

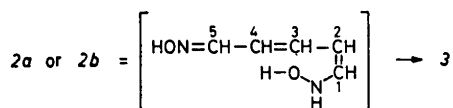
Table 1. Chemical shift $\delta(i)$ ^a and coupling constants J_{ij} in 3.

Atom (i)	$\delta(i)$	Atoms (i, j)	$ J_{ij} $ (Hz)
H(3)	7.4 (7.4)	H(3), H(4a)	1.7 (1.7)
H(4a)	3.0 (3.0)	H(3), H(4b)	1.7 (1.7)
H(4b)	2.6 (2.6)	H(4a), H(4b)	17.8 (17.8)
H(5)	4.6 (4.6)	H(4a), H(5)	10.0 (10.0)
H(6)	2.5 (2.5)	H(4b), H(5)	7.4 (7.4)
H(7)	6.6 (7.2)	H(5), H(6)	5.7
H(8)	11.0 (10.5)	H(6), H(7)	5.4
C(3)	147.1 (146.9)		
C(4)	40.3 (40.0)		
C(5)	74.7 (75.2)		
C(6)	30.3 (34.6)		
C(7)	146.0 (146.0)		

^a Relative to TMS.

The NMR spectrum of the reaction product before purification consisted of two sets of lines, which we assigned to the two isomers, *syn* and *anti*, in ratio 1:1. After distillation only one of the isomers was obtained with m.p. 87–89 °C. The values in brackets in Table 1 are the ones associated to the other isomer. The differences of the chemical shifts in the two compounds have been used in the assignment of the lines.

The mechanism for the formation of 3 are similar to well-known syntheses of isoxazolines and can be explained by assuming 2a or 2b as an intermediate. The C(3)–C(4) double bond in 2a or 2b may after isomerization add the hydroxylamine moiety to give 3:



We have shown ⁶ that addition of for example an alcohol to the C(3)–C(4) double bond in the acetals of 1 readily takes place.

Experimental. Microanalyses were carried out in the Microanalytical Department of the University of Copenhagen by Mr. Preben Hansen.

Instrumentation: UV, Beckman ACTA III; MS, AEI-MS 902; ¹³C NMR and ¹H NMR, Jeol. FX-60.

2-Isoxazolin-5-yl acetaldehyde oxime 3. Following the reported procedure,⁴ the sodium salt of glutacondialdehyde (1) (15 g) and hydroxylamine was refluxed in absolute ethanol. Evaporation of the ethanol and continuous extraction of the residue with ether yielded nearly colourless crystals, 4.2 g (34 %). Distil-

lation of the crude product yielded as the main fraction (b.p. 136–138 °C/0.5 mmHg) colourless crystals of 3, m.p. 87–89 °C. The distillate as well as the crude product gave rise to only one spot by TLC on silica gel with different solvents as eluents. (Baumgarten reported a yield of 32 % and m.p. 88 °C). Anal. C₅H₅O₂N₂: C, H, N.

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