

Petrographic constraints on the formation of silica-rich igneous rims around chondrules in CR chondrites

A. Smith and R. H. Jones

Supporting Information: Appendix C, WDS oxide wt% maps of silica-rich igneous rims on chondrules in CR chondrites

Figures S1-S8 in this Appendix were obtained via quantitative wavelength dispersive spectroscopy (WDS) X-ray mapping on the JEOL JXA-8530F electron microprobe at the University of Manchester. SiO₂ maps are calibrated for Si on a quartz standard. For all other maps, Si is calibrated on a wollastonite standard. All maps are presented as computed wt% oxide maps, with quantitative abundances for each oxide illustrated on a blue scale, as indicated in the gradational color bars.

Minerals are identified on the corresponding back-scattered electron (BSE) image: Cris = cristobalite, Trid = tridymite, Lpx = low-Ca pyroxene, Cpx = Ca-rich pyroxene, Pig = pigeonite, Pl = plagioclase, Ol = olivine, Mes = mesostasis, Met = Fe,Ni metal, Alt = alteration.

List of Figures:

AppC_S1	EET92042 Ch14 – Common SIR. Matches Fig. 2f (in main paper).
AppC_S2	QUE 99177 Ch5 – Common SIR. Matches Fig. 3f.
AppC_S3	EET92062 Ch2 – Silica in plagioclase-rich chondrule. Matches Fig. 4c.
AppC_S4	EET92062 Ch2 – Common SIR, plagioclase-rich chondrule. Matches Fig. 4d.
AppC_S5	MET00426 Ch3 – Si-e SIR. Chondrule in Fig. 5e-g – but not this exact area.
AppC_S6	QUE 99177 Ch6 – Si-gl SIR. Matches Fig. 6b.
AppC_S7	QUE 99177 Ch7 – ML SIR. Matches Fig. 7d,e.
AppC_S8	EET 92042 Ch11– Trid SIR. Chondrule in Fig. 7f,g – but not this exact area.

