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Sliding friction

From microscopic contacts to Amontons' law

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Fluorescence Microscopy Visualization of Contacts Between Objects

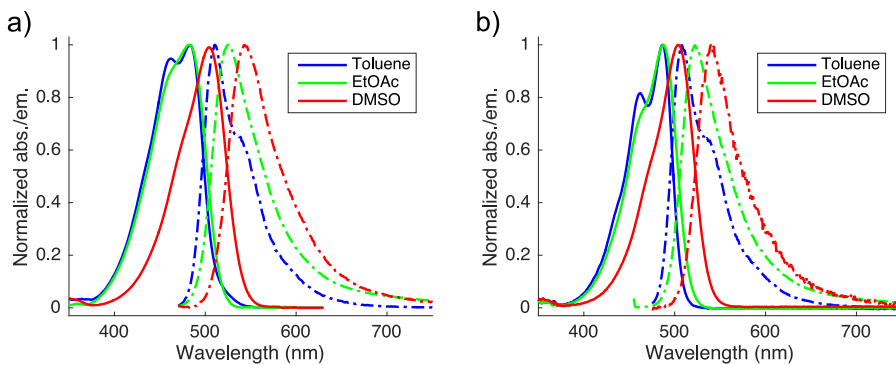


Figure A.1: Representative absorption and emission steady state spectra of **1** (a) and **2** (b) in selected solvents.

Solvent	Compound 1					Compound 2					
	η^a	λ_{abs}^b	λ_{em}^c	Φ_f^d	$\tau_{\text{F1}}(A_1)^e$	$\tau_{\text{F2}}(A_2)^e$	τ_{avg}	λ_{abs}^b	λ_{em}	Φ_f^d	τ_{avg}
1,4-dioxane	1.37	476	517	0.08	0.36 (0.85)	0.048 (0.15)	0.35	482	518	0.081	0.35
toluene	0.59	283	510	0.06	0.20 (0.75)	0.38 (0.25)	0.27	486	508	0.035 (0.044)	$< 0.4^g$
ethyl acetate	0.45	483	526	0.013	0.12 (0.18)	0.018 (0.82)	0.078	488	523	0.029	—
cyclohexanol	41.1	497	530	0.11	0.51 (0.65)	0.27 (0.35)	0.46	—	—	—	—
DMSO	2.24	505	543	0.004	0.018	—	0.018	504	540	0.008 (0.005)	0.026
1-butanol	2.95	501	530	0.02	0.056	—	0.056	497	528	0.023 (0.023)	—
DMF	0.92	501	535	0.003	—	—	—	500	533	0.004	—
2-propanol	2.40	501	528	0.010	0.040	—	0.040	495	524	0.018 (0.015)	—
acetonitrile	0.35	539	539	0.001	< 0.01	—	< 0.01	495	530	0.002 (0.001)	—
methanol	0.60	531	531	0.001	< 0.01	—	< 0.01	496	531	0.003 (0.002)	—

^aViscosity in mPa s.; ^b UV/VIS absorption maximum in nm.; ^c Emission maximum in nm.; ^d Fluorescence quantum yield (%) measured relative to C153.[1] Literature values are given in parentheses. For toluene, the initially published value from ref. [2] was corrected in ref.

[3]. Since the values in the other solvents published in ref. [4] were measured relative to the incorrect value of 0.10 in toluene we multiplied the published value by 0.44.; ^e Fluorescence decay times in ns and amplitudes in % (parentheses).; ^f Average fluorescence decay times in ns.; ^g From ref. [4].

Table A.1: Measured photophysical properties of **1** and **2** in various solvents. Last digit in a given number represents the estimated uncertainty of the measurement.

Bibliography

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