Electronic Supplementary Material (ESI) for Photochemical & Photobiological Sciences.

Electronic Supplementary Information (ESI) for:

Enhanced photostability of an anthracene-based dye due to supramolecular encapsulation: A new type of photostable fluorophore for single-molecule study

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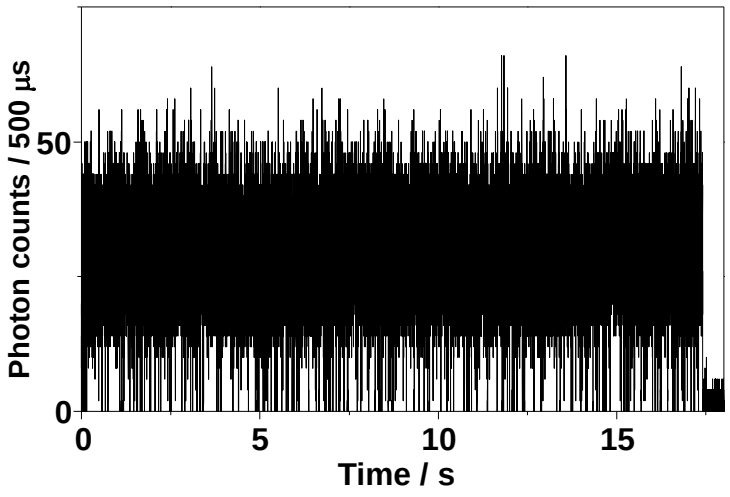

Fig. S1 Typical fluorescence intensity trace for a single G molecule.

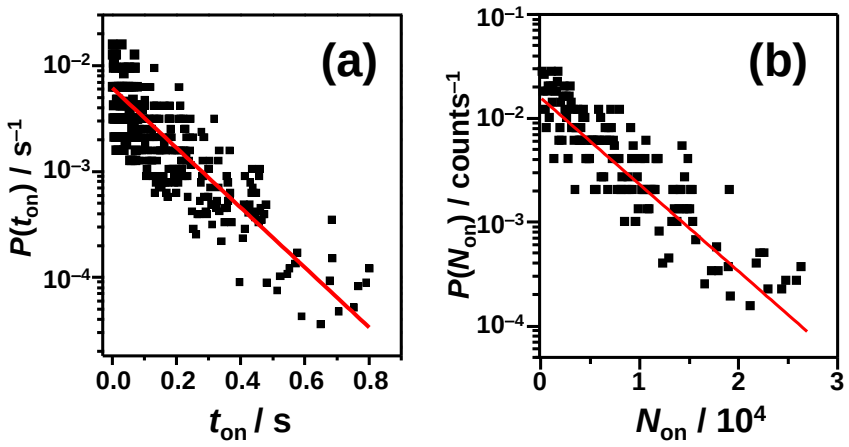

Fig. S2 Probability density distributions of (a) on-time duration and (b) on-counts obtained from data in Fig. 2a. Straight lines are single exponential fits.

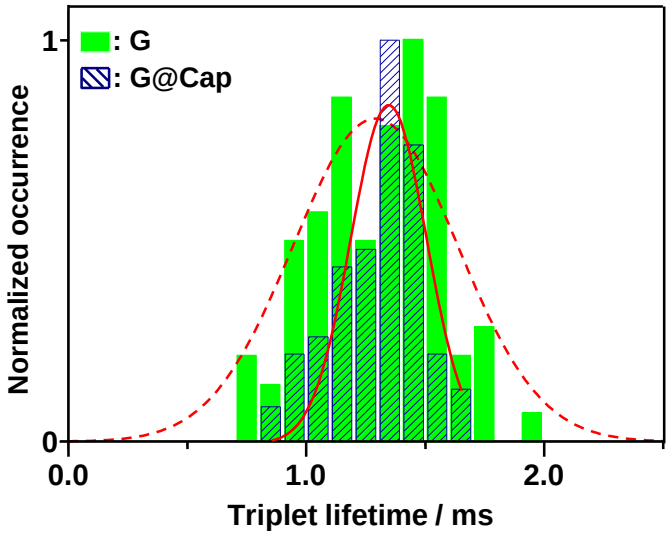

Fig. S3 Histograms of triplet lifetimes obtained from the autocorrelation analysis of 84 G and 90 G@Cap molecules. Dotted and solid lines are Gaussian fits of each distribution. Average values and widths thus obtained are 1.29 and 0.69 ms for G, and 1.33 and 0.32 ms for G@Cap, respectively.

