

Supplementary Information

Photophysical Properties of Coumarin Compounds in Neat and Binary Solvent Mixtures: Evaluation and Correlation Between Solvatochromism and Solvent Polarity Parameters

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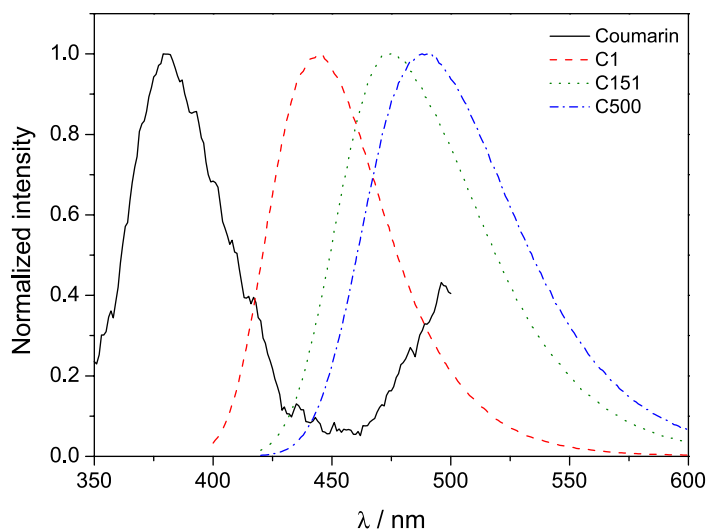


Figure S1. Normalized coumarin and coumarin-derivative emission spectra obtained in EtOH. Dye concentration equals to 4.0×10^{-5} mol L⁻¹.

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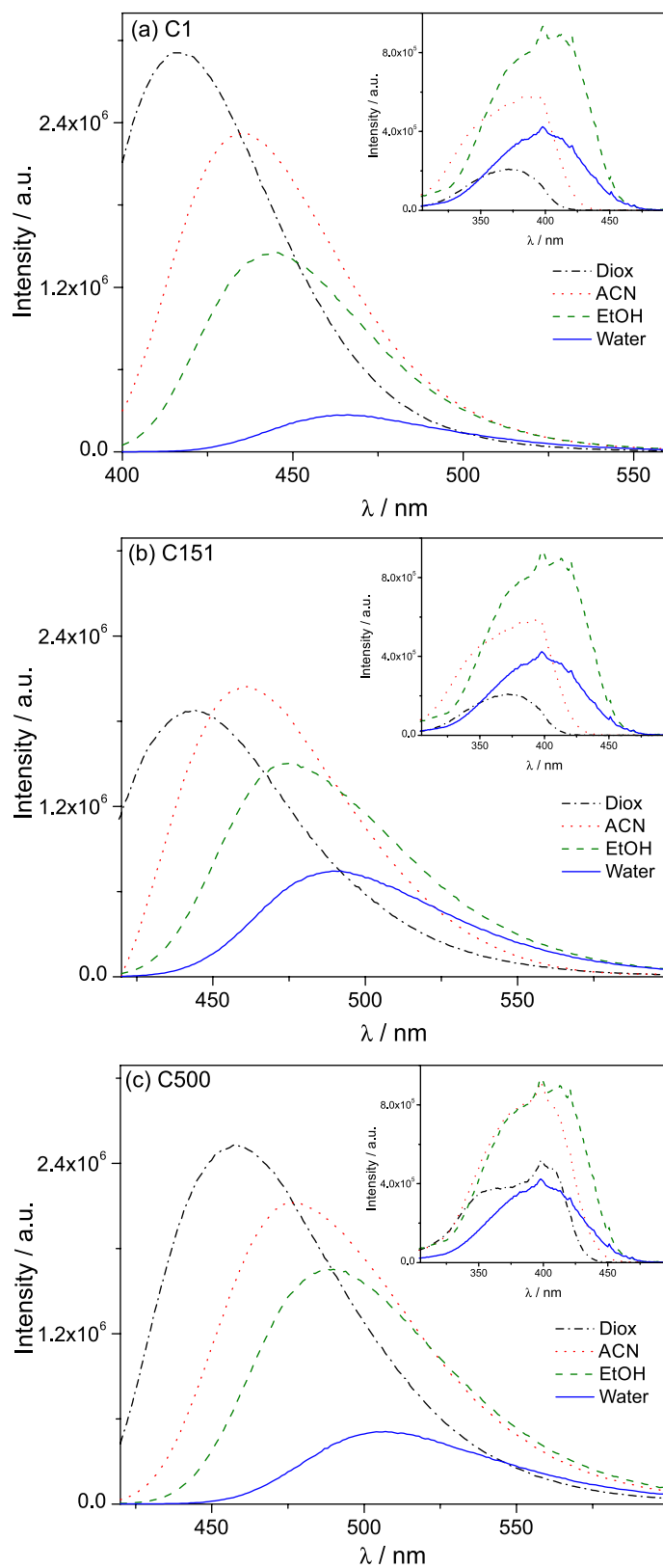


Figure S2. Steady-state fluorescence spectra of C1 (a), C151 (b) and C500 (c) in pure solvents: EtOH, ACN, Diox and water. Inset: excitation spectra of C1 (a), C151 (b) and C500 (c) in pure solvents: EtOH, ACN, Diox and water. Dye concentration equals to $4.0 \times 10^{-5} \text{ mol L}^{-1}$; λ_{exc} see Table 1.

Table S1. Preferential solvation data for coumarin-derivatives in binary mixtures

	C1			C151			C500		
	X_2^L	X_1^L	K_{12}	X_2^L	X_1^L	K_{12}	X_2^L	X_1^L	K_{12}
ACN ₂₀ /W ₈₀	0.060	0.940	3.883	0.091	0.909	2.490	0.095	0.905	2.392
ACN ₄₀ /W ₆₀	0.276	0.724	1.746	0.122	0.878	4.803	0.158	0.842	3.543
ACN ₆₀ /W ₄₀	0.371	0.629	2.544	0.277	0.723	3.913	0.320	0.680	3.189
ACN ₈₀ /W ₂₀	0.499	0.501	4.017	0.565	0.435	3.083	0.385	0.615	6.377
EtOH ₂₀ /W ₈₀	0.308	0.692	0.562	0.885	0.115	0.032	0.204	0.796	0.974
EtOH ₄₀ /W ₆₀	0.443	0.557	0.840	0.885	0.115	0.086	0.256	0.744	1.939
EtOH ₆₀ /W ₄₀	0.579	0.421	1.090	0.942	0.058	0.092	0.517	0.483	1.403
EtOH ₈₀ /W ₂₀	0.671	0.329	1.959	1.000	0.000	0.000	0.570	0.430	3.022
Diox ₂₀ /W ₈₀	0.092	0.908	2.459	0.504	0.496	0.246	0.454	0.546	0.300
Diox ₄₀ /W ₆₀	0.206	0.794	2.574	0.546	0.454	0.555	0.494	0.506	0.683
Diox ₆₀ /W ₄₀	0.322	0.678	3.155	0.608	0.392	0.967	0.575	0.425	1.109
Diox ₈₀ /W ₂₀	0.422	0.578	5.486	0.735	0.265	1.441	0.678	0.322	1.902

W: water; dye concentration equals to 4.0×10^{-5} mol L⁻¹.