



Cite this: *Soft Matter*, 2017, **13**, 5084

DOI: 10.1039/c7sm90110k

rsc.li/soft-matter-journal

Correction: Finite cohesion due to chain entanglement in polymer melts

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Correction for 'Finite cohesion due to chain entanglement in polymer melts' by Shiwang Cheng *et al.*, *Soft Matter*, 2016, **12**, 3340–3351.

Because of the withdrawal of four articles,^{1–4} some statements in ref. 5 should be corrected. For example, in the first paragraph on the right column of page 3346 and the last paragraph on the left column of page 3350 of ref. 5, it was asserted that chain retraction does not occur in a barrier-less fashion, which is consistent with the flawed conclusions^{1–4} of the MD simulations. The correction note aims to indicate that the statements in these two places of ref. 5 are no longer valid.

Nevertheless, the discrepancy between data and theory in ref. 5 did correctly suggest that it may be problematic to characterize the stress state and chain conformation on a default length scale of the equilibrium tube segment. A plausible picture may be that the characteristic structure of the entanglement network keeps evolving, *e.g.*, the mesh size keeps growing over time both in startup and during relaxation from step strain. In any event, future MD simulations may provide clearer and more concrete pictures for nonlinear rheological behavior of entangled polymeric liquids.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

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