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Acyl peroxides: Selective synthesis and expected bioactivity

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Peroxides are widely used in various areas of life. Traditional and the most developed field is the application of peroxides as radical initiators in industrial processes in the manufacture of polymers from unsaturated monomers, as well as in crosslinking of silicone rubbers, acrylonitrile-butadiene rubbers, fluororubbers, polyethylene, ethylene-propylene copolymer, etc. The biological activity of organic peroxides is usually associated with the antimalarial properties of artemisinin and its derivatives. However, the analysis of published data indicates that organic peroxides exhibit a variety of biological activity-anthelmintic, antifungal, antiviral, etc.- which is still being given insufficient attention. The modern trend in medicinal chemistry of peroxides is the search of effective anticancer drugs. The natural and synthetic peroxides exhibiting a cytotoxic effect on cancer cells already include hundreds of compounds. In view of very dynamic development of these areas of medical chemistry, in the near future, one should

expect a breakthrough in the synthesis of biologically active peroxides and in understanding of its action with respect to a wide range of bio-targets. Rapid development of medicinal chemistry stimulates the development of new methods for the synthesis of organic peroxides. Focus on the selectivity and high yields revives previously non-selective chemistry of peroxides. This work was supported by RFBR according to the research project № 18-33-00651.

Biography

Vera A Vil has completed her PhD in Organic Chemistry by N D Zelinsky Institute of Organic Chemistry RAS in 2017. She has worked as researcher of N D Zelinsky Institute of Organic Chemistry RAS. Her interests are organic chemistry, medical and agricultural chemistry, chemical technology. She has published 24 papers in reputed journals and 5 patents.

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