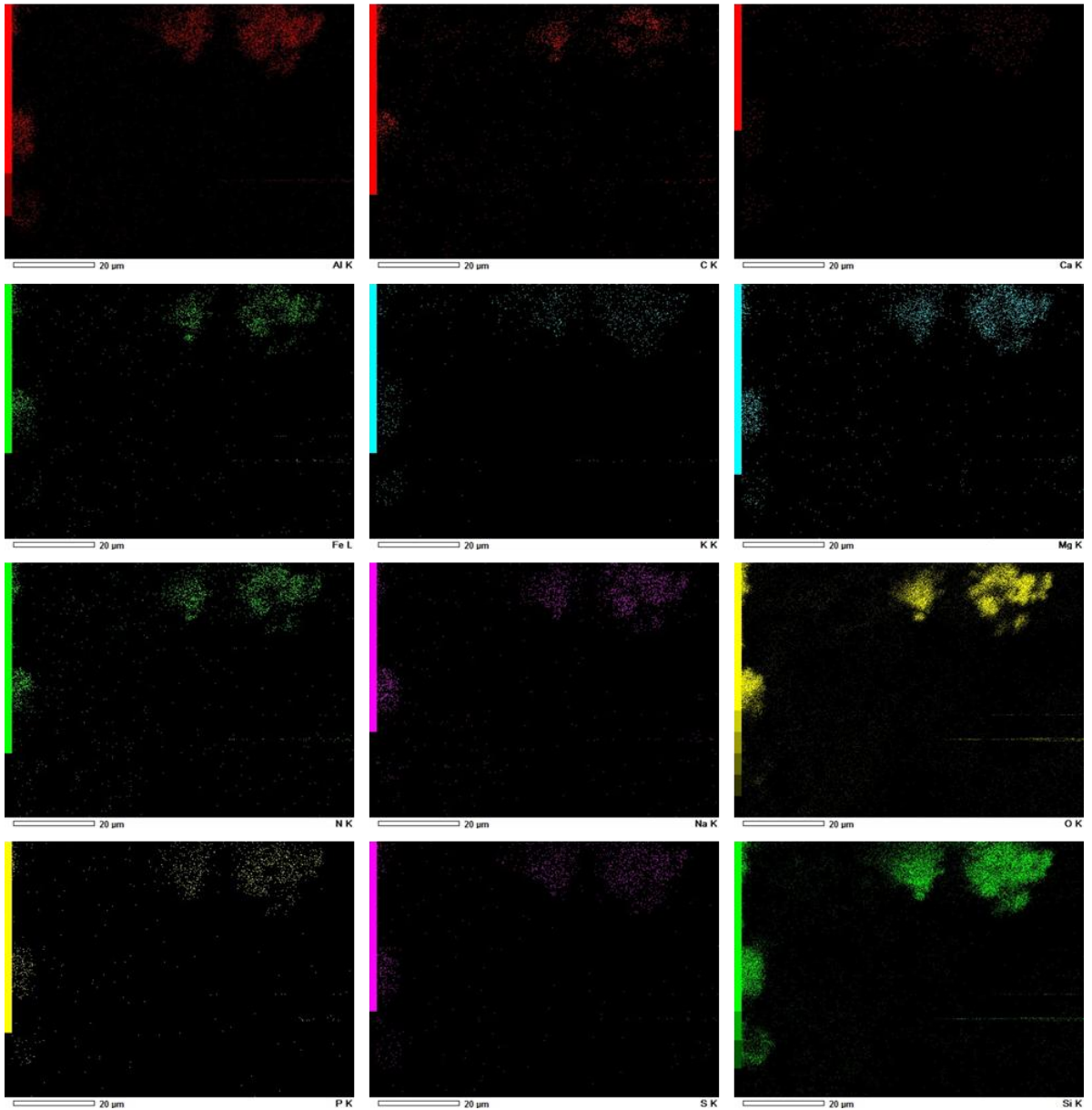
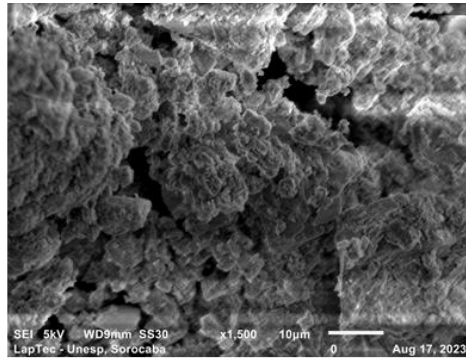
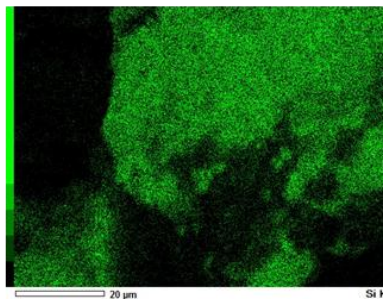
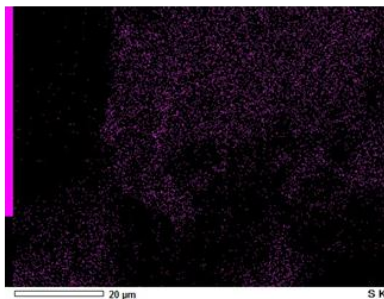
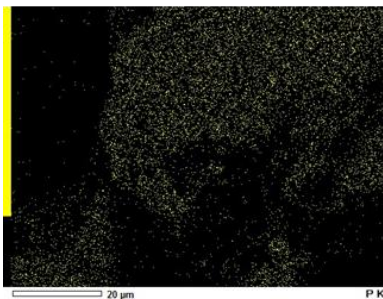
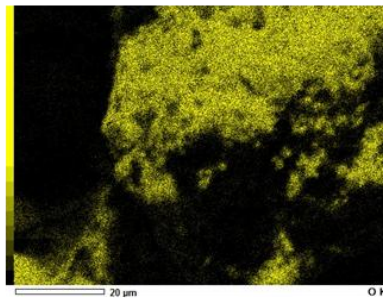
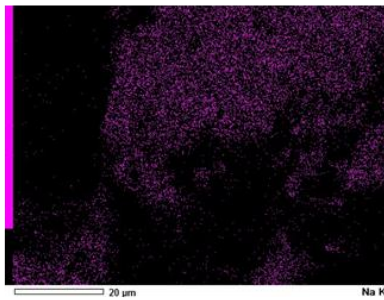
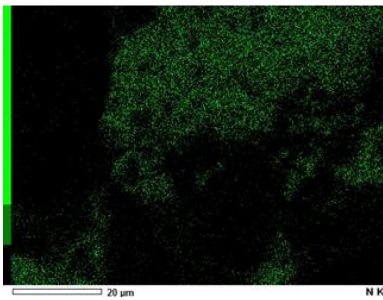
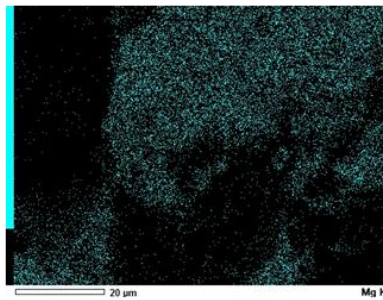
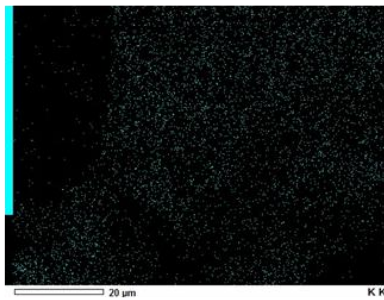
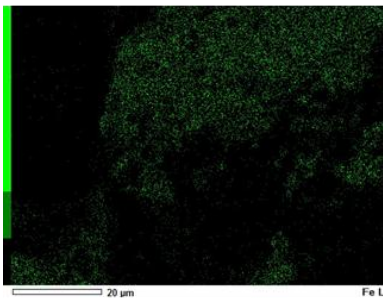
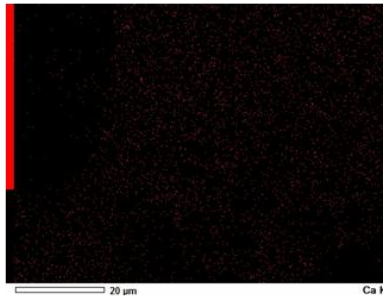
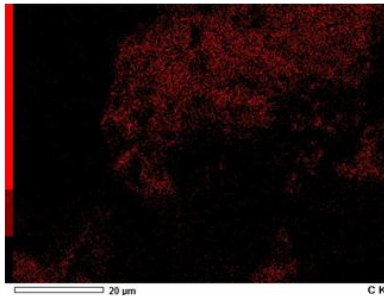
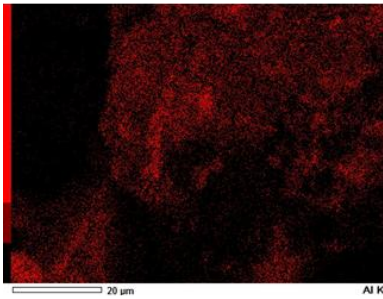
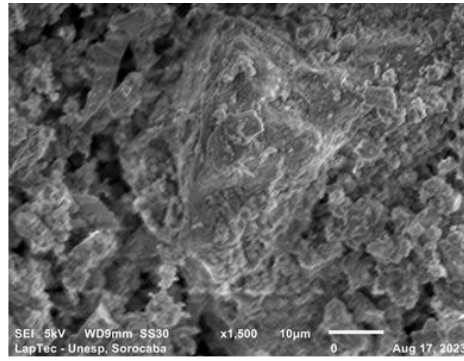


Imagem V



B-V

Imagem 1

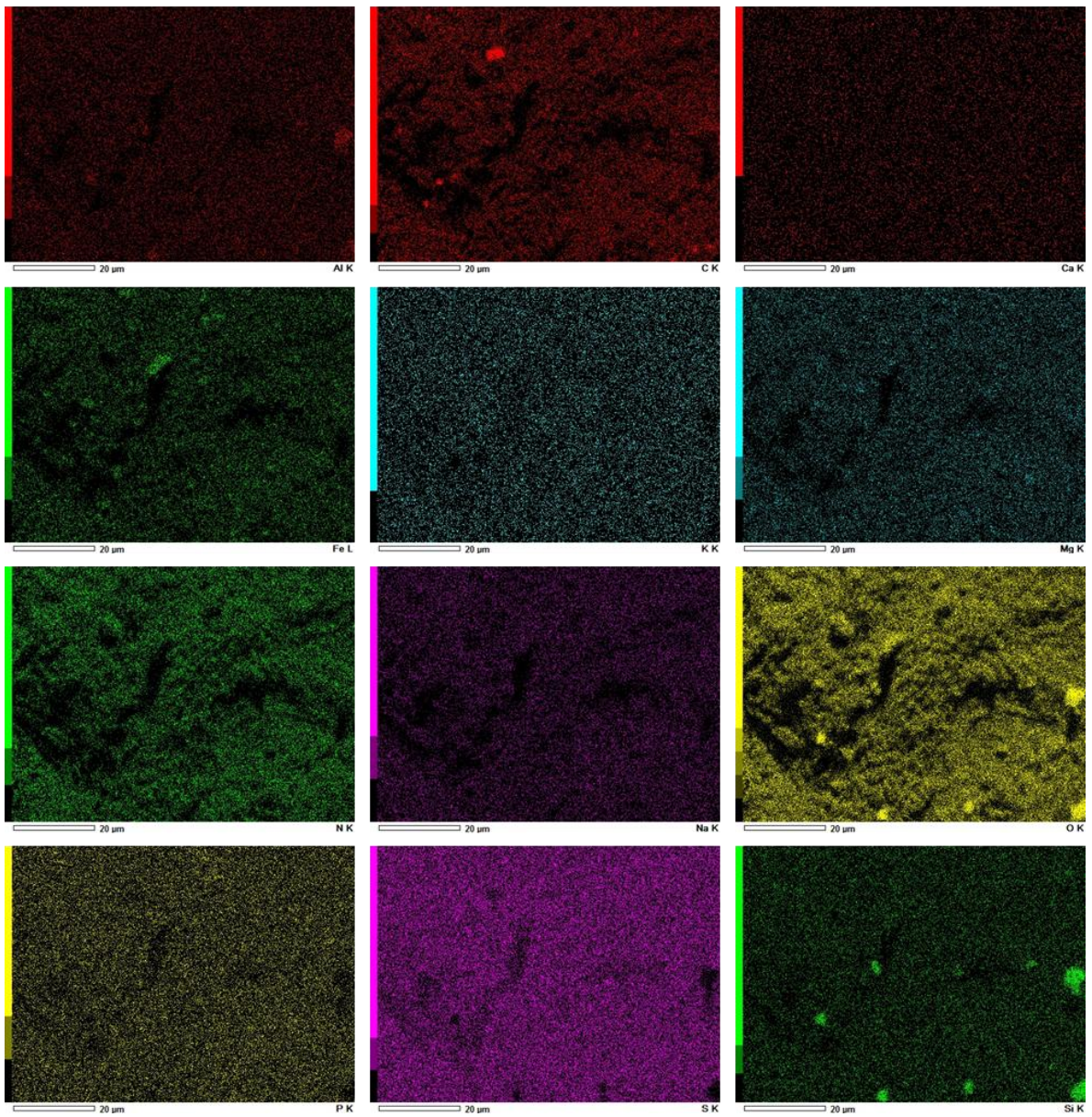
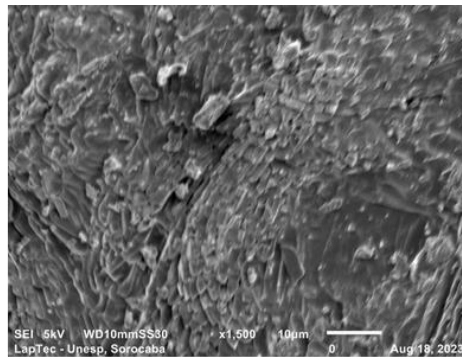


