Curriculum Vitae

Kasper Moth-Poulsen

Department of Chemistry & Chemical Engineering, Chalmers University of Technology, Gothenburg, Sweden
Phone: +46 761996855 Email: kasper.moth-poulsen@chalmers.se
Homepage: www.moth-poulsen.se Twitter: @KMothPoulsen

Personal Information

Date of Birth: 07-07-1978,
Place of Birth: Copenhagen, Denmark
Citizenship: Danish
Researcher ID: A-6178-2009, ORCID: 0000-0003-4018-4927

Education and degrees

2003: **Cand. Scient**. (Chemistry), Univ. Copenhagen.
2007: **PhD in Chemistry**, Univ. Copenhagen.
2013: **Docent** (Nanochemistry) Chalmers Univ. Tech.

Positions

2020- **Head of Division of Applied Chemistry** at Chalmers (≈ total 100 people, ≈15 professors)
2019- **Full Professor**, Chalmers Univ. Tech. (Nano Materials Chemistry).
2017-19: **Professor** (bitr. Prof.), Chalmers Univ. Tech. (Nano Materials Chemistry).
2014-16: **Associate Professor**, Chalmers Univ. Tech. (Nanochemistry).
2011-14: **Assistant Professor**, Chalmers University of Technology.
2009-10: **Postdoctoral Fellow** at Department of Chemical Engineering, University of California at Berkeley.
2007-09: **Postdoctoral Associate** (w. T. Bjørnholm), University of Copenhagen.
2007-11: **Founder and Scientific Consultant** at MothMortensen ApS.

Academic Appointments and Merits

2020- **co-founder and board member** of Nano Scientifica Scandinavia AB. (www.nanoscientifica.com)
2020- **co-founder and board member** of Solartes AB.(www.solartes.se)
2020- **Associate editor** of Journal of Materials Chemistry C (Royal Society of Chemistry).
2020- **Associate editor** of Materials Advances (Royal Society of Chemistry).
2019- **Scientific Advisor** and co-onwer, Con-Science AB (www.con-science.se)
2019- **Chairman of the steering group** of Chalmers Mass Spec. Infrastructure (budget ≈7 MSEK/yr).
2018- **Member of Review Panel** of Applied Physics (VR).
2018- **Member of the steering group** for Chalmers Excellence Initiative Nano (budget ≈35 MSEK/yr).
2018- **Member of the steering group** of Chalmers Materials Analysis Laboratory (budget ≈28 MSEK/yr).
2014-18: **Scientific Coordinator** of Chalmers Materials Analysis Laboratory (budget ≈28 MSEK/yr).

Distinctions, scholarships and awards

2021: **Göran Gustaffson Prize**, Swedish Royal Academy of Science (5.1 MSEK + 250k SEK personal Award “for research on molecular solar thermal energy storage systems”)
2020: **Consolidator Grant**, European Research Council (2 MEUR, 2021-26)
2020: **Consolidator Grant**, Swedish Research Council (12 MSEK, 2021-27)
2020: **Norblad-Ekstrand Medal** from the Swedish Chemical Society.
2019-24: **Visiting Professor** of Southeast University (Nanjing, China).
2019: **ExxonMobil European Chemistry Award** (Honorable mention).
2019: **Arnbergska Prize** from the Swedish Royal Academy of Science (100 kSEK personal award) for “Innovative Research in Molecular Electronics and Nanomaterials for Future Energy Systems".
2014: **Wallenberg Academy Fellow** grant (total 12.5 M SEK w. co-funding).
2014: **Thieme Chemistry Journal Award** 2014.
2014: **Invited contributor** to emerging investigator issues of Chem. Comm. and J. Mater. Chem.
2013: **SSF future research leader** (FFL5) grant (10 M SEK).
2013: **ERC Starting grant** (1.5 M EUR).

2013: **Stipend from HM King Carl XVI Gustaf's foundation** for science, technology and the environment (85k SEK).
1997: **International Chemistry Olympics**, (representing Denmark as 1 of the 4 selected students at the Annual Chemistry Olympics competition for high school students), Montreal, Canada.

Publications, Patents, Presentations and Citations

Google Scholar: H-factor: 39, >4900 citations (google scholar).

122	Original Peer Reviewed Papers
6	Review Papers in Peer Reviewed Journals
4	Book Contributions
1	Edited Book
4	Patent Applications
>10	Invited Oral Presentations and Keynote Lectures at International Conferences
>24	Invited Seminars at Universities and Companies

KMP has contributed to more than 40 meetings and conferences, in 2013 invited speaker at ECME 2013 in London, ECME 2015 in Strasbourg and contributed speaker at 11th International Conference on Materials Chemistry (MC11) Warwick. Contributed speaker at ELECMOL 2014 (Strasbourg), Contributed speaker at ECME 2017, Dresden, Invited speaker for the 2017 CMS symposium in Kyushu, Japan. 2017 Visit to Shanghai, presentations at Fudan and EKUST universities. 2018, 2 invited talks at ACS Spring meeting. 2019 Keynote Speaker at 13th international renewable energy storage conference (IRES2019). 2020 The Society of Physics Students at Harvard University.

Key Grants

KMP has extensive experience with managing larger projects through several national and international collaborations. As a principal investigator (PI), KMP has since 2011 been granted in total more than 141 million SEK (≈14 MEUR), out of a total grant sum exceeding 320 M SEK (≈32 MEUR). Following figures where KMP is co-applicant, the total grant sum is mentioned in parenthesis and co-PI's mentioned by name (if any), the KMP share of the grants are in these cases smaller than the grant sum.

2021-23: **Göran Gustaffson Prize,** Royal Swedish Academy of Science (5.1 MSEK).
2021-26: **Consolidator Grant**, European Research Council (2 MEUR).
2021-27: **Consolidator Grant**, Swedish Research Council (12 MSEK).
2020-24: **EU H2020 FET-PROACT** (4,3 MEUR, 6 partners, main applicant K. Moth-Poulsen).
2020-22: **FORMAS** (3 MSEK).
2020-21: **Marie Curie Post Doc** (Pankaj Brahmona).
2017-19: **Swedish Energy Agency** (10 MSEK), (main application Bo Albinsson).
2017-21: **SSF Project** (30 MSEK) (main application Christoph Langhammer).
2016-20: **Knut & Alice Wallenberg Project** (36 MSEK) (main application Christoph Langhammer)
2016-18: **VR Project Grant** (3.2 MSEK)
2015-19: **Knut & Alice Wallenberg Fellow** (7.5+5 MSEK)
2014-18: **SSF future Research Leaders** (10 MSEK)
2013-16: **Swedish Energy Agency** (6.2 MSEK), (main application Patrik Johansson)
2013-16: **Knut & Alice Wallenberg Infrastructure** (33 MSEK) (main application Eva Olsson)
2013-17: **ERC Starting Grant** (1,5 MEUR)
2012-15: **Knut & Alice Wallenberg Project** (37 MSEK) (main application Mikael Käll)
2012-14: **Swedish Energy Agency** (9.2 MSEK), (main application Bo Albinsson)
2012-15: **VR Young Researcher Grant (**2.475 MSEK)
2011-12: **Chalmers AoA Postdoc** (2.2 MSEK) w. Langhammer and Westerlund
2011-15: **Chalmers Starting Grant** (9.2 MSEK)

Teaching

Several courses and workshops at all university education levels. Has taken more than 15 ECTS of courses relevant for developing supervision and pedagogical skills.

Mentoring and Leadership

Main Supervisor of Graduated PhD Students:	10
Main Supervisor of Current PhD Students:	2 (+2 from April 2021)
Co-supervisor of Current PhD Students:	2
Co-supervisor of Graduated PhD Students:	3
Former affiliated Post Docs:	16
Current affiliated Post Docs:	5 (+1 from May 2021)

Selected achievements and awards for former PhD Students and Postdocs, are the European photochemical association prize for best PhD thesis awarded to PhD Student Victor Gray 2018 (Now VR post doc at Cambridge), an ERC Starting Grant to former postdoc Karl Börjesson (Assoc. Prof. at Gothenburg Univ.), The Chinese government award for outstanding self-financed students abroad awarded to former PhD Student Zhihang Wang (2020). Community board member of Nanoscale Journal (RSC) to Dr. Sarah Lerch.

Selected programs related to leadership

2011-13: Leadership program for young professors hired through the Chalmers Areas of Advance initiative. Taught by Peter Lysell, Sharing Insight, and Thomas Sewerin.
2014-17: Leadership program for SSF future research leaders (FFL5) lead by former Chalmers rector Jan-Eric Sundgren and prof. Ulf Johansson (MiL/ School of Economics and Management, Lund University.)
2015-18: Leadership program for KAW fellows lead by prof. Sven Lidin.

