ANALITICAL METHODS

Microprobe analysis

Microprobe analyses of minerals were done on a JEOL Superprobe JXA 8100 at the Key Laboratory of Orogenic Belts and Crustal Evolution, Peking University, using an accelerating voltage of 15 kV, beam current 1×10^{-8} A and spot diameter of 1 μm. Microprobe data were provided in Table DR1.

Major and trace element analysis

Major and trace elements of whole rocks were measured at the China University of Geosciences (Beijing) by the XRF (using fused glass disks) and ICP-MS (Elan 6100 DRC, after acid digestion of samples in Teflon bombs) methods, respectively. Analyses of United States Geological Survey rock standards (BCR-2, BHVO-1 and AGV-1) indicate precision and accuracy better than 5% for major elements and 10% for trace elements and REEs.

Sr–Nd isotopes

Nd-Sr isotopic analyses were performed on a Thermo-Finnigan TRITON® at the Tianjin Institute of Geology and Mineral Resources, in negative ion detection mode, equipped with an oxygen gas leak valve, nine Faraday cups, and an ion counting multiplier. Samples were dissolved using acid (HF + $HClO_4$) in sealed Savillex beakers on a hot plate for one week. Separation of Rb, Sr and light REE was done through a cation-exchange column (packed with Bio-Rad AG50Wx8 resin). Sm and Nd were further purified using a second cation-exchange column, conditioned and eluded with dilute HCl. $^{87}Sr/^{86}Sr$ ratios were normalized against $^{86}Sr/^{88}Sr$ = 0.1194. $^{143}Nd/^{144}Nd$ ratios were normalized against $^{146}Nd/^{144}Nd$ = 0.7219.The La Jolla standard measured during the course of analyses gave an average $^{143}Nd/^{144}Nd$ of 0.511862 ± 5 (2σ, n=15), and BCR-2 gives $^{143}Nd/^{144}Nd$ = 0.512635 ± 4. NBS-987 gave $^{87}Sr/^{86}Sr$ = 0.710236 ± 16 (2σ, n = 5).

Re-Os isotopes

Rhenium and Os isotope analyses were performed on a ThermoFinnigan TRITON^R in negative ion detection mode at Japan Agency for Marine-Earth Science and Technology (JAMSTEC) using the Carius tube digestion method (Shirey and Walker, 1995), combined with carbon tetrachloride extraction and microdistillation (Pearson and Woodland, 2000). One to three grams of sample powder together with ^{185}Re and ^{190}Os spike solutions were digested in inverse aqua regia (ca. 10 ml) in Carius tubes at 240°C for 24 hours. Os was separated by carbon tetrachloride extraction from the aqua regia fraction and was back-extracted into 9N HBr, and further purified by microdistillation. Re was separated from the aqueous phase after Os extraction using Muromac AG1-X8 anion exchange resin (100-200 mesh). Osmium isotopic compositions were measured on an ion counting detector. Instrumental mass fractionation of Os was corrected by normalizing the measured $^{192}Os/^{188}Os$ ratio to 3.08271. Rhenium isotopes were measured using a total evaporation technique (Suzuki et al., 2004), which allows us to more precisely determine Re isotope ratios relative to conventional measurements, even for small amounts of sample. Both Re and Os were corrected for blanks. Total blank levels were 8 ± 2 and

3 ± 2 pg for Re and Os, respectively, and the blank $^{187}Os/^{188}Os$ ratio was 0.191 ± 0.025. Precision of $^{187}Os/^{188}Os$ measurements, based on analysis of an in-house standard over a period of several months, was better than 0.4% (2 standard deviations).

FIGURE CAPTION FOR FIGURE DR1

Figure DR1. Primitive mantle normalized multi-element spidergrams for the Jinling-Tietongou high-Mg dioritic rocks and the adakitic rocks from the Dabie orogen interpreted to be associated with an eclogitic source in a thickened lower crust (He et al., 2011). The Jinling-tietongou dioritic rocks show geochemical features basically similar to that of the Dabie adakitic rocks, except that the latter show a bit lower heavy REEs and Y abundance. We suggest that this is attributable to a stronger fractionation of ferromagnesian phases in the adakitic rocks from the Dabie orogen, which would deplete the residual magma in HREEs and Y, and raise the Sr abundance and Sr/Y ratios at the same time (see the modeling in Figure 3B), NOT as a result of equilibration with a eclogitic source (He et al., 2011). This is consistent with the fact that the adakitic rocks from Dabie region show silica contents (65-69%) significantly higher than those of the Jinling-Tietongou high-Mg dioritic rocks (53-63%). Primitive mantle values are from Sun and McDonough (1989).

