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Data Repository

Supplementary Table DR1. LA-ICPMS zircon U-Pb dating results for the early Neoproterozoic igneous rocks in Liuyang (Hunan), central Jiangnan Orogen, South China.

Supplementary Table DR2. Zircon in-situ Hf and O isotopic analytical results for the early Neoproterozoic igneous rocks in Liuyang (Hunan), central Jiangnan Orogen, South China.

Supplementary Table DR3. Major, trace elemental and Sr-Nd isotopic analytical results for the early Neoproterozoic igneous rocks in Liuyang (Hunan), central Jiangnan Orogen, South China.

Supplementary Table DR1. LA-ICPMS zircon U-Pb dating results for the early Neoproterozoic igneous rocks
in Liuyang (Hunan), central Jiangnan Orogen, South China

Spot	Th/U	Isotopic ratios						Apparent age (Ma)					
		$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm 2\sigma$	$^{207}\text{Pb}/^{235}\text{U}$	$\pm 2\sigma$	$^{206}\text{Pb}/^{238}\text{U}$	$\pm 2\sigma$	$^{207}\text{Pb}/^{206}\text{Pb}$	$\pm 2\sigma$	$^{207}\text{Pb}/^{235}\text{U}$	$\pm 2\sigma$	$^{206}\text{Pb}/^{238}\text{U}$	$\pm 2\sigma$
12WS-77D (Andesite) Representative of Group 3 arc-like andesitic and dacitic rocks													
12WS-77D-01	0.47	0.06792	0.00265	1.31545	0.05216	0.13986	0.00300	865	81	853	23	844	17
12WS-77D-02	0.59	0.06689	0.00168	1.27488	0.03522	0.13828	0.00382	835	53	835	16	835	22
12WS-77D-03	0.86	0.06642	0.00205	1.28037	0.04004	0.13881	0.00280	820	65	837	18	838	16
12WS-77D-04	0.75	0.11440	0.00289	5.30519	0.14820	0.33695	0.00942	1872	46	1870	24	1872	45
12WS-77D-05	0.29	0.06827	0.00172	1.36760	0.03783	0.14524	0.00401	876	47	875	16	874	23
12WS-77D-06	1.62	0.16448	0.00413	10.7443	0.30075	0.47362	0.01324	2502	42	2501	26	2499	58
12WS-77D-07	1.04	0.06691	0.00168	1.27277	0.03783	0.13797	0.00411	835	52	834	17	833	23
12WS-77D-08	0.80	0.06738	0.00392	1.28949	0.07559	0.13875	0.00322	850	120	841	34	838	18
12WS-77D-09	2.06	0.16493	0.00413	10.7933	0.29330	0.47467	0.01292	2507	43	2505	25	2504	56
12WS-77D-10	0.70	0.06618	0.00252	1.27474	0.04833	0.13852	0.00290	813	84	835	22	836	16
12WS-77D-11	0.84	0.06684	0.00168	1.26504	0.03403	0.13736	0.00370	833	47	830	15	830	21
12WS-77D-12	0.88	0.06652	0.00231	1.28472	0.04294	0.13983	0.00294	833	72	839	19	844	17
12WS-77D-13	1.04	0.09876	0.00248	3.79562	0.10431	0.27890	0.00766	2000	47	1592	22	1586	39
12WS-77D-14	0.83	0.06676	0.00168	1.26044	0.03653	0.13700	0.00397	831	54	828	16	828	23
12WS-77D-15	0.95	0.06654	0.00301	1.28104	0.05908	0.13887	0.00296	833	96	837	26	838	17
12WS-77D-16	0.49	0.06682	0.00168	1.26728	0.03310	0.13755	0.00358	831	47	831	15	831	20
12WS-77D-17	1.00	0.16718	0.00419	10.9719	0.30704	0.47607	0.01335	2529	43	2521	26	2510	58
12WS-77D-18	0.44	0.06775	0.00170	1.33341	0.03626	0.14281	0.00389	861	56	860	16	861	22
12WS-77D-19	0.58	0.15764	0.00398	8.61780	0.35534	0.39554	0.01593	2431	43	2298	38	2148	74
12WS-77D-20	1.23	0.09748	0.00245	3.72119	0.10805	0.27677	0.00803	1576	52	1576	23	1575	41
12WS-79A (Basaltic andesite) Representative of Group 3 arc-like andesitic and dacitic rocks													
12WS-79A-01	0.13	0.0677	0.0020	1.2891	0.0396	0.1382	0.0042	859	63	841	18	834	24
12WS-79A-02	0.47	0.1123	0.0034	5.1565	0.1569	0.3329	0.0101	1839	54	1845	26	1852	49
12WS-79A-03	0.59	0.0679	0.0020	1.2857	0.0397	0.1372	0.0042	878	36	839	18	829	24
12WS-79A-04	1.18	0.1595	0.0048	9.9524	0.3087	0.4525	0.0140	2450	51	2430	29	2406	62
12WS-79A-05	0.33	0.0670	0.0020	1.2732	0.0429	0.1373	0.0046	839	63	834	19	829	26

12WS-79A-06	0.98	0.0793	0.0024	2.2403	0.0694	0.2049	0.0063	1189	60	1194	22	1202	34
12WS-79A-07	0.24	0.1169	0.0035	5.4029	0.1652	0.3352	0.0103	1910	54	1885	26	1864	49
12WS-79A-08	0.28	0.0677	0.0020	1.2780	0.0394	0.1369	0.0042	861	63	836	18	827	24
12WS-79A-09	0.33	0.0692	0.0021	1.3147	0.0405	0.1378	0.0042	906	61	852	18	832	24
12WS-79A-10	0.27	0.0682	0.0021	1.2938	0.0401	0.1374	0.0042	876	62	843	18	830	24
12WS-79A-11	0.36	0.0686	0.0021	1.3037	0.0400	0.1378	0.0042	887	56	847	18	832	24
12WS-79A-12	0.57	0.0980	0.0029	3.7346	0.1145	0.2762	0.0085	1587	56	1579	25	1572	43
12WS-79A-13	0.12	0.0670	0.0020	1.2707	0.0390	0.1376	0.0042	839	63	833	17	831	24
12WS-79A-14	0.38	0.0673	0.0020	1.2823	0.0392	0.1381	0.0042	856	63	838	17	834	24
12WS-79A-15	0.44	0.0674	0.0020	1.2814	0.0394	0.1378	0.0042	850	68	837	18	832	24
12WS-79A-16	0.6	0.1128	0.0034	5.1667	0.1590	0.3322	0.0102	1844	54	1847	26	1849	49
12WS-79A-17	0.27	0.0668	0.0020	1.2766	0.0396	0.1385	0.0043	831	63	835	18	836	24
12WS-79A-18	0.18	0.0666	0.0020	1.2605	0.0385	0.1372	0.0042	833	63	828	17	829	24
12WS-79A-19	0.35	0.0671	0.0020	1.2769	0.0392	0.1379	0.0042	843	62	835	17	833	24
12WS-79A-20	0.61	0.0670	0.0020	1.2767	0.0393	0.1382	0.0042	839	63	835	18	834	24
12WS-79A-21	0.23	0.0678	0.0020	1.2952	0.0398	0.1386	0.0042	861	63	844	18	837	24
12WS-79A-22	0.55	0.1118	0.0034	5.1267	0.1565	0.3326	0.0101	1829	55	1841	26	1851	49
12WS-79A-23	0.26	0.0670	0.0020	1.2725	0.0392	0.1378	0.0042	837	63	833	18	832	24
12WS-79A-24	0.51	0.1140	0.0034	5.2144	0.1594	0.3315	0.0101	1865	54	1855	26	1846	49
12WS-79A-25	0.12	0.1240	0.0037	6.2756	0.1926	0.3671	0.0113	2015	53	2015	27	2016	53
12WS-79A-26	0.35	0.0677	0.0020	1.2850	0.0394	0.1377	0.0042	857	63	839	18	831	24
12WS-79A-27	1.05	0.1048	0.0032	4.3694	0.1339	0.3022	0.0092	1722	56	1707	25	1702	46
12WS-79A-28	0.52	0.1138	0.0036	5.1201	0.1885	0.3259	0.0114	1861	57	1839	31	1819	55
12WS-79A-29	0.59	0.1542	0.0046	9.3404	0.2865	0.4391	0.0135	2394	50	2372	28	2347	60
12WS-79A-30	0.48	0.1133	0.0034	5.2196	0.1604	0.3339	0.0102	1853	54	1856	26	1857	50

