



**28<sup>th</sup> PhotoIUPAC**

AMSTERDAM 2022

17 - 22 July



# BOOK OF ABSTRACTS



Dear photochemists,

It is a great pleasure to welcome you to Amsterdam for the 28th IUPAC Symposium on Photochemistry. The COVID-19 pandemic has prevented us from getting together in 2020, and it still limits our freedom to move. Nonetheless, we will meet with some 450 participants from July 17 to 22, 2022, and have an opportunity to discuss the progress in our field via presentations and informal discussions.

With the help of the International Scientific Committee we have composed an attractive program of Plenary and Invited lectures, and participants contribute with Oral Communications (20 minutes including discussion) and Junior Talks (15 minutes including discussion), and with posters. In addition the program features two award lectures from the European Photochemistry Association, and the Porter Medal Award.

We are pleased with the large interest from exhibitors and sponsors, who are a part of our scientific ecosystem, and with their support help to keep the cost of participation low. The University of Amsterdam contributed by providing the conference venue.

We look forward to a great conference.

#### **Local Organizing Committee**

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Sonia Castellanos, University of Amsterdam, Netherlands  
Roberta Croce, Vrije Universiteit Amsterdam, Amsterdam  
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Nathalie Katsonis, University of Twente, Netherlands  
Michel Orrit, Leiden University, Netherlands  
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Jayaraman Sivaguru, Bowling Green State University, USA  
Eimer Tuite, Newcastle University, UK  
Nelsi Zaccheroni, University of Bologna, Italy  
Hongjie Zhang, Chinese Academy of Sciences, China

# Tuesday 19 July



9:00	9:00 - 9:45 PL04: Mordon A0.01			
	A1.02	A1.03	C0.01	C0.02
9:50	3A-IL05 09:50-10:20 Etchenique	3B-IL06 09:50-10:20 Kawai	3C-IL07 09:50-10:20 Wernet	3D-IL08 09:50-10:20 Bonchio
	Break 10:20 - 10:45			
10:45	3A-OC25 10:45-11:05 Amara 3A-OC26 11:05-11:25 Basarić 3A-OC27 11:25-11:45 Lemercier	3B-OC28 10:45-11:05 Métivier 3B-OC29 11:05-11:25 Basilio 3B-OC30 11:25-11:45 Araki	3C-OC31 10:45-11:05 Nibbering 3C-OC32 11:05-11:25 Smolentsev 3C-OC33 11:25-11:45 Haacke	3D-OC34 10:45-11:05 Ottosson 3D-OC35 11:05-11:25 Natali 3D-OC36 11:25-11:45 Johnson
11:45	3A-JT13 11:45-12:00 Menichetti 3A-JT14 12:00-12:15 Groeneveld 3A-JT15 12:15-12:30 Gernhardt	3B-JT16 11:45-12:00 Andreoni 3B-JT17 12:00-12:15 Colaço 3B-JT18 12:15-12:30 Fiorentino	3C-JT19 11:45-12:00 Paradiz Domínguez 3C-JT20 12:00-12:15 Picconi 3C-JT21 12:15-12:30 Jay	3D-JT22 11:45-12:00 De Castro 3D-JT23 12:00-12:15 Abiola 3D-JT24 12:15-12:30 Bors
	Lunch 12:30-14:30		Posters 2 12:30 - 14:30 The Bridge (D-building 4th floor)	
			CP02 - A0.01 14:15-14:30 Light Conversion	
14:30	14:30 - 15:15 PLO5: Yano A0.01			
	A1.02	A1.03	C0.01	C0.02
15:20	4A-JT25 15:20-15:35 Siewert 4A-JT26 15:35-15:50 Opdam 4A-JT27 15:50-16:05 Stitich	4B-JT28 15:20-15:35 Das 4B-JT29 15:35-15:50 Desvals 4B-JT30 15:50-16:05 Ditz	4C-JT31 15:20-15:35 Hakkennes 4C-JT32 15:35-15:50 Romeo-Gella 4C-JT33 15:50-16:05 Hodée	4D-JT34 15:20-15:35 Poncet 4D-JT35 15:30-15:45 Royle 4D-JT36 15:50-16:05 Bianco
	Break 16:00 - 16:30			
16:30	4A-OC37 16:30-16:50 Markovitsi 4A-OC38 16:50-17:10 Sliwa	4B-OC39 16:30-16:50 Fermi 4B-OC40 16:50-17:10 Bassani	4C-OC41 16:30-16:50 Liu X. 4C-OC42 16:50-17:10 Tani	4D-OC43 16:30-16:50 Kerzig 4D-OC44 16:50-17:10 Šolomek
	Break 17:10-17:20			
17:20	17:20-17:55 EPA Best Thesis Award: Casemiro A0.01			
17:55	17:55-18:30 EPA/PPS Best Paper Award: Wenger A0.01			
	EPA General Assembly and reception (members only) A3.16			

