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(54) Title: PRODUCTION OF ALIPHATIC FLUOROCARBONS

(57) Abstract: Processes for preparing a variety of fluorocarbons are disclosed. Processes are described wherein the yields of desired products are increased by endlessly converting the undesired products to reactive intermediates. Trifluoroethylene is prepared in greater than 50 % yield by pyrolyzing 1-chloro-2,2,2-trifluoroethane at a temperature about 725 °C. 1,1,1,3,3-Pentafluoropropylene is prepared by pyrolyzing 1-chloro-2,2,2-trifluoroethane in the presence of chlorodifluoromethane. Trifluoroethylene is prepared by pyrolyzing 1,2,2,2-tetrafluoroethane. 1-Chloro-2,2-difluoroethylene is prepared by pyrolyzing 1-chloro-2,2,2-trifluoroethane. 1,1-Dichloro-2,2-difluoroethylene is prepared by pyrolyzing 1-chloro-2,2,2-trifluoroethane in the presence of chlorodifluoromethane and hydrogen chloride. 1,1,1,2,3,4,4,4-Octafluoro-2-butene is prepared by pyrolyzing 1-chloro-1,2,2,2-tetrafluoroethane. 1,1,1,2,3,4,4,4-Octafluoro-2-butene is prepared by pyrolyzing 1,1,2,2,2-pentafluoroethane. 1,2,2,2-Tetrafluoroethane is prepared by pyrolyzing 1,1,2,2,2-pentafluoroethane. 1,1-Dichloro-1,2,2,2-tetrafluoroethane is prepared by pyrolyzing 1-chloro-1,2,2,2-tetrafluoroethane.