

Electronic Supplementary Material (ESI) for New Journal of Chemistry
This journal is © The Royal Society of Chemistry 2023

A new surfactin-C₁₇ produced by *Bacillus subtilis* TD7 with a low critical micelle concentration and high biological activities

Wan-Qi Qin,^{‡a} Dan Fei,^{‡b} Lei Zhou,^a Yujia Guo,^a Shun An,^a OuHang Gong,^a YunYang Wu,^a Jin-Feng Liu,^{ac} Shi-Zhong Yang^{ad} and Bo-Zhong Mu^{*ad}

^a Key Laboratory of Bioreactor Engineering and School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, P.R. China.

^b Institute of Quality Safety and Standards of Agricultural Products, Jiangxi Academy of Agricultural Sciences, Nanchang, Jiangxi, 330200, P. R. China.

^c Daqing Huali Biotechnology Co., Ltd, Daqing, Heilongjiang, 163511, P. R. China.

^d Shanghai Collaborative Innovation Center for Biomanufacturing Technology, Shanghai 200237, P.R. China

Table of Contents

Table S1 16S rDNA gene sequencing of *Bacillus subtilis* TD7.

Figure. S1 RP-HPLC of lipopeptide and the peak of the target substance (N₀).

Figure. S2 The total ion and mass chromatograms of the amino acids in the N₀ after trimethylsilylation.

Figure. S3 The extracted ion chromatograms of the fraction of N₀ (*m/z* = 233).

Figure. S4 ¹H NMR spectrum (CDCl₃) of N₀.

Figure. S5 ¹H NMR spectrum (CDCl₃) of fatty acid methyl ester.

Figure. S6 ¹³C NMR spectrum (CDCl₃) of N₀.

Figure. S7 Surface tension versus logarithm of concentrations value of surfactin-C₁₇.

Table S1 16S rDNA gene sequencing of *Bacillus subtilis* TD7.

GenBank accession number	16S rDNA gene sequence
<i>Bacillus subtilis</i> BAB-7106	ACGATCGTAGCCGACCTGAGAGGGTGATCGGCCACACTGGGACTGAGACACG GCCCAGACTCCTACGGGAGGCAGCAGTAGGGAATCTTCCGCAATGGACGAAAG TCTGACGGAGCAACGCCGCGTGAGTGATGAAGGTTTCGGATCGTAAAGCTCTG TTGTTAGGGAAGAACAAAGTACCGTCAATAGGGCGGTACCTTGACGGTACCTA ACCAGAAAGCCACGGCTAACTACGTGCCAGCAGCCCGGTAATACGTAGGTGGC AAGCGTTGTCCGGAATTATTGGGCGTAAAGGGCTCGCAGGCGGTTCTTAAGTC TGATGTGAAAGCCCCGGCTAACCGGGGAGGGTCATTGAAACTGGGAACTGGGAACT TGAGTGCAGAACAGGGAGAGTGGATTCCACGTGTAGCGGTAAATGCGTAGAG ATGTGGAGGAACACCAAGTGGGAAGGCGACTCTGGTCTGTAACTGACGCTGA GGAGCGAAAGCGTGGGGAGCGAACAGGATTAGATAACCTGGTAGTCCACGCCG TAAACGATGAGTGCTAAGTGTAGGGGTTCCGCCCTAGTGCTGCAGCTAAC GCATTAAGCACTCCGCTGGGAGTACGGTCGCAAGACTGAAACTCAAATGAAT TGACGGA

