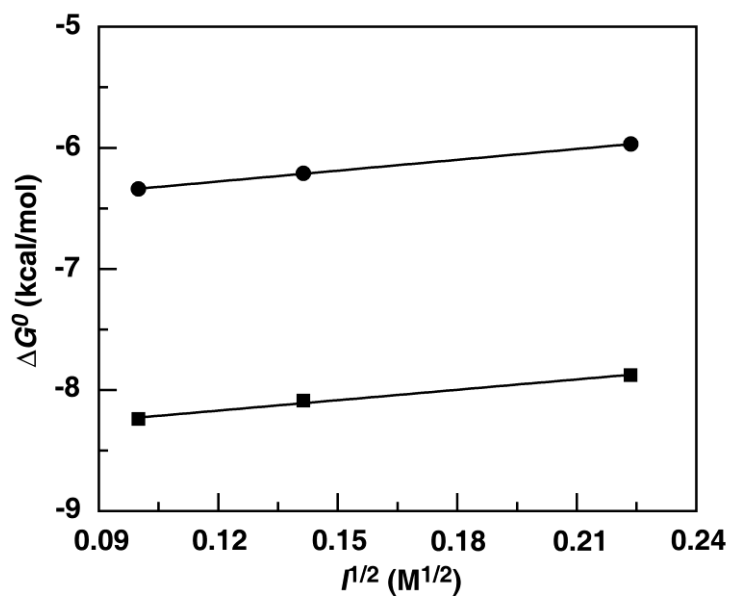


## Supporting Information

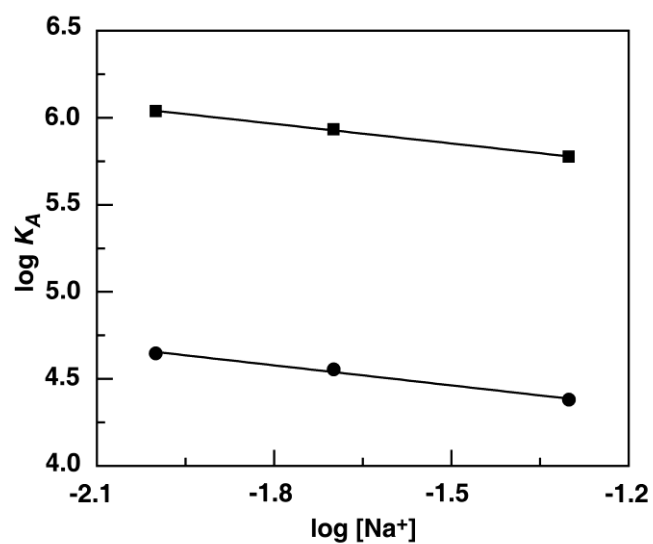
### Binding and Inhibitory Effect of Dyes Amaranth and Tartrazine on Amyloid Fibrillation in Lysozyme

Anirban Basu\* and Gopinatha Suresh Kumar\*

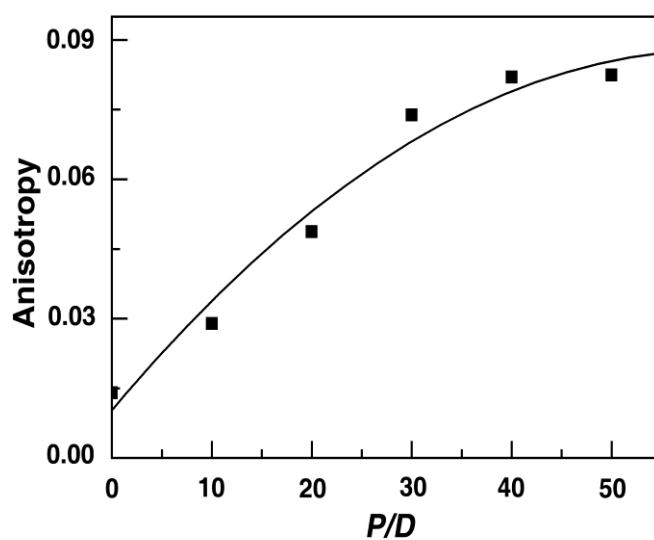
Biophysical Chemistry Laboratory  
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Kolkata 700 032, India



