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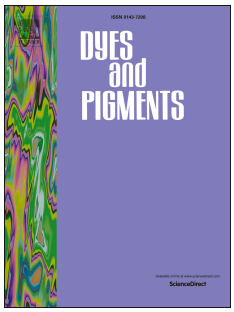

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Novel reactive dyes with intramolecular color matching combination containing different chromophores

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Abstract

Five novel reactive dyes by intramolecular color matching combination based on azo and anthraquinone multiple chromophores were designed and synthesized. They were obtained by using 1-amino-8-naphthol-3,6-disulfonicacid (H-acid) or 2-amino-5-naphthol-7-sulfonic Acid (J-acid) as the coupling component, 4-(ethylsulfurate sulfonyl) aniline as the diazo component and 1-amino-2-sulfonic acid-4-(3-amino-2,4,6-trimethyl-5-sulfonic acid phenylamine) anthraquinone sodium salt derivatives as the anthraquinone chromophore. The chemical structures of the synthesized dyes were characterized by Fourier transform infrared spectroscopy (FT-IR), nuclear magnetic resonance spectroscopy (^{1}H-NMR) and ultraviolet-visible spectra (UV-Vis). The dyes containing both azo and anthraquinone chromophores showed novel and beautiful color, including taupe, violet, brown, rosy and claret-red.

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