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ADDITIONS AND CORRECTIONS

Facile Synthesis and Thermoresponsive Behaviors of a Well-Defined Pyrrolidone Based Hydrophilic Polymer [*Macromolecules* **2008,** *41*, 3007.]. Junjie Deng, Yi Shi, Wending Jiang, Yifeng Peng, Lican Lu, and Yuanli Cai*

Early in 1998, Davis and co-workers[1] reported the synthesis of *N*-(2-methacryloyloxyethyl)pyrrolidone; this monomer was polymerized in bulk under nitrogen using azobis(isobutyronitrile) (AIBN) initiator at 60 °C. Elvira and co-workers also reported the polymerization and random copolymerization of this monomer with methyl methacrylate using AIBN initiator in DMF solution at 60 °C.[2]

According to the literature as reported by Davis and co-workers,[1] this polymer is water-soluble at room temperature and exhibits a lower critical solution temperature (LCST) in the range 29−33 °C. As comparison, our experimental results reveal that this polymer exhibits a higher LCST, covering a wider range from 71.5 to 52.8 °C, as increasing the weight-average molecular weight from 20.6 to 105.4 kg mol^{-1}. This difference is most presumably caused by the differences in molecular weights and distributions. Under conventional radical polymerization conditions, the molecular weights and distributions of polymers are ill-controlled, giving a polymer with wide molecular weight distribution. The polymers with large molecular weights first phase separate on elevating the solution temperature, leading to a relatively low LCST. However, under mild conditions of visible light radiation at 30 °C, using a (2,4,6-trimethylbenzoyl)diphenylphosphine oxide photoinitiator, RAFT polymerization of this monomer was well controlled, giving a polymer with quite narrow molecular weight distributions ($M_w/M_n < 1.20$).

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References and Notes

(1) Iskander, G. M.; Baker, L. E.; Wiley, D. E.; Davis, T. P. *Polymer* **1998**, *39*, 4165–4169.
(2) Gonzalez, N.; Elvira, C.; San Roman, J. *J. Polym. Sci., Polym. Chem.* **2003**, *41*, 395–407.

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