

Supplemental Materials for  
 “Facilitated Dynamics of an Active Polymer in 2D Crowded Environments with  
 Obstacles”

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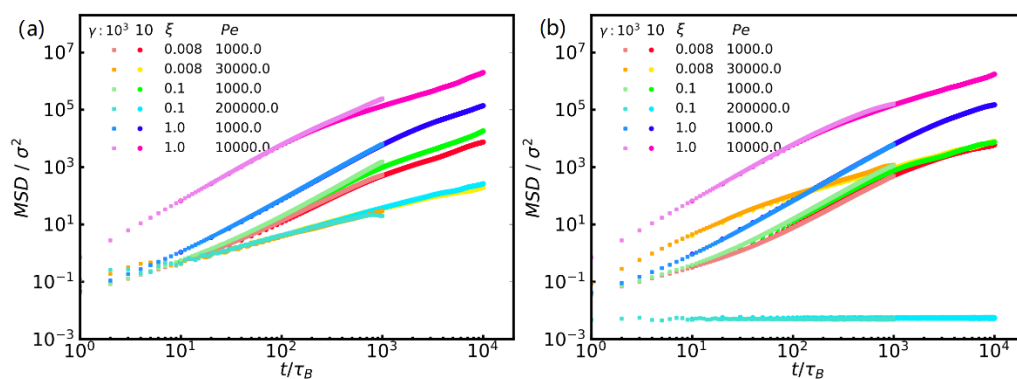


Fig. S1. Mean squared displacement of the center-of-mass (MSD) of active polymer as a function time  $t$  under different friction conditions ( $\gamma$ ) exhibit similar curves in (a) free space and (b) crowded environments.

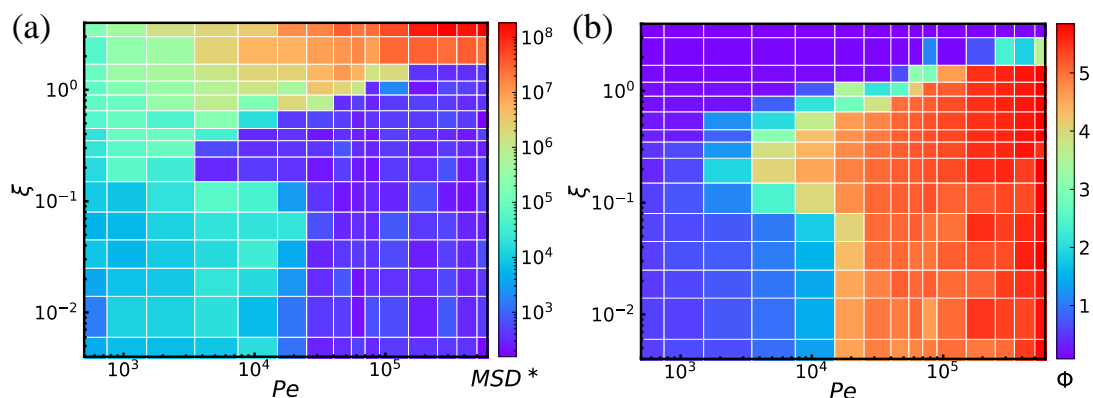


Fig. S2. Phase diagram in  $\xi - Pe$  plane for active polymer in free space, depicted by (a)  $MSD^*$  and (b)  $\Phi$ .

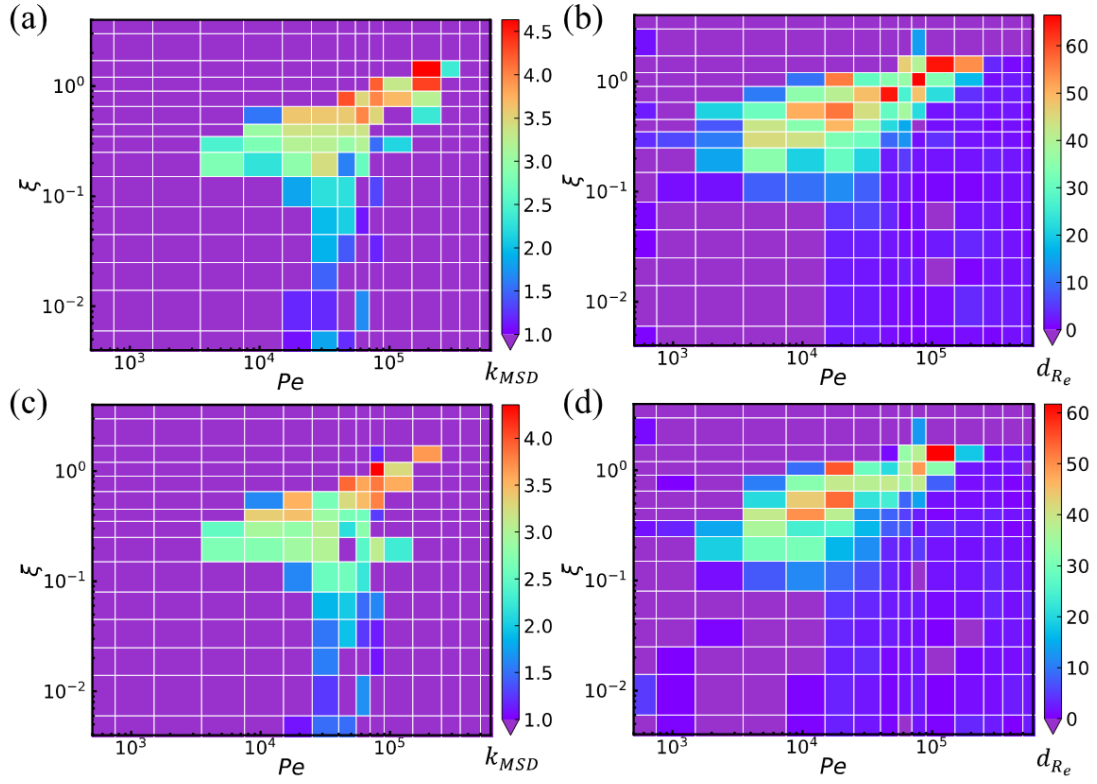


Fig. S3. Phase diagram in  $\xi - Pe$  plane for active polymer in crowded environment with obstacle packing fraction of (a, b)  $\phi = 0.07065$  and (c, d)  $\phi = 0.1256$ , depicted by (a, c)  $k_{MSD}$ \* and (b, d)  $d_{Re}$ .

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