Supporting Information

Various experimental parameters have an influence on dewetting velocity ***V***. Systematic experiments proved that ***V*** is increasing with increasing dewetting temperature[21] and that ***V*** is decreasing with increasing the film thickness[21]. Furthermore, experimental observations showed a dependence of ***V*** on the thickness of PDMS layer covering the substrate (thicker PDMS layer leads to higher ***V***)[22, 23] as well as on the type of substrate used. Here, in our experiments, ***V*** is also decreasing with increasing the percentage of conjugated polymers present in the optically inactive PS matrix.

Influence of the amount of conjugated polymers in blend films on slowing of dewetting: Varying the amount of MEH-PPV in PS matrix from 2% to 15% proved that deceleration by light was more pronounced for higher amounts of MEH-PPV. Although small, this effect could still be observed even for 2 to 5% of MEH-PPV (see Figure S1). This result indicates that light was able to brake the dewetting process even when the polymer films contained rather low amounts of MEH-PPV molecules.

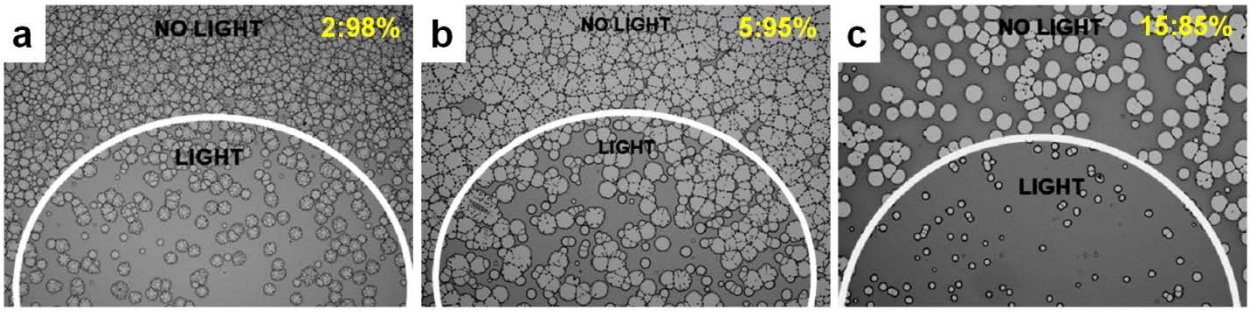

Figure S1: (a)-(c) Optical micrographs showing the morphology of thin MEH-PPV/PS polymer films (40 nm thickness) containing various amount of MEH-PPV after: 17 h of dewetting at 95

°C (a), 6 h of dewetting at 125 °C (b), 44.5 h of dewetting at 110 °C (c). Only encircled regions were exposed to white light. Size of all optical micrographs is 2860x2120 μm^2.

Slowing of dewetting by light in P3HT/PS films: Deceleration of dewetting by light in MEH-PPV/PS and PCDTBT/PS films was observed as described in the paper. In order to see how general this phenomenon is, we have also studied slowing of dewetting by light in thin films containing P3HT (see Figure S2). The results confirmed that this effect seems to be a generic feature of conjugated polymers.

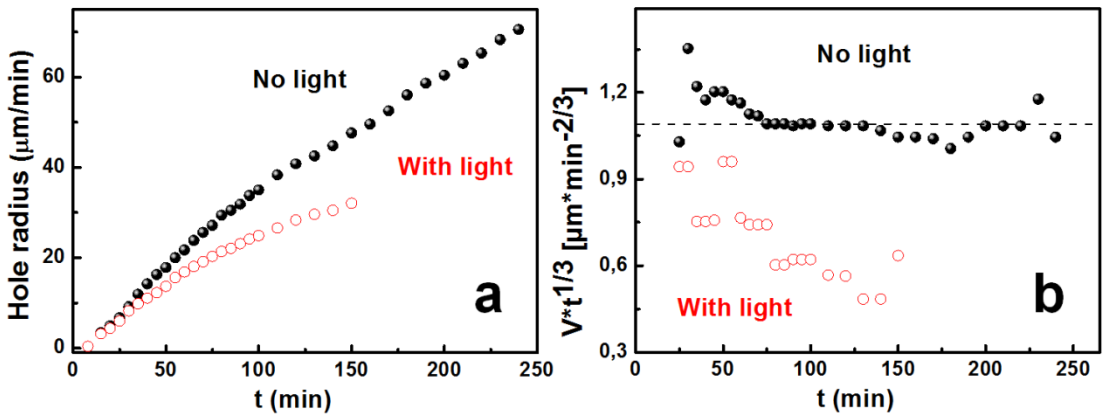

Figure S2: (a) Typical evolution of the radius of two randomly chosen dewetting holes as a function of dewetting time, measured at 160 °C. Each hole was located in a 75 nm thick film of P3HT/PS (5%/95%) deposited on a silicon wafer coated with a ≈ 2 nm thick PDMS layer. One hole was exposed to white light (red empty circles) while the other hole was not exposed to light (black filled circles). (b) Corresponding dewetting velocities (***V***) multiplied by dewetting time (***t***) to the power of 1/3 (=$\boldsymbol{V \cdot t}^{+1/3}$). The horizontal line in (b) is guiding the eye, representing the expected $\boldsymbol{V \cdot t}^{+1/3}$ for dewetting without the influence of light. First few points in (b)

corresponding to the not exposed region are higher than the horizontal line due to the initial elastic rim[18].

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