Imagem II

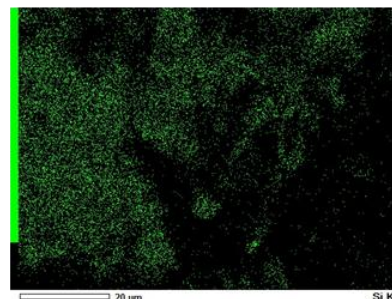
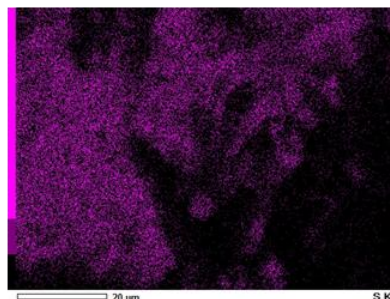
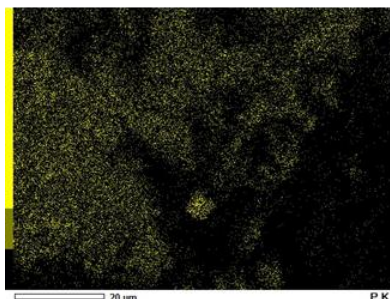
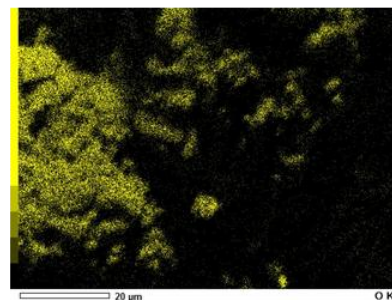
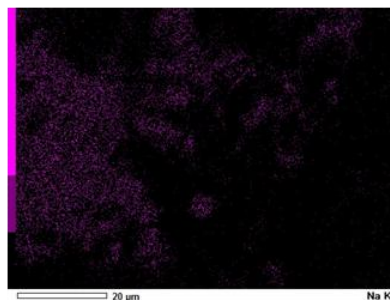
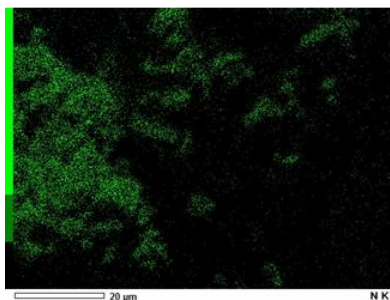
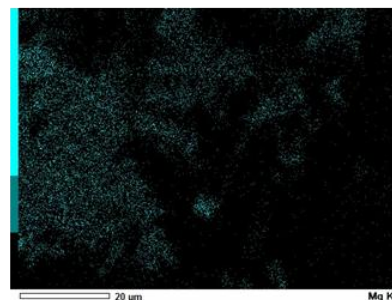
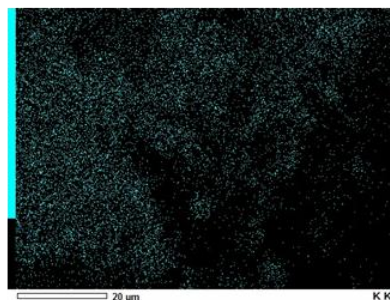
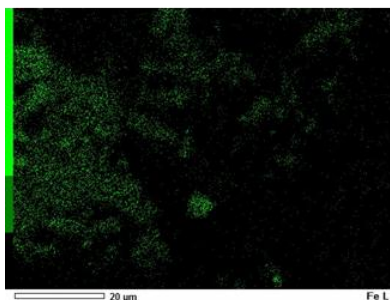
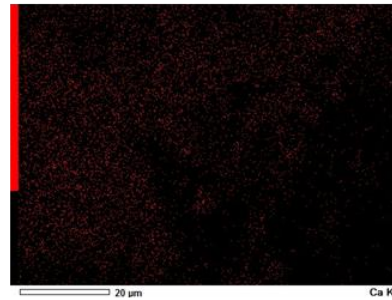
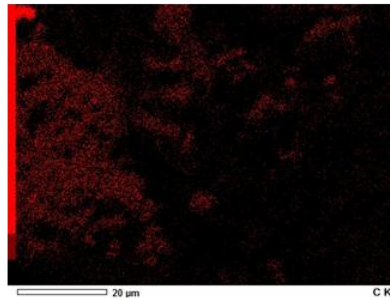
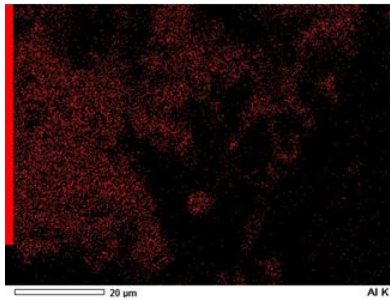
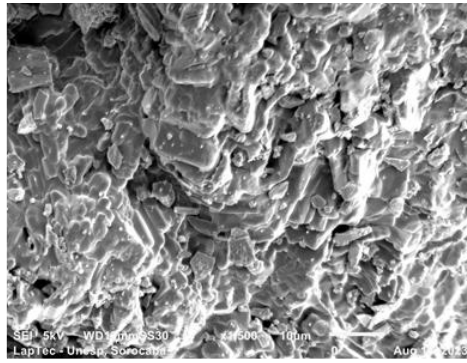


Imagem III

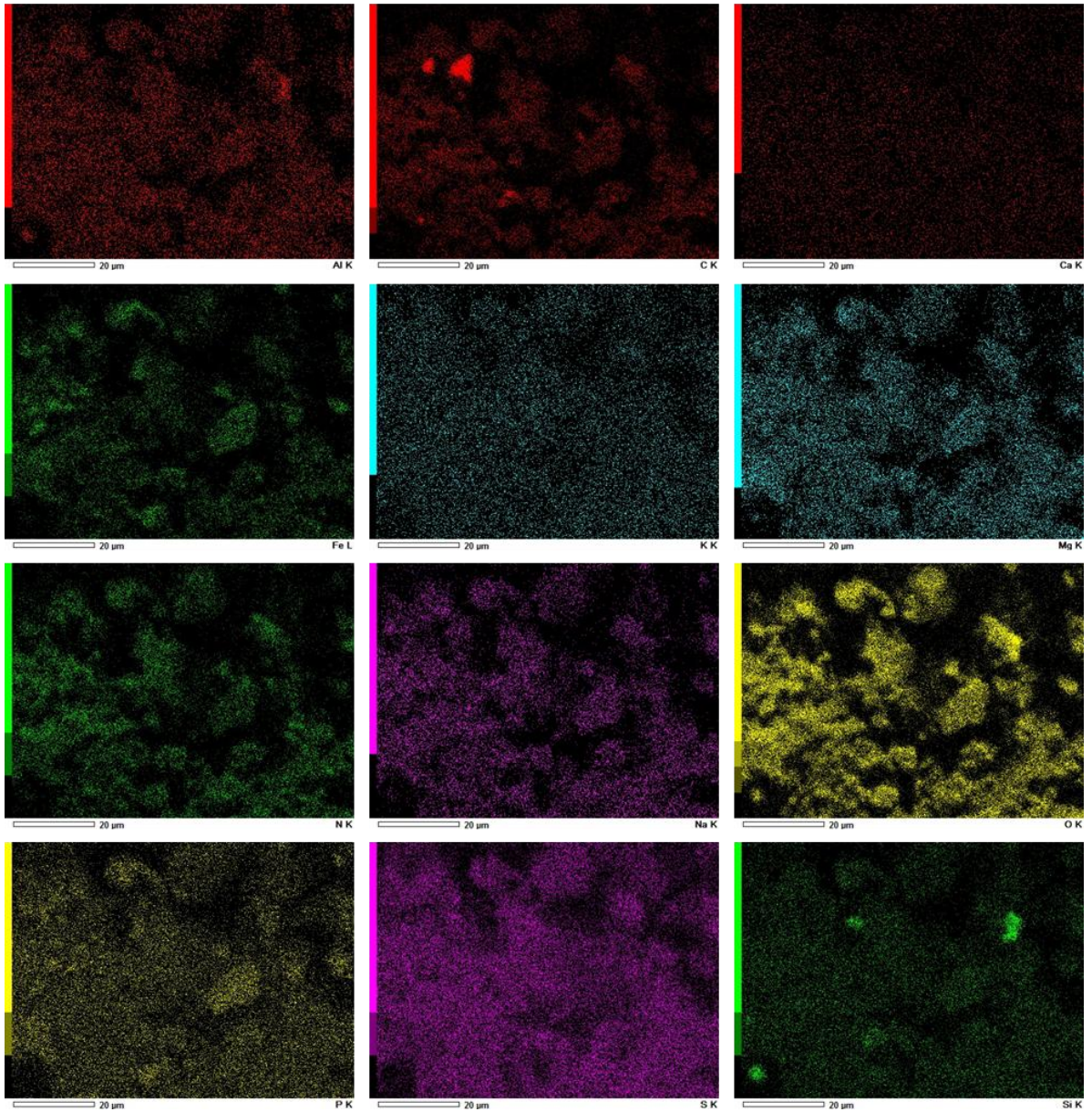
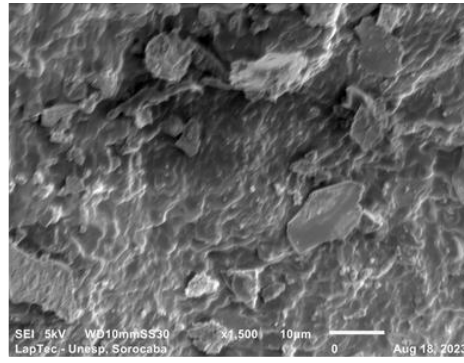


