

**Supporting Information for**

**Calcium Carbonate Crystal Growth Beneath Langmuir Monolayers of Acidic  
 $\beta$ -Hairpin Peptides**

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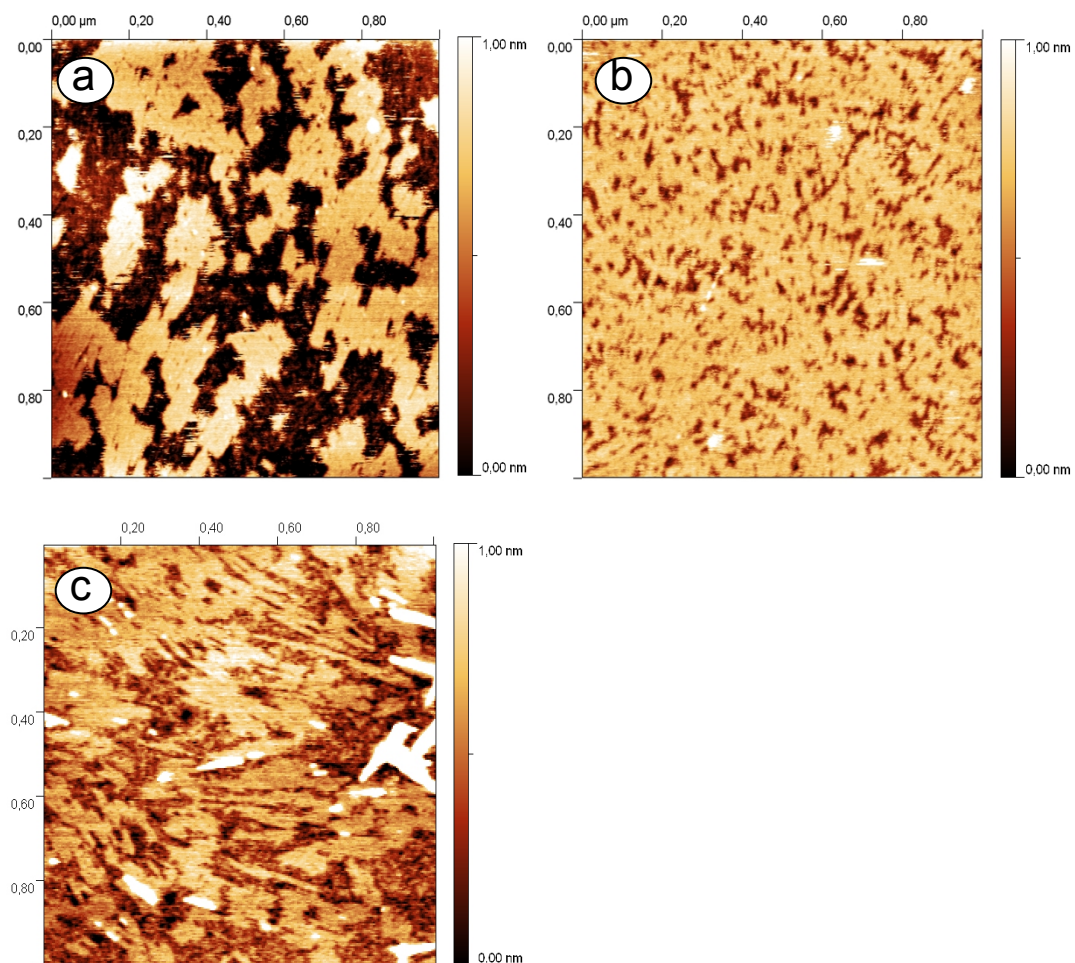
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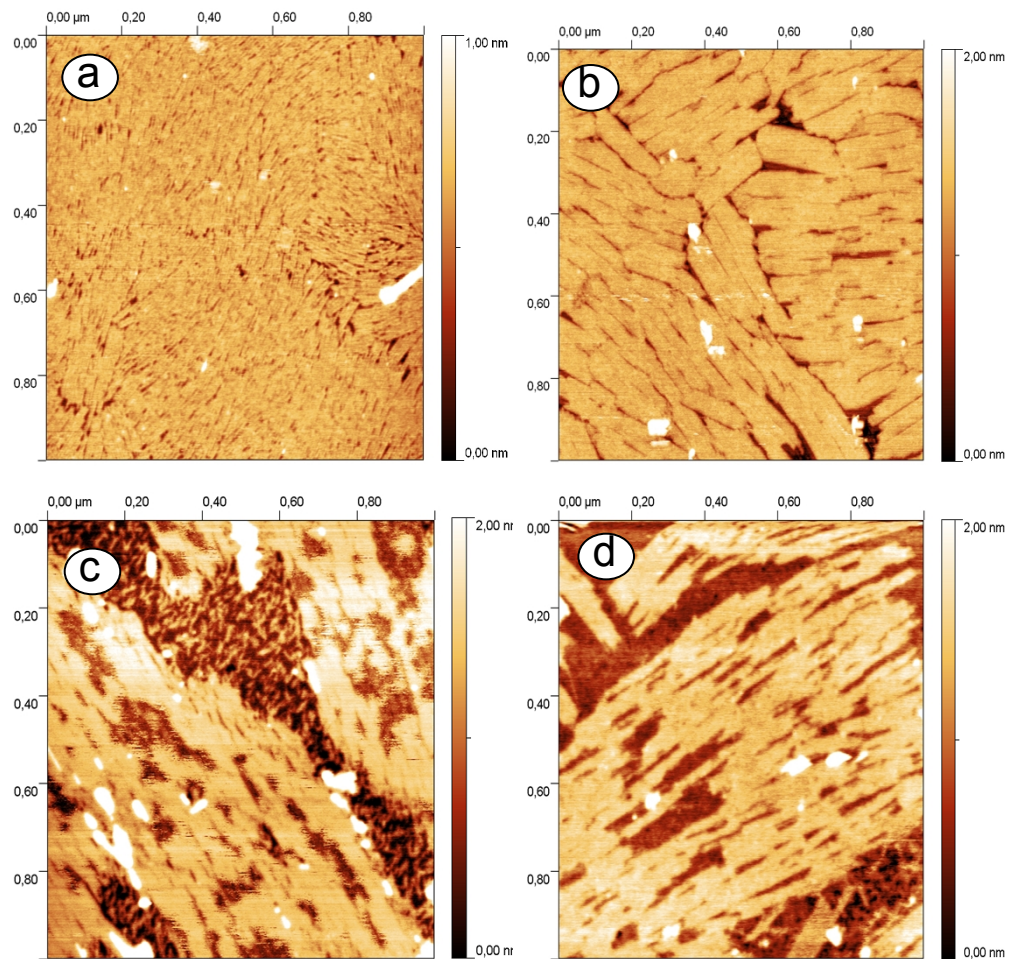
