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Supplemental Material

Table S1. Summary of Geochronology Results of Intrusive rocks in the Qilian Shan.

Table S2. Summary of Geochronology Results of Intrusive rocks in the East Kunlun Range.

Table S3. LA-ICP-MS results for zircons U-Pb ages of igneous, sandstone, and metamorphic sedimentary samples in this study.

Table S4. Geochemistry Data for Plots of age against crustal thickness of the Qilian Shan.

Table S5. Geochemistry Data for Plots of age against crustal thickness of the Eastern Kunlun Range.

Table S1. Summary of Geochronology Results of Intrusive rocks in the Qilian Shan

Sample Number	Rock Type	Location		Dating Method	Interpreted Age (Ma)	Data Source
		Latitude(°N)	Longitude(°E)			
	diorite	38°48'52"	98°07'14"	Zircon LA-ICP-MS	155.1±1.4	J. M. Zhang et al., 2018
10CL003	granite	Gangca, south Qilian		Zircon LA-ICP-MS	235.3±2	Q. F. Xie et al., 2014
YQ-25	Monzogranite	Huashigou, south Qilian		Zircon LA-ICP-MS	252±2.1	W. L. Hu et al., 2016
DL200717	granite	Wulan, south Qilian		Zircon LA-ICP-MS	253 ± 7	B. Li et al., 2021
10CL008	granodiorite	Gangca, south Qilian		Zircon LA-ICP-MS	254.7±2	Q. F. Xie et al., 2014
YQ1	granodiorite	Huashigou, south Qilian		Zircon LA-ICP-MS	261.1±3.8	Z. L. Jia et al., 2017
CL05-101	granite	38°32.74'N	93°54.92'E	SHRIMP U-Pb	269.2±3.6	C. L. Wu et al., 2009
CL05-99	granite	38°37.356'N	93°46.86'E	SHRIMP U-Pb	269.4±5.8	C. L. Wu et al., 2009
AZ09-13-14(9a)	leucogranite	37°18'0.42"	101°25'11.34"	Zircon LA-ICP-MS	341±7	C. Wu et al., 2021
CL05-116	granite	Dachaidan, north Qaidam		Zircon LA-ICP-MS	372±2.7	C. L. Wu et al., 2007
CL05-105	quartz diorite	38°17.79'N	94°38.62'E	SHRIMP U-Pb	374.0±5.1	C. L. Wu et al., 2009
CL05-108	granite	Dachaidan, north Qaidam		Zircon LA-ICP-MS	374.5±1.6	C. L. Wu et al., 2007
CL810-1	granite	Huangyanghe, north Qilian		SHRIMP U-Pb	383 ± 6	C. L. Wu et al., 2004
Q10100	K-feldspar granite	Lenglongling, north Qilian		Zircon LA-ICP-MS	402 ± 4	Z. L. Xiong et al., 2012
CL05-114	granite	Dachaidan, north Qaidam		Zircon LA-ICP-MS	402±3	C. L. Wu et al., 2007
CL05-109	granite	Dachaidan, north Qaidam		Zircon LA-ICP-MS	403.3±3.8	C. L. Wu et al., 2007
D3755-1	granite porphyry	Chaidamushan, south Qilian		Zircon LA-ICP-MS	405.5±7.1	X. Y. He et al., 2020
GA202	granite	north Qilian		Zircon U-Pb	406 ± 12	G. E. Gehrels et al., 2003
CL05-115-4	granite	Dachaidan, north Qaidam		Zircon LA-ICP-MS	408.6±4.4	C. L. Wu et al., 2007
GSTW-2	quartz syenite	Maozangsi pluton, north Qilian		Zircon LA-ICP-MS	409.7±5.8	Z. B. Huang et al., 2018
09JZX3	Granite	35°57'1.3"N	102°04'0.7"E	Zircon LA-ICP-MS	410±0.94	Z. Yan et al., 2015
CL04-116	plagiogranite	Kokoli, north Qilian		SHRIMP U-Pb	412.3 ± 3.7	C. L. Wu et al., 2010
2015H75	granite	Xinkaigou, north Qilian		Zircon LA-ICP-MS	414 ± 3	L. Q. Zhang et al., 2017
	monzogranite	Beidaban, north Qilian		Zircon U-Pb	414±4	Z. B. Huang et al., 2010
06MC	monzogranite	36°10.818'	104°0.727'	Zircon LA-ICP-MS	414.3	J. L. Chen et al., 2008
DH08-15	granodiorite	Subei, central Qilian		SHRIMP U-Pb	415±3	J. F. Li et al., 2010
PM11-1	granite porphyry	Chaidamushan, south Qilian		Zircon LA-ICP-MS	416±11	X. Y. He et al., 2020
SUB10-16	granite	Subei, central Qilian		Zircon LA-ICP-MS	416.7±4.3	Z. W. Luo et al., 2015
XSG-02	granite	Huangyuan		Zircon LA-ICP-MS	417.2±3.1	X. T. Liu, 2019
XLG-17	granodiorite	Xiaoliugou, north Qilian		Zircon LA-ICP-MS	417.7 ± 1.7	X. M. Zhao et al., 2014
IJD3041	monzogranite	36°55'08"N	102°09'38"E	Zircon LA-ICP-MS	418.2±1.1	G. L. Wang et al., 2018
2015H74	porphyritic granite	Xinkaigou, north Qilian		Zircon LA-ICP-MS	419 ± 4	L. Q. Zhang et al., 2017
NS-2	monzogranite	Danghenanshan, south Qilian		Zircon LA-ICP-MS	420±12	L. L. Zhang, 2014
QL10-12	granite	Jinfosi, north Qilian		Zircon LA-ICP-MS	421.4 ± 2.2	H. Huang et al., 2017
QL10-08	granite	Jinfosi, north Qilian		Zircon LA-ICP-MS	421.9 ± 2.3	H. Huang et al., 2017
GA203	granite	north Qilian		Zircon U-Pb	422 ± 6	G. E. Gehrels et al., 2003
QL10-05	granite	Jinfosi, north Qilian		Zircon LA-ICP-MS	422.1 ± 2	H. Huang et al., 2017
GA207	granite	north Qilian		Zircon U-Pb	423 ± 6	G. E. Gehrels et al., 2003
	quartz diorite	Laohushan, north Qilian		Zircon U-Pb	423.5 ± 2.8	Q. Qian et al., 1998
Q1092	granodiorite	Lenglongling, north Qilian		Zircon LA-ICP-MS	424 ± 4	Z. L. Xiong et al., 2012
GA133	granite	central Qilian		Zircon U-Pb	424 ± 4	G. E. Gehrels et al., 2003
QL10-09	granite	Jinfosi, north Qilian		Zircon LA-ICP-MS	424.2 ± 2.1	H. Huang et al., 2017
QL10-11	granite	Jinfosi, north Qilian		Zircon LA-ICP-MS	424.2 ± 2.3	H. Huang et al., 2017
MZS2	granodiorite	Maozangsi pluton, north Qilian		Zircon LA-ICP-MS	425±2.8	X. M. Zhao et al., 2018
QL10-01	granite	Jinfosi, north Qilian		Zircon LA-ICP-MS	425.8 ± 4.9	H. Huang et al., 2017
PM123	granite	Lianhuashan, north Qilian		Zircon U-Pb	426±15	M. Q. Liu, 2013
10GD26	Monzogranite	35°9'41.0"N	101°38'35"E	Zircon LA-ICP-MS	427±1	Z. Yan et al., 2015
YZC-02	syenogranite	Huangyuan		Zircon LA-ICP-MS	427±3.9	X. T. Liu, 2019
Q1066	monzogranite	Lanzhou, central Qilian		Zircon LA-ICP-MS	427±3	H. Yang, 2016
QL10-04	granite	Jinfosi, north Qilian		Zircon LA-ICP-MS	427.7 ± 2.2	H. Huang et al., 2017
	granite	Da Qaidam, north Qaidam		SHRIMP U-Pb	428±10	J. X. Zhang et al., 2008
	granite	Da Qaidam, north Qaidam		SHRIMP U-Pb	428±1	J. X. Zhang et al., 2008
CL04-127	granite	Jinfosi, north Qilian		SHRIMP U-Pb	428.5 ± 4.5	C. L. Wu et al., 2010
QMS12-04MME	mafic enclave	Quwushan pluton, north Qilian		Zircon LA-ICP-MS	429.6 ± 2.8	S. Chen et al., 2016
QMS12-04host	adakitic granodiorite	Quwushan pluton, north Qilian		Zircon LA-ICP-MS	429.7 ± 2.5	S. Chen et al., 2016
SMT-05	quartz monzonite	Haiyuan, north Qilian		SHRIMP U-Th-Pb	429.9 ± 6.1	C. Y. Tseng et al., 2009
DL13-10-1.1	adakitic granitoid	Quwushan pluton, north Qilian		Zircon LA-ICP-MS	430 ± 2	S. Y. Yu et al., 2015
AQ12-4-1.1	granite	Jingtieshan, north Qilian		Zircon LA-ICP-MS	430 ± 2	Y. S. Li et al., 2019
B1139	granite	Delingha, south Qilian		Zircon LA-ICP-MS	430 ± 1	B. Li et al., 2021
QL09-10	granite	N36°34.895'	E101°13.520'	Zircon U-Pb	430	H. Huang et al., 2015
QL09-12	granite	N36°46.731'	E101°07.428'	Zircon U-Pb	430	H. Huang et al., 2015
DL13-16-2.1	adakitic granitoid	Maozangsi pluton, north Qilian		Zircon LA-ICP-MS	431 ± 2	S. Y. Yu et al., 2015
Q10107	granite	Lanzhou, central Qilian		Zircon LA-ICP-MS	431±4	H. Yang, 2016
QMS12-10MME	mafic enclave	Quwushan pluton, north Qilian		Zircon LA-ICP-MS	431.2 ± 2.8	S. Chen et al., 2016
QMS12-10host	adakitic granodiorite	Quwushan pluton, north Qilian		Zircon LA-ICP-MS	431.5 ± 2.6	S. Chen et al., 2016
BJS12-04MME	mafic enclave	Baojishan, north Qilian		Zircon LA-ICP-MS	431.6 ± 2.8	S. Chen et al., 2015

HQ4B1	plagiogranite	Heishishan, north Qilian	Zircon LA-ICP-MS	431.8±2.4	G. B. Zhao et al., 2013
QL1317	quartz diorite porphyry	Lanzhou, central Qilian	Zircon LA-ICP-MS	432±3	H. Yang, 2016
Q1219	granite	Lanzhou, central Qilian	Zircon LA-ICP-MS	432±4	H. Yang, 2016
CL04-108	quartz diorite	Niuxinshan, north Qilian	Zircon LA-ICP-MS	432.7 ± 7.9	C. L. Wu et al., 2011
11ASG10	Granite	36°09'11.0"N 101°38'55.1"E	SHRIMP U-Pb	433±5	Z. Yan et al., 2015
11ASG21	Granite	36°08'30.2"N 101°37'6.0"E	SHRIMP U-Pb	433±8	Z. Yan et al., 2015
BJS12-04host	granodiorite	Baojishan, north Qilian	Zircon LA-ICP-MS	433.7 ± 3.4	S. Chen et al., 2015
04CL108	quartz diorite	Niuxinshan, north Qilian	SHRIMP U-Pb	434.7±3.5	Q. L. Chen, 2009
Q1214	granodiorite	Baiyin, north Qilian	Zircon LA-ICP-MS	435 ± 2	H. Yang et al., 2020
	granite	Gangca, south Qilian	Zircon LA-ICP-MS	435±4	J. P. Shi et al., 2015
07DH-69	gneissic granite	Shibaocheng, central Qilian	SHRIMP U-Pb	435±4	J. F. Li et al., 2010
D1028-1	Monzogranite	Chaidamushan, south Qilian	Zircon LA-ICP-MS	435.2±2.5	X. Y. He et al., 2020
Q1211	granodiorite	Baiyin, north Qilian	Zircon LA-ICP-MS	436 ± 2	H. Yang et al., 2020
11ASG1	Granite	36°08'30"N 101°37'37.2"E	SHRIMP U-Pb	436±5	Z. Yan et al., 2015
	Monzogranite	Zhahuaqiangzi, north Qilian	Zircon U-Pb	436±28	Q. H. Wang et al., 2017
CN8	quartz diorite	Gangca, south Qilian	Zircon LA-ICP-MS	436.6±2.3	G. D. Zhang et al., 2016
	Gabbro	Xiji, north Qilian	Zircon LA-ICP-MS	437±2.8	W. Z. Wu et al., 2019
PM021TW2	granodiorite	Gangca, south Qilian	Zircon LA-ICP-MS	437.1±2.9	G. D. Zhang et al., 2016
	Monzogranite	Chaidamushan, south Qilian	Zircon LA-ICP-MS	437.2±1.5	X. H. Zhu et al., 2016
	granodiorite	Tuanyushan, north Qaidam	Zircon LA-ICP-MS	437.4±3	X. H. Zhu et al., 2013
09AY-14	trondhjemite	Aoyougou, north Qilian	SHRIMP U-Th-Pb	438 ± 3	Y. X. Chen et al., 2012
Q1027	Gabbro	Lanzhou, central Qilian	Zircon LA-ICP-MS	438±3	H. Yang, 2016
D1506-1	granodiorite	Chaidamushan, south Qilian	Zircon LA-ICP-MS	438.2±4.9	X. Y. He et al., 2020
11ASG2	Monzogranite	36°08'15.2"N 101°38'16.0"E	SHRIMP U-Pb	439±4	Z. Yan et al., 2015
11ASG17	Granodiorite	36°08'55.5"N 101°38'16.0"E	SHRIMP U-Pb	439	Z. Yan et al., 2015
WC09-18-14(3)	leucogranite	37°13'27.90" 102°50'08.98"	Zircon LA-ICP-MS	439±11	C. Wu et al., 2021
B259-1	granodiorite	Gangca, south Qilian	Zircon LA-ICP-MS	439.6±3.9	P. Y. Chang, 2017
LHS-2	quartz diorite	37°05'39.83" 103°40'22.72"	Zircon LA-ICP-MS	439.8±3.1	H. R. Zhang et al., 2019
Q1029	granite	Lanzhou, central Qilian	Zircon LA-ICP-MS	440±2	H. Yang, 2016
T08	rapakivi granite	Dachaidan, north Qaidam	SHRIMP U-Pb	440±14	X. X. Lu et al., 2007
HQ5B1	tonalite	Heishishan, north Qilian	Zircon LA-ICP-MS	440.2±2.4	G. B. Zhao et al., 2013
Q1086	granodiorite	Lianhuashan, north Qilian	Zircon LA-ICP-MS	441 ± 4	L. Q. Zhang et al., 2017
Q10106	granite	Lanzhou, central Qilian	Zircon LA-ICP-MS	441±4	H. Yang, 2016
GA213	granite	north Qaidam	Zircon U-Pb	442 ± 4	G. E. Gehrels et al., 2003
MSZK50646	granodiorite porphyry	Menyuan, north Qilian	Zircon LA-MC-ICP-MS	442±1	Q. Liu et al., 2019
P4TW5-1	granodiorite	Dachaidan, north Qaidam	Zircon LA-ICP-MS	442±6.4	B. Zhou et al., 2014
13ASG31	Gabbro	36°9'14.89" N, 101°37'14.84"E	SHRIMP U-Pb	442.3±2.9	Z. Yan et al., 2015
SUB10-29	quartz diorite	Subei, central Qilian	Zircon LA-ICP-MS	442.5±4.7	Z. W. Luo et al., 2015
09YL-01	hornblende gabbro	Yulonggou, south Qilian	ID-TIMS U-Pb	442.7±1.6	Z. W. Zhang et al., 2012
115-9	granodiorite	Xigela pluton, north Qilian	Zircon LA-ICP-MS	443.2±4.8	H. P. Qin et al., 2014b
SUB10-18	granodiorite	Subei, central Qilian	Zircon LA-ICP-MS	443.9±1.3	Z. W. Luo et al., 2015
IPm401U-Pb2-3	granodiorite	38°12'15" 97°01'55"	Zircon LA-MC-ICP-MS	443.9±2.1	X. Y. Zhang et al., 2018
IPm401Bb2-3	granodiorite	Yeniujishan, south Qilian	Zircon LA-ICP-MS	443.9±2.1	X. L. Yu et al., 2018b
	granite	Yemananshan, central Qilian	Zircon U-Pb	444±17	J. P. Su et al., 2004b
	granite	Yemananshan, central Qilian	Zircon U-Pb	444±38	J. P. Su et al., 2004c
HC-3	hornblende gabbro	Gangca, south Qilian	Zircon LA-ICP-MS	444±3	J. P. Shi et al., 2017
CL05-95	granite	38°26'24.7"N 94°19'46.1"E	SHRIMP U-Pb	444.5±9.2	C. L. Wu et al., 2009
06MC	monzogranite	36°10.818' 104°0.727'	Zircon LA-ICP-MS	444.6	J. L. Chen et al., 2008
Tk7	syenogranite	Huangyuan	Zircon LA-ICP-MS	444.9±4.1	X. T. Liu, 2019
RR05-05-12-5	quartz monzonite	38°34.698 98°31.760	Zircon LA-ICP-MS	445±3	A. V. Zuza et al., 2018
Tk15	Monzogranite	Huangyuan	Zircon LA-ICP-MS	445.2±4.6	X. T. Liu, 2019
Tk1	syenogranite	Huangyuan	Zircon LA-ICP-MS	445.8±3.3	X. T. Liu, 2019
DL13-10-4.1	adakitic granodiorite	Quwushan pluton, north Qilian	Zircon LA-ICP-MS	446 ± 3	S. Y. Yu et al., 2015
QL1407	quartz diorite	Lanzhou, central Qilian	Zircon LA-ICP-MS	446±3	H. Yang, 2016
16TJ-55	diorite	Danghenanshan, south Qilian	Zircon LA-ICP-MS	446.1±4.3	Y. Qin, 2018
PM2	granodiorite	Hualong, central Qilian	Zircon LA-ICP-MS	446.1±1.3	J. W. Cui et al., 2016
CL05-117	granite	Dachaidan, north Qaidam	Zircon LA-ICP-MS	446.3±3.9	C. L. Wu et al., 2007
QL1329	quartz diorite	Lanzhou, central Qilian	Zircon LA-ICP-MS	447±4	H. Yang, 2016
BQL-001	tonalite	Beidaban, north Qilian	Zircon LA-MC-ICP-MS	447.2±2.4	Y. J. Chen et al., 2019
B255-1	tonalite	Gangca, south Qilian	Zircon LA-ICP-MS	448.4±2.4	P. Y. Chang, 2017
09LH18	gabbro	Laohushan	SHRIMP U-Pb	448.5±5	S. G. Song et al., 2013
Q1041	Gabbro	Lanzhou, central Qilian	Zircon LA-ICP-MS	449±3	H. Yang, 2016
AZ07-17-13-4	granite	38°28.546 98°49.882	Zircon LA-ICP-MS	449±13	A. V. Zuza et al., 2018
XST-01	olivine peridotite	Hualong, south Qilian	Zircon LA-ICP-MS	449.8±2.4	Z. W. Zhang et al., 2015
QL09-14	granite	N36°46.903' E101°07.562'	Zircon U-Pb	450	H. Huang et al., 2015
QL10-34	granite	N37°25.962' E100°27.615'	Zircon U-Pb	450	H. Huang et al., 2015

QL10-37	granite	N37°23.678'	E100°27.800'	Zircon U-Pb	450	H. Huang et al., 2015
NQ-1	monzogranite	Danghenanshan, south Qilian		Zircon LA-ICP-MS	450±12	L. L. Zhang, 2014
AZ04-30-12-11	syenogranite	38°34.473	98°58.035	Zircon LA-ICP-MS	450±1	A. V. Zuza et al., 2018
BKY-20	Monzogranite	Daban, north Qilian		Zircon LA-ICP-MS	450.2±2.8	M. Liu et al., 2014
Q1226	quartz diorite	Lanzhou, central Qilian		Zircon LA-ICP-MS	451±3	H. Yang, 2016
10LPX22	Granodiorite	35°58'14.08"N	102°18'10.37"E	Zircon LA-ICP-MS	452±2	Z. Yan et al., 2015
Q1001	granite	Lanzhou, central Qilian		Zircon LA-ICP-MS	452±5	H. Yang, 2016
QL1414	granodiorite	Lanzhou, central Qilian		Zircon LA-ICP-MS	452±3	H. Yang, 2016
16CD-05	granite	Danghenanshan, south Qilian		Zircon LA-ICP-MS	452.6±7	Y. Qin, 2018
QL09-02	granite	N36°27.116'	E101°05.634'	Zircon U-Pb	452.9 ± 5.5	H. Huang et al., 2015
11HHL06	monzogranite	N36°3'51"	E102°11'50"	Zircon LA-ICP-MS	452.9±1.8	Z. P. Guo et al., 2015a
LGS-07	tonalite	Leigongshan, north Qilian		SHRIMP U-Th-Pb	453.4 ± 5.6	C. Y. Tseng et al., 2009
B263-1	granodiorite	Gangca, south Qilian		Zircon LA-ICP-MS	453.5±3.6	P. Y. Chang, 2017
XLG-32	monzogranite	Xiaoliugou, north Qilian		Zircon LA-ICP-MS	454 ± 2	X. M. Zhao et al., 2014
Tk32	granite	Huangyuan		Zircon LA-ICP-MS	454±2.7	X. T. Liu, 2019
16HB-03	granite	Danghenanshan, south Qilian		Zircon LA-ICP-MS	454.4±7.7	Y. Qin, 2018
13QH15	Granodiorite	36°16'59.2"N	101°52'5.0"E	SHRIMP U-Pb	455±3	Z. Yan et al., 2015
Q1024	granite	Lanzhou, central Qilian		Zircon LA-ICP-MS	455±3	H. Yang, 2016
NJJ-6	quartz monzonite	Danghenanshan, south Qilian		Zircon LA-ICP-MS	455.6±5.6	L. L. Zhang, 2014
MZS1	monzogranite	Maozangsi pluton, north Qilian		Zircon LA-ICP-MS	455.8±3.1	X. M. Zhao et al., 2018
B261-1	Monzogranite	Gangca, south Qilian		Zircon LA-ICP-MS	455.8±3.1	P. Y. Chang, 2017
ZBSTW-6	granodiorite	Maozangsi pluton, north Qilian		SHRIMP U-Pb	456±3	Ding & Huang, 2019
	Monzogranite	Chaidamushan, south Qilian		Zircon LA-ICP-MS	456.2±3	X. H. Zhu et al., 2016
DL13-12-3.3	adakitic granodiorite	Xigela pluton, north Qilian		Zircon LA-ICP-MS	457 ± 2	S. Y. Yu et al., 2015
RR05-03-12-6	granite	38°29.415	98°54.218	Zircon LA-ICP-MS	457±2	A. V. Zuza et al., 2018
PD5201	hornblende diorite	Wuligou, central Qilian		Zircon LA-ICP-MS	457±6.3	X. Zhang et al., 2015
B258-1	Monzogranite	Gangca, south Qilian		Zircon LA-ICP-MS	457.5±2.8	P. Y. Chang, 2017
FTW	quartz monzonite	Danghenanshan, south Qilian		Zircon LA-ICP-MS	457.8±6.3	L. L. Zhang, 2014
B253-1	granodiorite	Gangca, south Qilian		Zircon LA-ICP-MS	458±2.8	P. Y. Chang, 2017
QIVPM26U-Pb14-1	monzogranite	Ledu, central Qilian		Zircon LA-ICP-MS	459±2	J. S. Cao et al., 2019
Q1034	monzogranite	Lanzhou, central Qilian		Zircon LA-ICP-MS	459±3	H. Yang, 2016
QH-7	granodiorite	Yeniutan, north Qilian		ID-TIMS U-Pb	459.6 ± 2.5	J. W. Mao et al., 2000
YQ-10	syenodiorite	Shibandun, central Qilian		Zircon LA-ICP-MS	461.2±3.3	R. N. Hou et al., 2015
12LLK-H6	quartz diorite porphyry	Lenglongling, north Qilian		Zircon LA-ICP-MS	461.5±7.3	Z. P. Guo et al., 2015b
B019-1	granite	Yangkang, south Qilian		Zircon LA-MC-ICP-MS	461.5±1.6	H. Liao et al., 2014
XCHN-1	quartz diorite porphyry	Chelugou, north Qilian		Zircon LA-ICP-MS	462.1±3.8	X. X. Fan et al., 2020
PM42TW	K-feldspar granite	Yemananshan, central Qilian		Zircon LA-ICP-MS	462.9±1.4	R. R. Qi, 2012
14CL101-3	granite	Shibaocheng, central Qilian		Zircon LA-ICP-MS	463±4	N. Wang et al., 2017
08CL111	granite	Niuxinshan, north Qilian		SHRIMP U-Pb	463±11	Q. L. Chen, 2009
CL04-122	granodiorite	Minleyaogou, north Qilian		Zircon LA-ICP-MS	463.1 ± 4.7	C. L. Wu et al., 2011
IU-Pb2003	granodiorite	Shulenshan, south Qilian		Zircon LA-ICP-MS	463.6±3.7	X. L. Yu et al., 2018a
CL817-1	granite	Jinzichuan, north Qilian		SHRIMP U-Pb	464 ± 15	C. L. Wu et al., 2004
15SL-27	gabbro	Shuanglong, north Qilian		Zircon LA-ICP-MS	464±2	Y. X. Liu et al., 2018
14CL101-6	granite	Shibaocheng, central Qilian		Zircon LA-ICP-MS	464±4	N. Wang et al., 2017
14CL101-9	granite	Shibaocheng, central Qilian		Zircon LA-ICP-MS	465±4	N. Wang et al., 2017
115-3	granodiorite	Xigela pluton, north Qilian		Zircon LA-ICP-MS	465.6±6.5	H. P. Qin et al., 2014b
QIVPM08U-Pb6-1	monzogranite	Ledu, central Qilian		Zircon LA-ICP-MS	465.7±2.2	J. S. Cao et al., 2019
2017YT3	granite	Yaodonggou, north Qilian		Zircon LA-ICP-MS	466±2	T. Bu et al., 2019
IU-Pb0803	diorite	Halahu, south Qilian		Zircon LA-MC-ICP-MS	466±4	W. F. Li et al., 2020
CL05-98	granite	38°30'48.3"N	94°14'2.5"E	SHRIMP U-Pb	467±7	C. L. Wu et al., 2009
QL1310	diorite	Lanzhou, central Qilian		Zircon LA-ICP-MS	467±4	H. Yang, 2016
YQ-6	diorite	Shibandun, central Qilian		Zircon LA-ICP-MS	469.3±2.8	R. N. Hou et al., 2015
CL05-96	granite	38°27'46.3"N	94°19'11.7"E	SHRIMP U-Pb	469.7±4.6	C. L. Wu et al., 2009
11QH19	Gabbro	36°17'15.2"N	101°33'45.5"E	SHRIMP U-Pb	470±7	Z. Yan et al., 2015
11QH26	Gabbro	36°16'59.2"N	101°32'52.5"E	SHRIMP U-Pb	470±6	Z. Yan et al., 2015
YQ-11	granodiorite	Shibandun, central Qilian		Zircon LA-ICP-MS	470.0±2.5	R. N. Hou et al., 2015
YQ-26	granodiorite	Shibandun, central Qilian		Zircon LA-ICP-MS	470.9 ± 2.8	R. N. Hou et al., 2015
Q1003	diorite	Lanzhou, central Qilian		Zircon LA-ICP-MS	471±4	H. Yang, 2016
GA129	granite	south Qilian		Zircon U-Pb	472 ± 6	G. E. Gehrels et al., 2003
87-1404(rim)	gneissic granite	Gahai, south Qilian		SHRIMP U-Pb	472 ± 6	K. A. Tung et al., 2007
QL1306	diorite	Lanzhou, central Qilian		Zircon LA-ICP-MS	472±5	H. Yang, 2016
YQ-27	granite	Shibandun, central Qilian		Zircon LA-ICP-MS	472.3±4.2	R. N. Hou et al., 2015
CL04-105	granite	Niuxinshan, north Qilian		Zircon LA-ICP-MS	474 ± 11	C. L. Wu et al., 2011
QII-IU-Pb4093	quartz diorite	Suli, central Qilian		Zircon LA-ICP-MS	474±2.9	Y. Zheng et al., 2017
AZ05-04-12-7	granite	38°41.752	98°45.627	Zircon LA-ICP-MS	474±3	A. V. Zuza et al., 2018
BJJ-10	pyroxene diorite	Danghenanshan, south Qilian		Zircon LA-ICP-MS	476.2±6.17	L. L. Zhang, 2014
04CL105	granite	Niuxinshan, north Qilian		SHRIMP U-Pb	476.7±6.6	Q. L. Chen, 2009
D8008TW1	monzogranite	Dandeer, central Qilian		Zircon LA-ICP-MS	477.6±5.6	Y. L. An, 2015

09QL54	gabbro	Biandukou		SHRIMP U-Pb	479±2	S. G. Song et al., 2013
PMJ002	Monzogranite	38°54'49" 95°34'18"		Zircon LA-ICP-MS	479.7±3.4	B. Ji et al., 2019
GA208	granite	central Qilian		Zircon U-Pb	480 ± 6	G. E. Gehrels et al., 2003
08CL114	granite	Niuxinshan, north Qilian		SHRIMP U-Pb	480.9±4	Q. L. Chen, 2009
	granodiorite	Bagexia, north Qilian		Zircon U-Pb	481.6±3.3	Z. B. Song et al., 2004
08CL115	diorite	Niuxinshan, north Qilian		SHRIMP U-Pb	481.8±3.2	Q. L. Chen, 2009
GA76	quartz diorite	south Qilian		Zircon U-Pb	482 ± 5	G. E. Gehrels et al., 2003
CL04-110	quartz diorite	Kokoli, north Qilian		SHRIMP U-Pb	488 ± 9.5	C. L. Wu et al., 2010
08QS60	gabbro	Jiugequan		SHRIMP U-Pb	490±5	S. G. Song et al., 2013
TW36-1	granodiorite	Wuergelate, central Qilian		Zircon LA-ICP-MS	490.5±1.4	Z. B. Huang et al., 2014
WQL2017-179(1)	granite	Sunan, north Qilian		Zircon LA-ICP-MS	491 ± 5	B. Li et al., 2021
IJD4002	Monzogranite	Yulongtan, north Qilian		Zircon LA-MC-ICP-MS	492.7±1.9	B. S. Liu et al., 2016
AQ15-2-4.1	granodiorite	Menyuan, central Qilian		Zircon LA-ICP-MS	495±3.3	Y. B. Peng et al., 2017
B063-7	granite porphyry	38°13'57.72" 99°46'10.48"		Zircon LA-ICP-MS	497.5±1.5	B. Li et al., 2017
AY03	gabbro	Aoyougou, north Qilian		SHRIMP U-Pb	501±4	S. G. Song et al., 2013
HC-1	granite	38°30'28" 99°21'06"		SHRIMP U-Pb	501±5	J. Wang et al., 2018
QL09-18	granite	N37°22.712' E101°23.887'		Zircon U-Pb	502.9 ± 2	H. Huang et al., 2015
11QL-34	granite	Caidanuo, north Qilian		Zircon LA-ICP-MS	503 ± 5	Y. X. Chen et al., 2014
11QL-35	granite	Caidanuo, north Qilian		Zircon LA-ICP-MS	505 ± 8	Y. X. Chen et al., 2014
11CL117-6	quartz diorite	Xiagucheng, north Qilian		Zircon LA-ICP-MS	505.4±4.1	H. P. Qin et al., 2014a
CL04-121	granite	Yemazui, north Qilian		SHRIMP U-Pb	509.7 ± 5.2	C. L. Wu et al., 2010
09QL-03	granite	Caidanuo, north Qilian		Zircon LA-ICP-MS	510 ± 4	Y. X. Chen et al., 2014
12QL-61	mafic enclave	Caidanuo, north Qilian		Zircon LA-ICP-MS	510 ± 2	Y. X. Chen et al., 2014
YQ156-1	granite	Chaidanuo, north Qilian		Zircon LA-ICP-MS	513.4±2.3	L. T. Zhang et al., 2018
YQ157-1	granite	Chaidanuo, north Qilian		Zircon LA-ICP-MS	515.6±2.7	L. T. Zhang et al., 2018
09QL-01	granite	Caidanuo, north Qilian		Zircon LA-ICP-MS	516 ± 4	Y. X. Chen et al., 2014
CQL2016-159(1)	granite	Sunan, north Qilian		Zircon LA-ICP-MS	520 ± 3	B. Li et al., 2021
Q5-57	gabbro	Yushigou		SHRIMP U-Pb	529±8	S. G. Song et al., 2013
Q5-56	gabbro	Yushigou		SHRIMP U-Pb	548±9	S. G. Song et al., 2013
IPm06JD5-1	gabbro	N36°58'10" E102°10'30"		Zircon LA-ICP-MS	675±31	T. Z. Song et al., 2016, C. X. Tian et al., 2018
AZ09-13-14(3)	granodiorite	37° 5' 23.92" 101°33'58.68"		Zircon LA-ICP-MS	728±29	C. Wu et al., 2021
12-110-R1	granitic gneiss	north Qilian		Zircon LA-ICP-MS	736±5	M. Li et al., 2015
16DL-28A	gabbro	Danghenanshan, south Qilian		Zircon LA-ICP-MS	738±11	Y. Qin, 2018
12QL-64	granitic gneiss	Caidanuo, north Qilian		Zircon LA-ICP-MS	746 ± 3	Y. X. Chen et al., 2014
	granitic gneiss	Diaodaban, north Qilian		Zircon U-Pb	751±14	J. P. Su et al., 2004a
04RYT16	granite	Huangyuan, central Qilian		Zircon LA-ICP-MS	756 ± 2	Y. Yong et al., 2008
16HB-11	quartz diorite	Danghenanshan, south Qilian		Zircon LA-ICP-MS	758.9±5.5	Y. Qin, 2018
YYZ	amphibolite	Huangyuan, south Qilian		Zircon LA-ICP-MS	766 ± 1	Y. B. Peng et al., 2019
RGS-05	gneissic tonalite	Leigongshan, north Qilian		SHRIMP U-Pb	774±23	C. Y. Tseng et al., 2006
ZMS-5D1	gneissic granite	Niuxinshan, north Qilian		SHRIMP U-Pb	776±10	C. Y. Tseng et al., 2006
DL15-4-4.3	retrograde eclogite	Luliangshan, north Qaidam		Zircon LA-ICP-MS	782 ± 33	Y. B. Peng et al., 2019
87-1404G	granite	37°5.65'N, 100°37.33'E		SHRIMP U-Pb	788 ± 6	K. A. Tung et al., 2013
87-1404(core)	gneissic granite	Gahai, south Qilian		SHRIMP U-Pb	790 ± 12	K. A. Tung et al., 2007
88-0301C	granodiorite	36°52.48'N, 100°55.58'E		SHRIMP U-Pb	795 ± 7	K. A. Tung et al., 2013
QL09-01	granite	N36°27.116' E101°05.634'		Zircon U-Pb	796.7 ± 7.4	H. Huang et al., 2015
87-1701C	granodiorite	36°32.03'N, 101°7.94'E		SHRIMP U-Pb	809 ± 5	K. A. Tung et al., 2013
87-1404E	granite	37°5.65'N, 100°37.33'E		SHRIMP U-Pb	816 ± 5	K. A. Tung et al., 2013
87-1701A	granodiorite	36°32.03'N, 101°7.94'E		SHRIMP U-Pb	826 ± 7	K. A. Tung et al., 2013
WH13-56	Monzogranite	N37°7'13.31" E98°43'18.51"		Zircon LA-ICP-MS	827±6	J. J. Ma et al., 2018
WH13-54	Monzogranite	N37°8'49.45" E98°43'33.03"		Zircon LA-ICP-MS	830±8	J. J. Ma et al., 2018
XT1	gneiss granite	Yeniugou, central Qilian		Zircon U-Pb	842 ± 37	N. Xue et al., 2009
HY-5	granite	Huangyuan, central Qilian		Zircon LA-ICP-MS	846 ± 2	Y. Yong et al., 2008
04WJF7	foliated granite	Huangyuan, central Qilian		Zircon LA-ICP-MS	853 ± 2	Y. Yong et al., 2008
09JZX1	Granitic augen orthogneiss	35°56'47.5"N 102°04'20.7"E		Zircon LA-ICP-MS	853 ± 2	Z. Yan et al., 2015
WL15-3	granodiorite	N37°8'44.95" E98°43'28.98"		Zircon LA-ICP-MS	861±9	J. J. Ma et al., 2018
WH13-52	granodiorite	N37°8'28.86" E98°43'21.27"		Zircon LA-ICP-MS	863±4	J. J. Ma et al., 2018
RR05-04-12-2	granodiorite	38°32.708 99°00.082		Zircon LA-ICP-MS	868±16	A. V. Zuza et al., 2018
	foliated granite	Hualong, south Qilian		Zircon LA-ICP-MS	875 ± 8	W. C. Xu et al., 2007
09JZX2	Granitic augen orthogneiss	35°56'47.5"N 102°04'20.7"E		Zircon LA-ICP-MS	875 ± 2	Z. Yan et al., 2015
04XHZ15	foliated granite	Huangyuan, central Qilian		Zircon LA-ICP-MS	888 ± 3	Y. Yong et al., 2008
09LPX45	Granitic orthogneiss	36°02'58.7"N 102°17'29.6"E		Zircon LA-ICP-MS	894 ± 6	Z. Yan et al., 2015
89-2101A	potassic granite	38°45.38'N, 98°27.74'E		SHRIMP U-Pb	896 ± 15	K. A. Tung et al., 2013
Q09-31-2.1	augen granitic gneiss	N37°13.286', E101°31.799'		Zircon LA-ICP-MS	899 ± 4	S. Y. Yu et al., 2013
YYKX	granite	Luliangshan, north Qaidam		Zircon LA-ICP-MS	902 ± 3	Y. B. Peng et al., 2019
DL12-4-1.2	granite	Dulan, south Qilian		Zircon LA-ICP-MS	903 ± 3	Y. B. Peng et al., 2019
AY09-21-11-4	quartz diorite	38°41.418 98°37.762		Zircon LA-ICP-MS	905±7	A. V. Zuza et al., 2018

