

Supporting information

Title:

Bioactivity and bactericidal mechanism of histidine-rich β -hairpin peptide against Gram-negative bacteria

Authors:

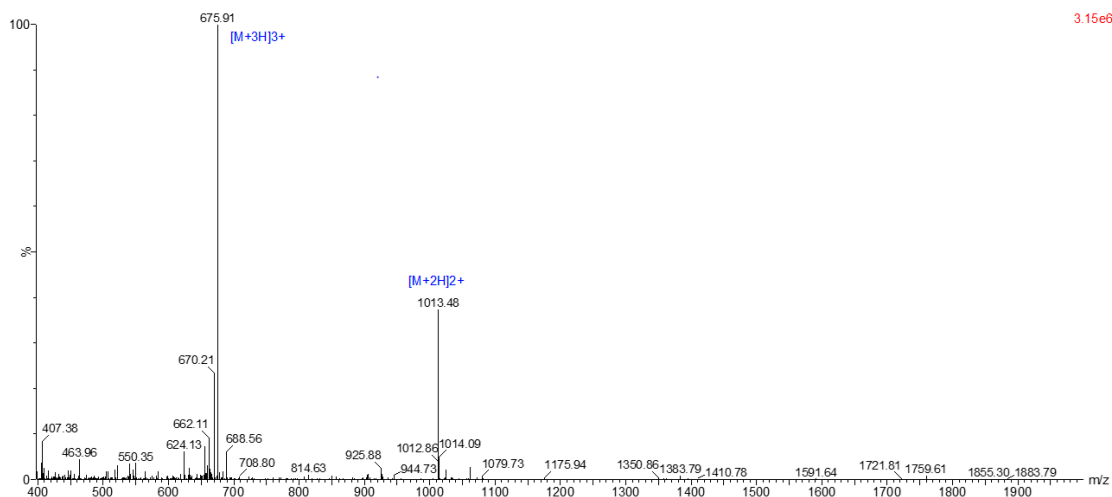
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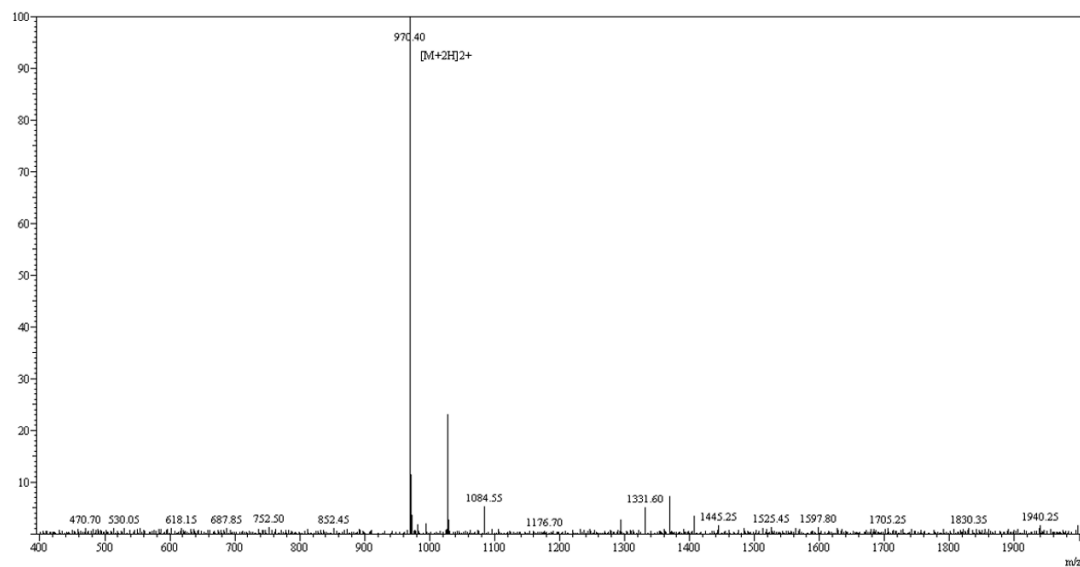
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HI2

