Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting Information

Monitoring thermo-reversible dehydration of pluronic microenvironment using 4-chloro-1-naphthol as ESPT fluorescent molecular probe

*Ivy Sarkar**

Department of Chemistry, Indian Institute of Technology Madras, Chennai – 600 036 INDIA

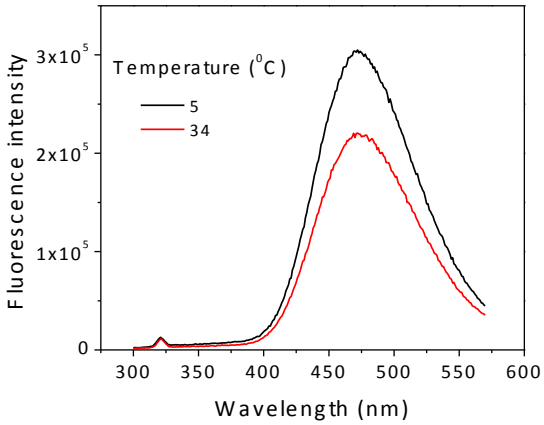


Figure S1: Fluorescence spectra of 4-Cl-1-naphthol in water with temperature; at λ_{ex} 290 nm.

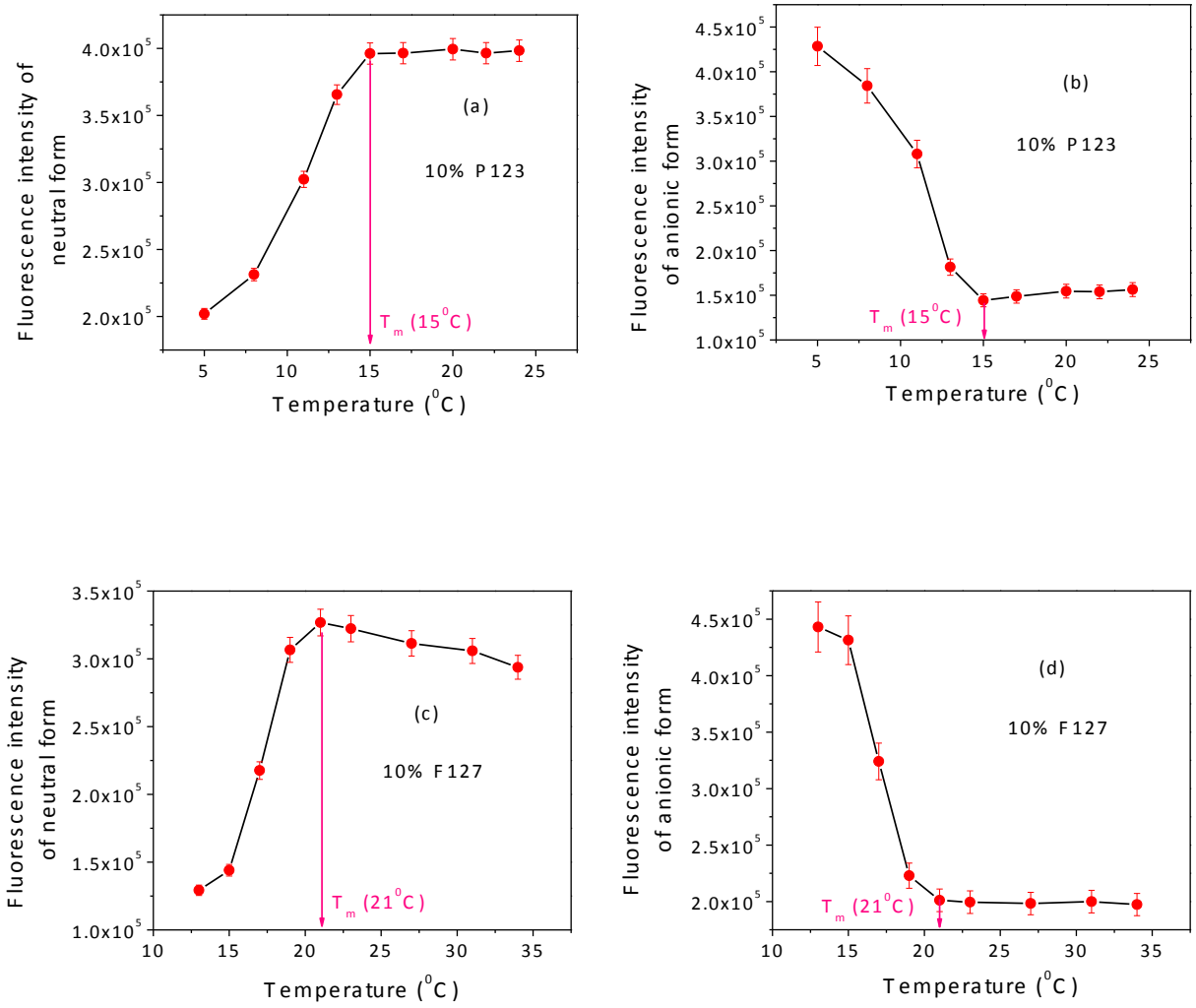


Figure S2: Variation in the fluorescence intensity of (a) neutral form and (b) anionic form of 4-Cl-1-naphthol in 10% P123 media with increasing temperature. Variation in the fluorescence intensity of (c) neutral form and (d) anionic form of 4-Cl-1-naphthol in 10% F127 media with increasing temperature; at λ_{ex} 290 nm.

