Effect of Ionic Strength on Aggregation of Nile Red and Coumarin 30 in Aqueous Medium: Primary Kinetic Salt Effect or Salting-out Effect?

Nitin Chattopadhyay*, Arindam Das

Department of Chemistry, Jadavpur University, Kolkata - 700 032, India

*Corresponding author.

E-mail: nitin.chattopadhyay@yahoo.com

Electronic Supplementary Information (ESI)

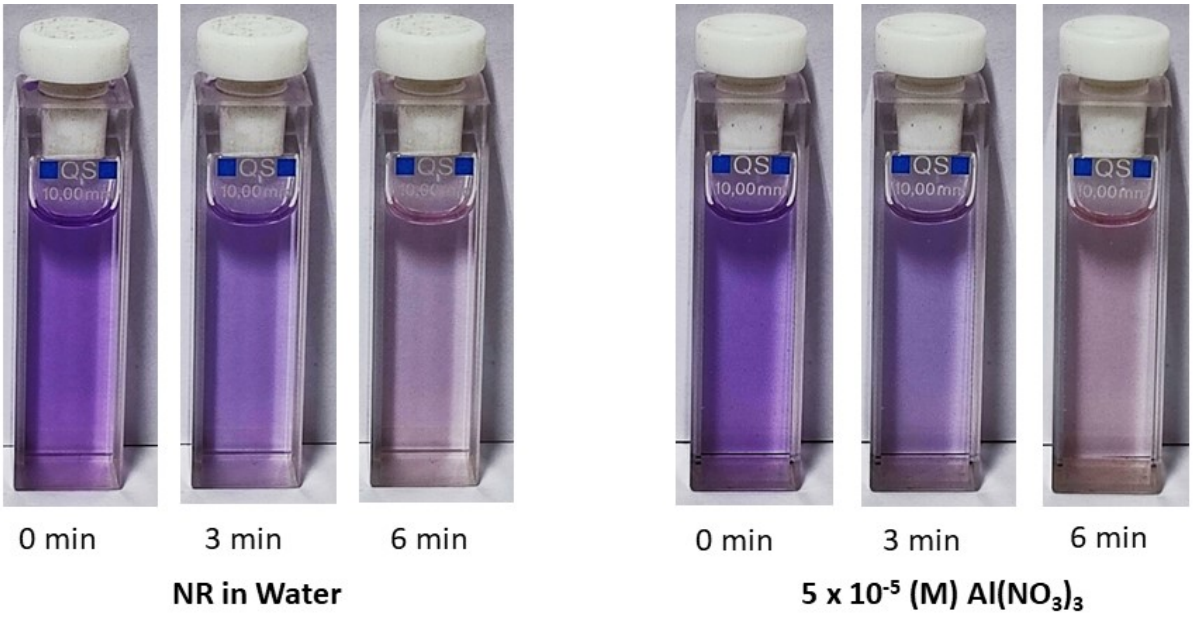

Figure S1: Snap shots of NR in water and in 5 × 10^{-5} (M) $Al(NO_3)_3$ solution at different times.

