Electronic Supplementary Material (ESI) for Soft Matter.

Emergent conformational properties of end-tailored transversely propelling polymers: Supporting Information

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DESCRIPTION OF SUPPLEMENTARY MOVIES

1. **Supplementary movie 1**
   Movie showing the transverse propulsion and curving of an end-tailored polymer with $\alpha < 1$.
   Parameters: $N = 25$, $\alpha = 0.5$, $\kappa = 500$, $f_p = 5$.

2. **Supplementary movie 2**
   Movie showing the transverse propulsion and curving of an end-tailored polymer with $\alpha > 1$.
   Parameters: $N = 25$, $\alpha = 1.5$, $\kappa = 500$, $f_p = 7$.

3. **Supplementary movie 3**
   Movie showing the formation of a $2Dloop$ conformation that starts to rotate.
   Parameters: $N = 25$, $\alpha = 1.5$, $\kappa = 20$, $f_p = 0.5$.

4. **Supplementary movie 4**
   Movie showing the formation of a *hairpin* conformation and its rotation.
   Parameters: $N = 25$, $\alpha = 1.5$, $\kappa = 20$, $f_p = 1$.

5. **Supplementary movie 5**
   Movie showing how a straight fiber develops the *W-shaped* flapping mode, while still propelling transversely.
   Parameters: $N = 25$, $\alpha = 1.5$, $\kappa = 5$, $f_p = 2$.