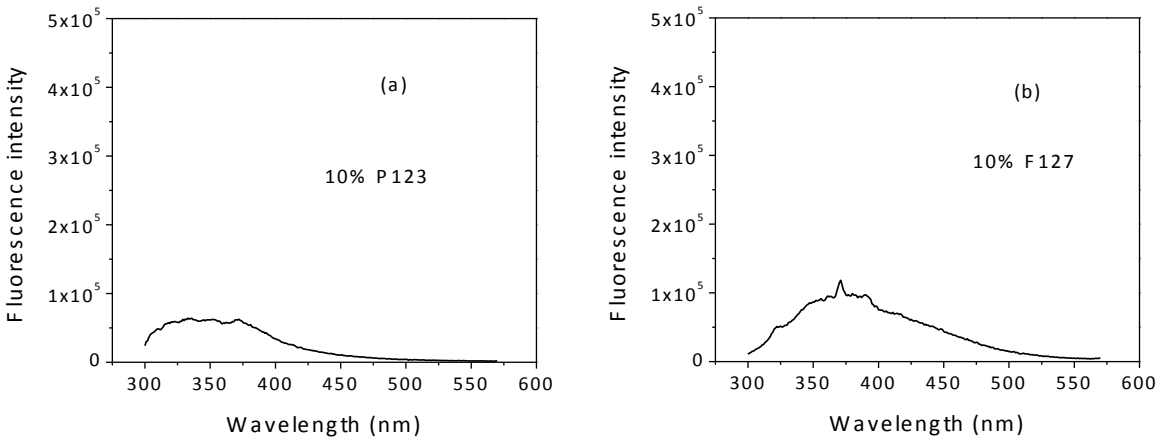


Figure S3: Intrinsic fluorescence of (a) 10% P123 and (b) 10% F127; at λ_{ex} 290 nm.

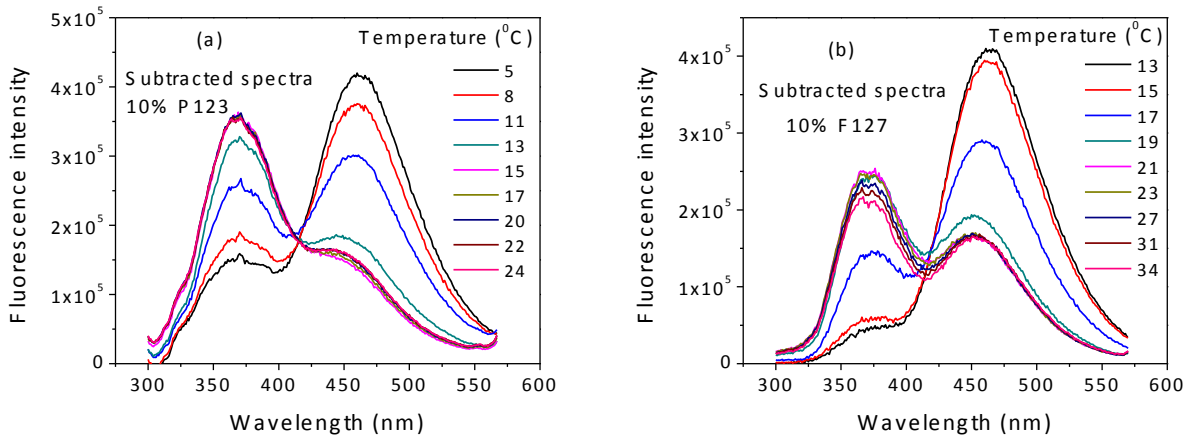
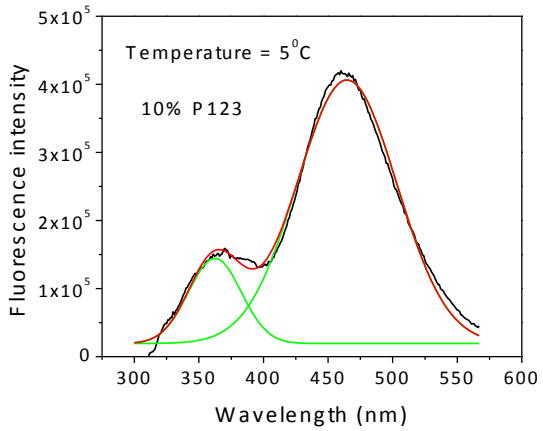
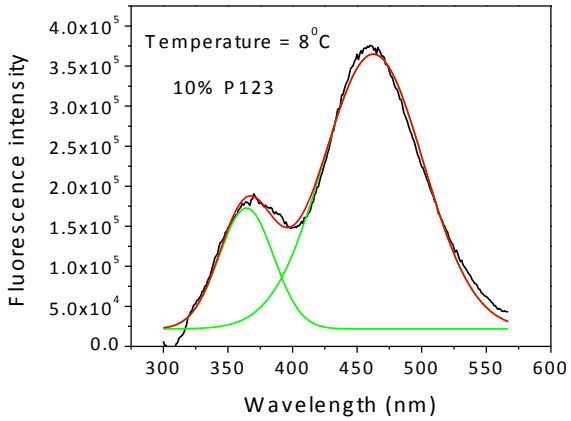
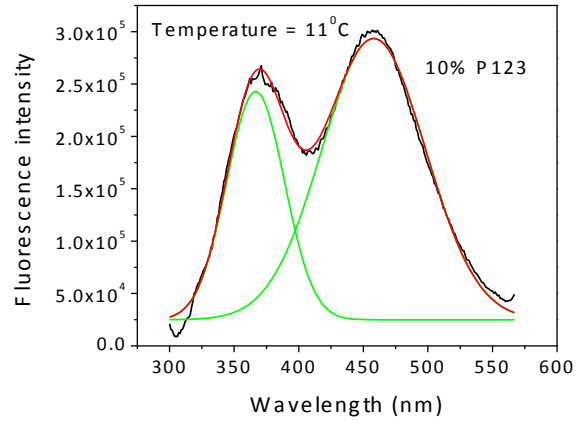
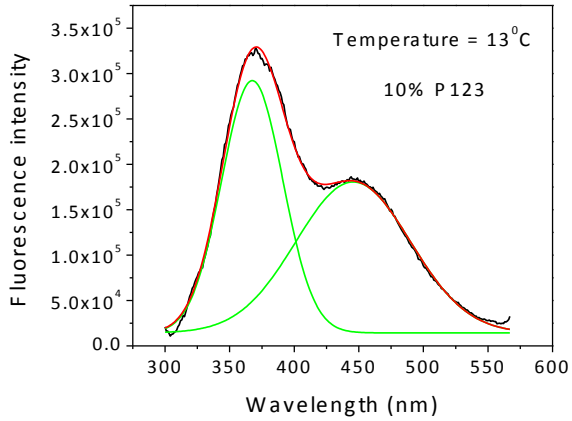


Figure S4: Subtracted fluorescence spectra of 4-Cl-1-naphthol in (a) 10% P123 and (b) 10% F127 media as a function of temperature; at λ_{ex} 290 nm.


