



**Figure S1** Strontium content and Rb/Sr of the collected tourmaline data from literatures. Data source: Chakraborty et al. (2020), Sciuba et al. (2020), Trumbull et al. (2019), Su et al. (2019), Kalliomäki et al. (2017), Yang et al. (2015), Yavuz et al. (2011), Drivenes et al. (2015).

## References

- Chakraborty, T., & Upadhyay, D. (2020). The geochemical differentiation of S-type pegmatites: constraints from major–trace element and Li–B isotopic composition of muscovite and tourmaline. *Contributions to Mineralogy and Petrology*, 175(7), 60. <https://doi.org/10.1007/s00410-020-01697-x>
- Drivenes, K., Larsen, R. B., Müller, A., Sørensen, B. E., Wiedenbeck, M., & Raanes, M. P. (2015). Late-magmatic immiscibility during batholith formation: assessment of B isotopes and trace elements in tourmaline from the Land's End granite, SW England. *Contributions to Mineralogy and Petrology*, 169(6), 56. <https://doi.org/10.1007/s00410-015-1151-6>
- Kalliomäki, H., Wagner, T., Fusswinkel, T., & Sakellaris, G. (2017). Major and trace

- element geochemistry of tourmalines from Archean orogenic gold deposits: Proxies for the origin of gold mineralizing fluids? *Ore Geology Reviews*, 91, 906-927. <https://doi.org/10.1016/j.oregeorev.2017.08.014>
- Sciuba, M., Beaudoin, G., & Makvandi, S. (2021). Chemical composition of tourmaline in orogenic gold deposits. *Mineralium Deposita*, 56(3), 537-560. <https://doi.org/10.1007/s00126-020-00981-x>
- Su, Z.-K., Zhao, X.-F., Zeng, L.-P., Zhao, K.-D., & Hofstra, A. H. (2019). Tourmaline boron and strontium isotope systematics reveal magmatic fluid pulses and external fluid influx in a giant iron oxide-apatite (IOA) deposit. *Geochimica et Cosmochimica Acta*, 259, 233-252. <https://doi.org/10.1016/j.gca.2019.06.006>
- Trumbull, R. B., Garda, G. M., Xavier, R. P., Cavalcanti, J. A. D., & Codeço, M. S. (2019). Tourmaline in the Passagem de Mariana gold deposit (Brazil) revisited: major-element, trace-element and B-isotope constraints on metallogenesis. *Mineralium Deposita*, 54(3), 395-414. <https://doi.org/10.1007/s00126-018-0819-z>
- Yang, S.-Y., Jiang, S.-Y., Zhao, K.-D., Dai, B.-Z., & Yang, T. (2015). Tourmaline as a recorder of magmatic–hydrothermal evolution: an in situ major and trace element analysis of tourmaline from the Qitianling batholith, South China. *Contributions to Mineralogy and Petrology*, 170(5), 42. <https://doi.org/10.1007/s00410-015-1195-7>
- Yavuz, F., Jiang, S.-Y., Karakaya, N., Karakaya, M. Ç., & Yavuz, R. (2011). Trace-element, rare-earth element and boron isotopic compositions of tourmaline from a vein-type Pb–Zn–Cu ± U deposit, NE Turkey. *International Geology Review*, 53(1), 1-24. <https://doi.org/10.1080/00206810902867401>