The role and analysis of molecular systems in electrocatalysis

Dijk, B. van

Curriculum vitae

Bas van Dijk was born the 2nd of September 1992 in Heemskerk, The Netherlands. In 2010, he graduated *cum laude* from the Kennemer College, Beverwijk obtaining his VWO diploma. Next, he started studying chemistry at the University of Amsterdam. In 2013, he performed a research internship in the Synthetic Organic Chemistry group under the supervision of Dr. Roel Klein Nijenhuis in the groups of Prof. Dr. Jan van Maarseveen and Prof. Dr. Henk Hiemstra about the synthesis of biomarkers for naturally occurring ladderanes which was in collaboration with Prof. Dr. Jaap Sinninghe Damsté from the Royal Netherlands Institute for Sea Research (NIOZ). In the same year, he obtained his Bachelor of Science degree *cum laude* and continued with the joint MSc program Chemistry at the University of Amsterdam and the Vrije Universiteit Amsterdam. A second internship was performed in the group of Prof. Dr. Ir. Jarl-Ivar van der Vlugt under the supervision of Dr. Linda Jongbloed on the topic of (catalytically) selective C–H activation through supramolecular pre-organization. Subsequently, Bas received his Master of Science in chemistry in 2015. During his studies, Bas occupied the position of treasurer in the board of the study association *Amsterdams Chemisch Dispuut* in 2012-2013 and co-organized a study trip to the Czech Republic that encompassed visits to the Charles University in Prague, the Institute of Organic Chemistry and Biochemistry in Prague, and the chemical company Synthos in Kralupy nad Vltavou.

In January 2016, Bas started as a PhD candidate in the group of Dr. Dennis Hetterscheid. The research was performed in the labs of the Catalysis and Surface Chemistry (CASC) and Metals in Catalysis, Biomimetics and Inorganic Materials (MCBIM) research groups. During his PhD, Bas collaborated with Dr. Longfei Wu and Prof. Dr. Jan Philipp Hofmann from the Technical University Eindhoven on the spectroscopical analysis of various electrodeposits. In addition, Bas collaborated with Dr. Gabriel Menendez Rodriguez and Prof. Dr. Alceo Macchioni from the University of Perugia, Italy on the electrochemical study of molecular iridium complexes for water oxidation. Another collaboration was performed with Austin Herzog and Prof. Dr. Kenneth Karlin from the John Hopkins University, United States of America on the electrochemical analysis of molecular copper complexes. Various results of the studies included in this thesis were presented at (inter)national conferences including oral presentations at the 2017 edition of the *Netherlands Catalysis and Chemistry Conference* (NCCC) and 2019 edition of the *CHemistry as*

INnovative Science (CHAINS) national conferences as well as poster presentations at the Reedijk Symposium (2016), NCCC (2016, 2018, 2019, 2020), CHAINS (2016), and the International Symposium on Homogeneous Catalysis in 2018. Next to research, Bas assisted in several (practical) courses for undergraduate students and supervised the internships of one Bachelor level and two Master level students. In 2020, Bas assisted the Master programs for *Chemistry* and *Life Science and Technology* of Leiden University with the scheduling of courses and final talks of (literature) internships of students. During the PhD research, Bas also completed several courses including *Catalysis: An Integrated approach* organized by the Netherlands Institute for Catalysis Research, *Physical Methods in Inorganic Chemistry* and *High Impact Writing* both organized by the Holland Research School of Molecular Chemistry, and graduate school courses organized by Leiden University: *Communication in Science*, *Effective Communication*, *Scientific Conduct*, and *Time management and Self-management*.

List of publications

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B. van Dijk, A. E. Herzog, K. D. Karlin, and D. G. H. Hetterscheid. Mechanistic insight from structure–activity studies in the electrochemical oxygen reduction by substituted tris(2-pyridylmethyl)amine copper complexes, *in preparation*

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