北京大学
Peking University

Radiocarbon Dating Report of Tachiyingzi Site in Laoning

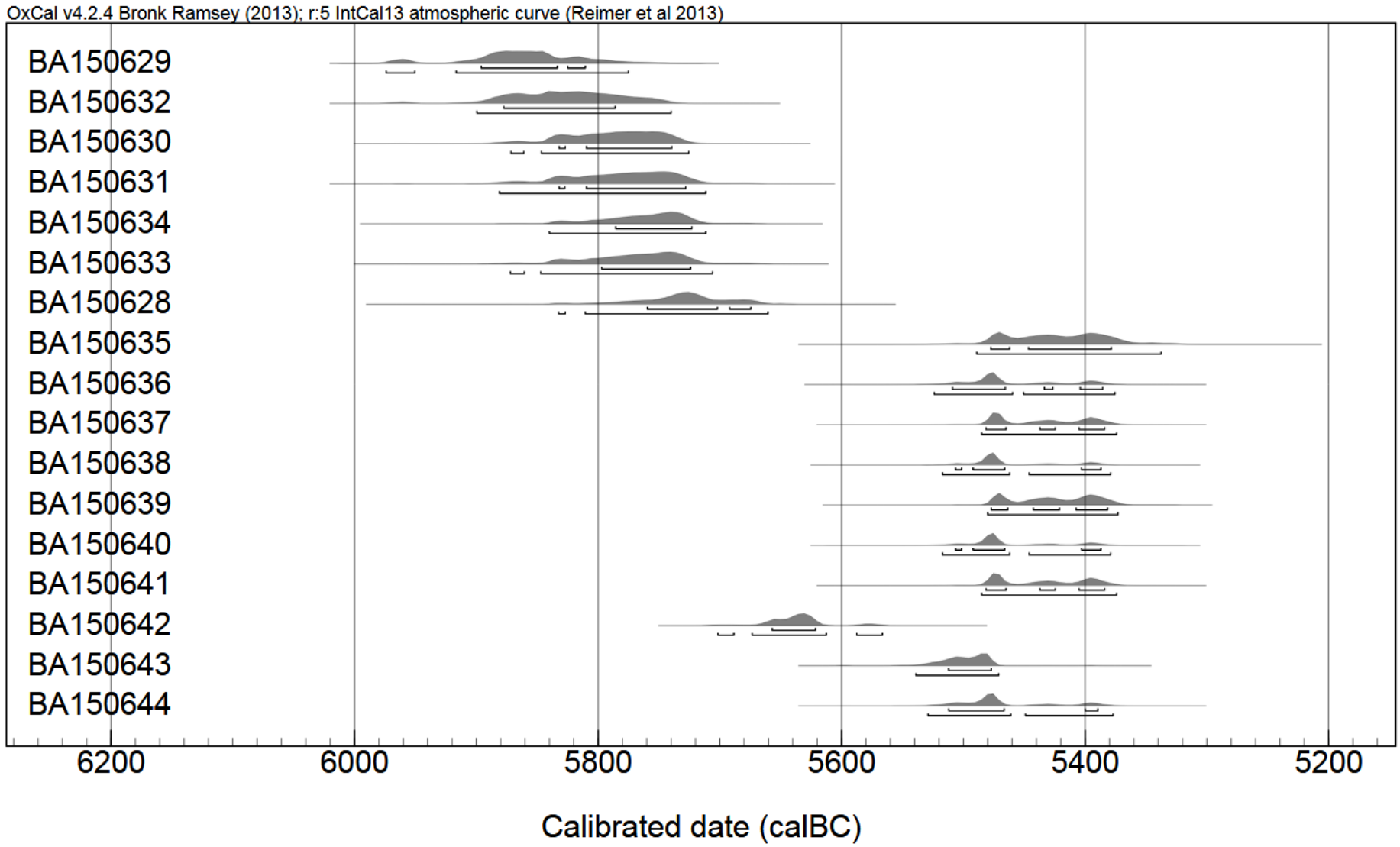
Lab No	Sample	Sample No	Site	Radiocarbon Age (BP)	Calibrated Age	
					1σ (68.2%)	2σ (95.4%)
BA150629	Charcoal	1095	12D56	6975±25	7846BP (60.1%) 7783BP 7775BP (8.1%) 7760BP	7924BP (6.4%) 7900BP 7866BP (89.0%) 7725BP
BA150632	Charcoal	1126	12D56	6950±30	7827BP (68.2%) 7736BP	7849BP (95.4%) 7690BP
BA150630	Charcoal	1104	12D56	6910±30	7782BP (3.7%) 7777BP 7759BP (64.5%) 7689BP	7821BP (1.9%) 7811BP 7796BP (93.5%) 7675BP
BA150631	Charcoal	1111	12D56	6895±40	7782BP (2.7%) 7777BP 7759BP (65.5%) 7678BP	7831BP (95.4%) 7661BP
BA150634	Charcoal	1149	12D56	6880±30	7735BP (68.2%) 7673BP	7790BP (95.4%) 7661BP
BA150633	Charcoal	1127	12D56	6885±35	7747BP (68.2%) 7674BP	7822BP (1.0%) 7810BP 7797BP (94.4%) 7656BP
BA150628	Charcoal	1032	12D56	6850±35	7709BP (58.3%) 7652BP 7642BP (9.9%) 7624BP	7782BP (0.7%) 7777BP 7760BP (94.7%) 7610BP
BA150635	Charcoal	8052	12D16	6465±40	7427BP (14.3%) 7412BP 7396BP (53.9%) 7328BP	7439BP (95.4%) 7287BP
BA150636	Charcoal	8126	12D16	6500±30	7459BP (51.8%) 7415BP 7383BP (3.5%) 7376BP 7354BP (13.0%) 7335BP	7474BP (61.0%) 7409BP 7400BP (34.4%) 7325BP
BA150637	Charcoal	8133	12D16	6480±25	7431BP (30.8%) 7415BP 7387BP (11.3%) 7374BP 7355BP (26.1%) 7334BP	7435BP (95.4%) 7324BP
BA150638	Charcoal	8139	12D16	6500±25	7456BP (2.4%) 7451BP 7442BP (54.8%) 7416BP 7353BP (11.0%) 7337BP	7467BP (68.4%) 7412BP 7396BP (27.0%) 7329BP

