

# Thermochromic Absorption, Fluorescence Band Shifts and Dipole Moments of BADAN and ACRYLODAN

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Using the thermochromic shift method of absorption and fluorescence bands, the electric dipole moments in the ground ( $\mu_g$ ) and excited ( $\mu_e$ ) state are simultaneously determined for BADAN (6-bromoacetyl-2-dimethylamino-naphtalene) and ACRYLODAN (6-acrylolyl-2-dimethylamino-naphtalene) in ethyl acetate. For these compounds the same ratio  $\mu_e/\mu_g = 2.9$  was found, which is similar to that of PRODAN (6-propionyl-2-dimethylamino-naphtalene).

The estimated empirical Onsager radii  $a$  for BADAN and ACRYLODAN are the same, and they are somewhat smaller than the calculated geometrical values.

*Key words:* Thermochromic Absorption and Fluorescence Band Shifts; Dipole Moments in the Ground and Excited States; Empirical Radius of the Onsager Cavity.