

## Electronic Supplementary Information

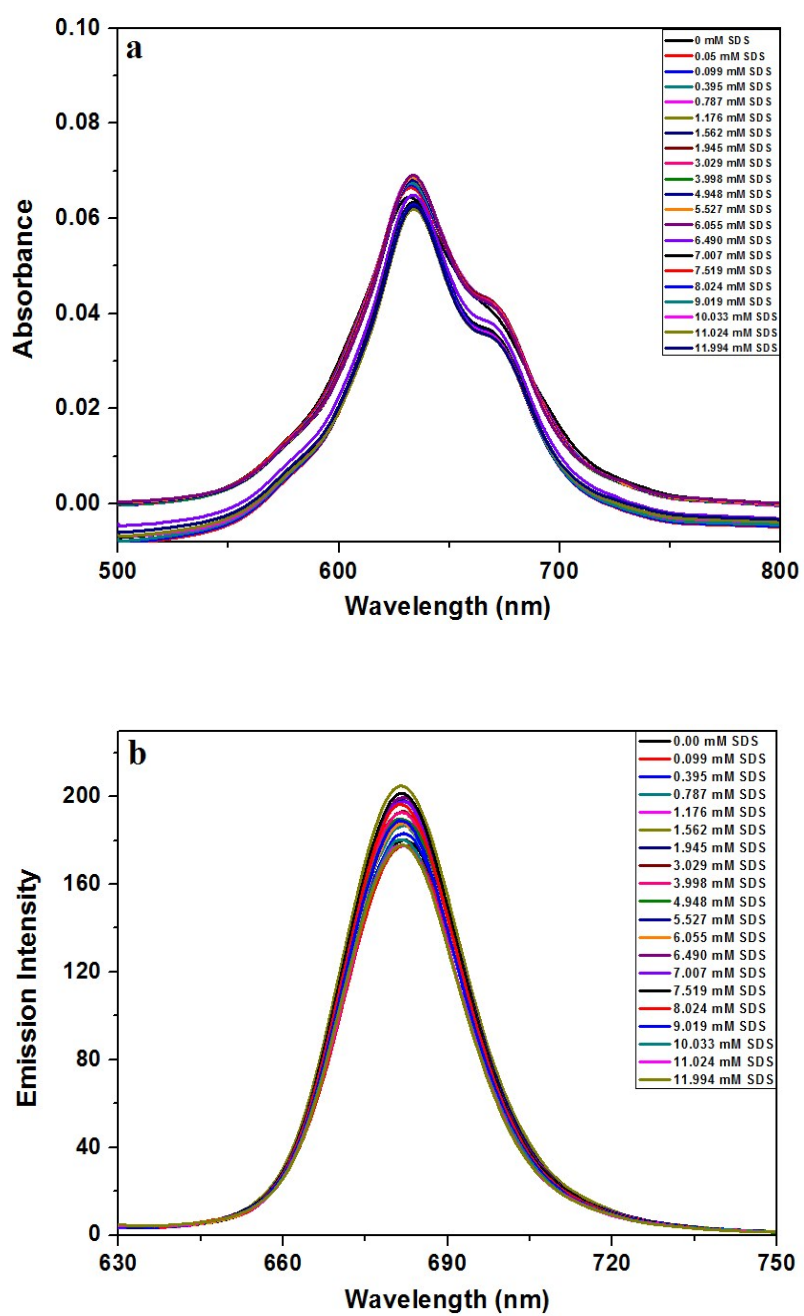
# Aggregation-Disaggregation Pattern of Photodynamic Active ZnPcS<sub>4</sub> and its Interaction with DNA Alkylating Quinone: Effect of