

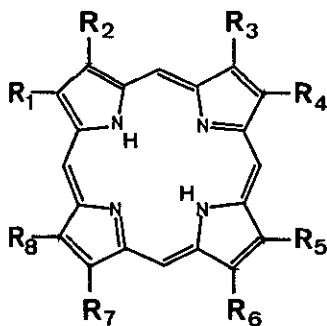
## TRIFLUOROMETHYL GROUPS

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interaction between apo-protein and prosthetic group by monitoring  $^{19}\text{F}$ -NMR spectroscopy.

Successive reduction with  $B_2H_6$  gave 3-hydroxyethyl-4-trifluoromethylpyrrole as a key compound for building the trifluoromethylated protoheme-IX in site-specific manner. Paramagnetic  $^{19}F$ -NMR of met-heme and met-myoglobin reconstituted with new heme will be described by comparing diamagnetic signals of metalloporphyrins.



- $$\begin{array}{ll}
 1) R_1, R_3, R_5, R_8 = -CH_3 & R_2, R_4 = -I \quad R_6, R_7 = -CH_2CH_2CO_2CH_3 \\
 2) " & R_2 = -I, R_4 = -CF_3 \quad " \\
 3) " & R_2, R_4 = -CF_3 \quad " \\
 4) R_2, R_4 = -CH_2CH_3 & R_1, R_3 = -CF_3 \quad R_5, R_8 = -CH_3 \quad " \\
 5) R_1R_3R_5 = -CH_3 & R_8 = -CF_3 \quad R_2, R_4 = -CH_2CH_3 \\
 & R_6 = -CH_2CH_2CO_2CH_3 \quad R_7 = -CH_2CH_2CN
 \end{array}$$