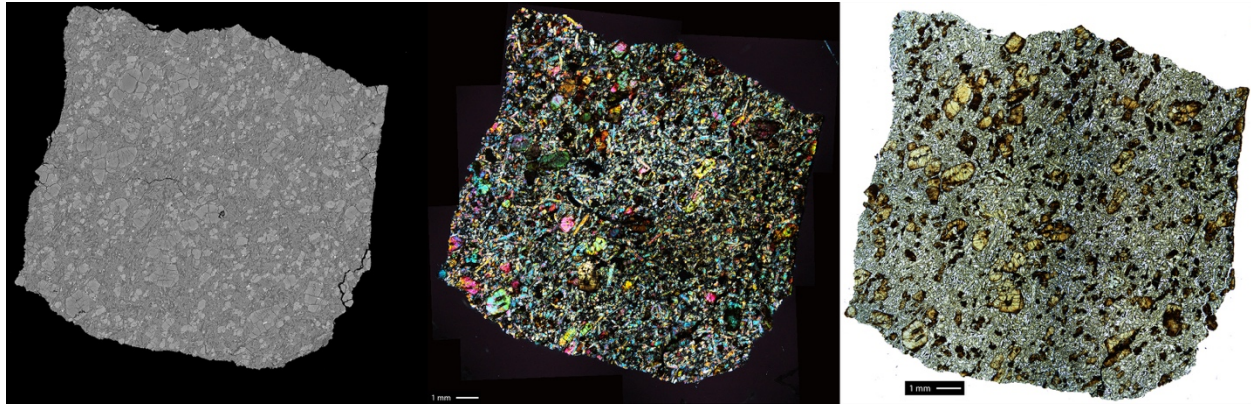
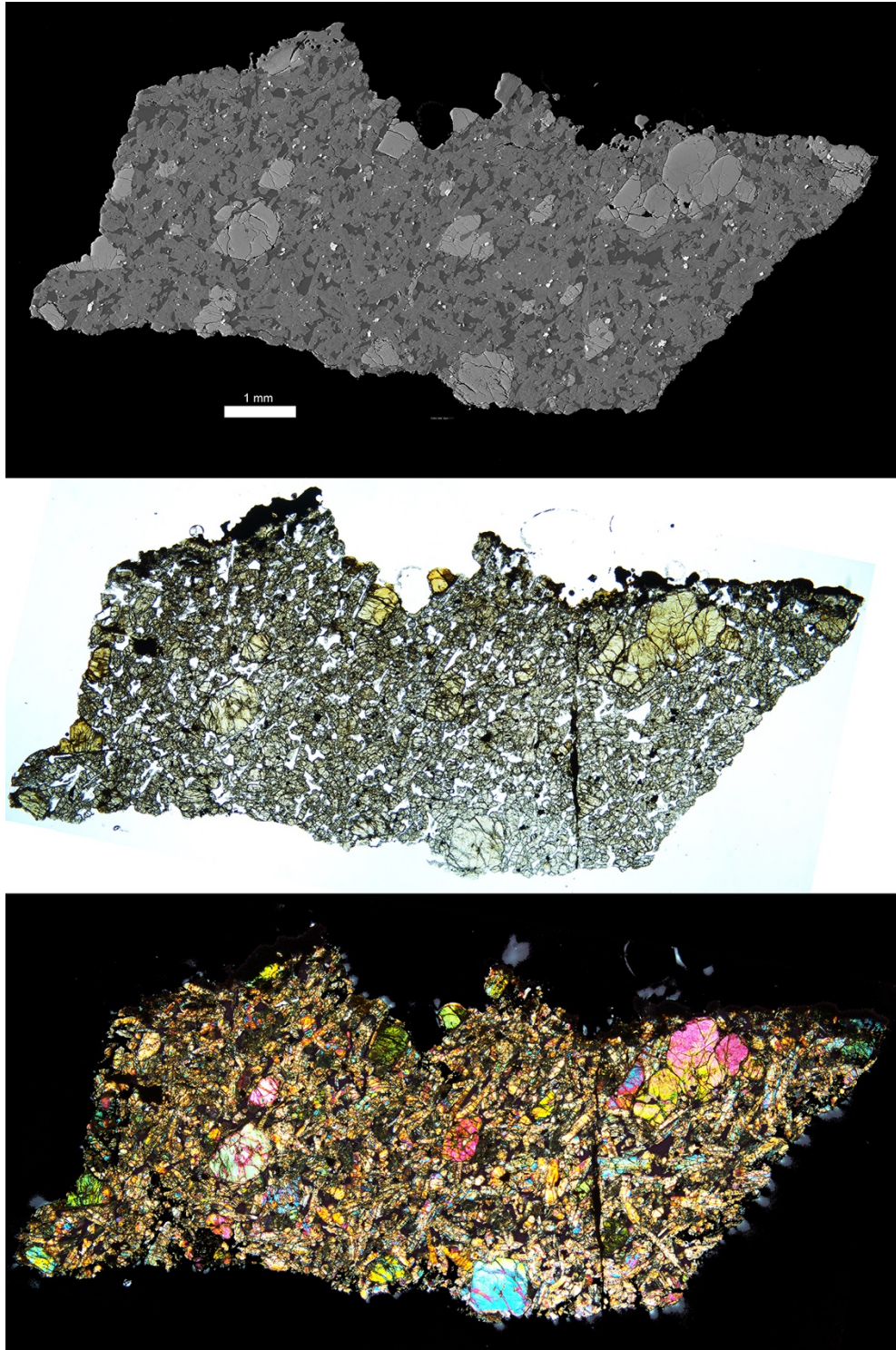