Micellar Compactness and Central Metal Ion

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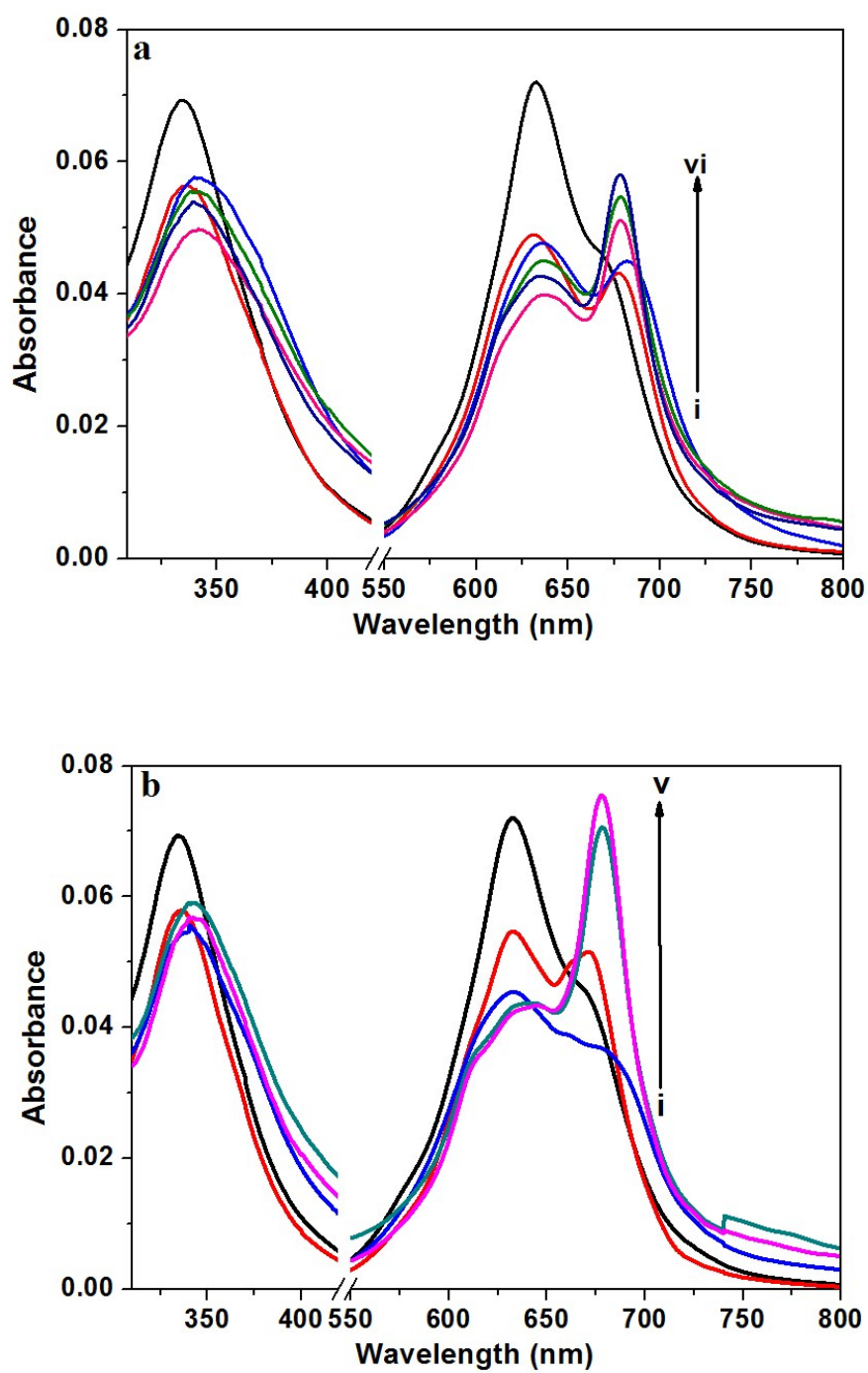
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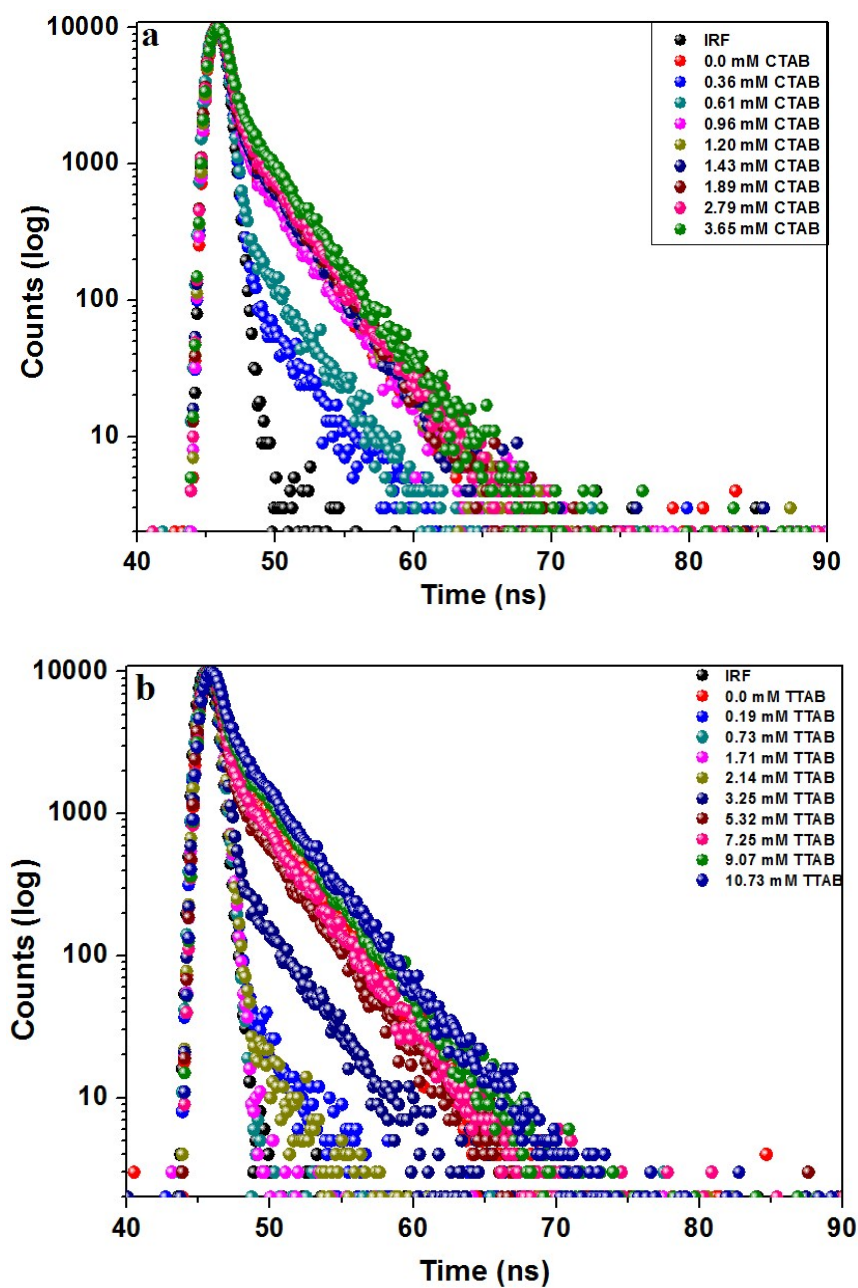