Fig. AppC_S1

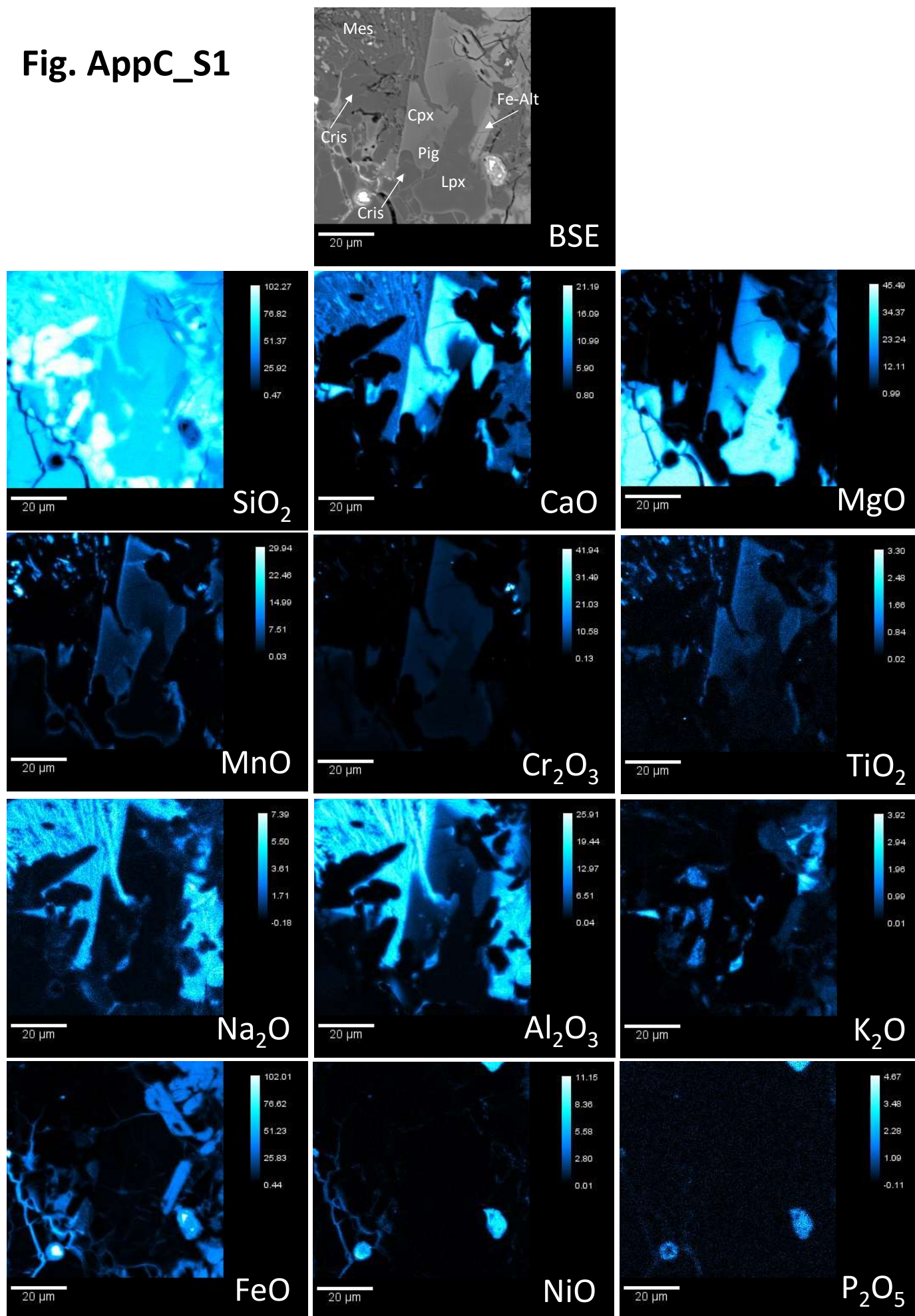


Fig. S1: EET92042 Ch14 – Common SIR. Matches Fig. 2f

Fig. AppC_S2

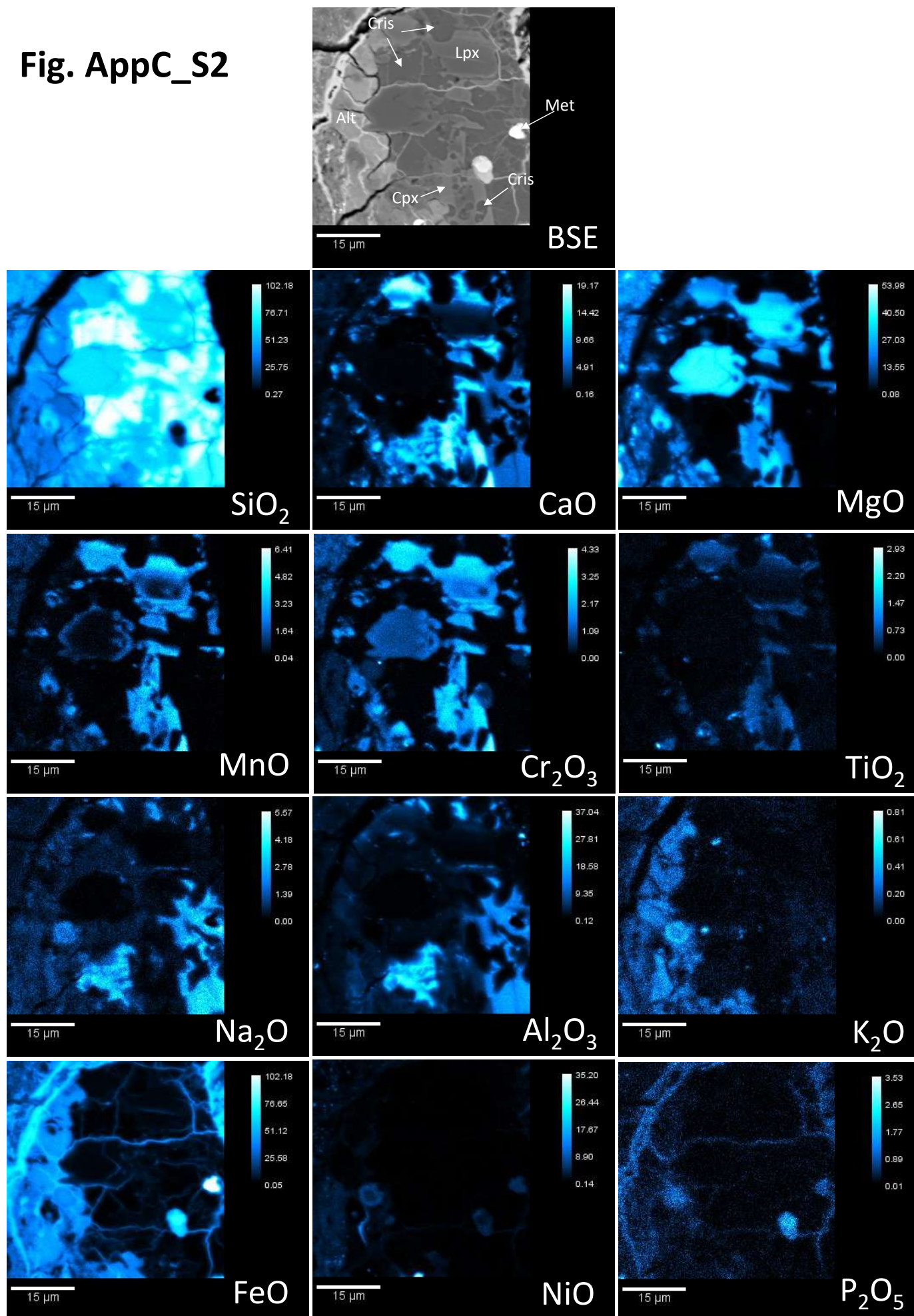


Fig. S2. QUE 99177 Ch5 – Common SIR. Matches Fig. 3f.

