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Novel reactive dyes with intramolecular color matching combination containing different chromophores

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9
10 **Abstract**

11 Five novel reactive dyes by intramolecular color matching combination based on
12 azo and anthraquinone multiple chromophores were designed and synthesized. They
13 were obtained by using 1-amino-8-naphthol-3,6-disulfonicacid (H-acid) or
14 2-amino-5-naphthol-7-sulfonic Acid (J-acid) as the coupling component,
15 4-(ethylsulfurate sulfonyl) aniline as the diazo component and 1-amino-2-sulfonic
16 acid-4-(3-amino-2,4,6-trimethyl-5-sulfonic acid phenylamine) anthraquinone sodium
17 salt derivatives as the anthraquinone chromophore. The chemical structures of the
18 synthesized dyes were characterized by Fourier transform infrared spectroscopy
19 (FT-IR), nuclear magnetic resonance spectroscopy (¹H-NMR) and ultraviolet-visible
20 spectra (UV-Vis). The dyes containing both azo and anthraquinone chromophores
21 showed novel and beautiful color, including taupe, violet, brown, rosy and claret-red.

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