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Comparison of Transport and Switching Characteristics of Ti/Molecule/Pt and Cr/Molecule/Pt Devices MICHAEL TABER, FENG MIAO, Department of Physics, University of California at Riverside, Riverside, CA 92521, DOUGLAS OHLBERG, R. STANLEY WILLIAMS, Hewlett-Packard Labs, 1501 Page Mill Rd, Palo Alto, California 94304 , C.N. LAU, Department of Physics, University of California at Riverside, Riverside,CA 92521 — Molecular devices that consist of a monolayer of stearic acid molecules sandwiched between Pt and Ti electrodes can be switched "on" and "off" reversibly. To gain insight into the switching and mechanism, we fabricated and measured similar molecular junctions by replacing Ti with chromium as the top electrode. These devices can be switched "off" controllably, but not "on." The conductances of both types of devices display similar dependence on temperature. Latest data will be discussed in terms of various theoretical models.

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