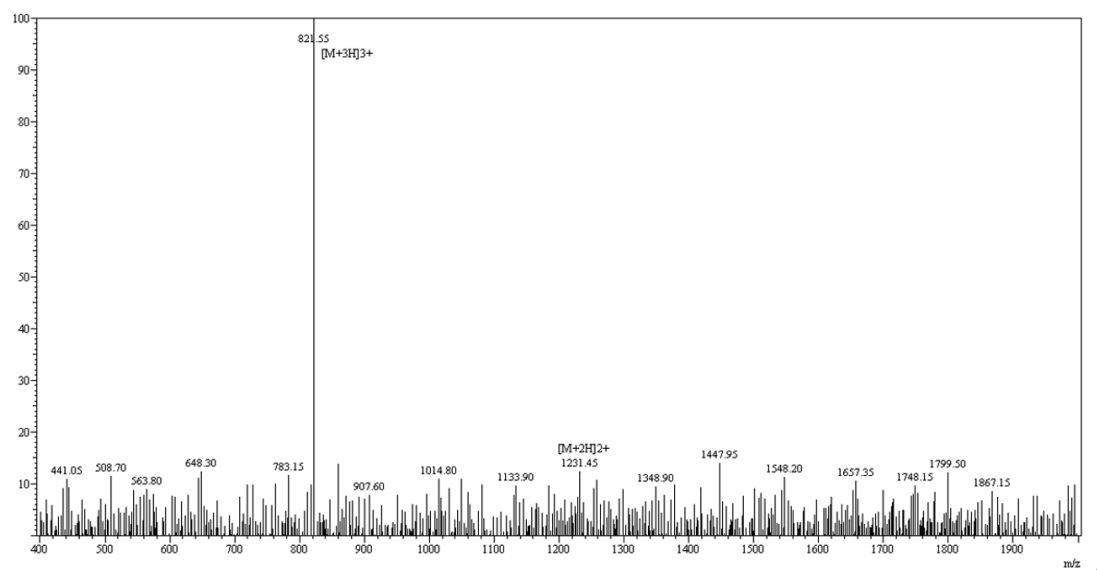
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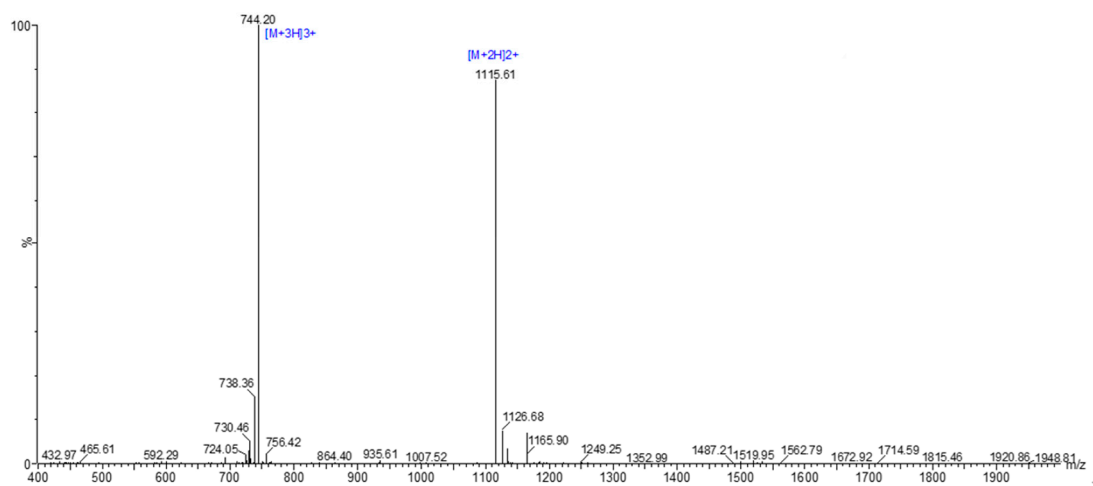
HV2

