

**Table S1.** Percentage ratios of the different surfactin variants and homologues in the original sample.

Original							
Ratio of variant and deviation (%)							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.62 (0.07)	0.20 (0.01)	1.09 (0.06)	nd.	nd.	nd.	nd.
C14	3.39 (0.10)	nd.	2.10 (0.17)	0.37 (0.03)	nd.	nd.	nd.
C15	6.67 (0.30)	2.92 (0.27)	4.15 (0.34)	2.38 (0.20)	6.58 (0.14)	nd.	nd.
C16	11.42 (0.86)	nd.	13.68 (0.84)	nd.	15.02 (0.26)	nd.	0.18 (0.02)
C17	6.90 (0.33)	nd.	3.69 (0.41)	nd.	7.85 (0.59)	2.80 (0.31)	0.12 (0.01)
C18	nd.	nd.	nd.	nd.	3.58 (0.06)	3.29 (0.31)	nd.

nd. – not detected

**Table S2.** Percentage ratios of the different [Sur]factin variants and homologues in the sample modified with cellobiose carbon source.

Cellobiose							
Ratio of variant and deviation (%)							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.17 (0.07)	0.20 (0.01)	0.68 (0.04)	nd.	nd.	nd.	nd.
C14	3.95 (0.35)	nd.	1.16 (0.07)	0.13 (0.02)	nd.	nd.	nd.
C15	10.43 (0.95)	3.17 (0.45)	2.68 (0.17)	1.17 (0.22)	10.52 (0.58)	nd.	nd.
C16	9.25 (0.56)	nd.	11.82 (0.51)	nd.	15.55 (1.58)	nd.	0.71 (0.09)
C17	7.19 (0.73)	nd.	2.22 (0.14)	nd.	8.78 (0.62)	1.64 (0.20)	0.28 (0.02)
C18	nd.	nd.	nd.	nd.	4.49 (0.47)	2.81 (0.18)	nd.

nd. – not detected

**Table S3.** Percentage ratios of the different [Sur]factin variants and homologues in the sample modified with starch carbon source.

<b>Starch</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.61 (0.20)	0.23 (0.01)	0.65 (0.02)	nd.	nd.	nd.	nd.
C14	4.58 (0.28)	nd.	1.28 (0.17)	0.13 (0.01)	nd.	nd.	nd.
C15	8.89 (0.70)	2.98 (0.31)	2.71 (0.19)	1.18 (0.10)	10.96 (0.46)	nd.	nd.
C16	8.72 (0.72)	nd.	10.62 (0.10)	nd.	17.27 (0.67)	nd.	0.73 (0.04)
C17	7.12 (0.65)	nd.	2.59 (0.23)	nd.	8.82 (0.82)	1.63 (0.08)	0.42 (0.07)
C18	nd.	nd.	nd.	nd.	3.98 (0.35)	2.88 (0.15)	nd.

nd. – not detected

**Table S4.** Percentage ratios of the different [Sur]factin variants and homologues in the sample modified with maltose carbon source.

<b>Maltose</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.56 (0.04)	0.25 (0.01)	1.18 (0.08)	nd.	nd.	nd.	nd.
C14	3.35 (0.36)	nd.	1.72 (0.49)	0.27 (0.02)	nd.	nd.	nd.
C15	7.07 (0.39)	3.39 (0.43)	3.56 (0.11)	1.49 (0.14)	8.39 (0.56)	nd.	nd.
C16	9.35 (0.25)	nd.	13.28 (0.05)	nd.	15.22 (1.12)	nd.	0.17 (0.02)
C17	7.28 (1.53)	nd.	3.90 (0.05)	nd.	9.05 (0.83)	2.86 (0.01)	0.32 (0.03)
C18	nd.	nd.	nd.	nd.	3.67 (0.36)	2.66 (0.26)	nd.

nd. – not detected

**Table S5.** Percentage ratios of the different [Sur]factin variants and homologues in the sample modified with ethanol carbon source.

<b>Ethanol</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.72 (0.17)	0.33 (0.02)	1.26 (0.07)	nd.	nd.	nd.	nd.
C14	2.12 (0.37)	nd.	1.52 (0.13)	0.22 (0.03)	nd.	nd.	nd.
C15	7.04 (0.36)	4.93 (0.35)	3.70 (0.11)	1.95 (0.17)	12.34 (0.54)	nd.	nd.
C16	12.72 (0.48)	nd.	18.43 (0.57)	nd.	14.42 (0.94)	nd.	0.01 (0.00)
C17	7.91 (0.12)	nd.	4.03 (0.48)	nd.	0.24 (0.01)	1.60 (0.22)	0.14 (0.01)
C18	nd.	nd.	nd.	nd.	3.33 (0.21)	0.06 (0.01)	nd.

nd. – not detected

**Table S6.** Percentage ratios of the different [Sur]factin variants and homologues in the sample modified with mannitol carbon source.

