

## Spectral and quantum-chemical studies of tautomeric and ionic transformations of azo-dyes based upon methylfloroglucine

© Olga V. Kovalchukova,<sup>1\*</sup> Svetlana B. Strashnova,<sup>1+</sup> Pavel V. Strashnov,<sup>1</sup>  
Ekaterina P. Romashkina,<sup>1</sup> Oleg V. Volyanskiy,<sup>2</sup> and Konstantin I. Kobrakov<sup>2</sup>

<sup>1</sup> Department of General Chemistry. Peoples' Friendship University of Russia.

Miklukho-Maklaya St., 6. Moscow, 117198. Phone: +7 (495) 955-08-60. E-mail: [sstrashnova@mail.ru](mailto:sstrashnova@mail.ru)

<sup>2</sup> Department of Organic Chemistry and Chemistry of Dyes. Moscow State Textile University.

Malaya Kaluzhskaya St., 1. Moscow, 119071.

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

**Keywords:** aromatic azo-dyes, quantum-chemical calculations, mathematical modeling, tautomeric, conformeric and ionic forms, spectral characteristics.

### Abstract

In the paper, the results of studies of stabilities of tautomeric and conformeric forms of arylazoderivatives of methylfloroglucine as perspective azo-dyes are presented. Experimental and theoretical correlation of absorption bands in their electronic spectra is performed. Constants of acidities are calculated from spectrophotometry.