Imagem IV

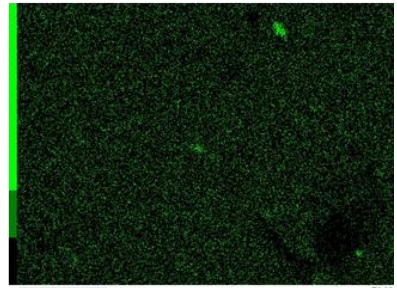
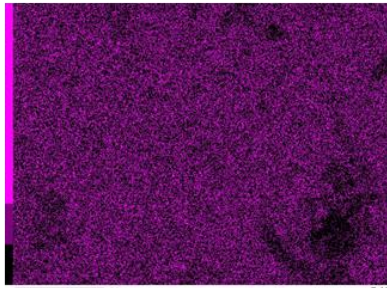
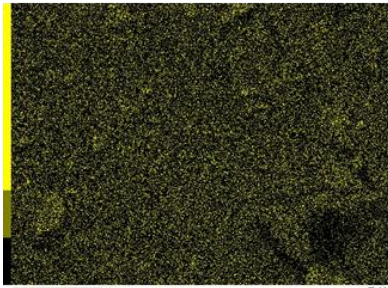
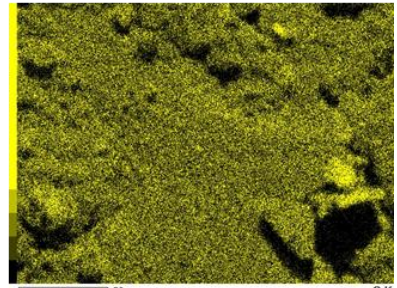
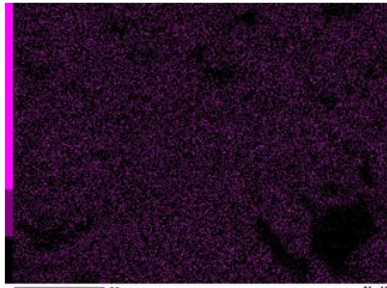
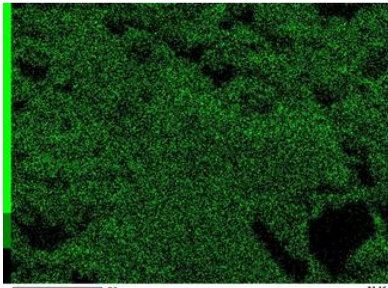
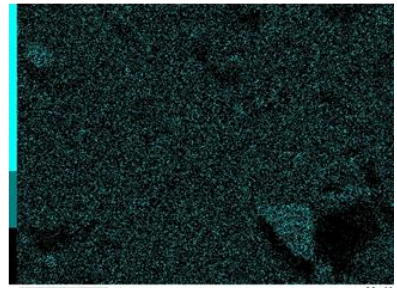
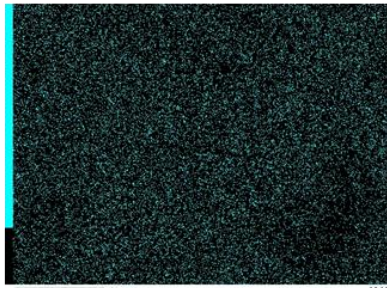
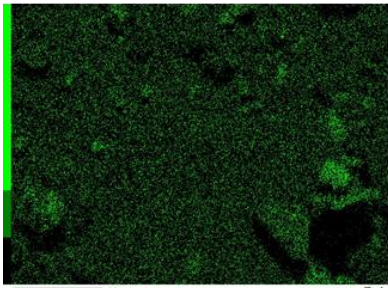
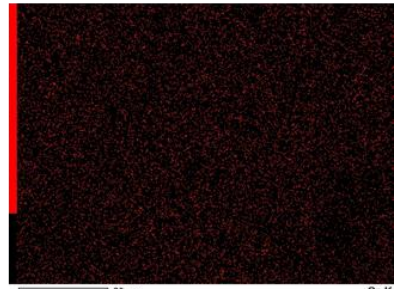
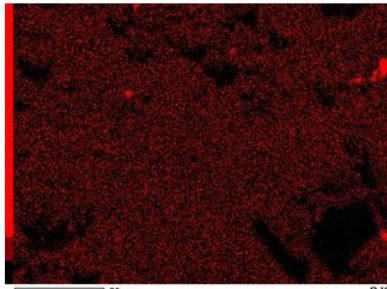
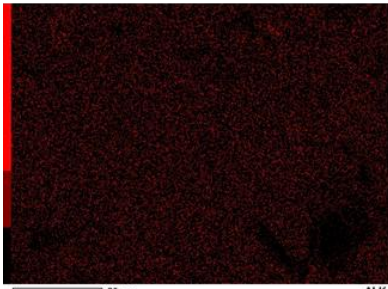
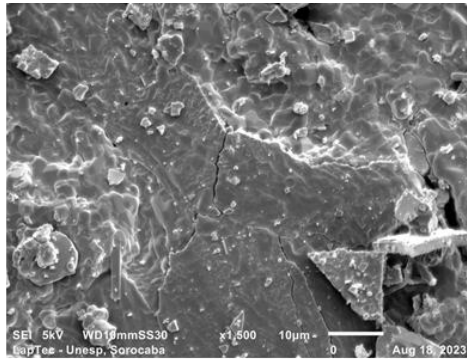
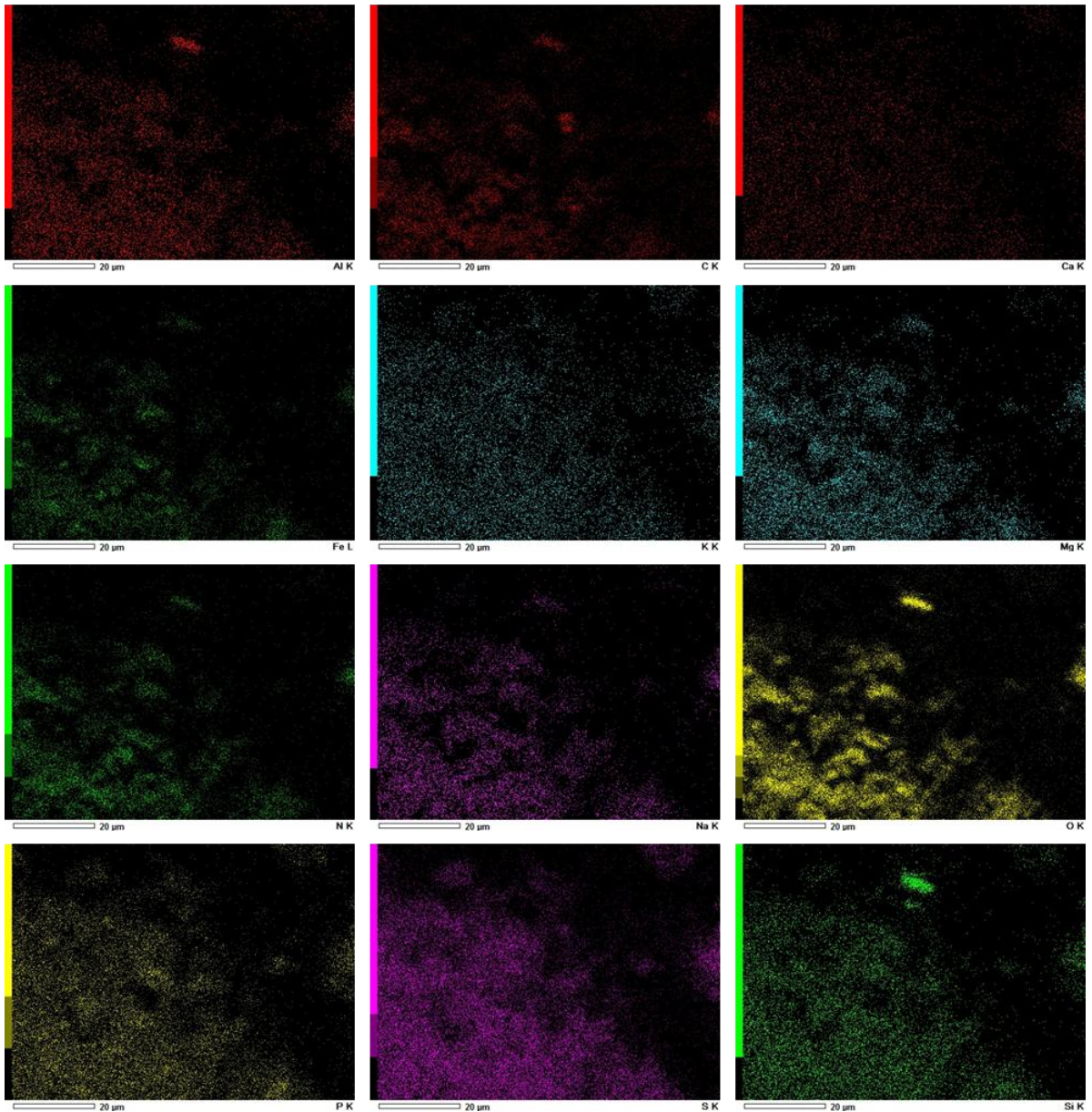
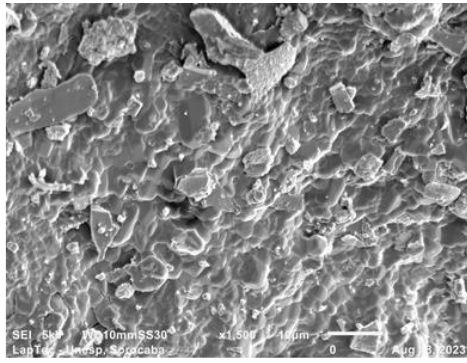


Imagem V



B-V-A

Imagem 1

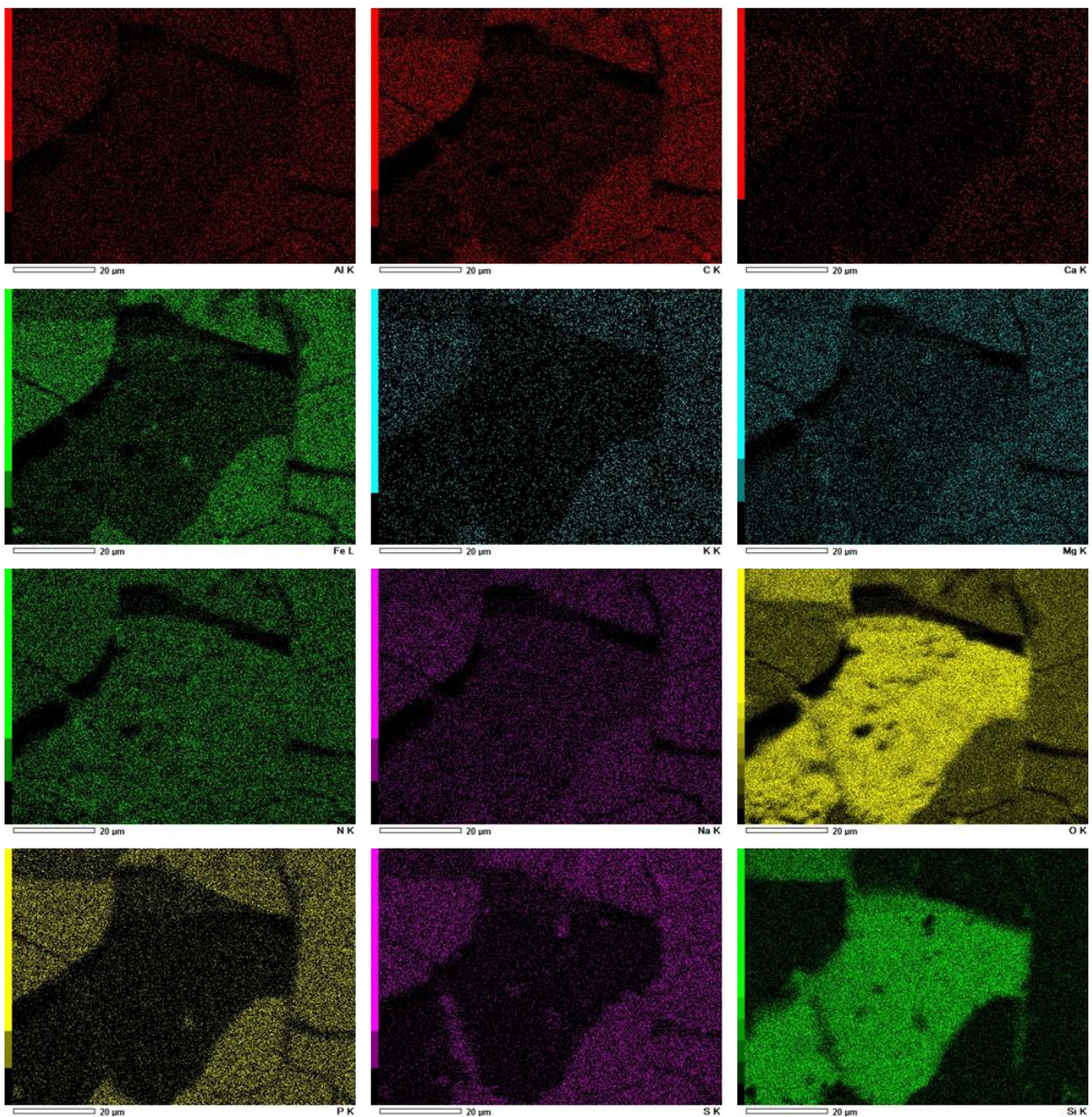
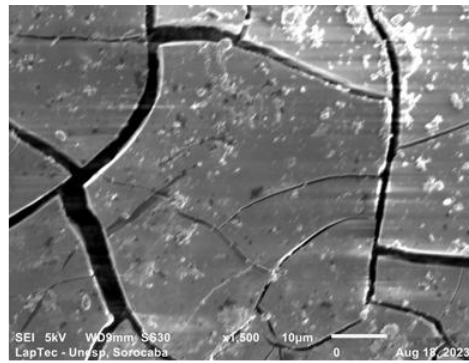