<b>Mannitol</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.95 (0.05)	0.37 (0.05)	0.96 (0.08)	nd.	nd.	nd.	nd.
C14	5.08 (0.15)	nd.	1.87 (0.32)	0.20 (0.04)	nd.	nd.	nd.
C15	9.86 (0.85)	4.16 (0.45)	2.51 (0.25)	1.09 (0.06)	11.27 (0.40)	nd.	nd.
C16	9.04 (0.88)	nd.	11.96 (0.31)	nd.	17.16 (0.22)	nd.	0.41 (0.08)
C17	5.95 (0.71)	nd.	2.39 (0.34)	nd.	6.52 (1.07)	0.83 (0.19)	0.22 (0.06)
C18	nd.	nd.	nd.	nd.	4.10 (0.09)	2.10 (0.19)	nd.

nd. – not detected

**Table S7.** Percentage ratios of the different [Sur]fascin variants and homologues in the sample modified with fructose carbon source.

<b>Fructose</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.27 (0.08)	0.06 (0.01)	2.22 (0.13)	nd.	nd.	nd.	nd.
C14	3.87 (0.16)	nd.	4.34 (0.15)	1.74 (0.31)	nd.	nd.	nd.
C15	6.51 (0.18)	3.71 (0.16)	10.76 (0.67)	5.95 (0.13)	7.90 (0.59)	nd.	nd.
C16	9.23 (1.14)	nd.	14.78 (0.45)	nd.	8.34 (1.21)	nd.	0.20 (0.02)
C17	6.49 (0.62)	nd.	2.71 (0.32)	nd.	5.08 (0.09)	1.40 (0.14)	0.14 (0.01)
C18	nd.	nd.	nd.	nd.	1.50 (0.23)	1.80 (0.16)	nd.

nd. – not detected

**Table S8.** Percentage ratios of the different [Sur]fascin variants and homologues in the sample modified with glycerin carbon source.

<b>Glycerin</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.20 (0.09)	0.52 (0.04)	2.48 (0.13)	nd.	nd.	nd.	nd.
C14	5.14 (0.18)	nd.	3.97 (0.54)	0.81 (0.08)	nd.	nd.	nd.
C15	7.03 (0.41)	4.88 (0.18)	3.31 (0.14)	3.55 (0.28)	11.40 (0.13)	nd.	nd.
C16	9.51 (0.63)	nd.	7.91 (0.23)	nd.	14.33 (0.66)	nd.	0.30 (0.05)
C17	6.32 (0.56)	nd.	2.77 (0.51)	nd.	7.37 (0.65)	1.06 (0.22)	0.18 (0.03)
C18	nd.	nd.	nd.	nd.	3.07 (0.41)	2.89 (0.42)	nd.

nd. – not detected

**Table S9.** Percentage ratios of the different [Sur]facticin variants and homologues in the sample modified with sucrose carbon source.

<b>Sucrose</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	1.03 (0.19)	0.23 (0.00)	0.58 (0.00)	nd.	nd.	nd.	nd.
C14	2.92 (0.22)	nd.	0.99 (0.02)	0.14 (0.01)	nd.	nd.	nd.
C15	9.33 (0.35)	2.81 (0.09)	1.94 (0.08)	0.69 (0.02)	12.16 (0.06)	nd.	nd.
C16	11.77 (0.96)	nd.	11.40 (0.42)	nd.	20.28 (0.21)	nd.	0.83 (0.08)
C17	6.10 (0.48)	nd.	1.19 (0.18)	nd.	8.96 (0.41)	0.60 (0.05)	0.50 (0.03)
C18	nd.	nd.	nd.	nd.	3.53 (0.24)	2.01 (0.38)	nd.

nd. – not detected

**Table S10.** Percentage ratios of the different [Sur]facticin variants and homologues in the sample modified with xylose carbon source.

