

Curriculum Vitae - Dr. Ori Green

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Google Scholar



Past Experience and Academic Education

- From Jan 2024** **Assistant Professor in Organic Chemistry**
Technion – Israel Institute of Technology, Schulich Faculty of Chemistry, Haifa, Israel.
- 2020 – 2023** **Postdoctoral scholar in organic chemistry and chemical biology**
Switzerland, ETH Zurich, Department of Chemistry and Applied Biosciences, Laboratory of Organic Chemistry under the supervision of Prof. Dr. Bill Morandi.
“Chemical Reaction Development and their Biological and Medicinal Applications”
- 2016 - 2020** **Doctoral studies in organic chemistry and chemical biology**
Israel, Tel Aviv University, Faculty of Exact Sciences, Department of Organic Chemistry under the supervision of Prof. Dr. Doron Shabat.
“Rational Design of Chemiluminescent Probes for Bioimaging”
- 2014 - 2016** **Master of Science in organic chemistry and chemical biology**
Israel, Tel Aviv University, Faculty of Exact Sciences, Department of Organic Chemistry under the supervision of Prof. Dr. Doron Shabat. (Magna Cum Laude).
“NIR Fluorophores for Applications in Biomolecular Imaging”
- 2010 - 2014** **Bachelor of Science in organic chemistry**
Israel, Tel Aviv University, Faculty of Exact Sciences, Department of Organic Chemistry.
- 2005 - 2008** **Obligatory Army Service and Reserves**
Israel Defense Force - Platoon Sergeant at the Combat Engineering Corps.



Teaching Experience

- 2022** **Guest lecturer advanced organic chemistry course (OC-VIII)**
“Applications of Transition Metal Catalysis” - Department of Chemistry and Applied Biosciences, Laboratory of Organic Chemistry, ETH Zurich, Switzerland.
- 2020 - 2022** **Project design and student supervision during postdoctoral studies**
Supervision M.Sc. and Ph.D. students at ETH Zurich.
- 2016 - 2020** **Laboratory Instructor for organic chemistry**
Basic and advanced organic chemistry for undergraduate students teaching lab, School of Chemistry, Tel-Aviv University, Tel-Aviv, Israel.
- 2014 - 2020** **Project design and student supervision during doctoral studies**
Supervision of M.Sc., Ph.D. students at Tel-Aviv University.



Fellowships and Awards

2023	Dr. Natalie Shaffer Faculty Fellow
2020	International Human Frontier Science Program postdoctoral fellowship (HFSP)
2020	Rothschild Fellowship – Yad Hanadiv (declined)
2020	Israel Chemical Society Excellent Graduate Student - “Jortner Prize” award
2019	Ministry of Science Technology and Space of Israel Fellowship (Travel grant)
2018 - 2019	Raymond & Beverly Sackler Award of Excellence



Posters and Presentations

2024	Theo Murphy Meeting – CO₂ detection in biological systems, Manchester 2024 <i>“Chemical techniques to image and monitor CO₂ at the cellular level”</i> Invited lecture.
2023	5th International CO₂ Symposium, Giessen 2023 <i>“Molecular Strategies to Selectively Sense and Image CO₂ in Biological Systems”</i> Invited lecture.
2023	10th EFMC Young Medicinal Chemists’ Symposium, Zagreb 2023 <i>“Molecular Sensing and Imaging of CO₂ In Complex Environments”</i> Invited lecture.
2022	EMBO Workshop - Chemical Biology 2022 <i>“Activity-Based Molecular CO₂ Sensing”</i> Poster presentation and flash talk.
2022	Medicinal Chemistry Section of the Israel Chemical Society (MCS-ICS) 2022 <i>“Activity-Based Molecular CO₂ Sensing”</i> Poster presentation & <u>Best</u> flash talk
2019	ACS Fall 2019 National Meeting & Expo <i>“Near-infrared chemiluminescence probes for detection and imaging”</i> Invited lecture
2018	Gordon Research Conference on Bioanalytical Sensors 2018 <i>“The Emergence of aqueous chemiluminescence”</i> Poster presentation

Publication List - Dr. Ori Green



Publications

Note: '*' denotes equal contribution.