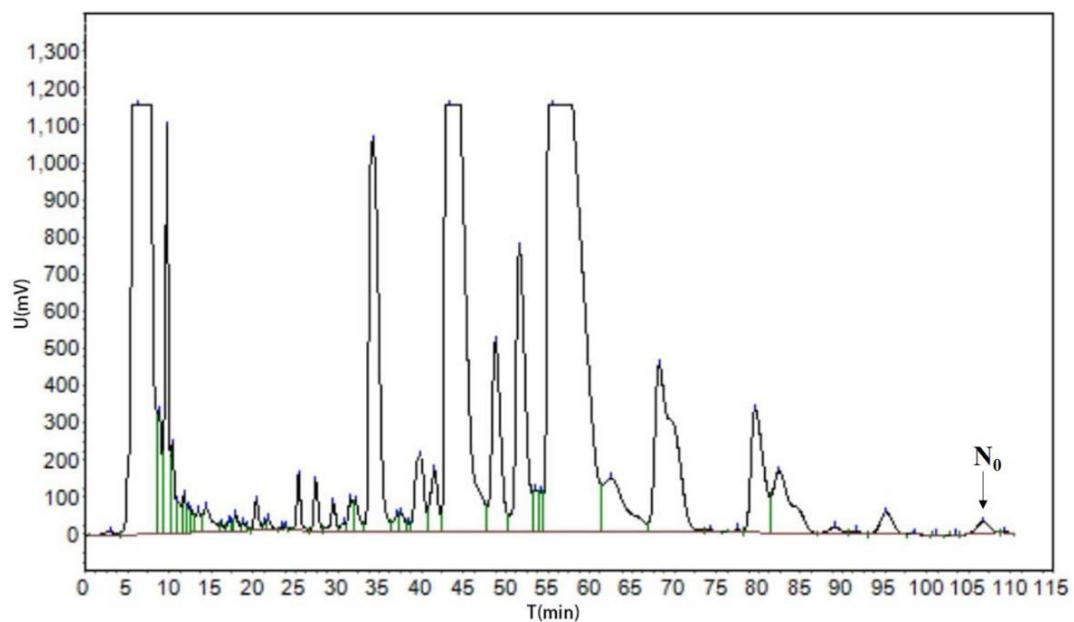


Figure. S1 RP-HPLC of lipopeptide and the peak of target substance (N_0).

