Supplementary Information

Tuning chelation by the surfactant-like peptide A_6H using predetermined pH values

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Results and Discussion

Table S1. SAXS parameters extracted from the fits of the experimental data shown in Fig. S2 and Fig. S8.

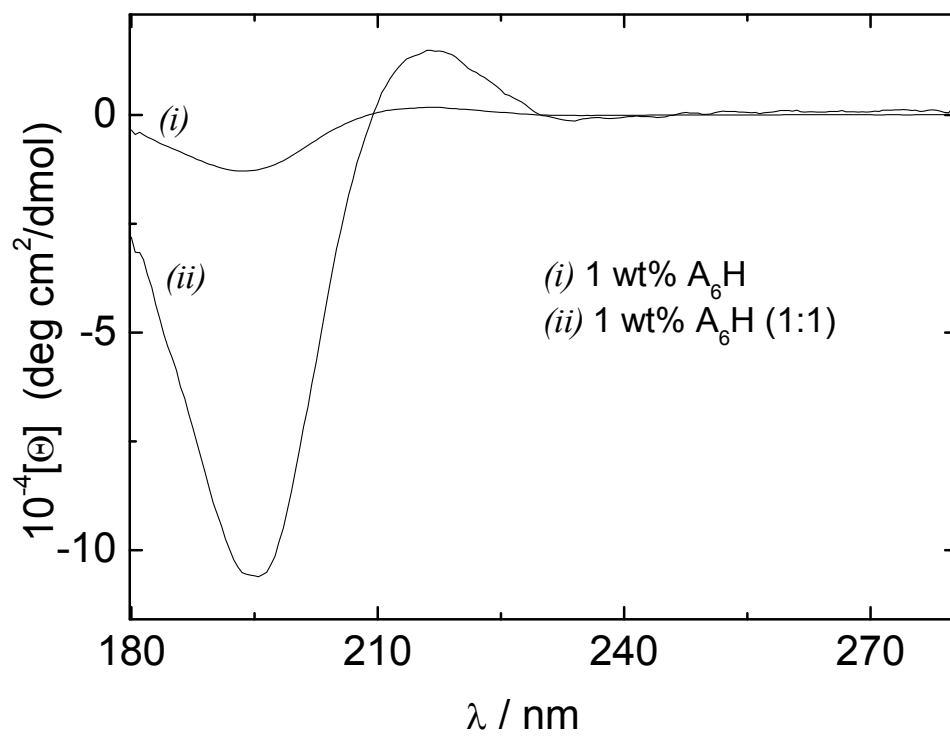| Sample	l_T [Å]	Δ_H [Å]	ρ_H [rel. units]	ρ_C [rel. units]	σ_C [Å]	C_1 [rel. units]	C_2 [rel. units]	C_3
