Electrocatalysis in confinement: metal-organic frameworks for oxygen reduction

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List of publications

Marlene E. Hoefnagel, Joran van den Elshout, Sergi Campos-Jara, Jan S.D. Rodriguez, Ocean Cheung, Oleg Usoltsev, Sascha Ott, Sheena Louisia and Dennis G.H. Hetterscheid. The Effect of a Redox Active Metal Organic Framework on an Embedded Molecular Catalyst. *Manuscript in preparation.*

Marlene E. Hoefnagel, Dennis G.H. Hetterscheid and Sascha Ott. The Effect of pH on Charge Transport in a Naphtalene Diimide Metal-Organic Framework in Aqueous Electrolyte. *Manuscript in preparation.*

Sergi Campos-Jara, Laurens P.M. de Jong, L.P.M., Marlene E. Hoefnagel, Nicolas P.I. Magnard, Tycho Roorda, Andy Jiao, Liviu C. Tanase, Mohamad A. Mawass, Jing-Wen Hsueh, Mauricio J. Prieto, Vladimir Calvi, Jetse van Os, Núria Felez-Guerrero, Rick Monsma, Steijn E.J. Beekman, Richard van Rijn, Tomas Schmidt, Grégory Schneider and Irene M.N. Groot. Synthesis and Characterization of Boron Nitride-doped Graphene on Ni(III). *Manuscript in preparation.*

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Curriculum vitae

Marlene Hoefnagel was born on the 17th of May 1996 in Eindhoven, the Netherlands. In 2014 she graduated with an International Baccalaureate (IB) from Jan van Brabantcollege in Helmond. During her IB Marlene investigated the challenges encountered by aid organizations that attempt to increase the number of children that enjoy education in Kenya. In September 2014 she started the bachelor's programme in Bio-pharmaceutical sciences at Leiden University, which she obtained with a specialization in Pharmacy in January 2018. During her bachelor's, she worked at the Amsterdam Medical Center (AMC), preparing intravenous medication for intensive care departments of the children's hospital. In September 2018 Marlene continued with a MSc programme in Chemistry – Energy and Sustainability during which she studied, amongst others, photochemistry, electrochemistry, chemistry and physics of solids and homogeneous catalysis. She conducted a literature study on charge recombination preventing layers in perovskite solar cells and a 10-month research project on photocatalytic hydrogen evolution in liposomes under the supervision of prof. Sylvestre Bonnet. Marlene obtained her MSc degree with honors in October 2020. After her MSc degree, she worked on anode materials for photoelectrochemical cells as a research trainee in the group of prof. Antoni Llobet at Institut Català d'Investigació Química (ICIQ) in Tarragona. In May 2021 Marlene started as a PhD candidate in electrocatalysis in the group of dr. Dennis Hetterscheid. During her PhD, she presented her work in oral presentations at the Netherlands Catalysis and Chemistry Conference (NCCC, 2024), the Holland Research School of Molecular Chemistry (HRSMC) symposium (2024) and the CHemistry as INnovative Science (CHAINS) conference (2024). Furthermore, she has presented her work as posters at NCCC (2022, 2023), Reedijk Symposium (2022), CHAINS (2022), EuroMOF (2023) and the Nobel symposium on metal-organic frameworks (2023). She followed courses on data management, physical methods in inorganic chemistry and science illustration and participated in graduate schools in electrochemistry and advanced metal-organic chemistry and catalysis. Her teaching experience includes both theoretical and practical courses in organic- and inorganic chemistry and the supervision of three BSc students and two MSc students in their research projects. In 2023 Marlene obtained a mobility grant from the HRSMC to conduct 5 months of research in the group of prof. Sascha Ott in Uppsala, where she investigated charge transport mechanisms in redox active metal

organic frameworks. In 2024 she was granted beamtime at the BL-22 beamline at the ALBA synchrotron in Barcelona, where she performed operando X-ray absorption spectroscopy experiments.

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