

Supplementary Information

A cationic smart copolymer for DNA binding

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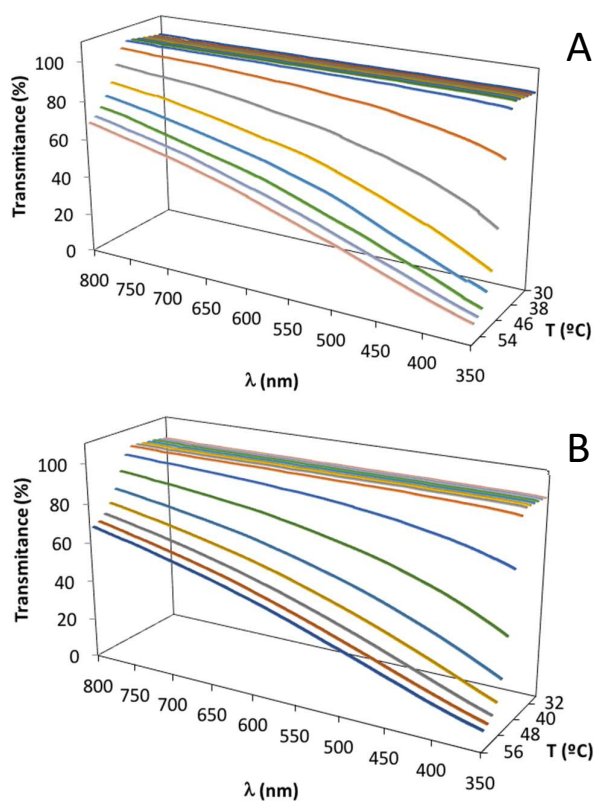


Figure S1. Transmittance vs temperature for a SRP solution ($[\text{SRP}] = 1 \times 10^{-5} \text{ M}$), **(A)** increasing the temperature from 30 to 56 °C and **(B)** decreasing the temperature from 56 to 30 °C.

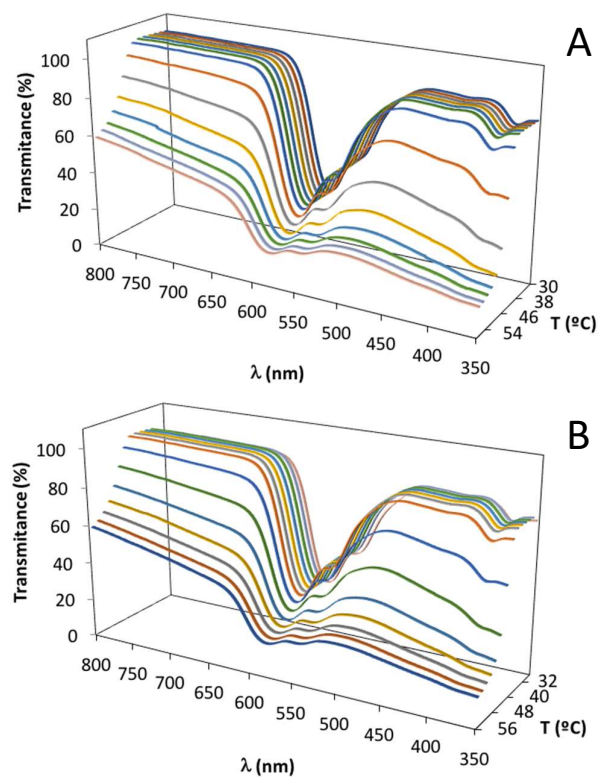


Figure S2. Transmittance vs temperature for a mixture of 1:1 SRP:DNA-ROX ($[SRP]=1 \times 10^{-5}$ M), **(A)** increasing the temperature from 30 to 56 °C and **(B)** decreasing the temperature from 56 to 30 °C.

