

## Australasian microtektites: early target-projectile interaction in large impacts on Earth

L. Folco, M. Masotta, P. Rochette, M. Del Rio, G. Di Vincenzo

### Supplementary Information

The Supplementary Information includes:

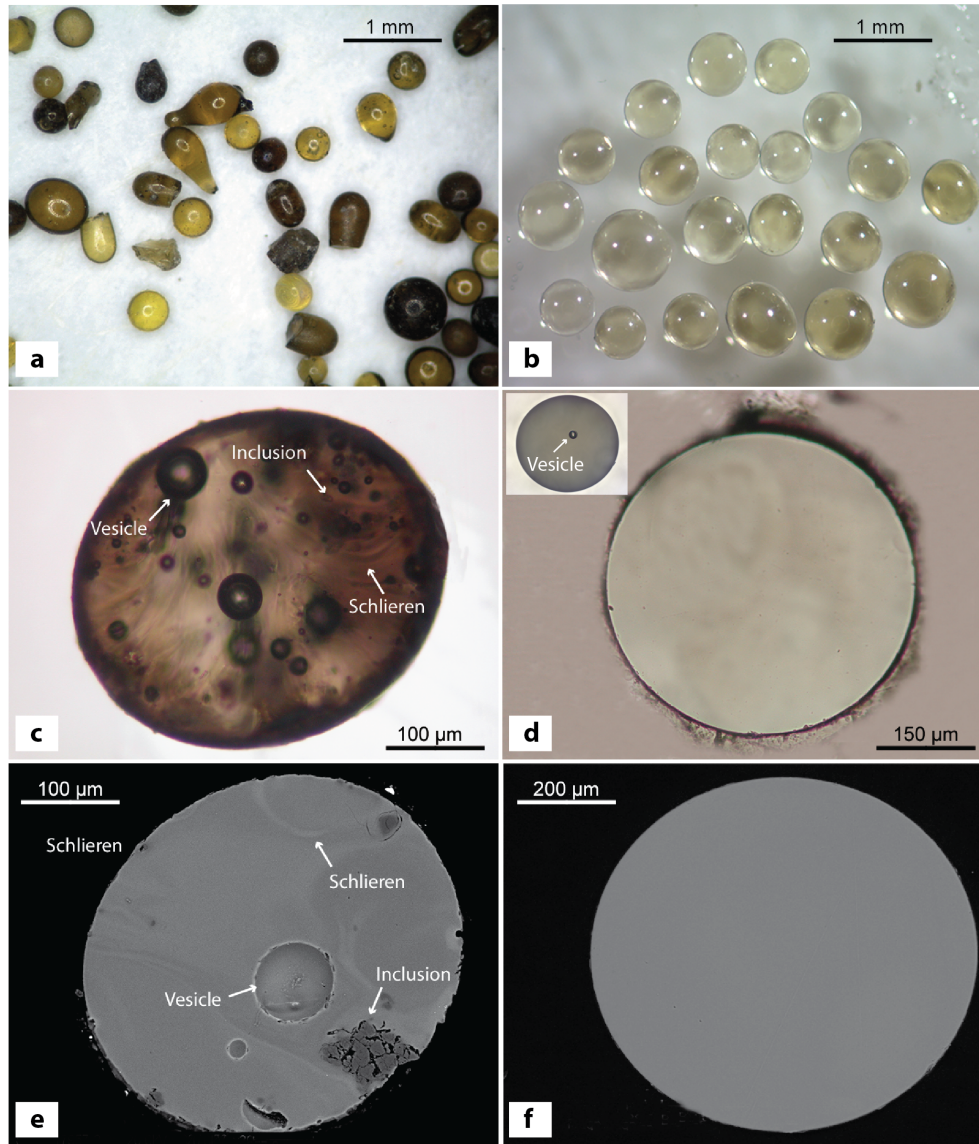
- Table S-1
- Figures S-1 to S-3
- Supplementary Information References