Selected National and international assignments

2020- **Reviewing** activity during recent 12 months in top 98% percentile according to Publons.com and top 3 reviewer of Chalmers
2020: **Reviewer** for the ERC-StG PE5 panel.
2020: **Member of PhD evaluation committee**: Sven Englund (Uppsala).
2019: **Member of PhD evaluation committee**, Raul Losantos Cabello, Univ. Rioja (Spain).
2018: **Member of PhD evaluation committee**: Laura Calio, University of Pablo de Olavide, Sevilla.
2018: **Member of review panel NT-**15 at the Swedish Research Council
2016: **Member of PhD evaluation committee** Xintai Wang (Univ. Copenhagen).
2015: **Member of PhD evaluation committee** Rune Hviid (Univ. Copenhagen).
2014: **Member of PhD evaluation committee** Nini Abildgaard (Univ. Copenhagen), Francesco Mazzotta (Chalmers), Rikard Emanuelsson (Uppsala).
2013: **Member of PhD evaluation committee**, for Arvid Böttiger, DTU.
2013: **Reviewer** for EU-FP7 ERA-Net: New INDIGO.
2013: **Reviewer** for the Chilean funding agency (FONDECYT).
2013: **Main opponent**, Gustav Edman (licentiate degree).
2012: **Reviewer** for the US department of Energy (DOE).
2011-12: **Assignment** (uppdrag) from AoA leadership on giving feedback on how to develop Chalmers as a university. Has chosen to focus on homepage and infrastructure.
2011: **Member of PhD evaluation committee**, for Amal Hansson, Linköping Univ.
2011: **Reviewer** for the Dutch Research Council (NWO).
2011- **Reviewer** for the American Chemical Society (ACS), Nature Publishing group and Wiley.
2016- **Member of the reference group** for Chalmers Mass Spectroscopy infrastructure CMSI (chairman since 2019).
2012-13: **Assignment** (uppdrag) from Materials AoA on defining a vision for a shared analytical facility at Chalmers for molecular and materials charactarisation.
2012- **Member of reference group** for the infrastructure unit at Applied Physics, Chalmers (CMAL)
2011-12: **Assignment** (uppdrag) from AoA leadership on giving feedback on how to develop Chalmers as a university.

Organizer of Conferences and Meetings

2021: *"Symposium on Molecular Solar Thermal Systems (Virtual)"*
2018: *"2nd International Symposium on Singlet Fission and Photon Fusion: Emerging Solar Energy Conversion Technologies"*
2016: *"1st International Symposium on Singlet Fission and Photon Fusion: Emerging Solar Energy Conversion Technologies"*

2016: *"International MOST meeting at Nääs*" (main organizer)
2014: Chalmers Soft Matter Summer School, *"Molecular Electronics and Molecular Switches"* (main organizer)
2013: Chalmers Soft Matter Summer School "*Unconventional Solar Energy Technologies"* (main organizer)
2011: Chalmers Soft Matter Summer School "*Plastic electronics: from polymers to single molecules"* (main organizxer)
2009: Co-organizer and session chair at *"From Nanoscience to Biotechnology: Sensors and Delivery Systems"* (a one-day mini-conference at Carlsberg Academy with international speakers and 140 participants form Danish academia and industry.)
2007: *"NanoBiomedicine Science Dating"* (a one-day mini-conference at DTU with international speakers and 130 participants form Danish academia and industry.)

Innovation and Business

2020: **Swedish Patent Application** Related to Solar Energy Research.
2020- **co-founder and board member** of NanoScientifica Scandinavia AB. A company focusing on scalable synthesis of shaped nanoparticles for sensing and catalysis applications.
2020- **co-founder and board member** of Solartes AB. A company focusing on bringing the MOST energy storage technology to market.
2020: **Swedish Patent Application** Related to Solar Energy Research.
2019: **European Patent Application** Related to Solar Energy Research.
2018- **Scientific advisor and co-owner** of ConScience AB. The company offers nanofabrication solutions for industry and academia.
2018: **Swedish Patent Application** Related to Solar Energy Research.
2014: **Swedish Patent Application** Related to Solar Energy Research.
2007: **co-founder** of MothMortensen ApS, the first Danish contract research organization (CRO) dedicated to surface chemistry, biocompatibility, and customer tailored nanoparticles, KMP was responsible for customer relations, writing of contracts, customer negotiation, Intellectual Property Rights (IPR), budgets, setting up research projects, defining protocols and assays, and data evaluation.

Selected Industry Collaboration

2019- ExxonMobile (sponsorship on low toxicity solvents)
2019- JohnssonMatthey, two way materials transfer agreement (a world leading catalyst company)
2018: RISE (masters thesis project)
2017: Essity AB (masters thesis project)
2015-16: Insplorion AB (masters thesis project)
2007-8: Chr. Hansen AS, (a world leading food ingredient company)

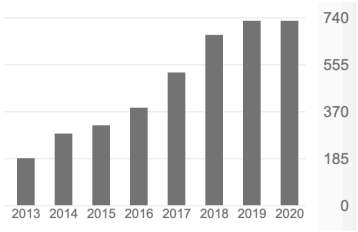
Outreach activities

KMP have during recent years worked actively with outreach to the general public through school visits (both schools coming to Chalmers, and us going to the schools) as well as talks for a broader audience, and KMP are regularly interviewed to Swedish national radio (twice in 2019), and has in 2018 been featured in national TV news and internationally, with many interviews in 2018-20, to major news providers such as CNN, NBC Mach and Bloomberg News/Newsweek (and many many more. Since October 2018, more than 550 news media have written about KMP's research with a combined reach of more than 1000M people as monitored by Chalmers Communication Office. In 2019 KMP have gave a talk at the prestigious BOMA campfire event alongside Salim Ismail (Singularity Univ. founder), Mitch Hunter-Scullion (Asteroid Mining Corp. founder), Lara Stein (founder of TEDx, BOMA) and others in front of 200 innovation leaders in Paris.

Career Breaks

3 children; Isabel (born 2011), Anna (born 2013), Oliver (born 2016)) Danish, residing in Gothenburg, Sweden since 2011, total of 369,5 days of paid parental leave 2011-2019, corresponding to ≈ 22 months full time work.

Publications



Citations/year according to google scholar,

Overview of publication records (Nov, 2020)	
No. of publications:	*129* *full list at www.moth-poulsen.se*
Total no. of citations:	*≈ 4650 Google Scholar*
Hirsch index:	*38, Google Scholar*

KMP has published 129 peer reviewed papers since 2003. of these, 82 were published in last 5 years and 40 were in high impact journals (I.F. > 10). Examples include (impact factor in brackets), 2 papers in Chem Soc. Rev. (40.4), Nat. Nano (33.4), 3 papers in Energ. Env. Sci. (33.3), Nat. Mater. (31), two papers in Adv. Mater. (25.8), Adv. Energ. Mater. (24.9), Adv. Func. Mater. (16.8), Nano Energy (15.5), 3 times in JACS (14.7), 3 times in ACS Nano (13.9), Coord. Chem. Rev. (13.5), Adv. Sci. (12.4), 5 papers in Nano Letters (12.3), 4 papers in Angew. Chem. (12.3), 5 papers in Nat. Commun (11.9), Small (10.9) and 4 times in J. Mater. Chem. A (10.7).

Ten selected publications, (2018 JCR Impact Factors in brackets.)

