Addition of CO2-rich gas to the drain-back magma inferred from melt inclusion of Fuji AD864 eruption

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In order to understand magmatic processes accompanied by pressure change such as ascent and descent of magma, determination of dissolved CO_2 content in the magma is indispensable. This study measured the volatiles (H₂O, CO₂) in melt inclusions in high accuracy, and discussed the details of magma plumbing system of the AD 864 eruption of Fuji volcano using those volatile data combined with major element composition of the melt inclusions and host phenocrysts. As a result, complicated sequential processes including not only fractional crystallization and magma-mixing but also gas-supply to the vapor-undersaturated drain-back magma are minutely clarified with pressure scale for the first time.