

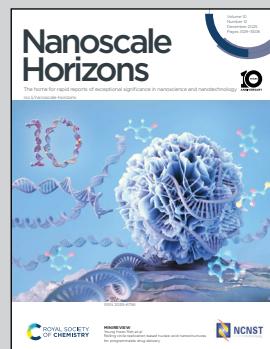
Showcasing research from the Exotic Surfaces Group at Graz University of Technology, Austria.

Nanoscale motion of organic π -conjugated molecules: exploring van der Waals forces, friction, and quantum effects

We investigate how organic π -conjugated molecules move and interact on surfaces at the nanoscale. Using advanced scattering techniques, our work reveals how van der Waals forces, molecular friction, and subtle quantum effects govern diffusion and energy dissipation. These insights advance the fundamental understanding of surface dynamics and molecular transport, with implications for nanoscale devices, molecular assembly, and functional materials.

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See Anton Tamtögl and Marco Sacchi, *Nanoscale Horiz.*, 2025, **10**, 3158.