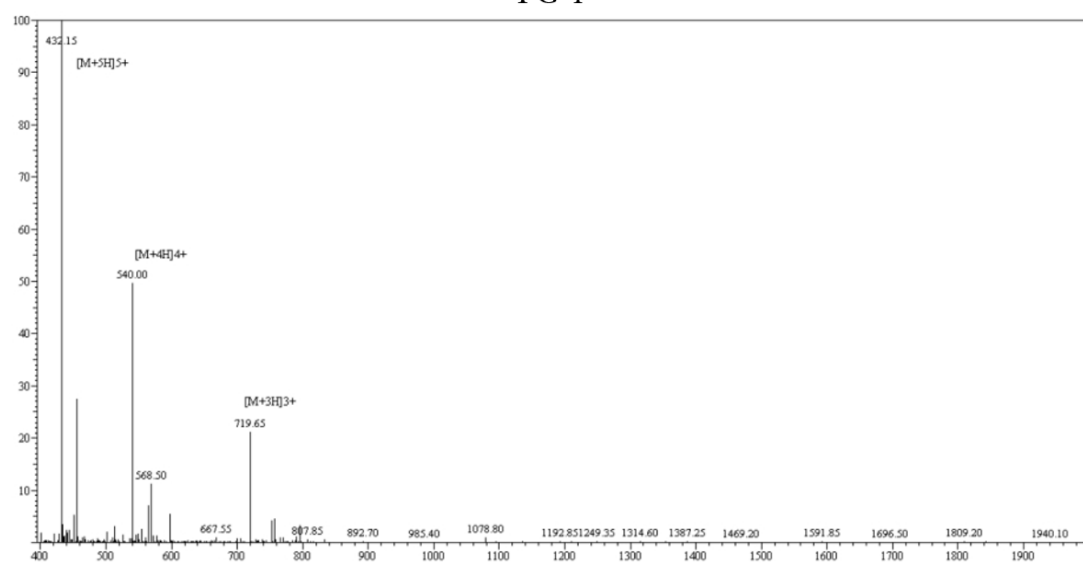


HW2