12WS-81H (Dacite) Representative of Group 3 arc-like andesitic and dacitic rocks

12WS-81H-01	0.76	0.1436	0.0042	8.3995	0.2450	0.4199	0.0091	2272	51	2275	26	2260	41
12WS-81H-02	0.12	0.0652	0.0018	1.2377	0.0361	0.1379	0.0022	780	58	818	16	833	12
12WS-81H-03	0.15	0.0663	0.0022	1.2834	0.0435	0.1405	0.0023	816	69	838	19	848	13
12WS-81H-04	0.62	0.0675	0.0030	1.2768	0.0541	0.1365	0.0032	854	88	835	24	825	18

12WS-81H-05	0.89	0.0705	0.0027	1.3458	0.0499	0.1369	0.0031	943	79	866	22	827	17
12WS-81H-06	0.53	0.1074	0.0039	4.7158	0.1680	0.3146	0.0068	1755	67	1770	30	1763	33
12WS-81H-07	0.77	0.0703	0.0042	1.3467	0.0795	0.1377	0.0032	1000	124	866	34	832	18
12WS-81H-08	0.11	0.0667	0.0020	1.2866	0.0402	0.1401	0.0023	827	62	840	18	845	13
12WS-81H-09	0.59	0.1059	0.0035	4.5376	0.1429	0.3074	0.0066	1729	55	1738	26	1728	33
12WS-81H-10	0.65	0.0666	0.0026	1.2713	0.0491	0.1370	0.0030	828	81	833	22	828	17
12WS-81H-11	0.66	0.1344	0.0039	7.5123	0.2171	0.4003	0.0087	2167	50	2174	26	2171	40
12WS-81H-12	1.25	0.0669	0.0027	1.2826	0.0527	0.1374	0.0032	835	85	838	23	830	18
12WS-81H-13	0.78	0.1120	0.0035	5.1635	0.1605	0.3306	0.0071	1832	57	1847	26	1841	35
12WS-81H-14	0.57	0.0664	0.0024	1.2659	0.0460	0.1371	0.0030	820	75	831	21	828	17
12WS-81H-15	0.77	0.1079	0.0031	4.6483	0.1315	0.3102	0.0066	1765	53	1758	24	1742	32
12WS-81H-16	1.11	0.0669	0.0027	1.2723	0.0508	0.1373	0.0030	835	85	833	23	829	17
12WS-81H-17	0.81	0.0663	0.0036	1.2533	0.0686	0.1361	0.0032	817	113	825	31	822	18
12WS-81H-18	1.24	0.1567	0.0044	9.9147	0.2893	0.4546	0.0100	2421	48	2427	27	2416	44
12WS-81H-19	0.14	0.1059	0.0019	4.4344	0.0872	0.3040	0.0044	1729	32	1719	16	1711	22
12WS-81H-20	0.11	0.0652	0.0016	1.2471	0.0316	0.1388	0.0021	781	50	822	14	838	12
12WS-81H-21	0.43	0.0663	0.0026	1.2702	0.0479	0.1374	0.0031	817	83	832	21	830	18
12WS-81H-22	0.14	0.0647	0.0015	1.2337	0.0303	0.1383	0.0021	766	49	816	14	835	12
12WS-81H-23	0.31	0.0663	0.0014	1.2626	0.0281	0.1383	0.0021	815	43	829	13	835	12
12WS-81H-24	0.91	0.0670	0.0027	1.2813	0.0512	0.1372	0.0030	839	83	837	23	829	17
12WS-81H-25	0.70	0.1069	0.0034	4.6077	0.1432	0.3096	0.0067	1748	53	1751	26	1739	33
12WS-81H-26	0.20	0.1771	0.0043	12.810	0.3243	0.5251	0.0082	2625	39	2666	24	2721	35
12WS-81H-27	0.13	0.0655	0.0019	1.2651	0.0375	0.1403	0.0023	789	59	830	17	846	13
12WS-81H-28	0.38	0.1397	0.0041	8.0231	0.2337	0.4137	0.0089	2224	51	2234	26	2232	41
12WS-81H-29	0.65	0.0682	0.0022	1.3044	0.0405	0.1375	0.0029	876	67	848	18	830	17
12WS-81H-30	0.25	0.1586	0.0044	10.269	0.2912	0.4699	0.0077	2441	46	2459	26	2483	34

Supplementary Table DR2. Zircon in-situ Hf and O isotopic analytical results for the early Neoproterozoic igneous rocks in Liuyang (Hunan), central Jiangnan Orogen, South China

analytical spot	Apparent age (Ma)	$^{176}\text{Hf}/^{177}\text{Hf}$	2 σ	$^{176}\text{Yb}/^{177}\text{Hf}$	$^{176}\text{Lu}/^{177}\text{Hf}$	$\epsilon\text{Hf}(t)$	2 σ	T_{DM}	$\delta^{18}\text{O}$	2 σ
12WS-79A (Basaltic andesite) Representative of Group 3 arc-like andesitic and dacitic rocks										
12WS--79A-01	834	0.282240	0.00003	0.028695	0.000896	-0.9	0.6	1.42	7.31	0.14
12WS--79A-03	829	0.282093	0.00003	0.020382	0.000667	-6.1	0.5	1.62	7.65	0.13
12WS--79A-05	829	0.282113	0.00004	0.034541	0.001109	-5.6	0.5	1.61	7.29	0.16
12WS--79A-07	1864	0.281605	0.00002	0.011258	0.000363	-0.2	0.4	2.27		
12WS--79A-08	827	0.282153	0.00003	0.015834	0.000566	-3.9	0.5	1.53	7.44	0.18
12WS--79A-09	832	0.282163	0.00003	0.017295	0.000540	-3.5	0.4	1.52	7.28	0.21
12WS--79A-10	830	0.282063	0.00004	0.004705	0.000177	-6.9	0.4	1.64		
12WS--79A-11	832	0.282046	0.00003	0.009560	0.000314	-7.5	0.6	1.67	7.58	0.15
12WS--79A-13	831	0.282187	0.00002	0.025209	0.000788	-2.8	0.5	1.49	7.63	0.13
12WS--79A-14	834	0.282166	0.00003	0.015729	0.000462	-3.3	0.5	1.51	7.58	0.14
12WS--79A-15	832	0.282086	0.00003	0.009706	0.000300	-6.1	0.6	1.61	7.68	0.20
12WS--79A-17	836	0.282064	0.00002	0.019993	0.000646	-6.9	0.5	1.66	7.58	0.12
12WS--79A-18	829	0.282070	0.00003	0.041101	0.001409	-7.3	0.5	1.68	7.54	0.14
12WS--79A-19	833	0.282029	0.00003	0.025745	0.000804	-8.4	0.0	1.71	7.67	0.14
12WS--79A-20	834	0.282046	0.00002	0.016199	0.000472	-7.5	0.0	1.68	7.43	0.18
12WS--79A-21	837	0.282087	0.00003	0.053149	0.001622	-6.7	0.0	1.67	7.55	0.15
12WS--79A-23	832	0.282066	0.00003	0.016582	0.000521	-6.9	0.0	1.65	7.52	0.17
12WS-81H (Dacite) Representative of Group 3 arc-like andesitic and dacitic rocks										
12WS-81H-04	825	0.28231	0.00002	0.03824	0.00110	1.1	0.0	1.34	6.59	0.16
12WS-81H-05	827	0.28230	0.00003	0.03619	0.00105	1.0	0.0	1.34	6.53	0.21
12WS-81H-06	1763	0.28179	0.00004	0.05112	0.00150	2.9	0.0	2.08	6.96	0.19
12WS-81H-09	1728	0.28193	0.00004	0.03869	0.00121	7.5	0.0	1.86	6.48	0.20
12WS-81H-10	828	0.28212	0.00003	0.02297	0.00066	-5.0	0.0	1.58	7.53	0.16
12WS-81H-12	830	0.28212	0.00003	0.02265	0.00064	-5.1	0.0	1.58	7.30	0.13
12WS-81H-13	1841	0.28186	0.00003	0.04279	0.00127	7.4	0.0	1.96	6.80	0.21
12WS-81H-14	828	0.28219	0.00003	0.02316	0.00071	-2.8	0.0	1.49	6.71	0.19
12WS-81H-16	829	0.28205	0.00004	0.06795	0.00206	-8.5	0.0	1.75	6.84	0.20