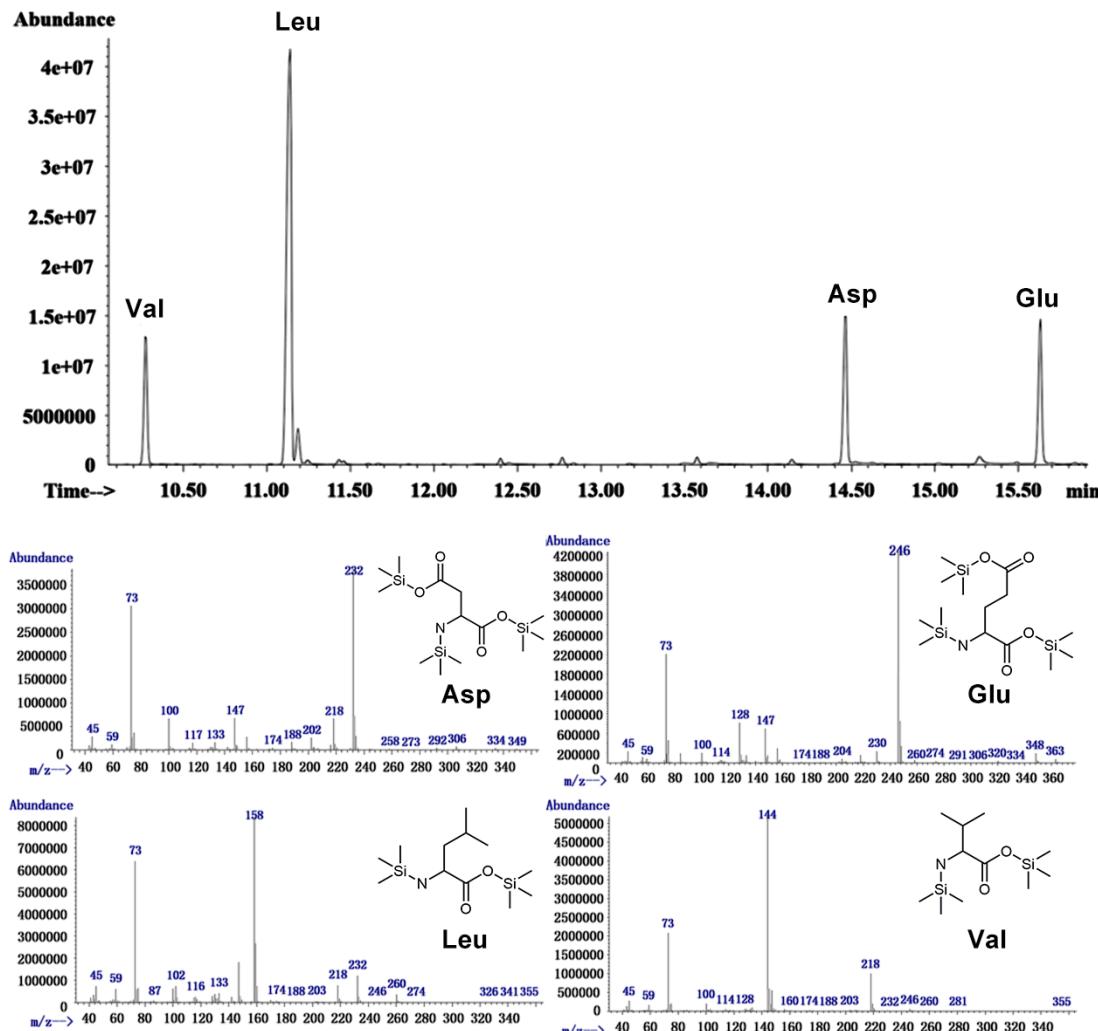


Figure. S2 The total ion and mass chromatograms of the amino acids in the N₀ after trimethylsilylation.

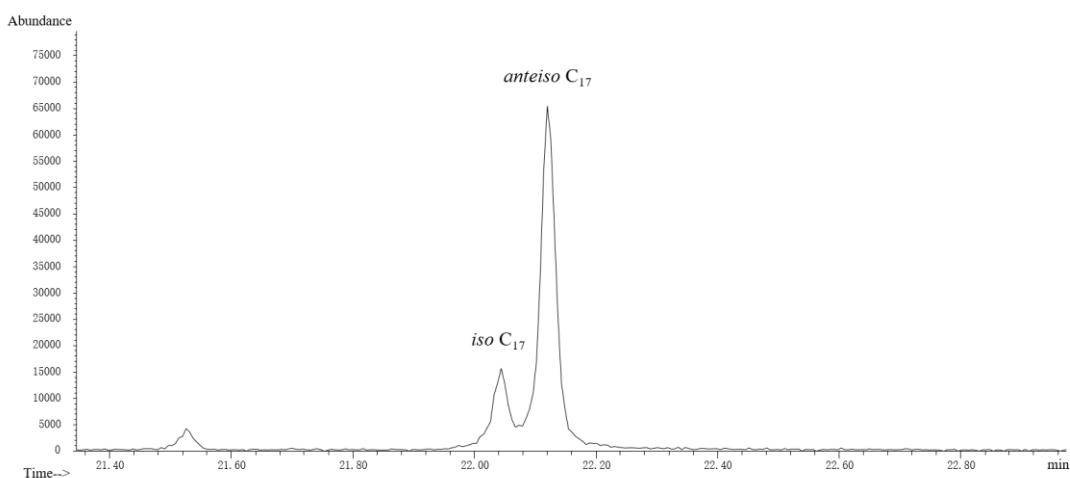


Figure. S3 The extracted ion chromatogram of the fraction of N_0 ($m/z = 233$).

