

Abstract Submitted
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Dynamics of polymer expansion out of spherical capsids¹ ISSAM ALI, Sultan Qaboos University — We present simulations investigating the dynamics of expanding flexible polymers while ejecting from a spherical capsid. Recent theoretical models predict that for a good solvent the number of ejected beads, N , follows a power law with time, $N \sim (1 + at)^{-1}$ (a is a constant). Our simulation results agree with these predictions for shorter ejection times. However, we find that at larger times the remaining beads eject at a faster rate than predicted. A possible explanation is that models neglect of the polymer's entropy outside the capsid, which can contribute an additional force that aids in pulling the beads remaining in the capsid outside.

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