

Supporting information for:

Local De-Condensation of Double-stranded DNA in Oppositely Charged
Polyelectrolyte as Induced by Spermidine

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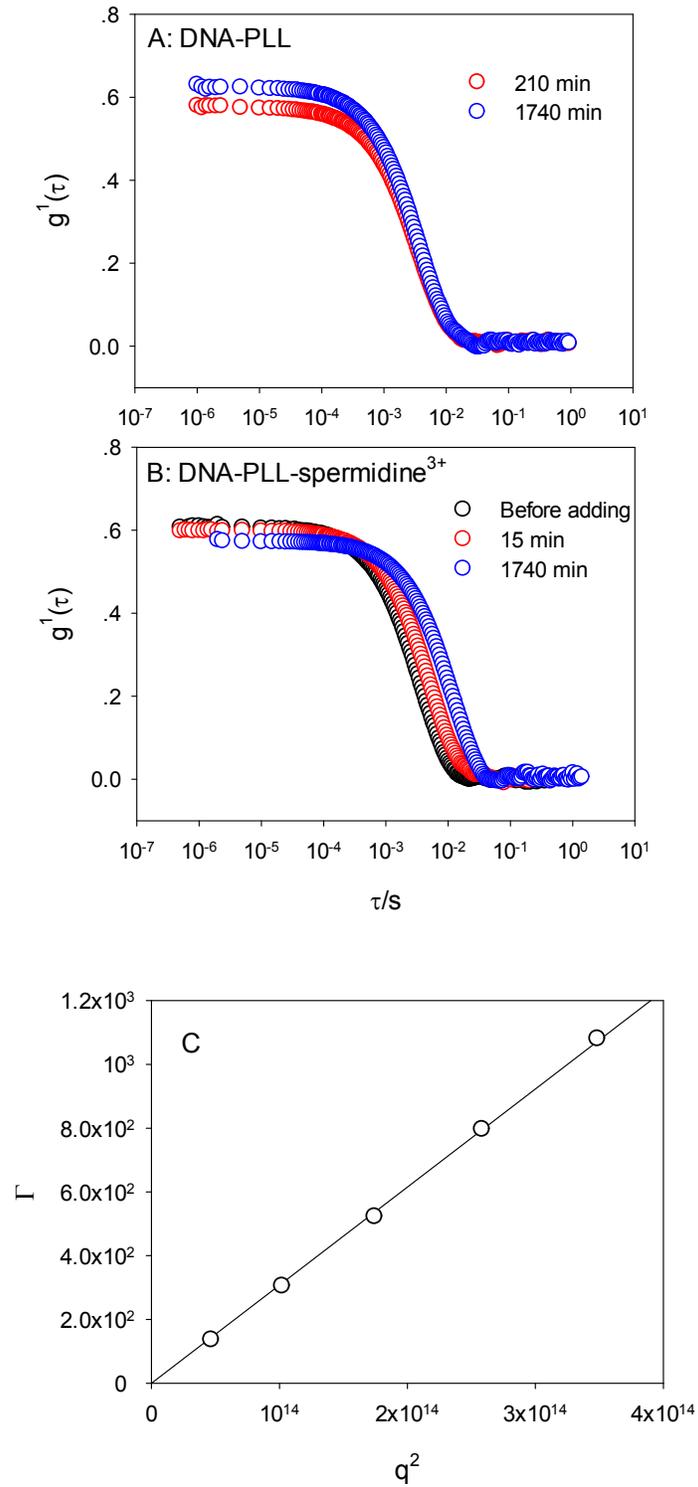


Figure S1: Normalized photon correlation curves. (A) DNA-PLL complex at $\pm = 0.5$ at 210 min and 1740 min. (B) DNA-PLL complex at $\pm = 0.5$ before adding spermidine, 15 min and 1740 min. (C) Plot of Γ vs q^2 .

min and 1740 min after adding spermidine (370 μM). Panel C shows one of the Γ versus q^2 curves. It is linear and passes through origin, indicating that the mode is diffusive.

