

Abstract Submitted
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Switching of molecules at metal surfaces¹ PETRA
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14, 14195 Berlin, Germany — Understanding the switching ability of
molecules on surfaces upon excitation with external stimuli is a prereq-
uisite for the development of functional molecular devices with possible
applications to information processing, storage, or switching. While the
switching mechanisms in many classes of molecular switches are thor-
oughly studied and understood in solution, their counterparts on sur-
faces still remain largely unresolved. In particular, many switching pro-
cesses are suppressed or irreversible when the molecules are anchored to
a metallic substrate. The adsorption configuration and steric hindrance
are only one factor influencing the switching capability. More important
is the electronic coupling strength between adsorbate and substrate and
accordingly the lifetime of molecular excited states which is significantly
reduced at metal surfaces. I will discuss several examples of optically
and thermally induced conformational changes in molecular switches at
noble metal surfaces.

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