

Supplementary Materials

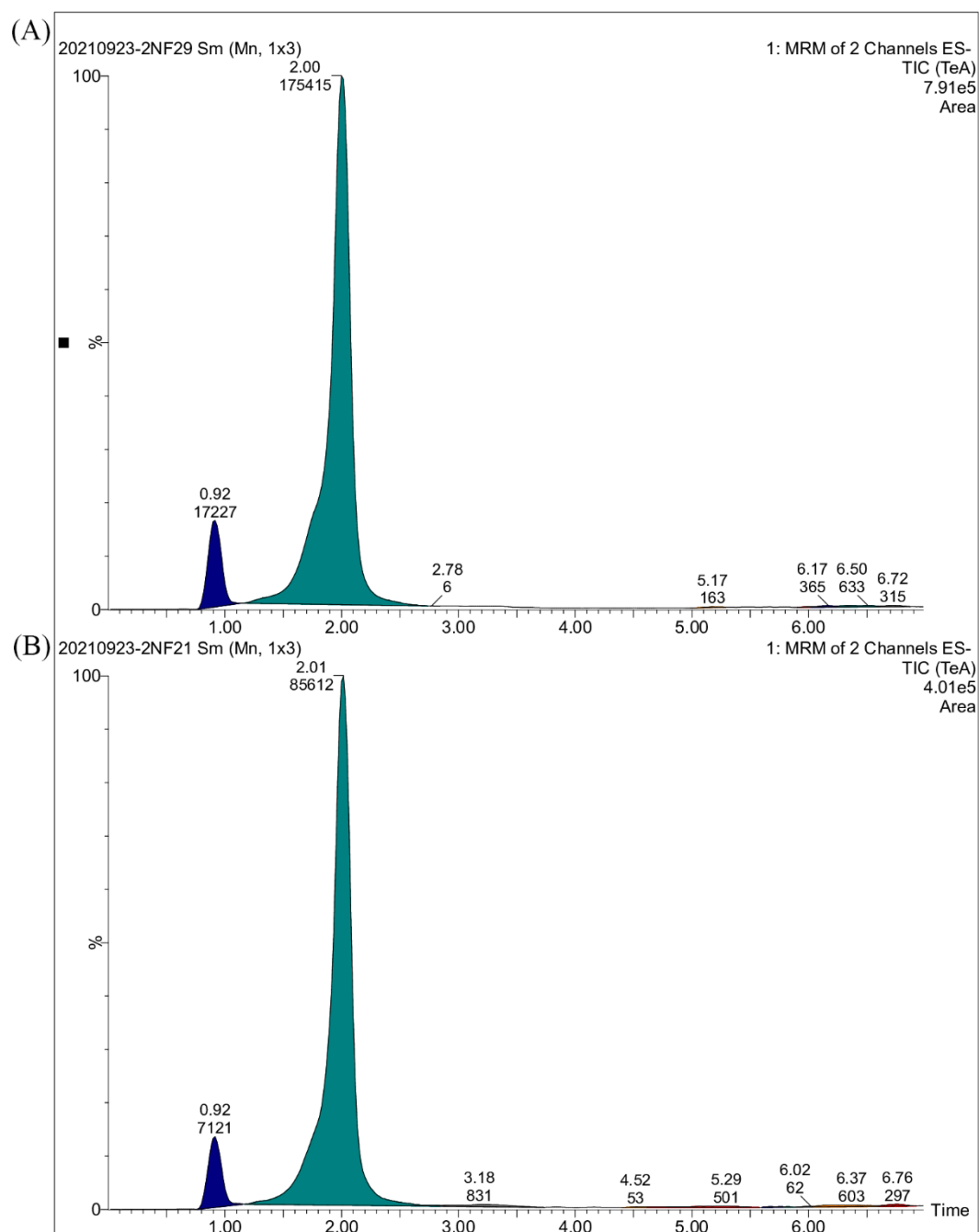


Figure S1. The (A) CK (B) XJ-BV2007 UPLC-MSMS-chromatograms of TeA in tomato.

