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Electronic Supplementary Information

1,3,5-triazine based polymer as nonlinear near-infrared antenna for two-photon activated volumetric optical memories

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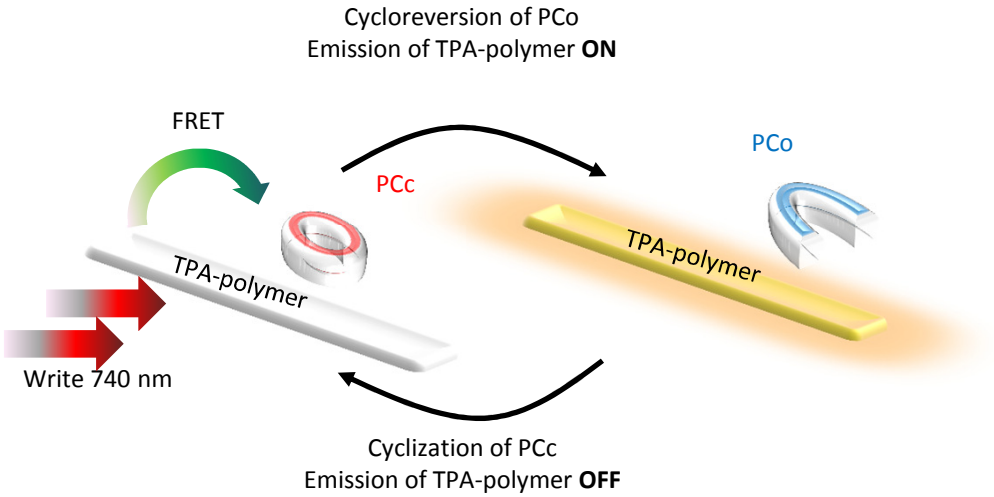

Fig. S1 – Illustration of the FRET induced writing process involving the TPA-polymer and the PC. Nonlinear excitation of the TPA-polymer at 740 nm should result in energy transfer by FRET to the PCc, inducing the cycloreversion process. An efficient FRET process is expected to quench the emission of the TPA-polymer in the presence of PCc. Once PCc is converted into PCo, the emission of the TPA-polymer is recovered. The written bits can be addressed by collecting the nonlinear emission of the TPA-polymer upon excitation at 740 nm with a lower excitation power and/or reduced exposure times when compared to the write process.

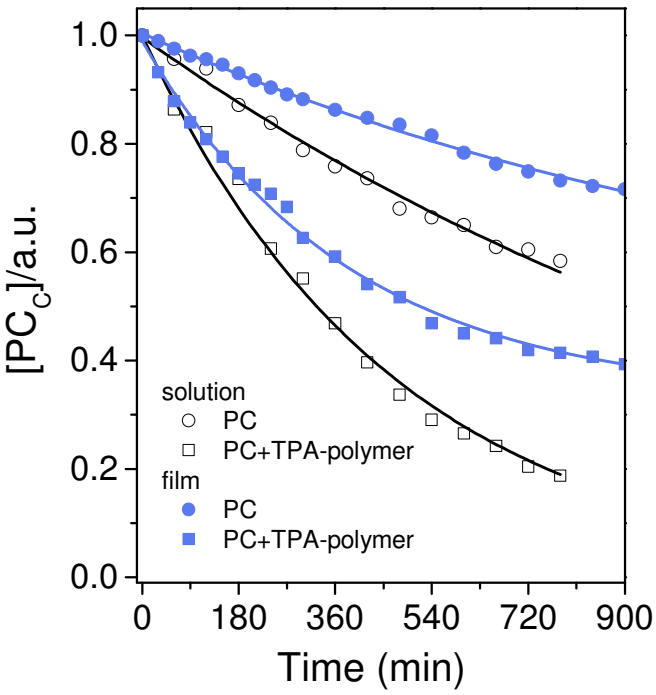

Fig. S2 Kinetics of the cycloreversion process induced by two-photon excitation (740-770 nm) in the presence and absence of the TPA-polymer in THF solution and in the data storage film. The concentrations used in solution and in film where similar (≈ 3 mM for PCc and 40-50mM for the TPA-polymer).

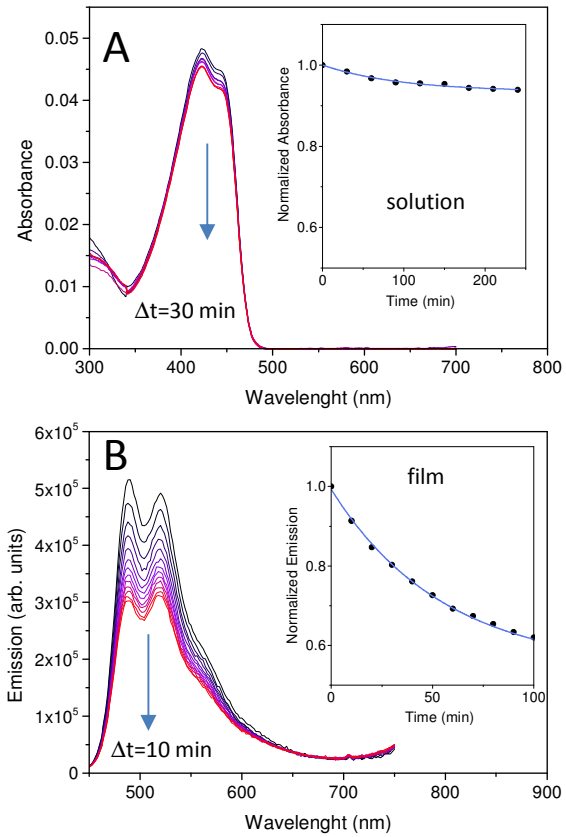

Fig. S3 Photobleaching kinetics of TPA-polymer in THF solution (A; 0.14 mM) and in EC film (B; 0.1% in EC corresponding to a concentration of ≈ 0.17 mM) as followed by absorption and emission in right angle, respectively (I_{exc}= 400-423 nm, I_0≈17 mW/cm^2).