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Table DR1. Microprobe analyses of plagioclase, clinopyroxene, orthopyroxene, olivine and hornblende

spot#	mineral		SiO_2	Al_2O_3	CaO	Na_2O	K_2O	Si	Al	Ca	Na	K	An
JL-5.1	plag	Fig.3a	50.3	31.2	14.1	3.88	0.21	2.29	1.67	0.69	0.34	0.01	67
JL-5.2	plag		51	30.5	13.2	3.8	0.1	2.34	1.65	0.65	0.34	0.01	66
JL-5.3	plag		50.7	30.7	13.2	3.85	0.11	2.33	1.66	0.65	0.34	0.01	66
JL-5.4	plag		51.2	31.6	13.3	4.01	0.08	2.32	1.69	0.64	0.35	0.01	65
JL-5.5	plag		51.3	30.6	13.1	3.94	0.14	2.34	1.65	0.64	0.35	0.01	65
JL-5.6	plag		50.9	30.7	13	4.04	0.17	2.33	1.66	0.64	0.36	0.01	64
JL-5.8	plag		60.4	24.1	5.79	8.09	0.3	2.71	1.28	0.28	0.71	0.02	28
JL-5.9	plag		59.8	24.9	5.99	8.19	0.23	2.68	1.32	0.29	0.71	0.01	29
JL-5.10	plag		60.3	24.9	6.04	7.7	0.78	2.69	1.31	0.29	0.67	0.04	30
JL-5.11	plag		61.2	24.7	5.5	8.33	0.3	2.71	1.29	0.26	0.72	0.02	27
JL-5.12	plag		61.1	24.1	5.09	8.52	0.41	2.73	1.27	0.24	0.74	0.02	25
JL-5.13	plag		60.9	24.1	5.04	8.82	0.21	2.73	1.27	0.24	0.77	0.01	24
JL-5.14	plag		61.1	23.9	4.83	9.3	0.2	2.73	1.26	0.23	0.81	0.01	22
TT-7.1	plag	Fig.3b	48.4	32.2	15.6	2.78	0.11	2.22	1.75	0.77	0.25	0.01	76
TT-7.2	plag		49.4	32.1	14.4	3.36	0.06	2.27	1.73	0.71	0.3	0	70
TT-7.3	plag		49.8	31.6	13.9	3.66	0.11	2.28	1.71	0.68	0.33	0.01	68
TT-7.4	plag		50.2	29.9	13.6	3.81	0.19	2.33	1.64	0.68	0.34	0.01	66
TT-7.5	plag		50.9	31	13.3	3.8	0.17	2.32	1.66	0.65	0.34	0.01	66
TT-7.6	plag		51	30.2	13.1	4.11	0.21	2.34	1.63	0.64	0.37	0.01	64
TT-7.15	plag		51.2	31	12.6	4.11	0.18	2.33	1.66	0.61	0.36	0.01	63
TT-7.7	plag		58.6	26.5	7.65	7.39	0.45	2.6	1.39	0.36	0.64	0.03	36
TT-7.8	plag		58.1	25.9	7.37	7.51	0.33	2.61	1.37	0.36	0.66	0.02	35
TT-7.9	plag		60.3	25.3	6.63	7.3	0.46	2.68	1.33	0.32	0.63	0.03	33
TT-7.10	plag		58.9	25.4	6.7	7.99	0.23	2.64	1.34	0.32	0.7	0.01	32
TT-7.11	plag		61.3	25.1	6.04	8.48	0.21	2.7	1.3	0.29	0.72	0.01	28
TT-7.12	plag		61.3	24.4	5.7	8.64	0.32	2.72	1.27	0.27	0.74	0.02	27
TT-7.13	plag		56.7	23	6.5	6.63	0.12	2.7	1.29	0.33	0.61	0.01	35
TT-7.14	plag		61	24.1	5.66	8.6	0.25	2.72	1.27	0.27	0.74	0.01	27

