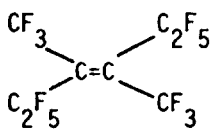


SYNTHESES AND REACTIONS OF SOME FLUORINATED DIENES, CYCLOBUTENES
AND FURANS

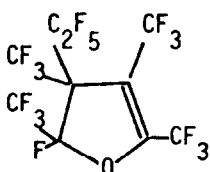
R D Chambers,† H C Fielding, and A A Lindley

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Winnington, NORTHWICH, Cheshire CW8 4DJ, England

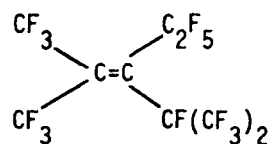
There are many reports¹ of the pyrolysis of fluorinated organic compounds, including the defluorination of cyclic fluorocarbons over iron to give aromatic compounds. Extending this technique we have investigated the flow pyrolysis of some readily accessible unsaturated fluorocarbons, such as I, II, and III, and found these to be syntheti-



I



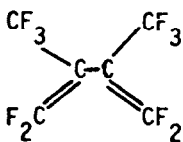
II



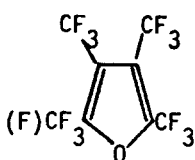
III

cally useful routes to fluorinated dienes, cyclobutenes, and furans. Pyrolyses were carried out using a nitrogen flow over platinum, iron or caesium fluoride heated at 430-700°. The various products can all be rationalized in terms of intermediate allylic radicals, and the solid substrate influences which allylic radicals are formed.

We are also investigating the chemistry of those now accessible compounds, such as IV, V, and VI, and some of the preliminary results are described.

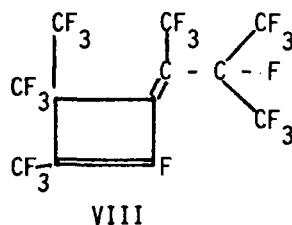
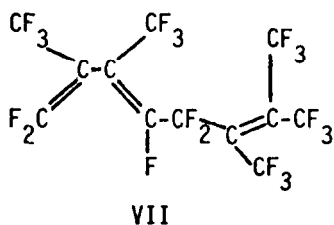


IV



(V), VI

For example the fluoride ion induced dimerisation of IV gave two major products VII and VIII via a particular interesting mechanism.



1) V.E. Platonov and G.G. Yakobson, *Synthesis* 1976, 374 and references cited therein.

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