Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

"Phase" Behavior of Aqueous Solutions of Poly(N-isopropylacrylamide)[1] TOMOAKI KAWAGUCHI, Department of Polymer Chemistry, Kyoto University, Japan, KUNIHIKO KOBAYASHI, MASASHI OSA, TAKENAO YOSHIZAKI — A series of linear poly(N-isopropylacrylamide)(PNIPAM) samples were prepared by living anionic polymerization. The cloud-point curves for their aqueous solutions were determined by monitoring the transmittance of light through the solutions. The transmittance decreased monotonically with increasing temperature below the cloud point, as expected, but unexpectedly, it remained at a constant value if heating was stopped at a temperature. It means that the decrease in transmittance with increasing temperature does not necessarily correspond to the phase separation, i.e., the cloud-point curve for an aqueous solution of PNIPAM is not always identical with the coexistence curve.

[1]This research was supported in part by the Global COE Program "International Center for Integrated Research and Advanced Education in Materials Science" from the Ministry of Education, Culture, Sports, and Technology, Japan.

Tomoaki Kawaguchi
Department of Polymer Chemistry, Kyoto University, Japan

Date submitted: 20 Nov 2007 Electronic form version 1.4