CORRECTION

Concerning the paper: The influence of temperature on the elastic behaviour of structured dispersions [1], Colloid & Polymer Sci 260:638 (1982)

K. Strengé and H. Sonntag

Due to an error in the calculation of the temperature dependence of the density for *n*-decane, the values given in table 1 [1] for ρ , ϕ_T and G_ϕ are not correct. The exact table is given below.

Table 1

T °C	ρ g·cm ⁻³	$\phi_T \cdot 10^2$	$G_{eff} \cdot 10^3$ N·m ⁻²	$(\Delta G/\Delta \phi)_T$ 10 ⁻⁵	$G_\phi \cdot 10^{-3}$ N·m
25	0.727	2.02	2.35 ± 0.2	4.84	2.35
35	0.720	2.00	2.78 ± 0.2	7.84	2.88
45	0.712	1.98	5.37 ± 1.3	10.84	5.56
55	0.704	1.96	6.17 ± 1.4	13.84	6.46
65	0.697	1.94	5.16 ± 0.5	10.84	5.54
75	0.689	1.91	3.45 ± 0.5	19.84	3.98

One can see that the maximum at about 55 °C cannot be "corrected away".

As the energy and entropy depend linearly on the temperature (see appendix), the maximum must be the result of another kind of forces (maybe, the hydrogen bonding between the silanol groups of the silica and the water traces, bonded to the surface). For the calculation of the temperature dependence of the modulus G_0 we may only take the first four values (22–55 °C) and get

$$\frac{\Delta G_0}{\Delta T} = 167 \text{ (using } B = 3 \cdot 10^4, \text{ see appendix), and}$$

$$\frac{\Delta G_0}{\Delta T} = 150 \text{ (with } B = 0)$$

That shows, the slope is not much affected by the right choice of B , and is already much higher than that for the entropic part ($0.9 \text{ N m}^{-2} \cdot \text{K}^{-1}$)

In the same paper, at page 638, 2nd column, the following lines are omitted:

linear dependence between G_0 and the temperature (see Appendix). Jachnin [6] has drawn our attention to the high dependence of the volume fraction of solids (ϕ = volume of the disperse phase/volume of the dispersion) on temperature, due to the change of density of the solvent. (This very important fact should always be ...

We thank Mr. G. S. Low, from the Monash University, Clayton, Australia, who drew our attention to the errors mentioned above.

Reference

1. Strengé K, Sonntag H (1982) Colloid & Polymer Sci 260:638

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