DL31	granitic gneiss	Dulan, north Qaidam	Zircon LA-ICP-MS	907±18	S. G. Song et al., 2012
11HDQ2	Granitic augen orthogneiss	35°49'31.2"N 102°05'55.6"E	SHRIMP U-Pb	908 ± 23	Z. Yan et al., 2015
Q09-18-5.2	granitic gneiss	N36°29.081', E98°30.596'	Zircon LA-ICP-MS	910 ± 2	S. Y. Yu et al., 2013
11HDQ13	Pegmatite	35°49'12.5"N 102°07'0.1"E	SHRIMP U-Pb	910 ± 9	Z. Yan et al., 2015
Tk19	gneissic granite	Huangyuan	Zircon LA-ICP-MS	910.6±9.3	X. T. Liu, 2019
AZ04-30-12-4	tonalite	38°33.522 98°55.447	Zircon LA-ICP-MS	912±21	A. V. Zuza et al., 2018
11HDQ6	Granitic augen orthogneiss	35°48'50.2"N 102°10'50.6"E	SHRIMP U-Pb	913 ± 9	Z. Yan et al., 2015
TK19jdU-Pb1-1	gneissic granodiorite	36°41'11" 101°2'23"	Zircon LA-ICP-MS	916±11	X. L. Zhu et al., 2019
BQ97354	gneissic granodiorite	Huangyuan, south Qilian	Zircon U-Pb	917 ± 12	J. J. Guo et al., 2000
86-1619	gneissic granite	Maxianshan, south Qilian	SHRIMP U-Pb	918 ± 14	K. A. Tung et al., 2007
Tk24	mica granite	Huangyuan	Zircon LA-ICP-MS	918±22	X. T. Liu, 2019
Bj1602	syenogranite	Huangyuan	Zircon LA-ICP-MS	918.2±8.4	X. T. Liu, 2019
98-0704A	granodiorite	37°9.10'N, 101°33.63'E	SHRIMP U-Pb	920 ± 4	K. A. Tung et al., 2013
11HDQ18	Granitic augen orthogneiss	35°56'47.5"N 102°04'20.7"E	SHRIMP U-Pb	921 ± 10	Z. Yan et al., 2015
AZ07-24-13-9	granite	38°42.472 98°38.763	Zircon LA-ICP-MS	921±10	A. V. Zuza et al., 2018
GA205	granite	central Qilian	Zircon U-Pb	922 ± 5	G. E. Gehrels et al., 2003
TK24-1	granodiorite	Huangyuan, south Qilian	Zircon LA-ICP-MS	922±16	L. Gao et al., 2017
TK31JDU-Pb1-1	monzogranite	Xining, central Qilian	Zircon LA-ICP-MS	922.3±5.3	D. Y. Lv et al., 2021
11HDQ15	Granitic augen orthogneiss	35°49'6.5"N 102°08'18.6"E	SHRIMP U-Pb	924 ± 10	Z. Yan et al., 2015
QL09-15	granite	N36°48.726' E101°09.977'	Zircon U-Pb	924.1 ± 1.5	H. Huang et al., 2015
11HDQ1	Granitic augen orthogneiss	35°49'58.7"N 102°07'0.7"E	SHRIMP U-Pb	925 ± 11	Z. Yan et al., 2015
D2864	granodiorite	39°09'19" 97°04'43"	Zircon LA-MC-ICP-MS	926±4	G. Tao et al., 2017
GA211	granite	north Qaidam	Zircon U-Pb	928 ± 10	G. E. Gehrels et al., 2003
ZJ-01	gneissic granite	Huangyuan, south Qilian	SHRIMP U-Pb	930 ± 8	K. A. Tung et al., 2007
98-0501A	potassic granite	35°46.70'N,103°52.20'E	SHRIMP U-Pb	932 ± 4	K. A. Tung et al., 2013
9Q13	granitic gneiss	Dulan, north Qaidam	Zircon LA-ICP-MS	932±18	S. G. Song et al., 2012
9Q30	granitic gneiss	Xitieshan, north Qaidam	Zircon LA-ICP-MS	935±25	S. G. Song et al., 2012
WC09-13-14(8B)	porphyritic gneiss	37° 8'8.70" 101°34'12.06"	Zircon LA-ICP-MS	ca. 935	This study
	granitic gneiss	Dulan, south Qilian	Zircon LA-ICP-MS	938±22	Y. L. Xu et al., 2011
Q9739	gneiss	Maxianshan, south Qilian	Zircon U-Pb	940 ± 30	Y. S. Wan et al., 2001,2003
09LPX39	Granitic augen orthogneiss	35°59'30.7"N 102°17'5.6"E	Zircon LA-ICP-MS	942 ± 15	Z. Yan et al., 2015
Q7-31	granitic gneiss	Yuka, north Qaidam	Zircon LA-ICP-MS	949±33	S. G. Song et al., 2012
9Q25	granitic gneiss	Xitieshan, north Qaidam	Zircon LA-ICP-MS	951±24	S. G. Song et al., 2012
AZ05-01-12-1	quartz diorite	38°39.452 98°41.372	Zircon LA-ICP-MS	961±12	A. V. Zuza et al., 2018
Q7-26	granitic gneiss	Yuka, north Qaidam	Zircon LA-ICP-MS	1002±80	S. G. Song et al., 2012
97A-6-7	gneissic granite	north Qaidam	Zircon U-Pb	1020 ± 40	Y. S. Wan et al., 2001,2003
N-32-2	gneissic granite	north Qaidam	Zircon U-Pb	1030 ± 40	Y. S. Wan et al., 2001,2003
WL18-1-6.1	augen granitic gneiss	Wulan, Oulongbuluke	Zircon LA-MC-ICP-MS	1104 ± 24	C. Y. Wang et al., 2021
WL18-1-8.2	augen granitic gneiss	Wulan, Oulongbuluke	Zircon LA-MC-ICP-MS	1105 ± 7.8	C. Y. Wang et al., 2021
WL18-1-7.1	mafic granulite	Wulan, Oulongbuluke	Zircon LA-MC-ICP-MS	1113 ± 38	C. Y. Wang et al., 2021
	granitic gneiss	Daban, north Qilian	Zircon LA-ICP-MS	1116.3±33.4	J. S. Dong et al., 2015
IJD4522	granitic gneiss	Daban, north Qilian	Zircon LA-ICP-MS	1150±3	J. S. Dong et al., 2015
WL18-1-3.1	felsic gneiss	Wulan, Oulongbuluke	Zircon LA-MC-ICP-MS	1496 ± 19	C. Y. Wang et al., 2021
WL18-2-1.1	melanosome	Wulan, Oulongbuluke	Zircon LA-MC-ICP-MS	1497 ± 70	C. Y. Wang et al., 2021
WL18-1-3.2	felsic gneiss	Wulan, Oulongbuluke	Zircon LA-MC-ICP-MS	1500 ± 26	C. Y. Wang et al., 2021
IJD4008-1	plagioclase gneiss	N36°52'58" E102°24'26"	Zircon LA-ICP-MS	1537.0±5.3	J. D. Liu et al., 2015
AZ09-12-14(1c)	leucogranite	36°37'51.78" 102° 8'9.66"	Zircon LA-ICP-MS	1908±20	C. Wu et al., 2021

Table S2. Summary of Geochronology Results of Intrusive rocks in the East Kunlun Range

Sample Number	Rock Type	Location		Dating Method	Interpreted Age (Ma)	Data Source
		Latitude(°N)	Longitude(°E)			
WC020514-12	Granitoid	36°02.7′	94°10′	Zircon U-Pb	194 ± 4	C. Wu et al., 2019
1008	Granite	35°46′ 36″	94°19′ 32″	Zircon U-Pb	194.9 ± 1.0	J. G. Dai et al., 2013
1007	Granite	35°53′ 22″	94°19′ 09″	Zircon U-Pb	197 ± 2.4	J. G. Dai et al., 2013
WC070514-18	Granitoid dike	35°36′	97°42′	Zircon U-Pb	200 ± 4	C. Wu et al., 2019
	Granodiorite	35°29.567′	92°07.783′	Zircon U-Pb	202 ± 1	L. Y. Zhang et al., 2014
Y-09	Syenogranite	Yemaquan, Qimentangh		Zircon U-Pb	204.1 ± 2.6	Y. H. Liu et al., 2006
AT113	Granite	Hoh Xil Area		Zircon U-Pb	207 ± 7	F. Roger et al., 2003
YG11-10	K-feldspar granite	37°43′ 6.21″	89°41′ 0.91″	Zircon U-Pb	210.0 ± 0.6	B. Qian et al., 2015
	Granite	35°26.347′	92°58.305′	Zircon U-Pb	212 ± 4	L. Y. Zhang et al., 2014
	Granite	35°47.819′	90°52.610′	Zircon U-Pb	213 ± 2	L. Y. Zhang et al., 2014
YMN-01	Syenogranite	Yemaquan, Qimentangh		Zircon U-Pb	213 ± 1	Y. B. Gao et al., 2014
WC071815-6	Granitoid	36°09.4′	94°02′	Zircon U-Pb	214 ± 1	C. Wu et al., 2019
X101-B1	Diorite dike	Wulonggou		Zircon U-Pb	215 ± 3	Q. F. Ding et al., 2014
X101-B2	Diorite dike	Wulonggou		Zircon U-Pb	215 ± 4	Q. F. Ding et al., 2014
ZW06-3	K-feldspar granite	36°98′ 20″	98°25′ 17″	Zircon U-Pb	215	A. L. Guo et al., 2009
IJD4529-1	Monzogranite	Qimentangh		Zircon U-Pb	216.8 ± 2.1	B. Z. Wang, 2011
AT118	Granite	Hoh Xil Area		Zircon U-Pb	217 ± 10	F. Roger et al., 2003
Q08-9-1.1	Monzogranite	36°55.33′	91°40.17′	Zircon U-Pb	218 ± 2	X. K. Wu et al., 2011
11136/3	Quartz diorite	35°33.214′	97°36.775′	Zircon U-Pb	218.3 ± 1.4	G. C. Chen et al., 2013b
YMN-02	Quartz monzogranite	Yemaquan, Qimentangh		Zircon U-Pb	219 ± 1	Y. B. Gao et al., 2014
CZK3101-1	K-feldspar granite	Changshan, Qimentangh		Zircon U-Pb	219.9 ± 1.3	C. Y. Feng et al., 2012
WC100110-1B	Granitoid	35.833	98.267	Zircon U-Pb	222.6 ± 1.2	C. Wu et al., 2016
6JD3835	Monzogranite	Qimentangh		Zircon U-Pb	223.6 ± 3.7	B. Z. Wang, 2011
DJ10	K-feldspar granitic porphyry	Yazigou, Qimentangh		Zircon U-Pb	224 ± 1.6	S. J. Li et al., 2008
HTN-01	Granodiorite	Qimentangh		Zircon U-Pb	224.3 ± 0.6	K. Li et al., 2015
11124/1	Mafic enclaves	35°35.281′	97°29.524′	Zircon U-Pb	224.9 ± 4.1	G. C. Chen et al., 2013c
	Granite	35°51.345′	90°24.137′	Zircon U-Pb	225 ± 3	L. Y. Zhang et al., 2014
11124/2	Granodiorite	35°35.281′	97°29.524′	Zircon U-Pb	225 ± 2	G. C. Chen et al., 2013a
XA63-1	Granite	Gouli		Zircon U-Pb	225.6 ± 1.7	J. H. Cao et al., 2015
KD008	Monzogranite	36°45.8′	91°1.1′	Zircon U-Pb	227.3 ± 1.8	C. Y. Feng et al., 2012
WB17	Granodiorite	37°58′ 27.6″	88°56′ 35.0″	Zircon U-Pb	227.6 ± 2.3	J. H. Zhou et al., 2015
L01-N1	Gabbro	36°41′ 04″	93°11′ 33″	Zircon U-Pb	227.8 ± 0.9	C. Ao et al., 2015
GLG-01	Quartz monzodiorite	Galinge, Qimentangh		Zircon U-Pb	228.3 ± 0.5	Y. B. Gao et al., 2012
1059	Granite	35°24′ 26″	99°27′ 21″	Zircon U-Pb	228.4 ± 2.4	J. G. Dai et al., 2013
Xh040916-4	Granodiorite	35°57.575′	97°53.976′	Zircon U-Pb	228.8 ± 3.7	X. H. Chen et al., 2012
WC020514-6A	Granitoid	35°52.8′	93°07′	Zircon U-Pb	229 ± 2	C. Wu et al., 2019
	Monzogranite	Kendekeke, Qimentangh		Zircon U-Pb	229.5 ± 0.5	Y. Xiao et al., 2013
KDKD-001	Monzogranite	Galinge, Qimentangh		Zircon U-Pb	230.5 ± 4.2	R. G. Xi et al., 2010
WC020514-6B	Granitoid enclave	35°52.8′	93°07′	Zircon U-Pb	231 ± 2	C. Wu et al., 2019
08BL09	Syenogranite	Balong, Xiangride		Zircon U-Pb	231.0 ± 2.6	J. Y. Zhang et al., 2012
WC020514-1A	Granitoid dike	35°52.4′	93°17′	Zircon U-Pb	233 ± 3	C. Wu et al., 2019
GLG-02	Quartz monzonite	Galinge, Qimentangh		Zircon U-Pb	234.4 ± 0.6	Y. B. Gao et al., 2012
Xh040917-1	Diorite	36°06.443′	97°01.311′	Zircon U-Pb	234.5 ± 3.9	X. H. Chen et al., 2012
WZD073117-2A	Pink granitoid	36°27.9′	98°10′	Zircon U-Pb	237 ± 2	C. Wu et al., 2019
WSA-6	Biotite granite	36°72′ 34″	99°46′ 21″	Zircon U-Pb	238	A. L. Guo et al., 2009
Xh040914-5	K-feldspar granite	36°33.630′	98°40.999′	Zircon U-Pb	238.5 ± 4.8	X. H. Chen et al., 2012
Qw1160	Hb-gabbro massifs	Yuegelu Pluton, Dulan		Zircon U-Pb	239 ± 6	C. D. Liu et al., 2004
14HRUPb02	Quartz diorite	Harizha, Dulan		Zircon U-Pb	239.3 ± 2.2	X. Z. Guo et al., 2016
HT11-28	Syenogranite	Qimentangh		Zircon U-Pb	239.7 ± 0.8	K. Li et al., 2015
2425/2	Syenogranite	35°27′ 15″	98°01′ 13″	Zircon U-Pb	239.9 ± 0.7	W. B. Deng et al., 2016
G273	Granite	Golmud East		Zircon U-Pb	240 ± 6	N. B. Harris et al., 1988
Xh040916-3	Granodiorite	36°03.462′	98°07.045′	Zircon U-Pb	240.8 ± 4.0	X. H. Chen et al., 2012
08BL01-3	Quartz diorite	Balong, Xiangride		Zircon U-Pb	241.0 ± 2.2	J. Y. Zhang et al., 2012
Q1013	Mafic enclaves	Yuegelu Pluton, Dulan		Zircon U-Pb	241 ± 5	C. D. Liu et al., 2004
Xh040915-5	Granodiorite	36°15.314′	98°26.924′	Zircon U-Pb	241.4 ± 4.1	X. H. Chen et al., 2012
IIP4JD24-1	Monzogranite	Qimentangh		Zircon U-Pb	241.7 ± 1.4	B. Z. Wang, 2011
Xh040916-1	Alkali-granite	36°12.605′	98°09.957′	Zircon U-Pb	241.8 ± 4.6	X. H. Chen et al., 2012
Qw1032	Granodiorite	Yuegelu Pluton, Dulan		Zircon U-Pb	242 ± 6	C. D. Liu et al., 2004

08BL01-2	Granodiorite	Balong, Xiangride	Zircon U-Pb	242.5 ± 1.6	J. Y. Zhang et al., 2012
DYSZ6-1	Granodiorite	Lalingzaohuo, Qimantage	Zircon U-Pb	242.6 ± 3.4	J. Chen et al., 2013b
08BL10-1	Granodiorite	Balong, Xiangride	Zircon U-Pb	243.5 ± 1.8	J. Y. Zhang et al., 2012
WC020514-2B	Granitoid	36°08.5' 93°51'	Zircon U-Pb	244 ± 1	C. Wu et al., 2019
BLG-XJ-B08	Granite dike	Wulonggou	Zircon U-Pb	244 ± 2	Q. F. Ding et al., 2014
BLG-XJ-B09	Granite dike	Wulonggou	Zircon U-Pb	244 ± 2	Q. F. Ding et al., 2014
BLG-TC104-B1	Granite dike	Wulonggou	Zircon U-Pb	245 ± 2	Q. F. Ding et al., 2014
Xh040916-8A	Tonalite	35°45.375' 98°07.872'	Zircon U-Pb	245.1 ± 4.4	X. H. Chen et al., 2012
ZW-14	Monzogranite	37°09' 18" 98°23' 51"	Zircon U-Pb	246	A. L. Guo et al., 2009
WC020514-5	Granitoid	36°08.2' 93°12'	Zircon U-Pb	248 ± 1	C. Wu et al., 2019
DL09-24	Mafic enclaves	35°48.900' 98°08.975'	Zircon U-Pb	248.0 ± 1.4	H. Huang et al., 2014
Xh040916-8B	Granite	35°45.375' 98°07.872'	Zircon U-Pb	248.1 ± 5.1	X. H. Chen et al., 2012
DL09-08	Granitoid	35°45.201' 98°07.565'	Zircon U-Pb	248.4 ± 1.2	H. Huang et al., 2014
D1483-1	Granodiorite	Xiangride	Zircon U-Pb	248.43 ± 0.64	W. D. Liu, 2016
DL09-07	Mafic enclaves	35°45.201' 98°07.565'	Zircon U-Pb	248.5 ± 0.8	H. Huang et al., 2014
DL09-22	Mafic enclaves	35°47.840' 98°08.991'	Zircon U-Pb	248.6 ± 1.0	H. Huang et al., 2014
JD039-2	Bt-Monzogranite	36°03.725' 94°28.409'	Zircon U-Pb	248.7 ± 1.6	G. T. Chen et al., 2016
DL09-17	Mafic enclaves	35°47.008' 98°08.550'	Zircon U-Pb	248.7 ± 0.9	H. Huang et al., 2014
DL09-30	Granitoid	36°42.712' 99°33.913'	Zircon U-Pb	248.9 ± 1.5	H. Huang et al., 2014
DL09-13	Granitoid	35°45.321' 98°07.669'	Zircon U-Pb	249.2 ± 0.8	H. Huang et al., 2014
IJP2247-1	Monzogranite	Qimemtagh	Zircon U-Pb	250 ± 2	B. Z. Wang, 2011
Xh040915-4	Granodiorite	36°13.249' 98°25.816'	Zircon U-Pb	250.1 ± 4.6	X. H. Chen et al., 2012
DL09-15	Granitoid	35°47.008' 98°08.550'	Zircon U-Pb	250.2 ± 0.9	H. Huang et al., 2014
DYSZ11-1	Granodiorite	Lalingzaohuo, Qimantage	Zircon U-Pb	250.4 ± 4	J. Chen et al., 2013b
DL09-18	Granitoid	35°47.804' 98°09.011'	Zircon U-Pb	250.5 ± 1.0	H. Huang et al., 2014
Xh040916-6	Granodiorite	35°50.087' 98°09.347'	Zircon U-Pb	250.9 ± 5.1	X. H. Chen et al., 2012
DL09-21	Granitoid	35°47.840' 98°08.991'	Zircon U-Pb	251.0 ± 0.9	H. Huang et al., 2014
DL09-27	Granitoid	35°49.092' 98°09.401'	Zircon U-Pb	251.0 ± 1.0	H. Huang et al., 2014
WC1002010-4B	Granitoid	35.433 98.55	Zircon U-Pb	251.4 ± 1.7	C. Wu et al., 2016
08BL08-1	Granodiorite	Balong, Xiangride	Zircon U-Pb	252.0 ± 3.0	J. Y. Zhang et al., 2012
Xh040916-9	Granodiorite	35°43.613' 98°06.863'	Zircon U-Pb	253.0 ± 4.6	X. H. Chen et al., 2012
I005	Granite	36°07' 51" 94°49' 03"	Zircon U-Pb	253.1 ± 4.7	J. G. Dai et al., 2013
Xh040915-1	Granodiorite	36°24.149' 98°32.651'	Zircon U-Pb	253.1 ± 5.4	X. H. Chen et al., 2012
WC100210-2C	Granitoid	35.642 98.446	Zircon U-Pb	253.6 ± 1.4	C. Wu et al., 2016
WC020514-7B	Granitoid dike	36°00.7' 94°05'	Zircon U-Pb	255 ± 2	C. Wu et al., 2019
Xh040913-3	K-feldspar granite	37°16.676' 98°23.400'	Zircon U-Pb	257.8 ± 5.5	X. H. Chen et al., 2012
Sample 5	Granite	37°51.714' 90°31.760'	Zircon U-Pb	261.5 ± 3.7	W. Li et al., 2013
WC020514-15	Granitoid	36°04.5' 93°39'	Zircon U-Pb	263 ± 2	C. Wu et al., 2019
IPm5JD21-1	Syenogranite	Qimemtagh	Zircon U-Pb	357 ± 2	B. Z. Wang, 2011
Pm5JD21-1	Syenogranite	Kayakedeng, Qimantage	Zircon U-Pb	357 ± 2	G. L. Wang et al., 2013
WC071715-2B	Granitoid	36°09.8' 93°56'	Zircon U-Pb	360 ± 2	C. Wu et al., 2019
Pm6JD44-1	Diorite	Kayakedeng, Qimantage	Zircon U-Pb	363 ± 3	G. L. Wang et al., 2013
IIP11JD4-1	Granodiorite	Qimemtagh	Zircon U-Pb	369 ± 2.3	B. Z. Wang, 2011
IPm5JD17-1	Syenogranite	Qimemtagh	Zircon U-Pb	369.8 ± 2.6	B. Z. Wang, 2011
Pm5JD17-1	Syenogranite	Kayakedeng, Qimantage	Zircon U-Pb	370 ± 3	G. L. Wang et al., 2013
IIP11JD5-1	Monzogranite	Qimemtagh	Zircon U-Pb	370.4 ± 2.8	B. Z. Wang, 2011
IJD2102	Bt granodiorite	Qimemtagh	Zircon U-Pb	372.9 ± 1.9	B. Z. Wang, 2011
IJD1144	Granodiorite	Qimemtagh	Zircon U-Pb	373 ± 4	B. Z. Wang, 2011
K36	Granodiorite	Kayakedeng, Qimantage	Zircon U-Pb	380.52 ± 0.92	N. N. Hao et al., 2014
YM11-25	Granodiorite	Yemaquan, Qimemtagh	Zircon U-Pb	386 ± 1	Y. B. Gao et al., 2014
AZ-7-30-17(10)	Granitoid	36°27.7' 98°14.6'	Zircon U-Pb	387 ± 2	C. Wu et al., 2019
	Granite	Heishan, Qimantage	Zircon U-Pb	388 ± 3	F. C. Meng et al., 2015
6PM102JD5-1	Syenogranite	37°23'41" 91°25'53"	Zircon U-Pb	388.9 ± 3.7	B. Z. Wang, 2011
DL-280717-4	Granitoid dike	36°26.3' 98°12.5'	Zircon U-Pb	389 ± 3	C. Wu et al., 2019
X-HS26N-N2	Syenogranite	Xiarhamu, Golmud	Zircon U-Pb	391.1 ± 1.4	G. Wang et al., 2013
YMN-03	Monzogranite	Yemaquan, Qimemtagh	Zircon U-Pb	393 ± 2	Y. B. Gao et al., 2014
B011-1	Monzogranite	36°55' 34" 91°25' 05"	Zircon U-Pb	394 ± 13	H. W. Chen et al., 2006
NS-1	Granodiorite	Niukutou deposit, Qimantage	Zircon U-Pb	394 ± 1	L. Yao et al., 2016
IJD1001-1	Bt granodiorite	Qimemtagh	Zircon U-Pb	394.4 ± 1.8	B. Z. Wang, 2011
7PM307JD5-2	Monzogranite	Qimemtagh	Zircon U-Pb	395.3 ± 4.3	B. Z. Wang, 2011
DYSZ16-1	Monzogranite	Lalingzaohuo, Qimantage	Zircon U-Pb	396.2 ± 2	J. Chen et al., 2013a
IJD4978-1	Diabase	Qimemtagh	Zircon U-Pb	396.5 ± 3.1	B. Z. Wang, 2011
6PM305JD5-2	Granodiorite	Qimemtagh	Zircon U-Pb	397 ± 3	B. Z. Wang, 2011

	Granodiorite	Yematan, Dulan	Zircon U-Pb	397	C. C. Wu et al., 2004
WC070514-20B	Granitoid dike	35°33.7' 98°15'	Zircon U-Pb	399 ± 4	C. Wu et al., 2019
YK-6	Granodiorite-tonalite	Buqingshan, Golmud	Zircon U-Pb	402 ± 24	Q. T. Bian et al., 2004
	Tonalite	Qimemtagh	Zircon U-Pb	403 ± 3	Z. M. Zhao et al., 2008
KAS3TW1	Monzogranite	Kayakedeng, Qimantage	Zircon U-Pb	403.1 ± 1.2	Y. Zhang et al., 2016
B002-2	Gabbro	36°55' 58" 91°23' 07"	Zircon U-Pb	403.3 ± 7.2	H. W. Chen et al., 2006
KE-30	Bt monzogranite	Kaerqueka, Qimantage	Zircon U-Pb	406 ± 4	L. Yao et al., 2016
YJ05-4	Gabbro	Yuejinshan, Golmud	Zircon U-Pb	406 ± 3	B. Liu et al., 2012
NM06-1	Granodiorite	Yuejinshan, Golmud	Zircon U-Pb	407 ± 3	B. Liu et al., 2012
	Quartz diorite	Qimemtagh	Zircon U-Pb	407.7 ± 7.5	Z. M. Zhao et al., 2008
	Monzogranite	Qimemtagh	Zircon U-Pb	408.3 ± 5.3	Z. M. Zhao et al., 2008
IJD3000	Diorite	Qimemtagh	Zircon U-Pb	409 ± 1.8	B. Z. Wang, 2011
	Granite	Heishan, Qimantage	Zircon U-Pb	410 ± 3	F. C. Meng et al., 2015
09JZX3	Granite	35°57' 1.3" 102°04' 0.7"	Zircon U-Pb	410 ± 0.94	Z. Yan et al., 2015
	Monzogranite	Qimemtagh	Zircon U-Pb	410.2 ± 1.9	Z. M. Zhao et al., 2008
XRH2+4	Ultramafic rock	Xiarhamu, Golmud	Zircon U-Pb	411.6 ± 2.4	C. S. Li et al., 2015
IIP31JD7-1	Granite	Qimemtagh	Zircon U-Pb	412.9 ± 2.1	B. Z. Wang, 2011
	Tonalite	Qimemtagh	Zircon U-Pb	413 ± 14	Z. M. Zhao et al., 2008
6PM202JD9-1	Monzogranite	Wulanwuzhuer	Zircon U-Pb	413 ± 5	S. X. Tan et al., 2011
BG0802-14	Syenogranite	37°56' 13" 88°54' 44"	Zircon U-Pb	413.6 ± 2.4	J. H. Zhou et al., 2016
WC070514-19A	Granitoid	35°38' 98°18'	Zircon U-Pb	414 ± 3	C. Wu et al., 2019
WC051411-7	Granitoid	37.25 91.908	Zircon U-Pb	416.5 ± 2.6	C. Wu et al., 2016
B20-14	Mylonited monzogranite	36°13' 27" 95°55' 29"	Zircon U-Pb	417.4 ± 2.0	L. Lu et al., 2013
WC300414-7	Granitoid	35°52.8' 93°43'	Zircon U-Pb	418 ± 2	C. Wu et al., 2019
IIP13JD4-1	Granodiorite	Qimemtagh	Zircon U-Pb	419 ± 2	B. Z. Wang, 2011
B21-2	Mylonited monzogranite	36°13' 45" 95°55' 15"	Zircon U-Pb	419.7 ± 2.3	L. Lu et al., 2013
B25-9	Monzogranite	36°12' 09" 95°56' 15"	Zircon U-Pb	419.9 ± 2.0	L. Lu et al., 2013
B20-8	Monzogranite	36°13' 01" 95°55' 31"	Zircon U-Pb	419.9 ± 2.0	L. Lu et al., 2013
Xh040914-4	Alkali-granite	36°42.623' 98°48.237'	Zircon U-Pb	420.4 ± 7.8	X. H. Chen et al., 2012
BG20	Monzogranite	37°58'33.6" 88°56'35.7"	Zircon U-Pb	421 ± 3.7	G. C. Li et al., 2012
IIID4100	Monzogranite	Qimemtagh	Zircon U-Pb	421.4 ± 2.3	B. Z. Wang, 2011
BG19	K-feldspar granite	37°58'27.6" 88°56'35"	Zircon U-Pb	422 ± 3	G. C. Li et al., 2012
BGH-4	Syenogranite	37°55'24" 88°52'44"	Zircon U-Pb	422.5 ± 2.3	Z. Z. Wang et al., 2014
Xh040913-4	Porphyroid monzonite	37°0.242' 98°34.624'	Zircon U-Pb	422.9 ± 8.0	X. H. Chen et al., 2012
Sample 4	Diorite	37°53.100' 90°35.713'	Zircon U-Pb	424.0 ± 3.5	W. Li et al., 2013
10NM14-1	Porphyritic diorite	Santonggou, Golmud	Zircon U-Pb	427 ± 3	J. Y. Zhang et al., 2014
10GD26	Monzogranite	35°09' 41.0" 101°38' 35"	Zircon U-Pb	427 ± 1	Z. Yan et al., 2015
BGH-1	Monzogranite	37°56'18" 88°54'21"	Zircon U-Pb	428.2 ± 4.2	Z. Z. Wang et al., 2014
Sample 7	Granite	37°28.918' 91°39.054'	Zircon U-Pb	428.6 ± 4.4	W. Li et al., 2013
WC300414-17	Granitoid	35°50.8' 93°29'	Zircon U-Pb	429 ± 2	C. Wu et al., 2019
1003	Monzogranite	36°19' 35" 95°18' 22"	Zircon U-Pb	429.2 ± 7.9	J. G. Dai et al., 2013
BKN-01	Trondhjemite	Qimemtagh	Zircon U-Pb	429.5 ± 3.2	Gao & Li, 2011
QL09-12	Granite	36°46.731' 101°07.428'	Zircon U-Pb	430	H. Huang et al., 2015
QL09-10	Granite	36°34.895' 101°13.520'	Zircon U-Pb	430	H. Huang et al., 2015
BKN-03	Monzogranite	Qimemtagh	Zircon U-Pb	430.5 ± 1.2	Gao & Li, 2011
XRH6	Gabbro	Xiarhamu, Golmud	Zircon U-Pb	431.3 ± 2.1	C. S. Li et al., 2015
09NM17-1	Granodiorite	Santonggou, Golmud	Zircon U-Pb	432 ± 2	J. Y. Zhang et al., 2014
09NM16-1	Porphyritic granodiorite	Santonggou, Golmud	Zircon U-Pb	432 ± 2	J. Y. Zhang et al., 2014
WC051411-11	Granitoid	37.363 91.861	Zircon U-Pb	432.4 ± 4.1	C. Wu et al., 2016
11ASG10	Granite	36°09' 11.0" 101°38' 55.1"	Zircon U-Pb	433 ± 5	Z. Yan et al., 2015
11ASG21	Granite	36°08' 30.2" 101°37' 6.0"	Zircon U-Pb	433 ± 8	Z. Yan et al., 2015
WC100110-5A	Granitoid	35.9 98.096	Zircon U-Pb	433.6 ± 3.8	C. Wu et al., 2016
IIP10JD1-1	Granodiorite	Qimemtagh	Zircon U-Pb	434.2 ± 3.2	B. Z. Wang, 2011
IIP10JD3-1	Granodiorite	Qimemtagh	Zircon U-Pb	434.7 ± 3.2	B. Z. Wang, 2011
11ASG1	Granite	36°08' 30" 101°37' 37.2"	Zircon U-Pb	436 ± 5	Z. Yan et al., 2015
Sample 3	Granite	37°55.087' 90°25.555'	Zircon U-Pb	439.0 ± 5.9	W. Li et al., 2013
WC300414-1C	Granitoid	35°51.4' 93°40'	Zircon U-Pb	439 ± 2	C. Wu et al., 2019
11ASG2	Monzogranite	36°08' 15.2" 101°38' 16.0"	Zircon U-Pb	439 ± 4	Z. Yan et al., 2015
11ASG17	Granodiorite	36°08' 55.5" 101°38' 16.0"	Zircon U-Pb	439 ±	Z. Yan et al., 2015

WC071815-1	Pink granitoid dike	36°01′	93°58′	Zircon U-Pb	440 ± 3	C. Wu et al., 2019
WC070514-20A	Granitoid	35°34′	98°13′	Zircon U-Pb	440 ± 5	C. Wu et al., 2019
	Diorite	Yaqu		Zircon U-Pb	440.74 ± 0.33	Z. W. Zhang et al., 2014
13ASG31	Gabbro	36°9′ 14.89″	101°37′ 14.84″	Zircon U-Pb	442.3 ± 2.9	Z. Yan et al., 2015
WC071815-3	Granitoid	36°05′	93°05′	Zircon U-Pb	443 ± 3	C. Wu et al., 2019
WC070514-1	Granitoid	35°48′	97°55′	Zircon U-Pb	443 ± 2	C. Wu et al., 2019
	Gabbro	Yulonggou		Zircon U-Pb	443.39 ± 0.42	Z. W. Zhang et al., 2014
GLD-68-1	Deformed granodiorite	Xiangride		Zircon U-Pb	446 ± 2.2	G. C. Wang et al., 2003
Sample 1	Diorite	37°42.468′	90°46.857′	Zircon U-Pb	446.2 ± 2.3	W. Li et al., 2013
WC071315-1b	Granite	36°03′15.00″	97°33′49.12″	Zircon U-Pb	446.2±3.9	This Study
QL09-14	Granite	36°46.903′	101°07.562′	Zircon U-Pb	450	H. Huang et al., 2015
			102°18′			
10LPX22	Granodiorite	35°58′ 14.08″	10.37″	Zircon U-Pb	452 ± 2	Z. Yan et al., 2015
QL09-02	Granite	36°27.116′	101°05.634′	Zircon U-Pb	452.9 ± 5.5	H. Huang et al., 2015
B1045-1	Granodiorite	Gouli, Dulan		Zircon U-Pb	454 ± 2	J. J. Chen et al., 2016
13QH15	Granodiorite	36°16′ 59.2″	101°52′ 5.0″	Zircon U-Pb	455 ± 3	Z. Yan et al., 2015
WC071615-1	Granite	37°57′44.05″	90°17′02.12″	Zircon U-Pb	457.8±2.1	This Study
Sample 6	Granite	37°29.424′	91°39.681′	Zircon U-Pb	461.7 ± 4.0	W. Li et al., 2013
DL-33	Gabbro	Buqingshan, Golmud		Zircon U-Pb	467.2 ± 0.9	Q. T. Bian et al., 2004
			101°33′			
10QH19	Gabbro	36°17′ 15.2″	45.5″	Zircon U-Pb	470 ± 7	Z. Yan et al., 2015
			101°32′			
10QH26	Gabbro	36°16′ 59.2″	52.5″	Zircon U-Pb	470 ± 6	Z. Yan et al., 2015
	Gabbro	Heishan, Qimantage		Zircon U-Pb	480 ± 3	F. C. Meng et al., 2015
Sample 2	Orthogneiss	37°53.875′	90°24.870′	Zircon U-Pb	484.6 ± 7.3	W. Li et al., 2013
QM09-1-2	Gabbro	Heishan, Qimantage		Zircon U-Pb	486 ± 6	F. C. Meng et al., 2015
Xh040914-3	Alkali-granite	36°43.011′	98°51.280′	Zircon U-Pb	493.1 ± 8.9	X. H. Chen et al., 2012
WC071015-1A	Granitoid	35°55′	97°33′	Zircon U-Pb	494 ± 3	C. Wu et al., 2019
QL09-18	Granite	37°22.712′	101°23.887′	Zircon U-Pb	502.9 ± 2.0	H. Huang et al., 2015
QX97-26	Orthogneiss	Xiangride		Zircon U-Pb	517 ± 6.0	N. S. Chen et al., 2008
QX97-3	Orthogneiss	Xiangride		Zircon U-Pb	559 ± 17	N. S. Chen et al., 2008
04RYT16	Granite	Huangyuan		Zircon U-Pb	756.4 ± 2.2	Y. Yong et al., 2008
YYZ	Granite	37.01	100.62	Zircon U-Pb	766 ± 1	Y. B. Peng et al., 2019
87-1404G	Granite	Gahai		Zircon U-Pb	788 ± 6	K. A. Tung et al., 2013
87-1404	Granitic gneiss	37°05.7′	100°37.3′	Zircon U-Pb	790 ± 12	K. A. Tung et al., 2007
QL09-01	Granite	36°27.116′	101°05.634′	Zircon U-Pb	796.7 ± 7.4	H. Huang et al., 2015
87-1701C	Granodiorite	Riyueshan		Zircon U-Pb	809 ± 5	K. A. Tung et al., 2013
87-1404E	Granite	Gahai		Zircon U-Pb	816 ± 5	K. A. Tung et al., 2013
87-1701A	Granodiorite	Riyueshan		Zircon U-Pb	826 ± 7	K. A. Tung et al., 2013
HY-5	Granite	Huangyuan		Zircon U-Pb	846 ± 2	Y. Yong et al., 2008
04WJF7	Granite	Huangyuan		Zircon U-Pb	853 ± 2.3	Y. Yong et al., 2008
			102°04′			
09JZX1	Granitic augen orthogneiss	35°56′ 47.5″	20.7″	Zircon U-Pb	853 ± 2	Z. Yan et al., 2015
			102°04′			
09JZX2	Granitic augen orthogneiss	35°56′ 47.5″	20.7″	Zircon U-Pb	857 ± 2	Z. Yan et al., 2015
			20.7″			
148-2	Granitic gneiss	35°50′16″	97°24′47″	Zircon U-Pb	870.6 ± 7.7	Y. X. Chen et al., 2015
HL-4	Foliated granite	Hualong		Zircon U-Pb	875 ± 8	W. C. Xu et al., 2007
150-1	Granitic gneiss	35°50′30″	97°24′32″	Zircon U-Pb	875.3 ± 6.3	Y. X. Chen et al., 2015
04XHZ15	Granite	Huangyuan		Zircon U-Pb	887.8 ± 2.5	Y. Yong et al., 2008
HL-13	Bt-plagioclase gneiss	Hualong		Zircon U-Pb	891 ± 9	W. C. Xu et al., 2007
			102°17′			
09LPX45	Granitic orthogneiss	36°02′ 58.7″	29.6″	Zircon U-Pb	894 ± 6	Z. Yan et al., 2015
DL12-4-1.2	Amphiolite	36.51	98.38	Zircon U-Pb	903 ± 3	Y. B. Peng et al., 2019
QSQ-40	Metagranite	Xiangride		Zircon U-Pb	904	N. S. Chen et al., 2006
DL31	Granitic gneiss	Dulan		Zircon U-Pb	907 ± 18	S. G. Song et al., 2012
			102°05′			
11HDQ2	Granitic augen orthogneiss	35°49′ 31.2″	55.6″	Zircon U-Pb	908 ± 23	Z. Yan et al., 2015
	Granitic gneiss	Kaerqueka, Qimantage		Zircon U-Pb	910 ± 3	X. L. Wei et al., 2016
Q09-18-5.2	Granitic gneiss	36°29.081′	98°30.596′	Zircon U-Pb	910 ± 2	S. Y. Yu et al., 2013a
11HDQ13	Pegmatite	35°49′ 12.5″	102°07′ 0.1″	Zircon U-Pb	910 ± 9	Z. Yan et al., 2015
11HDQ6	Granitic orthogneiss	35°48′ 50.2″	102°10′	Zircon U-Pb	913 ± 9	Z. Yan et al., 2015

			50.6"			
BQ97354	Granite	Huangyuan		Zircon U-Pb	917 ± 12	J. J. Guo et al., 2000
98-0704A	Granodiorite	Baokuhe		Zircon U-Pb	920 ± 4	K. A. Tung et al., 2013
HS27-N2	Monzogranite	Xiarihamu, Golmud		Zircon U-Pb	920.1 ± 2.8	G. Wang et al., 2016
11HDQ18	Granitic augen orthogneiss	35°56' 47.5"	102°04' 20.7"	Zircon U-Pb	921 ± 10	Z. Yan et al., 2015
D15D	Granitic orthogneiss	36°35.94'	98°28.45'	Zircon U-Pb	921.4 ± 7.0	C. G. Mattinson et al., 2006
Q09-18-5.2	Granitic gneiss	Dulan		Zircon U-Pb	923±12	S. Y. Yu et al., 2013b
HS27-P2-N5	Monzogranite	Xiarihamu, Golmud		Zircon U-Pb	923.7 ± 2.5	G. Wang et al., 2016
NMH-52	Genissic granite	Hongshuihe		Zircon U-Pb	924 ± 9	D. F. He et al., 2018
11HDQ15	Granitic orthogneiss	35°49' 6.5"	102°08' 18.6"	Zircon U-Pb	924 ± 10	Z. Yan et al., 2015
QL09-15	Granite	36°48.726'	101°09.977'	Zircon U-Pb	924.1 ± 1.5	H. Huang et al., 2015
11HDQ1	Granitic augen orthogneiss	35°49' 58.7"	102°07' 0.7"	Zircon U-Pb	925 ± 11	Z. Yan et al., 2015
D7B	Granitic orthogneiss	36°31.07'	98°36.75'	Zircon U-Pb	926.6 ± 6.9	C. G. Mattinson et al., 2006
ZJ-01	Granitic gneiss	36°41.0'	101°22.0'	Zircon U-Pb	930 ± 8	K. A. Tung et al., 2007
WC070514-16C	Foliated granitoid	35°41'	98°20'	Zircon Pb-Pb	936 ± 5	C. Wu et al., 2019
9Q13	Granitic gneiss	Dulan		Zircon U-Pb	936 ± 28	S. G. Song et al., 2012
Q08-12-3.1	Granitic gneiss	Galinge, Qimentagh		Zircon U-Pb	938 ± 5	F. C. Meng et al., 2013
QM09-9-3.1	Granitic gneiss	Galinge, Qimentagh		Zircon U-Pb	938 ± 2	F. C. Meng et al., 2013
	Granitic gneiss	Yematan, Dulan		Zircon U-Pb	938 ± 22	Y. L. Xu et al., 2011
NLG-232	Genissic granite	Dangennaomuru		Zircon U-Pb	941 ± 13	D. F. He et al., 2018
09LPX39	Granitic augen orthogneiss	35°59' 30.7"	102°17' 5.6"	Zircon U-Pb	942 ± 15	Z. Yan et al., 2015
WC070514-17	Foliated granitoid	35°42'	97°56'	Zircon Pb-Pb	944 ± 5	C. Wu et al., 2019
NLG-115	Genissic granite	South Bokalike		Zircon U-Pb	1002 ± 31	D. F. He et al., 2018
NLG-142A	Genissic granite	37°01.593'	91°08.774'	Zircon U-Pb	1006 ± 20	D. F. He et al., 2016
88-0301C	Granodiorite	Haiyan		Zircon U-Pb	1825 ± 14	K. A. Tung et al., 2013

Table S3. LA-ICP-MS results for zircons U-Pb ages of igneous, sandstone, and metamorphic sedimentary samples in this study.

