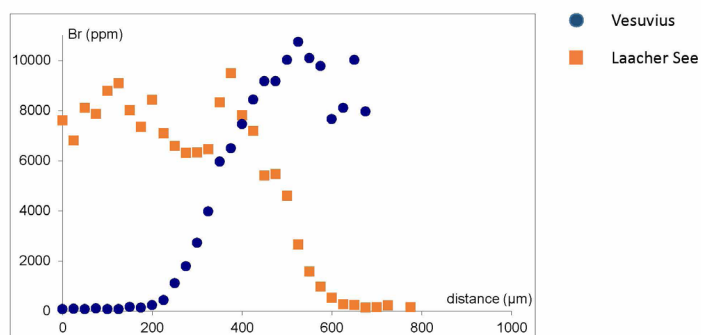
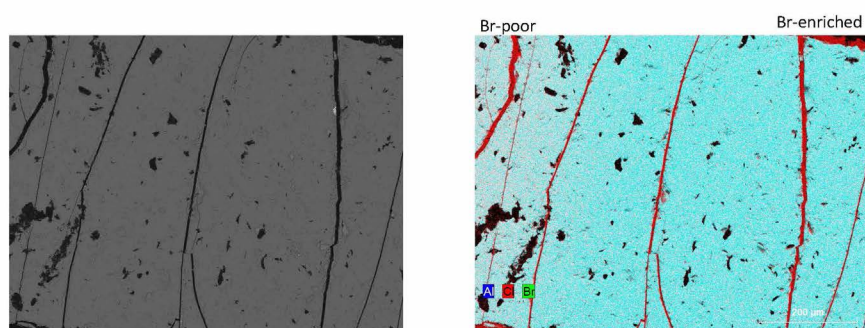


SUPPLEMENTAL FIGURE S1. H₂O concentration of hydrous experiments with the halogen mixture for Laacher See (1450 °C and 1250 °C) and Vesuvius (1450 °C). SIMS measurements along profiles into the run products.



S2 – Zero time Experiment Br profile

SUPPLEMENTAL FIGURE S2. Zero-time experiment Br profile (Br concentrations (ppm) as a function of distance (μm)). Br concentrations were determined by secondary ion mass spectrometry (SIMS) following the method described in Cadoux et al. (2017). In blue : WP; in orange: LS, for Br-enriched glass only (not the mixture).

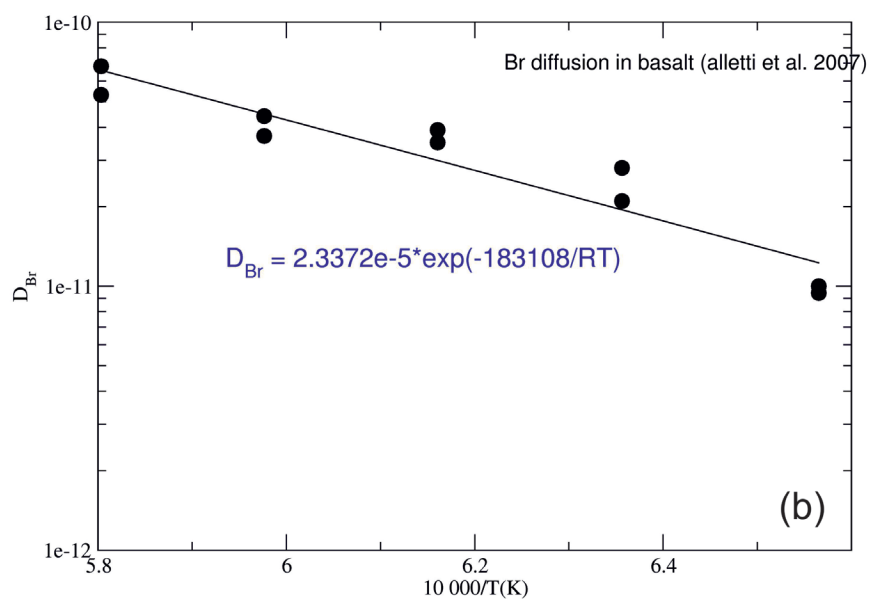


BSE

Mixed chemical map Al-Cl-Br

Laacher See

SUPPLEMENTAL FIGURE S3. Chemical mapping at the interface of the 1250 °C experiment with halogen mixture by energy-dispersive spectrometry on a scanning electron microscope. On the left : BSE image . On the right: a combined image obtained using the Al–Cl–Br signal.



SUPPLEMENTAL FIGURE S4. Br diffusion in basaltic melts (for comparison) with 3 wt% of H₂O (Alletti et al. 2007). Only Br diffusion with halogen mixture is displayed.