As an independent researcher

- [37] *"Chemiluminescence-based Imaging"*
Ori Green.
Imaging Tools for Chemical Biology, Royal Society of Chemistry, **2024**, 8, 180-201. [\[HTML\]](#)
- [36] *"Singlet Oxygen Detection by Chemiluminescence Probes in Living Cells"*
Nir Hananya, **Ori Green**, Ismael Gutierrez-Fernandez, Doron Shabat, Juan B Arellano.
ROS Signaling in Plants: Methods and Protocols, New York, Springer US, **2024**, 27-43. [\[HTML\]](#)

As a postdoctoral researcher

- [35] *"Carbon-to-nitrogen atom swap enables direct access to benzimidazoles from drug-like indoles"*
Ann-Sophie Paschke, Yannick Brägger, Bence Botlik, Erich Staudinger, **Ori Green**, Bill Morandi.
ChemRxiv, **2024**, [\[HTML\]](#)
- [34] *"Regiodivergent Ring Expansion of Oxindoles to Quinolinones"*
Hendrick L. Schmitt, Den Martymianov, **Ori Green**, Tristan Delcaillau, Yong Seo Park Kim, Bill Morandi.
J. Am. Chem. Soc. **2024**, 146, 4301-4308. [\[HTML\]](#)
- [33] *"Late-Stage Molecular Editing Enabled by Ketone Chain-Walking Isomerization"*
Yannick Brägger, **Ori Green**, Benjamin N. Bhawal, Bill Morandi.
J. Am. Chem. Soc. **2023**, 145, 19496-19502. [\[HTML\]](#)
- [32] *"Nitrogen Atom Insertion Into Indenes to Access Isoquinolines"*
Patrick Finkelstein, Julia C. Reisenbauer, Bence B. Botlik, **Ori Green**, Andri Florin, Bill Morandi.
Chem. Sci. **2023**, 14, 2954-2959, DOI: 10.1039/d2sc06952k. [\[HTML\]](#)
- [31] *"Activity-Based Approach for Selective Molecular CO₂ Sensing"*
Ori Green*, Patrick Finkelstein*, Miguel A. Rivero-Crespo, Marius D. R. Lutz, Michael K. Bogdos, Michael Burger, Jean-Christophe Leroux, Bill Morandi.
J. Am. Chem. Soc. **2022**, 144(19), 8717-8724. [\[HTML\]](#)
- [30] *"Late-stage diversification of indole skeletons through nitrogen atom insertion"*
Julia C. Reisenbauer*, **Ori Green***, Allegra Franchino, Patrick Finkelstein, Bill Morandi.
Science, **2022**, 377, 1104-1109. [\[HTML\]](#) & ChemRxiv [\[HTML\]](#)

As a Ph.D. student

- [29] *"Modular Access to Diverse Chemiluminescent Dioxetane-Luminophores through Convergent Synthesis"*
Samer Gnaim, Sachin Popat Gholap, Liang Ge, Sayantan Das, Sara Gutkin, **Ori Green**, Omri Shelef, Nir Hananya, Phil S. Baran, Doron Shabat.
Angew. Chem. Int. Ed. **2022**, 61, e202202187. [\[HTML\]](#)
- [28] *"Enzyme-Activated, Chemiluminescent Siderophore-Dioxetane Probes Enable the Selective and Highly Sensitive Detection of Bacterial Pathogens"*
Carsten Peukert, Sachin Popat Gholap, **Ori Green**, Lukas Pinkert, Joop van den Heuvel, Marco van Ham, Doron Shabat, Mark Brönstrup.
Angew. Chem. Int. Ed. **2022**, 61, e202201423. [\[HTML\]](#)
- [27] *"Injectable Nanocomposite Implants Reduce ROS Accumulation and Improve Heart Function after Infarction"*

Publication List - Application No. 1143/25 – Dr. Ori Green

Malka Shilo, Hadas Oved, Lior Wertheim, Idan Gal, Nadav Noor, **Ori Green**, Ester-Sapir Baruch, Doron Shabat, Assaf Shapira, Tal Dvir.