### Supplementary Appendix Figures S1-S5

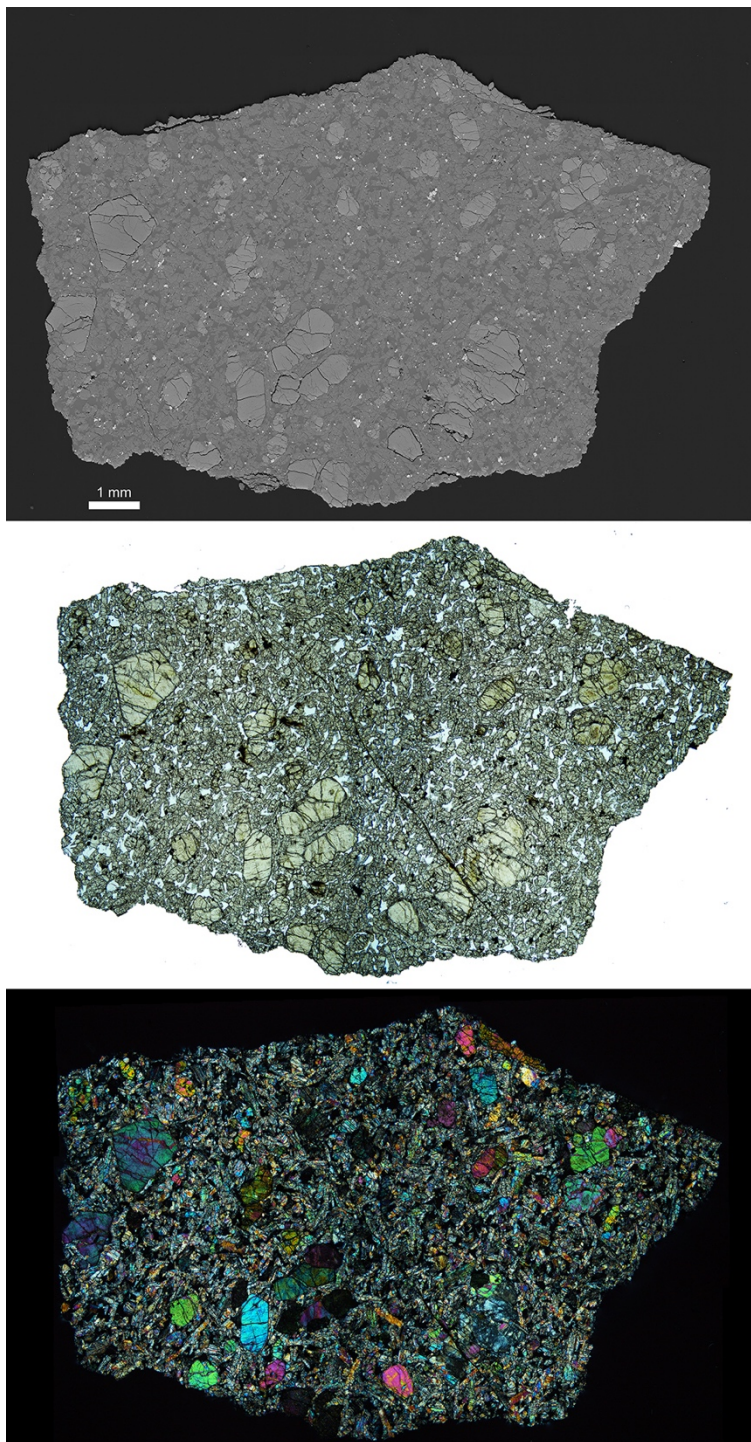


**Figure S1.** Backscattered electron image, plane polarized light image and crossed polarised light image of the LAR 12011, 22 section examined in this study.