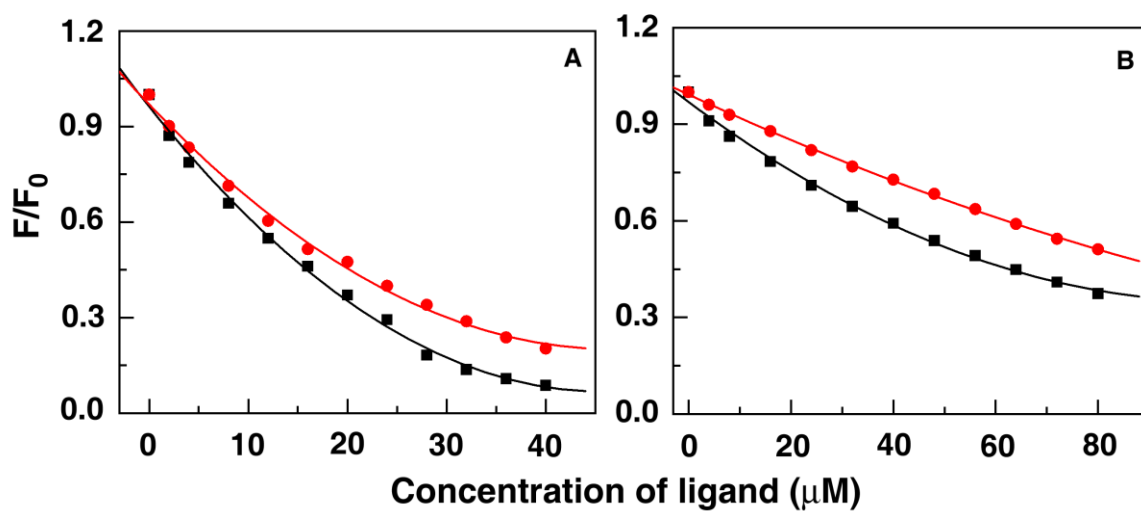
**Figure S1.** Plot of variation of  $\Delta G^0$  *versus*  $I^{1/2}$  for the complexation of LSZ with AMTH (■) and TZ (•).



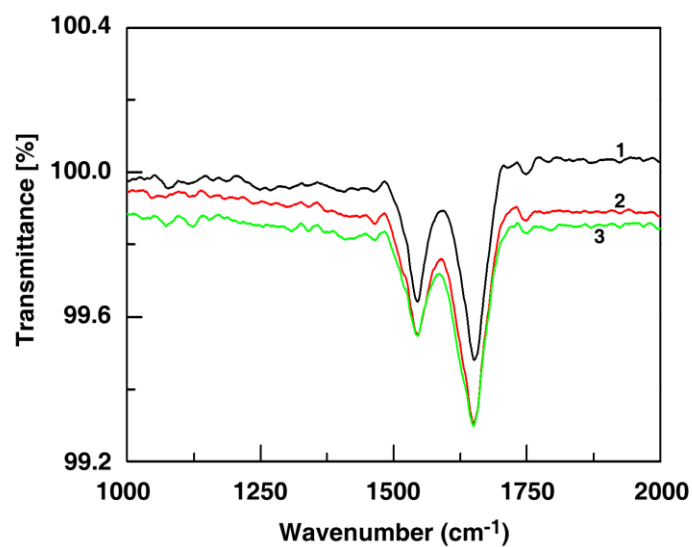
**Figure S2.** Plot of variation of  $\log K_A$  *versus*  $\log [\text{Na}^+]$  for the binding of LSZ with AMTH (■) and TZ (•).



