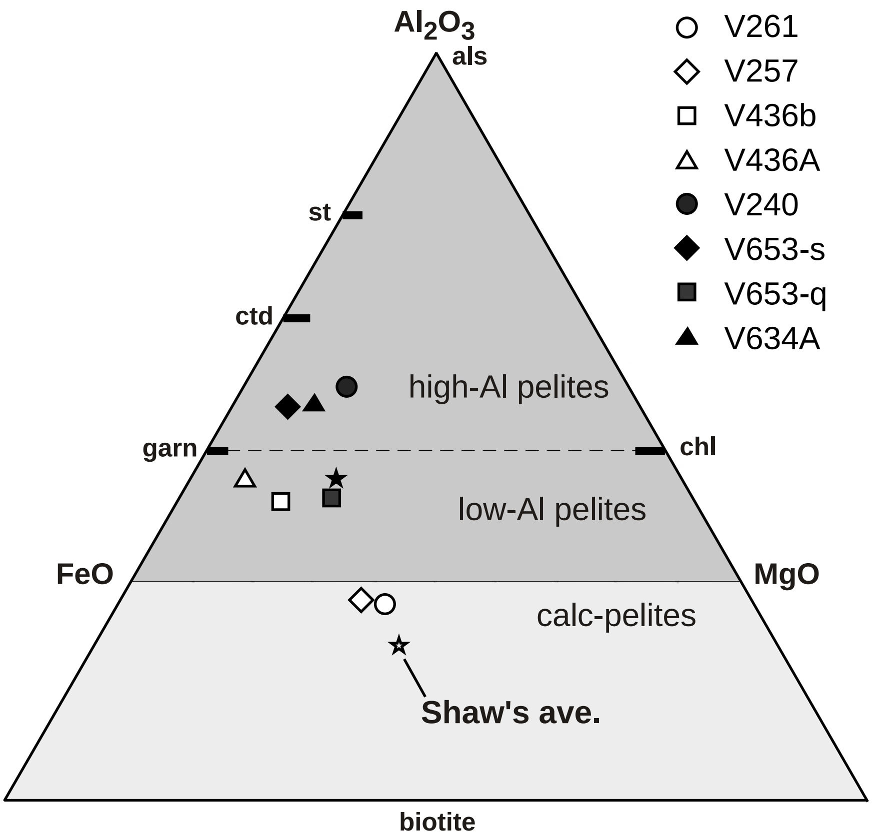
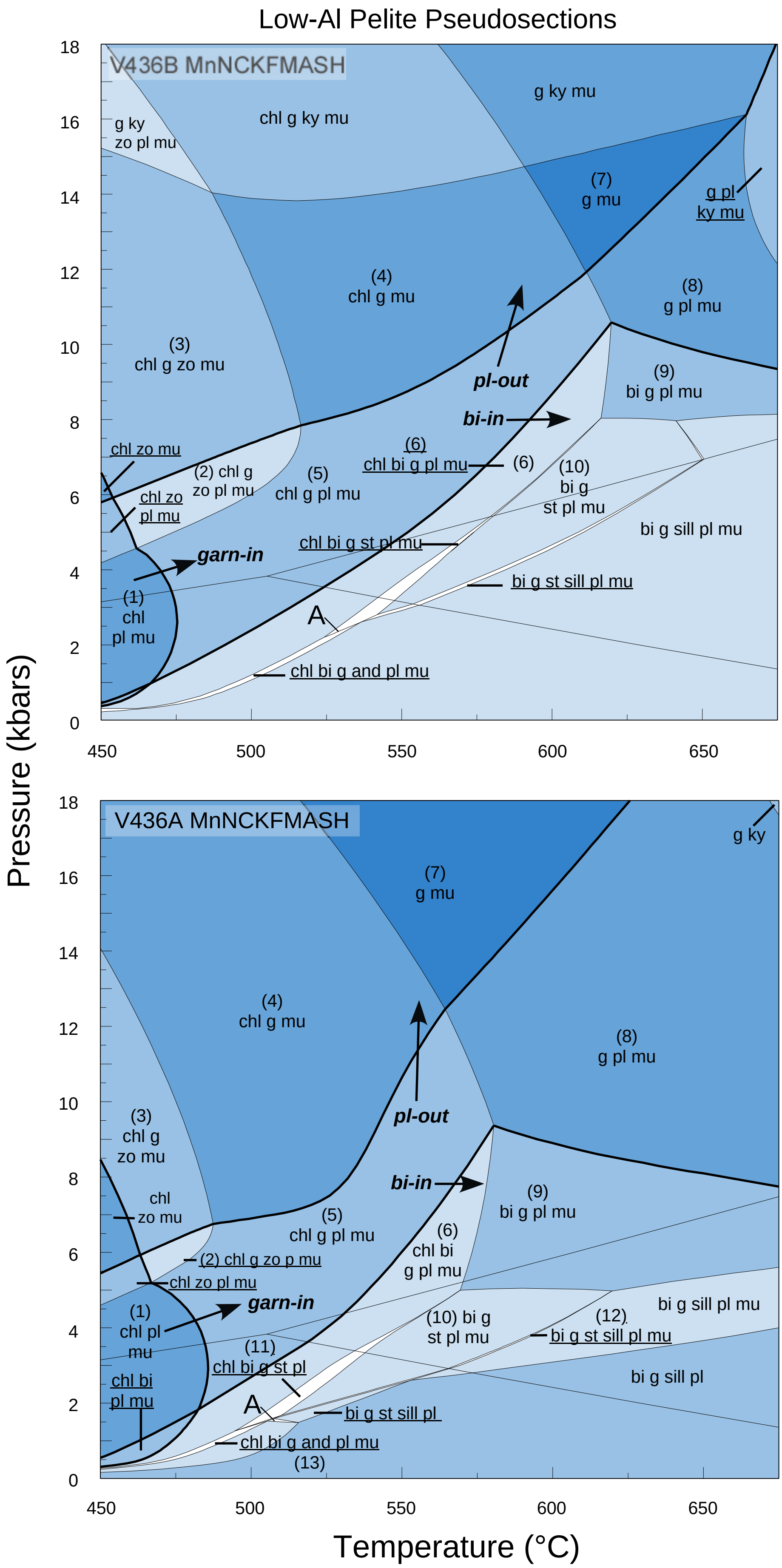