Sample Spot	Corrected Isotopic Ratios								Corrected Ages (Ma)							
number	$^{232}\text{Th}/^{238}\text{U}$	1 σ	$^{206}\text{Pb}/^{238}\text{U}$	1 σ	$^{207}\text{Pb}/^{235}\text{U}$	1 σ	$^{207}\text{Pb}/^{206}\text{Pb}$	1 σ	$^{206}\text{Pb}/^{238}\text{U}$	1 σ	$^{207}\text{Pb}/^{235}\text{U}$	1 σ	$^{207}\text{Pb}/^{206}\text{Pb}$	1 σ	Best Ages	1 σ
<u>Granitoid sample WC 09-14-14 (12)</u>																
sam.01	0.7120	0.0044	0.0708	0.0009	0.5455	0.0102	0.0559	0.0009	441	5	442	8	447	37	441	5
sam.02	0.4783	0.0012	0.0690	0.0009	0.5332	0.0104	0.0561	0.0011	430	6	434	8	455	44	430	6
sam.03	0.2964	0.0051	0.0696	0.0008	0.5308	0.0116	0.0553	0.0011	434	5	432	9	426	45	434	5
sam.04	0.3034	0.0044	0.0691	0.0008	0.5244	0.0092	0.0550	0.0009	431	5	428	8	413	38	431	5
sam.05	0.1822	0.0008	0.0691	0.0009	0.5362	0.0079	0.0563	0.0007	431	6	436	6	464	27	431	6
sam.06	0.3881	0.0036	0.0694	0.0009	0.5375	0.0082	0.0561	0.0007	433	6	437	7	458	29	433	6
sam.07	0.0546	0.0002	0.0697	0.0008	0.5392	0.0100	0.0561	0.0010	434	5	438	8	458	38	434	5
sam.08	0.0359	0.0004	0.0693	0.0010	0.5388	0.0113	0.0564	0.0008	432	7	438	9	467	33	432	7
sam.09	0.1982	0.0060	0.0689	0.0010	0.5284	0.0111	0.0556	0.0009	430	6	431	9	437	35	430	6
sam.10	0.7805	0.0016	0.0696	0.0009	0.5351	0.0091	0.0557	0.0009	434	6	435	7	442	34	434	6
sam.11	0.5769	0.0219	0.0700	0.0008	0.5403	0.0111	0.0560	0.0011	436	5	439	9	450	42	436	5
sam.12	0.6785	0.0052	0.0703	0.0009	0.5434	0.0084	0.0561	0.0008	438	6	441	7	455	31	438	6
sam.13	0.5236	0.0025	0.0685	0.0008	0.5198	0.0076	0.0550	0.0007	427	5	425	6	414	30	427	5
sam.14	1.5073	0.0088	0.0708	0.0023	0.5599	0.0665	0.0574	0.0044	441	14	451	54	506	168	441	14
sam.15	0.1708	0.0015	0.0727	0.0012	0.6055	0.0108	0.0604	0.0007	452	7	481	9	618	26	452	7
sam.16	2.5661	0.0273	0.0724	0.0007	0.5994	0.0110	0.0601	0.0010	450	5	477	9	607	35	450	5
sam.17	3.1134	0.0564	0.0747	0.0012	0.6188	0.0142	0.0601	0.0016	464	7	489	11	607	59	464	7
<u>Granitoid sample WC 07-16-17 (1)</u>																
sam.01	0.4623	0.0009	0.0744	0.0010	0.5859	0.0094	0.0571	0.0007	463	6	468	8	496	28	463	6
sam.02	0.4920	0.0006	0.0737	0.0009	0.5714	0.0084	0.0563	0.0007	458	5	459	7	463	27	458	5
sam.03	0.7466	0.0038	0.0738	0.0009	0.5770	0.0088	0.0567	0.0007	459	6	463	7	480	27	459	6
sam.04	0.3967	0.0011	0.0730	0.0009	0.5594	0.0089	0.0556	0.0008	454	5	451	7	436	32	454	5
sam.05	0.6496	0.0031	0.0750	0.0009	0.5806	0.0095	0.0561	0.0008	466	6	465	8	458	30	466	6
sam.06	0.5605	0.0008	0.0728	0.0008	0.5622	0.0096	0.0560	0.0009	453	5	453	8	454	35	453	5
sam.07	0.6536	0.0062	0.0738	0.0009	0.5787	0.0088	0.0569	0.0007	459	5	464	7	487	29	459	5
sam.08	0.4901	0.0029	0.0735	0.0009	0.5739	0.0099	0.0567	0.0009	457	5	461	8	478	35	457	5
sam.09	0.4833	0.0009	0.0741	0.0009	0.5748	0.0097	0.0562	0.0008	461	6	461	8	462	33	461	6
sam.10	0.4665	0.0010	0.0732	0.0009	0.5663	0.0145	0.0561	0.0013	456	5	456	12	456	53	456	5
sam.11	0.4745	0.0007	0.0742	0.0009	0.5731	0.0086	0.0560	0.0007	461	6	460	7	453	28	461	6
sam.12	0.6358	0.0018	0.0747	0.0009	0.5851	0.0093	0.0568	0.0008	464	6	468	7	484	30	464	6

sam.13	0.4732	0.0010	0.0738	0.0009	0.5697	0.0091	0.0560	0.0007	459	6	458	7	452	29	459	6
sam.14	0.4747	0.0040	0.0734	0.0009	0.5721	0.0098	0.0566	0.0008	456	6	459	8	474	32	456	6
sam.15	0.5098	0.0018	0.0729	0.0009	0.5602	0.0089	0.0557	0.0007	453	6	452	7	442	30	453	6
sam.16	0.5218	0.0009	0.0741	0.0009	0.5811	0.0094	0.0569	0.0008	461	6	465	8	486	31	461	6
sam.17	0.3169	0.0006	0.0728	0.0008	0.5674	0.0097	0.0565	0.0009	453	5	456	8	473	35	453	5
sam.18	0.4626	0.0007	0.0734	0.0009	0.5758	0.0090	0.0569	0.0007	457	6	462	7	487	28	457	6
sam.19	0.6442	0.0028	0.0745	0.0009	0.5748	0.0097	0.0560	0.0008	463	6	461	8	451	32	463	6
sam.20	0.0628	0.0002	0.0731	0.0009	0.5692	0.0087	0.0564	0.0007	455	6	457	7	470	29	455	6
sam.21	0.5434	0.0025	0.0729	0.0009	0.5595	0.0085	0.0557	0.0007	454	5	451	7	439	29	454	5
sam.22	0.4614	0.0017	0.0733	0.0009	0.5644	0.0090	0.0558	0.0008	456	6	454	7	446	31	456	6
sam.23	0.5759	0.0023	0.0726	0.0009	0.5713	0.0091	0.0570	0.0008	452	5	459	7	493	31	452	5
sam.24	0.5948	0.0012	0.0736	0.0009	0.5778	0.0103	0.0569	0.0009	458	6	463	8	489	35	458	6
sam.25	0.5219	0.0021	0.0736	0.0009	0.5717	0.0089	0.0564	0.0008	458	6	459	7	466	30	458	6
sam.26	0.6441	0.0016	0.0731	0.0009	0.5715	0.0087	0.0567	0.0007	455	5	459	7	479	29	455	5
sam.27	0.4667	0.0011	0.0745	0.0009	0.5837	0.0090	0.0568	0.0008	463	5	467	7	485	29	463	5

Granitoid sample WC 07-13-17 (1)

sam.01	0.7295	0.0029	0.0710	0.0008	0.5573	0.0096	0.0570	0.0008	442	5	450	8	490	32	442	5
sam.02	0.5312	0.0060	0.3309	0.0036	5.1329	0.0782	0.1125	0.0015	1843	20	1842	28	1840	24	1840	24
sam.03	0.5152	0.0090	0.1582	0.0017	1.5617	0.0244	0.0716	0.0010	947	10	955	15	974	28	947	10
sam.04	0.6257	0.0093	0.0802	0.0008	0.6415	0.0097	0.0580	0.0008	498	5	503	8	529	29	498	5
sam.05	0.1033	0.0027	0.0802	0.0011	0.6461	0.0119	0.0585	0.0008	497	7	506	9	547	29	497	7
sam.06	0.1681	0.0022	0.1617	0.0019	1.5875	0.0249	0.0712	0.0009	966	11	965	15	963	27	966	11
sam.07	0.4707	0.0050	0.0463	0.0006	0.3373	0.0077	0.0528	0.0011	292	3	295	7	322	48	292	3
sam.08	0.3458	0.0073	0.3473	0.0040	5.6431	0.0900	0.1178	0.0016	1922	22	1923	31	1924	24	1924	24
sam.09	0.4381	0.0039	0.0797	0.0009	0.6374	0.0101	0.0580	0.0008	495	5	501	8	529	30	495	5
sam.10	0.7654	0.0072	0.0720	0.0008	0.5684	0.0092	0.0572	0.0008	448	5	457	7	500	31	448	5
sam.11	0.5826	0.0048	0.0517	0.0006	0.3788	0.0088	0.0531	0.0012	325	4	326	8	333	51	325	4
sam.12	0.4411	0.0017	0.0722	0.0008	0.5685	0.0098	0.0571	0.0008	449	5	457	8	497	33	449	5
sam.13	0.1329	0.0009	0.1023	0.0011	0.8738	0.0133	0.0620	0.0008	628	7	638	10	673	29	628	7
sam.14	0.2563	0.0144	0.0708	0.0007	0.5579	0.0087	0.0572	0.0008	441	5	450	7	498	31	441	5
sam.15	0.5624	0.0074	0.0722	0.0008	0.5650	0.0094	0.0568	0.0008	449	5	455	8	483	33	449	5
sam.16	0.5677	0.0050	0.1500	0.0016	1.4388	0.0224	0.0696	0.0010	901	9	905	14	915	29	901	9
sam.17	0.7184	0.0031	0.0719	0.0008	0.5669	0.0092	0.0571	0.0008	448	5	456	7	497	31	448	5
sam.18	0.5896	0.0050	0.0394	0.0004	0.2868	0.0124	0.0528	0.0023	249	3	256	11	321	97	249	3
sam.19	0.5703	0.0077	0.0760	0.0008	0.6058	0.0100	0.0578	0.0009	472	5	481	8	522	32	472	5

Granitoid sample WC 07-26-17 (6)

sam.01	0.6175	0.0102	0.2480	0.0028	3.0914	0.0421	0.0904	0.0010	1428	16	1431	19	1434	22	1434	22
sam.02	0.8144	0.0016	0.0374	0.0004	0.2722	0.0175	0.0528	0.0033	237	3	244	16	320	142	237	3
sam.03	1.0367	0.0134	0.0787	0.0009	0.6257	0.0155	0.0577	0.0014	488	6	493	12	517	52	488	6
sam.04	1.0219	0.0077	0.0756	0.0008	0.5989	0.0175	0.0574	0.0016	470	5	477	14	508	61	470	5
sam.05	1.0465	0.0100	0.0392	0.0004	0.2786	0.0046	0.0516	0.0007	248	3	250	4	266	33	248	3
sam.06	2.5078	0.0188	0.0784	0.0008	0.6161	0.0092	0.0570	0.0008	487	5	487	7	491	29	487	5
sam.07	1.1048	0.0071	0.0770	0.0008	0.5996	0.0083	0.0565	0.0007	478	5	477	7	471	26	478	5
sam.08	0.7942	0.0013	0.0393	0.0004	0.2814	0.0047	0.0520	0.0008	248	3	252	4	284	34	248	3
sam.09	0.5261	0.0009	0.0758	0.0008	0.5870	0.0114	0.0561	0.0010	471	5	469	9	458	40	471	5
sam.10	1.2825	0.0170	0.0758	0.0008	0.5885	0.0087	0.0563	0.0007	471	5	470	7	466	28	471	5
sam.11	0.8518	0.0087	0.0430	0.0005	0.3086	0.0071	0.0521	0.0011	271	3	273	6	289	50	271	3
sam.12	0.4839	0.0012	0.0764	0.0009	0.5935	0.0099	0.0564	0.0008	475	5	473	8	466	32	475	5
sam.13	0.3634	0.0027	0.0386	0.0004	0.2703	0.0042	0.0507	0.0007	244	3	243	4	229	32	244	3
sam.14	0.3937	0.0062	0.0705	0.0008	0.5499	0.0080	0.0566	0.0007	439	5	445	6	475	27	439	5
sam.15	0.2561	0.0018	0.0456	0.0005	0.3278	0.0050	0.0522	0.0007	287	3	288	4	294	29	287	3
sam.16	0.4267	0.0008	0.0699	0.0008	0.5412	0.0103	0.0562	0.0010	435	5	439	8	459	38	435	5
sam.17	0.7105	0.0076	0.0698	0.0008	0.5293	0.0075	0.0550	0.0007	435	5	431	6	413	28	435	5
sam.18	1.1206	0.0179	0.1291	0.0015	1.4171	0.0223	0.0796	0.0011	783	9	896	14	1187	27	783	9

Granitoid sample WC 07-26-17 (1)

sam.01	0.6184	0.0047	0.0327	0.0004	0.2326	0.0047	0.0517	0.0010	207	2	212	4	270	44	207	2
sam.02	0.5907	0.0028	0.0324	0.0004	0.2288	0.0145	0.0512	0.0032	205	2	209	13	252	143	205	2
sam.03	1.1558	0.0081	0.0326	0.0004	0.2336	0.0043	0.0519	0.0009	207	2	213	4	281	39	207	2
sam.04	0.8806	0.0106	0.0323	0.0004	0.2302	0.0039	0.0517	0.0008	205	2	210	4	270	35	205	2
sam.05	0.7241	0.0026	0.0327	0.0004	0.2349	0.0059	0.0521	0.0012	207	2	214	5	291	51	207	2
sam.06	0.4135	0.0061	0.0322	0.0004	0.2293	0.0073	0.0516	0.0016	204	2	210	7	269	73	204	2
sam.07	0.5948	0.0107	0.0367	0.0004	0.2645	0.0044	0.0522	0.0008	233	3	238	4	295	35	233	3
sam.08	0.4223	0.0075	0.0330	0.0004	0.2337	0.0037	0.0514	0.0007	209	2	213	3	259	33	209	2
sam.09	0.5659	0.0026	0.0325	0.0004	0.2262	0.0044	0.0505	0.0009	206	2	207	4	219	40	206	2
sam.10	0.6936	0.0018	0.0329	0.0004	0.2305	0.0068	0.0508	0.0014	209	2	211	6	234	65	209	2
sam.11	0.6639	0.0078	0.0332	0.0004	0.2337	0.0049	0.0510	0.0010	211	2	213	5	243	45	211	2
sam.12	0.7050	0.0028	0.0329	0.0004	0.2331	0.0050	0.0514	0.0010	209	2	213	5	258	44	209	2
sam.13	0.4522	0.0017	0.0323	0.0004	0.2278	0.0036	0.0512	0.0007	205	2	208	3	250	31	205	2
sam.14	0.3825	0.0019	0.0329	0.0004	0.2315	0.0049	0.0511	0.0010	209	2	211	5	243	46	209	2
sam.15	0.3169	0.0021	0.0331	0.0004	0.2343	0.0053	0.0514	0.0011	210	2	214	5	258	48	210	2
sam.16	0.6472	0.0036	0.0349	0.0004	0.2438	0.0046	0.0506	0.0009	221	2	222	4	224	39	221	2
sam.17	0.7453	0.0044	0.0326	0.0004	0.2271	0.0050	0.0505	0.0011	207	2	208	5	218	50	207	2
sam.18	0.0628	0.0004	0.0330	0.0004	0.2380	0.0055	0.0523	0.0011	209	2	217	5	297	50	209	2

sam.19	0.8147	0.0053	0.0321	0.0004	0.2251	0.0048	0.0508	0.0009	204	2	206	4	232	39	204	2
<u>Foliated granitoid sample WC 07-25-17 (3)</u>																
sam.01	2.4741	0.0238	0.0635	0.0008	0.4832	0.0203	0.0552	0.0019	397	5	400	17	418	77	397	5
sam.02	4.4901	0.0432	0.0673	0.0011	0.5625	0.0296	0.0607	0.0030	420	7	453	24	627	108	420	7
sam.03	2.9598	0.0150	0.0616	0.0012	0.4923	0.0229	0.0580	0.0024	385	7	406	19	530	90	385	7
sam.04	0.0827	0.0010	0.0598	0.0009	0.4717	0.0056	0.0572	0.0003	374	5	392	5	500	12	374	5
sam.05	1.2948	0.0096	0.0669	0.0014	0.5291	0.0146	0.0574	0.0010	417	9	431	12	505	40	417	9
sam.06	1.4687	0.0067	0.0666	0.0008	0.5096	0.0153	0.0555	0.0015	416	5	418	13	433	60	416	5
sam.07	0.5642	0.0058	0.0654	0.0008	0.5120	0.0140	0.0568	0.0015	408	5	420	11	483	60	408	5
<u>Porphyritic gneiss sample WC 09-13-14 (8B)</u>																
sam.01	0.1880	0.0500	0.1607	0.0022	1.5776	0.0274	0.0714	0.0011	961	12	961	11	969	16	961	12
sam.02	0.5988	0.0200	0.1617	0.0022	1.5705	0.0296	0.0707	0.0012	966	12	959	12	948	19	966	12
sam.03	0.4587	0.0200	0.1591	0.0023	1.5422	0.0379	0.0705	0.0017	952	13	947	15	943	28	952	13
sam.04	0.3984	0.0300	0.1595	0.0024	1.5597	0.0413	0.0711	0.0018	954	13	954	16	961	31	954	13
sam.05	0.0388	0.2600	0.1590	0.0022	1.5584	0.0298	0.0713	0.0013	951	12	954	12	967	19	951	12
sam.06	0.3571	0.0300	0.1585	0.0022	1.5578	0.0341	0.0715	0.0015	949	12	954	14	971	23	949	12
sam.07	0.1938	0.0500	0.1682	0.0024	1.6633	0.0388	0.0719	0.0016	1002	13	995	15	984	25	984	25
sam.08	0.3367	0.0300	0.1724	0.0027	1.7965	0.0545	0.0758	0.0023	1025	15	1044	20	1091	36	1091	36
sam.09	0.5263	0.0200	0.1565	0.0022	1.5373	0.0322	0.0715	0.0014	937	12	945	13	970	22	937	12
sam.10	0.3436	0.0300	0.1643	0.0024	1.6127	0.0387	0.0714	0.0016	981	13	975	15	969	27	981	13
sam.11	0.5405	0.0200	0.1594	0.0023	1.5544	0.0360	0.0710	0.0016	953	13	952	14	956	25	953	13
sam.12	0.4545	0.0200	0.1397	0.0020	1.3485	0.0318	0.0702	0.0016	843	11	867	14	935	26	843	11
sam.13	0.2427	0.0400	0.1739	0.0023	1.6555	0.0275	0.0692	0.0010	1034	13	992	11	906	16		
sam.14	0.5618	0.0200	0.1632	0.0022	1.5942	0.0265	0.0710	0.0010	975	12	968	10	959	15	975	12
sam.15	0.4878	0.0200	0.1633	0.0024	1.6091	0.0426	0.0717	0.0019	975	13	974	17	977	31	975	13
sam.16	0.8130	0.0100	0.1582	0.0021	1.5271	0.0254	0.0702	0.0010	947	12	941	10	934	16	947	12
sam.17	0.5236	0.0200	0.1646	0.0023	1.6137	0.0332	0.0713	0.0014	982	13	976	13	967	21	982	13
sam.18	0.3367	0.0300	0.1611	0.0022	1.5672	0.0274	0.0708	0.0011	963	12	957	11	951	17	963	12
sam.19	0.2660	0.0400	0.1617	0.0023	1.5776	0.0342	0.0710	0.0015	966	13	961	13	957	23	966	13
sam.20	0.3367	0.0300	0.1609	0.0025	1.5777	0.0496	0.0713	0.0022	962	14	961	20	967	39	962	14
sam.21	0.7519	0.0100	0.1590	0.0021	1.5116	0.0249	0.0691	0.0010	951	12	935	10	903	15	951	12
sam.22	0.3003	0.0300	0.1567	0.0021	1.5115	0.0259	0.0701	0.0011	939	12	935	10	932	16	939	12
sam.23	0.4132	0.0200	0.1461	0.0020	1.3686	0.0290	0.0681	0.0014	879	11	876	12	873	22	879	11
sam.24	0.6329	0.0200	0.1601	0.0022	1.5555	0.0283	0.0706	0.0012	957	12	953	11	947	18	957	12
sam.25	0.3067	0.0300	0.1203	0.0016	1.0963	0.0183	0.0663	0.0010	732	9	752	9	815	16	732	9
sam.26	0.6410	0.0200	0.1575	0.0023	1.5276	0.0368	0.0706	0.0016	943	13	942	15	944	27	943	13

sam.27	0.3906	0.0300	0.1649	0.0023	1.6185	0.0332	0.0714	0.0014	984	13	977	13	969	21	984	13
sam.28	0.5319	0.0200	0.1566	0.0023	1.5112	0.0388	0.0702	0.0018	938	13	935	16	933	30	938	13
sam.29	0.2890	0.0300	0.1616	0.0023	1.5896	0.0377	0.0716	0.0016	965	13	966	15	973	26	965	13
sam.30	0.9615	0.0100	0.1620	0.0023	1.5833	0.0389	0.0711	0.0017	968	13	964	15	959	28	968	13
sam.31	0.5208	0.0200	0.1630	0.0022	1.5808	0.0298	0.0705	0.0012	973	12	963	12	944	19	973	12
sam.32	0.6757	0.0100	0.1610	0.0024	1.5802	0.0401	0.0714	0.0018	962	13	962	16	968	29	962	13
sam.33	0.6098	0.0200	0.1555	0.0023	1.5052	0.0382	0.0704	0.0017	932	13	932	15	939	29	932	13
sam.34	0.5495	0.0200	0.1584	0.0024	1.5317	0.0452	0.0703	0.0020	948	13	943	18	937	36	948	13
sam.35	0.3831	0.0300	0.1627	0.0025	1.5774	0.0468	0.0705	0.0021	972	14	961	18	943	36	972	14
sam.36	0.2358	0.0400	0.1631	0.0023	1.6082	0.0361	0.0717	0.0015	974	13	973	14	978	24	974	13
sam.37	0.5181	0.0200	0.1623	0.0023	1.5855	0.0368	0.0710	0.0016	969	13	965	14	958	25	969	13
sam.38	0.3247	0.0300	0.1571	0.0023	1.5084	0.0401	0.0698	0.0018	941	13	934	16	922	31	941	13
sam.39	0.1965	0.0500	0.1608	0.0025	1.5120	0.0463	0.0684	0.0021	961	14	935	19	880	38	961	14
sam.40	0.3484	0.0300	0.1584	0.0022	1.5192	0.0350	0.0697	0.0015	948	12	938	14	919	25	948	12
sam.41	0.4651	0.0200	0.1583	0.0023	1.5230	0.0399	0.0699	0.0018	947	13	940	16	926	30	947	13
sam.42	0.4167	0.0200	0.1635	0.0024	1.5930	0.0435	0.0708	0.0019	976	13	967	17	952	32	976	13
sam.43	0.3067	0.0300	0.1618	0.0026	1.5858	0.0513	0.0712	0.0023	967	14	965	20	964	41	967	14
sam.44	0.5780	0.0200	0.1597	0.0022	1.5507	0.0334	0.0706	0.0015	955	12	951	13	945	23	955	12
sam.45	0.4464	0.0200	0.1595	0.0024	1.5684	0.0431	0.0715	0.0019	954	13	958	17	970	32	954	13
sam.46	0.5464	0.0200	0.1589	0.0022	1.5126	0.0306	0.0692	0.0013	951	12	935	12	904	21	951	12
sam.47	0.1838	0.0500	0.1514	0.0037	1.9382	0.1206	0.0931	0.0059	909	20	1094	42	1489	81		
sam.48	0.2770	0.0400	0.1729	0.0024	1.4836	0.0286	0.0624	0.0011	1028	13	924	12	686	20		
sam.49	0.3021	0.0300	0.1569	0.0023	1.5139	0.0370	0.0701	0.0017	940	13	936	15	932	28	940	13
sam.50	0.4310	0.0200	0.1559	0.0021	1.4629	0.0234	0.0682	0.0010	934	12	915	10	875	15	934	12
sam.51	0.1218	0.0800	0.1599	0.0022	1.5419	0.0285	0.0701	0.0012	956	12	947	11	931	18	956	12
sam.52	0.3597	0.0300	0.1679	0.0024	1.6514	0.0374	0.0715	0.0016	1000	13	990	14	971	24	971	24
sam.53	0.4405	0.0200	0.1388	0.0018	1.2835	0.0205	0.0672	0.0010	838	10	838	9	844	15	838	10
sam.54	0.3279	0.0300	0.1393	0.0020	1.2975	0.0352	0.0677	0.0018	841	12	845	16	859	33	841	12
sam.55	0.8621	0.0100	0.1392	0.0019	1.2734	0.0226	0.0665	0.0011	840	11	834	10	821	17	840	11
sam.56	0.4115	0.0200	0.1614	0.0024	1.5623	0.0397	0.0703	0.0017	965	13	955	16	938	29	965	13
sam.57	0.3690	0.0300	0.1580	0.0024	1.5244	0.0444	0.0701	0.0020	946	13	940	18	931	35	946	13
sam.58	0.1258	0.0800	0.1595	0.0022	1.5450	0.0316	0.0704	0.0014	954	12	949	13	939	21	954	12
sam.59	1.0870	0.0100	0.1549	0.0023	1.4937	0.0438	0.0701	0.0020	928	13	928	18	930	36	928	13
sam.60	0.0539	0.1900	0.1593	0.0022	1.5383	0.0318	0.0702	0.0014	953	12	946	13	933	21	953	12
sam.61	0.2801	0.0400	0.1569	0.0021	1.5260	0.0299	0.0706	0.0013	940	12	941	12	947	20	940	12
sam.62	0.3413	0.0300	0.1645	0.0030	1.6029	0.0712	0.0708	0.0032	982	17	971	28	951	61	982	17
sam.63	1.0753	0.0100	0.1275	0.0017	1.1296	0.0173	0.0643	0.0009	774	10	768	8	752	15	774	10
sam.64	0.6849	0.0100	0.1610	0.0023	1.5496	0.0378	0.0699	0.0017	962	13	950	15	925	28	962	13

sam.65	0.5236	0.0200	0.1542	0.0021	1.4789	0.0279	0.0697	0.0012	924	12	922	11	918	19	924	12
sam.66	0.4695	0.0200	0.1586	0.0022	1.5639	0.0323	0.0716	0.0014	949	12	956	13	975	21	949	12
sam.67	0.7463	0.0100	0.1583	0.0024	1.5370	0.0449	0.0705	0.0020	947	13	945	18	944	36	947	13
sam.68	0.4975	0.0200	0.1507	0.0020	1.4307	0.0234	0.0690	0.0010	905	11	902	10	898	15	905	11
sam.69	0.6211	0.0200	0.1568	0.0021	1.4385	0.0261	0.0666	0.0011	939	12	905	11	827	18	939	12
sam.70	0.6897	0.0100	0.1581	0.0022	1.4639	0.0291	0.0672	0.0013	946	12	916	12	845	20	946	12
sam.71	0.2762	0.0400	0.1573	0.0023	1.4525	0.0362	0.0671	0.0016	942	13	911	15	840	29	942	13
sam.72	0.6024	0.0200	0.1564	0.0023	1.5186	0.0415	0.0705	0.0019	937	13	938	17	943	32	937	13
sam.73	0.3356	0.0300	0.1577	0.0023	1.5280	0.0386	0.0704	0.0017	944	13	942	16	939	29	944	13
sam.74	0.4878	0.0200	0.1227	0.0016	1.0925	0.0186	0.0647	0.0010	746	9	750	9	763	17	746	9
sam.75	0.5618	0.0200	0.1535	0.0020	1.4504	0.0247	0.0686	0.0011	921	11	910	10	886	16	921	11
sam.76	0.1848	0.0500	0.1626	0.0022	1.6146	0.0311	0.0721	0.0013	971	12	976	12	989	19	971	12
sam.77	0.7463	0.0100	0.1583	0.0022	1.5267	0.0356	0.0700	0.0016	947	12	941	14	930	26	947	12
sam.78	0.4149	0.0200	0.1519	0.0023	1.4324	0.0421	0.0684	0.0020	912	13	903	18	882	36	912	13
sam.79	1.0101	0.0100	0.1567	0.0021	1.4266	0.0219	0.0661	0.0009	938	11	900	9	810	14	938	11
sam.80	0.6803	0.0100	0.1537	0.0023	1.4615	0.0438	0.0690	0.0021	922	13	915	18	900	37	922	13
sam.81	0.7519	0.0100	0.1441	0.0019	1.3359	0.0241	0.0673	0.0011	868	11	861	10	847	18	868	11
sam.82	0.6944	0.0100	0.1456	0.0019	1.3770	0.0217	0.0687	0.0010	876	11	879	9	888	15	876	11
sam.83	0.5747	0.0200	0.1643	0.0032	1.6108	0.0808	0.0712	0.0036	981	18	974	31	962	70	981	18
sam.84	1.0989	0.0100	0.1542	0.0020	1.4870	0.0226	0.0700	0.0009	924	11	925	9	928	14	924	11
sam.85	0.4651	0.0200	0.1598	0.0024	1.5472	0.0431	0.0703	0.0019	956	13	949	17	936	33	956	13
sam.86	0.2387	0.0400	0.1525	0.0022	1.4524	0.0356	0.0691	0.0017	915	12	911	15	902	28	915	12
sam.87	0.6329	0.0200	0.1534	0.0022	1.4696	0.0336	0.0695	0.0015	920	12	918	14	914	25	920	12
sam.88	0.3436	0.0300	0.1559	0.0021	1.4688	0.0242	0.0684	0.0010	934	11	918	10	880	16	934	11
sam.89	0.1481	0.0700	0.1477	0.0020	1.3897	0.0241	0.0683	0.0011	888	11	885	10	878	17	888	11
sam.90	0.6803	0.0100	0.1608	0.0026	1.5753	0.0548	0.0711	0.0025	961	14	961	22	960	45	961	14
sam.91	0.5714	0.0200	0.1624	0.0031	1.5807	0.0759	0.0706	0.0034	970	17	963	30	947	67	970	17
sam.92	0.2646	0.0400	0.1573	0.0025	1.5182	0.0513	0.0700	0.0024	942	14	938	21	930	43	942	14
sam.93	0.1786	0.0600	0.1493	0.0020	1.4267	0.0230	0.0693	0.0010	897	11	900	10	909	15	897	11
sam.94	0.6250	0.0200	0.1480	0.0029	1.3986	0.0732	0.0685	0.0036	890	16	888	31	885	75	890	16
sam.95	0.4016	0.0200	0.1575	0.0026	1.5134	0.0563	0.0697	0.0026	943	15	936	23	920	49	943	15
sam.96	0.7042	0.0100	0.1468	0.0022	1.3807	0.0386	0.0683	0.0019	883	12	881	16	876	34	883	12
sam.97	0.1650	0.0600	0.1592	0.0022	1.5546	0.0357	0.0708	0.0016	952	12	952	14	953	25	952	12
sam.98	0.3195	0.0300	0.1516	0.0023	1.4321	0.0430	0.0685	0.0020	910	13	902	18	885	37	910	13
sam.99	0.2358	0.0400	0.1619	0.0026	1.5935	0.0518	0.0714	0.0023	968	14	968	20	968	41	968	14

Meta-sandstone sample WC 09-13-14 (7)

sam.01	0.4132	0.0200	0.14723	0.00194	1.38865	0.02896	0.06855	0.00139	885	11	884	12	885	23	885	11
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sam.02	0.2941	0.0300	0.14169	0.00192	1.32092	0.03085	0.06775	0.00156	854	11	855	13	861	27	854	11
sam.03	0.5348	0.0200	0.15127	0.00199	1.45764	0.0301	0.07003	0.00141	908	11	913	12	929	22	908	11
sam.04	0.4425	0.0200	0.14783	0.00203	1.38569	0.03376	0.06813	0.00164	889	11	883	14	873	28	889	11
sam.05	0.3077	0.0300	0.13628	0.0018	1.26798	0.02682	0.06762	0.0014	824	10	831	12	857	23	824	10
sam.06	0.4016	0.0200	0.14952	0.0021	1.34975	0.03634	0.06561	0.00176	898	12	867	16	794	33	898	12
sam.07	0.4329	0.0200	0.13633	0.00187	1.25822	0.03098	0.06707	0.00163	824	11	827	14	840	29	824	11
sam.08	0.3509	0.0300	0.14608	0.00189	1.36642	0.02596	0.06798	0.00124	879	11	875	11	868	20	879	11
sam.09	0.3584	0.0300	0.15598	0.0021	1.51044	0.03337	0.07037	0.00152	934	12	935	13	939	24	934	12
sam.10	0.2899	0.0300	0.15375	0.00238	1.48474	0.04979	0.07018	0.00237	922	13	924	20	934	44	922	13
sam.11	0.3279	0.0300	0.14168	0.00183	1.33144	0.02468	0.06829	0.00121	854	10	860	11	877	19	854	10
sam.12	0.3802	0.0300	0.16452	0.00246	1.63503	0.04936	0.07222	0.00218	982	14	984	19	992	37	982	14
sam.13	0.4049	0.0200	0.12888	0.00191	1.1679	0.03668	0.06585	0.00207	781	11	786	17	802	41	781	11
sam.14	0.3096	0.0300	0.14824	0.00194	1.3953	0.02711	0.0684	0.00128	891	11	887	11	881	20	891	11
sam.15	0.3636	0.0300	0.14451	0.00187	1.36334	0.02489	0.06855	0.00119	870	11	873	11	885	18	870	11
sam.16	0.4808	0.0200	0.1519	0.002	1.46197	0.02875	0.06994	0.00133	912	11	915	12	927	20	912	11
sam.17	0.3115	0.0300	0.15333	0.00203	1.47278	0.02959	0.0698	0.00136	920	11	919	12	922	21	920	11
sam.18	0.3413	0.0300	0.16133	0.00436	1.60876	0.12713	0.07246	0.00586	964	24	974	49	999	117	964	24
sam.19	0.2198	0.0500	0.14658	0.00216	1.37134	0.0406	0.06798	0.00201	882	12	877	17	868	37	882	12
sam.20	0.2445	0.0400	0.16368	0.00216	1.61311	0.03114	0.07161	0.00133	977	12	975	12	975	20	977	12
sam.21	0.2907	0.0300	0.1587	0.00208	1.49236	0.028	0.06833	0.00122	950	12	927	11	879	19	950	12
sam.22	0.3571	0.0300	0.12731	0.00172	1.14867	0.02576	0.06556	0.00144	773	10	777	12	792	25	773	10
sam.23	0.3367	0.0300	0.14029	0.00254	1.29512	0.06021	0.06708	0.00317	846	14	844	27	840	67	846	14
sam.24	0.2525	0.0400	0.14375	0.00186	1.33661	0.02361	0.06756	0.00113	866	10	862	10	855	18	866	10
sam.25	0.3676	0.0300	0.14622	0.0019	1.37367	0.02487	0.06826	0.00117	880	11	878	11	876	18	880	11
sam.26	0.4132	0.0200	0.15859	0.00212	1.5322	0.03169	0.0702	0.0014	949	12	943	13	934	22	949	12
sam.27	0.4202	0.0200	0.1447	0.0019	1.37172	0.02598	0.06888	0.00125	871	11	877	11	895	19	871	11
sam.28	0.5236	0.0200	0.15971	0.00233	1.54712	0.04393	0.07039	0.00199	955	13	949	18	940	35	955	13
sam.29	0.6250	0.0200	0.14115	0.00193	1.30334	0.03026	0.06709	0.00153	851	11	847	13	841	26	851	11
sam.30	0.4386	0.0200	0.15324	0.00202	1.49014	0.02798	0.07065	0.00126	919	11	926	11	947	19	919	11
sam.31	0.2353	0.0400	0.15585	0.00204	1.49527	0.02663	0.0697	0.00117	934	11	928	11	920	17	934	11
sam.32	0.3534	0.0300	0.14608	0.0019	1.3609	0.02421	0.06768	0.00113	879	11	872	10	859	18	879	11
sam.33	0.3096	0.0300	0.14852	0.00196	1.38773	0.02638	0.06788	0.00123	893	11	884	11	865	19	893	11
sam.34	0.4386	0.0200	0.15505	0.00244	1.49267	0.05125	0.06994	0.00241	929	14	927	21	927	45	929	14
sam.35	0.2410	0.0400	0.14011	0.00184	1.28657	0.02409	0.06671	0.00119	845	10	840	11	829	19	845	10
sam.36	0.3279	0.0300	0.14597	0.00233	1.35832	0.04875	0.0676	0.00244	878	13	871	21	856	48	878	13
sam.37	0.2203	0.0500	0.14804	0.00206	1.39604	0.03373	0.06851	0.00162	890	12	887	14	884	28	890	12
sam.38	0.3846	0.0300	0.15324	0.00212	1.45618	0.03388	0.06903	0.00157	919	12	912	14	900	26	919	12
sam.39	0.3344	0.0300	0.13803	0.00187	1.22554	0.02676	0.0645	0.00137	834	11	812	12	758	24	834	11

