CiQUS

Centro Singular de Investigación en Química Biolóxica e Materiais Moleculares

Conferencia:

Air-sensitive photoredox catalysis performed under aerobic conditions in gel networks

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16/05/18

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Aula de Seminarios do CIQUS

12:15 h

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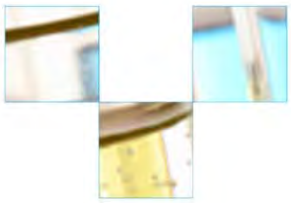

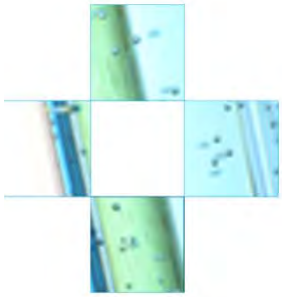

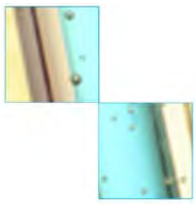

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Air-sensitive photoredox catalysis performed under aerobic conditions in gel networks

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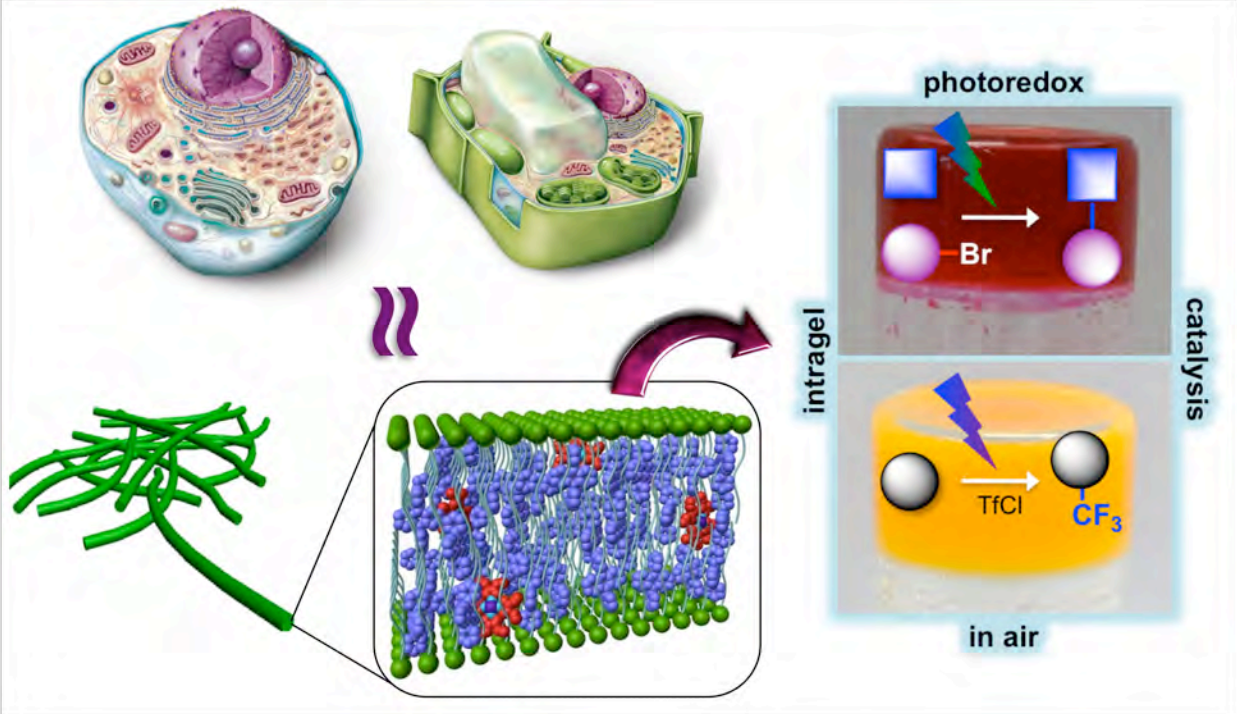
Faculty of Chemistry and Pharmacy, University of Regensburg, Germany

Nature uses confined and compartmentalized environments such as organelles to carry out chemical reactions under mild conditions with a precise control on kinetics and selectivity. Over the last few decades, this has served as an inspiration to develop artificial nanoreactors based on directed self-assembly of small molecules through non-covalent interactions. Within this context, photochemistry can benefit from confined spaces, for example when performed in mesoporous inorganic materials, microemulsions, micelles, vesicles, polyelectrolyte multilayered capsules, liquid foams, and gels. The confinement may improve photochemical processes by influencing key aspects, such as light absorption and the lifetime of redox intermediates. In this talk, our recent advances on the use of supramolecular self-assembled gels as confined microenvironments for performing air-sensitive photochemical processes under aerobic conditions will be discussed. In some reactions the synergistic integration of donor-acceptor pairs in the gel nanofibers is reminiscent of the biological photon-harvesting apparatuses in which excitation light energy is effectively harvested and converted in the array of photosynthetic pigments embedded in biomembranes.



1. PhD Chemistry, University of La Laguna (Supervisor: Victor S. Martin; 1998-2002, 4 years)

2. Postdoc, The Scripps Research Institute (Supervisor: M.G. Finn, 2002-2006, 4 years)

3. Ramón y Cajal Fellow, University Autonomous of Madrid (2006-2007, 1 year)

4. Sr. Chemist at The Dow Chemical Company, Switzerland (2007-2010, 3 years)

5. Alexander von Humboldt Experienced Researcher and Assist. Professor, University of Regensburg (2010-2012, 2 years)

6. Assoc. Professor, University of Regensburg (since 2013, 5 years; total @ UR, 7 years)

7. Tenured Scientist of the CSIC (since 2009, 9 years)