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Title: Modulate the structures and photophysical properties of pyrene-based far-red fluorescent cationic dyes by regio-effect

Authors: Zhe Ding, Minggang Tian, Lifang Guo, Zhi-qiang Liu, Xiaoqiang Yu



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Modulate the structures and photophysical properties of pyrene-based far-red fluorescent cationic dyes by regio-effect

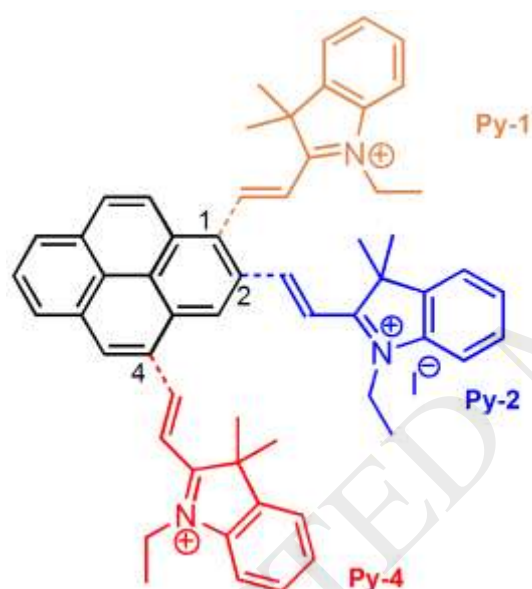
Zhe Ding,^[a] Minggang Tian,^[a] Lifang Guo,^[a] Zhi-qiang Liu,^{*,[a],[b]} Xiaoqiang Yu^{*,[a]}

^[a]State Key Laboratory of Crystal Materials, Shandong University, Jinan 250100, China

^[b]Key Laboratory of Synthetic and Self-Assembly Chemistry for Organic Functional Molecules, Shanghai Institute of Organic Chemistry (SIOC), Chinese Academy of Sciences, Shanghai 200032 China

E-mail: zqliu@sdu.edu.cn; yuxq@sdu.edu.cn

Graphical abstract



Highlight

- Comparison study on 5 regioisomeric pyrene dyes indicate the regio-effect with an order of 1-pyrenyl>4-pyrenyl>2-pyrenyl.
- 4-Substituted isomer demonstrated exceptionally large Stokes shift and high fluorescence quantum yield.
- Preliminary fluorescent cell imaging indicated these pyrene cationic dyes could be active mitochondrial probes.

Abstract:

Two series of regioisomeric mono-substituted far-red fluorescent pyrene-indolium and pyrene-pyridinium conjugated dyes were synthesized, and their structures were ambiguously determined by single crystal X-ray diffractions. The photophysical properties of these pyrene-containing dyes in several solvents were investigated to figure out the modulation by changing the site of

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