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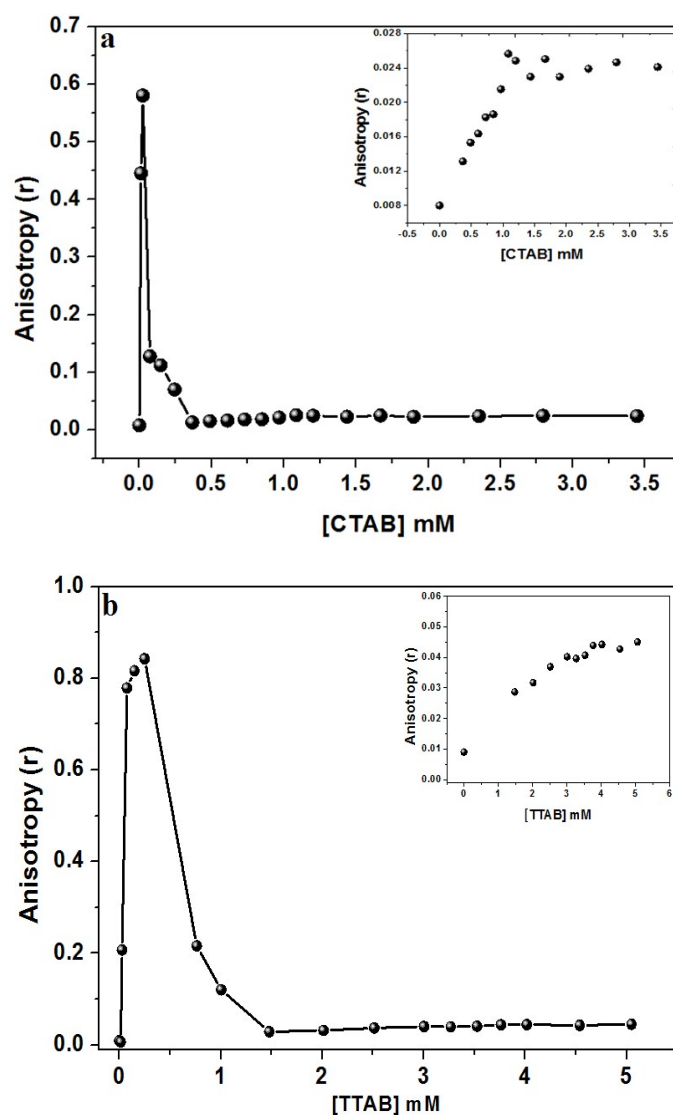
**Figure S1:** Absorption (a) and emission (b) spectra of ZNPcS<sub>4</sub> at 298 K with increasing concentration of SDS.



