

Supplementary X-ray distribution maps

This supplementary dataset presents X-ray element distribution maps for representative olivine, clinopyroxene, and plagioclase crystals from seven sampling locations. The full set of maps is provided here, while selected examples illustrating the zoning patterns are shown and described in the main text.

Elemental maps show the spatial distribution of the elements analyzed for each mineral phase. For olivine, the maps include Na, P, Ca, Ni, Mn, Mg, Al, Si, and Fe; for clinopyroxene, Na, Mn, K, Cr, Ti, Mg, Al, Si, Ca, and Fe; and for plagioclase, Na, Sr, K, Ba, Ca, Mg, Al, Si, Mn, and Fe. Secondary-electron (SEI) and compositional (COMPO) images are also included.

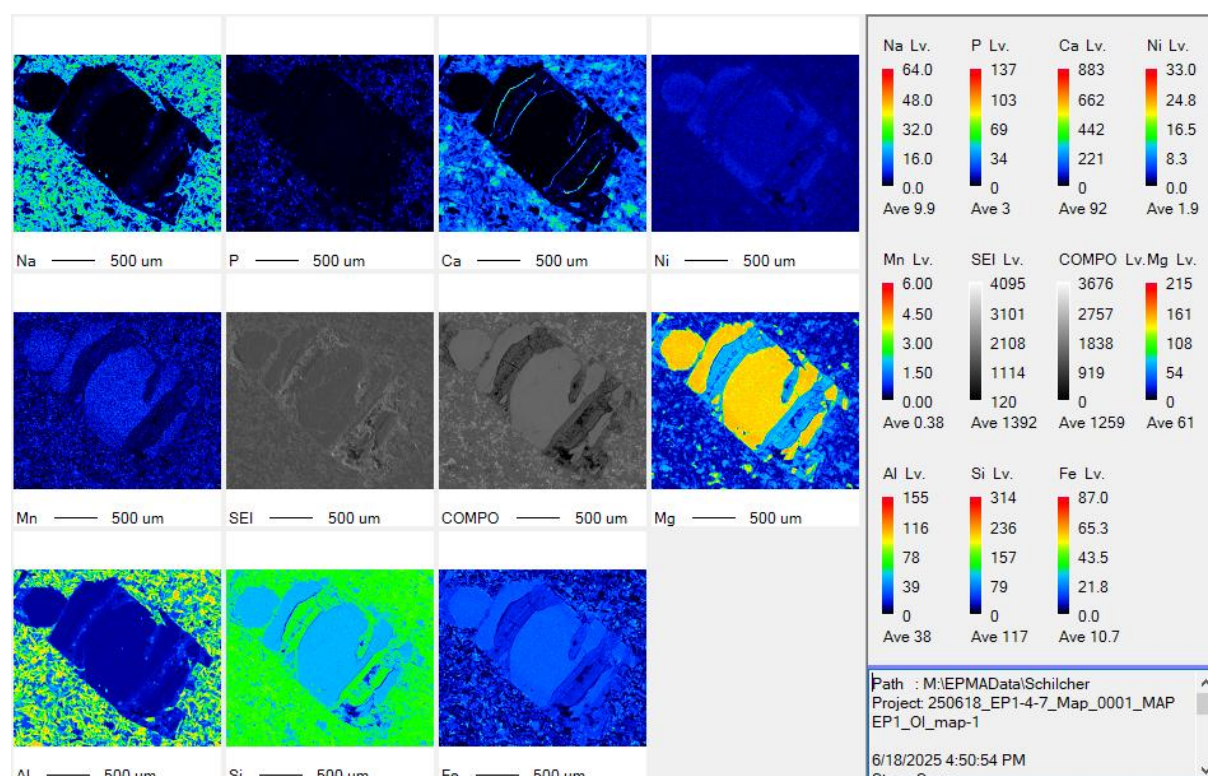


Figure A 1: Olivine, older SE group – normally zoned phenocryst from sample EP1, Aci Castello.

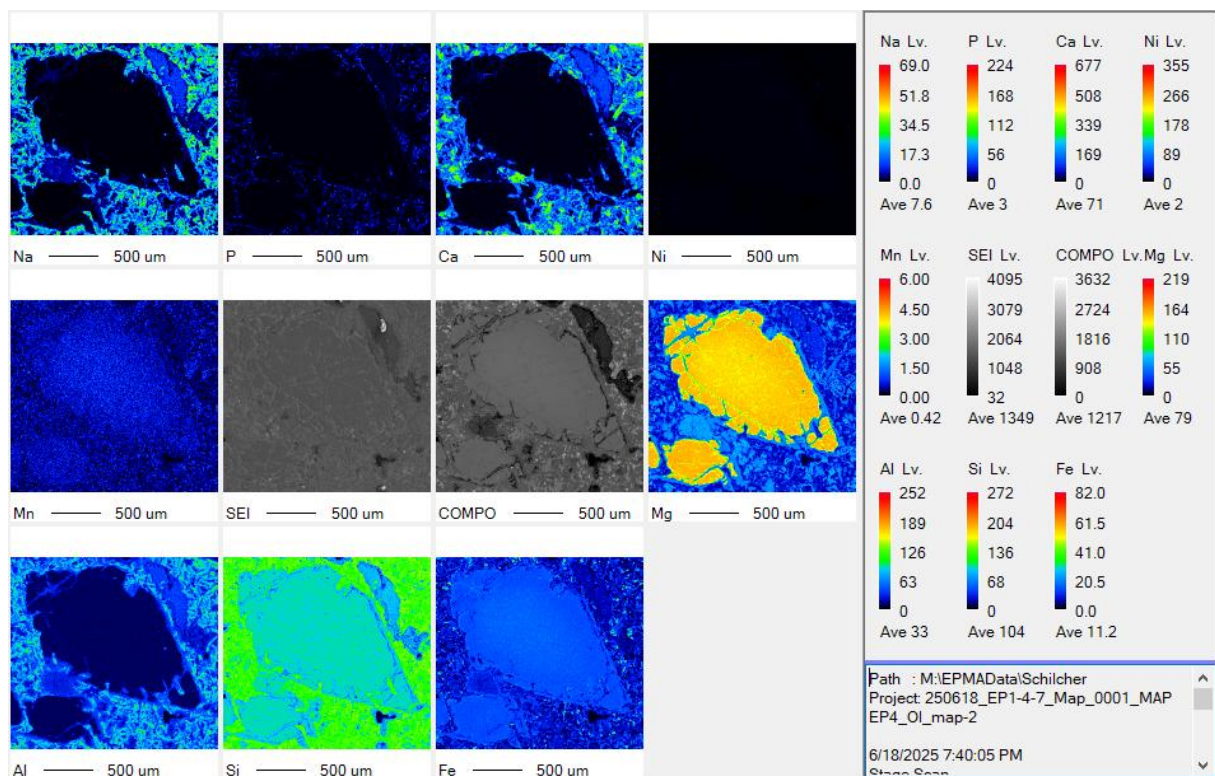


Figure A 2: Olivine, older SE group – reversely zoned phenocryst with a growth rim in sample EP4, Aci Castello.

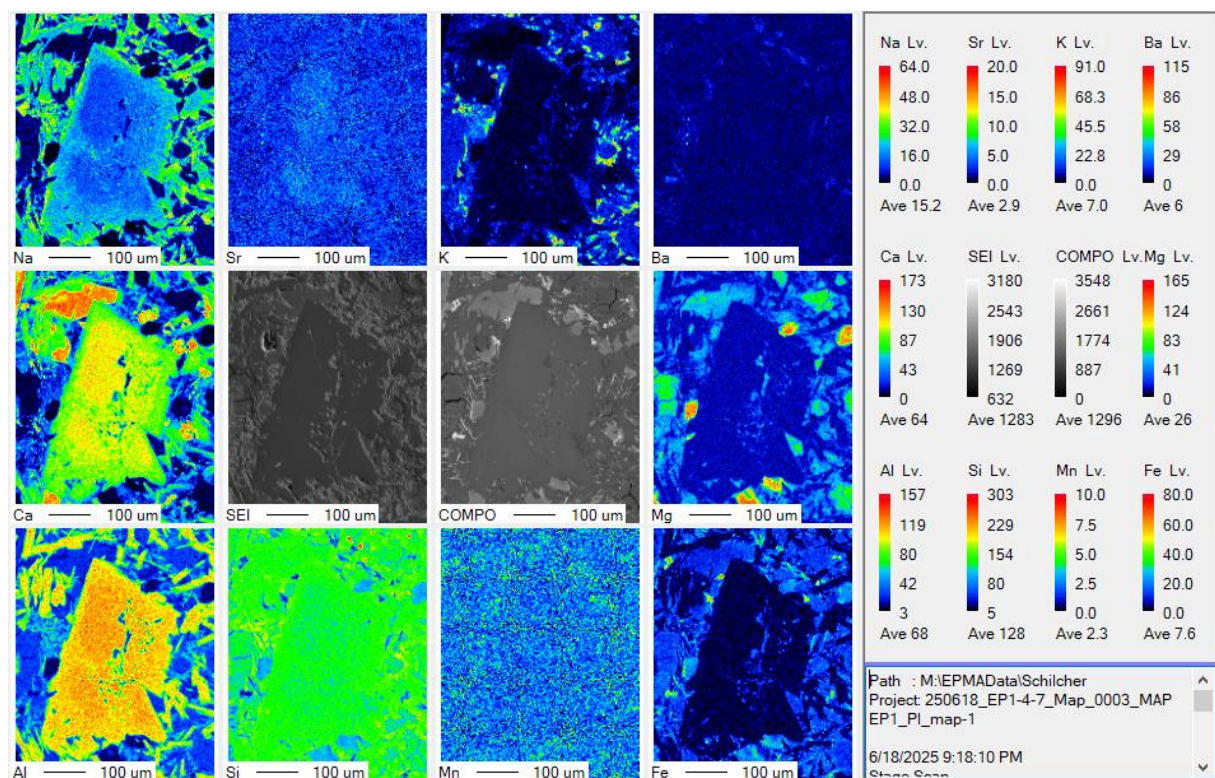


Figure A 3: Plagioclase, older SE group – normally zoned phenocryst from sample EP1, Aci Castello.

