

Abstract Submitted
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Self-assembly of molecular wires ANDREAS RIEMANN, Western Washington University, WESTERN WASHINGTON UNIVERSITY COLLABORATION — Scanning Tunneling Microscopy (STM) has been used to study the self-assembly of the naturally occurring amino acid L-methionine on different surfaces. It has been found that methionine forms highly regular structures on an Ag(111) surface under UHV conditions as well as on a graphite surface under ambient conditions. Methionine arranges itself into an array of molecular wires of uniform width and separation. The spacing of these wires can be controlled by means of the deposition amount. Molecular mechanics calculations are used to suggest a model for the methionine configuration on the surfaces. The width of the wires is determined by two methionine molecules arranged with their carboxyl group facing each other. The regular separation of individual wires suggests a long range interaction between these wires.

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