<b>Xylose</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C13	3.24 (0.24)	0.91 (0.07)	1.26 (0.07)	nd.	nd.	nd.	nd.
C14	5.89 (0.38)	nd.	1.57 (0.24)	0.28 (0.04)	nd.	nd.	nd.
C15	13.86 (1.17)	4.46 (0.15)	2.07 (0.18)	0.61 (0.09)	14.21 (2.31)	nd.	nd.
C16	6.70 (0.55)	nd.	8.05 (0.92)	nd.	15.68 (1.66)	nd.	0.07 (0.01)
C17	7.31 (0.67)	nd.	2.40 (0.12)	nd.	5.16 (0.48)	1.35 (0.05)	0.08 (0.01)
C18	nd.	nd.	nd.	nd.	2.93 (0.30)	1.91 (0.10)	nd.

nd. – not detected

**Table S11.** Percentage ratios of the different [Sur]factin variants and homologues in the sample modified with manganese metal ion.

<b>Manganese</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C11	nd.	nd.	nd.	nd.	0.19 (0.00)	nd.	nd.
C12	0.17 (0.01)	nd.	nd.	nd.	0.75 (0.04)	0.17 (0.01)	nd.
C13	0.12 (0.02)	nd.	0.44 (0.04)	nd.	4.49 (0.21)	1.69 (0.28)	nd.
C14	0.90 (0.14)	0.64 (0.07)	0.62 (0.06)	0.19 (0.02)	12.54 (1.05)	2.74 (0.16)	nd.
C15	nd.	nd.	nd.	nd.	28.21 (2.18)	8.81 (0.88)	1.16 (0.17)
C16	0.31 (0.05)	nd.	nd.	nd.	21.69 (3.40)	6.78 (0.24)	7.40 (0.89)
C17	nd.	nd.	nd.	nd.	59.09 (5.68)	10.29 (0.82)	3.28 (0.55)
C18	nd.	nd.	nd.	nd.	21.85 (1.69)	19.18 (1.41)	nd.

nd. – not detected

**Table S12.** Percentage ratios of the different [Sur]factin variants and homologues in the sample modified with copper metal ion.

<b>Copper</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C11	nd.	nd.	nd.	nd.	0.19 (0.02)	nd.	nd.
C12	0.20 (0.00)	nd.	nd.	nd.	0.12 (0.01)	0.20 (0.02)	nd.
C13	0.18 (0.01)	nd.	0.59 (0.07)	nd.	2.33 (0.05)	1.64 (0.19)	nd.
C14	0.75 (0.02)	0.23 (0.03)	0.77 (0.09)	0.10 (0.01)	6.03 (1.08)	5.38 (0.76)	nd.
C15	nd.	nd.	nd.	nd.	10.70 (0.81)	3.37 (0.19)	0.73 (0.02)
C16	0.48 (0.06)	nd.	nd.	nd.	4.90 (0.36)	0.46 (0.08)	1.62 (0.17)
C17	nd.	nd.	nd.	nd.	28.63 (1.09)	6.94 (0.54)	0.69 (0.06)
C18	nd.	nd.	nd.	nd.	13.77 (0.54)	9.00 (0.54)	nd.

nd. – not detected

**Table S13.** Percentage ratios of the different [Sur]factin variants and homologues in the sample modified with nickel metal ion.

<b>Nickel</b>							
<b>Ratio of variant and deviation (%)</b>							
	[Sur]	[Val2]	[Val7]	[Val2,7]	[AME5]	[AME5,Val7]	[Lxx4,AME5]
C11	nd.	nd.	nd.	nd.	0.15 (0.01)	nd.	nd.
C12	0.17 (0.02)	nd.	nd.	nd.	0.10 (0.01)	0.14 (0.02)	nd.
C13	0.14 (0.01)	nd.	0.60 (0.04)	nd.	1.50 (0.06)	1.25 (0.09)	nd.
C14	0.56 (0.02)	0.08 (0.01)	1.04 (0.10)	0.07 (0.02)	4.13 (0.29)	5.31 (0.72)	nd.
C15	nd.	nd.	nd.	nd.	8.21 (0.49)	6.92 (0.16)	0.19 (0.03)
C16	1.11 (0.13)	nd.	nd.	nd.	11.72 (0.42)	0.97 (0.22)	0.45 (0.06)
C17	nd.	nd.	nd.	nd.	23.22 (0.82)	10.81 (1.41)	0.23 (0.05)
C18	nd.	nd.	nd.	nd.	9.46 (1.22)	11.48 (0.09)	nd.

nd. – not detected