Adv. Sci. **2021**, 8, 2102919. [[HTML](#)]

- [26] *"Universal Access to Protease Chemiluminescent Probes through Solid-Phase Synthesis"*
Maria Ponomariov, Doron Shabat, **Ori Green**.
Bioconjugate Chem. **2021**, 32 (10), 2134-2140. [[HTML](#)]
- [25] *"Chemiluminescence Detection of Hydrogen Sulfide Release by β -Lactamase-Catalyzed β -Lactam Biodegradation: Unprecedented Pathway for Monitoring β -Lactam Antibiotic Bacterial Resistance"*
Sachin Popat Gholap, Chunyan Yao, **Ori Green**, Matej Babjak, Pavol Jakubec, Tomáš Malatinský, Julian Ihssen, Lukas Wick, Urs Spitz, Doron Shabat.
Bioconjugate Chem. **2021**, 32 (5), 991-1000. [[HTML](#)]
- [24] *"Chemiluminescent Protease Probe for Rapid, Sensitive, and Inexpensive Detection of Live Mycobacterium tuberculosis"*
Brett M. Babin, Gabriela Fernandez-Cuervo, Jessica Sheng, **Ori Green**, Alvaro A. Ordonez, Mitchell L. Turner, Laura J. Keller, Sanjay K. Jain, Doron Shabat, Matthew Bogyo.
ACS Cent. Sci. **2021**, 7(5), 803-814. [[HTML](#)]
- [23] *"A functional chemiluminescent probe for in vivo imaging of natural killer cell activity against tumours"*
Jamie I. Scott, Sara Gutkin, **Ori Green**, Emily J. Thompson, Takanori Kitamura, Doron Shabat, Marc Vendrell.
Angew. Chem. Int. Ed. **2021**, 60, 5699-5703. [[HTML](#)]
- [22] *"Turn on chemiluminescence-based probes for monitoring tyrosinase activity in conjunction with biological thiols"*
Omri Shelef, Adam C. Sedgwick, Sabina Pozzi, **Ori Green**, Ronit Satchi-Fainaro, Doron Shabat, Jonathan L. Sessler.
Chem. Commun. **2021**, 57, 11386-11389. [[HTML](#)]
- [21] *"Powerful chemiluminescence probe for rapid detection of prostate specific antigen proteolytic activity: forensic identification of human semen"*
Sara Gutkin, **Ori Green**, Gil Raviv, Doron Shabat, Orith Portnoy.
Bioconjugate Chem. **2020**, 31 (11), 2488-2493. [[HTML](#)]
- [20] *"A Highly Selective and Sensitive Chemiluminescent Probe for Real-Time Monitoring of Hydrogen Peroxide in Cells and Animals"*
Sen Ye, Nir Hananya, **Ori Green**, Hansen Chen, Angela Qian Zhao, Jiangang Shen, Doron Shabat, Dan Yang.
Angew. Chem. Int. Ed. **2020**, 59, 14326-14330. [[HTML](#)]
- [19] *"Ultrasensitive Detection of Salmonella and Listeria Monocytogenes by Small-Molecule Chemiluminescence Probes"*
Michal Roth-Konforti*, **Ori Green***, Mario Hupfeld, Lars Fieseler, Nadine Heinrich, Julian Ihssen, Raffael Vorberg, Lukas Wick, Urs Spit, Doron Shabat.
Angew. Chem. Int. Ed. **2019**, 131, 10469-10475. [[HTML](#)]
- [18] *"Rapid chemiexcitation of phenoxy-dioxetane luminophores yields ultrasensitive chemiluminescence assays"*
Nir Hananya, Jolene P. Reid, **Ori Green**, Matthew S. Sigman, Doron Shabat.
Chem. Sci. **2019**, 10, 1380-1385. [[HTML](#)]
- [17] *"Chemiluminescent Probe for the In Vitro and In Vivo Imaging of Cancers Over-expressing NQO1"*
Subin Son*, Miae Won*, **Ori Green***, Nir Hananya*, Amit Sharma, Yukyoung Jeon, Jong Hwan Kwak, Jonathan L. Sessler, Doron Shabat, Jong Seung Kim.
Angew. Chem. Int. Ed. **2019**, 58, 1739-1743. [[HTML](#)]
- [16] *"Personalized Hydrogels for Engineering Diverse Fully Autologous Tissue Implants"*
Reuven Edri, Idan Gal, Nadav Noor, Tom Harel, Sharon Fleischer, Nofar Adadi, **Ori Green**, Doron Shabat, Lior Heller, Assaf Shapira, Irit Gat-Viks, Dan Peer, Tal Dvir.
Adv. Mater. **2019**, 31, 1803895. [[HTML](#)]
- [15] *"Excited-State Proton Transfer to H₂O in Mixtures of CH₃CN–H₂O of a Superphotoacid, Chlorobenzoate Phenol Cyanine Picolinium (CBCyP)"*
Oren Gajst, **Ori Green**, Luís Pinto da Silva, Joaquim C. G. Esteves da Silva, Doron Shabat, Dan Huppert.
J. Phys. Chem. A. **2018**, 122 (41), 8126-8135. [[HTML](#)]
- [14] *"Image-Guided Surgery Using Near-Infrared Turn-ON Fluorescent Nanoprobes for Precise Detection of Tumor Margins"*