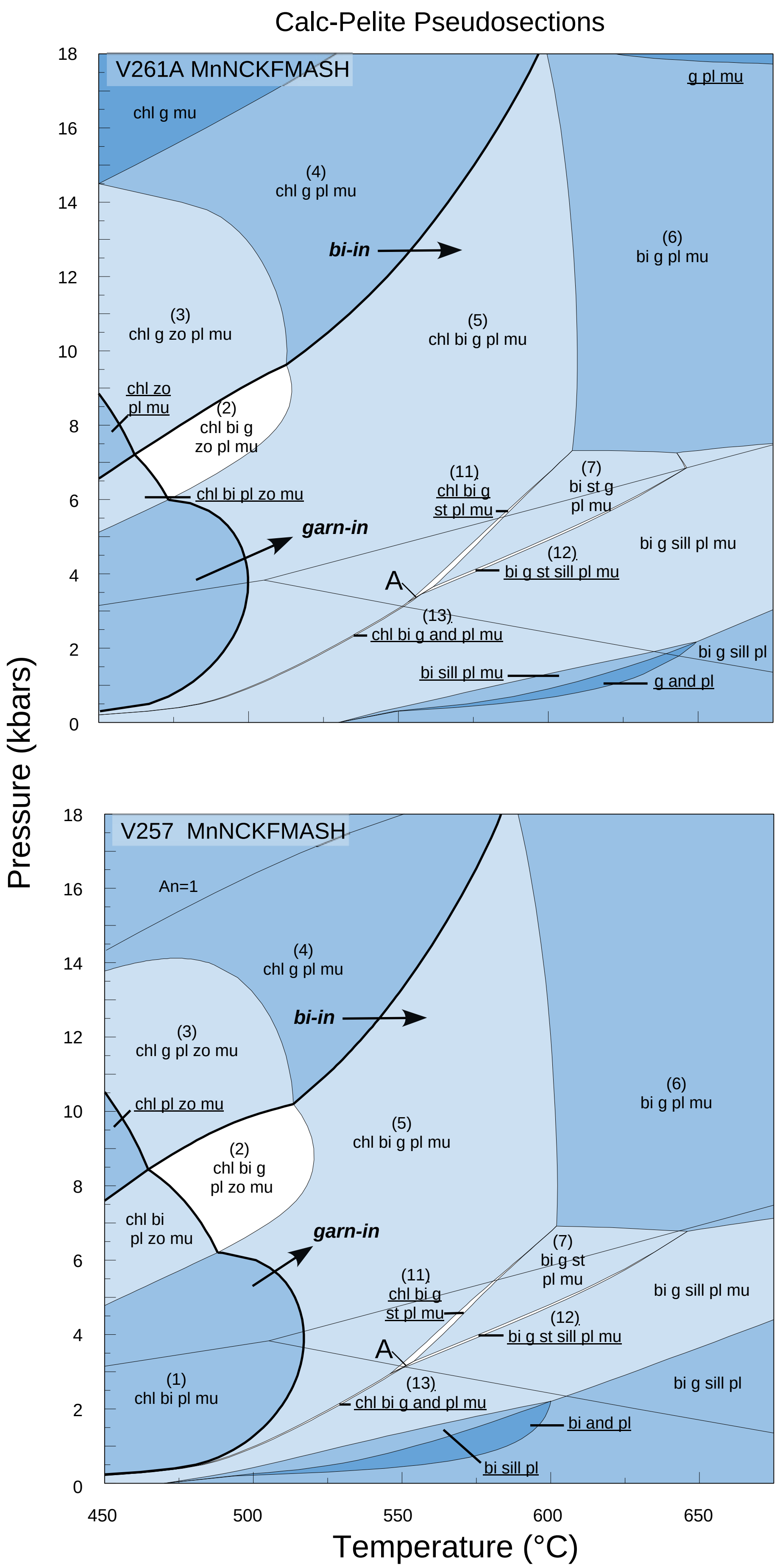
Figure 10. AFM projection showing position of bulk compositional data listed in Table 5. Pseudosections for samples plotted with open symbols are shown in Figs. 11 and 12. Projections are done from muscovite using compositions corrected for Al_20_3.

