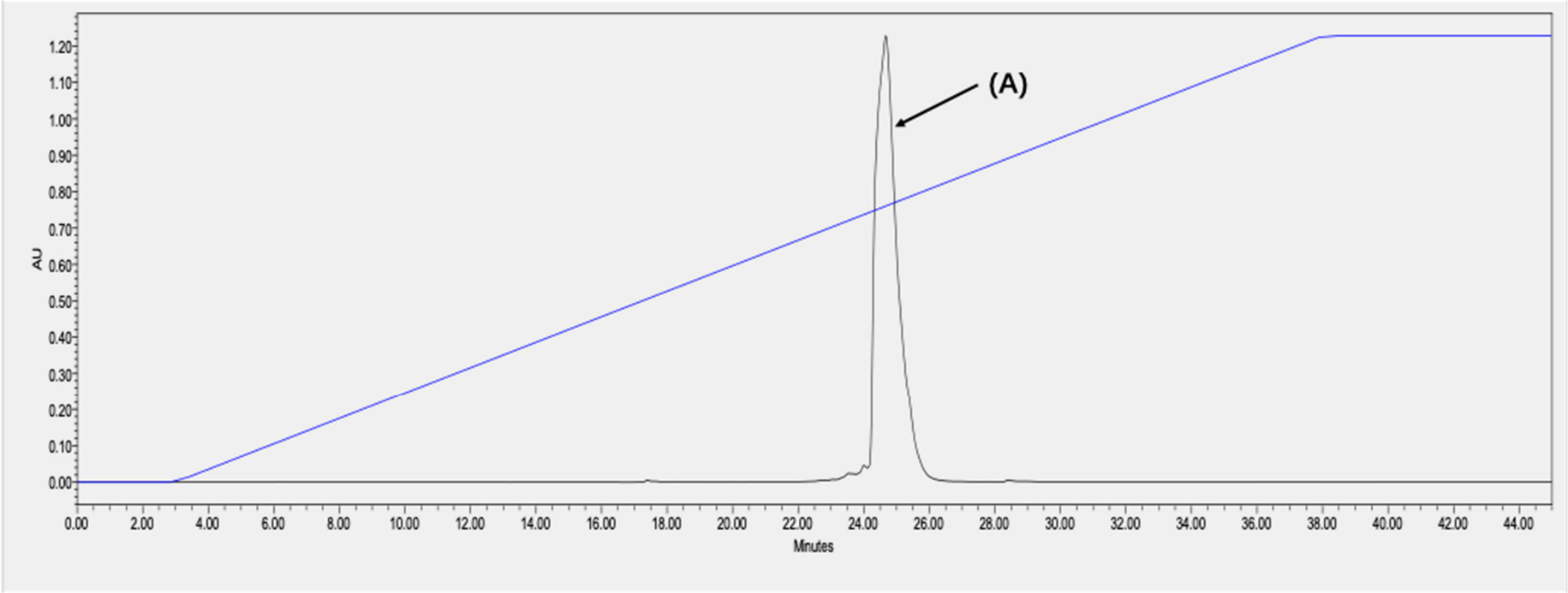
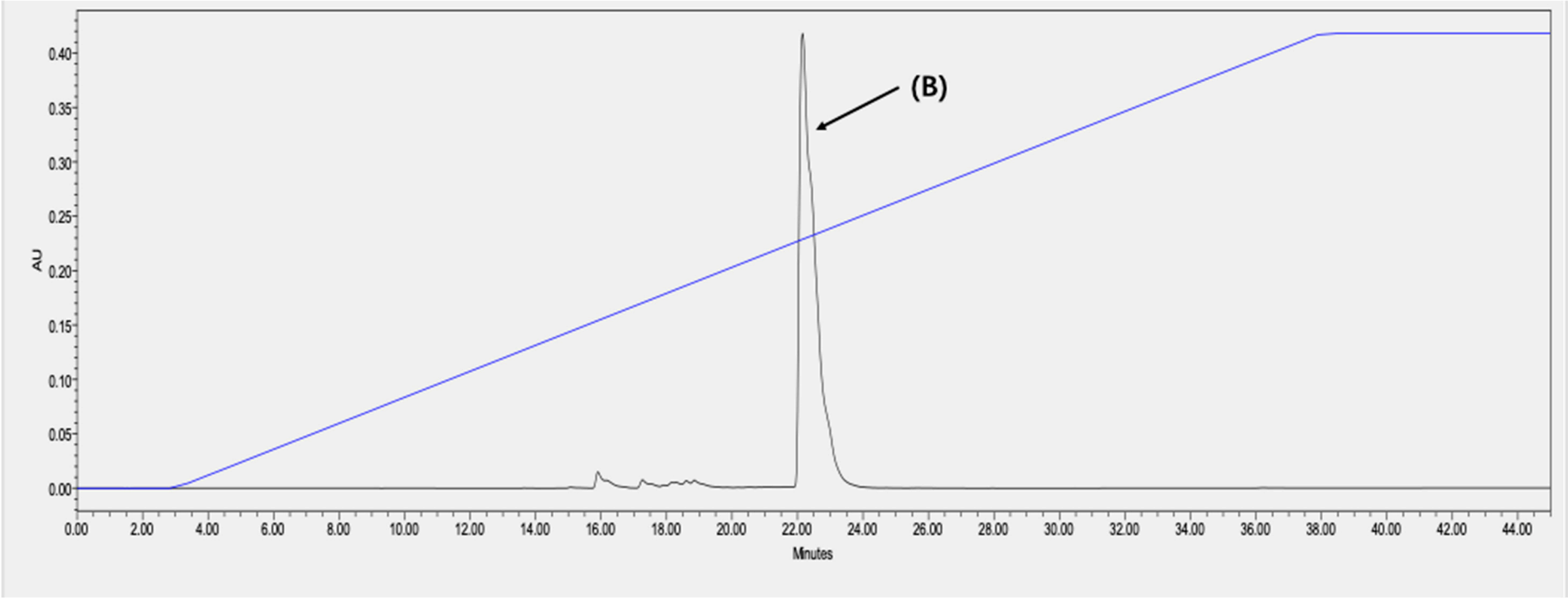
Exploration of the Structure-function Relationships of a Novel Frog Skin Secretion-derived Bioactive Peptide, t-DPH1, through use of Rational Design, Cationicity Enhancement and in *vitro* Studies

Supplementary Materials




(B)
