

## The Effect of Increasing Hydrophobicity on the Self-Assembly of Amphipathic $\beta$ -Sheet Peptides

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### ELECTRONIC SUPPORTING INFORMATION

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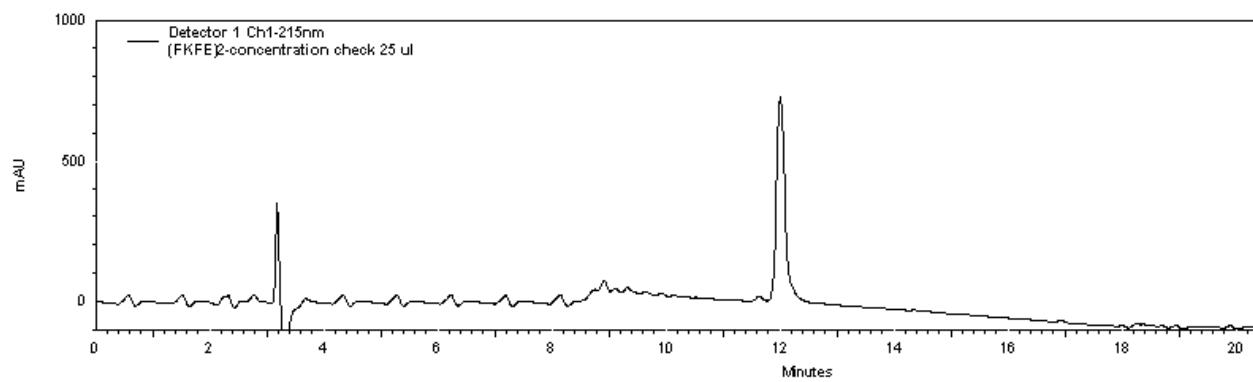
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**Table S1.** HPLC purification conditions for peptides **1-5**.

Peptide	R <sub>t</sub> (min)	Gradient (solution A: water/0.5%TFA; solution B: acetonitrile/ 0.5%TFA)
Ac-(FKFE) <sub>2</sub> -NH <sub>2</sub>	<b>1</b>	11.8 Isocratic 5% <b>B</b> over 5 minutes, increase 5-95% <b>B</b> over 10 minutes, maintain at 95% <b>B</b> over 5 minutes
Ac-(AKAE) <sub>2</sub> -NH <sub>2</sub>	<b>2</b>	9.0 Isocratic 5% <b>B</b> over 5 minutes, increase 5-95% <b>B</b> over 10 minutes, maintain at 95% <b>B</b> over 5 minutes
Ac-(VKVE) <sub>2</sub> -NH <sub>2</sub>	<b>3</b>	10.3 Isocratic 5% <b>B</b> over 5 minutes, increase 5-95% <b>B</b> over 10 minutes, maintain at 95% <b>B</b> over 5 minutes
Ac-(LKLE) <sub>2</sub> -NH <sub>2</sub>	<b>4</b>	11.3 Isocratic 5% <b>B</b> over 5 minutes, increase 5-95% <b>B</b> over 10 minutes, maintain at 95% <b>B</b> over 5 minutes
Ac-(ChaKChaE) <sub>2</sub> -NH <sub>2</sub>	<b>5</b>	13.2 Isocratic 5% <b>B</b> over 5 minutes, increase 5-95% <b>B</b> over 10 minutes, maintain at 95% <b>B</b> over 5 minutes

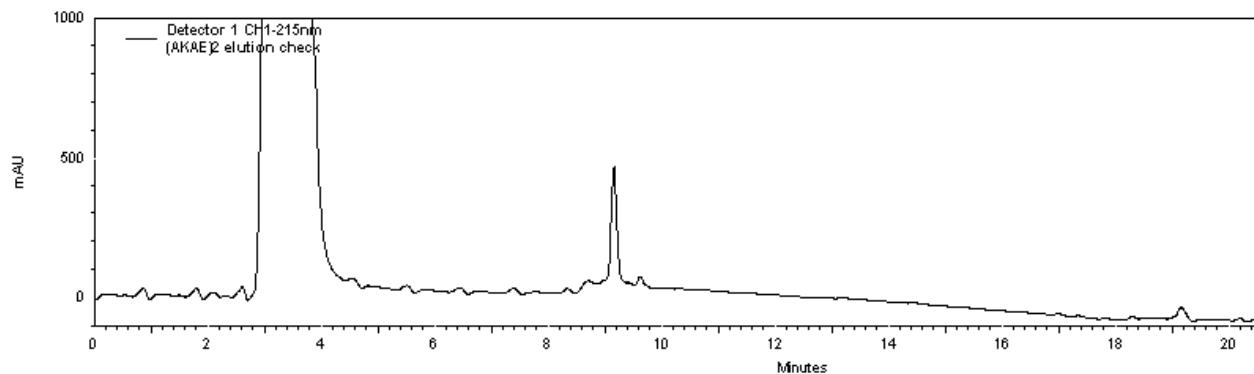
**Figure S1.** Analytical HPLC traces of peptides **1-5**. (A) Peptide **1**, (B) Peptide **2**, (C) Peptide **3**, (D) Peptide **4**, (E) Peptide **5**.

