

Supplementary Table 1 Mineral compositions for the representative plutons (“-” = under detection).

Electron microprobe analyses of selected biotites (wt.%)										
Spot	SiO ₂	Al ₂ O ₃	TiO ₂	^T FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	Total
<i>Longge'er gabbro</i>										
LGR-02-01	25.99	18.00	0.03	21.55	0.10	17.90	0.01	0.08	0.04	83.70
LGR-02-02	33.18	13.67	3.16	17.97	0.04	12.84	0.01	0.26	9.96	91.08
LGR-02-03	34.17	12.72	3.01	18.14	0.04	12.26	0.10	0.23	9.70	90.36
LGR-02-04	36.87	13.21	3.72	18.23	0.02	12.74	0.01	0.08	10.14	95.01
LGR-02-05	34.70	12.68	3.73	17.76	0.05	12.00	0.00	0.17	9.91	91.01
LGR-02-06	36.77	13.52	3.09	17.52	0.14	13.78	0.00	0.15	10.28	95.25
LGR-02-07	36.57	13.34	3.15	17.59	0.08	13.12	0.02	0.26	9.97	94.09
<i>Qingduxiang granodiorite</i>										
QDX-02-01	35.80	11.75	4.49	24.38	0.14	8.73	0.00	0.06	10.78	96.12
QDX-02-02	35.95	11.79	4.36	23.94	0.06	8.71	0.00	0.13	10.36	95.29
QDX-02-03	35.75	11.94	4.27	24.40	0.13	8.89	0.01	0.10	10.20	95.68
QDX-02-04	35.95	11.38	4.23	23.63	0.11	8.95	0.04	0.12	10.42	94.82
QDX-02-05	36.34	11.63	3.65	23.02	0.09	9.13	0.00	0.09	10.35	94.31
QDX-02-06	35.40	12.11	2.83	24.24	0.09	9.43	0.01	0.14	9.77	94.02
QDX-02-07	35.66	11.67	3.70	23.40	0.05	8.92	0.03	0.16	10.24	93.81
QDX-02-08	35.73	11.60	4.46	24.35	0.11	8.24	0.01	0.19	10.29	94.98
QDX-02-09	35.96	11.99	3.52	23.87	0.16	9.11	0.01	0.07	10.66	95.35

Electron microprobe analyses of selected hornblendes (wt.%)

Spot	Na ₂ O	^T FeO	P ₂ O ₅	SiO ₂	Cr ₂ O ₃	K ₂ O	MgO	MnO	CaO	Al ₂ O ₃	NiO	TiO ₂	Total
<i>Longge'er gabbro</i>													
LGR-01-01	1.67	15.74	0.06	42.36	0.01	1.26	11.73	0.10	11.49	8.54	-	2.37	95.31
LGR-01-02	1.62	14.28	0.01	43.50	0.03	1.13	12.63	0.04	11.68	7.86	0.03	2.27	95.07
LGR-01-03	1.31	14.70	-	44.92	0.07	1.03	12.88	0.15	11.67	6.98	-	1.88	95.57
LGR-01-04	1.49	15.08	-	44.17	0.02	0.95	11.70	0.11	11.37	7.19	0.04	1.80	93.92
LGR-01-05	1.19	14.50	0.01	46.97	0.05	0.80	13.65	0.09	11.81	6.15	0.07	1.17	96.45
LGR-01-06	1.13	14.83	0.02	45.31	0.04	0.94	12.92	0.06	11.66	6.80	-	1.29	94.99
LGR-01-07	0.92	13.90	0.07	47.10	-	0.68	14.24	0.10	11.76	5.80	-	0.94	95.50
LGR-01-08	0.73	13.24	0.04	48.25	0.05	0.53	14.80	0.08	12.06	5.05	-	0.41	95.25
LGR-01-09	1.16	14.15	0.02	46.40	0.10	0.66	13.72	0.07	11.48	5.85	0.01	1.16	94.78
LGR-01-10	1.03	13.62	-	47.62	0.05	0.60	14.32	0.16	11.68	5.41	-	0.89	95.37
<i>Qingduxiang granodiorite</i>													
QDX-01-01	0.89	17.53	-	49.14	-	0.36	11.75	0.20	11.65	3.52	0.08	0.45	95.58
QDX-01-02	1.47	17.47	-	46.37	0.07	0.79	11.60	0.24	10.67	5.40	0.04	1.15	95.28
QDX-01-03	1.60	17.32	-	46.09	-	0.72	11.84	0.29	10.60	5.47	0.05	1.09	95.06
QDX-01-04	1.51	17.18	-	47.05	0.09	0.68	12.02	0.33	10.70	4.74	-	1.05	95.35
QDX-01-05	1.41	17.19	-	48.08	0.02	0.46	12.51	0.30	10.15	4.35	-	0.72	95.19
QDX-01-06	0.99	17.85	0.02	48.54	-	0.37	11.75	0.15	11.47	3.95	0.03	0.65	95.77