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0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0.00
2.00
4.00
6.00
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16.00
18.00
20.00
22.00
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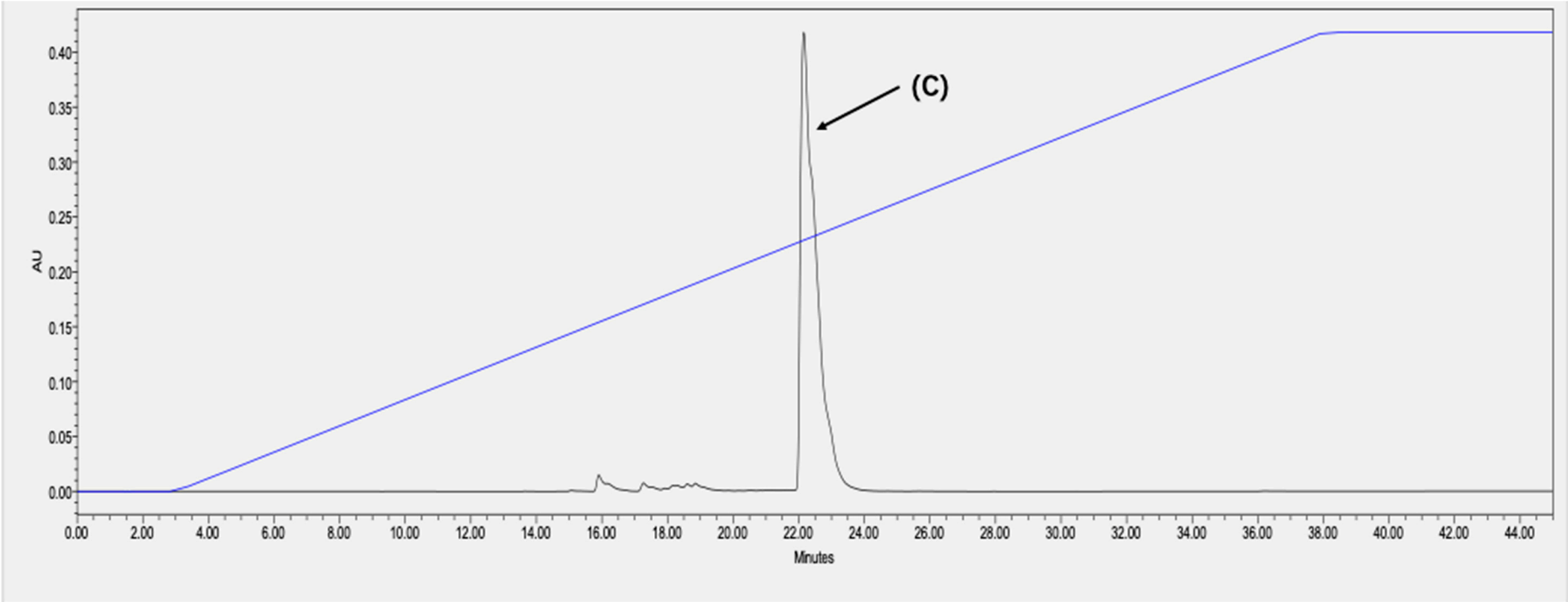
26.00
28.00
30.00
32.00
