# Correction to Dispersion of Polymer-Grafted Nanorods in Homopolymer Films: Theory and Experiment

Amalie L. Frischknecht,* Michael J. A. Hore, Jamie Ford, and Russell J. Composto

The values in Table 2 for $N$ and quantities based on $N$ are incorrect. Table 2 should read as shown here.
The caption to Figure 1 should read

**Figure 1.** PEO(114)-Au nanorod morphology in PEO thin films. SEM images for $\alpha = P/N =$ (a) 0.42 and (b) 1.56. (c) TEM image for $\alpha = 19.0$. The scale bars are 500 nm. Insets show a magnified region of the images.
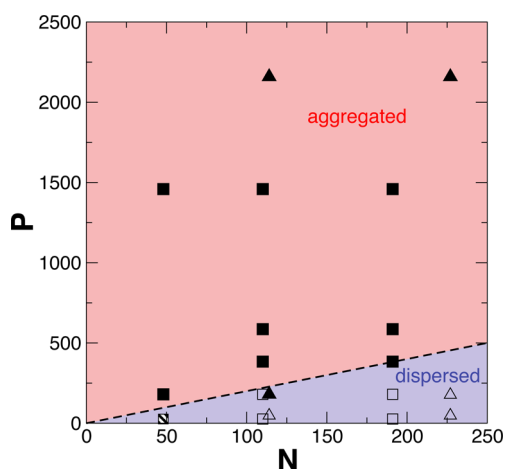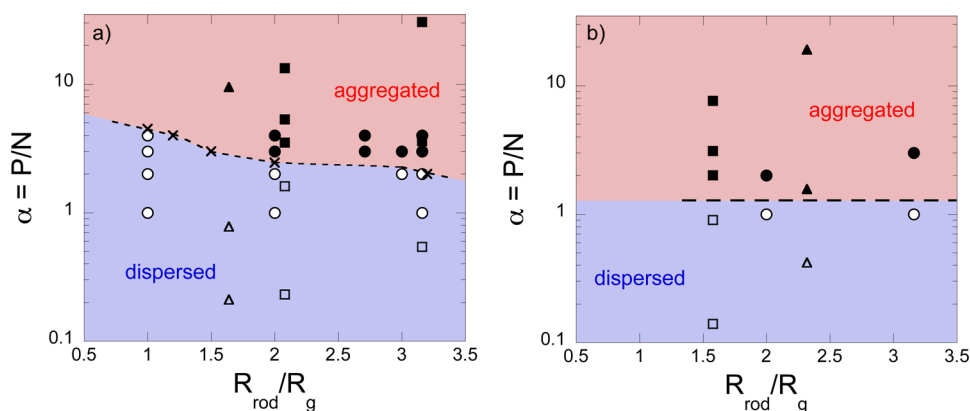


**Figure 2.** Dispersion map for PS-Au:PS (squares) and PEO-Au:PEO (triangles) nanocomposites. Solid symbols represent aggregated systems while open symbols represent dispersed systems. The dashed line is $\alpha = P/N = 2$. For $\alpha > 2$, nanorods are aggregated within the polymer matrix, whereas they mainly disperse for $\alpha < 2$. The striped point at $N = 48$, $P = 26$ represents a partially aggregated morphology.

**Table 2. Parameters for PEO-Au($N$):PEO($P$) Films[a]**

| $N$ | $R_g$ (nm) | $R_{rod}/R_g$ | $L/R_g$ | $\sigma$ (chains/nm$^2$) | $\sigma^*$ | $\alpha = P/N$ |
|---|---|---|---|---|---|---|
| 114 | 2.59 | 2.32 | 16.22 | 0.5 | 1.25 | **0.42**, 1.56, 19.0 |
| 227 | 3.66 | 1.64 | 11.48 | 0.5 | 1.76 | **0.21, 0.78**, 9.5 |

[a]Values of $\alpha$ in bold denote fully dispersed systems (>90% individual NRs).

Also, as a consequence, the points plotted for the PEO-Au:PEO nanocomposites in Figures 2 and 14 are shifted as shown here. In Figure 14a, the experimental results are for the PS(48)-Au:PS and PS(110)-Au:PS systems in Table 1 and the PEO(227)-Au:PEO systems in Table 2. In Figure 14b, the experimental results are for the PS(192)-Au:PS system and the PEO(114)-Au:PEO system. For the PEO(114)-Au:PEO system with a grafting density of $\sigma^* = 1.25$, the transition from dispersion to aggregation occurs for $\alpha < 1.56$.



**Figure 14.** Dispersion maps for experimental PS-Au:PS systems (squares), PEO-Au:PEO systems (triangles) and DFT results (circles), for (a) $1.91 \leq \sigma^* \leq 2.38$ and (b) $0.94 < \sigma^* < 1.35$. Aggregated systems are shown in solid symbols and dispersed systems in open symbols. Included in part a are points with $E_{tot} = 5k_BT$ in the DFT (crosses). The dashed lines are guides to the eye.