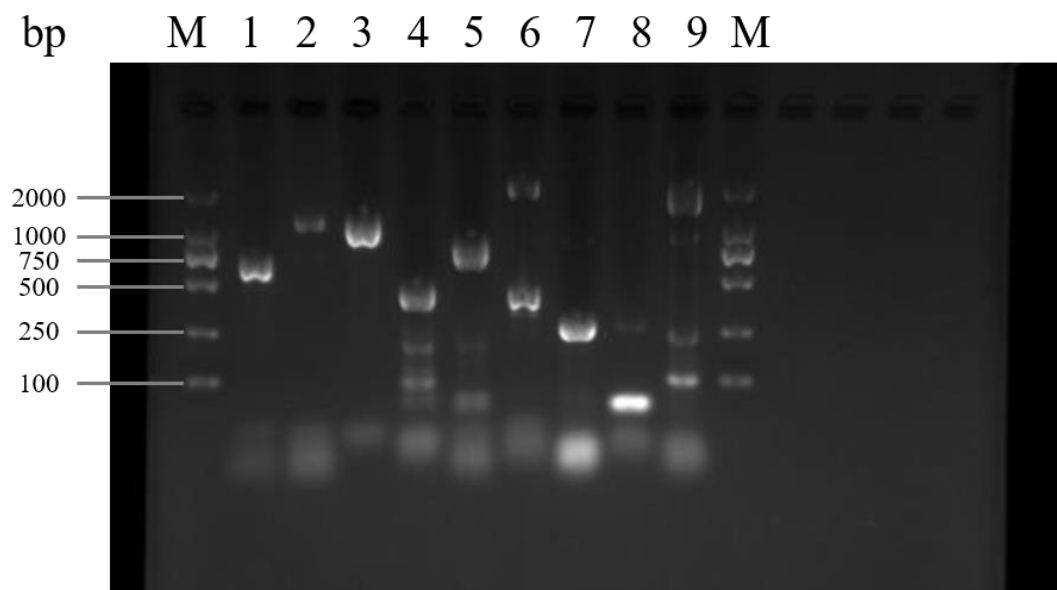


Figure S2. The electrophorogram of PCR detection with lipopeptides biosynthesis genes. Lane M 2000 bp DNA Ladder; Lane 1, Surfaction gene *SrfA*; Lane 2, iturin gene *ituD*; Lane 3, Iturin gene *ItuA*; Lane 4, Iturin gene *ItuC*; Lane 5, Fengycin gene *FenB*; Lane 6, Bacillomycin D gene *BamC*; Lane 7, Surfaction gene *SrfAB*; Lane 8, Bacillomycin D gene *BamD*; Lane 9, Fengycin gene *FenC*.

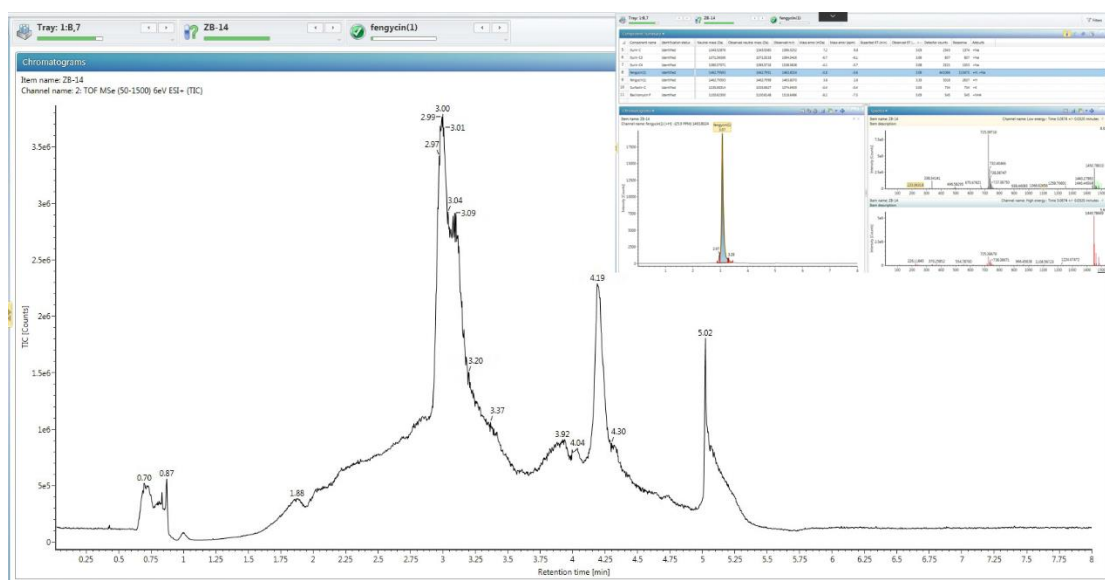
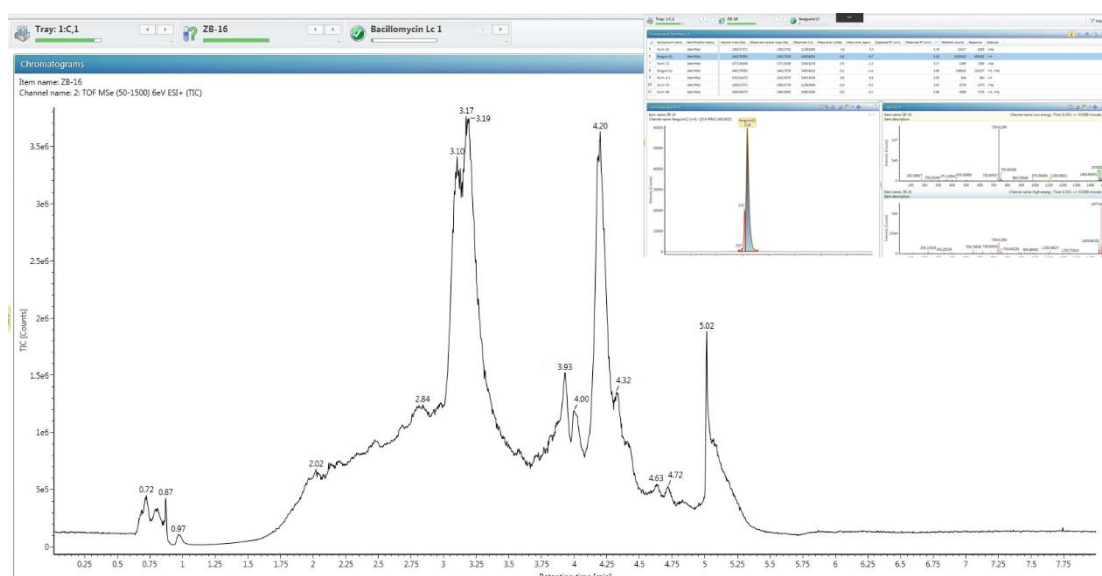
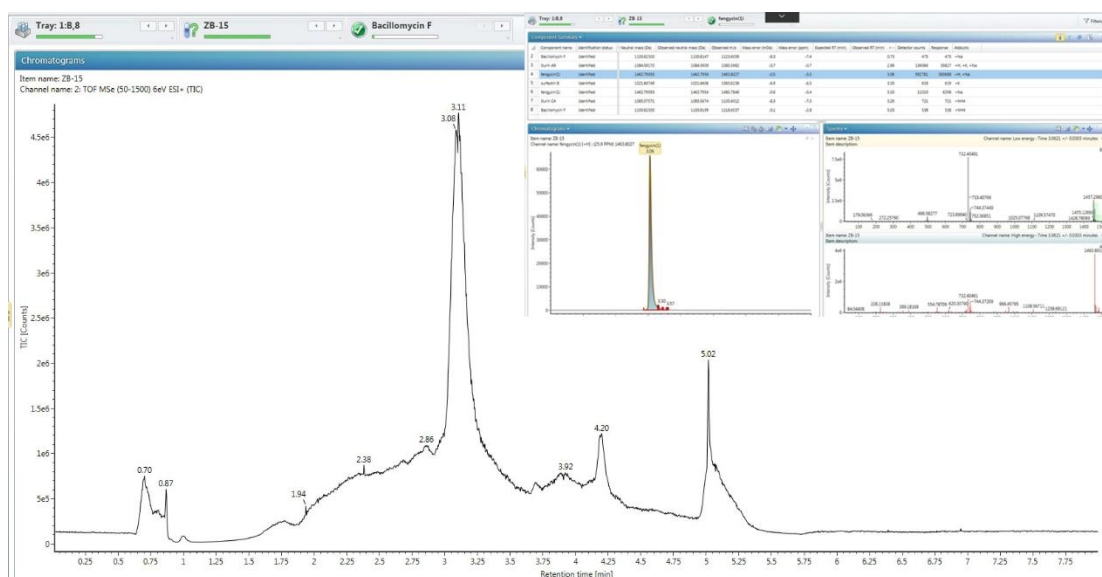


