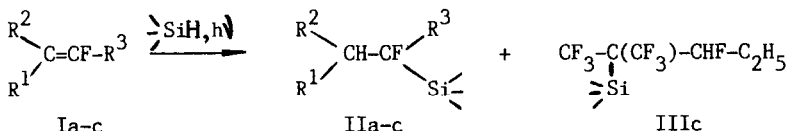


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PHOTOCHEMICAL HYDROSILYLATION OF INTERNAL PERFLUOROALKENES

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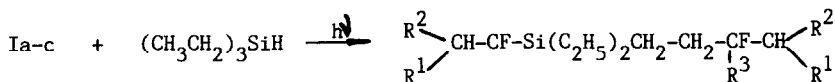
UV-irradiation induces addition reactions of internal perfluoroalkenes Ia-c with trichloro-, dichloro- and trimethylsilanes to give monohydrosilylation products isolated in 50-85% yields.



	R ¹	R ²	R ³	Silane	IIIc:IIc
a	CF ₃	F	CF ₃	Cl ₃ SiH	87:13
b	(CF ₃) ₂ CF	F	CF ₃	MeCl ₂ SiH	53:47
c	CF ₃	CF ₃	C ₂ F ₅	Me ₃ SiH	23:77

The intermediate radicals corresponding to structures IIa,b and IIIc are detected by ESR spectroscopy.

The free radical addition of triethylsilane to perfluoroalkenes Ia-c produces 1:2 adducts predominantly as a result of the homolysis of both Si-H and C-H bonds of the silane.



Photochemical reaction of the silanes with perfluoro-2,4-dimethyl-3-ethyl-pentene-2 generates the C³-centred radicals, which are stable for several months.