Figure 11. P-T pseudosections for the two low-Al pelites calculated in the system MnO-Na_2O-CaO-K_2O-FeO-MgO-Al_2O_3-SiO_2-H_2O (M shades represent higher variance fields with trivariant fields in white. Fields are labelled with stable mineral assemblages with chl=chlorite, bi=biotite, g=garnet, st=staurolite, and=andalusite, sill=sillimanite, ky=kyanite, zo=zoisite, pl=plagioclase, mu=muscovite. All of the assemblages are assumed to have quartz and water in excess. Heavy lines mark the positions of *garn-in* reactions with increasing temperature, *bi-in* reactions with increasing temperature, and *pl-out* reactions with increasing pressure. Numbered fields are referred to in text. The field labelled A is the divariant assemblage chl-bi-g-st-pl-and/sill, which is too small to be seen on the diagram.



Low-Al Pelite Pseudosections
V436B MnNCKFMASH
g ky mu
chl g ky mu
g ky
zo pl mu
(7)
g mu
g pl
ky mu
(4)
chl g mu
(8)
g pl mu
(3)
chl g zo mu
pl-out
(9)
bi g pl mu
bi-in
chl zo mu
(6)
chl bi g pl mu
(6)
(2) chl g
zo pl mu
(5)
chl g pl mu
(10)
bi g
st pl mu
chl zo
pl mu
bi g sill pl mu
chl bi g st pl mu
garn-in
bi g st sill pl mu
(1)
chl
pl mu
A
chl bi g and pl mu
V436A MnNCKFMASH
g ky
(7)
g mu
(4)
chl g mu
(8)
g pl mu
(3)
chl g
zo mu
pl-out
bi-in
(9)
bi g pl mu
chl
zo mu
(5)
chl g pl mu
(6)
chl bi
g pl mu
(2) chl g zo p mu
chl zo pl mu
garn-in
(1)
chl pl
mu
(10) bi g
st pl mu
(12)
bi g sill pl mu
bi g st sill pl mu
(11)
chl bi g st pl
chl bi
pl mu
bi g sill pl
A
bi g st sill pl
chl bi g and pl mu
(13)
Pressure (kbars)
Temperature (°C)
0
2
4
6
8
10
12
14
16
18
450
500
550
600
650

