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Fabrication and Characterization of Atomically Precise On-Surface Nanoarchitectures on Coinage Metals and Graphene

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Propositions
accompanying the dissertation
Fabrication and Characterization of Atomically Precise On-Surface nanoarchitectures on Coinage Metals and Graphene
by
R.S.K. Houtsma

1. Graphene nanoribbon based molecular heterojunctions can be created on the basis of a length-dependent band gap (chapter 4).

2. The chirality of on-surface reaction products can be tuned based on whether the reaction proceeds under kinetic or thermodynamic control (chapter 5 and 6).

3. The availability of adatoms and their preferred adsorption sites plays a crucial role in the formation of molecular nanostructures on surfaces, which ultimately influences the resulting type of nanostructure (chapter 5 and 6).

4. Chirality is a useful marker to track on-surface reactions (chapter 5 and 6).

5. By studying the same molecule on a variety of substrates and under many reaction conditions, a deeper understanding of on-surface reactions can be gained (chapter 4, 5 and 6).

6. Using graphene instead of coinage metals as substrate, the formation of higher in-plane coordination motifs is enabled which would not be feasible on coinage metals (chapter 7).

7. Every scientific experiment is enjoyable, but some only in hindsight.