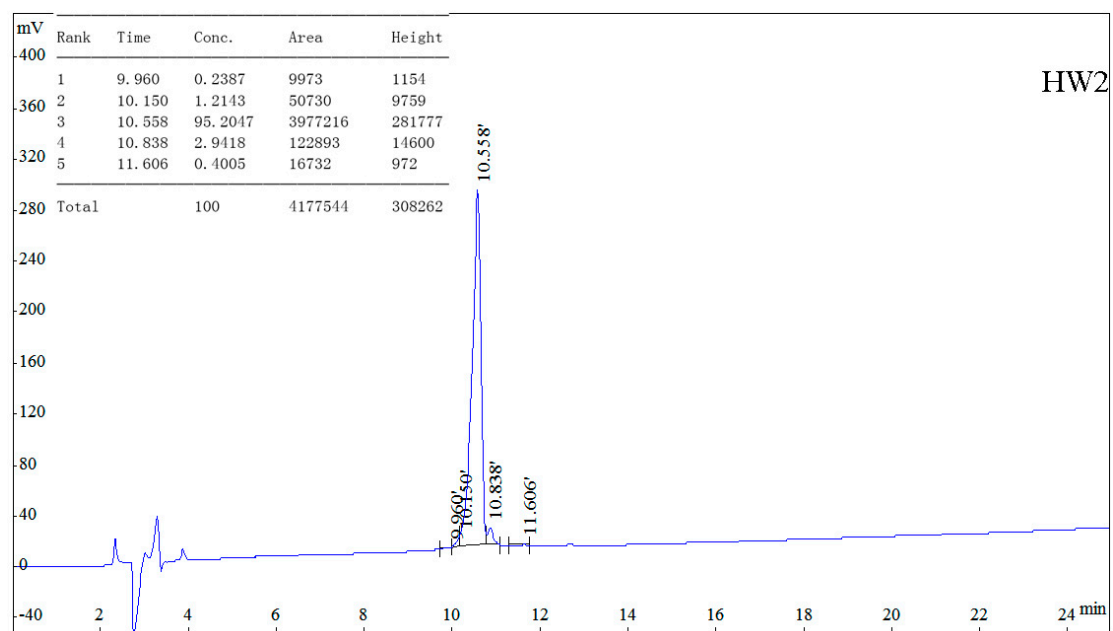
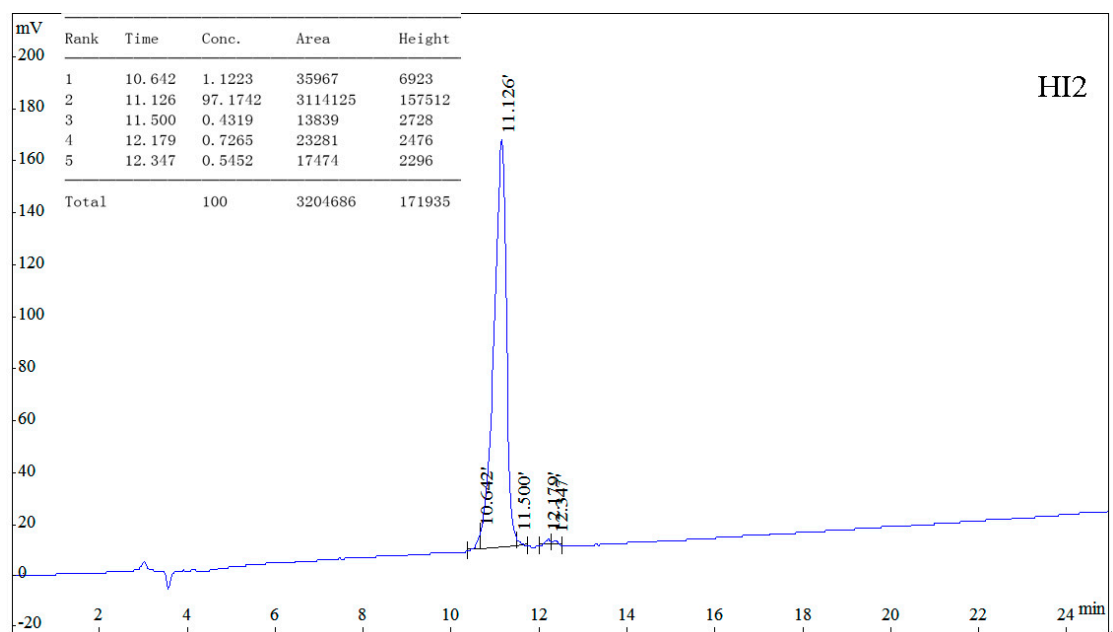