Figure 12. P-T pseudosections for the two calc-pelites calculated in the system MnO-Na_2O-CaO-K_2O-FeO-MgO-Al_2O_3 shades represent higher variance fields with trivariant fields in white. Fields are labelled with stable mineral assemblages with chl=chlorite, bi=biotite, g=garnet, st=staurolite, and=andalusite, sill=sillimanite, ky=kyanite, zo=zoisite, pl=plagioclase, mu=muscovite. All of the assemblages are assumed to have quartz and water in excess. Heavy lines mark the positions of *garn-in* reactions with increasing temperature and *bi-in* reactions with increasing temperature. Numbered fields are referred to in text. The *pl-out* line occurs only at high pressure for sample V261A and is outside the boundary of the diagram for sample V257. The field labelled A is the divariant assemblage chl-bi-g-st-pl-and/sill, which is too small to be seen on the diagram.


Calc-Pelite Pseudosections
V261A MnNCKFMASH
chl g mu
(4)
chl g pl mu
g pl mu
bi-in
(6)
bi g pl mu
(3)
chl g zo pl mu
(5)
chl bi g pl mu
chl zo
pl mu
(2)
chl bi g
zo pl mu
chl bi pl zo mu
garn-in
(11)
chl bi g
st pl mu
(7)
bi st g
pl mu
bi g sill pl mu
(12)
bi g st sill pl mu
A
(13)
chl bi g and pl mu
bi g sill pl
bi sill pl mu
g and pl
V257 MnNCKFMASH
An=1
(4)
chl g pl mu
bi-in
(3)
chl g pl zo mu
chl pl zo mu
(6)
bi g pl mu
(5)
chl bi g pl mu
(2)
chl bi g
pl zo mu
chl bi
pl zo mu
garn-in
(7)
bi g st
pl mu
(11)
chl bi g
st pl mu
bi g sill pl mu
(12)
bi g st sill pl mu
A
(1)
chl bi pl mu
(13)
chl bi g and pl mu
bi g sill pl
bi and pl
bi sill pl
Pressure (kbars)
Temperature (°C)
0
2
4
6
8
10
12
14
16
18
450
500
550
600
650

