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REACTIONS OF 1'-BENZYL-1',4'-DIHYDRO-2,3'-BIQUINOLINE WITH ORGANOLITHIUM COMPOUNDS

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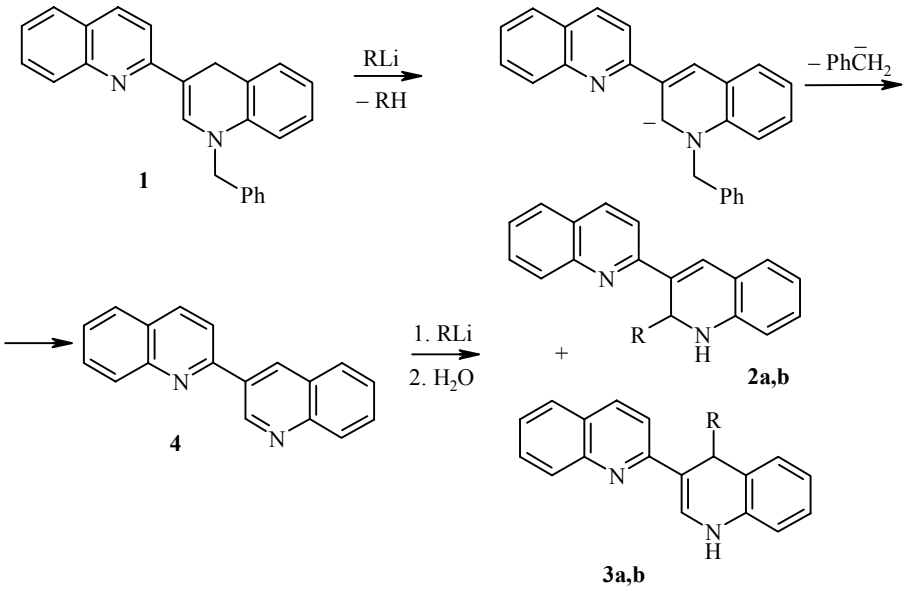
We previously [1] studied the reactions of 1'-methyl-1',4'-dihydro-2,3'-biquinoline with organolithium compounds. In this paper we report on the reactions of 1'-benzyl-1',4'-dihydro-2,3'-biquinoline (**1**) with organolithium compounds.

We have established that, in contrast to 1'-methyl-1',4'-dihydro-2,3'-biquinoline, compound **1** gives with MeLi (1.4 mol/l in ether) or PhLi (2 mol/l in cyclohexane with ether in a mole ratio of 1:3.5 in absolute THF at room temperature in 15 min, with isolation analogous to that described elsewhere [2]) a mixture of 2'-R-1',2'-dihydro-2,3'-biquinolines **2a** and **2b** and 4'-R-1',4'-dihydro-2,3'-biquinolines **3a** and **3b**, in ratios analogous to the addition of these reagents to the 2,3'-biquinoline **4** (**2a**:**3a** 3:17, **2b**:**3b** 1:1). These experimental results are in good agreement with the mechanism shown in the scheme which includes the intermediate formation of the biquinoline **4**.



2, 3 a R = Me; **b** R = Ph;

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The structures of the substances synthesized were confirmed by their ^{1}H NMR spectra and by independent synthesis [2]. For all of the compounds mixed melting points with known samples did not give depression of the melting point. Their ^{1}H NMR spectra were identical to those cited previously [2-4].

2'-Methyl-1',2'-dihydro-2,3'-biquinoline (2a). Yield 14%; mp 138-139°C (ethanol), lit. [2], mp 138-139°C.

2'-Phenyl-1',2'-dihydro-2,3'-biquinoline (2b). Yield 46%; mp 207-209°C (ethanol), lit. [2], mp 207-209°C.

4'-Methyl-1',4'-dihydro-2,3'-biquinoline (3a). Yield 77%; mp 148-149°C (benzene), lit. [3], mp 148-149°C.

4'-Phenyl-1',4'-dihydro-2,3'-biquinoline (3b). Yield 49%; mp 213-214°C (ethanol), lit. [4], mp 213-214°C.

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