

Moonsup Cho, Wonseok Cheong, W.G. Ernst, Yoonsup Kim, and Keewook Yi, 2020, U-Pb detrital zircon ages of Cambrian–Ordovician sandstones from the Taebaeksan Basin, Korea: Provenance variability in platform shelf sequences and paleogeographic implications: *GSA Bulletin*, <https://doi.org/10.1130/B35521.1>.

## Supplemental Material

### Supplemental Figures:

**Figure S1.** Photomicrographs of Fe-oxides in three samples of the Myeonsan Formation: (A, B) 401; (C) 399; and (D) 397. Fe-oxide phases occur not only as detrital grains but also as products of hydrothermal alteration and recrystallization. The latter typically reveal euhedral morphologies and encroach upon framework quartz (Qtz) grains.

**Figure S2.** Detrital zircon U-Pb ages of the analyzed sandstones from each siliciclastic formation of the Taebaeksan Basin, shown on Tera-Wasserburg concordia diagrams: (A) Samples TB17, 062, and JS9 from the Jangsan Formation; (B) Samples 380, 397, 399, 401, and 402 from the Myeonsan Formation; (C) Sample 396 from the Myobong Formation; (D, E) Samples 200 and 201 from the Sesong Formation; and (F) Sample TB20 from the Dongjeom Formation. (G-J) Tera-Wasserburg concordia diagrams depict individual U-Pb data sets of detrital zircons analyzed from five samples of the Myeonsan Formation. Dotted ellipses in (G-J) denote discordant spot analyses that we excluded for calculating the weighted mean  $^{206}\text{Pb}/^{238}\text{U}$  ages. Error ellipses of data points are at 95% confidence level. MSWD, mean square of weighted deviates.

**Figure S3.** Detrital zircon U-Pb ages of two sandstones, (A) 241 and (B) 189, analyzed from the Sambangsan Formation, TB-y, shown on Tera-Wasserburg concordia diagrams. Error ellipses of data points are at 95% confidence level. MSWD, mean square of weighted deviates.

**Figure S4.** Log ( $\text{SiO}_2/\text{Al}_2\text{O}_3$ ) vs. log ( $\text{Fe}_2\text{O}_3/\text{K}_2\text{O}$ ) plot of nine TB-t sandstones encompassing the Myeonsan, Myobong, Sesong and Dongjeom formations

