

**Prof. Marcello Crucianelli,
University of L'Aquila, Italy**

Web page:

https://www.dsfc.univaq.it/it/?option=com_sppagebuilder&view=page&id=416

ORCID ID: orcid.org/0000-0001-8523-0400

Scopus Author ID: 6701744599

Web of Science Researcher ID: K-3861-2012

Total citations on Scopus (February, 2023): **2300**

h-Index on Scopus (February, 2023): **29**

Research Keywords

Heterogeneous Catalysis; homogeneous catalysis; organometallic chemistry; hybrid organic/inorganic nanostructures; oxy/deoxy functionalization; oxidative desulfurization; fine-chemistry

Research Interest

Homogeneous and heterogeneous catalysis: one of his recent research interests is focused on the study and development of new routes for the heterogenization of organometallic complexes or biocatalysts on hybrid organic/inorganic matrixes, carbon based structures or magnetic nanoparticles, in order to evaluate their activity and selectivity towards the selective functionalization of biologically active compounds, under environment friendly catalytic redox conditions.

Publications

Co-author of **104** publications, almost all of them in peer-reviewed international journals.

Book

- *L'esame di chimica generale* di M. Speranza – A. Filippi – M. Crucianelli, Edizioni A.L.E., **2020**, pag. 200, ISBN:9788894513943.

- *Le basi della chimica*, AA. VV., Edizioni A.L.E., **2022**, pag. 508, ISBN:1280427094

Reviewer of several international journals, among them ChemSusChem, ChemCatChem, Journal of Catalysis, Topics in Organometallic Chemistry, European Journal of Inorganic Chemistry, Applied Catalysis A and B, Journal of Molecular Catalysis A, Catalysis Letters, Catalysis Today, Catalysis Communications, Catalysts.

Co-editor experience in Special Issues and Collections in MDPI journals:

_ 2017: “Co-Guest Editor” for the special issue “Nanomaterials in Biocatalyst” in *Nanomaterials* (ISSN 2079-4991) (http://www.mdpi.com/journal/nanomaterials/special_issues/nanomaterials_in_biocatalyst);

_ 2019: “Guest Editor” for the special issue "Advanced Nanostructured Materials for Catalytic Applications towards Fine Chemicals Production" in *Materials* (ISSN 1996-1944) (https://www.mdpi.com/journal/materials/special_issues/Adv_Nanostruct_Mater_Catal_Appl_Fine_Chem_Product)

_ 2020: “Co-Guest Editor” for the special issue "Recent Advances in Catalysis for the Synthesis of Antiviral Agents" in *Catalysts* (ISSN 2073-4344) (https://www.mdpi.com/journal/catalysts/special_issues/agents_synthesis)

_ 2022: “Guest Editor” for the "Special Issue "Advanced Nanostructured Materials for Catalytic Applications" in *Materials* (ISSN 1996-1944)

_ Since 2021, member of the Editorial Board of *Compounds* journal:
<https://www.mdpi.com/journal/compounds/editors>