sam.40	0.2387	0.0400	0.15269	0.00232	1.46444	0.04546	0.06967	0.00216	916	13	916	19	919	39	916	13
sam.41	0.3831	0.0300	0.1516	0.00213	1.43309	0.03515	0.06867	0.00165	910	12	903	15	889	28	910	12
sam.42	0.4717	0.0200	0.15819	0.0023	1.52875	0.04143	0.0702	0.00188	947	13	942	17	934	32	947	13
sam.43	0.4831	0.0200	0.16077	0.00268	1.56699	0.05922	0.0708	0.0027	961	15	957	23	952	50	961	15
sam.44	0.3448	0.0300	0.15946	0.00246	1.53837	0.04891	0.07008	0.00223	954	14	946	20	931	40	954	14
sam.45	0.4762	0.0200	0.149	0.00237	1.39604	0.04881	0.06806	0.00239	895	13	887	21	870	46	895	13
sam.46	0.3968	0.0300	0.15145	0.00209	1.43746	0.03287	0.06894	0.00153	909	12	905	14	897	25	909	12
sam.47	0.2653	0.0400	0.10726	0.00149	1.13681	0.02566	0.07698	0.0017	657	9	771	12	1121	24		
sam.48	0.2558	0.0400	0.15434	0.00244	1.49494	0.05074	0.07035	0.0024	925	14	928	21	939	44	925	14
sam.49	0.2618	0.0400	0.0494	0.00069	0.59117	0.01533	0.08679	0.00256	311	4	472	10	1356	58		
sam.50	0.2833	0.0400	0.1472	0.00206	1.39411	0.03159	0.06879	0.00152	885	12	886	13	892	25	885	12
sam.51	0.3257	0.0300	0.1563	0.00214	1.49773	0.03174	0.0696	0.00142	936	12	929	13	917	23	936	12
sam.52	0.2985	0.0300	0.15271	0.00212	1.44728	0.03268	0.06883	0.00151	916	12	909	14	894	25	916	12
sam.53	0.2809	0.0400	0.07648	0.00102	0.74421	0.01747	0.07058	0.0019	475	6	565	10	945	57		
sam.54	0.3745	0.0300	0.16172	0.00246	1.60355	0.0483	0.07201	0.00216	966	14	972	19	986	37	966	14
sam.55	0.3226	0.0300	0.16619	0.00276	1.64913	0.06082	0.07206	0.00267	991	15	989	23	988	48	991	15
sam.56	0.3584	0.0300	0.15684	0.00225	1.5153	0.03838	0.07016	0.00174	939	13	937	15	933	29	939	13
sam.57	0.3067	0.0300	0.15471	0.00232	1.47843	0.04357	0.0694	0.00203	927	13	922	18	911	36	927	13
sam.58	0.3106	0.0300	0.15253	0.00204	1.44419	0.02648	0.06876	0.00118	915	11	907	11	892	18	915	11
sam.59	0.4854	0.0200	0.12059	0.00291	1.112	0.07993	0.06696	0.00492	734	17	759	38	837	110	734	17
sam.60	0.2809	0.0400	0.15063	0.00204	1.42548	0.02786	0.06872	0.00127	904	11	900	12	890	20	904	11
sam.61	0.3236	0.0300	0.1765	0.00366	1.61575	0.0914	0.06647	0.00382	1048	20	976	35	821	83		
sam.62	0.3876	0.0300	0.14813	0.00197	1.384	0.02425	0.06784	0.0011	890	11	882	10	864	17	890	11
sam.63	0.2786	0.0400	0.14586	0.00204	1.35669	0.03125	0.06754	0.00151	878	11	870	13	854	26	878	11
sam.64	0.4065	0.0200	0.1511	0.00243	1.46156	0.05119	0.07023	0.00247	907	14	915	21	935	46	907	14
sam.65	0.4739	0.0200	0.15908	0.00212	1.55348	0.02687	0.0709	0.00113	952	12	952	11	955	16	952	12
sam.66	0.7752	0.0100	0.143	0.00196	1.31686	0.02712	0.06686	0.00131	862	11	853	12	833	22	862	11
sam.67	0.3333	0.0300	0.16106	0.00281	1.55939	0.0645	0.0703	0.00293	963	16	954	26	937	56	963	16
sam.68	0.3300	0.0300	0.15949	0.00333	1.56238	0.08713	0.07112	0.00404	954	19	955	35	961	80	954	19
sam.69	0.5556	0.0200	0.15422	0.00226	1.49937	0.03973	0.07058	0.00184	925	13	930	16	945	31	925	13
sam.70	0.3472	0.0300	0.15716	0.00217	1.48415	0.03131	0.06856	0.00138	941	12	924	13	886	22	941	12
sam.71	0.3717	0.0300	0.15212	0.0025	1.44676	0.05286	0.06904	0.00253	913	14	909	22	900	48	913	14
sam.72	0.7042	0.0100	0.15291	0.00213	1.4608	0.03146	0.06935	0.00143	917	12	914	13	909	23	917	12
sam.73	0.1942	0.0500	0.15719	0.00238	1.51282	0.04409	0.06987	0.00202	941	13	936	18	925	35	941	13
sam.74	0.3390	0.0300	0.15362	0.00337	1.46205	0.08988	0.06909	0.00432	921	19	915	37	901	90	921	19
sam.75	0.2653	0.0400	0.15309	0.00215	1.49109	0.0326	0.0707	0.00148	918	12	927	13	949	23	918	12
sam.76	0.4902	0.0200	0.16909	0.00305	1.69528	0.0724	0.07278	0.00314	1007	17	1007	27	1008	57	1008	57
sam.77	0.2288	0.0400	0.1482	0.00233	1.38155	0.04501	0.06767	0.0022	891	13	881	19	858	42	891	13

sam.78	0.5495	0.0200	0.16308	0.00322	1.59098	0.0805	0.07081	0.00364	974	18	967	32	952	71	974	18
sam.79	0.3460	0.0300	0.15628	0.00216	1.53109	0.03086	0.07111	0.00136	936	12	943	12	961	20	936	12
sam.80	0.3597	0.0300	0.147	0.00199	1.40175	0.02549	0.06921	0.00117	884	11	890	11	905	18	884	11
sam.81	0.3546	0.0300	0.16094	0.00268	1.57918	0.05794	0.07121	0.00262	962	15	962	23	963	48	962	15
sam.82	0.4255	0.0200	0.15253	0.0021	1.4386	0.02865	0.06845	0.00129	915	12	905	12	882	20	915	12
sam.83	0.5618	0.0200	0.14721	0.00225	1.37657	0.04147	0.06786	0.00203	885	13	879	18	864	38	885	13
sam.84	0.3774	0.0300	0.16688	0.0025	1.64577	0.04516	0.07157	0.00193	995	14	988	17	974	32	995	14
sam.85	0.3584	0.0300	0.15324	0.00211	1.45069	0.02846	0.0687	0.00127	919	12	910	12	890	20	919	12
sam.86	0.3175	0.0300	0.15823	0.00368	1.52429	0.10231	0.06991	0.00478	947	20	940	41	926	100	947	20
sam.87	0.3846	0.0300	0.15803	0.00221	1.53169	0.03182	0.07034	0.00139	946	12	943	13	938	21	946	12
sam.88	0.4082	0.0200	0.16357	0.0026	1.60415	0.05288	0.07117	0.00234	977	14	972	21	962	42	977	14
sam.89	0.3077	0.0300	0.17134	0.00236	1.74498	0.03244	0.0739	0.00127	1019	13	1025	12	1039	18	1039	18
sam.90	0.2037	0.0500	0.15931	0.00289	1.55875	0.06754	0.071	0.00311	953	16	954	27	957	59	953	16
sam.91	0.2882	0.0300	0.15927	0.00217	1.55298	0.02752	0.07075	0.00115	953	12	952	11	950	17	953	12
sam.92	0.2755	0.0400	0.14836	0.00297	1.38184	0.07362	0.06758	0.00365	892	17	881	31	856	77	892	17
sam.93	0.4184	0.0200	0.1533	0.00216	1.46601	0.03096	0.06938	0.00139	919	12	916	13	910	22	919	12
sam.94	0.3472	0.0300	0.15828	0.00259	1.55013	0.05375	0.07106	0.00246	947	14	951	21	959	44	947	14
sam.95	0.3344	0.0300	0.16023	0.00322	1.5461	0.08061	0.07001	0.0037	958	18	949	32	929	74	958	18
sam.96	0.7246	0.0100	0.14027	0.002	1.28796	0.02904	0.06662	0.00144	846	11	840	13	826	25	846	11
sam.97	0.5988	0.0200	0.14957	0.00262	1.41453	0.05796	0.06861	0.00283	899	15	895	24	887	56	899	15
sam.98	0.3906	0.0300	0.14245	0.00201	1.30994	0.02815	0.06671	0.00136	859	11	850	12	829	23	859	11

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sam.01	0.4950	0.0200	0.1612	0.0022	1.5777	0.0325	0.0710	0.0014	963	12	961	13	958	21	963	12
sam.02	0.5525	0.0200	0.1654	0.0022	1.6482	0.0278	0.0723	0.0011	987	12	989	11	994	16	987	12
sam.03	0.3333	0.0300	0.1622	0.0022	1.6031	0.0292	0.0717	0.0012	969	12	971	11	977	18	969	12
sam.04	0.2551	0.0400	0.1632	0.0023	1.5988	0.0409	0.0710	0.0018	975	13	970	16	959	30	975	13
sam.05	0.3125	0.0300	0.1578	0.0021	1.4889	0.0278	0.0684	0.0012	945	12	926	11	882	19	945	12
sam.06	0.3135	0.0300	0.1611	0.0026	1.6296	0.0593	0.0734	0.0027	963	15	982	23	1024	47	963	15
sam.07	0.3021	0.0300	0.1700	0.0025	1.7127	0.0475	0.0731	0.0020	1012	14	1013	18	1016	33	1016	33
sam.08	0.4255	0.0200	0.1620	0.0022	1.5878	0.0344	0.0711	0.0015	968	12	965	13	960	23	968	12
sam.09	0.3322	0.0300	0.1585	0.0022	1.5313	0.0429	0.0701	0.0022	949	12	943	17	930	66	949	12
sam.10	0.3559	0.0300	0.1607	0.0022	1.5679	0.0354	0.0708	0.0015	960	12	958	14	951	25	960	12
sam.11	0.5618	0.0200	0.1614	0.0021	1.5741	0.0289	0.0707	0.0012	965	12	960	11	950	18	965	12
sam.12	0.3521	0.0300	0.1621	0.0022	1.5933	0.0327	0.0713	0.0014	969	12	968	13	966	21	969	12
sam.13	0.4219	0.0200	0.1397	0.0019	1.4782	0.0381	0.0768	0.0022	843	11	921	16	1115	60	843	11
sam.14	0.3135	0.0300	0.1564	0.0021	1.5231	0.0303	0.0707	0.0013	936	12	940	12	948	20	936	12
sam.15	0.2404	0.0400	0.1569	0.0021	1.5332	0.0292	0.0709	0.0013	940	12	944	12	954	19	940	12

sam.16	0.3484	0.0300	0.1671	0.0024	1.7217	0.0413	0.0748	0.0017	996	13	1017	15	1062	27	996	13
sam.17	0.3145	0.0300	0.1597	0.0022	1.5557	0.0326	0.0707	0.0014	955	12	953	13	947	22	955	12
sam.18	0.2915	0.0300	0.1630	0.0023	1.5971	0.0369	0.0711	0.0016	973	13	969	14	959	25	973	13
sam.19	0.3861	0.0300	0.1634	0.0022	1.6076	0.0336	0.0714	0.0014	976	12	973	13	968	22	976	12
sam.20	0.3367	0.0300	0.1551	0.0021	1.5087	0.0305	0.0706	0.0013	929	12	934	12	945	21	929	12
sam.21	0.3650	0.0300	0.1622	0.0021	1.6044	0.0276	0.0718	0.0011	969	12	972	11	979	16	969	12
sam.22	0.4975	0.0200	0.1553	0.0022	1.5111	0.0357	0.0706	0.0016	930	12	935	14	946	26	930	12
sam.23	0.4902	0.0200	0.1620	0.0022	1.5888	0.0320	0.0711	0.0013	968	12	966	13	961	21	968	12
sam.24	0.3497	0.0300	0.1630	0.0022	1.6117	0.0327	0.0717	0.0014	973	12	975	13	979	21	973	12
sam.25	0.4367	0.0200	0.1625	0.0023	1.6019	0.0367	0.0715	0.0016	971	13	971	14	972	25	971	13
sam.26	0.3802	0.0300	0.1637	0.0026	1.6022	0.0543	0.0710	0.0024	977	14	971	21	957	44	977	14
sam.27	0.3185	0.0300	0.1634	0.0023	1.6352	0.0402	0.0726	0.0017	976	13	984	15	1002	28	976	13
sam.28	0.3597	0.0300	0.1608	0.0022	1.5796	0.0356	0.0713	0.0015	961	12	962	14	965	24	961	12
sam.29	0.4202	0.0200	0.1470	0.0021	0.4157	0.0496	0.0205	0.0024	884	12	353	36	-735	115		
sam.30	0.4049	0.0200	0.1581	0.0023	1.5336	0.0406	0.0704	0.0018	946	13	944	16	939	31	946	13
sam.31	0.4348	0.0200	0.1566	0.0027	1.5291	0.0651	0.0708	0.0030	938	15	942	26	952	59	938	15
sam.32	0.3077	0.0300	0.1570	0.0021	1.5236	0.0310	0.0704	0.0014	940	12	940	12	940	21	940	12
sam.33	0.4975	0.0200	0.1600	0.0022	1.5540	0.0317	0.0705	0.0014	957	12	952	13	942	21	957	12
sam.34	0.3175	0.0300	0.1598	0.0022	1.5657	0.0316	0.0711	0.0014	956	12	957	13	960	21	956	12
sam.35	0.4608	0.0200	0.1541	0.0020	1.4834	0.0271	0.0698	0.0012	924	11	924	11	923	18	924	11
sam.36	0.2809	0.0400	0.1425	0.0019	1.3922	0.0254	0.0709	0.0012	859	11	886	11	953	18	859	11
sam.37	0.3953	0.0300	0.1545	0.0022	1.4860	0.0359	0.0698	0.0016	926	12	925	15	922	27	926	12
sam.38	0.4739	0.0200	0.1586	0.0023	1.5241	0.0407	0.0697	0.0018	949	13	940	16	920	32	949	13
sam.39	0.3937	0.0300	0.1390	0.0019	1.2703	0.0239	0.0663	0.0012	839	10	833	11	816	19	839	10
sam.40	0.5263	0.0200	0.1604	0.0021	1.5827	0.0284	0.0716	0.0012	959	12	963	11	973	17	959	12
sam.41	0.2457	0.0400	0.1564	0.0023	1.5174	0.0449	0.0704	0.0021	937	13	937	18	939	37	937	13
sam.42	0.3236	0.0300	0.1584	0.0025	1.5252	0.0527	0.0699	0.0024	948	14	941	21	924	45	948	14
sam.43	0.3300	0.0300	0.1548	0.0020	1.5081	0.0262	0.0707	0.0011	928	11	934	11	948	17	928	11
sam.44	0.4082	0.0200	0.1559	0.0031	1.5495	0.0838	0.0721	0.0040	934	17	950	33	989	77	934	17
sam.45	0.3145	0.0300	0.1528	0.0024	1.5488	0.0497	0.0735	0.0023	917	13	950	20	1028	40	917	13
sam.46	0.2342	0.0400	0.1559	0.0022	1.5057	0.0337	0.0700	0.0015	934	12	933	14	930	24	934	12
sam.47	0.3968	0.0300	0.1544	0.0022	1.4877	0.0397	0.0699	0.0018	925	12	925	16	926	32	925	12
sam.48	0.6250	0.0200	0.1607	0.0022	1.5671	0.0304	0.0708	0.0013	960	12	957	12	950	20	960	12
sam.49	0.2762	0.0400	0.1604	0.0022	1.5543	0.0312	0.0703	0.0013	959	12	952	12	937	21	959	12
sam.50	0.3584	0.0300	0.1602	0.0022	1.5601	0.0347	0.0707	0.0015	958	12	955	14	948	24	958	12
sam.51	0.8000	0.0100	0.1597	0.0023	1.5598	0.0434	0.0709	0.0019	955	13	954	17	953	33	955	13
sam.52	0.3356	0.0300	0.1553	0.0022	1.5066	0.0355	0.0704	0.0016	930	12	933	14	940	26	930	12
sam.53	0.3333	0.0300	0.1604	0.0026	1.5756	0.0577	0.0712	0.0026	959	14	961	23	964	48	959	14

sam.54	0.3774	0.0300	0.1583	0.0023	1.5433	0.0434	0.0707	0.0020	947	13	948	17	950	34	947	13
sam.55	0.7353	0.0100	0.2040	0.0037	2.2313	0.0897	0.0793	0.0032	1197	20	1191	28	1181	51	1181	51
sam.56	0.1321	0.0800	0.1552	0.0021	1.5055	0.0267	0.0704	0.0011	930	11	933	11	940	17	930	11
sam.57	0.4367	0.0200	0.1642	0.0024	1.6093	0.0432	0.0711	0.0019	980	13	974	17	960	32	980	13
sam.58	0.3571	0.0300	0.1548	0.0023	1.4818	0.0406	0.0694	0.0019	928	13	923	17	912	33	928	13
sam.59	0.3610	0.0300	0.1594	0.0022	1.5545	0.0315	0.0707	0.0014	953	12	952	13	950	21	953	12
sam.60	0.4202	0.0200	0.1621	0.0023	1.6059	0.0371	0.0719	0.0016	968	13	973	14	982	25	968	13
sam.61	0.3333	0.0300	0.1629	0.0024	1.5915	0.0458	0.0709	0.0020	973	13	967	18	954	35	973	13
sam.62	0.3413	0.0300	0.1642	0.0022	1.6268	0.0288	0.0719	0.0012	980	12	981	11	983	17	980	12
sam.63	0.3367	0.0300	0.1588	0.0023	1.5610	0.0434	0.0713	0.0020	950	13	955	17	966	33	950	13
sam.64	0.3509	0.0300	0.1612	0.0023	1.5595	0.0381	0.0702	0.0017	964	13	954	15	933	28	964	13
sam.65	0.1199	0.0800	0.1603	0.0021	1.5566	0.0252	0.0704	0.0010	958	12	953	10	941	15	958	12
sam.66	0.3155	0.0300	0.1610	0.0024	1.5830	0.0463	0.0713	0.0021	962	13	964	18	967	36	962	13
sam.67	0.5155	0.0200	0.1596	0.0033	1.5545	0.0875	0.0707	0.0040	955	18	952	35	947	81	955	18
sam.68	0.2933	0.0300	0.1614	0.0025	1.5873	0.0511	0.0714	0.0023	964	14	965	20	968	41	964	14
sam.69	0.2611	0.0400	0.1562	0.0023	1.5217	0.0448	0.0707	0.0021	936	13	939	18	948	36	936	13
sam.70	0.3759	0.0300	0.1561	0.0021	1.4996	0.0310	0.0697	0.0014	935	12	930	13	920	22	935	12
sam.71	0.3257	0.0300	0.1581	0.0022	1.5351	0.0366	0.0704	0.0016	946	12	945	15	941	27	946	12
sam.72	0.4292	0.0200	0.1581	0.0022	1.5152	0.0372	0.0695	0.0017	946	12	937	15	914	28	946	12
sam.73	0.4310	0.0200	0.1599	0.0022	1.5370	0.0337	0.0697	0.0015	956	12	945	13	920	24	956	12
sam.74	0.1736	0.0600	0.1547	0.0021	1.5161	0.0341	0.0711	0.0015	927	12	937	14	960	24	927	12
sam.75	0.2481	0.0400	0.1092	0.0015	1.0703	0.0269	0.0711	0.0017	668	9	739	13	961	29		
sam.76	0.2551	0.0400	0.1503	0.0021	1.4148	0.0362	0.0683	0.0017	902	12	895	15	878	30	902	12
sam.77	0.3448	0.0300	0.1435	0.0019	1.3513	0.0249	0.0683	0.0012	865	11	868	11	877	18	865	11
sam.78	0.4184	0.0200	0.1571	0.0025	1.5260	0.0517	0.0705	0.0024	941	14	941	21	942	44	941	14
sam.79	0.3846	0.0300	0.1552	0.0021	1.4971	0.0313	0.0700	0.0014	930	12	929	13	928	22	930	12
sam.80	0.3497	0.0300	0.1600	0.0024	1.5499	0.0454	0.0703	0.0020	957	13	950	18	936	36	957	13
sam.81	0.1534	0.0700	0.1556	0.0022	1.4984	0.0372	0.0698	0.0017	933	12	930	15	924	29	933	12
sam.82	0.4082	0.0200	0.1585	0.0029	1.5309	0.0721	0.0701	0.0033	948	16	943	29	930	66	948	16
sam.83	0.3802	0.0300	0.1553	0.0024	1.5039	0.0488	0.0702	0.0023	931	13	932	20	935	41	931	13
sam.84	0.4386	0.0200	0.1580	0.0024	1.5324	0.0492	0.0703	0.0022	946	13	943	20	938	41	946	13
sam.85	0.1368	0.0700	0.1471	0.0020	1.4201	0.0305	0.0700	0.0014	885	11	897	13	929	23	885	11
sam.86	0.3788	0.0300	0.1443	0.0024	1.3656	0.0526	0.0686	0.0027	869	13	874	23	888	52	869	13
sam.87	0.3003	0.0300	0.1478	0.0023	1.3837	0.0468	0.0679	0.0023	889	13	882	20	866	44	889	13
sam.88	0.3077	0.0300	0.1616	0.0037	1.6126	0.1041	0.0724	0.0048	965	21	975	40	998	94	965	21
sam.89	0.5000	0.0200	0.1595	0.0023	1.5690	0.0434	0.0713	0.0019	954	13	958	17	967	33	954	13
sam.90	0.5882	0.0200	0.1571	0.0021	1.5003	0.0316	0.0693	0.0014	941	12	931	13	907	22	941	12
sam.91	0.4149	0.0200	0.1578	0.0022	1.5257	0.0325	0.0702	0.0014	944	12	941	13	933	23	944	12

sam.92	0.3717	0.0300	0.1563	0.0024	1.5170	0.0482	0.0704	0.0022	936	13	937	19	940	40	936	13
sam.93	0.4673	0.0200	0.1667	0.0026	1.5479	0.0519	0.0674	0.0023	994	14	950	21	850	44	994	14
sam.94	0.3413	0.0300	0.1608	0.0022	1.5652	0.0331	0.0706	0.0014	961	12	957	13	946	22	961	12
sam.95	0.5435	0.0200	0.1553	0.0021	1.4975	0.0326	0.0699	0.0015	931	12	929	13	927	23	931	12
sam.96	0.5102	0.0200	0.1643	0.0024	1.6110	0.0411	0.0711	0.0018	981	13	974	16	961	29	981	13
sam.97	0.3690	0.0300	0.1703	0.0024	1.6802	0.0396	0.0716	0.0016	1014	13	1001	15	974	26	974	26
sam.98	0.3597	0.0300	0.1625	0.0022	1.5808	0.0329	0.0706	0.0014	970	12	963	13	946	22	970	12
sam.99	0.6061	0.0200	0.1611	0.0022	1.5631	0.0295	0.0704	0.0012	963	12	956	12	940	19	963	12

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sam.01	0.3311	0.0300	0.1818	0.0021	2.1894	0.0387	0.0874	0.0016	1077	11	1178	12	1369	17		
sam.02	1.3699	0.0100	0.2472	0.0041	3.1092	0.1173	0.0913	0.0035	1424	21	1435	29	1452	46	1452	46
sam.03	0.4695	0.0200	0.2433	0.0030	2.9608	0.0606	0.0883	0.0018	1404	15	1398	16	1389	21	1389	21
sam.04	0.9009	0.0100	0.2444	0.0029	3.0250	0.0582	0.0898	0.0017	1409	15	1414	15	1422	19	1422	19
sam.05	0.0587	0.1700	0.0906	0.0014	0.7359	0.0308	0.0589	0.0025	559	8	560	18	564	65	559	8
sam.06	0.6135	0.0200	0.2705	0.0035	3.5806	0.0821	0.0961	0.0022	1543	18	1545	18	1549	24	1549	24
sam.07	0.3676	0.0300	0.2523	0.0028	3.1576	0.0464	0.0908	0.0013	1450	14	1447	11	1443	13	1443	13
sam.08	0.4405	0.0200	0.1546	0.0026	1.4671	0.0673	0.0689	0.0032	926	15	917	28	895	67	926	15
sam.09	0.9709	0.0100	0.2445	0.0030	2.9767	0.0619	0.0884	0.0019	1410	15	1402	16	1390	22	1390	22
sam.10	0.8621	0.0100	0.3165	0.0056	4.7484	0.1737	0.1089	0.0040	1773	27	1776	31	1780	41	1780	41
sam.11	0.5000	0.0200	0.2568	0.0036	3.2824	0.0907	0.0928	0.0026	1473	18	1477	22	1483	31	1483	31
sam.12	0.4608	0.0200	0.1434	0.0023	1.3418	0.0578	0.0679	0.0030	864	13	864	25	865	63	864	13
sam.13	0.7634	0.0100	0.2762	0.0034	3.7077	0.0724	0.0974	0.0019	1572	17	1573	16	1575	19	1575	19
sam.14	0.0736	0.1400	0.1536	0.0018	1.4865	0.0274	0.0702	0.0013	921	10	925	11	935	20	921	10
sam.15	0.3846	0.0300	0.3106	0.0040	4.5665	0.0991	0.1067	0.0023	1744	20	1743	18	1744	22	1744	22
sam.16	0.7407	0.0100	0.1899	0.0024	2.0093	0.0508	0.0768	0.0020	1121	13	1119	17	1115	30	1115	30
sam.17	0.3953	0.0300	0.2488	0.0031	3.0374	0.0646	0.0886	0.0019	1432	16	1417	16	1395	23	1395	23
sam.18	0.2857	0.0300	0.3330	0.0042	5.1751	0.0989	0.1128	0.0022	1853	20	1849	16	1845	18	1845	18
sam.19	0.4167	0.0200	0.2987	0.0040	4.2800	0.1015	0.1040	0.0025	1685	20	1690	20	1696	25	1696	25
sam.20	0.9346	0.0100	0.2762	0.0038	3.7013	0.0948	0.0972	0.0025	1572	19	1572	20	1572	28	1572	28
sam.21	0.4673	0.0200	0.3318	0.0039	5.1593	0.0857	0.1128	0.0019	1847	19	1846	14	1845	15	1845	15
sam.22	0.3802	0.0300	0.1445	0.0017	1.3539	0.0293	0.0680	0.0015	870	10	869	13	867	26	870	10
sam.23	0.3521	0.0300	0.1476	0.0017	1.4192	0.0273	0.0697	0.0014	888	10	897	11	921	21	888	10
sam.24	0.7519	0.0100	0.2592	0.0034	3.3291	0.0776	0.0932	0.0022	1486	17	1488	18	1491	25	1491	25
sam.25	0.5917	0.0200	0.3147	0.0036	4.6909	0.0732	0.1081	0.0017	1764	18	1766	13	1768	14	1768	14
sam.26	1.2500	0.0100	0.2561	0.0045	3.2620	0.1310	0.0924	0.0038	1470	23	1472	31	1476	50	1476	50
sam.27	0.2703	0.0400	0.3186	0.0038	4.7947	0.0842	0.1092	0.0019	1783	19	1784	15	1786	16	1786	16
sam.28	0.7194	0.0100	0.2602	0.0031	3.3115	0.0605	0.0924	0.0017	1491	16	1484	14	1475	18	1475	18

sam.29	0.2849	0.0400	0.2910	0.0035	4.0824	0.0729	0.1018	0.0018	1647	17	1651	15	1657	17	1657	17
sam.30	0.2915	0.0300	0.1413	0.0018	1.3322	0.0338	0.0684	0.0018	852	10	860	15	880	32	852	10
sam.31	0.7042	0.0100	0.2716	0.0034	3.5781	0.0750	0.0956	0.0020	1549	17	1545	17	1539	21	1539	21
sam.32	0.5155	0.0200	0.2253	0.0029	2.4366	0.0591	0.0785	0.0019	1310	15	1253	17	1159	28		
sam.33	0.3968	0.0300	0.0760	0.0009	0.6243	0.0133	0.0596	0.0013	472	5	493	8	588	27	472	5
sam.34	0.9259	0.0100	0.2992	0.0042	4.3244	0.1139	0.1049	0.0028	1687	21	1698	22	1712	28	1712	28
sam.35	0.5291	0.0200	0.2948	0.0037	4.1864	0.1033	0.1030	0.0029	1665	18	1671	20	1679	52	1679	52
sam.36	0.6024	0.0200	0.2527	0.0039	3.1271	0.1036	0.0898	0.0030	1452	20	1439	25	1421	40	1421	40
sam.37	0.4926	0.0200	0.3144	0.0041	4.7296	0.1023	0.1091	0.0024	1762	20	1773	18	1785	21	1785	21
sam.38	0.5155	0.0200	0.2960	0.0037	4.2693	0.1035	0.1046	0.0029	1671	18	1687	20	1708	51	1708	51
sam.39	0.7692	0.0100	0.2368	0.0036	2.6280	0.0912	0.0805	0.0028	1370	19	1309	26	1209	44		
sam.40	1.3699	0.0100	0.5621	0.0088	15.8126	0.3492	0.2041	0.0044	2875	36	2866	21	2859	18	2859	18
sam.41	0.8197	0.0100	0.2903	0.0051	4.0393	0.1565	0.1009	0.0040	1643	25	1642	32	1641	46	1641	46
sam.42	0.4695	0.0200	0.1530	0.0018	1.4352	0.0304	0.0681	0.0015	918	10	904	13	870	25	918	10
sam.43	0.5319	0.0200	0.0772	0.0011	0.5350	0.0221	0.0503	0.0021	479	6	435	15	208	70	479	6
sam.44	0.5714	0.0200	0.1392	0.0017	1.3625	0.0302	0.0710	0.0016	840	10	873	13	958	26	840	10
sam.45	0.4310	0.0200	0.0714	0.0010	0.5319	0.0225	0.0540	0.0023	445	6	433	15	372	69	445	6
sam.46	1.3158	0.0100	0.2162	0.0028	2.4195	0.0575	0.0812	0.0020	1262	15	1248	17	1226	27	1226	27
sam.47	0.7937	0.0100	0.2586	0.0034	3.2163	0.0761	0.0902	0.0022	1483	17	1461	18	1430	26	1430	26
sam.48	0.3831	0.0300	0.1814	0.0022	1.8943	0.0412	0.0758	0.0017	1074	12	1079	14	1089	25	1089	25
sam.49	0.6667	0.0200	0.4452	0.0057	11.3581	0.1939	0.1851	0.0031	2374	26	2553	16	2699	13		
sam.50	0.5747	0.0200	0.2271	0.0037	2.7669	0.1047	0.0884	0.0034	1319	19	1347	28	1391	48	1391	48
sam.51	0.3497	0.0300	0.1526	0.0019	1.4357	0.0351	0.0683	0.0017	915	11	904	15	876	30	915	11
sam.52	0.4202	0.0200	0.2773	0.0033	3.5416	0.0629	0.0927	0.0016	1578	17	1537	14	1481	17	1481	17
sam.53	0.5714	0.0200	0.2934	0.0038	4.1463	0.0899	0.1025	0.0022	1659	19	1663	18	1670	22	1670	22
sam.54	1.0753	0.0100	0.2602	0.0042	3.0770	0.1138	0.0858	0.0032	1491	21	1427	28	1333	47		
sam.55	0.4255	0.0200	0.1507	0.0018	1.4658	0.0299	0.0705	0.0015	905	10	916	12	944	23	905	10
sam.56	0.4329	0.0200	0.3307	0.0041	5.1231	0.0928	0.1124	0.0020	1842	20	1840	15	1838	16	1838	16
sam.57	0.8333	0.0100	0.2743	0.0037	3.5358	0.0902	0.0935	0.0024	1563	19	1535	20	1498	28	1498	28
sam.58	0.3937	0.0300	0.1530	0.0019	1.4476	0.0327	0.0686	0.0016	918	10	909	14	888	27	918	10
sam.59	0.8772	0.0100	0.0734	0.0009	0.5841	0.0176	0.0577	0.0018	457	6	467	11	518	44	457	6
sam.60	0.3690	0.0300	0.1509	0.0018	1.4165	0.0303	0.0681	0.0015	906	10	896	13	871	25	906	10
sam.61	0.7937	0.0100	0.2785	0.0033	3.6440	0.0619	0.0949	0.0016	1584	16	1559	14	1526	16	1526	16
sam.62	0.4545	0.0200	0.3372	0.0042	5.1268	0.0977	0.1103	0.0021	1873	20	1841	16	1804	18	1804	18
sam.63	0.6098	0.0200	0.1319	0.0016	1.2836	0.0273	0.0706	0.0015	799	9	838	12	946	25	799	9
sam.64	0.6410	0.0200	0.0795	0.0010	0.6292	0.0149	0.0574	0.0014	493	6	496	9	507	31	493	6
sam.65	0.1092	0.0900	0.1880	0.0022	2.0576	0.0379	0.0794	0.0015	1111	12	1135	13	1182	19	1182	19
sam.66	0.3509	0.0300	0.3235	0.0042	4.7048	0.0990	0.1055	0.0022	1807	20	1768	18	1723	21	1723	21

sam.67	0.9709	0.0100	0.2786	0.0034	3.7259	0.0671	0.0970	0.0017	1584	17	1577	14	1567	17	1567	17
sam.68	0.4587	0.0200	0.2106	0.0034	2.3794	0.0911	0.0819	0.0032	1232	18	1236	27	1244	50	1244	50
sam.69	0.3802	0.0300	0.3176	0.0039	4.5873	0.0822	0.1048	0.0019	1778	19	1747	15	1710	17	1710	17
sam.70	0.5556	0.0200	0.3227	0.0044	4.7341	0.1115	0.1064	0.0025	1803	21	1773	20	1739	24	1739	24
sam.71	1.4706	0.0100	0.2698	0.0037	3.6497	0.0901	0.0981	0.0024	1540	19	1560	20	1589	26	1589	26
sam.72	0.3968	0.0300	0.1535	0.0020	1.4490	0.0390	0.0685	0.0019	920	11	909	16	883	34	920	11
sam.73	0.3788	0.0300	0.2056	0.0027	2.2430	0.0563	0.0791	0.0020	1205	14	1195	18	1175	29	1175	29
sam.74	0.2304	0.0400	0.1458	0.0016	1.4228	0.0221	0.0708	0.0011	878	9	899	9	950	15	878	9
sam.75	0.0797	0.1300	0.1560	0.0019	1.4476	0.0304	0.0673	0.0014	935	10	909	13	847	25	935	10
sam.76	0.8065	0.0100	0.1474	0.0020	1.3872	0.0443	0.0682	0.0022	887	11	884	19	876	43	887	11
sam.77	0.3378	0.0300	0.1559	0.0019	1.4029	0.0309	0.0653	0.0014	934	10	890	13	783	26	934	10
sam.78	0.3984	0.0300	0.1444	0.0017	1.3168	0.0283	0.0662	0.0014	869	10	853	12	811	25	869	10
sam.79	0.3003	0.0300	0.2780	0.0032	4.2442	0.0604	0.1107	0.0015	1581	16	1683	12	1811	12		
sam.80	1.6949	0.0100	0.5805	0.0068	17.1636	0.2224	0.2144	0.0027	2951	28	2944	12	2939	9	2939	9
sam.81	1.0204	0.0100	0.3026	0.0049	4.3999	0.1421	0.1054	0.0035	1704	24	1712	27	1722	36	1722	36
sam.82	0.6667	0.0200	0.2321	0.0026	2.8951	0.0438	0.0905	0.0013	1345	14	1381	11	1435	14	1435	14
sam.83	0.3774	0.0300	0.2518	0.0030	3.1292	0.0538	0.0901	0.0015	1448	15	1440	13	1428	16	1428	16
sam.84	0.3690	0.0300	0.2565	0.0032	3.1012	0.0651	0.0877	0.0018	1472	16	1433	16	1375	22	1375	22
sam.85	0.8264	0.0100	0.2805	0.0034	3.6569	0.0701	0.0946	0.0018	1594	17	1562	15	1519	19	1519	19
sam.86	0.4739	0.0200	0.2146	0.0032	2.5636	0.0819	0.0866	0.0028	1253	17	1290	23	1352	39	1352	39
sam.87	1.5625	0.0100	0.0784	0.0015	0.6573	0.0453	0.0608	0.0043	486	9	513	28	633	115	486	9
sam.88	0.2123	0.0500	0.2207	0.0026	2.8662	0.0475	0.0942	0.0015	1286	14	1373	12	1511	15		
sam.89	0.2488	0.0400	0.0802	0.0015	0.6104	0.0415	0.0552	0.0038	497	9	484	26	422	118	497	9
sam.90	0.5525	0.0200	0.2735	0.0034	3.4068	0.0664	0.0903	0.0018	1559	17	1506	15	1432	20	1432	20
sam.91	0.4425	0.0200	0.2501	0.0030	3.1418	0.0571	0.0911	0.0016	1439	15	1443	14	1448	18	1448	18
sam.92	0.8621	0.0100	0.0837	0.0011	0.6661	0.0181	0.0577	0.0016	518	6	518	11	519	38	518	6
sam.93	0.2049	0.0500	0.2983	0.0037	4.1977	0.0810	0.1020	0.0020	1683	18	1674	16	1661	18	1661	18
sam.94	0.1049	0.1000	0.1467	0.0017	1.3701	0.0257	0.0677	0.0013	883	10	876	11	860	21	883	10
sam.95	0.5556	0.0200	0.5014	0.0079	12.1622	0.2871	0.1759	0.0041	2620	34	2617	22	2614	20	2614	20
sam.96	0.6098	0.0200	0.2886	0.0035	4.0192	0.0736	0.1010	0.0018	1635	18	1638	15	1642	17	1642	17
sam.97	0.4237	0.0200	0.4014	0.0049	7.5331	0.1244	0.1361	0.0022	2176	23	2177	15	2178	14	2178	14
sam.98	0.7752	0.0100	0.2620	0.0036	3.3665	0.0837	0.0932	0.0023	1500	18	1497	19	1492	27	1492	27
sam.99	0.5525	0.0200	0.2634	0.0048	3.3595	0.1428	0.0925	0.0040	1507	25	1495	33	1477	53	1477	53
sam.100	0.8403	0.0100	0.1026	0.0045	1.3453	0.1752	0.0951	0.0128	629	26	866	76	1530	180		

