Table S1 Geochronological data for Mesozoic W-related granitoids in NE China

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Order | Sample | Location | Lithology | Mineral | Method | Age (Ma) | References |
| Mesozoic W-related granitoids in the northern and central Great Xing’an Range belt |
| 1 | WRNT-1 | Wurinitu | Fine-grained granite | Zircon | LA-ICP-MS | 133.6±3.3 | Liu et al., 2011 |
| 2 | WR-28 | Wurinitu | Granite | Zircon | LA-ICP-MS | 139.7±1.5 | Yang et al., 2016 |
| 3 | WR-51 | Wurinitu | Granite | Zircon | LA-ICP-MS | 139.4±1.4 | Yang et al., 2016 |
| 4 | 633 | Wurinitu | Granite porphyry | Zircon | LA-ICP-MS | 131.9±1.5 | Zhang et al., 2016 |
| 5 | 1024 | Wurinitu | Monzogranite | Zircon | LA-ICP-MS | 137.3±1.3 | Zhang et al., 2016 |
| 6 | SM13-3 | Shamai | Biotite monzogranite | Zircon | LA-ICP-MS | 153±1 | Jiang et al., 2016 |
| 7 | SM13-4 | Shamai | Biotite monzogranite | Zircon | LA-ICP-MS | 146±1 | Jiang et al., 2016 |
| 8 | 1 | Shamai | Biotite granite | Zircon | TIMS | 139.1±0.93 | Li et al., 2016 |
| 9 | DYN-19 | Dayana | Biotite monzogranite | Zircon | LA-ICP-MS | 134±1 | Xiang et al., 2016 |
| 10 | DYN-30 | Dayana | Biotite monzogranite | Zircon | LA-ICP-MS | 135±1 | Xiang et al., 2016 |
| 11 | DYN-65 | Dayana | Quartz porphyry | Zircon | LA-ICP-MS | 130±1 | Xiang et al., 2016 |
| 12 | WL01 | Weilianhe | Granite | Zircon | LA-ICP-MS | 143±1 | Xiang et al., 2018 |
| 13 | HH4309-157 | Honghuaerji | Monzogranite | Zircon | LA-ICP-MS | 179.2±0.6 | Guo et al., 2015 |
| 14 | HH2704-12 | Honghuaerji | Monzogranite | Zircon | LA-ICP-MS | 179.0±0.6 | Guo et al., 2015 |
| 15 | HH5503-01 | Honghuaerji | Quartz monzonite | Zircon | LA-ICP-MS | 178.6±0.7 | Guo et al., 2015 |
| 16 | HHW-1 | Honghuaerji | Biotite granite | Zircon | LA-ICP-MS | 179.4±2.3 | Xiang et al., 2014 |
| 17 | HHW-12 | Honghuaerji | Biotite granite | Zircon | LA-ICP-MS | 179.2±1.8 | Xiang et al., 2014 |
| Mesozoic W-related granitoids in the southern Great Xing’an Range belt |
| 18 | WLST01 | Weilasituo | Alkali feldspar granite | Zircon | LA-ICP-MS | 139.5±1.2 | Zhu et al., 2016 |
| 19 | WL1 | Weilasituo | Quartz porphyry | Zircon | LA-ICP-MS | 135.7±0.9 | Zhai et al., 2016 |
| 20 | WH-01 | Weilasituo | Monzogranite | Zircon | SHRIMP | 140±3 | Liu et al., 2016 |
| 21 | BR2011-10 | Weilasituo | Porphyritic monzogranite | Zircon | LA-ICP-MS | 139±2 | Liu et al., 2016 |
| 22 | ZK809-1 | Weilasituo | Quartz porphyry | Zircon | LA-ICP-MS | 138±2 | Liu et al., 2016 |
| 23 | BD1-1 | Weilasituo | Granite | Zircon | LA-ICP-MS | 140±2 | Liu et al., 2018 |
| 24 | ZK809-1 | Weilasituo | Quartz porphyry | Zircon | LA-ICP-MS | 138±1.1 | Yang et al., 2019 |