Temperature = 5°C
10% P123
Fluorescence intensity
Wavelength (nm)


Temperature = 8°C
10% P123
Fluorescence intensity
Wavelength (nm)


Temperature = 11°C
10% P123
Fluorescence intensity
Wavelength (nm)


Temperature = 13°C
10% P123
Fluorescence intensity
Wavelength (nm)

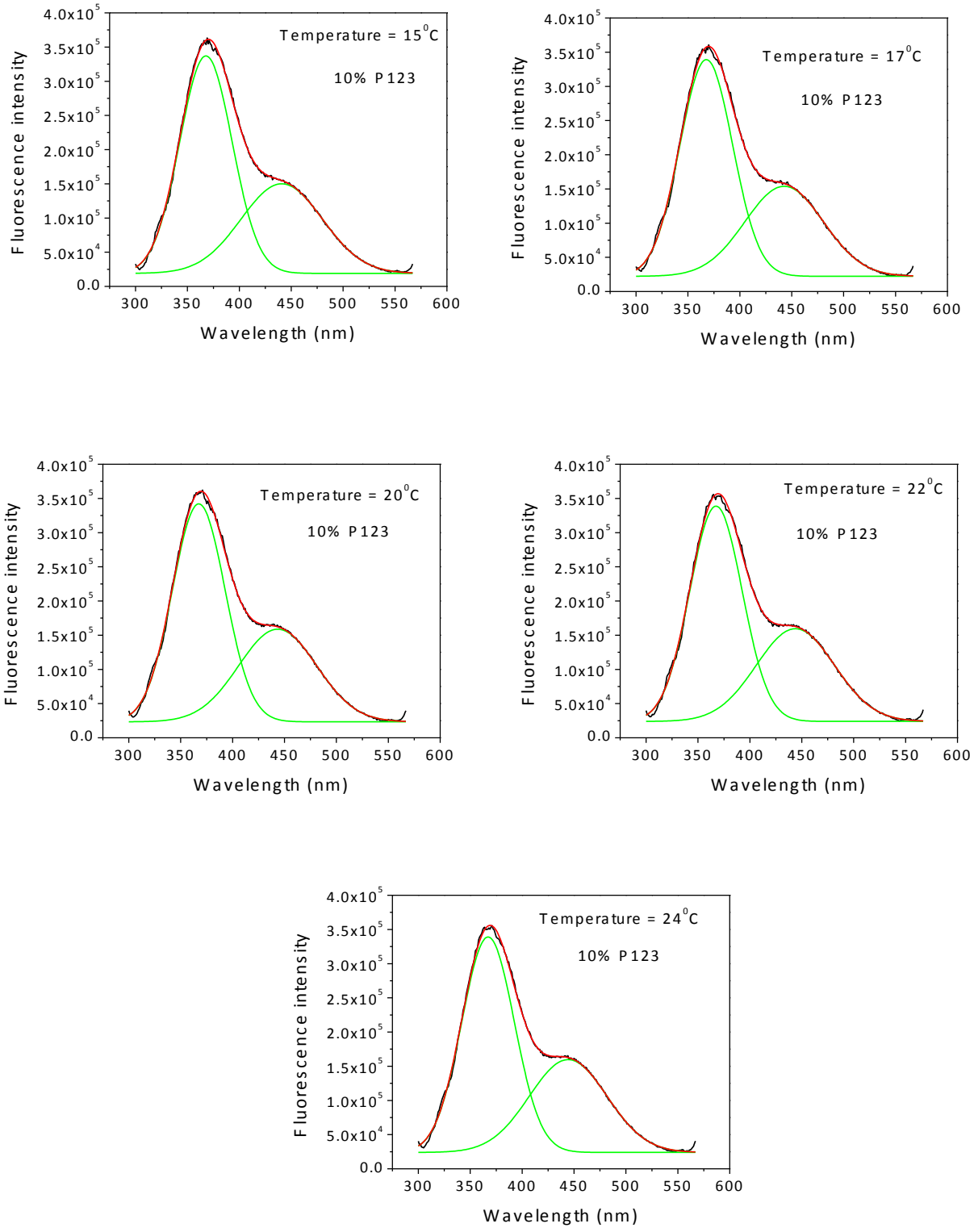
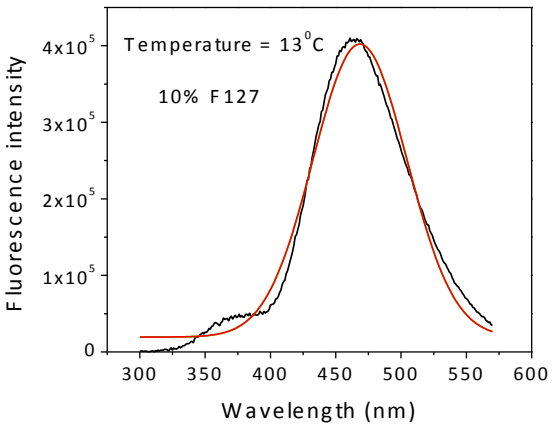
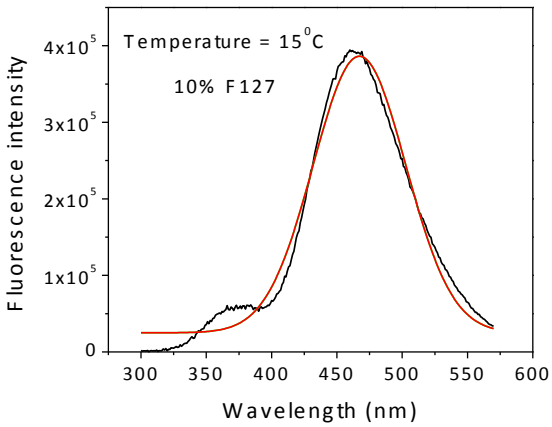
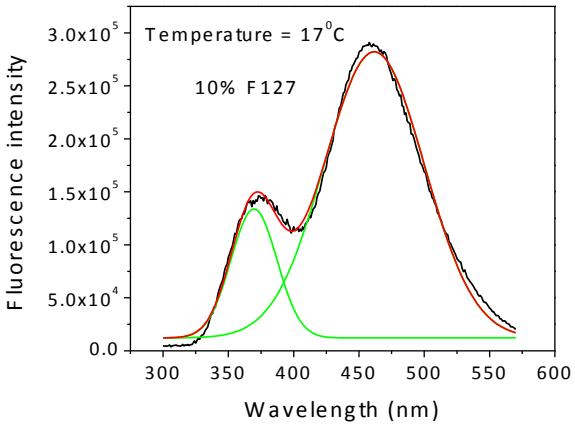
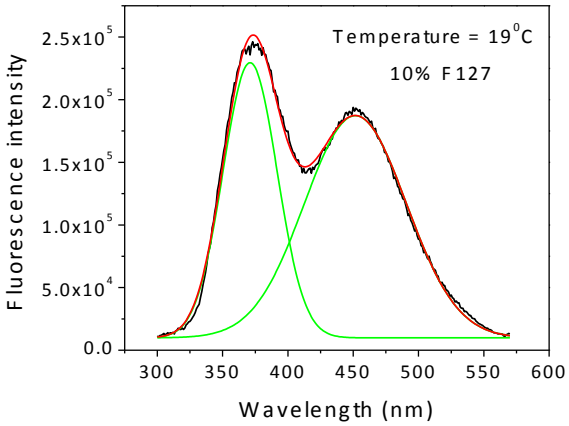