Quartz sandstone sample WC 09-14-17 (8)

sam.01	2.3514	0.0238	0.0680	0.0011	0.5188	0.0101	0.0553	0.0007	424	7	424	8	426	27	424	7
sam.02	0.5941	0.0198	0.0700	0.0008	0.5421	0.0084	0.0562	0.0008	436	5	440	7	460	33	436	5

sam.03	1.0765	0.0113	0.0707	0.0008	0.5431	0.0075	0.0557	0.0006	440	5	440	6	441	26	440	5
sam.04	0.8571	0.0123	0.0498	0.0006	0.3753	0.0051	0.0547	0.0006	313	4	324	4	398	27	313	4
sam.05	1.7785	0.0134	0.0500	0.0006	0.3669	0.0050	0.0532	0.0006	314	4	317	4	339	27	314	4
sam.06	1.0983	0.0184	0.0520	0.0007	0.3763	0.0055	0.0525	0.0006	327	4	324	5	308	27	327	4
sam.07	1.0660	0.0130	0.0688	0.0008	0.5276	0.0079	0.0556	0.0007	429	5	430	6	436	27	429	5
sam.08	0.6299	0.0151	0.0698	0.0009	0.5392	0.0079	0.0560	0.0007	435	5	438	6	454	27	435	5
sam.09	0.0520	0.0002	0.0715	0.0009	0.5570	0.0085	0.0565	0.0007	445	6	450	7	472	27	445	6
sam.10	0.4095	0.0181	0.0701	0.0009	0.5413	0.0078	0.0560	0.0007	437	6	439	6	453	28	437	6
sam.11	1.2918	0.0174	0.0690	0.0008	0.5345	0.0079	0.0562	0.0007	430	5	435	6	461	27	430	5
sam.12	0.5788	0.0150	0.0708	0.0009	0.5573	0.0086	0.0571	0.0007	441	6	450	7	496	27	441	6
sam.13	0.7907	0.0029	0.0707	0.0008	0.5413	0.0078	0.0555	0.0007	440	5	439	6	433	27	440	5
sam.14	0.6190	0.0019	0.0702	0.0008	0.5424	0.0075	0.0561	0.0007	437	5	440	6	455	27	437	5
sam.15	0.6785	0.0049	0.0708	0.0008	0.5399	0.0076	0.0553	0.0007	441	5	438	6	424	27	441	5
sam.16	1.5577	0.0080	0.0518	0.0007	0.3804	0.0056	0.0533	0.0007	325	4	327	5	340	28	325	4
sam.17	0.8516	0.0021	0.0713	0.0008	0.5545	0.0079	0.0564	0.0007	444	5	448	6	469	27	444	5
sam.18	0.3800	0.0050	0.0862	0.0012	0.8145	0.0145	0.0686	0.0009	533	8	605	11	886	28		
sam.19	0.7654	0.0061	0.0711	0.0008	0.5422	0.0076	0.0553	0.0007	443	5	440	6	426	26	443	5
sam.20	0.6172	0.0056	0.0701	0.0008	0.5353	0.0076	0.0554	0.0007	437	5	435	6	428	28	437	5
sam.21	0.5751	0.0036	0.0699	0.0008	0.5432	0.0077	0.0564	0.0007	435	5	441	6	467	26	435	5
sam.22	0.5676	0.0091	0.0715	0.0009	0.5568	0.0083	0.0565	0.0007	445	5	449	7	473	27	445	5
sam.23	0.6297	0.0035	0.0688	0.0008	0.5256	0.0082	0.0554	0.0007	429	5	429	7	429	30	429	5
sam.24	0.4851	0.0026	0.0695	0.0008	0.5373	0.0088	0.0561	0.0008	433	5	437	7	455	31	433	5
sam.25	0.8161	0.0027	0.0689	0.0009	0.5334	0.0090	0.0562	0.0007	429	6	434	7	459	29	429	6
sam.26	0.3994	0.0029	0.0707	0.0008	0.5531	0.0084	0.0567	0.0007	440	5	447	7	482	28	440	5
sam.27	0.9441	0.0160	0.0688	0.0008	0.5256	0.0072	0.0554	0.0007	429	5	429	6	428	26	429	5
sam.28	0.6279	0.0087	0.0703	0.0008	0.5456	0.0124	0.0563	0.0011	438	5	442	10	465	45	438	5
sam.29	0.8382	0.0043	0.0718	0.0008	0.5536	0.0075	0.0559	0.0007	447	5	447	6	450	26	447	5
sam.30	0.7999	0.0085	0.0688	0.0009	0.5247	0.0075	0.0553	0.0006	429	5	428	6	424	26	429	5
sam.31	1.0449	0.0054	0.0713	0.0008	0.5538	0.0078	0.0563	0.0007	444	5	447	6	466	26	444	5
sam.32	1.1320	0.0136	0.0694	0.0008	0.5416	0.0074	0.0566	0.0007	433	5	439	6	475	26	433	5
sam.33	0.8388	0.0033	0.0702	0.0008	0.5482	0.0087	0.0566	0.0008	437	5	444	7	477	29	437	5
sam.34	0.5372	0.0047	0.0711	0.0008	0.5584	0.0123	0.0569	0.0012	443	5	450	10	489	46	443	5
sam.35	0.9136	0.0059	0.0686	0.0008	0.5313	0.0072	0.0562	0.0007	428	5	433	6	460	27	428	5
sam.36	0.9985	0.0079	0.0700	0.0008	0.5448	0.0078	0.0565	0.0007	436	5	442	6	470	27	436	5
sam.37	0.6151	0.0024	0.0708	0.0009	0.5427	0.0081	0.0556	0.0007	441	5	440	7	437	27	441	5
sam.38	0.8992	0.0120	0.0702	0.0008	0.5429	0.0076	0.0561	0.0007	437	5	440	6	455	26	437	5
sam.39	1.3309	0.0191	0.0697	0.0009	0.5418	0.0079	0.0564	0.0007	434	6	440	6	469	26	434	6
sam.40	1.7369	0.0220	0.0508	0.0006	0.3831	0.0055	0.0547	0.0007	320	4	329	5	399	27	320	4

sam.41	0.7627	0.0050	0.0700	0.0009	0.5447	0.0080	0.0564	0.0007	436	6	442	6	469	26	436	6
sam.42	0.7546	0.0035	0.0701	0.0008	0.5339	0.0074	0.0552	0.0006	437	5	434	6	421	26	437	5
sam.43	1.2923	0.0074	0.0688	0.0008	0.5284	0.0074	0.0557	0.0007	429	5	431	6	441	26	429	5
sam.44	0.8620	0.0032	0.0709	0.0009	0.5471	0.0079	0.0560	0.0007	442	6	443	6	451	26	442	6
sam.45	0.8656	0.0072	0.0711	0.0009	0.5531	0.0080	0.0564	0.0007	443	6	447	6	468	26	443	6
sam.46	0.6490	0.0082	0.0610	0.0008	0.4905	0.0074	0.0584	0.0007	381	5	405	6	543	26	381	5
sam.47	0.8142	0.0212	0.0707	0.0009	0.5452	0.0078	0.0559	0.0007	440	5	442	6	450	26	440	5
sam.48	0.9954	0.0038	0.0703	0.0009	0.5432	0.0077	0.0560	0.0007	438	5	441	6	453	26	438	5
sam.49	1.1500	0.0047	0.0682	0.0008	0.5313	0.0082	0.0565	0.0008	425	5	433	7	472	31	425	5
sam.50	0.8290	0.0109	0.0686	0.0009	0.5215	0.0103	0.0551	0.0008	428	5	426	8	417	34	428	5
sam.51	0.8103	0.0116	0.0712	0.0011	0.5473	0.0088	0.0557	0.0007	443	7	443	7	442	26	443	7
sam.52	0.2242	0.0028	0.0715	0.0008	0.5607	0.0082	0.0568	0.0007	445	5	452	7	486	27	445	5
sam.53	0.2203	0.0008	0.0709	0.0009	0.5566	0.0078	0.0569	0.0007	442	5	449	6	489	26	442	5
sam.54	0.8803	0.0162	0.0704	0.0008	0.5406	0.0073	0.0557	0.0007	439	5	439	6	440	27	439	5
sam.55	0.2948	0.0036	0.0710	0.0008	0.5559	0.0086	0.0568	0.0008	442	5	449	7	482	31	442	5
sam.56	0.7305	0.0028	0.0719	0.0009	0.5566	0.0079	0.0562	0.0007	447	5	449	6	460	27	447	5
sam.57	0.2862	0.0020	0.0714	0.0009	0.5483	0.0088	0.0557	0.0007	444	6	444	7	442	29	444	6
sam.58	1.0137	0.0075	0.0708	0.0009	0.5490	0.0086	0.0563	0.0007	441	6	444	7	463	26	441	6
sam.59	0.7507	0.0125	0.0714	0.0009	0.5582	0.0080	0.0567	0.0007	444	5	450	6	481	26	444	5
sam.60	0.5885	0.0032	0.0719	0.0008	0.5572	0.0104	0.0562	0.0010	448	5	450	8	460	38	448	5
sam.61	0.6430	0.0043	0.0717	0.0009	0.5601	0.0080	0.0566	0.0007	447	6	452	6	477	26	447	6
sam.62	0.5493	0.0084	0.0704	0.0009	0.5411	0.0074	0.0557	0.0007	439	5	439	6	442	27	439	5
sam.63	0.8056	0.0174	0.0706	0.0009	0.5452	0.0080	0.0560	0.0007	440	6	442	6	452	26	440	6
sam.64	0.2118	0.0017	0.0718	0.0009	0.5620	0.0084	0.0568	0.0007	447	6	453	7	483	26	447	6
sam.65	0.6720	0.0029	0.0535	0.0007	0.3947	0.0053	0.0535	0.0007	336	4	338	5	352	29	336	4
sam.66	0.2985	0.0026	0.0694	0.0010	0.6774	0.0204	0.0708	0.0017	433	6	525	16	951	48		
sam.67	0.9463	0.0204	0.0703	0.0008	0.5318	0.0080	0.0548	0.0007	438	5	433	7	405	28	438	5
sam.68	0.5831	0.0055	0.0710	0.0009	0.5583	0.0082	0.0571	0.0007	442	5	450	7	494	27	442	5
sam.69	0.7739	0.0060	0.0718	0.0009	0.5635	0.0083	0.0569	0.0007	447	5	454	7	487	27	447	5
sam.70	0.9113	0.0105	0.0717	0.0008	0.5471	0.0080	0.0554	0.0007	446	5	443	7	427	28	446	5
sam.71	0.7152	0.0020	0.0700	0.0008	0.5431	0.0084	0.0562	0.0007	436	5	440	7	462	29	436	5
sam.72	0.4791	0.0040	0.0719	0.0009	0.5655	0.0094	0.0571	0.0008	447	5	455	8	495	31	447	5
sam.73	0.8301	0.0045	0.0715	0.0009	0.5596	0.0085	0.0568	0.0007	445	5	451	7	482	28	445	5
sam.74	0.3384	0.0016	0.0735	0.0008	0.5716	0.0083	0.0564	0.0007	457	5	459	7	467	28	457	5
sam.75	0.1073	0.0013	0.0697	0.0008	0.6905	0.0155	0.0718	0.0013	434	5	533	12	982	38		
sam.76	1.0052	0.0240	0.0533	0.0006	0.4001	0.0057	0.0545	0.0008	335	4	342	5	390	31	335	4
sam.77	0.8200	0.0111	0.0716	0.0008	0.5545	0.0078	0.0562	0.0007	446	5	448	6	458	26	446	5
sam.78	0.7814	0.0040	0.0715	0.0009	0.5482	0.0077	0.0556	0.0007	445	6	444	6	437	26	445	6

sam.79	0.8042	0.0055	0.0714	0.0009	0.5549	0.0080	0.0564	0.0007	445	5	448	6	467	26	445	5
sam.80	0.9355	0.0034	0.0679	0.0009	0.5163	0.0099	0.0551	0.0008	424	5	423	8	417	32	424	5
sam.81	0.3169	0.0012	0.0707	0.0009	0.6494	0.0125	0.0666	0.0009	440	6	508	10	826	29		
sam.82	0.7234	0.0074	0.0717	0.0010	0.5570	0.0082	0.0563	0.0007	446	6	450	7	466	27	446	6
sam.83	0.8764	0.0053	0.0707	0.0008	0.5529	0.0093	0.0567	0.0008	441	5	447	7	480	30	441	5
sam.84	0.0628	0.0003	0.0707	0.0009	0.5590	0.0084	0.0573	0.0007	441	5	451	7	504	27	441	5
sam.85	1.3519	0.0223	0.0695	0.0008	0.5394	0.0084	0.0563	0.0007	433	5	438	7	463	29	433	5
sam.86	0.7164	0.0024	0.0699	0.0008	0.5345	0.0073	0.0555	0.0007	435	5	435	6	431	27	435	5
sam.87	0.6078	0.0031	0.0717	0.0009	0.5627	0.0082	0.0569	0.0007	446	5	453	7	489	27	446	5
sam.88	0.4842	0.0019	0.0714	0.0009	0.5952	0.0090	0.0604	0.0007	445	5	474	7	620	27	445	5
sam.89	0.6667	0.0041	0.0681	0.0008	0.5476	0.0082	0.0584	0.0008	424	5	443	7	543	30	424	5
sam.90	1.2401	0.0090	0.0714	0.0009	0.9085	0.0190	0.0923	0.0016	444	5	656	14	1474	33		
sam.91	0.6973	0.0043	0.0705	0.0008	0.5410	0.0075	0.0556	0.0007	439	5	439	6	438	26	439	5
sam.92	0.8644	0.0189	0.0677	0.0008	0.5254	0.0109	0.0563	0.0009	422	5	429	9	464	35	422	5
sam.93	0.9022	0.0109	0.0687	0.0008	0.5254	0.0074	0.0554	0.0007	429	5	429	6	430	28	429	5
sam.94	0.9342	0.0024	0.0703	0.0010	0.5464	0.0098	0.0564	0.0007	438	6	443	8	467	28	438	6
sam.95	0.6028	0.0103	0.0718	0.0011	0.7174	0.0776	0.0725	0.0044	447	7	549	59	1000	124		
sam.96	0.8387	0.0057	0.0719	0.0009	0.5639	0.0087	0.0569	0.0007	447	6	454	7	489	28	447	6
sam.97	1.2745	0.0064	0.0526	0.0007	0.3862	0.0057	0.0533	0.0007	330	5	332	5	342	30	330	5
sam.98	0.7555	0.0041	0.0708	0.0009	0.8845	0.0178	0.0906	0.0017	441	5	643	13	1438	36		
sam.99	0.3551	0.0077	0.0713	0.0009	0.5508	0.0082	0.0560	0.0007	444	5	446	7	453	29	444	5
sam.100	0.1792	0.0014	0.0708	0.0009	0.5578	0.0080	0.0571	0.0007	441	5	450	6	495	27	441	5

Metasandstone sample WC 07-25-17 (4)

sam.01	2.6053	0.0335	0.1457	0.0029	1.4542	0.0450	0.0724	0.0020	877	17	912	28	997	56	877	17
sam.02	0.9128	0.0052	0.1858	0.0023	1.9333	0.0594	0.0755	0.0022	1099	14	1093	34	1081	59	1081	59
sam.03	1.3186	0.0129	0.1900	0.0016	2.0267	0.0784	0.0774	0.0029	1122	10	1125	44	1130	74	1130	74
sam.04	1.7625	0.0244	0.1326	0.0015	1.2117	0.0487	0.0663	0.0025	803	9	806	32	815	80	803	9
sam.05	0.2020	0.0010	0.1860	0.0029	1.9006	0.0371	0.0741	0.0010	1100	17	1081	21	1045	28	1045	28
sam.06	0.0501	0.0002	0.1474	0.0012	1.4658	0.0161	0.0721	0.0005	886	7	916	10	990	15	886	7
sam.07	0.0833	0.0008	0.1209	0.0007	1.1021	0.0174	0.0661	0.0009	736	4	754	12	810	30	736	4
sam.08	1.6851	0.0350	0.1219	0.0032	1.1234	0.0240	0.0668	0.0008	742	19	765	16	833	26	742	19
sam.09	1.0923	0.0267	0.1508	0.0012	1.5054	0.0214	0.0724	0.0010	905	7	933	13	998	29	905	7
sam.10	0.6732	0.0032	0.1914	0.0027	1.9772	0.0271	0.0749	0.0008	1129	16	1108	15	1066	21	1066	21
sam.11	2.1102	0.0313	0.1208	0.0021	1.0880	0.0210	0.0653	0.0008	735	13	748	14	785	27	735	13
sam.12	1.9401	0.0132	0.1177	0.0015	1.0433	0.0165	0.0643	0.0009	717	9	726	11	752	28	717	9
sam.13	0.7651	0.0093	0.1866	0.0018	2.0209	0.0273	0.0786	0.0009	1103	11	1123	15	1161	23	1161	23
sam.14	0.7819	0.0225	0.1897	0.0016	2.0489	0.0253	0.0783	0.0009	1120	9	1132	14	1156	22	1156	22

sam.15	1.8394	0.0196	0.1329	0.0031	1.2548	0.0240	0.0685	0.0008	805	19	826	16	883	24	805	19
sam.16	2.5587	0.0206	0.1236	0.0019	1.1281	0.0260	0.0662	0.0010	751	11	767	18	812	33	751	11
sam.17	0.5882	0.0018	0.1919	0.0019	2.0332	0.0399	0.0768	0.0011	1132	11	1127	22	1117	28	1117	28
sam.18	1.8906	0.0420	0.1309	0.0028	1.2030	0.0240	0.0666	0.0010	793	17	802	16	826	30	793	17
sam.19	2.2132	0.0084	0.1189	0.0004	1.0604	0.0216	0.0647	0.0013	724	3	734	15	764	42	724	3
sam.20	0.6065	0.0065	0.1848	0.0018	2.1013	0.0442	0.0825	0.0016	1093	11	1149	24	1257	37	1257	37
sam.21	0.8465	0.0132	0.1754	0.0040	1.8403	0.0331	0.0761	0.0009	1042	24	1060	19	1097	25	1097	25
sam.22	1.9158	0.0145	0.1257	0.0015	1.1626	0.0222	0.0671	0.0012	763	9	783	15	840	37	763	9
sam.23	0.8863	0.0239	0.1671	0.0022	1.7107	0.0292	0.0743	0.0010	996	13	1013	17	1048	28	1048	28
sam.24	0.5783	0.0010	0.1973	0.0019	1.9646	0.0361	0.0722	0.0011	1161	11	1103	20	992	31	992	31
sam.25	1.2246	0.0115	0.1442	0.0005	1.4341	0.0558	0.0721	0.0027	868	3	903	35	990	76	868	3
sam.26	0.7928	0.0131	0.1952	0.0031	2.1721	0.0356	0.0807	0.0015	1149	18	1172	19	1214	36	1214	36
sam.27	0.5495	0.0064	0.2941	0.0036	4.2786	0.0851	0.1055	0.0020	1662	20	1689	34	1723	35	1723	35
sam.28	1.1706	0.0075	0.3304	0.0041	5.1374	0.0738	0.1128	0.0014	1840	23	1842	26	1845	22	1845	22
sam.29	0.3554	0.0077	0.4766	0.0058	10.8679	0.1508	0.1654	0.0019	2513	31	2512	35	2511	20	2511	20
sam.30	2.0465	0.0368	0.4215	0.0055	10.0009	0.1680	0.1721	0.0025	2267	30	2435	41	2578	25	2578	25
sam.31	0.4694	0.0026	0.3344	0.0041	5.5061	0.0753	0.1194	0.0014	1860	23	1902	26	1948	21	1948	21
sam.32	0.5481	0.0013	0.3228	0.0040	6.7075	0.1080	0.1507	0.0023	1803	23	2074	33	2354	26	2354	26
sam.33	1.1898	0.0068	0.1275	0.0016	1.2142	0.0179	0.0691	0.0009	774	9	807	12	900	26	774	9
sam.34	1.0688	0.0073	0.1483	0.0020	1.4196	0.0241	0.0694	0.0010	891	12	897	15	912	30	891	12
sam.35	0.3398	0.0007	0.3326	0.0069	7.1371	0.1202	0.1556	0.0022	1851	38	2129	36	2408	24	2408	24
sam.36	0.5823	0.0070	0.3894	0.0052	8.7854	0.1360	0.1636	0.0019	2120	28	2316	36	2494	20	2494	20
sam.37	0.5004	0.0017	0.1436	0.0018	1.4657	0.0212	0.0740	0.0010	865	11	916	13	1042	26	865	11
sam.38	1.2045	0.0113	0.3391	0.0044	7.2914	0.1714	0.1559	0.0031	1882	24	2148	50	2412	34	2412	34
sam.39	0.8944	0.0209	0.2976	0.0035	5.8900	0.0816	0.1435	0.0017	1680	20	1960	27	2270	21	2270	21
sam.40	0.3978	0.0018	0.3382	0.0059	7.2214	0.1365	0.1549	0.0020	1878	33	2139	40	2400	22	2400	22
sam.41	0.9449	0.0146	0.3816	0.0054	8.5070	0.1357	0.1617	0.0025	2084	30	2287	36	2473	26	2473	26
sam.42	0.4356	0.0184	0.3739	0.0047	8.3056	0.1713	0.1611	0.0030	2048	26	2265	47	2467	31	2467	31
sam.43	0.4829	0.0037	0.3117	0.0048	6.3477	0.0948	0.1477	0.0020	1749	27	2025	30	2320	23	2320	23
sam.44	0.5657	0.0028	0.3998	0.0056	9.1499	0.1501	0.1660	0.0020	2168	31	2353	39	2518	20	2518	20
sam.45	0.0628	0.0006	0.3058	0.0040	4.7480	0.0688	0.1126	0.0013	1720	23	1776	26	1842	21	1842	21
sam.46	0.2381	0.0023	0.3552	0.0042	7.9468	0.1100	0.1623	0.0020	1959	23	2225	31	2479	21	2479	21
sam.47	0.2233	0.0012	0.4208	0.0078	10.0824	0.1766	0.1738	0.0023	2264	42	2442	43	2595	22	2595	22
sam.48	0.5614	0.0091	0.3059	0.0039	4.9941	0.0717	0.1184	0.0014	1720	22	1818	26	1932	21	1932	21
sam.49	0.4862	0.0055	0.3944	0.0047	9.1364	0.1260	0.1680	0.0020	2143	26	2352	32	2538	20	2538	20

Sandstone sample WC 07-26-17 (2)

sam.01	1.2885	0.0046	0.0382	0.0004	0.2705	0.0080	0.0513	0.0014	242	3	243	7	256	65	242	3
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sam.02	1.0439	0.0034	0.0375	0.0004	0.2710	0.0093	0.0524	0.0017	237	3	244	8	302	75	237	3
sam.03	1.0639	0.0053	0.0376	0.0004	0.2673	0.0084	0.0515	0.0015	238	3	241	8	263	68	238	3
sam.04	0.7681	0.0050	0.0380	0.0004	0.2699	0.0081	0.0515	0.0015	241	3	243	7	262	65	241	3
sam.05	0.9896	0.0013	0.0383	0.0004	0.2722	0.0087	0.0516	0.0016	242	3	244	8	268	70	242	3
sam.06	1.1371	0.0032	0.0378	0.0004	0.2701	0.0064	0.0518	0.0012	239	3	243	6	278	51	239	3
sam.07	1.0680	0.0015	0.0379	0.0004	0.2674	0.0064	0.0511	0.0011	240	3	241	6	247	51	240	3
sam.08	0.5878	0.0009	0.0366	0.0005	0.2639	0.0235	0.0523	0.0047	232	3	238	21	301	205	232	3
sam.09	1.2454	0.0043	0.0376	0.0004	0.2655	0.0082	0.0512	0.0015	238	3	239	7	250	68	238	3
sam.10	1.4986	0.0080	0.0373	0.0004	0.2618	0.0104	0.0509	0.0020	236	3	236	9	238	88	236	3
sam.11	1.3023	0.0023	0.0385	0.0004	0.2766	0.0076	0.0521	0.0013	243	3	248	7	291	58	243	3
sam.12	0.6338	0.0061	0.0386	0.0005	0.2821	0.0121	0.0531	0.0021	244	3	252	11	331	92	244	3
sam.13	1.2031	0.0080	0.0374	0.0004	0.2734	0.0092	0.0530	0.0016	237	3	245	8	327	68	237	3
sam.14	1.2887	0.0041	0.0381	0.0004	0.2746	0.0078	0.0523	0.0014	241	3	246	7	296	61	241	3
sam.15	1.2403	0.0061	0.0375	0.0004	0.2740	0.0092	0.0530	0.0017	237	3	246	8	328	74	237	3
sam.16	0.3640	0.0079	0.0378	0.0005	0.4170	0.0175	0.0800	0.0032	239	3	354	15	1197	80	239	3
sam.17	1.0635	0.0057	0.0379	0.0004	0.2662	0.0090	0.0509	0.0017	240	3	240	8	238	75	240	3
sam.18	0.8903	0.0218	0.0379	0.0004	0.2672	0.0144	0.0512	0.0027	239	3	240	13	250	122	239	3
sam.19	1.0849	0.0045	0.0387	0.0005	0.2753	0.0083	0.0516	0.0016	245	3	247	7	268	70	245	3
sam.20	1.0940	0.0052	0.0380	0.0004	0.2758	0.0103	0.0527	0.0019	240	3	247	9	314	83	240	3
sam.21	0.9912	0.0024	0.0382	0.0004	0.2783	0.0098	0.0529	0.0018	242	3	249	9	323	78	242	3
sam.22	1.0513	0.0038	0.0381	0.0004	0.2786	0.0136	0.0530	0.0025	241	3	250	12	328	109	241	3
sam.23	1.5752	0.0049	0.0385	0.0004	0.2721	0.0074	0.0512	0.0013	244	3	244	7	251	60	244	3
sam.24	1.0250	0.0241	0.0388	0.0005	0.2746	0.0076	0.0513	0.0013	245	3	246	7	256	59	245	3
sam.25	0.6372	0.0130	0.0381	0.0004	0.2750	0.0124	0.0524	0.0023	241	3	247	11	303	100	241	3
sam.26	0.9162	0.0106	0.0376	0.0004	0.2668	0.0148	0.0515	0.0028	238	3	240	13	261	127	238	3
sam.27	1.0168	0.0032	0.0386	0.0004	0.2733	0.0086	0.0513	0.0016	244	3	245	8	254	70	244	3
sam.28	0.9954	0.0056	0.0382	0.0004	0.2661	0.0097	0.0505	0.0018	242	3	240	9	217	81	242	3
sam.29	1.1524	0.0120	0.0385	0.0004	0.2670	0.0083	0.0504	0.0015	243	3	240	7	212	69	243	3
sam.30	0.8476	0.0118	0.0382	0.0004	0.2724	0.0097	0.0518	0.0018	241	3	245	9	275	79	241	3
sam.31	0.7729	0.0049	0.0385	0.0004	0.2743	0.0053	0.0517	0.0009	243	3	246	5	273	40	243	3
sam.32	1.1824	0.0031	0.0379	0.0004	0.2664	0.0071	0.0509	0.0013	240	3	240	6	237	58	240	3
sam.33	1.1224	0.0106	0.0365	0.0004	0.2623	0.0071	0.0521	0.0013	231	2	237	6	292	57	231	2
sam.34	0.9241	0.0050	0.0384	0.0005	0.2769	0.0080	0.0522	0.0014	243	3	248	7	296	63	243	3
sam.35	0.7767	0.0059	0.0383	0.0005	0.2804	0.0208	0.0531	0.0038	242	3	251	19	333	161	242	3
sam.36	1.2941	0.0016	0.0384	0.0004	0.2750	0.0068	0.0520	0.0012	243	3	247	6	284	55	243	3
sam.37	0.6647	0.0341	0.0383	0.0005	0.2669	0.0086	0.0505	0.0015	243	3	240	8	217	70	243	3
sam.38	1.0309	0.0033	0.0381	0.0004	0.2794	0.0110	0.0531	0.0021	241	3	250	10	334	88	241	3
sam.39	1.0933	0.0017	0.0382	0.0004	0.2804	0.0076	0.0533	0.0014	242	3	251	7	340	58	242	3

sam.40	1.0266	0.0030	0.0374	0.0004	0.2646	0.0087	0.0513	0.0016	237	3	238	8	256	72	237	3
sam.41	0.4136	0.0217	0.0375	0.0004	0.2655	0.0123	0.0513	0.0024	237	3	239	11	255	106	237	3
sam.42	0.8146	0.0020	0.0375	0.0004	0.2647	0.0076	0.0512	0.0014	237	3	238	7	252	63	237	3
sam.43	1.0449	0.0090	0.0389	0.0005	0.2811	0.0115	0.0524	0.0020	246	3	252	10	303	89	246	3
sam.44	1.2269	0.0213	0.0385	0.0004	0.2704	0.0069	0.0509	0.0012	244	3	243	6	235	56	244	3
sam.45	0.9474	0.0143	0.0382	0.0004	0.2711	0.0074	0.0515	0.0014	242	3	244	7	263	60	242	3
sam.46	1.2011	0.0048	0.0369	0.0004	0.2623	0.0117	0.0516	0.0023	233	3	237	11	269	100	233	3
sam.47	1.2303	0.0037	0.0384	0.0004	0.2702	0.0075	0.0510	0.0014	243	3	243	7	242	61	243	3
sam.48	1.1158	0.0028	0.0378	0.0005	0.2734	0.0101	0.0524	0.0018	239	3	245	9	303	78	239	3
sam.49	1.0243	0.0049	0.0380	0.0004	0.2678	0.0104	0.0511	0.0019	241	3	241	9	244	88	241	3
sam.50	1.1746	0.0026	0.0382	0.0004	0.2788	0.0079	0.0529	0.0014	242	3	250	7	325	61	242	3
sam.51	1.0110	0.0150	0.0387	0.0004	0.2830	0.0078	0.0530	0.0014	245	3	253	7	328	60	245	3
sam.52	1.7148	0.0062	0.0380	0.0004	0.2750	0.0062	0.0525	0.0011	240	3	247	6	309	47	240	3
sam.53	0.9698	0.0057	0.0387	0.0004	0.2797	0.0100	0.0524	0.0018	245	3	250	9	303	79	245	3
sam.54	0.9946	0.0076	0.0391	0.0004	0.2836	0.0096	0.0526	0.0017	247	3	254	9	312	74	247	3
sam.55	1.0961	0.0079	0.0386	0.0005	0.2715	0.0079	0.0510	0.0014	244	3	244	7	240	62	244	3
sam.56	1.1328	0.0028	0.0378	0.0004	0.2701	0.0077	0.0519	0.0014	239	3	243	7	279	60	239	3
sam.57	0.7122	0.0044	0.0387	0.0004	0.2729	0.0102	0.0512	0.0018	245	3	245	9	248	83	245	3
sam.58	0.9270	0.0073	0.0383	0.0005	0.2675	0.0200	0.0506	0.0038	242	3	241	18	223	172	242	3
sam.59	0.9163	0.0399	0.0377	0.0004	0.2765	0.0127	0.0532	0.0024	238	3	248	11	338	103	238	3
sam.60	0.9940	0.0034	0.0385	0.0005	0.2789	0.0131	0.0525	0.0024	244	3	250	12	307	106	244	3
sam.61	0.8652	0.0039	0.0388	0.0004	0.2743	0.0133	0.0513	0.0024	245	3	246	12	254	109	245	3
sam.62	1.5388	0.0102	0.0374	0.0004	0.2667	0.0064	0.0518	0.0012	237	3	240	6	275	52	237	3
sam.63	1.0152	0.0117	0.0373	0.0004	0.2648	0.0156	0.0514	0.0030	236	3	238	14	260	135	236	3
sam.64	0.3889	0.0033	0.0382	0.0005	0.2650	0.0054	0.0503	0.0009	242	3	239	5	209	41	242	3
sam.65	0.9363	0.0069	0.0372	0.0004	0.2633	0.0177	0.0513	0.0034	236	3	237	16	253	154	236	3
sam.66	1.1618	0.0084	0.0376	0.0004	0.2653	0.0106	0.0512	0.0020	238	3	239	10	248	90	238	3
sam.67	0.8875	0.0060	0.0447	0.0005	0.3232	0.0089	0.0524	0.0014	282	3	284	8	304	60	282	3
sam.68	0.8252	0.0094	0.0380	0.0005	0.2705	0.0100	0.0517	0.0018	240	3	243	9	270	81	240	3
sam.69	1.0732	0.0059	0.0383	0.0004	0.2684	0.0072	0.0509	0.0013	242	3	241	6	235	59	242	3
sam.70	0.8338	0.0165	0.0382	0.0005	0.2667	0.0100	0.0507	0.0018	241	3	240	9	227	84	241	3
sam.71	1.2342	0.0036	0.0368	0.0004	0.2691	0.0094	0.0530	0.0018	233	3	242	8	330	77	233	3
sam.72	0.7002	0.0087	0.0387	0.0004	0.2828	0.0093	0.0530	0.0017	245	3	253	8	330	71	245	3
sam.73	1.4124	0.0311	0.0378	0.0004	0.2721	0.0080	0.0522	0.0015	239	3	244	7	295	65	239	3
sam.74	0.9923	0.0069	0.0377	0.0005	0.2699	0.0093	0.0519	0.0017	238	3	243	8	283	76	238	3
sam.75	0.9811	0.0083	0.0374	0.0004	0.2709	0.0103	0.0525	0.0020	237	3	243	9	307	86	237	3
sam.76	0.5469	0.0170	0.0380	0.0005	0.2694	0.0096	0.0515	0.0017	240	3	242	9	262	78	240	3
sam.77	0.9842	0.0049	0.0371	0.0004	0.2602	0.0076	0.0509	0.0014	235	3	235	7	235	63	235	3

sam.78	1.0308	0.0091	0.0377	0.0004	0.2672	0.0095	0.0514	0.0018	239	3	240	9	259	79	239	3
sam.79	1.0096	0.0044	0.0374	0.0004	0.2686	0.0123	0.0521	0.0022	237	3	242	11	290	99	237	3
sam.80	1.2231	0.0103	0.0381	0.0004	0.2643	0.0089	0.0503	0.0016	241	3	238	8	209	73	241	3
sam.81	0.9371	0.0035	0.0383	0.0005	0.2707	0.0156	0.0512	0.0029	242	3	243	14	251	132	242	3
sam.82	1.0007	0.0102	0.0379	0.0005	0.2679	0.0190	0.0513	0.0036	240	3	241	17	254	160	240	3
sam.83	0.7615	0.0059	0.0367	0.0005	0.2570	0.0160	0.0508	0.0032	232	3	232	14	231	145	232	3
sam.84	0.9669	0.0116	0.0378	0.0005	0.2660	0.0131	0.0510	0.0025	239	3	240	12	240	114	239	3
sam.85	0.8889	0.0219	0.0384	0.0004	0.2744	0.0103	0.0518	0.0019	243	3	246	9	277	83	243	3
sam.86	1.0316	0.0103	0.0376	0.0004	0.2668	0.0116	0.0515	0.0022	238	3	240	10	261	98	238	3
sam.87	1.1136	0.0046	0.0390	0.0005	0.2839	0.0110	0.0528	0.0019	246	3	254	10	321	84	246	3
sam.88	1.1795	0.0054	0.0380	0.0004	0.2775	0.0101	0.0529	0.0018	241	3	249	9	326	79	241	3
sam.89	0.9357	0.0044	0.0385	0.0005	0.2705	0.0179	0.0510	0.0033	243	3	243	16	241	149	243	3
sam.90	1.1542	0.0090	0.0390	0.0005	0.2857	0.0117	0.0532	0.0021	247	3	255	10	335	90	247	3
sam.91	1.2242	0.0039	0.0378	0.0004	0.2775	0.0104	0.0532	0.0019	239	3	249	9	337	82	239	3
sam.92	0.6944	0.0141	0.0386	0.0004	0.2752	0.0095	0.0517	0.0017	244	3	247	9	272	76	244	3
sam.93	1.1054	0.0053	0.0383	0.0004	0.2785	0.0075	0.0527	0.0013	243	3	249	7	315	58	243	3
sam.94	1.1218	0.0021	0.0381	0.0004	0.2764	0.0074	0.0526	0.0013	241	3	248	7	310	58	241	3
sam.95	1.2111	0.0059	0.0385	0.0004	0.2695	0.0073	0.0507	0.0013	244	3	242	7	229	60	244	3
sam.96	0.8690	0.0078	0.0379	0.0005	0.2699	0.0124	0.0516	0.0022	240	3	243	11	268	99	240	3
sam.97	0.6577	0.0036	0.0388	0.0004	0.2781	0.0104	0.0520	0.0019	245	3	249	9	284	83	245	3
sam.98	1.0358	0.0244	0.0385	0.0004	0.2787	0.0071	0.0525	0.0013	244	3	250	6	307	55	244	3
sam.99	0.9753	0.0022	0.0382	0.0004	0.2762	0.0099	0.0524	0.0019	242	3	248	9	304	81	242	3
sam.100	1.2833	0.0104	0.0383	0.0005	0.2675	0.0073	0.0507	0.0013	242	3	241	7	227	59	242	3

