

Supporting Information

Microscopic investigation of degradation processes in a polyfluorene blend by near-field scanning optical microscopy

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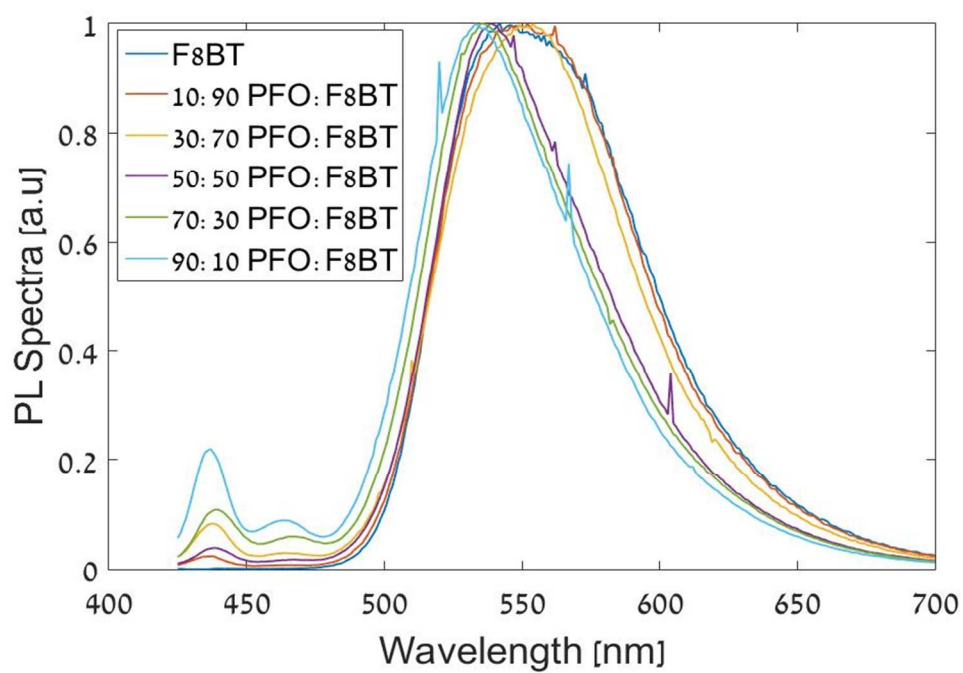


Figure S1: Normalized PL spectra of different PFO:F8BT blends and pure F8BT.