12WS-81H-18	2416	0.28146	0.00003	0.04130	0.00119	5.9	0.0	2.51	6.89	0.14
12WS-81H-20	838	0.28204	0.00003	0.02613	0.00071	-7.8	0.0	1.69	6.88	0.15
12WS-81H-21	830	0.28229	0.00002	0.02610	0.00074	0.7	0.0	1.36	7.62	0.14
12WS-81H-24	829	0.28210	0.00002	0.01315	0.00033	-5.6	0.0	1.59	6.80	0.24
12WS-81H-25	1739	0.28188	0.00003	0.03063	0.00092	6.1	0.0	1.93		
12WS-81H-29	830	0.28229	0.00002	0.04188	0.00118	0.7	0.0	1.36	6.60	0.15
12WS-81H-30	2483	0.28152	0.00003	0.02583	0.00082	10.1	0.0	2.41	6.76	0.18

Supplementary Table DR3. Major, trace elemental and Sr-Nd isotopic analytical results for the early Neoproterozoic igneous rocks in Liuyang (Hunan), central Jiangnan Orogen, South China

Sample	12WS-81	12WS-81	12WS-8	12WS-81	12WS-81	12WS-81	12WS-81	12WS-82	12WS-83	12WS-80	12WS-80	12WS-80	12WS-80	WS-8B
	B	P	1Q	R	L	E	I	D		G	J	M	N	
	Leigongcao (Wenjiashi)							Gaozhuang (Cihua)						
Group 1: N-MORB-like mafic rocks														
SiO ₂	47.66	49.1	49.55	49.05	49.13	43.2	48.32	45.89	45.95	47.66	49.22	48.53	48.8	49.28
TiO ₂	1.63	1.04	1.01	1.02	1.14	0.77	1.42	1.92	2.01	0.63	0.71	0.79	0.97	0.71
Al ₂ O ₃	13.24	14.12	14.33	14.25	14.03	12.51	13.66	13.92	13.95	13.95	14.7	14.36	14.02	15.12
FeOt	13.99	11.23	10.87	11.16	11.69	10.63	12.36	13.39	13.68	10.88	11.21	11.71	12.97	10.07
MgO	8.02	8.26	7.85	7.98	7.92	7.02	8.11	7.73	7.67	9.27	9.49	8.73	9.51	9.25
CaO	10.67	11.17	11.24	11.44	10.18	10.79	9.91	11.3	10.44	11.02	8.83	11.26	8.28	9.83
K ₂ O	0.53	0.63	0.69	0.61	1.24	1.35	1.26	2.48	3.19	1.7	0.98	0.75	1.18	0.53
Na ₂ O	1.97	2.03	2.09	2.17	2.2	0.22	2.25	0.24	0.11	1.12	1.72	1.43	1.65	2.55
P ₂ O ₅	0.09	0.07	0.07	0.07	0.08	0.05	0.09	0.13	0.14	0.04	0.04	0.05	0.06	0.05
MnO	0.23	0.17	0.17	0.18	0.2	0.25	0.19	0.2	0.2	0.18	0.17	0.18	0.19	0.18
LOI	1.33	1.7	1.66	1.6	1.7	12.72	1.97	2.18	2.04	2.91	2.32	1.56	1.73	1.98
Total	99.36	99.51	99.53	99.51	99.51	99.51	99.54	99.37	99.37	99.37	99.39	99.35	99.37	99.56
Mg [#]	57	63	62	62	61	61	60	57	57	66	66	63	63	68
V	324	272	251	274	286	239	322	331	350	249	279	281	288	243
Cr	148	235	340	229	162	182	139	159	164	124	78	116	114	332
Co	45	36	32	37	38	32.3	40.5	49	47	38	41	43	43	39.4
Ni	61	112	183	93	88	83.6	70.7	79	80	83	75	79	75	110
Rb	17	27.4	29	24.6	61.3	50.7	91.1	137.3	183.9	74.2	49	34.7	61.4	29.2
Sr	91	74	77	76	82	111.5	108	148	138	80	98	79	60	229
Y	36	20.3	20.4	22.3	23.6	20.21	27.21	40.5	43.3	19	20.9	23.4	24.6	26.5
Zr	84.8	37.6	41.3	35.9	43	27.1	57.7	125.3	135.4	13.9	15.9	19.5	24.8	41.9
Nb	0.813	0.5	0.34	0.2	0.77	0.2	1.55	1.077	1.152	0.273	0.277	0.266	0.388	1.24
Ba	82	94	97	80	204	111	130	179	220	208	98	90	119	123
La	2.44	1.01	1.2	0.8	1.61	1.34	6.07	4.26	4.67	0.54	0.51	0.53	0.73	1.65
Ce	8.41	3.21	3.86	3.1	5.54	3.52	12.98	13.22	14.25	1.69	1.7	1.85	2.45	3.98

