

Table S1: Supplementary table to figure 1. *S. costatum* growth performance in terms of biomass dry weight (g L⁻¹) obtained in 1-L bubble column PBRs in order to optimize the supply of a specific nutrient (silicate, nitrate, phosphate, iron) or micronutrient concentrations ($n=3$). Values are represented as mean \pm standard deviation.

Silicate trial (g L⁻¹ DW)				
Days	0.4 mM	0.8 mM	1.2 mM	2.4 mM
0	0.16 \pm 0.00	0.18 \pm 0.00	0.18 \pm 0.00	0.16 \pm 0.00
1	0.44 \pm 0.02	0.49 \pm 0.02	0.47 \pm 0.02	0.49 \pm 0.01
3	0.86 \pm 0.04	1.61 \pm 0.11	1.72 \pm 0.07	1.77 \pm 0.01
4	1.24 \pm 0.09	2.04 \pm 0.06	2.08 \pm 0.14	2.32 \pm 0.09
6	1.86 \pm 0.11	2.73 \pm 0.13	2.55 \pm 0.06	3.07 \pm 0.13
7	2.02 \pm 0.03	3.09 \pm 0.22	3.04 \pm 0.01	3.52 \pm 0.17
Nitrate trial (g L⁻¹ DW)				
Days	1 mM	2 mM	4 mM	8 mM
0	0.19 \pm 0.00	0.18 \pm 0.00	0.18 \pm 0.00	0.18 \pm 0.00
1	0.43 \pm 0.01	0.42 \pm 0.01	0.43 \pm 0.01	0.42 \pm 0.01
3	1.21 \pm 0.03	1.65 \pm 0.00	1.64 \pm 0.08	1.71 \pm 0.09
4	1.16 \pm 0.06	1.63 \pm 0.04	2.41 \pm 0.11	2.54 \pm 0.10
7	1.53 \pm 0.09	2.20 \pm 0.18	3.18 \pm 0.07	3.38 \pm 0.14
Phosphate trial (g L⁻¹ DW)				
Days	50 μM	100 μM	200 μM	400 μM
0	0.18 \pm 0.00	0.18 \pm 0.00	0.18 \pm 0.00	0.18 \pm 0.00
1	0.47 \pm 0.01	0.45 \pm 0.01	0.45 \pm 0.00	0.44 \pm 0.03
3	1.48 \pm 0.04	1.54 \pm 0.12	1.35 \pm 0.06	1.18 \pm 0.05
4	2.89 \pm 0.07	2.94 \pm 0.03	2.65 \pm 0.07	2.47 \pm 0.11
7	3.45 \pm 0.20	3.72 \pm 0.07	3.38 \pm 0.25	3.52 \pm 0.10
Iron trial (g L⁻¹ DW)				
Days	1 mM	2 mM	4 mM	8 mM
0	0.16 \pm 0.00	0.18 \pm 0.00	0.18 \pm 0.00	0.18 \pm 0.00
1	0.44 \pm 0.01	0.44 \pm 0.02	0.42 \pm 0.01	0.43 \pm 0.02
3	1.92 \pm 0.01	1.89 \pm 0.01	1.69 \pm 0.15	1.69 \pm 0.17
4	2.54 \pm 0.09	2.59 \pm 0.06	2.31 \pm 0.12	2.45 \pm 0.19
7	2.49 \pm 0.12	2.56 \pm 0.10	2.26 \pm 0.20	2.40 \pm 0.08
Micronutrient's trial (g L⁻¹ DW)				
Days	0.5 mL L⁻¹	1 mL L⁻¹	2 mL L⁻¹	4 mL L⁻¹
0	0.19 \pm 0.00	0.19 \pm 0.00	0.19 \pm 0.00	0.19 \pm 0.00
1	0.50 \pm 0.00	0.50 \pm 0.01	0.50 \pm 0.01	0.50 \pm 0.00
3	1.88 \pm 0.05	1.84 \pm 0.03	1.68 \pm 0.07	1.87 \pm 0.00
4	2.54 \pm 0.00	2.51 \pm 0.02	2.34 \pm 0.13	2.48 \pm 0.02
7	3.09 \pm 0.10	3.05 \pm 0.05	2.86 \pm 0.10	3.09 \pm 0.07

Table S2: Supplementary table to figure 2. *C. calcitrans* growth performance in terms of biomass dry weight (g L⁻¹) obtained in 1-L bubble column PBRs in order to optimize the supply of a specific nutrient (silicate, nitrate, phosphate, iron) or micronutrient concentrations (*n*=3). Values are represented as mean ± standard deviation.

