

Parameter	Symbol	Size-scaling coefficients			Units
	$p$	$a$	$b$	$c$	
Inorganic nutrient uptake					
Maximum photosynthetic rate	$P_C^{\max}$	3.08	5.00	-3.80	mmol N (mmol C) <sup>-1</sup> d <sup>-1</sup>
Maximum nutrient uptake rates	$V_{\text{PO}_4}^{\max}$	$4.4 \times 10^{-2}$	0.06		mmol P (mmol C) <sup>-1</sup> d <sup>-1</sup>
	$V_{\text{Fe}}^{\max}$	$1.4 \times 10^{-4}$	-0.09		mmol Fe (mmol C) <sup>-1</sup> d <sup>-1</sup>
Nutrient affinities	$\alpha_{\text{PO}_4}$	1.10	-0.35		m <sup>3</sup> (mmol C) <sup>-1</sup> d <sup>-1</sup>
	$\alpha_{\text{Fe}}$	0.175	-0.36		m <sup>3</sup> (mmol C) <sup>-1</sup> d <sup>-1</sup>
Carbon quotas					
Cell carbon content	$Q_C$	$1.45 \times 10^{-11}$	0.88		mmol C cell <sup>-1</sup>
Grazing					
Maximum prey ingestion rate	$G_C^{\max}$	21.9	-0.16		d <sup>-1</sup>
Partitioning of organic matter					
Fraction to DOM	$\beta$	0.8	0.4	100	-