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Phosphorus Chemistry: from Molecule to New Technologies and Materials

Oleg Sinyashin

*Arbuzov Institute of Organic and Physical Chemistry, FRC Kazan Scientific Center, Russian Academy of Sciences, Arbuzov str., 8, 420088, Kazan, Russia
e-mail: oleg@iopc.ru*

The report presents the results of the author's work on phosphorus chemistry over the last 20 years. Special attention will be paid to current trends in the world science, such as: electrochemical processes for producing organophosphorus compounds from elemental phosphorus; stabilization of active polyphosphorus particles in the metal coordination sphere and production of molecular magnets based on them; development of methods for producing phosphorous-containing fullerene elements for organic solar cells; development of the concept of covalent self-assembly of macroheterocycles containing elements of group 5 (phosphorus and nitrogen) and the design of new biomimetic catalysts for hydrogen fuel cells and materials with photoluminescence properties on their base.

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