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Supplementary Information

Nanostructured organic radical cathodes from self-assembled nitroxide-containing block copolymer thin films

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Thermal annealing of thin films

PTMA presents a high glass transition temperature, at ca. 140 °C, and its degradation occurs at around 210 °C making thermal annealing difficult for this polymer. Indeed, thermal annealing of PTMA-*b*-PS at 200 °C for 24 h appears to be unsuccessful to improve phase separation (**Figure S1.b**). In order to avoid degradation of PTMA during the annealing process rapid thermal annealing (RTA) was investigated. RTA presents the advantage to be much faster than classical thermal annealing and has led to good results to increase ordering in thin films prepared from PS-*block*-poly(methylmethacrylate) diblock copolymers.[1] Unfortunately, as for classic thermal annealing, RTA did not succeeded to improve phase separation in PTMA-*b*-PS thin films (**Figure S1.c**).

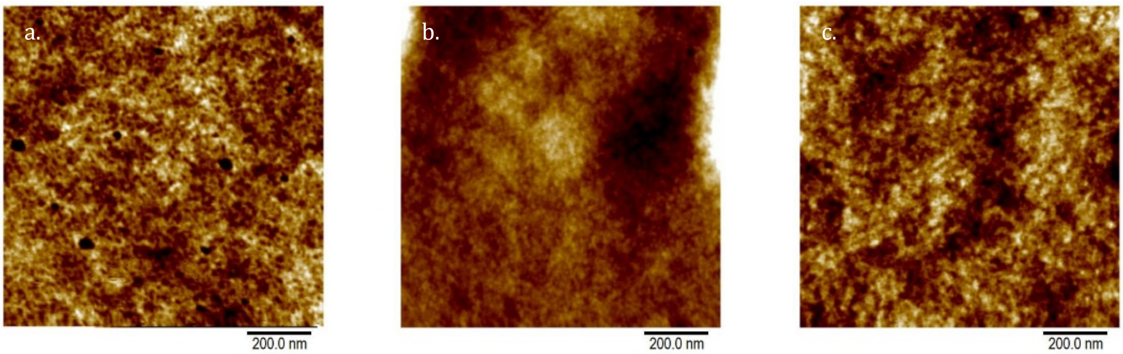

Figure S1. AFM height images of $PTMA_{79}$-*b*-PS_{502} thin films with 23 wt% of PTMA. 2.a: without annealing; 2.b: thermal annealing at 190 °C during 6 h; 2.c: rapid thermal annealing at 220 °C during 60 s. Any major morphology change (phase separation) is observed after thermal annealing.

1. F. Ferrarese Lupi, T. J. Giammaria, M. Ceresoli, G. Seguini, K. Sparnacci, D. Antonioli, V. Gianotti, M. Laus and M. Perego, *Nanotechnology*, 2013, **24**, 315601.