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Correction: High-melting-point crystals of poly(L-lactic acid) (PLLA): the most efficient nucleating agent to enhance the crystallization of PLLA

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Correction for 'High-melting-point crystals of poly(L-lactic acid) (PLLA): the most efficient nucleating agent to enhance the crystallization of PLLA' by Hai-Yan Yin *et al.*, *CrystEngComm*, 2015, 17, 2310–2320.

We reported that high-melting-point crystals of PLLA and PDLA can act as efficient nucleating agents to enhance the crystallization of PLLA in our previous publications (*ACS Sustainable Chem. Eng.*, 2015, 3, 654–661; *CrystEngComm*, 2015, 17, 2310–2320; *CrystEngComm*, 2015, 17, 4334–4342), and a possible nucleation process was shown in Fig. 10 of the article *CrystEngComm*, 2015, 17, 2310–2320.

Inspired by the work conducted by Wittmann, Lotz *et al.*,^{1,2} who introduced the polymer decoration technique, we now think that the nucleation *via* a template of the fold surfaces we proposed and the drawing we made are misleading.

The following corrections to the published version of *CrystEngComm*, 2015, 17, 2310–2320 are required:

(1) Fig. 10 and its caption on page 2318 should be:

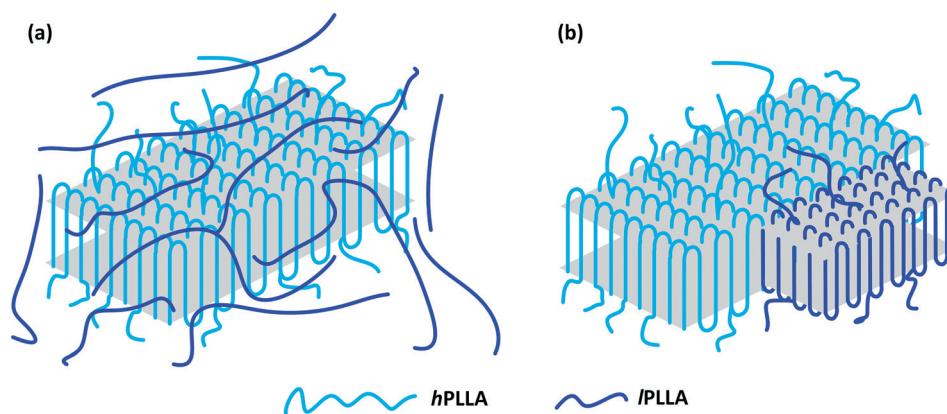


Fig. 10 Schematic representation of the crystallization process of lPLLA in the presence of hPLLA crystallites. (a) Well dispersed hPLLA crystallites in the molten lPLLA matrix. (b) Nucleation by the lateral crystalline, growth edges of the hPLLA crystallites, and lamellae of lPLLA form rapidly.

(2) The last paragraph of the “Results and discussion” section on page 2318 and 2319 should be:

Based on the above discussion, it is clear that owing to the similarity of crystal structure between the α -form hPLLA crystallites and lPLLA, nucleation can be induced by the lateral crystalline growth edges of the hPLLA crystallites. As is known, for polymer crystals, the chains are partially crystalline and partially amorphous. It has been established that lPLLA and hPLLA chains are completely miscible due to their identical chemical composition. Therefore, as shown in Fig. 10a, hPLLA crystallites

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are well dispersed in the molten *l*PLLA matrix before crystallization. Owing to the same crystal structure, the *l*PLLA matrix finds a crystalline substrate that is exactly the one it wants to make. The *l*PLLA chains deposit on the growth front of the *h*PLLA crystallites, and nucleation is induced by the lateral crystalline, growth edges of the *h*PLLA crystallites. Then lamellae of *l*PLLA form rapidly (as shown in Fig. 10b). During this surface induced crystallization process, the complete miscibility *i.e.*, a strong interfacial interaction, between the amorphous chains of the *h*PLLA crystallites and *l*PLLA matrix, and the identical crystal structure between the α -form *h*PLLA crystallites and *l*PLLA matrix sharply reduce the energy barrier for heterogeneous nucleation.

The authors would like to apologize for this oversight and for any confusion that has arisen as a result.

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

References

- 1 J. C. Wittmann and B. Lotz, *J. Polym. Sci., Part B: Polym. Phys.*, 1985, 23, 205–226.
- 2 J. H. Chen, S. Z. D. Cheng, S. S. Wu, B. Lotz and J. C. Wittmann, *J. Polym. Sci., Part B: Polym. Phys.*, 1995, 33, 1851–1855.