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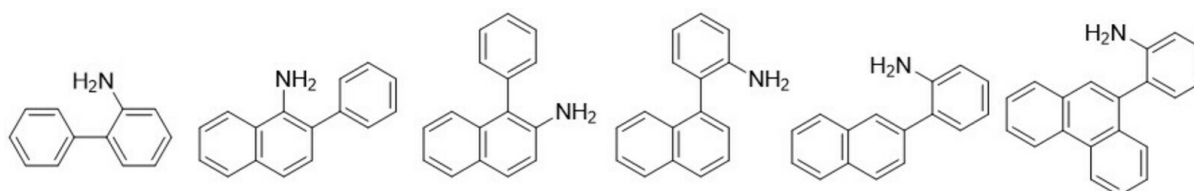
Tomislav Rozić

Nadja Doslić

## Excited state intramolecular proton transfer from nitrogen to carbon

ESIPT has been in the focus of interest owing to different applications. The most common acidic site is phenolic OH (oxygen photoacid), whereas the basic sites are usually heteroatoms such as carbonyl oxygen or pyridine nitrogen. Moreover, transfer of a proton from oxygen photoacids to a carbon atom of adjacent aromatic ring is already well accepted, as some very efficient reactions have been reported [1,2], indicating that protonation of carbon is not necessarily slow [3].

Nitrogen photoacids are known, but ESIPT reports are scarce and in principle involve transfer to a very basic pyridine nitrogen. Here we report that the ESIPT to carbon is also a general reaction, involving nitrogen photoacids. The ESIPT has been investigated in a series of aminoaromatic compounds by irradiations in deuterated solvents, where upon D-incorporation denotes the ESIPT pathways. Furthermore, to get insight into the reaction mechanism we conducted fluorescence measurements and laser flash photolysis. The proposed ESIPT mechanism was corroborated by ADC(2)-based electronic structure computations.



*Investigated molecules.*

[1] <https://doi.org/10.1002/chem.201201144>

[2] <https://doi.org/10.1021/jo301456y>

[3] <https://doi.org/10.1351/pac199870112221>



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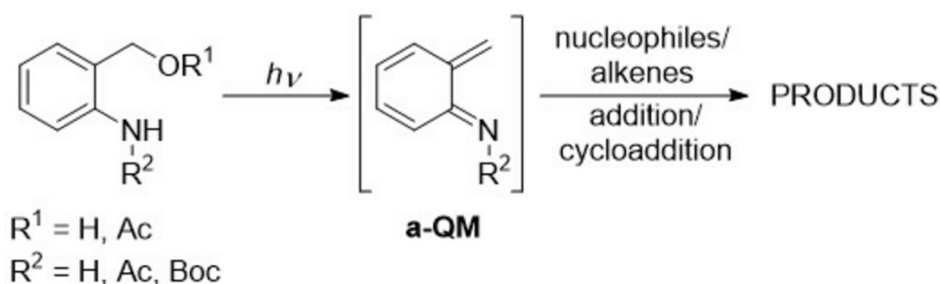
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## Photochemical generation of aza-o-quinone methides

Aza-quinone methides (a-QM) are reactive intermediates, reacting with nucleophiles and various types of dienophiles, applicable in the synthesis of biologically important heterocycles. Due to their importance in synthesis, several methods to generate a-QM have been reported, including photogeneration from *o*-aminobenzyl alcohol. Although a-QM has been detected by laser flash photolysis (LFP), its trapping by alkenes in [4 + 2] cycloaddition in the acidic solution was hampered, and the composition of the irradiated mixture strongly depended on the solution pH.

We conducted a systematic modification of the structure of a-QM precursors in order to optimize the conditions for their photogeneration and enable trapping by alkenes. The amino group was functionalized by EWG, whereas the alcohol was converted to a better leaving group. The photoreactivity was investigated by irradiation experiments, and the products were isolated and fully characterized. To unravel details about the reaction mechanism, steady-state and time-resolved fluorescence and LFP measurements were conducted.



*Photochemical generation of aza-o-QM.*

[1] <https://doi.org/10.1039/c8cs00274f>

[2] [https://doi.org/10.1016/1010-6030\(94\)85005-4](https://doi.org/10.1016/1010-6030(94)85005-4)

[3] <https://doi.org/10.1002/cphc.201901133>