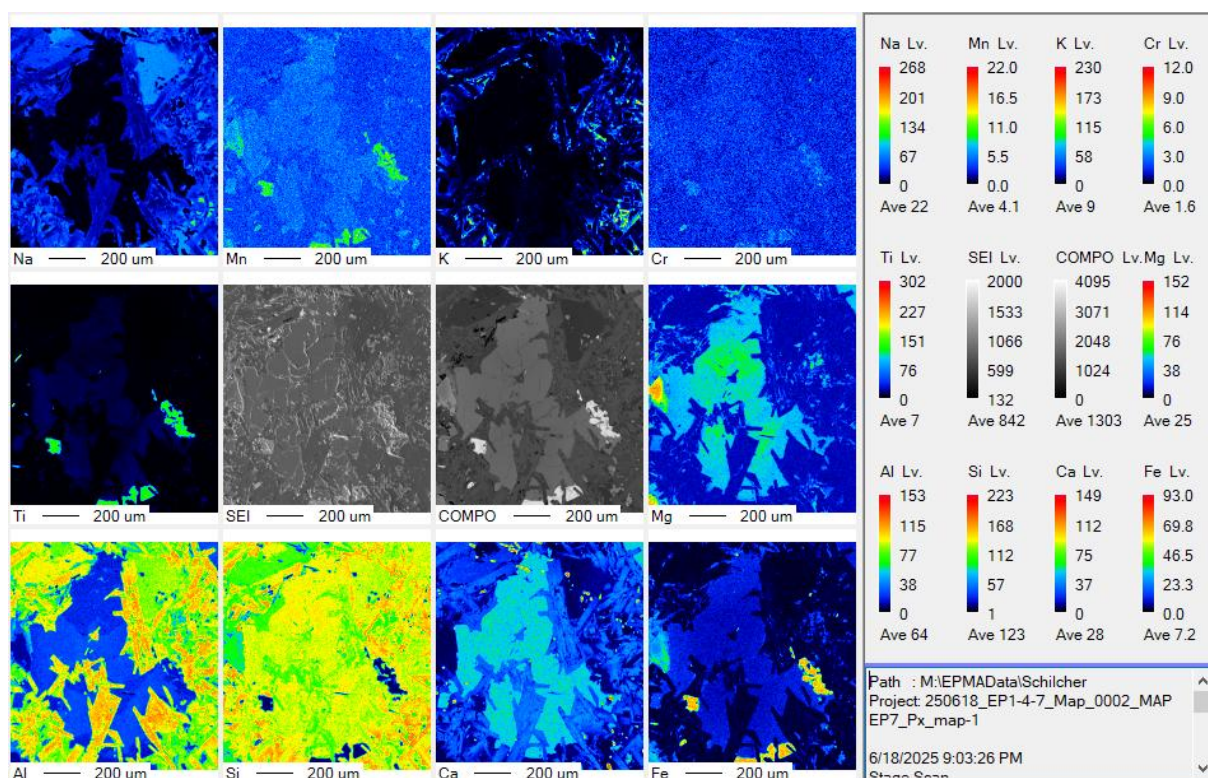


Figure A 4: Clinopyroxene, older SE group – normally zoned phenocryst from sample EP7, Aci Trezza.

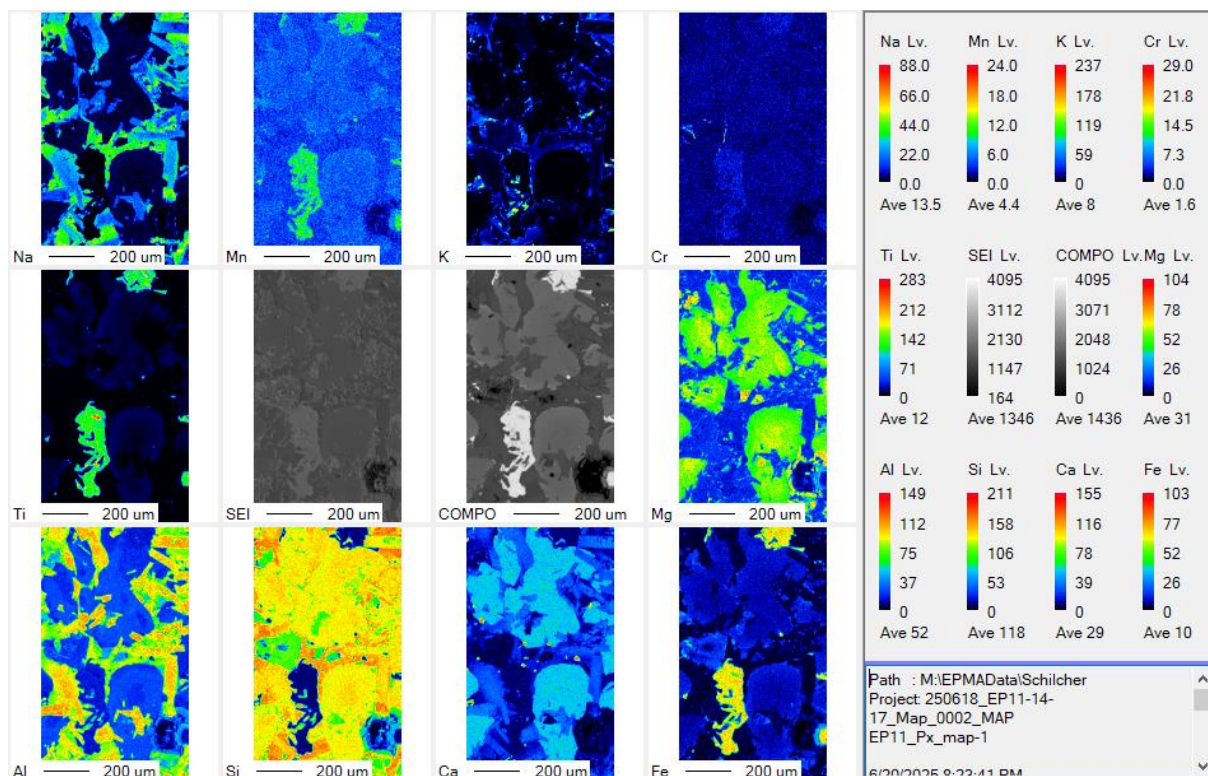


Figure A 5: Clinopyroxene, older SE group – normally zoned groundmass crystal from sample EP11, Isola Lachea.

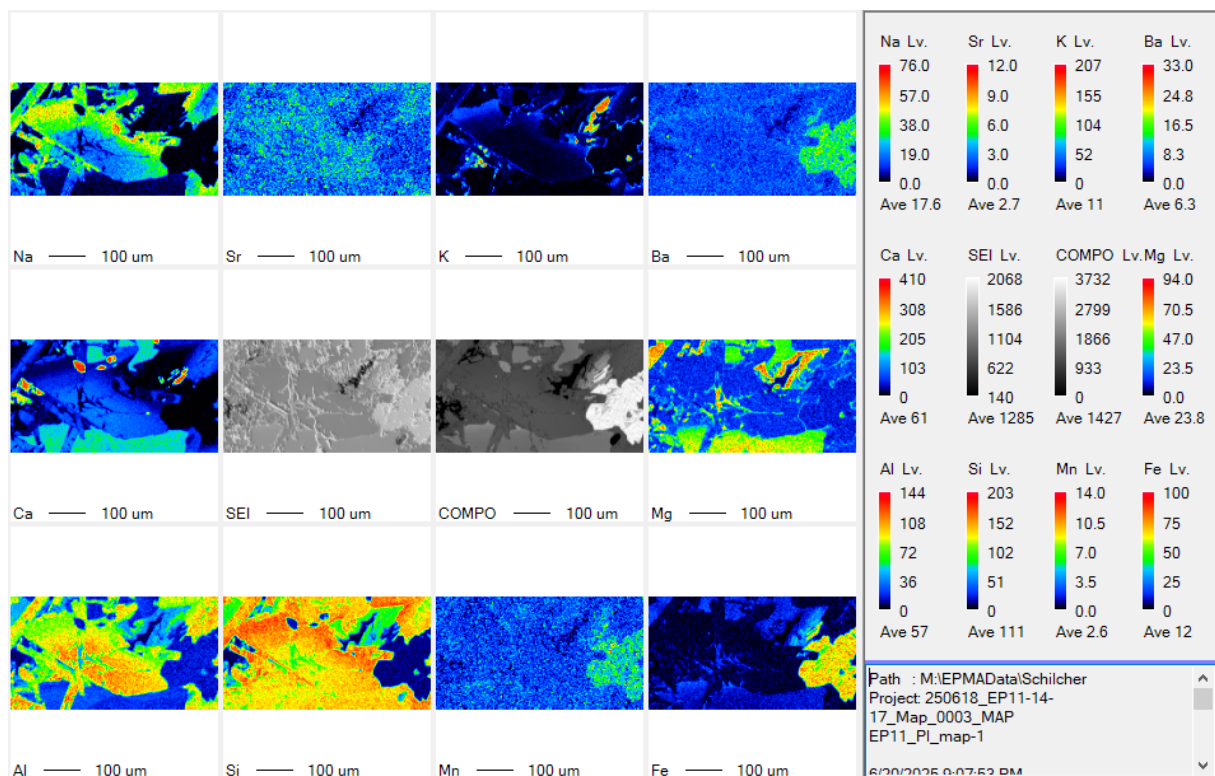


Figure A 6: Plagioclase, older SE group – normally zoned phenocryst from sample EP11, Isola Lachea