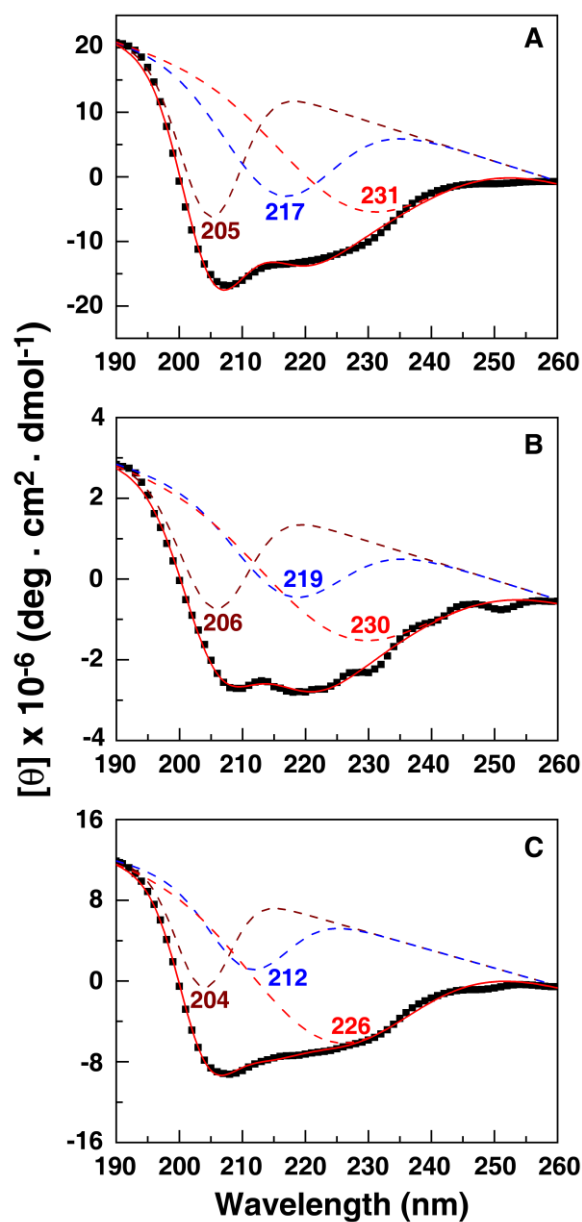
**Figure S3.** Plot of variation of anisotropy *versus*  $P/D$  (LSZ/ AMTH molar ratio).



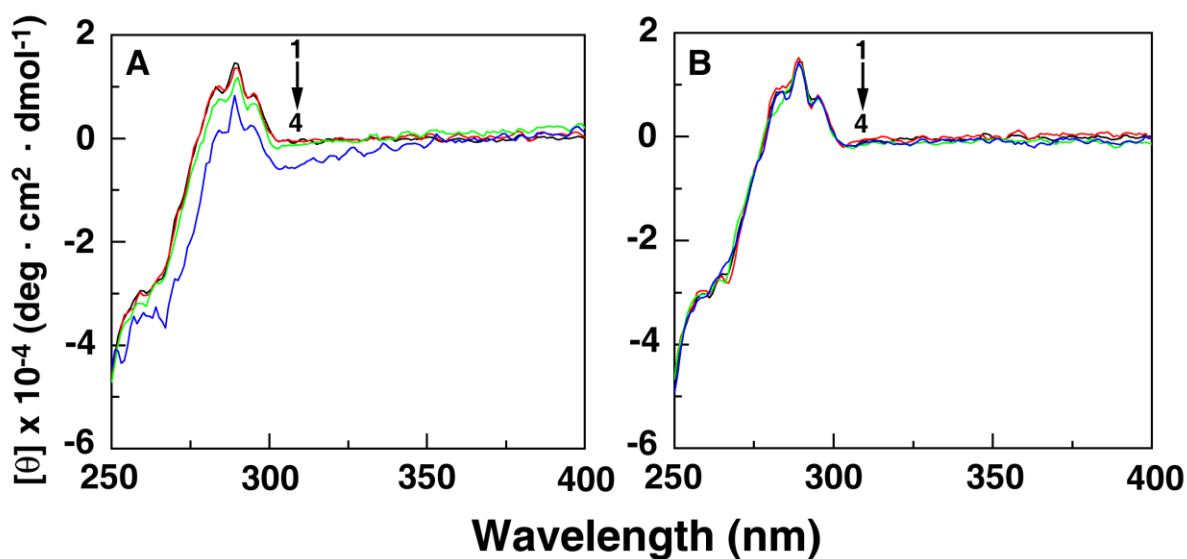
**Figure S4.** Hydrophobic displacement assay for LSZ treated with increasing concentrations of (A) AMTH and (B) TZ in the presence (■) and absence (●) of ANS.