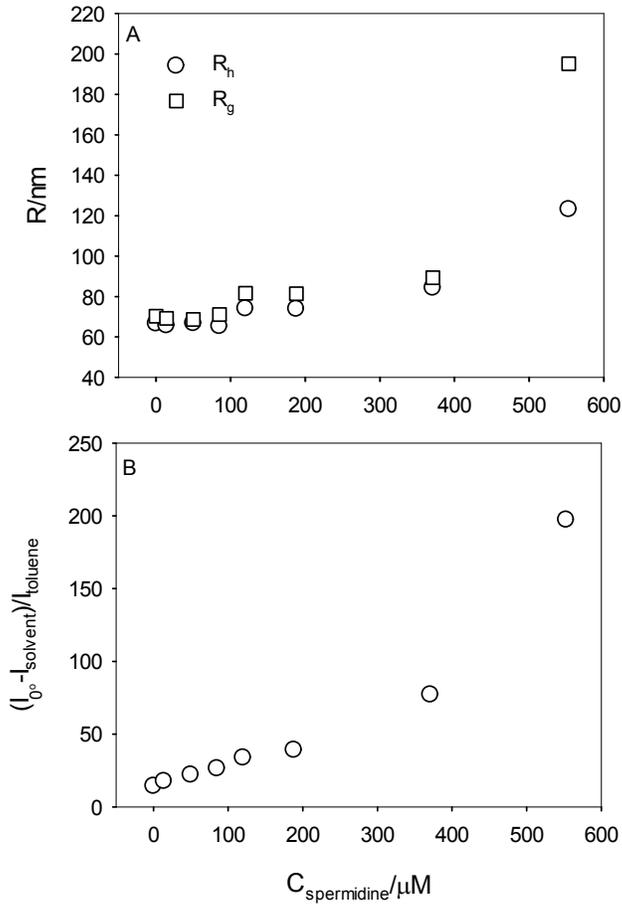


Figure S2. LLS results on the complex of DNA/PLL after being added with spermidine. (A) the hydrodynamic radius and radius of gyration, and (B) the excess scattered intensity of the complex at different spermidine concentrations. The initial +/- ratio of the complex is 0.5. The concentrations of DNA and PLL solution are 1.0×10^{-5} g/mL and 1.0×10^{-4} g/mL, respectively.

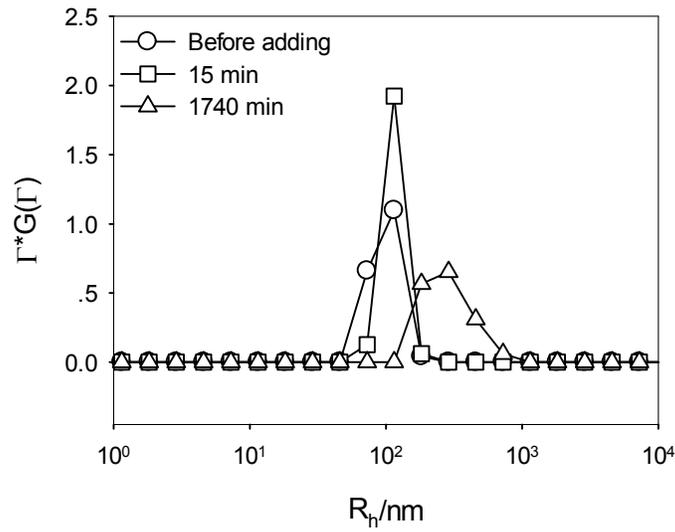


Figure S3. Size distribution of the complex formed by DNA and PLL (+/- = 0.5) before and after the addition of spermidine (370 μ M).

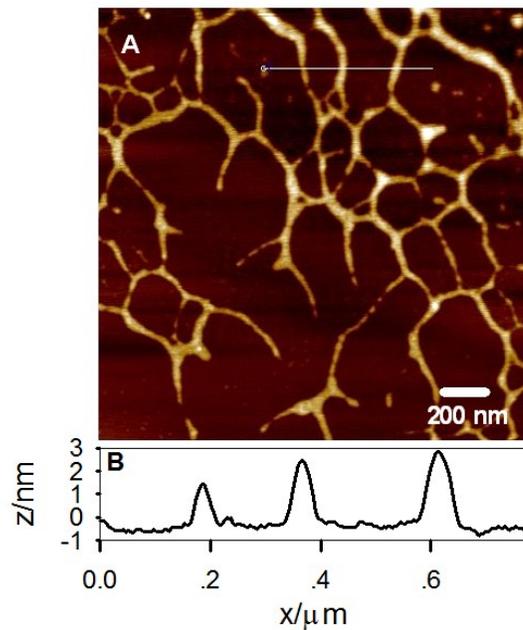


Figure S4: Morphology of DNA-spermidine³⁺ in 1 x TE buffer (A). Panel B shows the corresponding height profile as indicated by the line in A. The concentrations of DNA and spermidine solution are 1.0×10^{-5} g/mL and 370 μ M, respectively. The broad width is probably caused by aggregation.

Table R1. Zeta potential results of the DNA/PLL complex before and after adding spermidine

DNA-PLL	Zeta potential/mV
5 min	-25 ± 5
24 h	-24 ± 2
DNA-PLL-spermidine³⁺	Zeta potential/mV
5 min	-18 ± 1
24 h	-18 ± 1