Fig. AppC_S3

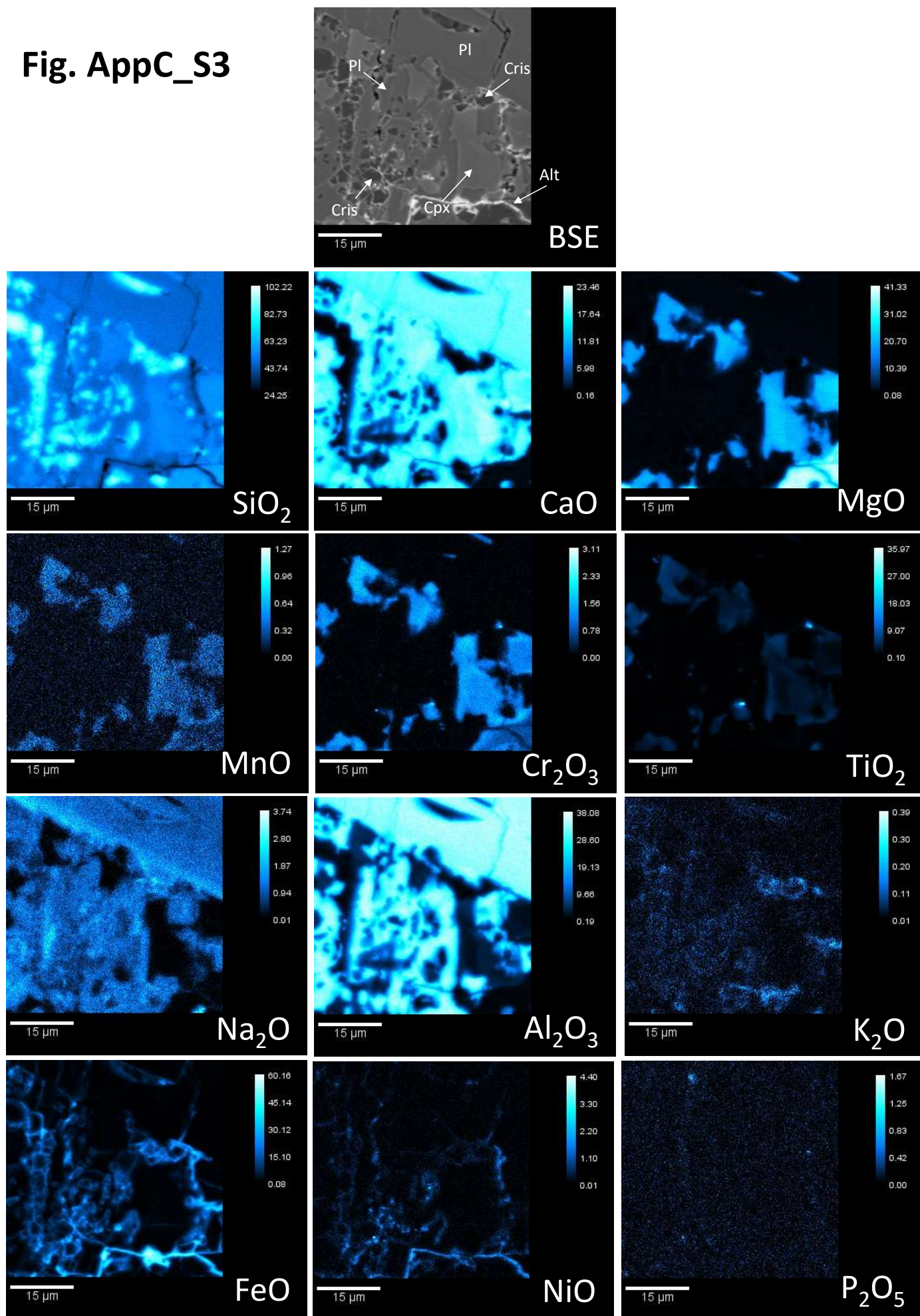


Fig. S3. EET92062 Ch2 – Silica in plagioclase-rich chondrule. Matches Fig. 4c.