Imagem II

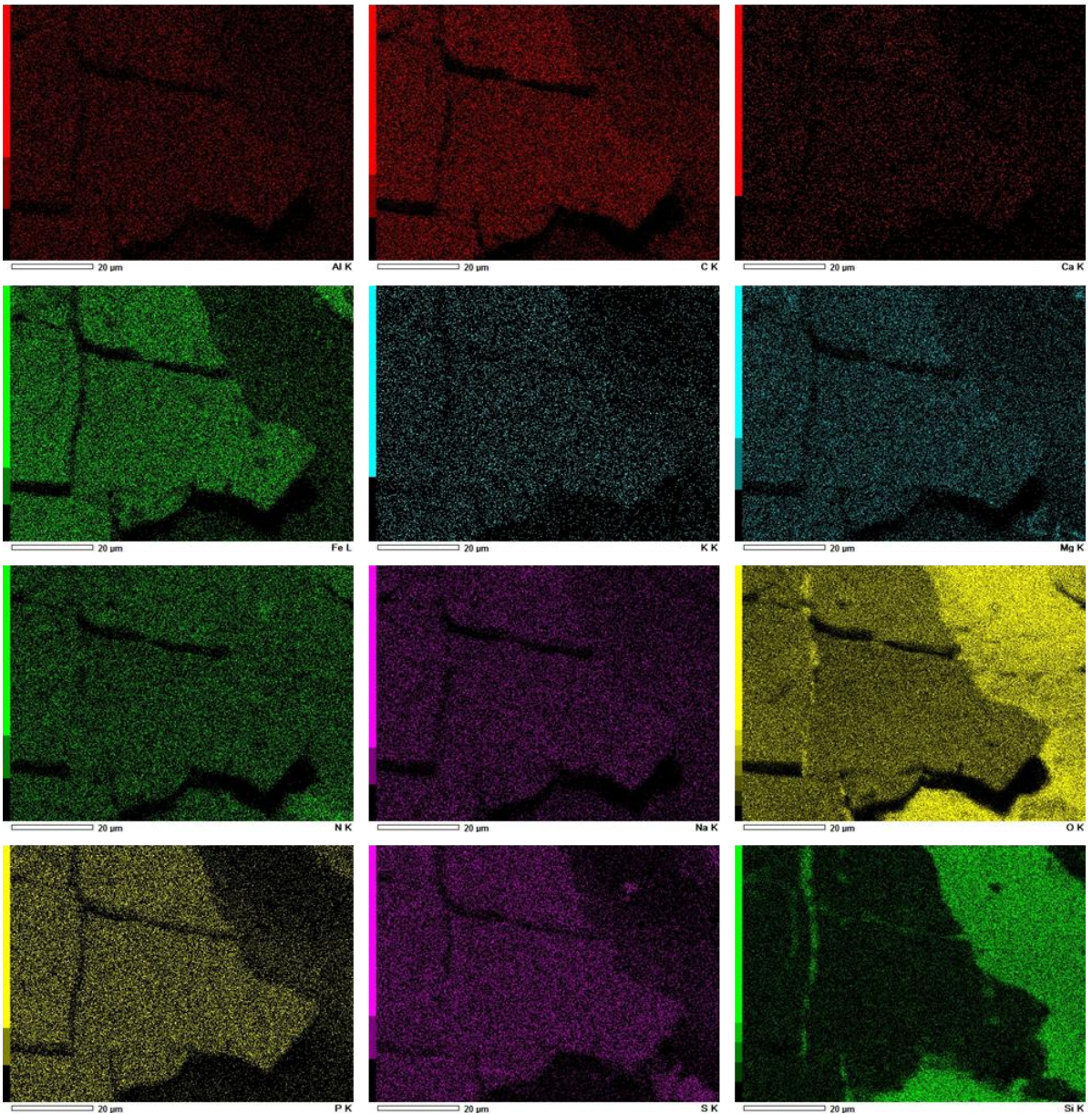
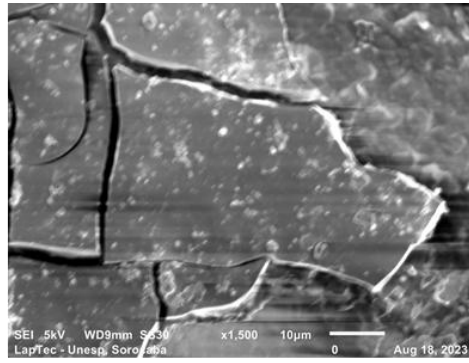


Imagem III

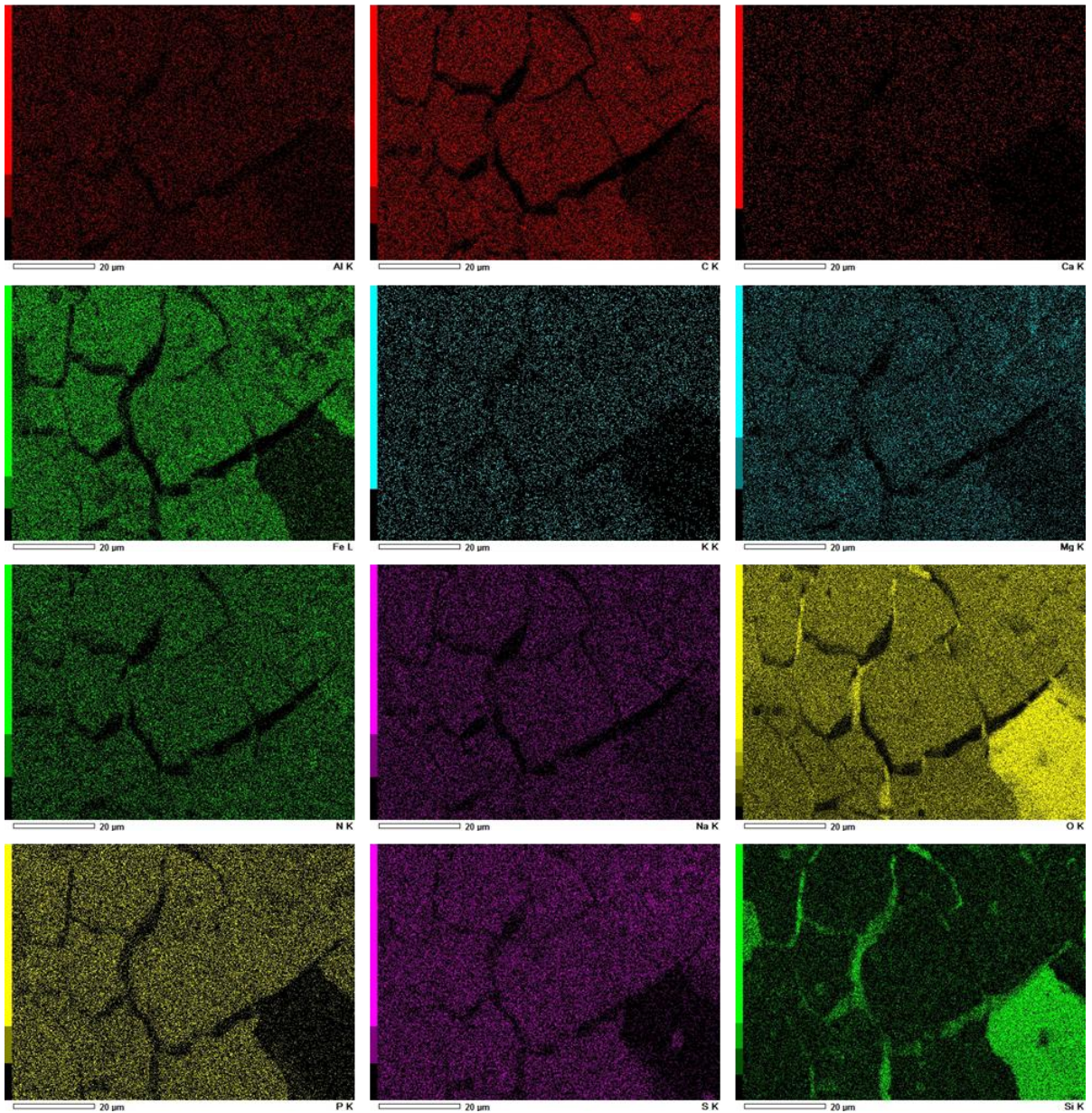
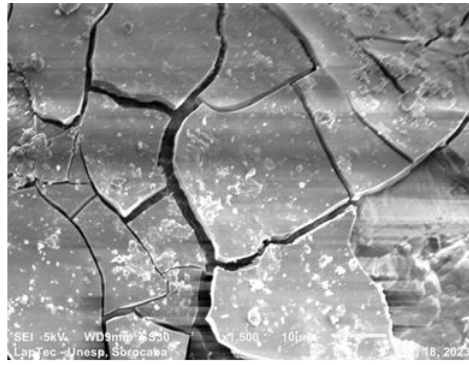