**A. Peptide 1 (Ac-FKFEFKFE-NH<sub>2</sub>)**

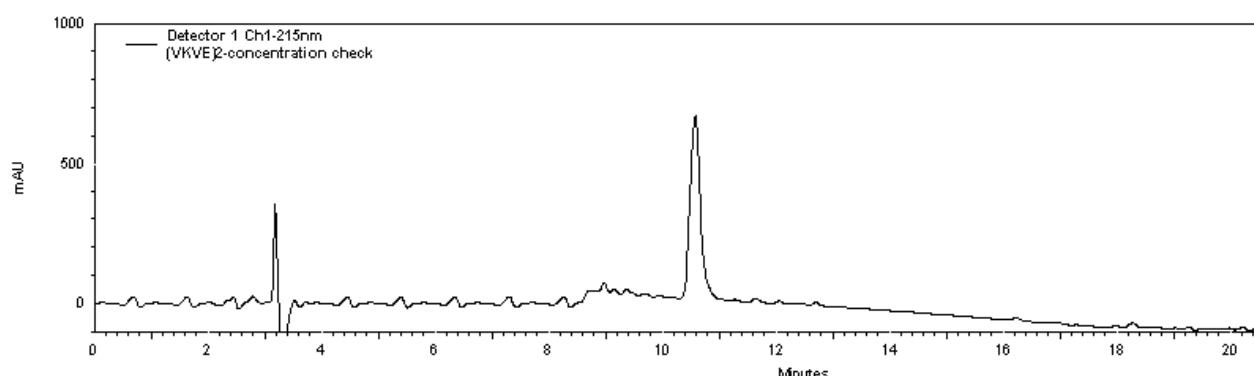


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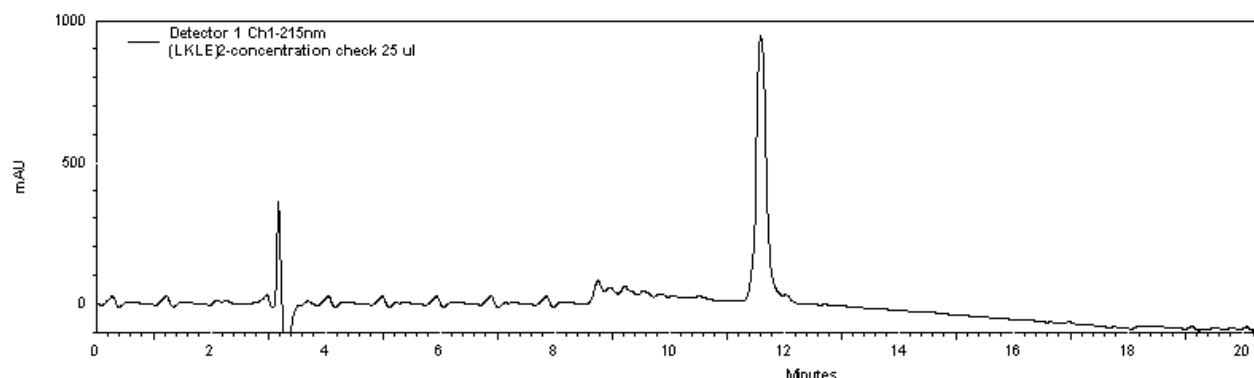
**B. Peptide 2 (Ac- $\text{AKAEAKAE-NH}_2$ )**



**C. Peptide 3 (Ac- $\text{VKVEVKVE-NH}_2$ )**

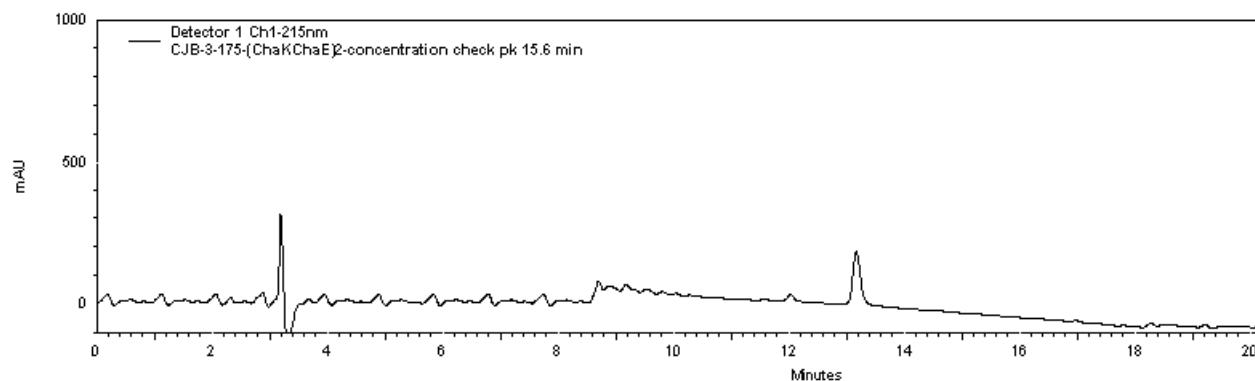


**D. Peptide 4 (Ac- $\text{LKLELKLE-NH}_2$ )**



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**E. Peptide 5 (Ac–ChaKChaEChaKChaE–NH<sub>2</sub>)**