Figure S3. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 14 min



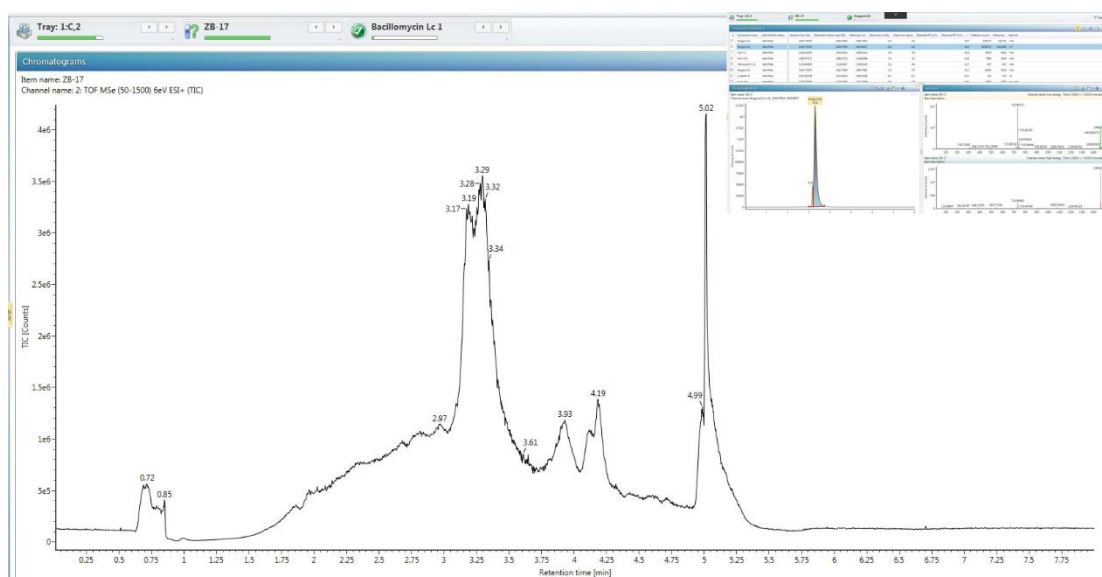


Figure S6. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 17 min

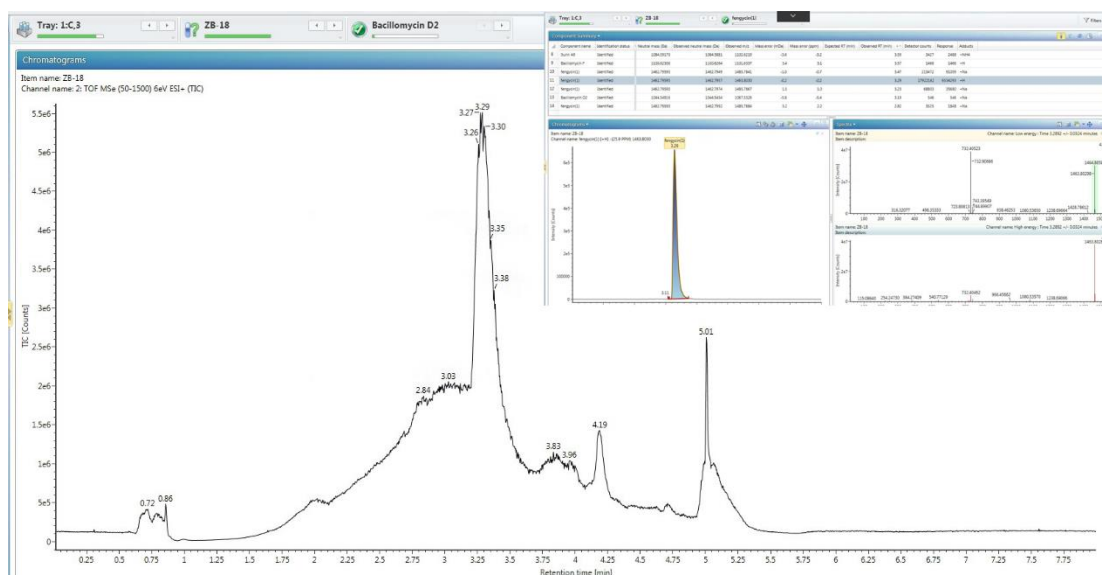


Figure S7. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 18 min

