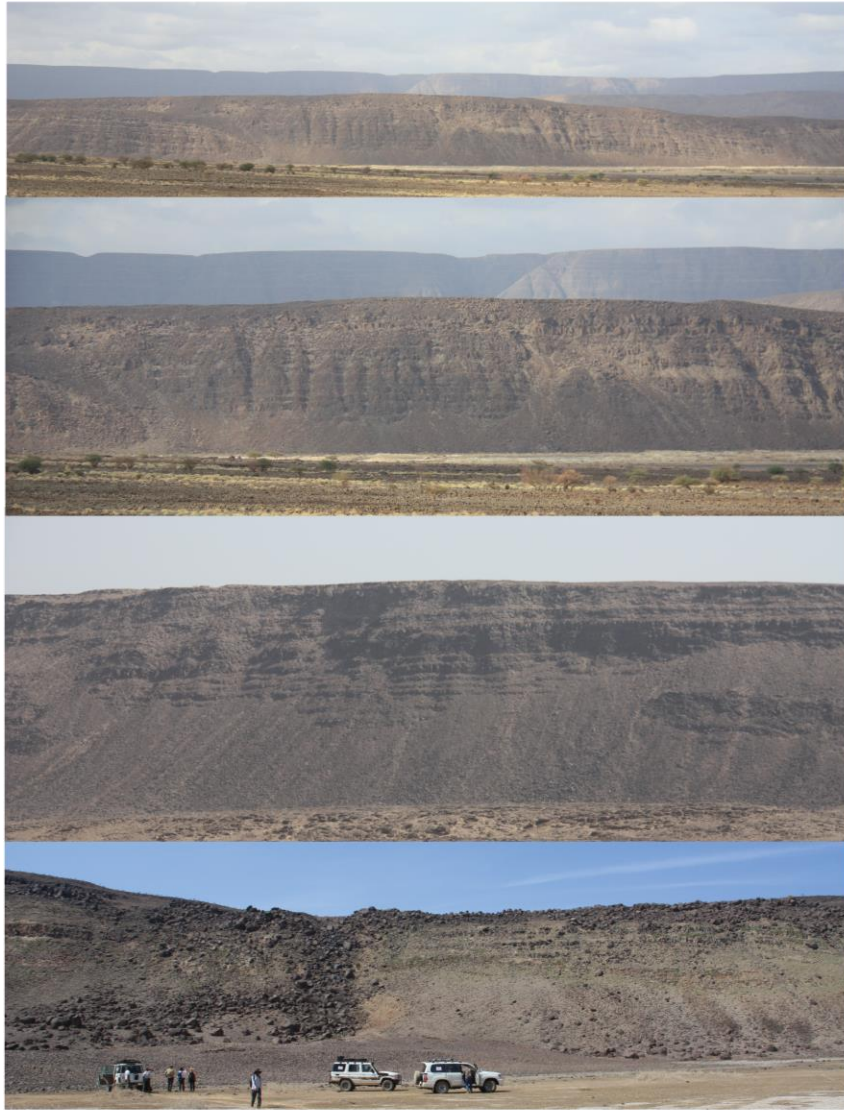
