BIOTECHNOLOGY

Edited by C. F. PHELPS and P. H. CLARKE

The fourteen contributions forming this volume were presented at a London meeting of the Biochemical Society including the Society's Forty-Eighth Symposium 'Biotechnology', in December 1982. With today's increasing pressures to develop latest laboratory findings into practical industrial processes as quickly as possible the chosen theme of this Symposium was a timely one. The papers represent up-to-date reports from international biochemists whose work is of direct relevance to the wide areas of interests concerned with biotechnology, together with glimpses of the early development of its techniques and a look at its exciting future.

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The Tritylsulfonyl Moiety
For New Synthetic Applications

Recently B.P. Branchaud described some most interesting synthetic applications of tritylsulfonyl chloride (tritylmethanesulfenyl chloride, TrSCI) and tritylsulfinamide (tritylmethanesulfinamide, TrSNH₂). Somewhat surprisingly, they are crystalline, stable reagents.

Ph₃CSCI  \(\text{TrSCI}^+\) 
Ph₃CSNH₂  \(\text{TrSNH}_2^-\)

TrSCI⁺ reacts with amines to yield the corresponding tritylsulfinamides in which the nitrogen is non-basic and stable to aqueous alkali and acid. Yet the Tr group is easily cleaved under a variety of mild conditions, making it a potentially important nitrogen-protecting group. Its synthetic utility is illustrated in the elegant synthesis of the bicyclic amine, δ-coniceine.

Carbonyl compounds react with TrSNH₂ to form tritylsulfinimines and thus enable the mild reductive amination of carbonyls, with the added feature of introducing a protected form of nitrogen.

Reference:

27,696-0  Triphenylmethanesulfonyl chloride, 99%
25g $19.80; 100g $74.00
27,701-0  Triphenylmethanesulfinamide, 97%
1g $7.20; 5g $24.05

4-Nitrobenzaldehyde Hydrazide (PNBH)
Precursor to 4-Nitrophenyldiazomethane

\[
\begin{align*}
\text{O}_2\text{N} & \quad \text{MnO}_2 \quad \text{or AcOOH} \\
\text{CH} &= \text{NHNH}_2 \\
\end{align*}
\]

These esters are readily cleaved by various methods, including acid hydrolysis, reduction with zinc and acid, hydrogenolysis, electrolysis, and other means of chemical reduction.

References:

28,118-2 4-Nitrobenzaldehyde hydrazide, 98%
5g $11.85; 25g $39.55

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