BA150639	Charcoal	8140	12D16	6465±25	7427BP (17.1%) 7413BP 7392BP (20.5%) 7371BP 7357BP (30.7%) 7331BP	7430BP (95.4%) 7323BP
BA150640	Charcoal	9064	12D16	6500±25	7456BP (2.4%) 7451BP 7442BP (54.8%) 7416BP 7353BP (11.0%) 7337BP	7467BP (68.4%) 7412BP 7396BP (27.0%) 7329BP
BA150641	Charcoal	9068	12D16	6480±25	7431BP (30.8%) 7415BP 7387BP (11.3%) 7374BP 7355BP (26.1%) 7334BP	7435BP (95.4%) 7324BP
BA150642	Charcoal	9072	12D16	6720±25	7607BP (68.2%) 7571BP	7651BP (2.0%) 7638BP 7623BP (87.5%) 7562BP 7537BP (5.9%) 7516BP
BA150643	Charcoal	9088	12D16	6535±25	7462BP (68.2%) 7427BP	7489BP (95.4%) 7421BP
BA150644	Charcoal	9090	12D16	6505±30	7462BP (61.3%) 7416BP 7350BP (6.9%) 7339BP	7479BP (69.1%) 7411BP 7399BP (26.3%) 7327BP

Note：Half-life of ^{14}C is 5568, BP is before 1950.

Calibration Curve being used is IntCal13 atmospheric curve (Reimer et al 2013), Calibration Program being used is OxCal v4.2.4 Bronk Ramsey (2013); r:5

1. Reimer, P.J., Bard, E., Bayliss, A., Beck, J.W., 2013. IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP, Radiocarbon 55, 1869-1887.
2. Christopher Bronk Ramsey 2015，https://c14.arch.ox.ac.uk/oxcal/OxCal.html