1) Zhihang Wang, Anna Roffey, Raul Losantos, Anders Lennartson, Martyn Jevric, Anne U. Petersen, Maria Quant, Ambra Dreos, Xin Wen, Diego Sampedro, Karl Börjesson and Kasper Moth-Poulsen. *"Macroscopic Heat Release in a Molecular Solar Thermal Energy Storage System"* Energy and Environmental Science, 12 (1), 187-193, **2019** (cover) (IF: 33.1)
2) Mads Mansø, Anne Ugleholdt Petersen, Zhihang Wang, Paul Erhart, Mogens Brøndsted Nielsen, Kasper Moth-Poulsen *"Molecular Solar Thermal Energy Storage in photoswitch oligomers increases energy densities and storage times"* Nature Communications **2018**, 9:1945. (IF: 11.9)
3) Ambra Dreos, Zhihang Wang, Jonas Udmark, Anna Ström, Paul Erhart, Karl Börjesson, Mogens Brøndsted Nielsen and Kasper Moth-Poulsen **"***Liquid Norbornadiene Photoswitches for Solar Energy Storage"* Advanced Energy Mater. **2018,** *8 (18), 1703401. (cover)* (IF: 24.9)
4) Ambra Dreos, Karl Börjesson, Zhihang Wang, Anna Roffey, Zack Norwood, Duncan Kushnir and Kasper Moth-Poulsen *"Exploring the potential of a hybrid device combining solar water heating and molecular solar thermal energy storage"* Energy and Environmental Science **2017**, 10, 728-734. (cover), (I.F: 33.1)
5) Karl Börjesson, Victor Gray, Per Rudquist and Kasper Moth-Poulsen *"Photon upconversion with directed emission.""* Nature Communications *7:12689,* **2016**. (I.F: 11.9)
6) Svetlana Syrenova, Carl Wadell, Ferry A. A. Nugroho, Tina A. Gschneidtner, Yuri A. Diaz Fernandez, Giammarco Nalin, Dominika Świtlik, Fredrik Westerlund, Tomasz J. Antosiewicz, Vladimir P. Zhdanov, Kasper Moth-Poulsen & Christoph Langhammer *"Hydride formation thermodynamics and hysteresis in individual Pd nanocrystals with different size and shape"* Nature Materials, **2015**, 14, 1236–1244. (I.F: 31).
7) Moth-Poulsen, K., Ćoso, D., Börjesson, K., Vinokurov, N., Meier, S., Majumdar, A., Vollhardt, K.P.C., Segalman, R. A., "*Molecular Solar Thermal (MOST) Energy Storage and Release System*" Energy Environ. Sci. **5**, 8534-8537, **2012. (**I.F: 33.1).
8) Moth-Poulsen, K. and Bjørnholm, T. "Single-molecule electron transfer in solid state three-terminal devices: Status and challenges for molecular electronics with single molecules" Nature Nanotech. 4, 551–556, **2009**. (I.F: 33.4).
9) Anne. U. Petersen, Anna I. Hofmann, Meritxell Fillols, Mads Mansø, Martyn Jevric, Zhihang Wang, Christopher J. Sumby, Christian Müller, Kasper Moth-Poulsen "Solar Energy Storage by Molecular Norbornadiene–Quadricyclane Photoswitches: Polymer Film Devices" *Advanced Science, **2019**, 1900367.* (I.F: 12.4).
10) Johnas Eklöf-Österberg, Tina Gschneidtner, Behabitu Tebikachew, Samuel Lara-Avila, and Kasper Moth-Poulsen. "Parallel fabrication of self-assembled nanogaps for molecular electronic devices." Small 14 (50), 1803471, **2018**. (I.F. 10.9)

Full Publication list:

129. Jürgen Mony, Clàudia Climent, Anne Petersen, Kasper Moth-Poulsen, Johannes Feist, and Karl Börjesson ”Photoisomerization efficiency of a solar thermal fuel in the strong coupling regime” Advanced Functional Materials (Accepted)

128. Anna Pekkari, Xin Wen, Jessica Orrego-Hernández, Robson Rosa da Silva, Shun Kondo, Eva Olsson, Hanna Härelind and Kasper Moth-Poulsen “Synthesis of highly monodisperse Pd nanoparticles using a binary surfactant combination and sodium oleate as reductant” Nanoscale Advances (accepted)

127. Pankaj Bharmoria, Shota Hisamitsu, Yoichi Sasaki, Tejwant Singh Kang , Masa-aki Morikawa, Biplab Joarder, Kasper Moth-Poulsen, Hakan Bildirir, Anders Mårtensson, Nobuhiro Yanai and Nobuo Kimizuka ”Photon upconverting bioplastics with high efficiency and in-air durability” Journal of Materials Chemistry C (accepted)

126. Shima Ghasemi and Kasper Moth-Poulsen ”Single Molecule Electronic Devices with carbon-based Materials: Status and Opportunity” Nanoscale 2021 (accepted)

125. Deise Barbosa de Mattos, Ambra Dreos, Mark Johnstone, August Runemark, Claire Sauvee, Victor Gray, Kasper Moth-Poulsen, Henrik Sundén, and Maria Abrahamsson ”Covalent Incorporation of Diphenylanthracene in Oxotriphenylhexanoate Organogels as a Quasi-solid Photon Upconversion Matrix” *J. Chem. Phys* (accepted)

124. Bhausaheb Dhokale, Arturo Susarrey-Arce, Anna Pekkari, August Runemark, Kasper Moth-Poulsen, Christoph Langhammer, Hanna Härelind, Michael Busch, Matthias Vandichel, Henrik Sundén "Microwave-heated γ-Alumina Applied to the Reduction of Aldehydes to Alcohols" *ChemCatChem* (accepted)

123. Zhiyuan Huang, Zihao Xu, Tingting Huang, Victor Gray, Kasper Moth-Poulsen, Tianquan Lian, Ming Lee Tang ”Evolution from tunneling to hopping mediated triplet energy transfer from quantum dots to molecules" *J. Amer. Chem. Soc.* (accepted)

122. Pankaj Bharmoria, Hakan Bildirir, Kasper Moth-Poulsen "Triplet State Driven NIR to Visible Molecular Photon Upconversion" Chem. Soc. Rev., 2020,49, 6529-6554 (cover)

121. Iwan Darmadi, Alicja Stolaś, Ida Östergren, Barbara Berke, Ferry Anggoro Ardy Nugroho, Matteo Minelli, Sarah Lerch, Irem Tanyeli, Anja Lund, Olof Andersson, Vladimir P. Zhdanov, Marianne Liebi, Kasper Moth-Poulsen, Christian Müller and Christoph Langhammer ”Bulk-Processed Pd Nanocube – Poly(methyl methacrylate) Nanocomposites as Plasmonic Plastics for Hydrogen Sensing” *ACS Applied Nano Materials* (accepted)

120. Qunping Fan, Wenyan Su, Shanshan Chen, Tao Liu, Wenliu Zhuang, Ruijie Ma, Xin Wen, Zhihong Yin, Zhenghui Luo, Xia Guo, Lintao Hou, Kasper Moth-Poulsen, Yu Li, Zhiguo Zhang, Changduk Yang, Donghong Yu, He Yan, Maojie Zhang, and Ergang Wang “A Non-Conjugated Polymer Acceptor for Efficient and Thermally Stable All-Polymer Solar Cells” Angewandte Chemie Int. Ed., 2020 (accepted)

119. Jessica Orrego-Hernández, Ambra Dreos, and Kasper Moth-Poulsen “Engineering of Norbornadiene-Quadricyclane Photoswitches for Molecular Solar Thermal Energy Storage Applications” *Accounts of Chemical Research*, 2020, 53, 8, 1478–1487.

118. Zhao-Yang Zhang, Yixin He, Zhihang Wang, Jiale Xu, Mingchen Xie, Peng Tao, Deyang Ji, Kasper Moth-Poulsen, and Tao L “Photochemical phase transitions enable co-harvesting of photon energy and ambient heat for energetic molecular solar thermal batteries that upgrade thermal energy”. *J. Amer. Chem. Soc.* 2020, 142, 28, 12256–12264.

117. Ugo Jacovella, Eduardo Carrascosa, Jack T. Buntine, Nicolai Ree, Kurt V. Mikkelsen, Martyn Jevric, Kasper Moth-Poulsen, and Evan J. Bieske "Photo- and Collision-Induced Isomerization of a Charge-Tagged Norbornadiene–Quadricyclane System" *Journal of Physical Chemistry Letters*, 2020, 11, 15, 6045–6050.

116. Tina A. Gschneidtner, Sarah Lerch, Erik Olsén, Xin Wen, Amelia C. Y. Liu, Alicja Stolaś, Joanne Etheridge, Eva Olsson, Kasper Moth-Poulsen
”Constructing a Library of Metal and Metal-Oxide Nanoparticle Heterodimers through Colloidal Assembly” *Nanoscale*, 2020, 12, 11297 - 11305.

115. Haipeng B. Li, Behabitu E. Tebikachew, Cedric Wiberg, Kasper Moth-Poulsen, Joshua Hihath "A Memristive Element based on Electrically Controlled Single-Molecule Reaction" *Angewandte Chemie Int. Ed.* 2020, 59(28), 11641-11646 (inside cover).

114. Alicja Stolaś, Iwan Darmadi, Ferry Nugroho, Kasper Moth-Poulsen, Christoph Langhammer "The Impact of Surfactants and Stabilizers on Palladium Nanoparticle-Hydrogen Interaction Kinetics: Implications for Hydrogen Sensors" *ACS Applied Nano Materials*, 2020, 3, 3, 2647–2653.

