Supplementary Information

Synthesis of Latex Stabilized by Unmodified Cellulose Nanocrystals: Role of Monomers on Particle Size

Clara Jiménez Saelices,[a] Maud Save [b] and Isabelle Capron *[a]

[a]*UR1268 Biopolymères Interactions Assemblages, INRA, 44316 Nantes, France*

[b]*CNRS, University Pau & Pays Adour, E2S UPPA, Institut des Sciences Analytiques et de Physico-Chimie pour l'Environnement et les Matériaux, IPREM, UMR5254, 64000, PAU, France*

Table S1. Physical and Chemical Properties of the monomers

Monomer	Density ($g \cdot cm^{-3}$)	Solubility in water at 25°C ($g \cdot l^{-1}$)	Viscosity ($m \cdot Pa^{-1} \cdot s^{-1}$)	Surface tension ($mN \cdot m^{-1}$)
Lauryl Methacrylate (LMA)	0.868	Insoluble	4.01	29
Isobornyl acrylate (iBoA)	0.986	0.02	8.50	30
Styrene (S)	0.906	0.05	0.76	32
Butyl Methacrylate (BMA)	0.894	0.20	3.12	28
Methyl Methacrylate (MMA)	0.936	15.30	0.60	30

Figure S1. Kinetics of polymerization.

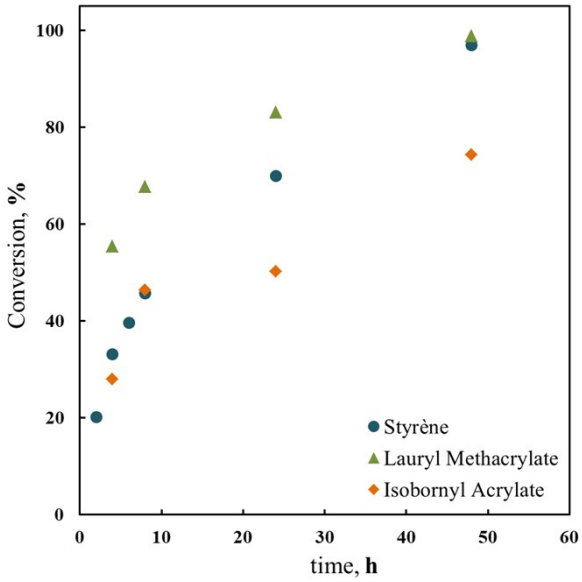

Figure S2. SEM images of micrometric droplets polymerized from emulsions stabilized by CNC at 0.5 wt% based on the styrene without stabilization time.

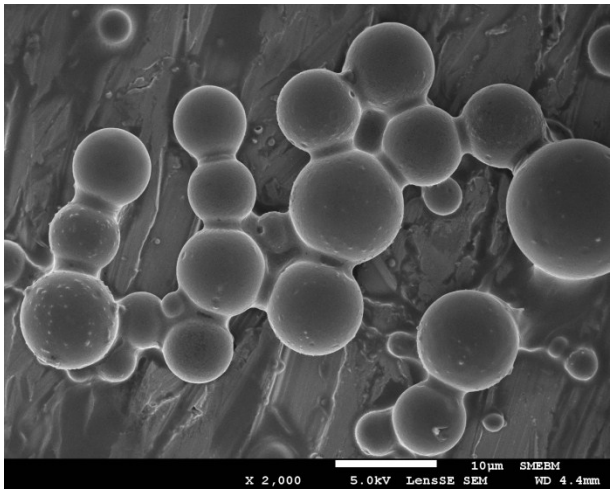

Figure S3. Average diameter of micrometric and nanometric droplets of styrene as a function of time.

