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The magic world of organofluorine compounds

The chemistry of organofluorine compounds plays a considerable role in the modern chemical science. This is due to the broad spectrum of practical applications of fluorine compounds. Indeed, the modern medicinal chemistry and materials science cannot be conceived without fluorine derivatives. The ability of the fluorine atom or a fluorinated group to fundamentally affect the broad range of useful properties of molecules, including biological properties stimulates the development of new efficient synthetic routes to organofluorine compounds.

In Russia, the chemistry of organic compounds of fluorine started to be actively developed in the second half of the 20th century by scientific schools of Academicians I.L.Knunyants, I.Ya.Postovsky and A.V.Fokin. This circumstance, in turn, promoted vigorous development of this research area in the last decade. Currently, a variety of lines of research in organofluorine chemistry are developed in Russia, including methods for carbon–fluorine bond formation, synthesis of fluorinated heterocyclic compounds, and study of fluorinated organoelement compounds and reagents and mechanisms of chemical reactions involving them. Research teams that were not previously engaged in the studies of these compounds also switched to this research area.

This issue of *Russian Chemical Reviews* presents a review in which top Russian scientists from fourteen Institutes and Universities summarize the achievements in the key areas of modern organofluorine chemistry. The chapters of the review not only reflect the results obtained by the authors, but consider the promising growth areas and challenges of this actively developing area of chemistry.

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