Imagem IV

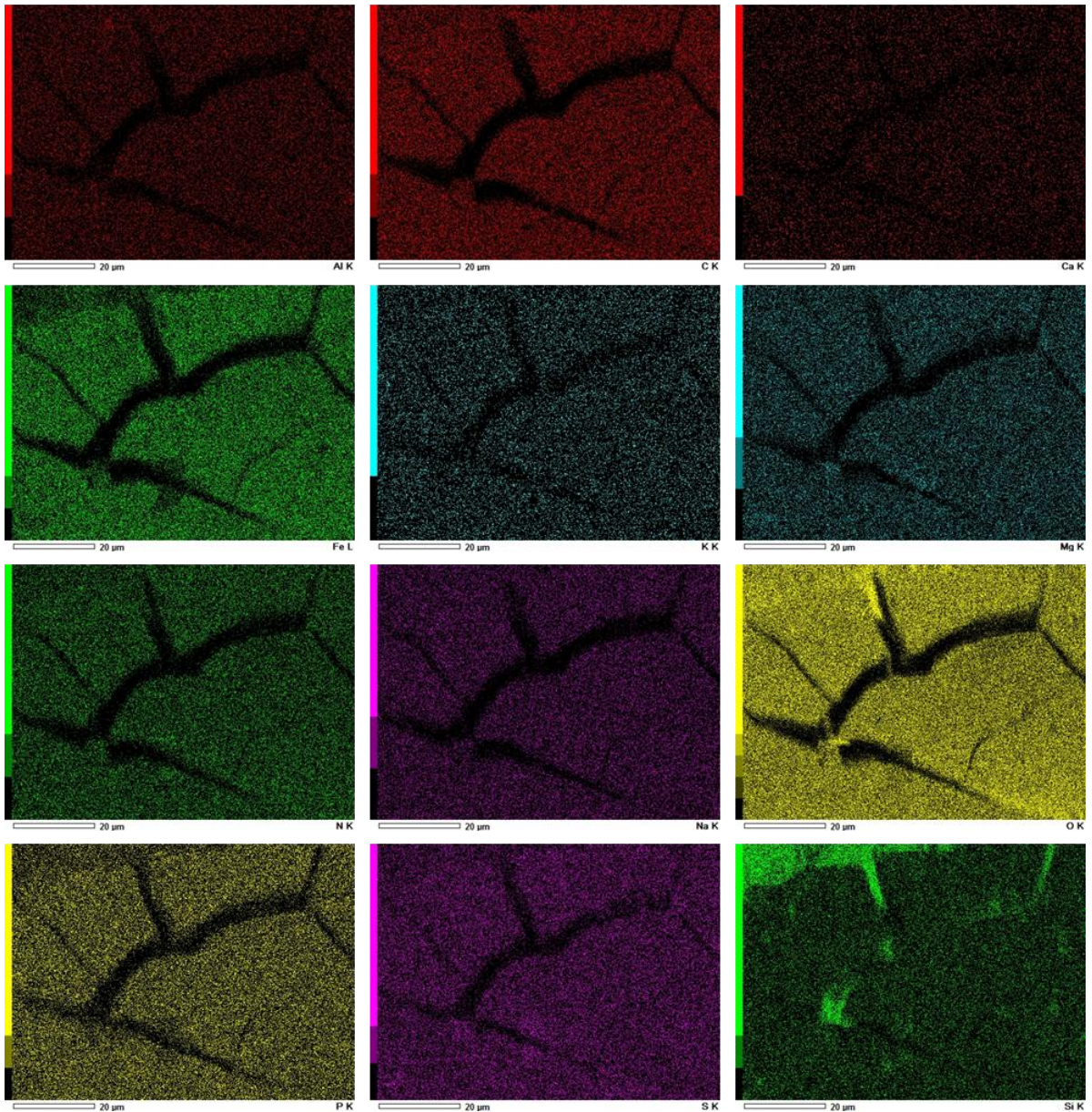
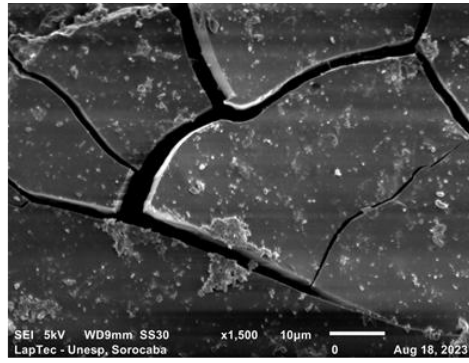
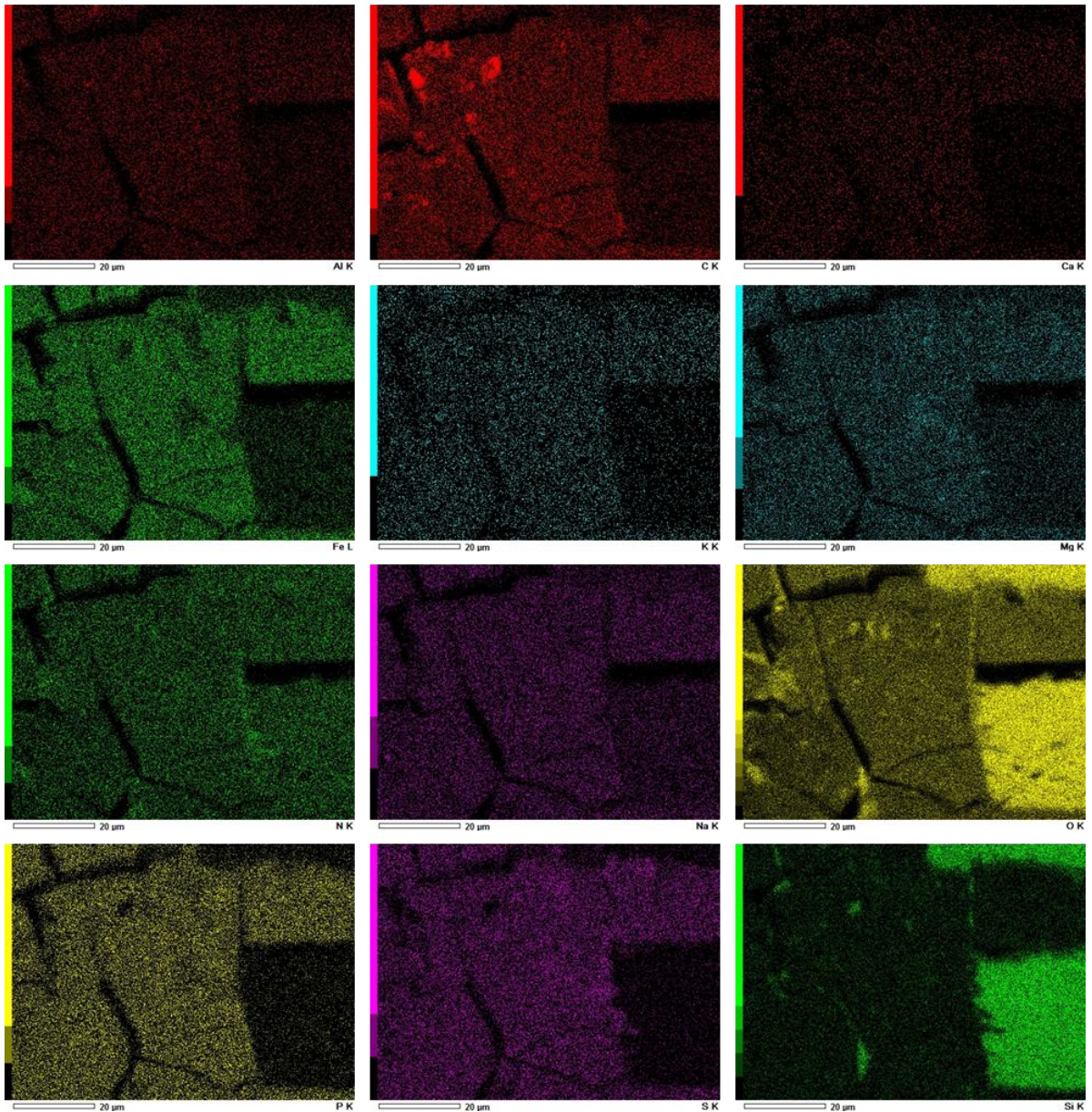
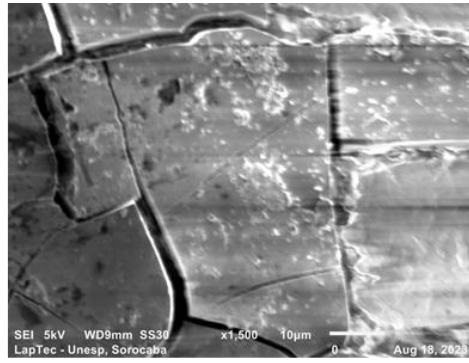


Imagem V



B-V-M

Imagem 1

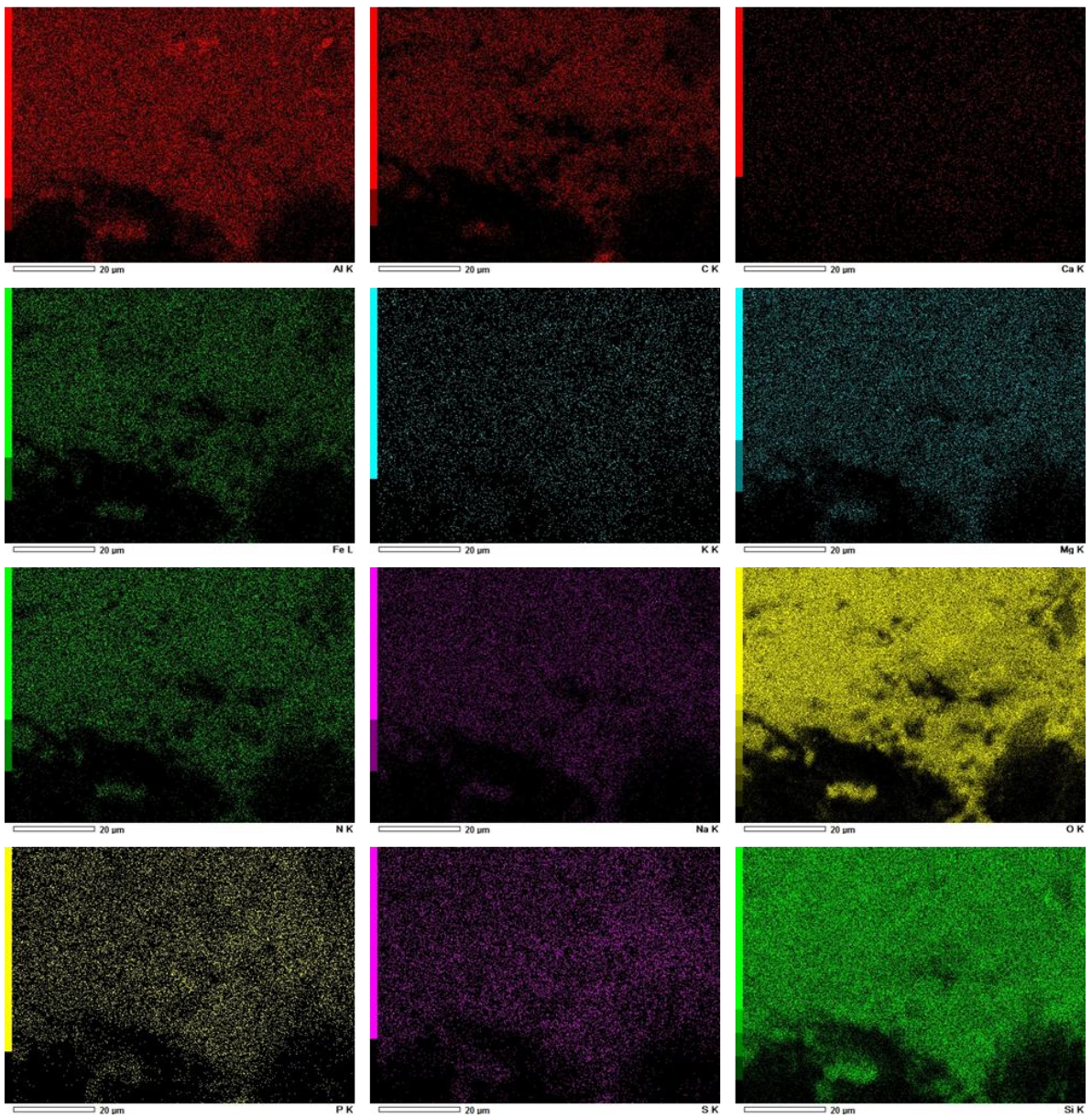
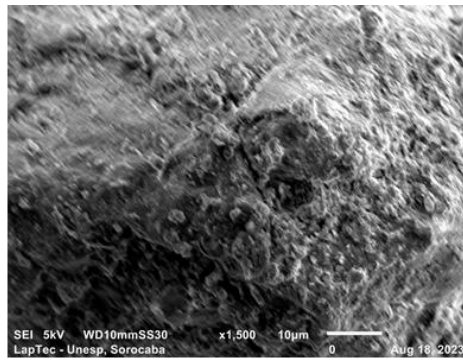


