

Propositions related to the PhD dissertation:

**Controlling Second Coordination Sphere Effects in Heterogeneous
Catalysis
A Molecular Approach**

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1. The term '*single atom catalysis*' is incorrect – a chemical reaction cannot be catalysed by a single metal atom on its own.
2. Controlling the first- and second- coordination sphere of single atom catalysts is the next challenge in bridging heterogeneous and homogeneous catalysis.
3. Although this is elementary chemistry, yields are too often presented without the degree of conversion.
4. Initial rates give more useful information on catalytic systems compared to yields and should therefore lead in finetuning catalytic processes.
5. Reaction kinetics provide the essential framework for mechanistic studies and should always be done first.
6. Systematic studies to understand structure-performance relationships deserve more credit – they are the starting point to rationally advance catalysts.
7. Reproducibility in the synthesis of heterogeneous catalysts is an ignored problem.
8. The importance of social activities to the performance of a research group is underestimated.
9. Academic research is meant to obtain and share knowledge, not to solve today's problems.
10. A chapter of a PhD thesis that is not published in a peer-reviewed journal is a waste of public money and should therefore be avoided.