References and Notes

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(6) In all the syntheses reported here, 1.0 g (0.0088 mol) of 2,3-butanedione dihydrazone was added to a solution of 0.5 mL of glacial acetic acid in 5.0 mL of *n*-butanol and heated to about 50 °C. The mixture of diones in 5.0 mL of *n*-butanol was added dropwise over about 10 min, and then the entire reaction was brought to reflux and maintained for 24 h. This was then cooled on ice, vacuum filtered, and vacuum dried for 1 day.

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CORRECTION

Abaneshwar Prasad and Leo Mandelkern*: Equilibrium Dissolution Temperature of Low Molecular Weight Polyethylene Fractions in Dilute Solution. Volume 22, Number 2, February 1989, p 914.

In our recent analysis of the crystallization kinetics of low molecular weight polyethylene fractions,[1,2] we inadvertently committed an error by utilizing nucleation theory pertinent to monomeric systems rather than the proper one for chains of finite molecular weight.[3-6] Since for long chains the complete molecule does not participate in the nucleation act, the appropriate expression for the free energy of fusion, which appears in the formation of critical size nucleus, is that of the infinite molecular weight chain, corrected for end-group effects.[5,6] In reanalyzing the kinetic data, we have taken a reasonable set of values for the nucleation interfacial free energy[5,6] and 118.6 ± 2 °C for the equilibrium dissolution temperature of polyethylene in *p*-xylene.[7]

For the fraction previously analyzed, M_w = 3100, M_N = 2900, the new results are independent of the value chosen for σ_e and are essentially the same as those originally reported.[1] Plots of ln G against the required temperature function yield straight lines of increasing slope for v_2 = 0.001–0.01. Two intersecting straight lines, which are consistent with a regime I–II transition, result for v_2 = 0.05.

We are now also able to analyze the data that were given for the fraction M_w = 4050, M_N = 3900.[2] In this case the results are similar to those recently found for dononacontahectane, $C_{192}H_{386}$,[6] in that the data can be represented by three intersecting straight lines. The slopes of the straight lines representing the high- and low-temperature regions are very close to one another. These results are also reminiscent of regime crystallization.

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