Sandstone sample WC 07-29-17 (5)

sam.01	1.5119	0.0083	0.0321	0.0005	0.2186	0.0080	0.0494	0.0016	203	3	201	7	169	77	203	3
sam.02	0.9866	0.0068	0.0335	0.0005	0.2300	0.0114	0.0497	0.0023	213	3	210	10	182	106	213	3
sam.03	0.0464	0.0004	0.1290	0.0019	1.2245	0.0235	0.0688	0.0011	782	11	812	16	894	33	782	11
sam.04	1.4853	0.0167	0.0320	0.0004	0.2227	0.0059	0.0505	0.0012	203	3	204	5	219	57	203	3
sam.05	0.5503	0.0022	0.0510	0.0007	0.4806	0.0110	0.0683	0.0015	321	4	399	9	878	46		
sam.06	0.4134	0.0052	0.0746	0.0012	0.6330	0.0150	0.0615	0.0012	464	7	498	12	658	43	464	7
sam.07	0.9112	0.0056	0.0333	0.0005	0.2323	0.0079	0.0506	0.0015	211	3	212	7	224	70	211	3
sam.08	1.1257	0.0043	0.0324	0.0005	0.2260	0.0104	0.0506	0.0022	206	3	207	10	221	103	206	3
sam.09	0.8942	0.0061	0.0336	0.0005	0.2364	0.0089	0.0510	0.0018	213	3	216	8	241	80	213	3
sam.10	1.0914	0.0043	0.0326	0.0005	0.2275	0.0074	0.0506	0.0015	207	3	208	7	225	66	207	3
sam.11	1.0825	0.0095	0.0335	0.0005	0.2338	0.0112	0.0506	0.0023	213	3	213	10	223	106	213	3
sam.12	0.8405	0.0074	0.0333	0.0005	0.2346	0.0076	0.0510	0.0016	211	3	214	7	242	73	211	3
sam.13	0.5181	0.0053	0.0308	0.0004	0.2167	0.0070	0.0510	0.0015	196	3	199	6	241	70	196	3

sam.14	0.9973	0.0125	0.0333	0.0005	0.2272	0.0079	0.0495	0.0016	211	3	208	7	174	74	211	3
sam.15	0.8990	0.0096	0.0342	0.0005	0.2367	0.0086	0.0502	0.0017	217	3	216	8	205	77	217	3
sam.16	0.0920	0.0002	0.0546	0.0008	0.4142	0.0086	0.0550	0.0010	343	5	352	7	411	40	343	5
sam.17	1.2872	0.0081	0.0328	0.0005	0.2283	0.0079	0.0505	0.0017	208	3	209	7	217	78	208	3
sam.18	0.7744	0.0035	0.0335	0.0005	0.2345	0.0069	0.0508	0.0015	212	3	214	6	234	67	212	3
sam.19	0.8477	0.0062	0.0331	0.0005	0.2267	0.0090	0.0497	0.0019	210	3	207	8	182	88	210	3
sam.20	1.1635	0.0040	0.0327	0.0005	0.2316	0.0106	0.0514	0.0022	207	3	211	10	259	98	207	3
sam.21	1.0663	0.0056	0.0333	0.0005	0.2326	0.0100	0.0507	0.0022	211	3	212	9	226	99	211	3
sam.22	0.5963	0.0098	0.0590	0.0016	0.5798	0.0242	0.0713	0.0021	370	10	464	19	965	59		
sam.23	0.4503	0.0022	0.1496	0.0020	1.4236	0.0279	0.0690	0.0012	899	12	899	18	899	35	899	12
sam.24	0.8300	0.0042	0.0339	0.0005	0.2370	0.0084	0.0508	0.0017	215	3	216	8	231	79	215	3
sam.25	0.8171	0.0041	0.0338	0.0005	0.2371	0.0112	0.0508	0.0022	215	3	216	10	232	101	215	3
sam.26	0.9615	0.0034	0.0335	0.0005	0.2330	0.0134	0.0505	0.0029	212	3	213	12	216	134	212	3
sam.27	0.7094	0.0092	0.0350	0.0005	0.2473	0.0103	0.0513	0.0021	222	3	224	9	252	95	222	3
sam.28	1.0772	0.0204	0.0335	0.0005	0.2351	0.0098	0.0509	0.0021	213	3	214	9	234	93	213	3
sam.29	1.1210	0.0168	0.0323	0.0005	0.2232	0.0103	0.0501	0.0023	205	3	205	9	201	106	205	3
sam.30	1.2307	0.0098	0.0322	0.0005	0.2290	0.0097	0.0515	0.0020	205	3	209	9	264	88	205	3
sam.31	1.1064	0.0173	0.0326	0.0005	0.2232	0.0101	0.0497	0.0022	207	3	205	9	181	104	207	3
sam.32	0.4665	0.0025	0.1182	0.0017	1.0401	0.0201	0.0638	0.0011	720	10	724	14	736	35	720	10
sam.33	0.9412	0.0039	0.0376	0.0006	0.2676	0.0125	0.0516	0.0023	238	4	241	11	269	101	238	4
sam.34	0.8010	0.0071	0.0337	0.0005	0.2315	0.0084	0.0499	0.0016	213	3	211	8	189	74	213	3
sam.35	1.2052	0.0127	0.0319	0.0004	0.2314	0.0088	0.0525	0.0019	203	3	211	8	309	83	203	3
sam.36	0.9273	0.0129	0.0334	0.0005	0.2275	0.0116	0.0494	0.0024	212	3	208	11	165	114	212	3
sam.37	0.5652	0.0044	0.1659	0.0027	1.9600	0.0440	0.0857	0.0015	989	16	1102	25	1331	33		
sam.38	0.6555	0.0083	0.0342	0.0005	0.7559	0.0161	0.1603	0.0029	217	3	572	12	2458	30		
sam.39	0.7470	0.0094	0.0328	0.0005	0.2357	0.0065	0.0522	0.0013	208	3	215	6	294	57	208	3
sam.40	1.0153	0.0059	0.0351	0.0005	0.2408	0.0108	0.0498	0.0021	222	3	219	10	186	97	222	3
sam.41	1.0068	0.0046	0.0325	0.0005	0.2316	0.0084	0.0518	0.0018	206	3	212	8	275	78	206	3
sam.42	1.0292	0.0060	0.0322	0.0005	0.2252	0.0128	0.0507	0.0027	204	3	206	12	229	122	204	3
sam.43	0.8133	0.0017	0.0350	0.0005	0.2430	0.0091	0.0504	0.0017	222	3	221	8	211	80	222	3
sam.44	0.7826	0.0028	0.0342	0.0005	0.2467	0.0165	0.0524	0.0035	217	3	224	15	302	154	217	3
sam.45	1.0249	0.0143	0.0317	0.0005	0.2189	0.0118	0.0500	0.0026	201	3	201	11	195	122	201	3
sam.46	0.9294	0.0039	0.0322	0.0004	0.2195	0.0066	0.0495	0.0014	204	3	202	6	171	66	204	3
sam.47	0.6602	0.0037	0.0337	0.0005	0.2336	0.0088	0.0502	0.0018	214	3	213	8	206	85	214	3
sam.48	0.6274	0.0049	0.0354	0.0005	0.2522	0.0128	0.0517	0.0025	224	3	228	12	273	111	224	3
sam.49	0.7468	0.0021	0.0338	0.0005	0.2333	0.0116	0.0500	0.0024	214	3	213	11	196	111	214	3
sam.50	0.9068	0.0023	0.0322	0.0005	0.2221	0.0123	0.0500	0.0027	204	3	204	11	195	127	204	3
sam.51	0.4765	0.0033	0.0482	0.0007	0.5581	0.0121	0.0840	0.0016	303	4	450	10	1292	38		

sam.52	0.6938	0.0074	0.0353	0.0006	0.2484	0.0136	0.0510	0.0024	224	4	225	12	241	108	224	4
sam.53	0.7350	0.0067	0.0336	0.0005	0.2269	0.0155	0.0490	0.0033	213	3	208	14	147	160	213	3
sam.54	0.5222	0.0028	0.0349	0.0005	0.2368	0.0100	0.0492	0.0020	221	3	216	9	157	94	221	3
sam.55	0.2147	0.0009	0.2047	0.0029	2.3595	0.0457	0.0836	0.0014	1200	17	1230	24	1284	32	1284	32
sam.56	0.7054	0.0105	0.0378	0.0005	0.2685	0.0134	0.0516	0.0024	239	3	241	12	266	106	239	3
sam.57	0.6691	0.0023	0.0337	0.0005	0.2382	0.0066	0.0513	0.0014	214	3	217	6	254	61	214	3
sam.58	0.6226	0.0113	0.0353	0.0005	0.2484	0.0077	0.0510	0.0015	224	3	225	7	242	68	224	3
sam.59	0.0825	0.0002	0.1828	0.0034	2.9347	0.0747	0.1165	0.0019	1082	20	1391	35	1902	30		
sam.60	0.8927	0.0029	0.0368	0.0005	0.2569	0.0095	0.0506	0.0016	233	3	232	9	221	72	233	3
sam.61	0.6010	0.0036	0.0378	0.0005	0.2643	0.0080	0.0507	0.0015	239	3	238	7	227	67	239	3
sam.62	0.8775	0.0094	0.0345	0.0005	0.2498	0.0107	0.0525	0.0022	219	3	226	10	308	96	219	3
sam.63	1.0709	0.0044	0.0332	0.0005	0.2278	0.0060	0.0498	0.0012	210	3	208	6	186	57	210	3
sam.64	1.0922	0.0236	0.0337	0.0005	0.2320	0.0097	0.0499	0.0021	214	3	212	9	190	96	214	3
sam.65	1.1221	0.0056	0.0337	0.0005	0.2382	0.0151	0.0512	0.0028	214	3	217	14	251	126	214	3
sam.66	1.0057	0.0089	0.0347	0.0005	0.2397	0.0091	0.0501	0.0019	220	3	218	8	198	88	220	3
sam.67	1.2167	0.0049	0.0357	0.0005	0.2560	0.0094	0.0521	0.0018	226	3	231	9	288	81	226	3
sam.68	0.7502	0.0053	0.0370	0.0005	0.2603	0.0081	0.0510	0.0014	234	3	235	7	239	63	234	3
sam.69	0.9946	0.0092	0.0376	0.0005	0.2633	0.0108	0.0508	0.0021	238	3	237	10	231	93	238	3
sam.70	0.6077	0.0026	0.0331	0.0005	0.2363	0.0068	0.0518	0.0015	210	3	215	6	275	64	210	3
sam.71	0.8548	0.0113	0.0366	0.0005	0.2546	0.0094	0.0504	0.0018	232	3	230	8	216	81	232	3
sam.72	1.0424	0.0043	0.0339	0.0005	0.2409	0.0142	0.0515	0.0028	215	3	219	13	261	127	215	3
sam.73	0.6029	0.0030	0.0357	0.0005	0.2596	0.0070	0.0527	0.0013	226	3	234	6	318	56	226	3
sam.74	0.7786	0.0038	0.0343	0.0005	0.2468	0.0136	0.0522	0.0029	217	3	224	12	296	126	217	3
sam.75	1.1909	0.0098	0.4581	0.0067	10.1875	0.1961	0.1613	0.0026	2431	36	2452	47	2469	27	2469	27
sam.76	0.2358	0.0087	0.0351	0.0005	0.2366	0.0080	0.0489	0.0016	222	3	216	7	145	76	222	3
sam.77	0.9248	0.0169	0.0346	0.0005	0.2451	0.0111	0.0514	0.0023	219	3	223	10	258	102	219	3
sam.78	1.1489	0.0037	0.0329	0.0005	0.2278	0.0092	0.0502	0.0020	209	3	208	8	204	91	209	3
sam.79	1.3067	0.0018	0.0333	0.0005	0.2281	0.0073	0.0496	0.0015	211	3	209	7	178	69	211	3
sam.80	0.2847	0.0013	0.1277	0.0019	1.2015	0.0239	0.0682	0.0011	775	11	801	16	876	35	775	11
sam.81	0.5264	0.0141	0.0322	0.0006	0.2301	0.0160	0.0519	0.0034	204	4	210	15	281	149	204	4
sam.82	1.0624	0.0037	0.0329	0.0005	0.2206	0.0102	0.0487	0.0022	208	3	202	9	134	107	208	3
sam.83	0.6251	0.0026	0.0691	0.0010	0.5284	0.0134	0.0555	0.0013	431	6	431	11	432	51	431	6
sam.84	0.0628	0.0004	0.0342	0.0005	0.2490	0.0085	0.0528	0.0018	217	3	226	8	322	76	217	3
sam.85	0.9183	0.0056	0.0338	0.0005	0.2334	0.0100	0.0501	0.0020	214	3	213	9	201	93	214	3
sam.86	1.0978	0.0079	0.0721	0.0011	0.5695	0.0150	0.0573	0.0013	449	7	458	12	503	51	449	7
sam.87	0.6255	0.0074	0.0370	0.0006	0.2574	0.0146	0.0505	0.0023	234	4	233	13	217	107	234	4
sam.88	0.6976	0.0068	0.2565	0.0037	3.6427	0.0698	0.1030	0.0017	1472	21	1559	30	1679	30	1679	30
sam.89	0.8332	0.0041	0.0321	0.0005	0.2237	0.0113	0.0506	0.0024	203	3	205	10	224	111	203	3

sam.90	1.2523	0.0088	0.0326	0.0005	0.2255	0.0118	0.0502	0.0024	207	3	206	11	204	111	207	3
sam.91	1.0835	0.0074	0.0335	0.0005	0.2362	0.0103	0.0512	0.0021	212	3	215	9	248	97	212	3
sam.92	1.0583	0.0075	0.0329	0.0005	0.2278	0.0143	0.0502	0.0032	209	3	208	13	203	146	209	3
sam.93	0.8955	0.0075	0.0345	0.0005	0.2413	0.0115	0.0507	0.0023	219	3	220	10	227	106	219	3
sam.94	0.7735	0.0048	0.0350	0.0005	0.2464	0.0120	0.0510	0.0021	222	3	224	11	242	96	222	3
sam.95	0.9240	0.0087	0.0354	0.0005	0.2436	0.0125	0.0499	0.0025	224	3	221	11	192	116	224	3
sam.96	1.0243	0.0093	0.0325	0.0005	0.2242	0.0135	0.0500	0.0029	206	3	205	12	197	136	206	3
sam.97	0.9618	0.0098	0.0327	0.0005	0.2282	0.0117	0.0506	0.0025	207	3	209	11	223	114	207	3
sam.98	0.9027	0.0060	0.0330	0.0005	0.2234	0.0083	0.0491	0.0017	209	3	205	8	152	81	209	3
sam.99	0.5356	0.0027	0.0303	0.0004	0.3989	0.0238	0.0956	0.0055	192	3	341	20	1540	108		
sam.100	1.2506	0.0228	0.0324	0.0005	0.2287	0.0059	0.0512	0.0012	205	3	209	5	251	55	205	3

Table S4. Geochemistry Data for Plots of age against crustal thickness of the Qilian Shan

Sample	5495	5312-1	10QL124	10QL125	10QL128	10QL127	YQ-2	YQ-3
Rock_type	diorite	diorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite
Interpreted age(Ma)	155.1	155.1	255	255	255	255	261.1	261.1
Data sources	J. M. Zhang et al., 2018	J. M. Zhang et al., 2018	Q. F. Xie et al., 2015	Q. F. Xie et al., 2016	Q. F. Xie et al., 2019	Q. F. Xie et al., 2018	Z. L. Jia et al., 2017	Z. L. Jia et al., 2017
SiO ₂	56.27	57.92	65.32	60.10	60.31	59.44	68.44	68.61
TiO ₂	1.68	1.65	0.46	0.67	0.72	0.71	0.47	0.46
Al ₂ O ₃	13.37	13.41	16.63	17.10	17.02	17.34	15.99	16.02
Fe ₂ O ₃ ^T	12.72	12.51	4.91	7.00	7.13	7.34	3.02	2.93
FeO ^T	11.51	11.32	4.45	6.34	6.45	6.65	2.72	2.64
Fe ₂ O ₃	5.90	5.83	1.90	2.71	2.76	2.84		
FeO	6.20	6.07	2.74	3.90	3.97	4.09		
MnO	0.16	0.22	0.08	0.12	0.11	0.11	0.04	0.04
MgO	1.99	1.85	2.01	2.82	2.90	2.92	0.82	0.79
CaO	5.15	5.67	4.49	5.91	5.84	5.92	3.37	3.35
Na ₂ O	3.13	3.42	3.72	3.18	3.16	3.18	4.43	4.44
K ₂ O	1.39	1.54	2.30	2.22	1.94	2.06	2.41	2.38
P ₂ O ₅	0.51	0.25	0.12	0.18	0.19	0.22	0.15	0.16
LOI			0.73	0.96	0.91	1.10	0.74	0.63
Total	99.77	99.80	100.50	99.87	99.83	99.93	99.88	99.81
Mg [#]	23.56	22.57	44.60	44.23	44.48	43.92	34.98	34.82
Li			44.20	20.60	22.70	21.20		
Be								
Sc	20.16	23.49	9.06	16.10	13.80	13.40	5.50	5.40
V			117.00	113.00	33.70	126.00		
Cr			11.40	9.19	8.39	6.94	3.30	15.20
Co			104.00	79.90	79.00	91.90		
Ni			4.53	3.03	2.86	2.69	2.50	10.90
Cu	68.85	54.18	40.20	35.80	43.70	48.10		
Zn	193.52	249.03	104.00	91.50	127.00	96.00		
Ga			18.40	19.20	18.80	19.50		
Rb	44.72	37.98	93.10	70.60	69.10	69.10	83.40	80.60
Sr	291.65	319.87	296.00	407.00	406.00	426.00	375.00	378.00
Y	69.98	73.89	20.00	26.00	23.00	23.00	19.00	17.90
Zr	376.30	321.73	115.00	182.00	138.00	163.00	160.00	183.00
Nb	31.32	39.04	11.30	12.00	11.70	11.20	7.72	7.69
Cs			3.85	1.73	1.94	2.43	1.68	1.74
Ba	353.45	309.77	467.00	585.00	578.00	648.00	341.00	331.00
La	50.48	58.32	7.10	16.00	25.40	25.80	23.90	19.63
Ce	106.80	97.40	16.30	34.60	49.90	48.50	48.20	39.00
Pr	13.78	12.22	2.13	4.31	5.45	5.21	5.41	4.40
Nd	55.29	56.78	9.56	18.10	21.10	19.90	20.39	17.12
Sm	13.21	15.84	2.67	4.12	4.09	3.99	3.81	3.42
Eu	3.81	3.54	0.83	1.19	1.13	1.14	0.95	0.92
Gd	13.89	15.73	2.94	4.25	4.08	4.01	3.34	3.14
Tb	2.30	1.45	0.47	0.66	0.62	0.61	0.51	0.49
Dy	13.13	14.52	2.98	4.13	3.73	3.68	5.00	2.93
Ho	2.67	2.47	0.63	0.87	0.77	0.76	0.62	0.59
Er	7.15	6.87	1.92	2.58	2.28	2.25	1.84	1.72
Tm	1.12	1.04	0.32	0.41	0.35	0.35	0.28	0.26
Yb	6.79	6.53	2.15	2.70	2.30	2.30	1.85	1.70
Lu	1.01	0.92	0.35	0.42	0.35	0.37	0.28	0.25
Hf	9.37	7.23	3.27	4.53	3.57	4.05	4.10	4.61
Ta	2.42	4.61	1.36	1.00	0.78	0.73	0.69	0.68
Pb	9.92	6.23	24.40	23.10	1.66	31.50		
Th	9.75	10.98	17.80	16.80	0.24	19.10	8.50	7.00
U	2.52	1.36	0.94	1.09	0.64	0.66	1.46	1.45
Eu/Eu ⁺	0.85	0.68	0.90	0.86	0.84	0.86	0.80	0.84
(La/Yb) _N	5.01	6.02	2.23	4.00	7.45	7.56	8.71	7.78
Sr/Y	4.17	4.33	14.80	15.65	17.65	18.52	19.74	21.12
Rb/Sr	0.15	0.12	0.31	0.17	0.17	0.16	0.22	0.21
Crustal Thickness	27.75	30.86	13.95	23.89	34.47	34.74	37.14	35.23

Sample	YQ-5	YQ-6	YQ-1	YQ-4	102-2	106-8	105-2	106-2
Rock_type	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granite	quartz diorite	granite
Interpreted age(Ma)	261.1	261.1	261.1	261.1	269.2	374	374	374
Data sources	Z. L. Jia et al., 2017	Z. L. Jia et al., 2017	Z. L. Jia et al., 2017	Z. L. Jia et al., 2017	C. L. Wu et al., 2009	C. L. Wu et al., 2009	C. L. Wu et al., 2009	C. L. Wu et al., 2009
SiO ₂	68.46	69.14	68.35	68.44	65.67	70.58	55.78	70.97
TiO ₂	0.51	0.46	0.50	0.46	0.77	0.36	0.95	0.25
Al ₂ O ₃	16.06	15.83	15.90	15.89	16.42	14.72	16.26	15.07
Fe ₂ O ₃ ^T	3.07	3.09	3.23	3.04	4.15	2.76	6.90	2.07
FeO ^T	2.76	2.78	2.91	2.74	3.76	2.50	6.26	1.87
Fe ₂ O ₃					1.70	1.04	1.81	0.86
FeO					2.23	1.56	4.63	1.10
MnO	0.05	0.04	0.05	0.04	0.07	0.05	0.12	0.05
MgO	0.85	0.83	0.89	0.82	1.37	1.04	5.90	0.79
CaO	3.34	3.18	3.36	3.32	3.55	2.90	7.20	2.51
Na ₂ O	4.47	4.39	4.35	4.30	4.39	3.56	3.44	3.56
K ₂ O	2.22	2.29	2.38	2.46	2.67	2.98	1.11	3.43
P ₂ O ₅	0.18	0.16	0.16	0.15	0.22	0.09	0.20	0.07
LOI	0.51	0.88	0.64	0.63	0.46	0.43	1.52	0.56
Total	99.72	100.29	99.81	99.55	100.31	100.04	101.17	99.97
Mg [#]	35.42	34.73	35.31	34.83	39.38	42.62	62.69	42.91
Li					35.20	23.50	33.40	24.20
Be					2.10	1.60	1.30	1.90
Sc	5.70	5.50	6.10	5.70	5.80	5.70	23.00	4.60
V								
Cr	3.20	2.80	3.10	2.70	7.00	16.30	129.00	13.70
Co					8.00	5.50	26.00	3.40
Ni	2.20	2.40	2.60	2.10	4.10	7.10	85.80	4.70
Cu					9.80	10.70	38.60	5.70
Zn					77.20	45.70	72.90	35.20
Ga					21.40	16.50	18.40	18.20
Rb	77.50	79.30	87.00	86.10	101.00	89.50	34.60	108.00
Sr	381.00	367.00	371.00	378.00	368.00	303.00	399.00	405.00
Y	17.65	16.41	16.11	15.12	30.50	20.70	26.00	13.80
Zr	174.00	179.00	185.00	153.00	223.00	137.00	163.00	94.00
Nb	8.02	7.56	7.70	7.23	13.00	8.30	8.00	7.20
Cs	1.88	1.83	2.22	2.08	6.60	4.90	1.90	4.00
Ba	339.00	338.00	353.00	366.00	518.00	659.00	280.00	1360.00
La	26.16	22.88	24.21	21.94	42.00	28.10	26.50	20.10
Ce	51.40	45.30	48.50	44.10	83.70	52.40	52.50	36.30
Pr	5.92	5.30	5.41	4.93	9.35	5.66	5.84	3.71
Nd	21.92	20.24	20.46	18.93	35.30	20.40	22.90	13.00
Sm	4.20	3.89	3.70	3.59	7.61	3.92	4.80	2.57
Eu	0.97	0.94	0.94	0.95	1.49	0.80	1.20	0.64
Gd	3.63	3.39	3.17	3.13	6.96	3.82	4.74	2.33
Tb	0.54	0.49	0.46	0.46	1.10	0.61	0.77	0.39
Dy	3.09	2.85	2.66	2.65	6.27	3.54	4.58	2.22
Ho	0.60	0.56	0.53	0.51	1.11	0.68	0.92	0.45
Er	1.73	1.59	1.54	1.46	3.16	2.16	2.72	1.30
Tm	0.25	0.24	0.23	0.21	0.43	0.31	0.38	0.20
Yb	1.63	1.53	1.51	1.34	2.51	2.05	2.45	1.30
Lu	0.24	0.23	0.23	0.20	0.34	0.33	0.38	0.19
Hf	4.41	4.55	4.62	3.85	5.40	3.90	3.90	2.60
Ta	0.61	0.59	0.59	0.51	1.50	0.90	0.40	1.50
Pb					19.40	19.40	12.40	19.50
Th	9.30	9.70	8.30	7.10	10.80	9.85	5.62	17.90
U	1.20	1.33	1.37	1.25	1.50	1.19	0.92	1.39
Eu/Eu ⁺	0.74	0.77	0.82	0.85	0.62	0.62	0.76	0.79
(La/Yb) _N	10.82	10.08	10.81	11.04	11.28	9.24	7.29	10.42
Sr/Y	21.59	22.36	23.03	25.00	12.07	14.64	15.35	29.35
Rb/Sr	0.20	0.22	0.23	0.23	0.27	0.30	0.09	0.27
Crustal Thickness	40.83	39.63	40.81	41.17	41.54	38.15	34.12	40.19

Sample	DH08-17	DH08-14	DH08-18	DH08-19	DH08-20	DH08-15	P20GS39-1	TC03GS0-1
Rock_type	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	monzogranite
Interpreted age(Ma)	415	415	415	415	415	415	418.2	418.2
Data sources	J. F. Li et al., 2010	J. F. Li et al., 2010	J. F. Li et al., 2010	J. F. Li et al., 2010	J. F. Li et al., 2010	J. F. Li et al., 2010	G. L. Wang et al., 2018	G. L. Wang et al., 2021
SiO ₂	68.43	71.84	65.78	64.43	57.02	66.28	67.02	70.84
TiO ₂	0.49	0.26	0.43	0.45	0.94	0.36	0.61	0.45
Al ₂ O ₃	14.89	14.65	15.68	15.61	16.61	15.87	15.78	14.21
Fe ₂ O ₃ ^T							4.06	3.35
FeO ^T							3.69	3.04
Fe ₂ O ₃	3.26	1.78	3.79	3.87	6.25	3.04	0.63	0.71
FeO							3.12	2.40
MnO	0.06	0.05	0.06	0.07	0.09	0.06	0.06	0.07
MgO	1.42	0.70	1.85	2.04	3.83	1.45	1.49	1.11
CaO	3.38	2.72	5.07	5.48	7.36	4.36	4.13	2.06
Na ₂ O	3.98	4.37	4.35	4.30	4.68	4.96	3.30	2.57
K ₂ O	3.12	2.50	1.97	1.88	1.44	1.82	1.78	4.30
P ₂ O ₅	0.16	0.09	0.14	0.15	0.36	0.13	0.18	0.11
LOI	0.69	0.93	0.75	1.60	1.28	1.55		
Total	99.88	99.90	99.87	99.87	99.85	99.87	99.80	99.71
Mg [#]							41.87	39.43
Li								
Be								
Sc	5.79	3.90	9.13	9.18	14.80	8.50	12.50	6.03
V	53.60	29.40	75.10	84.10	146.00	60.90		
Cr	9.51	5.93	24.20	23.80	55.40	13.00	27.50	11.80
Co	7.00	3.73	9.79	9.26	18.40	6.52		
Ni	7.12	3.74	11.90	11.70	32.60	7.25		
Cu								
Zn								
Ga	15.60	16.60	18.60	17.00	21.20	17.00		
Rb	99.60	90.40	88.20	80.10	55.50	88.40	58.60	134.00
Sr	308.00	298.00	477.00	431.00	724.00	548.00	351.00	421.00
Y	12.50	11.20	15.60	14.00	21.90	12.90	15.10	13.00
Zr	177.00	122.00	301.00	245.00	168.00	187.00	182.00	128.00
Nb	16.00	15.60	10.60	10.80	18.50	12.60	11.70	19.00
Cs								
Ba	660.00	567.00	791.00	711.00	577.00	661.00	524.00	1261.00
La	30.30	26.00	29.50	26.40	33.40	32.50	32.00	31.60
Ce	49.90	44.60	52.10	44.20	67.40	57.00	60.30	54.80
Pr	5.33	4.85	5.69	5.20	8.54	6.24	6.89	5.97
Nd	17.90	16.90	20.70	19.20	33.20	21.00	24.60	20.70
Sm	2.91	2.79	3.59	3.33	5.96	3.17	3.91	3.70
Eu	0.75	0.69	0.91	0.85	1.64	0.76	1.08	0.87
Gd	2.30	2.38	3.04	2.64	4.77	2.49	3.47	2.81
Tb	0.36	0.36	0.48	0.45	0.74	0.40	0.54	0.44
Dy	2.03	1.95	2.60	2.41	4.03	2.14	2.81	2.44
Ho	0.42	0.38	0.53	0.49	0.81	0.44	0.56	0.46
Er	1.21	1.14	1.59	1.45	2.24	1.34	1.57	1.27
Tm	0.19	0.17	0.24	0.22	0.33	0.20	0.26	0.21
Yb	1.32	1.23	1.70	1.43	2.16	1.46	1.78	1.40
Lu	0.23	0.16	0.26	0.22	0.29	0.23	0.28	0.21
Hf	4.73	4.05	7.40	6.12	4.05	5.10	4.62	3.69
Ta	1.49	1.50	0.81	0.82	0.84	1.62	0.99	2.21
Pb	22.00	24.20	20.30	17.50	15.00	20.00		
Th	19.00	12.10	15.30	12.20	4.95	16.20	13.60	10.60
U	3.29	3.81	2.65	2.14	1.90	2.67	1.92	10.20
Eu/Eu ⁺	0.86	0.80	0.82	0.85	0.91	0.80	0.88	0.79
(La/Yb) _N	15.48	14.25	11.70	12.45	10.43	15.01	12.12	15.22
Sr/Y	24.64	26.61	30.58	30.79	33.06	42.48	23.25	32.38
Rb/Sr	0.32	0.30	0.18	0.19	0.08	0.16	0.17	0.32
Crustal Thickness	46.91	45.51	42.16	43.21	40.20	46.39	42.76	46.63

Sample	Q1096	Q1095	Q1092	Q1093	MZ-20	MZ-19	MZ-21	MZ-22
Rock_type	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite
Interpreted age(Ma)	424	424	424	424	425	425	425	425
Data sources	Z. L. Xiong et al., 2012	Z. L. Xiong et al., 2012	Z. L. Xiong et al., 2012	Z. L. Xiong et al., 2012	X. M. Zhao et al., 2018	X. M. Zhao et al., 2018	X. M. Zhao et al., 2018	X. M. Zhao et al., 2018
SiO ₂	65.32	65.61	64.78	66.10	63.16	63.36	63.12	62.99
TiO ₂	0.62	0.62	0.63	0.55	0.74	0.74	0.75	0.76
Al ₂ O ₃	15.15	15.02	15.65	15.33	15.74	15.63	15.69	15.55
Fe ₂ O ₃ ^T					4.84	4.76	4.86	4.96
FeO ^T					4.38	4.32	4.41	4.49
Fe ₂ O ₃	4.05	3.97	4.27	3.56	1.35	1.22	1.32	1.38
FeO					3.17	3.22	3.22	3.25
MnO	0.06	0.06	0.06	0.06	0.08	0.08	0.08	0.08
MgO	2.51	2.45	2.67	2.12	3.26	3.18	3.23	3.47
CaO	3.82	3.70	4.01	3.42	4.01	4.04	4.13	4.06
Na ₂ O	3.61	3.65	3.88	3.84	3.75	3.77	3.78	3.71
K ₂ O	3.24	3.18	2.98	3.48	2.96	2.97	2.97	2.89
P ₂ O ₅	0.20	0.20	0.20	0.18	0.24	0.24	0.24	0.25
LOI	0.99	1.07	1.13	0.93	1.45	1.47	1.39	1.51
Total	99.57	99.53	100.26	99.57	99.91	99.92	99.92	99.90
Mg [#]					56.99	56.76	56.64	57.93
Li					21.20	20.80	20.20	22.50
Be					1.92	1.86	1.74	2.06
Sc					15.10	15.60	13.80	14.90
V					107.00	104.00	108.00	111.00
Cr	56.77	56.44	57.72	47.65	74.00	71.50	76.20	85.50
Co	92.94	87.46	12.97	106.80	15.40	14.80	15.90	16.30
Ni	39.53	38.56	38.81	34.74	46.60	43.20	46.80	56.60
Cu					60.50	46.10	43.90	56.80
Zn					78.70	71.80	72.20	81.10
Ga	17.89	17.86	18.35	17.97	16.40	16.10	17.10	16.60
Rb	112.00	111.00	109.00	125.00	68.80	65.60	75.60	85.50
Sr	583.00	594.00	606.00	572.00	613.00	615.00	674.00	704.00
Y	19.05	18.32	17.53	16.10	22.30	21.90	21.70	22.60
Zr	180.00	238.00	212.00	206.00	233.00	233.00	228.00	246.00
Nb	13.07	12.96	11.78	13.50	10.90	10.90	11.60	11.60
Cs					4.43	4.19	4.39	4.57
Ba	905.00	920.00	855.00	1017.00	998.00	1010.00	1070.00	978.00
La	52.55	47.68	40.16	41.68	54.60	53.70	54.50	57.80
Ce	100.31	92.51	80.30	81.04	104.00	109.00	119.00	124.00
Pr	11.06	10.19	9.25	8.97	13.10	12.90	13.80	14.30
Nd	38.57	36.06	33.48	31.42	47.20	47.20	51.20	51.20
Sm	6.31	5.90	5.72	4.97	8.86	8.84	9.56	9.51
Eu	1.45	1.39	1.33	1.28	2.25	2.24	2.34	2.34
Gd	5.25	4.93	4.71	4.27	7.20	7.07	7.42	7.49
Tb	0.66	0.61	0.61	0.55	0.99	0.98	0.98	1.07
Dy	3.60	3.35	3.09	3.04	4.84	4.86	5.01	5.15
Ho	0.64	0.62	0.60	0.54	0.88	0.87	0.92	0.91
Er	1.89	1.80	1.82	1.72	2.42	2.44	2.47	2.46
Tm	0.27	0.26	0.24	0.23	0.35	0.37	0.36	0.35
Yb	1.82	1.71	1.60	1.56	2.22	2.28	2.13	2.27
Lu	0.27	0.26	0.25	0.24	0.34	0.35	0.34	0.34
Hf	4.76	6.05	5.52	5.37	6.13	6.22	6.14	6.46
Ta	1.31	1.27	0.91	1.37	0.81	0.81	0.88	0.84
Pb	20.38	19.59	18.62	22.80	18.90	18.00	20.10	18.00
Th	24.40	28.89	23.16	26.03	19.60	20.70	17.70	19.10
U	2.72	4.91	4.31	3.79	2.47	2.50	2.73	2.74
Eu/Eu ⁺	0.75	0.77	0.76	0.83	0.84	0.84	0.82	0.82
(La/Yb) _N	19.47	18.80	16.92	18.01	16.58	15.88	17.25	17.17
Sr/Y	30.60	32.42	34.57	35.53	27.49	28.08	31.06	31.15
Rb/Sr	0.19	0.19	0.18	0.22	0.11	0.11	0.11	0.12
Crustal Thickness	50.81	50.22	48.43	49.49	48.08	47.35	48.76	48.67

Sample	QMS12-02MM E	DL13-16-2.1	DL13-10-3. 2	QMS12-10MM E	BJS12-04MM E	BJS12-04hos t	BJS12-06hos t	BJS12-10hos t
Rock_type	adakitic granodiorite	adakitic granitoid	adakitic granodiorite	adakitic granodiorite	mafic enclave	granodiorite	granodiorite	granodiorite
Interpreted age(Ma)	429.6	430	431	431.2	431.6	433.7	433.7	433.7
Data sources	S. Chen et al., 2016	S. Y. Yu et al., 2015	S. Y. Yu et al., 2015	S. Chen et al., 2016	S. Chen et al., 2015	S. Chen et al., 2015	S. Chen et al., 2015	S. Chen et al., 2015
SiO ₂	58.59	64.98	65.94	56.86	57.10	64.30	62.50	63.90
TiO ₂	0.76	0.68	0.42	0.80	0.57	0.35	0.43	0.41
Al ₂ O ₃	14.16	15.55	17.48	16.04	15.10	15.50	16.50	16.80
Fe ₂ O ₃ ^T	7.51	4.10	3.96	6.12	7.80	4.23	4.88	4.57
FeO ^T	6.76	3.71	3.59	5.51	7.02	3.81	4.39	4.11
Fe ₂ O ₃		1.75	1.52					
FeO		2.14	2.22					
MnO	0.13	0.07	0.12	0.11	0.20	0.09	0.09	0.09
MgO	5.91	2.60	2.03	5.09	5.57	2.58	3.10	2.84
CaO	4.99	3.52	3.13	5.52	6.76	4.33	5.47	5.21
Na ₂ O	3.38	3.91	3.92	4.55	2.99	3.37	3.36	3.42
K ₂ O	2.00	2.92	2.67	1.92	1.49	1.96	1.67	1.57
P ₂ O ₅	0.49	0.17	0.06	0.63	0.09	0.07	0.11	0.09
LOI	1.17	1.39	0.94	1.69	1.26	1.13	1.13	1.16
Total					98.90	97.90	99.30	100.10
Mg [#]	60.90	55.51	50.21	62.22	58.59	54.72	55.72	55.18
Li								
Be								
Sc	19.24	7.53	9.58	18.56	30.80	12.00	14.00	11.70
V	148.00	75.50	60.80	142.70	162.00	88.10	99.60	92.80
Cr	226.20	56.90	32.50	199.06	269.00	68.90	92.80	83.20
Co								
Ni	97.84	40.20	23.90	97.70	49.40	23.90	26.10	22.50
Cu								
Zn								
Ga								
Rb	68.86	65.50	60.50	84.70	54.90	73.80	65.20	62.80
Sr	517.00	548.00	487.00	607.00	282.00	308.00	380.00	369.00
Y	14.86	9.62	8.25	19.11	26.20	10.70	11.90	10.30
Zr	137.56	121.00	62.10	149.63	75.90	122.00	97.90	121.00
Nb	8.00	11.20	6.36	10.17	5.72	5.34	5.30	4.58
Cs	2.00			2.98	1.79	2.78	2.91	2.89
Ba	841.00	818.00	695.00	845.00	397.00	666.00	548.00	566.00
La	22.18	31.20	20.60	29.70	11.30	22.50	8.70	9.80
Ce	49.70	60.20	48.70	67.10	29.10	42.00	16.90	20.10
Pr	6.34	6.86	4.65	9.34	4.28	3.80	2.07	2.20
Nd	24.86	24.30	20.30	39.40	18.40	12.10	8.45	8.33
Sm	4.70	3.50	3.45	7.70	4.37	2.11	1.99	1.80
Eu	1.07	0.93	0.91	1.48	1.07	0.58	0.63	0.59
Gd	3.88	3.04	2.51	5.96	4.38	1.95	2.02	1.77
Tb	0.50	0.36	0.29	0.75	0.69	0.28	0.31	0.27
Dy	2.58	1.91	1.43	3.92	4.36	1.73	1.94	1.65
Ho	0.49	0.37	0.27	0.72	0.92	0.36	0.40	0.34
Er	1.33	0.96	0.74	1.97	2.80	1.08	1.19	1.03
Tm	0.19	0.15	0.11	0.26	0.41	0.16	0.17	0.15
Yb	1.15	0.93	0.63	1.62	2.87	1.13	1.18	1.04
Lu	0.18	0.15	0.10	0.24	0.43	0.18	0.18	0.16
Hf	3.18	3.40	3.05	3.69	2.35	3.33	2.49	3.04
Ta	0.43	0.88	0.59	0.60	0.35	0.35	0.34	0.30
Pb	7.25	17.50	16.80	11.96	12.40	18.60	12.30	13.70
Th	3.36	14.10	9.49	6.67	1.70	13.50	3.01	4.15
U	0.89	1.57	1.80	1.98	0.41	1.16	0.62	0.56
Eu/Eu ⁺	0.75	0.85	0.90	0.65	0.74	0.86	0.95	1.00
(La/Yb) _N	12.98	22.62	22.05	12.37	2.65	13.42	4.97	6.35
Sr/Y	34.79	56.96	59.03	31.76	10.76	28.79	31.93	35.83
Rb/Sr	0.13	0.12	0.12	0.14	0.19	0.24	0.17	0.17
Crustal Thickness	43.92	53.36	52.93	43.10	16.94	44.49	27.60	31.78

Sample	BJS12-08host	YQ-7	LHS-7	LHS-8	LHS-10	LHS-5	LHS-2	LHS-3
Rock_type	granodiorite	quartz monzodiorite	quartz diorite	quartz diorite	quartz diorite	quartz diorite	quartz diorite	quartz diorite
Interpreted age(Ma)	433.7	436	440	440	440	440	440	440
Data sources	S. Chen et al., 2015	Q. H. Wang et al., 2017	H. R. Zhang et al., 2019	H. R. Zhang et al., 2019	H. R. Zhang et al., 2019	H. R. Zhang et al., 2019	H. R. Zhang et al., 2019	H. R. Zhang et al., 2019
SiO ₂	66.00	55.39	58.30	58.21	62.31	57.82	59.56	58.13
TiO ₂	0.36	0.99	0.92	0.69	0.59	0.55	0.63	0.62
Al ₂ O ₃	16.10	14.60	16.85	15.84	15.61	16.82	16.01	15.96
Fe ₂ O ₃ ^T	3.58	8.66	7.84	7.71	6.34	7.74	7.70	8.02
FeO ^T	3.22	7.84	7.05	6.94	5.70	6.96	6.93	7.22
Fe ₂ O ₃		3.19						
FeO		4.97						
MnO	0.07	0.16	0.14	0.14	0.10	0.14	0.14	0.15
MgO	2.55	3.95	3.55	4.44	3.24	3.76	3.88	4.02
CaO	5.19	6.35	6.53	6.10	5.60	6.96	5.52	5.71
Na ₂ O	3.40	2.76	3.01	3.29	3.36	3.54	3.14	3.32
K ₂ O	1.43	3.24	1.36	1.36	1.51	1.03	2.00	1.35
P ₂ O ₅	0.09	0.33	0.15	0.12	0.11	0.15	0.14	0.14
LOI	1.04	3.48	1.58	1.81	2.19	2.60	2.11	3.17
Total	99.80	100.21	100.21	99.71	100.98	101.11	100.83	100.58
Mg [#]	58.52	47.31	47.29	53.29	50.31	49.04	49.96	49.82
Li		33.50						
Be		2.94						
Sc	8.60							
V	61.20		204.27	227.73	167.92	211.67	204.23	216.06
Cr	64.30	84.50						
Co								
Ni	28.50	8.20	17.95	34.78	31.95	24.60	24.45	28.72
Cu								
Zn								
Ga								
Rb	54.00	168.00	45.06	56.01	67.41	33.69	74.80	41.78
Sr	359.00	491.00	240.73	262.27	251.37	380.46	340.01	402.43
Y	7.00	22.40	25.39	19.62	15.46	19.84	17.64	18.70
Zr	94.70	130.00	130.14	88.28	115.99	93.01	96.60	114.62
Nb	3.59	17.80	6.59	3.81	4.50	3.94	4.41	4.22
Cs	2.07	4.77	3.32	2.39	4.22	1.87	3.39	1.86
Ba	439.00		334.60	353.63	412.98	322.05	489.53	355.55
La	8.40	35.10	19.65	16.11	17.44	19.48	19.83	17.58
Ce	14.90	67.90	40.17	32.60	36.01	42.93	41.22	38.83
Pr	1.63	7.28	4.98	3.99	4.02	5.24	4.95	4.77
Nd	6.07	26.20	20.63	16.33	15.73	21.66	20.02	19.88
Sm	1.25	5.23	4.40	3.52	3.14	4.41	4.00	4.17
Eu	0.47	1.59	1.11	0.97	0.96	1.10	1.08	1.06
Gd	1.21	4.51	4.09	3.54	3.17	4.00	3.78	3.87
Tb	0.18	0.62	0.73	0.59	0.48	0.63	0.58	0.61
Dy	1.12	3.60	4.54	3.66	2.84	3.68	3.33	3.54
Ho	0.24	0.66	0.92	0.73	0.57	0.72	0.65	0.69
Er	0.71	1.77	2.70	2.20	1.73	2.12	1.94	2.07
Tm	0.10	0.25	0.40	0.33	0.26	0.31	0.28	0.30
Yb	0.72	1.70	2.61	2.14	1.74	2.03	1.88	2.01
Lu	0.11	0.25	0.41	0.34	0.28	0.32	0.30	0.32
Hf	2.34	4.30	3.83	2.84	3.58	2.93	3.10	3.52
Ta	0.22	0.97	0.61	0.32	0.37	0.30	0.37	0.32
Pb	11.50		27.45	17.73	16.34	15.81	11.65	12.36
Th	2.85	7.80	6.47	6.53	19.99	8.38	9.96	6.00
U	0.43		1.45	1.18	0.89	1.27	1.29	1.38
Eu/Eu ⁺	1.15	0.98	0.79	0.83	0.92	0.79	0.84	0.79
(La/Yb) _N	7.87	13.92	5.08	5.08	6.76	6.47	7.11	5.90
Sr/Y	51.29	21.92	9.48	13.37	16.26	19.18	19.27	21.52
Rb/Sr	0.15	0.34	0.19	0.21	0.27	0.09	0.22	0.10
Crustal Thickness	35.41	45.11	27.96	27.96	32.82	32.08	33.69	30.51