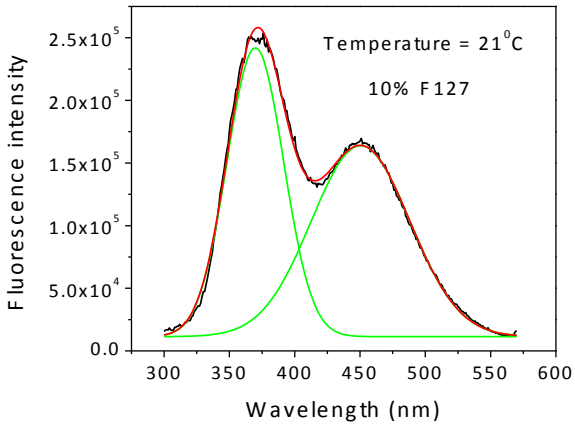
Figure S5: Double Gaussian fitting of the subtracted spectra of 4-Cl-1-naphthol in 10% P123 media with temperature.

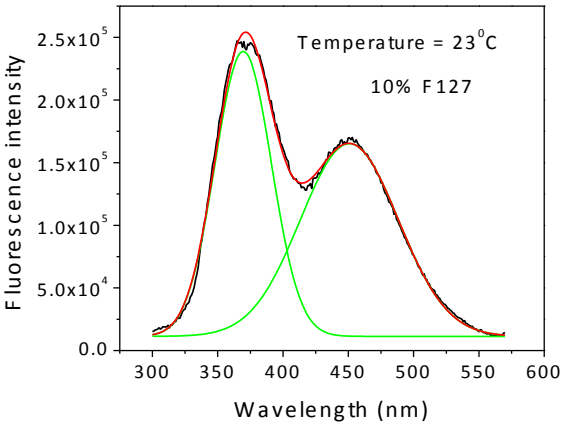

Temperature = 13°C
10% F127
Fluorescence intensity
Wavelength (nm)


Temperature = 15°C
10% F127
Fluorescence intensity
Wavelength (nm)


Temperature = 17°C
10% F127
Fluorescence intensity
Wavelength (nm)


Temperature = 19°C
10% F127
Fluorescence intensity
Wavelength (nm)


Temperature = 21°C
10% F127
Fluorescence intensity
Wavelength (nm)


Temperature = 23°C
10% F127
Fluorescence intensity
Wavelength (nm)