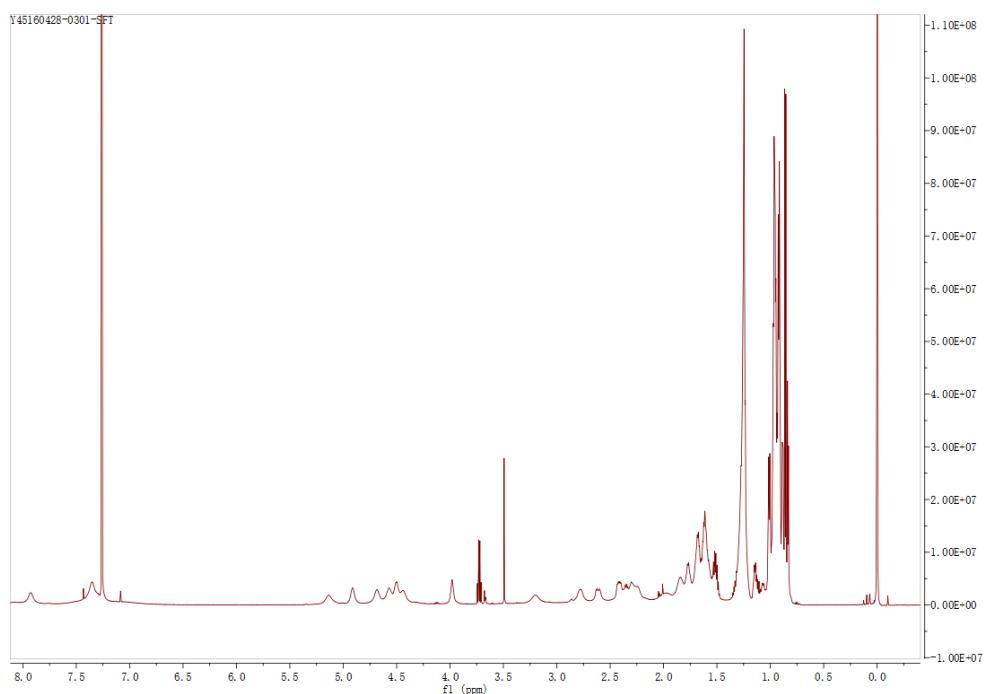


Figure. S4 ^1H NMR spectrum (CDCl_3) of N_0 .

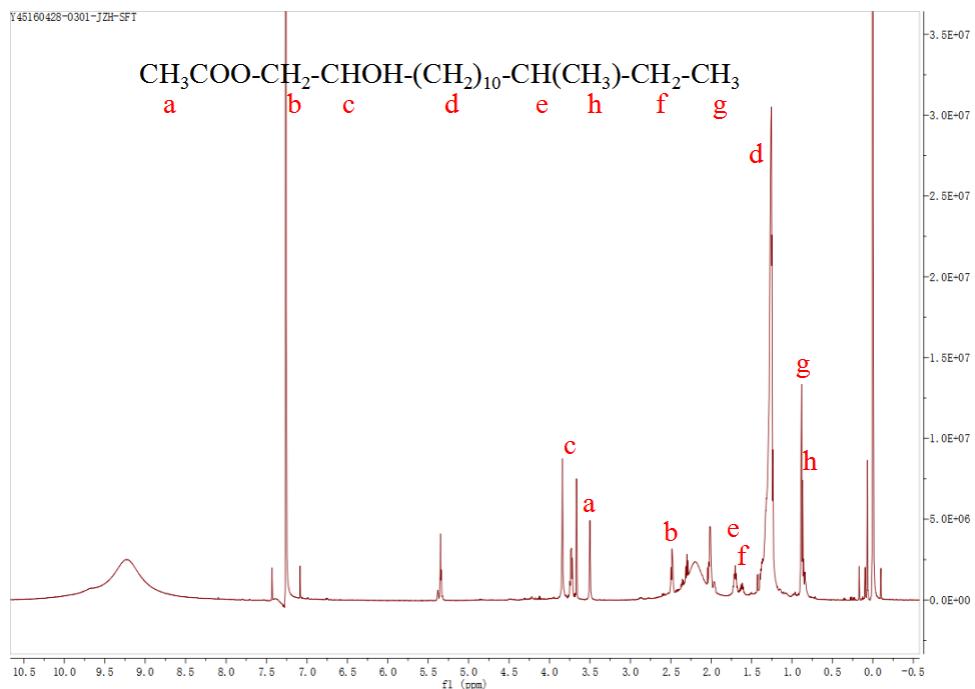


Figure. S5 ¹H NMR spectrum (CDCl₃) of fatty acid methyl ester.

