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SYNTHESIS AND REACTIONS OF 5-FLUOROSUBSTITUTED PYRAZOLES

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The pyrazoles (Ia,b) are obtained from perfluoro-2-methyl-pentene-2 as monosubstituted hydrazines in the presence of a triethylamine in one pot preparation.

$$(CF_3)_2C=CF-C_2F_5$$
 NEt_3
 $(CF_3)_2C=CF-C_2F_5$
 $(CF_3)_2C=C$

These pyrazoles are good starting materials for further nucleophilic exchange reactions; thus, 5-hydroxy-, 5-alkoxy-, 5-amino- and 5-mercaptoderivatives of pyrazoles (II-IV) are formed by reaction of (Ia) with O-, N- and S-nucleophiles.

$$C_{2}F_{5}-C_{1}-C_{2}F_{5}$$

$$Nu:-OR,-NH_{2},-N$$

$$OR_{1}-NHNH_{2},-N$$

$$OR_{2}-NHNH_{2},-N$$

$$OR_{2}-NHNH_{2},-N$$

$$OR_{3}-NHNH_{2},-N$$

$$OR_{4}-NHNH_{2},-N$$

The reaction mechanisms are discussed.