



UNIVERSITÀ  
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DI PADOVA

HORIZON EUROPE  
PROJECTS FUNDED AT THE UNIVERSITY OF PADOVA

### **SupraPhoCat - Supramolecular photocatalytic late-stage C-H functionalization**

Organic synthesis is still one of the main limiting factors in drug-discovery projects. Traditionally, the generation of compounds libraries requires tedious synthetic routes to introduce modifications into the lead compound, thus the implementation of new methodologies to modify drugs in a selective way in the late stages of their synthesis is highly attractive. In SupraPhoCat project, several supramolecular receptors will be provided with catalytic activity and combined with photoredox catalysis to achieve unprecedented asymmetric C-H functionalization reactions with exquisite selectivity, using CO<sub>2</sub> as non-toxic abundant C1 building block. This ambitious project will establish new methodologies for C-H Late-Stage Functionalization of drugs, which is a key point towards the development of libraries of compounds according to EU green chemistry insights. This Marie Skłodowska Curie action will merge the expertise of the host group (Prof. Luca Dell'Amico, NanoMolCat group from University of Padova) in CO<sub>2</sub> valorisation methods and photoredox catalysis with the expertise of the fellow on supramolecular chemistry, molecular recognition and organocatalysis. Also, this project has been designed to augment and complement the research and transferable skills sets of the fellow and will greatly enhance his career prospects to become a mature and independent scientist. Through the training and the research results arising, the fellowship will be beneficial to the candidate, the host institution and European scientific and social environment. This research will allow a great improvement of the state-of-the-art in the construction of active organic molecules through a new, powerful, and impacting synthetic methodology, raising the standing of EU chemistry within this field at a global level. Hence, SupraPhoCat will constitute a significant contribution to the field, and will suppose a benefit for synthetic organic chemists, pharma-, agro- and fine-chemicals industries in EU.

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**Coordinator:** Università degli Studi di Padova (Italy)

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**Find out more:** <https://cordis.europa.eu/projects/en>