Selection of scientific publications

- 1) A. Lazzarini, R. Colaiezzi, F. Gabriele, M. Crucianelli. “Support–Activity Relationship in Heterogeneous Catalysis for Biomass Valorization and Fine-Chemicals Production”. **Materials**, *14*, **2021**, 6796. IF = 3.62; Q2; 0 cit.
- 2) A. Lazzarini, R. Colaiezzi, M. Passacantando, F. D’Orazio, L. Arrizza, F. Ferella, M. Crucianelli: “Investigation of physico-chemical and catalytic properties of the Coating Layer of Silica-Coated Iron Oxide Magnetic Nanoparticles”. **J. Phys. Chem. Solids**, *153*, **2021**, 110003. IF = 3.99; Q2; 4 cit.
- 3) D. Piccinino, E. Capecchi, I. Delfino, M. Crucianelli, N. Conte, D. Avitabile, R. Saladino: “Green and Scalable Preparation of Colloidal Suspension of Lignin Nanoparticles and Its Application in Eco-friendly Sunscreen Formulations”. **ACS Omega**, *33*, **2021**, 21444–21456. IF = 3.51; Q1; 0 cit.
- 4) G. Bresciani, M. Gemmiti, G. Ciancaleoni, G. Pampaloni, F. Marchetti, M. Crucianelli: “Niobium(V) oxido tris-carbamate as easily available and robust catalytic precursor for the selective sulfide to sulfone oxidation”. **Mol. Catal.**, *516*, **2021**, 111972. IF = 5.06; Q2; 0 cit.
- 5) F. Ferella, L. Biancalana, F. Marchetti, M. Crucianelli. “Oxidative desulfurization of benzothiophene derivatives with cis-dioxomolybdenum(VI) catalyst precursors, under extractive conditions”. **Catal. Today**, *357*, **2020**, 646-654. IF = 5.83; Q1; 0 cit.
- 6) P. Campitelli, M. Aschi, C. Di Nicola, F. Marchetti, R. Pettinari, M. Crucianelli. “Ionic Liquids vs conventional solvents: a comparative study in the selective catalytic oxidations promoted by oxovanadium(IV) complexes”. **Appl. Catal. A**, *599*, **2020**, 117622. IF = 5.01; Q2; 1 cit.

- 7) B. M. Bizzarri, A. Fanelli, L. Botta, C. Sadun, L. Gontrani, F. Ferella, M. Crucianelli, R. Saladino. "Dendrimer crown-ether tethered multi-wall carbon nanotubes support methyltrioxorhenium in the selective oxidation of olefins to epoxides". **RSC Adv.**, *10*, **2020**, 17185–17194. IF = 3.12; Q1; 0 cit.
- 8) M. Crucianelli, B. M. Bizzarri, R. Saladino. "SBA-15 Anchored Metal Containing Catalysts in the Oxidative Desulfurization Process". **Catalysts**, *9*, **2019**, 984; doi:10.3390/catal9120984. IF = 3.52; Q3; 6 cit.
- 9) I. Abdalghani, L. Biancalana, M. Aschi, G. Pampaloni, F. Marchetti, M. Crucianelli. "Dioxomolybdenum(VI) compounds with α -amino acid donor ligands as catalytic precursors for the selective oxyfunctionalization of olefins". **Molecular Catalysis**, *446*, **2018**, 39–48. IF = 2.94; Q2; 3 cit.
- 10) D. Piccinino, I. Abdalghani, G. Botta, M. Crucianelli, M. Passacantando, M. L. Di Vacri, R. Saladino. "Preparation of wrapped carbon nanotubes poly(4-vinylpyridine)/MTO based heterogeneous catalysts for the oxidative desulfurization (ODS) of model and synthetic diesel fuel". **Appl. Cat. B**, *200*, **2017**, 392–401. IF = 11.70; Q1; 43 cit.
- 11) L. Botta, B. M. Bizzarri, M. Crucianelli, R. Saladino. "Advances in biotechnological synthetic applications of carbon nanostructured systems". **J. Mat. Chem. B**, *5*, **2017**, 6490-6510. IF = 4.78; Q1; 13 cit.
- 12) A. Di Giuseppe, R. De Luca, R. Castarlenas, J. J. Pérez-Torrente, M. Crucianelli, L. A. Oro. "Double hydrophosphination of alkynes promoted by rhodium: the key role of an N-heterocyclic carbene ligand". **Chem. Commun.**, *52*, **2016**, 5554-5557. IF = 6.32; Q1; 33 cit.
- 13) M. M. Cecchini, F. De Angelis, C. Iacobucci, S. Reale, M. Crucianelli. "Mild catalytic oxidations of unsaturated fatty acid methyl esters (FAMES) by oxovanadium complexes". **Appl. Cat. A**, *517*, **2016**, 120-128. IF = 4.34; Q2; 10 cit.
- 14) F. Subrizi, M. Crucianelli, V. Grossi, M. Passacantando, L. Pesci, R. Saladino. "Carbon Nanotubes as Activating Tyrosinase Supports for the Selective Synthesis of Catechols". **ACS Catal.**, *4*, **2014**, 810-822. IF = 9.31; Q1; 41 cit.
- 15) F. Subrizi, M. Crucianelli, V. Grossi, M. Passacantando, G. Botta, R. Antiochia, R. Saladino. "Versatile and Efficient Immobilization of 2-Deoxyribose-5-phosphate Aldolase (DERA) on Multiwalled Carbon Nanotubes". **ACS Catal.**, *4*, **2014**, 3059–3068. IF = 9.31; Q1; 13 cit.
- 16) A. Di Giuseppe, C. Di Nicola, R. Pettinari, I. Ferino, D. Meloni, M. Passacantando, M. Crucianelli. "Selective catalytic oxidation of olefins by novel oxovanadium(IV) complexes having different donor ligands covalently anchored on SBA-15: a comparative study". **Catal. Sci. Technol.**, *3*, **2013**, 1972-1984. IF = 4.76; Q2; 19 cit.
- 17) A. Di Giuseppe, R. Castarlenas, J. J. Pérez-Torrente, M. Crucianelli, V. Polo, R. Sancho, F. J. Lahoz, L. A. Oro. "Ligand-Controlled Regioselectivity in the Hydrothiolation of Alkynes by Rhodium N-Heterocyclic Carbene Catalysts". **J. Am. Chem. Soc.**, *134*, **2012**, 8171–8183. IF = 10.68; Q1; 123 cit.
- 18) F. Marchetti, C. Pettinari, C. Di Nicola, R. Pettinari, A. Crispini, M. Crucianelli, A. Di Giuseppe. "Synthesis and characterization of novel Oxovanadium(IV) complexes with 4-acyl-5-pyrazolone donor ligands: evaluation of their

