Interaction of 2-perfluoro-tert-butyl-3,3-diphenylo with perfluoro-tert-butyl anione

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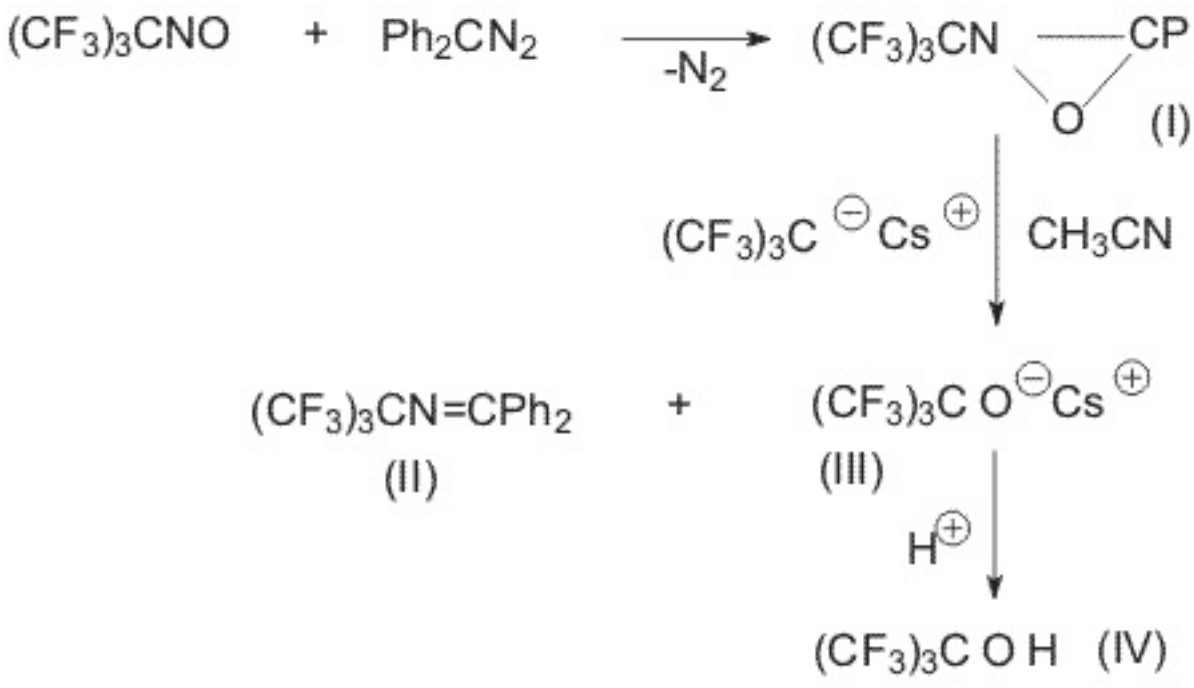
It was shown earlier that oxazaridine (I) obtained from 2-nitrosoperfluoroisobutane possessed properties both as weak electrophile and as weak nucleophile [1]. It enters cycload with such strong electrophiles as perfluorobutylisocyanate, hexafluoroacetone and Perfluoroisobutylene does not react with oxaziridine under the same conditions [1]. But acetonitrile at 20°C there are formed imine (II) and cesium salt of perfluoro-tert-butanol (III) butanol was produced (IV) [2,3].



Under the action of CsF perfluoroisobutylene is obviously converted into highly nucleophilic pe attacks the oxaziridine ring. Further conversions bring to the formation of imine (II) and ce butanol (III). In fact, oxaziridine oxidizes perfluoro-tert-butyl anion reducing to the imine. An containing α-lactone at interaction of oxaziridine(I) with perfluorodimethylketene in the prese formation of a non-identified mixture of products and in the case of N-phenyl-bis(trifluorom obtained a dimmer of the latter [4].

Experimental

Perfluoroisobutylene (2 mL) was passed into a suspension of freshly calcined CsF(1.5g, acetonitrile, the mixture was stirred for 2 hours at 20°C and the solution of oxaziridine (I) (4.1g acetonitrile was added dropwise. The reaction mixture was stirred for 48 hours at 20°C, distilled into a trap under vacuum. Absolute ether was added to the residue, the deposit was f 3g (81%) of Cs-salt of perfluoro-tert-butanol (III) that was dissolved in water, sulfur acid wa bottom layer was separated and distilled over concentrated sulfur acid. There was obtained 1. (IV), BP= 45-47°C. After distillation of the ether from the filtrate the residue was distilled. Ther

of imine (Ⅱ), BP=82-84^{o}C/ 0.01 mm Hg.

References

1. Del'tsova D.P., Gambaryan N.P., Lur'e E.P., Izv. AN SSSR, Ser. khim. 1979, N 8, 1788.
2. Zeifman Yu.V., Izv. AN SSSR, Ser. khim.,1992, N 2, 464.
3. Stefan P. Kotun, John D. O. Anderson, and Darryl D. Des Marteau, J. Org. Chem., 1992, 5
4. Del'tsova D.P., Gambaryan N.P., Zeifman Yu.V., Knunyants I.L., Zh. Org. Khim., 8, 856, (