Electronic Supplementary Material (ESI) for RSC Advances.

Correlation between gate-dielectric morphology at the nanoscale and charge transport properties in organic field-effect transistors

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SUPPORTING INFORMATION

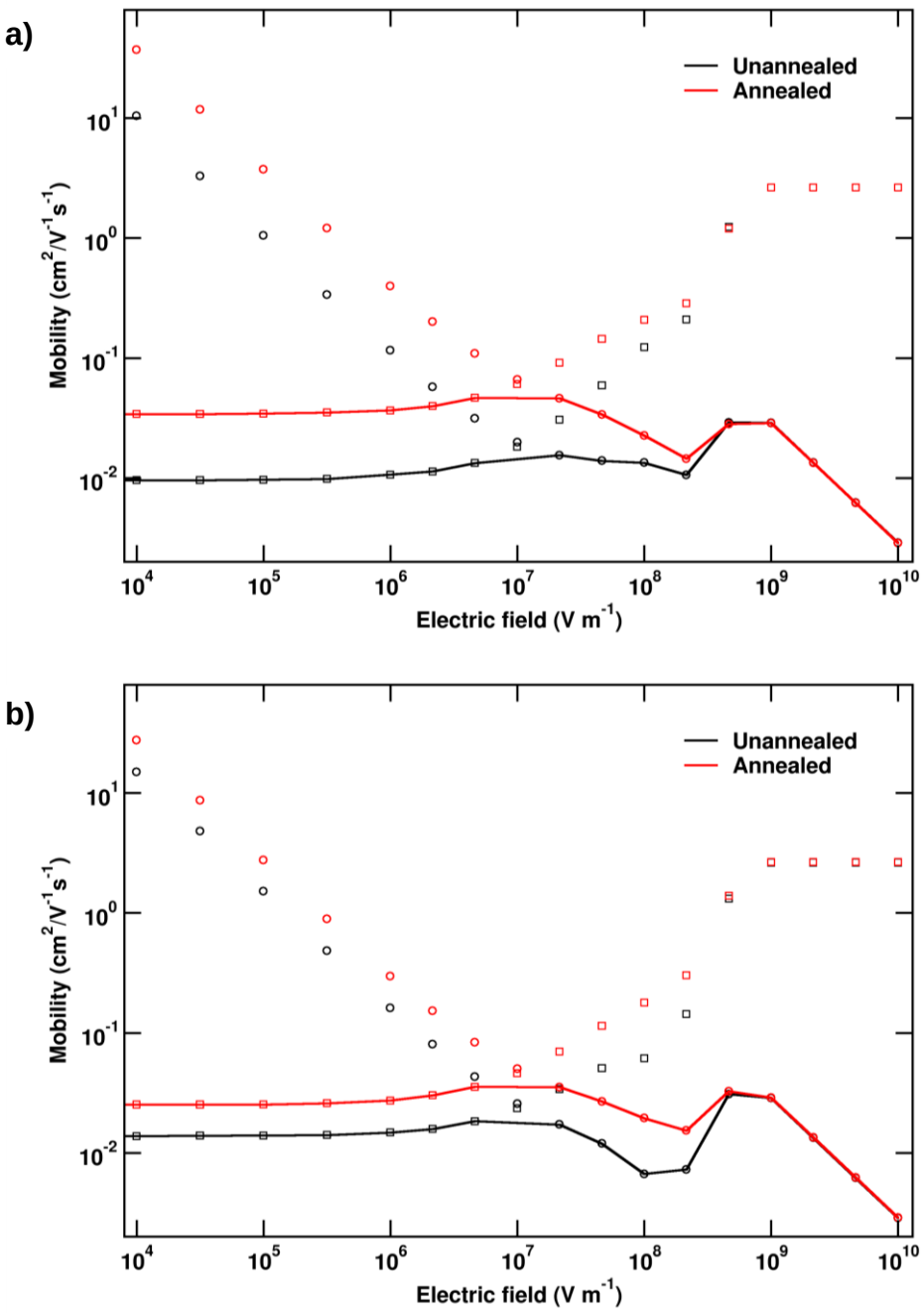

Fig. S1. Computed mobility as a function of the applied electric field for the four samples of Fig. 2: a) PMMA1; b) PMMA2. Squares and circles correspond to mobilities computed according to the low-field and high-field formula, respectively (see Methods).

