SUPPLEMENTARY INFORMATION

Effect of Macromolecular Architecture on the Self-assembly Behavior of Copolymers in a Selective Polymer Host

Petra Bačová,[a] Romanos Foskinis,[b] Emmanouil Glynos,[c] Anastassia N. Rissanou,[a] Spiros H. Anastasiadis,[c,d] and Vagelis Harmandaris*[a,e]

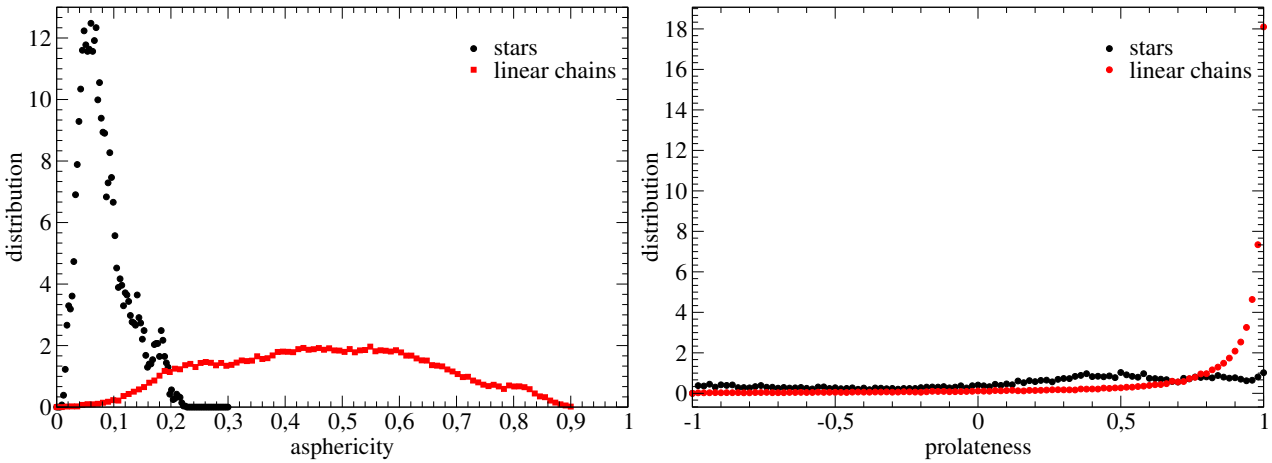

Figure S1 Distributions of asphericity and prolateness parameters for single molecules of star-like and linear copolymers at 400K.

The asphericity parameter:

$$a = \frac{(\lambda_2 - \lambda_1)^2 + (\lambda_3 - \lambda_1)^2 + (\lambda_3 - \lambda_2)^2}{2(\lambda_1 + \lambda_2 + \lambda_3)^2}$$

$\lambda_1 \leq \lambda_2 \leq \lambda_3$ are the three eigenvalues of the radius of gyration tensor. For a perfectly spherical object $a = 0$.

The prolateness parameter:

$$p = \frac{(2\lambda_1 - \lambda_2 - \lambda_3)(2\lambda_2 - \lambda_1 - \lambda_3)(2\lambda_3 - \lambda_1 - \lambda_2)}{2(\lambda_1^2 + \lambda_2^2 + \lambda_3^2 - \lambda_1\lambda_2 - \lambda_1\lambda_3 - \lambda_2\lambda_3)^{3/2}}$$

For a perfectly oblate object $p = -1$, for a perfectly prolate object $p = 1$.

[a] *Institute of Applied and Computational Mathematics (IACM), Foundation for Research and Technology Hellas (FORTH), GR-71110 Heraklion, Crete, Greece.*
[b] *Department of Physics, University of Crete, GR-71409 Heraklion, Crete, Greece.*
[c] *Institute of Electronic Structure and Laser, Foundation for Research and Technology Hellas (FORTH), GR-71110 Heraklion, Crete, Greece.*
[d] *Department of Chemistry, University of Crete, GR-71409 Heraklion, Crete, Greece.*
[e] *Department of Mathematics and Applied Mathematics, University of Crete, GR-71409 Heraklion, Crete, Greece.*