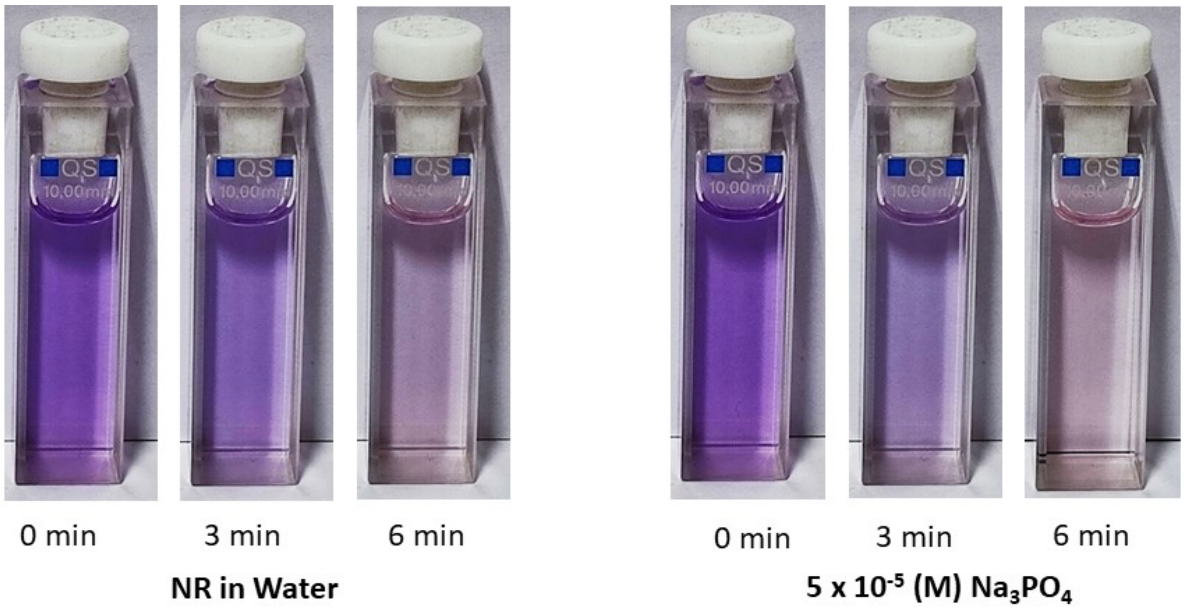

Figure S2: Snap shots of NR in water and in 5 × 10^{-5} (M) Na_3PO_4 solution at different times.

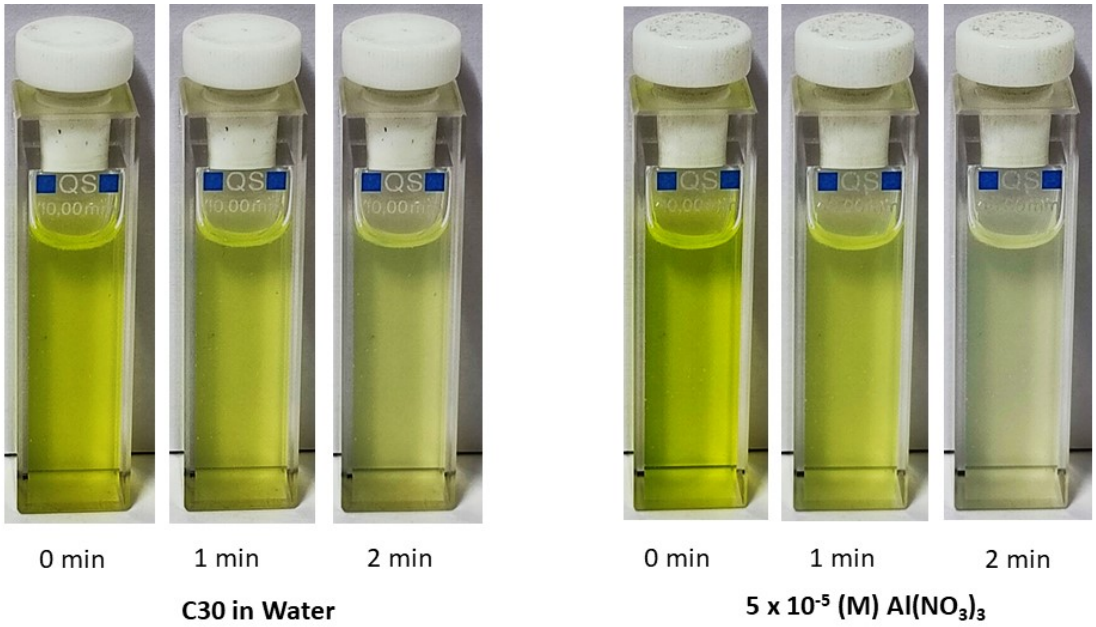

Figure S3: Snap shots of C30 in water and in 5 × 10^{-5} (M) $Al(NO_3)_3$ solution at different times.