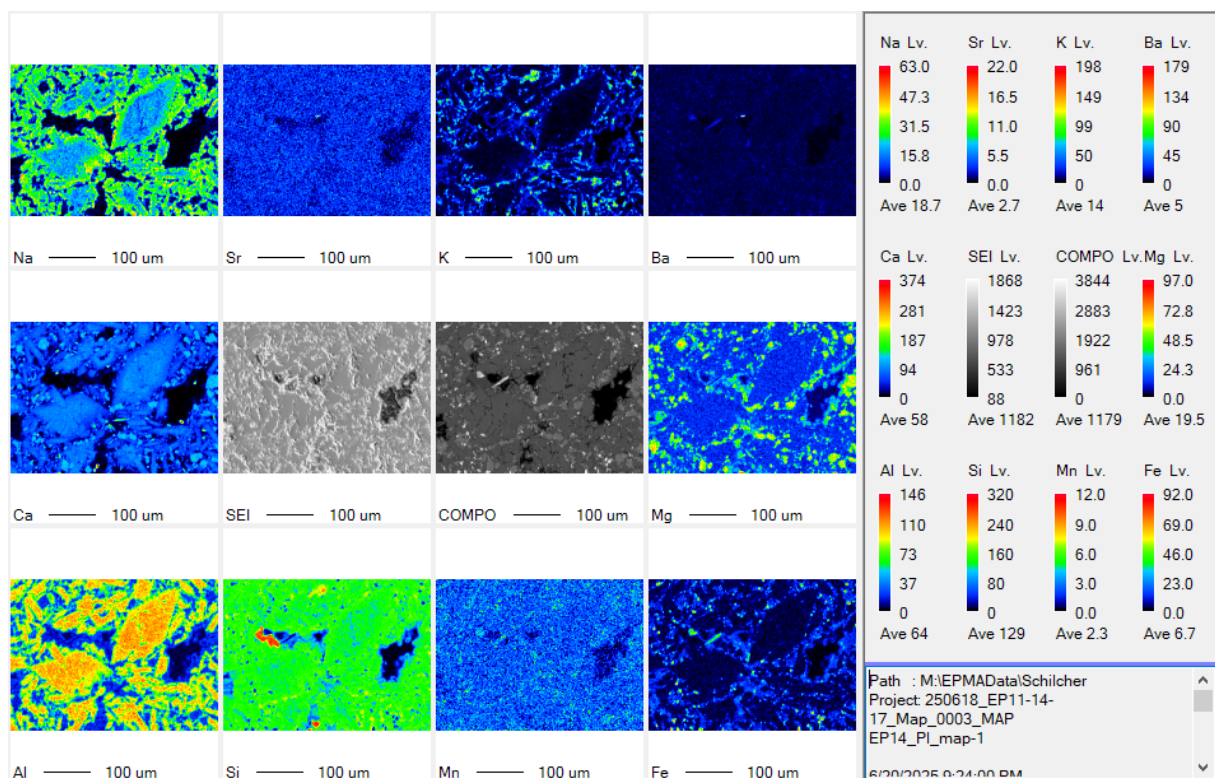


Figure A 7: Plagioclase, younger SW group – normally zoned phenocrysts from sample EP14, Motta Sant'Anastasia.

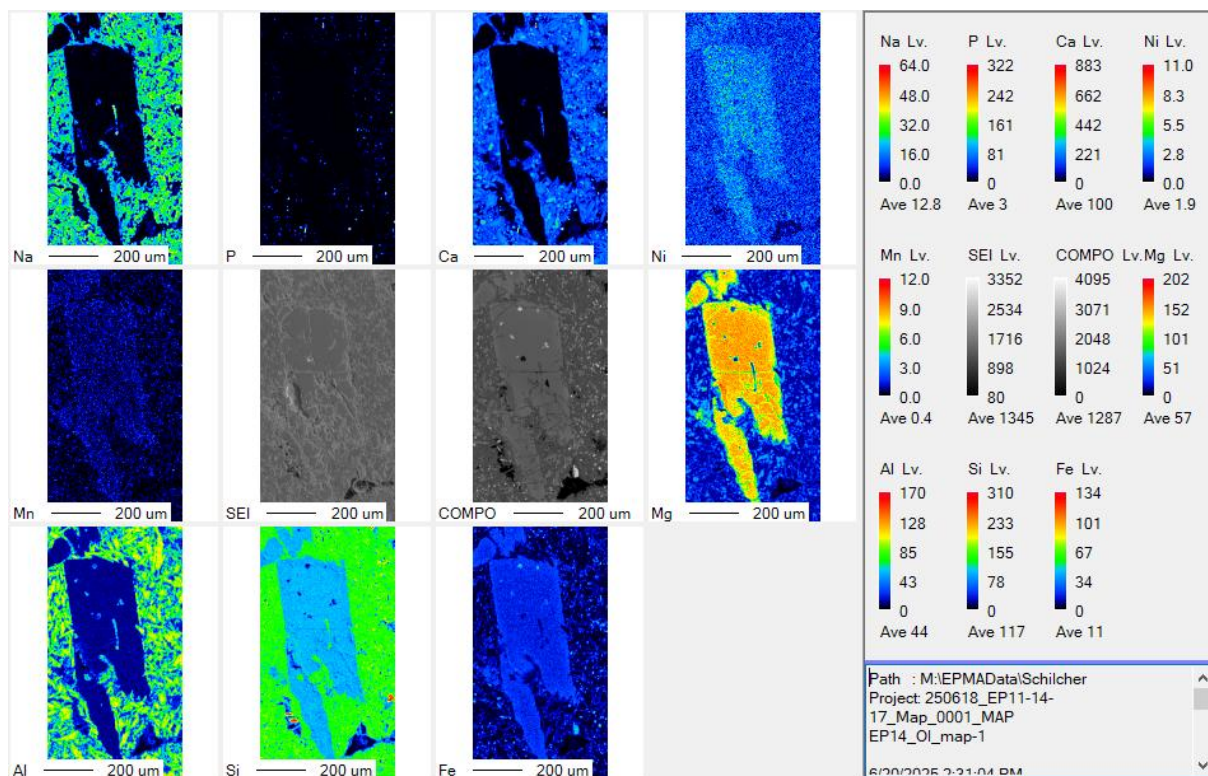


Figure A 8: Olivine, younger SW group – normally zoned phenocryst from sample EP14, Motta Sant’ Anastasia.