Publication List - Application No. 1143/25 – Dr. Ori Green

Rachel Blau, Yana Epshtein, Evgeni Pisarevsky, Galia Tiram, Sahar Israeli Dangoor, Eilam Yeini, Adva Krivitsky, Anat Eldar-Boock, Dikla Ben-Shushan, Hadas Gibori, Anna Scomparin, **Ori Green**, Yael Ben-Nun, Emmanuelle Merquiol, Hila Doron, Galia Blum, Neta Erez, Rachel Grossman, Zvi Ram, Doron Shabat and Ronit Satchi-Fainaro.
Theranostics. **2018**, 8 (13), 3437-3460. [\[HTML\]](#)

- [13] "Chemiluminescent Probes for Activity-Based Sensing of Formaldehyde Released from Folate Degradation in Living Mice"
Kevin J. Bruemmer*, **Ori Green***, Timothy A. Su, Doron Shabat, Christopher J. Chang.
Angew. Chem. Int. Ed. **2019**, 58, 1739-1743. [\[HTML\]](#)
- [12] "Excited-State Proton Transfer of Phenol Cyanine Picolinium Photoacid"
Luís Pinto da Silva, **Ori Green**, Oren Gajst, Ron Simkovitch, Doron Shabat, Joaquim C. G. Esteves da Silva, Dan Huppert.
ACS Omega. **2018**, 3 (2), 2058-2073. [\[HTML\]](#)
- [11] "The photoacidity of phenol chloro benzoate cyanine picolinium salt photoacid in alkanols"
Oren Gajst, **Ori Green**, Ron Simkovitch, Doron Shabat, Dan Huppert.
J. Photochem. Photobiol. A. Chem. **2018**, 353, 546-556. [\[HTML\]](#)
- [10] "The Emergence of Aqueous Chemiluminescence: New Promising Class of Phenoxy 1, 2-Dioxetane Luminophores"
Samer Gnaim*, **Ori Green***, Doron Shabat.
Chem. Commun. **2018**, 54, 2073-2085. [\[HTML\]](#)
- [9] "Chloro Benzoate Cyanine Picolinium Photoacid Excited-State Proton Transfer to Water"
Ori Green, Oren Gajst, Ron Simkovitch, Doron Shabat, Dan Huppert.
J. Photochem. Photobiol. A. Chem. **2017**, 349, 230-237. [\[HTML\]](#)
- [8] "A Highly-Efficient Chemiluminescence Probe for Detection of Singlet Oxygen in Living Cells"
Nir Hananya*, **Ori Green***, Rachel Blau, Ronit Satchi-Fainaro, Doron Shabat.
Angew. Chem. Int. Ed. **2017**, 56, 1793-1796. [\[HTML\]](#)
- [7] "Near-Infrared Dioxetane Luminophores with Direct Chemiluminescence Emission Mode"
Ori Green*, Samer Gnaim*, Rachel Blau, Anat Eldar-Boock, Ronit Satchi-Fainaro, Doron Shabat.
J. Am. Chem. Soc. **2017**, 139 (37), 13243-13248. [\[HTML\]](#)
- [6] "New Phenol Benzoate Cyanine Picolinium Salt Photoacid Excited-State Proton Transfer"
Ori Green, Oren Gajst, Ron Simkovitch, Doron Shabat, Dan Huppert.
J. Phys. Chem. A. **2017**, 16, 3079-3087. [\[HTML\]](#)
- [5] "Opening a Gateway for Chemiluminescence Cell Imaging: Distinctive Methodology for Design of Bright Chemiluminescent Dioxetane Probes"
Ori Green*, Tal Eilon*, Nir Hananya*, Sara Gutkin, Christoph R. Bauer, Doron Shabat.
ACS Cent. Sci. **2017**, 3 (4), 349-358. [\[HTML\]](#)