### Supplementary Table

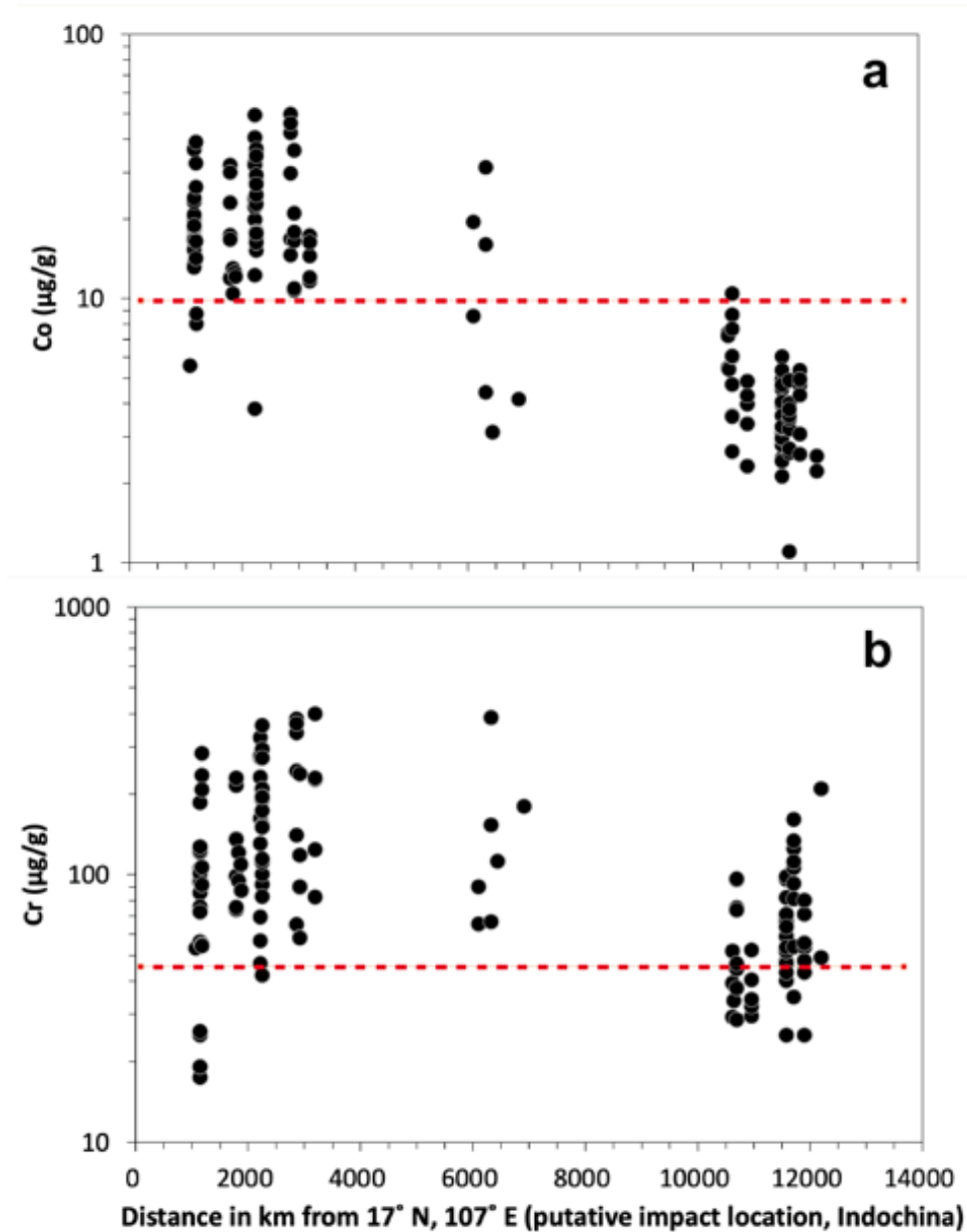
**Table S-1** Major element (oxides, wt. %) and trace element (Ni, Co, Cr, and Eu) contents of Australasian microtektites used in this work. Microtektites are listed according to site of provenance, in alphabetical order.

Table S-1 is available for download (.xlsx) from the online version of this article at <http://doi.org/10.7185/geochemlet.2427>.