34.00
36.00
38.00
40.00
42.00
44.00
Minutes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4.00
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44.00
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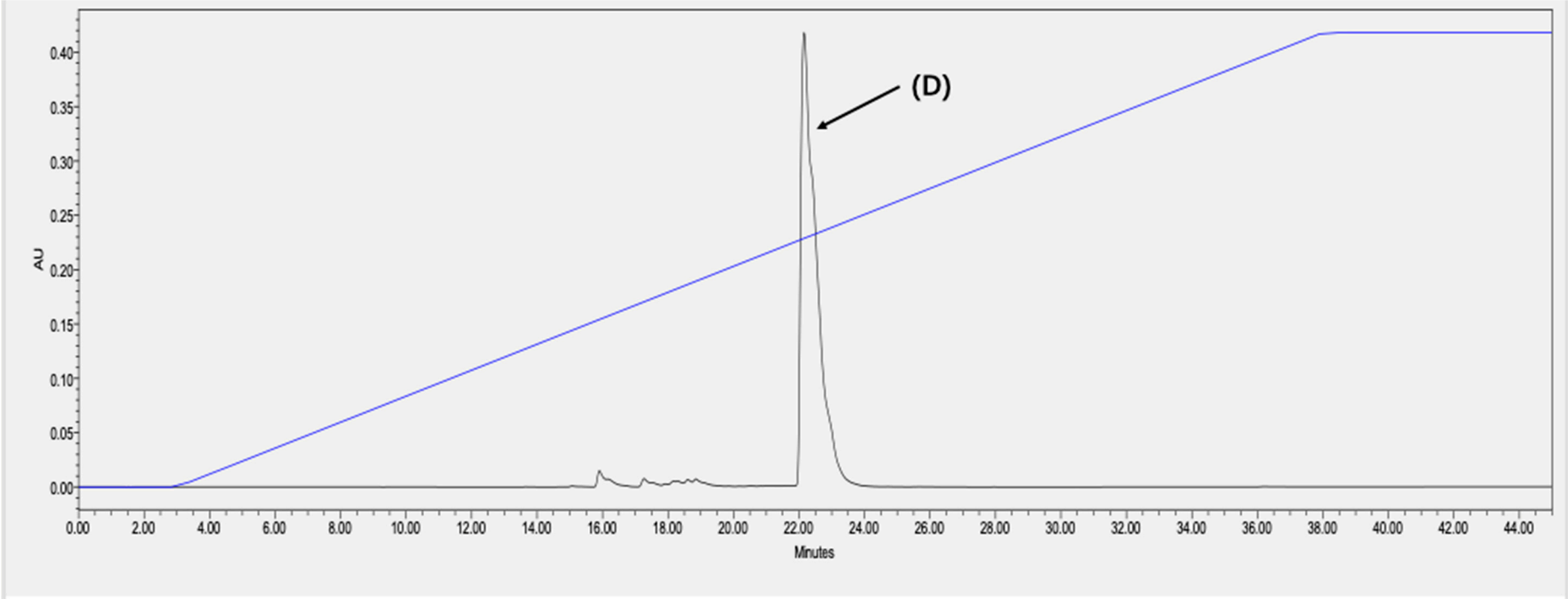
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4.00
6.00