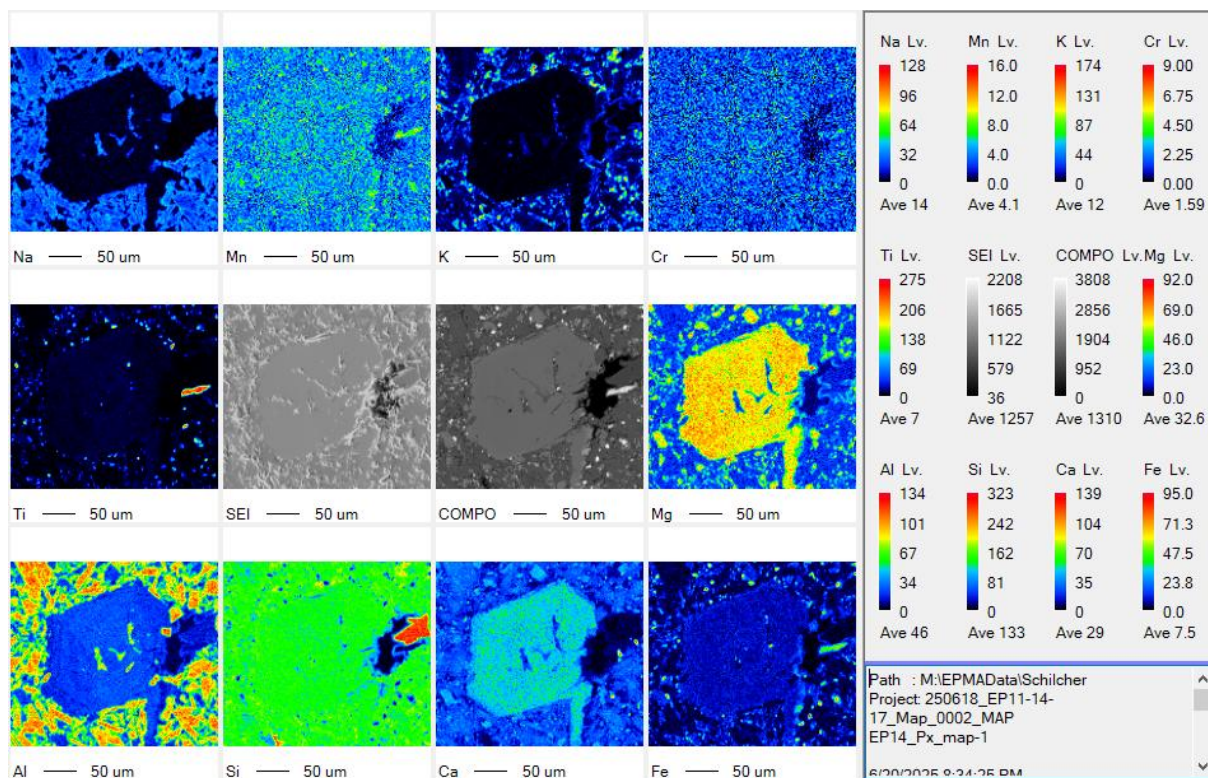


Figure A 9: Clinopyroxene, younger SW group – normally zoned phenocryst from sample EP14, Motta Sant’ Anastasia

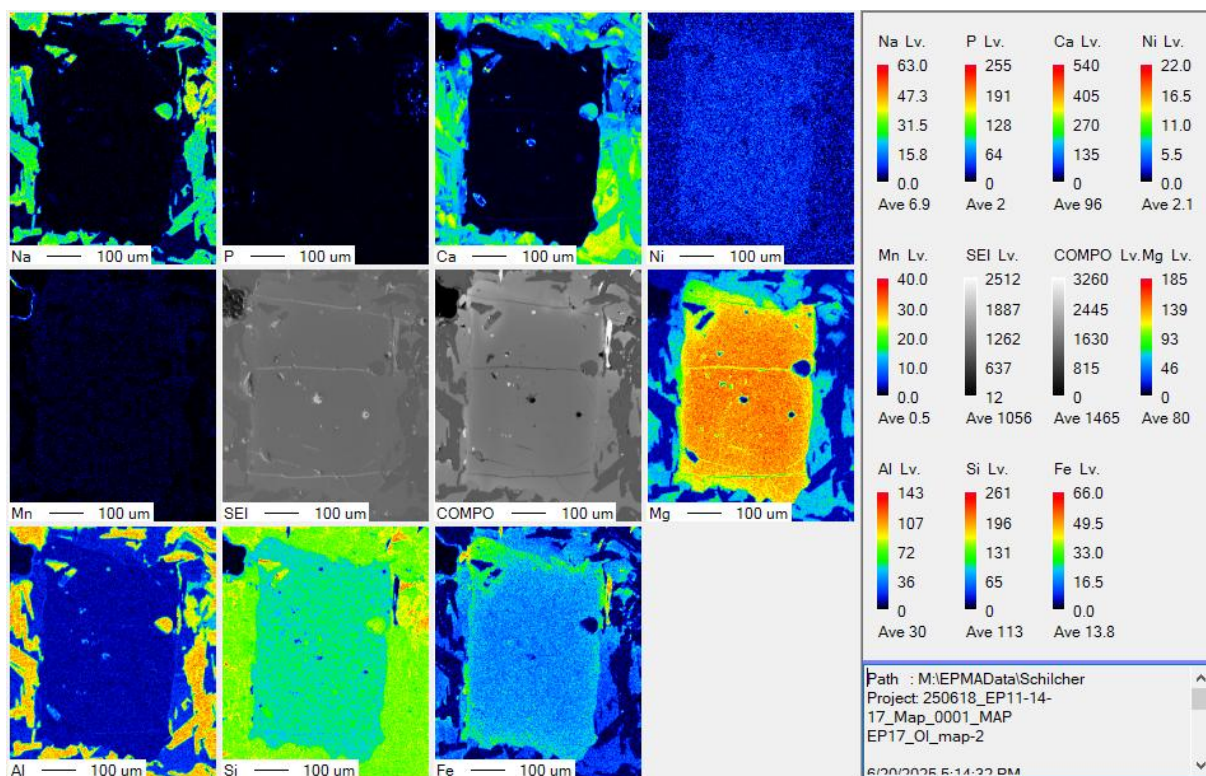


Figure A 10: Olivine, younger SW group – normally zoned phenocryst from sample EP17, Paternò.

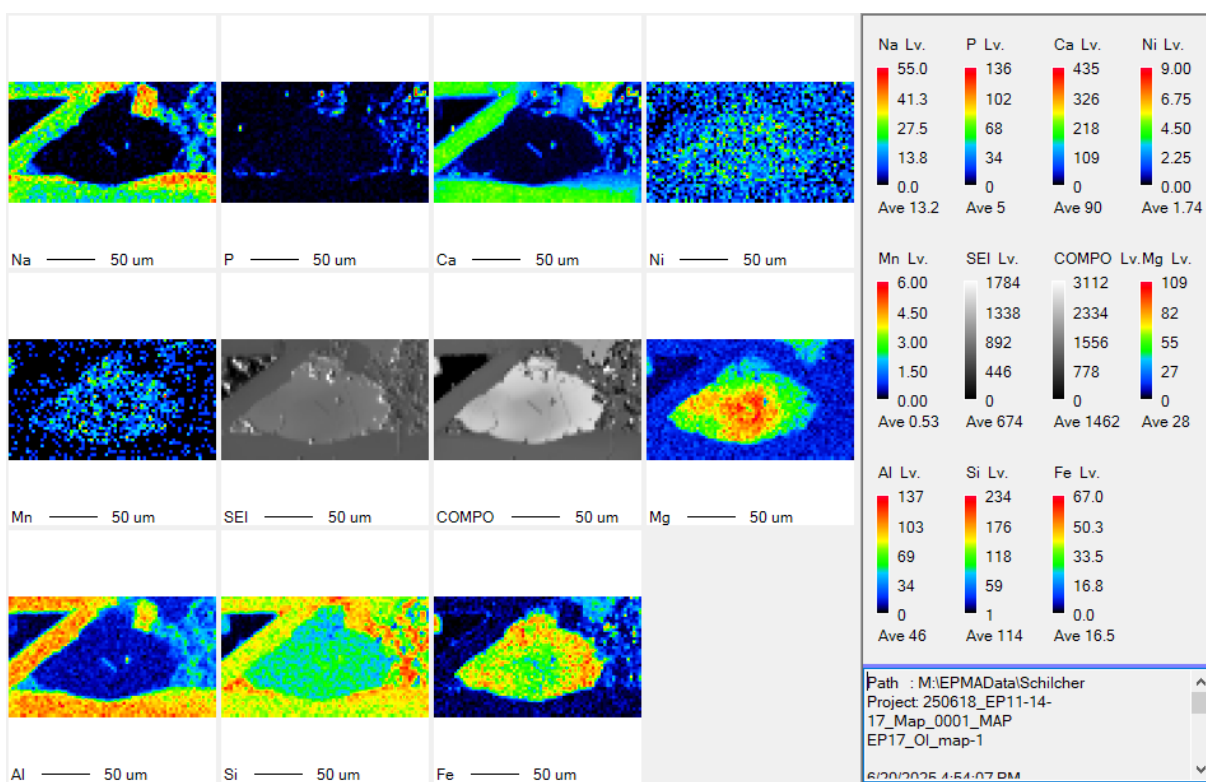


Figure A 11: Olivine, younger SW group – normally zoned groundmass crystal from sample EP17, Paternò.

