Process	Parameter	Units	Initial Value	Description	Parameter range	Reference
	$Vmax_{uptake_0}$	mg DOC cm^{-3} (mg biomass cm^{-3})$^{-1}$ h^{-1}	9.97e6	Maximum microbial uptake rate	[1.0e4, 1.0e8]	Hao et al. (2015)
	Ea_{uptake}	kJ mol^{-1}	47	Activation energy	–	Allison et al. (2010)
Assimilation	$Km_{uptake_{slope}}$	mg cm^{-3} degree^{-1}	0.01	Temperature regulator of half-saturation constant for DOC uptake by microbes	–	Allison et al. (2010)
	Km_{uptake_0}	mg cm^{-3}	0.1	Temperature regulator of half-saturation constant for DOC uptake by microbes	–	Allison et al. (2010)
CO_2 production	CUE_{slope}	degree^{-1}	−0.016	Temperature regulator of carbon use efficiency	–	Allison et al. (2010)
	CUE_0	–	0.63	Temperature regulator of carbon use efficiency	–	Allison et al. (2010)
	$Vmax_0$	mg SOC cm^{-3} (mg enz cm^{-3})$^{-1}$ h^{-1}	9.17e7	Maximum rate of converting SOC to soluble C	[1.0e5, 1.0e8]	Hao et al. (2015)
Decay	Ea	kJ mol^{-1}	47	Activation energy	–	Allison et al. (2010)
	Km_{slope}	mg cm^{-3} degree^{-1}	5	Temperature regulator of half-saturation constant for enzymatic decay	–	Allison et al. (2010)
	Km_0	mg cm^{-3}	500	Temperature regulator of half-saturation constant for enzymatic decay	–	Allison et al. (2010)
	r_{death}	s^{-1}	0.02	Microbial death fraction	–	Allison et al. (2010)
MIC turnover	MICtoSOC		50	Partition coefficient for dead microbial biomass between the SOC and DOC pool	–	Allison et al. (2010)
ENZ turnover	$r_{EnzProd}$	s^{-1}	5.0e-4	Enzyme production fraction	–	Allison et al. (2010)
	$r_{EnzLoss}$	s^{-1}	0.1	Enzyme loss fraction	–	Allison et al. (2010)