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Study of Alkanethiol Self-Assembled Structure Grown on Silver¹ LIANG HU, ZISHU ZHANG, MIKHAIL YU. EFREMOV, ERIC A. OLSON, MING ZHANG, LITO DE LA RAMA, LESLIE H. ALLEN, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign — Alkanethiol self-assembled structures grown on surface-supported Ag clusters (3D) are studied by measuring heat capacity with nanocalorimeter at high scanning rate (40,000 K/s), and compared with the self-assembled monolayer (SAMs) grown on planar Ag surface (2D). There is more amount of alkanethiol assembled on 3D Ag clusters compared with 2D SAMs, and the melting transition occurs at a higher temperature with sharper melting peak. This is due to the formation of layered Ag-alkanethiolate structure has a high degree of conformational order.

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