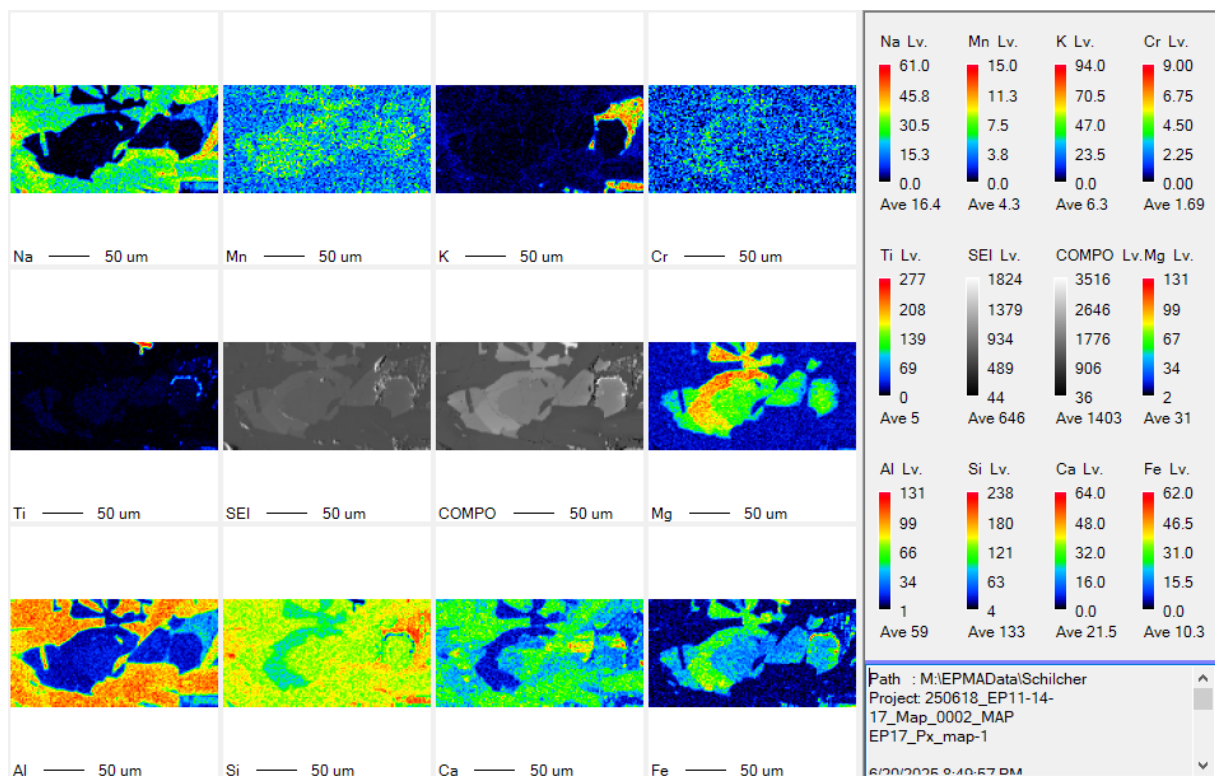


Figure A 12: Clinopyroxene, younger SW group – normally zoned groundmass crystal from sample EP17, Paternò.

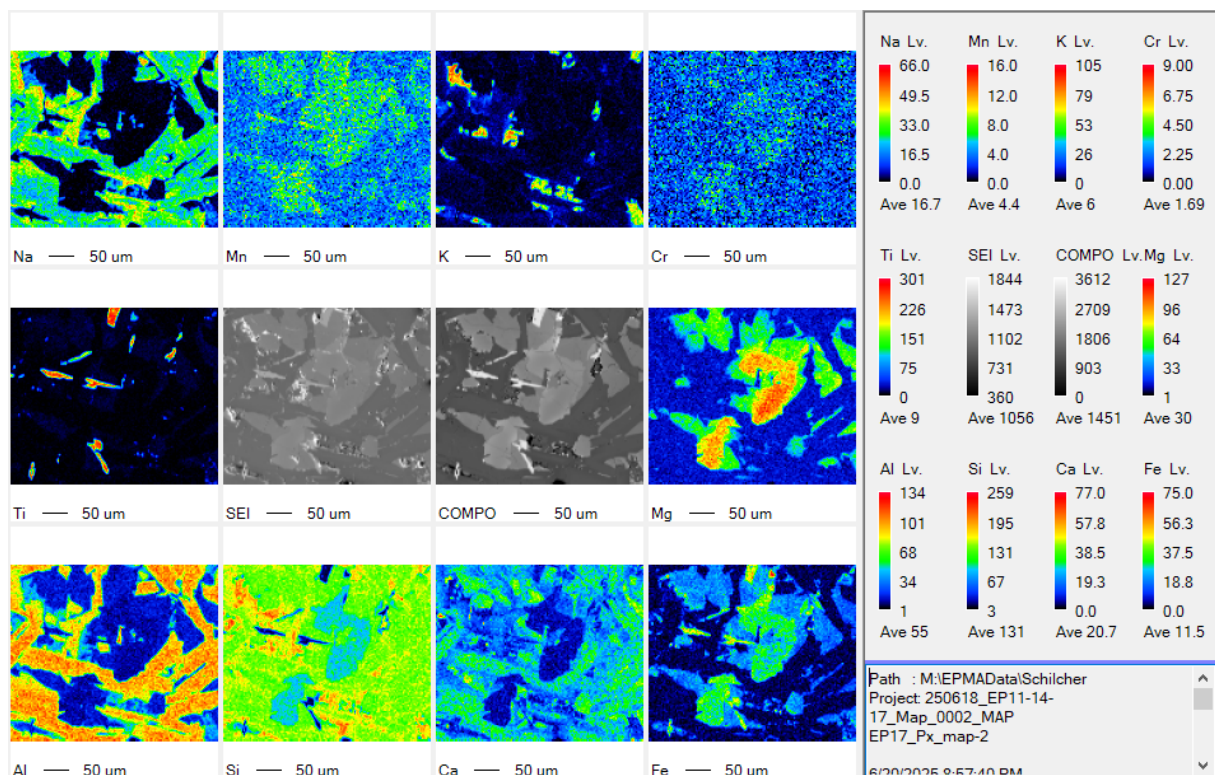


Figure A 13: Clinopyroxene, younger SW group – normally zoned groundmass crystal from sample EP17, Paternò.

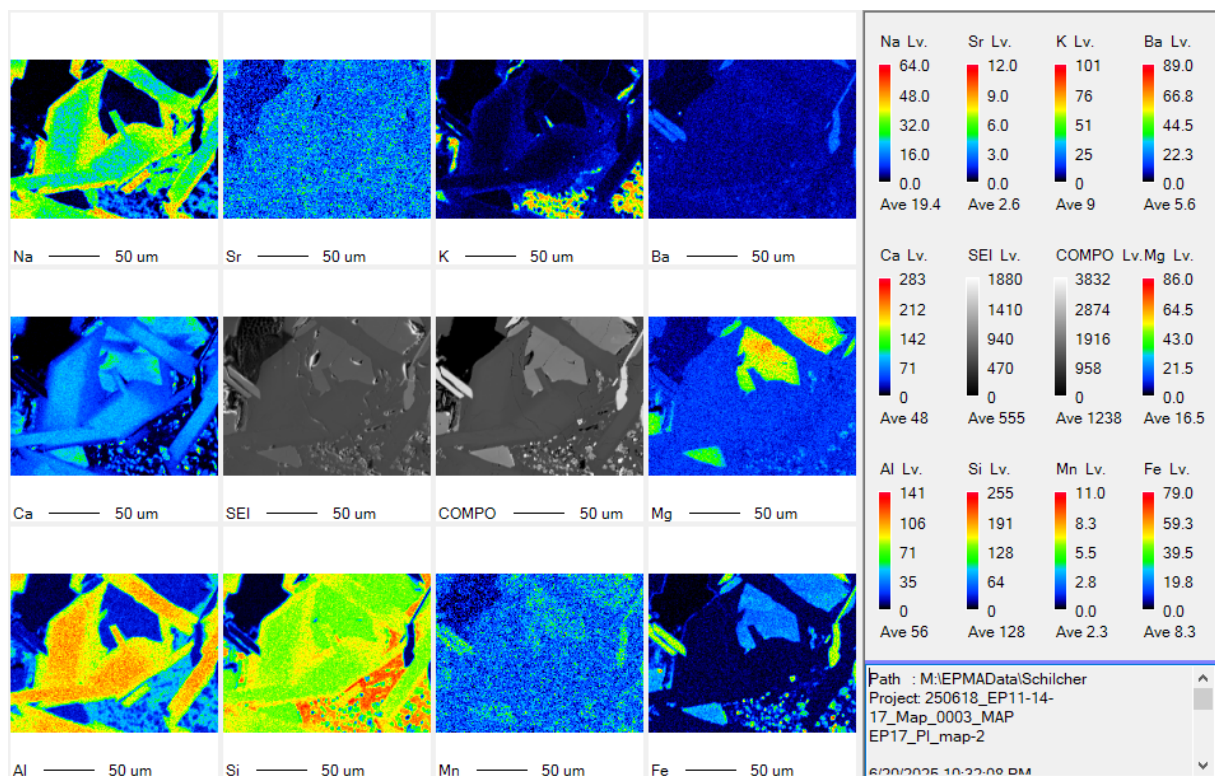


Figure A 14: Plagioclase, younger SW group – normally zoned groundmass crystals from sample EP17, Paternò.