113. Fabian Waidhas, Martyn Jevric, Michael Bosch, Tian Yang, Evanie Franz, Zhi Liu, Julien Bachmann, Kasper Moth-Poulsen, Olaf Brummel, Joerg Libuda "Electrochemically Controlled Energy Release from a Norbornadiene-Based Solar Thermal Fuel: Increasing the Reversibility to 99.8% using HOPG as the Electrode Material" *J. Materials Chem. A*, 2020,8, 15658-15664.

112. Mads Mansø, Anne Petersen, Kasper Moth-Poulsen and Mogens B. Nielsen, "Establishing linear-free-energy relationships for the quadricyclane-to-norbornadiene reaction" *Organic & Biomolecular Chemistry*, 2020,18, 2113-2119.

111. Johnas Eklöf-Österberg, Joakim Löfgren, Paul Erhart, and Kasper Moth-Poulsen "Understanding Interactions Driving the Template-Directed Self-Assembly of Colloidal Nanoparticles at Surfaces" *J. Phys. Chem. C.* 2020, 124, 8, 4660–4667.

110. Xin Wen, Sarah Lerch, Zhihang Wang, Bassem Aboudiab, Ali Reza Tehrani-Bagha, Eva Olsson, and Kasper Moth-Poulsen "Synthesis of Palladium Nanodendrites Using a Mixture of Cationic and Anionic Surfactants" *Langmuir*, 2020, 36, 7, 1745–1753.

109. Mads Mansø, Lorette Fernandez, Zhihang Wang, Kasper Moth-Poulsen, Mogens Brøndsted Nielsen "Donor-Acceptor Substituted Benzo-, Naphtho- and Phenanthro-fused Norbornadienes" Molecules, 2020, 25(2), 322.

108. Manon Bertram, Fabian Waidhas, Martyn Jevric, Lukas Fromm, Christian Schuschke, Maximilian Kastenmeier, Andreas Görling, Kasper Moth-Poulsen, Olaf Brummel, Jörg Libuda "Norbornadiene Photoswitches Anchored to Well-Defined Oxide Surfaces: From Ultrahigh Vacuum into the Liquid and the Electrochemical Environment" *J. Chemical Physics*, 2020, 152, 044708.

2019

107. Juan Forero-Saboya, Elham Hosseini-Bab-Anari, Muhammad E. Abdelhamid, Kasper Moth-Poulsen, and Patrik Johansson" Water-in-Bisalt Electrolyte with Record Salt Concentration and Widened Electrochemical Stability Window" *J. Phys. Chem. Lett.* 2019, 10, 4942-4946.

106. Anna Pekkari, Zafer Say, Arturo Susarrey-Arce, Christoph Langhammer, Hanna Härelind, Victor Sebastian, and Kasper Moth-Poulsen "Continuous microfluidic synthesis of Pd nanocubes and PdPt core-shell nanoparticles and their catalysis of NO_2 reduction" *ACS Applied Materials & Interface, 2019, 11, 39, 36196-36204.*

105. Anne Kunz, Andreas H Heindl, Ambra Dreos, Zhihang Wang, Kasper Moth-Poulsen, Jonathan Becker, Hermann Andreas Wegner "Intermolecular London Dispersion Interactions of Azobenzene Switches for Tuning Molecular Solar Thermal Energy Storage Systems" *ChemPlusChem*, 2019, 84, 1145-1148.

104. Elham Hosseini-Bab-Anari, Adriana M. Navarro-Suárez, Kasper Moth-Poulsen and Patrik Johansson "Ionic liquid based battery electrolytes by lithium and sodium pseudo-delocalized pyridinium anion salts" *PCCP*, 2019, 21, 18393-18399.

103. Mads Mansø, Martin Drøhse Kilde, Nicolai Ree, Anne Ugleholdt Petersen, Kasper Moth-Poulsen, Kurt V. Mikkelsen and Mogens Brøndsted Nielsen "Norbornadiene-Dihydroazulene Conjugates" *Organic & Biomolecular Chemistry*, 2019,17, 7735-7746.

102. Fabian Waidhas, Martyn Jevric, Lukas Fromm, Manon Bertram, Andreas Görling, Kasper Moth-Poulsen, Olaf Brummel, and Jörg Libuda "Electrochemically Controlled Energy Storage in a Norbornadiene Based Solar Fuel with 99% Reversibility" *Nano Energy,* 63 (2019), 103872.

101. Zhihang Wang, Raul Losantos, Diego Sampedro, Masa-aki Morikawa, Karl Börjesson, Nobuo Kimizuka and Kasper Moth-Poulsen "Demonstration of an Azobenzene Derivative based Solar Thermal Energy Storage System" *J. Materials Chem. A.* 2019,7, 15042-15047.

100. Christian Schuschke, Chantal Hohner, Martyn Jevric, Anne Ugleholdt Petersen, Zhihang Wang, Matthias Schwarz, Miroslav

Kettner, Fabian Waidhas, Lukas Fromm, Christopher Sumby, Andreas Görling, Olaf Brummel, Kasper Moth-Poulsen & Joerg Libuda. “Solar energy storage at an atomically defined organic-oxide hybrid interface” *Nature Communications,* 10, 2384 (2019)

99. Anne. U. Petersen, Anna I. Hofmann, Meritxell Fillols, Mads Mansø, Martyn Jevric, Zhihang Wang, Christopher J. Sumby, Christian Müller, Kasper Moth-Poulsen “Solar Energy Storage by Molecular Norbornadiene–Quadricyclane Photoswitches: Polymer Film Devices” *Advanced Science, 2019, 1900367.*

98. Maria Quant, Alice Hamrin, Anders Lennartson, Paul Erhart, Kasper Moth-Poulsen “Solvent effects on the absorption profile, kinetic stability, and photoisomerization process of the norbornadiene – quadricyclanes system” *J. Phys. Chem C, 2019, 123, (12) 7081-7087.*

97. Martyn Jevric, Zhihang Wang, Anne U. Petersen, Mads Mansø, Christopher J. Sumby, Mogens Brøndsted Nielsen, and Kasper Moth-Poulsen “Tuning Molecular Solar Thermal properties by modification of a promising norbornadiene photoswitch” *Eur. J. Org. Chem*. 2019 (13), 2354-2361

96. Christian Müller, Liangqi Ouyang, Anja Lund, Kasper Moth-Poulsen, and Mahiar M. Hamedi ”From Single Molecules to Thin Film Electronics, Nanofibers, e-Textiles and Power Cables: Bridging Length Scales with Organic Semiconductors” *Advanced Materials*, 2019, 1807286.

95. Mads Mansø, Martin Drøhse Kilde, Sandeep Kumar Singh, Paul Erhart, Kasper Moth-Poulsen and Mogens Brøndsted Nielsen ”Dithiafulvene derivatized donor-acceptor norbornadienes with redshifted absorption” *Phys. Chem. Chem. Phys*., 2019,21, 3092-3097.

94. Juan Forero-Saboya, Elham Hosseini-Bab-Anari, Muhammad E. Abdelhamid, Kasper Moth-Poulsen, and Patrik Johansson "Solvent-Free Lithium and Sodium Containing Electrolytes Based on Pseudo-Delocalized Anions" *Chemical Communications* 2019, 55, 632 – 635.

93. Zhihang Wang, Anna Roffey, Raul Losantos, Anders Lennartson, Martyn Jevric, Anne U. Petersen, Maria Quant, Ambra Dreos, Xin Wen, Diego Sampedro, Karl Börjesson and Kasper Moth-Poulsen. "Macroscopic Heat Release in a Molecular Solar Thermal Energy Storage System" *Energy and Environmental Science*, 12 (1), 187-193, **2019** (cover)

2018

92. Ambra Dreos, Zhihang Wang, Behabitu Ergette Tebikachew, Kasper Moth-Poulsen, and Joakim Andréasson. "A Three-Input Molecular Keypad Lock Based on a Norbornadiene-Quadricyclane Photoswitch" *J. Physical Chemistry Letters* 2018 9, 6174–6178.

91. Johnas Eklöf-Österberg, Tina Gschneidtner, Behabitu Tebikachew, Samuel Lara-Avila, and Kasper Moth-Poulsen. "Parallel fabrication of self-assembled nanogaps for molecular electronic devices." *Small* 14 (50), 1803471, 2018.

90. Behabitu Ergette Tebikachew, Fredrik Edhborg, Nina Kann, Bo Albinsson and Kasper Moth-Poulsen "Turn-off mode fluorescent norbornadiene-based photoswitches" *PCCP*, 2018, 20, 23195 - 23201. (cover)

89. Hans He, Kyung Ho Kim, Andrey Danilov, Domenico Montemurro, Liyang Yu, Yung Woo Park, Floriana Lombardi, Thilo Bauch, Kasper Moth-Poulsen, Tihomir Iakimov, Rositsa Yakimova, Per Malmberg, Christian Müller, Sergey Kubatkin, Samuel Lara-Avila "Uniform doping of graphene close to the charge neutrality point by polymer-assisted spontaneous assembly of molecular dopants" *Nature Communications*, 2018

88. Mads Mansø, Behabitu Ergette Tebikachew, Kasper Moth-Poulsen and Mogens Brøndsted Nielsen "*Heteroaryl-linked norbornadiene dimers with redshifted absorptions*" *Organic & Biomolecular Chemistry* 2018, 16, 5585-5590.