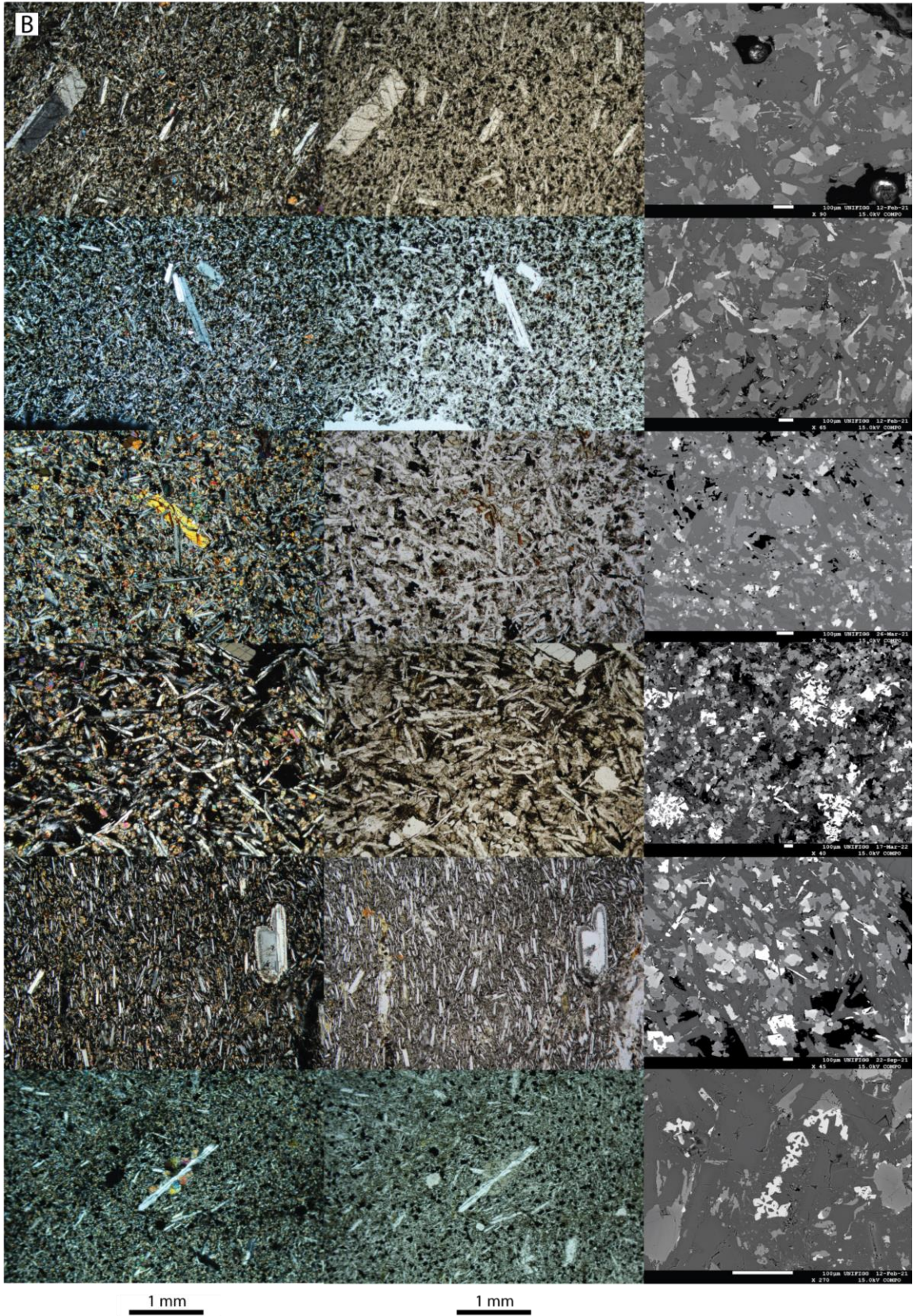


