

Table S2. Modeled reactions rates

Segment	J_{sfr}^l	J_{was}^l	J_{met}^l	k_{ixc}	$\overline{J_{ixc}^{eq}}$	k_{dol}	$\overline{J_{dol}^{eq}}$	k_{cal}	$\overline{J_{cal}^{eq}}$
	($\mu\text{mol/L/yr}$)	($\mu\text{mol/L/yr}$)	($\mu\text{mol/L/yr}$)	($10^{-4}/\text{yr}$)	($\mu\text{mol/L/yr}$)	($10^{-4}/\text{yr}$)	($\mu\text{mol/L/yr}$)	($10^{-4}/\text{yr}$)	($\mu\text{mol/L/yr}$)
S1 - W1	1.5	0	3.9	6.8	5.7	3.3	1.1	4.0	0.21
W1 - W3	0	0	1.9	7.5	2.3	4.0	0.64	9.9	0.23
W3 - W6	0	0	0.40	9.4	0.28	0	0	0	0
W6 - W9	0	0.086	3.5	n.d.	1.0	0	0	0	0