Fig. S1. Representative photographs of NC hydrogel samples. Laponite contents (from left to right) = 2.3, 3.8, 5.3, and 6.9 w/v%.

Fig. S2. Results of dynamic rheological tests during the formation of NC hydrogels at a frequency of 6.3 rad s⁻¹ and strain amplitude γ₀ of 0.01. Elastic modulus G’ (filled symbols) and tan δ (lines) of the reaction system with (black) and without DNA (gray) shown as a function of the reaction time. NIPA = 1 M. DNA = 2 w/v%. Laponite contents are indicated.
**Fig. S3.** \( G' \) (filled symbols), \( G'' \) (open symbols) and \( \tan \delta \) of the reaction system with (black) and without DNA (gray) shown as a function of the Laponite content.

**Fig. S4.** Fluorescence spectra of 5 \( \mu \text{M} \) EtBr during the polymerization of NIPA (1 M) using KPS-TEMED redox initiator system in 3.8 w/v\% Laponite dispersions without (a) and with 2 w/v\% DNA (b). The reaction times are indicated.
Fig. S5. Elastic moduli $G'$ (filled symbols) and viscous moduli $G''$ (open symbols) of NC hydrogels shown as a function of the frequency $\omega$ measured after 6h of reaction time. NC hydrogels with and without DNA are shown by blue circles and gray triangles, respectively. Laponite contents are indicated.

Fig. S6. $G'$ (symbols) and $\tan \delta$ (lines) of the hydrogels prepared in 3.8 w/v% Laponite without DNA during the heating - cooling cycle between 20 and 90°C. $\omega = 6 \cdot 3$ rad s$^{-1}$. $\gamma = 0.01$. 