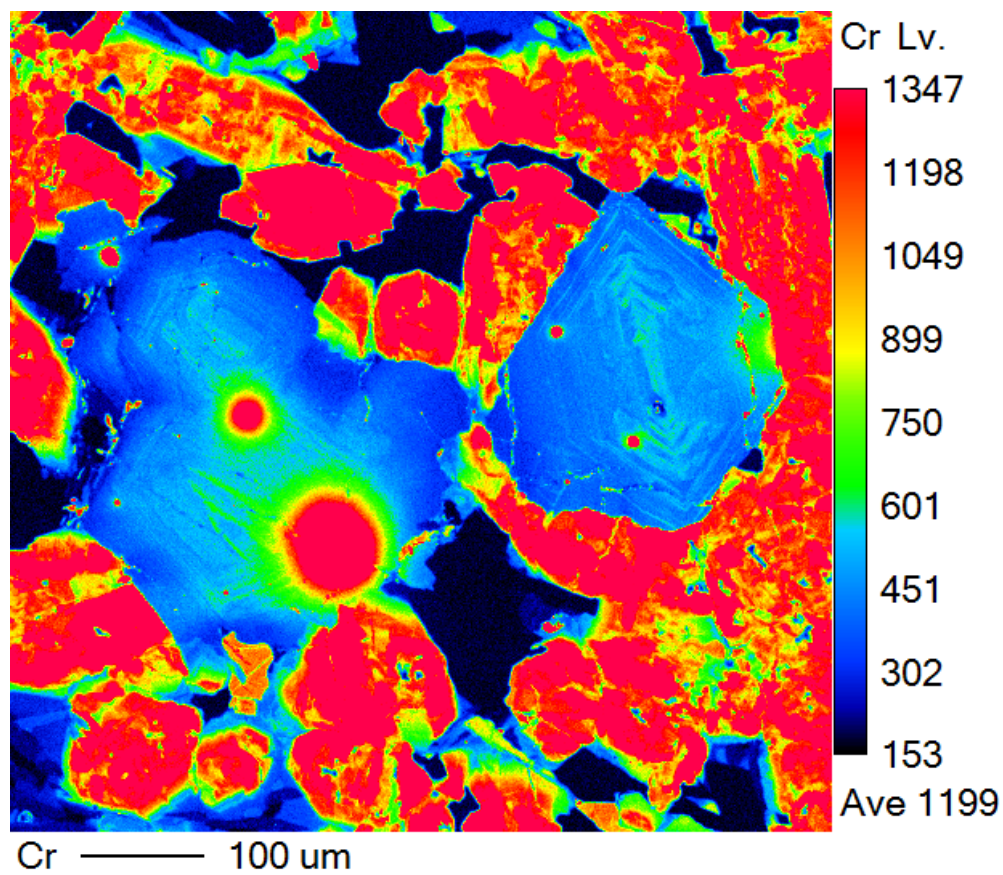


**Figure S2.** Backscattered electron image, plane polarized light image and crossed polarised light image of the LAR 12095, 28 section examined in this study.





**Figure S3.** Backscattered electron image, plane polarized light image and crossed polarised light image of the LAR 12240, 17 section examined in this study.



**Figure S4.** Qualitative false color map of chromium zoning in olivine (two central grains) in the Tissint meteorite. The scale is in counts per second, measured on the JEOL JXA-8530F at the University of Manchester. Map conditions: 20 kV acceleration voltage, 500 nA beam current, 512 x 512 pixels, 600 ms/pixel, 1.3 μm/pixel.

