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SUPPLEMENTARY MATERIAL TO
**High cell density cultivation of *Bacillus subtilis* NCIM 2063:
Modeling, optimization and a scale-up procedure**

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Table S-I. Experimental (Exp.) and predicted (Pred.) values of the *B. subtilis* NCIM 2063 viable cell and spore count according to the BBD matrix

No.	Uncoded factor values			Dependent variables			
	Temperature °C (A)	OTR, mol m ⁻³ h ⁻¹ (B)	Initial glucose concentration, g l ⁻¹ (C)	Viable cell count		Spore count	
				log (CFU ml ⁻¹) Exp.	Pred.	log (CFU ml ⁻¹) Exp.	Pred.
1	25.00	2.00	10.00	8.69±0.01	8.66	8.46±0.00	8.69
2	37.00	2.00	10.00	8.80±0.07	8.71	8.54±0.06	8.70
3	25.00	10.00	10.00	9.23±0.04	9.32	7.90±0.13	7.74
4	37.00	10.00	10.00	9.72±0.06	9.80	9.33±0.04	9.10
5	25.00	6.00	0.00	8.72±0.08	8.78	8.52±0.10	8.62
6	37.00	6.00	0.00	9.10±0.07	9.17	8.76±0.07	8.93
7	25.00	6.00	20.00	7.93±0.06	7.86	5.70±0.07	5.53
8	37.00	6.00	20.00	8.10±0.10	8.04	6.69±0.06	6.59
9	31.00	2.00	0.00	9.08±0.03	9.10	8.75±0.08	8.42
10	31.00	10.00	0.00	9.34±0.06	9.19	9.29±0.13	9.36
11	31.00	2.00	20.00	7.10±0.14	7.25	7.00±0.13	6.93
12	31.00	10.00	20.00	9.00±0.11	8.98	5.10±0.14	5.43
13	31.00	6.00	10.00	9.09±0.01	9.01	8.03±0.03	7.91
14	31.00	6.00	10.00	8.95±0.06	9.01	7.84±0.00	7.91
15	31.00	6.00	10.00	8.85±0.00	9.01	7.56±0.08	7.91
16	31.00	6.00	10.00	9.06±0.01	9.01	7.88±0.05	7.91
17	31.00	6.00	10.00	9.08±0.11	9.01	8.24±0.06	7.91

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Table S-II. Criteria and the goals of the multicriteria optimization

Factors/Responses	Low level	High level	Significance	Criteria
Temperature, °C	25	37	3	minimize
<i>OTR</i> , mol m ⁻³ h ⁻¹	2	10	3	In range
Glucose concentration, g l ⁻¹	0	20	3	In range
Number of viable cells, log (CFU ml ⁻¹)	7.1	9.72	5	Maximum
Spore count, log (CFU ml ⁻¹)	5.1	9.15	3	Maximum