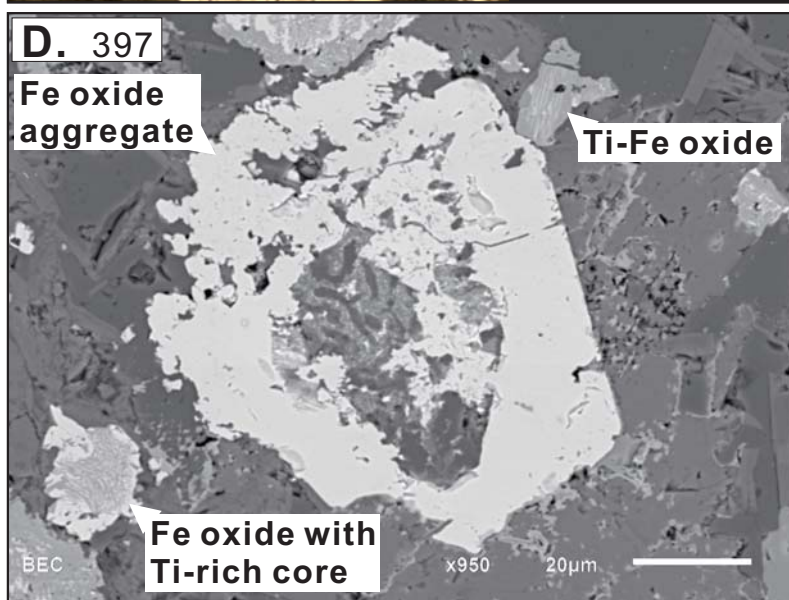
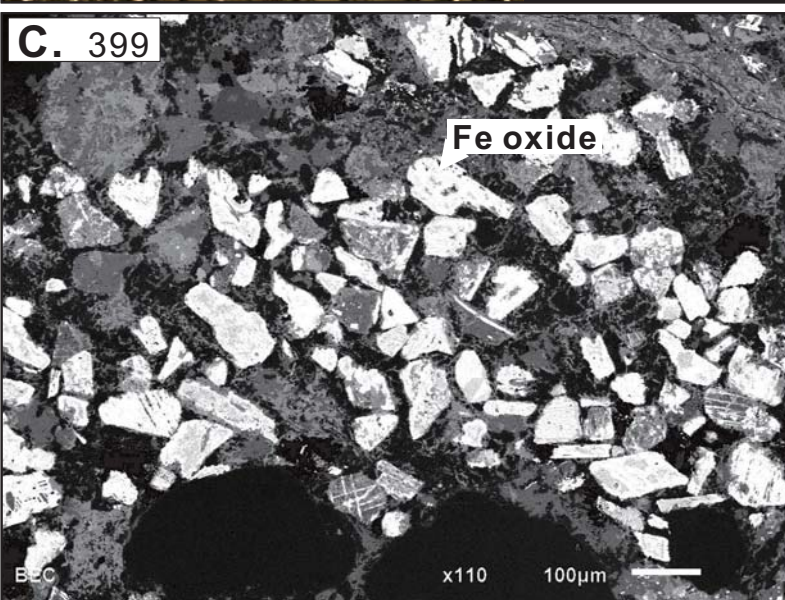
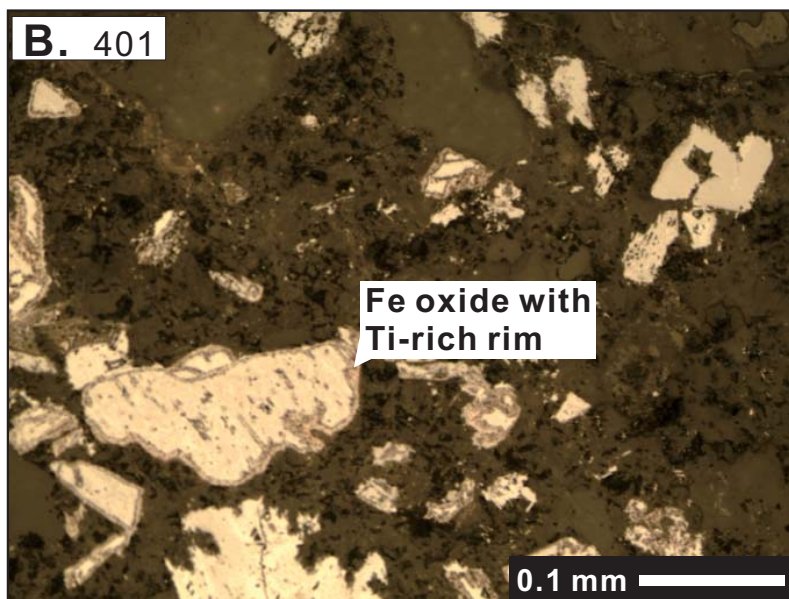
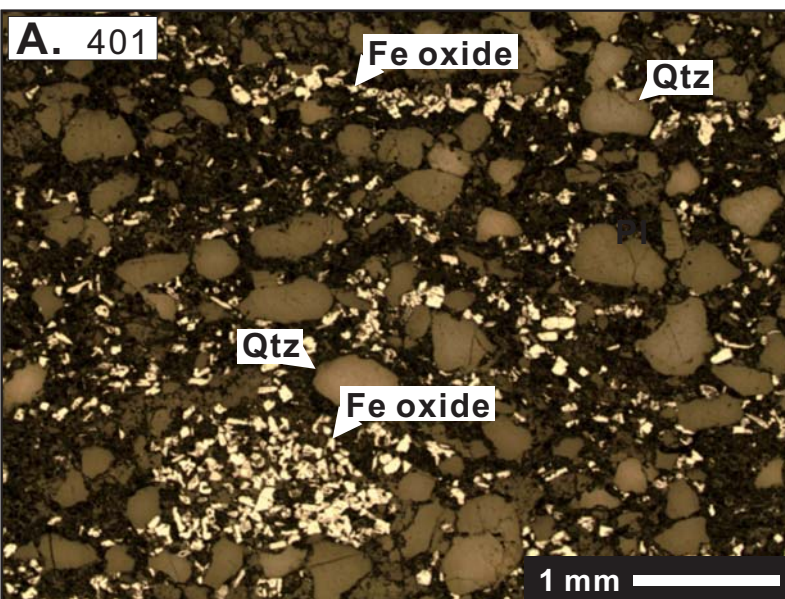
### Supplemental Tables:

