

THE INTERNATIONAL CONFERENCE «CHEMISTRY OF ORGANOELEMENT COMPOUNDS AND POLYMERS – 2024»

BOOK OF ABSTRACTS

18-22 NOVEMBER 2024, MOSCOW





The international conference «Chemistry of Organoelement Compounds and Polymers – 2024»

BOOK OF ABSTRACTS

The conference is dedicated to the 70th anniversary of INEOS RAS and the 125th birth anniversary of its founder academician Alexander N. Nesmeyanov

> 18-22 november 2024 Moscow

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ORGANIZERS

- Division of Chemistry and Materials Sciences of RAS
 - Scientific Council of RAS on Organic Chemistry
 - A.N. Nesmeyanov Institute of Organoelement Compounds of Russian Academy of Sciences
 - Department of Chemistry, Moscow State University



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Proceedings of The international conference "Chemistry of Organoelement Compounds and Polymers –2024", held from November 18 to 22, 2024. The conference will cover both fundamental and applied aspects of organoelement and polymer chemistry. The conference program will include invited lectures, oral and poster presentations. The topics will include:

- Organoelement and coordination chemistry
- Homogeneous and heterogeneous catalysis
- New trends in polymer synthesis
- Organoelement polymers
- Physical chemistry of polymer systems
- · Organoelement and macromolecular compounds for biomedical applications
- Supramolecular chemistry and MOFs
- Organoelement and macromolecular compounds for material chemistry

These materials are based on the information provided by the participants and approved by the organizing committee. Theses materials are published in the author's version. The organizers are not responsible for inaccuracies and omissions in the names and addresses presented in this collection.



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ALUMINA-PROMOTED COPPER-CATALYZED HYDROBORATION OF ALKYNES

Barashkova X., Parulava M., Kotovshchikov Y., Latyshev G., Lukashev N., Beletskaya I.

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Vinylboronic esters are highly valuable intermediates in organic synthesis. Nowadays, transition metal-catalyzed hydroborations have largely replaced the non-catalytic variant. Despite the recent progress, especially in Cu-catalyzed hydroboration, the experimental procedure requires moisture-sensitive activators and stepwise preparation of "activated" catalyst.



We have demonstrated that the Cu-catalyzed hydroboration of alkynes with B_2Pin_2 can be mediated by alumina as base surrogate. The efficiency of Al_2O_3 is probably attributed to the presence of hydroxy groups on its surface. The combination of alumina with Cu precatalyst and phosphine ligand allows developing experimentally simple approaches to vinylboronates from terminal and internal alkynes. This was illustrated by the preparation of a series of styrylboronates as well as derivatization of steroid in CuCl/PPh₃ or Cu(OAc)₂/PPh₃-catalyzed hydroboration. The activation of Cu(I) by the neutral support should be considered in the development of heterogeneous catalysts for hydroboration.

Acknowledgements

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