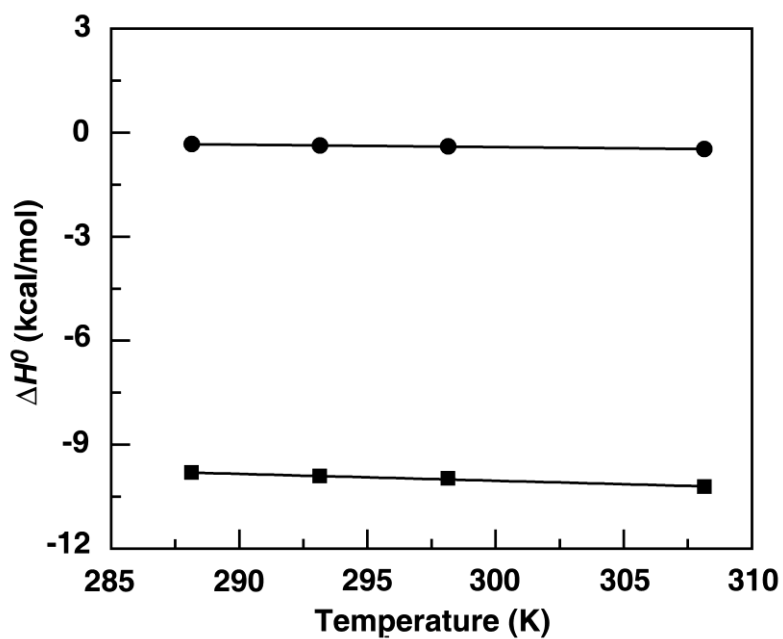
**Figure S5.** FTIR spectra of LSZ (5  $\mu\text{M}$ , curve 1), LSZ-AMTH (curve 2) and LSZ-TZ (curve 3) complex at  $D/P$  (dye : protein molar ratio) = 20.



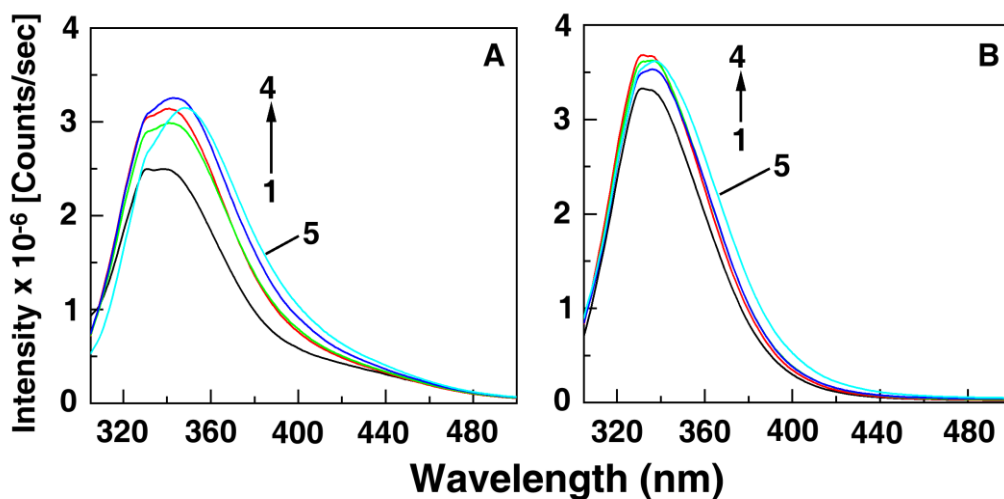
**Figure S6.** Deconvoluted far-UV CD spectral changes of (A) LSZ and its complexes with (B) AMTH (80  $\mu\text{M}$ ) and (C) TZ (80  $\mu\text{M}$ ). The scatter plots represent the original spectra while the broken lines represent the deconvoluted spectra and the solid lines are the best fit of the spectral data.