Pr	1.74	0.72	0.78	0.68	1.1	0.55	1.94	2.37	2.64	0.32	0.36	0.38	0.48	0.75
Nd	9.81	4.77	4.75	4.62	6.42	3.14	10.5	13.05	14.16	2.18	2.31	2.61	3.25	4.22
Sm	3.94	2.16	2.04	2.19	2.57	1.51	3.39	4.75	5.21	1.25	1.34	1.58	1.82	1.74
Eu	1.48	0.85	0.78	0.87	0.95	0.36	1.3	1.74	1.89	0.65	0.57	0.64	0.74	0.63
Gd	5.89	3.41	3.07	3.36	3.81	2.67	4.67	6.78	7.42	2.49	2.51	2.88	3.32	2.88
Tb	1.04	0.61	0.56	0.62	0.69	0.53	0.8	1.15	1.26	0.47	0.52	0.58	0.66	0.61
Dy	6.76	4.31	3.98	4.41	4.77	3.69	5.38	7.77	8.22	3.27	3.51	3.98	4.49	4.18
Ho	1.54	0.93	0.85	0.93	1.01	0.89	1.13	1.75	1.83	0.76	0.86	0.94	1.07	1.04
Er	4.2	2.71	2.55	2.73	2.99	2.45	3.32	4.63	5.06	2.17	2.48	2.68	3.03	2.86
Tm	0.61	0.39	0.37	0.4	0.43	0.37	0.46	0.67	0.73	0.34	0.37	0.42	0.45	0.44
Yb	3.96	2.55	2.43	2.59	2.85	2.37	3.03	4.32	4.72	2.2	2.44	2.66	3	2.75
Lu	0.6	0.37	0.35	0.38	0.41	0.36	0.45	0.66	0.7	0.34	0.36	0.4	0.45	0.44
Hf	2.7	1.24	1.3	1.17	1.4	1.14	1.57	3.66	4.13	0.75	0.81	0.93	1.26	1.22
Ta	0.05	0.05	0.06	0.04	0.05	0.01	0.19	0.1	0.1	0.03	0.04	0.03	0.03	0.12
Pb	7.58	15.8	12.6	12.2	18.2	4.32	24.3	22.93	20.19	4.38	7.32	11.81	197.3	12.7
Th	0.07	0.1	0.65	0.09	0.39	0.14	0.19	0.11	0.16	0.13	0.14	0.14	0.18	0.21
U	0.03	0.1	0.29	0.13	0.16	0.08	0.2	0.09	0.06	0.02	0.03	0.03	0.04	0.07
⁸⁷ Rb/ ⁸⁶ Sr	0.5416	1.0735			2.1673	1.3188			3.8635	2.689	1.4496			
⁸⁷ Sr/ ⁸⁶ Sr	0.718754	0.726595			0.732534				0.75734	0.739231	0.729301			
2σ	8	8			7				10	10	10			
⁸⁷ Sr/ ⁸⁶ Sr(i)	0.712177	0.713559			0.706216				0.710425	0.706578	0.711698			
¹⁴⁷ Sm/ ¹⁴⁴ Nd	0.2429	0.2739			0.2421	0.2916			0.2225	0.3468	0.3508			
¹⁴³ Nd/ ¹⁴⁴ Nd	0.513165	0.513376			0.513183	0.513273			0.513059	0.513764	0.51367			
2σ	6	4			4	4			6	9	8			
ε _{Nd} (t)	5.27	6.02			5.71	2.07			5.42	5.66	3.38			

(to be continued)

Sample	WS-8C	WS-8A*	WS-8D*	WS-8E*	WS-8F*	01WS-30	01WS-31	01WS-32	01WS-33	01WS-56	01WS-57	01WS-58	01WS-59	01WS-61	
	Zhonghuayuan (Cihua)					Lengshuichong (Wenjiashi)					Tieshanjie (Wenjiashi)				
	Group 1: N-MORB-like mafic rocks														
SiO ₂	50.48	50.82	50.18	50.75	50.87	48.32	50.01	50.14	48.03	50.01	48.31	46.29	49.58	50.45	
TiO ₂	0.71	0.68	0.69	0.7	0.68	0.63	0.69	0.71	0.58	1.24	1.2	1.38	1.08	1.23	
Al ₂ O ₃	15.14	14.87	15.1	15.2	15.01	14.65	14.18	14.09	13.81	13.06	13.8	15.34	14.23	13.38	
FeOt	9.74	9.42	9.77	9.68	9.45	10.35	10.51	10.67	12.99	12.99	12.69	14.87	12.07	13.33	
MgO	8.57	8.49	8.81	8.51	8.55	9.33	7.44	7.76	9.69	7.21	8.09	8.74	7.49	7.65	
CaO	9.6	10.93	10.29	9.71	11.04	9.49	11.33	10.69	9.25	9.96	9.32	7.34	10.29	8.46	
K ₂ O	0.82	0.44	0.7	0.53	0.3	2.14	1.6	1.87	1.21	1.62	1.5	1.08	1.51	0.79	
Na ₂ O	2.26	1.7	1.69	2.38	1.66	0.56	0.44	0.34	0.34	0.49	0.62	0.55	0.54	0.79	
P ₂ O ₅	0.05	0.05	0.04	0.05	0.05	0.05	0.06	0.06	0.05	0.1	0.1	0.11	0.09	0.1	
MnO	0.24	0.21	0.19	0.23	0.21	0.21	0.2	0.21	0.29	0.24	0.34	0.26	0.28	0.31	
LOI	1.96	1.96	2.13	1.82	1.76	4.11	3.37	3.28	3.59	2.91	3.85	3.86	2.68	3.32	
Total	99.57	99.56	99.58	99.57	99.57	99.84	99.83	99.82	99.83	99.83	99.82	99.82	99.84	99.81	
Mg [#]	67	68	68	67	68	68	62	63	63	56	59	57	58	56	
V	239	244	237	246	244	301	301	305	284	360	354	386	347	372	
Cr	316	320	336	314	304	119	85	86	105	97	116	151	131	170	
Co	36.7	40.4	38.6	35.7	38.2	36.6	38	39.5	42.3	46.3	43.4	47.6	48	43.4	
Ni	109	100	97.6	107	96.3	77.4	56.3	61.9	79.8	60.2	62.7	78	71.9	87.9	
Rb	56.2	22.5	32.3	35.7	14.1	30.9	25.3	19.5	6.2	15	23.3	65.6	21.4	37.3	
Sr	265	303	164	270	291	83.5	129	126.9	111	47.7	104	88.6	99	92.3	
Y	27.1	27.8	26.4	27.2	26.5	22.08	24.32	26.37	24.04	34.94	34.37	33.18	33.67	33.98	
Zr	39.7	41.8	42	39.3	40.1	25.2	31.4	32.1	25.6	32.1	33.4	35.7	30.9	36.1	
Nb	1.18	1.34	1.33	1.27	1.26	0.94	1.25	1.23	0.94	0.32	0.37	0.33	0.41	0.49	
Ba	142	145	128	101	93	46	35	29	11	65	143	227	79	107	
La	3.23	1.69	2.46	1.67	1.7	1.07	1.33	1.2	1.39	0.86	0.88	3.79	0.92	1.39	
Ce	3.56	5.04	6.98	5.25	5.06	2.69	3.71	3.58	3.41	2.85	2.98	7.37	2.96	4.09	
Pr	0.96	0.9	1.13	0.84	0.85	0.42	0.62	0.64	0.53	0.59	0.65	1.01	0.62	0.78	
Nd	4.67	4.95	6.54	4.89	4.7	2.82	3.49	3.57	2.85	4.22	4.34	5.6	4.35	4.75	
Sm	2.02	1.99	2.26	1.93	1.78	1.41	1.57	1.69	1.56	2.17	2.46	2.74	2.12	2.65	

