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The effect of a substrate on the morphology of dipeptide (L-valyl-L-alanine) films before and after their interaction with pyridine vapor

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Abstract

The effect of a substrate on the morphology of a thin film of L-valyl-L-alanine dipeptide before and after its interaction with pyridine vapor was studied. For this purpose, images of a dipeptide film deposited on the surface of highly oriented pyrolytic graphite (HOPG), gold, and mica and images showing its surface after saturation with vaporous pyridine were obtained by atomic force microscopy. The morphology of the initial L-valyl-L-alanine film was found to be considerably dependent on the nature of the substrate used. Interaction with vaporous pyridine resulted in formation of nanostructures on its surface in the case in which HOPG or gold were used as a substrate. When mica was used as a substrate, nanostructures were present on the surface of the initial film and almost disappeared after interaction with pyridine. © 2013 Pleiades Publishing, Ltd.

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