Appendix

Reported $\delta^{13}C$, $\delta^{18}O$, and inferred temperature values including shell length for all isotopic determinations for California mussel shells from CA-SMI-261, 522, 604, and 507.

Sample ID	Distance	$\delta^{13}C$ (VPDB)	$\delta^{18}O$ (VPDB)	T °C	Shell (mm)
604–21a	0	0.9	0.3	13.1	70
604–21b	3	0.3	1.0	15.0	
604–21c	6	0.3	0.9	12.6	
604–21d	9	0.2	0.4	12.9	
604–21e	12	0.5	1.0	14.0	
604–21f	15	0.8	0.9	14.1	
604–21g	18	0.4	0.6	13.2	
604–21h	21	–0.4	0.6	11.7	
604–21i	24	–0.7	0.8	11.1	
604–21j	27	–0.4	1.2	11.7	
604–21k	30	0.0	1.3	13.3	
604–21l	33	0.4	1.2	11.9	
522–21a	0	0.0	1.0	12.6	65
522–21b	3	0.3	0.3	15.4	
522–21c	6	0.2	0.9	12.9	
522–21d	9	–0.5	1.4	10.9	
522–21e	12	–0.8	1.4	11.0	
522–21f	21	–1.1	1.5	10.3	
522–21g	24	–0.6	1.4	10.8	
522–21h	27	–0.2	1.5	10.4	
522–21i	30	–0.2	1.6	10.0	
522–21j	33	–0.2	1.6	10.2	
522–21k	36	0.2	0.7	13.7	
522–21l	39	0.2	0.6	14.1	
522–21m	42	–0.2	0.6	14.1	
522–21n	45	0.1	0.7	13.9	
261–21a	3	0.8	0.9	12.8	71
261–21b	6	0.3	–0.1	16.9	
261–21c	9	1.0	0.0	16.5	
261–21d	12	–0.3	0.6	13.9	
261–21e	15	–0.5	1.0	12.3	
261–21f	18	–0.6	1.0	12.5	
261–21g	21	–1.0	1.0	12.5	
261–21h	24	–0.7	0.8	13.2	
261–21i	27	–0.5	0.8	13.2	
261–21j	30	–0.8	1.6	10.0	
507–21a	0	–0.6	0.7	13.7	74
507–21b	3	–0.3	1.3	11.4	
507–21c	6	0.5	0.8	13.5	
507–21d	9	0.6	0.3	15.6	
507–21e	12	0.5	0.6	14.4	
507–21f	15	0.2	1.1	12.4	
507–21g	18	0.3	1.3	11.6	
507–21h	21	0.1	1.3	11.7	
507–21i	24	0.3	1.2	11.7	
507–21j	27	0.3	1.4	11.2	
507–21k	30	0.6	1.1	12.4	
507–21l	33	0.8	1.0	12.8	
507–21m	36	0.8	0.7	14.0	
522–1a	0	1.2	0.8	14.1	63
522–1b	3	0.7	1.3	12.3	
522–1c	6	0.8	0.8	14.4	
522–1d	9	0.5	0.6	15.2	
522–1e	12	0.0	0.8	14.1	
522–2a	0	0.4	1.4	11.7	61
522–2b	3	0.0	0.3	16.1	
522–2c	6	–0.3	0.9	14.0	
522–2d	9	–0.4	1.2	12.8	
522–2e	12	–0.6	1.4	11.9	
522–3a	0	0.9	1.3	12.2	73
522–3b	3	0.4	0.7	14.8	
522–3c	6	0.2	1.1	12.9	
522–3d	9	0.2	1.6	11.1	
522–3e	12	0.4	1.3	12.2	
522–4a	0	1.0	1.3	12.4	61
522–4b	3	0.8	0.9	13.8	
