

Lingling Yuan, Xiaohui Zhang, and Zhili Yang, 2022, Late Permian-Triassic ridge subduction beneath the northeastern margin of the North China Craton: Evidence from the Kaiyuan appinitic to high-Mg intermediate intrusions in northern Liaoning, North China: GSA Bulletin, <https://doi.org/10.1130/B36437.1>.

Supplemental Material

Figure S1. Representative Cathodoluminescence (CL) images of the dated zircons from the Kaiyuan intrusive rocks of northern Liaoning in North China

Figure S2. Representative CL images of the xenocrystic zircons from the late Permian ultramafic-mafic rocks (sample KY12-1/4) in the Kaiyuan region of northern Liaoning, North China

Figure S3. Selected elements vs. Zr variation diagrams for checking element mobility during post-magmatic alteration.

Table S1. Representative electron microprobe analyses of minerals in the mafic to intermediate rocks from the Kaiyuan region of northern Liaoning, North China

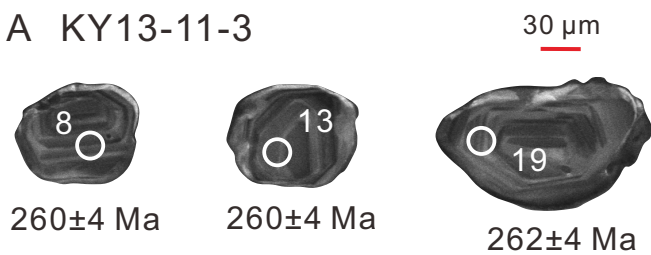
Table S2. SIMS zircon U-Pb analyses for representative samples of the mafic to intermediate rocks from the Kaiyuan region of northern Liaoning, North China

Table S3. Major and trace element data for representative samples of these mafic to intermediate intrusive rocks from the Kaiyuan region of northern Liaoning, North China

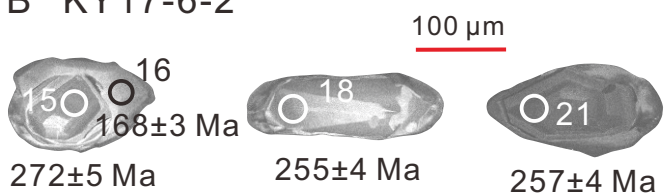
Table S4. Zircon Hf isotopic compositions for representative samples of the mafic to intermediate rocks from the Kaiyuan region of northern Liaoning, North China

Table S5. End-members and parameters used in the modeling of Figure 13.

