

**Table 4: Biomass formation equations**

	<b>Biomass Formation Equation (moles/kg biomass)</b>		
	<b>Autotrophic</b>	<b>Mixotrophic</b>	<b>Heterotrophic</b>
DNA	0.002	0.002	0.002
RNA	0.051	0.051	0.051
Protein	2.005	2.328	1.706
Carbohydrate	2.008	1.513	1.752
Lipid	0.203	0.298	0.307
Chlorophyll a	0.010	0.008	0.020
Chlorophyll b	0.016	0.014	0.009
ATP (polymerization)	9.350	13.320	8.890
ATP (maintenance)	29.890	29.890	29.890

Biomass formation equation given in moles per kg biomass. Protein, lipid, chlorophyll were measured independently for each growth regime. DNA and RNA content were assumed the same for all cases and carbohydrates was assumed to be the balance. Polymerization energy includes energy required for protein, RNA and DNA polymerization and maintenance is based on a fitted value for heterotrophic growth.