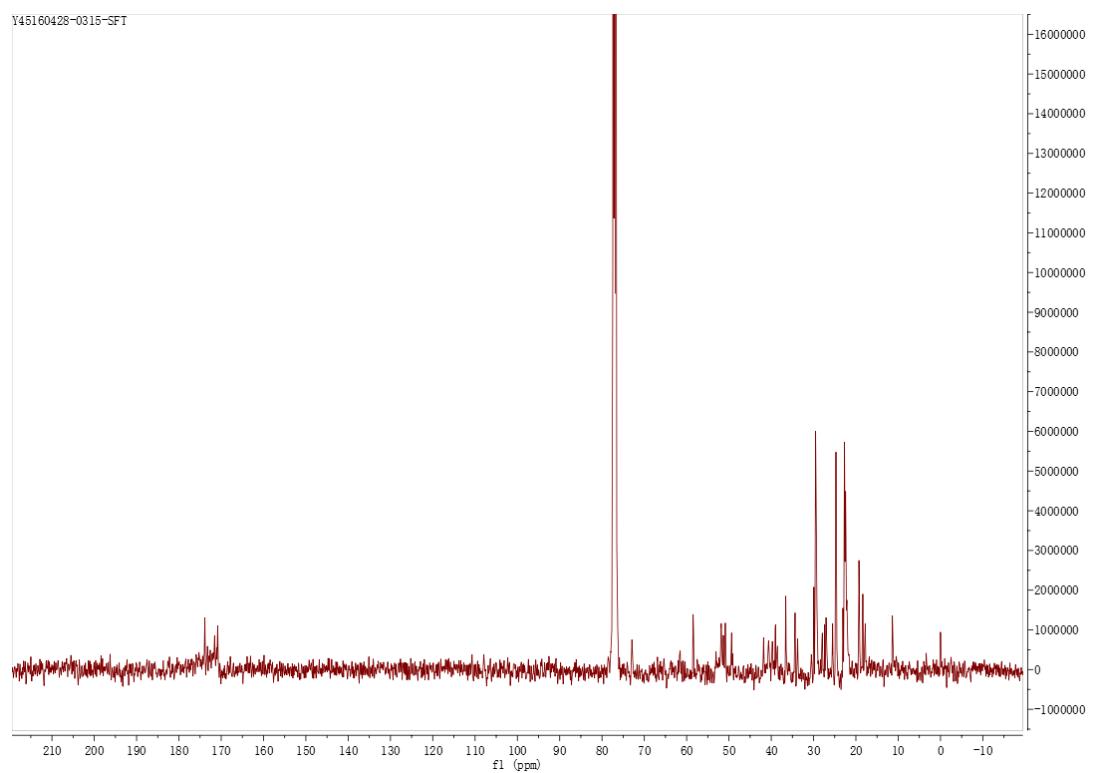


Figure. S6 ¹³C NMR spectrum (CDCl₃) of N₀.

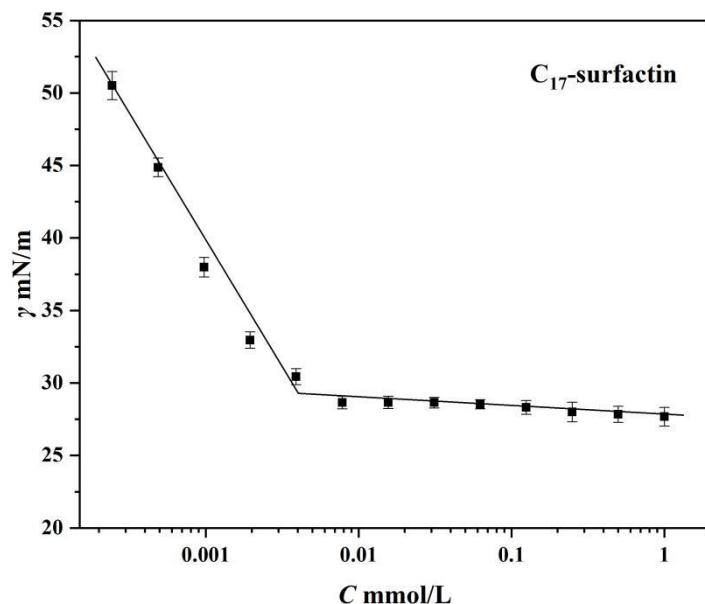


Figure. S7 Surface tension versus logarithm of concentrations value of surfactin- C_{17} .