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http://www.sci.ocha.ac.jp/chemHP/labos/yajimaHP/new_hp/yajimatoppage.html,
http://jglobal.jst.go.jp/detail.php?JGLOBAL_ID=200901073993330448

■ Researcher information

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Major

Synthetic Chemistry, Organofluorine Chemistry

CHEMISTRY

Organic Chemistry

Amino Acids

Fluorine **Radical**

■ **Research topics**

Synthesis of Fluorine-containing Organic Compounds

Keywords

Fluorine-containing materials, Radical reaction, Fluorinated amino acids, Stereoselective reaction

Contents

■ Overview (background, goal, detail)
  Organofluorine compounds have been receiving significant interest in materials science and medicinal chemistry. However the synthetic method of fluorinated compounds were limited. We have already reported the synthesis of fluorine-containing compounds using photo-induted radical reaction. Based on the reaction we are studying on new synthetic methods of fluorinated compounds and its application to medicinal drugs and functional materials.

■ Process, case study
 1) Stereoselective radical perfluoroalkylation
 2) Stereoselective synthesis of fluorinated amino acids
 3) Synthesis of fluorine-containing oligomers based on photo-induced reaction.

■ Potential (applications, future goals)
We can produce many unknown fluorine-containing compounds based on our previous reserch.
These techniques enables us to develop new synthetic methods for fluorinated compounds and fluorine containing functional materials.
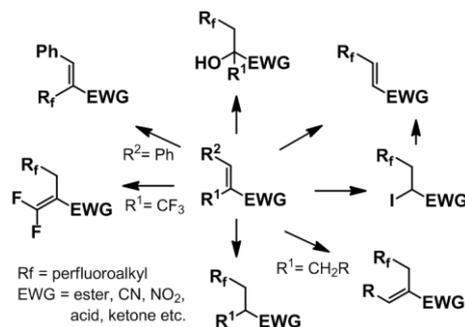
Rf = perfluoroalkyl
EWG = ester, CN, NO2, acid, ketone etc.

Potential of social/industrial contribution

■ Joint research/ licensing
  Joint research, licensing on the synthetic method of fluorinated compounds and its application based on our existing synthetic methodology will be available.