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Minutes

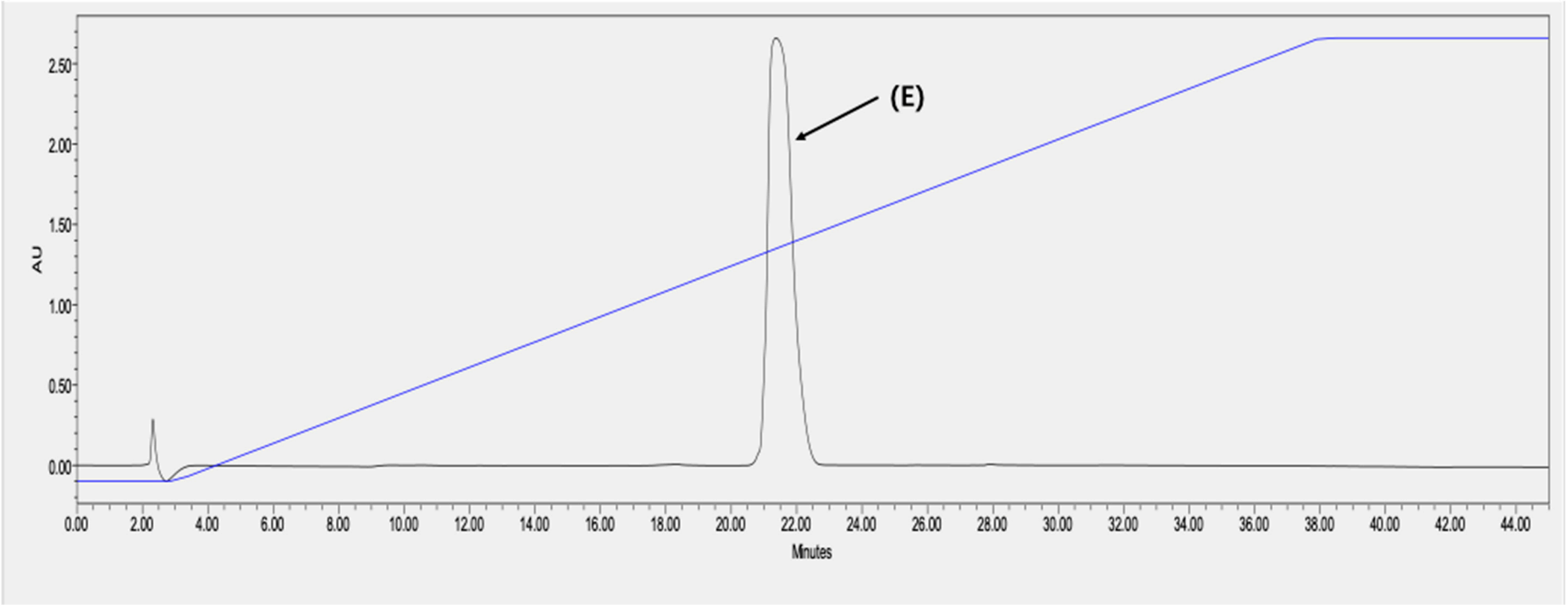
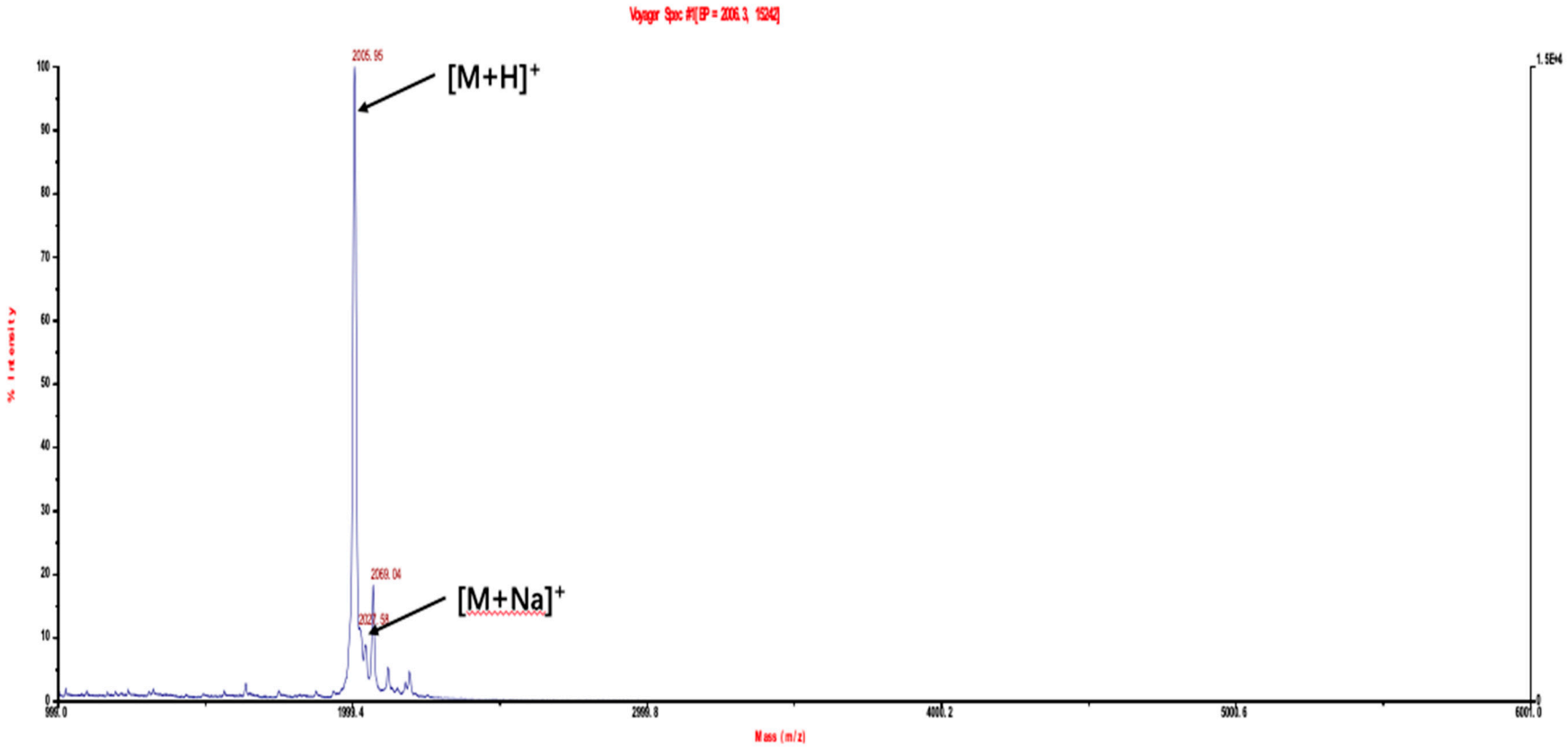


Figure S1. The reverse-phase HPLC chromatograms of (A)t-DPH1, (B) t-DPH1-K4, (C) t-DPH1-5K, (D) t-DPH1-6K, (E) t-DPH1-6KW. The gradient of buffer B (0.05/19.95/80.00 (v/v/v) TFA/water/acetonitrile) is displayed in a solid blue line. The arrow in each chromatogram indicates the elution peak of the peptide.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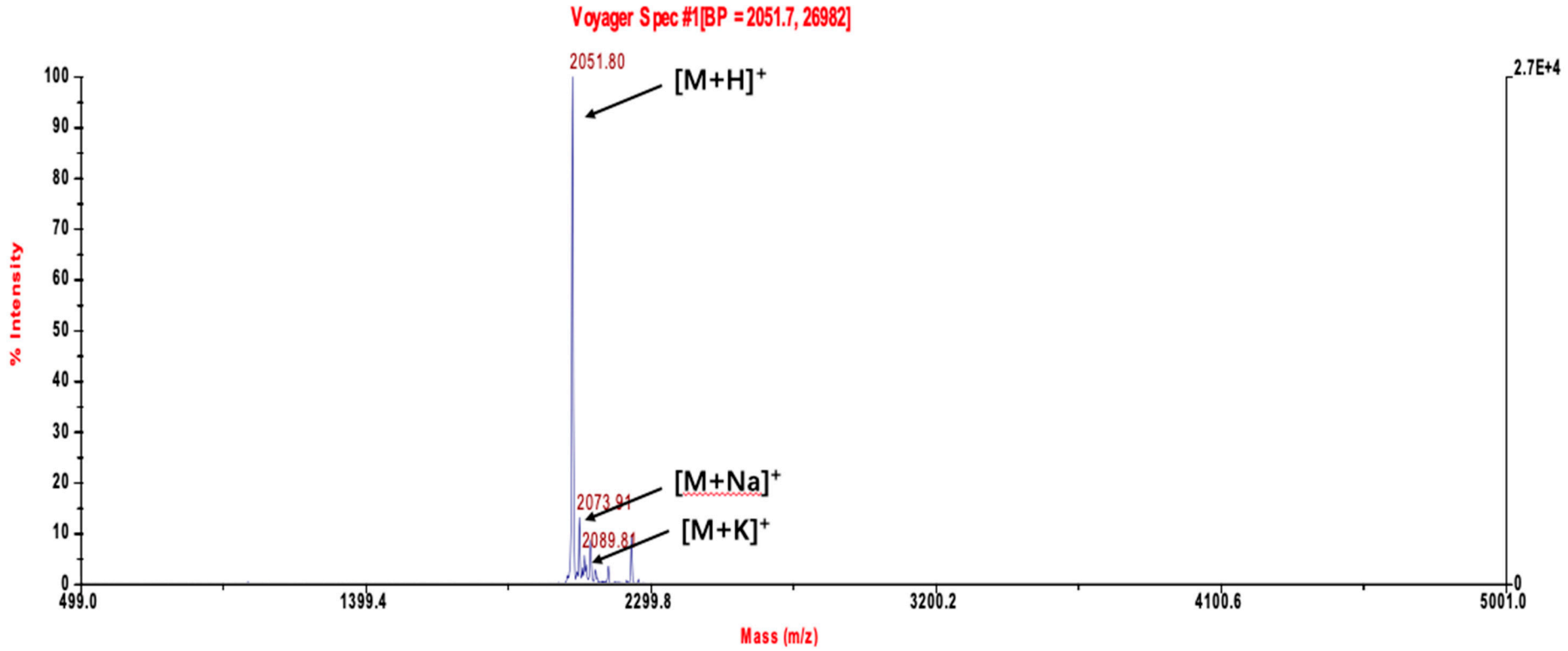
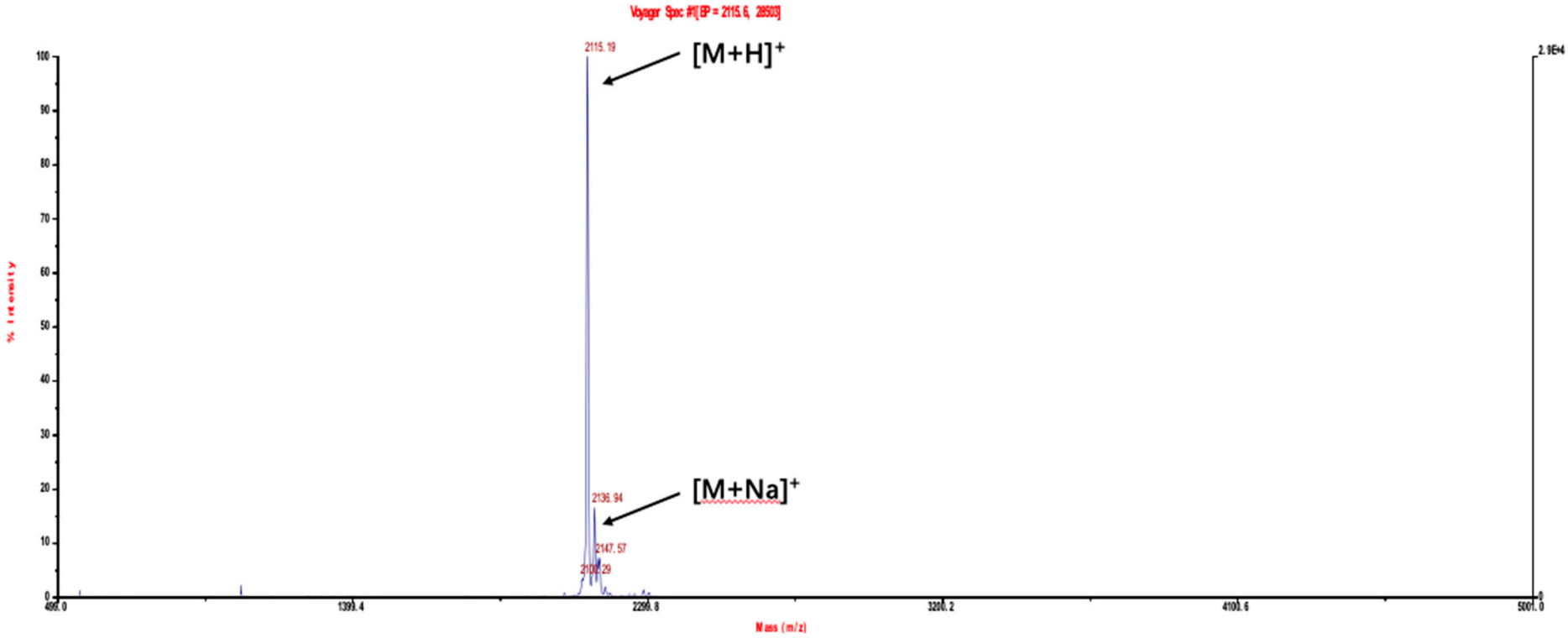
2005.95
[M+H]+
2069.04
[M+Na]+
% Intensity
Mass (m/z)