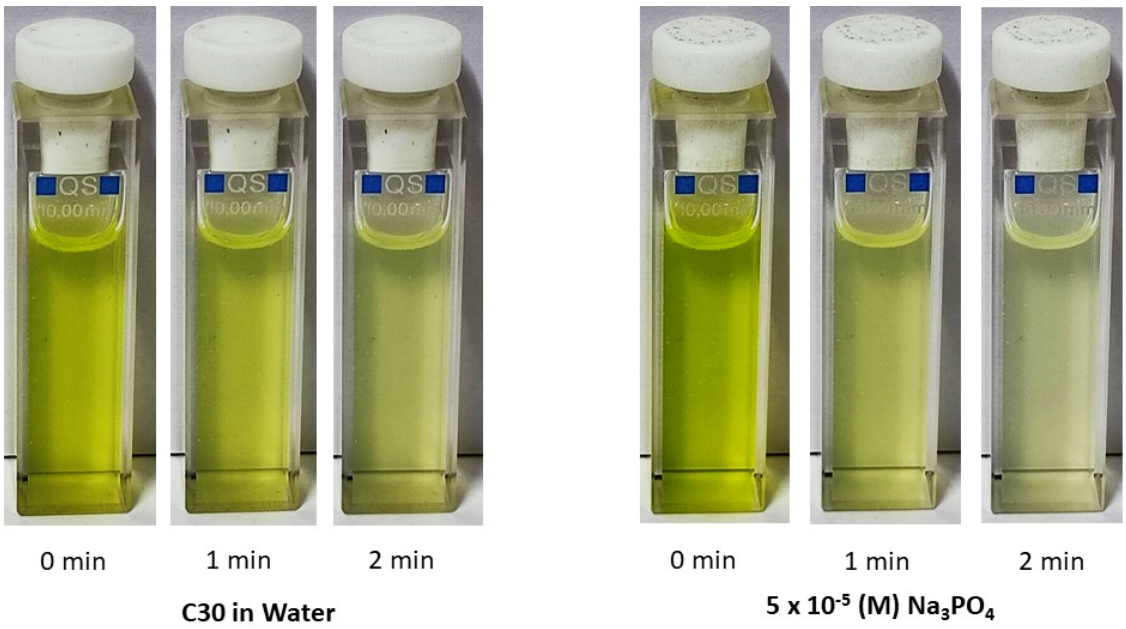

Figure S4: Snap shots of C30 in water and in 5 × 10^{-5} (M) Na_3PO_4 solution at different times.