522–4c	6	0.5	1.6	11.1	
522–4d	9	0.8	1.5	11.6	
522–4e	12	0.9	1.3	12.3	
522–5a	0	0.2	1.2	12.5	71
522–5b	3	–0.2	1.4	12.0	
522–5c	6	–0.3	1.8	10.3	
522–5d	9	0.1	1.4	12.0	
522–5e	12	0.2	0.8	14.4	
522–6a	0	0.4	1.2	12.8	67
522–6b	3	0.3	1.1	13.2	
522–6c	6	0.3	1.5	11.4	
522–6d	9	0.1	1.5	11.7	
522–6e	12	0.4	1.5	11.5	
522–7a	0	–0.8	0.5	15.6	68
522–7b	3	1.0	1.3	12.4	
522–7c	6	1.8	2.3	8.3	
522–7d	9	0.3	1.6	11.2	
522–7e	12	1.0	0.5	15.4	
522–8a	0	1.4	1.1	13.1	69
522–8b	3	0.4	1.5	11.4	
522–8c	6	1.3	1.1	13.2	
522–8d	9	0.7	1.1	13.1	

Sample ID	Distance	$\delta^{13}C$ (VPDB)	$\delta^{18}O$ (VPDB)	T °C	Shell (mm)
522–8e	12	1.0	1.1	13.2	
522–9a	0	0.9	1.2	12.8	78
522–9b	3	0.9	1.7	10.8	
522–9c	6	–0.1	1.3	12.4	
522–9d	9	–0.8	0.8	14.2	
522–9e	12	–1.5	0.7	14.8	
522–10a	0	0.1	0.1	17.0	73
522–10b	3	0.2	0.9	14.0	
522–10c	6	1.0	1.4	12.0	
522–10d	9	1.4	1.7	10.7	
522–10e	12	1.1	0.4	16.0	
522–11a	0	0.8	1.0	13.3	67
522–11b	3	1.4	1.0	13.4	
522–11c	6	–1.1	–0.1	18.1	
522–11d	9	0.1	0.7	14.5	
522–11e	12	0.8	1.2	12.8	
522–12a	0	0.1	0.5	15.4	74
522–12b	3	0.9	0.6	15.0	
522–12c	6	–0.6	0.2	16.6	
522–12d	9	0.6	1.1	12.8	
522–12e	12	1.1	1.1	13.2	
522–13a	0	–0.5	0.6	15.2	69
522–13b	3	–0.9	–0.4	19.1	
522–13c	6	0.2	0.8	14.3	
522–13d	9	0.9	1.2	12.5	
522–13e	12	0.6	1.3	12.4	
522–14a	0	0.7	0.8	14.2	73
522–14b	3	0.4	0.8	14.4	
522–14c	6	0.3	0.5	15.6	
522–14d	9	–0.3	0.7	14.5	
522–14e	12	–0.3	1.0	13.6	
522–15a	0	0.6	0.7	14.5	79
522–15b	3	0.9	0.3	16.4	
522–15c	6	0.9	0.8	14.4	
522–15d	9	0.6	0.9	14.0	
522–15e	12	0.7	1.3	12.1	
522–16a	0	0.1	1.4	11.9	62
522–16b	3	0.2	0.8	14.2	
522–16c	6	–0.3	1.2	12.7	
522–16d	9	0.4	1.1	13.1	
522–16e	12	1.1	0.3	16.1	
522–17a	0	–0.1	0.7	14.7	74
522–17b	3	–0.6	1.1	12.9	
522–17c	6	–0.2	1.0	13.6	
522–17d	9	–0.1	1.2	12.7	
522–17e	12	–0.5	1.1	13.1	
522–18a	0	–0.3	1.1	13.1	61
522–18b	3	–0.3	0.6	14.9	
522–18c	6	0.1	0.6	15.0	
522–18d	9	–1.0	0.6	15.1	
522–18e	12	–0.7	0.8	14.1	
522–19a	0	0.1	0.6	15.0	66
522–19b	3	0.3	0.8	14.3	
522–19c	6	–0.5	1.0	13.3	
