

Supplemental materials

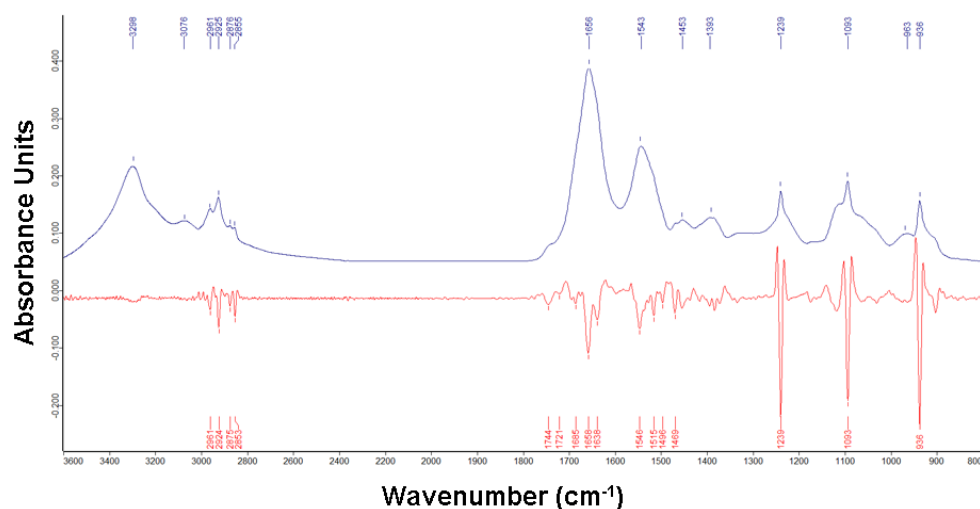
Table S1 Infrared band assignments of the Gram-positive *S. aureus*

Wavenumber (cm ⁻¹)	Assignment ^{1,2}	Chemical Component (cell structure)
3298	ν_s (N-H), Amide A (~ 3300 lit. value) (31)	Protein (pili, cell wall, ribosomes, inclusions).
3075	ν_s (N-H), Amide B (~ 3110 lit. value) (31)	Protein (pili, cell wall, ribosomes, inclusions).
2961	ν_{as} (C-H) of -CH ₃ (7, 25)	Phospholipids (cytoplasmic and outer membrane); Protein (pili, cell wall, ribosomes, inclusions).
2925	ν_{as} (C-H) of >CH ₂ (7, 25)	Phospholipids (cytoplasmic and outer membrane); Protein (pili, cell wall, ribosomes, inclusions); Polysaccharides (capsule, cell wall, inclusions).
2876	ν_s (C-H) of -CH ₃ (7, 25)	Phospholipids (cytoplasmic and outer membrane); Protein (pili, cell wall, ribosomes, inclusions).
2855	ν_s (C-H) of >CH ₂ (7, 25)	Phospholipids (cytoplasmic and outer membrane); Protein (pili, cell wall, ribosomes, inclusions); Polysaccharides (capsule, cell wall, inclusions).
1656	ν_s (C=O), Amide I (7, 25, 31)	Protein (pili, cell wall, ribosomes, inclusions).
1543	σ_s (N-H) and ν_s (C-N), Amide II (7, 25, 31)	Protein (pili, cell wall, ribosomes, inclusions).
1453	σ_{as} (CH ₃) and σ_s (CH ₂) (25)	Protein (pili, cell wall, ribosomes, inclusions); Polysaccharides (capsule, cell wall, inclusions).
1393	ν_s (C=O) of COO ⁻ , σ_s (CH ₃) and σ_{as} (CH ₂) (7, 25)	Protein (pili, cell wall, ribosomes, inclusions); Polysaccharides (capsule, cell wall, inclusions).
1239	ν_{as} (P=O) of PO ₂ ⁻ phosphodiester backbone (7, 25)	Nucleic acids (DNA: nucleus, plasmids; RNA: ribosomes, cytoplasm); Phospholipids (cytoplasmic and outer membrane).
1200-900	ν_s (C-O), ν_s (C-C) and σ_s (C-O-H), σ_s (C-O-C) (7, 25)	Polysaccharides (capsule, cell wall, inclusions).
1093	ν_s (P=O) of PO ₂ ⁻ phosphodiester backbone (7, 25)	Nucleic acids (DNA: nucleus, plasmids; RNA: ribosomes, cytoplasm); Phospholipids (cytoplasmic and outer membrane).

ν_s = symmetric stretch; ν_{as} = asymmetric stretch; σ_s = symmetric deformation (bend); σ_{as} = symmetric deformation (bend)

Table S2 Assignment of bands found in 2nd derivative spectra of microbial IR spectra in the region 1800-1000 cm⁻¹.

Wavenumber (cm ⁻¹)	Assignment ¹
1744	>C=O stretch of esters
1721	>C=O stretch of esters
1694; 1685; 1675	Amide I band components resulting from antiparallel pleated sheets and β -turns of proteins
1658	Amide I of α -helical structures
1638	Amide I of β -pleated sheet structures
1546	Amide II
1515	Tyrosine band
1496	Phenylalanine band
1469	C-H def. of >CH ₂
1239	P=O str (asym) of PO ₂ ⁻ phosphodiester
1093	P=O str (sym) of PO ₂ ⁻



FigS1

Fig S1: FTIR spectra (blue) and 2nd derivative spectra (red) of untreated *S. aureus*

REFERENCES

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- 2 M. Kansiz, P. Heraud, B. Wood, F. Burden, J. Beardall and D. McNaughton, *Phytochemistry*, 1999, **52**, 407.

