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REACTION OF 1'-METHYL-1',4'-DIHYDRO-2,3'-BIQUINOLYL WITH ORGANOLITHIUM COMPOUNDS

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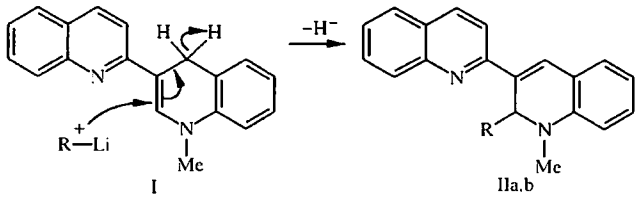
We have previously developed a number of methods for the synthesis of 1'-alkyl-1',4'-dihydro-2,3'-biquinolyls I which permitted their properties to be studied. This work is concerned with their reactions with organolithium compounds.

We have established that when compound I reacted with MeLi (1.4 mol/liter in ether) or PhLi (2 mol/liter in cyclohexane with ether) (molar ratio 1:2.5) in absolute THF at room temperature for 15 min (isolation was analogous to a previous method [2]) 1'-methyl-2'R-1',2'-dihydro-2,3'-biquinolyls IIa, b were formed exclusively which is in excellent agreement with the following mechanism:



I IIa,b

IIa R = Me, b R = Ph

Complete conversion of biquinolyl I was not achieved by either using a larger excess of the organometallic compounds or by increasing the reaction time.

The structures of the compounds synthesized were confirmed by ^{1}H NMR spectroscopy and by independent synthesis [2]. There was no depression of the melting point for mixtures of all the synthesized compounds with compounds of known structure. The ^{1}H NMR spectra were identical with those obtained previously [2].

1',2'-Dimethyl-1'-2'-dihydro-2,3'biquinolyl (IIa). $C_{20}H_{18}N_2$. Yield 76%; mp 168-169°C (benzene–hexane). Lit. [2] mp 168-169°C.

1'-Methyl-2'-phenyl--1',2'-dihydro-2,3'-biquinolyl (IIb). $C_{25}H_{20}N_2$. Yield 74%; mp 138-139°C (ethanol). Lit. [2] mp 138-139°C.

The mechanism of the reaction is currently being studied.

REFERENCES

1. A. V. Aksenov, D. V. Moiseev, and O. N. Nadein, *Khim. Geterotsikl. Soedin.*, in press (1999).
2. A. V. Aksenov, O. N. Nadein, D. V. Moiseev, and Yu. I. Smushkevich, *Khim. Geterotsikl. Soedin.*, No. 7, 919 (1999).

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