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Boron Loaded Nucleic Acids and Their Assembly Into Functional Nanoparticles

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Damian Kaniowski,a Katarzyna Ebenryter-Olbińska,a Katarzyna Kulik,a Slawomir Janczak,b Anna Maciaszek,a Katarzyna Bednarska-Szczepaniak,b Barbara Nawrota*and Zbigniew J. Leśnikowskib*

aCentre of Molecular and Macromolecular Studies, Polish Academy of Sciences, Sienkiewicza 112, 90-363 Lodz, Poland; bInstitute of Medical Biology, Polish Academy of Sciences, Lodowa 106 92-232, Lodz, Poland

Nucleic acids, while retaining their status as "the molecules of life," are becoming "molecular wires," i.e., materials for the construction of molecular structures at the junction between the biological and inorganic worlds [1]. Natural as well as modified nucleic acids are used in practice. Unmodified nucleic acids are easily accessible because of the availability of automated chemical methods for nucleic acids synthesis, but their properties are ordinary. The aim of the second approach is the incorporation of new, "unnatural" properties, which is usually performed by adding suitable labels and modifying units into nucleic acids.
One of the original openings in nucleic acids modification were derivatives containing of boron cluster (polyhedral boron hydrides) component [2]. Herein, we will discuss the use of boron clusters as a platform in the design of a new type of bioinorganic composites comprising nucleic acids and boron clusters and will discuss some of their properties and applications [3-7].

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Collaboration

Primary authors: MACIASZEK, Anna (Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences); NAWROT, Barbara (Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences); KANIOWSKI, Damian (Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences); BEDNARSKA-SZCZEPANIAK, Katarzyna (Institute of Medical Biology, Polish Academy of Sciences); EBENRYTER-OLBIŃSKA, Katarzyna (Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences); KULIK, Katarzyna (aCentre of Molecular and Macromolecular Studies, Polish Academy of Sciences); JANCZAK, Slawomir (Institute of Medical Biology, Polish Academy of Sciences); LEŚNIKOWSKI, Zbigniew J. (Institute of Medical Biology, Polish Academy of Sciences)

Presenter: LEŚNIKOWSKI, Zbigniew J. (Institute of Medical Biology, Polish Academy of Sciences)

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