Fig. AppC_S4

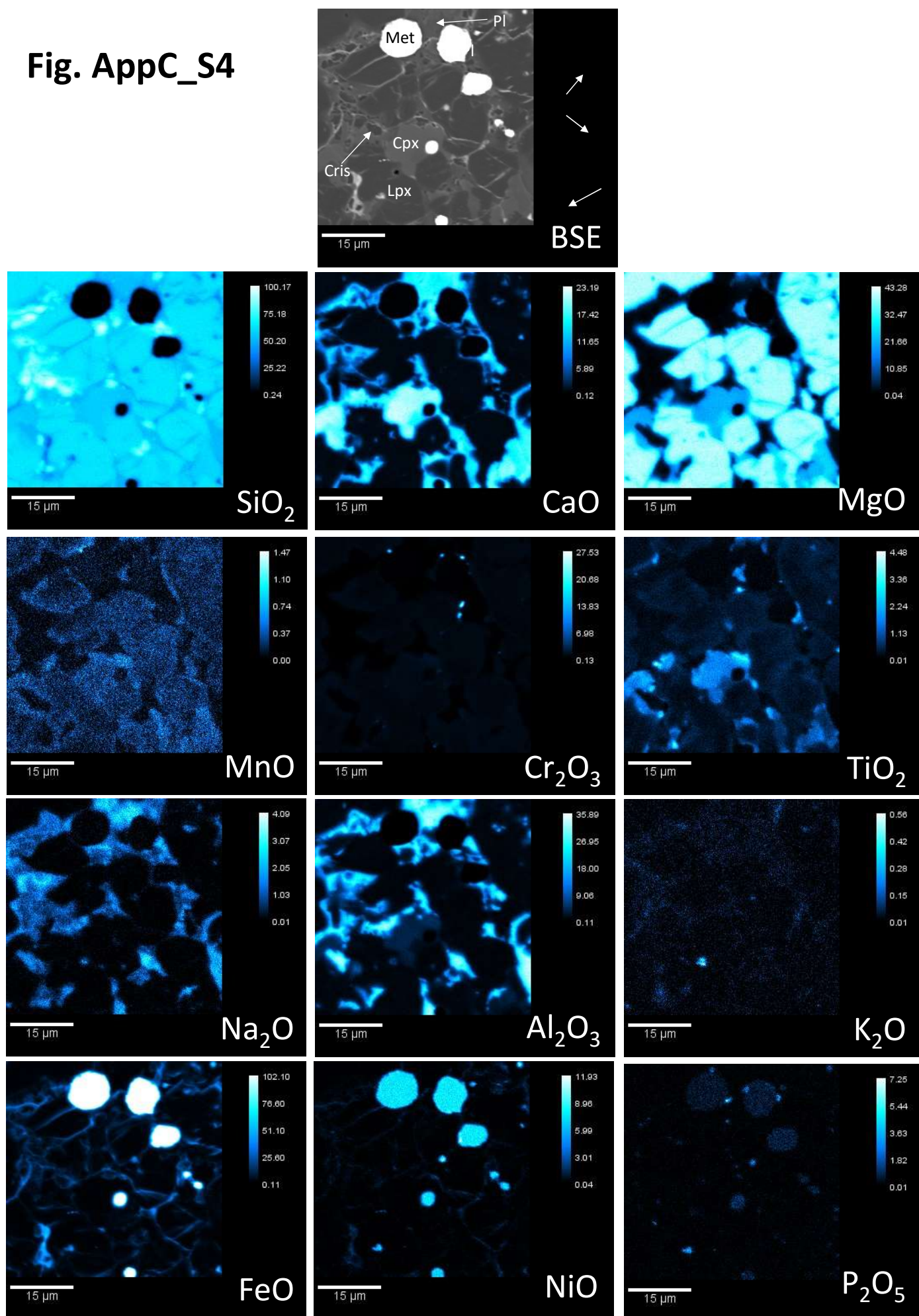


Fig. S4. EET92062 Ch2 – common SIR, plag chondrule. Matches Fig. 4d.

Fig. AppC_S5

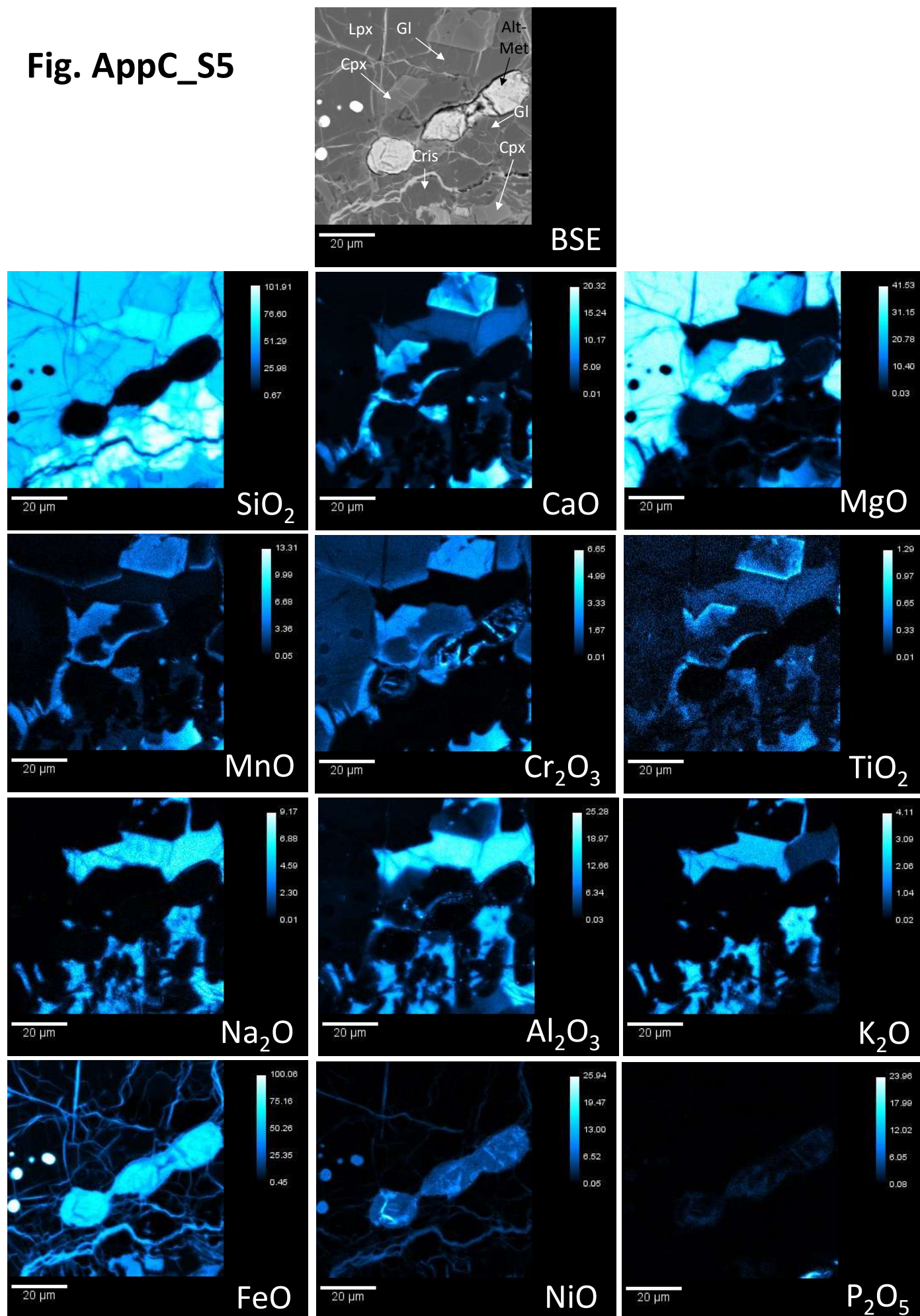


Fig. S5. MET00426 Ch3 – Si-e SIR. Chondrule in Fig. 5e-g – but not this exact area.