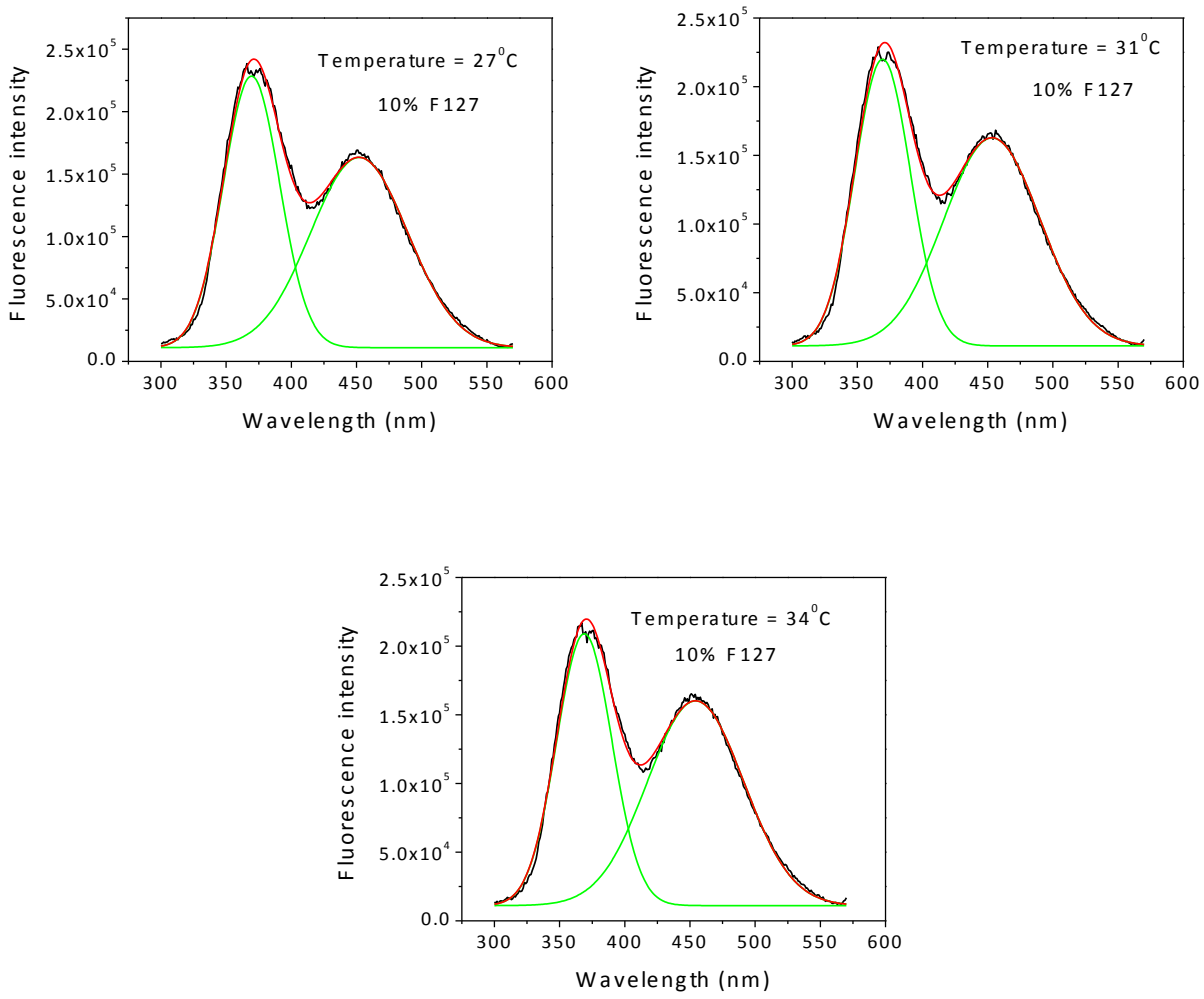


Figure S6: Double Gaussian fitting of the subtracted spectra of 4-Cl-1-naphthol in 10% F127 media with temperature.

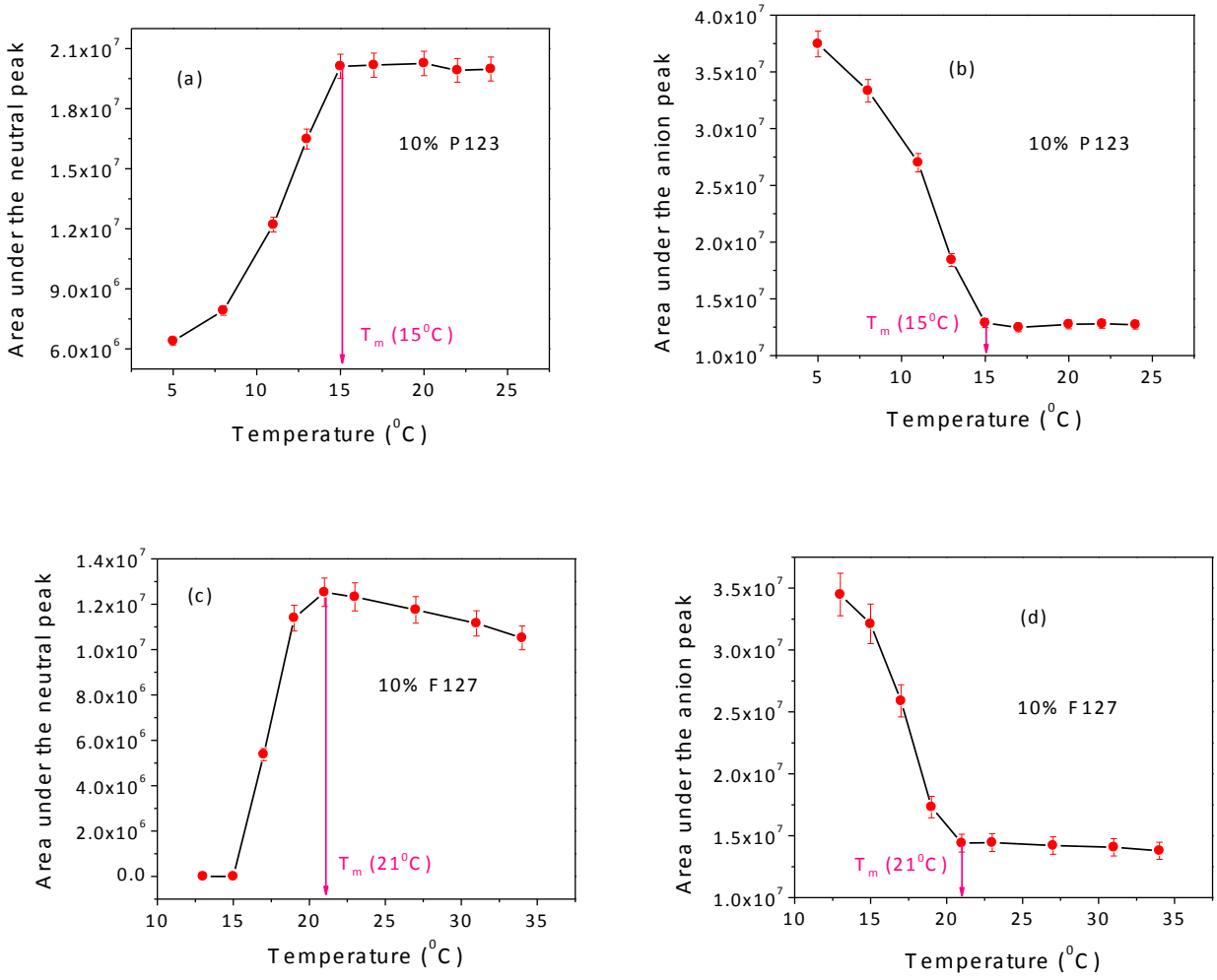


Figure S7: Area under the two curves, in 10% P123 media, (a) neutral and (b) anionic form and in 10% F127 media, (c) neutral and (d) anionic form.