522–19d	9	–0.1	1.2	12.5	
522–19e	12	–0.1	1.1	12.9	
522–20a	0	0.5	0.8	14.2	63
522–20b	3	0.5	0.1	17.0	
522–20c	6	0.4	0.3	16.3	
522–20d	9	0.1	0.2	16.7	
522–20e	12	–0.2	0.5	15.5	
604–1a	0	0.4	1.0	13.0	59
604–1b	3	0.9	0.6	14.4	
604–1c	6	0.2	0.6	14.4	
604–1d	9	0.0	0.9	13.2	
604–1e	12	0.6	1.1	12.3	
604–2a	0	0.5	1.8	9.8	61
604–2b	3	0.9	0.8	13.8	
604–2c	6	0.8	0.5	14.8	
604–2d	9	0.1	1.0	13.0	
604–2e	12	0.5	1.4	11.4	
604–3a	0	0.3	1.5	11.0	57
604–3b	3	0.1	1.2	12.1	
604–3c	6	0.4	1.4	11.3	
604–3d	9	0.3	0.2	16.2	
604–3e	12	0.0	0.1	16.6	
604–4a	0	0.5	0.9	13.1	55
604–4b	3	0.9	0.4	15.1	
604–4c	6	0.5	0.4	15.3	
604–4d	9	0.1	0.5	14.8	
604–4e	12	0.0	0.6	14.5	
604–5a	0	0.4	1.7	9.9	66
604–5b	3	0.6	0.7	13.9	
604–5c	6	0.5	0.8	13.6	
604–5d	9	0.0	1.5	10.8	
604–5e	12	–0.4	1.1	12.6	
604–6a	0	0.3	0.7	14.1	61
604–6b	3	0.0	0.8	13.5	
604–6c	6	0.0	0.7	14.0	
604–6d	9	–0.5	1.0	12.8	
604–6e	12	0.2	0.6	14.6	
604–7a	0	0.1	1.6	10.4	65
604–7b	3	–0.2	0.8	13.5	
604–7c	6	–0.1	1.1	12.4	
604–7d	9	0.2	1.5	10.8	
604–7e	12	0.2	1.2	12.2	
604–8a	0	1.3	0.4	15.3	58
604–8b	3	1.1	0.4	15.3	
604–8c	6	0.8	0.1	16.4	
604–8d	9	0.0	0.2	16.1	
604–8e	12	0.0	0.5	14.7	
604–9a	0	1.0	0.7	14.1	70
604–9b	3	0.7	1.1	12.4	
604–9c	6	0.8	0.4	15.2	

Sample ID	Distance	$\delta^{13}C$ (VPDB)	$\delta^{18}O$ (VPDB)	T °C	Shell (mm)
604–9d	9	0.6	–0.1	17.3	
604–9e	12	–1.0	1.0	13.0	
604–10a	0	1.0	0.5	14.8	85
604–10b	3	0.5	0.9	13.3	
604–10c	6	0.7	0.8	13.7	
604–10d	9	0.6	0.7	14.0	
604–10e	12	0.6	0.4	15.4	
604–11a	0	0.0	1.3	11.7	75
604–11b	3	–0.5	1.0	12.9	
604–11c	6	–0.4	1.1	12.4	
604–11d	9	–0.4	1.1	12.5	
604–11e	12	0.0	1.1	12.3	
604–12a	0	0.8	0.7	14.2	58
604–12b	3	1.0	0.1	16.5	
604–12c	6	0.4	0.5	15.0	
604–12d	9	–0.5	1.0	12.8	
604–12e	12	1.2	0.2	16.3	
604–13a	0	1.5	0.7	13.9	80
604–13b	3	1.6	–0.2	17.7	
604–13c	6	1.2	0.0	17.0	
604–13d	9	0.8	0.6	14.5	
604–13e	12	0.2	0.7	14.0	
604–14a	0	1.0	0.7	14.2	80
604–14b	3	1.5	–0.2	17.8	
604–14c	6	1.1	0.0	17.0	
604–14d	9	0.7	0.4	15.1	