OxCal v4.2.4 Bronk Ramsey (2013); r:5 IntCal13 atmospheric curve (Reimer et al 2013)
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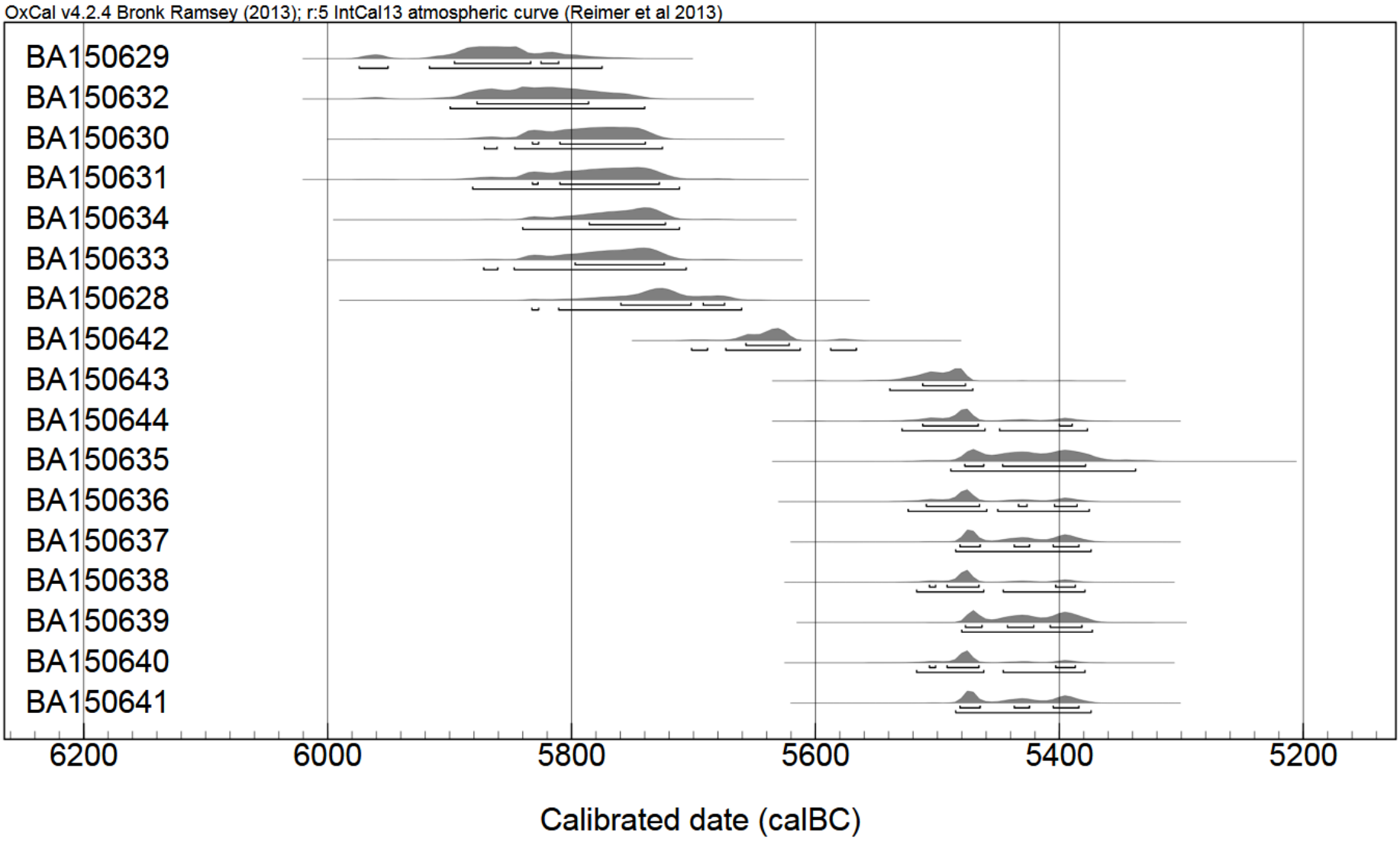
Calibrated date (calBC)


OxCal v4.2.4 Bronk Ramsey (2013); r:5 IntCal13 atmospheric curve (Reimer et al 2013)
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Calibrated date (calBC)

Protocol for sample pretreatment and preparation in School of Archaeology and Museology, Peking University:

All charcoal samples were observed under microscope and picked out the fabric roots and other impurities. After the supersonic cleaning, the samples were treated by the normal AAA procedures. Samples were weighted and sealed with Copper oxide and Silver in quartz tubes under vacuum system. The combustion temperature was 850℃. The CO_2 from the tubes was purified and transferred into the gas container separately. The reduction from CO_2 to graphite was performed with H_2/Fe in the vacuum graphitization system. Fe catalyst has to be cleaned and activated under 450℃ with O_2 and H_2 separately before reduction[1]. The graphite was formed at 540℃.

AMS radiocarbon measurements were done in School of Physics, Peking University. The AMS system is based on a National Electrostatics Corp. (NEC) 1.5SDH-1 0.5MV pelletron with 40-sample MC-SNICS ion source. The accuracy of this system is better than 0.4% and the machine background is lower than 0.03pMC.