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LETTERS TO THE EDITOR

NOVEL APPLICATION OF THE BAYLIS–HILLMAN REACTION

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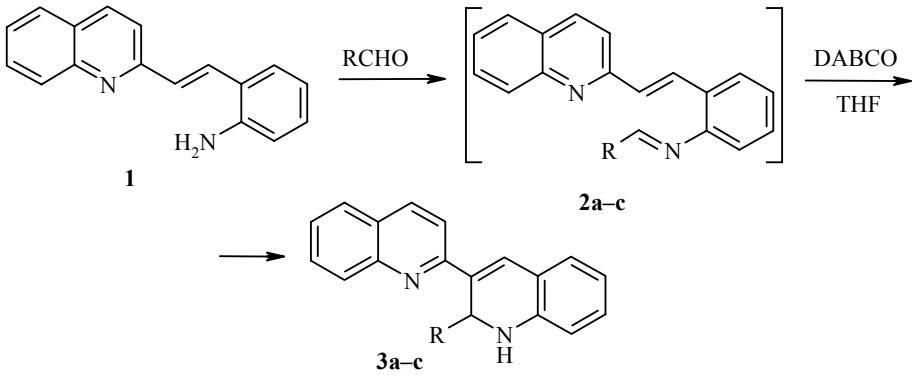
Earlier [1] we developed a novel method for synthesis of 1',4'-dihydro-2,3'-biquinolines, based on cyclization of 2-vinylquinolines. Methods for synthesis of 1',2'-dihydro-2,3'-biquinolines **3** directly from quinolines have not been previously described. In this paper, we report on the synthesis of compounds **3** based on the Baylis–Hillman reaction [2].



DABCO = 1,4-diazabicyclo[2.2.2]octane, **2**, **3** a R = Me, **b** R = Ph, **c** R = 1-$C_{10}H_7$

Synthesis of Compounds 3a-c (General Procedure). A mixture of compound **1** (0.12 g, 0.5 mmol) and the corresponding aldehyde (0.6 mmol) was boiled for 1.5 h in dry THF (15 ml). Then 1,4-diazabicyclo-[2.2.2]octane (0.01 g, 0.1 mmol) was added and it was allowed to stand for 26 days. Then it was poured into water (50 ml) and extract with benzene (3 × 20 ml). The solvent was evaporated. The residue was chromatographed, collecting the first colored fraction.

2'-Methyl-1',2'-dihydro-2,3'-biquinoline (3a). Yield 29%; mp 138-139°C (alcohol) (mp 138-139°C [3]), R_f 0.44 (Silufol UV-254, ethyl acetate–hexane, 1:1). The ^{1}H NMR spectrum matches that given in [3].

2'-Phenyl-1',2'-dihydro-2,3'-biquinoline (3b). Yield 51%; mp 207-209°C (alcohol) (mp 207-209°C [3]). R_f 0.32 (Silufol UV-254, ethyl acetate–hexane, 1:1). ^{1}H NMR spectrum matches that given in [3].

2'-(1-Naphthyl)-1',2'-dihydro-2,3'-biquinoline (3c). Yield 46%; mp 166-167°C (benzene) (mp 166°C-167°C [3]), R_f 0.77 (Silufol UV-254, ethyl acetate). ^{1}H NMR spectrum matches that in [3].

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