604–14e	12	1.0	0.4	15.4	
604–15a	0	0.4	0.4	15.4	77
604–15b	3	0.1	0.3	15.7	
604–15c	6	–0.5	0.6	14.6	
604–15d	9	0.1	1.4	11.3	
604–15e	12	0.2	0.9	13.0	
604–16a	0	1.1	0.6	14.5	79
604–16b	3	1.0	0.3	15.6	
604–16c	6	0.5	0.1	16.7	
604–16d	9	0.4	0.0	16.9	
604–16e	12	0.4	0.2	16.3	
604–17a	0	0.3	1.2	12.2	75
604–17b	3	0.5	1.2	12.2	
604–17c	6	0.3	1.4	11.3	
604–17d	9	0.1	0.7	14.0	
604–17e	12	–0.1	1.0	12.9	
604–18a	0	0.3	0.5	14.8	79
604–18b	3	0.4	0.5	14.8	
604–18c	6	0.1	1.0	13.0	
604–18d	9	0.6	0.8	13.7	
604–18e	12	1.0	0.0	16.9	
604–19a	0	0.6	0.6	14.4	63
604–19b	3	0.6	0.4	15.2	
604–19c	6	0.8	0.2	16.2	
604–19d	9	0.7	–0.2	17.7	
604–19e	12	0.6	0.0	17.1	
604–20a	0	1.1	0.3	15.8	73
604–20b	3	0.6	0.3	15.6	
604–20c	6	0.1	1.1	12.4	
604–20d	9	0.5	0.6	14.3	
604–20e	12	0.7	0.7	13.9	
261–1a	0	0.3	0.2	15.6	60
261–1b	3	0.3	0.2	15.6	
261–1c	6	–0.3	0.3	15.3	
261–1d	9	–0.5	0.3	15.4	
261–1e	12	–0.2	0.0	16.3	
261–2a	0	1.2	0.1	15.9	70
261–2b	3	0.7	0.7	13.5	
261–2c	6	1.1	0.9	12.8	
261–2d	9	0.9	0.5	14.3	
261–2e	12	0.6	0.8	13.3	
261–3a	0	1.0	0.8	13.3	55
261–3b	3	0.7	0.9	12.9	
261–3c	6	0.7	–0.1	16.7	
261–3d	9	0.9	–0.4	18.1	
261–3e	12	0.5	–0.3	17.8	
261–4a	0	–0.5	0.7	13.4	67
261–4b	3	0.2	0.3	15.2	
261–4c	6	0.3	–0.3	17.8	
261–4d	9	–0.1	0.0	16.3	
261–4e	12	–0.7	0.4	14.7	
261–5a	0	–0.1	1.0	12.4	68
261–5b	3	–0.3	0.6	14.0	
261–5c	6	0.6	0.8	13.1	
261–5d	9	1.2	–0.1	16.7	
261–5e	12	–0.2	0.1	16.3	
261–6a	0	0.0	0.0	16.6	66
261–6b	3	0.4	0.7	13.4	
261–6c	6	0.6	1.0	12.4	
261–6d	9	0.3	0.8	13.2	
261–6e	12	0.4	0.5	14.4	
261–7a	0	0.3	1.0	12.4	67
261–7b	3	0.7	0.8	13.3	
261–7c	6	1.3	0.0	16.6	
261–7d	9	1.0	0.1	15.9	
261–7e	12	0.4	0.6	13.9	
261–8a	0	0.2	0.8	13.1	70
261–8b	3	0.5	0.0	16.4	
261–8c	6	0.5	0.5	14.5	
261–8d	9	–0.2	0.9	12.8	
261–8e	12	0.5	1.2	11.7	
261–9a	0	0.6	0.6	14.2	80
261–9b	3	0.5	–0.3	17.5	
261–9c	6	0.4	–0.1	16.8	
261–9d	9	0.2	0.4	14.9	
261–9e	12	1.0	1.4	10.9	
261–10a	0	0.7	1.2	11.8	40
261–10b	3	0.7	1.0	12.3	

