

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

STM study of azobenzene self-assembly at clean metal surfaces JONGWEON CHO, MATTHEW J. COMSTOCK, NIV LEVY, ARMEN KIRAKOSIAN, MICHAEL F. CROMMIE, University of California at Berkeley and Lawrence Berkeley National Laboratory — Azobenzene derivatives form a unique class of photoactive molecules that have potential for nanoscale optical applications. We have examined the self-assembly behavior of azobenzene molecules on the Au(111) and NiAl(110) surfaces using a variable temperature UHV STM. We observe a variety of low-dimensional molecular configurations, some of which can be manipulated with the tip of the STM. These structures are highly temperature dependent and typically require cryogenic operation for stable imaging.

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Date submitted: 05 Jan 2005

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