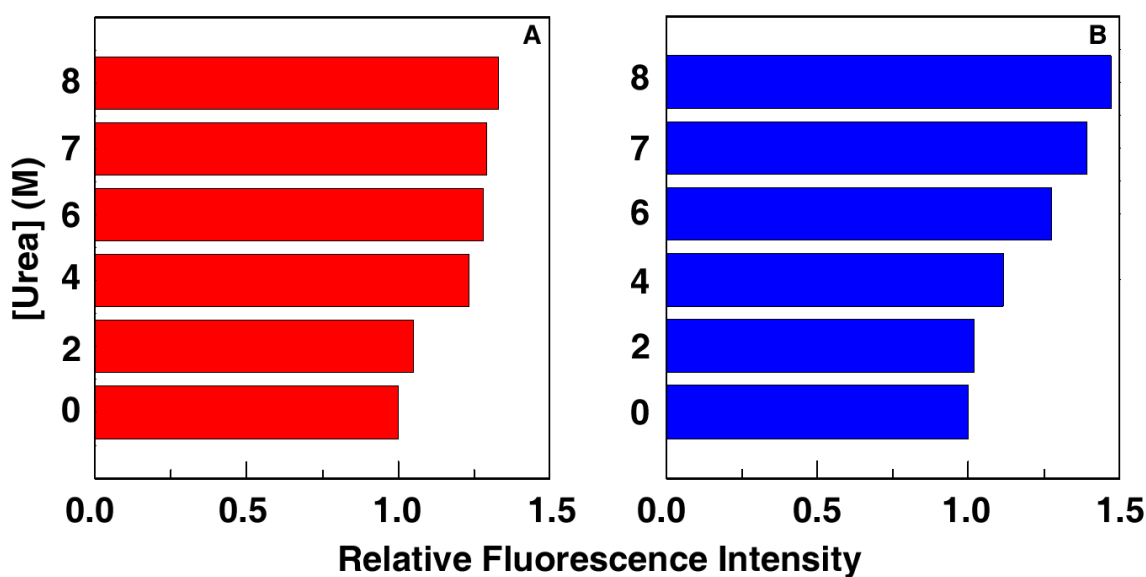
**Figure S7.** Near-UV CD spectral changes of LSZ (curve 1, 30  $\mu\text{M}$ ) on treatment with (A) 10, 20 and 25  $\mu\text{M}$  of AMTH (curves 2-4) and (B) 10, 20 and 25  $\mu\text{M}$  of TZ (curves 2-4).



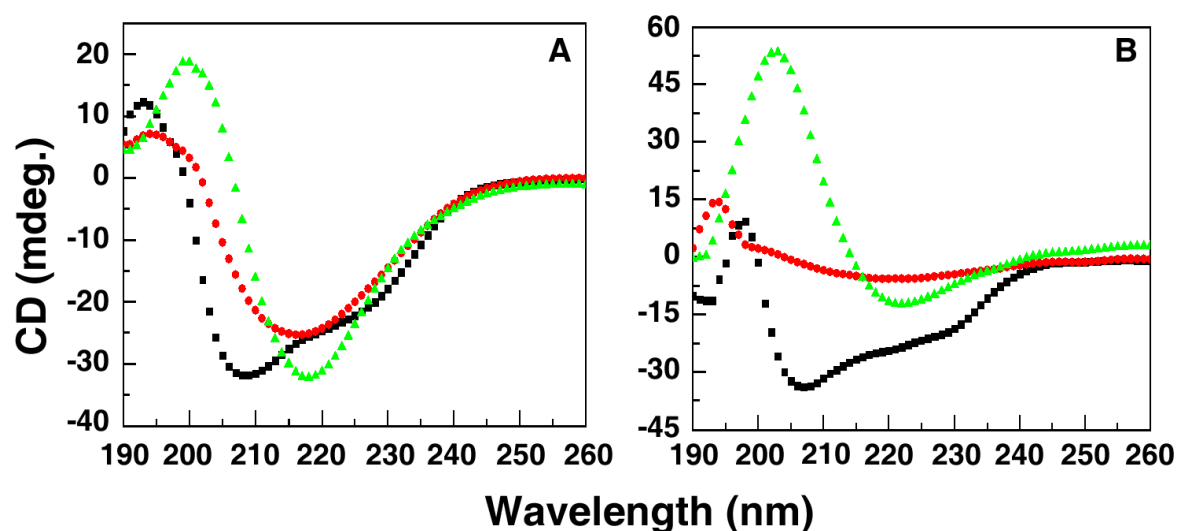
**Figure S8.** Variation of standard molar enthalpy change as a function of temperature for the complexation of LSZ with AMTH (■) and TZ (•).