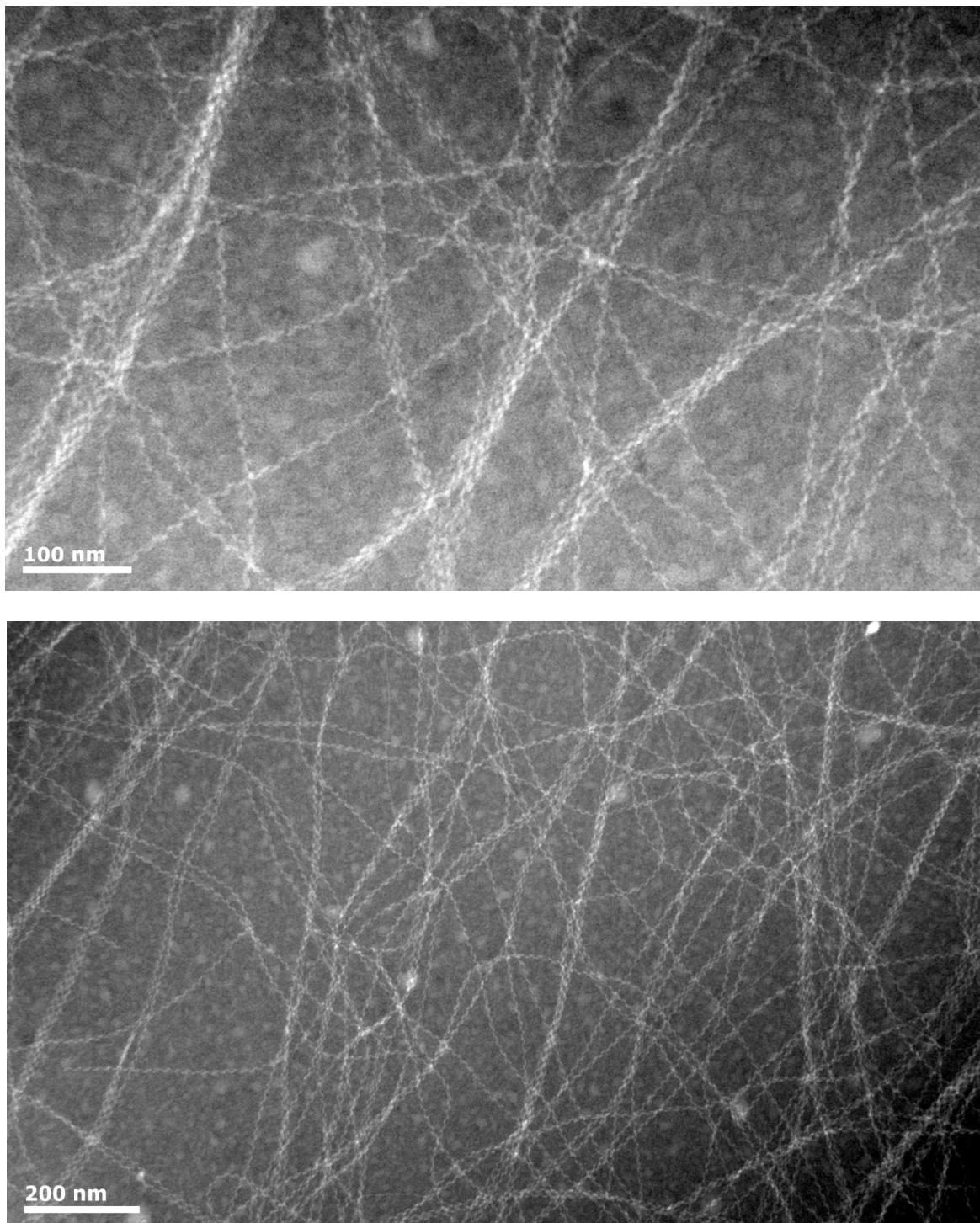


**Table S2.** Calculated and observed *m/z* for peptides **1-5**  
MALDI-TOF-MS

Peptide <i>m/z</i>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
calcd [MH <sup>+</sup> ]	1162.59	858.47	970.59	1026.66	1186.78
observed	1162.30	858.13	970.41	1026.30	1186.23
calcd [MNa <sup>+</sup> ]	1184.58	880.45	992.58	1048.64	1208.76
observed	1184.34	880.13	992.43	1048.38	1208.19
calcd [MK <sup>+</sup> ]	1200.55	896.42	1008.55	1064.61	1224.74
observed	N/A	896.10	1008.42	1064.36	N/A