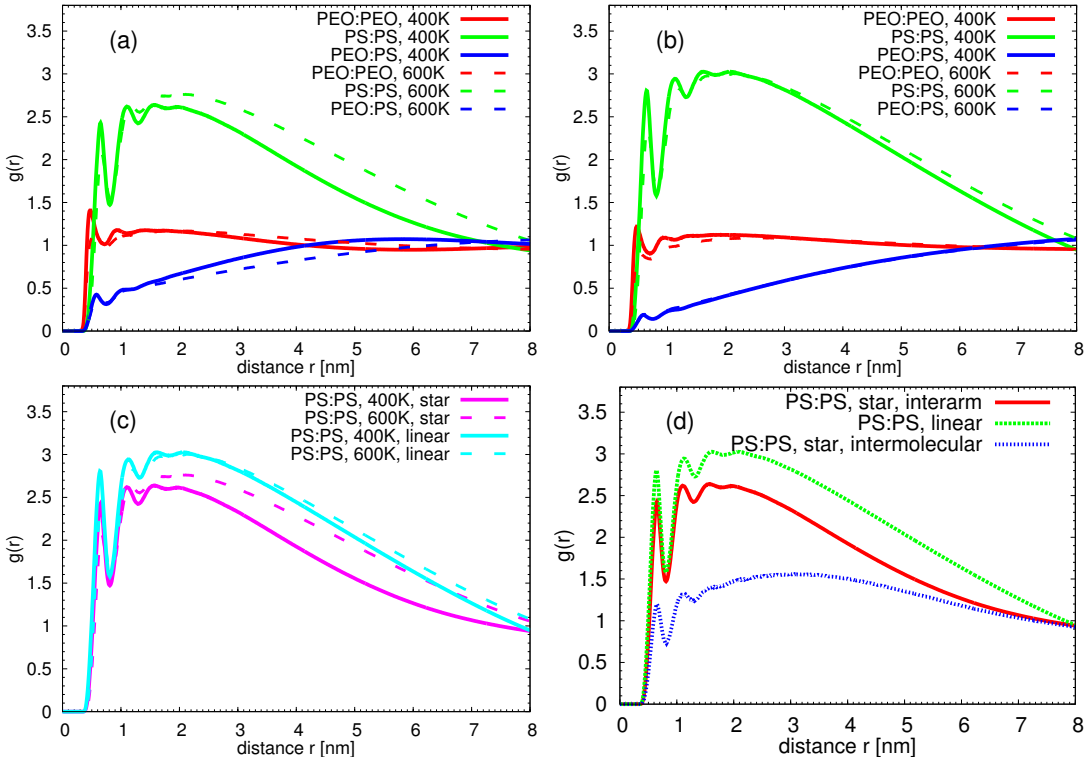

Figure S2 Inter-arm radial distribution functions for monomers' center-of-mass for 400K (solid lines) and 600K (dashed lines).(a) Function for monomers placed on star arms. (b) Function for monomers in blocks of linear chains. (c) Comparison of PS:PS functions for star and linear copolymers at 400K and 600K. (d) PS:PS functions at 400K for star and linear copolymers, an intermolecular distribution function without the inter-arm contribution for star compolymer is shown for comparison.

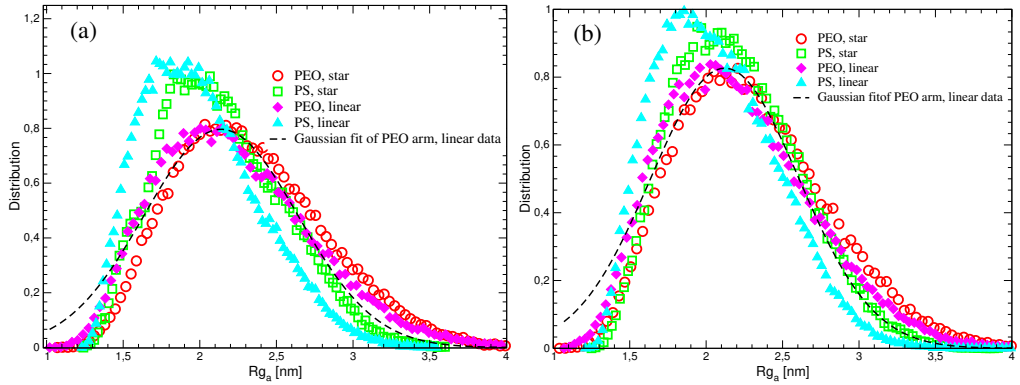

Figure S3 Distributions of the arm radius of gyration (linear chain is treated as a two-arm star). The dashed line is a Gaussian fit of data for PEO arm in linear copolymer. The data were measured at 500K (left) and 600K (right).

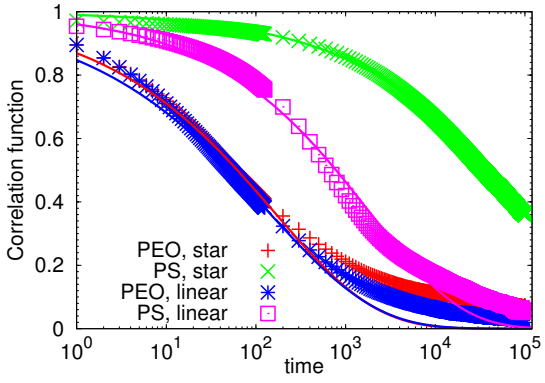

Figure S4 Example of the fitting procedure. The points are data for the corresponding correlation function, the lines represent the fits to KWW function.