

A SIMPLE SYNTHESIS OF ALKYLATED TAURINE DERIVATIVES

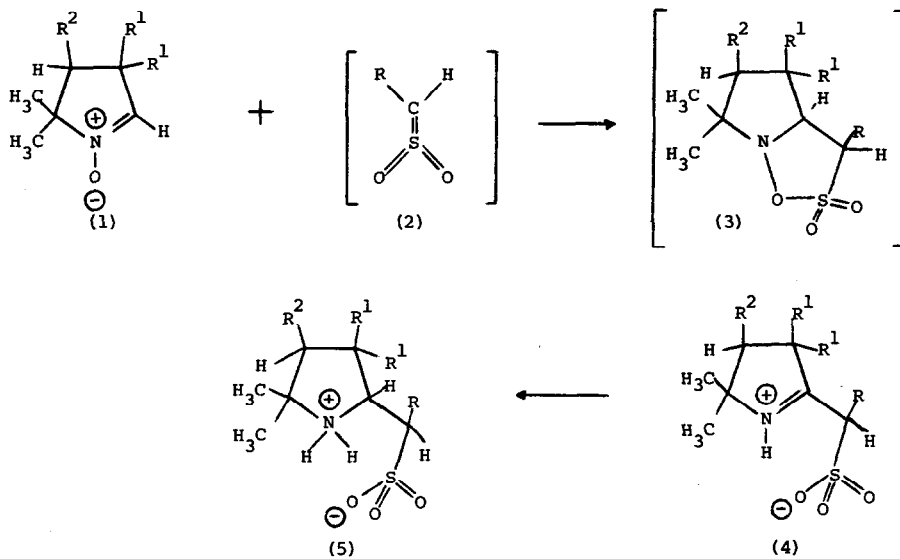
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β -Aminoethanesulphonic acid (taurine) and its alkyl derivatives are of interest because of their industrial uses and biological properties.¹ We report here a simple synthesis of a series of alkylated taurine derivatives (5), which exhibit a new type of substitution pattern. These β -amino sulphonic acids (5) have been readily obtained (70-90%) by hydrogenation of the related β -imino sulphonic acids (4) using Adams catalyst in aqueous ethanol. β -Imino sulphonic acids (4) can be isolated in good yield (50-70%) from the reaction in benzene of 1-pyrroline 1-oxides (1)² with sulphenes (2), generated from the related sulphonyl chlorides and triethylamine. The products (4) precipitate during several hours together with triethylamine hydrochloride, which is removed by washing with absolute ethanol. The β -imino sulphonic acids (4) can be recrystallised from ethanol or aqueous ethanol. All new compounds (4 and 5) have been fully characterised by spectral and analytical data and both structural types show intramolecular hydrogen bonding according to p.m.r. evidence.

The cycloadducts (3) are suggested as unstable intermediates in the formation of compounds (4), although they have not been detected. Similar intermediates have been postulated in the related reactions³ of acyclic N-aryl nitrones with sulphenes, which produce benzoxathiazepins.



- (a), $R = R^1 = R^2 = H$
 (b), $R = R^2 = H, R^1 = CH_3$
 (c), $R = R^1 = H, R^2 = C_6H_5$
 (d), $R = C_6H_5, R^1 = R^2 = H$
 (e), $R = C_6H_5, R^1 = CH_3, R^2 = H$
 (f), $R = R^2 = C_6H_5, R^1 = H$

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