

Species	Mass (mmol)	Carbon mass (mmol)	Carbon distributio n (%)	Electron mass (mmol)	Electron distribution (%)
<b>Substrate</b>					
Glucose (C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> ) <sup>a</sup>	14.46	86.76		347.04	
<b>Products</b>					
Acetate (C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> <sup>-</sup> )	4.86	9.73	11.6	38.92	10.5
Butyrate (C <sub>4</sub> H <sub>7</sub> O <sub>2</sub> <sup>-</sup> )	8.31	33.24	39.5	166.19	44.9
Hydrogen (H <sub>2</sub> )	24.48	-	-	48.97	13.2
Carbon dioxide (CO <sub>2</sub> ) <sup>b</sup>	21.2	21.2	25.2	-	-
Biomass (CH <sub>1.624</sub> O <sub>0.456</sub> N <sub>0.216</sub> P <sub>0.033</sub> S <sub>0.0047</sub> ) <sup>c</sup>	19.87	19.87	23.6	115.65	31.3
Total Carbon mass		84.04			
Total Electron mass				369.72	
Carbon and electron recovery (%)		96.87		106.54	

<sup>a</sup> Fermented glucose = (Initial glucose - residual glucose)

<sup>b</sup> CO<sub>2</sub> in the liquid phase was ignored.

<sup>c</sup> P in biomass formula ignored

**Table S2. Carbon and electron recoveries from anaerobic phase in one-put batch cultivation.**

The carbon and electron masses (mmol) and distribution (%) of *C. butyricum* biomass, gaseous and liquid metabolites generated from glucose in 1-L bioreactor are presented.