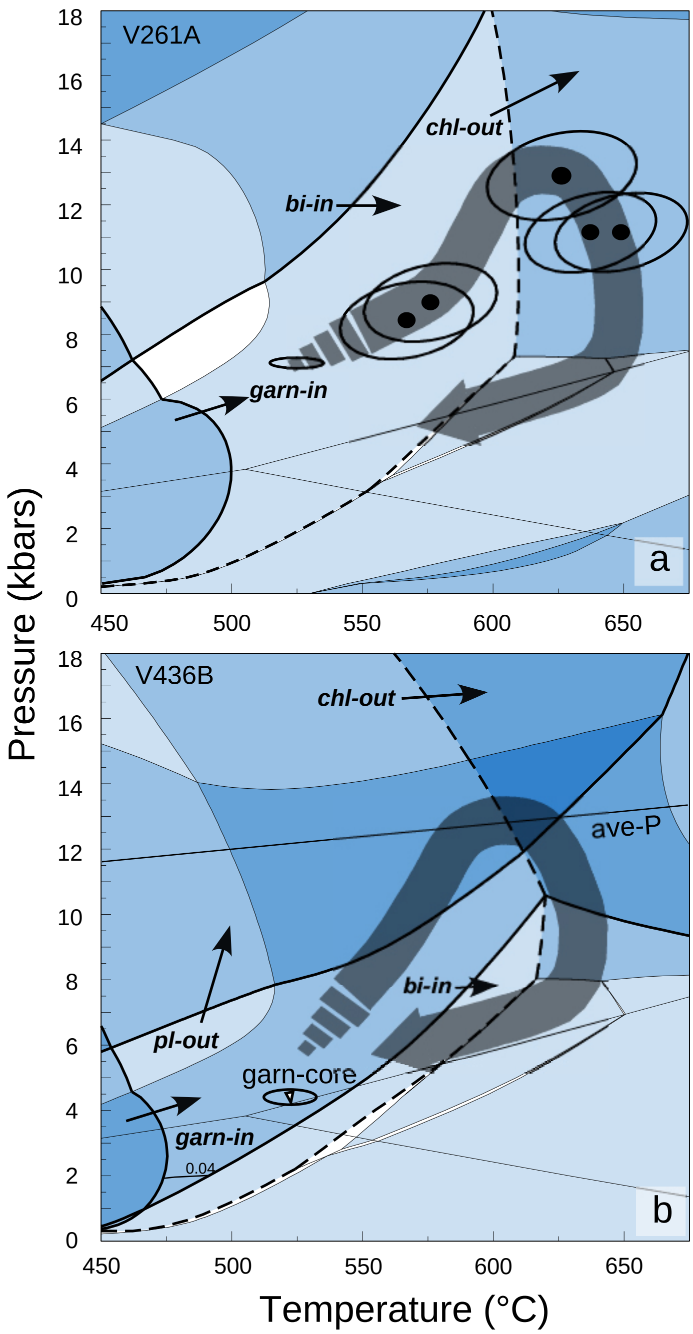


Figure 13. (a) P-T pseudosection for V261A (calc-pelite) with interpreted P-T path drawn from thermobarometric estimates given in Table 6. Key mineral reactions are marked with heavy lines. P-T originated from point of intersecting isopleths for garnet core composition. (b) P-T pseudosection for V436B (low-Al pelite) with interpreted P-T path. Path originated at position of intersecting isopleths reaching maximum pressure along ave-P line for garnet rim compo sition (see also Table 6).

Figure 14. (a) P-T pseudosection for V261A (calc-pelite) with interpreted P-T and compositional contours for anorthite content of plagioclase (% anorthite) and grossular content of garnet (% grossular). (b) Ca X-ray map for garnet grain from same sample with numbers referring to %grossular. (c) Line diagram illustrating inclusion trail geometry in relation to matrix fabric.

