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A reassessment of entropic factors influencing molecular weight dependence of surface tension VENKAT MINNIKANTI, School of Chemical and Biomolecular Engineering, Cornell Univeristy, LYNDEN ARCHER, School of Chemical and Biomolecular Engineering, Cornell Univeristy — In our previous work we observe that by considering density gradients at a free surface of a polymer, the entropic attraction of an end is significantly increased. Surface tension dependence on molecular weight of a polymer in the past has been shown to predominantly arise due to the molecular weight dependence of the bulk density of polymer and less on entropic reasons of placing a polymer near a surface. In lieu of our previous observations we will reassess the contribution of entropic attraction of the end to the molecular weight dependence of surface tension. Using lattice simulations we will show that entropic factors play a greater role than previously described. Analysis of previous experimental surface tension data within this premise will also be made.

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