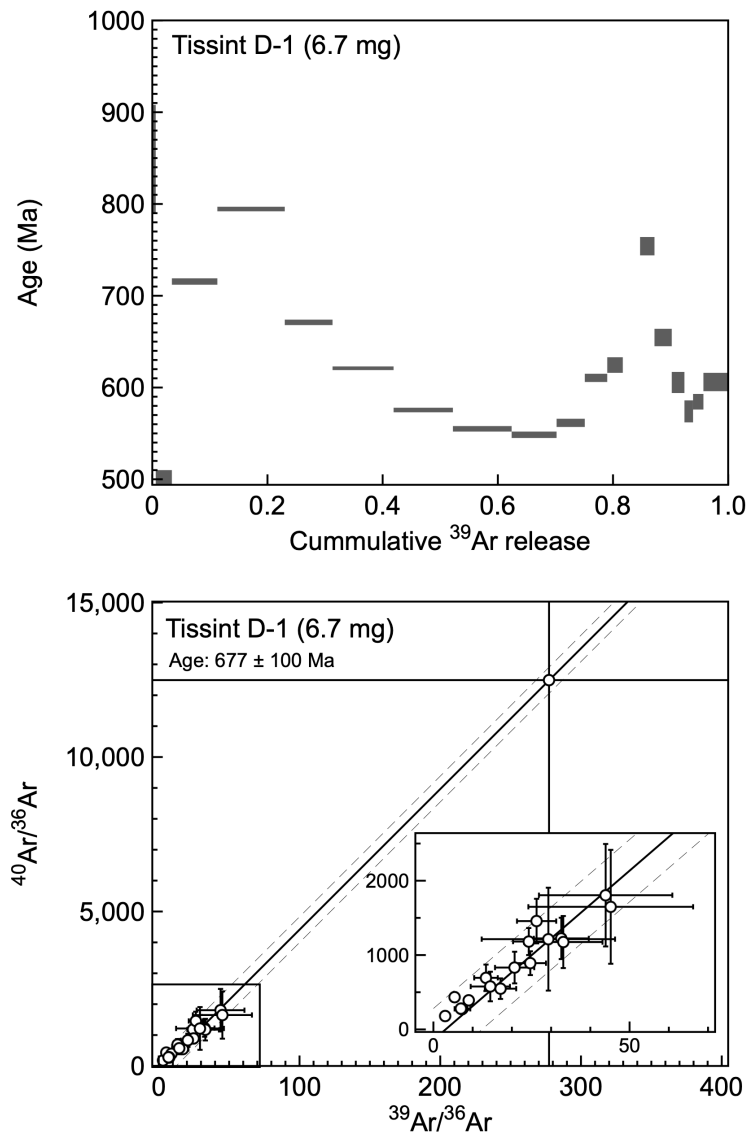


Figure S5a – see caption below

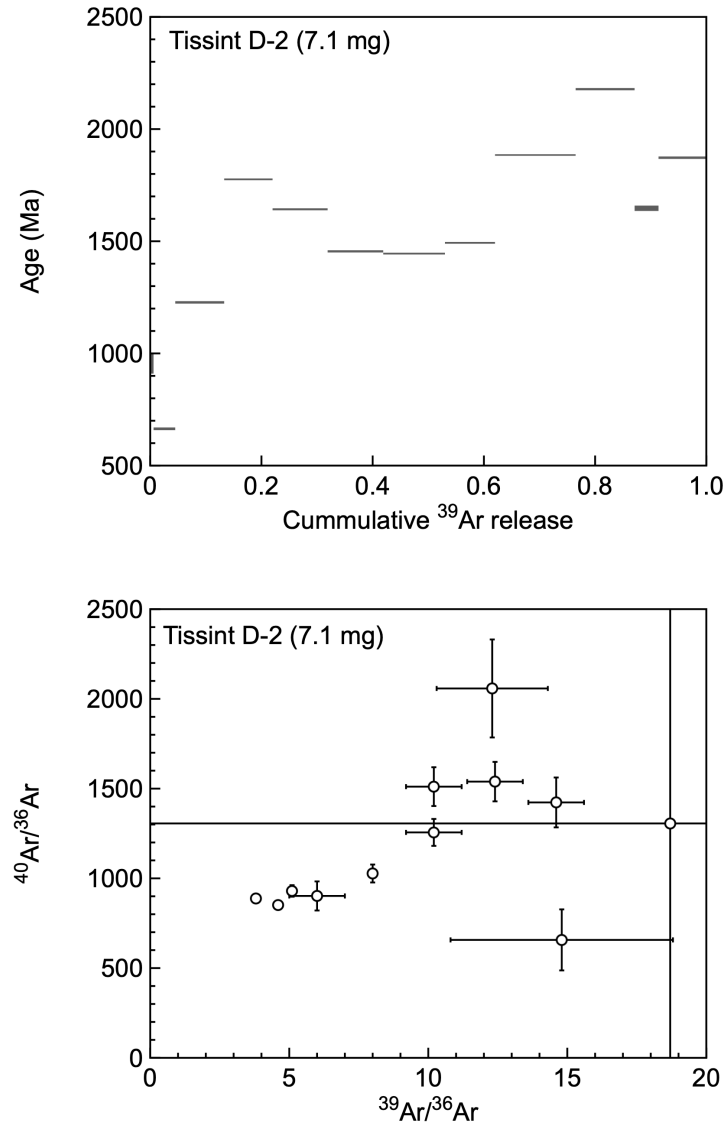


Figure S5b – see caption below