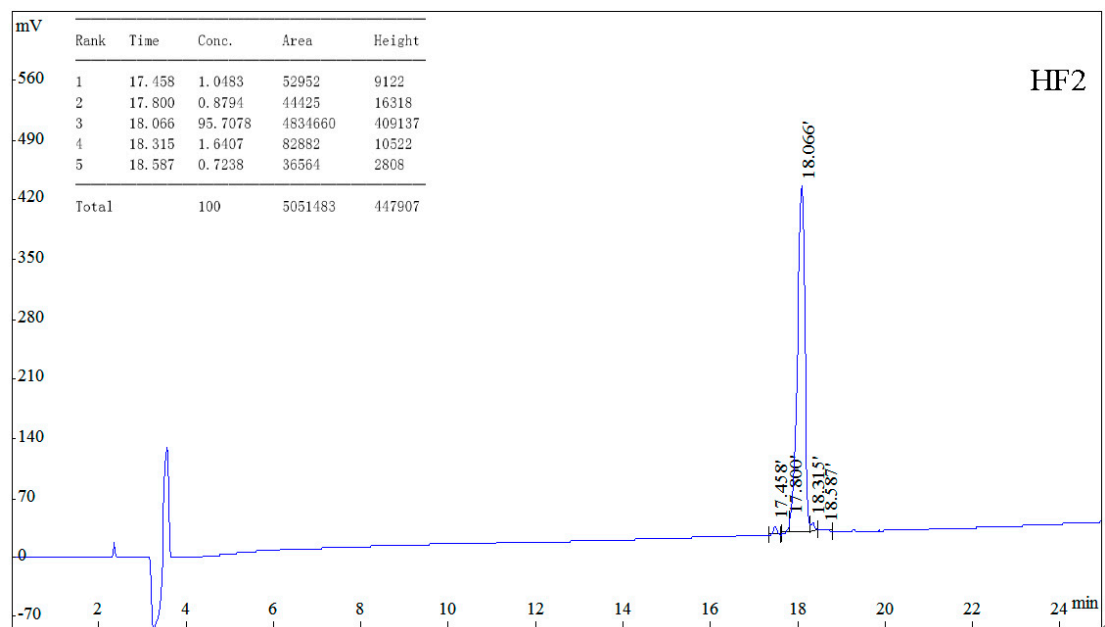
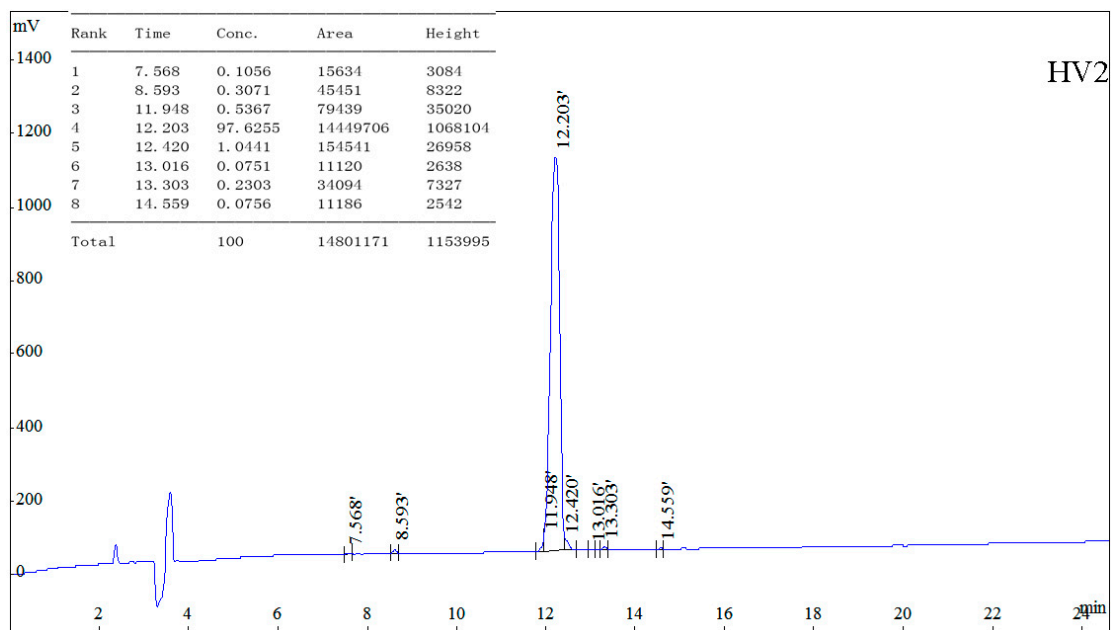
HF2

