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## ELECTROCHEMICAL SYNTHESIS OF BIS(TRIFLUOROMETHYL) ALICYCLIC COMPOUNDS

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The electrochemical oxidation of trifluoroacetic acid anion in the presence of activated dienes,  $\text{ROOCCH}=\text{CH}(\text{CH}_2)_n\text{CH}=\text{CHCOOR}$ , gives bis(trifluoromethyl) alicyclic products. The ring size of the products was determined by comparing the fluorine nuclear magnetic resonance spectra of the protonated compounds with the corresponding  $\alpha,\alpha'$ -dideuterated analogues. The results can be explained by an intramolecular radical addition and by an intramolecular coupling of a biradical intermediate.

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THE  $^{13}\text{C}$  N.M.R. SPECTRA OF SOME POLYFLUOROALICYCLIC COMPOUNDS

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Wide band  $^{19}\text{F}$  decoupled  $^{13}\text{C}$  nmr spectra of perfluorocyclopentane, -cyclopentene, -cyclohexane, -cyclohexene, cycloheptane and heptene, monahydroonafluorocyclopentane, monohydrundecafluorocyclohexane, monohydrotridecafluorocycloheptane and related compounds have been obtained. Some  $J_{\text{CH}}$  and  $J_{\text{CF}}$  values have been observed.

Also measured were the  $^{13}\text{C}$  spectra of perfluorocyclohexa-1,3- and -1,4-dienes perfluoro 1,4 dimethylcyclohexane cis and trans perfluorodecalin, hexadecafluorobicyclo[4,4,0]deca-1(6)-ene and 3H,4H-tetradecafluorobicyclo[4,4,0]deca-1(6)-ene.

The use of  $^{19}\text{F}$  decoupled  $^{13}\text{C}$  nmr for structural investigation on highly fluorinated alicyclic compounds will be discussed and the influence of structure on the nmr parameters considered.