Sample	LHS-4	LHS-6	SUBI10-29	SUBI10-32	SUBI10-33	115-5	SUBI10-30	SUBI10-31
Rock_type	quartz diorite	quartz diorite	quartz diorite	quartz diorite	quartz diorite	granodiorite	quartz diorite	quartz diorite
Interpreted age(Ma)	440	440	443	443	443	443	443	443
Data sources	H. R. Zhang et al., 2019	H. R. Zhang et al., 2019	Z. W. Luo et al., 2015	Z. W. Luo et al., 2015	Z. W. Luo et al., 2015	H. P. Qin et al., 2014b	Z. W. Luo et al., 2015	Z. W. Luo et al., 2015
SiO ₂	61.65	57.87	62.81	62.98	62.13	62.41	59.28	64.82
TiO ₂	0.54	0.65	0.61	0.59	0.56	0.14	0.49	0.56
Al ₂ O ₃	16.12	16.94	17.28	17.13	17.06	19.03	17.21	16.53
Fe ₂ O ₃ ^T	6.42	7.82				1.54		
FeO ^T	5.78	7.04				1.40		
Fe ₂ O ₃			5.73	5.56	5.77	0.62	5.83	5.57
FeO						0.84		
MnO	0.11	0.13	0.12	0.12	0.12	0.03	0.12	0.11
MgO	3.09	3.82	2.41	2.31	2.42	0.68	2.68	2.27
CaO	5.71	6.61	5.44	5.36	5.55	3.10	5.63	4.87
Na ₂ O	3.27	3.25	2.20	2.57	2.84	9.44	5.64	2.10
K ₂ O	1.65	1.29	1.68	1.90	1.56	0.70	1.64	1.70
P ₂ O ₅	0.13	0.15	0.19	0.20	0.21	0.10	0.21	0.17
LOI	2.34	1.82	1.40	1.13	1.61	2.84	1.05	1.14
Total	101.03	100.37	99.86	99.85	99.83		99.77	99.85
Mg [#]	48.81	49.18				46.44		
Li			15.50	14.10	16.70		14.40	16.10
Be			1.82	1.98	1.95		1.64	1.82
Sc			17.00	15.20	14.80	3.47	21.20	16.90
V	165.54	211.69	130.00	134.00	130.00	27.00	143.00	118.00
Cr			13.20	13.70	12.90	21.10	15.50	15.70
Co			13.40	13.90	14.70	4.37	15.50	12.60
Ni	20.29	28.00	9.35	8.78	9.34	9.80	10.50	8.81
Cu			15.80	13.60	28.00	11.67	26.00	13.50
Zn			99.30	100.00	93.50	33.58	110.00	95.10
Ga			21.10	20.60	20.70	19.01	23.90	20.60
Rb	64.15	43.16	50.40	52.90	43.70	9.28	49.50	56.10
Sr	344.43	390.96	578.00	597.00	607.00	131.00	643.00	587.00
Y	13.93	15.73	33.60	32.90	27.70	5.97	25.30	19.10
Zr	104.74	100.91	15.10	18.10	17.30	68.00	17.80	14.80
Nb	4.07	3.97	5.18	5.10	6.74	1.76	10.30	9.71
Cs	3.30	1.76	0.57	0.90	0.82	0.59	0.60	0.51
Ba	555.30	410.56	628.00	797.00	603.00	233.10	662.00	744.00
La	12.29	13.77	28.80	25.70	34.20	5.46	56.70	48.10
Ce	25.65	30.40	67.50	55.10	66.90	11.18	104.00	83.70
Pr	3.36	3.86	9.01	7.65	8.53	1.28	11.20	8.55
Nd	14.41	16.46	37.90	32.30	32.40	4.94	40.00	30.50
Sm	3.12	3.49	7.55	6.10	5.85	0.97	6.23	4.69
Eu	0.94	0.95	1.75	1.73	1.60	0.26	1.55	1.44
Gd	2.86	3.05	6.84	6.27	4.88	0.88	5.87	4.80
Tb	0.45	0.50	1.12	1.05	0.86	0.16	0.86	0.70
Dy	2.60	2.90	6.75	6.32	5.71	1.06	5.27	4.04
Ho	0.51	0.56	1.23	1.29	1.00	0.22	1.01	0.67
Er	1.50	1.67	3.57	3.23	2.55	0.72	2.68	1.96
Tm	0.22	0.24	0.56	0.58	0.46	0.13	0.36	0.30
Yb	1.47	1.58	3.08	3.54	2.91	0.82	2.51	1.63
Lu	0.24	0.25	0.42	0.52	0.40	0.14	0.31	0.27
Hf	3.28	2.99	1.00	1.35	1.56	1.96	1.48	0.85
Ta	0.36	0.26	1.05	1.15	0.96	0.16	0.47	0.47
Pb	16.17	9.77	15.10	18.10	17.30		17.80	14.80
Th	5.51	3.71	5.18	5.10	6.74	1.51	10.30	9.71
U	1.09	1.00	0.57	0.90	0.82	0.28	0.60	0.51
Eu/Eu ⁺	0.95	0.87	0.73	0.85	0.89	0.85	0.77	0.92
(La/Yb) _N	5.64	5.88	6.30	4.89	7.92	4.49	15.23	19.89
Sr/Y	24.73	24.85	17.20	18.15	21.91	21.94	25.42	30.73
Rb/Sr	0.19	0.11	0.09	0.09	0.07	0.07	0.08	0.10
Crustal Thickness	29.74	30.45	31.64	27.34	35.53	25.87	46.64	51.18

Sample	115-9	SUB 10-17	SUB 10-19	DL13-16-2.2	BQL002	BQL004	QL09-14	D4315
Rock_type	granodiorite	granodiorite	granodiorite	adakitic granitoid	tonalite	tonalite	granite	granodiorite
Interpreted age(Ma)	443	444	444	446	447.2	447.2	450	456
Data sources	H. P. Qin et al., 2014b	Z. W. Luo et al., 2015	Z. W. Luo et al., 2015	S. Y. Yu et al., 2015	Y. J. Chen et al., 2019	Y. J. Chen et al., 2019	H. Huang et al., 2015	Ding & Huang, 2019
SiO ₂	68.06	67.97	60.46	65.33	59.77	58.47	56.00	65.10
TiO ₂	0.27	0.65	0.67	0.64	0.61	0.60	0.90	0.61
Al ₂ O ₃	16.27	14.87	17.31	15.18	13.87	13.96	16.40	15.10
Fe ₂ O ₃ ^T	3.11			4.11	7.99	8.25	7.92	4.99
FeO ^T	2.81			3.72	7.19	7.42	7.18	4.52
Fe ₂ O ₃	1.29	4.19	6.08	1.78			2.44	1.05
FeO	1.65			2.12			4.98	3.58
MnO	0.08	0.07	0.13	0.06	0.14	0.12	0.13	0.07
MgO	1.38	1.66	2.41	2.53	5.98	5.19	5.12	2.68
CaO	4.21	3.75	5.24	3.75	5.93	4.59	7.90	3.57
Na ₂ O	4.03	2.20	2.47	3.63	1.55	1.68	2.59	3.66
K ₂ O	1.66	3.21	2.65	3.21	2.08	2.34	1.88	3.01
P ₂ O ₅	0.09	0.18	0.26	0.18	0.10	0.08	0.17	0.20
LOI	0.80	1.07	2.15	1.08	2.04	4.67	0.86	0.82
Total		99.82	99.82		100.06	99.95	98.50	99.50
Mg [#]	46.67			54.79	59.72	55.49	55.97	51.36
Li		18.60	11.80				16.00	22.20
Be		1.76	1.85					2.08
Sc	7.82	10.10	11.60	8.25	26.00	25.60	22.70	9.99
V	56.00	103.00	130.00	72.80	196.00	172.00		76.80
Cr	38.50	18.70	10.70	57.20	242.00	204.00	68.40	46.60
Co	7.89	10.20	14.30		25.80	25.50	22.50	11.80
Ni	12.70	14.80	7.74	39.80	47.70	47.80	12.40	36.00
Cu	16.22	68.70	16.90					
Zn	52.84	68.80	90.40					
Ga	17.40	18.00	19.40		17.00	16.90	17.90	22.50
Rb	52.24	83.70	81.00	71.50	73.70	93.80	83.60	120.00
Sr	480.00	393.00	610.00	535.00	267.00	284.00	267.00	527.00
Y	9.55	25.20	25.80	14.52	21.60	22.00	26.70	16.70
Zr	82.20	25.30	19.50	154.00	131.00	148.00	170.00	168.00
Nb	5.22	15.70	8.43	11.85	9.17	10.10	9.40	10.60
Cs	2.45	3.44	1.52		7.78	9.23		3.04
Ba	1107.00	1278.00	1109.00	848.00	599.00	653.00	413.00	878.00
La	11.71	56.90	33.60	40.50	29.10	35.20	24.50	42.80
Ce	22.14	107.00	69.70	80.40	50.90	62.50	50.50	85.20
Pr	2.77	12.10	8.80	8.35	6.01	7.16	6.34	10.70
Nd	10.47	45.00	37.20	30.20	22.60	25.80	24.50	37.10
Sm	1.92	6.20	6.41	4.92	4.33	4.72	5.10	6.22
Eu	0.56	1.70	2.17	1.25	1.06	1.10	1.12	1.45
Gd	1.74	6.11	5.55	3.16	3.98	4.18	4.73	4.80
Tb	0.28	0.90	0.89	0.42	0.55	0.58	0.82	0.66
Dy	1.85	5.07	5.42	2.45	3.28	3.42	4.98	3.35
Ho	0.37	0.90	0.97	0.49	0.62	0.69	1.04	0.64
Er	1.11	2.50	2.63	1.38	1.87	1.99	2.88	1.72
Tm	0.19	0.42	0.40	0.21	0.26	0.29	0.42	0.29
Yb	1.23	2.43	2.70	1.33	1.86	2.08	2.73	1.94
Lu	0.19	0.38	0.37	0.21	0.26	0.28	0.42	0.28
Hf	3.17	5.10	1.31	3.92	1.35	1.81	4.44	6.50
Ta	0.44	1.07	0.92	1.03	0.78	0.80	0.61	0.60
Pb		25.30	19.50	18.62			8.60	
Th	5.33	15.70	8.43	13.20	8.94	14.80	7.70	23.90
U	0.80	3.44	1.52	1.89	3.46	3.49	0.80	4.58
Eu/Eu ⁺	0.92	0.84	1.09	0.91	0.77	0.74	0.69	0.78
(La/Yb) _N	6.42	15.79	8.39	20.53	10.55	11.41	6.05	14.87
Sr/Y	50.26	15.60	23.64	36.85	12.36	12.91	10.00	31.56
Rb/Sr	0.11	0.21	0.13	0.13	0.28	0.33	0.31	0.23
Crustal Thickness	31.95	47.25	36.50	51.72	40.39	41.73	30.95	46.24

Sample	CMYQ-15	CMYQ-14	CMYQ-61	PM42w1	c1990729-7	PM08GS6-1	PM08GS25-1	QIV PM21GS5-1
Rock_type	quartz diorite porphyry	quartz diorite porphyry	quartz diorite porphyry	K-feldspar granite	granite	monzogranite	monzogranite	tonalite
Interpreted age(Ma)	462.1	462.1	462.1	462.9	464	465.7	465.7	466
Data sources	X. X. Fan et al., 2020	X. X. Fan et al., 2020	X. X. Fan et al., 2020	R. R. Qi, 2012	C. L. Wu et al., 2004	J. S. Cao et al., 2019	J. S. Cao et al., 2019	W. F. Li et al., 2020
SiO ₂	66.31	63.02	60.37	70.00	60.05	66.65	68.45	57.99
TiO ₂	0.37	0.41	0.57	0.41	0.56	0.65	0.48	0.77
Al ₂ O ₃	15.65	16.22	16.45	13.37	16.46	14.49	14.56	16.32
Fe ₂ O ₃ ^T	3.46	3.82	5.28	3.78	6.71	4.42	3.79	9.01
FeO ^T	3.13	3.46	4.78	3.42	6.08	4.01	3.44	8.15
Fe ₂ O ₃	0.98	0.76	1.96	1.74	2.52	0.79	0.93	3.78
FeO	2.25	2.78	3.02	1.85	3.81	3.30	2.60	4.75
MnO	0.08	0.05	0.11	0.05	0.15	0.09	0.08	0.16
MgO	1.95	2.84	3.95	1.33	3.37	1.67	1.54	3.79
CaO	4.45	2.99	5.09	2.52	5.21	3.72	2.86	3.30
Na ₂ O	4.86	6.19	5.11	2.92	3.77	3.01	3.03	5.56
K ₂ O	0.65	0.62	0.62	4.67	1.54	3.44	3.37	0.90
P ₂ O ₅	0.10	0.09	0.10	0.14	0.13	0.28	0.18	0.14
LOI	2.22	3.91	2.52	0.60		1.30	1.38	1.84
Total	99.86	99.90	99.86	99.61	100.09	99.39	99.46	99.73
Mg [#]	52.60	59.37	59.55	40.97	49.71	42.60	44.41	45.32
Li				29.30				
Be								
Sc				5.76		10.42	9.21	
V	47.67	59.38	102.55		140.00			
Cr	39.09	58.37	70.79	17.40	35.00	16.53	16.99	30.35
Co	9.68	12.61	18.82		15.00			
Ni	22.85	35.89	45.65		11.00			
Cu					6.00			
Zn					57.00			
Ga	15.58	15.47	18.25			17.97	17.15	
Rb	15.35	14.34	11.91	157.00	54.00	126.90	127.30	20.10
Sr	299.52	373.46	476.74	532.00	301.00	376.70	404.70	300.81
Y	9.69	10.96	13.44	12.50	15.50	20.02	14.72	20.56
Zr	92.26	80.81	76.08	82.00	115.00	222.40	209.90	82.20
Nb	2.15	2.03	1.92	10.50	6.00	18.89	14.55	6.16
Cs	0.64	1.20	0.70	4.80		9.31	6.11	
Ba	618.77	370.04	494.15	1230.00	368.00	1033.00	1066.00	246.84
La	5.61	5.29	5.43	27.50	18.00	50.74	47.89	10.77
Ce	14.11	13.29	13.96	48.90	35.80	96.36	97.35	23.36
Pr	1.54	1.53	1.67	5.93	4.20	11.69	10.67	3.10
Nd	6.73	6.98	7.67	20.20	15.80	43.68	38.23	12.81
Sm	1.59	1.69	1.85	3.58	3.40	7.12	6.03	3.12
Eu	0.67	0.61	0.76	1.02	1.05	1.40	1.03	0.92
Gd	1.51	1.71	1.95	2.98	3.18	5.32	4.59	3.24
Tb	0.26	0.31	0.36	0.43	0.56	0.79	0.61	0.59
Dy	1.39	1.72	2.12	2.23	3.10	4.06	3.06	3.77
Ho	0.27	0.33	0.43	0.43	0.56	0.75	0.56	0.84
Er	0.78	0.96	1.28	1.26	1.77	2.04	1.50	2.46
Tm	0.13	0.16	0.21	0.22	0.27	0.30	0.22	0.38
Yb	0.84	0.99	1.36	1.49	1.58	1.87	1.40	2.50
Lu	0.14	0.17	0.22	0.22	0.30	0.28	0.21	0.37
Hf	2.92	2.72	2.46	2.83	3.03	6.70	5.70	2.43
Ta	0.21	0.18	0.18	0.94	1.13	1.35	1.13	0.47
Pb					9.00	25.16	16.42	
Th	0.97	1.57	0.68	16.70	8.00	13.34	17.99	5.41
U				2.06	1.00	2.56	1.61	1.14
Eu/Eu ⁺	1.30	1.09	1.22	0.93	0.96	0.67	0.58	0.88
(La/Yb) _N	4.50	3.60	2.69	12.44	7.68	18.29	23.06	2.90
Sr/Y	30.91	34.07	35.47	42.56	19.42	18.82	27.49	14.63
Rb/Sr	0.05	0.04	0.02	0.30	0.18	0.34	0.31	0.07
Crustal Thickness	25.92	22.13	17.18	43.20	35.00	49.75	53.69	18.47

Sample	IGs2003	IGsC3097-1	114-3	YQ-26	PMJ002-4	PMJ002-3	PMJ002-2	PMJ 002-5
Rock_type	quartz diorite	quartz diorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite
Interpreted age(Ma)	466	466	466	470.9	479.7	479.7	479.7	479.7
Data sources	W. F. Li et al., 2020	W. F. Li et al., 2020	H. P. Qin et al., 2014b	R. N. Hou et al., 2015	B. Ji et al., 2019	B. Ji et al., 2019	B. Ji et al., 2019	B. Ji et al., 2019
SiO ₂	56.89	57.45	71.40	67.13	71.41	71.96	71.86	71.83
TiO ₂	0.80	0.80	0.19	0.45	0.28	0.29	0.31	0.29
Al ₂ O ₃	14.87	15.53	15.95	16.42	13.45	13.28	13.45	13.50
Fe ₂ O ₃ ^T	8.00	8.07	1.96	3.39	3.43	3.70	3.71	3.70
FeO ^T	7.24	7.30	1.78	3.05	3.11	3.36	3.36	3.35
Fe ₂ O ₃	3.47	3.97	0.83		1.01	1.04	1.18	1.18
FeO	4.12	3.73	1.03		2.20	2.42	2.30	2.29
MnO	0.12	0.12	0.05	0.06	0.06	0.06	0.06	0.06
MgO	4.71	4.41	0.75	2.34	0.97	1.06	1.12	1.06
CaO	5.14	4.48	3.00	4.61	2.56	2.18	2.21	2.46
Na ₂ O	2.64	2.81	4.98	4.01	5.35	5.08	5.17	5.20
K ₂ O	2.64	2.72	1.10	1.53	0.55	0.63	0.54	0.52
P ₂ O ₅	0.26	0.27	0.09	0.06	0.05	0.05	0.05	0.05
LOI	3.62	3.01	0.49		1.06	0.85	0.82	0.98
Total	99.71	99.70			98.95	98.90	99.07	99.42
Mg [#]	53.69	51.84	42.94	57.76	35.74	36.02	37.26	36.05
Li				35.16	1.70	1.28	2.07	1.34
Be					0.57	0.50	0.57	0.61
Sc	19.20	18.18	4.28	9.38	15.70	15.20	16.30	13.70
V	207.94	183.50	33.00	90.26				
Cr	115.81	91.19	27.90	21.58	5.03	3.89	5.61	3.45
Co			3.72	11.89	6.41	5.96	7.40	6.47
Ni			10.40	14.51	2.60	2.56	2.52	2.50
Cu			12.26	20.28	13.90	13.90	18.50	12.60
Zn			41.05	36.48	31.00	30.90	35.80	33.60
Ga			16.62	16.57	12.80	13.40	13.10	12.40
Rb	87.91	87.36	26.58	57.24	10.70	11.00	11.40	9.71
Sr	474.99	484.95	412.00	399.60	121.00	108.00	122.00	122.00
Y	20.22	19.43	8.04	13.75	31.30	27.40	30.30	25.10
Zr	124.90	129.00	62.40	54.46	127.00	132.00	145.00	119.00
Nb	6.31	7.46	3.77	4.56	6.80	6.97	7.31	6.18
Cs			1.56	3.28	0.50	0.50	0.48	0.46
Ba	671.66	760.40	565.90	453.00	150.00	150.00	151.00	136.00
La	23.70	22.80	9.49	8.00	12.00	12.90	12.10	10.90
Ce	45.54	46.30	16.20	15.64	26.90	29.80	27.60	24.40
Pr	5.72	5.95	2.09	1.99	3.34	3.76	3.55	3.11
Nd	22.12	22.91	8.23	7.72	14.10	14.60	14.10	13.70
Sm	4.38	4.44	1.57	2.13	3.64	3.74	3.62	3.47
Eu	1.09	1.15	0.63	0.53	0.72	0.76	0.74	0.67
Gd	4.08	3.97	1.38	2.25	3.93	4.12	3.96	3.69
Tb	0.70	0.63	0.24	0.35	0.66	0.71	0.68	0.64
Dy	3.82	3.87	1.49	2.11	4.34	4.57	4.47	4.20
Ho	0.81	0.77	0.30	0.39	0.94	1.00	0.98	0.91
Er	2.27	2.15	0.90	1.10	2.81	2.97	2.90	2.68
Tm	0.35	0.34	0.14	0.16	0.45	0.48	0.46	0.43
Yb	2.32	2.07	0.92	1.00	3.08	3.18	3.12	2.92
Lu	0.35	0.31	0.15	0.14	0.47	0.48	0.48	0.45
Hf	4.31	4.52	2.47	1.33	3.88	4.14	4.21	3.69
Ta	0.70	0.69	0.36	0.36	0.83	0.72	0.79	0.75
Pb				11.66	3.26	2.89	3.19	3.87
Th	8.05	9.21	5.91	5.85	2.71	2.82	2.69	2.61
U	1.57	1.73	0.63	1.14	0.74	0.69	0.79	0.76
Eu/Eu ⁺	0.78	0.82	1.28	0.74	0.58	0.59	0.59	0.57
(La/Yb) _N	6.89	7.43	6.95	5.39	2.63	2.73	2.61	2.52
Sr/Y	23.49	24.96	51.24	29.06	3.87	3.94	4.03	4.86
Rb/Sr	0.19	0.18	0.06	0.14	0.09	0.10	0.09	0.08
Crustal Thickness	33.15	34.43	33.31	28.99	16.76	17.45	16.68	16.03

Sample	PMJ002-1	11CL118-6	11CL117-6	CL04-116
Rock_type	granodiorite	granite	granite	plagiogranite
Interpreted age(Ma)	479.7	505	505	512.3
Data sources	B. Ji et al., 2019	H. P. Qin et al., 2014a	H. P. Qin et al., 2014a	C. L. Wu et al., 2010
SiO ₂	71.28	69.53	61.35	59.21
TiO ₂	0.32	0.49	0.68	0.36
Al ₂ O ₃	13.66	14.30	14.81	16.88
Fe ₂ O ₃ ^T	3.84	4.24	6.99	8.48
FeO ^T	3.48	3.84	6.33	7.66
Fe ₂ O ₃	1.29	1.35	2.06	5.62
FeO	2.32	2.63	4.48	2.60
MnO	0.07	0.05	0.11	0.16
MgO	1.18	1.41	3.79	3.40
CaO	2.27	3.05	5.73	6.55
Na ₂ O	5.08	4.91	2.49	2.68
K ₂ O	0.60	0.46	2.45	0.42
P ₂ O ₅	0.05	0.12	0.16	0.06
LOI	1.04	1.58	1.72	1.82
Total	99.16	99.89	99.82	
Mg [#]	37.67	39.53	51.61	44.18
Li	2.17			
Be	0.53			
Sc	14.00			26.90
V		64.95	182.95	164.00
Cr	5.35	27.10	87.82	8.43
Co	8.12	10.39	21.71	22.60
Ni	10.30	9.38	18.52	10.50
Cu	17.90	26.79	33.40	72.52
Zn	33.50	45.00	76.61	84.46
Ga	11.90	15.81	18.27	14.10
Rb	12.20	18.49	110.30	10.40
Sr	124.00	200.00	344.60	172.00
Y	24.20	16.82	26.78	11.10
Zr	124.00	163.30	183.40	26.70
Nb	6.58	18.58	15.57	2.38
Cs	0.51	1.10	5.84	5.41
Ba	148.00	264.50	616.10	96.90
La	10.60	18.42	29.20	3.80
Ce	25.10	32.04	55.99	8.00
Pr	3.30	4.11	7.39	1.10
Nd	13.60	16.28	27.90	4.80
Sm	3.49	3.23	5.23	1.35
Eu	0.74	1.10	1.02	0.43
Gd	3.68	2.91	4.70	1.69
Tb	0.67	0.53	0.82	0.29
Dy	4.14	3.38	5.24	2.19
Ho	0.89	0.70	1.05	0.48
Er	2.69	2.01	3.16	1.49
Tm	0.42	0.32	0.53	0.22
Yb	2.75	1.91	3.12	1.57
Lu	0.43	0.29	0.41	0.24
Hf	3.90	4.81	7.82	0.99
Ta	0.86	0.99	1.19	0.23
Pb	2.90	5.27	22.15	4.49
Th	2.38	7.67	16.54	0.40
U	0.70	2.44	4.86	0.14
Eu/Eu ⁺	0.63	1.08	0.62	0.87
(La/Yb) _N	2.60	6.50	6.31	1.63
Sr/Y	5.12	11.89	12.87	15.50
Rb/Sr	0.10	0.09	0.32	0.06
Crustal Thickness	16.58	32.17	31.66	8.67

Table S5. Geochemistry Data for Plots of age against crustal thickness of the Eastern Kunlun Range

Sample	WC071815-6	XI01 -B1	XI02-B1	XI01-B2	HLG-01-B2	HLG-01-B1	HLG-02-B1	11136/08
Rock_type	granitoid	diorite	diorite	diorite	diorite	diorite	diorite	quartz diorite
Interpreted age(Ma)	214.00	215.00	215.00	215.00	215.00	215.00	215.00	218.30
Data sources	C. Wu et al., 2019	Q. F. Ding et al., 2014	Q. F. Ding et al., 2014	Q. F. Ding et al., 2014	Q. F. Ding et al., 2014	Q. F. Ding et al., 2014	Q. F. Ding et al., 2014	G. C. Chen et al., 2013b
SiO ²	68.27	57.65	58.99	59.93	57.64	58.60	59.01	62.38
TiO ²	0.39	0.79	0.69	0.69	0.80	0.81	0.75	0.65
Al ₂ O ₃	16.38	16.03	15.61	15.84	16.19	16.40	16.19	16.67
Fe ₂ O ₃ ^T	2.41	11.01	9.52	9.58				5.46
FeO ^T	2.17	9.95	8.60	8.65				4.94
Fe ₂ O ₃		6.38	5.59	5.65	6.06	6.04	5.73	1.95
FeO		4.21	3.57	3.57				3.19
MnO	0.05	0.14	0.12	0.12	0.10	0.09	0.09	0.07
MgO	1.04	3.20	2.78	2.79	3.42	3.57	3.28	2.70
CaO	2.94	5.81	4.68	4.43	4.78	4.66	4.74	5.15
Na ₂ O	4.50	3.16	3.52	3.65	3.86	3.69	3.74	3.49
K ₂ O	2.80	2.34	2.69	2.64	2.76	2.79	2.80	2.27
P ₂ O ₅	0.16	0.20	0.16	0.17	0.19	0.20	0.18	0.16
LOI	0.91	4.14	4.74	3.70	3.06	3.29	2.58	1.24
Total		99.85	99.57	99.59	98.99	100.28	99.21	99.92
Mg [#]	46.09	0.50	0.50	0.49	0.53	0.54	0.53	49.31
Li	43.10							20.00
Be	2.62							1.13
Sc	4.22	8.78	7.57	6.72	12.60	11.60	12.00	9.15
V	26.00	138.00	1188.00	118.00	1148.00	1108.00	1078.00	99.30
Cr		55.23	37.78	36.68	47.00	46.00	41.00	66.90
Co	4.20	15.40	13.27	13.17	13.90	13.00	12.90	12.30
Ni	5.16	13.71	9.55	9.76	11.00	10.70	9.70	9.43
Cu	13.80	22.51	6.92	16.67	16.80	12.30	11.70	7.51
Zn	54.10	63.38	47.20	41.86	99.00	88.00	83.00	104.00
Ga	23.60	16.41	15.52	15.70	20.50	19.05	19.75	20.30
Rb	88.00	37.83	42.20	53.14	78.70	77.20	97.70	67.30
Sr	482.00	461.00	370.00	417.00	507.00	483.00	474.00	474.00
Y	9.58	12.42	11.43	11.57	14.00	14.60	13.00	12.50
Zr	197.00	167.00	160.00	158.00	135.00	129.00	125.00	161.06
Nb	15.10	7.10	7.23	7.15	6.70	6.40	6.60	10.90
Cs	5.17	4.07	5.72	11.20	6.23	17.50	6.36	3.80
Ba	621.00	500.00	516.00	512.00	640.00	610.00	580.00	733.00
La	24.70	22.59	21.03	22.04	25.80	26.50	24.20	31.00
Ce	40.10	44.58	40.68	39.35	52.20	54.40	49.40	57.00
Pr	4.99	5.25	4.77	4.83	5.90	6.20	5.60	6.65
Nd	20.00	20.56	18.02	18.17	23.40	22.90	21.20	25.10
Sm	3.12	3.77	3.50	3.51	4.80	5.00	4.50	4.60
Eu	0.97	1.12	0.93	0.98	1.20	1.20	1.10	1.30
Gd	2.38	3.23	2.86	2.95	3.70	3.90	3.20	3.80
Tb	0.37	0.40	0.37	0.36	0.50	0.50	0.50	0.56
Dy	1.88	2.44	2.29	2.23	2.80	3.00	2.70	2.68
Ho	0.33	0.49	0.48	0.46	0.60	0.50	0.50	0.46
Er	0.88	1.38	1.30	1.28	1.30	1.60	1.30	1.21
Tm	0.13	0.19	0.18	0.18	0.20	0.20	0.20	0.18
Yb	0.79	1.16	1.15	1.11	1.30	1.40	1.20	1.13
Lu	0.12	0.16	0.15	0.15	0.20	0.20	0.20	0.16
Hf	4.83	3.38	3.29	3.23	3.90	3.70	3.60	1.24
Ta	1.23	0.51	0.56	0.55	0.51	0.49	0.53	0.57
Pb	16.70	14.89	5.63	5.30	26.60	16.70	14.20	19.50
Th	7.93	5.77	6.63	6.66	5.20	4.60	6.10	7.41
U	2.62	1.38	1.53	1.51	1.40	1.30	1.60	0.87
Eu/Eu ⁺	2.53	0.98	0.90	0.93	0.87	0.83	0.89	0.95
(La/Yb) _N	21.08	13.12	12.29	13.37	13.38	12.76	13.60	18.50
Sr/Y	50.31	37.12	32.37	36.04	36.21	33.08	36.46	37.92
Rb/Sr	0.18	0.08	0.11	0.13	0.16	0.16	0.21	0.14
Crustal Thickness	52.16	44.10	42.99	44.42	44.44	43.63	44.71	49.95

Sample	11136/02	11136/01	11136/04	11136/07	11136/06	11136/09	WC1001010-1B	11124/2
Rock_type	quartz diorite	quartz diorite	quartz diorite	quartz diorite	quartz diorite	quartz diorite	granoitoid	granodiorite
Interpreted age(Ma)	218.30	218.30	218.30	218.30	218.30	218.30	222.60	225.00
Data sources	G. C. Chen et al., 2013b	G. C. Chen et al., 2013b	G. C. Chen et al., 2013b	G. C. Chen et al., 2013b	G. C. Chen et al., 2013b	G. C. Chen et al., 2013b	C. Wu et al., 2016	G. C. Chen et al., 2013c
SiO ₂	62.69	62.17	60.08	62.33	62.12	61.98	61.67	67.58
TiO ₂	0.65	0.66	0.72	0.63	0.66	0.68	0.68	0.38
Al ₂ O ₃	16.81	16.76	16.58	16.21	16.33	16.64	16.19	15.10
Fe ₂ O ₃ ^T	5.61	5.63	6.16	5.37	5.60	5.87	5.55	3.65
FeO ^T	5.08	5.11	5.58	4.87	5.07	5.32	5.03	3.30
Fe ₂ O ₃	1.78	1.64	2.29	1.84	1.86	1.73	1.66	1.58
FeO	3.48	3.63	3.52	3.21	3.40	3.76	3.54	1.88
MnO	0.07	0.08	0.08	0.07	0.07	0.08	0.08	0.06
MgO	2.52	2.81	3.20	2.69	2.77	2.93	2.82	2.17
CaO	4.88	5.35	5.40	5.13	5.34	5.61	5.08	3.73
Na ₂ O	3.52	3.40	3.66	3.33	3.39	3.38	3.34	3.44
K ₂ O	2.20	2.10	2.00	2.35	2.25	2.23	3.19	3.08
P ₂ O ₅	0.17	0.18	0.19	0.17	0.17	0.14	0.16	0.10
LOI	1.42	1.02	1.92	1.58	1.78	0.68		1.02
Total	100.19	99.80	99.64	99.54	100.14	99.88	99.84	100.12
Mg [#]	46.91	49.51	50.53	49.62	49.31	49.54	49.97	54.00
Li	26.80	24.50	18.00	15.70	20.90	22.90	33.68	24.90
Be	1.16	1.19	1.36	1.12	1.34	1.13	2.45	1.43
Sc	9.24	9.33	11.50	10.20	10.10	11.20	16.36	7.61
V	86.60	83.70	105.00	104.00	101.00	143.00	114.20	69.40
Cr	55.70	66.10	80.20	73.70	78.50	87.50	29.58	71.90
Co	13.40	13.50	15.00	13.20	13.50	14.50	16.18	9.78
Ni	12.60	13.60	9.53	8.61	9.44	13.10	14.04	15.80
Cu	4.75	5.23	6.42	10.60	7.06	10.80	18.68	7.35
Zn	119.00	102.00	108.00	102.00	109.00	128.00	33.84	56.30
Ga	21.60	19.60	20.50	20.60	21.00	20.40	22.14	16.20
Rb	69.30	66.00	66.00	70.60	74.30	76.70	138.90	93.70
Sr	485.00	451.00	435.00	423.00	407.00	404.00	500.10	348.00
Y	12.50	13.90	15.60	13.50	14.40	14.80	23.56	10.10
Zr	161.51	162.53	168.42	159.30	167.41	162.70	191.89	131.51
Nb	10.70	11.70	12.30	11.20	12.30	12.10	15.56	8.39
Cs	1.32	2.71	1.08	1.87	1.55	1.90	7.79	2.91
Ba	774.00	714.00	684.00	789.00	811.00	779.00	951.20	786.00
La	29.20	33.00	25.50	28.10	29.00	27.30	22.39	31.30
Ce	56.60	61.30	50.60	53.30	55.50	54.50	52.74	50.00
Pr	6.47	7.10	6.30	6.22	6.62	6.46	7.72	5.09
Nd	24.80	26.70	25.70	24.50	26.30	26.00	27.90	17.40
Sm	4.61	4.70	5.24	4.66	5.06	4.98	5.80	2.79
Eu	1.37	1.39	1.48	1.33	1.39	1.46	1.17	0.80
Gd	3.73	3.95	4.30	3.92	4.02	4.03	4.52	2.35
Tb	0.56	0.61	0.68	0.59	0.64	0.64	0.83	0.36
Dy	2.81	2.90	3.27	2.89	3.05	3.21	4.39	1.19
Ho	0.45	0.50	0.59	0.49	0.53	0.56	0.87	1.91
Er	1.18	1.36	1.54	1.38	1.40	1.48	2.41	0.36
Tm	0.16	0.19	0.22	0.19	0.21	0.21	0.41	1.00
Yb	1.09	1.21	1.45	1.25	1.33	1.38	2.62	0.16
Lu	0.15	0.16	0.20	0.18	0.18	0.19	0.33	1.05
Hf	1.12	0.98	1.22	1.45	1.18	1.27	14.69	0.15
Ta	0.49	0.61	0.69	0.59	0.68	0.66	1.49	0.71
Pb	17.40	17.00	15.30	19.10	19.00	17.50	15.37	15.70
Th	7.27	8.52	6.09	7.16	7.04	7.01	10.28	14.00
U	0.48	0.51	0.80	1.02	0.93	0.83	1.14	1.09
Eu/Eu ⁺	1.01	0.99	0.95	0.95	0.94	1.00	0.68	0.95
(La/Yb) _N	18.06	18.39	11.86	15.16	14.70	13.34	6.12	131.89
Sr/Y	38.80	32.45	27.88	31.33	28.26	27.30	21.23	34.46
Rb/Sr	0.14	0.15	0.15	0.17	0.18	0.19	0.28	0.27
Crustal Thickness	49.54	49.84	42.39	46.56	46.04	44.39	31.14	83.34

Sample	11124/2	8683/1	2616/1	2628/1	2628/3	3756/1	2628/2	KD030
Rock_type	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granite
Interpreted age(Ma)	225.00	225.00	225.00	225.00	225.00	225.00	225.00	237.00
Data sources	G. C. Chen et al., 2013a	G. C. Chen et al., 2013a	G. C. Chen et al., 2013c	G. C. Chen et al., 2013a	G. C. Chen et al., 2013a	G. C. Chen et al., 2013c	G. C. Chen et al., 2013a	C. Y. Feng et al., 2012
SiO ₂	67.58	67.58	67.12	67.79	67.74	67.97	68.04	61.06
TiO ₂	0.38	0.37	0.39	0.37	0.37	0.38	0.38	0.61
Al ₂ O ₃	15.10	15.35	15.02	15.23	15.01	15.01	14.84	19.04
Fe ₂ O ₃ ^T	3.65	3.38	3.75	3.39	3.21	3.63	3.54	4.58
FeO ^T	3.30	3.06	3.39	3.06	2.90	3.28	3.20	4.15
Fe ₂ O ₃	1.58	1.47	1.89	1.68	1.46	1.69	1.58	1.71
FeO	1.88	1.74	1.69	1.55	1.59	1.76	1.78	2.61
MnO	0.06	0.04	0.05	0.04	0.04	0.04	0.04	0.08
MgO	2.17	2.07	2.26	1.98	1.98	2.03	2.10	1.30
CaO	3.73	3.49	3.73	3.58	3.66	3.64	3.44	4.46
Na ₂ O	3.44	3.61	3.43	3.65	3.39	3.46	3.44	4.63
K ₂ O	3.08	3.06	3.06	3.04	3.30	3.16	3.33	2.24
P ₂ O ₅	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.15
LOI	1.02	1.14	1.22	1.08	1.54	0.82	0.94	1.23
Total	100.12	100.02	99.96	100.09	100.18	100.06	100.01	99.12
Mg [#]	54.00	55.00	54.00	54.00	55.00	53.00	54.00	35.84
Li	24.90	28.40	26.40	25.00	19.10	24.60	19.30	23.41
Be	1.43	0.98	0.63	1.31	0.79	1.34	0.99	1.96
Sc	7.61	7.20	8.25	8.47	8.04	8.07	7.58	6.44
V	69.40	64.30	59.70	59.30	56.30	78.90	52.60	42.20
Cr	71.90	66.10	72.20	70.50	66.90	67.90	66.20	10.80
Co	9.78	9.42	10.30	9.99	7.47	9.96	9.35	7.53
Ni	15.80	11.70	14.20	13.60	12.90	12.90	11.80	6.10
Cu	7.35	3.08	3.63	2.23	2.78	2.58	3.53	11.49
Zn	56.30	25.90	34.60	37.20	24.40	33.00	35.70	75.85
Ga	16.20	18.30	17.60	19.80	18.70	18.50	17.40	22.50
Rb	93.70	121.00	116.00	128.00	128.00	119.00	121.00	89.56
Sr	348.00	434.00	389.00	426.00	425.00	393.00	373.00	398.00
Y	10.10	10.00	10.30	9.96	11.60	10.10	10.10	13.82
Zr	131.51	137.00	141.59	140.72	136.04	140.53	138.68	329.80
Nb	8.39	8.85	8.57	8.70	9.14	8.98	8.16	9.79
Cs	2.91	3.33	3.12	4.65	3.81	3.20	3.11	4.91
Ba	786.00	1030.00	934.00	975.00	957.00	919.00	870.00	694.00
La	31.30	32.50	26.60	31.30	28.50	24.10	25.40	37.11
Ce	50.00	49.80	41.90	50.60	47.80	39.20	40.90	61.55
Pr	5.09	4.97	4.36	5.21	5.24	4.25	4.34	7.06
Nd	17.40	17.40	15.70	18.00	18.70	14.90	15.20	22.73
Sm	2.79	2.78	2.72	2.79	3.16	2.58	2.54	3.99
Eu	0.80	0.88	0.79	0.92	0.95	0.81	0.73	1.60
Gd	2.35	2.34	2.28	2.41	2.78	2.24	2.18	3.32
Tb	0.36	0.35	0.37	0.36	0.43	0.35	0.33	0.46
Dy	1.91	2.02	1.47	1.92	2.20	1.57	1.69	2.59
Ho	0.36	0.35	1.94	0.36	0.43	1.89	0.34	0.53
Er	1.00	1.09	0.36	1.02	1.21	0.34	1.01	1.50
Tm	0.16	0.17	1.10	0.18	0.20	1.03	0.16	0.24
Yb	1.05	1.19	0.17	1.08	1.24	0.17	1.04	1.65
Lu	0.15	0.17	1.09	0.17	0.19	1.10	0.18	0.27
Hf	1.19	1.77	0.18	1.81	1.55	0.19	1.54	
Ta	0.71	0.86	0.62	0.63	0.70	0.74	0.64	
Pb	15.70	14.20	12.80	14.20	14.10	14.40	13.50	
Th	14.00	14.20	13.10	15.80	11.80	13.30	13.10	
U	1.09	1.33	1.20	1.24	1.42	0.97	1.60	
Eu/Eu ⁺	0.95	1.05	0.98	1.08	0.98	1.03	0.95	1.31
(La/Yb) _N	20.10	18.41	105.49	19.54	15.50	95.58	16.47	16.11
Sr/Y	34.46	43.40	37.77	42.77	36.64	38.91	36.93	28.80
Rb/Sr	0.27	0.28	0.30	0.30	0.30	0.30	0.32	0.23
Crustal Thickness	51.35	49.87	79.54	50.87	46.93	77.86	47.97	47.59

