

## Ultrafast $\mu$ LIBS Imaging for the multiscale mineralogical characterization of pegmatite Rocks.

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### Supplementary Material

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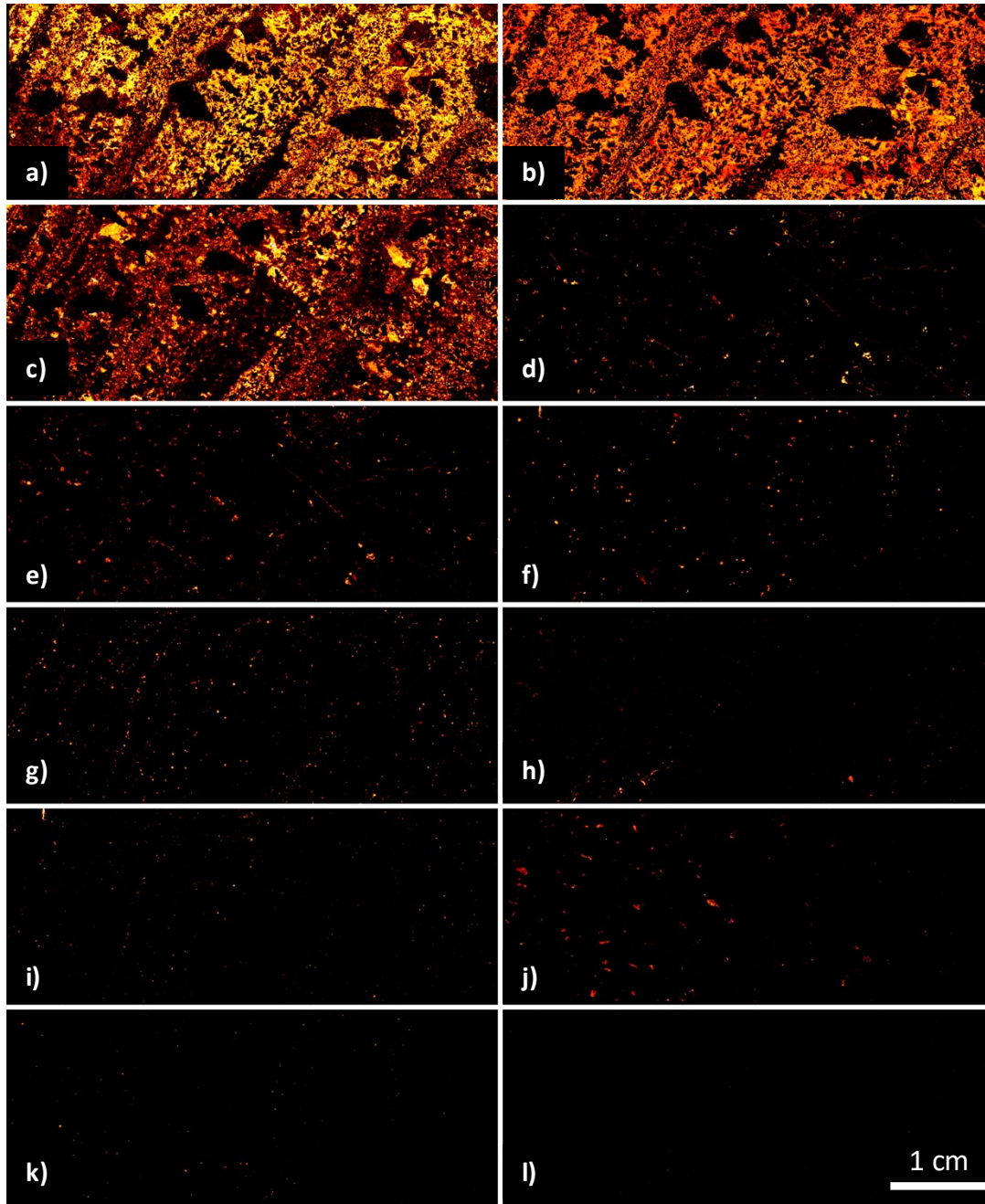
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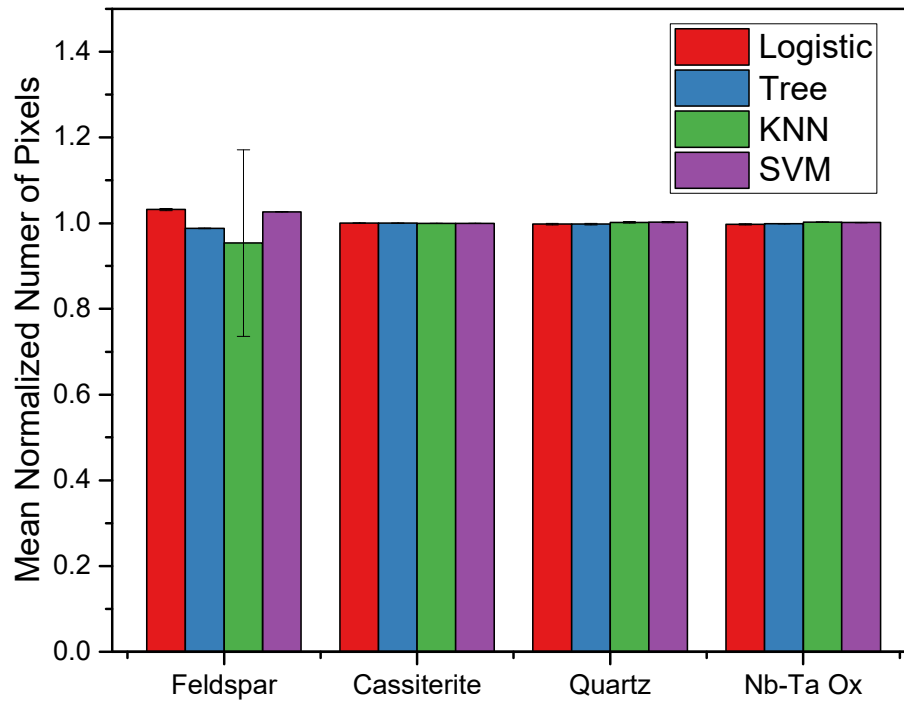
**Table SP 1.** List of found elements on the different spectral ranges, showing some emission lines present in the spectra.

