

SYNTHESIS AND STRUCTURES OF FLUORINATED THIA TRIAZINES

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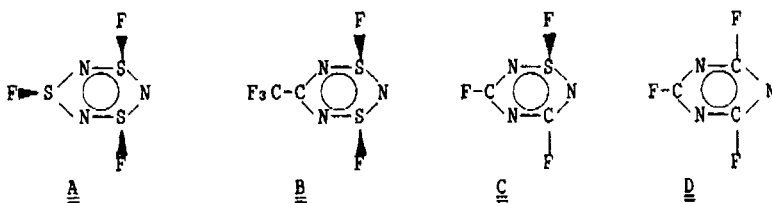
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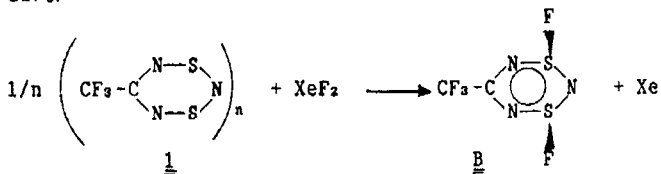
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Compared to trifluorotrithiazine A exchange of SF- by CF-groups greatly enhances the thermal stability of these ringsystems.



The synthesis of B was achieved by fluorine addition to the dithiazine 1 via XeF_2 , C was obtained from the appropriate trichloro-derivative by metathesis with SbF_3 :



Substitution of the sulfur bonded halogen by nucleophiles (e.g. silylamines) is possible without destruction of the ring system. Halide abstraction by fluoro-Lewis-acids will give stable salts, e.g. $\text{CF}_3\text{CN}_2\text{S}_2\text{F}^+\text{AsF}_6^-$ and $\text{C}_2\text{F}_2\text{N}_2\text{S}^+\text{AsF}_6^-$, respectively. The structures of A - D were determined in the gas phase by electron diffraction, the bonding situation in these heterocycles is discussed with respect to increasing carbon content. The experimental results are compared with MNDO-calculations.