

Supplementary Figures

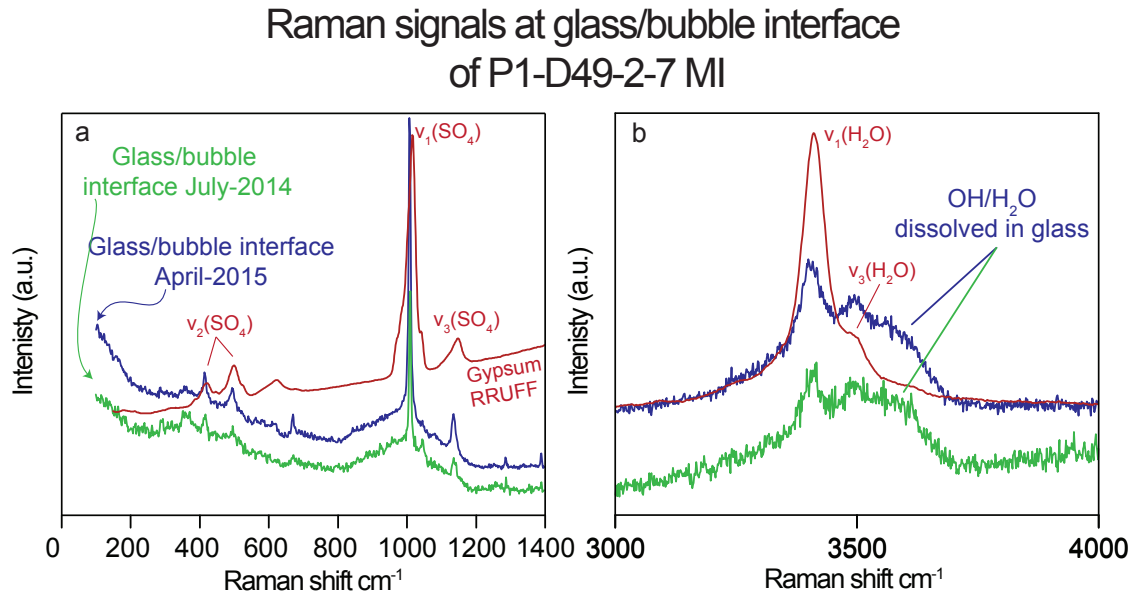


Fig. C1. Raman spectra of the solid at the glass/bubble interface of MI P1-D49-2-7. **A).** **a**, low wavenumber range showing SO₄ vibration bands. **b**, high wavenumber range showing O-H vibration bands. The blue line represents the Raman spectrum obtained at the glass/bubble interface of MI P1-D49-2-7 during the April 2015 working session. The green line represents the Raman spectrum of the same interface but at an earlier working session. The red line is the reference spectrum for gypsum (RRUFF ID: R040029).

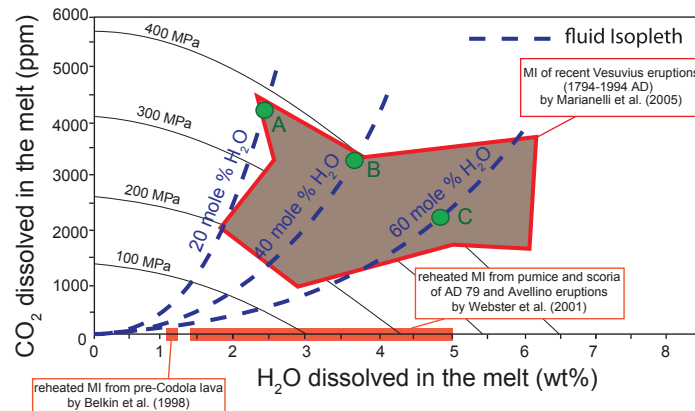


Fig. C2. Solubilities of H₂O and CO₂ in a basaltic melt as a function of pressure. Isobars are from Marianelli et al. (2005) assuming 1200°C and SiO₂=45wt%, calculated using VolatileCalc (Newman and Lowenstern, 2002). The shaded field shows compositions of MI hosted in olivine from recent eruptions of Mt. Somma-Vesuvius, modified after Marianelli et al. (2005). Orange highlights on the x-axis represent H₂O contents of reheated MI from a pre-Codola lava (Belkin et al., 1998) and pumice of the AD 79 Pompeii eruption and pumice-scoria of the Avellino eruption (Webster et al., 2001). Noticed that some of the MI of this study represent the same eruption studied by Webster et al. (2001) and by Belkin et al. (1998), and that only H₂O (and not CO₂) dissolved in the glass was analyzed. Dashed blue lines represent isopleths of mole % H₂O in the fluid in equilibrium with the melt. The three green filled circles (A, B, and C) represent compositions of fluid in equilibrium with the melt at the trapping conditions.

References cited

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