

Abstract Submitted  
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**Tuning confinement effects at constant film thickness**

SIMONE NAPOLITANO, Universite Libre de Bruxelles — We show experimental evidence confuting the commonly accepted idea that the deviation from bulk behavior can be explained in terms of finite size effects and interfacial interactions. By reproducing Guiselin's experiment and upon variation of the molecular weight, we could prepare films of polystyrene spincoated on aluminum and annealed for the same time, having constant thickness but different glass transition temperature and tracer diffusivity. The results can be rationalized in terms of  $t^*$ , a dimensionless parameter obtained by the ratio of the annealing time and the adsorption time [1], quantifying the equilibrium character of the films. Further evidence on the relevance of  $t^*$  on understanding the behavior of polymers at the nanoscale is provided [2].

[1] Napolitano, S. and Wübbenhorst, M., Nature Communications, 2, 260 (2011).

[2] Rotella, C.; Wübbenhorst, M. and Napolitano, S., Soft Matter, 7, 5260 (2011).

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