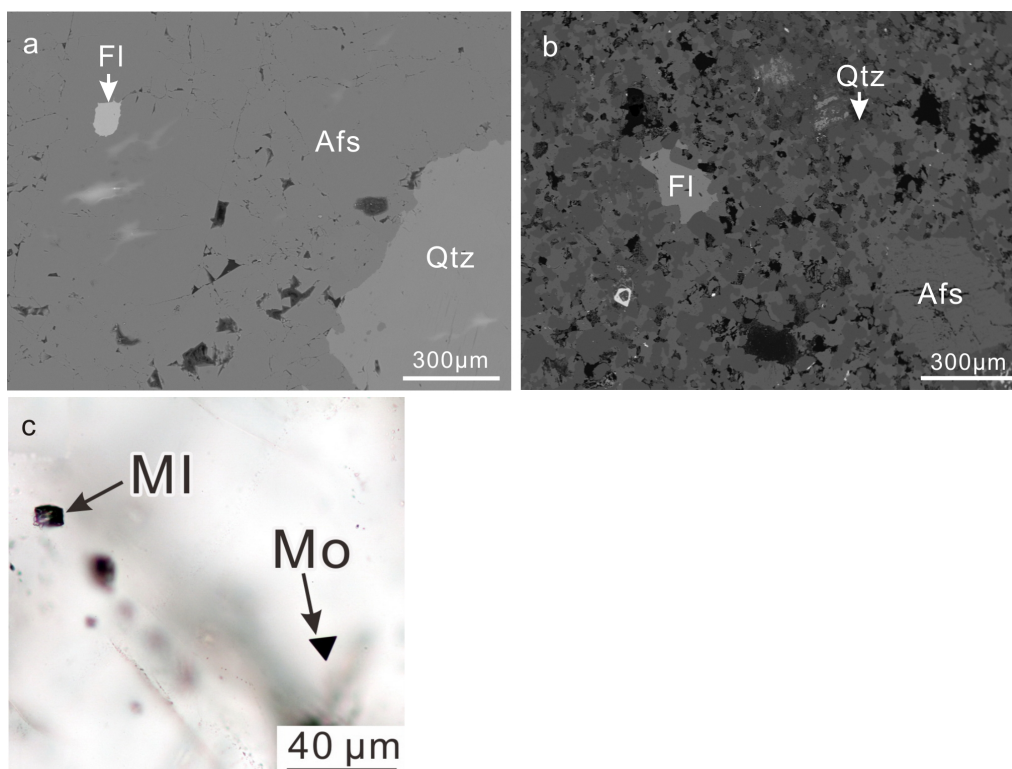


**Appendix Figure 1.** (a) Geological cross section of the Hashitu deposit, showing the crosscutting relationships of intrusive units, and the distribution of Mo mineralization and breccia bodies (modified from Zhang et al., 2012); (b) Stockwork mineralization in the Lanjiagou deposit; (c) Stockwork mineralization in the Songbei deposit.



**Appendix Figure 2.** (a-b) Microphotographs of the syn- and pre-mineralization intrusions from the Hashitu deposit showing the occurrence of magmatic fluorite in the intrusions; (c) Microphotograph of the Hashitu syn-mineralization intrusions showing magmatic molybdenite occurs as inclusions in quartz phenocrysts coexisting with melt inclusions (after from Ouyang et al. 2020). Afs = alkali feldspar, Fl = fluorite, MI = melt inclusions, Mo = molybdenite, Qtz = quartz

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