18 wt% A_6H	33	10	6.4×10^{-5}	-3×10^{-5}	2.9	3×10^{-3}	1×10^{-3}	1.6
18 wt% A_6H (1:1)	19.7	5.5	1.6×10^{-4}	-3.1×10^{-5}	2.7	0	0	0
0.25 wt% A_6H ; pH 7	24	10	6.4×10^{-3}	-3×10^{-3}	3	0	9	4.2
0.25 wt% A_6H (1:1); pH 7	139	57	3.6×10^{-3}	-1.1×10^{-3}	4.2	35	0	0

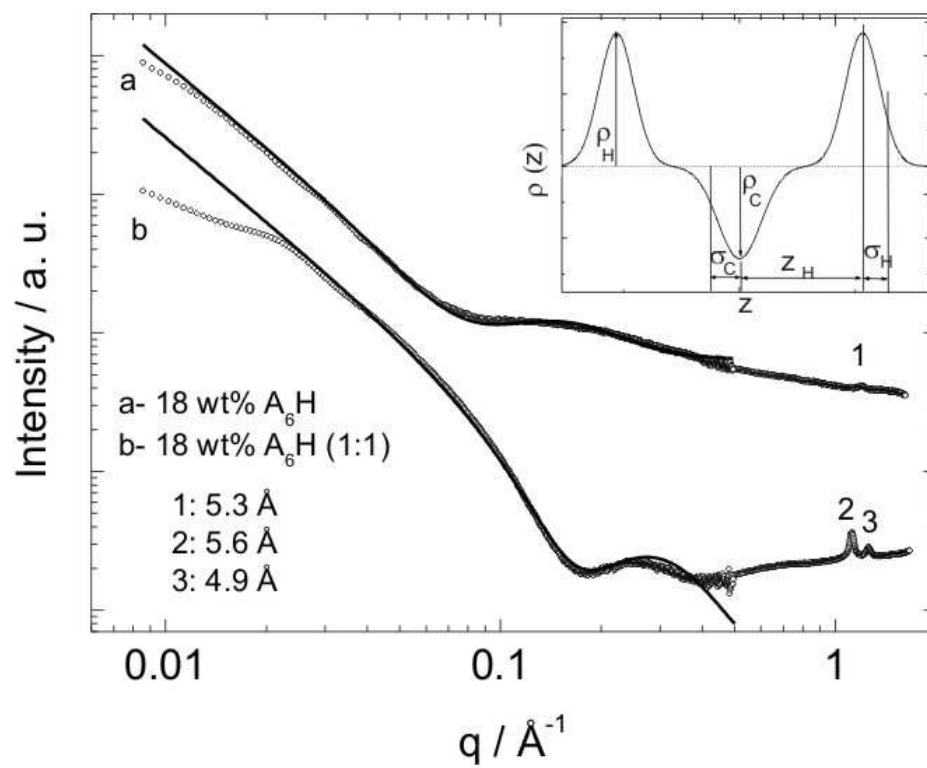**Fig. S1.** CD spectra for 1 wt% A_6H dissolved *(i)* in water and *(ii)* in a $ZnCl_2$ solution (1:1).

Fig. S2. SAXS data for 18 wt% solution A_6H diluted (a) in water and (b) in $ZnCl_2$ solution (1:1). The full lines are the fitting according to a Gaussian bilayer model. The inset shows the model for the Gaussian bilayer.
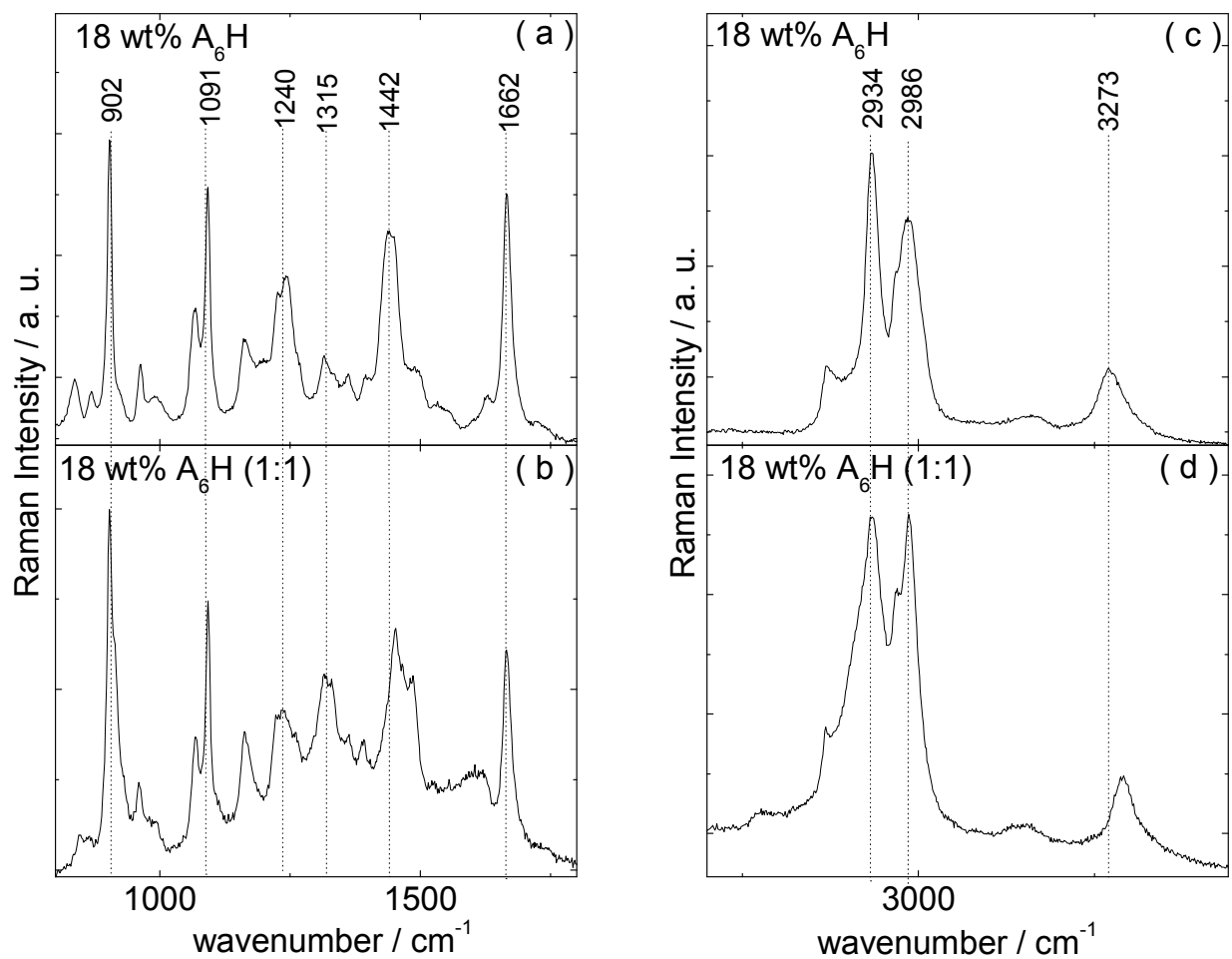
Fig. S3. Raman spectra for a stalk dried from 1 wt% A$_6$H dissolved in (a),(c) water or (b),(d) in a ZnCl$_2$ solution (1:1).
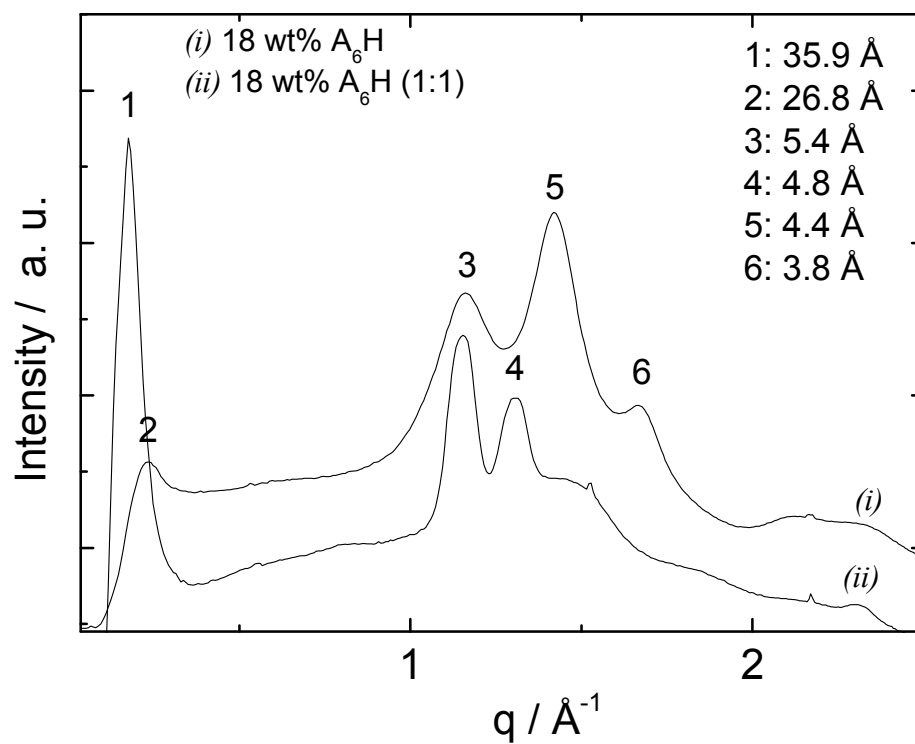
Fig. S4. XRD profile measured for a stalk dried from 1 wt% A_6H dissolved in *(i)* water or *(ii)* in a $ZnCl_2$ solution (1:1).
