

## ***Bacillus subtilis* biofilms characterized as hydrogels. Insights on water uptake and water binding in biofilms**

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	<b>Na</b>	<b>Mg</b>	<b>K</b>	<b>Ca</b>	<b>Mn</b>	<b>Fe</b>	<b>Zn</b>
<b>WT</b>	1190	460	4844	612	46	1.2	2.7
<b>WT error</b>	150	150	2042	190	13	0.8	0.7
<b><math>\Delta</math>eps</b>	1640	501	3542	570	43	0.4	3.5
<b><math>\Delta</math>eps error</b>	92	60	530	40	4	0.1	0.2
<b><math>\Delta</math>tasA</b>	1364	369	3220	410	27	0.4	2.6
<b><math>\Delta</math>tasA error</b>	260	110	850	150	10	0.2	2.0

Table S1. ICP results showing the abundance of salts in biofilms made by WT and matrix mutants. The elemental concentration (in ppb) is normalized by the biofilms' weight (in mg), which makes the units in the table ppb/mg. The results are an average of three different biofilms of each strain.

To compare with literature values reported in M/cell, e.g. reference 36 in the manuscript, a conversion factor  $9 \cdot 10^6$  cell/mg can be used (see Experimental section for more detail).

	<b>Na</b>	<b>Mg</b>	<b>K</b>	<b>Ca</b>	<b>Mn</b>	<b>Fe</b>	<b>Zn</b>
<b>WT</b>	320	260	905	504	30	0.6	1.5
<b>WT error</b>	20	20	85	125	10	0.2	0.3
<b><math>\Delta</math>eps</b>	526	406	465	822	23	0.23	5
<b><math>\Delta</math>eps error</b>	81	50	150	145	5	0.19	2
<b><math>\Delta</math>tasA</b>	263	144	280	260	8	0.16	0.95
<b><math>\Delta</math>tasA error</b>	20	20	170	37	2	0.07	0.02

Table S2. ICP results showing the abundance of salts in biofilms made by WT and matrix mutants that grew on agar-MSgg and transferred to agar-water plates for three days. The elemental concentration (in ppb) is normalized by the biofilms' weight (in mg) and divided by the elemental concentration in an agar-agar piece, normalized by its weight. The results are an average of three different biofilms of each strain.

	<b>Na</b>	<b>Mg</b>	<b>K</b>	<b>Ca</b>	<b>Mn</b>	<b>Fe</b>	<b>Zn</b>
<b>Agar-MSgg</b>	890	35	227	51	1.72	0.56	0.59
<b>Agar-MSgg error</b>	140	4	51	10	0.23	0.28	0.14
<b>Agar-water</b>	90	6	6.7	25.5	0.165	0.59	0.47
<b>Aga-/water error</b>	15	1	1.6	5.6	0.092	0.53	0.11

Table S3. ICP results showing the abundance of salts in agar-MSgg and in agar-water. Concentration values (in ppb) are normalized by the sample's weight (in mg), therefore the units are ppb/mg.

Figure S1.

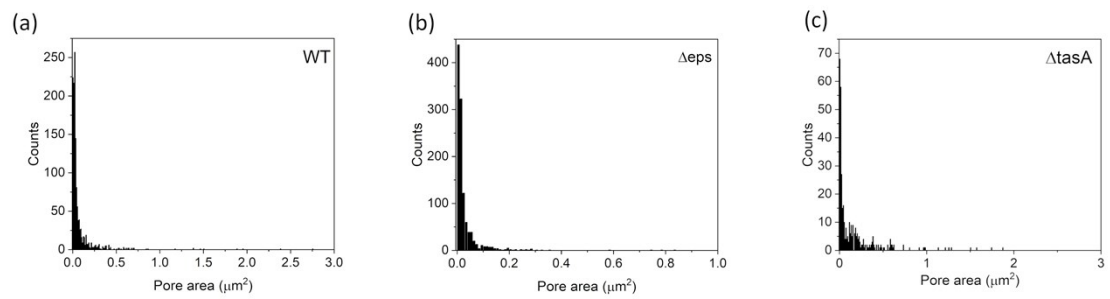


Figure S1. Pore size distribution in biofilms (WT,  $\Delta\text{eps}$ ,  $\Delta\text{tasA}$ ), plotted on a full scale.