| 25 | ZK809-2 | Weilasituo | Quartz porphyry | Zircon | LA-ICP-MS | 138.6±1.1 | Yang et al., 2019 |
| 26 | 1 | Dongshanwan | Granite porphyry | Zircon | SIMS | 151.4±0.8 | Zeng et al., 2015 |
| 27 | ZK0428 | Dongshanwan | Granite porphyry | Zircon | LA-ICP-MS | 142.15±0.91 | Zhang et al., 2017 |
| 28 | DW1-2 | Daolundaba | Granite | Zircon | LA-ICP-MS | 135±1 | Chen et al., 2018 |
| 29 | HG-1-7 | Huanggang | K-feldspar granite | Zircon | LA-ICP-MS | 136.7±1.1 | Zhou et al., 2010 |
| 30 | HG-3-5 | Huanggang | Granite porphyry | Zircon | LA-ICP-MS | 136.8±0.57 | Zhou et al., 2010 |
| 31 | HG-68-1 | Huanggang | K-feldspar granite | Zircon | LA-ICP-MS | 145.3±1.6 | Mei et al., 2015 |
| 32 | 1 | Xiaodonggou | Granite | Zircon | LA-ICP-MS | 142±2 | Qin et al., 2009 |
| 33 | 2 | Xiaodonggou | Granitoid | Zircon | LA-ICP-MS | 142±2 | Zeng et al., 2010 |
| 34 | HDTW1 | Sansheng | Granite | Zircon | LA-ICP-MS | 136.75±0.97 | Zhou, 2013 |
| 35 | HD2TW1 | Sansheng | Granite | Zircon | LA-ICP-MS | 136.04±0.75 | Zhou, 2013 |
| Mesozoic W-related granitoids in the Lesser Xing’an-Zhangguangcai Range belt |
| 36 | 1 | Cuihongshan | Granite porphyry | Zircon | LA-ICP-MS | 172.3±1.6 | Liu, 2009 |
| 37 | 2 | Cuihongshan | Quartz monzonite | Zircon | LA-ICP-MS | 177.5±2.1 | Liu, 2009 |
| 38 | W13 | Cuihongshan | Monzogranite | Zircon | SHRIMP | 192.8±2.5 | Shao et al., 2011 |
| 39 | W14-12 | Cuihongshan | Monzogranite | Zircon | SHRIMP | 199.0±3.1 | Shao et al., 2011 |
| 40 | CHS-021 | Cuihongshan | Syenogranite | Zircon | LA-ICP-MS | 199.8±1.8 | Hu et al., 2014 |
| 41 | UⅡ-1 | Cuihongshan | Porphyritic quartz monzonite | Zircon | LA-ICP-MS | 196.5±2.6 | Fei et al., 2018 |
| 42 | UⅡ-2(east) | Cuihongshan | Monzogranite | Zircon | LA-ICP-MS | 197.2±1.3 | Fei et al., 2018 |
| 43 | UⅡ-2(west) | Cuihongshan | Monzogranite | Zircon | LA-ICP-MS | 196.3±1.6 | Fei et al., 2018 |
| 44 | UⅡ-3 | Cuihongshan | Porphyritic granite | Zircon | LA-ICP-MS | 193.7±2.6 | Fei et al., 2018 |
| 45 | GP-1 | Gongpengzi | Biotite granite | Zircon | SIMS | 173.28±0.48 | Li et al., 2019 |
| 46 | GP-2 | Gongpengzi | Biotite granite | Zircon | SIMS | 173.63±0.48 | Li et al., 2019 |
| 47 | GP-4 | Gongpengzi | Granodiorite | Zircon | SIMS | 173.46±0.46 | Li et al., 2019 |
| 48 | PM013-265 | Xinantun | Monzogranite | Zircon | LA-ICP-MS | 195.4±1.2 | Wang et al., 2019 |
| 49 | 1 | Sanjiazi | Monzogranite | Zircon | LA-ICP-MS | 172.4±1.8 | Ren et al., 2009 |
| 50 | 1 | Baishilizi | Quartz diorite | Zircon | LA-ICP-MS | 198.3±0.8 | Zhao, 2014 |
| 51 | 1 | Yangjingou | Granodiorite | Zircon | LA-ICP-MS | 249.4±2.7 | Zhao, 2014 |

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