

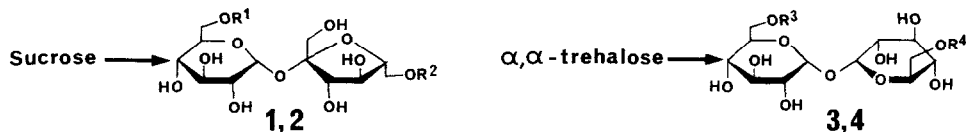
PERFLUOROALKYLATED SUCROSE, TREHALOSE, MALTOSE AND
GLUCOSE DERIVATIVES: SURFACTANTS FOR BIOMEDICAL USES

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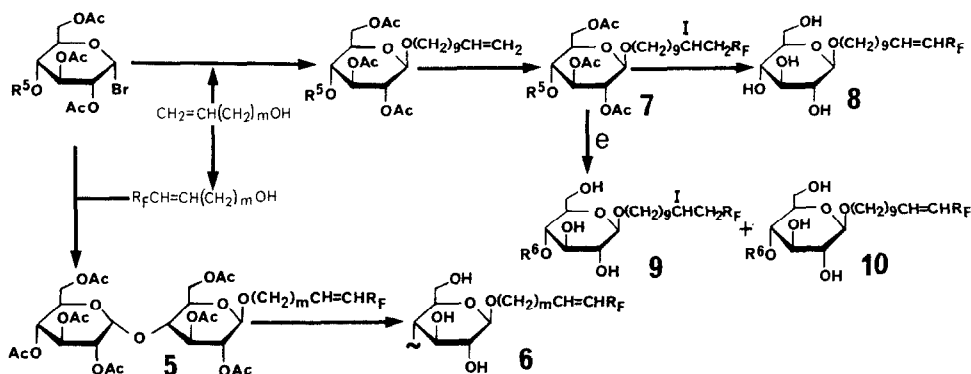
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New neutral F-alkylated surfactants have been synthesized and evaluated, the objectives being to improve the stability of fluorocarbon emulsions to be used as injectable O_2 -carriers and gain improved control over their biologically relevant characteristics.

A series of mono- and diesters of sucrose (1, 2) and trehalose (3, 4) was prepared using Mitsunobu's condensation procedure ($R^1-R^4 = H$ or $C_nF_{2n+1}(CH_2)_mC(O)$).



New perfluoroalkylated glycosides were obtained using the Koenigs-Knorr reaction :



5, 6 : $m = 3, 9$, $R_F = C_6F_{13}$; $m = 9$, $R_F = C_8F_{17}$. 7 : $R^5 = \text{MeC(O)}$, $R_F = C_6F_{13}$, C_8F_{17} ;
 $R^5 = \text{per-O-acetyl-}\alpha\text{-D-glucopyranosyl}$, $R_F = C_6F_{13}$. 8 : $R_F = C_6F_{13}$, C_8F_{17} . 9, 10 :
 $R^6 = H$, $\alpha\text{-D-glucopyranosyl}$, $R_F = C_6F_{13}$.

The surface activity of the new compounds was measured (γ_s , γ_i /F-decalin, CMC). The F-alkylated maltosides were found to be particularly efficient as cosurfactants in conjunction with a polyoxypropylene polyoxyethylene block polymer (Pluronic F-68).