Fig. AppC_S6

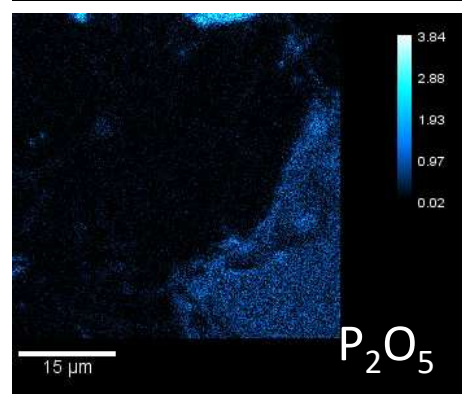
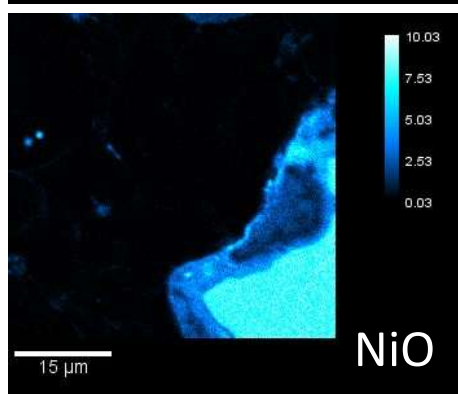
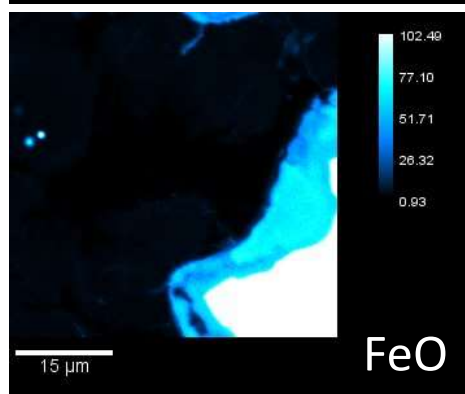
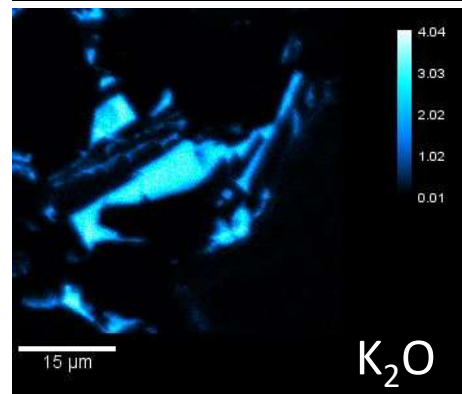
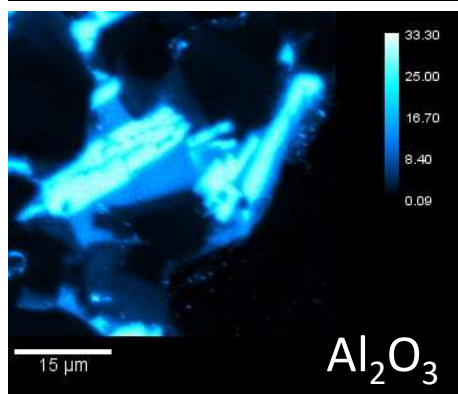
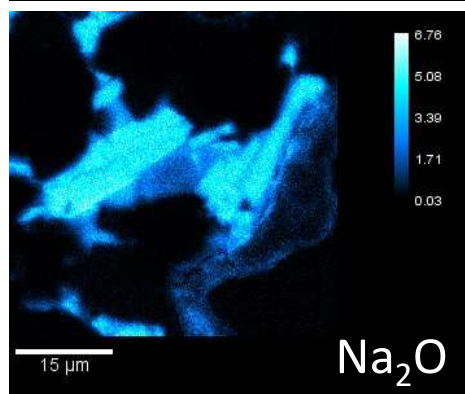
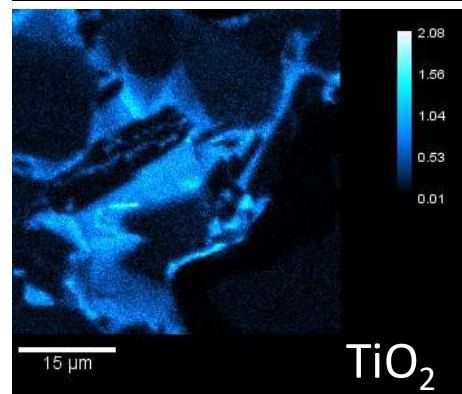
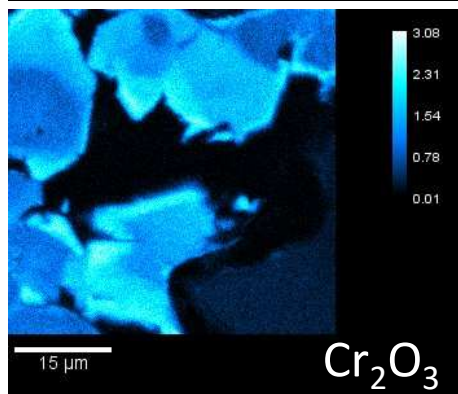
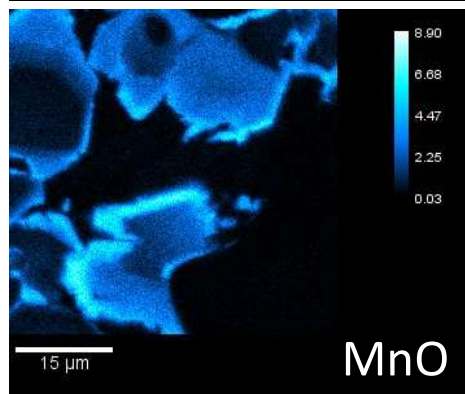
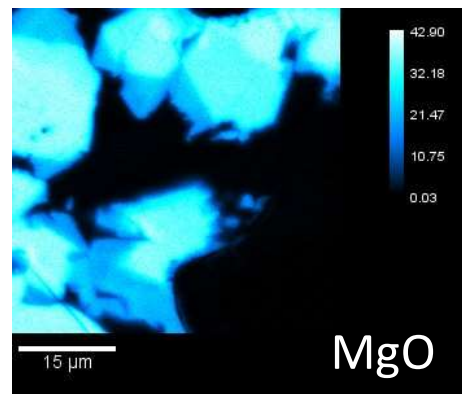
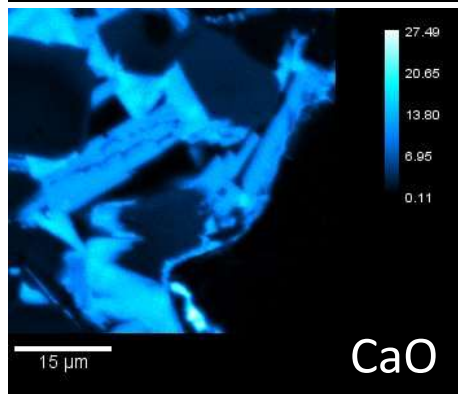
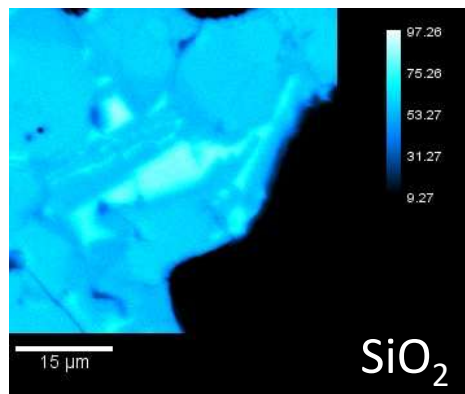
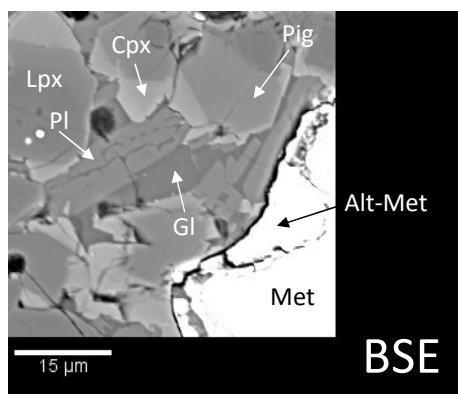