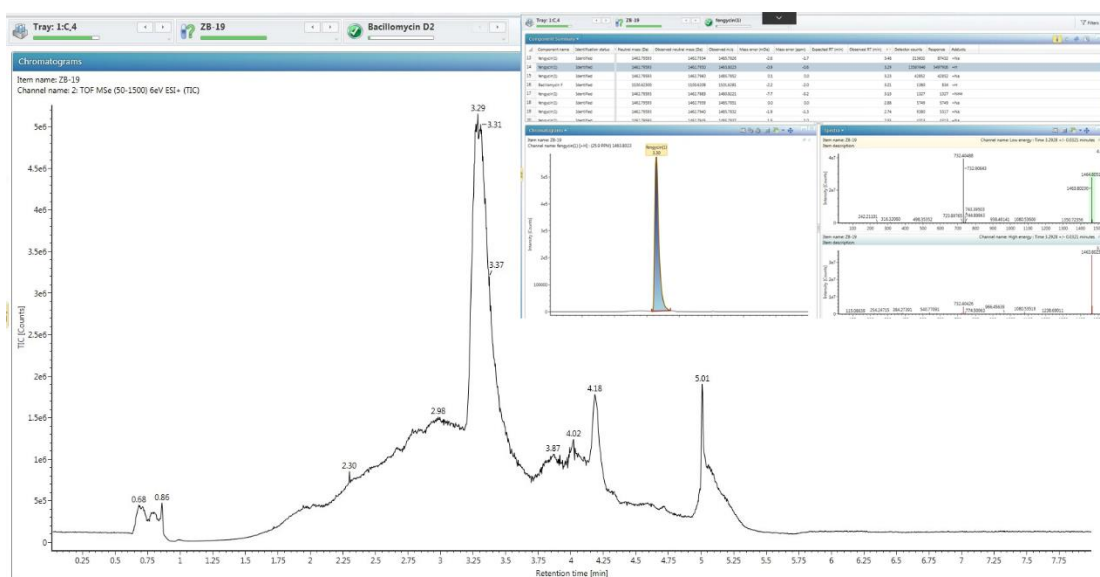


Figure S8. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 19 min

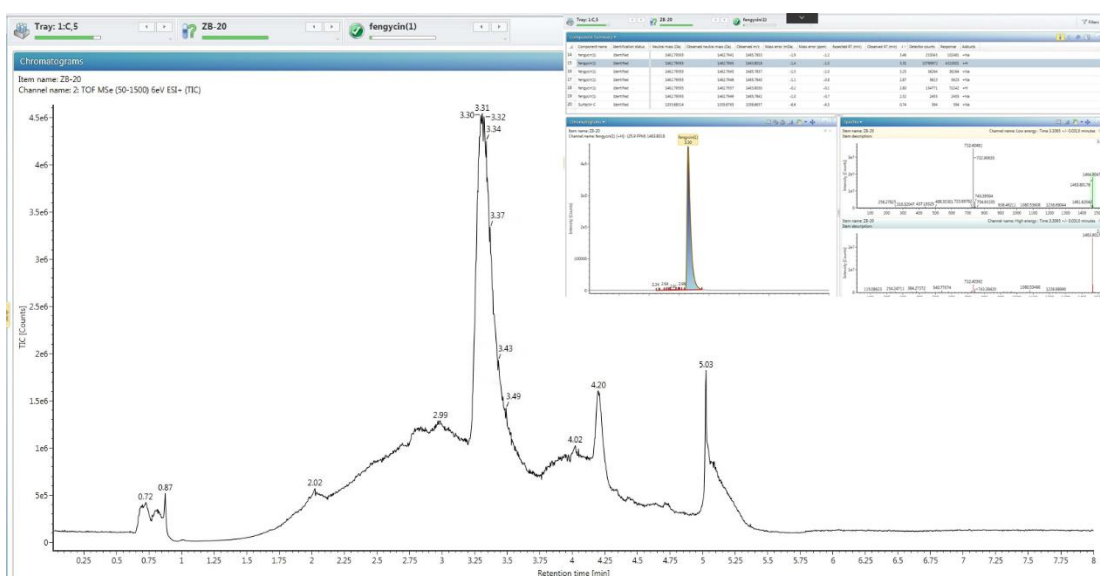


Figure S9. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 20 min

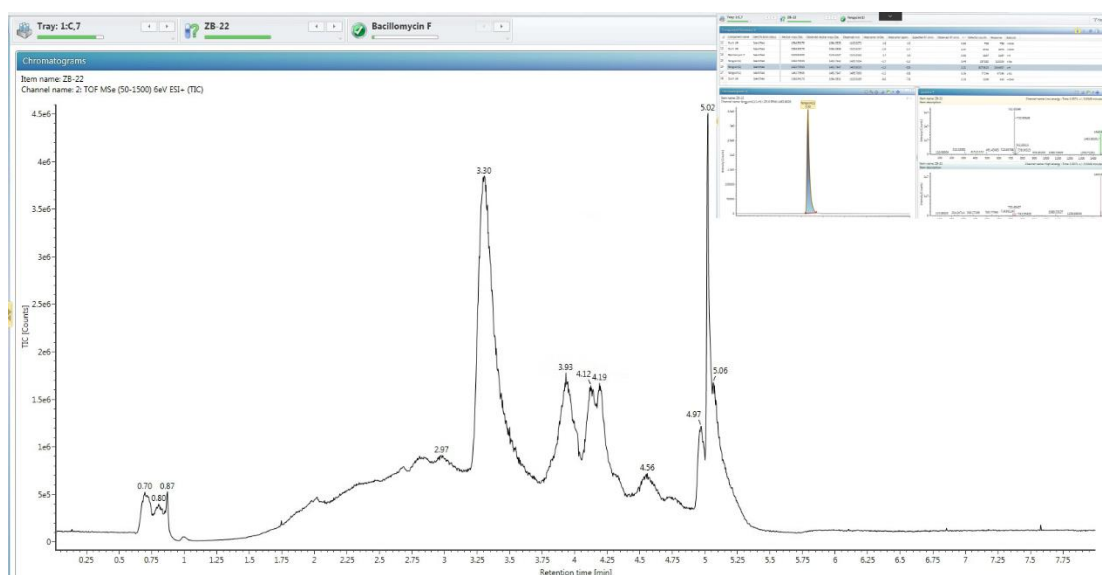


