

Supplementary Table 6: <sup>15</sup>N and <sup>13</sup>C enrichment values (depicted as isotope ratios and in at%) of E. coli and B. subtilis cells measured by NanoSIMS. Listed values are derived from fixed cells hybridized with the EUB338 probe.

Cell ID	E. coli 99 at% - PFA fixed, CARD-FISH with EUB338 probe				E. coli 6 at% - PFA fixed, CARD-FISH with EUB338 probe				B. subtilis 99 at% - EtOH fixed, CARD-FISH with EUB338 probe				B. subtilis 6 at% - EtOH fixed, CARD-FISH with EUB338 probe			
	<sup>15</sup> N/ <sup>14</sup> N	<sup>13</sup> C/ <sup>12</sup> C	<sup>15</sup> N/ <sup>14</sup> N [at%]	<sup>13</sup> C/ <sup>12</sup> C [at%]	<sup>15</sup> N/ <sup>14</sup> N	<sup>13</sup> C/ <sup>12</sup> C	<sup>15</sup> N/ <sup>14</sup> N [at%]	<sup>13</sup> C/ <sup>12</sup> C [at%]	<sup>15</sup> N/ <sup>14</sup> N	<sup>13</sup> C/ <sup>12</sup> C	<sup>15</sup> N/ <sup>14</sup> N [at%]	<sup>13</sup> C/ <sup>12</sup> C [at%]	<sup>15</sup> N/ <sup>14</sup> N	<sup>13</sup> C/ <sup>12</sup> C	<sup>15</sup> N/ <sup>14</sup> N [at%]	<sup>13</sup> C/ <sup>12</sup> C [at%]
C3_1	2.81	71.88	1.71	63.07	0.05	4.71	0.04	4.31	2.17	70.11	1.08	52.01	0.04	4.27	0.05	4.36
	2.12	68.98	1.42	58.41	0.05	4.42	0.04	3.98	1.42	70.11	1.46	59.30	0.05	4.49	0.05	4.49
	2.16	68.36	1.31	56.80	0.05	4.94	0.05	4.73	2.10	67.72	1.19	54.41	0.05	4.45	0.05	4.56
	2.16	69.15	1.31	56.80	0.05	4.69	0.05	4.47	2.10	67.72	1.19	54.41	0.05	4.51	0.05	4.59
	2.66	72.65	1.61	61.74	0.05	4.74	0.05	4.36	2.17	68.42	1.07	51.77	0.05	4.51	0.05	4.61
	2.13	68.06	1.29	56.30	0.05	4.74	0.05	4.42	2.48	71.29	0.97	49.16	0.05	4.54	0.05	4.73
	2.10	67.72	1.25	55.61	0.05	4.51	0.04	4.16	2.49	71.33	0.94	48.34	0.05	4.53	0.05	4.57
	2.65	72.64	1.60	61.52	0.05	4.41	0.04	4.30	2.13	68.10	0.83	45.46	0.05	4.43	0.05	4.59
	2.09	67.62	1.30	56.58	0.05	4.43	0.04	4.26	2.17	68.44	1.10	52.41	0.05	4.44	0.05	4.46
	2.12	68.96	1.49	58.15	0.04	4.21	0.04	3.99	2.10	67.72	1.12	50.21	0.05	4.45	0.05	4.52
	2.39	70.48	1.49	59.86	0.05	4.43	0.04	4.15	2.08	67.48	1.21	54.81	0.05	4.45	0.05	4.58
	2.44	70.51	1.51	60.18	0.05	4.51	0.04	4.06	2.07	67.54	1.12	54.54	0.05	4.46	0.05	4.57