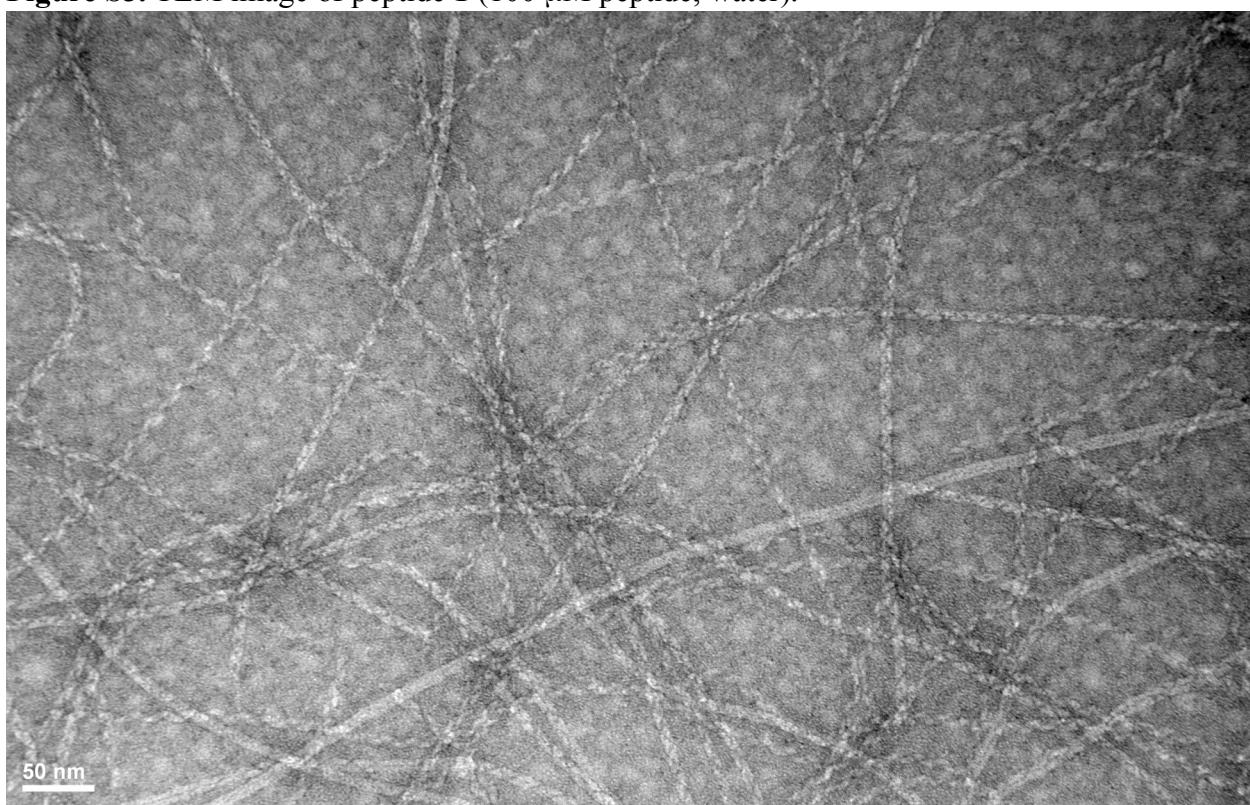
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**Figure S2.** Additional TEM images of peptide **1** (2 mM peptide, 5% HFIP/water).



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**Figure S3.** TEM image of peptide **1** (100  $\mu$ M peptide, water).