87. Martyn Jevric, Anne U. Petersen, Mads Mansø, Sandeep Kumar Singh, Zhihang Wang, Ambra Dreos, Christopher Sumby, Mogens Brøndsted Nielsen, Karl Börjesson, Paul Erhart, and Kasper Moth-Poulsen "Norbornadiene-based photoswitches with exceptional combination of solar spectrum match and long term energy storage" *Chemistry a European Journal* 2018, 24 (49), 12767-12772. (inside cover)

86. Xinzhao Xu, Pierrick Clement, Johnas Eklöf-Österberg, Nancy Kelley-Loughnane, Kasper Moth-Poulsen, Jorge Chávez, Matteo Palma. "Reconfigurable Carbon Nanotube Multiplexed Sensing Devices" *Nano Letters* 2018, 18 (7), 4130–4135.

85. Anne Ugleholdt Petersen, Martyn Jevric, Kasper Moth-Poulsen "Triazole functionalized Norbornadiene-Quadricyclane

Photoswitches for Solar Energy Storage" *European Journal of Organic Chemistry* 2018, 32, 4465-4474.

84. Mads Mansø, Anne Ugleholdt Petersen, Zhihang Wang, Paul Erhart, Mogens Brøndsted Nielsen, Kasper Moth-Poulsen "Molecular Solar Thermal Energy Storage in photoswitch oligomers increases energy densities and storage times" *Nature Communications* 2018, 9:1945.

83. Anne Ulfkjær, Frederik W. Nielsen, Hana Al-Kerdi, Tamara Ruß, Zaki K. Nielsen, Jens Ulstrup, Lanlan Sun, Kasper Moth-Poulsen, Jingdong Zhang, and Michael Pittelkow "A gold-nanoparticle stoppered [2]rotaxane" *Nanoscale* 2018, 10, 9133 - 9140.

82. Kyung Ho Kim, Samuel Lara-Avila, Hans He, Hojin Kang, Sung Ju Hong, Min Park, Johnas Eklöf, Kasper Moth-Poulsen, Satoshi Matsushita, Kazuo Akagi, Sergey Kubatkin, and Yung Woo Park "Probing variable range hopping lengths by magneto conductance in carbonized polymer nanofibers" *Scientific Reports* 2018, 8: 4948.

81. Behabitu Ergette Tebikachew, Karl Börjesson, Nina Kann, and Kasper Moth-Poulsen "Release of Terminal Alkynes via Tandem Photodeprotection-Decarboxylation of o-Nitrobenzyl Arylpropiolates in a Flow Microchannel Reactor" *Bioconjugate Chemistry,* 2018, 29 (4), 1178–1185.

80. Victor Gray, Kasper Moth-Poulsen, Bo Albinsson, Maria Abrahamsson "Towards Efficient Solid-State Triplet-Triplet Annihilation Based Photon Upconversion: Supramolecular, Macromolecular and Self-Assembled Systems" *Coordination Chem. Rev*. 2018, (362), 54–71.

79. Victor Gray, Betül Küçüköz, Fredrik Edhborg, Maria Abrahamsson, Kasper Moth-Poulsen and Bo Albinsson "Singlet and Triplet Energy Transfer Dynamics in Self-Assembled Axial Porphyrin-Anthracene Complexes: Towards Supra-molecular Structures for Photon Upconversion" *PCCP* 2018, 20, 7549 - 7558.

78. Ambra Dreos, Zhihang Wang, Jonas Udmark, Anna Ström, Paul Erhart, Karl Börjesson, Mogens Brøndsted Nielsen and Kasper Moth-Poulsen "Liquid Norbornadiene Photoswitches for Solar Energy Storage" *Advanced Energy Materials* 2018, 8 (18), 1703401. (cover)

2017

77. Christian Rohner, Anna Pekkari, Hanna Härelind, and Kasper Moth-Poulsen "Synthesis of Cu nanoparticles: Stability and conversion into Cu_2S nanoparticles by decomposition of alkanethiolate" *Langmuir* 2017, 33(46), 13272–13276.

76. Johnas Eklöf, Alicja Stolas, M. Herzberg, Anna Pekkari, Behabitu E. Tebikachew, Tina Gschneidtner, Samuel Lara-Avila, Tue Hassenkam and Kasper Moth-Poulsen "Guided selective deposition of nanoparticles by tuning of the surface potential." *Europhysics Letters* 2017, 119, 18004.

75. Zhihang Wang, Jonas Udmark, Karl Börjesson, Rita Rodrigues, Anna Roffey, Maria Abrahamsson, Mogens Brøndsted Nielsen, and Kasper Moth-Poulsen "Evaluating Dihydroazulene-Vinylheptafulvene Photoswitches for Solar Energy Storage Applications" *ChemSusChem* 2017, 10, 3049–3055. (Cover Profile)

74. Damir Dzebo, Kasper Moth-Poulsen and Bo Albinsson "Robust Triplet-Triplet Annihilation Photon Upconversion by Efficient Oxygen Scavenging" *Photochemical & Photobiological Sciences* 2017, 16, 1327-1334**.**

73. Victor Gray, Pan Xia, Zhiyuan Huang, Emily Moses, Alexander Fast, Dmitry Fishman, Valentine Ivanov Vullev, Maria Abrahamsson, Kasper Moth-Poulsen and Ming Lee Tang "CdS/ZnS core-shell nanocrystal photosensitizers for visible to UV upconversion" *Chemical Science* 2017, 8, 5488 - 5496.

72. Kjell Jorner, Ambra Dreos, Rikard Emanuelsson, Ouissam El Bakouri, Ignacio Fdez. Galván, Anna Roffey, Karl Börjesson, Ferran Feixas, Roland Lindh, Burkhard Zietz, Kasper Moth-Poulsen and Henrik Ottosson "Unraveling Factors Leading to Efficient Norbornadiene-Quadricyclane Molecular Solar-Thermal Energy Storage Systems" *Journal of Materials Chemistry A* 2017, 5, 12369-12378.

71. Victor Gray, Ambra Dreos, Paul Erhart, Bo Albinsson, Kasper Moth-Poulsen, and Maria Abrahamsson "Loss channels in Triplet-Triplet Annihilation Photon Upconversion: Importance of Annihilator Singlet and Triplet Surface Shapes" *PCCP* 2017, 19, 10931-10939.

70. Ambra Dreos, Karl Börjesson, Zhihang Wang, Anna Roffey, Zack Norwood, Duncan Kushnir and Kasper Moth-Poulsen "Exploring the potential of a hybrid device combining solar water heating and molecular solar thermal energy storage" *Energy*

and Environmental Science 2017, 10, 728-734.

69. Behabitu E. Tebikachew, Haipeng B. Li, Alessandro Pirrotta, Karl Börjesson, Gemma C. Solomon, Joshua Hihath, Kasper Moth-Poulsen "Effect of Ring Strain in the Charge Transport of Robust Norbornadiene-Quadricyclane-Based Molecular Photoswitch" *J. Phys. Chem. C* 2017, 121, 7094−7100.

68. Siobhan J. Bradley, Renee Kroon, Geoffry Laufersky, Magnus Röding, Renee V. Goreham, Tina Gschneidtner, Kathryn Schroeder, Kasper Moth-Poulsen, Mats Andersson and Thomas Nann, "Heterogeneity in the fluorescence of graphene and graphene oxide quantum dots" *Microchimica Acta*, 2017, 1, 1-8.

67. Nesrine Aissaoui, Kasper Moth-Poulsen, Mikael Käll, Peter Johansson, L. Marcus Wilhelmsson and Bo Albinsson "FRET Enhancement Close to Gold Nanoparticles Positioned in DNA Origami Constructs" *Nanoscale*, 2017,9, 673-683.

2016

66. Kyung Ho Kim, Samuel Lara-Avila, Hojin Kang, Hans He, Johnas Eklöf, Sung Ju Hong, Min Park, Kasper Moth-Poulsen, Satoshi Matsushita, Kazuo Akagi, Sergey Kubatkin, and Yung Woo Park "Apparent Power Law Scaling of Variable Range Hopping Conduction in Carbonized Polymer Nanofibers" *Scientific Reports* 2016, 6, 37783.