Fig. S6. QUE 99177 Ch6 – Si-gl SIR. Matches Fig. 6b.

Fig. AppC_S7

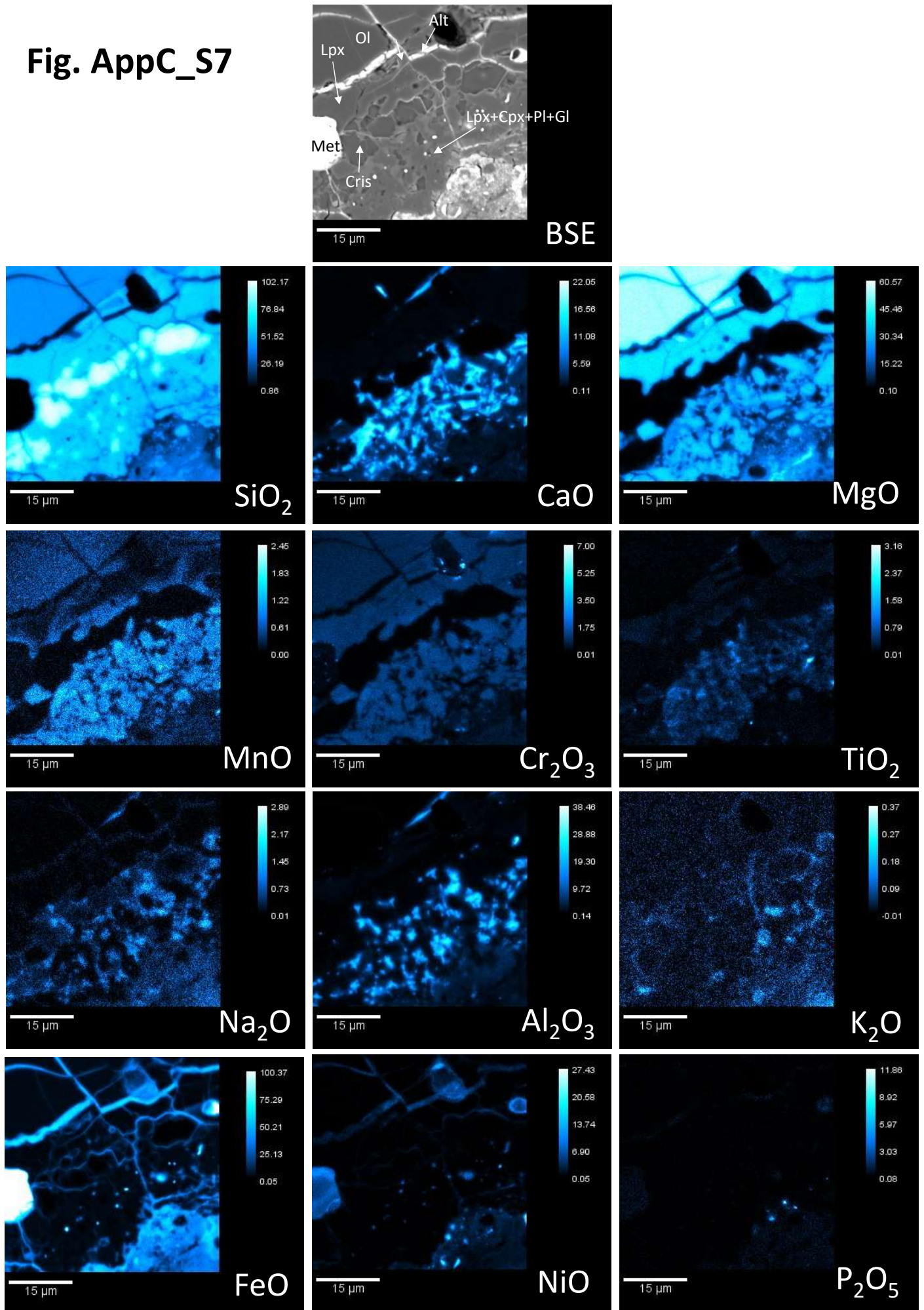


Fig. S7. QUE 99177 Ch7 – ML SIR. Matches Fig. 7d,e.