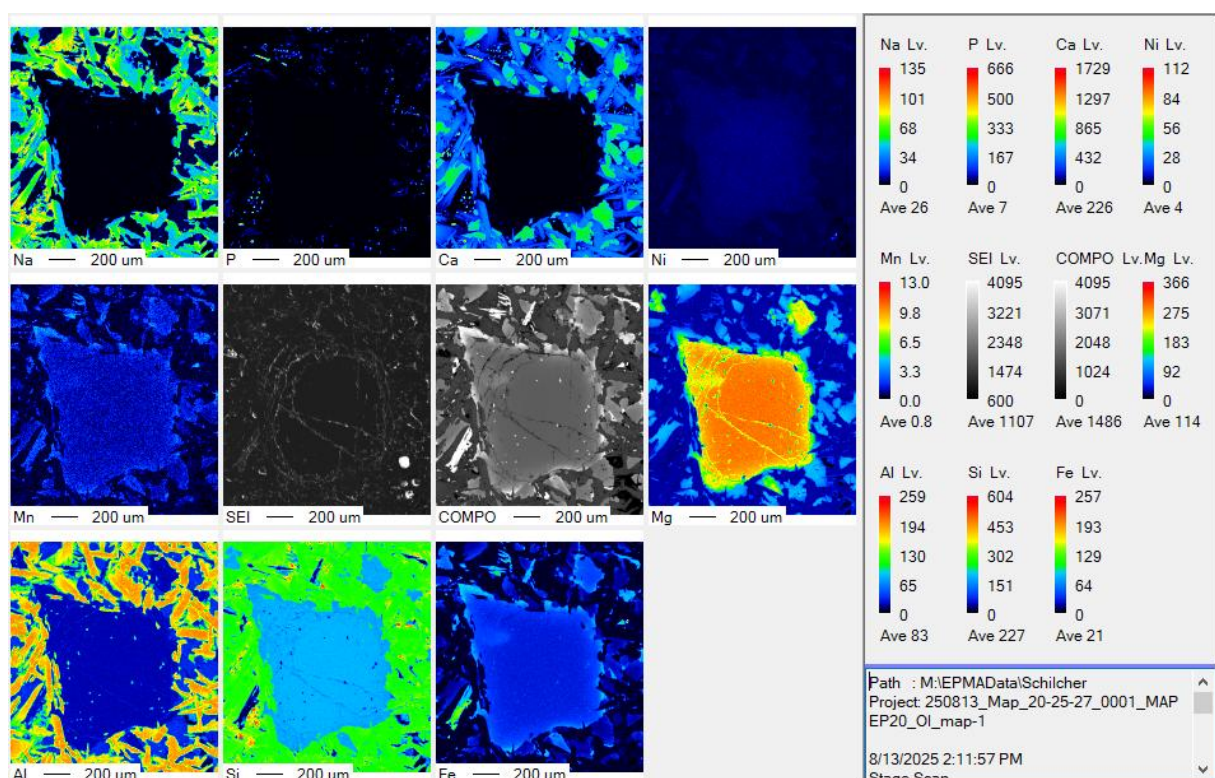


Figure A 15: Olivine, younger SW group – normally zoned phenocryst from sample EP20, Adrano/Biancavilla.

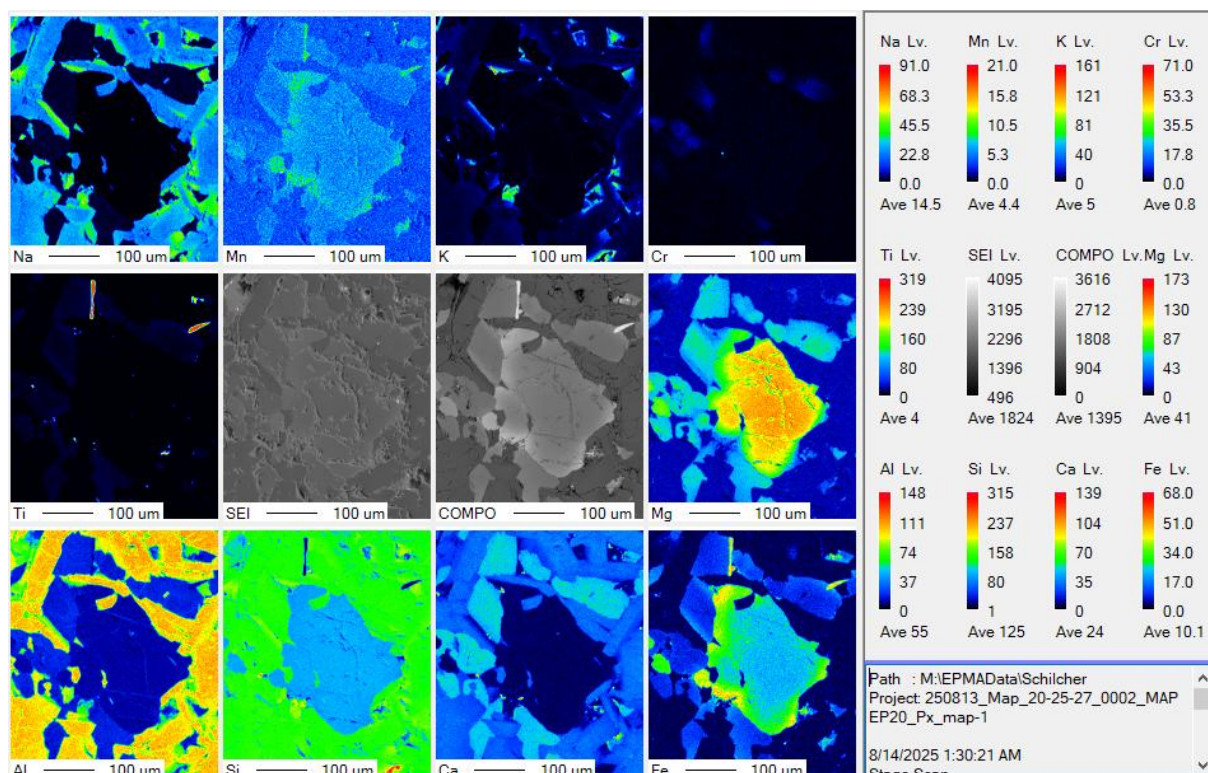


Figure A 16: Clinopyroxene, younger SW group – normally zoned phenocryst from sample EP20, Adrano/Biancavilla.

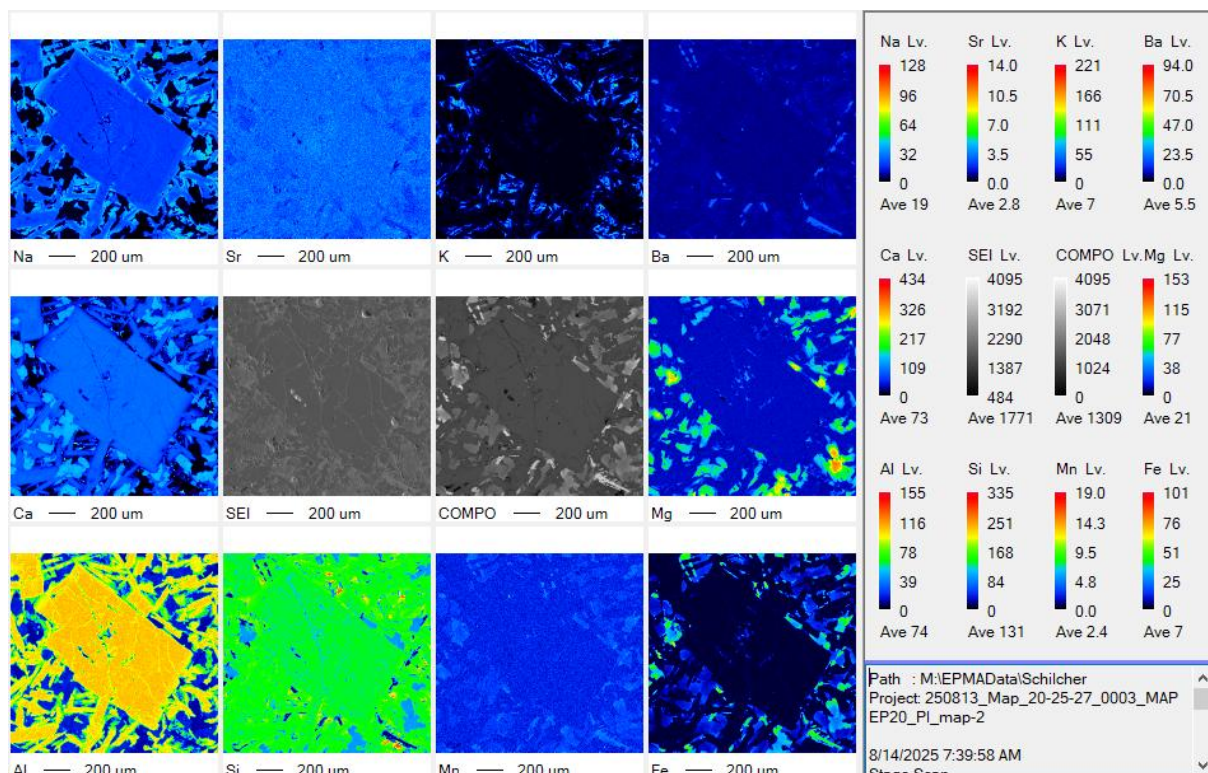


Figure A 17: Plagioclase, younger SW group – oscillatory-zoned phenocryst from sample EP20, Adrano/Biancavilla.