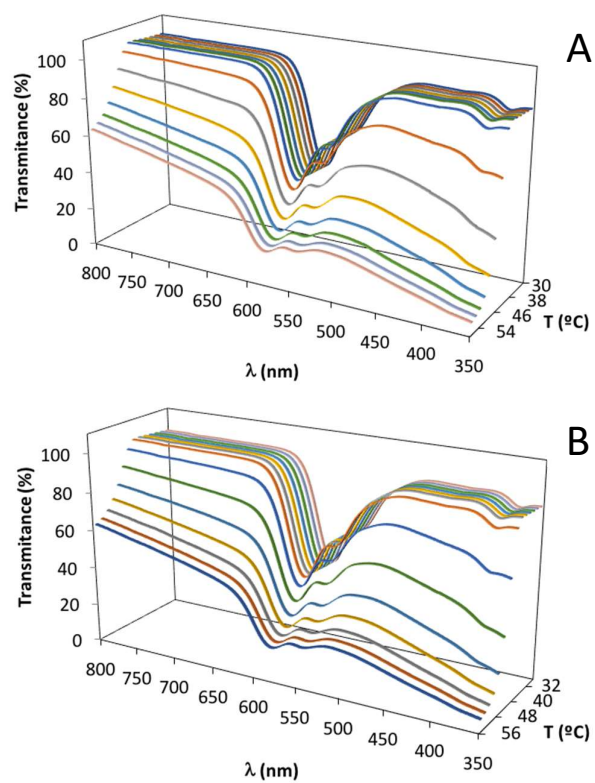


Figure S3. Transmittance vs temperature for a mixture of 2:1 SRP:DNA-ROX ($[\text{SRP}] = 1 \times 10^{-5} \text{ M}$), **(A)** increasing the temperature from 30 to 56 $^{\circ}\text{C}$ and **(B)** decreasing the temperature from 56 to 30 $^{\circ}\text{C}$.

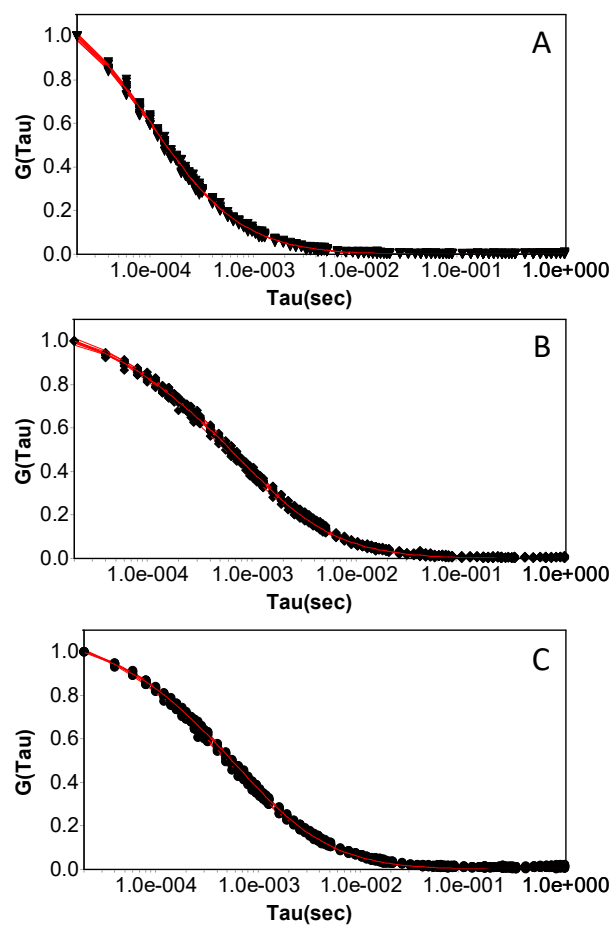


Figure S4. Auto-correlation curves obtained for DNA-ROX (A) and for the mixtures of 1:1 (B) and 2:1 (C) of SRP:DNA-ROX, using fluorescence correlation spectroscopy.

