

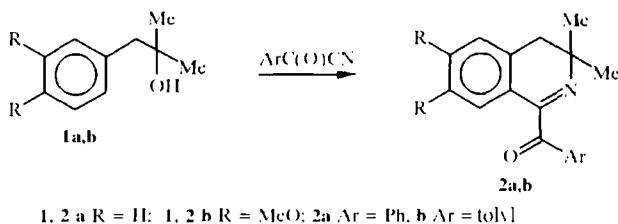
## SYNTHESIS OF 1-AROYL- 3,4-DIHYDROISOQUINOLINES

A. G. Mikhailovskii

**Keywords:** 1-aryl-3,4-dihydroquinolines, dimethylbenzylcarbinols, aryl cyanides.

While continuing investigations on the Ritter reaction for the synthesis of isoquinolines we discovered that carbinols **1a,b** are cyclized with aryl cyanides with the formation of the corresponding ketones **2a,b**.

The synthesis was effected by the procedure of [1]. The obtained ketones **2a,b** may be considered as potential synthons and biologically active compounds.



**1-Benzoyl-3,3-dimethyl-3,4-dihydroisoquinoline (2a).** Yield 82%; mp 59-60°C (pentane). <sup>1</sup>H NMR spectrum ( $\text{CDCl}_3$ ): 1.20 (6H, s,  $2\text{CH}_3$ ); 2.76 (2H, s,  $\text{CH}_2$ ); 6.90-8.13 ppm (9H, m,  $\text{H}_{\text{arom}}$ ). IR spectrum,  $\text{cm}^{-1}$ : 1670, 1610 (C=O, C=N). Found, %: C 82.0; H 6.4; N 5.4.  $\text{C}_{18}\text{H}_{14}\text{NO}$ . Calculated, %: C 82.1; H 6.5; N 5.3.

**6,7-Dimethoxy-3,3-dimethyl-1-(*o*-tolyl)-3,4-dihydroisoquinoline (2b).** Yield 81%; mp of hydrochloride 204-205°C (acetonitrile). <sup>1</sup>H NMR spectrum of the base ( $\text{CDCl}_3$ ): 1.33 (6H, s,  $2\text{CH}_3$ ); 2.15 (3H, s,  $\text{CH}_3\text{-Ar}$ ); 2.87 (2H, s,  $\text{CH}_2$ ); 3.50 and 3.72 (both s,  $2\text{CH}_3\text{O}$ ); 6.40 (1H, s, 5-H); 6.62 (1H, s, 8-H); 6.93-7.23 ppm (4H, m,  $\text{H}_{\text{arom}}$ ). IR spectrum,  $\text{cm}^{-1}$ : 1665, 1610 (C=O, C=N). Found, %: C 67.3; H 6.4; N 3.9; Cl 9.1.  $\text{C}_{21}\text{H}_{24}\text{NO}_3\text{HCl}$ . Calculated, %: C 67.5; H 6.5; N 3.8; Cl 9.2.

## REFERENCES

1. V. S. Shklyaev, B. B. Aleksandrov, G. I. Legotkina, M. I. Vakhrin, M. S. Gavrilov, and A. G. Mikhailovskii, *Khim. Geterotsikl. Soedin.*, No. 11, 1560 (1983).
2. A. G. Mikhailovskii, V. S. Shklyaev, and E. V. Feshina, *Khim. Geterotsikl. Soedin.*, No. 2, 236 (1998).

Institute of Technical Chemistry, Ural Branch, Russian Academy of Sciences, Perm 614600, Russia; e-mail: cheminst@mail.psu.ru. Translated from *Khimiya Geterotsiklicheskikh Soedinenii*, No. 2, pp. 264-265, February, 2000. Original article submitted July 30, 1999.