Eu	1.11	0.76	1.01	1.01	0.76	0.54	0.65	0.7	0.74	0.92	1.03	1.28	0.83	0.73
Gd	3.01	3.25	3.23	2.9	3.15	2.26	2.63	2.71	2.45	3.9	4.06	3.97	3.77	4.15
Tb	0.6	0.61	0.65	0.58	0.61	0.54	0.62	0.6	0.6	0.89	0.87	0.89	0.82	0.89
Dy	4.25	4.24	4.47	4.06	4.06	3.71	4.01	4.25	3.84	6.12	5.79	6.05	5.38	6.05
Ho	1.09	1.05	1.03	1.06	1.02	0.88	0.98	1.01	0.99	1.42	1.43	1.38	1.34	1.41
Er	2.97	3.1	3.06	3.03	2.89	2.6	2.8	2.96	2.71	3.94	3.92	4.01	3.64	3.96
Tm	0.44	0.46	0.43	0.45	0.44	0.38	0.42	0.46	0.43	0.61	0.58	0.6	0.53	0.56
Yb	2.77	2.98	2.84	2.86	2.77	2.62	2.9	2.91	3.01	3.97	3.91	4.12	3.44	3.91
Lu	0.44	0.48	0.43	0.45	0.42	0.44	0.45	0.48	0.47	0.68	0.63	0.67	0.58	0.68
Hf	1.21	1.19	1.17	1.25	1.15	0.86	1.05	1.05	0.86	1.49	1.53	1.67	1.47	1.69
Ta	0.09	0.12	0.1	0.1	0.1	0.07	0.1	0.09	0.07	0.03	0.03	0.02	0.04	0.04
Pb	7.83	11.27	8.27	8.07	10.64	3.61	4.85	4.17	3.94	12.43	11.71	10.25	10.5	27.27
Th	0.19	0.32	0.27	0.18	0.27	0.13	0.11	0.12	0.19	0.22	0.15	0.11	0.23	0.34
U	0.1	0.09	0.07	0.05	0.07	0.03	0.03	0.03	0.04	0.05	0.03	0.08	0.05	0.07
$^{87}\text{Rb}/^{86}\text{Sr}$		0.2153	0.571		0.1405		0.5685		0.162					
$^{87}\text{Sr}/^{86}\text{Sr}$		0.713682	0.71489 4		0.71296		0.714204		0.711303					
2σ		11	12		12		14		20					
$^{87}\text{Sr}/^{86}\text{Sr}(i)$		0.711068	0.70796		0.711255		0.707301		0.709336					
$^{147}\text{Sm}/^{144}\text{Nd}$		0.2431	0.209		0.2291		0.2709		0.3305					
$^{143}\text{Nd}/^{144}\text{Nd}$		0.513137	0.51279 1		0.513113		0.513446		0.513528					
2σ		10	8		10		10		10					
$\epsilon_{\text{Nd}}(t)$		4.7	1.3		5.76		7.7		2.83					

(to be continued)

Sample	09WS-3	09WS-3	09WS-3	09WS-3	09WS-3	09WS-3	09WS-3	01WS-3*	01WS-4*	01WS-5*	01WS-8*	09WS-1*	09WS-2*	10WS-1*
	F	G	H	A*	B*	D*	E*							
Nanqiao (Wenjiashi)								Shuikou (Wenjiashi)						
Group 1: N-MORB-like mafic rocks														
SiO ₂	50.31	48.91	49.73	49.81	48.83	49.41	48.92	49.92	49.84	50.07	49	49.4	47.49	49.44
TiO ₂	0.65	0.75	0.84	0.99	0.62	0.69	0.72	0.89	0.9	0.9	0.65	0.92	0.65	0.65
Al ₂ O ₃	13.05	13.64	14	14.67	13.61	13.48	14.86	13.73	13.67	13.7	14.3	13.96	14.02	14.21
FeOt	12.25	12.51	11.75	12.92	11.18	11.55	13.26	11.31	11.37	11.43	9.88	12.36	11.84	9.8
MgO	7.39	7.85	7.3	7.89	8.36	7.99	8.62	7.18	7.22	7.36	8.01	7.16	8.2	8.11
CaO	11.6	11.77	11.27	6.49	13.28	11.13	7.92	10.7	10.88	10.18	12.01	10.77	11.83	11.45
K ₂ O	0.34	0.13	0.48	0.48	0.08	0.55	0.59	0.8	0.64	0.93	1.05	0.85	0.47	1.25
Na ₂ O	1.8	1.43	1.67	1.44	1.43	1.52	2.09	1.81	1.89	1.85	1.31	1.6	1.34	1.32
P ₂ O ₅	0.05	0.05	0.06	0.07	0.04	0.05	0.05	0.09	0.07	0.09	0.05	0.07	0.04	0.05
MnO	0.22	0.21	0.2	0.2	0.19	0.22	0.22	0.2	0.2	0.2	0.19	0.19	0.21	0.19
LOI	1.72	2.12	2.09	4.45	1.99	2.9	2.12	3.2	3.15	3.13	3.37	2.08	3.34	3.36
Total	99.38	99.37	99.39	99.42	99.61	99.49	99.35	99.83	99.83	99.84	99.82	99.36	99.43	99.83
Mg [#]	58	59	59	59	64	62	60	60	60	60	65	57	62	66
V	288	278	293	311		275		359	338	333	286	305	278	279
Cr	123	103	121	123		176		140	103	201	122	95	105	153
Co	40.9	36.6	40.6	31.8		41.7		39.7	48.7	47.2	47.1	42.1	58.3	48.8
Ni	65.7	80.8	64.3	70.4		70.1		78.2	67	114.7	80	60.7	83.5	98.4
Rb	23.8	5.6	23.8	24.7		32.7		53.2	38	60.3	70	45.9	24.6	87
Sr	132.7	107.9	131.3	88.9		66.8		112.6	111.8	95.5	95.8	95.4	107.8	90.4
Y	28.08	25.22	28.32	31.35		24.82		33.08	32.87	32.15	26.19	30.33	24.11	24.5
Zr	53	42.4	53.6	50.7		42.7		44.6	43.6	44	30.7	59.6	40.8	29.9
Nb	1.22	0.95	1.18	1.5		0.88		1.94	1.9	1.98	1.28	1.51	1.06	1.29
Ba	44	18	44	41		52		75	57	77	74	63	40	83
La	1.49	1.16	1.49	1.62		1.11		1.83	1.9	1.77	1.3	2.15	1.12	1.35
Ce	4.49	3.39	4.45	4.95		3.26		5.13	5.52	5.09	3.72	5.99	3.29	3.95
Pr	0.82	0.6	0.81	0.87		0.58		0.87	0.89	0.85	0.66	0.98	0.56	0.66
Nd	4.56	3.41	4.6	5		3.35		4.98	4.89	4.77	3.67	5.52	3.24	3.69