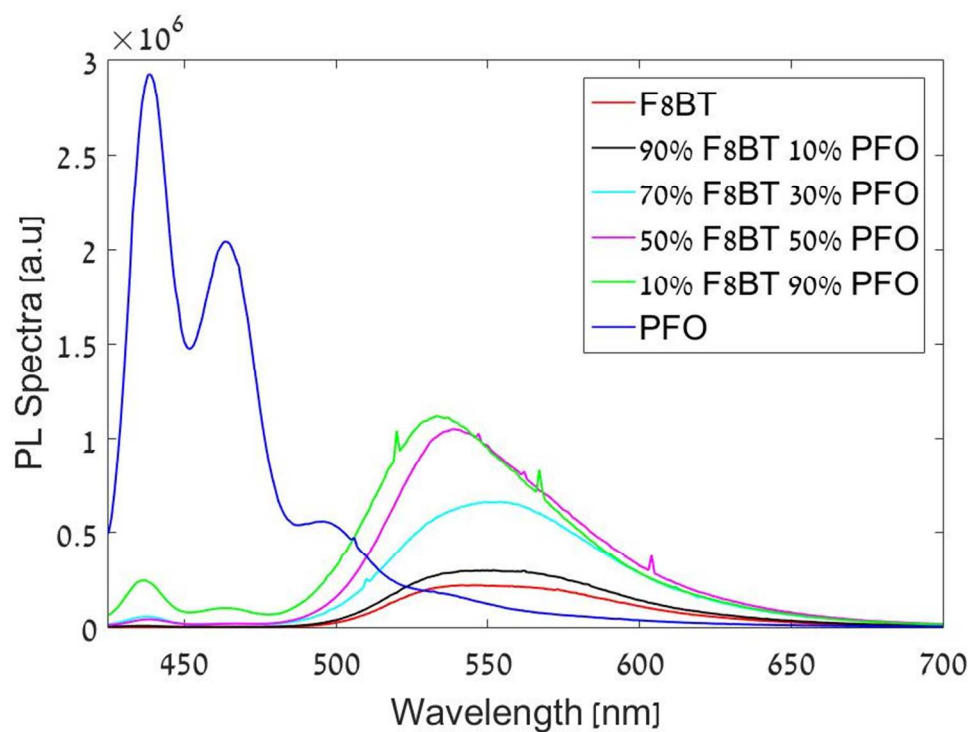


Figure S2: PL spectra of different PFO:F8BT blends and pure polymers.

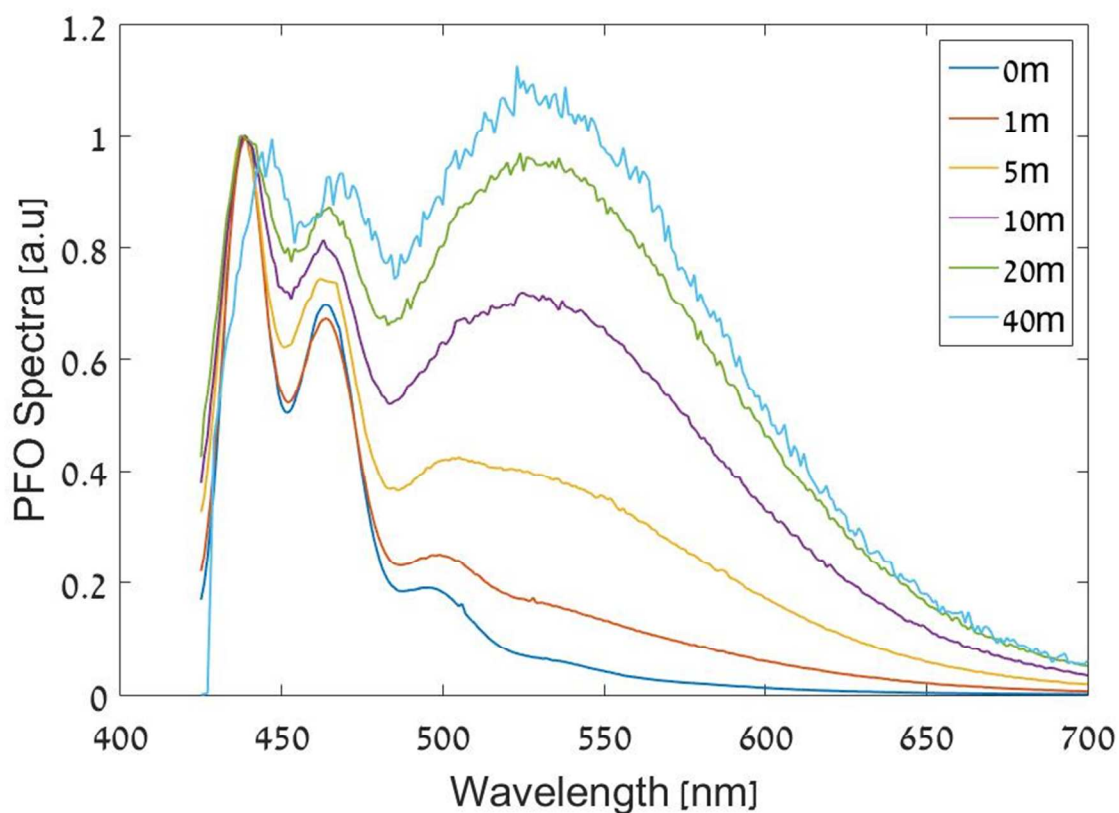


Figure S3: Normalized PFO PL spectra after 0, 1, 5, 10, 20 and 40 minutes of illumination. Increasing emission from a low-energy band at 530nm can be observed as the illumination time increased; this emission is attributed to the formation of fluorenone defect sites (keto defects) that act as trapping sites for singlet excitons which quench the PFO emission¹.

¹Gamerith, S.; Gadermaier, C.; Scherf, U.; List, E. J. Emission properties of pristine and oxidatively degraded polyfluorene type polymers. *physica status solidi (a)* **2004**, 201, 1132-1151.