Sample	KD005	KD004	KD003	KD029	C140540010	C140540007	C140540008	C140540006
Rock_type	granite	granite	granite	granite	quartz diorite	quartz diorite	quartz diorite	quartz diorite
Interpreted age(Ma)	237.00	237.00	237.00	237.00	239.30	239.30	239.30	239.30
Data sources	C. Y. Feng et al., 2012	C. Y. Feng et al., 2012	C. Y. Feng et al., 2012	C. Y. Feng et al., 2012	X. Z. Guo et al., 2016	X. Z. Guo et al., 2016	X. Z. Guo et al., 2016	X. Z. Guo et al., 2016
SiO ₂	63.80	63.08	63.54	61.04	63.07	61.34	62.47	61.90
TiO ₂	0.66	0.69	0.67	0.71	0.64	0.68	0.67	0.64
Al ₂ O ₃	16.54	16.50	16.52	17.94	16.15	16.55	16.12	16.14
Fe ₂ O ₃ ^T	4.67	4.99	4.83	5.48	5.58	5.83	5.84	5.54
FeO ^T	4.23	4.52	4.37	4.96	5.07	5.30	5.31	5.04
Fe ₂ O ₃	1.41	1.47	1.67	1.77	1.60	1.28	1.62	1.39
FeO	2.96	3.20	2.87	3.37	3.63	4.15	3.85	3.79
MnO	0.10	0.09	0.09	0.10	0.10	0.09	0.10	0.10
MgO	2.15	2.31	2.24	1.74	2.67	2.80	2.88	2.78
CaO	4.25	4.75	4.46	4.71	5.15	5.53	5.42	5.45
Na ₂ O	3.47	3.67	3.70	4.27	3.04	3.10	3.06	3.05
K ₂ O	2.96	2.62	2.83	2.66	2.48	2.31	2.37	2.46
P ₂ O ₅	0.15	0.16	0.15	0.18	0.13	0.13	0.14	0.13
LOI	0.63	0.55	0.57	0.55	1.32	2.02	1.28	2.14
Total	99.07	99.09	99.31	99.04	100.60	100.85	100.56	100.85
Mg [#]	47.54	47.66	47.73	38.46	48.42	48.49	49.17	49.57
Li	24.70	35.91	29.27	25.69	21.50	21.50	22.40	26.90
Be	1.65	1.77	1.72	2.16				
Sc	6.67	8.93	9.31	10.41	17.00	18.00	19.10	17.60
V	77.47	78.37	80.20	64.24	116.00	121.00	121.00	112.00
Cr	17.35	24.28	20.27	12.51	29.40	30.30	31.20	29.90
Co	10.96	12.15	12.50	9.53	14.60	15.80	15.80	15.00
Ni	10.89	12.23	13.09	5.86	12.40	13.50	13.90	13.10
Cu	17.66	7.52	7.65	5.35	19.10	16.00	15.00	16.70
Zn	74.06	51.42	62.16	71.00	56.60	60.30	58.40	53.10
Ga	19.54	19.53	20.07	23.29	16.40	17.70	16.70	16.70
Rb	80.51	114.40	126.00	120.10	52.40	57.40	55.00	72.60
Sr	311.80	359.80	369.00	342.00	315.00	322.00	302.00	323.00
Y	14.35	15.50	15.75	33.67	18.90	21.10	21.70	19.08
Zr	193.50	130.80	153.20	408.80	155.00	134.00	189.00	163.00
Nb	8.31	8.46	8.73	18.76	9.64	11.70	10.40	10.10
Cs	4.20	4.71	4.93	3.08				
Ba	482.00	446.30	505.00	494.30	500.00	478.00	465.00	497.00
La	17.75	24.78	19.80	25.91	26.80	25.70	25.90	25.90
Ce	39.61	50.29	42.40	56.24	51.40	51.20	49.80	50.20
Pr	4.58	5.67	4.99	7.04	5.81	6.21	6.25	5.98
Nd	17.18	20.47	19.97	29.26	20.20	21.20	22.10	21.00
Sm	3.62	4.03	4.09	6.71	4.33	4.79	4.92	4.57
Eu	1.02	1.03	1.06	1.35	0.96	1.40	1.50	1.02
Gd	3.06	3.47	3.47	6.66	3.93	4.24	4.39	4.02
Tb	0.46	0.52	0.51	1.10	0.60	0.64	0.66	0.61
Dy	2.70	2.92	2.89	6.66	3.45	3.80	3.86	3.64
Ho	0.53	0.57	0.57	1.34	0.67	0.78	0.76	0.71
Er	1.46	1.55	1.58	3.59	1.82	2.19	2.80	2.00
Tm	0.22	0.24	0.24	0.52	0.27	0.32	0.32	0.30
Yb	1.46	1.55	1.57	3.24	1.72	2.80	2.50	1.91
Lu	0.22	0.24	0.24	0.48	0.27	0.32	0.32	0.29
Hf					4.20	3.61	4.87	4.56
Ta					0.64	0.85	0.78	0.86
Pb					13.30	12.90	12.80	14.10
Th					13.80	10.50	15.90	15.50
U					1.90	2.34	2.23	3.04
Eu/Eu ⁺	0.91	0.82	0.84	0.61	0.71	0.71	0.69	0.73
(La/Yb) _N	8.74	11.48	9.08	5.74	11.18	8.86	9.06	9.73
Sr/Y	21.73	23.21	23.43	10.16	16.67	15.26	13.92	16.93
Rb/Sr	0.26	0.32	0.34	0.35	0.17	0.18	0.18	0.22
Crustal Thickness	37.20	41.83	37.85	30.05	41.38	37.43	37.81	39.02

Sample	08BL01-7	08BL02-1	08BL03-1	08BL01-2	08BL05-1	08BL12	08BL10-1	ZW-14
Rock_type	quartz diorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	granodiorite	monzogranite
Interpreted age(Ma)	241.00	242.50	242.50	242.50	242.50	243.50	243.50	246.00
Data sources	J. Y. Zhang et al., 2012	J. Y. Zhang et al., 2012	J. Y. Zhang et al., 2012	J. Y. Zhang et al., 2012	J. Y. Zhang et al., 2012	J. Y. Zhang et al., 2012	J. Y. Zhang et al., 2012	A. L. Guo et al., 2009
SiO ₂	57.70	66.52	66.43	68.57	62.16	62.03	61.15	70.45
TiO ₂	0.96	0.54	0.59	0.47	0.71	0.68	0.69	0.31
Al ₂ O ₃	15.76	15.56	15.43	15.40	16.37	16.27	16.99	15.36
Fe ₂ O ₃ ^T	8.25	4.14	4.09	3.98	5.57	6.18	5.89	2.58
FeO ^T	7.49	3.75	3.71	3.61	5.05	5.60	5.34	2.32
Fe ₂ O ₃	0.97	1.48	1.54	0.48	1.33	2.02	1.62	
FeO	6.62	2.42	2.32	3.18	3.85	3.78	3.88	1.22
MnO	0.11	0.07	0.07	0.06	0.09	0.11	0.10	0.05
MgO	4.60	1.74	1.72	1.19	2.94	2.19	2.64	0.75
CaO	6.74	3.98	4.16	3.59	5.22	5.14	5.84	2.74
Na ₂ O	2.60	3.65	3.54	3.61	3.15	3.39	3.28	3.59
K ₂ O	1.69	2.72	3.03	2.18	2.74	2.94	2.39	3.62
P ₂ O ₅	0.16	0.12	0.12	0.12	0.14	0.16	0.14	0.09
LOI								0.55
Total	99.76	99.78	99.78	99.80	99.78	99.73	99.79	100.09
Mg [#]	52.20	45.20	45.30	37.00	50.90	41.10	46.80	36.54
Li								
Be	1.09	1.74	1.48	1.88	1.67	1.59	1.51	1.20
Sc	28.50	8.31	8.45	4.79	12.80	12.60	12.80	2.42
V	178.00	75.20	73.30	32.80	94.60	106.00	96.70	27.50
Cr	223.00	20.90	14.50	7.57	28.10	8.80	27.60	6.08
Co	36.70	9.20	8.55	6.05	14.30	10.90	12.50	107.00
Ni	73.00	6.61	4.98	4.20	16.50	2.53	10.30	2.20
Cu	50.80	3.38	2.71	3.06	9.54	4.07	13.60	5.14
Zn	69.00	68.70	66.00	76.50	69.20	59.40	62.70	39.00
Ga	16.60	20.50	18.50	19.90	19.00	17.60	16.30	14.70
Rb	31.80	95.40	105.00	87.50	113.00	89.90	82.60	92.00
Sr	210.00	461.00	466.00	374.00	413.00	417.00	357.00	270.00
Y	28.40	12.20	16.00	8.45	17.70	24.20	18.80	11.20
Zr	114.00	137.00	129.00	166.00	149.00	190.00	134.00	180.00
Nb	3.83	8.49	9.85	10.70	9.26	9.33	7.60	8.29
Cs	4.07	3.54	2.77	4.46	7.16	1.98	3.49	4.03
Ba	87.20	660.00	779.00	635.00	503.00	739.00	409.00	1134.00
La	8.70	34.00	28.70	30.10	26.80	34.50	23.60	44.40
Ce	21.20	60.40	58.60	58.80	53.60	68.60	47.30	71.10
Pr	3.02	6.38	6.97	6.50	6.17	7.96	5.50	6.64
Nd	14.10	21.40	25.20	22.80	22.30	29.20	20.20	21.90
Sm	3.86	3.46	4.70	3.78	4.23	5.43	3.99	3.03
Eu	1.27	0.97	1.12	1.14	1.01	1.35	1.06	0.86
Gd	4.60	2.97	3.86	2.76	3.72	4.90	3.75	2.39
Tb	0.80	0.40	0.54	0.35	0.56	0.71	0.57	0.32
Dy	5.12	2.22	3.01	1.73	3.14	4.20	3.24	1.74
Ho	1.05	0.44	0.59	0.32	0.65	0.90	0.71	0.36
Er	2.99	1.18	1.52	0.79	1.76	2.47	1.96	1.01
Tm	0.43	0.18	0.23	0.11	0.26	0.38	0.28	0.17
Yb	2.69	1.14	1.51	0.69	1.71	2.53	1.92	1.11
Lu	0.39	0.17	0.20	0.11	0.25	0.37	0.28	0.18
Hf	3.07	3.54	3.37	4.29	3.93	4.54	3.42	3.88
Ta	0.33	0.69	1.03	0.76	0.78	0.56	0.62	0.77
Pb	12.90	20.50	16.70	20.20	18.40	26.20	14.90	13.20
Th	3.03	13.30	13.70	10.00	13.80	12.50	9.67	11.40
U	1.18	1.76	1.76	1.24	3.27	1.69	1.52	0.92
Eu/Eu ⁺	0.92	0.90	0.78	1.03	0.76	0.79	0.83	1.01
(La/Yb) _N	2.18	20.11	12.81	29.41	10.57	9.19	8.29	28.70
Sr/Y	7.39	37.79	29.13	44.26	23.33	17.23	18.99	24.11
Rb/Sr	0.15	0.21	0.23	0.23	0.27	0.22	0.23	0.34
Crustal Thickness	13.60	51.36	43.70	57.83	40.42	38.06	36.29	57.41

Sample	ZW-14-1	DL09- 030	DL09- 029	DL09- 028	DL09- 032	DL09- 025	DL09-10	DYSZ - 2
Rock_type	monzogranite	granite	granite	granite	granite	granite	granite	granodiorite
Interpreted age(Ma)	246.00	248.90	250.00	250.00	250.00	250.00	250.00	250.40
Data sources	A. L. Guo et al., 2009	H. Huang et al., 2014	H. Huang et al., 2014	H. Huang et al., 2014	H. Huang et al., 2014	H. Huang et al., 2014	H. Huang et al., 2014	J. Chen et al., 2013b
SiO ₂	70.58	59.90	67.00	66.90	59.30	64.80	67.90	69.36
TiO ₂	0.31	0.51	0.53	0.57	0.58	0.58	0.46	0.38
Al ₂ O ₃	15.35	17.60	15.90	15.90	17.50	15.90	15.30	14.66
Fe ₂ O ₃ ^T	262.00	5.37	3.35	3.82	5.81	5.24	4.16	4.56
FeO ^T	235.75	4.88	3.05	3.48	5.28	4.77	3.78	4.11
Fe ₂ O ₃		1.72	1.50	1.34	1.39	1.63	1.78	2.85
FeO	1.24	3.33	1.70	2.27	4.03	3.30	2.18	1.55
MnO	0.05	0.09	0.05	0.06	0.11	0.09	0.10	0.04
MgO	0.77	3.50	1.30	1.58	3.99	1.97	1.42	1.26
CaO	2.66	6.15	3.70	3.64	6.78	4.72	3.95	3.06
Na ₂ O	3.51	2.75	3.95	3.95	2.66	3.21	3.58	3.59
K ₂ O	3.73	1.38	2.50	2.07	1.08	2.34	1.82	3.63
P ₂ O ₅	0.09	0.09	0.14	0.16	0.10	0.11	0.09	0.13
LOI	0.55	2.40	1.27	1.17	1.92	0.78	1.03	0.26
Total	100.22	99.42	99.54	99.61	99.44	99.43	99.56	101.30
Mg [#]	0.58	56.12	43.18	44.76	57.39	42.42	40.10	35.31
Li		22.70	26.60	29.40	22.00	23.50	20.10	
Be	1.13							
Sc	2.42	13.90	4.55	5.28	16.40	11.20	7.47	
V	29.40							
Cr	3.93	47.20	7.93	8.41	55.40	8.90	6.26	14.90
Co	136.00	11.90	6.60	6.90	13.10	10.80	7.44	
Ni	2.04	11.80	4.39	4.64	11.42	3.44	2.39	
Cu	3.62							
Zn	39.10							
Ga	14.60	17.50	19.60	20.00	17.60	16.20	16.30	
Rb	95.00	43.30	47.90	44.50	39.40	65.50	63.90	104.00
Sr	268.00	348.00	502.00	466.00	347.00	197.00	192.00	419.70
Y	11.20	15.50	9.13	10.70	18.20	17.00	22.20	8.00
Zr	176.00	111.00	166.00	181.00	116.00	134.00	111.00	139.00
Nb	8.65	7.28	9.15	9.84	7.75	7.61	8.29	11.80
Cs	4.52							
Ba	1179.00	288.00	867.00	688.00	238.00	564.00	427.00	823.00
La	51.10	17.30	31.40	28.60	20.20	20.20	9.81	23.40
Ce	82.60	34.40	56.20	52.30	42.20	32.40	16.10	52.06
Pr	7.46	4.23	6.43	6.38	4.91	4.17	2.44	6.03
Nd	24.10	16.00	22.50	23.50	18.70	15.60	9.93	20.70
Sm	3.20	3.14	3.66	3.96	3.73	3.10	2.58	3.66
Eu	0.92	0.76	0.96	1.01	0.84	0.90	0.77	0.83
Gd	2.57	2.82	2.92	3.15	3.28	2.95	2.69	2.82
Tb	0.34	0.47	0.37	0.43	0.55	0.48	0.52	0.38
Dy	1.85	2.81	1.86	2.19	3.35	3.01	3.54	1.70
Ho	0.38	0.60	0.34	0.39	0.70	0.64	0.78	0.31
Er	1.08	1.68	0.91	1.04	1.94	1.79	2.32	0.78
Tm	0.18	0.26	0.12	0.15	0.30	0.28	0.40	0.12
Yb	1.16	1.68	0.80	0.99	1.95	1.90	2.68	0.72
Lu	0.18	0.27	0.12	0.14	0.31	0.30	0.42	0.11
Hf	4.10	3.20	4.41	4.78	3.36	3.73	3.37	1.81
Ta	0.81	0.63	0.68	0.73	0.63	0.63	0.84	0.71
Pb	14.20	9.79	9.07	8.17	10.40	13.80	13.00	
Th	13.00	6.94	8.96	10.80	7.25	7.72	3.60	7.80
U	1.03	0.83	1.65	1.80	0.98	1.21	0.85	
Eu/Eu ⁺	1.02	0.76	0.87	0.84	0.72	0.90	0.89	0.76
(La/Yb) _N	31.61	6.94	26.46	19.48	6.98	7.17	2.47	23.31
Sr/Y	23.93	22.45	54.98	43.55	19.07	11.59	8.65	52.46
Rb/Sr	0.35	0.12	0.10	0.10	0.11	0.33	0.33	0.25
Crustal Thickness	59.05	33.28	56.03	50.82	33.39	33.83	15.70	53.87

Sample	DYSZ11 - 1	DYSZ11 -2	DL09- 027	WC100210-4B	08BL08-1	WC100210-2A	12-6	12-61
Rock_type	granodiorite	granodiorite	granite	granitoid	granodiorite	granitoid	diorite	diorite
Interpreted age(Ma)	250.40	250.40	251.00	251.40	252.00	253.60	403.00	403.00
Data sources	J. Chen et al., 2013b	J. Chen et al., 2013b	H. Huang et al., 2014	C. Wu et al., 2016	J. Y. Zhang et al., 2012	C. Wu et al., 2016	Z. M. Zhao et al., 2008	Z. M. Zhao et al., 2008
SiO ₂	67.18	67.65	67.40	65.84	63.34	65.09	63.25	55.97
TiO ₂	0.34	0.35	0.38	0.56	0.67	0.58	0.48	1.10
Al ₂ O ₃	15.50	15.55	16.60	15.52	16.60	15.03	16.43	14.38
Fe ₂ O ₃ ^T	4.97	5.09	3.57	5.16	5.55	5.09	4.47	9.44
FeO ^T	4.49	4.59	3.24	4.68	5.03	4.62	4.05	8.55
Fe ₂ O ₃	3.43	3.46	1.36	0.95	0.65	1.24	1.58	3.22
FeO	1.40	1.48	2.02	3.83	4.45	3.50	2.63	5.65
MnO	0.08	0.10	0.10	0.10	0.09	0.10	0.14	0.30
MgO	1.24	1.19	0.98	2.11	2.17	2.09	2.30	5.64
CaO	3.55	3.82	3.74	4.63	5.18	4.54	5.29	5.77
Na ₂ O	3.39	3.43	4.04	3.24	3.36	3.19	3.94	3.26
K ₂ O	3.62	3.43	2.46	1.14	1.91	2.59	1.33	1.13
P ₂ O ₅	0.14	0.15	0.11	0.12	0.13	0.11	0.12	0.24
LOI	0.61	0.17	0.50				1.77	3.13
Total	101.60	101.50	99.59	99.92	99.79	99.87	99.26	99.79
Mg [#]	33.01	31.59	35.00	44.53	43.40	44.66	50.50	54.30
Li			22.50	17.76		8.15		
Be				2.89	1.45	2.06		
Sc			5.42	20.17	9.03	17.05		
V				122.80	45.80	121.50		
Cr	7.90	6.60	3.24	13.76	19.10	15.27		
Co			5.09	11.85	10.30	12.02		
Ni			1.91	4.29	5.62	3.94		
Cu				19.14	1.61	14.60		
Zn				37.62	83.60	39.03		
Ga			16.40	21.41	19.80	18.93		
Rb	118.00	127.00	54.40	57.98	75.80	86.79	27.00	26.60
Sr	394.10	389.70	213.00	288.50	380.00	289.10	354.00	338.00
Y	13.30	16.20	12.40	40.66	16.00	26.58	14.90	29.26
Zr	136.00	144.00	153.00	166.73	122.00	161.81	133.00	248.00
Nb	8.90	11.30	9.19	15.01	10.10	13.60	9.50	20. 1
Cs				3.63	3.47	1.88		
Ba	641.00	685.00	698.00	373.30	630.00	844.10	328.00	244.00
La	34.50	30.70	18.90	18.69	20.40	30.60	18.67	41.71
Ce	61.93	62.04	32.40	38.21	40.60	58.70	23.33	59.66
Pr	8.83	7.45	3.76	5.32	4.79	7.21	4.42	9.13
Nd	25.90	24.70	13.40	20.05	18.30	23.96	17.15	37.71
Sm	4.94	4.27	2.51	5.18	3.83	4.78	3.44	6.79
Eu	1.08	1.03	0.97	1.21	1.20	1.14	0.97	1.39
Gd	3.62	3.62	2.37	4.73	3.49	4.06	3.42	7.00
Tb	0.57	0.54	0.36	1.10	0.52	0.80	0.52	1.07
Dy	2.59	2.78	2.18	6.97	2.91	4.64	2.91	5.96
Ho	0.59	0.58	0.45	1.51	0.60	0.99	0.62	1.21
Er	1.48	1.67	1.33	4.37	1.55	2.90	1.71	3.23
Tm	0.25	0.29	0.20	0.85	0.22	0.54	0.27	0.50
Yb	1.49	1.93	1.38	5.52	1.45	3.46	1.60	3.00
Lu	0.25	0.32	0.23	0.67	0.21	0.44	0.28	0.49
Hf	1.48	1.92	4.09	11.21	3.12	10.47	3.90	8.30
Ta	0.54	0.73	0.60	2.08	0.78	1.64	1.24	1.76
Pb			13.77	22.25	18.60	27.33		
Th	13.30	14.40	7.10	11.07	5.95	18.40	6.60	17.70
U			0.77	5.76	1.02	1.69		
Eu/Eu ⁺	0.75	0.78	1.19	0.73	0.99	0.77	0.87	0.62
(La/Yb) _N	16.61	11.41	9.23	2.43	9.49	6.35	7.87	9.37
Sr/Y	29.63	24.06	17.18	7.10	23.75	10.88	23.76	11.55
Rb/Sr	0.30	0.33	0.26	0.20	0.20	0.30	0.08	0.08
Crustal Thickness	48.11	41.73	38.13	15.44	38.59	31.77	35.41	38.39

Sample	12-10	12-3	12-7	12-5	12-4	3208	11-6	1556
Rock_type	diorite	diorite	diorite	diorite	diorite	diorite	diorite	diorite
Interpreted age(Ma)	403.00	403.00	403.00	403.00	403.00	408.00	413.00	413.00
Data sources	Z. M. Zhao et al., 2008	Z. M. Zhao et al., 2008	Z. M. Zhao et al., 2008	Z. M. Zhao et al., 2008	Z. M. Zhao et al., 2008	Z. M. Zhao et al., 2008	Z. M. Zhao et al., 2008	Z. M. Zhao et al., 2008
SiO ₂	64.93	66.97	64.93	63.62	58.21	55.39	60.34	61.10
TiO ₂	0.49	0.61	0.49	0.65	0.83	1.63	0.51	0.41
Al ₂ O ₃	15.74	15.57	15.89	15.55	15.48	15.91	17.18	15.65
Fe ₂ O ₃ ^T	3.83	3.68	3.78	4.78	6.27	9.60	5.27	4.48
FeO ^T	3.47	3.33	3.42	4.32	5.67	8.71	4.76	4.05
Fe ₂ O ₃	1.52	1.42	1.89	1.97	2.69	1.86	2.35	1.56
FeO	2.10	2.05	1.72	2.55	3.25	7.04	2.65	2.65
MnO	0.12	0.12	0.12	0.14	0.19	0.14	0.17	0.13
MgO	2.18	2.02	1.83	2.94	2.72	4.02	4.88	3.77
CaO	4.46	3.94	4.93	4.19	5.49	6.94	3.68	4.84
Na ₂ O	3.76	3.42	3.94	3.50	3.80	2.96	3.55	3.42
K ₂ O	1.33	1.64	1.46	1.90	1.75	1.95	1.38	1.50
P ₂ O ₅	0.09	0.10	0.10	0.15	0.19	0.43	0.16	0.09
LOI	2.49	2.02	2.23	2.30	3.47	1.58	1.92	3.78
Total	99.21	99.88	99.53	99.46	98.07	99.85	98.77	98.90
Mg [#]	53.10	52.20	49.10	55.00	46.30	45.40	64.80	62.60
Li								
Be								
Sc						23.40		
V								
Cr						43.60		
Co						21.00		
Ni						31.30		
Cu								
Zn								
Ga								
Rb	40.50	52.30	45.10	42.90	46.80	85.90	32.80	27.60
Sr	340.00	407.00	350.00	323.00	337.00	383.00	415.00	338.00
Y	12.61	18.64	11.88	12.25	13.12	56.17	13.58	10.58
Zr	130.00	202.00	125.00	120.00	165.00	481.00	129.00	84.90
Nb	12.30	10.1	9.70	10.1	10.90	21.60	5.30	7.20
Cs								
Ba	355.00	334.00	426.00	379.00	425.00	386.00	337.00	255.00
La	15.83	27.72	18.25	15.79	22.65	54.19	12.82	8.43
Ce	23.99	41.59	26.40	23.71	39.95	122.90	24.39	18.79
Pr	3.86	6.08	4.74	3.53	5.97	17.46	4.61	4.60
Nd	12.76	23.15	15.42	11.95	18.64	66.33	19.05	15.12
Sm	2.84	4.74	2.98	2.38	3.63	13.87	4.00	3.49
Eu	0.85	1.17	0.85	0.73	0.93	2.64	1.10	0.82
Gd	2.83	4.61	2.70	2.39	3.33	12.62	3.70	2.85
Tb	0.46	0.71	0.44	0.38	0.53	1.91	0.63	0.43
Dy	2.58	3.75	2.36	2.15	2.59	11.10	2.89	2.18
Ho	0.53	0.78	0.49	0.46	0.58	2.49	0.55	0.52
Er	1.45	2.16	1.26	1.29	1.56	6.65	1.61	1.37
Tm	0.23	0.33	0.21	0.20	0.25	1.00	0.26	0.22
Yb	1.34	1.92	1.21	1.23	1.46	6.18	1.43	1.19
Lu	0.24	0.34	0.22	0.22	0.27	0.88	0.24	0.22
Hf	4.30	6.20	3.90	4.70	5.20	7.90	5.30	3.10
Ta	0.82	1.46	1.17	1.41	1.37	1.50	0.37	1.00
Pb								
Th	5.60	9.80	9.70	10.30	10.90	5.30	4.30	4.90
U								
Eu/Eu ⁺	0.92	0.77	0.91	0.94	0.82	0.61	0.87	0.78
(La/Yb) _N	7.96	9.73	10.17	8.65	10.46	5.91	6.05	4.78
Sr/Y	26.96	21.83	29.46	26.37	25.69	6.82	30.56	31.95
Rb/Sr	0.12	0.13	0.13	0.13	0.14	0.22	0.08	0.08
Crustal Thickness	35.62	39.03	39.77	37.03	40.25	30.55	30.94	26.93

Sample	10NM 14-3	10NM 14-1	10NM 14-2	09NM 17-4	ST 01-1	09NM 17-5	09NM 17-1	09NM 16-2
Rock_type	porphyritic diorite	porphyritic diorite	porphyritic diorite	granodiorite	porphyritic granodiorite	porphyritic granodiorite	granodiorite	porphyritic granodiorite
Interpreted age(Ma)	427.00	427.00	427.00	432.00	432.00	432.00	432.00	432.00
Data sources	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014
SiO ₂	59.43	57.89	58.10	68.99	62.32	68.31	68.47	65.79
TiO ₂	0.57	0.59	0.57	0.41	0.60	0.45	0.43	0.47
Al ₂ O ₃	15.61	15.81	15.77	14.98	16.10	15.31	14.75	15.19
Fe ₂ O ₃ ^T	6.05	6.51	6.41	2.46	4.45	2.83	2.79	3.41
FeO ^T	5.49	5.91	5.82	2.23	4.04	2.56	2.53	3.09
Fe ₂ O ₃	0.88	1.12	0.80	0.37	0.84	0.55	0.48	0.55
FeO	4.70	4.90	5.10	1.90	3.28	2.07	2.10	2.60
MnO	0.10	0.11	0.11	0.03	0.05	0.03	0.04	0.04
MgO	5.38	5.65	5.76	1.77	2.90	1.83	1.88	2.19
CaO	5.72	5.95	6.55	2.76	4.64	2.76	2.58	3.80
Na ₂ O	3.22	3.28	3.21	4.43	3.72	3.97	3.61	3.62
K ₂ O	2.04	2.13	1.93	2.13	2.69	3.12	3.79	2.97
P ₂ O ₅	0.14	0.15	0.15	0.12	0.13	0.11	0.11	0.11
LOI								
Total	99.75	99.76	99.79	99.78	99.73	99.79	99.76	99.79
Mg [#]	64.00	63.00	64.00	59.00	56.00	56.00	57.00	56.00
Li	70.10	70.80	59.30	25.80	29.30	39.80	20.20	25.40
Be	2.03	2.00	1.94	4.31	2.59	3.12	4.10	3.29
Sc	18.00	19.50	19.40	6.12	11.70	6.03	6.14	8.64
V	112.00	121.00	123.00	29.70	65.70	32.60	32.30	50.20
Cr	190.00	199.00	205.00	48.50	51.90	56.30	51.30	50.00
Co	24.10	25.40	27.00	3.95	33.70	6.81	7.26	9.89
Ni	95.10	101.00	106.00	18.00	25.60	25.80	22.40	23.00
Cu	23.80	15.60	15.70	43.50	3.70	14.70	91.60	40.80
Zn	63.40	65.10	72.10	38.00	37.90	38.30	42.10	42.30
Ga	18.80	19.20	19.00	20.40	19.50	20.20	20.70	19.50
Rb	126.00	154.00	146.00	148.00	120.00	142.00	169.00	126.00
Sr	533.00	580.00	533.00	800.00	518.00	557.00	657.00	478.00
Y	15.40	16.00	16.00	14.10	15.90	12.70	14.70	14.60
Zr	136.00	147.00	146.00	122.00	139.00	152.00	150.00	164.00
Nb	11.70	11.80	11.60	9.56	9.11	8.17	9.67	9.36
Cs	21.00	20.50	23.50	13.30	7.99	13.10	7.42	7.98
Ba	500.00	533.00	413.00	554.00	479.00	609.00	801.00	611.00
La	29.21	32.86	31.46	25.81	32.92	41.20	36.29	36.47
Ce	56.35	59.69	56.73	54.74	63.10	70.90	63.92	63.01
Pr	6.11	6.59	6.28	6.02	6.62	7.58	6.80	6.70
Nd	22.08	23.58	22.58	22.13	23.14	26.50	24.37	23.88
Sm	3.75	4.28	4.12	4.10	4.31	4.45	4.37	4.29
Eu	1.07	1.15	1.09	0.96	0.98	0.98	0.99	0.99
Gd	3.22	3.54	3.45	3.41	3.43	3.63	3.67	3.49
Tb	0.47	0.53	0.51	0.50	0.54	0.48	0.52	0.51
Dy	2.69	2.92	2.94	2.79	2.97	2.45	2.87	2.83
Ho	0.51	0.56	0.52	0.47	0.56	0.44	0.49	0.50
Er	1.49	1.60	1.52	1.37	1.48	1.25	1.35	1.43
Tm	0.22	0.22	0.22	0.19	0.23	0.17	0.20	0.21
Yb	1.38	1.50	1.43	1.13	1.34	1.06	1.17	1.24
Lu	0.22	0.21	0.20	0.17	0.19	0.15	0.18	0.18
Hf	3.62	4.05	3.92	3.49	3.89	4.17	4.29	4.49
Ta	0.79	0.80	0.80	1.10	0.83	0.83	1.08	0.99
Pb	13.20	13.60	19.20	29.70	9.04	38.20	23.20	28.10
Th	10.20	10.30	10.50	15.90	13.30	13.60	15.80	14.40
U	2.88	3.12	3.17	2.93	2.88	4.37	3.39	4.53
Eu/Eu ⁺	1.02	0.98	0.95	0.85	0.84	0.80	0.82	0.85
(La/Yb) _N	14.27	14.77	14.83	15.40	16.56	26.20	20.91	19.83
Sr/Y	34.61	36.25	33.31	56.74	32.58	43.86	44.69	32.74
Rb/Sr	0.24	0.27	0.27	0.19	0.23	0.25	0.26	0.26
Crustal Thickness	45.53	46.12	46.19	46.83	48.07	55.86	52.03	51.13

Sample	09NM 16-1	09NM 18	09NM 17-2	09NM 17-6	WC071815-3	B1046-1	B1043-1	WC071015-1A
Rock_type	porphyritic granodiorite	porphyritic granodiorite	granodiorite	granodiorite	granoitoid	granodiorite	granodiorite	granoitoid
Interpreted age(Ma)	432.00	432.00	432.00	432.00	443.00	454.00	454.00	494.00
Data sources	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	J. Y. Zhang et al., 2014	C. Wu et al., 2019	J. J. Chen et al., 2016	J. J. Chen et al., 2016	C. Wu et al., 2019
SiO ₂	65.71	69.16	69.06	68.80	65.35	69.10	68.30	69.51
TiO ₂	0.48	0.40	0.39	0.42	0.53	0.39	0.41	0.39
Al ₂ O ₃	15.26	15.07	14.85	15.15	16.73	15.50	15.45	15.59
Fe ₂ O ₃ ^T	3.49	2.58	2.61	2.48	3.52			2.61
FeO ^T	3.17	2.34	2.37	2.25	3.16			2.35
Fe ₂ O ₃	0.44	0.46	0.49	0.48		2.73	2.85	
FeO	2.77	1.93	1.93	1.82				
MnO	0.04	0.04	0.04	0.03	0.06	0.04	0.05	0.05
MgO	2.26	1.55	1.69	1.63	1.67	1.02	0.98	0.71
CaO	3.81	2.58	2.81	2.55	3.44	3.07	3.04	1.46
Na ₂ O	3.59	3.87	3.62	3.93	4.01	4.29	3.98	4.50
K ₂ O	2.98	3.42	3.64	3.65	2.31	2.24	3.11	4.09
P ₂ O ₅	0.12	0.10	0.11	0.11	0.22	0.13	0.13	0.13
LOI					1.83	1.05	0.91	1.35
Total	99.79	99.77	99.79	99.79		99.81	99.38	
Mg [#]	56.00	54.00	56.00	56.00	48.49	43.00	41.00	35.01
Li	25.50	35.50	19.60	46.40	57.70	20.33	17.58	9.58
Be	3.36	3.31	4.02	4.34	2.45	1.07	1.39	3.15
Sc	8.53	5.51	5.98	5.32	6.87	3.34	6.54	4.53
V	50.00	28.60	29.30	32.30	45.30	36.56	43.79	16.50
Cr	49.40	43.10	50.70	51.80		7.51	5.17	
Co	9.96	6.74	4.84	2.99	7.99	37.80	78.37	3.16
Ni	22.10	18.30	20.60	20.80	6.54	4.50	2.69	1.50
Cu	93.80	43.90	30.40	17.00	11.30	1.19	1.72	1.01
Zn	38.10	44.10	30.70	39.40	55.30	57.53	51.07	52.40
Ga	19.80	19.80	19.50	23.70	19.30	16.44	17.42	23.00
Rb	130.00	164.00	153.00	204.00	95.70	70.36	96.02	107.00
Sr	476.00	529.00	485.00	579.00	299.00	536.89	339.82	679.00
Y	14.50	12.80	13.70	13.10	12.20	9.19	15.21	11.70
Zr	144.00	171.00	136.00	212.00	198.00	196.52	186.81	259.00
Nb	8.98	7.63	8.47	9.67	8.91	10.47	15.46	29.80
Cs	9.07	17.20	11.30	16.70	5.72	2.64	1.50	1.88
Ba	626.00	566.00	621.00	703.00	366.00	1194.43	735.43	1258.00
La	38.07	41.19	33.51	41.75	26.10	40.54	33.49	54.00
Ce	64.79	70.13	57.53	70.34	54.80	67.90	60.50	92.10
Pr	6.97	7.57	6.21	7.58	6.56	6.67	6.21	9.51
Nd	24.74	26.49	22.37	26.64	25.70	23.02	22.74	32.50
Sm	4.20	4.48	3.97	4.60	4.76	3.88	4.20	5.48
Eu	1.01	0.95	0.92	1.06	1.14	0.92	0.75	1.23
Gd	3.51	3.56	3.30	3.65	3.68	2.73	3.29	3.72
Tb	0.52	0.49	0.48	0.49	0.53	0.37	0.49	0.53
Dy	2.84	2.55	2.68	2.50	2.71	1.87	2.89	2.68
Ho	0.49	0.44	0.45	0.45	0.47	0.33	0.56	0.47
Er	1.42	1.20	1.31	1.24	1.22	0.88	1.48	1.24
Tm	0.20	0.17	0.19	0.18	0.18	0.12	0.21	0.18
Yb	1.19	1.10	1.12	1.08	1.08	0.75	1.38	1.08
Lu	0.18	0.15	0.16	0.17	0.16	0.10	0.21	0.16
Hf	4.03	4.60	3.72	5.65	5.10	4.65	4.74	5.62
Ta	0.92	0.78	0.99	1.01	0.76	0.83	1.21	1.62
Pb	34.80	25.50	19.00	37.40	14.50	15.54	23.40	24.70
Th	13.70	14.00	12.30	16.70	11.80	9.54	8.79	18.50
U	4.20	4.43	3.25	3.29	1.74	1.27	1.65	2.16
Eu/Eu ⁺	0.87	0.79	0.84	0.85	2.99	0.82	0.60	5.72
(La/Yb) _N	21.57	25.25	20.17	26.06	16.29	38.63	17.36	33.71
Sr/Y	32.83	41.33	35.40	44.20	24.51	58.42	22.34	58.03
Rb/Sr	0.27	0.31	0.32	0.35	0.32	0.13	0.28	0.16
Crustal Thickness	52.55	55.23	51.42	55.77	47.79	62.46	48.86	60.15