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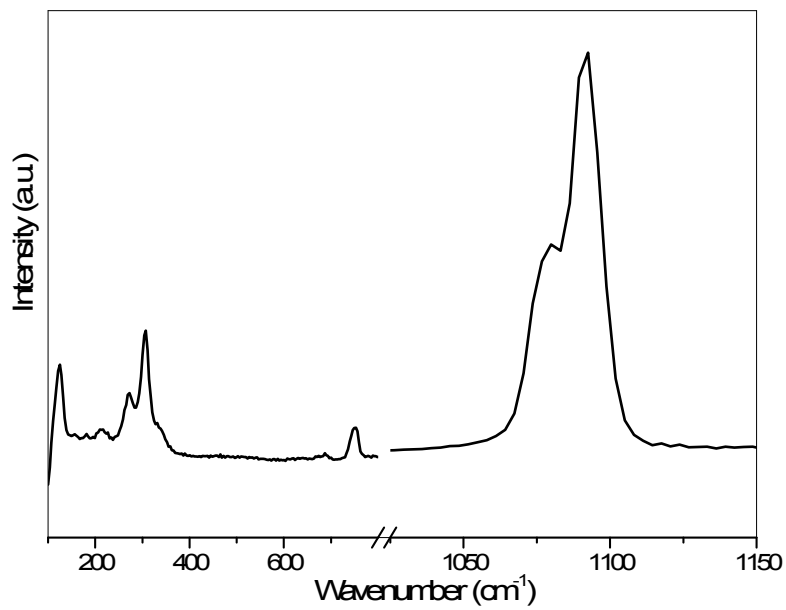
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**Figure S1.** AFM topographies of Langmuir-Blodgett films of peptide monolayer transferred from water subphase. (a) peptide **1a**. (b) peptide **2a**. (c) peptide **2b**.