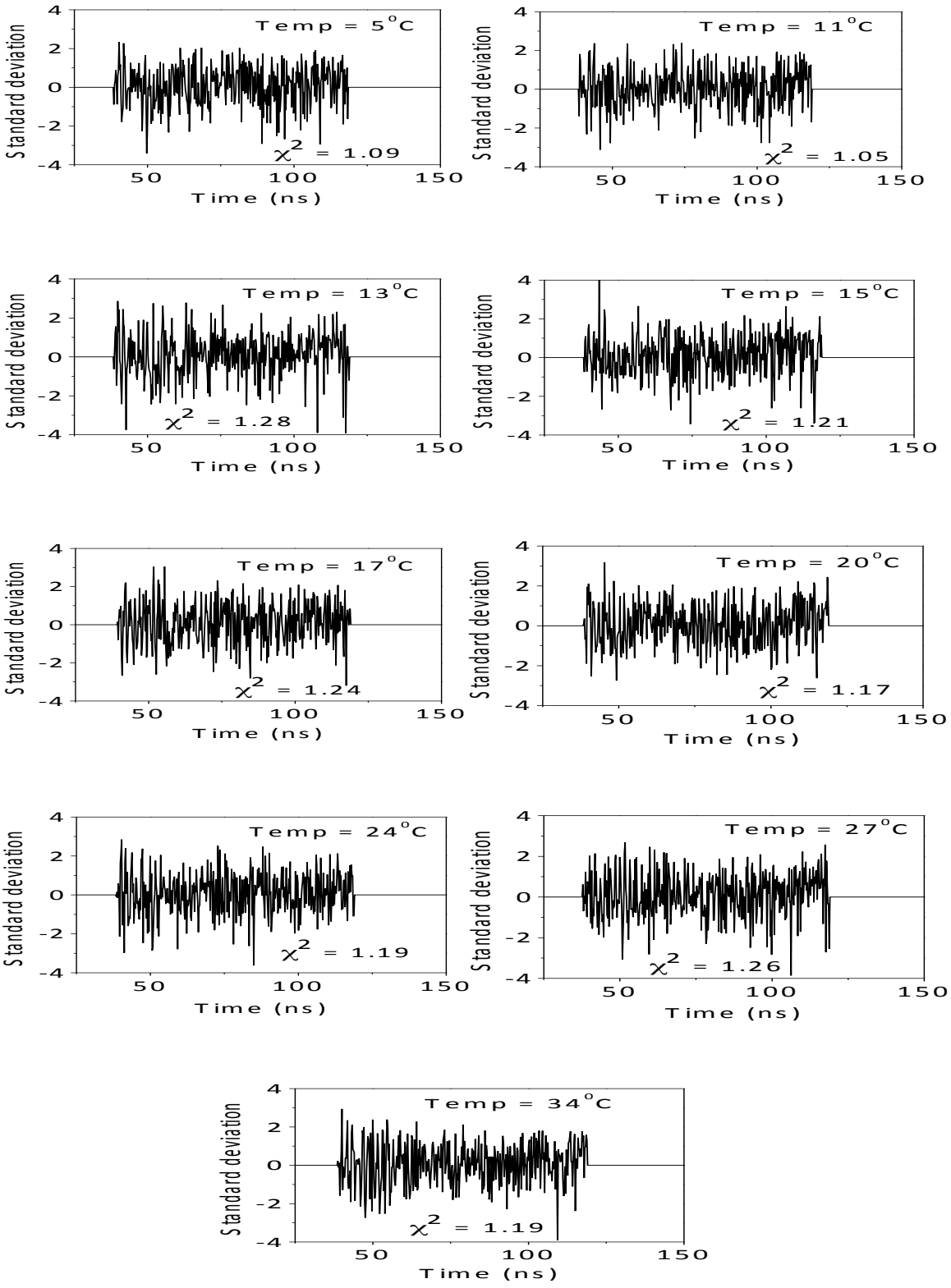


Figure S8: Residue distribution plots of 4-Cl-1-naphthol anion in water at different temperatures (corresponds to Table 1).