Fig. AppC_S8

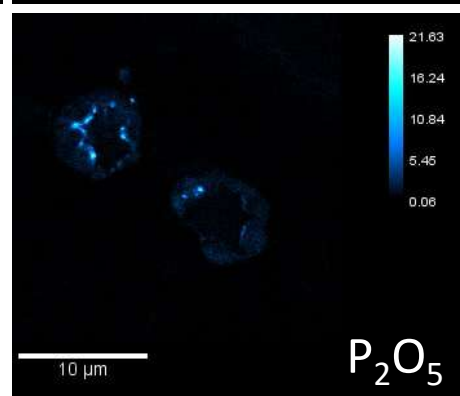
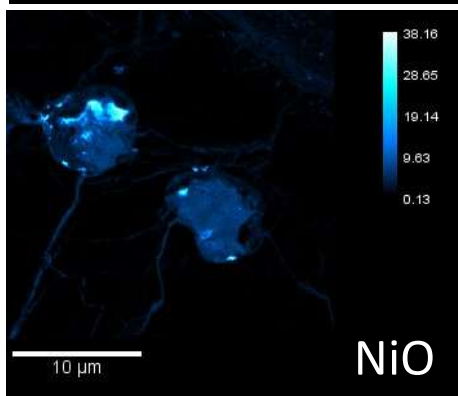
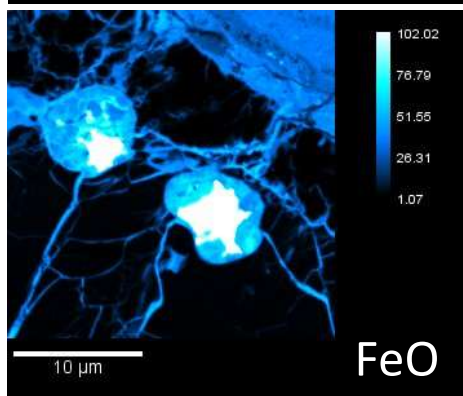
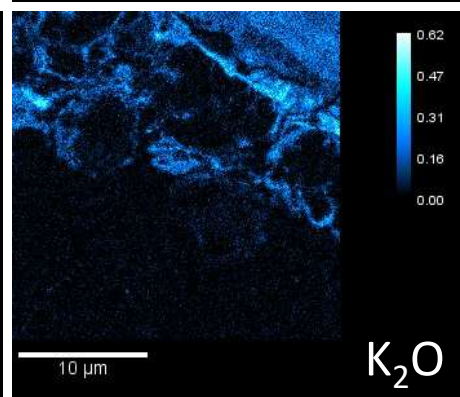
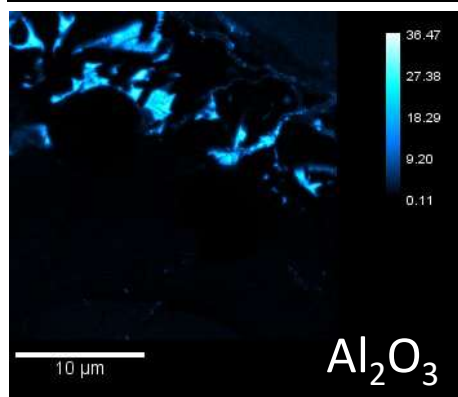
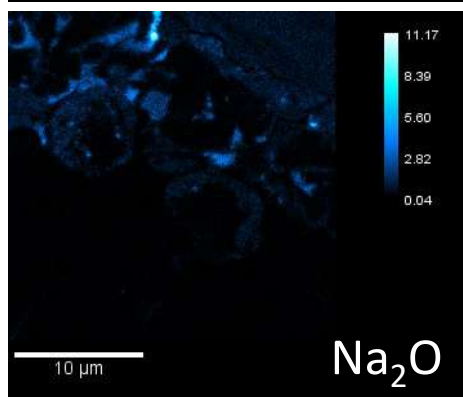
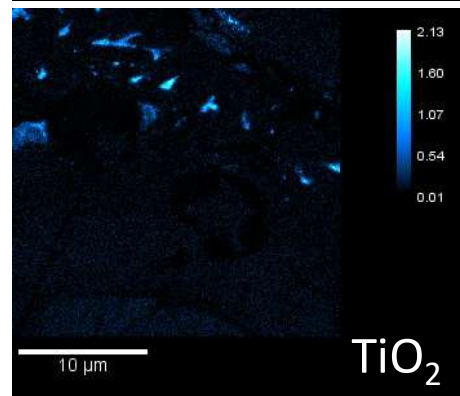
