

**TABLE 1.** Compositions (wt%) and synthesis conditions

	Rhyolite	Phonolite	Basalt
SiO <sub>2</sub>	78.5 (4)	56.5 (5)	52.0 (2)
TiO <sub>2</sub>	–	0.53 (4)	0.65 (5)
Al <sub>2</sub> O <sub>3</sub>	12.0 (2)	23.3 (4)	20.2 (2)
FeO	–	–	–
MgO	–	4.0 (1)	11.4 (2)
CaO	–	1.6 (1)	13.2 (1)
Na <sub>2</sub> O	4.6 (1)	7.9 (1)	2.3 (1)
K <sub>2</sub> O	4.7 (1)	6.1 (1)	–
H <sub>2</sub> O <sup>a</sup>	0.32	0.02	0.16
CO <sub>2</sub> <sup>a</sup>	0.00	0.00	0.00
Total	100.12	99.95	99.91
<i>P</i> (GPa)	3.5	2.0	3.5
<i>T</i> (K)	2023	1673	1973
Duration (h)	5	2	0.42

<sup>a</sup> FTIR, uncertainty on H<sub>2</sub>O and CO<sub>2</sub> is 10% relative, related to uncertainties in the molar absorption coefficients.