STEROSPECIFIC SYNTHESIS OF 1,2-DIFLUOROETHYLENES

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So far, no general and simple synthetic method was available to prepare 1,2-difluoroethylenes 1 bearing only one hydrocarbon substituent.

We developped such a method, using the steps outlined in the following sequence :

R-CO-CH₂Br
$$\xrightarrow{\text{KF,C}_6\text{H}_6}$$
 R-CO-CH₂F $\xrightarrow{\text{PEG-1000}}$ or DAST

$$R-CF_2-CH_2F \qquad \frac{t.BuOK/t.BuOH}{f} \qquad C = C \qquad C$$

R = alkyl, cycloalkyl, phenyl

The alkenes $\underline{1}$, whose configuration was always found to be 2 could be epoxidized into cis 1,2-difluoroepoxydes.

The different steps will be detailed and discussed.