*Fig. S3.1 Set of field and petrographic images of the Stratoid and Central Afar Gulf. a) Field images of the Stratoid. b) Petrographic images of the Stratoid. c) Field images of the Central Afar Gulf. b) petrographic images of the Central Afar Gulf. (next page)*

A





C



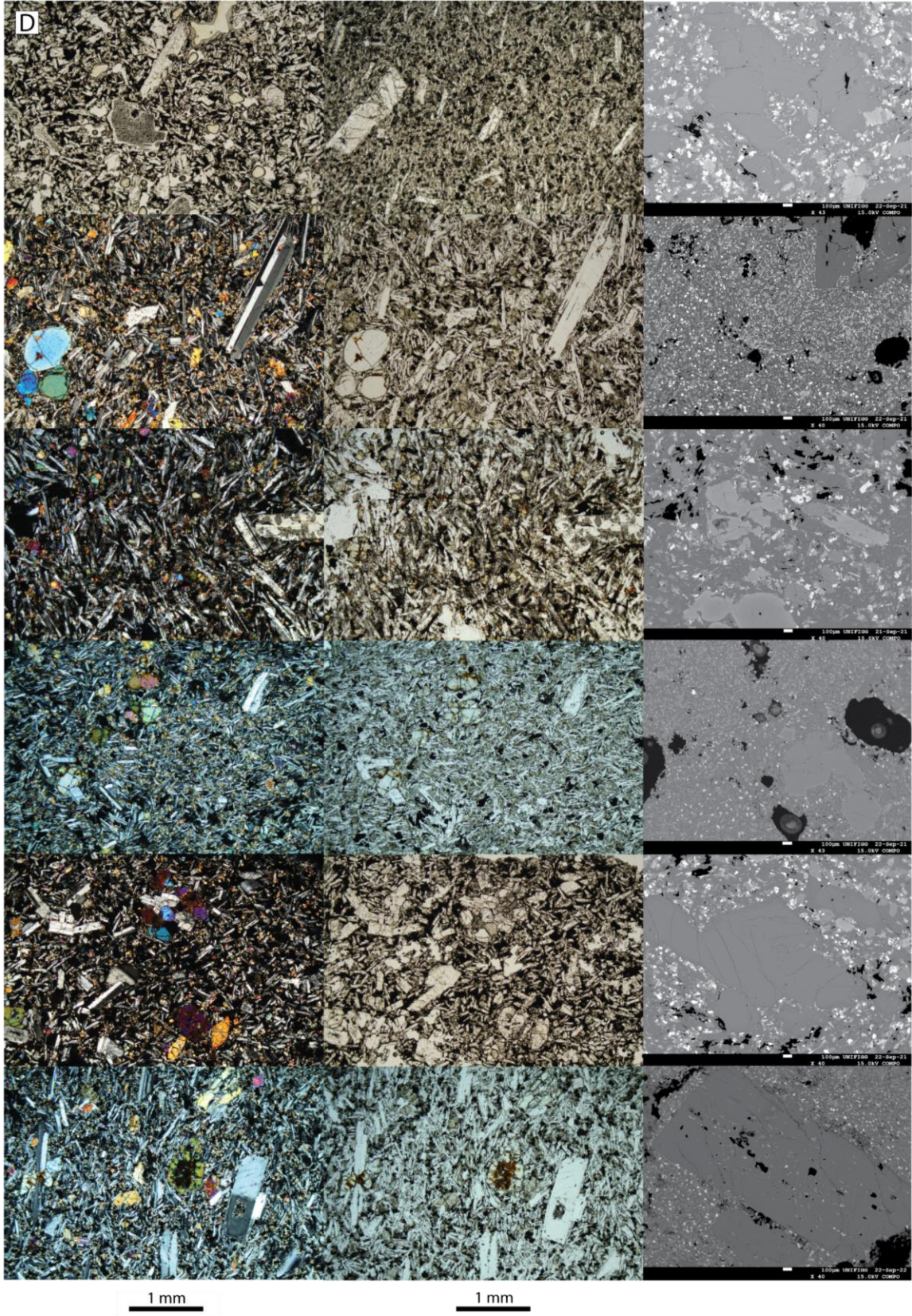


Fig. S3.2 Variations diagrams (wt%) for Lower Stratoid, Upper Stratoid, CAG and Axial Series. Legend, literature data and references as in Fig. S3.2.

