

Supplementary Tables Captions

Table S1 – Location, field evidence and petrographic description of the analyzed samples from the Upper Pumice deposit and Post Caldera Dome (Nisyros, Greece).

Table S2a – Olivine composition of the Upper Pumice (UP) and Post Caldera Dome (PCD) lavas and enclaves.

Footnotes: ph= phenocryst; mph=micro-phenocryst; m=microlite; gdm= crystals of the groundmass. Fo=forsterite; Fa=fayalite; La=laihunite; Tp=tephroite. bdl=below detection limit

Table S2b – Orthopyroxene composition of the Post Caldera Dome (PCD) lavas and enclaves.

Footnotes: ph= phenocryst; mph=micro-phenocryst; m=microlite; gdm= crystals of the groundmass. En=enstatite; Fe=ferrosilite; Wo=wollastonite. bdl=below detection limit. $Mg\# = Mg / (Fe^{2+} + Fe^{3+} + Mn + Mg)$.

Table S2c – Clinopyroxene composition of the Post Caldera Dome (PCD) lavas and enclaves.

Footnotes: ph= phenocryst; mph=micro-phenocryst; m=microlite; gdm= crystals of the groundmass. En=enstatite; Fe=ferrosilite; Wo=wollastonite. bdl=below detection limit. $Mg\# = Mg / (Fe^{2+} + Fe^{3+} + Mn + Mg)$.

Table S2d – Amphibole composition of the Post Caldera Dome (PCD) lavas and enclaves.

Footnotes: ph= phenocryst; mph=micro-phenocryst; m=microlite; gdm= crystals of the groundmass.

Table S2e – Fe-Ti oxides composition of the Post Caldera Dome (PCD) lavas and enclaves.

Footnotes: ph= phenocryst; mph=micro-phenocryst; m=microlite; gdm= crystals of the groundmass. ILM=Ilmenite % component; HEM=hematite % component.

Table S2f – Representative glass composition of the Post Caldera Dome (PCD) lavas and enclaves.

Table S2g - Within run analytical results on representative international secondary standards compared to certified values. Within run replicates on reference standards show a good precision over the years, with standard deviations lower than 3% for many major elements (>1 wt.%) and 5% for minor elements (0.1-1 wt.%) and well agree with the values and conditions reported in Vaggelli et al. (1999). Accuracy is generally good for all elements and well within that reported in Vaggelli et al. (1999) considering the long term standard average on the different matrices.

Table S3 – P-T results for clinopyroxene from geothermobarometer of Chicchi et al. (2023) and Higgins et al. (2022).

Footnotes: ph= phenocryst; mph=micro-phenocryst; m=microlite; gdm= crystals of the groundmass.

Table S4 – P-T results for clinopyroxene from geothermobarometer of Ridolfi (2020) and Higgins et al. (2022)

Table S5 – Geo-thermometers summary. *Footnotes:* CPX= clinopyroxene; AMP= amphibole; PL= plagioclase; USP= ulvospinel; ILM= ilmenite