The NA were synthesized according to reported procedures [1-6]. Tetrabutylammonium salts of the NA were obtained by an exchange reaction of the alkali salts of the NA with tetrabutylammonium bromide in a minimal amount of water with subsequent recrystallization from methanol or aqueous methanol. Salts (I) and (II) were generated in situ by mixing equimolar amounts of tetrabutylammonium hydroxide and the NA in acetonitrile. The purity of the salts was determined spectrophotometrically relative to the UV band at 270-370 nm.

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EFFICIENT SYNTHESIS OF LINEAR Z-ISOPRENOIDS USING THE MONOACETAL OF GLUTARIC DIALDEHYDE

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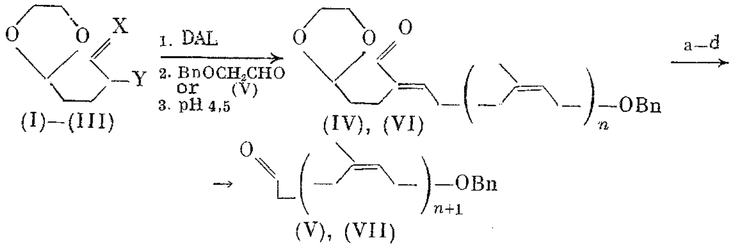
The controlled cross-coupling of readily available aldehydoacetal (I) as an imine (II) or corresponding silyl derivative (III) is an efficient method for the highly stereoselective construction of a regular Z-isoprenoid chain. Thus, starting with imines (II) or (III) deprotonated by the action of i-Pr_2NLi (DAL) and benzyloxyacetaldehyde, E-disubstituted acrolein (IV) was obtained at −70°C in 50-55% yield. Exhaustive reduction of the CHO group in (VI) and the subsequent removal of the acetal protective group smoothly gave aldehyde (V). Repetition of these operations with (V) leads to acrolein (VI) and then aldehyde (VII). The stereochemical purity of E-acroleins (IV) and (VI) and the corresponding Z-olefins (V) and (VII), which, in turn, may be obtained by the selective oxidative cleavage of benzyl ethers of nerol and Z,Z-farnesol, respectively (and readily converted into the latter), exceeds 95% [1]. The structures of all the compounds studied were supported by spectral data and, when necessary, by elemental analysis.



X = O, Y = H(I); X = NBu-*t*, Y = H(II); X = NBu-*t*, Y = $SiMe_3$(III); *n* = O(IV), (V); *n* = 1(VI), (VII). $NaBH_4$(a), Py·SO_3(b), $LiAlH_4$(c), $H_3O^{\oplus}$ (d).

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