

## **Single and bimolecular contacts: conductance and forces**

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Using low-temperature scanning tunnelling microscopy we investigate the conductance of molecules adsorbed on surfaces. Going beyond the tunnelling range, we explore closer tip-molecule distances in the contact regime where currents of several microamperes are passed through the junction. We show that the detailed electrode geometry and the molecular structure and bonding drastically affect the conductance. The forces acting at such junctions are significant. To experimentally address them a qplus sensor is used and the shift of its resonance frequency is recorded simultaneously with the conductance measurements. Results obtained with metallic and functionalized tips will be discussed.

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