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Synthetic strategies for non-hydrolyzable pyrophosphate analogues

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List of publications

1. Uridine bisphosphonate-carbagalactose: a stabilized α -1,4-galactosyl-transferase inhibitor

Guo, J., Koster, N. de, Puffelen B. van, Steneker R., Verhoeks V., Ofman T. P., Overkleeft H.S., Artola Perez de Azanza, M.E., Filippov D. V., Codée J.D.C.

Manuscript in preparation

2. Synthesis of unsymmetrical difluoromethylene bisphosphonates

Guo J., Balić P., Borodkin V.S., Filippov D.V., Codee J.D.C.

Organic Letters 26(3), 739-744 (2024).

3. A method to construct glycosyl halides under neutral conditions

Chai Y., **Guo J.**, Zhou H., Wang J., Yang J.

CN 111269279 (Patent Application)

Curriculum vitae

Jianyun Guo was born on the 16th of Jun 1994 in Yanchi, Ningxia Hui Autonomous Region, China. After finishing his high school education in Ningxia Yucai high school, he was enrolled in Wuhan University of Technology in 2013, majoring in Applied chemistry. He obtained his Bachelor of Science in 2017 and joined in Shaanxi Normal University in the same year, majoring in Organic Chemistry. In 2020, he received his Master of Science degree after finishing the thesis “A Mild Approach to Glycosyl Halide Preparation and Its Application in One-Pot Stereoselective Glycosylation” under the supervision of Prof. dr. Yonghai Chai.

He then moved to Porton Pharma Solutions Ltd. in Chongqing as a process development engineer, focusing on the small-scale synthesis of innovative drug candidates and the optimization of pilot-scale synthetic routes, where he worked until June 2021.

He started his Ph.D. study on “Synthetic Strategies for Non-hydrolyzable Pyrophosphate Analogues”, presented in this thesis, in the bio-organic synthesis group of Leiden University from October 2021 and was supported by the China Scholarship Council (CSC). His doctoral studies were under the supervision of Prof. dr. Jeroen Codée and dr. Dmitri Filippov. He participated in Scientific Conduct courses during his program. Parts of his research were presented as a poster at the 21st European Carbohydrate Symposium in 2023 in Paris, France, and orally at the 31st International Carbohydrate Symposium in 2024 in Shanghai, China

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I would also like to express my deepest gratitude to my parents for their unwavering support throughout my studies. You have always been my strongest backing, providing me with constant encouragement, trust, and understanding at every stage of my journey. I am grateful to my brother and sister-in-law for their support and care, and to my nieces Yitian and Yixin for the joy, laughter, and light they bring into my life, which always remind me of what truly matters beyond work and research.

I would like to give special thanks to my girlfriend, Yapin, for her continuous support during my PhD journey. Your patience, encouragement, and belief in me have meant a great deal. Thank you for bringing laughter and surprises into my life, which have made this journey much brighter. I am truly grateful for everything you have done for me, and for always being by my side throughout these years.

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