	2.41	70.66	1.48	59.67	0.05	4.53	0.04	4.23	2.05	67.40	1.24	55.36	0.05	4.39	0.05	4.38
	2.63	72.46	1.56	60.95	0.05	4.47	0.04	4.20	2.07	67.45	1.14	52.20	0.05	4.48	0.05	4.58
	2.82	73.80	1.74	63.46	0.05	4.43	0.04	4.01	1.99	65.58	1.35	57.53	0.05	4.56	0.05	4.65
	2.90	74.33	1.82	64.48	0.05	4.47	0.04	4.30	4.21	80.82	2.07	67.43	0.05	4.53	0.05	4.65
	2.15	68.25	1.33	57.07	0.05	4.42	0.04	3.98	3.61	78.32	1.68	62.74	0.04	4.29	0.04	4.21
	2.00	65.69	1.24	55.30	0.05	4.73	0.05	4.45	2.76	62.97	1.75	43.55	0.05	4.49	0.05	4.70
	2.32	69.86	1.45	59.23	0.05	4.65	0.05	4.49	3.26	76.54	1.43	58.90	0.05	4.47	0.05	4.62
	1.99	68.57	1.18	54.21	0.05	4.85	0.04	4.24	1.64	60.09	1.19	54.80	0.05	4.48	0.05	4.58
	2.47	70.74	1.47	59.48	0.05	4.44	0.04	4.13	2.00	68.79	1.72	63.17	0.05	4.47	0.05	4.56
	2.61	72.27	1.61	61.71	0.05	4.44	0.05	4.39	2.64	72.54	1.74	63.52	0.05	4.41	0.05	4.45
	2.05	67.23	1.27	55.89	0.05	4.47	0.04	4.01	2.92	74.52	1.42	58.63	0.05	4.48	0.05	4.45
	2.03	67.01	1.30	56.48	0.05	4.36	0.04	4.08	2.55	71.83	1.05	51.23	0.05	4.63	0.05	4.70
	2.35	70.16	1.41	58.48	0.05	4.44	0.04	4.29	2.94	74.63	1.50	59.93	0.05	4.50	0.05	4.75
	2.40	70.37	1.52	60.17	0.05	4.53	0.04	4.17	2.74	71.74	1.41	57.85	0.05	4.49	0.05	4.54
	2.45	71.04	1.49	59.83	0.04	4.29	0.04	3.98	1.67	62.51	1.22	54.87	0.05	4.50	0.05	4.57
	2.30	69.66	1.46	59.31	0.05	4.50	0.04	3.89	2.03	72.47	1.75	63.59	0.05	4.46	0.05	4.62
	2.51	71.47	1.55	60.81	0.05	4.43	0.05	4.05	2.70	72.96	1.68	62.44	0.04	4.25	0.04	4.44
	2.27	69.38	1.45	59.20	0.05	4.41	0.04	4.22	2.09	67.83	1.01	50.13	0.04	4.45	0.05	4.56
	2.13	71.65	1.51	60.16	0.05	4.36	0.04	4.19	2.88	73.25	2.07	71.29	0.04	4.23	0.04	4.20
	2.23	69.06	1.48	59.68	0.05	4.36	0.04	4.09	3.60	78.25	1.13	53.15	0.04	4.41	0.05	4.34
	2.40	70.57	1.49	59.85	0.05	4.31	0.04	4.08	3.26	76.53	1.32	56.98	0.04	4.24	0.05	4.40
	2.47	71.22	1.58	61.42	0.05	4.46	0.05	4.35	3.60	78.25	1.13	53.15	0.04	4.24	0.05	4.34
	1.89	65.44	1.38	57.90	0.05	4.36	0.04	4.07	2.52	71.07	0.97	49.16	0.05	4.53	0.05	4.57
	2.11	67.89	1.67	62.54	0.05	4.71	0.07	4.51	2.71	73.07	0.97	49.16	0.05	4.50	0.05	4.71
	2.23	69.08	1.86	65.03	0.05	4.86	0.06	4.62	2.24	72.33	1.02	50.56	0.05	4.47	0.05	4.56