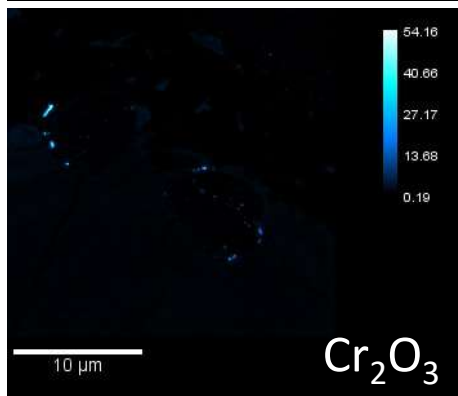
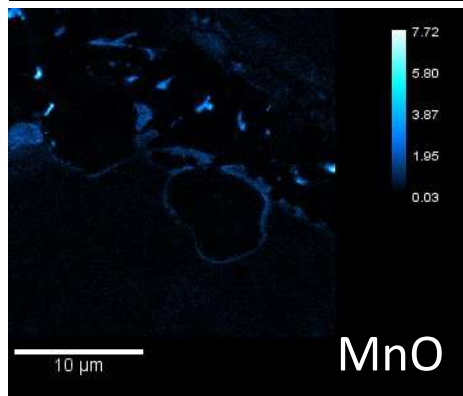
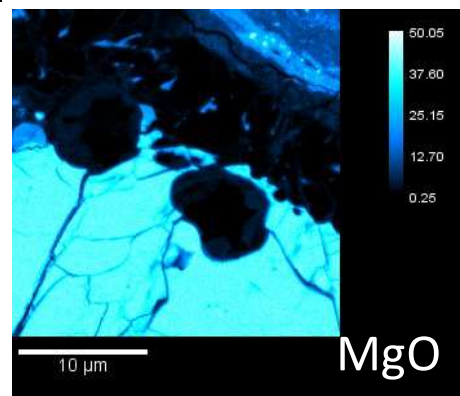
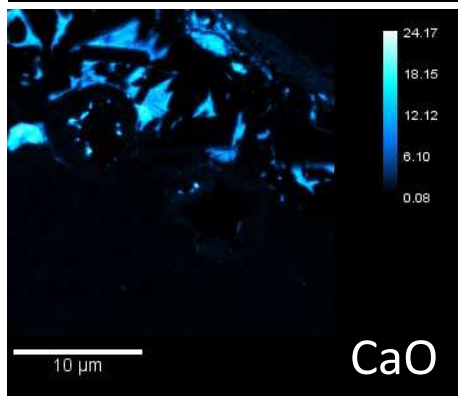
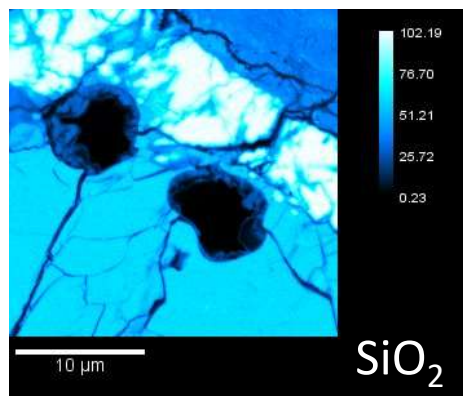
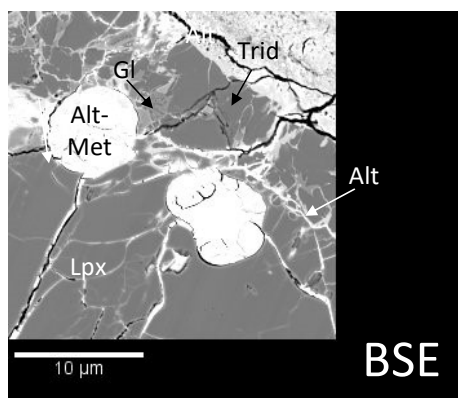


Fig. S8. EET 92042 Ch11– Trid SIR. Chondrula in Fig. 7f,g – but not this exact area.