Sm	2	1.53	1.95	2.15	1.55	2.15	2.07	2.21	1.6	2.15	1.5	1.6
Eu	0.81	0.62	0.79	1.02	0.6	0.79	0.82	0.84	0.67	0.81	0.63	0.6
Gd	3.28	2.73	3.31	3.62	2.76	3.47	3.42	3.49	2.68	3.51	2.61	2.43
Tb	0.73	0.62	0.73	0.81	0.62	0.77	0.78	0.79	0.64	0.75	0.59	0.58
Dy	4.95	4.42	4.96	5.5	4.37	5.3	5	5.41	4.17	5.25	4.16	3.91
Ho	1.13	0.99	1.13	1.25	0.98	1.27	1.22	1.27	0.98	1.19	0.94	0.94
Er	3.37	2.96	3.29	3.67	2.96	3.65	3.59	3.6	2.78	3.45	2.75	2.87
Tm	0.51	0.45	0.49	0.57	0.45	0.54	0.56	0.56	0.42	0.52	0.43	0.4
Yb	3.36	2.95	3.29	3.69	2.95	3.6	3.71	3.69	2.99	3.57	2.88	2.82
Lu	0.52	0.46	0.52	0.57	0.46	0.6	0.61	0.6	0.48	0.54	0.44	0.48
Hf	1.62	1.27	1.6	1.63	1.3	1.46	1.43	1.51	1.1	1.75	1.27	1.06
Ta	0.1	0.07	0.1	0.12	0.07	0.13	0.13	0.14	0.09	0.13	0.08	0.1
Pb	3.13	3.6	3.11	2	2.75	6.5	5.22	8.84	6.59	5.54	3.34	6.03
Th	0.12	0.13	0.12	0.14	0.14	0.21	0.29	0.16	0.12	0.32	0.11	0.24
U	0.04	0.03	0.04	0.04	0.04	0.05	0.07	0.04	0.03	0.07	0.03	0.04
$^{87}\text{Rb}/^{86}\text{Sr}$						1.3693	0.9856					
$^{87}\text{Sr}/^{86}\text{Sr}$						0.727048	0.722308					
2σ						15	14					
$^{87}\text{Sr}/^{86}\text{Sr}(i)$						0.71042	0.71034					
$^{147}\text{Sm}/^{144}\text{Nd}$						0.2611	0.2559					
$^{143}\text{Nd}/^{144}\text{Nd}$						0.513417	0.513373					
2σ						8	9					
$\epsilon_{\text{Nd}}(t)$						8.21	7.91					

(to be continued)

Sample	10WS-4*	10WS-6*	10WS-8*	10WS-10*	12WS-73 H*	12WS-73 J*	12WS-73 K*	12WS-73 L*	12WS-73 N*	12WS-74 B*	12WS-74 C*	12WS-74 D*	12WS-74 G*	13WS-04A *	
	Fangxi (Yifeng)							Yanjiatan (Wenjiashi)							
	Group 1: N-MORB-like mafic rocks							Group 2: Arc-like basaltic rocks							
SiO ₂	49.72	49.82	49.25	49.18	49.93	47.01	48.15	51.31	51.89	48.72	50.32	49.79	51.91	51.38	
TiO ₂	0.74	0.71	0.63	0.81	0.72	0.68	0.69	0.7	0.75	0.72	0.69	0.75	0.67	0.73	
Al ₂ O ₃	13.9	14.03	14.25	14.1	12.78	11.86	12.05	13.03	13.18	12.98	13.12	13.19	13.27	14.32	
FeOt	10.32	10.33	10.5	11.99	11.01	11.59	11.47	10.3	10.26	11.22	10.36	11.25	9.49	9.84	
MgO	7.79	7.78	8.19	7.78	8.64	12.28	12.24	8.4	8.19	9.35	8.87	9.08	8.39	7.5	
CaO	11.31	11.4	10.94	11.65	11.65	11.41	10.45	11.2	9.58	11.47	11.21	10.37	10.95	10.83	
K ₂ O	1.14	1.17	0.23	0.24	0.18	0.36	0.8	0.29	0.59	0.36	0.39	0.45	0.42	0.55	
Na ₂ O	1.46	1.42	2.23	1.51	1.25	0.97	0.74	1.82	2.03	1.44	1.55	1.58	1.65	1.98	
P ₂ O ₅	0.06	0.06	0.05	0.07	0.06	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07	
MnO	0.19	0.19	0.19	0.22	0.15	0.16	0.16	0.14	0.14	0.15	0.15	0.16	0.14	0.15	
LOI	3.12	2.9	3.35	2.07	3.02	3	2.56	2.13	2.71	2.89	2.74	2.7	2.59	2.21	
Total	99.75	99.81	99.81	99.61	99.38	99.37	99.36	99.38	99.38	99.36	99.46	99.38	99.55	99.56	
Mg [#]	64	64	65	60	65	71	71	66	65	66	67	65	67	64	
V	279	281	316	306	246	232	235	228	246	251	248	253	236	242	
Cr	198	145	128	98	468	754	793	436	491	491	447	483	483	279	
Co	47.2	44.8	44.7	40.9	48	60	61	43	49	44	50	49	43	31	
Ni	125.7	87.1	85.3	70.6	127	277	262	126	142	143	139	140	154	82	
Rb	70.1	72.2	11.8	15.9	7.1	14.8	25.6	12.5	25.1	13.6	18	18	16.3	21.9	
Sr	110.2	114.2	138.7	77.5	136	106	94	96	105	124	109	117	113	127	
Y	25.96	36.22	24.82	29.7	16.8	15.3	15.9	15.9	16.3	16.7	16.5	17.1	16.7	19.8	
Zr	31.1	33.6	25.1	39.7	63.2	59.5	60	60.9	63.7	62.8	66.2	66.4	57.2	61.5	
Nb	1.22	1.19	1.26	1.38	3.32	3.1	3.2	3.2	3.38	3.27	3.44	3.45	3.68	3.65	
Ba	74	74	30	26	37	62	142	73	138	78	101	98	116	162	
La	1.31	1.27	1.15	4.01	7.4	6.33	6.72	7.15	6.82	7.29	7.28	7.33	6.65	8.48	
Ce	3.81	3.75	3.13	4.31	16.29	14.22	14.99	15.39	15.55	15.95	16.38	16.73	14.25	17.18	
Pr	0.67	0.63	0.56	1.21	2.12	1.89	2	2.03	2.03	2.12	2.16	2.19	1.88	2.13	
Nd	3.62	3.57	3.1	5.33	9.21	8.38	8.73	8.81	8.86	9.21	9.47	9.62	7.81	9.11	

Sm	1.72	1.62	1.47	2.12	2.4	2.1	2.17	2.21	2.24	2.31	2.38	2.41	1.99	2.28
Eu	0.72	0.67	0.57	0.93	0.72	0.67	0.69	0.65	0.68	0.78	0.73	0.72	0.61	0.71
Gd	2.72	2.63	2.49	3.36	2.91	2.63	2.77	2.78	2.78	2.86	3.01	3.12	2.32	2.72
Tb	0.6	0.6	0.58	0.7	0.5	0.45	0.46	0.47	0.49	0.5	0.51	0.53	0.4	0.47
Dy	4.25	4.09	3.94	5.18	3.16	2.87	3.04	2.95	3	3.17	3.15	3.28	2.66	3
Ho	1.02	1.03	0.96	1.24	0.68	0.62	0.64	0.67	0.67	0.69	0.69	0.72	0.54	0.62
Er	2.88	2.96	2.93	3.45	1.91	1.76	1.84	1.8	1.85	1.95	1.99	2.02	1.62	1.83
Tm	0.39	0.43	0.43	0.49	0.28	0.26	0.27	0.27	0.28	0.28	0.3	0.29	0.23	0.26
Yb	2.97	3.17	2.97	3.28	1.88	1.71	1.78	1.72	1.83	1.93	1.88	1.92	1.51	1.71
Lu	0.5	0.49	0.47	0.49	0.3	0.27	0.27	0.28	0.29	0.3	0.31	0.32	0.22	0.25
Hf	1.09	1.1	0.89	1.21	1.75	1.66	1.63	1.64	1.72	1.71	1.77	1.82	1.41	1.58
Ta	0.09	0.1	0.08	0.11	0.29	0.25	0.26	0.27	0.26	0.27	0.28	0.29	0.47	0.29
Pb	9.07	7.32	6.38	4.54	4.17	3.15	2.66	3.25	2.98	3.53	3.21	3.55	10.2	10.3
Th	0.11	0.13	0.14	0.14	2.29	2.07	2.1	2.17	2.17	2.21	2.3	2.31	1.92	2.32
U	0.07	0.03	0.04	0.07	0.48	0.43	0.47	0.44	0.57	0.44	0.48	0.51	0.52	0.52
⁸⁷ Rb/ ⁸⁶ Sr	1.8334	0.2464		0.153			0.792		0.694			0.447		0.5
⁸⁷ Sr/ ⁸⁶ Sr	0.733435	0.712914		0.7081			0.715447		0.712907			0.71009		0.711014
2σ	18	16		11			9		10			8		14
⁸⁷ Sr/ ⁸⁶ Sr(i)	0.711172	0.709922		0.706267			0.705941		0.704582			0.704722		0.705015
¹⁴⁷ Sm/ ¹⁴⁴ Nd	0.2744	0.2877		0.157			0.151		0.153			0.151		0.151
¹⁴³ Nd/ ¹⁴⁴ Nd	0.513487	0.513624		0.512362			0.512365		0.512359			0.51236		0.512353
2σ	9	11		7			7		8			8		6
ε _{Nd} (t)	8.01	9.36		-1.14			-0.37		-0.75			-0.57		-0.68

