

Table S5 Global p CO₂ data of the Latest Triassic - Early Jurassic estimated by carbon isotope of pedogenic carbonates

Formation or identifier	Location	Age	Age (Ma) by author	Age (Ma) adjusted	Sam-ples	$\delta^{13}\text{C}_c$	Sz by author	p CO ₂ by author	Reference	$\delta^{13}\text{C}_{sc}$	$\delta^{13}\text{C}_r$	$\delta^{13}\text{C}_a$	p CO ₂ updated
Kayenta	Utah, America	Toa	175	177	3	-4.5	5000	4560	Ekart et al., 1999	-13.36	-27.20	-7.75	3411
Aztec	Nevada, America	Toa	177	179	2	-7.3	5000	1920		-16.14	-27.40	-7.94	1704
McCoy Brook	Connecticut, America	Het	205	200	4	-5.9	5000	3010		-14.75	-25.67	-6.36	1583
New Haven Arkose	Connecticut, America	J1	208	190	7	-7.64	5000	2500	Cerling et al., 1991	-16.47	-27.39	-7.93	1554
		J1	198	189	6	-6.62	5000	3010	Suchecki et al., 1988	-15.46	-25.56	-6.26	1264
McCoy Brook	Texas, America	Het	?	200.5	6	-7.1	5000	2480	Tanner et al., 2001	-15.94	-26.03	-6.69	1256
Boonton	Newark, New Jersey, America	Het	200.36	200.36	2	-5.61	3000	2496	Schaller et al., 2011	-14.46	-25.67	-6.36	1710
			200.48	200.48	2	-5.11	3000	3131		-13.96	-26.03	-6.69	2139
			200.91	200.91	3	-3.63	3000	5273		-12.50	-25.17	-5.91	2545
			200.91	200.91	3	-3.98	3000	4941		-12.84	-25.17	-5.91	2317
Towaco			200.91	200.91	2	-6.04	3000	1949		-14.89	-25.17	-5.91	1335
			201.02	201.02	2	-6.19	3000	2356		-15.03	-26.04	-6.70	1612
			201.07	201.07	3	-4.36	3000	3708		-13.22	-25.91	-6.58	2531
			201.12	201.12	2	-5.79	3000	2642		-14.64	-26.07	-6.73	1807
			201.16	201.16	1	-5.05	3000	3460		-13.91	-26.36	-6.99	2363
			201.2	201.2	3	-5.55	3000	3014		-14.40	-26.34	-6.97	2061
			201.21	201.21	2	-4.53	3000	3657		-13.39	-26.03	-6.69	2494
			201.21	201.21	2	-4.23	3000	4015		-13.09	-26.08	-6.74	2738
			201.22	201.22	2	-4.01	3000	4050		-12.87	-25.88	-6.55	2759
			201.23	201.23	2	-4.69	3000	4070		-13.55	-26.62	-7.23	2781
			201.23	201.23	3	-4.46	3000	4234		-13.32	-26.53	-7.15	2891
			201.26	201.26	3	-4.85	3000	3453		-13.71	-26.14	-6.79	2356
Feltville			201.28	201.28	2	-4.16	3000	3577		-13.02	-25.55	-6.25	2435
			201.39	201.39	3	-4.64	3000	3584		-13.50	-26.06	-6.72	2441
			201.45	201.45	2	-3.72	3000	4228		-12.59	-25.74	-6.43	2879
			201.49	201.49	3	-4.56	3000	4434		-13.42	-26.81	-7.40	3026
Passaic			201.51	201.51	3	-8.58	3000	1065		-17.40	-25.67	-6.36	721
			201.73	201.73	3	-6.91	3000	1787		-15.75	-25.75	-6.44	1227
			201.81	201.81	3	-6.2	3000	2242		-15.04	-25.86	-6.54	1535
			201.88	201.88	3	-4.96	3000	2253		-13.82	-24.59	-5.38	1537
			202.07	202.07	1	-6.78	3000	2263		-15.62	-26.50	-7.12	1552
			202.17	202.17	2	-7.7	3000	1597		-16.53	-26.16	-6.81	1099
			202.51	202.51	2	-6.11	3000	2419		-14.96	-26.06	-6.72	1656
			202.95	202.95	2	-6.41	3000	2231		-15.25	-26.06	-6.72	1528
			203.09	203.09	2	-6.87	3000	1947		-15.71	-26.02	-6.68	1335
			203.57	203.57	2	-7.68	3000	1532		-16.51	-26.02	-6.68	1063
			203.71	203.71	2	-5.47	3000	2782		-14.32	-25.94	-6.61	1902
			203.95	203.95	2	-7.84	3000	1475		-16.67	-26.03	-6.69	1017

1) Age (Ma) in adjusted column is based on Cohen et al. (2019).

2) $\delta^{13}\text{C}_r$ aged as 177 Ma and 179 Ma were cited from Xu et al., 2018; 189 Ma and 190 Ma from Peti et al., 2017; those older than 200 Ma cited from Schaller et al., 2011.

3) Updated $p\text{CO}_2$ refers to text and parameters are same as the column **I8** (Sz=2000 ppmV) in Table S4.

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