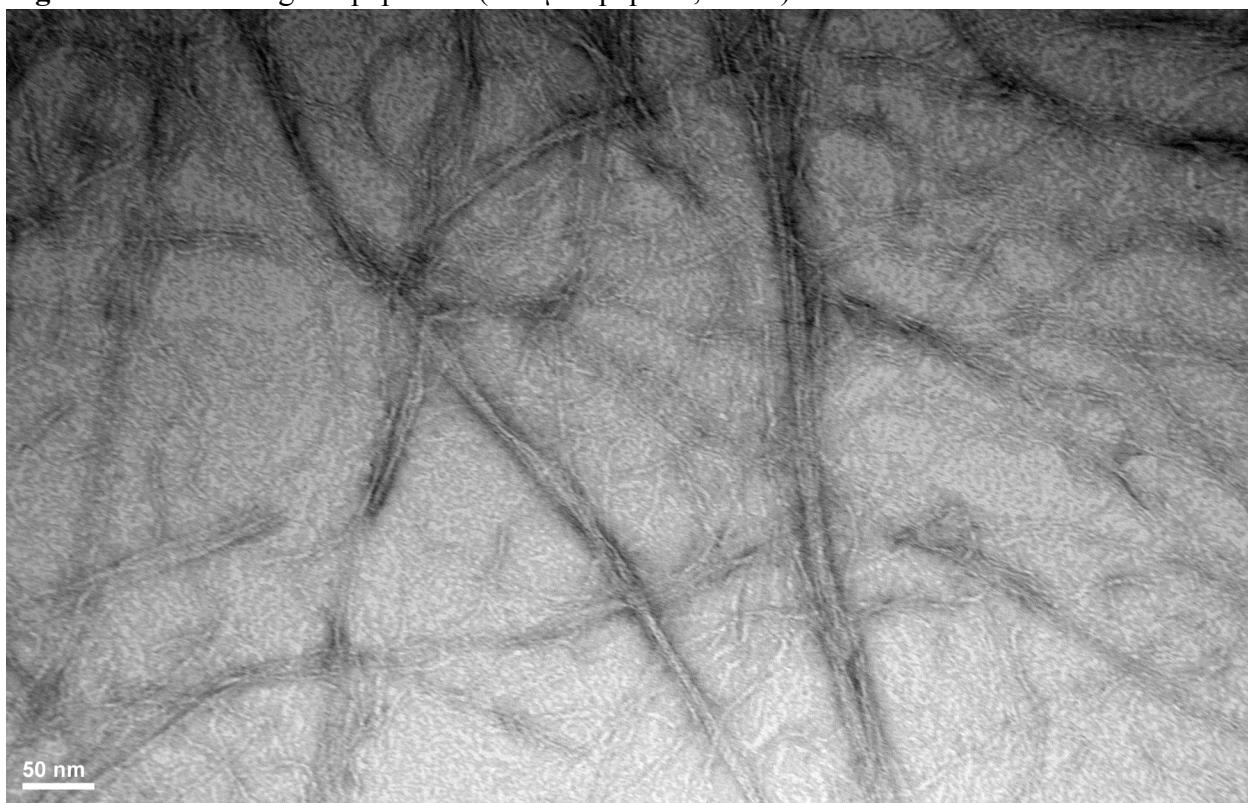


**Figure S4.** TEM image of peptide **3** (100  $\mu$ M peptide, water).

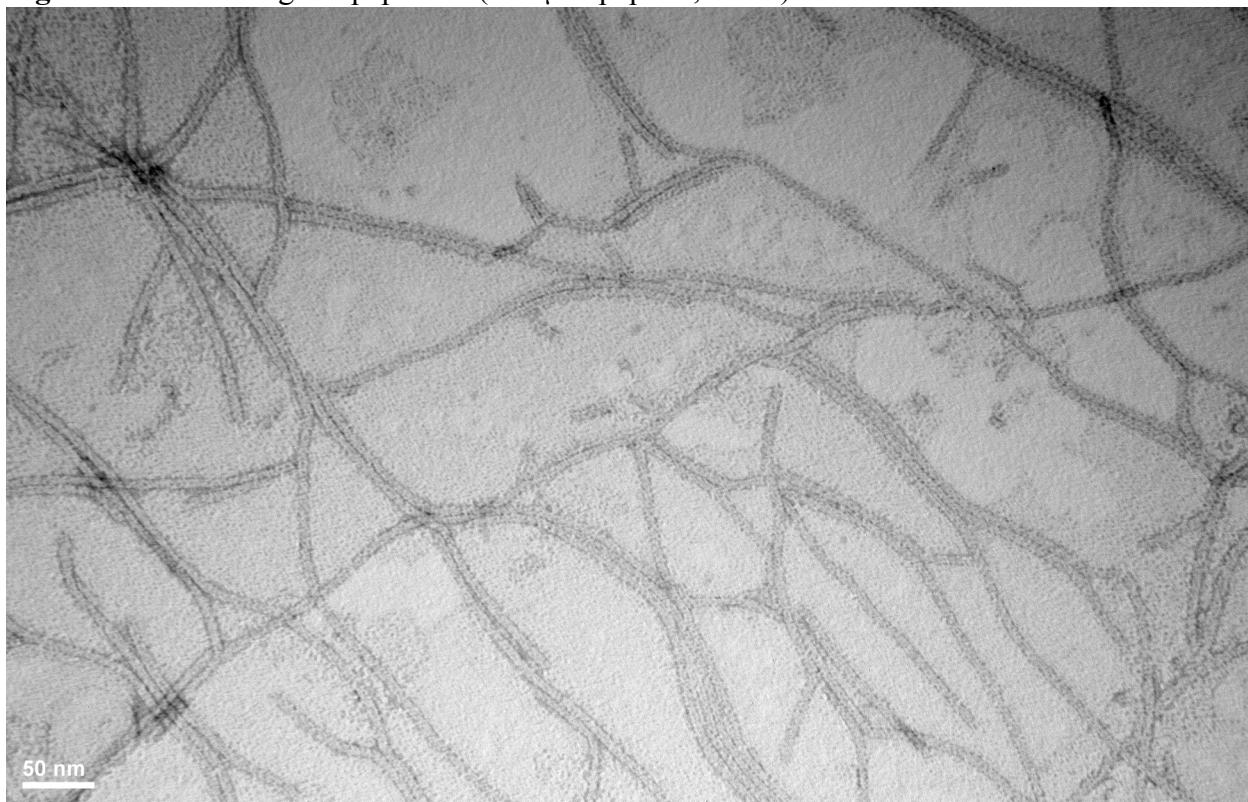