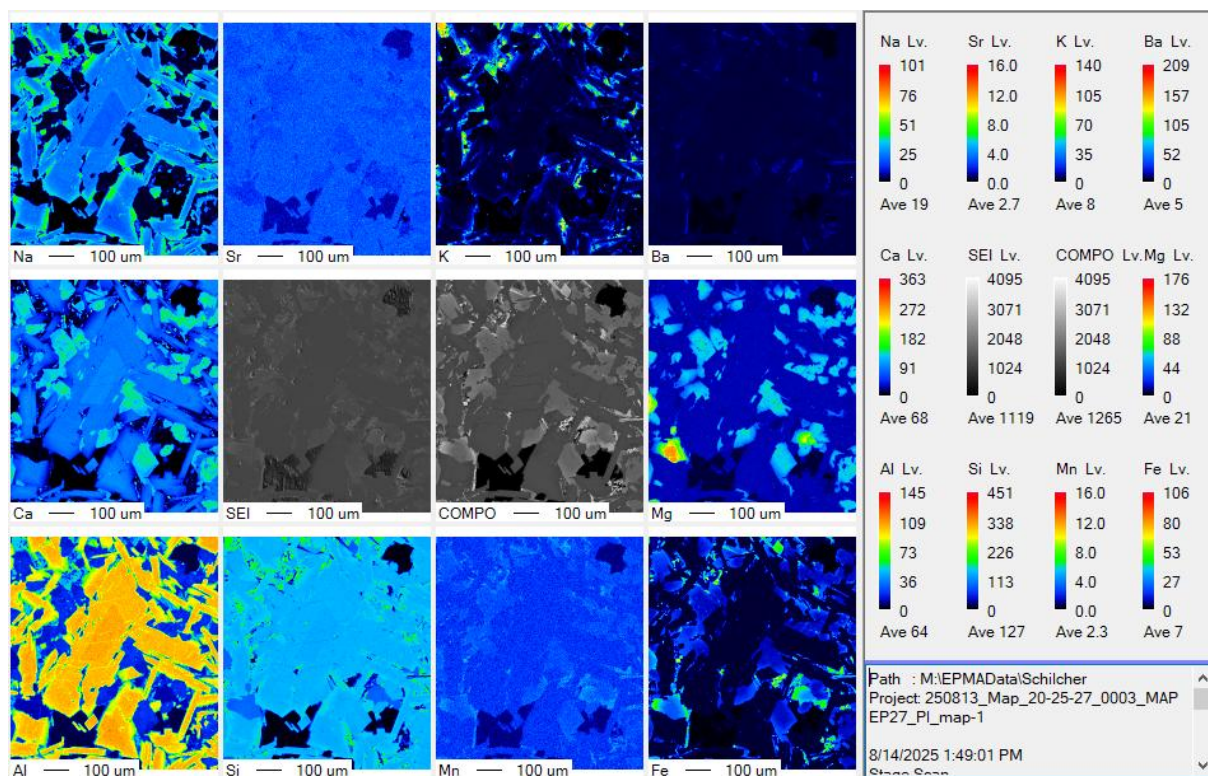


Figure A 18: Plagioclase, younger SW group – normally zoned phenocryst with a growth rim in sample EP27, Adrano/Biancavilla.

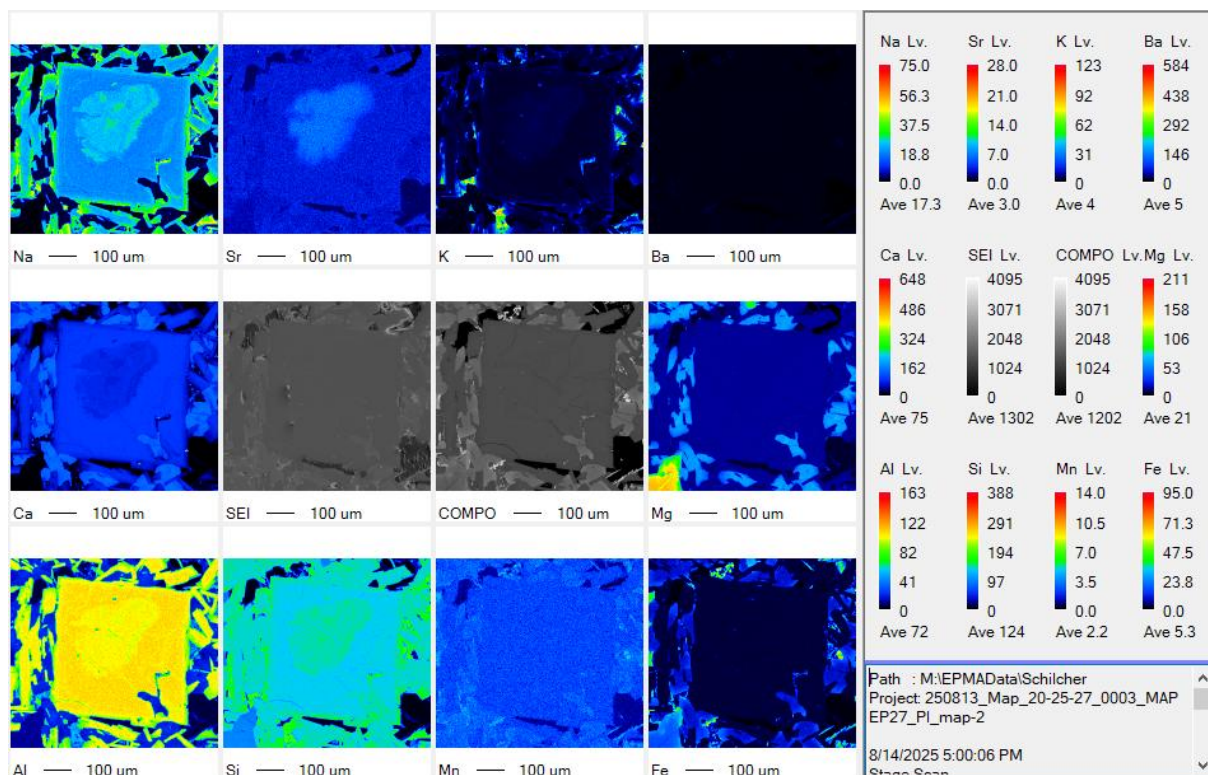


Figure A 19: Plagioclase, younger SW group – phenocryst with discontinuous patchy zoning in sample EP27, Adrano/Biancavilla.

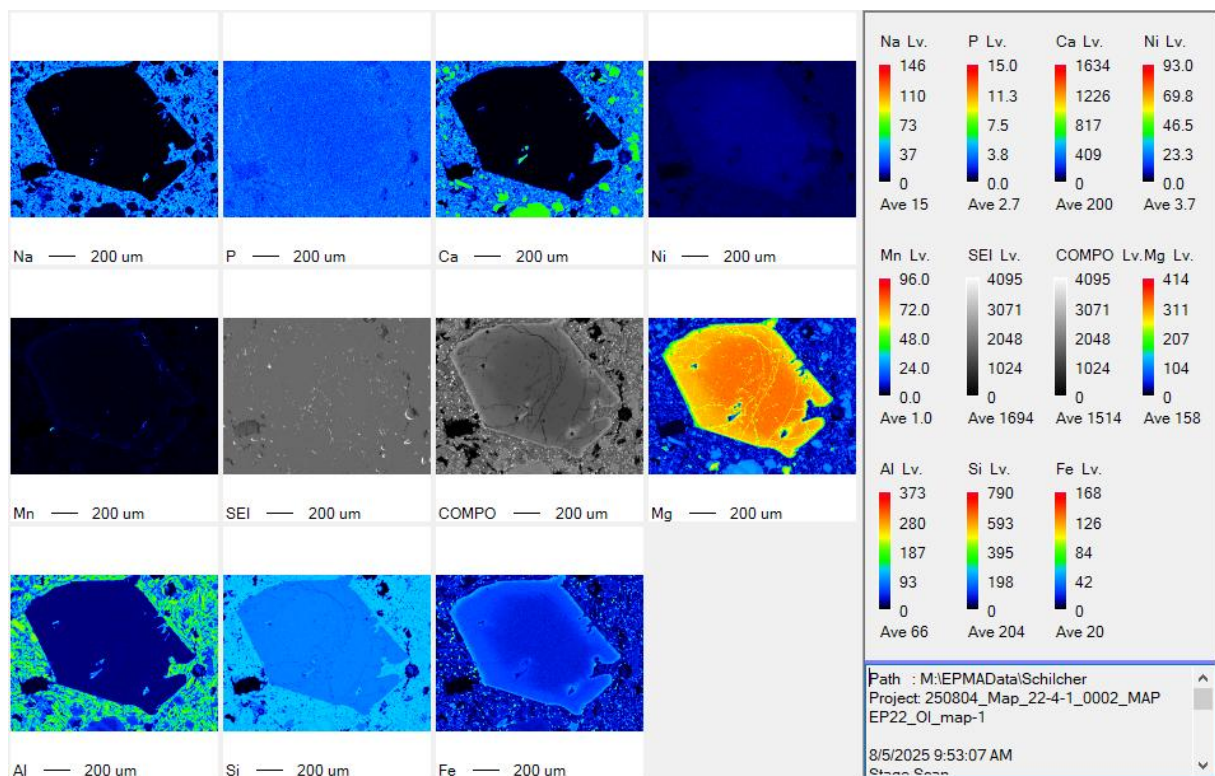


Figure A 20: Olivine, younger SW group – normally zoned phenocryst from sample EP22, Monte Maletto.