spot#	mineral	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MgO	CaO	Na_2O	Mg#	spot#
TT30-1.1	Cpx	Fig.3c	50.9	0.82	2.7	3.62	6.27	14.4	20.7	0.61	72.9
TT30-1.2	Cpx		52.2	0.63	2.07	1.68	6.48	15.1	21.1	0.52	77.1
TT30-1.3	Cpx		53.4	0.25	1.03	2.18	3.65	17.2	21.5	0.43	84.5
TT30-1.4	Cpx		51	0.92	3.29	2.52	6.5	15	20.2	0.56	75.3
TT30-1.5	Cpx		51.9	0.69	2.35	2.58	9.84	17.5	15.5	0.32	72.0
TT30-1.6	Cpx		50.7	0.92	3.24	2.72	7.05	14.5	20	0.56	73.1
TT30-1.7	Cpx		51.4	0.77	3.17	2.5	9.52	16.2	16.9	0.38	71.1
TT30-1.8	Cpx		51.8	0.68	2.5	1.48	8.1	15.2	19.4	0.47	74.2
TT30-1.9	Cpx		52.7	0.36	1.74	3.52	5.33	15.6	21.6	0.52	76.5
TT30-1.10	Cpx		52	0.74	1.95	2.7	5.93	14.8	21.9	0.49	75.9
TT30-1.11	Cpx		51.5	0.72	2.5	2.87	5.67	15.7	20.2	0.5	77.3

TT30-1.12	Cpx		52.1	0.34	2.72	2.17	6.65	16.7	18.8	0.39	77.6
TT30-1.13	Cpx		52.4	0.55	2.54	3.11	4.44	16.4	20.5	0.63	80.2
TT30-1.14	Cpx		51.9	0.72	1.99	2.03	6.94	15.6	20.1	0.45	76.0
TT30-1.15	Cpx		50.6	0.71	2.63	4.16	9.32	14.9	17.2	0.65	67.0
TT30-2.1	Opx	Fig.3d	52.1	0.31	2.09	3.57	14.9	25.2	1.73	0.01	71.2
TT30-2.2	Opx		52.6	0.3	1.32	2.96	15.5	25.5	1.34	0.01	71.5
TT30-2.3	Opx		53.4	0.18	2.32	1.79	12.3	27.9	1.15	0.05	78.2
TT30-2.4	Cpx		52.7	0.28	1.25	2.31	6.85	16	20.2	0.37	76.1
TT30-2.5	Cpx		52.7	0.35	1.89	1.58	4.66	16.2	22.1	0.27	82.5
TT30-2.6	Cpx		51.5	0.68	3.3	2.16	6.91	15.2	20.1	0.48	75.4
TT30-2.7	Cpx		51.1	0.62	2.98	3.23	5.32	14.6	21.3	0.59	76.0
TT30-2.8	Cpx		51.6	0.54	2.46	3.32	7.64	15.5	19	0.47	72.3
JL42-2.1	Opx	Fig.3e	53.3	0.06	1.73	3.16	14.5	27	0.38	0.08	73.5
JL42-2.2	Opx		53	0.02	2.07	2.9	14.1	27.1	0.39	0.03	74.3
JL42-2.6	Opx		53.6	0.23	2.3	1.89	11.1	28.2	1.44	0.17	79.7
JL42-2.7	Opx		54.5	0.12	1.3	2.89	11.6	29.4	0.84	0	78.7
JL42-2.8	Opx		53.9	0.2	0.83	2.94	13.7	27.4	1.04	0.08	74.9
JL42-1.1	Hb		50.4	1	4.79	1.96	8.71	17.6	11.3	1.4	74.9
JL42-1.2	Hb		43.2	2.81	10.1	2.91	9.53	14.5	11.3	2.58	68.1
JL42-1.3	Hb		44.1	1.71	10.4	3.92	8.64	14.8	11.2	2.4	68.5
JL42-1.4	Hb		44.2	1.75	10.4	3.84	8.35	15.1	11.4	2.4	69.5
TT7-6.2	Ol	Fig.3f	38.3	0	0	1.74	20.9	39.7	0.08	0.02	76.7
TT7-6.3	Ol		38.5	0.01	0	1.39	20.2	40.2	0.07	0.05	77.6
TT7-6.4	Ol		38.2	0.01	0.01	1.35	20.8	39.6	0.06	0.01	76.9

Note: plag-plagioclase; cpx-clinopyroxene; opx-orthopyroxene; hb-hornblende; ol-olivine

Mg# = molar 100×Mg/(Mg+Fe).