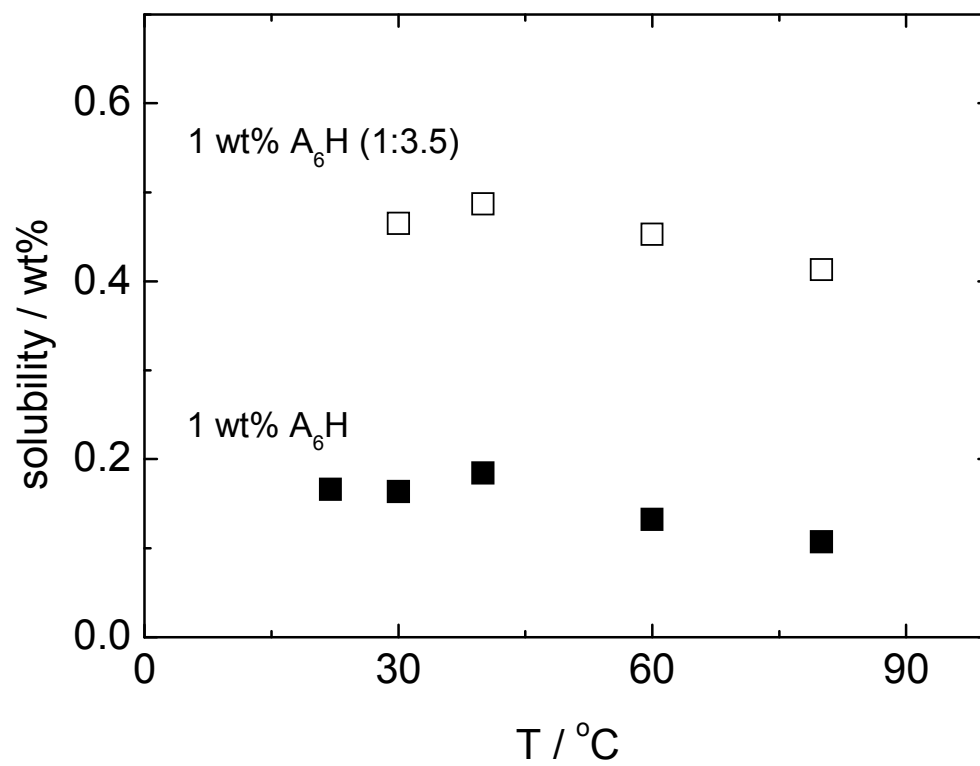
Fig. S5. Solubility vs. temperature of 1 wt% A_6H solution without and with $ZnCl_2$
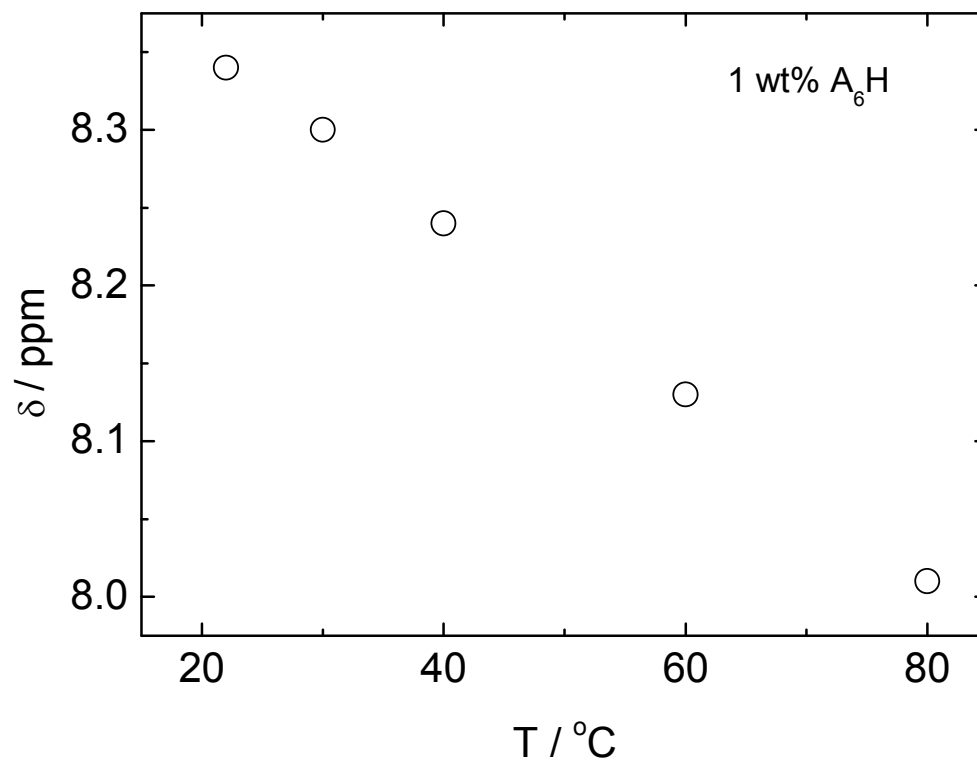
(1:3.5)

Fig. S6. Variation of chemical shift of an imidazole signal with temperature, measured for 1 wt% A_6H.