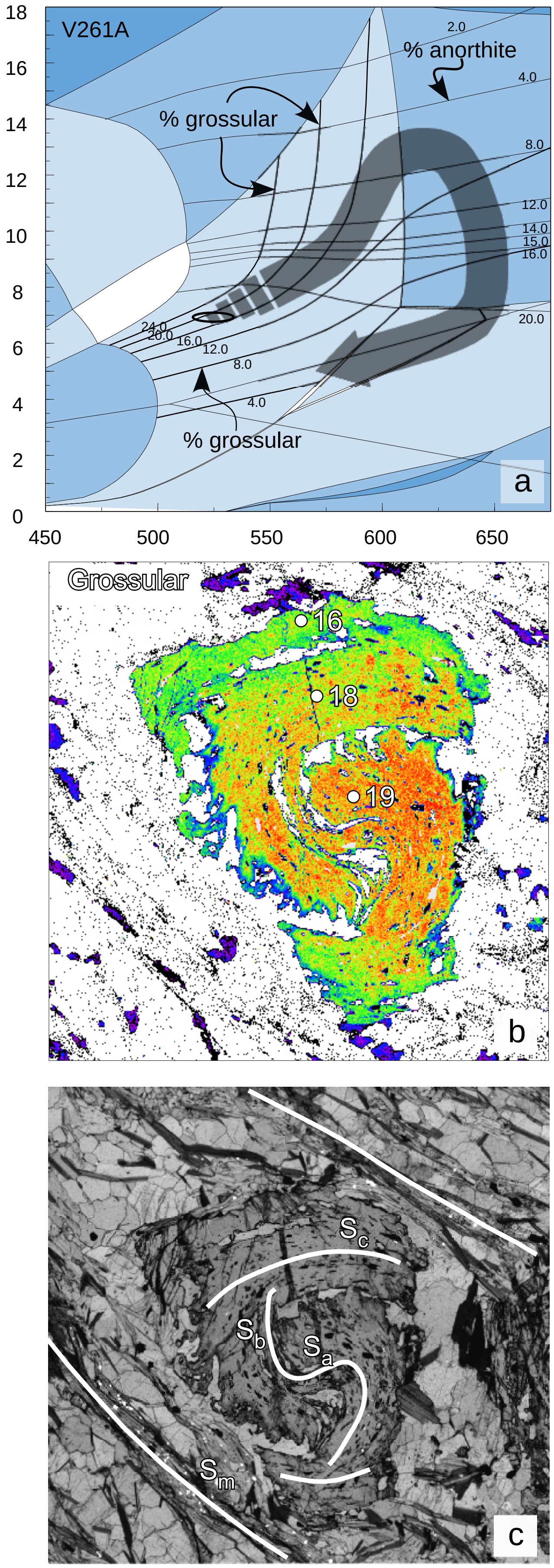
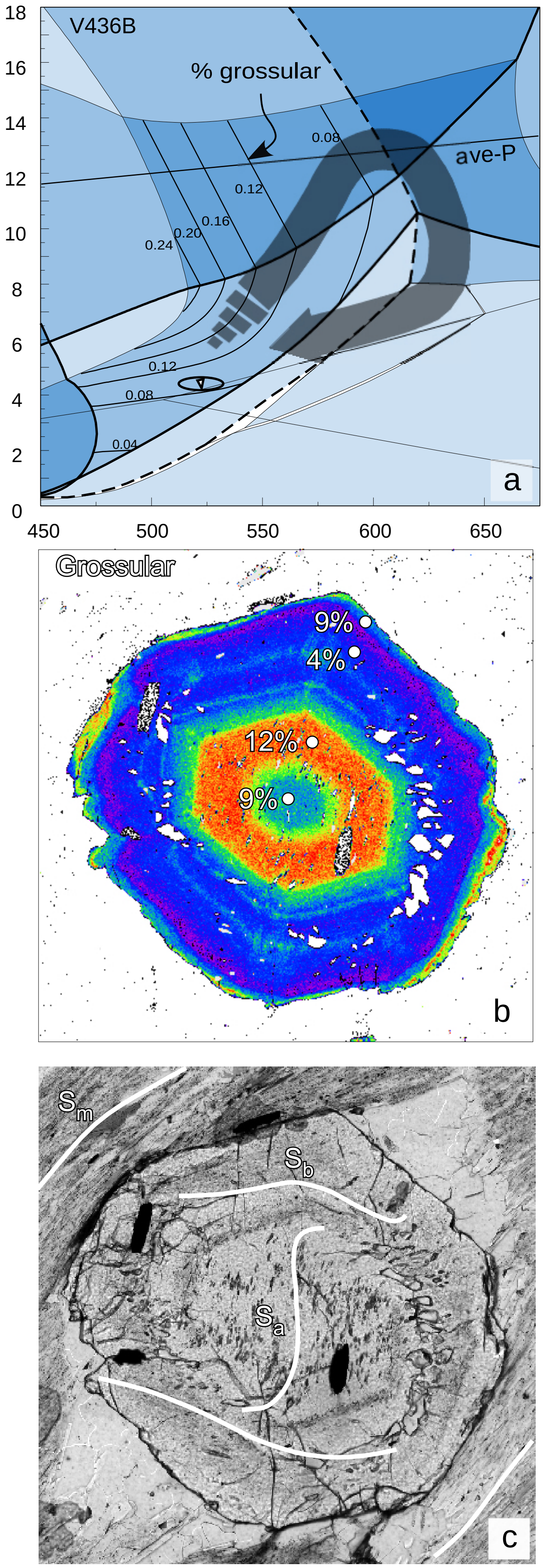

V261A
% anorthite
% grossular
% grossular
2.0
4.0
8.0
12.0
14.0
15.0
16.0
20.0
24.0
20.0
16.0
12.0
8.0
4.0
18
16
14
12
10
8
6
4
2
0
450
500
550
600
650
a
Grossular
16
18
19
b
S_c
S_b
S_a
S_m
c

Figure 15. (a) P-T pseudosection for V436B (low-Al pelite) with interpreted P-T and compositional contours for grossular content of garnet (% grossular). (b) Ca X-ray map for garnet grain from same sample with numbers referring to %grossular. (c) Line diagram illustrating inclusion trail geometry in relation to matrix fabric.