65. Johnas Eklöf, Samuel Lara-Avila, Tina Gschneidtner, Kim Nygaard, Kasper Moth-Poulsen "Controlling deposition of nanoparticles by tuning surface charge of SiO2 by surface modifications." *RSC Advances* 2016, 6, 104246-104253.

64. Damir Dzebo, Karl Börjesson, Victor Gray, Kasper Moth-Poulsen, Bo Albinsson. "Intramolecular Triplet-Triplet Annihilation Upconversion in 9,10-Diphenylanthracene Oligomers and Dendrimers" *J. Phys. Chem. C.* 2016, 120 (41), 23397–23406.

63. Elham Hossei
ni-Bab-Anari, Andrea Boschin, Toshihiko Mandai, Hyuma Masu, Kasper Moth-Poulsen, and Patrik Johansson"Fluorine-Free Salts for Aqueous Lithium-ion and Sodium-ion Battery Electrolytes" *RSC Advances* 2016, 6, 85194-85201.

62. Victor Gray, Karl Börjesson, Damir Dzebo, Maria Abrahamsson, Bo Albinsson, and Kasper Moth-Poulsen. "Porphyrin-Anthracene Complexes: Potential in Triplet-Triplet Annihilation Upconversion" *J. Phys. Chem. C.* 2016, 120 (34), 19018–19026.

61. Karl Börjesson, Victor Gray, Per Rudquist and Kasper Moth-Poulsen "Photon upconversion with directed emission." *Nature Communications* 7:12689, 2016.

60. Maria Quant, Anders Lennartson, Ambra Dreos, Mikael Kuisma, Paul Erhart, Karl Börjesson and Kasper Moth-Poulsen "Low molecular weight norbornadiene derivatives for molecular solar-thermal energy storage" *Chemistry - a European Journal* 2016, 22, 13265 –13274.

59. Mikael Kuisma, Angelica Lundin, Kasper Moth-Poulsen, Per Hyldgård and Paul Erhart "Optimization of Norbornadiene Compounds for Solar Thermal Storage by First-principles Calculations" *ChemSusChem* 2016, 14, 1786-1794. (cover, VIP paper)

58. Joakim Alexander Löfgren, Henrik Grönbeck, Kasper Moth-Poulsen, and Paul Erhart "Understanding the Phase Diagram of Self-Assembled Monolayers of Alkanethiolates on Gold" *J. Phys. Chem. C.* 2016, 120 (22), 12059–12067.

57. Alireza Movahedi, Jingdong Zhang, Nina Kann, Kasper Moth-Poulsen, Magnus Nydén "Copper-coordinating polymers for marine anti-fouling coatings: a physicochemical and electrochemical study of ternary system of copper, PMMA and poly(TBTA)" *Progress in Organic Coatings* 2016, 97, 216–221.

56. Anders Lennartson, Angelica Lundin, Karl Börjesson, Victor Gray and Kasper Moth-Poulsen "Tuning the Photochemical Properties of the Fulvalene-Tetracarbonyl-Diruthenium System" *Dalton Transactions*, 2016, 45, 8740.

55. Gulis Zengin, Tina A. Gschneidtner, Ruggero Verre, Lei Shao, Tomasz J. Antosiewicz, Kasper Moth-Poulsen, Mikael Käll, Timur Shegai "Evaluating Conditions for Strong Coupling Between Nanoparticle Plasmons and Organic Dyes Using Scattering and Absorption Spectroscopy" *J. Phys. Chem. C*, 2016, 120 (37), 20588–20596.

54. Mikael Kuisma, Angelica Lundin, Kasper Moth-Poulsen, Per Hyldgaard, Paul Erhart, "A Comparative Ab-Initio Study of Substituted Norbornadiene-Quadricyclane Compounds for Solar Thermal Storage" *J. Phys. Chem. C,* 2016, 120 (7), 3635–3645.

2015

53. Victor Gray, Damir Dzebo, Angelica Lundin, Jonathan Alborzpour, Maria Abrahamsson, Bo Albinsson, and Kasper Moth-Poulsen "Photophysical characterization of the 9,10-disubstituted anthracene chromophore and applications in triplet-triplet annihilation photon upconversion" *J. Mater. Chem. C.* 2015, 3, 11111 - 11121.

52. Svetlana Syrenova, Carl Wadell, Ferry A. A. Nugroho, Tina A. Gschneidtner, Yuri A. Diaz Fernandez, Giammarco Nalin, Dominika Świtlik, Fredrik Westerlund, Tomasz J. Antosiewicz, Vladimir P. Zhdanov, Kasper Moth-Poulsen & Christoph Langhammer "Hydride formation thermodynamics and hysteresis in individual Pd nanocrystals with different size and shape" *Nature Materials*, 2015, 14, 1236–1244.

51. Alireza Movahedi, Angelica Lundin, Nina Kann, Magnus Nydén and Kasper Moth-Poulsen "Cu(I) stabilizing crosslinked polyethyleneimine" *PCCP*, 2015, 17, 18327 - 18336.

50. Mario Ficker, Johannes Fabritius Petersen, Tina Gschneidtner, Ann-Louise Rasmussen, Trevor N Purdy, Jon Stefan Hansen, Thomas Hesselhøj Hansen, Søren Husted, Kasper Moth-Poulsen, Eva Olsson and Jørn B. Christensen "Being Two are Better than One — Catalytic Reductions with Dendrimer Encapsulated Copper- and Copper-Cobalt - Subnanoparticles" *Chem. Commun*. 2015, 51, 9957-9960.

49. Anders Lennartson, Maria Quant and Kasper Moth-Poulsen "A convenient route to 2-bromo-3-chloronorbornadiene and 2,3-dibromonorbornadiene." *Synlett*, 2015, 26(11), 1501-1504.

48. Anders Lennartson, Anna Roffey and Kasper Moth-Poulsen "Designing photoswitches for molecular solar thermal energy storage" *Tetrahedron Letters* 56 (12) 1457-1465, 2015.

47. Melissa R. Dewi, Tina A. Gschneidtner, Sait Elmas, Michael Ranford, Kasper Moth-Poulsen, and Thomas Nann."Mono-Functionalization and Dimerization of Nanoparticles Using Coordination Chemistry" *ACS Nano* 9 (2), 1434–1439, 2015.

2014

46. Yuri A. Diaz Fernandez, Tina A. Gschneidtner, Carl Wadell, Louise H. Fornander, Samuel Lara Avila, Christoph Langhammer, Fredrik Westerlund, and Kasper Moth-Poulsen "The Conquest of Middle-Earth: combining top-down and bottom-up nanofabrication for constructing nanoparticle based devices" *Nanoscale* 6 (24), 14605 - 14616, 2014. (cover)

45. Karl Börjesson, Dušan Ćoso, Victor Gray, Jeffrey C. Grossman, Jingqi Guan, Charles B. Harris, Norbert Hertkorn, Zongrui Hou, Yosuke Kanai, Donghwa Lee, Justin P. Lomont, Arun Majumdar, Steven K. Meier, Kasper Moth-Poulsen, Randy L. Myrabo, Son C. Nguyen, Rachel A. Segalman, Varadharajan Srinivasan, Willam B. Tolman, Nikolai Vinokurov, K. Peter C. Vollhardt, and Timothy W. Weidman “Exploring the Potential of Fulvalene Dimetals as Platforms for Molecular Solar Thermal Energy Storage: Computations, Syntheses, Structures, Kinetics, and Catalysis” *Chemistry a European Journal* 20 (47), 15587–15604, 2014.

44. Lanlan Sun, Yuri A. Diaz-Fernandez, Tina A. Gschneidtner, Fredrik Westerlund, Samuel Lara-Avila and Kasper Moth-Poulsen "Single-molecule electronics: from chemical design to functional devices" *Chemical Society Reviews* 43 (21), 7378 - 7411, 2014.

[among 25 most downloaded CSR papers in 4th quarter of 2014]

43. Alireza Movahedi, Kasper Moth-Poulsen, Johnas Eklöf, Magnus Nydén, Nina Kann "One-pot synthesis of TBTA-functionalized coordinating polymers" *React. Funct. Polym*. 82, 1-8, 2014.

42. Victor Gray, Damir Dzebo, Maria Abrahamsson, Bo Albinsson and Kasper Moth-Poulsen "Triplet-Triplet Annihilation Photon-Upconversion: Towards Solar Energy Applications" *Phys. Chem. Chem. Phys.*, 16 (22), 10345 - 10352, 2014.

41. Karl Börjesson, Mélina Gilbert, Damir Dzebo, Bo Albinsson and Kasper Moth-Poulsen "Conjugated Anthracene Dendrimers with Monomer-Like Fluorescence" *RSC Advances* 4 (38), 19846 - 19850, 2014.

