

Joint Conference on Green Technology And Environmental Science & Waste Management and Recycling

August 25 - 26, 2022 / Avani Atrium Bangkok Hotel



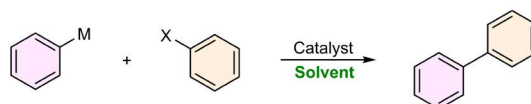
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Safer than Ever: Cross-Coupling Instead of Cooking

Development of renewable, safe, cheap and highly efficient solvents is a longstanding challenge in chemistry. From now on vegetable oils and related systems can be used not only for cooking but also in the organic synthesis. We have shown that transition metal-catalyzed cross-coupling reactions can be realized in a range of vegetable oils, butter and waxes used as a solvent. We have developed appropriate methodologies for high-throughput screening and isolation techniques applicable for vegetable oils and related systems. Vegetable oils can be exceptionally good reaction medium allowing Suzuki-Miyaura, Sonogashira and Buchwald-Hartwig cross-couplings to proceed with quantitative yields.^{1,2}

Vegetable Oils and Related Lipids as New Reaction Medium



Gevorgyan, A.; Hopmann, K. H.; Bayer, A. Lipids as versatile solvents for chemical synthesis. *Green Chem.* 2021, 23, 7219-7227.

Gevorgyan, A.; Hopmann, K. H.; Bayer, A. Improved Buchwald-Hartwig amination by the use of lipids and lipid impurities. *Organometallics* 2022, <https://doi.org/10.1021/acs.organomet.1c00517>.

Biography

Ashot obtained his PhD from University of Rostock, Germany, examining homogeneous catalysis and C-H functionalization. He then accomplished a 2 year postdoctoral studies in the Center of Molecular and Macromolecular Studies, Poland. There, he developed novel strategies for the selective and sustainable reduction of organic substrates. In 2018, Ashot moved to UiT The Arctic University of Norway, where he worked on the discovery of novel sustainable strategies for chemical fixation of CO₂. In 2021, he established his group at UiT The Arctic University of Norway. Currently, his research is focused on the develop renewable solutions for organic synthesis.