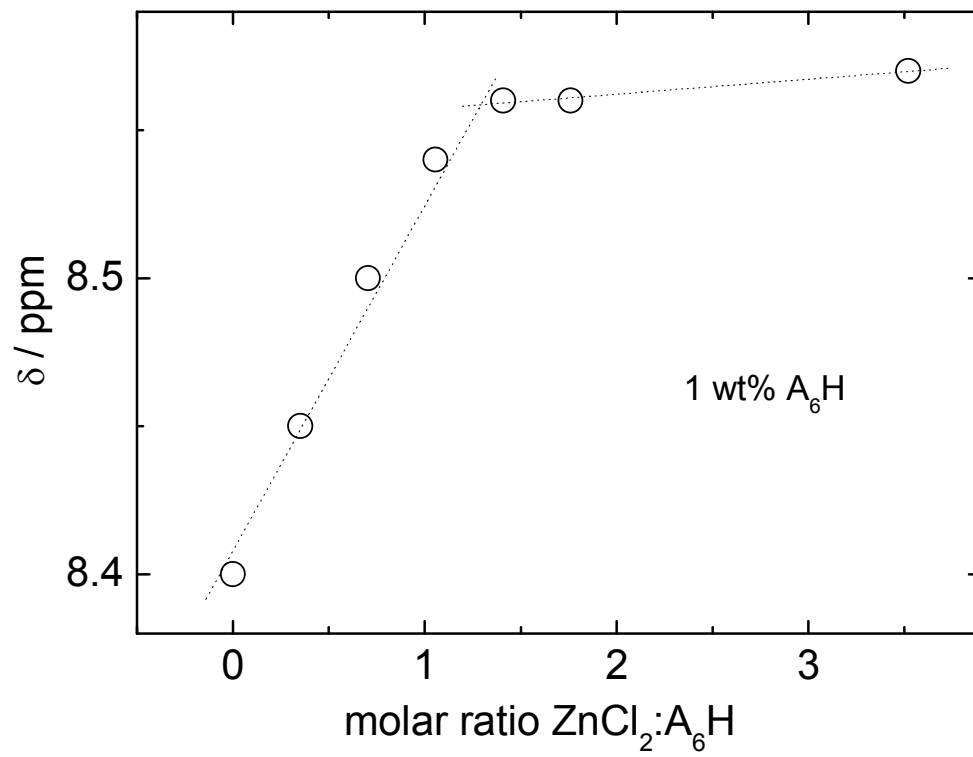
Fig. S7. Dependence of the chemical shift of an imidazole signal on the $ZnCl_2$:A_6H ratio, measured at 30 °C for a 1 wt% A_6H in solution.