As a M.Sc. Student

- [4] "Simple and cost-effective fluorescent labeling of 5-hydroxymethylcytosine"
Tamar Shahal*, **Ori Green***, Uri Hananel, Yael Michaeli, Doron Shabat, Yuval Ebenstein.
Methods Appl. Fluoresc. **2016**, 4, 044003. [\[HTML\]](#)
- [3] "Super-Resolution Genome Mapping in Silicon Nanochannels"
Jonathan Jeffet, Asaf Kobo, Tianxiang Su, Assaf Grunwald, **Ori Green**, Adam N. Nilsson, Eli Eisenberg, Tobias Ambjörnsson, Fredrik Westerlund, Elmar Weinhold, Doron Shabat, Prashant K. Purohit, Yuval Ebenstein.
ACS Nano. **2016**, 10 (11), 9823-9830 [\[HTML\]](#)
- [2] "Excited-State Proton Transfer and Formation of the Excited Tautomer of 3-Hydroxypyridine-Dipicolinium Cyanine Dye"
Ori Green, Ron Simkovitch, Luís Pinto da Silva, Joaquim C. G. Esteves da Silva, Doron Shabat, Dan Huppert.
J. Phys. Chem. A. **2016**, 120, 6184-6199 [\[HTML\]](#)
- [1] "Dendritic, Oligomeric, and Polymeric Self-Immolative Molecular Amplification"
Michal E. Roth, **Ori Green**, Samer Gnaim, and Doron Shabat.
Chem. Rev. **2016**, 116, 1309-1352 [\[HTML\]](#)



Patents

- [6] *"Molecular sensors, method and kit for the detection and quantification of carbon dioxide"*
Ori Green, Patrick Finkelstein, Miguel A. Rivero-Crespo, Marius D. R. Lutz, Michael K. Bogdos, Bill Morandi.

- [5] *"Near-infrared chemiluminescent probes for in-vivo imaging"*
Doron Shabat, Ori Green, Ramot at Tel Aviv University Ltd, 2022, U.S. Patent, US11241507B2.

- [4] *"Chemiluminescent probes for diagnostics and in vivo imaging"*
Doron Shabat, Ronit Satchi-Fainaro, Nir Hananya, Ori Green, Tal Eilon, Ramot at Tel Aviv University Ltd, 2021, U.S. Patent, US11179482B2.

- [3] *"Dioxetane Compounds and their Use for the Detection of Microorganisms"*
Doron Shabat, Michal Eli Roth-Konforti, Nir Hananya, Ori Green, Urs Spitz, Lukas Wick, Julian Ihssen, Raffael Vorberg, Riccardo Cribiu, Zuzana Babjakova, Chunyan Yao, Ramot at Tel Aviv University Ltd, 2021, U.S. Patent, US20210214766A1.

- [2] *"Long wavelength emitting chemiluminescent probes"*
Doron Shabat, Nir Hananya, Ori Green, Urs Spitz, Julian Ihssen, Ramot at Tel Aviv University Ltd, 2021, U.S. Patent, US20210214607A1.

- [1] *"Chemiluminescent fluorophor-linked adamantylene-dioxetane probes as diagnostics or in-vivo imaging sensors"*
Doron Shabat, Ronit Satchi-Fainaro, Nir Hananya, Ori Green, Tal Eilon, Ramot at Tel Aviv University Ltd, 2021, European Patent, EP3408349B1.