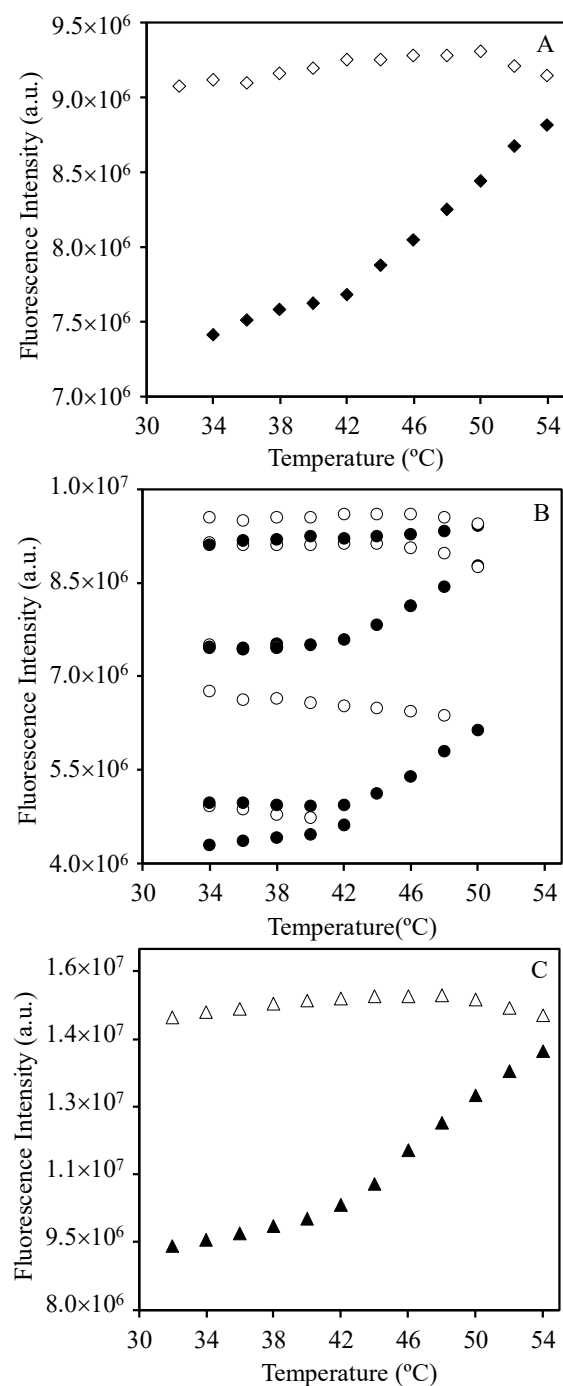


Figure S5. Fluorescence intensity, measured at 610 nm for a range of temperatures between 32 and 54 °C for mixtures of (A) 1:1, (B) 2:1 and (C) 4:1 of SRP:DNA-ROX. The mixtures were warmed (full markers) and cooled (bare markers). The concentration of DNA-ROX was 5×10^{-6} M for all the samples.

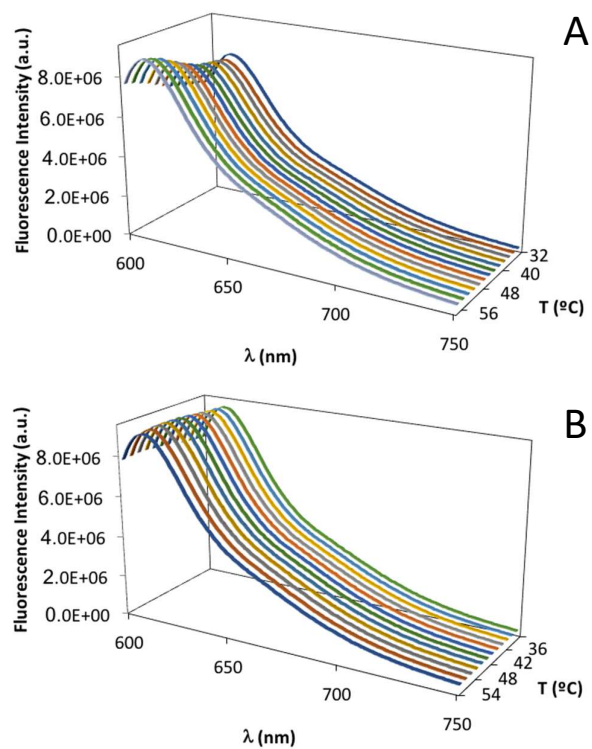


Figure S6. Emission spectra using $\lambda_{\text{exc}} = 585$ nm, for the mixture of 1:1 SRP:DNA-ROX (5×10^{-6} M) **(A)** increasing the temperature from 32 to 56 °C and **(B)** decreasing the temperature from 54 to 32 °C.

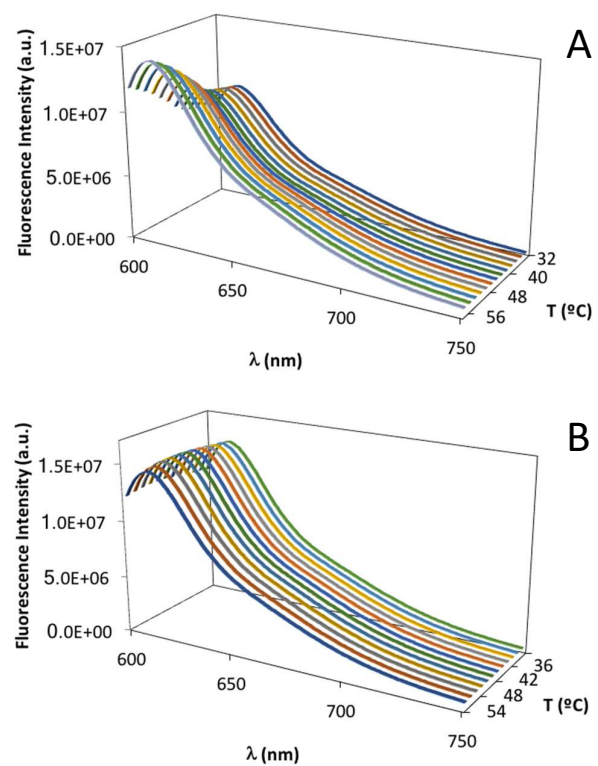


Figure S7. Emission spectra using $\lambda_{\text{exc}} = 585$ nm, for the mixture of 4:1 SRP:DNA-ROX (5×10^{-6} M) **(A)** increasing the temperature from 32 to 56 °C and **(B)** decreasing the temperature from 54 to 32 °C.