Catalytic Properties in the H₂O₂ promoted Selective Oxidation of Styrene derivatives”. **Appl. Catal. A**, 378, 2010, 211-220. IF = 3.38; Q2; 42 cit.

19) A. Di Giuseppe, M. Crucianelli, M. Passacantando, S. Nisi, R. Saladino. “Chitin and Chitosan anchored methyltrioxorhenium: an innovative approach for selective heterogeneous catalytic epoxidations of olefins”. **J. Catal.**, 276, 2010, 412-422. IF = 5.41; Q1; 21 cit.

20) M. Crucianelli, R. Saladino, F. De Angelis. “Methyltrioxorhenium (MTO) catalysis in non conventional solvents: a great catalyst in a safe reaction medium”. **Chem. Sus. Chem.**, 3, 2010, 524-540. IF = 6.32; Q1; 46 cit.

21) C. Crestini, M. Crucianelli, M. Orlandi, R. Saladino. “Oxidative strategies in lignin chemistry: a new approach for the functionalization of lignin wastes in biorefinery processes”. **Catal. Today**, 156, 2010, 8-22. IF = 2.99; Q1; 154 cit.

22) A. Di Giuseppe, M. Crucianelli, F. De Angelis, C. Crestini, R. Saladino. “Efficient Oxidation of Thiophene Derivatives with Homogeneous and Heterogeneous MTO/H₂O₂ systems: a novel approach for Oxidative Desulfurization (ODS) of Diesel Fuel”. **Appl. Catal. B**, 89, 2009, 239-245. IF = 5.25; Q1; 71 cit.

23) S. Vezzosi, A. Guimerais Ferré, M. Crucianelli, C. Crestini, R. Saladino. “A novel and efficient catalytic epoxidation of olefins with adducts derived from methyltrioxorhenium and chiral aliphatic amines”. **J. Catal.**, 257, 2008, 262-269. IF = 5.17; Q1; 16 cit.

24) N. Margiotta, P. Papadia, F. Lazzaro, M. Crucianelli, F. De Angelis, C. Pisano, L. Vesci, G. Natile. “Platinum-Based Antitumor Drugs Containing Enantiomerically Pure α -Trifluoromethyl Alanine as Ligand”. **J. Med. Chem.**, 48, 2005, 7821-7828. IF = 4.93; Q1; 31 cit.