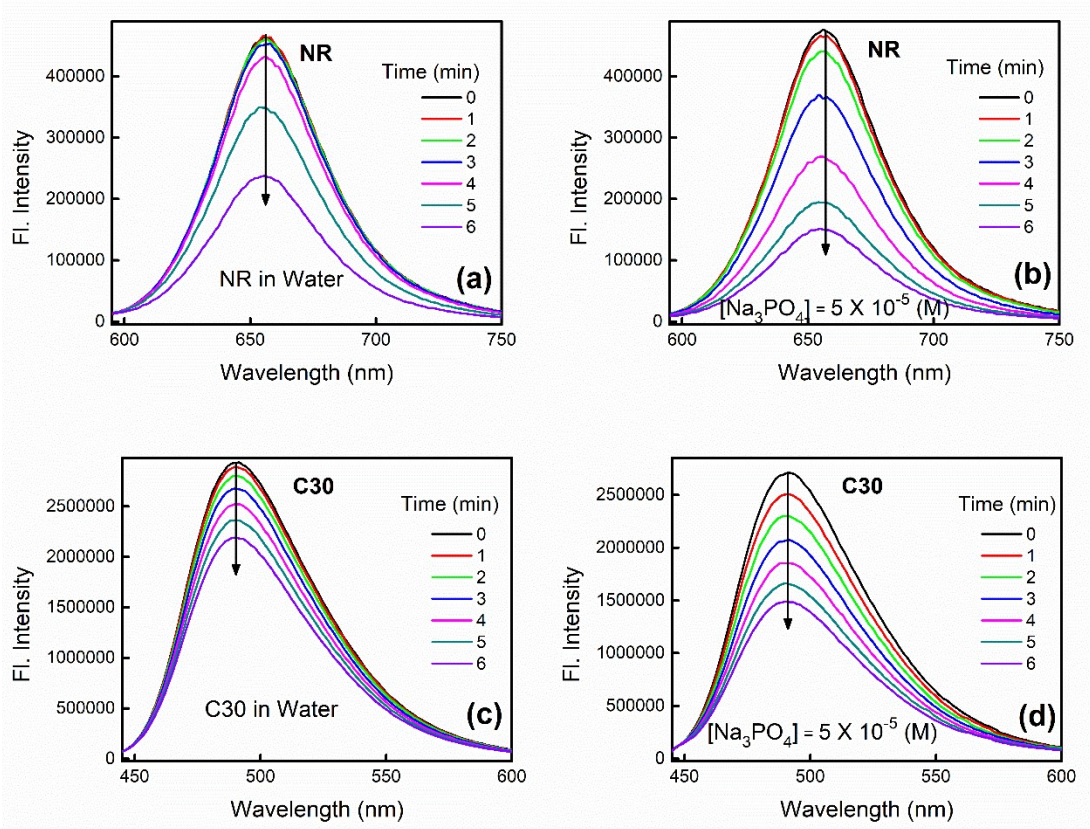

Figure S5. Fluorescence spectra of NR in (a) water and (b) 5 x 10^{-5} (M) Na_3PO_4 solution with increasing time. Fluorescence spectra of C30 in (c) water and (d) 5 x 10^{-5} (M) Na_3PO_4 solution with increasing time.

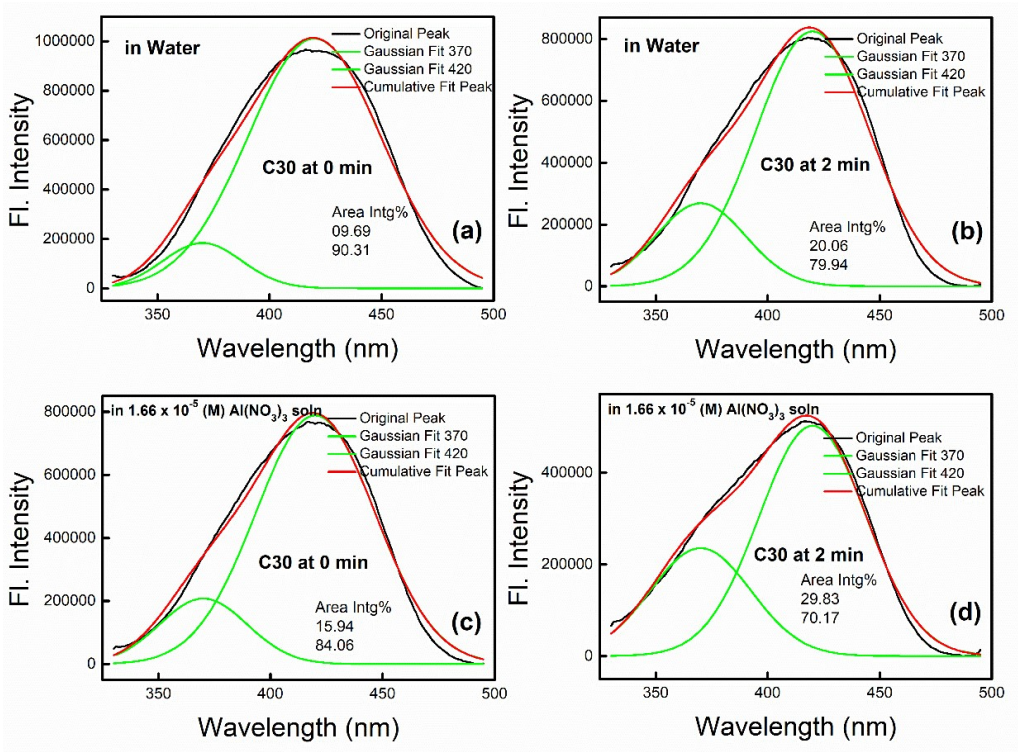

Figure S6. Resolved fluorescence excitation spectra of C30 ((a) and (b)) at λ_{em} = 505 nm in water at different times. Resolved fluorescence excitation spectra of C30 ((c) and (d)) at λ_{em} = 505 nm in 1.66 × 10^{-5} (M) $Al(NO_3)_3$ solution at different times.