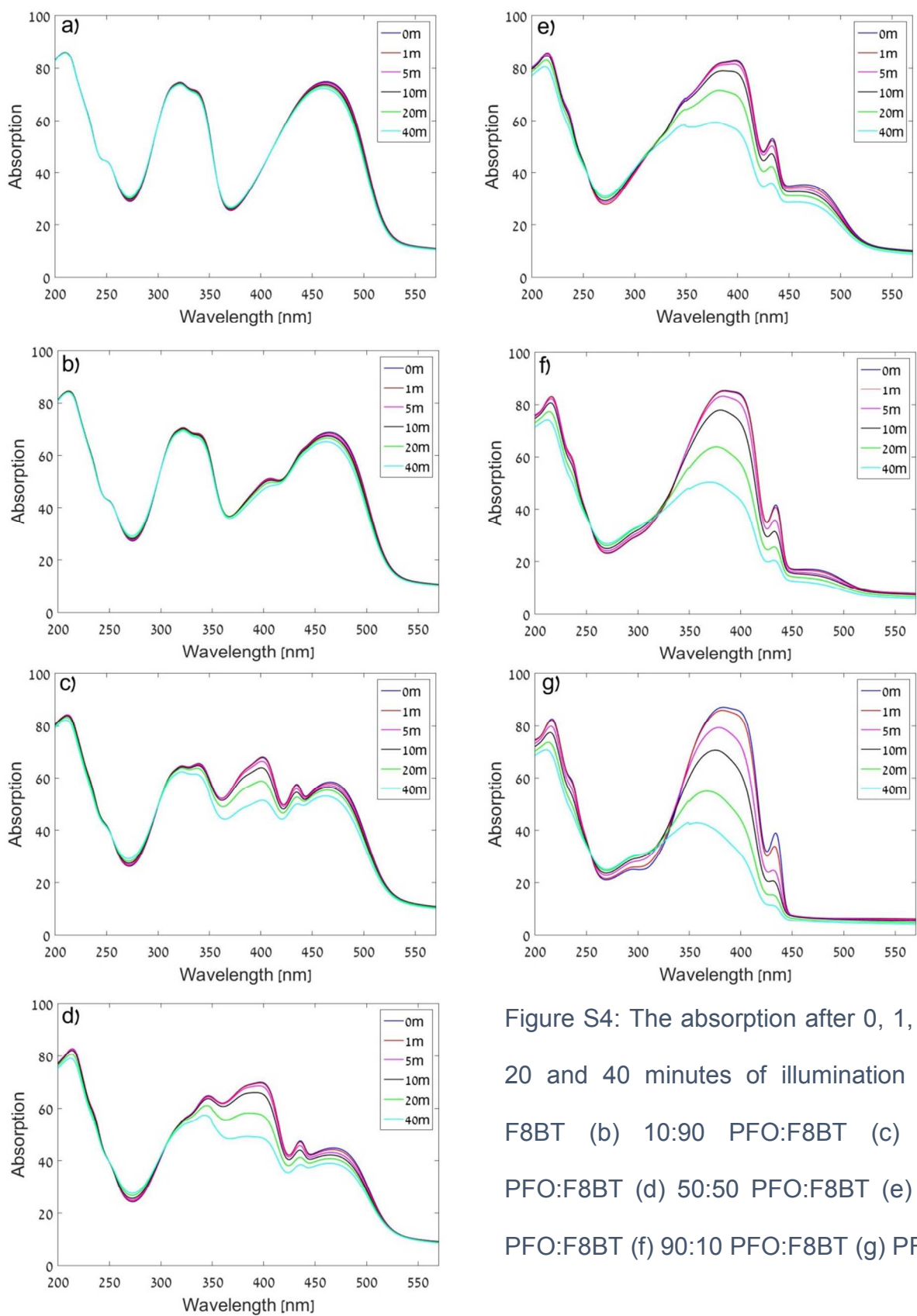


Figure S4: The absorption after 0, 1, 5, 10, 20 and 40 minutes of illumination of (a) F8BT (b) 10:90 PFO:F8BT (c) 30:70 PFO:F8BT (d) 50:50 PFO:F8BT (e) 70:30 PFO:F8BT (f) 90:10 PFO:F8BT (g) PFO.

