

Temperature-sensitive polymer in monoolein cubic phase

최재형, 김진철*

강원대학교

(jinkim@kangwon.ac.kr*)

Monoolein(MO) cubic phases were(are) prepared by hydrating MO using the final concentrations 0.5% poly(N-isopropylacrylate)(PNIPAM) in cubic phase, so that the content of aqueous phase in the water channel of cubic phase is 30wt.%. PNIPAM has lower critical solution temperature(LCST) about 32°C. LCST of PNIPAM copolymerization with octadecyl acrylate(ODA) is lower than 32°C. Cubic phase is transparent but it becomes opaque after transition from cubic to hexagonal phase by temperature. This study would show transition of cubic phase by temperature and influence of PNIPAM-co-ODA. For transition experimental, PNIPAM solution, PNIPAM-co-ODA solution, cubic and cubic containing PNIPAM-co-ODA were prepared. Heating range was 25~65°C, and turbidity was measured by image analyzer. Turbidity of polymer solutions was observed at about 30°C, and cubics were observed at about 55°C. In the future, FITC-dextran will be inserted into cubic phase and there will be release test from cubic.