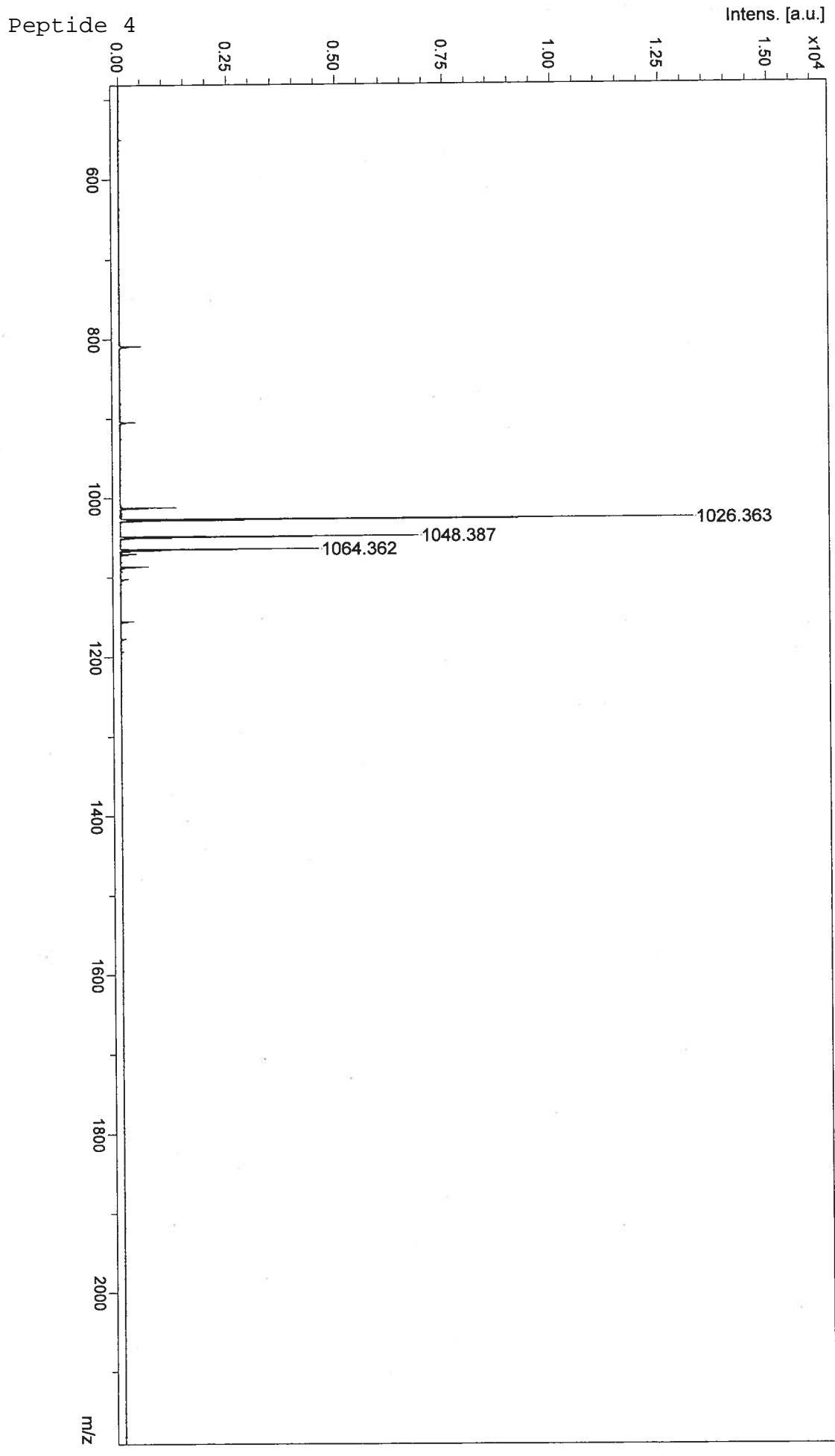
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**Figure S5.** TEM image of peptide **4** (100  $\mu$ M peptide, water).