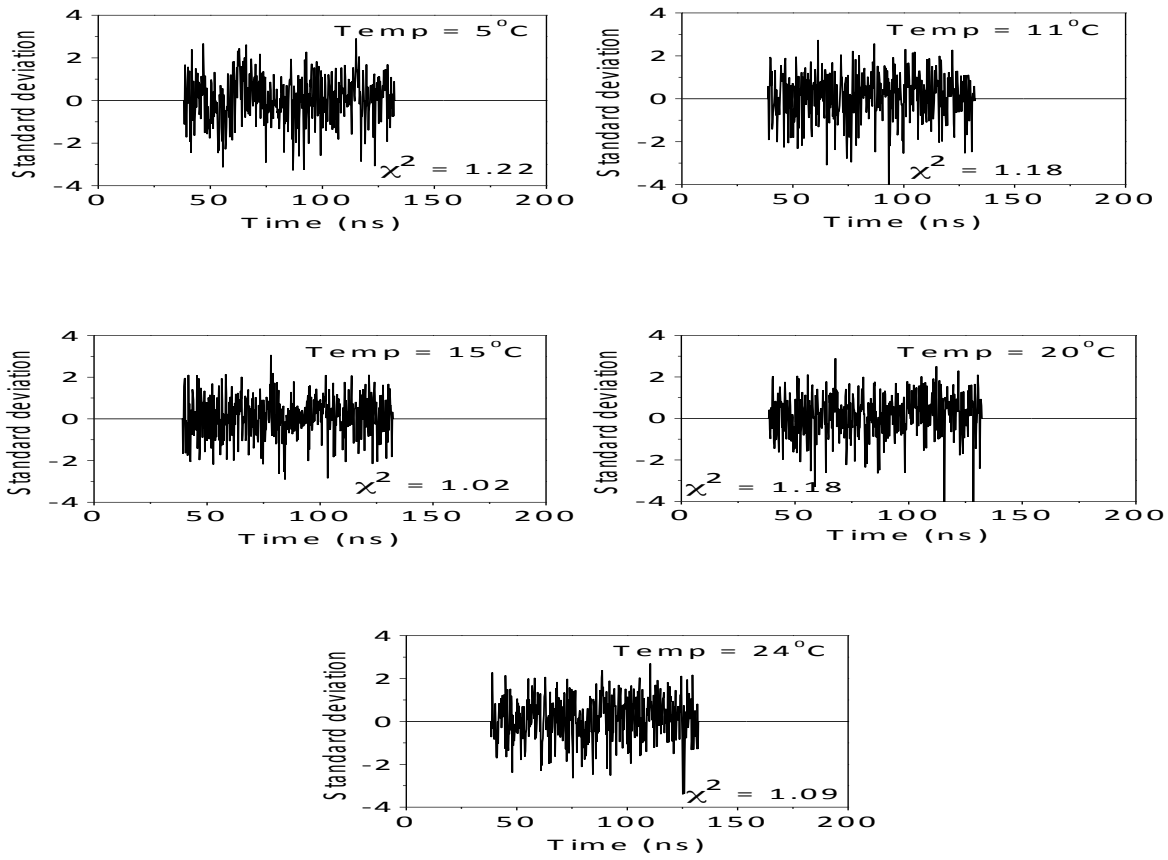


Figure S9: Residue distribution plots of 4-Cl-1-naphthol neutral form in 10% P123 media at different temperatures (corresponds to Table 2).

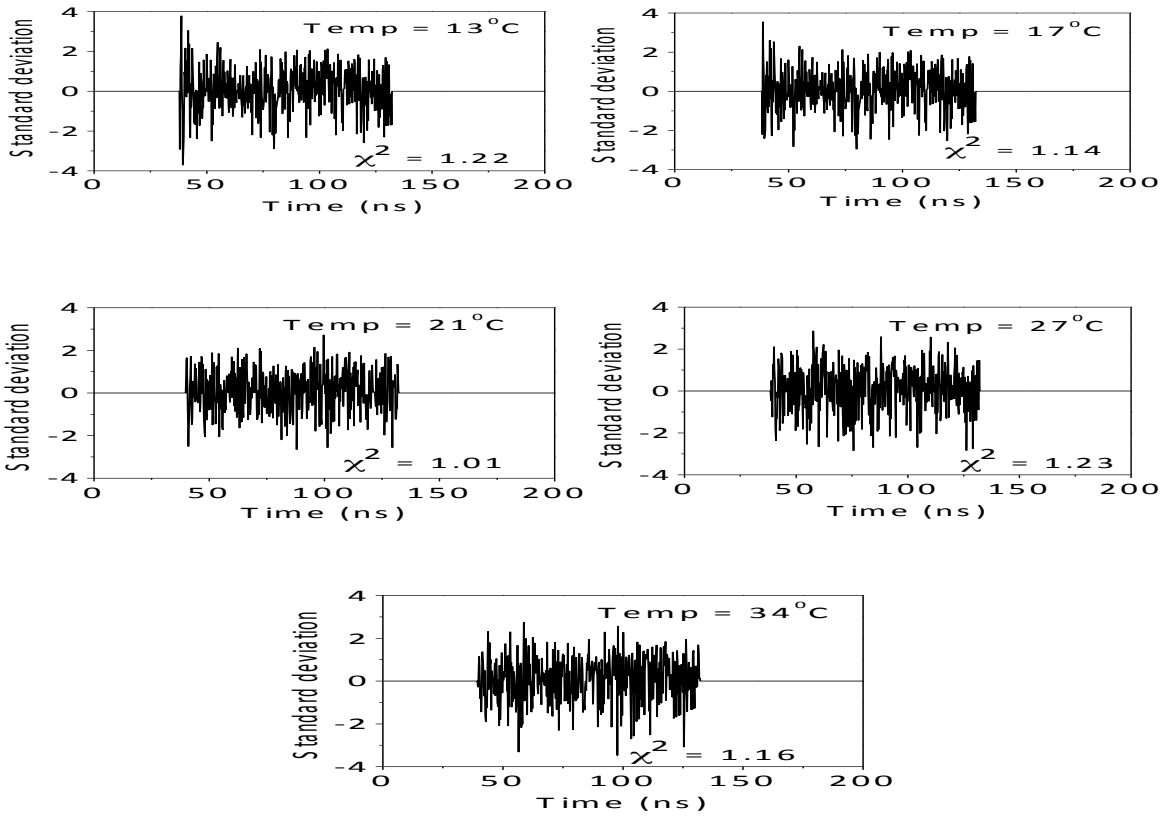


Figure S10: Residue distribution plots of 4-Cl-1-naphthol neutral form in 10% F127 media at different temperatures (corresponds to Table 3).

