Intramolecular proton-transfer fluorophores with donor-acceptor units and in the presence of plasmonic resonance platforms

Ilia E. Serdiuk\textsuperscript{1}, Anna Synak\textsuperscript{1}, Beata Grobelna\textsuperscript{2}, Ignacy Gryczynski\textsuperscript{3}, and Piotr Bojarski\textsuperscript{1}

\textsuperscript{1} Faculty of Mathematics, Physics and Informatics, University of Gda\’\nsk, 57 Wita Stwosza st., 80-308 Gda\’\nsk, Poland, e-mail: illia.serdiuk@gmail.com
\textsuperscript{2} Faculty of Chemistry, University of Gda\’\nsk, 63 Wita Stwosza st., 80-308 Gda\’\nsk, Poland.
\textsuperscript{3} Center for Fluorescence Technologies and Nanomedicine, University of North Texas, Health Science Center, 3500 Camp Bowie Boulevard, Fort Worth, Texas 76107, United States

There are various processes occurring in the excited state of fluorescent dyes. Among them intramolecular proton transfer (ESIPT) represents photochemical reaction resulting in either two-band fluorescence or abnormally red-shifted single-band fluorescence. Such fluorophores are interesting from the point of application in biochemical analysis, biophysical investigations and light-emitting devices. This presentation will concern spectral features of ESIPT fluorophores i) containing donor-acceptor units and ii) at the conditions of fluorescence enhancement by surface plasmonic resonance. The results of our investigations show that ESIPT fluorophores can be successfully applied as multiparametric fluorescent indicators and single-fluorophore white luminescent materials.

Keywords: fluorescence; ESIPT; plasmonic resonance, donor-acceptor systems

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References