

Thematic course: Spectral luminescence properties and complexing 5-fluorouracil tautomers with  $\beta$ -cyclodextrine. Report 1.

## Fluorescence properties and content of 5-fluorouracil tautomers in water solutions

© Mikhail V. Sultanbaev,<sup>1+</sup> Sergey S. Ostakhov,<sup>1\*</sup>  
Sergey L. Khursan,<sup>1\*</sup> and Shamil K. Gantsev<sup>2</sup>

<sup>1</sup>Institute of Organic Chemistry. Ufa Research Center. Russian Academy of Sciences. pr. Oktyabrya, 71. Ufa, 450054. Bashkortostan Republic. Russia. Phone: +7 (347) 235-61-11. E-mail: [chemlum@anrb.ru](mailto:chemlum@anrb.ru)

<sup>2</sup>Bashkir State Medical University. Ministry of Health of Russian Federation. Lenina St., 3. Ufa, 450000. Bashkortostan Republic. Russia.

\*Supervising author; <sup>+</sup>Corresponding author

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### Abstract

The spectral luminescence study of the tautomeric equilibrium of 5-fluorouracil in neutral water solutions was carried out. Quantum yields ( $\phi$ ) of fluorescence of 2,4-dioxo (**I**), 2-hydroxy-4-oxo (**II**), 4-hydroxy-2-oxo (**III**), and, probably, 2,4- dihydroxy (**IV**) tautomers of 5-fluorouracil were estimated:  $1.5 \times 10^{-4}$  (**I**),  $2.1 \times 10^{-2}$  (**II**), 0.16 (**III**), 0.35 (**IV**), as well as their percentage: 99.5 (**I**), 0.4 (**II**), 0.03 (**III**), 0.008 (**IV**).