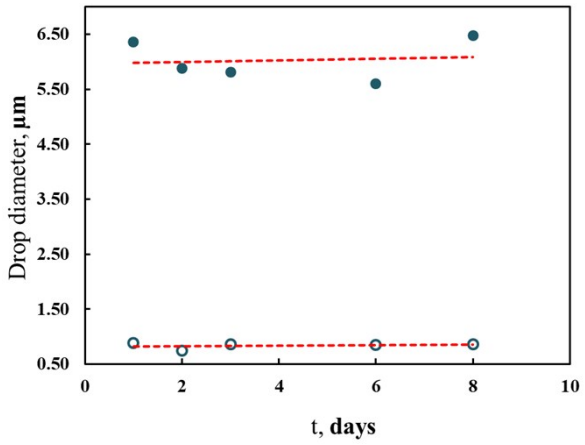

Figure S4. Average diameter of styrene nanometric droplets as a function of CNC concentration.

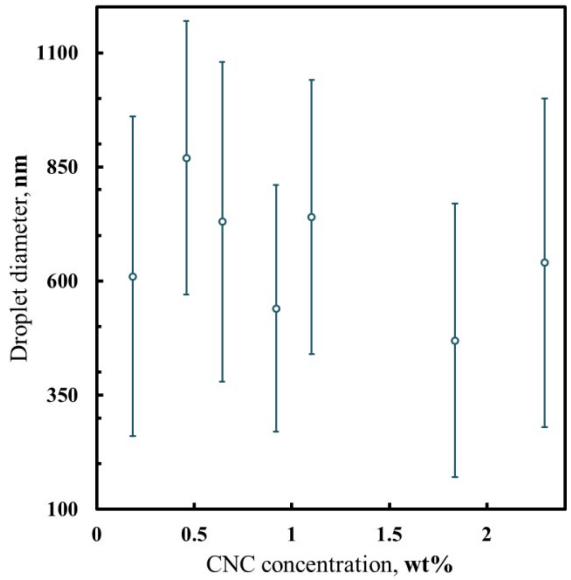

Figure S5. Latex size distributions of polymerized styrene-in-water emulsions stabilized by CNCs at 0.5, 1 and 2.5 wt% based on styrene.

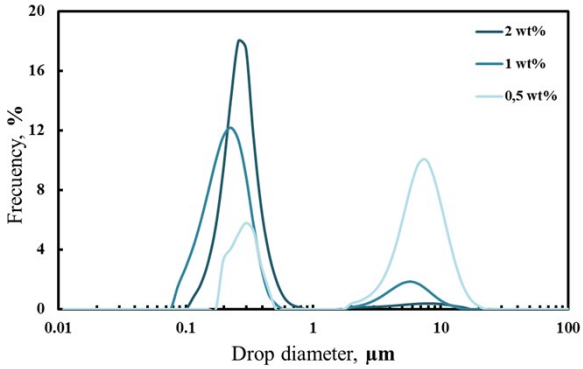

Figure S6. Latex size distributions of polymerized styrene-in-water emulsions stabilized by CNC and c-CNC at 2.5 wt% based on styrene. INSET: SEM image of nanolatex stabilized by c-CNC.

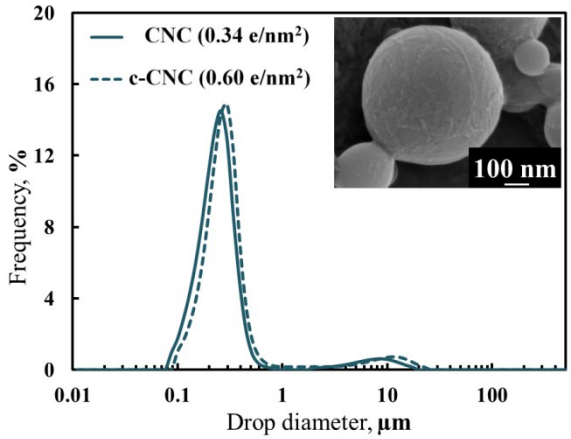

Figure S7. SEM image of poly (isobornyl acrylate) nanoparticles prepared from emulsions stabilized by CNC at 2.3 wt% based on isobornyl acrylate