Imagem II

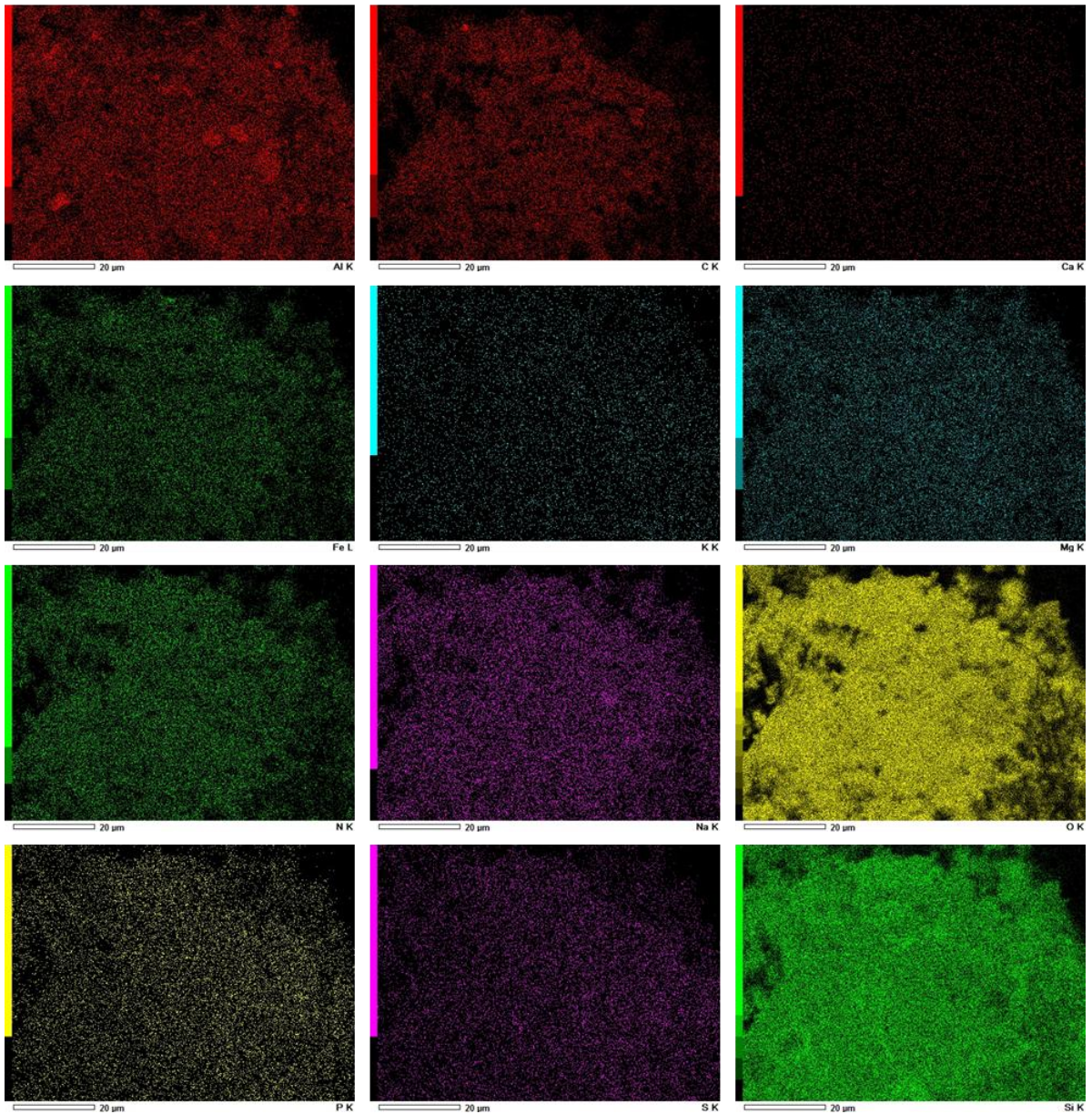
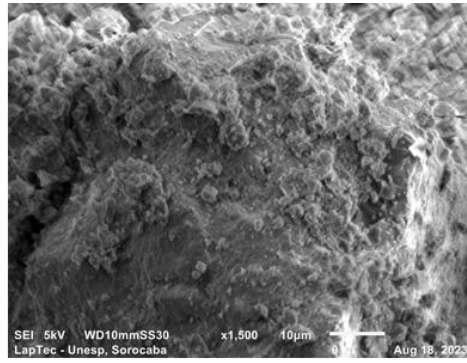


Imagem III

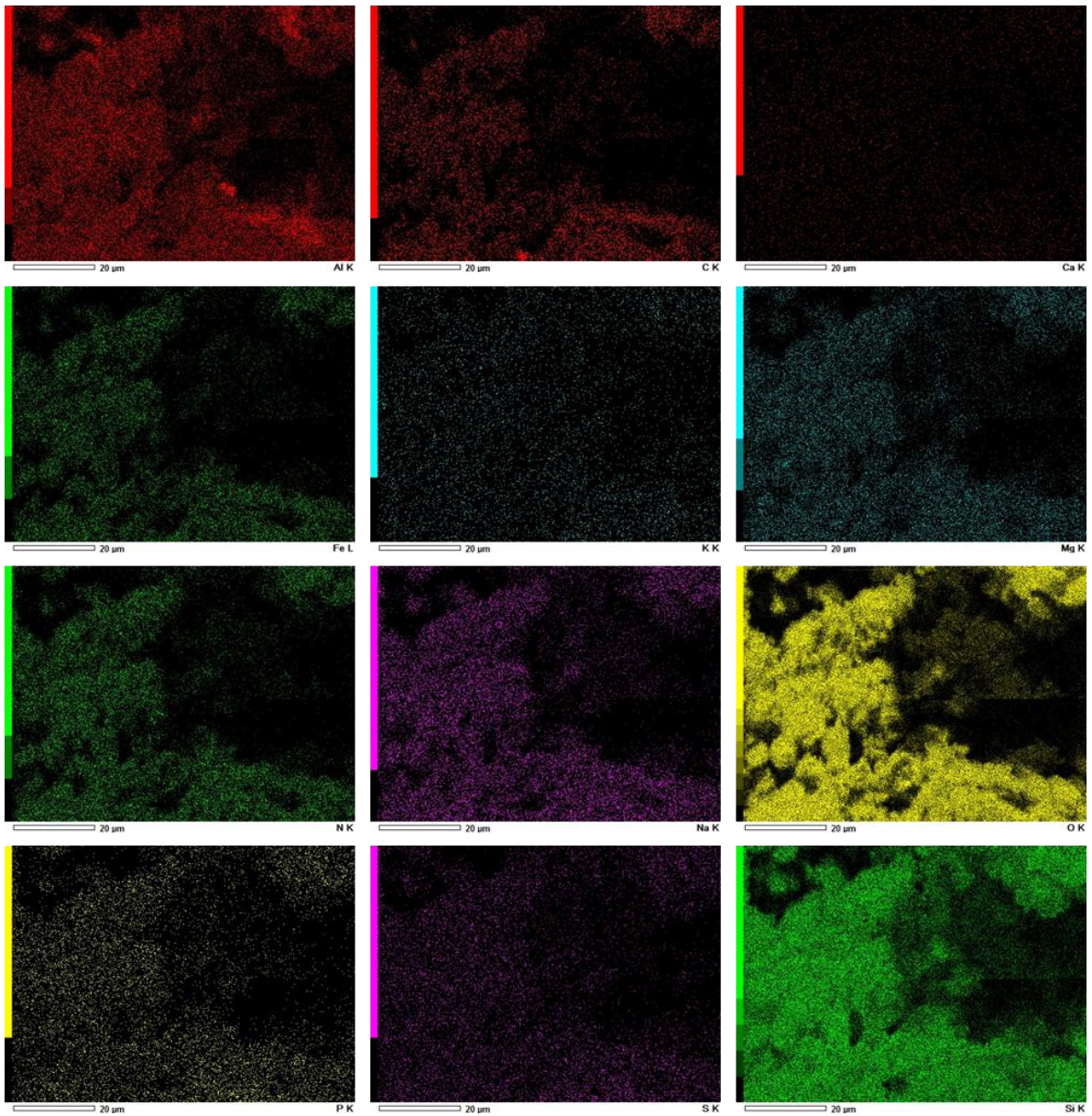
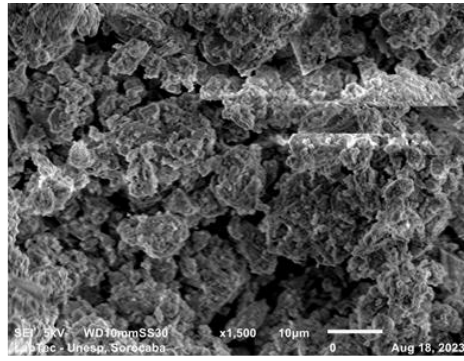