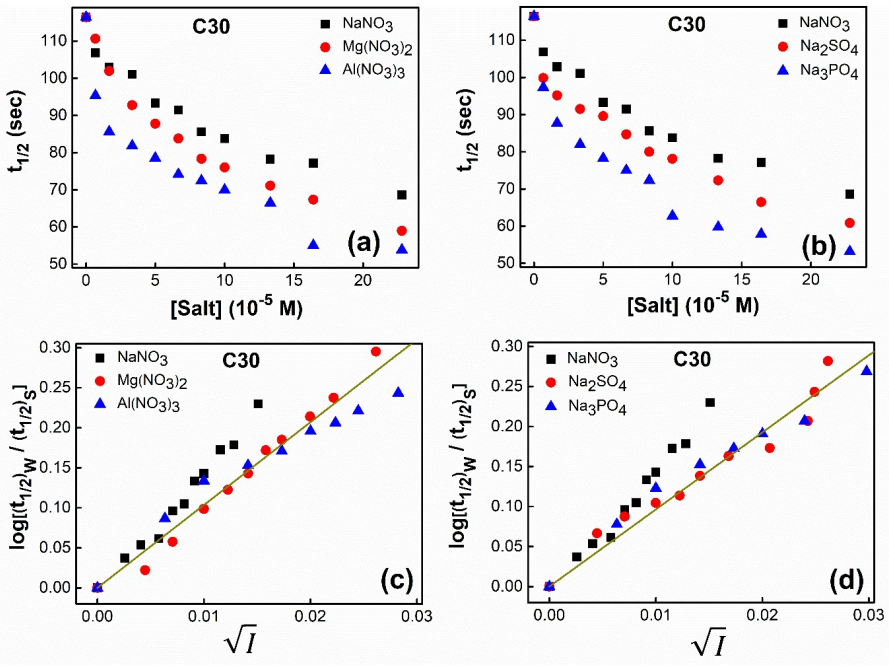

Figure S7. Variation of half-life ($t_{1/2}$) vs. salt concentration for C30 with a variation of (a) cation and (b) anion; (c) and (d) gives plots of log (k/k^0) vs $\sqrt{I}$ for C30, where $k/k^0 = \left(t_{1/2}\right)_W / \left(t_{1/2}\right)_S$.

