Electronic Supplementary Information for

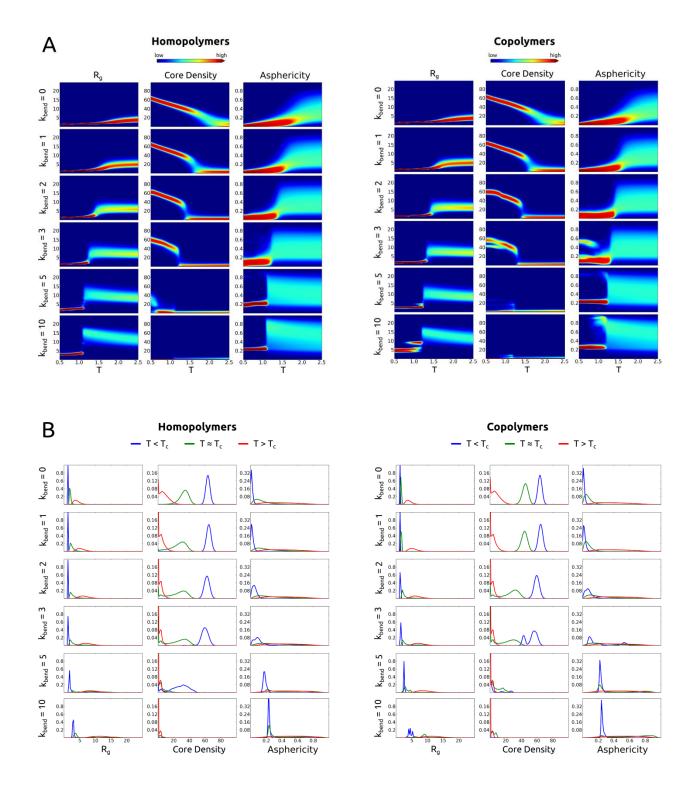
## **Directional Interactions in Semiflexible Single-chain Polymer Folding**

Pablo Englebienne, Peter A. J. Hilbers, E. W. Meijer, Tom F. A. De Greef and Albert J. Markvoort

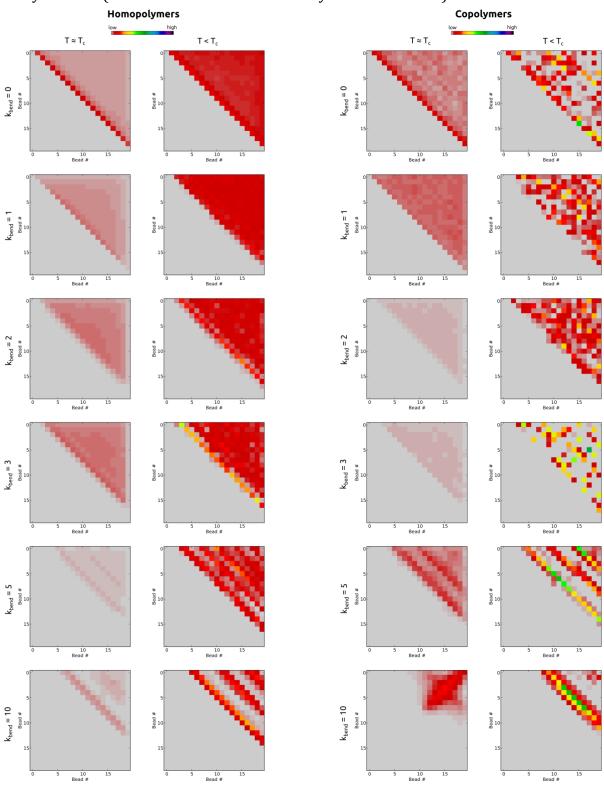
## Contents

Figure S2. Contact maps of 100-mer polymers at different values of  $k_{bend}$ . Left: homopolymers with all beads interacting with a LJ126 potential (contacts are evaluated between beads at every 5<sup>th</sup> position). Right: co-polymers with a directional (LJA2) bead on every 5<sup>th</sup> bead (contacts are evaluated for every directional bead). .3

 **Figure S1.** Structural properties of 100-mer polymers. Left: homopolymers with all beads interacting with a LJ126 potential. Right: co-polymers with a directional (LJA2) bead on every 5<sup>th</sup> bead. A: histograms of structural properties as a function of reduced temperature; B: histograms of structural properties at three specific reduced temperatures, namely T=0.5, T $\approx$ T<sub>c</sub> and T=2.5.



**Figure S2.** Contact maps of 100-mer polymers at different values of  $k_{bend}$ . Left: homopolymers with all beads interacting with a LJ126 potential (contacts are evaluated between beads at every 5<sup>th</sup> position). Right: co-polymers with a directional (LJA2) bead on every 5<sup>th</sup> bead (contacts are evaluated for every directional bead).



**Figure S3.** Representative structures of 100-mer polymers at different reduced temperatures and different values of  $k_{bend}$ . Left: homopolymers with all beads interacting with a LJ126 potential. Right: co-polymers with a directional (LJA2) bead on every 5<sup>th</sup> bead.

Homopolymers				C	Copolymers		
	T > T <sub>c</sub>	$T \approx T_c$	T < T <sub>c</sub>	$T > T_c$	$T \approx T_c$	$T < T_c$	
$k_{bend} = 0$	小学		*	kbend = 0	*		
k <sub>bend</sub> = 1	the second	Æ.	۲	k bend = 1		-	
k <sub>bend</sub> = 2	A A	·	*	keed = 2	\$m		
k <sub>bend</sub> = 3	-6	Ş	۲	Keend = 3	-34		
k <sub>bend</sub> = 5	G	A	0	Kond = 5	e and a second	Ô	
k <sub>bend</sub> = 10	2	B		kbend = 10	E	0	