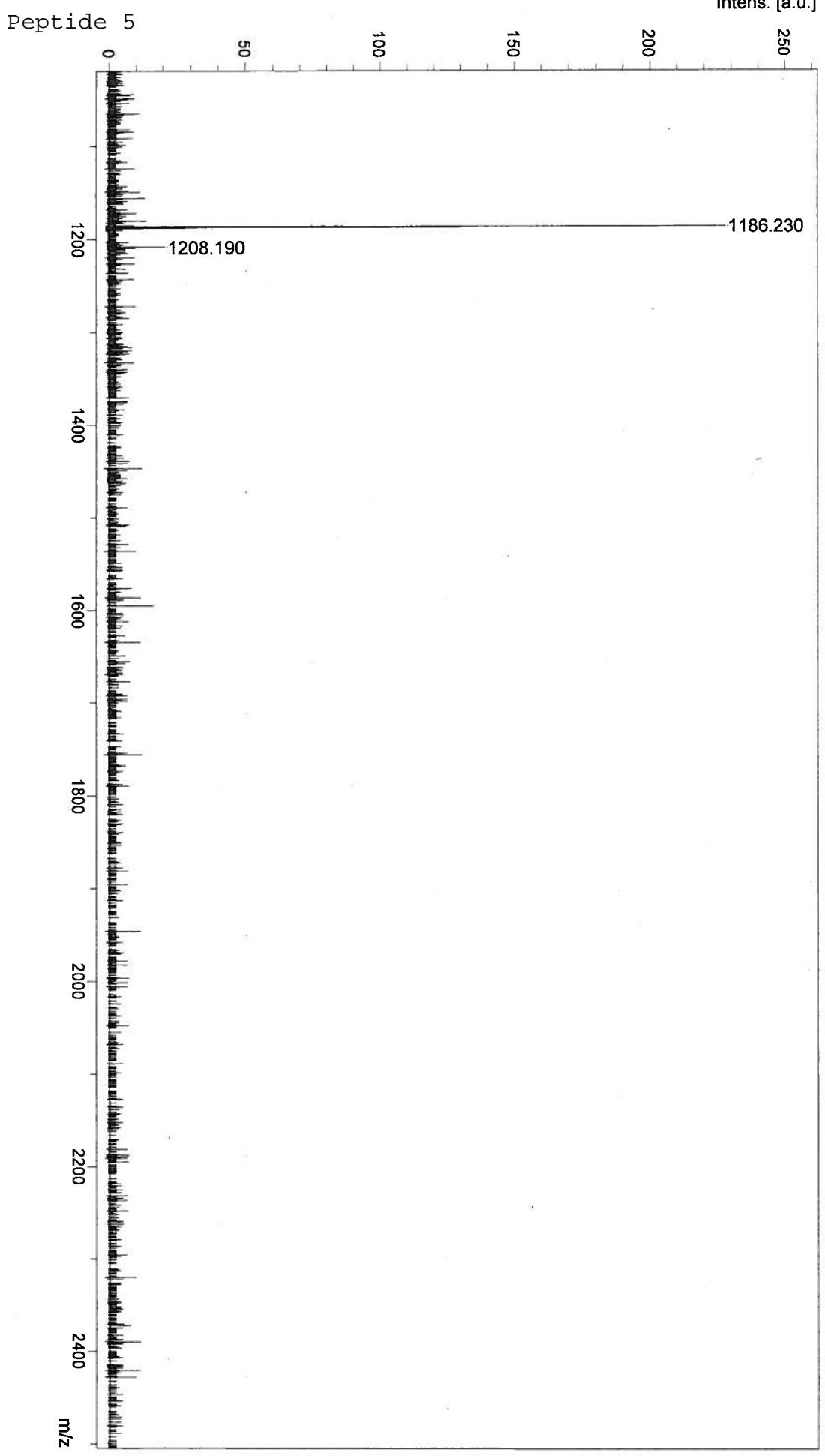
**Figure S6.** TEM image of peptide **5** (100  $\mu$ M peptide, water).

