

# Ground and Excited State Dipole Moments of LAURDAN Determined from Solvatochromic and Thermochromic Shifts of Absorption and Fluorescence Spectra

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The electric dipole moments in the ground  $\mu_g$  and excited  $\mu_e$  state of the fluorescent probe LAURDAN are determined from solvatochromic and thermochromic shifts to be  $\mu_g = 3.46$  D,  $\mu_e = 10.6$  D and  $\mu_g = 3.76$  D,  $\mu_e = 10.24$  D, respectively. These values concern the free LAURDAN molecule. The values of the dipole moments of LAURDAN (= 6-decanoyl-2-dimethylamine-naphthalene) exceed distinctly those of PRODAN (= 6-propionyl-2-dimethylamine-naphthalene).

*Key words:* Solvatochromic and Thermochromic Shifts; Dipole Moments in the Ground and Excited States; LAURDAN-Fluorescent Probe.