Sample ID	Distance	$\delta^{13}C$ (VPDB)	$\delta^{18}O$ (VPDB)	T °C	Shell (mm)
261–10c	6	1.1	0.5	14.3	
261–10d	9	1.4	–0.5	18.5	
261–10e	12	0.8	0.0	16.7	
261–11a	0	1.2	0.9	12.6	53
261–11b	3	0.5	0.5	14.5	
261–11c	6	1.0	1.1	12.2	
261–11d	9	1.2	0.7	13.5	
261–11e	12	0.5	0.0	16.5	
261–12a	0	0.4	0.7	13.5	60
261–12b	3	0.7	0.6	14.1	
261–12c	6	–0.8	0.4	14.8	
261–12d	9	–0.9	0.8	13.3	
261–12e	12	–0.2	1.3	11.2	
261–13a	0	–0.2	0.5	14.6	50
261–13b	3	0.1	0.5	14.6	
261–13c	6	0.3	1.2	11.7	
261–13d	9	0.4	1.3	11.3	
261–13e	12	0.1	0.8	13.2	
261–14a	0	0.9	0.2	15.6	60
261–14b	3	0.9	0.0	16.3	
261–14c	6	0.7	0.4	14.8	
261–14d	9	0.3	1.1	12.0	
261–14e	12	0.4	1.4	11.0	
261–15a	0	0.9	0.2	15.9	65
261–15b	3	0.8	0.5	14.6	
261–15c	6	0.9	1.2	11.8	
261–15d	9	1.3	1.3	11.3	
261–15e	12	1.3	0.9	12.9	
261–16a	0	0.4	0.6	13.9	50
261–16b	3	0.3	0.8	13.2	
261–16c	6	0.5	1.1	11.9	
261–16d	9	0.6	1.3	11.1	
261–16e	12	0.6	1.3	11.3	
261–17a	0	1.4	0.9	13.0	55
261–17b	3	1.1	0.4	14.8	
261–17c	6	1.3	0.1	16.0	
261–17d	9	1.1	0.1	15.9	
261–17e	12	0.8	0.4	14.9	
261–18a	0	0.6	0.9	12.7	65
261–18b	3	0.4	0.8	13.1	
261–18c	6	0.9	0.5	14.3	
261–18d	9	0.5	0.5	14.5	
261–18e	12	0.1	0.8	13.2	
261–19a	0	0.4	0.8	13.3	70
261–19b	3	–0.3	1.0	12.2	
261–19c	6	–0.1	1.2	11.8	
261–19d	9	0.4	0.9	12.8	
261–19e	12	0.2	1.2	11.6	
261–20a	0	0.5	0.6	14.0	64
261–20b	3	0.5	0.5	14.3	
261–20c	6	0.7	0.7	13.6	
261–20d	9	0.3	1.1	12.0	
261–20e	12	0.3	1.4	10.9	
507–1a	0	1.2	0.8	13.3	73
507–1b	3	0.7	1.3	11.5	
507–1c	6	0.8	0.8	13.6	
507–1d	9	0.5	0.6	14.4	
507–1e	12	0.0	0.8	13.3	
507–2a	0	0.6	0.9	13.2	70
507–2b	3	0.3	0.4	15.1	
507–2c	6	0.1	1.5	10.6	
507–2d	9	0.1	1.2	11.9	
507–2e	12	0.5	1.1	12.1	
507–3a	0	0.9	1.3	11.4	72
507–3b	3	0.4	0.7	13.9	
507–3c	6	0.3	1.3	11.4	
507–3d	9	0.2	0.8	13.3	
507–3e	12	–0.1	0.3	15.3	
507–4a	0	–0.3	0.9	12.9	63
507–4b	3	0.1	1.3	11.3	
507–4c	6	–0.1	1.3	11.7	
507–4d	9	0.1	1.2	12.0	
507–4e	12	0.3	1.1	12.4	
507–5a	0	0.6	1.2	11.8	79
507–5b	3	0.5	1.2	11.7	
507–5c	6	0.4	0.5	14.7	
507–5d	9	0.3	1.4	11.1	