Element		Lines Range 1 (nm)	Lines Range 2 (nm)	Lines Range 3 (nm)	Lines Range 4 (nm)
Al	Al I	308.22 309.28			
Ar	Ar I				696.54 706.72 738.40 750.39 763.51 794.81 811.53 801.57
B	B I	249.68 249.77			
Be	Be I	249.47 265.06		332.13	
	Be II		313.04		
C	C I	247.86			
Ca	Ca II		315.89 317.93		714.82 732.51
Cs	Cs I				807.9
Cu	Cu I			324.75 327.40	
Dy	Dy II			353.50 353.60	
Fe	Fe I	249.06 271.90	296.69 299.44 302.06 304.76	344.06 357.01 358.12	
	Fe II	259.94 275.57			
F	F I				865.6
Gd	Gd II			335.86 336.22 346.40	
K	K I				766.45 769.90
La	La II			330.31 333.75 334.46 338.09	
Li	Li I				678.78
Mg	Mg I	285.21			
	Mg II	279.55 280.27			
Mn	Mn II	257.61 259.37 260.57	293.31 293.93 294.92		
	Mn I			344.20 354.80 356.98	
Na	Na I				819.48
Nb	Nb II		292.78 294.15 309.41 313.08 316.34	322.55	
	Nb I			334.90 335.84 358.03	666.08 704.68 715.94
Ni	Ni I			341.47 344.63 345.85 346.16 356.64	
O	O I				777.42
P	P I	253.33 255.56			
Rb	Rb I				780.03
Si	Si I	251.61 252.41 252.85	288.16		
Sn	Sn I	242.17 242.95 257.16 270.65	284.0 286.33 300.91 303.41 317.50	326.23	
Sr	Sr II			338.07 346.45 347.49	
Ta	Ta II	249.43 263.55 267.59	282.75 284.45		
Th	Th II		283.23 283.72 306.77 318.82	325.63 326.27 340.27 346.99	
Ti	Ti II			323.45 324.20 334.94 336.12 337.15 338.38	
V	V II			326.77 327.11 327.61 351.73 354.52 355.68	
Y	Y II			320.03 320.33 321.67 334.23 332.79 354.90	
Yb	Yb II			328.94	
Zn	Zn I			328.23 330.26 334.50	
Zr	Zr II	254.14 272.26 272.64 273.27		339.20 343.82 349.61 350.57 355.66	



**Figure SP 1.** Elemental maps for a) Mg II  $_{279 \text{ nm}}$ , b) Rb I  $_{780 \text{ nm}}$ , c) Na I  $_{819 \text{ nm}}$ , d) Ca II  $_{318 \text{ nm}}$ , e) Sr II  $_{346 \text{ nm}}$ , f) Zn  $_{334 \text{ nm}}$ , g) Zr  $_{350 \text{ nm}}$ , h) Fe I  $_{302 \text{ nm}}$ , i) Cu  $_{327 \text{ nm}}$ , j) P I  $_{353 \text{ nm}}$ , k) Mn II  $_{293 \text{ nm}}$ , l) Ti II  $_{336 \text{ nm}}$





**Figure SP 2.** Variability of the predicted pixel percentage relative to the mean (set to 1) with respect to the number of pixels attributed to each mineral phase independently.