

10

Spectroscopic Analysis of Fluorescent Proteins Infiltrated into Photonic Crystals*

© N. Zhdanova¹, A. Pakhomov², S. Rodionov³, Yu. Strokova¹, S. Svyakhovskiy¹, and A. Saletskii¹

¹ Lomonosov Moscow State university,
119991 Moscow, Russia

² Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences,
117997 Moscow, Russia

³ N.N. Priorov Central Institute for Traumatology and Orthopedics,
127299 Moscow, Russia

e-mail: zhdanova@physics.msu.ru

Received December 16, 2019

Revised January 07, 2020

Accepted February 28, 2020

Spectral properties of enhanced-green fluorescent protein and monomeric red fluorescent protein in porous photonic structures have been studied. The fluorescent proteins were successfully infiltrated into porous silicon photonic structures with different positions of the photonic band gap in visible spectral range. The intensity of fluorescence is enhanced in the spectral regions of high photonic density of states. The possibility to control the fluorescence spectra by the structure with the photonic band gap is demonstrated.

Keywords: photonic crystals, porous silicon, fluorescent proteins, photonic band gap.

* Полный текст статьи опубликован в „Optics and Spectroscopy“
V. 128 N 7 2020.