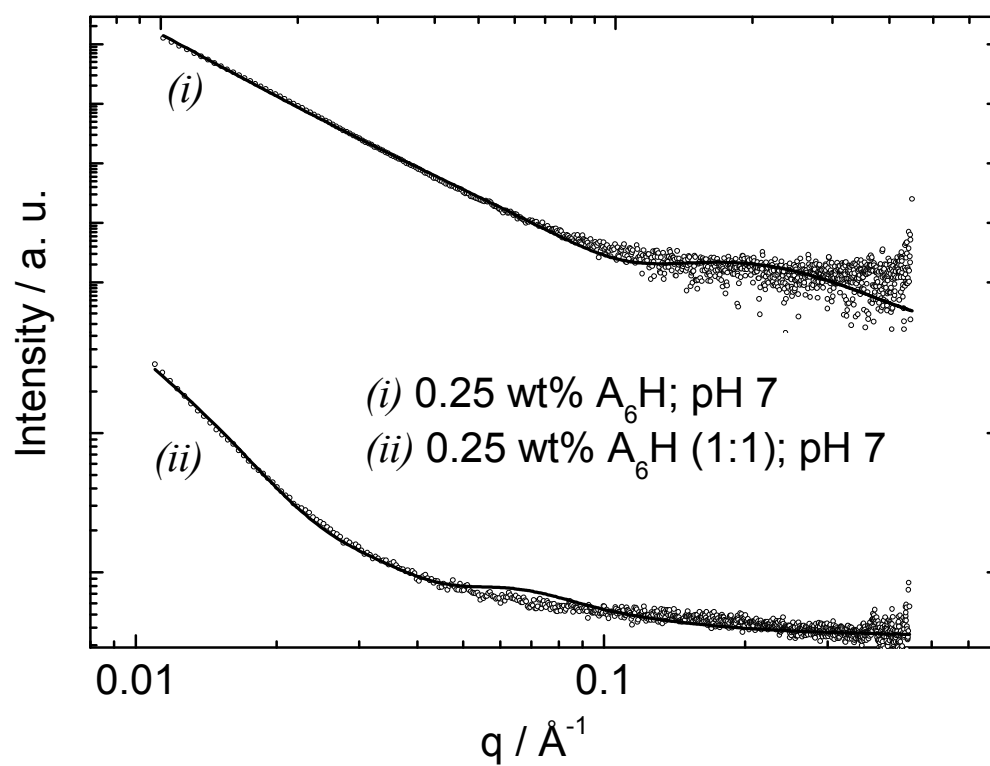
Fig. S8. SAXS data for 0.25 wt% solution A_6H at pH 7 in *(i)* water and *(ii)* in a $ZnCl_2$ solution (1:1). The full lines are the fitting according to Gaussian bilayer model shown in the inset of Fig. S2.
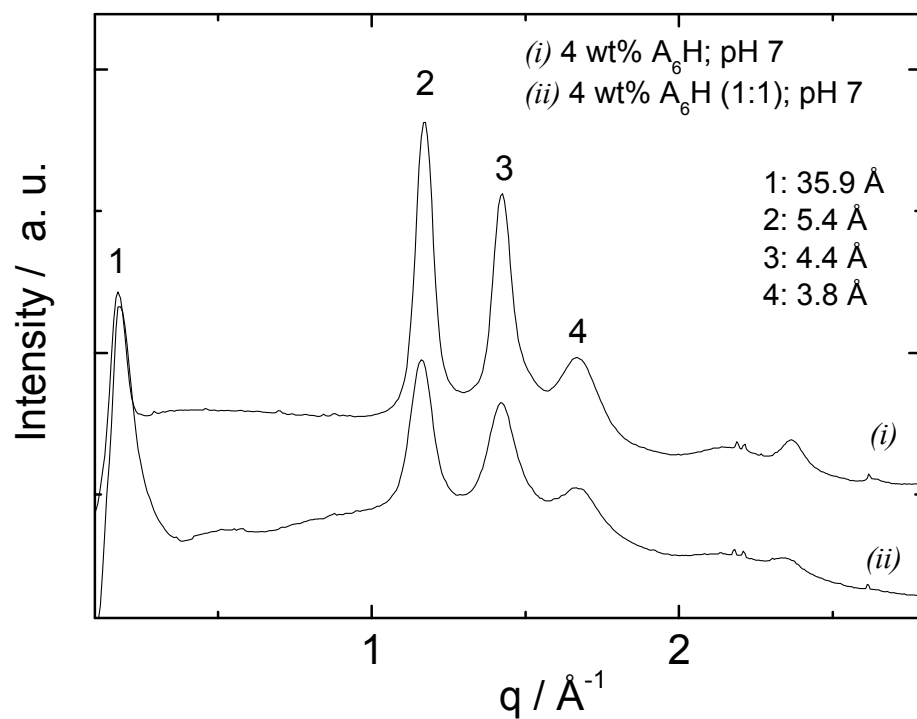
Fig. S9. XRD measured for stalks dried from 4 wt% A_6H at pH 7 in (i) water and (ii) a ZnCl$_2$ solution (1:1).