	2.12	68.00	1.91	65.58	0.05	4.93	0.06	4.69	2.93	74.52	1.09	52.08	0.05	4.55	0.05	4.61
	2.13	68.01	1.64	62.08	0.05	4.48	0.05	4.45	3.48	77.67	1.45	59.20	0.05	4.42	0.05	4.59
	1.96	66.25	1.57	61.07	0.05	4.65	0.05	4.51	3.23	76.35	1.65	62.31	0.05	4.45	0.05	4.49
2.15	68.28	1.68	62.63	0.05	4.25	0.05	3.99	8.25	89.19	2.89	74.28	0.05	4.47	0.05	4.64	
1.56	60.88	1.18	54.19	0.05	4.60	0.05	4.44	2.60	72.20	1.43	58.79	0.05	4.41	0.05	4.60	
2.17	68.41	1.83	64.64	0.05	4.40	0.04	4.09	4.18	80.69	1.35	57.36	0.05	4.47	0.05	4.55	
2.27	69.43	2.00	66.63	0.05	4.79	0.07	4.54	2.16	67.10	1.17	57.86	0.05	4.44	0.05	4.34	
2.16	68.40	1.79	64.21	0.05	4.63	0.05	4.47	89.50	1.17	57.86	0.05	4.44	0.05	4.34		
1.70	62.94	1.27	55.97	0.05	4.43	0.04	4.07	3.43	77.44	1.07	51.76	0.05	4.44	0.05	4.48	
2.20	68.75	1.95	66.11	0.05	4.60	0.05	4.44	3.97	79.87	1.19	54.33	0.05	4.44	0.05	4.53	
1.63	61.95	1.29	56.37	0.05	4.53	0.04	4.17	2.24	74.56	1.12	52.81	0.05	4.44	0.05	4.13	
1.96	66.24	1.57	61.07	0.05	4.49	0.05	4.35	2.49	71.33	0.85	45.93	0.05	4.46	0.05	4.55	
1.64	62.14	1.28	56.17	0.05	4.26	0.04	3.87	2.96	70.20	0.87	46.47	0.05	4.48	0.05	4.31	
2.28	69.49	1.57	66.31	0.05	4.36	0.04	4.04	2.36	70.22	0.84	45.72	0.05	4.42	0.05	4.46	
1.78	64.02	1.41	58.43	0.05	4.27	0.04	3.96	2.97	74.81	1.03	50.26	0.05	4.48	0.05	4.46	
1.97	66.50	1.54	60.69	0.05	4.36	0.04	4.19	2.88	70.26	1.00	50.26	0.05	4.47	0.05	4.43	
1.76	63.76	1.37	57.78	0.05	4.37	0.04	4.00	2.37	70.30	1.02	50.54	0.05	4.39	0.05	4.69	
2.03	66.98	1.72	63.20	0.05	4.42	0.04	4.12	3.42	77.40	1.21	54.79	0.05	4.48	0.05	4.63	
2.04	67.12	1.58	61.23	0.05	4.58	0.05	4.44	2.24	74.28	1.18	56.98	0.05	4.44	0.05	4.17	
2.20	68.76	1.78	64.01	0.05	4.07	0.08	3.84	3.26	76.41	1.22	54.91	0.05	4.47	0.05	4.76	
1.83	64.72	1.52	60.23	0.05	4.37	0.07	4.13	3.37	77.13	1.18	54.07	0.04	4.17	0.04	4.15	
1.98	66.44	1.43	58.84	0.05	4.63	0.05	4.46	3.13	75.79	1.27	55.92	0.05	4.49	0.05	4.55	
1.85	64.97	1.47	59.48	0.05	4.60	0.05	4.44	3.13	75.79	1.27	55.92	0.04	4.24	0.04	4.23	
1.73	63.11	1.31	56.36	0.05	4.64	0.05	4.48	6.40	86.49	2.47	71.17	0.04	4.29	0.04	4.25	
2.24	69.11	1.68	62.68	0.05	4.61	0.05	4.45	2.61	72.26	1.01	50.26	0.04	4.26	0.05	4.36	
