



Tuning the nonlinear optical properties of BODIPYs by functionalization with dimethylaminostyryl substituents

Submitted by Régis Barille on Fri, 03/10/2017 - 10:12

Titre	Tuning the nonlinear optical properties of BODIPYs by functionalization with dimethylaminostyryl substituents
Type de publication	Article de revue
Auteur	Kulyk, Bohdan [1], Taboukhat, Said [2], Akdas-Kilig, Huriye [3], Fillaut, Jean-Luc [4], Karpierz, Mirosław A. [5], Sahraoui, Bouchta [6]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2017
Langue	Anglais
Date	Février 2017
Pagination	507-511
Volume	137
Titre de la revue	Dyes and Pigments
ISSN	0143-7208
Mots-clés	BODIPY dye [7], Hyperpolarizability [8], Nonlinear susceptibility [9], Polymer composites [10], Second/third harmonic generation [11]
Résumé en anglais	Two difluoroboradiazaindacene (BODIPY) scaffolds with attached dimethylaminostyryl substituents were synthesized. Guest-host polymeric films were produced by incorporating these chromophores into polymethylmethacrylate matrices. The second and third nonlinear optical properties of the resulting polymer composites were studied by means of the Maker fringe technique using a laser generating at 1064 nm with a 30 ps pulse duration. The macroscopic and microscopic nonlinearities were found to be comparatively high and dependent on the number of dimethylaminostyryl substituents attached to BODIPY core. The development of integrated optics makes such nonlinear films of particular interest, since they can be used in the creation of efficient nonlinear devices.
URL de la notice	http://okina.univ-angers.fr/publications/ua15726 [12]
DOI	10.1016/j.dyepig.2016.10.045 [13]
Lien vers le document	http://www.sciencedirect.com/science/article/pii/S0143720816306957 [14]
Titre abrégé	Dyes pigm.

Liens

[1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26477>

[2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26478>

[3] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26479>

[4] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=2765>

- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=2695>
- [6] <http://okina.univ-angers.fr/bouchta.sahraoui/publications>
- [7] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22533>
- [8] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=21634>
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- [12] <http://okina.univ-angers.fr/publications/ua15726>
- [13] <http://dx.doi.org/10.1016/j.dyepig.2016.10.045>
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Publié sur *Okina* (<http://okina.univ-angers.fr>)