**Figure S2.** AFM topographies of Langmuir-Blodgett films of peptide **1b** transferred from water subphase (a), 0.01M CaCl<sub>2</sub> subphase (b), 0.01 M calcium acetate subphase (c), and 0.01 M HCl subphase (d).



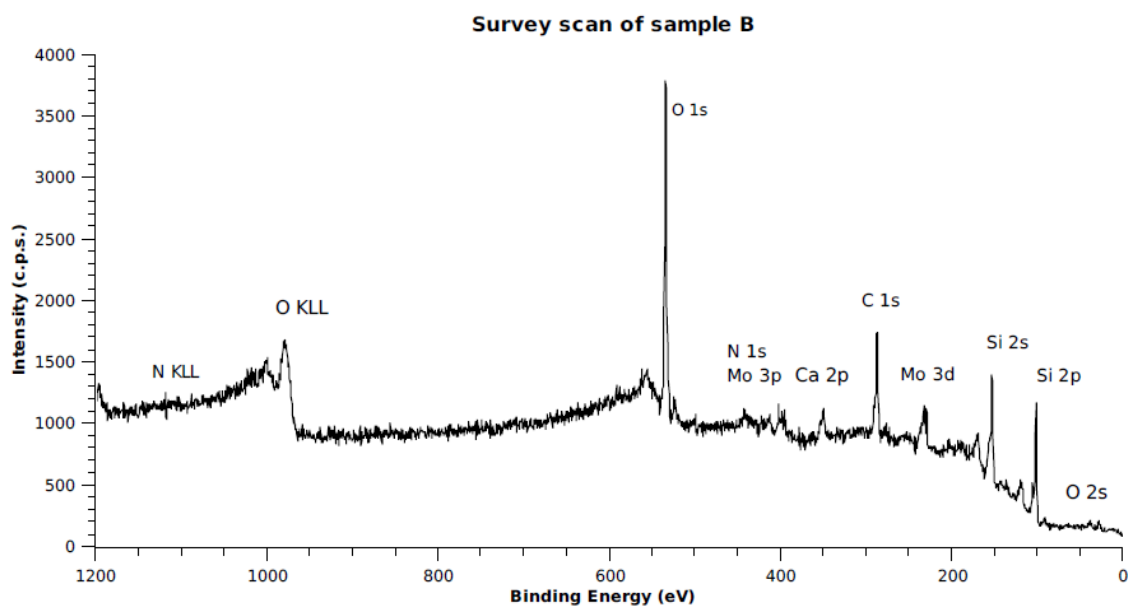
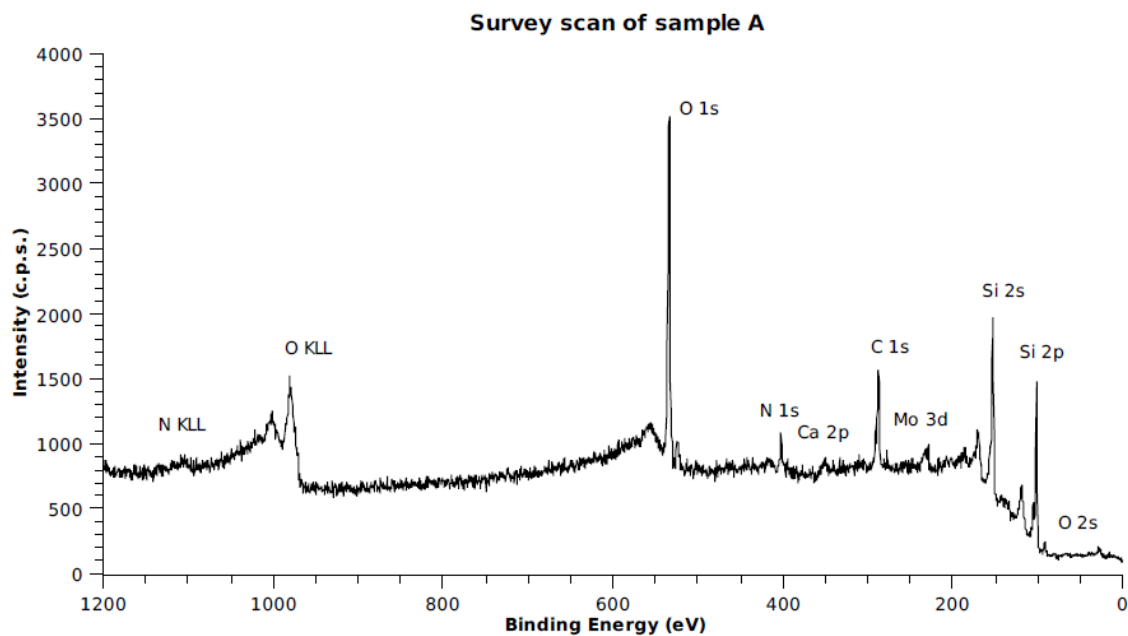
**Figure S3.** Raman spectrum of crystals growth under monolayer of peptide **1a** after 1 hour.



**Figure S4.** BAM images of  $\text{CaCO}_3$  crystallization beneath peptide **1a** for 1 hour. Left, crystallization at 0.1 mN/m. Right, crystallization at 15 mN/m.



**Figure S5.** BAM images of  $\text{CaCO}_3$  crystallization beneath peptide **2a** at 0.1 mN/m for 1 hour (left) and 2 hours (right).



**Figure S6.** XPS survey of peptide **1a** and **1b** monolayer on on an aqueous subphase containing calcium acetate (9mM).