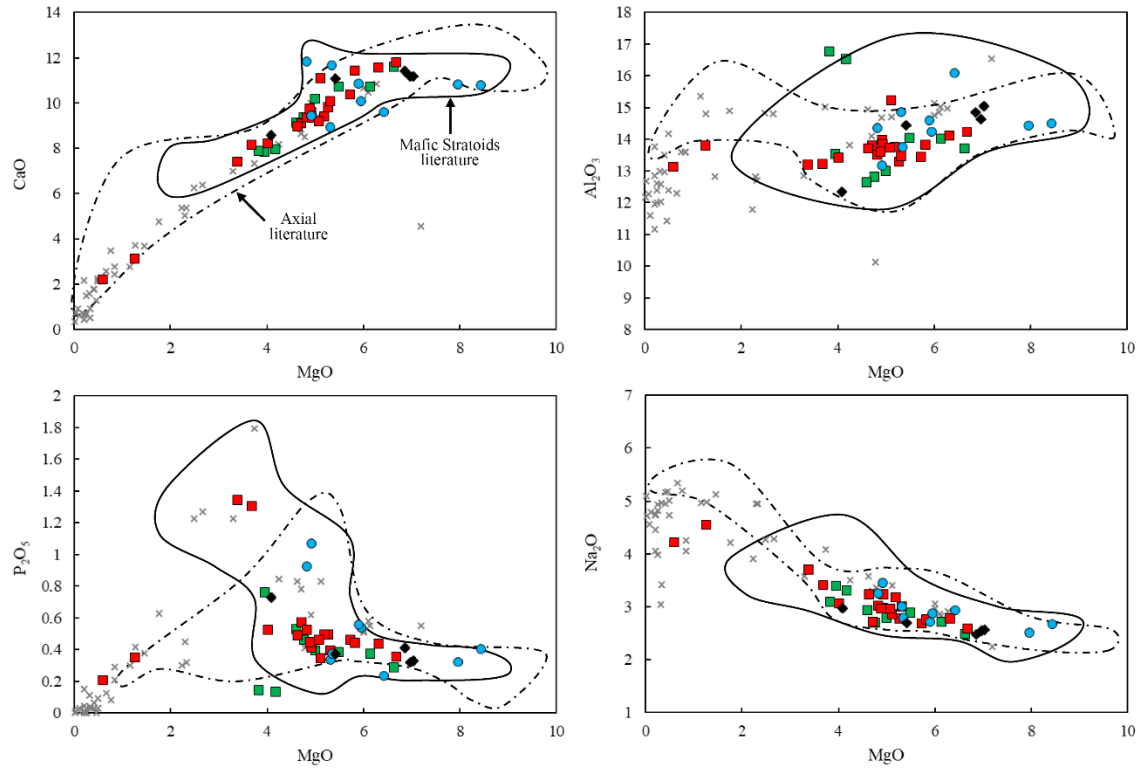


Fig. S3.3 Trace element (ppm) binary diagrams for Lower Stratoid, Upper Stratoid, CAG and Axial Series. Legend, literature data and references as in Fig. S3.2. Note that the Axial literature field has different extent because not all the references have a full trace element suite.