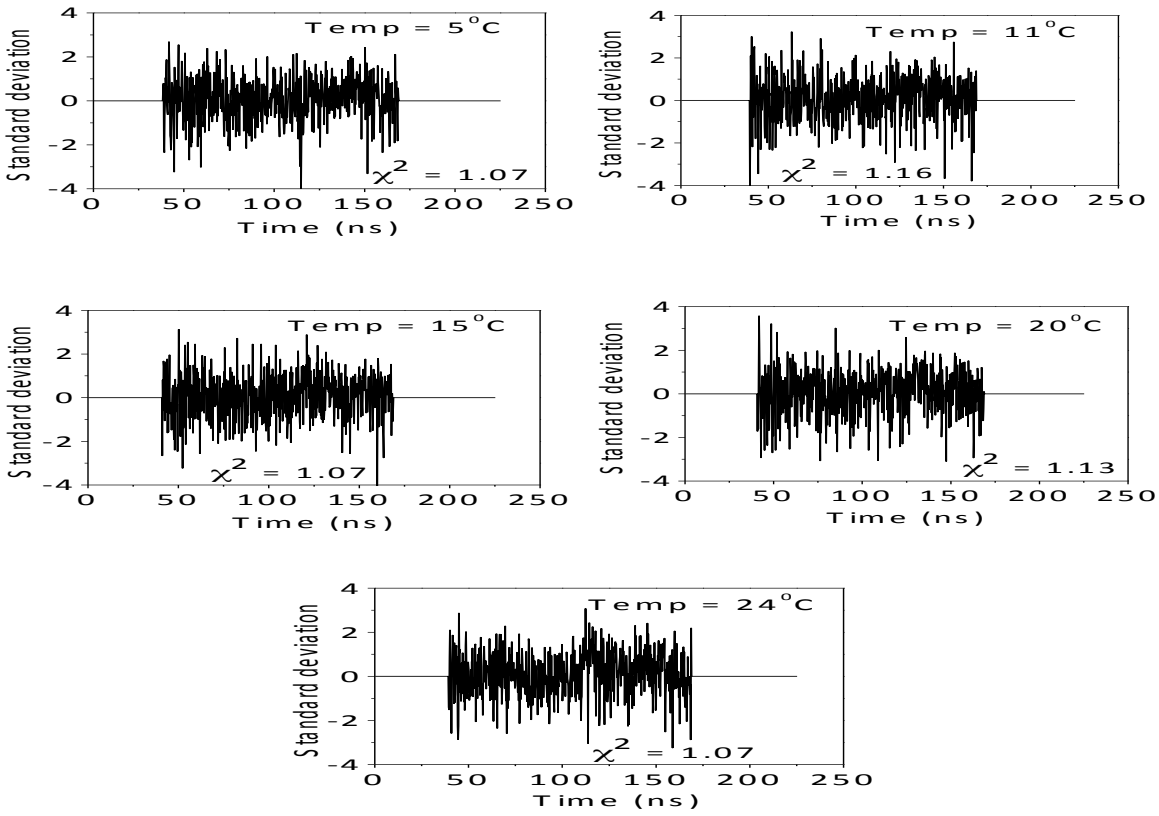


Figure S11: Residue distribution plots of 4-Cl-1-naphthol anionic form in 10% P123 media at different temperatures (corresponds to Table 4).

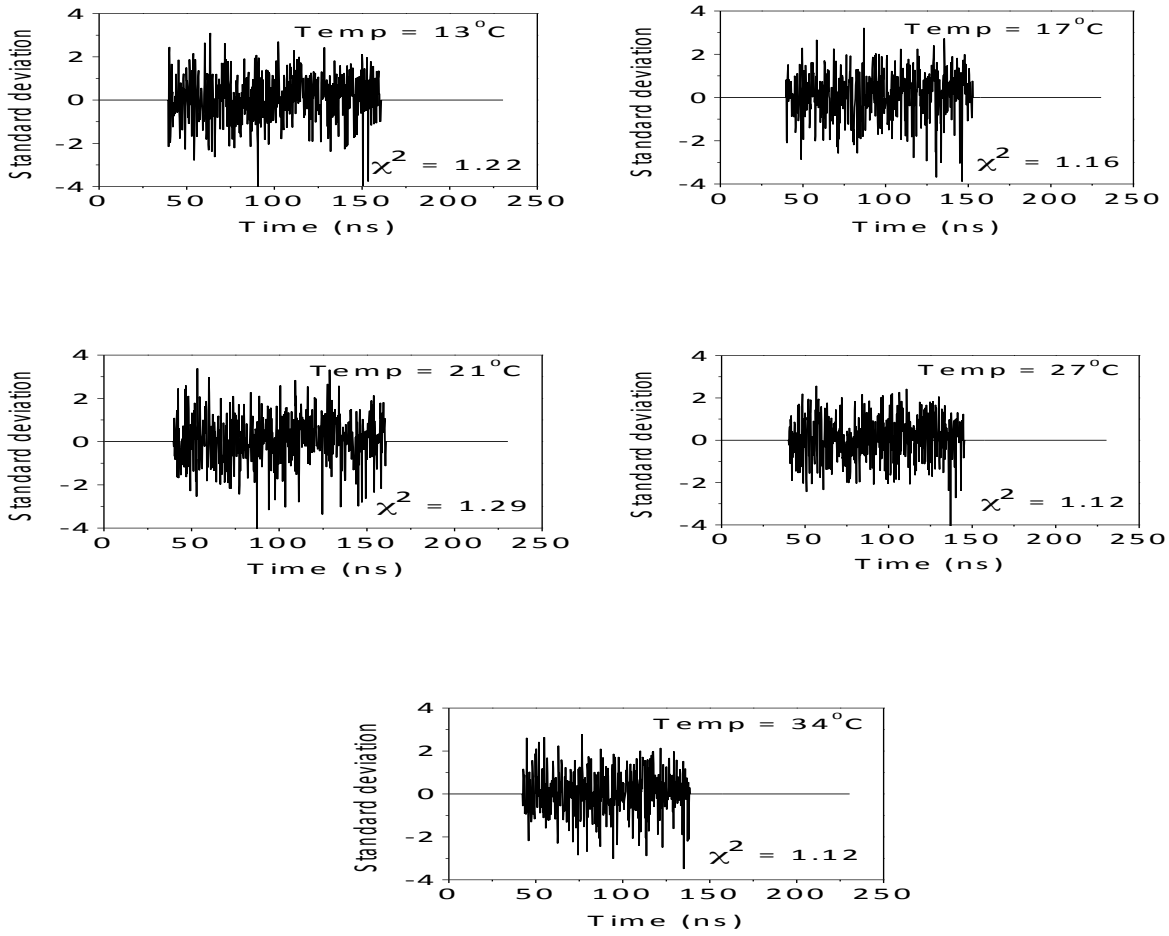


Figure S12: Residue distribution plots of 4-Cl-1-naphthol anionic form in 10% F127 media at different temperatures (corresponds to Table 5).

Table S1: Intrinsic fluorescence lifetime data of pluronics at 20°C (λ_{ex} = 295 nm, λ_{em} = 460 nm).

Pluronics	τ_1 (β_1)	τ_2 (β_2)	χ^2
P123	3.59 (0.90)	16.74 (0.10)	1.36
F127	3.82 (0.85)	14.33 (0.15)	1.22