

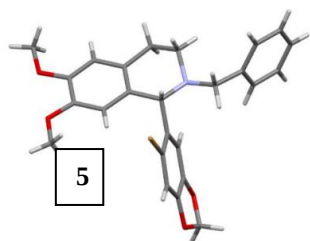
## SYNTHESIS OF 1-PHENYLTETRAHYDROISOQUINOLINE DERIVATIVES

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Among the natural tetrahydroisoquinoline alkaloids, there are two small groups: 1-arylisoquinolines (cryptostylinines I-III from *Cryptostylis erythroglossa*) [1,2], which were synthesized along with numerous analogs by Sh.N. Zhurakulov et al. [3,4], and N-benzyltetrahydroisoquinolines.

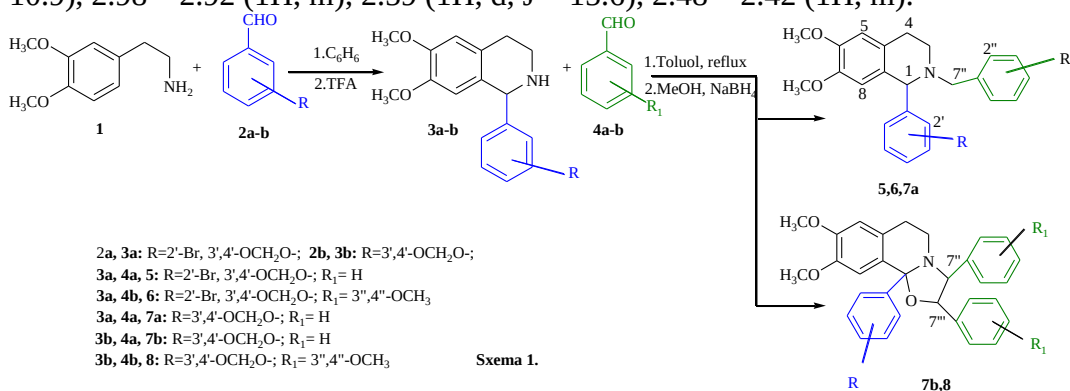
This work examines the reactivity of 1-phenyltetrahydroisoquinoline **3a,b** with substituted benzaldehydes (**4a,b**). New N-benzyl and oxazoisquinoline derivatives were obtained, and their structures and properties were studied.



The structure of the obtained compounds was established on the basis of NMR and mass spectral data. The use of **3a** leads only to N-benzyl products **5,6**. In the case of **3b**, a mixture of **7a** and **7b** is formed. Molecular masses were determined in Mass spectra were recorded in an Acuity® QDa™ TLC-MS spectrometer (Waters). TLC-MS m/z

400.5049 [M+H]<sup>+</sup> (**7a**), TLC-MS m/z 508.4465 [M+ H]<sup>+</sup> (**7b**), TLC-MS m/z 628.4893 [M+ H]<sup>+</sup> (**8**).

**1-(2-Bromobenzo[1,3]dioxol-5-yl)-2-(3,4-dimethoxybenzyl)-6,7-dimethoxy-1,2,3,4-tetrahydroisoquinoline (6)**. Prepared from 0.5 g (1.27 mmol) of isoquinoline **3a** and 0.31 g (1.86 mmol) of veratrylaldehyde (**4b**). Yield 0.235 g (34%). (CH<sub>3</sub>-CO-CH<sub>3</sub>), R<sub>f</sub> 0.6. (chloroform:methanol 20:1). <sup>1</sup>H NMR spectrum (600 MHz, CDCl<sub>3</sub>, δ, J/Hz): 6.99 (1H, s), 6.91 (1H, s), 6.82 (1H, d, J = 5.5), 6.77 (1H, d, J = 7.9), 6.73 (1H, d, J = 8.2), 6.52 (1H, s), 6.27 (1H, s), 5.92 (2H, d, J = 3.6), 5.02 (1H, s, 1H), 3.84 (6H, s), 3.82 (3H, s), 3.73 – 3.70 (1H, m), 3.67 (3H, s), 3.17 (1H, d, J = 13.6), 3.05 (1H, d, J = 10.9), 2.98 – 2.92 (1H, m), 2.59 (1H, d, J = 15.6), 2.48 – 2.42 (1H, m).



### References

1. Bindumadhavan Venugopalan, Arnold Brossi, *Heterocycles*, **25**, 359 (1987).
2. Dictionary of alkaloids EDITED BY John Buckingham, Keith H. Baggaley, Andrew D. Roberts, László F. Szabó, 2010, CRC press.
3. Sherzod N. Zhurakulov, Nilufar Z. Mamadalieva, Valentina I. Vinogradova, et.all. *Chemistry Europe*, **10** (33), e01526 (2025).
4. Sh. N. Zhurakulov, V. I. Vinogradova, M.G. Levkovich, *Chem. Nat. Compd.*, **49**, 70 (2013).