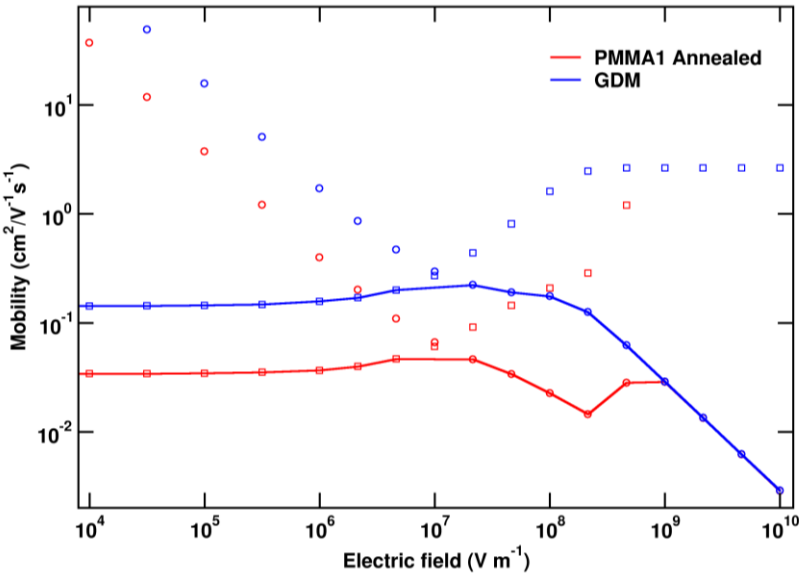

Fig. S2. Comparison between the electric field dependence of the mobilities of the annealed PMMA1 sample and that obtained by a GDM on a grid with the same (21x21) size. Squares and circles correspond to mobilities computed according to the low-field and high-field formula, respectively (see Methods).

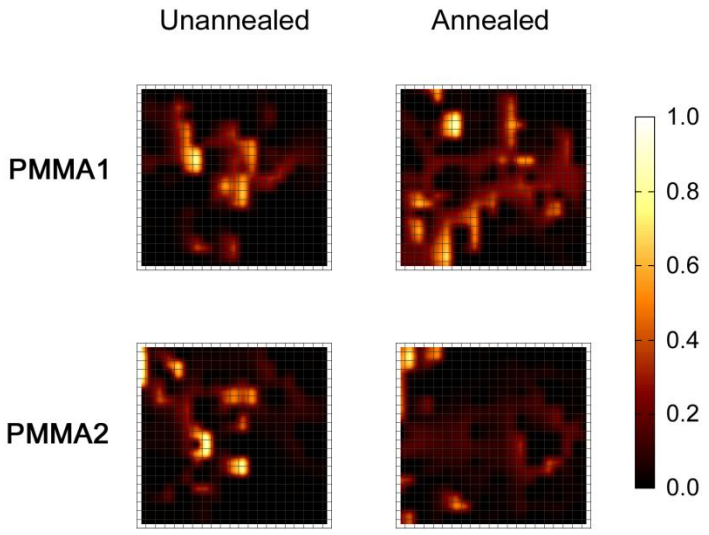

Fig. S3. Simulated charge density maps (arbitrary units, logarithmic scale) for the four samples of Fig. 2. The applied electric field ($1.0 \cdot 10^8$ V m^{-1}) is from left to right.