Table DR2. Major and trace elements of the Jinling-Tietongou high-Mg diorites													
Sample	**TT-1**	**TT-3**	**TT-7**	**TT-8**	**TT-12**	**TT-20**	**TT-23**	**TT-26**	**TT-27**	**TT-28**	**TT-31**	**TT-35**	**TT-36**
Rock type	**GD**	**D**	**GD**	**GD**	**D**	**D**	**D**	**QD**	**D**	**D**	**D**	**D**	**D**
SiO_2	51.66	53.24	51.92	51.47	53.87	53.83	58.10	60.27	56.95	59.55	57.85	57.59	59.03
TiO_2	0.85	0.63	0.89	0.76	0.62	0.59	0.60	0.57	0.73	0.66	0.74	0.72	0.64
Al_2O_3	13.16	14.63	13.64	14.82	14.84	14.40	15.11	15.35	16.02	16.40	16.30	16.78	16.05
TFeO	9.00	7.71	8.67	7.20	6.84	6.77	4.46	3.97	7.51	6.96	7.72	7.55	6.92
CaO	8.78	7.20	8.23	9.34	8.26	7.60	5.19	5.91	6.30	5.78	6.37	6.32	5.71
MgO	9.71	7.53	9.12	7.75	6.61	7.25	6.25	5.45	4.11	3.44	4.11	4.09	3.49
MnO	0.13	0.12	0.12	0.10	0.11	0.11	0.08	0.07	0.12	0.11	0.12	0.12	0.11
K_2O	2.70	3.08	2.48	1.67	2.80	2.67	3.14	3.08	2.23	2.50	2.16	2.40	2.39
Na_2O	2.71	4.02	3.29	4.37	4.18	4.70	5.12	3.98	5.21	3.75	3.78	3.64	4.61
P_2O_5	0.22	0.21	0.24	0.24	0.24	0.20	0.19	0.19	0.26	0.25	0.25	0.25	0.24
LOI	0.82	1.37	1.16	2.03	1.42	1.67	1.54	0.93	0.38	0.43	0.38	0.35	0.63
Total	99.74	99.74	99.74	99.76	99.77	99.78	99.78	99.77	99.82	99.82	99.81	99.83	99.82
Mg#	0.66	0.64	0.65	0.66	0.63	0.66	0.71	0.71	0.49	0.47	0.49	0.49	0.47
Rb	62.9	91.1	71.0	53.0	89.3	84.5	72.8	81.6	64.7	68.7	55.6	58.6	64.4
Sr	477	514	522	659	530	521	542	608	697	629	646	640	625
Ba	565	1067	590	483	638	620	953	883	784	838	828	786	780
Y	17.5	16.1	18.8	21.5	21.7	14.8	15.3	16.5	18.2	17.0	16.8	16.9	16.2
Zr	93.2	94.1	90.9	95.4	158.7	66.3	123	118	103	105	14.3	81.8	93.0
Hf	2.91	1.96	2.02	2.25	3.47	1.60	3.16	2.71	2.16	2.19	0.47	1.77	2.14
Pb	13.78	14.18	16.91	10.78	12.98	14.32	14.22	14.68	14.63	10.83	10.05	11.98	10.43
Th	3.36	3.47	3.49	4.63	7.68	3.76	6.60	6.09	4.14	5.13	4.32	4.60	4.27
U	0.83	0.81	0.83	0.97	2.02	0.80	1.10	1.18	0.87	0.93	1.03	1.16	0.91
Nb	5.67	3.41	4.88	9.27	10.21	3.03	5.44	5.78	4.95	4.60	4.18	4.76	4.97
Ta	0.41	0.20	0.29	0.59	0.57	0.18	0.39	0.37	0.25	0.26	0.22	0.30	0.29
Ga	16.7	17.4	19.0	19.7	18.7	17.0	18.6	19.0	21.1	19.5	19.5	19.4	19.0
V	243	178	254	189	161	164	145	137	196	147	167	177	146
Cr	514	269	416	326	282	228	255	220	35	33	30	32	34
Co	35.9	25.5	34.2	35.6	23.8	22.8	16.7	13.3	22.2	17.2	20.2	20.2	16.8
Ni	105	46	84	78	63	44	77	58	12	11	11	12	11
La	19.01	17.90	16.95	23.71	26.33	19.57	18.34	20.96	25.24	25.47	23.63	24.49	25.28
Ce	43.70	36.77	38.72	50.57	53.15	38.26	43.01	45.93	50.67	49.48	47.15	49.16	50.04
Pr	5.58	4.45	5.08	6.25	6.41	4.50	5.58	5.69	6.02	5.79	5.59	5.71	5.81
Nd	25.53	17.87	21.86	25.54	25.66	17.68	22.78	21.96	23.72	22.38	22.08	22.42	22.24
Sm	5.56	3.76	5.02	5.54	5.50	3.53	4.72	4.37	4.80	4.39	4.37	4.44	4.29
Eu	1.57	1.22	1.44	1.47	1.38	1.11	1.36	1.18	1.46	1.28	1.33	1.35	1.31
Gd	5.14	3.57	4.61	5.13	5.07	3.23	4.22	3.79	4.24	3.86	3.96	3.90	3.75
Tb	0.67	0.48	0.63	0.71	0.70	0.44	0.58	0.50	0.56	0.51	0.51	0.51	0.50
Dy	3.83	2.75	3.37	3.88	3.82	2.44	3.16	2.78	3.06	2.83	2.81	2.82	2.69
Ho	0.70	0.55	0.67	0.77	0.76	0.49	0.64	0.55	0.61	0.57	0.56	0.56	0.54
Er	1.80	1.42	1.63	1.90	1.92	1.26	1.62	1.42	1.56	1.46	1.42	1.45	1.38
Tm	0.27	0.21	0.23	0.27	0.28	0.19	0.24	0.21	0.23	0.21	0.20	0.21	0.20
Yb	1.60	1.37	1.47	1.73	1.78	1.18	1.56	1.33	1.48	1.43	1.30	1.39	1.34