V436B
% grossular
ave-P
0.08
0.12
0.16
0.20
0.24
0.12
0.08
0.04
18
16
14
12
10
8
6
4
2
0
450
500
550
600
650
a
Grossular
9%
4%
12%
9%
b
S_m
S_b
S_a
c

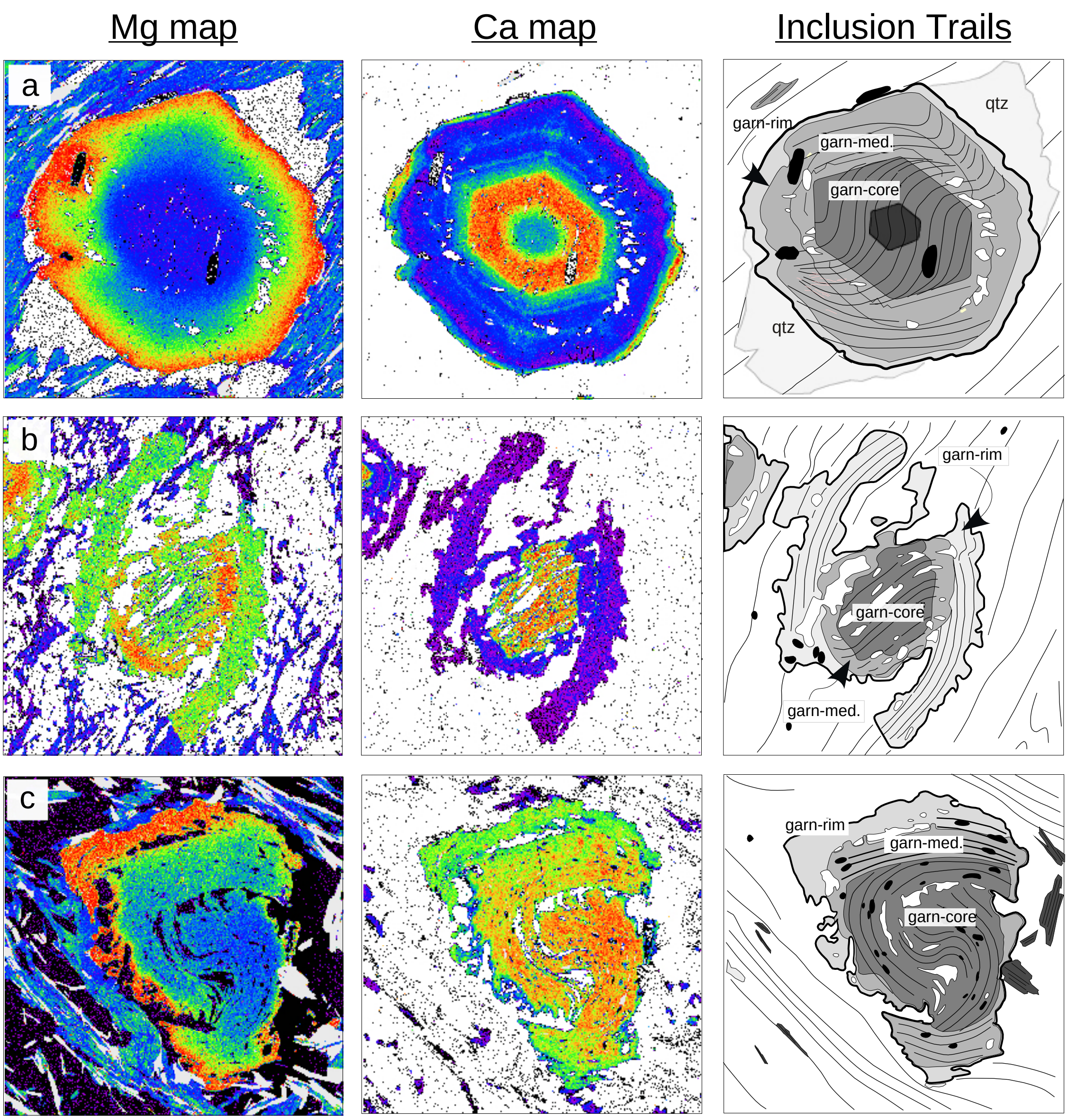


Figure 16. Ca and Mg compositional maps along with line diagrams illustrating relationship between mineral zoning and inclusion trails for three samples: (a) V436B, (b) V436A, and (c) V261A. Line diagrams for V436B (a) and V261A (c) show inclusion trail truncations at the core/median interface and both have inclusion trails truncated by the matrix foliation. Line diagram for V436A (b) shows inclusion trails in the garnet cores truncated by trails in the garnet rim, which are continuous with matrix fabric.