40. Tina A. Gschneidtner, Yuri Diaz-Fernandez, Svetlana Syrenova, Fredrik Westerlund, Christoph Langhammer, Kasper Moth-Poulsen "A Versatile Self-Assembly Strategy for the Synthesis of Shape-Selected Colloidal Noble Metal Nanoparticle Heterodimers" *Langmuir* 30 (11), 3041-3050, 2014.

39. Karl Börjesson, Anders Lennartson, Kasper Moth-Poulsen "Fluorinated Fulvalene Ruthenium Compound for Molecular Solar Thermal Applications" *J. Fluorine Chem.* 161, 24-28, 2014.

38. Yuri Diaz Fernandez, Lanlan Sun, Tina A. Gschneidtner, Kasper Moth-Poulsen "Progress in synthesis of nanoparticle dimers by self-assembly" *APL Materials* 2, 010702, 2014.

37. Titoo Jain, Ali R. Tehrani-Bagha, Himanshu Shekhar, Ross Crawford, Erik Johnson, Kasper Nørgaard, Krister Holmberg, Paul Erhart, Kasper Moth-Poulsen "Anisotropic Growth of Gold Nanoparticles using Cationic Gemini Surfactants: Effects of Structure Variations in Head and Tail Groups" *J. Mater. Chem C.* 2014, 2, 994-1003 (emerging investigator issue)

36. Victor Gray, Anders Lennartson, Phasin Ratanalert, Karl Börjesson; Kasper Moth-Poulsen "Diaryl-Substituted Norbornadienes with Red-Shifted Absorption for Molecular Solar Thermal Energy Storage" *Chem. Commun.* 2014, 50 (40), 5330 - 5332. (emerging investigator issue)

2013

35. Tina Gschneidtner, Yuri A. Diaz Fernandez and Kasper Moth-Poulsen "Progress in Self-Assembled Single-Molecule Electronic Devices" *J. Mater. Chem. C*, 2013,1, 7127-7133. (cover)

34. Tina Gschneidtner and Kasper Moth-Poulsen "A Photo Labile Protection Group Strategy for Terminal Alkynes" *Tetrahedron Letters* 54(40), 5426-5429, 2013.

33. Antje Rey, Guillaume Billardon, Emanuel Lörtscher, Kasper Moth-Poulsen, Nicolai Stuhr-Hansen, Heiko Wolf, Thomas Bjørnholm, Andreas Stemmer and Heike Riel "Deterministic Assembly of Linear Gold Nanorod Chains as a Platform for Nanoscale Applications" *Nanoscale*, 5, 8680-8688, 2013.

32. Tina Gschneidtner, Si Chen, Jørn B. Christensen, Mikael Käll and Kasper Moth-Poulsen."Towards Plasmonic Biosensors functionalized by a photo-induced surface reaction" *J. Phys. Chem. C*, 117 (28), 14751–14758, 2013.

31. Karl Börjesson, Damir Dzebo, Bo Albinsson and Kasper Moth-Poulsen."Photon Upconversion Facilitated Molecular Solar Energy Storage" *J. Mater. Chem. A* 1, 8521-8524, 2013. (cover)

30. Xian Hao, Nan Zhu, Tina Gschneidtner, Elvar Ö. Jonsson, Jingdong Zhang, Kasper Moth-Poulsen, Hongda Wang, Kristian S. Thygesen, Karsten W. Jacobsen, Jens Ulstrup & Qijin Chi "Direct measurement and modulation of single molecule coordinative bonding forces in a transition metal complex" *Nature Communications* 2013.

29. Carlos R. Arroyo, Riccardo Frisenda, Kasper Moth-Poulsen, Johannes S. Seldenthuis, Thomas Bjørnholm, Herre S. J. van der Zant. "Quantum interference effects at room temperature in OPV based single-molecule junctions" *Nanoscale Res. Lett.* 8: 234, 2013.

28. Karl Börjesson, Anders Lennartson and Kasper Moth-Poulsen. "Efficiency Limit of Molecular Solar Thermal Energy Storage Devices" *ACS Sustainable Chem. Eng.* 1, 585-590, 2013.

2012

27. Kasper Moth-Poulsen, Dušan Ćoso, Karl Börjesson, Nikolai Vinokurov, Steve Meier, Arun Majumdar, K. Peter C. Vollhardt, Rachel A. Segalman. "Molecular Solar Thermal (MOST) Energy Storage and Release System" *Energy Env. Sci.* 5, 8534-8537, 2012.

26. Harpham, M. R., Nguyen, S. C., Hou, Z., Grossman, J. C., Harris, C. B., Mara, M. W., Stickrath, A. B., Kanai, Y., Kolpak, A., Lee, D., Liu,D-J., Lomont, J.P., Moth-Poulsen, K., Vinokurov, N., Chen, L. X., Vollhardt, K.P.C., "X-ray Transient Absorption and Picosecond IR Spectroscopy of Fulvalene(tetracarbonyl)diruthenium on Photoexcitation ", *Angew. Chem. Int. Ed.* 51, 7692 – 7696, 2012 .

25. Jain, T., Lara-Avila, S., Kervennic, Y.-V., Moth-Poulsen, K., Nørgaard, K., Kubatkin, S., Bjørnholm, T. ”Aligned Growth of Gold Nanorods in PMMA Channels: Parallel Preparation of Nanogap Junctions” *ACS Nano*, 6 (5), 3861–3867, 2012.

2011

24. Salvatore, P., Hansen, A.G., Karlsen, K.K., Moth-Poulsen, K., Bjørnholm, T., Nichols, R.J., Ulstrup, J. “Voltammetry and in situ Scanning Tunnelling Spectroscopy of Osmium, Iron and Ruthenium Complexes of 2,2’:6’,2’’-terpyridine Covalently linked to Au(111)-electrodes." *PCCP*, 13, 14394-14403, 2011.

23. Tzalenchuk, A., Lara-Avila, S., Cedergren, K., Syväjärvi, M., Yakimova, R., Kazakova, O., Janssen, T.J.B.M. Moth-Poulsen, K., Bjørnholm, T., Kopylov, S., Fal'ko, V., Kubatkin, S. "Engineering and metrology of epitaxial graphene." *Solid State Commun*. 151, 1094-1099, 2011.

22. Bomholt, J., Moth-Poulsen, K., Harboe, M., Karlsson A. O., Bruun Qvist, K., Bjørnholm, T., Stamou, D., "Monitoring Aggregation of Single Casein Micelles using Fluorescence Microscopy" *Langmuir*, 27, 866-869, 2011.

21. Lara-Avila, S., Moth-Poulsen, K., Yakimova, R., Bjørnholm, T., Fal'ko, V., Tzalenchuk, A., Kubatkin, S., "Non-volatile Photo-Chemical Gating of an Epitaxial Graphene - Polymer Heterostructure" *Advanced Materials*, 23, 878-882, 2011.

2010

20. Petersen, A., Thyrhaug, E., Jain, T., Kilså, K., Bols, M., Moth-Poulsen, K., Harrit, N., and Bjørnholm, T. "The First Step in Chemical Preparation of Nanogaps Bridged by Thiol End-Capped Molecular Wires" *J. Phys. Chem. B*, 114, 11771–11777, 2010.

19. Moth-Poulsen, K and Bjørnholm, T. "From fabrication to self-fabrication – Tailored chemistry to control single molecule devices" *Chimia* 64, 404-408, 2010.

18. Moth-Poulsen, K., Kofod-Hansen, V. Kamounah, F. S., Hatzakis, N, Stamou, N., Schaumburg, K., and Christensen, J. B. "Optically Induced Linking of Protein and Nanoparticles to Gold Surfaces" *Bioconjugate Chem*., 21, 1056-1061, 2010.

17. Osorio, E. A., Moth-Poulsen, K., van der Zant, H.S.J., Paaske, J., Hedegård, P., Bendix, J., and Bjørnholm, T. "Electric-field manipulation of spin states in a single-metal atom molecular complex" *Nano Letters* 10, 105-110, 2010.

16. Tong, Y, Tang, Q., Lemke, H., T., Moth-Poulsen, K., Westerlund, F., Hammershøj, P., Bechgaard, K., Hu, W., and Bjørnholm, T., "Solution Based Fabrication of Large-Scale Highly-Oriented Single-Crystalline Arrays of Organic Micro/Nanowires" *Langmuir* 26, 1030-1036, 2010.

2009

15. Moth-Poulsen, K. and Bjørnholm, T. "Single-molecule electron transfer in solid state three-terminal devices: Status and challenges for molecular electronics with single molecules" *Nature Nanotech.* 4, 551–556, 2009.