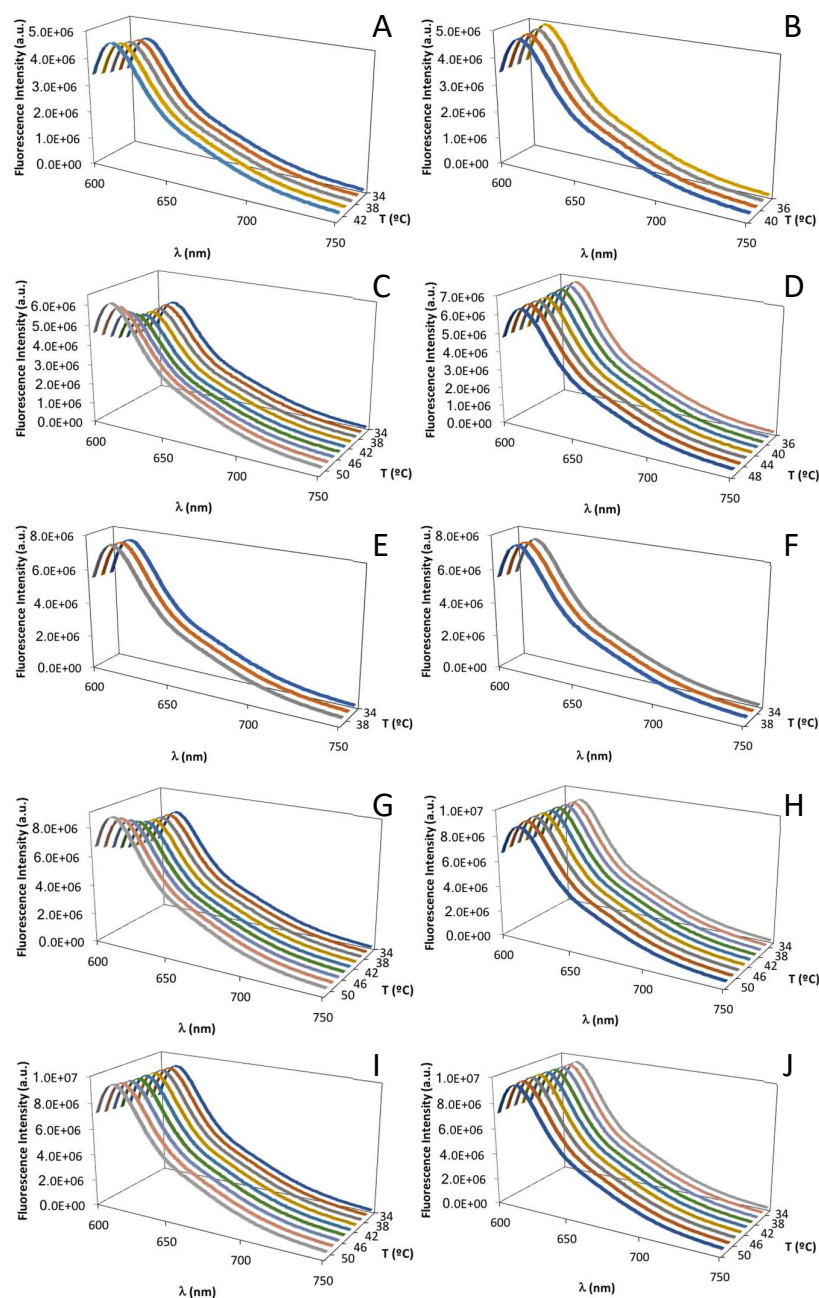


Figure S8. Emission spectra using $\lambda_{\text{exc}} = 585 \text{ nm}$, for the mixture of 2:1 SRP:DNA-ROX ($5 \times 10^6 \text{ M}$) **(A)** increasing the temperature from 34 to 42 °C (first heating), **(B)** decreasing the temperature from 40 to 34 °C, **(C)** increasing the temperature from 34 to 50 °C (second heating), **(D)** decreasing the temperature from 50 to 34 °C, **(E)** increasing the temperature from 34 to 38 °C (third heating), **(F)** decreasing the temperature from 38 to 34 °C, **(G)** increasing the temperature from 34 to 50 °C (fourth heating), **(H)** decreasing the temperature from 50 to 34 °C, **(I)** increasing the temperature from 34 to 50 °C (fifth heating) and **(J)** decreasing the temperature from 50 to 34 °C.