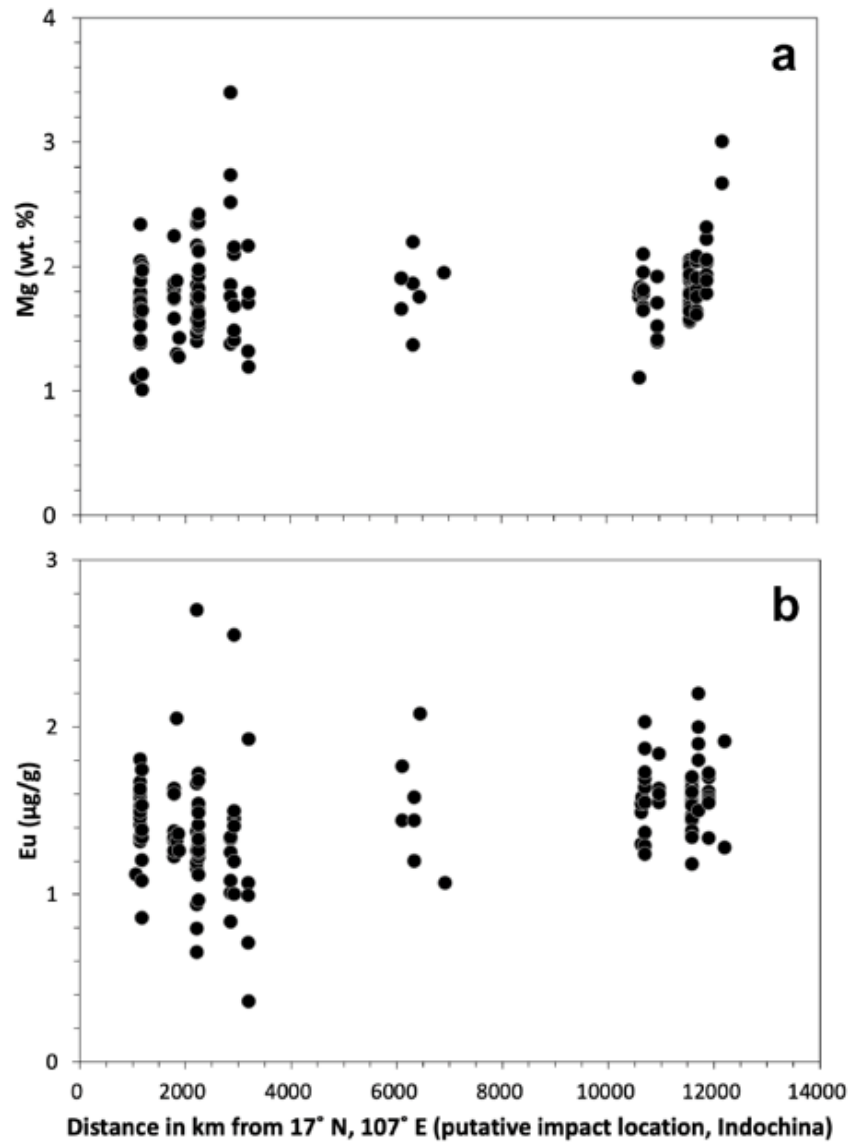
## Supplementary Figures



**Figure S-1** Main petrographic features of the microtektites studied in this work. **(a)** A batch of microtektites from deep-sea sediments (stereomicrograph). **(b)** Stereomicrograph of a set of microtektites from the Transantarctic Mountains. **(c)** Micrograph of a sectioned microtektite from deep sea sediments found within 3000 km from the putative impact location in Indochina. **(d)** Micrograph of a sectioned microtektite from the Transantarctic Mountains. Inset: a 25 µm diameter vesicle in a sectioned microtektite from the Transantarctic Mountains 430 µm across. For the few lechatelierite inclusions observed in the Transantarctic Mountains microtektites, see Figure 4c in Folco *et al.* (2009). **(e)** Back scattered electron image of a sectioned microtektite from deep sea sediments found within 3000 km from the putative impact location in Indochina. **(f)** Backscattered electron image of a sectioned microtektite from the Transantarctic Mountains. See main text for details.



**Figure S-2** (a) Cobalt and (b) Cr concentrations ( $\mu\text{g/g}$ ) versus distance (km) from the putative impact location in Australasian microtektites. Geochemical data set ( $n = 144$ ) from Brase *et al.* (2021), Folco *et al.* (2009, 2016, 2018), Glass *et al.* (2004), Glass and Koeberl (2006), Soens *et al.* (2021) and Chernozhkin *et al.* (2021); see **Table S-1**. The putative impact location is from Ma *et al.* (2004). Cobalt and Cr concentrations for Earth's upper continental crust are from Taylor and McLennan (1995).



**Figure S-3** (a) Magnesium and (b) Eu concentrations ( $\mu\text{g/g}$ ) versus distance (km) from the putative impact location in Australasian microtektites. Geochemical data set ( $n = 144$ ) from Brase *et al.* (2021), Folco *et al.* (2009, 2016, 2018), Glass *et al.* (2004), Glass and Koeberl (2006), Soens *et al.* (2021) and Chernonozhkin *et al.* (2021); see **Table S-1**. The putative impact location is from Ma *et al.* (2004).

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