**Table S1.** U-Pb isotopic data of zircon and GPS coordinates for the analyzed sandstones, Taebaek Group.

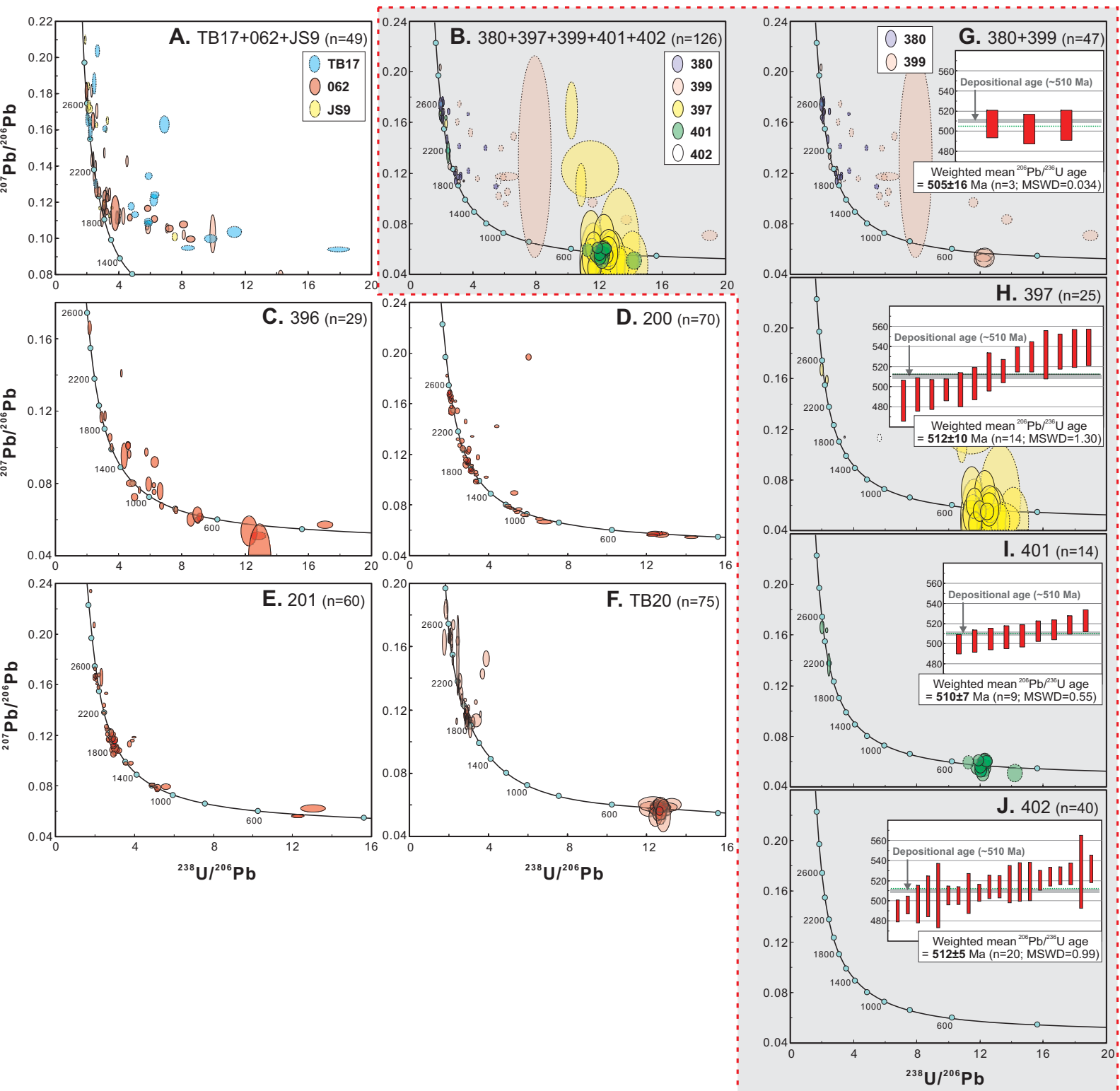
**Table S2.** U-Pb isotopic data of zircon and GPS coordinates for the analyzed sandstones, Yeongwol Group.