Imagem IV

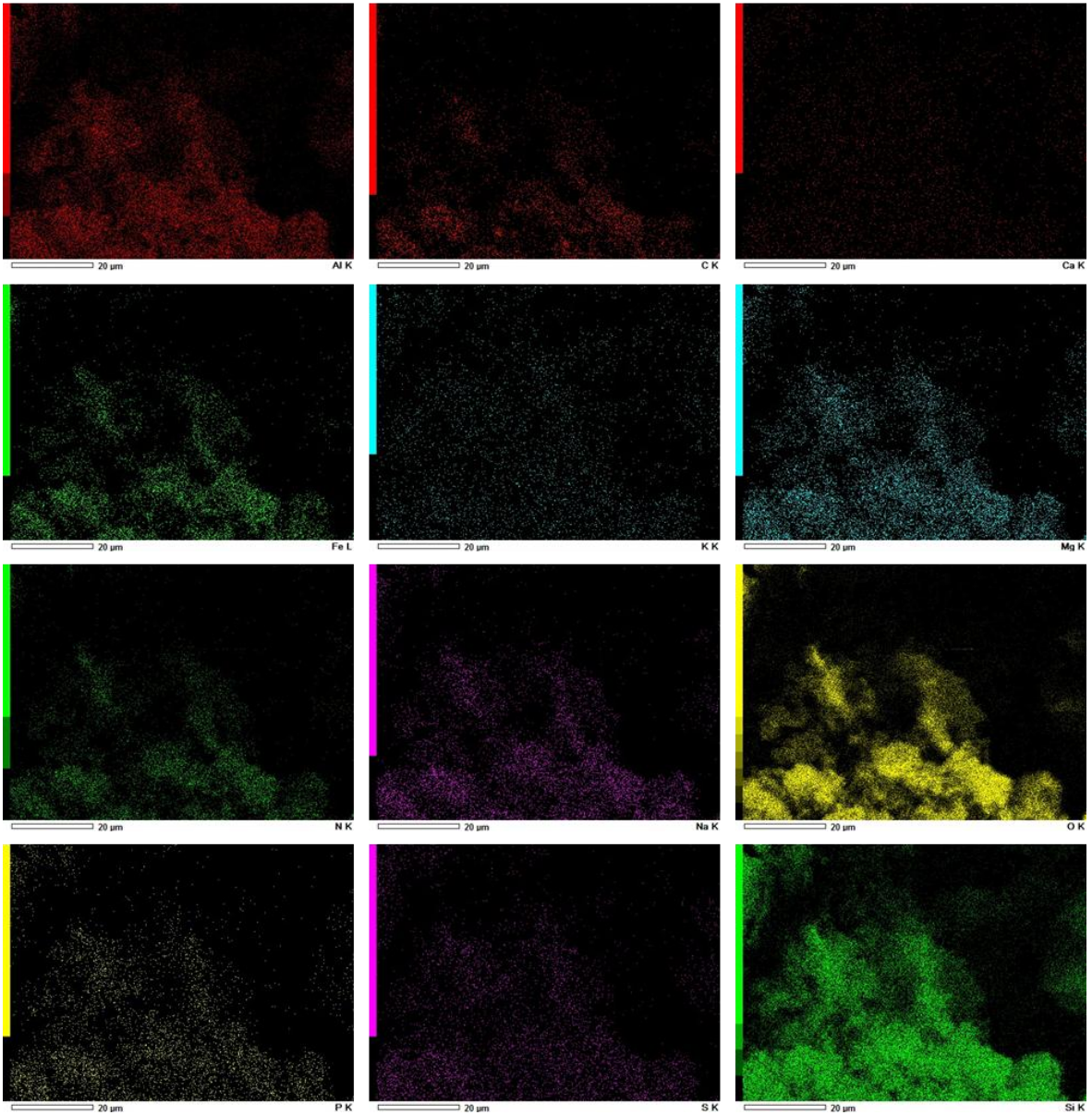
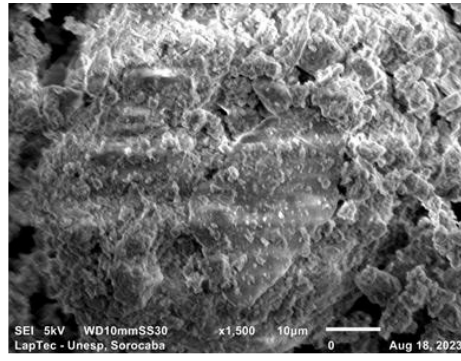
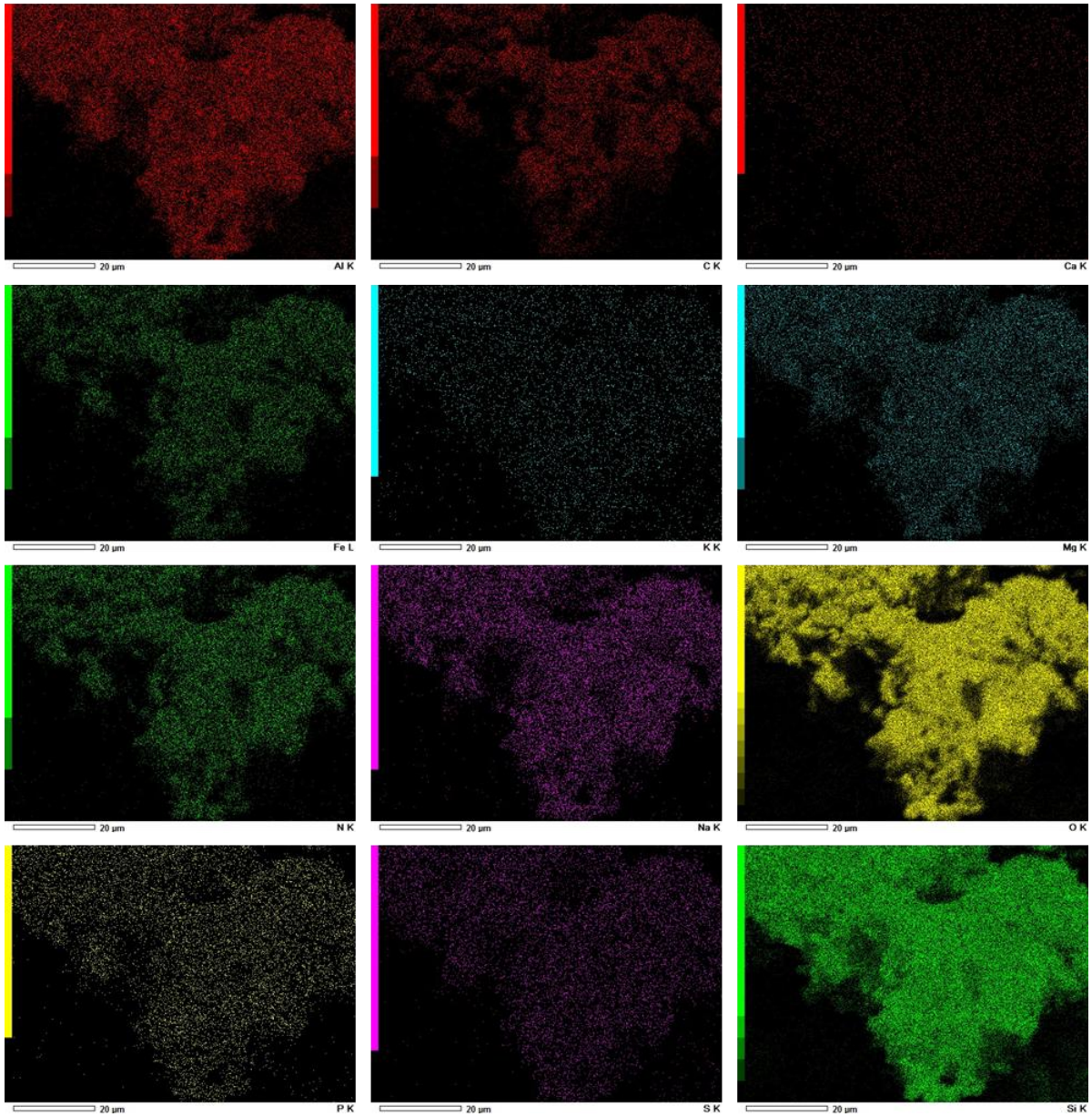
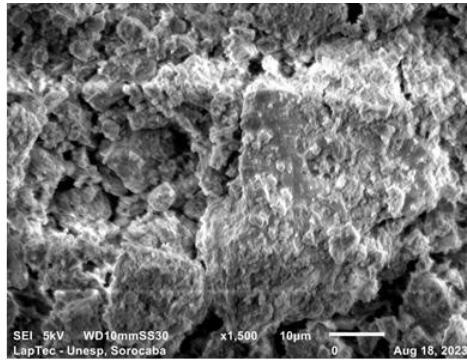


Imagem V



B-V-A+M

Imagem 1

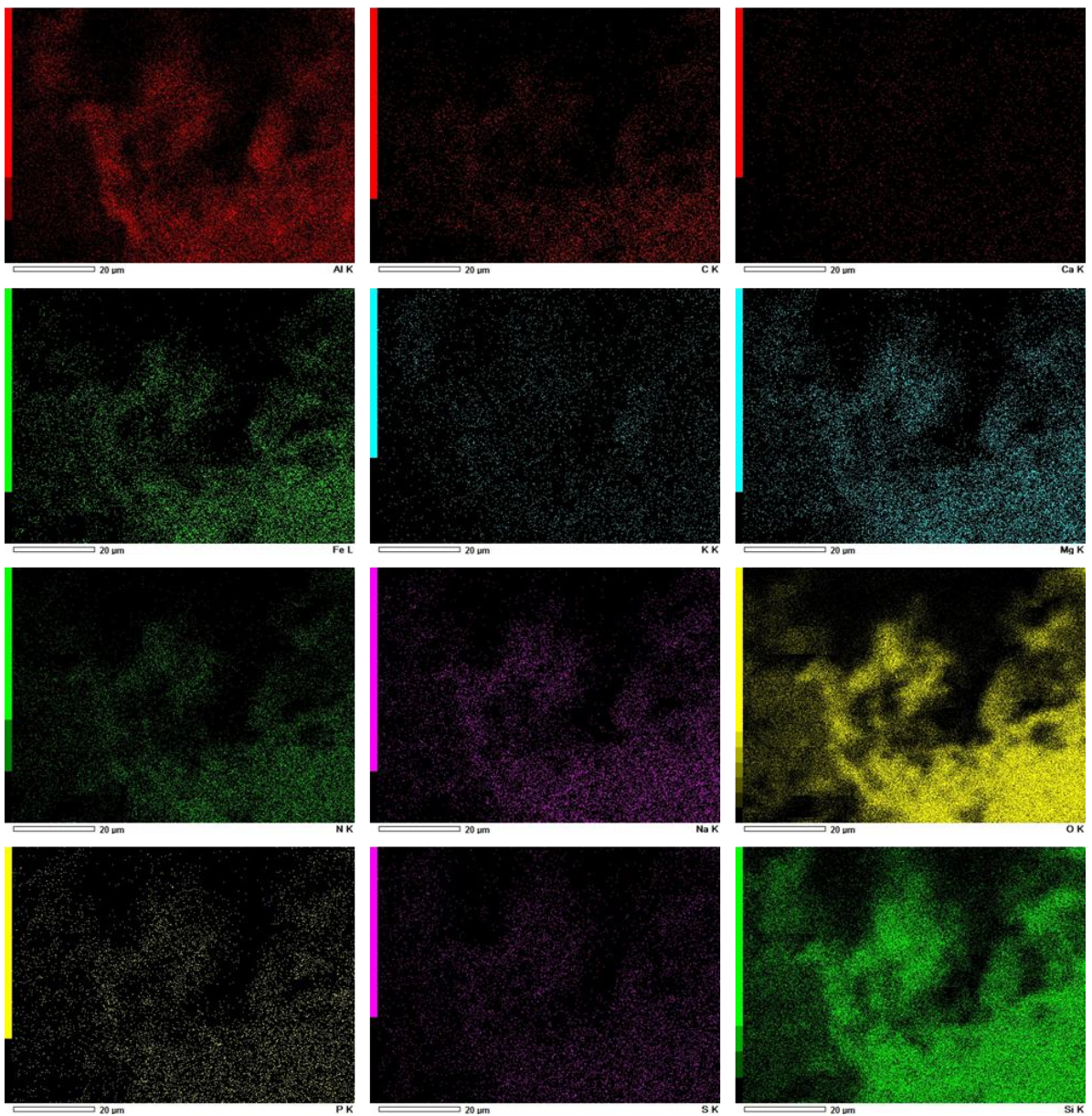
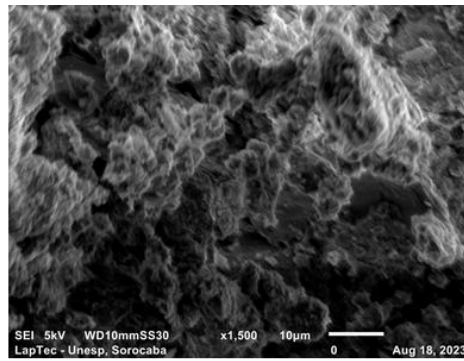


