

P-18

ADDITION OF SF₅Cl (AND TeF₅Cl) ACROSS C=C DOUBLE BONDS

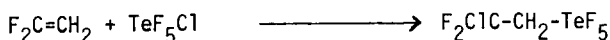
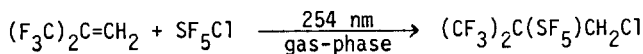
T. Krügerke* and K. Seppelt

Institut für Anorganische und Analytische Chemie, Freie Universität Berlin, Fabeckstrasse 34–36, D-1000 Berlin 33 (F.R.G.)

The SF₅-group is a substituent with a high (group)-electronegativity. Several methods are known to introduce this substituent into organic molecules, but only the addition of SF₅Cl is of preparative significance. The addition takes place with a radicalic mechanism. The direction to unsymmetrically substituted alkenes can be predicted by use of the anti-Markownikow-rules, if one assumes, that the SF₅-radical is added first. Tert-C-SF₅-compounds are not described in the literature, probably because tert-C-radicals are the most stable.

The reactivity of C-C multiple bonds is decreased by electron withdrawing substituents, especially by SF₅-groups. Therefore only traces of geminal substituted SF₅-compounds could be obtained by addition of SF₅Cl to vinyl-sulfurpentafluorides.

Now we found conditions to add SF₅Cl (and TeF₅Cl) to unreactive alkenes to obtain both a tert-C-SF₅-compound and a geminal SF₅-substituted alkene.



The analogous reaction with SeF₅Cl failed, the main products were SeF₄ and ClH₂C-CF₃.