Silicate trial (g L⁻¹ DW)				
Days	0.4 mM	0.8 mM	1.2 mM	2.4 mM
0	0.12 ± 0.00	0.12 ± 0.00	0.12 ± 0.00	0.12 ± 0.00
1	0.39 ± 0.01	0.41 ± 0.00	0.41 ± 0.01	0.42 ± 0.01
3	0.67 ± 0.02	0.89 ± 0.03	0.95 ± 0.03	1.00 ± 0.03
5	0.68 ± 0.01	1.56 ± 0.02	1.64 ± 0.01	1.77 ± 0.05
7	0.76 ± 0.03	1.61 ± 0.03	2.03 ± 0.06	2.05 ± 0.08
Nitrate trial (g L⁻¹ DW)				
Days	1 mM	2 mM	4 mM	8 mM
0	0.12 ± 0.00	0.12 ± 0.00	0.12 ± 0.00	0.12 ± 0.00
1	0.29 ± 0.00	0.30 ± 0.00	0.29 ± 0.00	0.29 ± 0.00
3	0.46 ± 0.01	0.97 ± 0.01	0.95 ± 0.00	0.92 ± 0.07
5	0.55 ± 0.05	1.20 ± 0.05	1.60 ± 0.04	1.53 ± 0.07
7	0.73 ± 0.03	1.13 ± 0.02	2.17 ± 0.02	2.03 ± 0.02
Phosphate trial (g L⁻¹ DW)				
Days	50 µM	100 µM	200 µM	400 µM
0	0.04 ± 0.00	0.04 ± 0.00	0.04 ± 0.00	0.04 ± 0.00
1	0.30 ± 0.00	0.30 ± 0.01	0.29 ± 0.00	0.25 ± 0.00
3	1.12 ± 0.04	1.20 ± 0.05	1.08 ± 0.06	1.01 ± 0.09
5	1.53 ± 0.02	1.68 ± 0.01	1.62 ± 0.05	1.53 ± 0.09
7	2.32 ± 0.05	2.44 ± 0.02	2.31 ± 0.06	2.19 ± 0.08
Iron trial (g L⁻¹ DW)				
Days	10 µM	20 µM	40 µM	80 µM
0	0.11 ± 0.00	0.12 ± 0.00	0.12 ± 0.00	0.12 ± 0.00
1	0.29 ± 0.00	0.30 ± 0.00	0.30 ± 0.00	0.31 ± 0.00
3	1.05 ± 0.01	1.04 ± 0.03	1.01 ± 0.02	1.03 ± 0.01
5	1.39 ± 0.02	1.45 ± 0.02	1.62 ± 0.02	1.61 ± 0.03
7	1.66 ± 0.06	1.76 ± 0.02	1.93 ± 0.06	2.09 ± 0.02
Micronutrients trial (g L⁻¹ DW)				
Days	0.5 mL L ⁻¹	1 mL L ⁻¹	2 mL L ⁻¹	4 mL L ⁻¹
0	0.12 ± 0.00	0.12 ± 0.00	0.12 ± 0.00	0.12 ± 0.00
1	0.30 ± 0.00	0.36 ± 0.00	0.36 ± 0.00	0.36 ± 0.00
3	1.19 ± 0.07	1.14 ± 0.03	1.32 ± 0.03	1.22 ± 0.04
5	1.78 ± 0.01	1.75 ± 0.05	1.80 ± 0.05	1.75 ± 0.06
7	1.99 ± 0.05	1.96 ± 0.00	1.95 ± 0.06	1.92 ± 0.16