Lu	0.22	0.20	0.20	0.25	0.26	0.17	0.23	0.19	0.22	0.20	0.18	0.20	0.19
Sr/Y	27	32	28	31	24	35	35	37	38	37	38	38	39
Eu/Eu*	0.91	1.04	0.93	0.86	0.81	1.02	0.95	0.90	1.00	0.97	0.99	1.01	1.01
$(La/Yb)_N$	7.9	8.6	7.6	9.0	9.8	11.0	7.8	10.4	11.2	11.8	12.0	11.6	12.5
Sample	**TT-26B**	**JL-1**	**JL-10**	**JL-24**	**JL-25**	**JL-27**	**JL-19B**	**JL-21B**	**JL-29B**	**JL-36B**	**JL-38B**	**JL-40B**	**JL-41**
rock type	**GD**	**GD**	**D**	**QD**	**QD**	**QD**	**D**	**D**	**D**	**GD**	**D**	**D**	**D**
SiO_2	53.40	52.16	53.47	62.15	60.67	63.58	56.41	56.63	55.57	53.47	54.48	55.24	57.46
TiO_2	0.54	1.12	1.02	0.56	0.73	0.53	0.74	0.74	0.86	0.83	0.84	0.79	0.78
Al_2O_3	12.24	13.28	12.23	14.38	14.78	15.07	13.57	13.61	13.40	13.40	13.11	12.80	14.13
TFeO	7.36	10.08	8.86	4.80	3.69	1.48	7.75	7.78	7.49	8.46	7.57	7.19	6.77
CaO	8.15	7.65	6.89	3.65	4.70	5.73	5.62	5.33	5.73	6.46	6.54	5.98	5.40
MgO	11.30	9.19	9.95	4.31	5.70	3.05	7.17	7.27	8.12	8.50	9.01	8.76	5.91
MnO	0.15	0.15	0.13	0.06	0.06	0.05	0.10	0.10	0.11	0.12	0.11	0.10	0.08
K_2O	2.21	1.74	2.16	3.72	3.27	4.91	1.88	1.73	2.61	2.69	2.77	3.52	2.91
Na_2O	2.53	3.06	3.61	5.07	5.19	4.55	4.89	4.84	4.23	4.25	3.71	3.57	5.49
P_2O_5	0.16	0.52	0.44	0.22	0.25	0.19	0.35	0.33	0.37	0.39	0.32	0.34	0.29
LOI	1.57	0.78	0.90	0.80	0.70	0.61	1.27	1.42	1.25	1.16	1.24	1.46	0.56
Total	99.60	99.72	99.67	99.71	99.75	99.77	99.77	99.77	99.74	99.72	99.70	99.73	99.78
Mg#	0.73	0.62	0.67	0.62	0.73	0.79	0.62	0.62	0.66	0.64	0.68	0.68	0.61
Rb	47.7	67.2	47.6	78.5	52.5	82.5	39.6	38.5	45.5	57.2	57.8	51.2	45.7
Sr	381	651	658	988	608	588	560	525	539	591	583	421	448
Ba	629	580	933	1232	1032	1226	592	528	751	915	942	934	879
Y	14.4	16.0	19.6	12.0	14.1	12.3	15.9	16.5	16.5	19.2	17.3	17.8	15.0
Zr	90.5	88.9	74.1	119	186	175	116	140	135	101	119	119	133
Hf	1.93	2.02	1.61	2.80	4.05	4.10	2.88	3.37	3.92	2.23	3.39	2.72	3.69
Pb	15.85	16.21	5.71	4.18	4.39	6.00	6.58	5.34	4.60	5.36	8.03	3.01	5.98
Th	3.50	3.19	2.26	3.86	5.65	4.98	3.78	3.49	3.63	3.40	3.88	3.72	4.08
U	0.85	0.61	0.47	0.49	0.53	1.14	0.68	0.72	0.42	0.61	0.97	1.56	1.06
Nb	4.11	4.43	7.93	4.01	7.98	7.55	6.80	7.55	7.70	7.35	9.94	8.82	9.54
Ta	0.24	0.27	0.49	0.22	0.63	0.62	0.46	0.48	0.48	0.40	0.59	0.49	0.65
Ga	16.2	17.0	16.7	18.6	18.6	18.6	17.3	18.1	17.6	18.1	17.4	17.3	17.5
V	146	234	185	111	120	76	137	143	173	160	157	146	134
Cr	790	390	434	151	210	111	283	313	314	350	530	361	199
Co	30.8	36.2	37.5	15.5	14.0	7.4	27.6	27.7	24.8	30.6	31.2	27.4	23.5
Ni	174	188	158	60	115	37	91	96	142	131	207	138	89
La	16.38	17.95	26.40	20.06	20.37	27.28	29.57	31.02	32.11	34.80	32.22	32.26	27.58
Ce	36.14	39.92	56.78	38.51	38.77	57.23	63.57	66.82	59.58	74.09	69.64	67.79	55.87
Pr	4.60	5.88	7.17	4.79	4.90	6.47	7.92	8.28	7.95	9.06	8.29	8.14	6.49
Nd	18.73	24.96	29.86	19.40	20.32	23.46	32.64	33.42	32.22	36.54	34.66	32.66	27.44
Sm	3.96	5.22	6.43	3.87	4.28	4.14	6.60	6.69	6.35	7.26	6.70	6.52	5.35
Eu	1.27	1.64	1.98	1.19	1.27	1.21	1.86	1.89	1.77	1.89	1.86	1.82	1.67
Gd	3.65	4.87	5.80	3.26	3.87	3.43	5.62	5.72	5.46	6.26	5.82	5.69	4.80
Tb	0.51	0.66	0.74	0.40	0.52	0.41	0.71	0.73	0.70	0.81	0.70	0.73	0.59
Dy	2.82	3.49	3.73	2.06	2.72	2.10	3.51	3.59	3.48	4.07	3.76	3.69	3.19
Ho	0.57	0.73	0.67	0.38	0.53	0.39	0.64	0.68	0.66	0.77	0.65	0.69	0.56

