

## Supplementary Material: Inelastic Collisions Lead to Collective Motion of Cells Modeled as Ring Polymers

Haosheng Wen,<sup>1</sup> Yu Zhu,<sup>1</sup> Chenhui Peng,<sup>1</sup> P.B. Sunil Kumar,<sup>2</sup> and Mohamed Laradji<sup>1</sup>  
<sup>1</sup>*Department of Physics and Materials Science, The University of Memphis, Memphis, TN 38152, USA*  
<sup>2</sup>*Department of Physics, Indian Institute of Technology Palakkad, Palakkad-668557, Kerala, India*

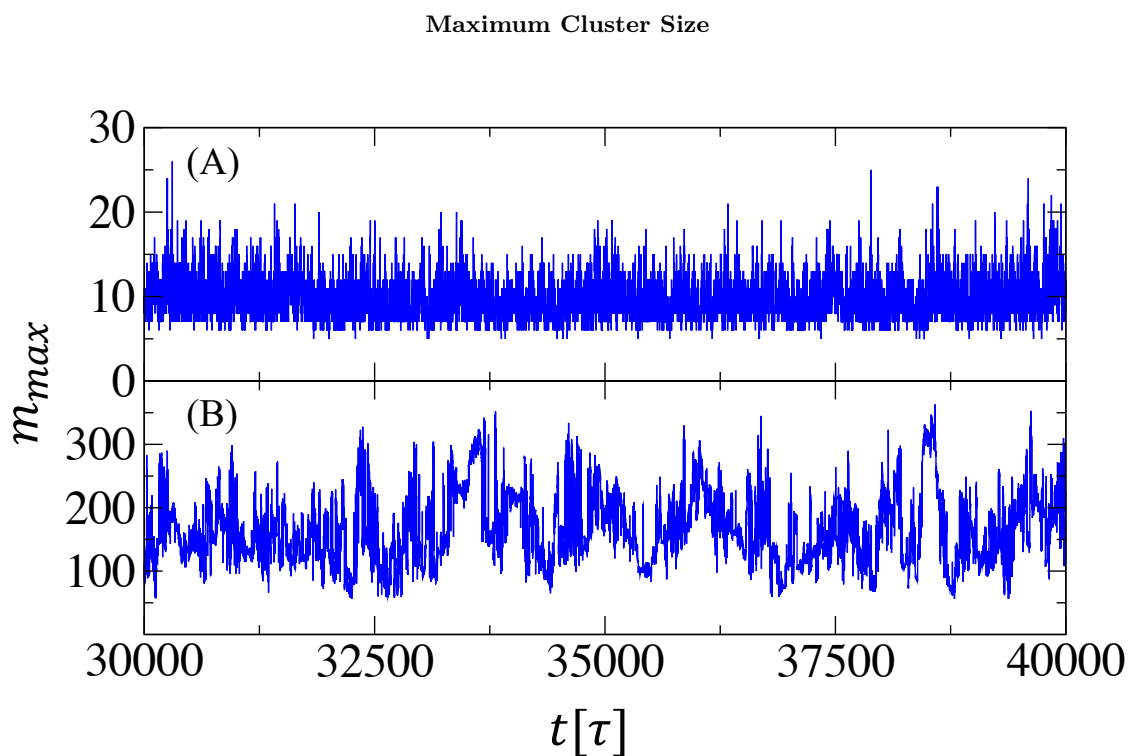


Figure S1: Maximum cluster size versus time in the case of elongated cells with  $\rho = 0.3125$ . (A) and (B) correspond to  $F_D = 8\epsilon/r_m$  and  $F_D = 32\epsilon/r_m$ , respectively.