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INTERMOLECULAR HETERONUCLEAR ^{19}F-^{1}H NOE IN β-FLUOROAMMONIUMS-CROWN-ETHER: APPLICATIONS TO DISTANCE MEASUREMENTS AND PREPARATION OF HOESY EXPERIMENTS FOR OTHER SYSTEMS

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Intermolecular heteronuclear ^{19}F-^{1}H Nuclear Overhauser Effects were measured on several β-fluoroammonium-18-6 crown-ether systems. The first three systems were studied:

(i) $PhCHFCH_2NH_3^+Cl^-$/18-6 crown-ether

(ii) $PhCHFCHNH_3^+(PhCHMeCOO^-)$/18-6 crown-ether

(iii) $PhCHFCMe_2NH_3^+Cl^-$/18-6 crown-ether

Comparison of the NOE from the intramolecular ^{19}F (Cβ) ^{1}H spin system and from the intermolecular ^{19}F (ammonium) ^{1}H (CH_2 from 18-6 CE) gives the mean distance of approach of the ammonium group solvated by the crown-ether. This measurement could be made in systems i and ii (two diastereoisomers). For the system iii the intramolecular NOE effect was negligible.

HOESY experiments were undertaken on the same systems to prepare experiments using this intramolecular NOE effects on more complex host-guest systems.

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