Figure S10. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 22 min

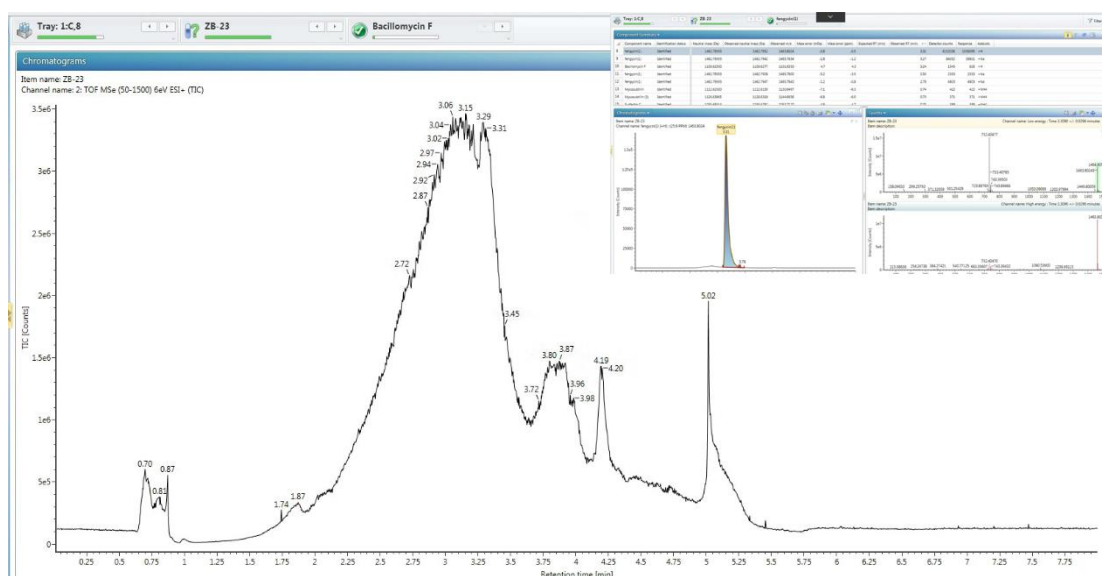


Figure S11. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 23 min

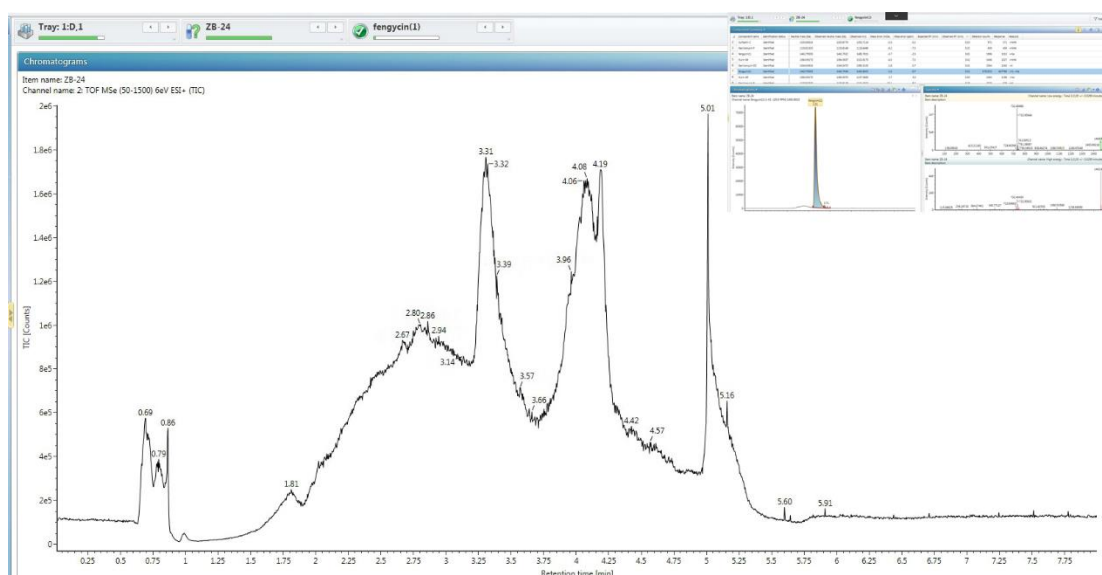


Figure S12. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 24 min

