Process	Rate (d^{-1})	
Aerobic growth of HET	$\mu_{m,HET} \frac{S_S}{K_{S,HET} + S_S} \frac{S_{O2}}{K_{O2,HET} + S_{O2}}.$	R_1
Aerobic growth of AOB	$\mu_{m,AOB} \frac{S_{NH4}}{K_{NH4,AOB} + S_{NH4}} \frac{S_{O2}}{K_{O2,AOB} + S_{O2}}.$	R_2
Aerobic growth of NOB	$\mu_{m,NOB} \frac{S_{NO2}}{K_{NO2,NOB} + S_{NO2}} \frac{S_{O2}}{K_{O2,NOB} + S_{O2}}.$	R_3
Anoxic growth of HET on NO_3	$\eta_H \mu_{m,HET} \frac{S_S}{K_{S,HET} + S_S} \frac{S_{NO3}}{K_{NO3,HET} + S_{NO3}} . \frac{K_{O2,HET}}{K_{O2,HET} + S_{O2}}$	R_4
Anoxic growth of HET on NO_2	$\eta_H \mu_{m,HET} \frac{S_S}{K_{S,HET} + S_S} \frac{S_{NO2}}{K_{NO2,HET} + S_{NO2}} . \frac{K_{O2,HET}}{K_{O2,HET} + S_{O2}}$	R_5
Decay of HET	$b_{HET}.$	R_6
Decay of AOB	$b_{AOB}.$	R_7
Decay of NOB	$b_{NOB}.$	R_8
Decay of EPS	b_{EPS}	R_9