APPENDIX A. SUPPLEMENTARY DATA

Supplemental Fig. 1. Comparison of measured results in this study and experiment study of equilibrium Sn isotope shift (‰/amu) (after Polyakov et al., 2005). Gray shaded range corresponds to the Sn isotope shift in ‰/amu measured by McNaughton and Rosman (1991) and Clayton et al. (2002).

Supplemental Fig. 2. $1000 \times \ln\beta\ ^{122/116}Sn$ as a function of temperature, data of Sn, SnO, SnO_2 are from Roskosz et al. (2020), and $SnCl_4$, $SnCl_2(H_2O)^-(aq)$, $SnCl_4^{2-}(aq)$ are from She et al. (2020).

Supplemental Fig. 3. Plots for $\delta^{124/117}Sn$ *vs*. Ta (a) and $\delta^{124/117}Sn$ *vs*. Nb/Ta (b), showing none direct correlation between Sn isotope compositions and indicative element contents or ratios of magmatic differentiation.

Supplemental Table 1 Summary of the main geology and geochemistry characteritics of the three tin deposits in northeast China.

Supplemental Table 2 LA-ICPMS trace elements analysis of cassiterite from the tin deposits, NE China (ppm).

Supplemental Table 3 Tin isotope data for cassiterites from tin deposits, northeast China.

Supplemental Table 4 Complementary dataset of the reliable Sn isotopes values relative to NIST SRM 3161a of tin ores from different deposits in the world.