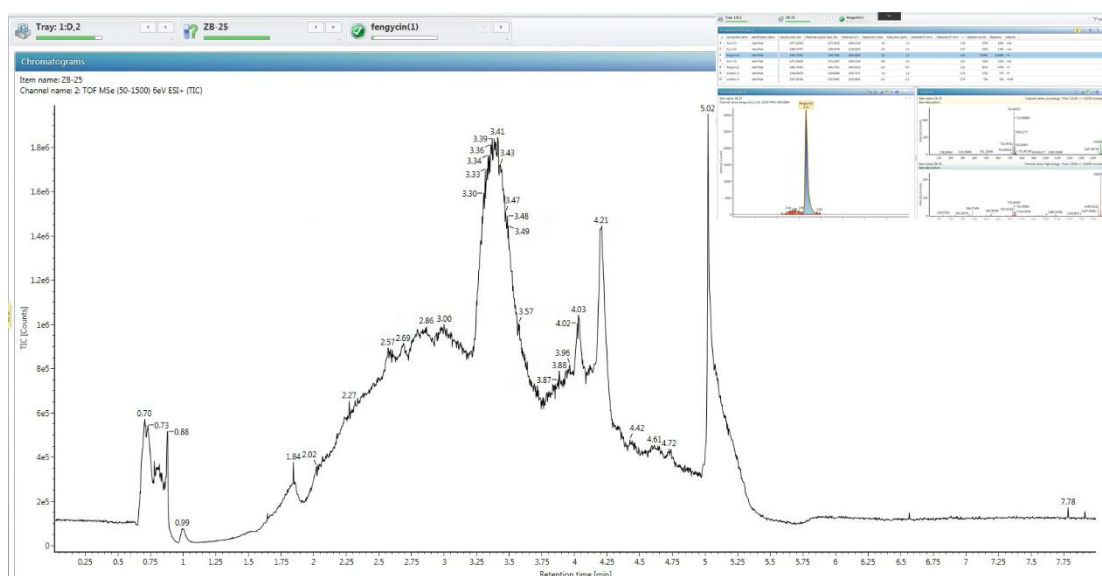


Figure S13. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 25 min

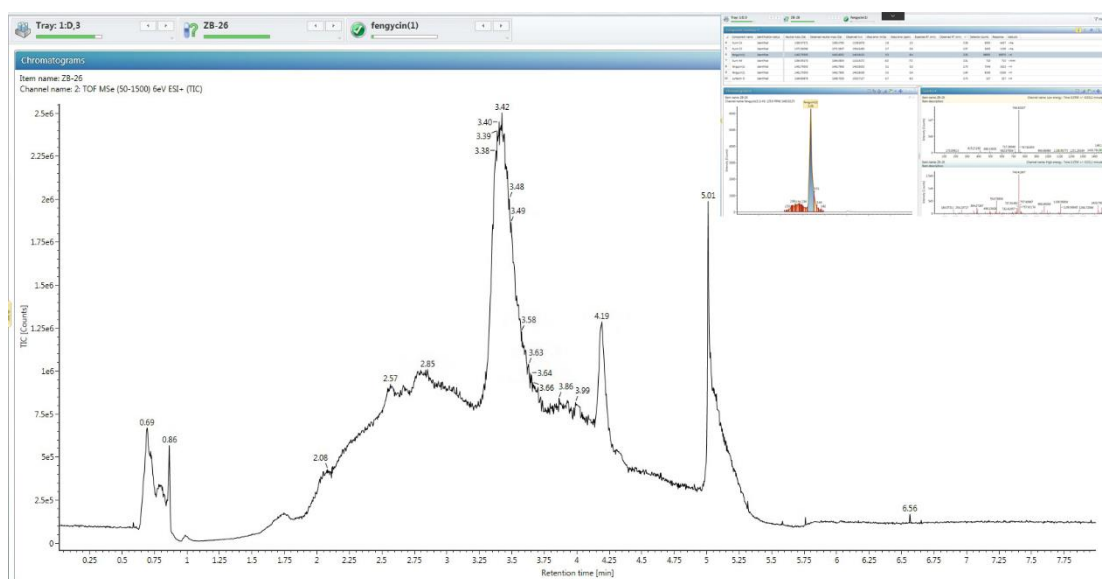


Figure S14. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 26 min

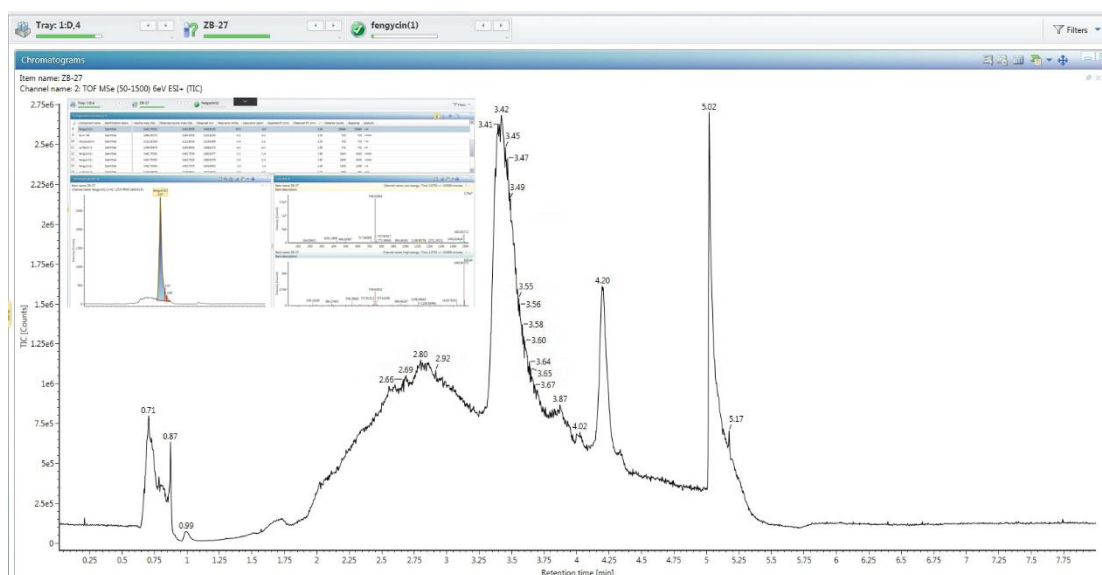