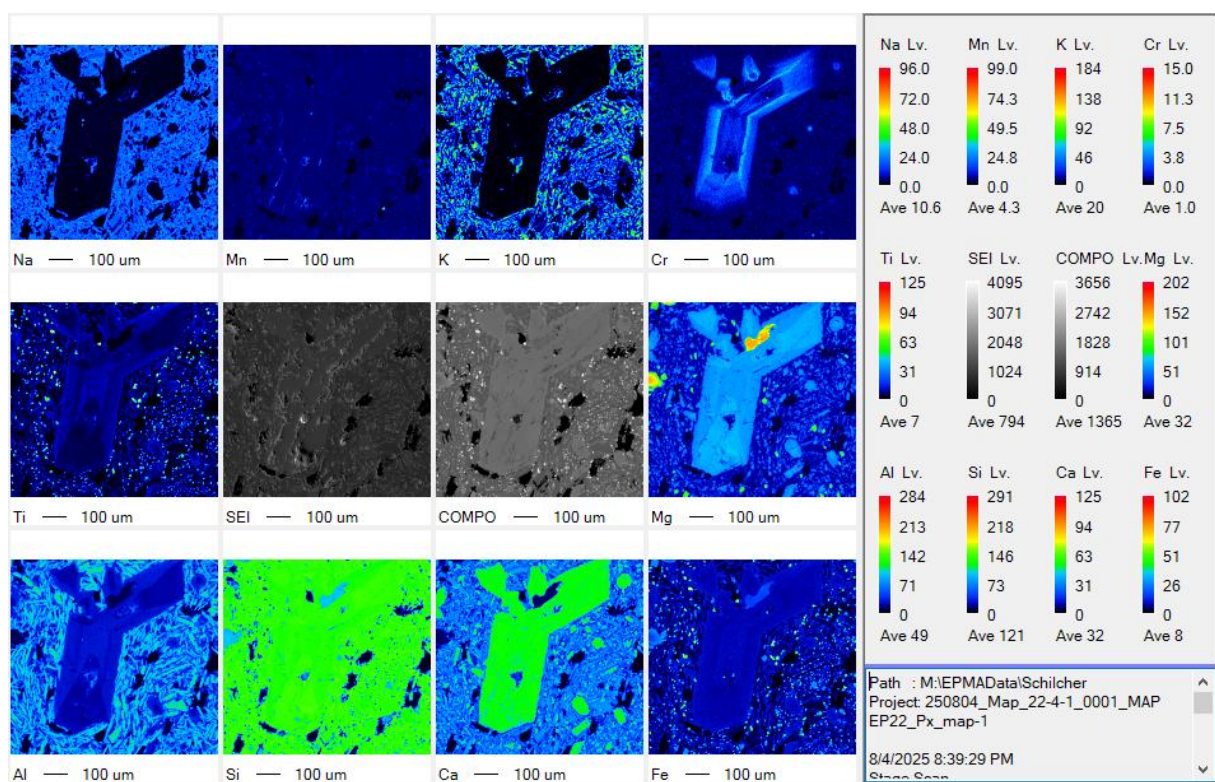


Figure A 21: Clinopyroxene, younger SW group – normally zoned phenocryst from sample EP22, Monte Maletto.

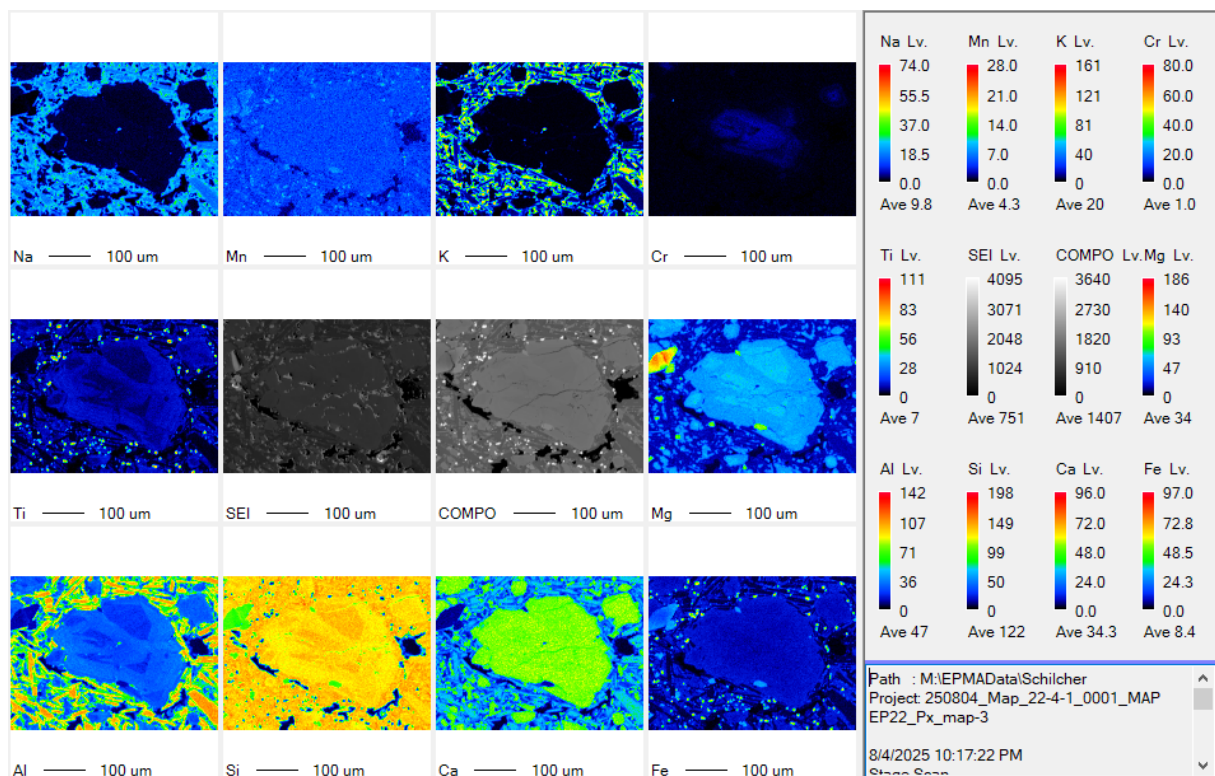


Figure A 22: Clinopyroxene, younger SW group – normally zoned phenocryst from sample EP22, Monte Maletto

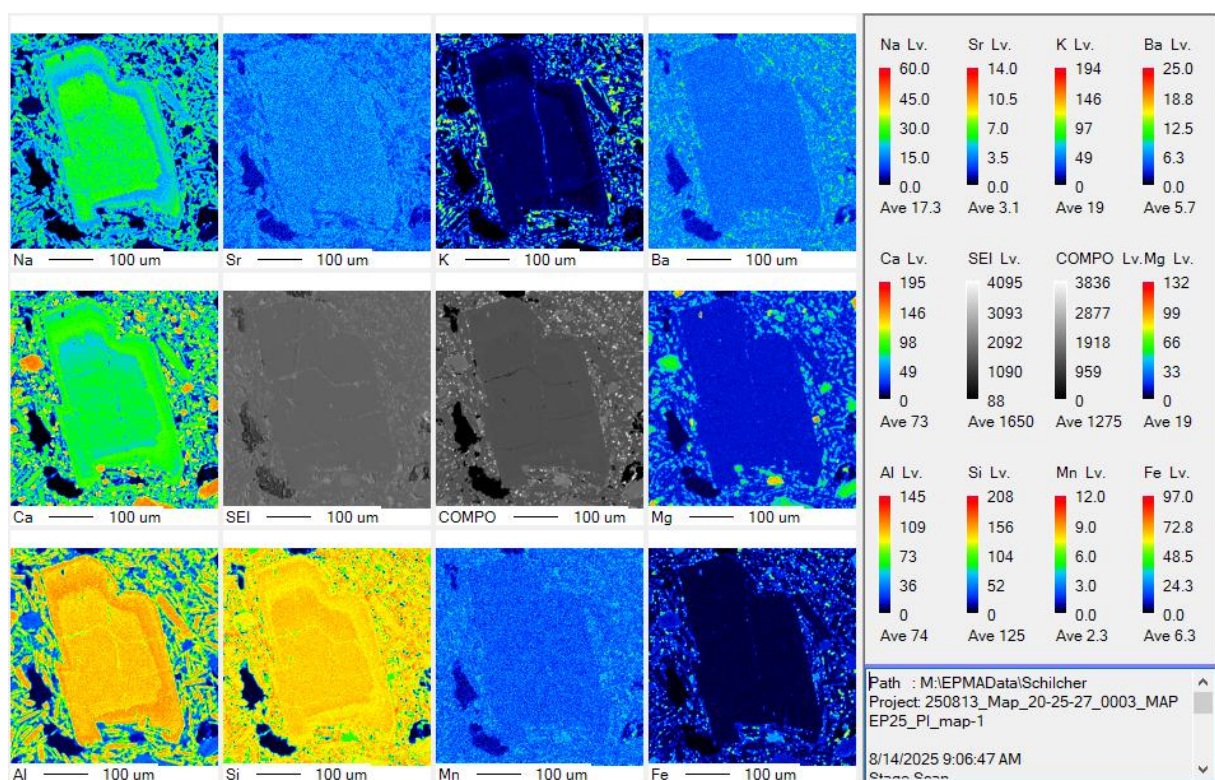


Figure A 23: Plagioclase, younger SW group – oscillatory-zoned phenocryst from sample EP25, Monte Maletto.