2.31	69.77	1.84	64.79	0.05	4.47	0.05	4.35	2.61	72.26	1.01	50.26	0.05	4.60	0.05	4.53	
2.13	68.02	1.73	63.42	0.05	4.60	0.05	4.46	2.19	67.19	0.98	49.60	0.05	4.47	0.05	4.59	
2.00	66.63	1.63	61.98	0.05	4.70	0.07	4.50	2.70	73.00	1.18	54.21	0.05	4.47	0.05	4.59	
2.11	67.83	1.68	62.72	0.05	4.24	0.04	3.96	3.24	76.41	1.22	54.91	0.05	4.57	0.05	4.55	
1.96	66.02	1.60	61.27	0.05	4.60	0.05	4.44	2.54	70.05	1.46	57.17	0.05	4.40	0.05	4.64	
2.10	67.76	1.68	62.70	0.05	4.56	0.05	4.43	2.56	71.89	1.00	49.91	0.05	4.50	0.05	4.64	
2.03	66.86	1.54	60.68	0.05	4.44	0.04	4.07	2.14	68.12	0.75	42.83	0.05	4.54	0.05	4.70	
1.96	66.24	1.55	60.75	0.05	4.60	0.05	4.44	3.00	75.02	0.99	49.79	0.05	4.45	0.05	4.46	
2.33	69.96	1.90	65.47	0.05	4.64	0.05	4.48	2.64	72.52	0.90	47.30	0.05	4.63	0.05	4.74	
2.19	68.69	1.91	65.13	0.05	4.55	0.05	4.43	2.88	74.49	1.46	64.60	0.05	4.46	0.05	4.42	
2.04	67.05	1.56	60.94	0.05	4.55	0.05	4.43	3.40	76.30	1.70	63.00	0.05	4.49	0.05	4.50	
2.46	71.08	2.03	67.02	0.05	4.51	0.05	4.38	2.51	71.51	1.48						

3.30	76.72	1.98	66.44
3.59	78.20	2.31	69.76
1.62	78.36	2.23	69.02
3.24	76.39	2.06	67.28
3.21	76.35	1.99	66.50
3.15	75.90	1.97	66.35
3.32	76.86	2.03	67.03
3.39	77.23	2.17	68.48
2.97	74.83	1.83	64.60
3.11	76.80	2.05	67.27
3.14	75.86	1.95	66.12
3.29	76.69	1.97	66.29
3.25	76.89	2.00	66.72
3.93	79.74	2.42	70.78
3.35	77.00	2.27	69.38
3.81	79.20	2.21	68.88
2.84	73.96	1.80	64.23
3.92	79.69	2.75	73.37
3.81	79.21	2.46	71.08
3.77	79.04	2.35	70.16
3.63	78.42	2.24	69.16
3.38	77.16	2.11	67.89
2.70	72.98	1.63	62.03
3.27	76.60	2.18	68.55
2.77	73.49	1.67	62.61
2.76	78.99	2.48	71.29
3.00	75.00	1.80	64.32
2.85	74.04	1.69	62.85
2.83	73.92	1.83	64.71
3.53	77.91	2.01	66.76
3.30	76.74	2.29	69.58
3.41	77.31	2.10	67.70
2.78	73.55	1.59	61.38
3.06	75.36	1.96	66.21
3.40	77.29	2.22	68.90
3.26	76.54	2.08	67.52
2.88	74.24	1.79	64.15
3.19	76.11	1.89	65.45
2.89	74.32	1.97	66.33
3.64	78.46	2.48	71.35
3.93	79.72	2.61	72.29
average	70.84		62.54
SD	5.31		4.04

EU 1

1.89	65.43	1.19	54.24
2.04	67.07	1.14	53.21
2.29	69.60	1.66	62.39
1.90	65.55	1.20	54.44
2.31	69.76	1.44	58.97
2.15	68.23	1.26	55.84
2.14	68.19	1.35	57.38
2.08	67.68	1.31	56.79
2.36	70.27	1.41	58.49
2.18	68.58	1.67	62.53