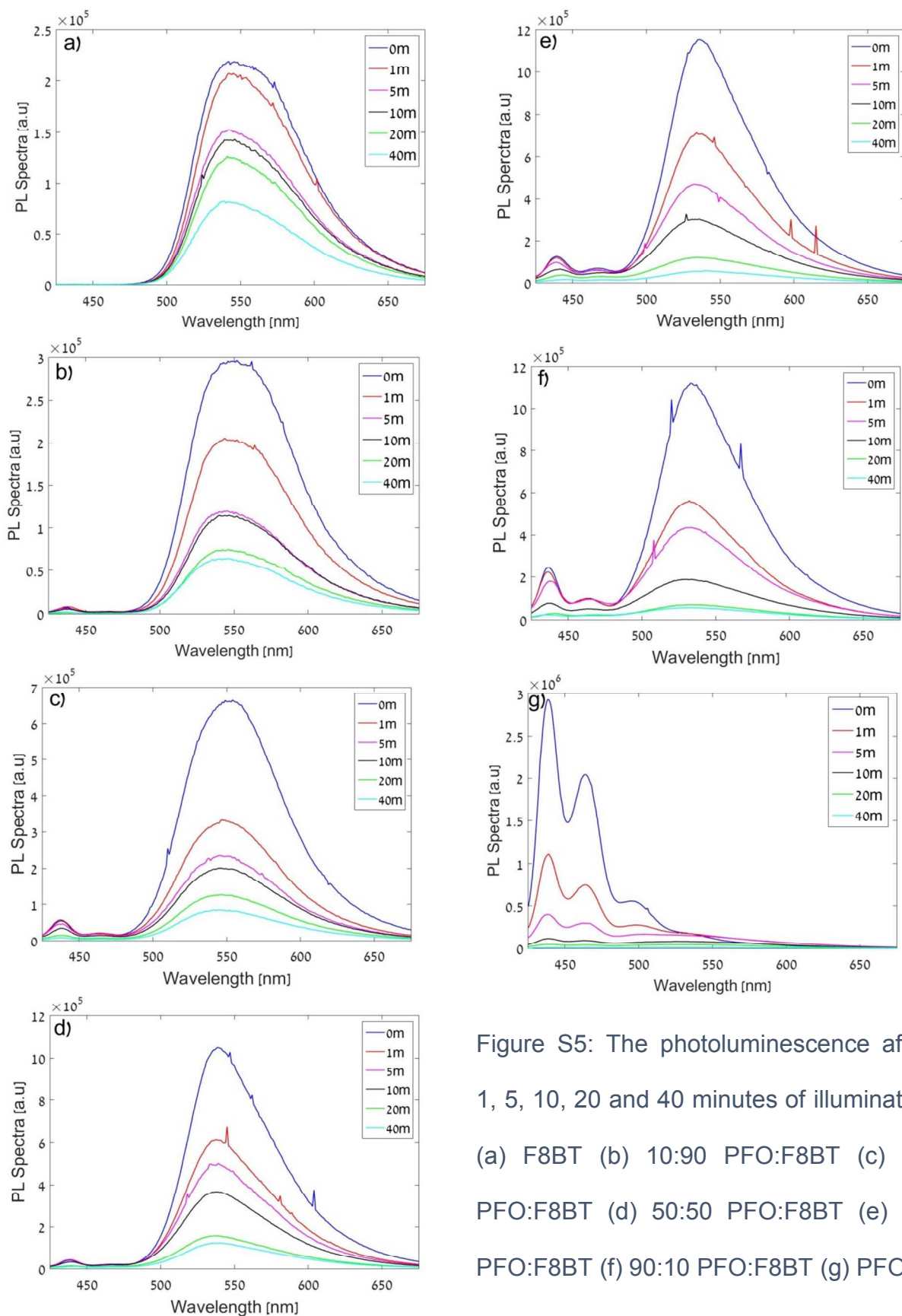


Figure S5: The photoluminescence after 0, 1, 5, 10, 20 and 40 minutes of illumination of (a) F8BT (b) 10:90 PFO:F8BT (c) 30:70 PFO:F8BT (d) 50:50 PFO:F8BT (e) 70:30 PFO:F8BT (f) 90:10 PFO:F8BT (g) PFO.