Er	1.48	1.75	1.56	0.94	1.33	0.98	1.55	1.61	1.58	1.86	1.65	1.69	1.43
Tm	0.22	0.26	0.21	0.13	0.19	0.14	0.21	0.23	0.22	0.26	0.23	0.24	0.21
Yb	1.45	1.55	1.30	0.85	1.26	0.95	1.36	1.47	1.40	1.63	1.44	1.51	1.28
Lu	0.22	0.22	0.18	0.12	0.19	0.13	0.20	0.22	0.20	0.23	0.20	0.22	0.18
Sr/Y	26	42	34	82	43	48	35	32	33	31	34	24	30
Eu/Eu*	1.04	1.01	1.00	1.04	0.96	1.00	0.95	0.94	0.93	0.87	0.92	0.92	1.02
$(La/Yb)_N$	7.4	7.7	13.4	15.5	10.7	19.0	14.4	14.0	15.2	14.1	14.8	14.1	14.3

Note: Major oxides are reported in weight per cent (wt%), and trace elements in parts per million (ppm);

TFeO, total iron as FeO; Mg#, molar Mg/(Mg+Fe); D-diorite; GD-gabbroic diorite; QD-quartz diorite.

Table DR3. Sr-Nd isotope compositions of the Jinling-Tietongou high-Mg diorites

Sample No.	[Rb] (ppm)	[Sr] (ppm)	$^{87}Rb/^{86}Sr$	$^{87}Sr/^{86}Sr$	2sm	I_{Sr} (130 Ma)	[Sm] (ppm)	[Nd] (ppm)	$^{147}Sm/^{144}Nd$	$^{143}Nd/^{144}Nd$	2sm	$e_{Nd}(T)$ (130 Ma)
TT-1	62.92	477.4	0.3822	0.709489	20	0.70878	5.56	25.53	0.1317	0.512054	10	-10.3
TT-3	91.12	513.8	0.5143	0.709010	6	0.70806	3.76	17.87	0.1273	0.511996	3	-11.4
TT-7	70.96	522.2	0.3941	0.709090	19	0.70836	5.02	21.86	0.1389	0.512167	11	-8.2
TT-8	53.00	659.2	0.2332	0.708978	18	0.70855	5.54	25.54	0.1310	0.512133	11	-8.8
TT-12	89.34	530.0	0.4888	0.708859	32	0.70796	5.50	25.66	0.1295	0.512104	11	-9.3
TT-20	84.52	520.6	0.4708	0.709676	6	0.70881	3.53	17.68	0.1207	0.511995	3	-11.3
TT-23	72.76	542.4	0.3890	0.710674	15	0.70995	4.72	22.78	0.1253	0.511971	9	-11.8
TT-26	81.58	607.8	0.3892	0.711661	13	0.71094	4.37	21.96	0.1202	0.511899	14	-13.2
TT-27	64.74	696.6	0.2695	0.708586	18	0.70809	4.80	23.72	0.1223	0.511858	10	-14.0
TT-28	68.70	629.4	0.3165	0.710080		0.70950	4.39	22.38	0.1185	0.511818	11	-14.7
TT-31	55.62	646.4	0.2495	0.708576	20	0.70811	4.37	22.08	0.1198	0.511860	14	-13.9
TT-35	58.60	640.4	0.2654	0.708660	18	0.70817	4.44	22.42	0.1198	0.511851	10	-14.1
TT-36	64.36	624.6	0.2988	0.709863	7	0.70931	4.29	22.24	0.1165	0.511810	4	-14.8
TT26B	47.74	380.6	0.3638	0.710908	15	0.71024	3.96	18.73	0.1277	0.511955	12	-12.2
JL1	67.23	651.2	0.2994	0.705337	7	0.70478	5.22	24.96	0.1264	0.512261	10	-6.2
JL10	47.62	658.2	0.2098	0.705582	18	0.70519	6.43	29.86	0.1301	0.512374	9	-4.0
JL24	78.48	988.0	0.2304	0.706961	14	0.70654	3.87	19.40	0.1206	0.512035	12	-10.5
JL25	52.52	608.0	0.2505	0.706235	20	0.70577	4.28	20.32	0.1272	0.512299	11	-5.5
JL27	82.46	588.4	0.4064	0.706790	6	0.70604	4.14	23.46	0.1067	0.512151	3	-8.0
JL19B	39.56	560.4	0.2047	0.705546	14	0.70517	6.60	32.64	0.1223	0.512174	10	-7.8
JL21B	38.50	525.4	0.2125	0.705727	6	0.70533	6.69	33.42	0.1210	0.512144	3	-8.4
JL29B	45.46	539.4	0.2444	0.706195	6	0.70574	6.35	32.22	0.1192	0.512276	3	-5.8
JL36B	57.20	590.8	0.2808	0.706215	20	0.70570	7.26	36.54	0.1202	0.512188	11	-7.5
JL38B	57.76	583.4	0.2871	0.705771	7	0.70524	6.70	34.66	0.1168	0.512220	3	-6.8
JL40B	51.24	421.2	0.3528	0.706286	15	0.70563	6.52	32.66	0.1207	0.512253	12	-6.2
JL41	45.72	448.4	0.2957	0.706077	18	0.70553	5.35	27.44	0.1178	0.512259	15	-6.1

