

ELECTRONIC SUPPLEMENTARY INFORMATION

Doped sol-gel based microstructured layers to improve the light emission of luminescent coatings

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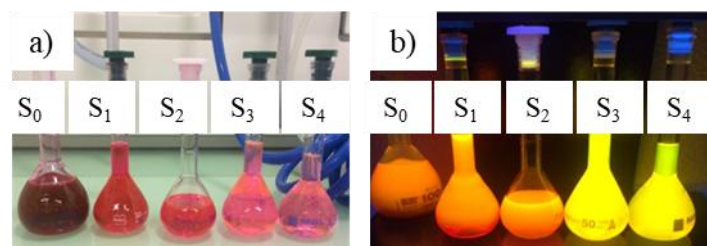


Fig. S1: Photographs of the RB solutions in ethanol (S₀₋₄): a) in daylight; b) under UV light ($\lambda_{\text{exc}} = 365 \text{ nm}$).

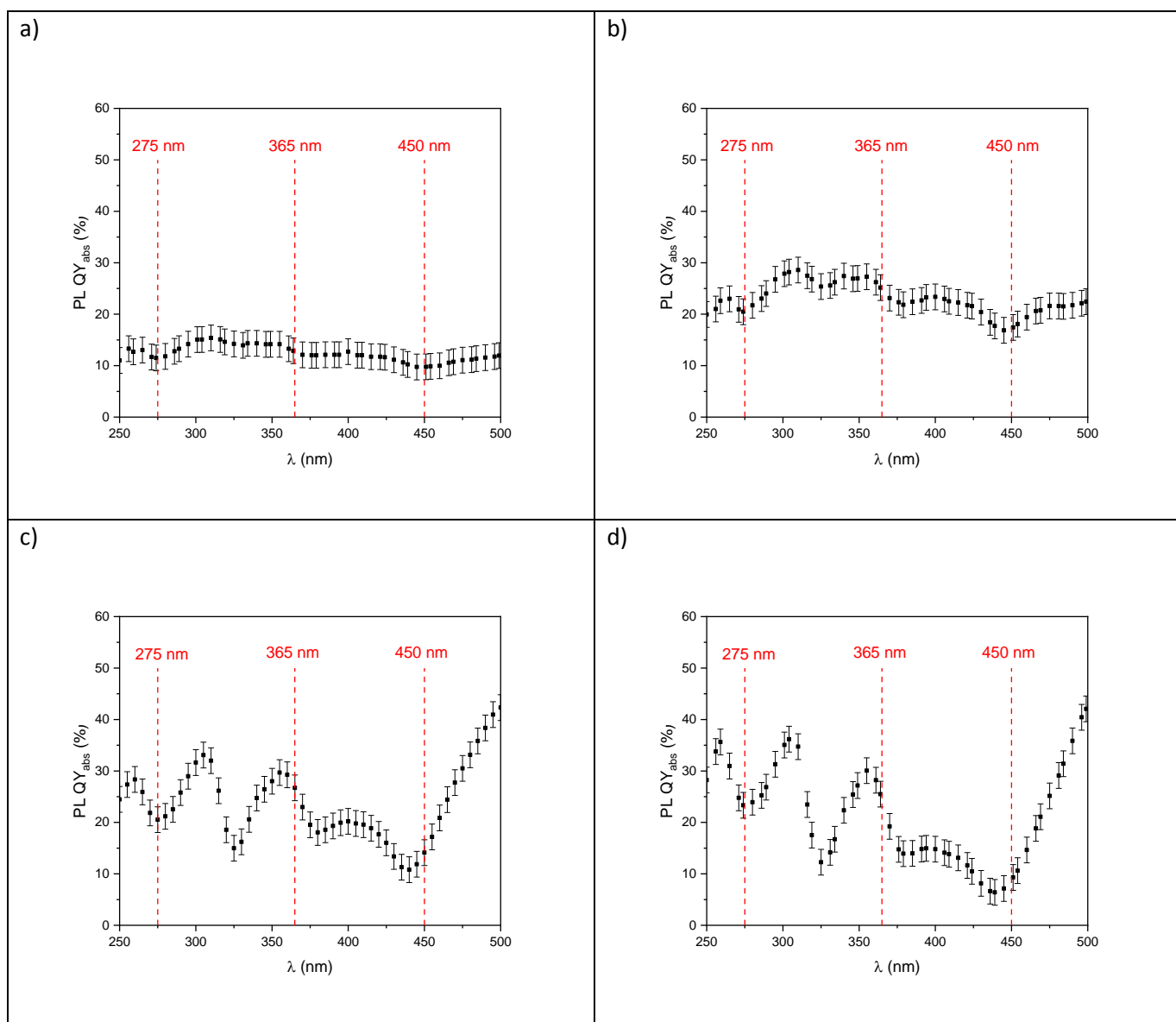


Fig. S2: Variation in PL QY_{abs} as a function of excitation wavelength for the solution: a) S₀; b) S₁; c) S₃; d) S₄.