1.5E+4
100
90
80
70
60
50
40
30
20
10
0
1999.4
2999.8
4000.2
5000.6
6001.0

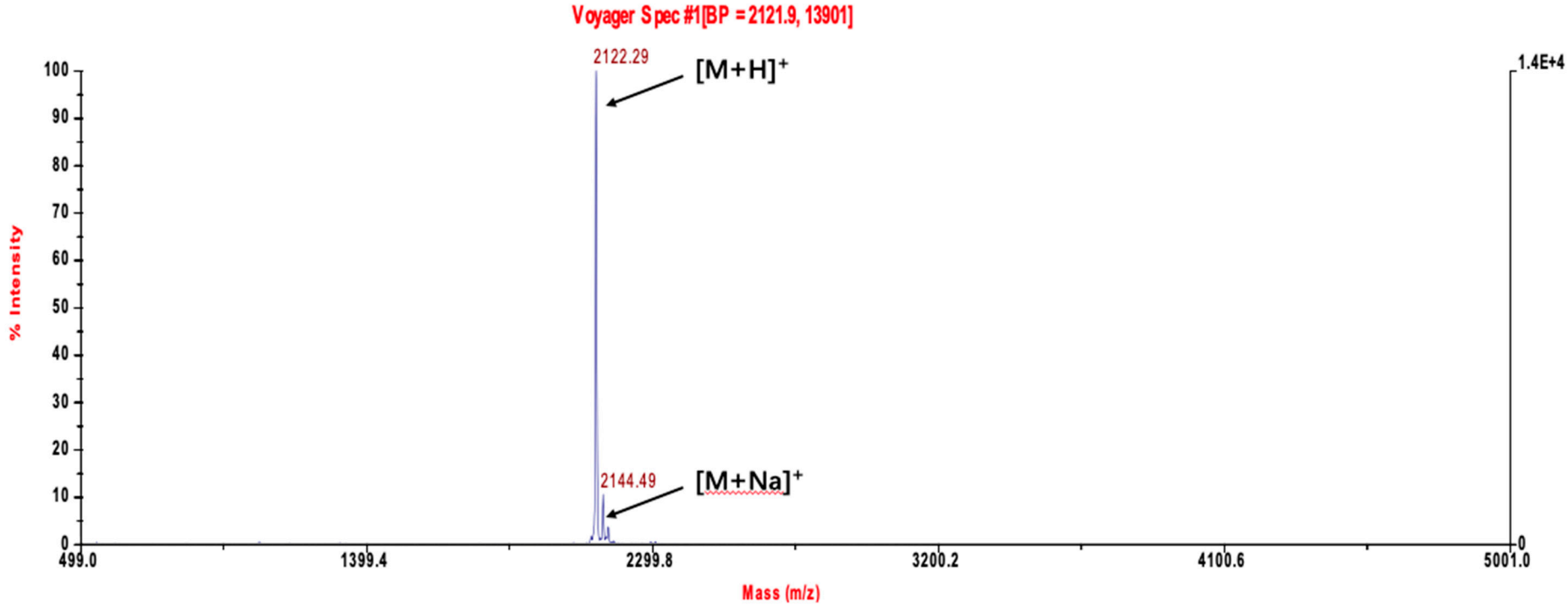
(A)


Voyager Spec #1[BP = 2051.7, 26982]
2051.80
[M+H]+
2073.91
[M+Na]+
2089.81
[M+K]+
% Intensity
Mass (m/z)
2.7E+4
0
100
90
80
70
60
50
40
30
20
10
0
499.0
1399.4
2299.8
3200.2
4100.6
5001.0