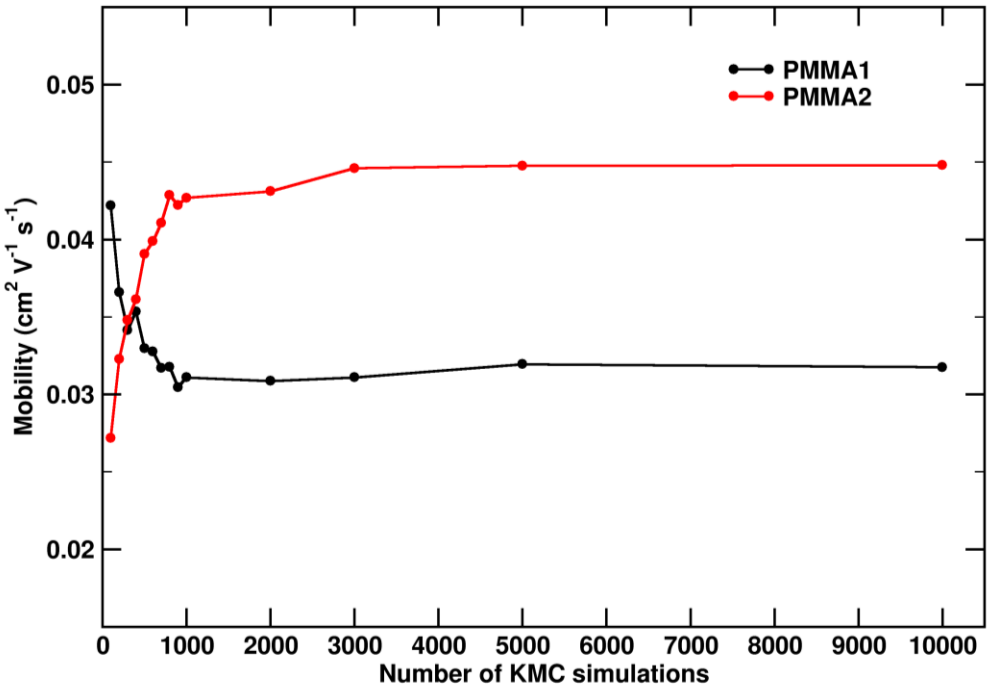

Fig. S4. Convergence of mobility values with the number of KMC simulations. Calculations refer to the unannealed samples of **PMMA1** and **PMMA2** (black and red lines, respectively).

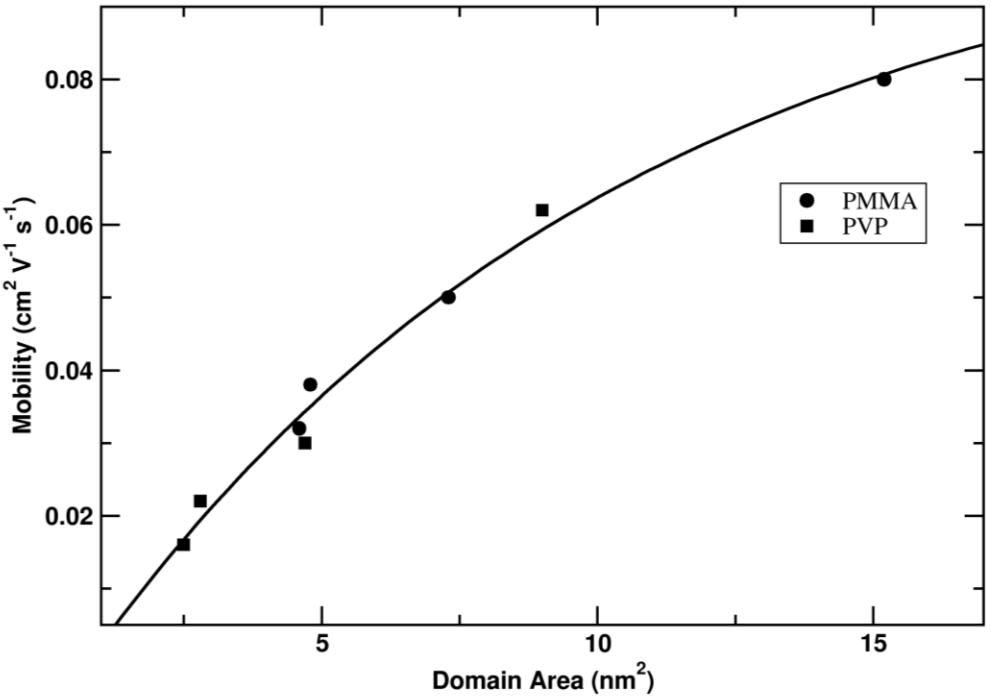

Fig. S5. Computed mobility as a function of the mean area of interconnected domains for PMMA and PVP samples (exponential fit, R=0.993)

Table S1. Comparison between structural properties of PMMA as a function of the chain length of oligomers. Calculations refer to the annealed sample of **PMMA1**.

Number of monomers	*Bulk density (g/cm^3)*	*Rrms (nm)*	*Rp-v (nm)*	*Slab density (g/cm^3)*
32	1.20	0.48	2.8	1.14
64	1.18	0.50	2.8	1.13