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INVESTIGATIONS ON THE PREPARATION OF 2,2,2-TRIFLUOROETHANOL BY ELECTROCHEMICAL REACTIONS

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2,2,2-Trifluoroethanol has been synthesized by electrochemical reactions for the first time. Investigations with 11 different types of electrolytes showed, that only in one of them 2,2,2-trifluoroethanol can be prepared by the reaction of trifluoromethyl radicals, generated by the anodic oxidation of trifluoroacetates.

Solutions of sodium hydroxide in trifluoroacetic acid-acetonitrile-methanol-mixtures in the presence of water gave 2,2,2-trifluoroethanol at ambient temperature. There are still many possibilities left for further optimization of this synthesis.