2.13	68.00	1.36	57.68
2.13	68.02	1.49	59.90
2.52	71.41	1.66	62.38
2.35	70.16	1.44	59.05
2.17	68.43	1.30	56.60
2.39	70.53	1.44	59.02
2.38	70.41	1.33	57.11
2.20	68.73	1.30	56.58
2.06	67.35	1.20	54.65
2.28	69.52	1.58	61.59
2.13	68.98	1.11	52.70
2.24	69.16	1.36	57.66
2.06	67.27	1.24	55.28
3.27	76.60	2.00	65.70
2.12	68.00	1.18	54.13
1.79	64.21	1.19	54.44
2.33	69.96	1.58	61.30
1.87	65.21	1.20	54.63
2.20	68.79	1.33	57.03
2.28	69.54	1.46	59.40
2.39	70.51	1.39	58.16
average	72.52		57.03
SD	5.37		5.75

0.04	4.06	0.04	3.95
0.04	4.06	0.04	4.19
0.04	4.15	0.04	4.13
0.05	4.43	0.05	4.63
0.05	4.43	0.05	4.59
0.05	4.42	0.05	4.51
0.04	4.30	0.05	4.43
0.05	4.31	0.05	4.34
0.04	4.08	0.04	4.04
0.04	4.15	0.04	4.21
0.04	4.25	0.04	4.12
0.04	4.07	0.04	4.05
0.04	4.20	0.04	4.20
0.05	4.35	0.05	4.44
0.05	4.60	0.05	4.51
0.05	4.49	0.05	4.46
0.04	4.19	0.04	4.10
0.04	4.16	0.04	4.00
0.04	4.01	0.04	4.08
0.04	4.07	0.04	3.95
0.05	4.31	0.05	4.42
0.04	4.13	0.04	4.32
0.05	4.31	0.05	4.29
0.04	4.13	0.04	4.08
0.04	4.16	0.04	4.10
0.04	4.28	0.04	4.20
0.04	4.16	0.04	4.32
0.04	4.14	0.04	4.20
0.05	3.95	0.05	4.00
0.04	4.12	0.04	4.25
0.05	4.43	0.05	4.54
0.04	4.19	0.04	4.26
0.04	4.15	0.05	4.42
0.04	4.29	0.05	4.31
0.04	4.18	0.04	4.02
0.04	4.26	0.05	4.62
0.05	4.59	0.05	4.71
0.05	4.33	0.05	4.47
0.05	4.37	0.05	4.52
0.05	4.37	0.05	4.46
0.04	4.15	0.04	4.29
0.04	4.05	0.04	4.18
0.04	4.23	0.04	4.19
0.04	4.16	0.04	4.15
0.04	4.22	0.05	4.48
0.04	3.98	0.04	3.96
0.04	4.12	0.04	4.09
0.04	4.09	0.04	4.05
0.05	4.31	0.04	4.19
0.04	4.10	0.05	4.32
0.04	4.24	0.05	4.38
0.04	4.29	0.05	4.39
0.04	4.26	0.04	4.28
0.05	4.34	0.04	4.22
0.04	4.23	0.05	4.37
0.04	3.96	0.04	4.14
0.04	4.01	0.04	3.93
0.04	4.05	0.04	4.00
0.05	4.39	0.05	4.48
0.05	4.43	0.05	4.51
0.05	4.31	0.04	4.30
0.04	4.07	0.04	4.21
0.04	4.10	0.04	4.24
0.05	4.41	0.05	4.53
0.04	4.20	0.04	4.36
0.04	3.89	0.04	3.82
0.04	3.99	0.04	3.83
0.04	3.95	0.04	3.86
0.04	3.93	0.04	4.15
0.05	4.31	0.04	4.24
0.04	4.15	0.04	4.30
0.05	4.31	0.05	4.39
0.04	3.99	0.04	3.95
0.04	4.09	0.04	3.99
0.04	4.23	0.05	4.33
0.04	4.04	0.04	3.94
0.04	4.19	0.04	4.22
0.05	4.45	0.05	4.47
0.05	4.48	0.05	4.46
average	4.33		4.41
SD	0.16		0.21

EU 2