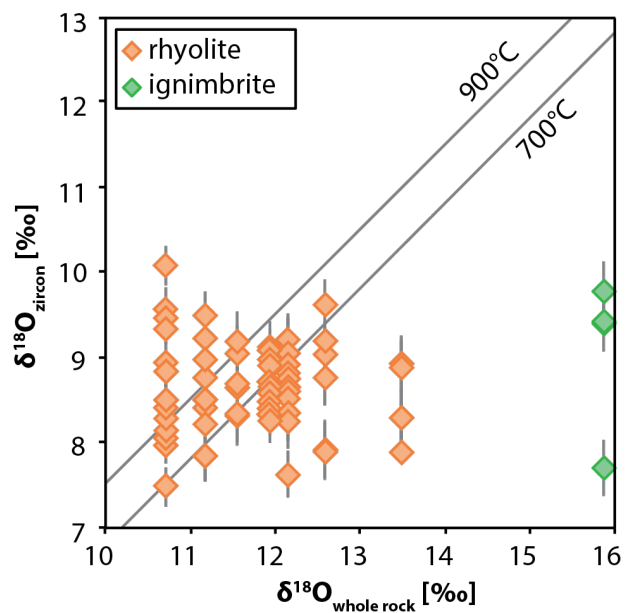


SUPPLEMENTAL FIGURE S1. Additional cathodoluminescence images of quartz phenocrysts from rhyolitic lava flows and ignimbrites. The red dots indicate the location of the $\delta^{18}\text{O}$ SIMS analysis. All corresponding profiles are shown in Figure 8.



SUPPLEMENTAL FIGURE S2. Calculated oxygen isotope fractionation for zircon-whole rock. Whole-rock analysis was obtained by laser fluorination. Zircon crystals were all measured with SIMS. The 700 and 900 °C line is the calculated equilibrium fractionation based on the values as indicated in Table 3. The 2σ of the analysis is indicated, where not shown it is smaller than symbol.