Electron microprobe analyses of selected feldspars (wt.%)

Spot	Mineral	Na ₂ O	^T FeO	P ₂ O ₅	SiO ₂	Cr ₂ O ₃	K ₂ O	MgO	MnO	CaO	Al ₂ O ₃	NiO	TiO ₂	Total
<i>Longge'er gabbro</i>														
LGR-04-1	Plagioclase	6.31	0.25	0.02	54.98	0.01	0.25	-	-	10.16	25.29	-	0.00	97.28
LGR-04-2	Plagioclase	6.72	0.25	0.05	54.08	0.04	0.21	0.00	0.01	10.13	24.65	-	0.01	96.14
LGR-04-3	Plagioclase	6.29	0.17	-	54.38	0.01	0.25	0.02	0.03	10.32	25.64	0.04	0.01	97.16
LGR-04-4	Plagioclase	7.62	0.21	0.01	57.70	0.06	0.07	0.00	0.02	8.57	24.53	0.01	0.00	98.80
<i>Qingduxiang granodiorite</i>														
QDX-04-01	Plagioclase	7.35	0.37	-	56.48	-	0.12	0.25	-	8.66	24.04	0.05	-	97.32
QDX-04-02	Plagioclase	7.04	0.15	0.01	56.99	0.02	0.15	-	-	9.29	25.64	0.02	-	99.31
QDX-04-03	Plagioclase	8.49	0.13	-	60.22	0.00	0.26	-	0.00	6.41	23.20	0.04	0.01	98.75
QDX-04-04	Plagioclase	8.76	0.11	0.04	60.57	0.07	0.19	0.03	0.00	5.59	21.94	-	-	97.29
QDX-04-05	Plagioclase	8.86	0.13	-	60.61	0.02	0.18	-	0.01	5.48	21.56	0.01	-	96.86
QDX-04-06	K-feldspar	1.60	0.10	0.05	64.23	0.01	15.35	-	-	0.01	16.85	0.03	0.03	98.26
QDX-04-07	K-feldspar	0.80	0.07	-	64.09	-	14.00	-	-	0.01	17.00	0.01	0.02	96.00
QDX-04-08	K-feldspar	0.93	0.15	-	64.63	0.03	13.02	-	0.01	0.05	17.47	-	0.03	96.31
QDX-04-09	K-feldspar	1.39	0.17	0.02	63.89	-	15.73	-	-	0.04	16.81	0.03	-	98.07
QDX-04-10	K-feldspar	1.50	0.19	0.02	62.61	-	14.88	-	-	0.04	16.61	0.03	-	95.88
QDX-04-11	K-feldspar	0.65	-	-	64.03	0.05	15.42	-	-	0.01	16.80	-	0.02	96.98
QDX-04-12	K-feldspar	1.01	-	0.04	63.80	-	14.99	-	0.03	-	16.95	0.07	-	96.89

Electron microprobe analyses of selected pyroxenes (wt.%)

Spot	Na ₂ O	TFeO	P ₂ O ₅	SiO ₂	Cr ₂ O ₃	K ₂ O	MgO	MnO	CaO	Al ₂ O ₃	NiO	TiO ₂	Total
<i>Longge'er gabbro</i>													
LGR-03-01	0.73	13.39	0.04	49.59	0.12	0.35	14.33	0.08	18.32	2.79	0.04	0.18	99.94
LGR-03-02	0.44	14.89	-	50.86	0.13	0.22	13.82	0.04	16.45	2.20	-	0.08	99.12
LGR-03-03	0.64	12.74	-	50.14	0.04	0.27	15.13	0.18	17.41	3.46	-	0.12	100.13
LGR-03-04	0.57	11.58	-	51.80	0.27	0.16	15.72	0.11	16.22	3.06	0.02	0.14	99.66
LGR-03-05	0.71	14.43	0.02	51.03	-	0.26	14.35	0.13	17.42	1.40	0.04	0.15	99.94
LGR-03-06	0.43	13.03	-	51.87	0.03	0.07	14.57	0.12	16.40	3.11	0.04	0.10	99.76
LGR-03-07	0.29	13.34	-	52.87	0.04	0.08	15.12	0.07	18.66	1.68	0.05	0.02	102.22
LGR-03-08	0.44	15.07	-	51.07	0.06	0.09	13.32	0.14	17.41	1.10	0.01	0.02	98.74
LGR-03-09	0.72	15.76	-	49.69	0.10	0.24	13.29	0.10	18.18	1.82	-	0.14	100.02
LGR-03-10	0.72	15.04	0.04	50.53	0.04	0.21	13.90	0.07	17.26	1.60	0.05	0.24	99.70