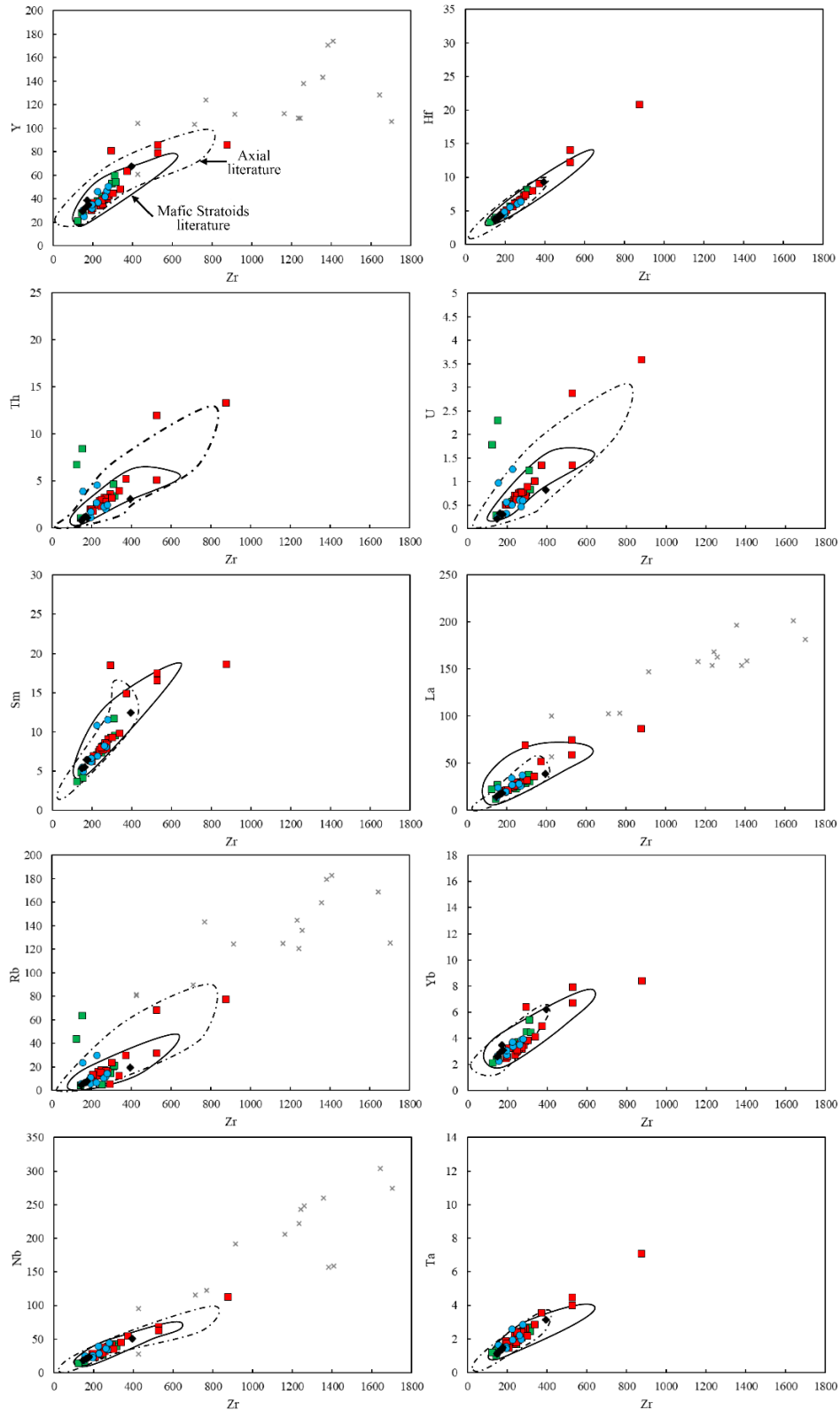
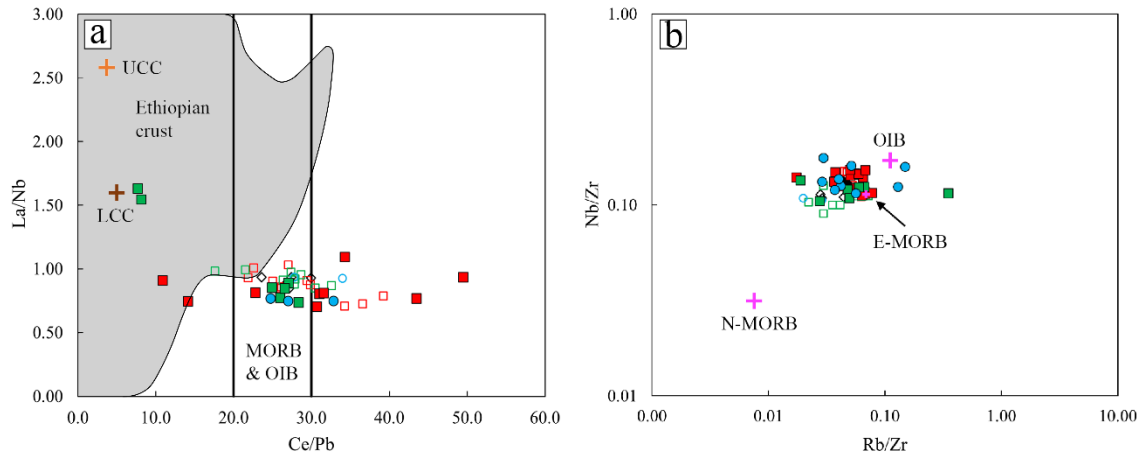


Fig. S3.4 (a) Trace elements indicators for crustal contamination. MORB and OIB field from Hofmann et al. (1986). Ethiopian crust field is from Kebede et al. (1999); Sifeta et al. (2005); Tadesse and Allen (2005); Yihunie et al. (2006). UCC and LCC are respectively the upper continental crust and the lower continental crust (Rudnick and Gao, 2003). (b) Incompatible trace elements ratios for mantle source investigation. OIB, N-MORB and E-MORB values from Sun and McDonough (1989).





*Fig. S3.5 Modelled liquid line of descent for Lower Stratoid, Upper Stratoid and CAG Series major elements (wt%) by means of rhyolite-MELTS, (Asimow et al., 2004; Ghiorso and Sack, 1995). (a) Model with fixed pressure and water content and variable oxygen fugacity from QFM (dashed line) to QFM-1 (solid line). (b) Model with fixed pressure and oxygen fugacity and variable water content from 0.5 wt% (dashed line) to 1 wt% (solid line). (c) Model with fixed oxygen fugacity and water and variable pressure from 1.5 kbar (dashed line) to 2.5 kbar (solid line). Data of silicic central volcanoes whose products are interlayered in the upper part of the Upper Stratoid Series are from Santaronecchi (1978) and reported in Tab. S2.1. (Next page).*