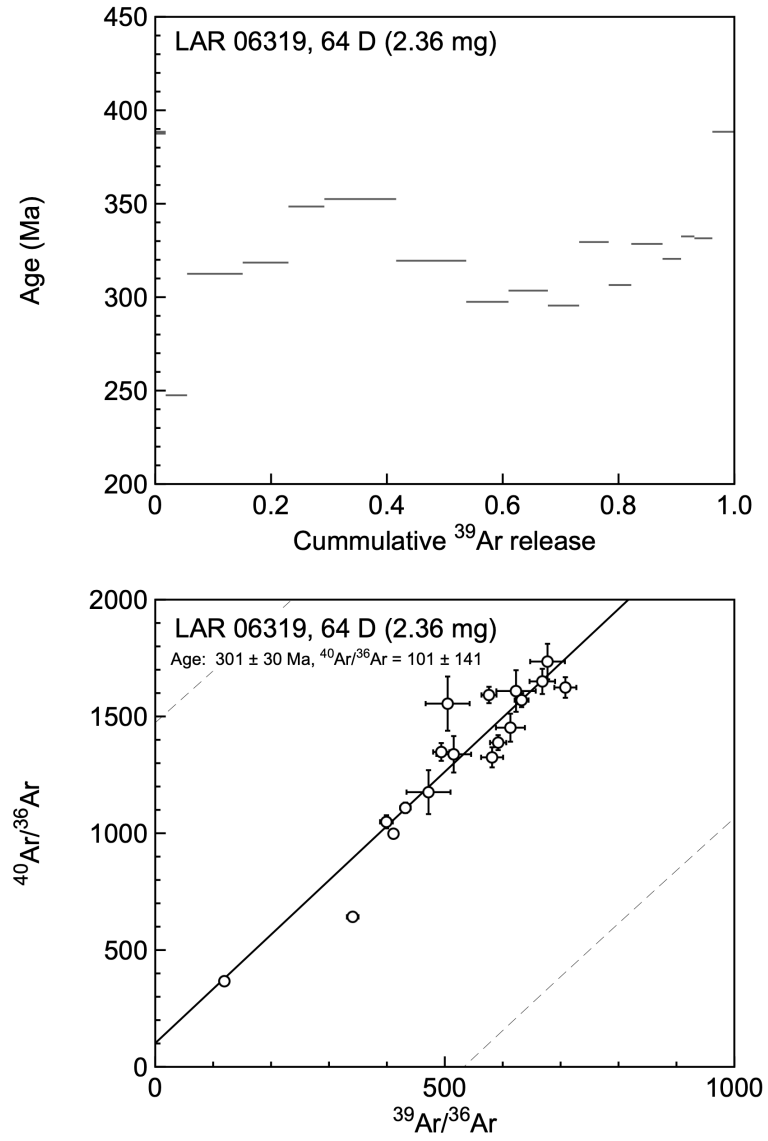


Figure S5c – see caption below

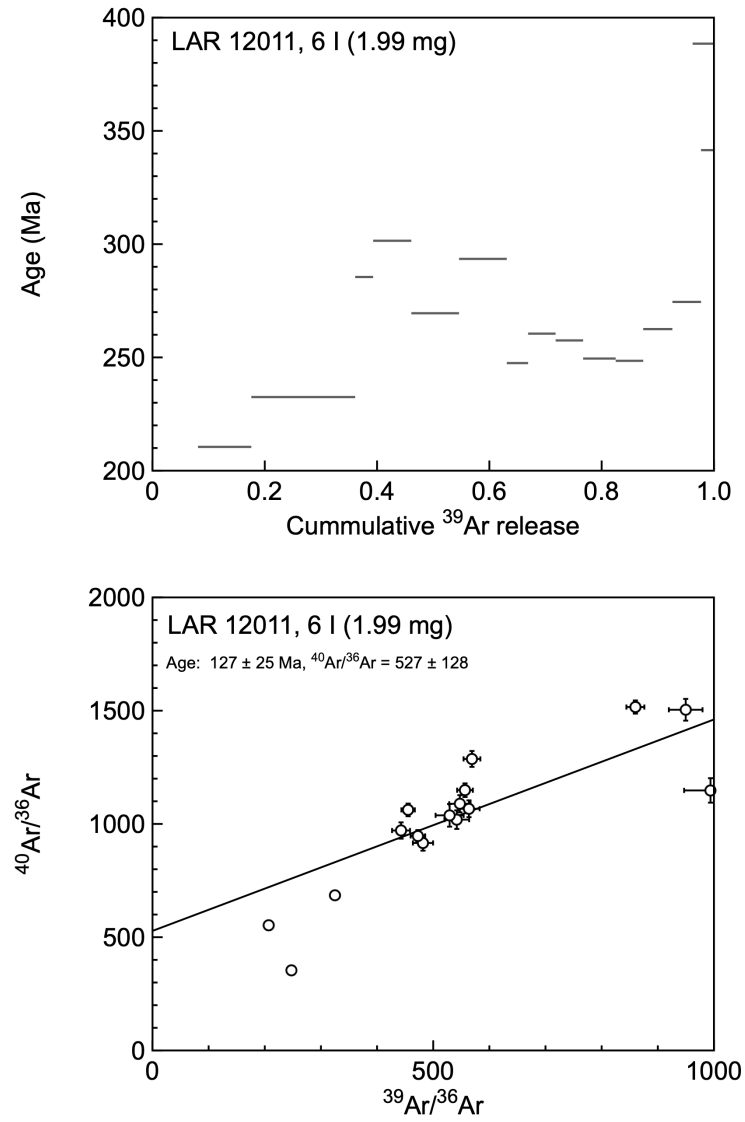
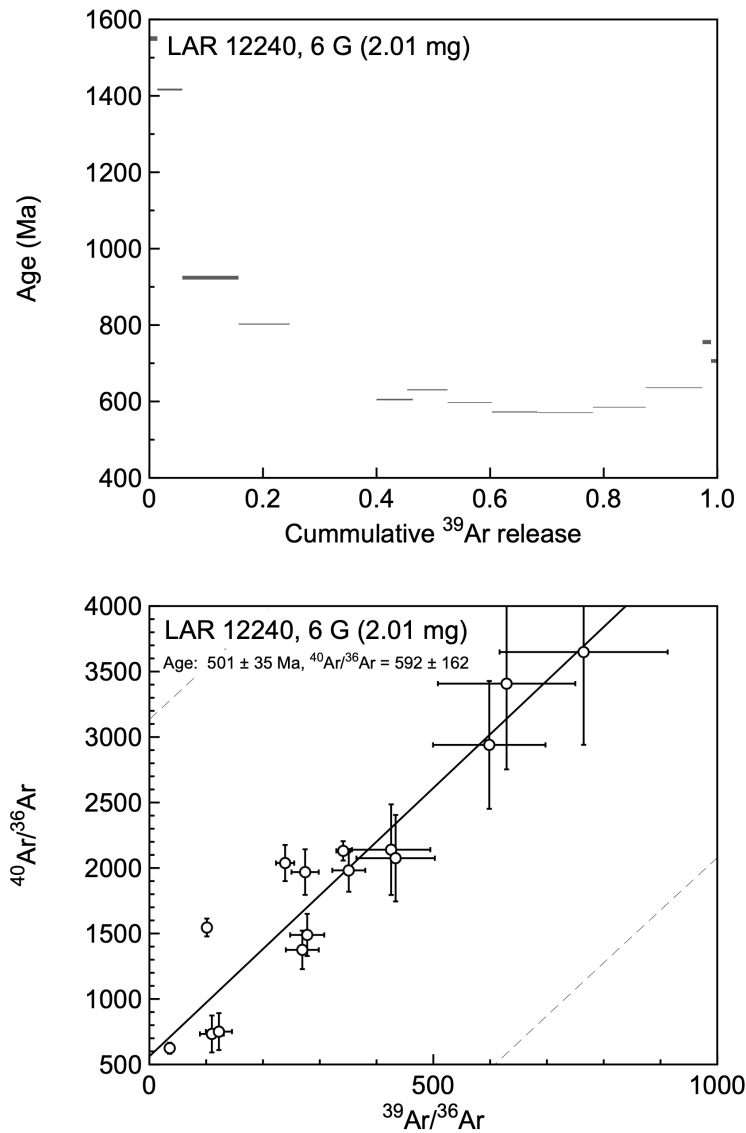


Figure S5d – see caption below





**Figure S5.** Ar-Ar plateau and isochron diagrams for (a, b) Tissint, (c) LAR 06319, (d) LAR 12011 and (e) LAR 12240. Data and correction factors are reported in Table S3 of the Supplement. No plateau ages were determined for any of the samples measured in this study.