

Additional File 4. Elemental composition matrix and measured and reconciled conversion rates of *R. jostii* RHA1 on glucose and acetate in the non- and N-limited conditions.

Table AF4-1 – Elemental composition matrix in the non-limited growth condition

Conversion	C ^g	COD	N ^h	P ⁱ	COD _{total}
Substrate	0.38	1	0	0	1
COD ^a	0	0	0	0	-1
NH ₄ ⁺	0	0	1	0	0
PO ₄ ³⁻	0	0	0	1	0
μ ^b	0.32	1	0.07	0.01	0
Glycogen	0.38	1	0	0	0
PHB ^c	0.33	1	0	0	0
PHV ^d	0.31	1	0	0	0
TAG ^e	0.27	1	0	0	0
OUR ^f	0	-1	0	0	0
CO ₂	1	0	0	0	0

^a: Chemical oxygen demand; ^b: growth rate; ^c: poly-β-hydroxybutyrate; ^d: poly(3-hydroxyvalerate); ^e: triacylglycerol; ^f: oxygen uptake rate; ^g: carbon; ^h: nitrogen; ⁱ: phosphorus.

Note that, in the N-limited condition the columns corresponding to N and P, along with the rows corresponding to NH₄⁺, PO₄³⁻, and μ are absent.

Table AF4-2 – Conversion rates on glucose and acetate as the sole carbon sources in the non- and N-limited conditions

Conversion		Units	Glucose Non-LIMITED		Glucose N-LIMITED		Acetate Non-LIMITED		Acetate N-LIMITED	
			Measured	Reconciled	Measured	Reconciled	Measured	Reconciled	Measured	Reconciled
Substrate	mg-COD/(g-COD _{biomass} ·h)		-294±236	-299±234	-28.0±12.3	-40.0±7.64	-1140±368	-1140±368	-68.4±15.8	-82.3±6.05
COD^a	mg-COD/(g-COD _{biomass} ·h)		ND ^h	-299±234	-44.2±13.6	-40.0±7.64	ND	-1140±368	ND	-82.3±6.05
NH₄⁺	mg-N/(g-COD _{biomass} ·h)		ND	-17.0±17.2	ND	ND	ND	-76.0±27.1	ND	ND
PO₄³⁻	mg-P/(g-COD _{biomass} ·h)		-10.0±27.9	-2.61±2.65	ND	ND	-5.50±3.50	-5.50±3.50	ND	ND
μ^b	10 ⁻³ /h		ND	231±235	ND	ND	ND	1030±369	ND	ND
Glycogen	mg-COD/(g-COD _{biomass} ·h)		1.53±0.42	1.50±0.40	0.60±0.20	0.60±0.00	1.70±0.80	1.70±0.80	0.80±0.20	0.80±0.00
PHB^c	mg-COD/(g-COD _{biomass} ·h)		11.3±3.40	11.3±3.40	7.80±4.90	6.45±4.68	5.50±1.80	5.50±1.80	9.50±1.70	9.34±1.69
PHV^d	mg-COD/(g-COD _{biomass} ·h)		26.4±7.90	26.4±7.90	18.3±11.5	10.9±8.33	12.8±4.30	12.8±4.30	22.2±4.10	21.3±3.98
TAG^e	mg-COD/(g-COD _{biomass} ·h)		3.70±2.30	3.70±2.30	5.60±1.60	5.46±1.59	7.60±5.60	7.60±5.60	7.80±0.40	7.79±0.40
OUR^f	mg/(g-COD _{biomass} ·h)		-25.3±5.70	-25.3±5.70	-18.6±6.00	-16.6±5.60	-76.0±15.3	-76.0±15.3	-44.4±4.80	-43.1±4.61
CO₂	mg-C/(g-COD _{biomass} ·h)		ND	24.8±13.1	ND	7.76±1.93	ND	87.5±20.9	ND	18.7±1.73
χ² Statistics				6.63		9.21		6.63		6.63
DOR^g				1		2		1		1
h				0.07		1.66		0.00		0.91
Probability				99%		99%		99%		99%

^a: Chemical oxygen demand; ^b: growth rate; ^c: poly-β-hydroxybutyrate; ^d: poly(3-hydroxyvalerate); ^e: triacylglycerol; ^f: oxygen uptake rate; ^g: degree of redundancy; ^h: not determined. For the purpose of this paper, PHA was assumed to be a co-polymer of PHB and PHV in the same proportion as experimentally observed by [1].

References

- Hernandez MA, Mohn WW, Martinez E, Rost E, Alvarez AF, Alvarez HM: **Biosynthesis of storage compounds by *Rhodococcus jostii* RHA1 and global identification of genes involved in their metabolism.** *BMC Genomics* 2008, **9**(600):1-13.