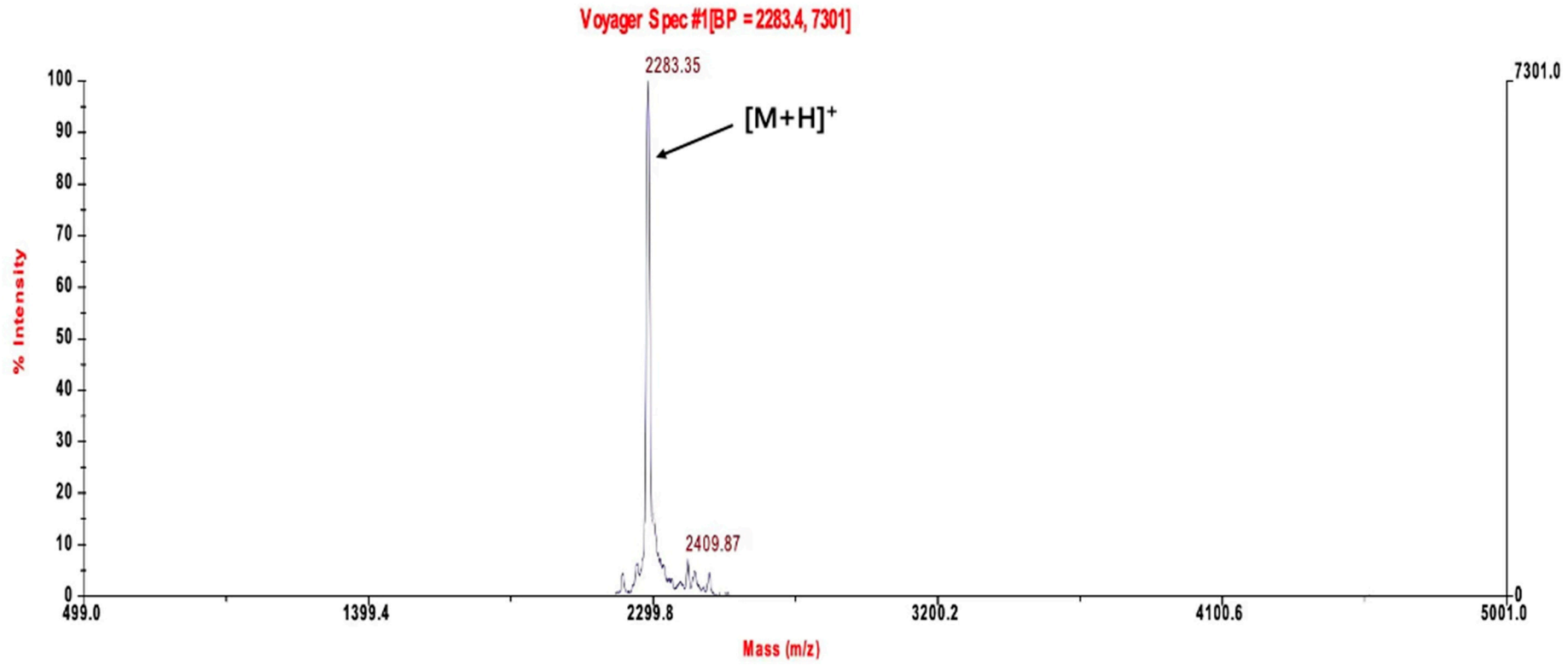
(B)


Voyager Spec #1[BP = 2115.6, 28503]
2115.19
[M+H]+
2136.94
[M+Na]+
2147.57
2100.29
% Intensity
Mass (m/z)
100
90
80
70
60
50
40
30
20
10
0
1399.4
2299.8
3200.2
4100.6
5001.0
2.9E4

(C)


Voyager Spec #1[BP = 2121.9, 13901]
2122.29
[M+H]+
2144.49
[M+Na]+
% Intensity
Mass (m/z)
1.4E+4
0
100
90
80
70
60
50
40
30
20
10
0
499.0
1399.4
2299.8
3200.2
4100.6
5001.0

(D)



(E)

Figure S2. The mass spectra of (A)t-DPH1, (B) t-DPH1-K4, (C) t-DPH1-5K, (D) t-DPH1-6K, (E) t-DPH1-6KW obtained by MALDI-TOF. The arrows indicate the observed $[M+H]^+$ ion peaks, the sodium and potassium ion adducts.