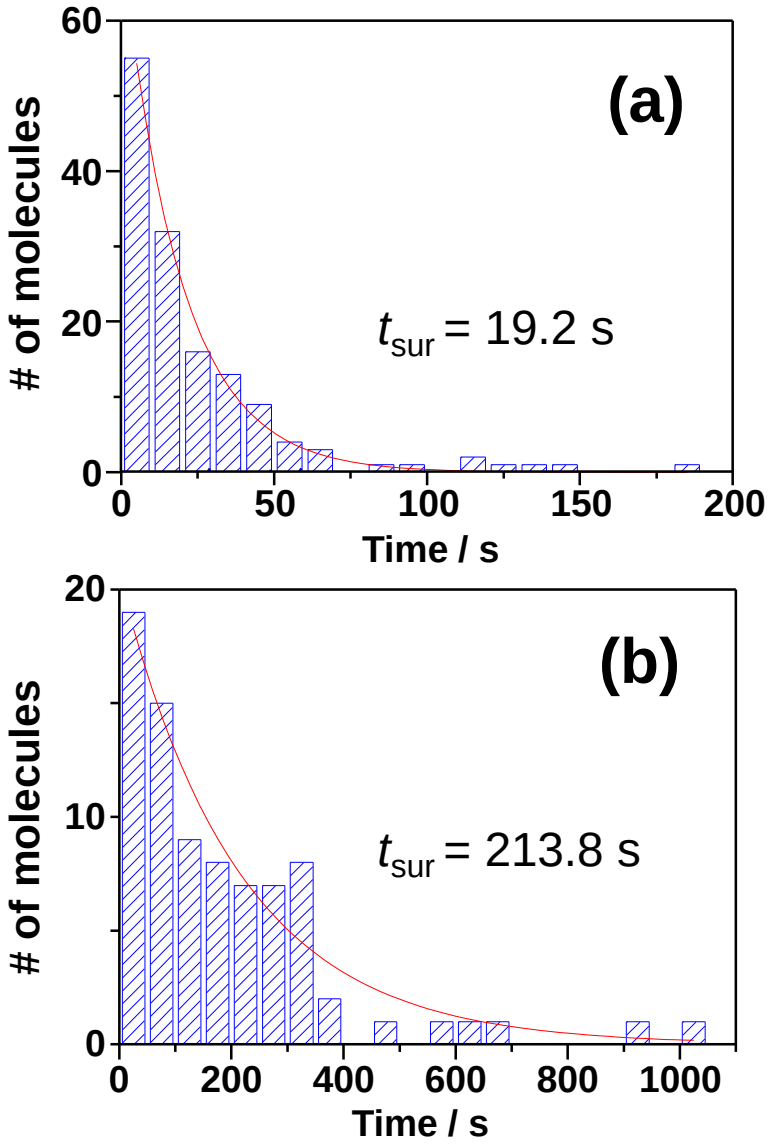

Fig. S4 Histograms of survival times of G (140 molecules) and G@Cap (81 molecules) obtained with an average excitation intensity of approximately 100 W/cm^2. Average survival times $\langle t_{sur} \rangle$ obtained by single exponential fits are 19.2 s for G and 213.8 s for G@Cap.

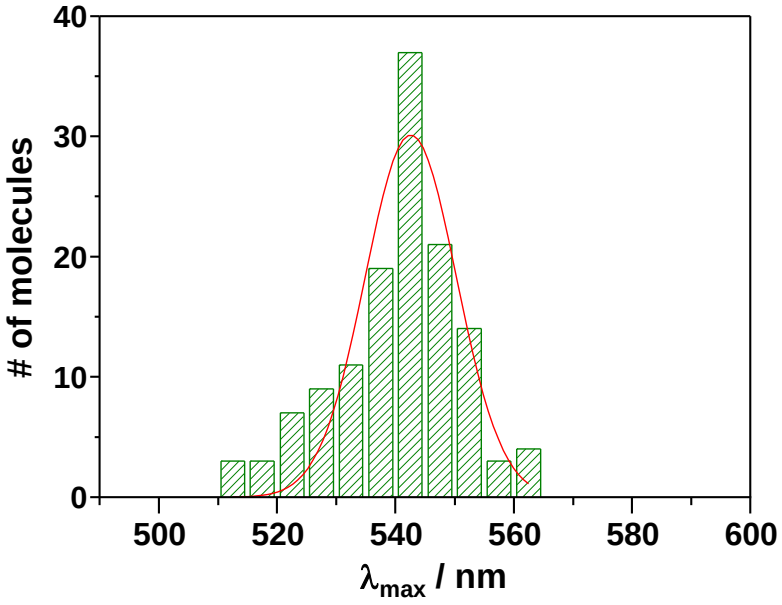

Fig. S5 Histogram of λ_{max} of R6G (131 molecules) in a Zeonex film.

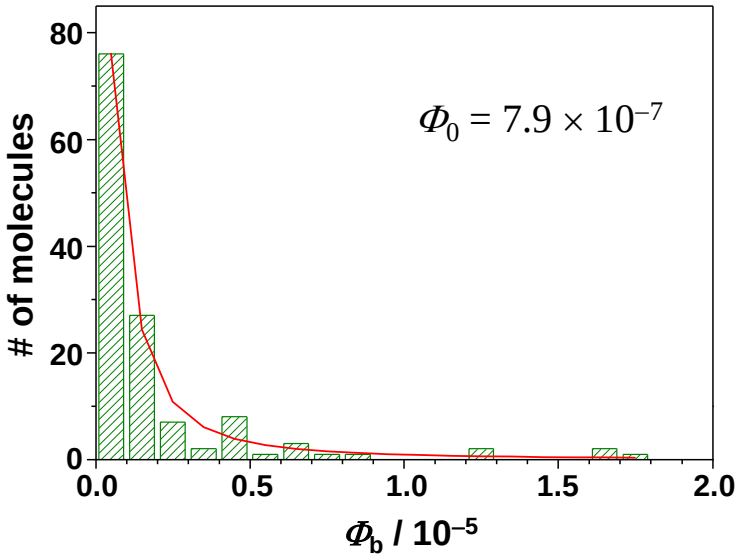

Fig. S6 Histogram of photobleaching quantum yields of R6G (131 molecules) embedded in Zeonex. Because ~50% of single R6G molecules measured during the experiment were photobleached immediately after laser irradiation, their photobleaching yields could not be evaluated. Thus, Φ_0 of 7.9×10^{-7} most likely corresponds to a lower limit value.