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(57) Abstract :

ABSTRACT: Title: A Synthesis Method for Production of High-Performance Anthracene-Based Dyes The present disclosure proposes an efficient, cost-effective, and versatile synthesis method for production of high-performance anthracene-based dyes with desirable properties for a wide range of applications. The proposed method allows for precise control over the electronic properties of an anthracene-based dye. A synthesized 2-chloro-6-nitro anthracene (formula 2) has longer wavelength of emission and exhibits good solvatochromic behavior in different organic solvents. The proposed synthesis method achieves higher yields compared to existing methods, reducing waste and lowering production costs. The synthesized formula 2 exhibits improved fluorescence efficiency, leading to better performance in applications such as biological imaging and chemical sensing. The synthesized formula 2 is more soluble in a wider range of solvents include an aqueous media.

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