**Table S3.** Bulk-rock compositions of the analyzed sandstones.

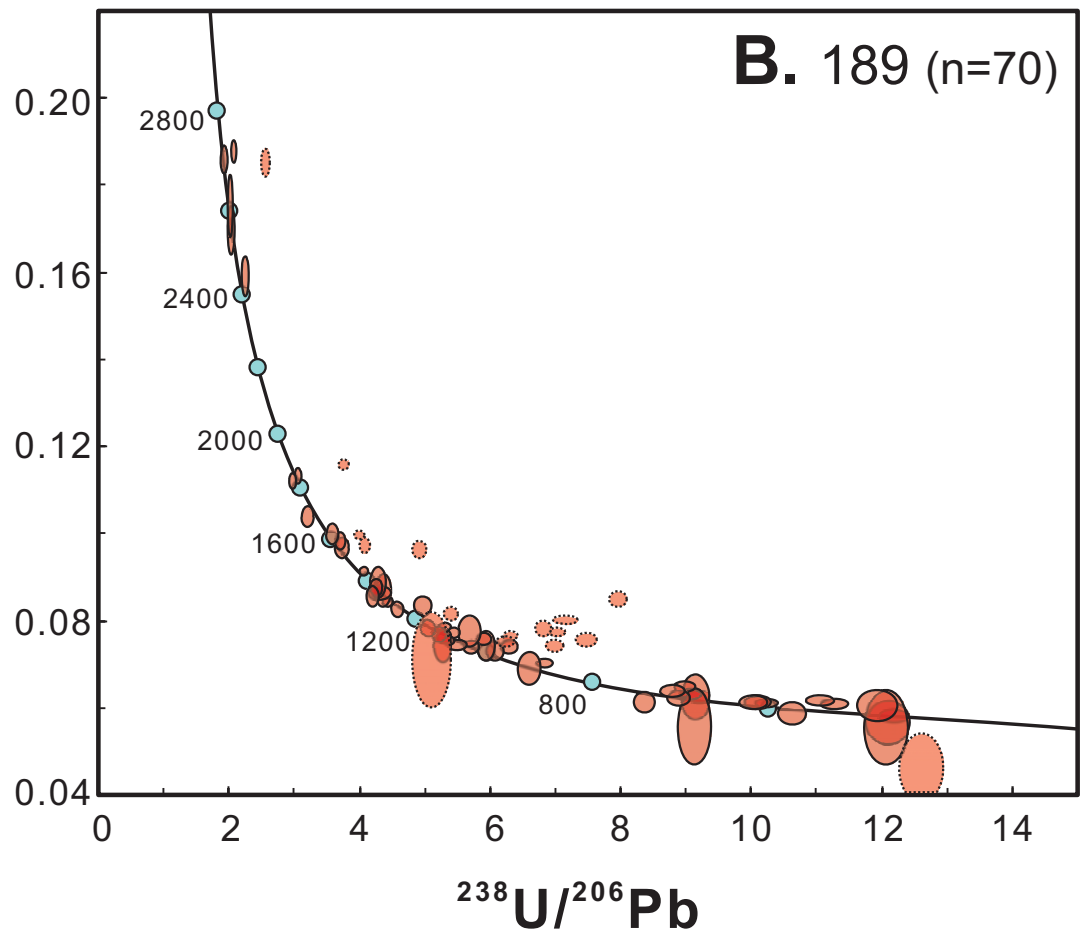
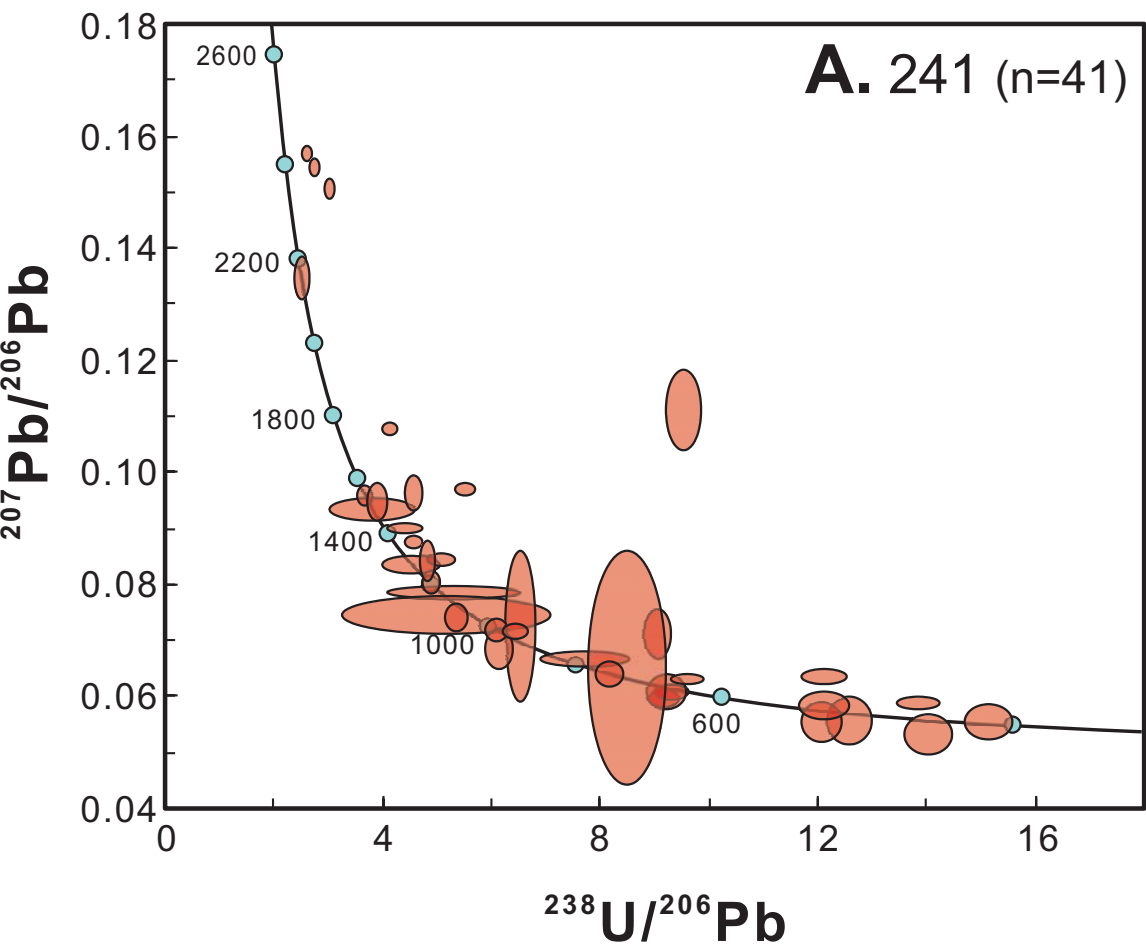
Cho *et al*; **Fig. S1**; B35521



Cho *et al*; Fig. S2; B35521



Cho *et al*; **Fig. S3**; B35521



Cho *et al*; **Fig. S4**; B35521