Figure S15. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 27 min

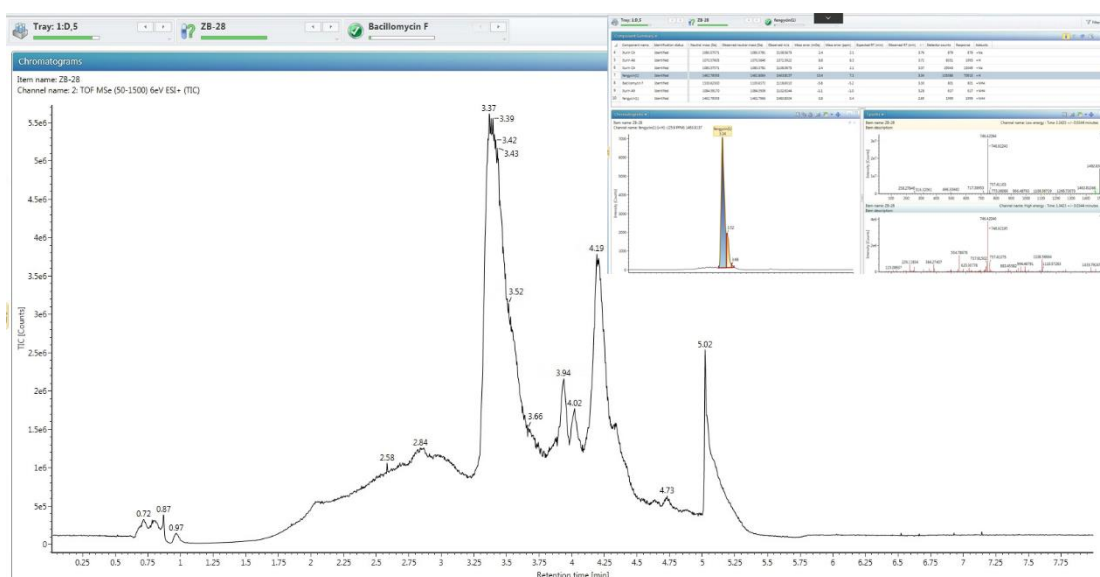


Figure S16. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 28 min

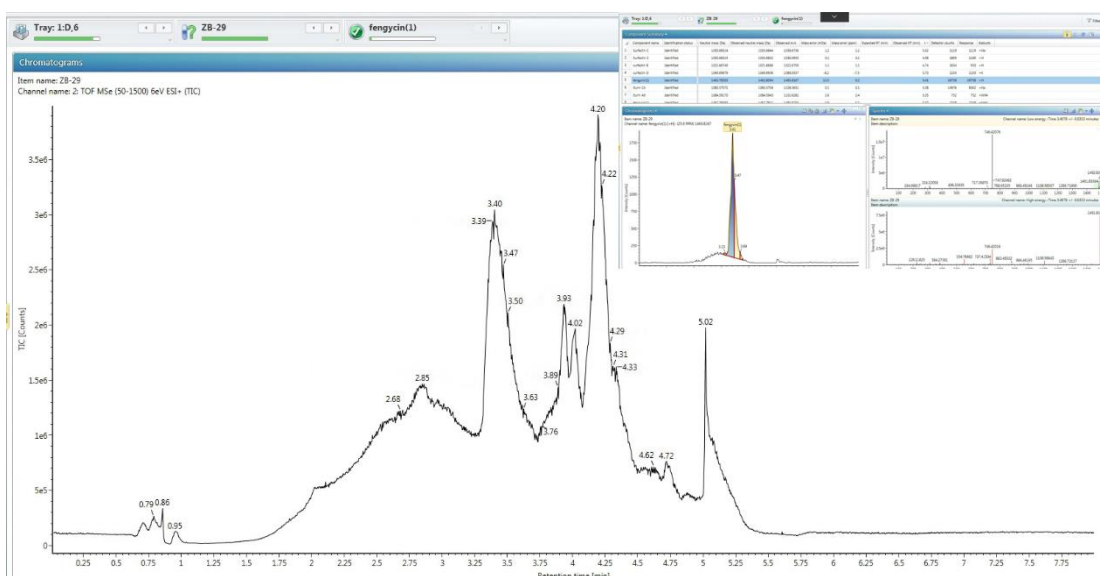


Figure S17. The UPLC IMS QTOF MS chromatogram for detected lipopeptides at 29 min