a)	b)
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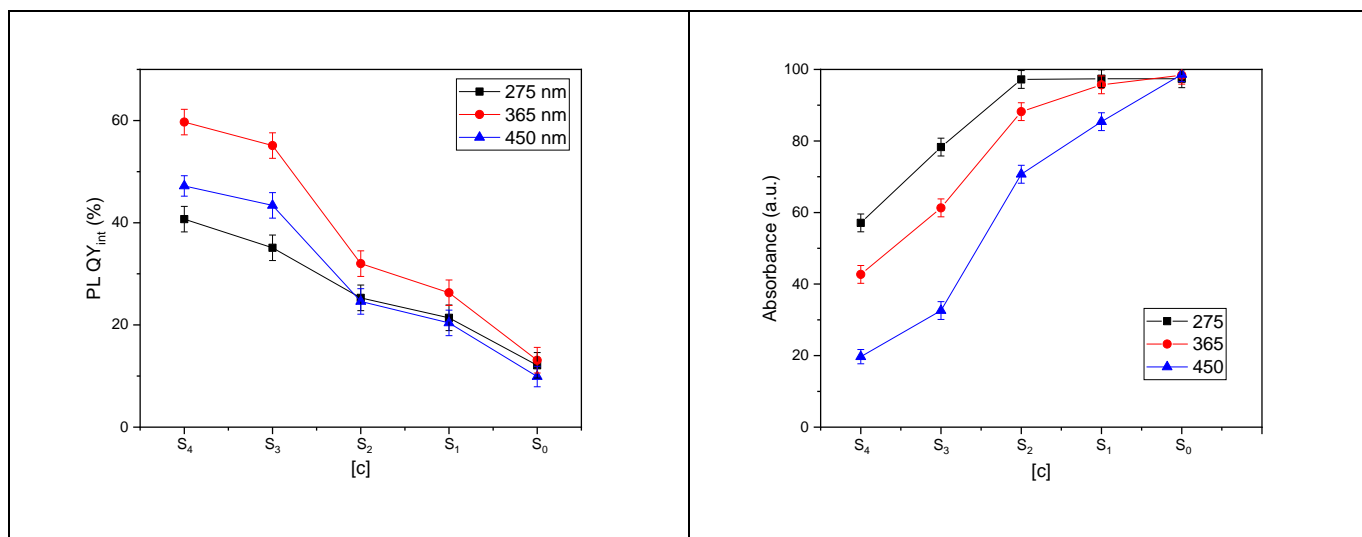


Fig. S3: a) Variation in PL QY_{int} and b) absorbance as a function of RB concentration in ethanol for $\lambda_{exc} = 275, 365$ and 450 nm.

