TEAM-TECH NEWS 2022

1. *TEAM:*

- **Project Leader** – Prof. Karol Grela
- **Project co-investigator** – Anna Kajetanowicz, PhD.
- **Coordinator** – Anna Rybicka, PhD., Magdalena Walczak, MSc, eng.
- **Technician** – Anna Mączka, MSc., Marcin Gołębicki, MSc.
- **Students** – Paweł Krzesiński, Jakub Piątkowski, Filip Struzik, Łukasz Grzesiński, Johannes Lerm, Agnieszka Tycz, Aleksandra Zasada, Błażej Peta, Patryk Mościcki, Szymon Turalski
- **PhD students** – Michał Dąbrowski, Mariusz Milewski, Wojciech Nogaś, Michał Patrzałek
- **Post-doc** – Artur Chołuj, PhD., Anupam Jana, PhD., Vishal Purohit, PhD., Agata Tyszka-Gumkowska, PhD.

2. *LOGOTYPE:*

3. *GENERAL INFORMATION AND FUNDING:*

- Project implementation period: **01.02.2017 – 30.09.2022**
- Project value: **5 392 344,00 PLN /** EU grant value: **5 392 344,00 PLN**
- Co-financing agreement number: **POIR.04.04.00-00-1D94/16-00**

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4. *PAPERS:*

1. Szczepaniak, G; Piątkowski, J.; Nogaś, W.; Lorandi. F.; Yerneni, S.S.; Fantin, M.; Ruszczyńska, A.; Enciso, A.E.; Bulska, E.; Grela, K.; Matyjaszewski, K. „An isocyanide ligand for the rapid quenching and efficient removal of copper residues after Cu/TEMPO-catalyzed aerobic alcohol oxidation and atom transfer radical polymerization", Chem. Sci., 2020, 11, 4251-4262,
2. Chołuj, A.; Nogaś, W.; Patrzałek, M.; Krzesiński, P.; Chmielewski, M.J.; Kajetanowicz, A.; Grela, K. „Preparation of Ruthenium Olefin Metathesis Catalysts Immobilized on MOF, SBA-15, and 13X for Probing Heterogeneous Boomerang Effect", Catalysts, 2020, 10(4), 438.
3. Jana, A.; Grela, K. "Forged and Fashioned for Faithfulness—Ruthenium Olefin Metathesis Catalysts Bearing Ammonium Tags" Chem. Commun. 2018, 54, 122-139.
4. Grela, K. „In My Element: Ruthenium" Chem. Eur. J. 2019, 25, 1606.

