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CORRECTION

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Correction: Interpenetration of fractal clusters drives elasticity in colloidal gels formed upon flow cessation

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Correction for 'Interpenetration of fractal clusters drives elasticity in colloidal gels formed upon flow cessation' by Noémie Dagès *et al.*, *Soft Matter*, 2022, **18**, 6645–6659, **https://doi.org/10.1039/D2SM00481J**.

The authors regret a mistake in the derivation of the interpenetration ϕ-power law model in the published article. This mistake appears in eqn (8) and has repercussions on the final equation giving the gel elasticity G'_∞ in eqn (1) and (15). The corrected calculation of G'_∞ corroborates the experimental data presented in Fig. 4c of the published article. The paper's conclusion remains therefore unchanged.

In the published article, in eqn (8), the conservation of mass is expressed as

$$\phi\left(\frac{\xi_s}{r_0}\right)^{3-d_f} = \left(\frac{\xi_s}{L}\right)^{3-\dim} \tag{1}$$

This is true if the size ξ_s is the only length scale playing a role in the clusters and the network. However, in our case, there are two length scales ξ_s and ξ_c which brings

$$\phi = \left(\frac{r_0}{\xi_s}\right)^3 \left(\frac{\xi_c}{r_0}\right)^{d_f} \left(\frac{\xi_s}{L}\right)^{3-\dim} \tag{2}$$

This has an impact on eqn (15) which becomes

$$G'_\infty = \underbrace{\frac{U}{r_0\delta^2}}_{G_{CB}} \underbrace{\frac{1}{2}\left(\frac{\xi_c}{r_0}\right)^{d_f}\left(1+\frac{\xi_s}{2\xi_c}\right)^{\frac{d_f}{3}}\left(1-\frac{\xi_s}{\xi_c}\right)^{\frac{2d_f}{3}}}_{g_{Interp}} \underbrace{\phi\left(\frac{\xi_s}{r_0}\right)^2\left(\frac{\xi_c}{r_0}\right)^{-d_f}}_{g_{Net}} \tag{3}$$

or in a compact form

$$G'_\infty = \frac{U}{r_0\delta^2}\frac{1}{2}\left(1+\frac{\xi_s}{2\xi_c}\right)^{\frac{d_f}{3}}\left(1-\frac{\xi_s}{\xi_c}\right)^{\frac{2d_f}{3}}\phi\left(\frac{\xi_s}{r_0}\right)^2. \tag{4}$$

Fig. 4c in the published article displays the variations of the gel crossover elasticity G_c as a function of the shear rate intensity $\dot{\gamma}_0$ applied before flow cessation and the fit using the interpenetration ϕ-power law model. We note that $G'_\infty = 0.3G_c$. The fit of G_c in this figure needs to be modified accordingly to eqn (4) above and replaced by Fig. 1 shown here. In this Fig. 1, the corrected model fits well the data. The conclusion of the paper remains therefore unchanged.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

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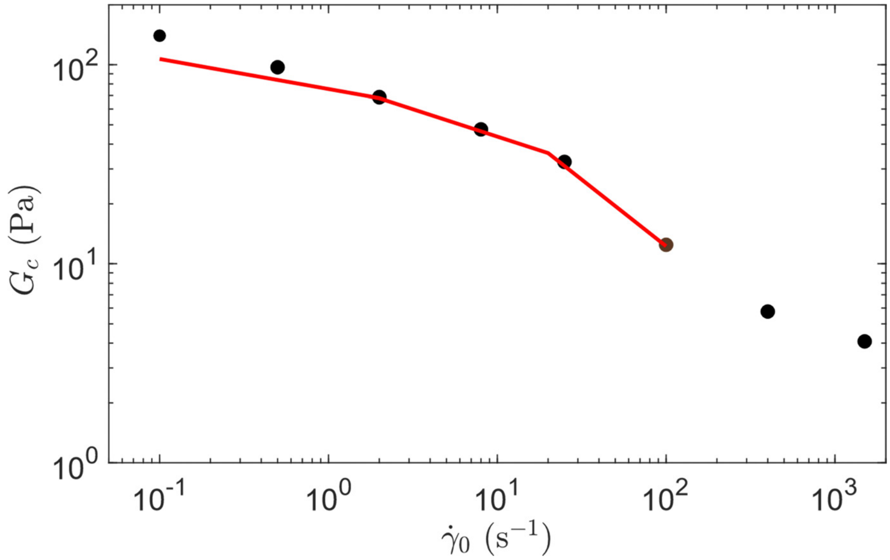

Fig. 1 Evolution of G_c *vs.* $\dot{\gamma}_0$. The red line is the best fit of the data using eqn (4) here and the structural information reported in Fig. 6a of the published article. The best fit is obtained with a single adjustable parameter, namely the prefactor G_{CB} = 9 Pa.