

FLUORINATED SULFUR SYSTEMS WITH SINGLE, DOUBLE AND TRIPLE BONDS

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The preparation of alkylidene sulfur tetrafluorides, $R_2C=SF_4$, is presented. They exhibit a rigid structure, which can be described as trigonal bipyramidal or pseudo-octahedral around sulfur. The chemistry is mostly addition across the sulfur carbon double bond, but also carbene formation. In a single case HF can be cleaved from $CF_3-CH=SF_4$, and $CF_3-C \equiv SF_3$ is formed. This novel triple bond is analysed by the usual structural methods, resulting in the shortest CS bond length known so far. The slight deviation (7°) from non linearity is discussed. $CF_5-C \equiv SF_3$ dimerizes spontaneously to $CF_3(SF_3)C=CSF_3(CF_3)$.