5. Szczepaniak, G.; Nogaś, W.; Piątkowski, J.; Ruszczyńska, A.; Bulska, E.; Grela, K., Semiheterogeneous Purification Protocol for the Removal of Ruthenium Impurities from Olefin Metathesis Reaction Products Using an Isocyanide Scavenger. Org. Process Res. Dev. 2019, 23, 836-844.
6. Patrzałek, M.; Piątkowski, J.; Kajetanowicz, A.; Grela, K., Anion Metathesis in Facile Preparation of Olefin Metathesis Catalysts Bearing a Quaternary Ammonium Chloride Tag. Synlett 2019, 30, 1981-1987.
7. Chołuj, A.; Krzesiński, P.; Ruszczyńska, A.; Bulska, E.; Kajetanowicz, A.; Grela, K., Non-covalent Immobilization of Cationic Ruthenium Complex in Metal-Organic Framework by Ion Exchange Leading to a Heterogeneous Olefin Metathesis Catalyst for Use in Green Solvents, Organometallics, 2019, 38, 3397-3405.
8. Planer, S.; Jana, A.; Grela, K. "Ethyl lactate: A green solvent for olefin metathesis" ChemSusChem 2019, 12, 4655-4661.
9. Jana, A.; Zieliński, G. K.; Czarnocka-Śniadała, S.; Grudzień, K.; Podwysocka, D.; Szulc, M.; Kajetanowicz, A.; Grela, K., Synthesis of Substituted β-Functionalised Styrenes by Microwave-Assisted Olefin Cross-Metathesis and Scalable Synthesis of Apremilast, ChemCatChem, 2019, https://doi.org/10.1002/cctc.201901473
10. Mukherjee, N.; Marczyk, A.; Szczepaniak, G.; Sytniczuk, A.; Kajetanowicz, A.; Grela, K., A Gentler Touch: Synthesis of Modern Ruthenium Olefin Metathesis Catalysts Sustained by Mechanical Force, ChemCatChem, 2019, 11, 5362-5369.
11. Kajetanowicz, A.; Grela, K. “Nitro and Other Electron Withdrawing Group-Activated Ruthenium Catalysts for Olefin Metathesis Reaction” Angew. Chem. Int. Ed., 2021, 60, 13738-13756, doi.org/10.1002/anie.202008150 Open Access
12. Planer, S.; Małecki, P.; Trzaskowski, B.; Kajetanowicz, A,; Grela, K. „Sterically tuned N-heterocyclic carbene ligands for the efficient formation of hindered products in Ru-catalyzed olefin metathesis” ACS Catal., 2020, 10, 11394-11404
13. Milewski, M.; Kajetanowicz, A.; Grela, K. „Improved preparation of an olefin metathesis catalyst bearing quaternary ammonium tag (FixCat) and its use in ethenolysis and macrocyclization reactions after immobilization on metal-organic framework (MOF)”, Arkivoc 2021, (2), 73-84. Open Access
14. Nienałtowski, T.; Szczepanik, P.; Małecki, P.; Czajkowska-Szczykowska, D.; Czarnocki, S.; Pawłowska, J.; Kajetanowicz, A.; Grela, K. "Large-Scale Synthesis of a Niche Olefin Metathesis Catalyst Bearing an Unsymmetrical N-Heterocyclic Carbene (NHC) Ligand and its Application in a Green Pharmaceutical Context" Chem. Eur. J., 2020, 26, 15708-15717, DOI: 10.1002/chem.202003830 Open Access -----> First published: 18 November 2020
15. Nienałtowski, T.; Krzesiński, P.; Baumert, M. ; Skoczeń, A.; Suska-Kauf, E.; Pawłowska, J.; Kajetanowicz, A.; Grela, K. "4-Methyltetrahydropyran as Convenient Alternative Solvent for Olefin Metathesis Reaction. Model Studies and Medicinal Chemistry Applications" ACS Sustainable Chem. Eng. 2020, 8, 49, 18215–18223, DOI: 10.1021/acssuschemeng.0c06668, Open Access -------> Publication Date: November 25, 2020
16. Patrzałek, M.; Zasada, A.; Kajetanowicz, A.; Grela, K.; „Tandem Olefin Metathesis/α-Ketohydroxylation Revisited”, Catalysts 2021,11(6), 719 https://doi.org/10.3390/catal11060719
17. Grudzień, K.; Nogaś, W.; Szczepaniak, G.; Grela, K.; „Larger scale Stahl oxidation with instant Cu removal in convenient synthesis of chiral bidentate N–heterocyclic carbene precursor” Polyhedron, 2021, 199, 115090