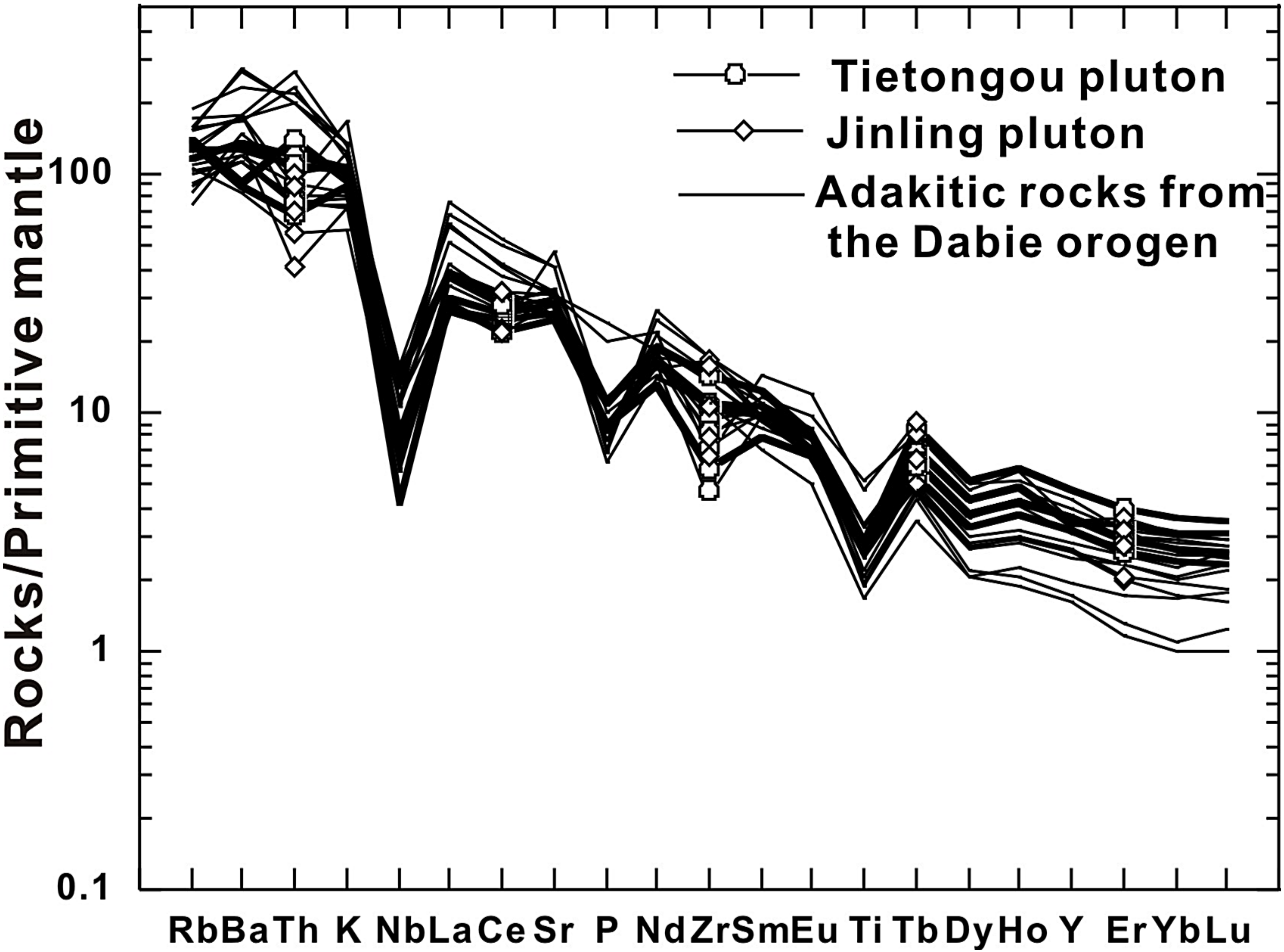
Note: Initial Sr and Nd isotopic ratios were calculated at t = 130 Ma.

Table DR4. Re-Os isotopic data of the Jinling-Tietongou diorites and TTG gneisses

Sample #	rock	Re (ppt)	2s	Os (ppt)	2s	$^{187}Re/^{188}Os$	2s	$^{187}Os/^{188}Os$	2s	$(^{187}Os/^{188}Os)_i$
JL-1	GD	38.36	0.06	33.31	0.10	5.832	0.020	0.5242	0.0013	0.5116
JL-10	D	27.20	0.04	45.43	1.1	3.057	0.075	0.590	0.008	0.5829
JL-40B	D	40.82	0.06	54.50	0.28	3.825	0.021	0.5917	0.0019	0.5834
TT-1	GD	619	6	22.57	0.28	147.7	2.3	1.033	0.006	0.7127
TT-7	GD	886	11	50.81	0.5	91.0	1.4	0.7782	0.0034	0.5807
TT-8	GD	982	14	30.21	1.2	184	8	1.475	0.026	1.0760
TT-17	GD	118	0.30	39.65	0.27	14.74	0.11	0.3483	0.0019	0.3163
TT-26	D	44.53	0.07	14.84	0.10	16.59	0.11	1.262	0.009	1.2261
TT-26B	GD	61.47	0.10	#####	0.8	2.586	0.019	0.2457	0.0007	0.2401
MJ-6	TTG	199.0	0.8	20.50	0.07	74.73	0.37	4.690	0.012	4.5280

Note: The parameters used in calculation are: $l_{Re} = 1.666\times10^{-11}$/year, $(^{187}Re/^{188}Os)_{Chond}$ = 0.40186, and $(^{187}Os/^{188}Os)_{Chond,0}$ = 0.1270. D-diorite; GD-gabbroic diorite; QD-quartz diorite

Figure DR1



Tietongou pluton
Jinling pluton
Adakitic rocks from the Dabie orogen
Rocks/Primitive mantle
100
10
1
0.1
Rb Ba Th K Nb La Ce Sr P Nd Zr Sm Eu Ti Tb Dy Ho Y Er Yb Lu