Table S1 Lipopeptides detected by UPLC IMS QTOF MS

Fracti ons	Compon ent name	Molecular formula	Identificati on status	Expected mass (Da)	Observed mass (Da)	Observe d m/z	Mass error (mDa)	Mass error (ppm)	Observed RT (min)	Detector counts	Response	Adducts
1 min	Iturin A4	C ₄₉ H ₇₆ N ₁₂ O ₁₄	Identified	1056.5604	1056.5507	1095.513 9	-9.672	-8.829	2.16	2825.18	1549.54	+K
2 min	Iturin A4	C ₄₉ H ₇₆ N ₁₂ O ₁₄	Identified	1056.5604	1056.5614	1057.568 7	1.042	0.985	2.67	7455.32	2202.45	+H
3 min	Surfactin A	C ₅₁ H ₈₉ N ₇ O ₁₃	Identified	1007.6518	1007.6516	1008.658 9	-0.196	-0.194	4.60	17987.72	7569.68	+H
4 min	Iturin A4	C ₄₉ H ₇₆ N ₁₂ O ₁₄	Identified	1056.5604	1056.5540	1095.517 2	-6.347	-5.794	1.87	4701.91	4701.91	+K
5 min	Iturin A2	C ₄₈ H ₇₄ N ₁₂ O ₁₄	Identified	1042.5447	1042.5530	1081.516 1	8.212	7.594	1.89	54644.86	28702.78	+K
6 min	Iturin A2	C ₄₈ H ₇₄ N ₁₂ O ₁₄	Identified	1042.5447	1042.5478	1081.511 0	3.099	2.866	1.90	7978.92	4626.82	+K
7 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7940	1463.801 3	-1.893	-1.293	3.32	6963.31	3002.95	+H
8 min	Iturin A2	C ₄₈ H ₇₄ N ₁₂ O ₁₄	Identified	1042.5447	1042.5435	1043.550 8	-1.221	-1.171	2.56	1617743.85	587235.94	+H
9 min	Iturin A4	C ₄₉ H ₇₆ N ₁₂ O ₁₄	Identified	1056.5604	1056.5601	1057.567 4	-0.247	-0.234	2.67	1991735.99	707317.63	+H
10 min	Iturin A4	C ₄₉ H ₇₆ N ₁₂ O ₁₄	Identified	1056.5604	1056.5603	1057.567 6	-0.061	-0.057	2.67	1880796.57	620264.06	+H
11 min	Iturin A6	C ₅₀ H ₇₈ N ₁₂ O ₁₄	Identified	1070.5760	1070.5753	1071.582 5	-0.794	-0.741	2.81	38629.37	10761.06	+H

12 min	Iturin A6	C ₅₀ H ₇₈ N ₁₂ O ₁₄	Identified	1070.5760	1070.5756	1071.5829	-0.448	-0.418	2.84	1127653.35	355980.91	+H
13 min	Iturin A6	C ₅₀ H ₇₈ N ₁₂ O ₁₄	Identified	1070.5760	1070.5757	1071.5829	-0.372	-0.347	2.85	542399.64	162019.52	+H
14 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7951	1463.8024	-0.832	-0.568	3.09	441066.31	110475.26	+H
15 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7954	1463.8027	-0.508	-0.347	3.06	992780.52	383687.88	+H
16 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7950	1463.8022	-0.977	-0.668	3.18	1405319.75	499191.69	+H
17 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7954	1463.8027	-0.484	-0.331	3.30	5604378.00	2012406.00	+H
18 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7957	1463.8030	-0.228	-0.156	3.29	17922162.00	6534292.50	+H
19 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7950	1463.8023	-0.907	-0.619	3.29	15567646.00	5497906.00	+H
20 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7945	1463.8018	-1.434	-0.979	3.31	10789972.00	4310001.00	+H
21 min	Surfactin A	C ₅₁ H ₈₉ N ₇ O ₁₃	Identified	1007.6518	1007.6511	1008.6584	-0.723	-0.717	4.55	380013.12	176134.27	+H
22 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₀	Identified	1462.7959	1462.7947	1463.8020	-1.204	-0.822	3.31	8073618.50	2944697.25	+H
23 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₁	Identified	1462.7959	1462.7952	1463.8024	-0.780	-0.533	3.31	4152036.00	1556098.50	+H
24 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₂	Identified	1462.7959	1462.7949	1463.8022	-1.048	-0.716	3.31	1752552.87	647779.88	+H

25 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₃	Identified	1462.7959	1462.7991	1463.806 4	3.150	2.152	3.32	701860.56	319088.78	+H
26 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₄	Identified	1462.7959	1462.8052	1463.812 5	9.315	6.364	3.35	88991.52	56969.60	+H
27 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₅	Identified	1462.7959	1462.8059	1463.813 2	10.011	6.839	3.38	28084.07	28084.07	+H
28 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₆	Identified	1462.7959	1462.8064	1463.813 7	10.445	7.135	3.34	103586.43	70914.91	+H
29 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₇	Identified	1462.7959	1462.8094	1463.816 7	13.465	9.199	3.41	26738.10	26738.10	+H
30 min	Fengycin	C ₇₂ H ₁₁₀ N ₁₂ O ₂₈	Identified	1462.7959	1462.7951	1480.828 9	-0.834	-0.563	2.84	2139.91	2139.91	+NH4