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**Inelastic electron tunneling spectroscopy of decanethiol on Au(111) at elevated temperatures** ANN-SOFIE HALLBACK, HAROLD J W ZANDVLIET, BENE POELSEMA, University of Twente — We have studied decanethiol self-assembled monolayers (SAMs) on Au(111) in UHV by inelastic electron tunneling spectroscopy (IETS) performed with a scanning tunneling microscope (STM). This study reveals inelastic peaks, which can successfully be assigned to molecular vibration modes (Au-S or S-C stretch modes, and C-C stretch mode or CH<sub>2</sub> modes). It is remarkable that these modes can be detected already at 77 K, i.e. at a much higher temperature than commonly used in IETS measurements.

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