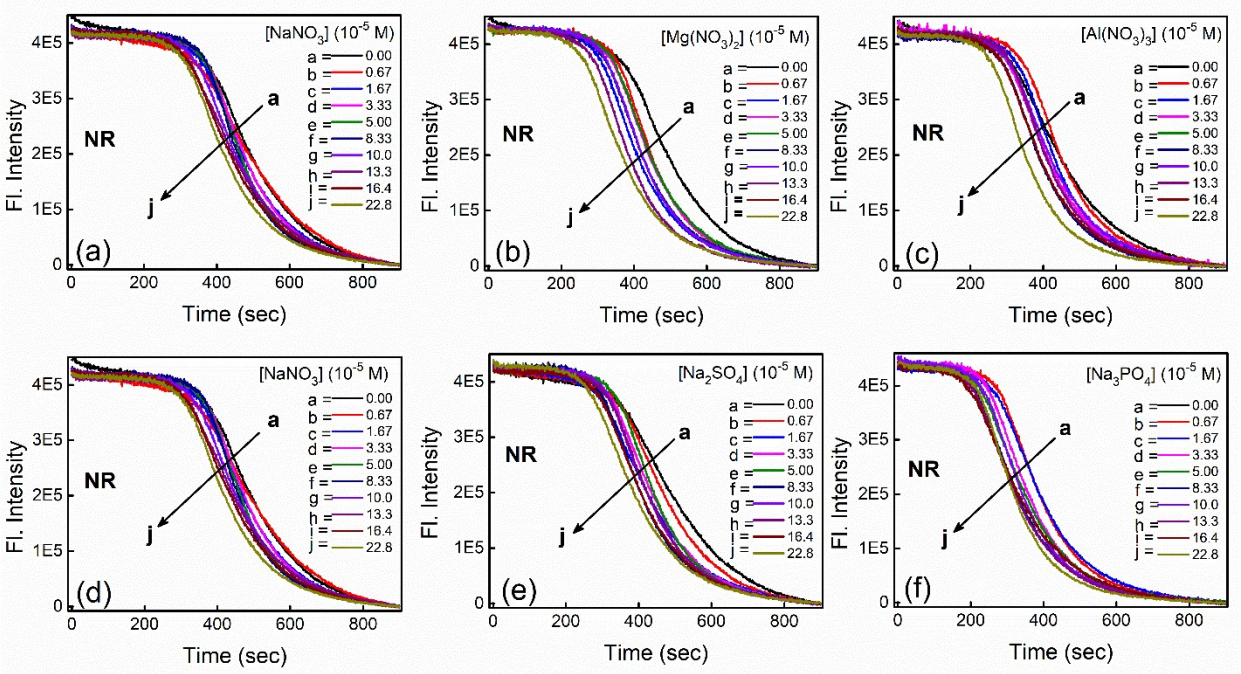

Figure S8. Fluorescence kinetic decay of NR at λ_{em} = 656 nm in water with different salt concentrations (λ_{ex} = 580 nm).

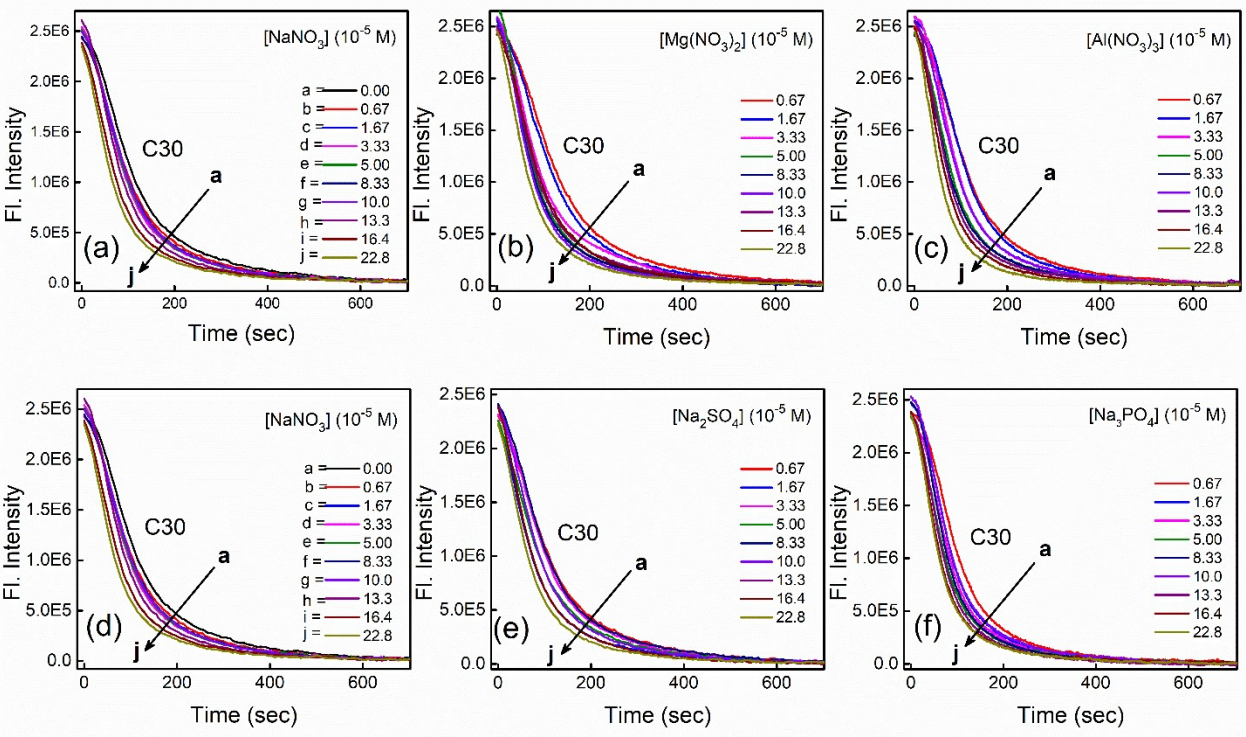

Figure S9. Fluorescence kinetic decay of C30 at λ_{em} = 495 nm in water with different salt concentrations (λ_{ex} = 430 nm).