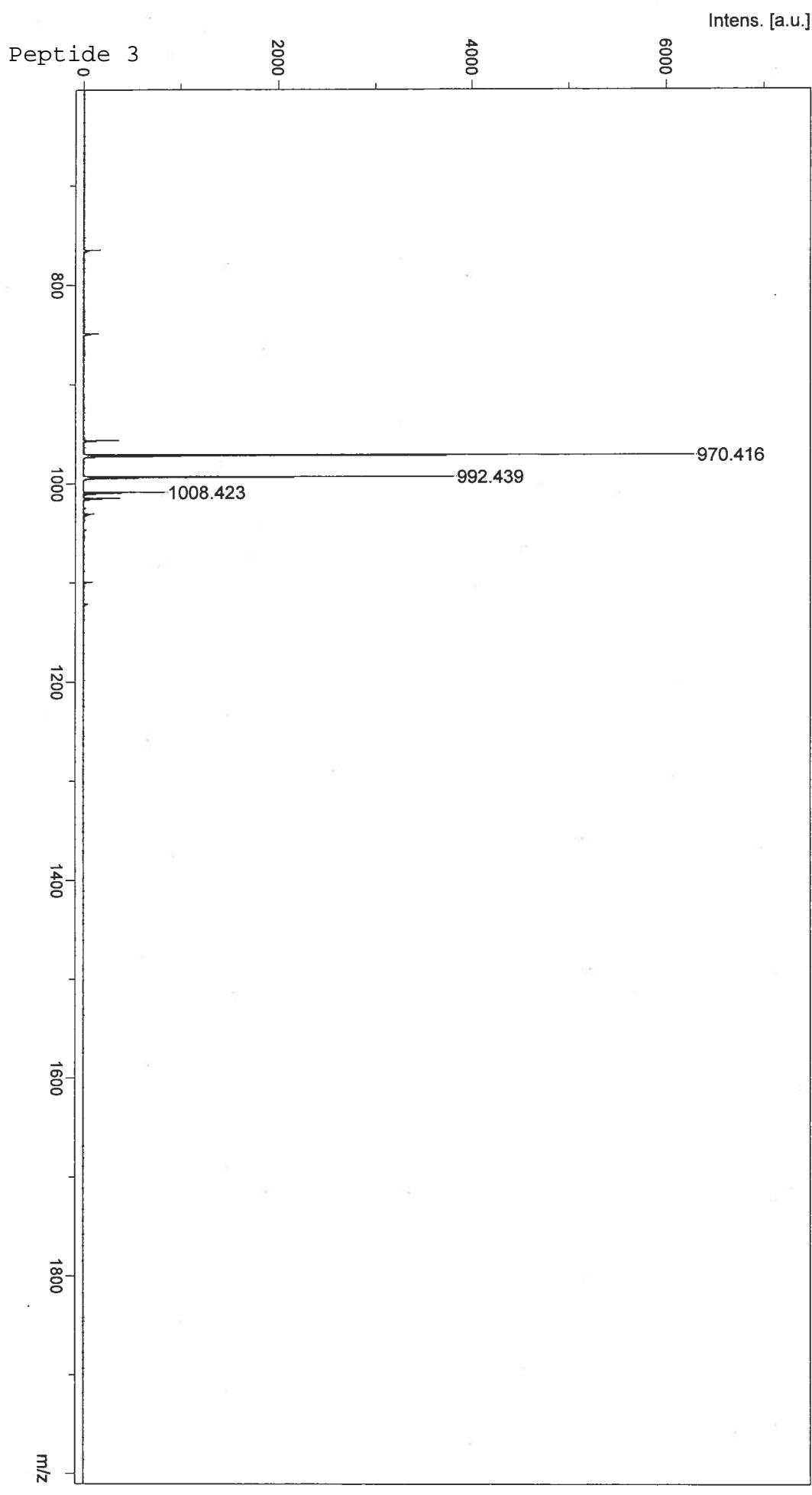


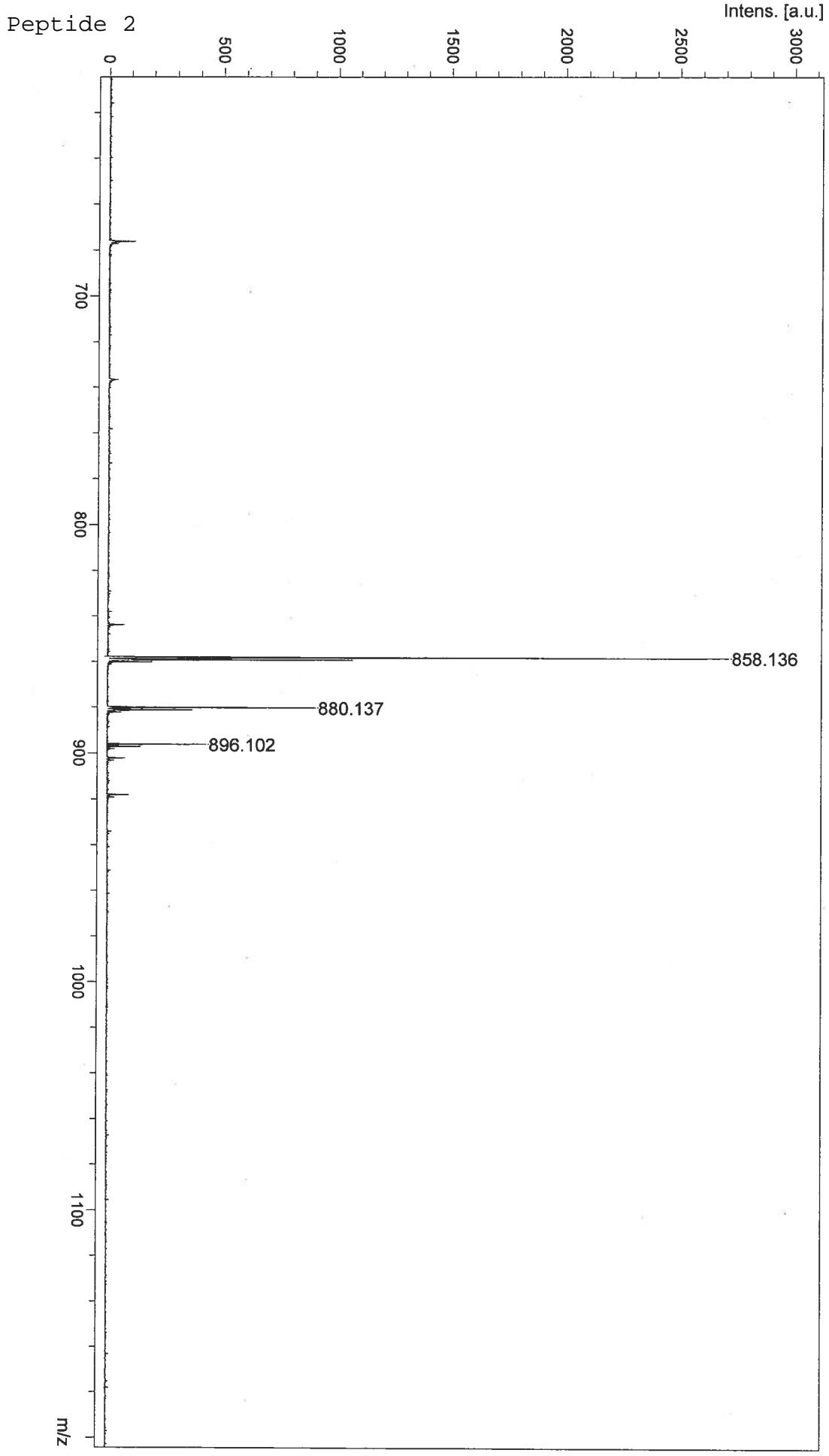


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Comment 1

C<sub>5</sub>H<sub>9</sub>NO<sub>2</sub> (AKAE)<sub>2</sub>  
Sample pure exact mass 857.46

Peptide 1

