Magma ascent process in felsic magma eruptions-Especially on the two stage ascent in the initial stage of eruption-

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The groundmass texture and volatile content revealed two-stage ascent for the earliest-erupted magma in two eruptions. The bubble textures of the micropumice from the phreatomagmatic eruption of Usu 2000 are inferred to be formed through two-stage decompression. In Futatsudake eruption, the earliest-erupted magma stayed at 1-2 kbar on the way before ejection, while later magma ascended directly to the crater. Each ascent stage of earliest-erupted magma may correspond to the periods of the preparation for eruption (e.g. conduit formation) and vent opening. Degassing before vent opening (Usu eruption) and extensive degassing in earliest-erupted magma (Futatsudake) may be caused by the stagnation in the preparation stage, if degassing is enhanced by slow ascent speed.