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19. Monsigny, L.; Piątkowski, J.; Trzybiński, D.; Woźniak, K.; Nienałtowski, T.; Kajetanowicz, A.; Grela, K. „Activated Hoveyda-Grubbs Olefin Metathesis Catalysts Derived from a Large Scale Produced Pharmaceutical Intermediate—Sildenafil Aldehyde” Advanced Synthesis & Catalysis, 2021, 363 DOI: 10.1002/adsc.202100669
20. Czarnocki, S.; Monsigny, L.; Sienkiewicz, M.; Kajetanowicz, A.; Grela, K. “Ruthenium Olefin Metathesis Catalysts Featuring N-Heterocyclic Carbene Ligands Tagged with Isonicotinic and 4-(Dimethylamino)benzoic Acid Rests: Evaluation of a Modular Synthetic Strategy” Molecules, 2021, 26, 5220, DOI: 10.3390/molecules26175220
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22. Toh, R. W.; Patrzałek, M.; Nienałtowski, T.; Piątkowski, J.; Kajetanowicz, A.; Wu, J.; Grela, K. „Olefin Metathesis in Continuous Flow Reactor Employing Polar Ruthenium Catalyst and Soluble Metal Scavenger for Instant Purification of Products of Pharmaceutical Interest” ACS Sustainable Chemistry & Engineering, 2021, 9, 16450–16458, DOI: 10.1021/acssuschemeng.1c06522
23. Patrzałek, M.; Zieliński, A.; Pasparakis, G.; Vamvakaki, M.; Ruszczyńska, A.; Bulska, E.; Kajetanowicz, A.; Grela, K. „Testing diverse strategies for ruthenium catalyst removal after aqueous homogeneous olefin metathesis”, J. Organomet. Chem. 2022, 122320 Open Access
24. Tyszka-Gumkowska, A.; Purohit, V.B.; Nienałtowski, T.; Dąbrowski, M.; Kajetanowicz, A.; Grela, K. „Testing enabling techniques for olefin metathesis reactions of lipophilic substrates in water as a diluent” iScience 2022 DOI:https://doi.org/10.1016/j.isci.2022.104131 Open Access

5. ***IMPORTANT EVENTS:***

- 3rd Interdisciplinary FNP, Warsaw 11-12 April 2019 (Prof. Grela and dr Kajetanowicz)

- New student will join our team: Filip (from September 2019), welcome in the group!
- New student will join our team: Łukasz (from December 2018), welcome in the group!
- We have a new project coordinator: Magdalena welcome in our team!
- New technician will join our team: Anna (from September 2019), welcome in our group!

- New Scientific will join our team: Paweł (from September 2019), welcome in our group!
- Extending the project implementation period to 31.01.2022 and increasing total budget project: 5 392 344, 00 PLN!
- Our student – Jakub Piątkowski – received a scholarship from the Minister of Science and Higher Education for students for significant achievements in the 2019/2020 academic year
- Our student – Jakub Piątkowski – became a finalist of the competition Golden Medal of Chemistry (2019/01)
- Our student – Jakub Piątkowski – recieved Honorable Mention Prize in the 4th Competition for the Diploma Thesis with the Highest Commercialization or Implementation Potential (2020/01)
- Dr Anna Kajetanowicz received Rector's award for scientists distinguished by their scientific and didactic achievements (2020/04)
- Dr Anna Kajetanowicz received Rector's award for scientists distinguished by their scientific and didactic achievements (2021/04)
- Prof. Karol Grela received Rector's award for scientists distinguished by their scientific and didactic achievements (2021/04)
- Dr Anna Kajetanowicz received 2nd degree award Wojciech Świętosławski (2021/12)
- New Post-doc will join our team: Vishal (from November 2020), welcome in our group!
- New Post-doc will join our team: Agata (from February 2021), welcome in our group!
- New technician will join our team: Marcin (from April 2021), welcome in our group!
- New students will join our team: Patryk and Błażej (from 21st June 2021), welcome in the group!
- New student will join our team: Szymon (from July 2021), welcome in the group!

- ***<u>OBTAINED TITLES AND SCIENTIFIC DEGREES</u>***
- Filip Struzik – BSc. defence (2020/09)
- Łukasz Grzesiński – MSc. defence (2020/09)
- Paweł Krzesiński – defended his engineering degree (2018/02)
- Paweł Krzesiński – MSc. defence (2019/06)
- Jakub Piątkowski – BSc. defence (2019/09)
- Aleksandra Zasada – MSc. defence (2018/10)
- Jakub Piątkowski – MSc. defence (2021/07)
- Mariusz Milewski – PhD defence (2020/10)
- Anna Kajetanowicz - obtained the title of dr hab. (2021/09)