(to be continued)

Sample	13WS-04	13WS-04	12WS-75	12WS-	12WS-75	13WS-05	13WS-07	13WS-08	12WS-76	12WS-76	01WS-62	01WS-64	12WS-79	12WS-79B
	E*	F*	C*	75D*	G*	A*	A*	A	D*	E*			A*	*
	Yanjiatan (Wenjiashi)				Nanpeng (Wenjiashi)				Jianxichong (Wenjiashi)		Tieshanjie (Wenjiashi)		Duanjiang (Wenjiashi)	
	Group 2: Arc-like basaltic rocks												Group 3	
SiO ₂	52.12	51.1	51.71	48.92	49.3	50.87	50.82	53.82	48.82	47.92	50.06	49.99	57.03	59.67
TiO ₂	0.71	0.74	0.7	0.75	0.68	0.79	0.69	0.72	0.74	0.79	0.79	0.77	0.91	1.02
Al ₂ O ₃	14.03	14.34	13.53	13.16	13.77	13.36	13.83	12.9	13.09	13.55	11.51	11.64	19.46	16.78
FeOt	9.78	10.6	10.05	11.32	9.76	9.78	9.44	7.33	11.27	11.65	8.23	8.3	6.88	7.32
MgO	7.63	7.87	8.01	9.28	7.92	9.51	9.26	10.3	9.68	9.91	11.79	11.76	4.05	3.61
CaO	9.36	8.55	10.28	10.94	8.78	9.74	9.23	7.76	11.08	10.23	10.23	10.5	2.76	3.25
K ₂ O	0.89	0.34	0.59	0.18	0.33	0.53	0.99	1.26	0.36	0.18	1.9	1.68	3.92	3.72
Na ₂ O	2.29	3.32	2.05	1.7	3.33	1.66	1.71	2.16	1.19	2.15	1.67	1.79	1.76	1.41
P ₂ O ₅	0.07	0.07	0.06	0.06	0.07	0.06	0.05	0.14	0.05	0.06	0.3	0.31	0.14	0.15
MnO	0.15	0.15	0.14	0.15	0.16	0.15	0.13	0.14	0.14	0.15	0.15	0.14	0.07	0.1
LOI	2.5	2.47	2.31	2.9	5.75	3.13	3.4	3.08	3	2.78	3.15	2.89	2.49	2.24
Total	99.53	99.55	99.43	99.36	99.85	99.58	99.55	99.62	99.42	99.37	99.78	99.77	99.47	99.27
Mg [#]	65	63	65	66	65	69	70	77	67	66	77	77	60	56
V	233	244	216	229	253	205	178	231	258	259	231	225	163	176
Cr	304	280	392	487	320	430	370	437	454	495	919	857	109	92
Co	31	29	42	47	35	32	30	38.1	33	46	48.5	48.8	18.0	18.0
Ni	87	73	126	150	52	148	86	160	120	138	418.8	350.3	39.0	40.0
Rb	34.7	11.6	29.1	25.4	11.9	28.3	37.5	0.6	4.6	7.2	70.3	88.7	189.0	201.0
Sr	110	96	106	104	76	124	110	90	264	119	290.2	291.9	107.0	149.0
Y	19.2	19.5	18.1	18.1	18.8	19.4	13.9	18.09	16.4	17.8	19.47	19.7	35.70	38.40
Zr	60.8	63	75.7	80.5	64.9	68.6	51.4	58.4	59.3	69.5	137.4	138.3	196.0	262.0
Nb	3.76	3.87	4.07	4.14	3.94	4.13	3.21	3.51	3.1	3.72	6.1	6	15.37	17.74
Ba	231	97	139	109	98	124	206	8	23	41	297	281	1123	402
La	7.95	7.88	10.71	11.23	8.4	10.95	7.95	8.33	6.95	7.99	47.38	47.53	42.49	59.02
Ce	16.8	16.95	22.57	23.31	15.3	16.67	16.28	16.88	15.27	17.67	101.5	101.73	89.33	118.40
Pr	2.09	2.16	2.9	2.86	2.36	2.66	1.92	2.07	2	2.3	10.88	11.21	11.11	14.88

Nd	8.93	9.2	11.94	11.82	9.43	10.6	7.77	8.62	8.75	9.97	41.67	42.06	39.38	53.08
Sm	2.2	2.32	2.78	2.73	2.27	2.47	1.79	2.17	2.21	2.5	7.11	7.37	8.13	10.17
Eu	0.67	0.71	0.69	0.72	0.7	0.65	0.51	0.63	0.89	0.75	1.63	2	1.97	2.37
Gd	2.63	2.76	3.05	3.21	2.55	2.72	1.98	2.51	2.78	3.13	5.58	5.63	7.22	8.06
Tb	0.46	0.48	0.54	0.54	0.44	0.47	0.33	0.43	0.47	0.53	0.75	0.73	1.14	1.30
Dy	2.97	3.1	3.33	3.39	2.81	2.97	2.11	2.79	3	3.37	3.67	3.86	6.62	7.24
Ho	0.61	0.63	0.76	0.73	0.59	0.61	0.44	0.58	0.65	0.73	0.81	0.8	1.40	1.55
Er	1.78	1.86	2.03	2.02	1.75	1.84	1.3	1.7	1.83	2	2.07	2.11	3.79	4.19
Tm	0.25	0.27	0.31	0.31	0.25	0.27	0.19	0.25	0.27	0.3	0.28	0.29	0.58	0.62
Yb	1.68	1.75	2.01	2.03	1.67	1.75	1.27	1.6	1.77	2.01	1.88	1.82	3.92	4.12
Lu	0.25	0.26	0.32	0.33	0.24	0.26	0.18	0.23	0.28	0.32	0.28	0.29	0.59	0.62
Hf	1.57	1.64	2.28	2.2	1.62	1.76	1.3	1.53	1.65	1.88	4.04	4.18	5.97	7.82
Ta	0.34	0.29	0.39	0.36	0.31	0.38	0.39	0.28	0.27	0.33	0.44	0.46	1.33	1.57
Pb	7.82	6.16	5.62	4.4	8.77	7.2	8.11	28.2	7.95	4.53	24.46	18.03	26.14	30.00
Th	2.31	2.36	3.86	3.92	2.81	3.67	2.63	2.27	2.19	2.51	17.31	17.47	19.37	23.72
U	0.55	0.56	0.84	0.86	0.62	0.76	0.55	0.5	0.45	0.53	2.86	2.77	3.85	4.74
$^{87}\text{Rb}/^{86}\text{Sr}$					0.451			0.0191		0.174				
$^{87}\text{Sr}/^{86}\text{Sr}$					0.713524			0.710012		0.709312				
2σ					18			12		9				
$^{87}\text{Sr}/^{86}\text{Sr}(i)$					0.708108			0.709783		0.707219				
$^{147}\text{Sm}/^{144}\text{Nd}$					0.146			0.1523		0.151				
$^{143}\text{Nd}/^{144}\text{Nd}$					0.512273			0.512332		0.51234				
2σ					10			6		7				
$\epsilon_{\text{Nd}}(t)$					-1.64			-1.2		-0.94				