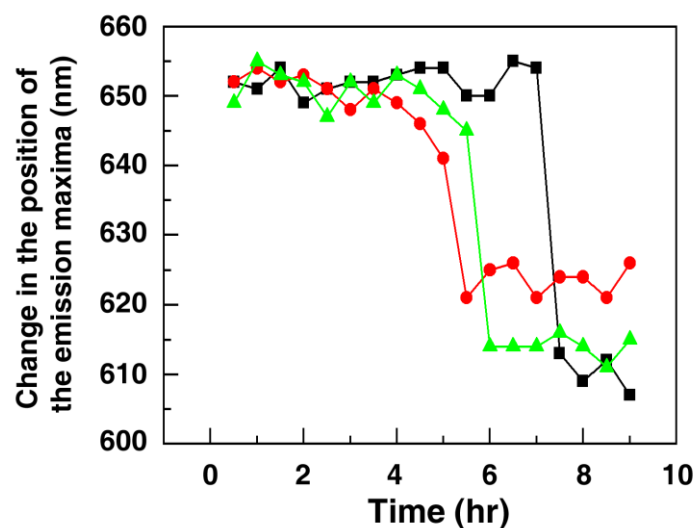
**Figure S9.** Changes in the steady-state fluorescence spectra of LSZ (5.60  $\mu\text{M}$ ) complexed with (A) AMTH (20  $\mu\text{M}$ , curve 1) in presence of 1, 3, 4 and 5 M urea (curves 2-5) and (B) TZ (40  $\mu\text{M}$ , curve 1) in presence of 1, 3, 5 and 6 M urea (curves 2-5).



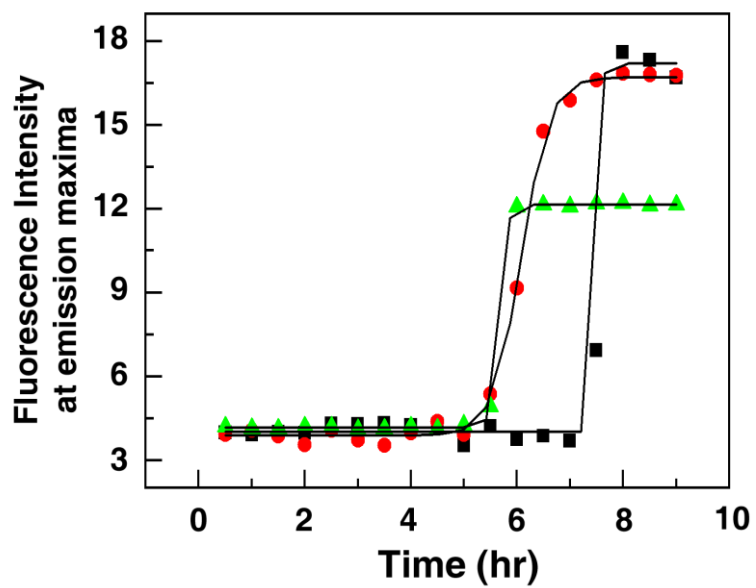
**Figure S10.** Bar chart representing the influence of increasing urea concentration on the relative fluorescence intensities of (A) AMTH and (B) TZ complexed with LSZ.



**Figure S11.** (A) Far-UV CD spectra of LSZ samples in the presence of 25  $\mu$ M AMTH after 3 (■), 7.5 (•) and 9 hr (▲) of incubation. (A) Changes in the far-UV CD spectra of LSZ samples in the presence of 100  $\mu$ M TZ after 3 (■), 6 (•) and 9 hr (▲) of incubation.



**Figure S12.** Variation of the emission maxima of NR with time for LSZ samples in the absence (•) and presence of AMTH (■) and TZ (▲).



**Figure S13.** Variation of the fluorescence intensity of NR at the emission maxima with time for LSZ samples in the absence (•) and presence of AMTH (■) and TZ (▲).