Imagem II

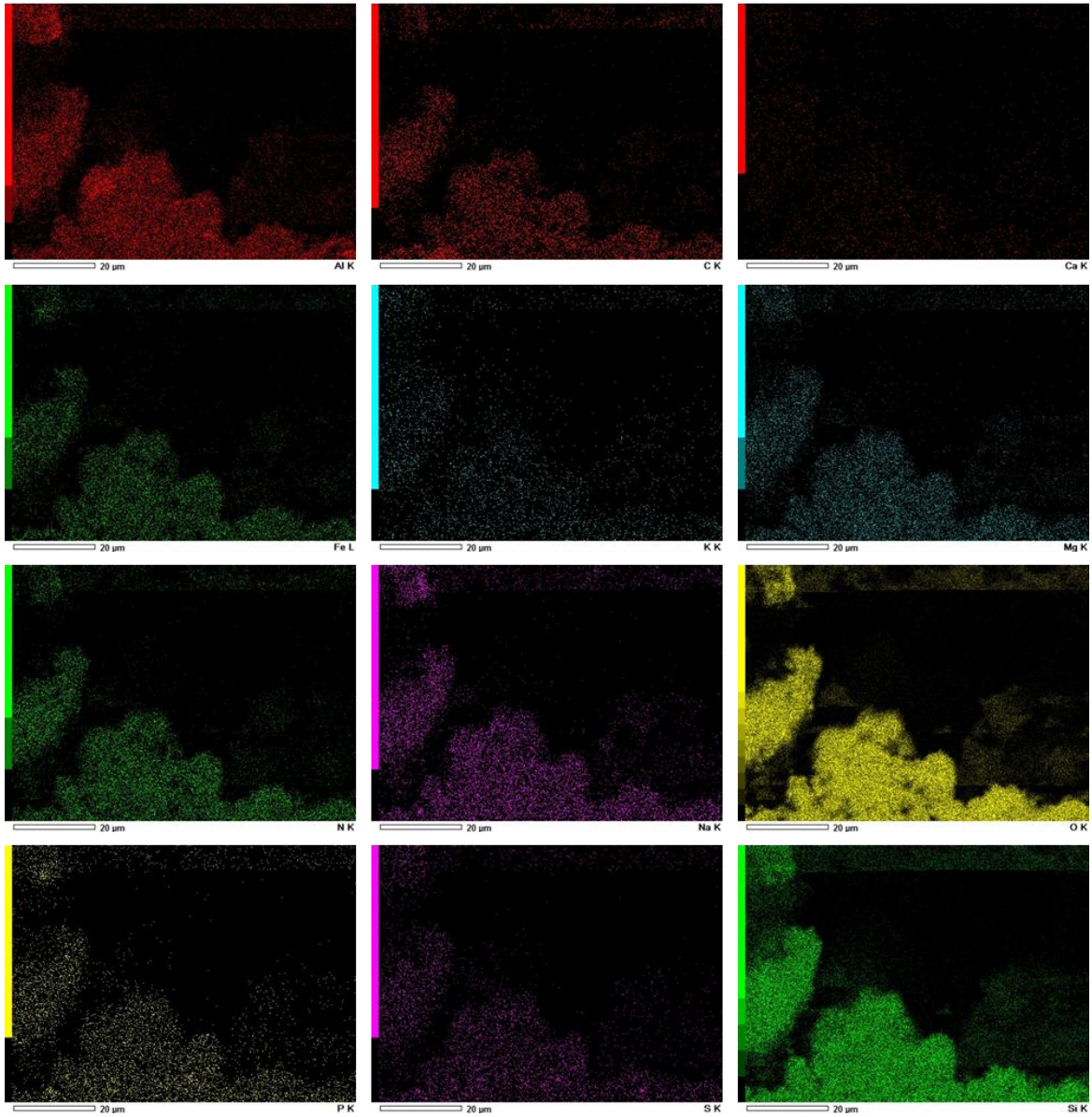
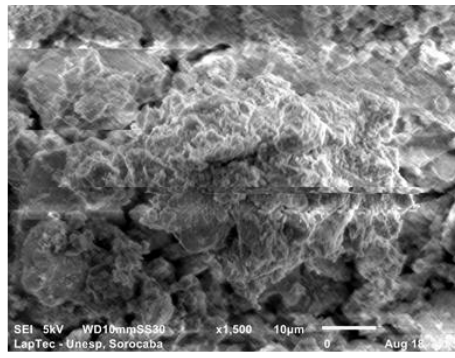


Imagem III

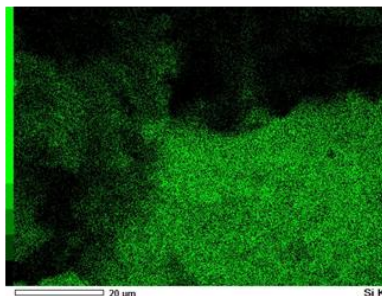
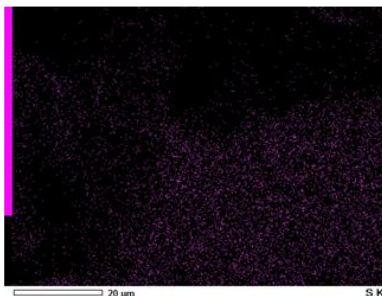
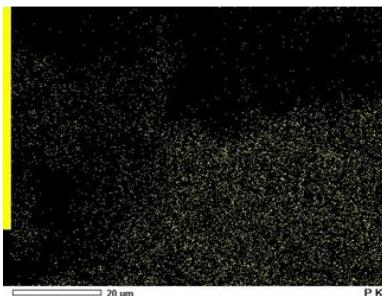
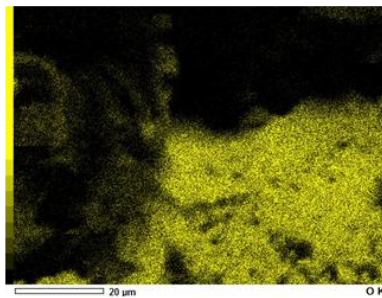
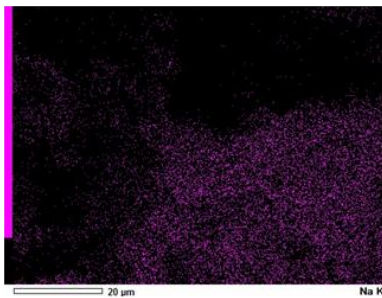
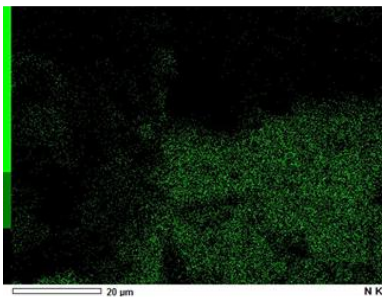
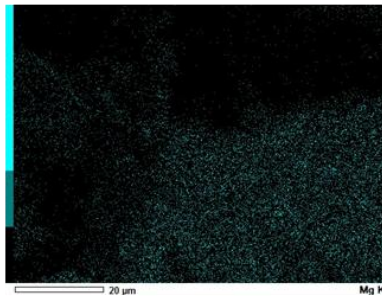
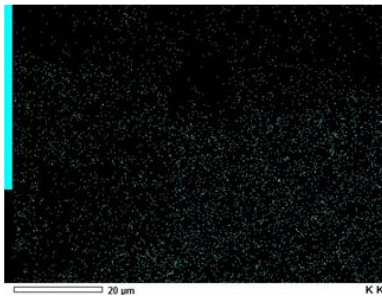
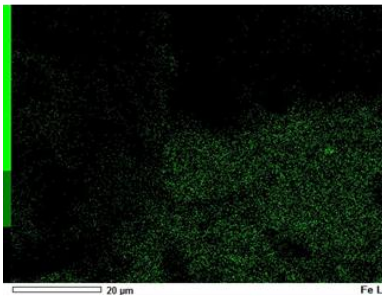
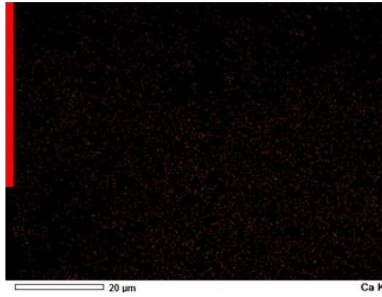
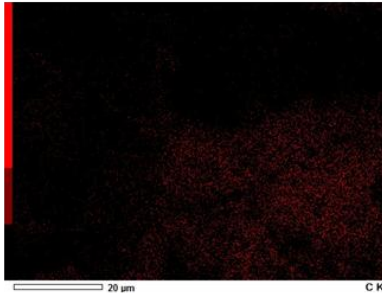
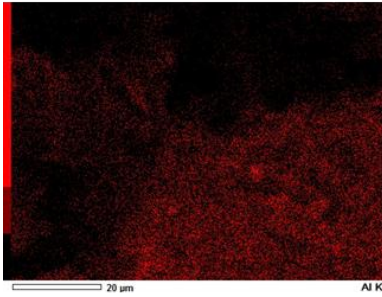
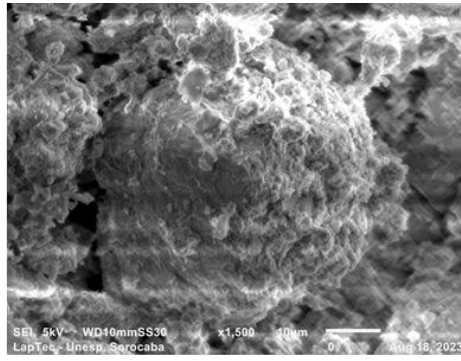


Imagem IV

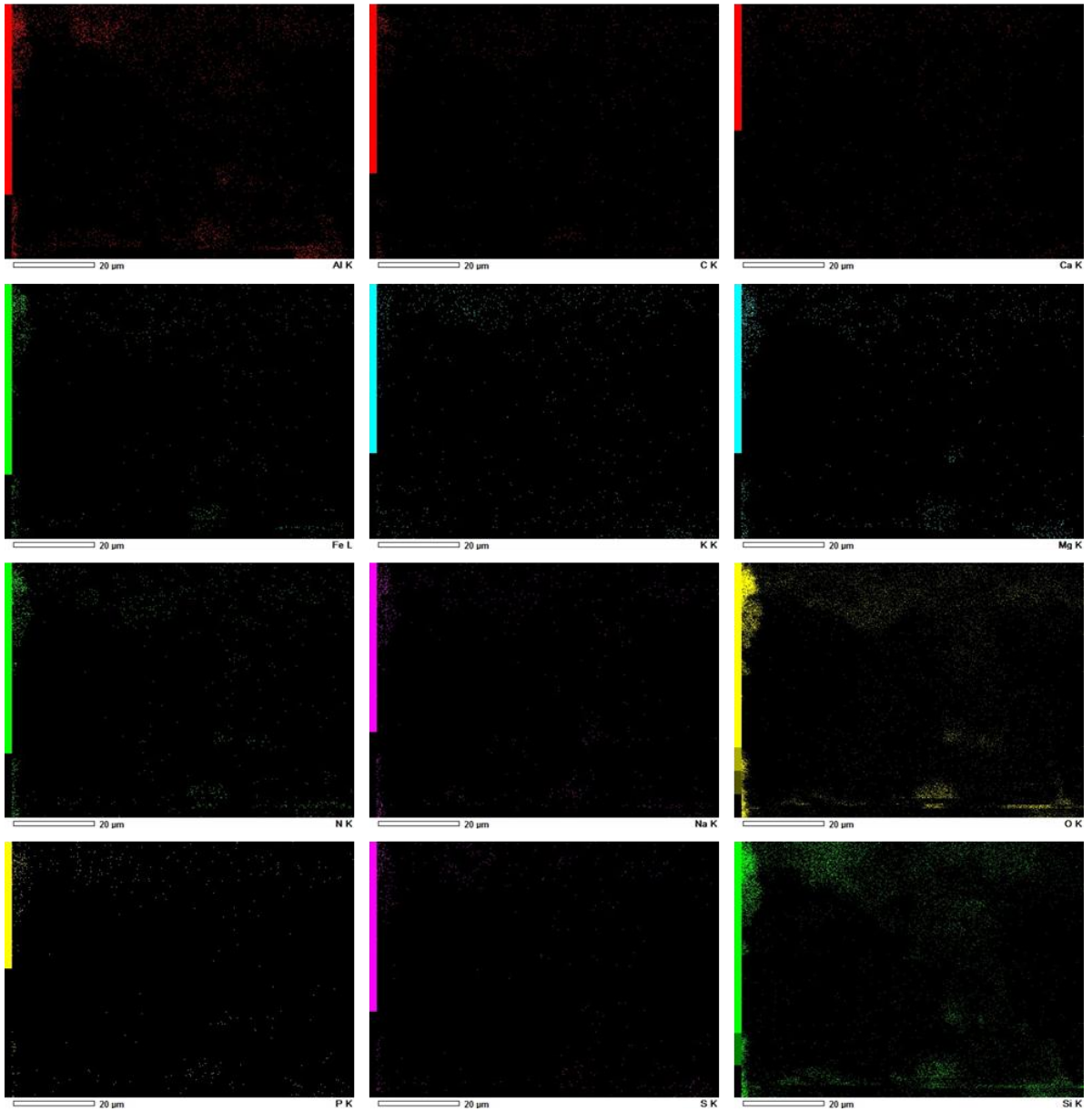
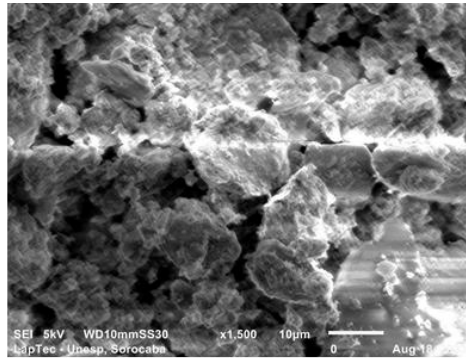


Imagem V