a)	b)
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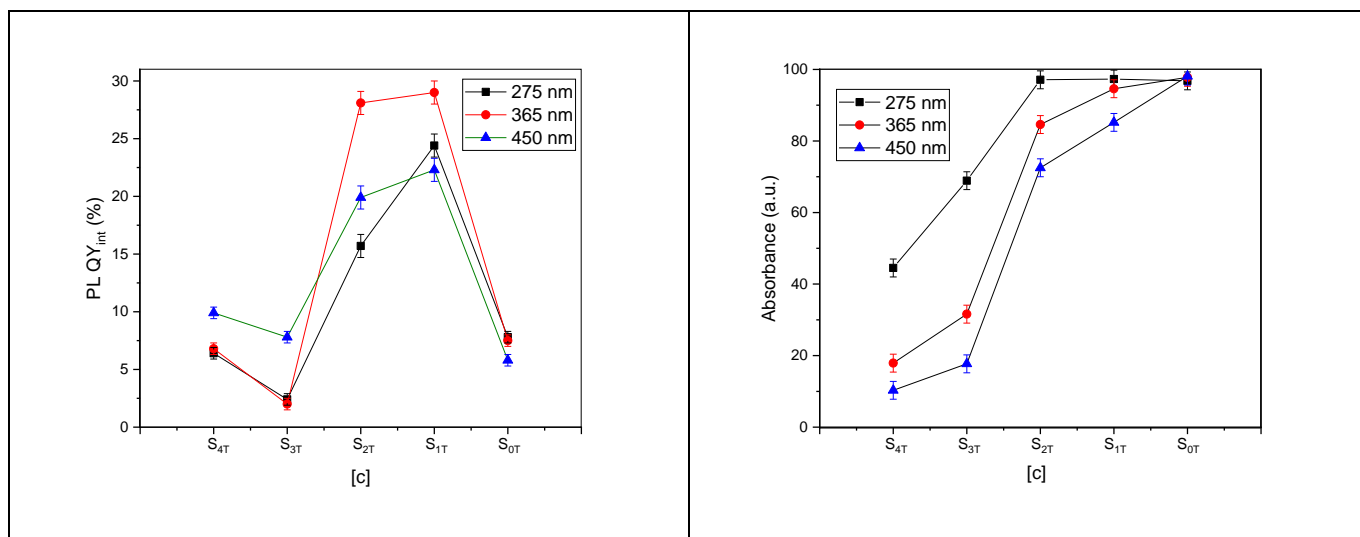


Fig. S4: a) Variation in a) internal photoluminescence quantum yield PL QY_{int} and b) absorbance as a function of RB concentration in TEOS/MTEOS sols for $\lambda_{exc} = 275, 365$ and 450 nm.

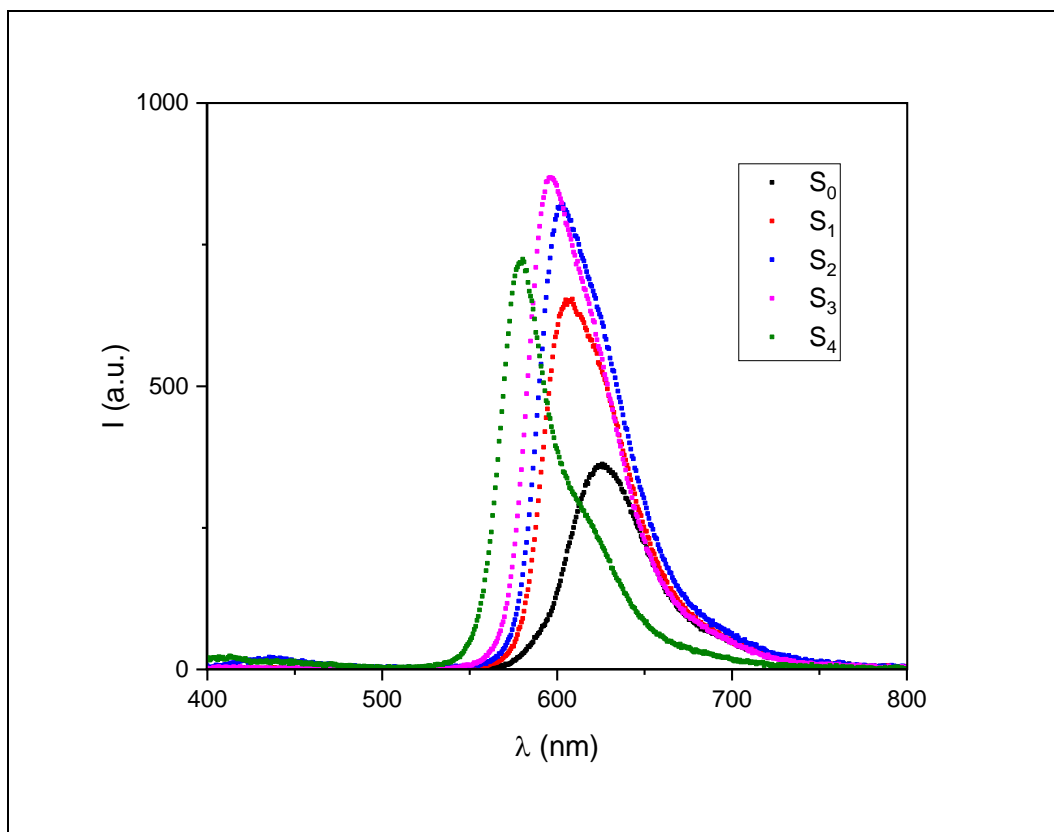


Fig. S5: Emission spectra for the different solutions of RB in ethanol (S_{0-4}) ($\lambda_{\text{exc}} = 365$ nm).