(to be continued)

Sample	12WS-79	12WS-79	12WS-7	01WS-28	01WS-29	12WS-77D	12WS	12WS-81	12WS-81	12WS-81	12WS-81	12WS-81	12WS-81
	C*	D*	9E*				-81C	D	H	J	K	M	N
	Duanjiang (Wenjiashi)			Shuikou (Wenjiashi)		Cangxi (Wenjiashi)		Leigongcao (Wenjiashi)					
Group 3: Arc-like andesitic and dacitic rocks													
SiO ₂	55.89	56.71	59.78	61.48	61.19	59.70	59.73	62.67	62.97	58.01	64.34	58.51	61.59
TiO ₂	0.96	1.09	0.86	0.79	0.88	0.83	0.75	0.78	0.68	0.72	0.64	0.74	0.71
Al ₂ O ₃	19.96	18.76	18.1	16.5	16.23	16.81	14.08	9.39	13.07	15.97	11.43	16.89	14.7
FeOt	7.19	7.59	7.7	7.7	7.51	8.30	6.53	5.98	6.93	6.48	7.15	7.14	6.71
MgO	3.78	3.48	3.35	4	3.89	2.69	4.7	4.79	5.69	4.88	5.73	4.42	4.64
CaO	3.02	4.63	3.1	2.1	2.56	2.06	6.05	9.26	3.59	5.19	3.2	3.69	3.98
K ₂ O	4.16	3.51	3.43	3.35	3.71	2.19	3.51	1.96	2.46	4.42	3.18	4.14	2.74
Na ₂ O	1.63	1.72	1.47	1.86	1.24	3.71	1.07	1.1	1.03	1.59	1.17	1.53	1.88
P ₂ O ₅	0.12	0.13	0.14	0.1	0.11	0.11	0.12	0.11	0.12	0.13	0.11	0.13	0.13
MnO	0.08	0.11	0.09	0.09	0.13	0.26	0.1	0.12	0.1	0.09	0.1	0.1	0.1
LOI	2.48	2.03	1.86	1.39	1.93	2.72	2.82	3.33	2.93	2	2.57	2.14	2.29
Total	99.27	99.76	99.88	99.36	99.38	99.37	99.47	99.5	99.54	99.47	99.61	99.43	99.48
Mg [#]	58	54	53	55	55	43	63	65	66	64	65	59	62
V	214	110	140	120	190	158	144	88	79	147	89	126	113
Cr	102	55	75	194	76	147	152	51	49	90	64	93	90
Co	19.0	17.0	20.0	16.0	20.0	24.0	15.7	11.9	10.8	18.0	15.0	16.0	16.0
Ni	40.0	34.0	36.0	37.0	41.0	54.0	37.8	27.2	30.0	48.0	38.0	47.0	47.0
Rb	180.0	182.0	173.0	193.0	177.0	115.0	135.0	94.3	97.2	262.0	145.0	207.0	204.0
Sr	136.0	62.0	74.0	87.0	101.0	189.0	60.3	90.9	80.8	103.0	58.0	107.0	99.0
Y	39.20	26.70	28.90	29.70	35.40	28.80	36.60	31.13	19.30	21.80	20.40	23.00	23.60
Zr	265.0	194.0	212.0	235.0	143.0	183.0	219.9	309.6	165.0	164.0	173.0	156.0	169.0
Nb	17.97	13.13	14.42	12.98	16.44	12.9	14.46	12.06	9.69	13.9	11.8	13.2	13.3
Ba	371	355	354	324	901	407	508	181	203	588	285	814	368
La	59.65	35.79	35.96	41.26	44.47	40.48	49.72	45.00	34.70	33.30	28.50	31.30	35.50
Ce	120.60	73.77	71.67	85.32	89.86	81.77	95.85	92.48	67.80	68.50	57.10	66.60	68.90
Pr	14.83	9.25	8.80	10.32	11.33	9.47	11.83	11.91	7.78	7.56	6.52	7.32	8.25

Nd	55.16	32.75	33.47	38.42	43.36	37.28	45.04	41.72	29.40	28.60	23.60	27.10	30.60
Sm	10.03	6.40	6.25	7.23	8.41	7.37	8.58	8.36	5.57	5.43	4.47	5.40	6.10
Eu	2.28	1.04	0.98	1.26	2.11	1.60	1.45	1.66	1.02	1.06	0.92	1.19	1.21
Gd	8.34	5.61	5.89	6.49	7.69	6.66	7.65	6.98	4.91	5.09	4.25	5.06	5.63
Tb	1.30	0.90	0.91	1.02	1.25	1.00	1.27	1.05	0.74	0.77	0.70	0.81	0.90
Dy	7.48	5.27	5.52	5.78	7.50	5.69	7.69	6.09	4.15	4.36	4.26	4.84	5.18
Ho	1.56	1.14	1.16	1.22	1.50	1.17	1.61	1.23	0.81	0.86	0.85	0.97	1.02
Er	4.37	3.03	3.11	3.34	4.20	3.27	4.27	3.33	2.40	2.52	2.51	2.92	3.06
Tm	0.65	0.46	0.48	0.51	0.63	0.50	0.65	0.51	0.33	0.35	0.36	0.43	0.45
Yb	4.40	2.99	3.18	3.28	4.16	3.32	4.25	3.18	2.18	2.37	2.40	2.90	2.97
Lu	0.69	0.44	0.49	0.51	0.64	0.55	0.66	0.48	0.32	0.36	0.35	0.43	0.44
Hf	6.98	6.07	5.56	6.15	3.81	5.01	6.05	8.94	4.57	4.03	4.66	4.19	4.66
Ta	1.64	1.15	1.21	1.17	1.41	1.08	1.29	0.96	0.78	1.08	0.98	1.09	1.01
Pb	29.59	15.87	15.44	14.88	27.22	27.38	12.04	12.83	20.90	33.10	14.10	30.40	25.10
Th	22.49	14.41	13.77	13.78	19.38	15.47	16.71	14.92	9.89	12.60	11.80	14.10	13.60
U	4.79	3.04	3.05	2.94	4.10	2.47	3.32	3.15	2.15	2.61	2.41	2.64	2.55
$^{87}\text{Rb}/^{86}\text{Sr}$				6.4316						8.3880		7.2345	
$^{87}\text{Sr}/^{86}\text{Sr}$				0.78803						0.80048		0.77648	
2σ				9						9		9	
$^{87}\text{Sr}/^{86}\text{Sr}(i)$				0.710855						0.711988		0.709178	
$^{147}\text{Sm}/^{144}\text{Nd}$				0.1138						0.1148		0.1205	
$^{143}\text{Nd}/^{144}\text{Nd}$				0.511807						0.511874		0.51194	
2σ				5						4		4	
$\varepsilon_{\text{Nd}}(t)$				-7.32						-6.12		-5.44	

Note: Data with * are from Zhang et al. (2011, 2013a) and Zhang and Wang (2016), respectively.