A KY13-11-3



B KY17-6-2



C KY12-1-4



D FX12-30-7



E KY12-10-1



F KY12-8-1



100 μ m



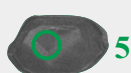
2

296 \pm 4 Ma



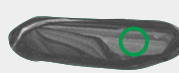
4

1881 \pm 7 Ma



5

423 \pm 6 Ma



9

918 \pm 12 Ma



12

907 \pm 10 Ma



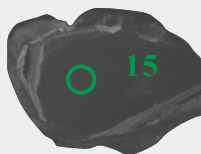
13

940 \pm 17 Ma



14

1871 \pm 8 Ma



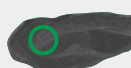
15

929 \pm 8 Ma



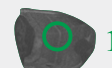
16

923 \pm 5 Ma



17

434 \pm 6 Ma



18

775 \pm 11 Ma



19

2013 \pm 7 Ma

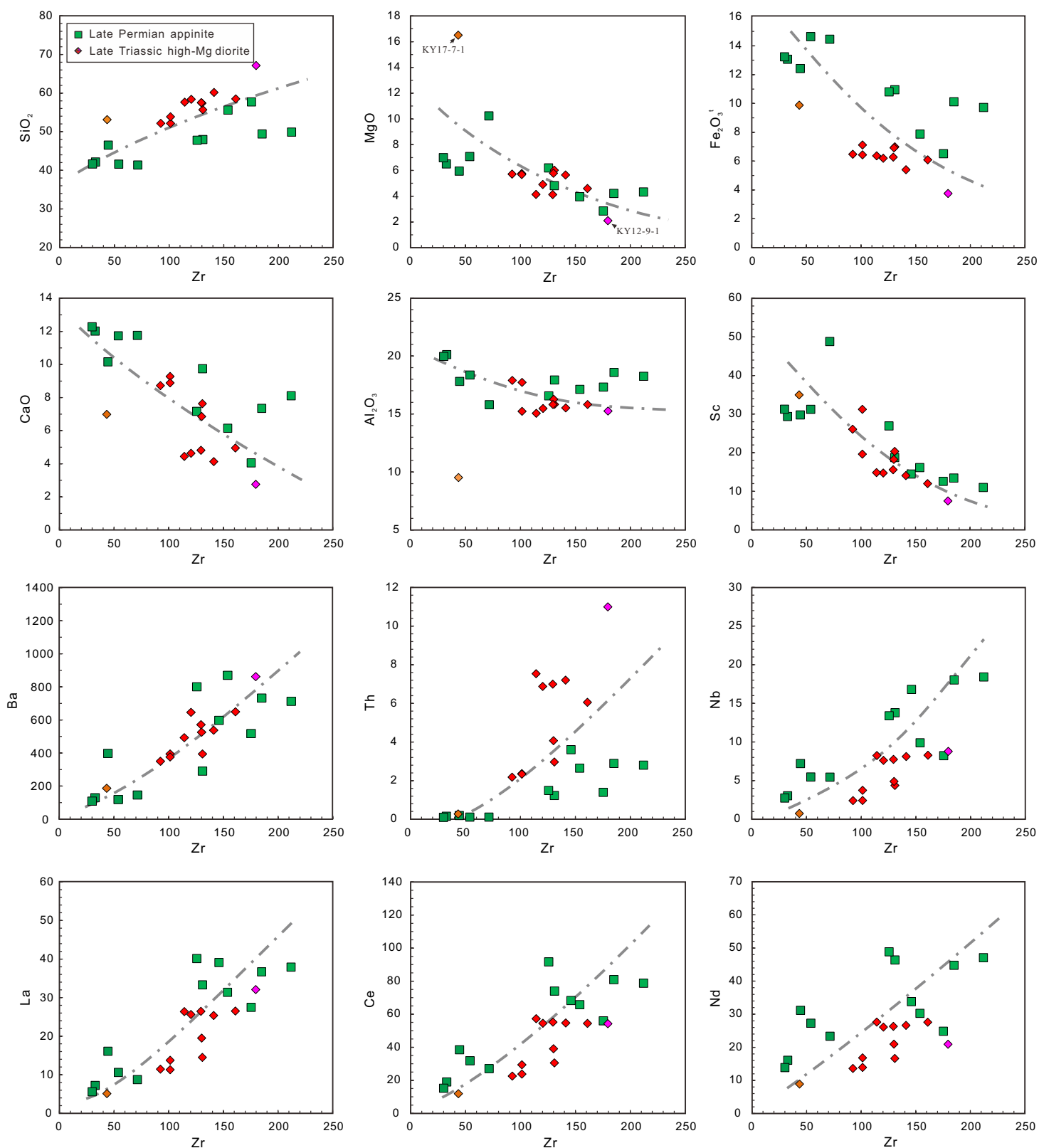


Table S5. End-members and parameters used in the modeling of Figure 13

End-member component	Hf ppm	Sm ppm	La ppm	Ba ppm	Nb ppm	Nd ppm	$\epsilon_{\text{Nd}}(t)$
Depleted mantle (DM)	0.3	0.4	0.4	3	0.3	1.2	8.9
Global subducting sediment (GLOSS)	4.06	5.78	28.8	776	8.94	27	-8
Upper continent crust (UCC)	5.8	4.7	32.3	668	26	25.9	-10
K_D (sediment melting)	0.2	0.05	0.1	0.02	0.8	0.05	
Mobility				0.08	0.005	0.03	
Dehydration volume				0.02	0.02	0.02	
Sediment fluid				3104	2.235	40.5	
Sediment melt (F=0.1)	14.5	39.9	151.6	6576.3	10.9	186.2	

Note: Element concentrations of GLOSS are from Plank and Langmuir (1998). The Nd isotopic composition of DM is after Yang et al. (2010). Other parameters used in the modeling are from Guo et al. (2015), Zhao et al. (2019) and references therein.

References cited

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