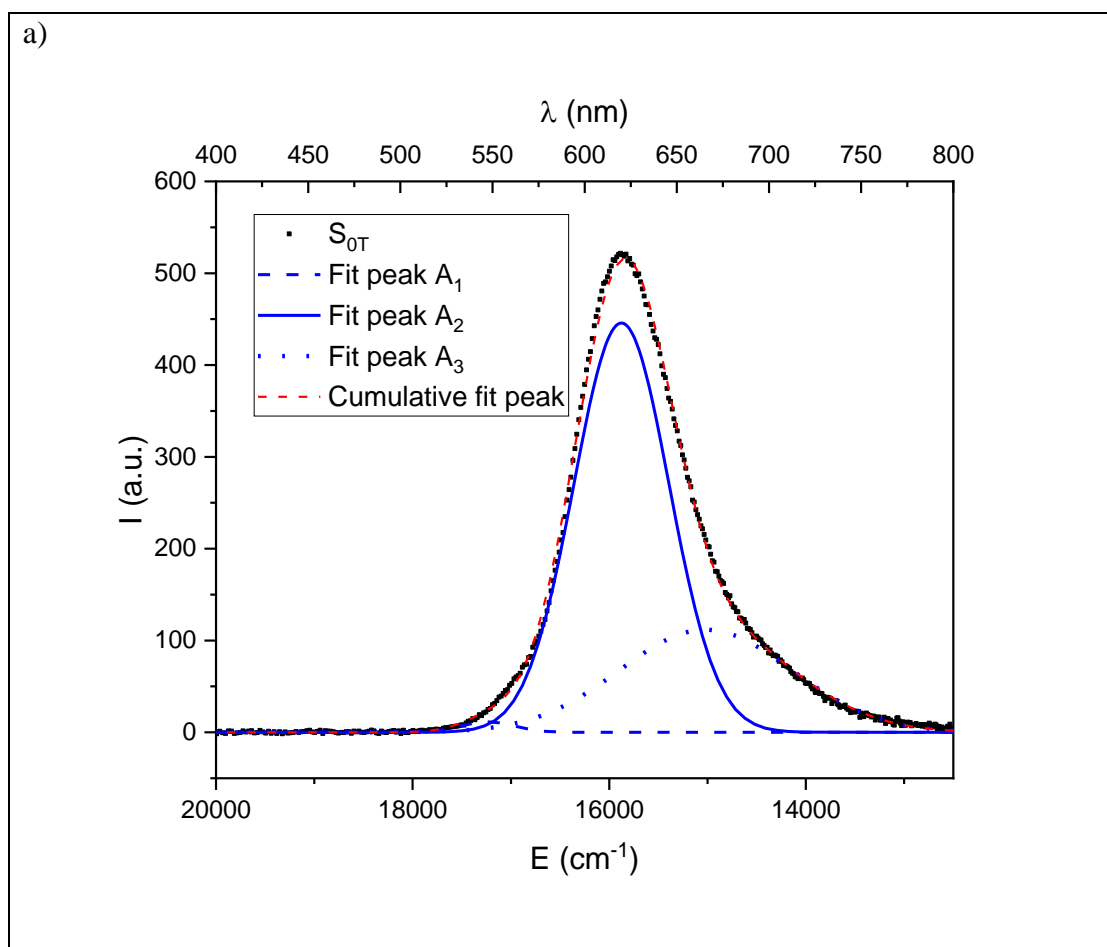


Fig. S6: Gaussian-type deconvolution for S_{0T} ($\lambda_{\text{exc}} = 365$ nm)

	Contribution	E_{\max} (cm ⁻¹)/ λ_{\max} (nm)	Area (a.u.)	FWHM (cm ⁻¹)
S_{0T}	1	17236 cm ⁻¹ (580 nm)	7763	639 cm ⁻¹
	2	15875 cm ⁻¹ (629 nm)	540394	1139 cm ⁻¹
	3	15018 cm ⁻¹ (665 nm)	244773	2069 cm ⁻¹

Tab. S1: Deconvolution of emission spectra S_{0T} ($\lambda_{\text{exc}} = 365$ nm) (FWHM: Full Width at Half Maximum).