STRUCTURE OF THALISOPIDINE

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The isolation of the new alkaloid thalisopidine (I), $C_{37}H_{40}N_2O_7$, a bisbenzyltetrahydroisoquinoline base, from the roots of Thalictrum isopyroides C. A. M. has been reported previously [1].

The methylation of thalisopidine (I) gave a O, O-dimethyl ether, mol. wt. 652 (mass spectrometry). The formation of the latter shows the presence of two hydroxyl groups in substance I.

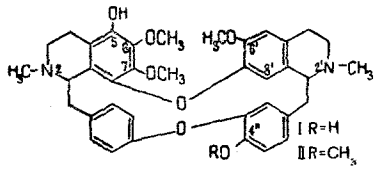
The NMR spectrum of I, taken on a JNM-4H-100/100 MHz instrument (τ scale) has signals at 7.56 and 7.51 ppm, each of three proton units, due to the protons of two N-methyl groups. The signals of the protons of three methoxyl groups appear in the form of three singlets: at 7.04, 6.70, and 6.30 ppm. The NMR spectrum of thalisopidine (I) is very similar to that of thalisopine (II) (table).

NMR Spectra

Alkaloid	N–CH_3		O–CH_3				$H_{arom.}$
	2	2'	6	6'	7	4"	8'
Thalisopidine	7.51	7.56	6.30	6.70	7.04	–	3.70
Thalisopine	7.52	7.57	6.30	6.71	7.00	6.14	3.69

A comparison of the spectra of I and II showed that the spectrum of thalisopidine (I) lacks the signal of the protons of a methoxyl group in position 4". Consequently, the second hydroxyl group in I occupies the C-4" position. The presence of a hydroxyl group at C-4" is confirmed by its clear phenolic nature, and also by a positive Million reaction [2].

On the basis of these facts, structure I is proposed as the most probable for thalisopidine.



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