14. Tang, Q., Tong, Y., Jain, T., Hassenkam,T., Wan, Q., Moth-Poulsen, K. and Bjørnholm, T. "Self-assembled Nanogaps for Single-Molecule Electronics" *Nanotechnology* 20, 245205, 2009.

13. Jain, T., Westerlund, F., Johnson, E., Moth-Poulsen, K. and Bjørnholm, T. "Self-Assembled Nanogaps via Seed-Mediated Growth of End-to-End Linked Gold Nanorods " *ACS Nano*, 3, 828–834, 2009.

12. Moth-Poulsen, K., Bendix, J., Hammershøj, P., and Bjørnholm, T. "Bis(4'-(6-Acetylthiohexyloxy)-2,2:6',2"-terpyridine) manganese(II)hexafluorophosphate" *Acta Cryst*. C65, 14–16, 2009.

2008

11. Pittelkow, M, Nannestad, T.B., Moth-Poulsen, K., Christensen, J.B. "Chiral Dendrimer Encapsulated Pd and Rh Nanoparticles" *Chem. Commun*. 2358–2360, 2008.

10. Hansen, C., Westerlund, F., Moth-Poulsen, K., Ravindranath, R., Valiyaveettil, S., Bjørnholm, T. "Polymer Templated Self-Assembly of a 2-Dimensional Gold-Nanoparticle Network" *Langmuir* 24, 3905–3910, 2008.

9. Danilov, A., Kubatkin, S., Kafanov, S., Hedegård, P., Stuhr-Hansen, N., Moth-Poulsen, K., Bjørnholm, T. "Electronic Transport in Single Molecule Junctions: Control of the Molecule-Electrode Coupling Through Intramolecular Tunneling Barriers" *Nano Letters* 8, 1–5, 2008.

2007

8. Welinder, A.C., Zhang, J., Hansen A.G., Moth-Poulsen, K., Christensen, H.E.M., Kuznetsov, A.M., Bjørnholm, T., Ulstrup, J. "Voltammetry and electrocatalysis of achrornobacter xylosoxidans copper nitrite reductase on functionalized Au(111)-electrode surfaces" *Z. Phys. Chem.* 221, 1343–1378, 2007.

2006

7. Albrecht, T. Moth-Poulsen, K., Christensen, J.B., Hjelm, J. Bjørnholm, T. Ulstrup, J. "Scanning Tunneling Spectroscopy in an Ionic Liquid" *J. Am. Chem. Soc.* 128, 6574–6575, 2006.

6. Albrecht, T., Moth-Poulsen, K., Guckian, A., Bjørnholm, T., Vos, J. G., Ulstrup, J., "In situ Scanning Tunnelling Spectroscopy of Inorganic Transition Metal Complexes" *Faraday Discussions* 131, 265–279, 2006.

2005

5. Stuhr-Hansen N., Sørensen, J.K., Moth-Poulsen, K., Christensen, J.B., Bjørnholm, T., Nielsen, M.B. "Synthetic Protocols and Building Blocks for Molecular Electronics" *Tetrahedron* 61, 12288–12295, 2005.

4. Moth-Poulsen, K. Patrone, L., Stuhr-Hansen, N., Christensen, J.B., Bourgoin J.-P., Bjørnholm, T. "Probing the Effects of Conjugation Path on the Electronic Transmission Through Single Molecules Using Scanning Tunnelling Microscopy." *Nano Letters* 5, 783–785, 2005.

2004

3. Moth-Poulsen, K., Reenberg, T., Bjørnholm, T., Christensen, J. B. "Facile Synthesis of Dinitrosubstituted Oligo Phenylenevinylenes under Microwave Conditions" *Synth. Commun.* 2215–2221, 2004.

2. Hassenkam, T., Moth-Poulsen, K., Stuhr-Hansen, N., Nørgaard, K., Kabir, M.S., Bjørnholm, T. "Self-assembly and Conductive Properties of Molecularly Linked Gold Nanowires" *Nano Letters* 4, 19–22, 2004.

2003

1. Pittelkow, M, Moth-Poulsen, K. Boas, U. and Christensen, J. B. "Poly(amidoamine)-Dendrimer-Stabilized Pd(0) Nanoparticles as a Catalyst for the Suzuki Reaction" *Langmuir* 18, 7682–7684, 2003.

Proceedings:

2. Karl Borjesson, Anders Lennartsson, Victor Gray, Damir Dzebo, Maria Abrahamsson, Bo Albinsson, Kasper Moth-Poulsen "Photon up-conversion and molecular solar thermal energy storage: New materials and devices" *IEEE Photonics Conference* (IPC), 2014, 445-446.

1. Titoo Jain, Kasper Moth-Poulsen, T Bjørnholm "Gold nanorods employed in a self-assembly strategy for single molecule electronics" *IEEE-NANO*, 2010, 127-13.

Books and Book Chapters:

3. Molecular Solar Thermal Energy Storage: Molecular Design and Functional Devices." Book chapter in "Molecular Devices for Solar Energy Conversion and Storage" Editors: Tian, Haining, Boschloo, Gerrit, Hagfeldt, Anders (Eds.), Springer 2017.

2. "Handbook of Single Molecule Electronics" Edited by K. Moth-Poulsen, Pan Stanford Publishers 2015.

1. "Molecular Systems for Solar Thermal Energy Storage and Conversion." Book chapter in "Organic Synthesis and Molecular Engineering" Edited by M. Brøndsted-Nielsen, Wiley 2013.

Publications for a broader audience:

9. Invited guest-Blogg series about research excellence and research strategy in "Tidningen Curie" the web magazine of the Swedish research council.

8. Anders Lennartsson, Victor Gray, Kasper Moth-Poulsen "Molekyl lagring af solenergi eller kunsten at lagre lidt forårs-sol til vinteren" Dansk Kemi 2015, 8, 22-25

7. Anders Lennartsson, Victor Gray, Kasper Moth-Poulsen "Molekylär lagring av solenergi eller konsten att spara lite vårsol till vintern" Kemivärlden 2015, 3, 18-21 (cover)

6. "Early Excellence in Physical Organic Chemistry Kasper Moth-Poulsen" Journal of Physical Organic Chemistry 2015 (interview)

5. Synform "Young Career Focus: Dr. Kasper Moth-Poulsen
(Chalmers University of Technology, Gothenburg, Sweden)" 2014 (interview)

4. Karl Börjesson, Damir Dzebo, Bo Albinsson, and Kasper Moth-Poulsen "Photon up-converting devices for solar fuels" SPIE Newsroom 2014. DOI: 10.1117/2.1201404.005339

3. Moth-Poulsen, K and Bjørnholm, T "Electronics With Single Molecules" invited feature article in the A to Z of Nanotechnology, 2009.

2. Moth-Poulsen, K, Jain, T., Sørensen, J. K., Bjørnholm, T. "Electronics and self-assembly with single molecules" Material Matters 4, 80–82, 2009 (Aldrich Magazine)

1. Moth-Poulsen, K. "Nanovidenskab", fysik-kemi nr. 3, 6–9, 2005.

Webcasts and Interviews (selected)

1) SINGLE- the electronic molecule 2009.

2) 2012, Interview with Swedish TV4 news about progress with molecular solar thermal.

3) 2013, 15 min interview about our energy storage project with http://fjardeuppgiften.se

4) 2015, Sofie Pehrsson "*SSF-FFL5 Webcast*" about our energy storage project (2.7 k views on youtube)

5) 2016, Webcast made by mediabruket "Wallenberg Academy Fellow" shown on various homepages and outlets including Swedish TV (8.6 k Views on youtube, but viewed in other formats as well)

6) 2017, TV News made by Thompson Reuters TV, distributed worldwide to TV news outlets.

7) 2018, Webcast made by mediabruket for KAW about "young promising energy researchers in Sweden"

8) 2019, Podcast with Canadian based "the green blues show".

Patent Applications

1) 2014, K. Moth-Poulsen "Solar Energy Collection" PRV 1451568-8

2) 2015, K. Moth-Poulsen "Solar Energy Collector" PCT/EP2015/080324

3) 2017, M. Jevric, A. Petersen, M. Mansø & K. Moth-Poulsen "Molecular Solar Energy Storage" PRV 1751463-9

4) 2018, M. Jevric, A. Ugleholdt-Petersen, M. Mansø, K. Moth-Poulsen "Molecular Solar Energy Storage" PCT/EP2018/082874

5) 2020, A. Hoffman, J. O. Hernandez, K. Moth-Poulsen, "A composite Materials for use in a molecular solar thermal storage (MOST) system" PRV 2051371-9