Figure 1. Experimental set-up. (a) Glass cylinders of basalt and rhyolite were placed above each other at room T into a P-doubled and heated to 1450°C. (b) Air trapped between the glass cylinders expands and forms bubbles upon heating.

T = 20°C

T = 1450°C

Where is interstitial air?
Figure 2: Modelled compositional profile after the thin-source problem (e.g., Zhang, 2010).
The initial composition of the basalt has been deliberated. i.e. the plume tail has been persistently high.

Element concentration profiles across the hybrid plume structure. Blue and red lines indicate the initial concentration of the basalt.

**Figure 4.** Backscattered electron images of slices of experimental glass and exemplary major.
Figure S. 1RS plot of end-member compositions and hybrid compositions produced during the double advection experiment. Data normalized to 100% totals. Blue and red circles denote the end-member compositions of Snake River Basalt and Phryolite.
Figure 6. Modelled viscosity of filament compositions after Cristiano et al. (2008), two panels.
which are indicated in the graph. Each curve shows a 2% error interval (dashed lines).

The integral thickness of each profile. Four curves were calculated for different diffusion times, with each point representing the concentration variance of an entire diffusion profile correlated with data. Each curve represents a concentration variance dependent on integral thickness. Each

Figure 7. Ideal behavior of concentration variance depending on integral thickness. Each
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**Segregation Enhanced by Bubble Mixing**

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**Figure 9.** Backscattered electron images of basaltic glass from axial seamount (Michoacan Seamount).

Surrounding glass, attached to vesicles.

Personal communication, 2015). Red arrows indicate filaments of more mafic composition than surrounding glass, attached to vesicles.

Very unconvincing.