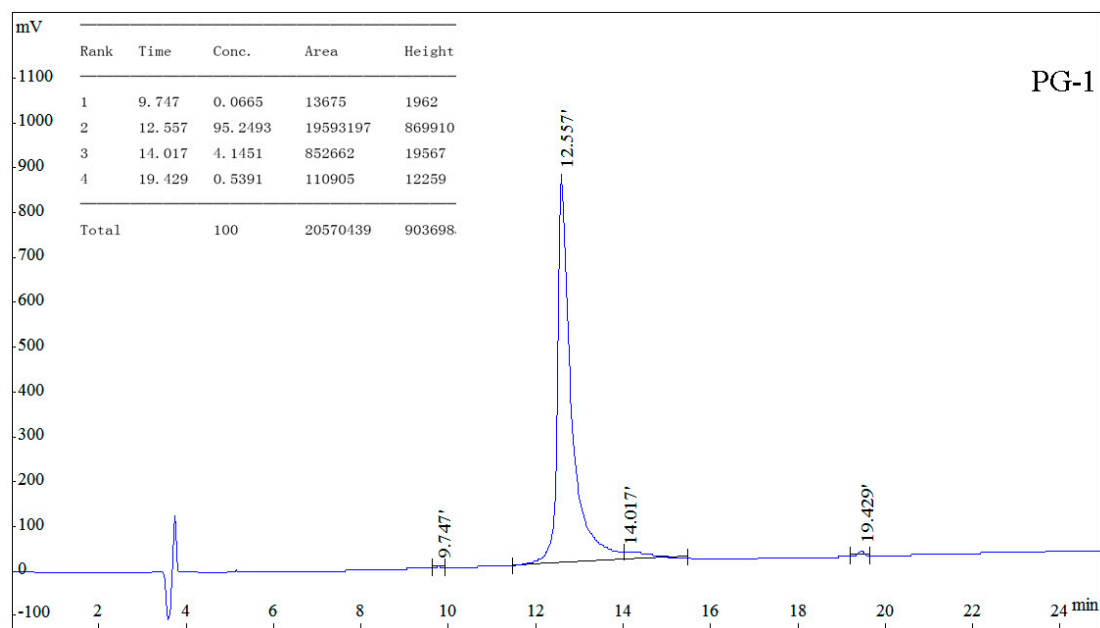




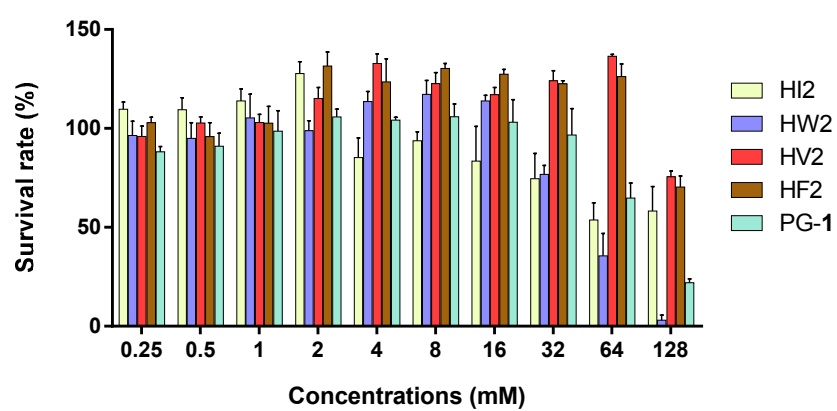
Supplementary Figure S1: MALDI-TOF MS of the engineered peptides







Supplementary Figure S2: HPLC spectra of the engineered peptides



Supplementar Figure S3: Cytotoxicity of peptides against HEK 293T cells

Supplementary Table S1: The MICs^a of HV2, Polymyxin B, Gentamicin, Vancomycin and Ceftazidime against Bacteria

	HV2	Polymyxin B	Gentamicin	Vancomycin	Ceftazidime
MIC(μ M)					
<i>Gram-</i>					
<i>E.coli</i> 25922	8	2	1	8	2
<i>E. coli</i> K88	4	0.5	1	2	1
<i>E. coli</i> K99	8	1	0.5	4	0.5
<i>E.coli</i> UB1005	8	1	0.5	16	1
<i>S.pullorum</i> C7913	8	1	1	8	1
<i>P. auruginosa</i> 27853	8	2	1	>128	2
<i>Gram+</i>					
<i>S.aureus</i> 29213	>128	64	1	0.5	16
<i>S.aureus</i> 43300	>128	64	8	0.5	16
<i>S.epidermidis</i> 12228	>128	32	1	0.5	16
MBC ^b (GM)					
<i>Gram (-)</i>	7.13	1.12	0.79	11.31	1.12
<i>Gram (+)</i>	256	50.8	2	0.5	16
<i>Gram (+,-)</i>	23.52	4	1.08	4	2.72

^a Minimum inhibitory concentrations (MIC) were determined as the lowest concentration of peptides that prevented visible turbidity.

^b The geometric mean (GM) of the peptides MICs against all four bacterial strains was calculated. When no detectable antimicrobial activity was observed at 128 μ M, a value of 256 μ M was used to calculate the therapeutic index.