507–5e	12	0.7	1.2	12.0	
507–6a	0	–0.1	1.0	12.6	71
507–6b	3	0.3	1.1	12.4	
507–6c	6	0.3	0.7	14.0	
507–6d	9	–0.2	0.6	14.4	
507–6e	12	–0.5	1.3	11.4	
507–7a	0	0.4	1.2	11.9	65
507–7b	3	0.3	0.6	14.3	
507–7c	6	0.5	1.1	12.1	
507–7d	9	0.3	0.8	13.5	
507–7e	12	0.2	0.4	15.1	
507–8a	0	0.4	0.6	14.2	70
507–8b	3	0.0	1.4	11.2	
507–8c	6	0.3	1.3	11.3	
507–8d	9	0.1	0.8	13.4	
507–8e	12	0.1	1.3	11.4	
507–9a	0	0.2	1.1	12.3	59
507–9b	3	0.3	0.4	15.2	
507–9c	6	–0.4	0.3	15.5	
507–9d	9	–0.4	0.9	12.9	
507–9e	12	–0.1	1.7	10.0	
507–10a	0	1.1	1.0	12.6	61
507–10b	3	0.5	0.5	14.6	
507–10c	6	0.6	0.3	15.4	
507–10d	9	0.3	0.4	15.2	
507–10e	12	0.4	1.3	11.6	
507–11a	0	0.7	0.9	12.9	68

Sample ID	Distance	$\delta^{13}C$ (VPDB)	$\delta^{18}O$ (VPDB)	T °C	Shell (mm)
507–11b	3	0.8	0.5	14.6	
507–11c	6	1.0	0.6	14.3	
507–11d	9	0.5	0.2	15.7	
507–11e	12	0.3	1.1	12.2	
507–12a	0	1.0	0.6	14.3	75
507–12b	3	0.8	0.8	13.3	
507–12c	6	1.1	0.0	16.7	
507–12d	9	0.8	0.9	13.1	
507–12e	12	1.1	1.4	11.0	
507–13a	0	0.3	0.7	13.9	72
507–13b	3	0.0	1.7	9.9	
507–13c	6	0.2	1.5	10.6	
507–13d	9	0.5	1.6	10.2	
507–13e	12	0.4	0.6	14.3	
507–14a	0	0.2	0.8	13.6	63
507–14b	3	0.3	0.7	13.9	
507–14c	6	0.4	0.4	15.2	
507–14d	9	–0.2	1.1	12.4	
507–14e	12	0.2	1.3	11.4	
507–15a	0	0.5	1.0	12.5	75
507–15b	3	0.4	1.3	11.6	
507–15c	6	0.1	1.4	11.1	
507–15d	9	0.6	1.4	11.1	
507–15e	12	0.8	0.9	13.0	
507–16a	0	0.7	1.0	12.6	71
507–16b	3	0.0	1.5	10.7	
507–16c	6	0.2	1.3	11.5	
507–16d	9	0.7	1.4	11.1	
507–16e	12	0.7	1.1	12.3	
507–17a	0	–0.4	0.9	13.0	69
507–17b	3	–0.2	1.4	11.1	
507–17c	6	–0.3	1.2	11.9	
507–17d	9	–0.1	1.2	11.9	
507–17e	12	0.3	1.2	11.9	
507–18a	0	0.2	0.8	13.4	70
507–18b	3	–0.4	1.2	11.9	
507–18c	6	–0.4	1.3	11.5	
507–18d	9	0.0	1.1	12.3	
507–18e	12	0.3	1.2	11.9	
507–19a	0	1.8	1.1	12.3	73
507–19b	3	1.0	1.1	12.3	
507–19c	6	1.0	1.3	11.5	
507–19d	9	1.1	1.5	10.7	
507–19e	12	1.1	0.6	14.3	
507–20a	0	–0.1	1.4	11.1	71
507–20b	3	0.0	1.1	12.3	
507–20c	6	0.1	1.2	11.9	
507–20d	9	0.9	0.6	14.3	
507–20e	12	0.4	1.2	11.9	