

## Supplementary Material S2: Visualizing Whole-Slide Images

We used Olympus ASW v3.4 to generate virtual z-series (fake 'z-stacks') from multi-pol TL and brightfield RL imaging (RGB format) in the VS200 slide scanner. The 10X virtual z-stacks represent multimodal imaging of the same sample surface, as there is no vertical offset between the different illumination modes.

Readers can access two sample scans via the web-based OlyVIA platform (<http://discovery.olympus.com.au/Account/Login> (accessed on 19 January 2023)). This has a similar intuitive data management system and graphical user interface (GUI) to the freeware OlyVIA viewer used to access imagery from local file servers. We have configured a default user ('QUT GUEST') and password ('Olympus123') for accessing the root database ('vsbase'). Two priority thin sections are found in the following destination folder: 'vsbase > OAZ > Acevedo & Kamber'. They are:

- 18-RBE-006h <sup>[1]</sup>: Granular granulite xenolith embedded in basalt. Locality: Campbell's Peak, Clermont province. The xenolith is largely composed of plagioclase and two pyroxenes.
- 7KB-42 <sup>[2]</sup>: Fresh tonalite gneiss strongly banded (mm-scale) and consisting of hornblende + plagioclase + garnet + quartz  $\pm$  clinopyroxene  $\pm$  biotite. The accessory phases include apatite, ilmenite, titanite and zircon. Locality: KSZ, Superior Province, Canada; fresh samples.



**Figure S1.** OlyVIA web (front-end GUI) showing 7KB-42 vertical banding of pyroxene-plagioclase with intercalations of garnet-clinopyroxene trails. In the GUI, the basic x-y navigation is achieved via panning, zooming via mouse wheel, and switching between illumination modes and multi-pol angle with the slider on the left-hand side.

The 'gear' button (bottom left of Figure S1) leads to settings that include the instructions for using the GUI. Hand annotations can be shared if they are allowed by the data owner for remote users.

## References

1. Emo, R. B.; Kamber, B. S. Evidence for highly refractory, heat producing element-depleted lower continental crust: Some implications for the formation and evolution of the continents. *Chemical Geology* 2021, 580. DOI: 10.1016/j.chemgeo.2021.120389.
2. Emo, R. B.; Kamber, B. S. A Reconstitution Approach for Whole Rock Major and Trace Element Compositions of Granulites from the Kapuskasing Structural Zone. *Minerals* 2020, 10 (6). DOI: 10.3390/min10060573.