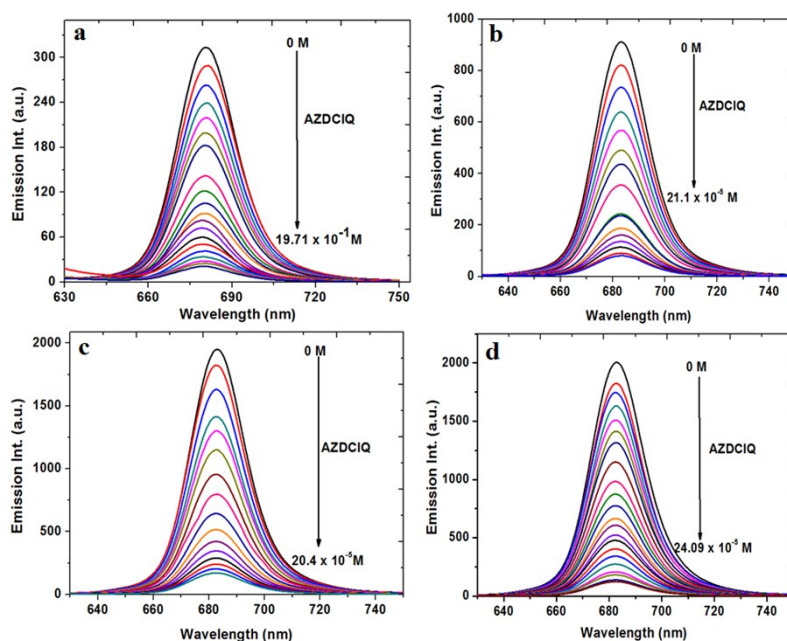
**Figure S2:** Absorption spectra of ZnPcS<sub>4</sub> in with increasing concentration of (a) TTAB (i to vi, 0.07 to 12.7 mM) and (b) DTAB (i to v, 0.07 to 26.53 mM) at 298 K.



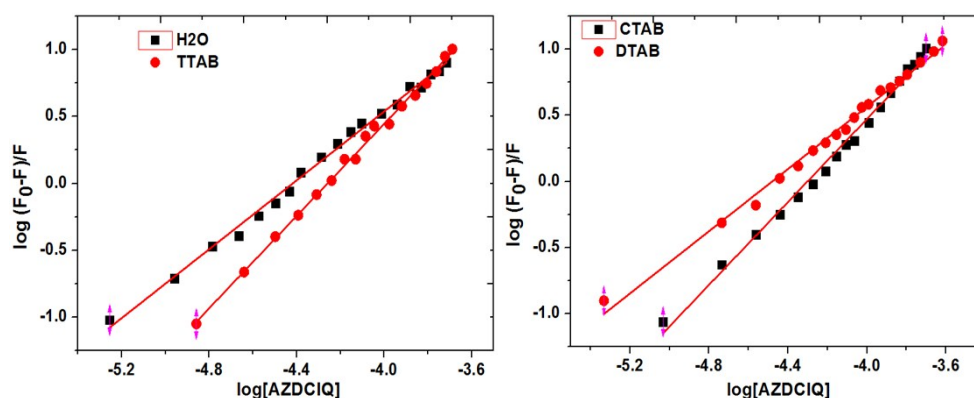
**Figure S3:** Fluorescence decay curve of ZnPcS4 in with increasing concentration of CTAB (a) and TTAB (b) at 298 K.



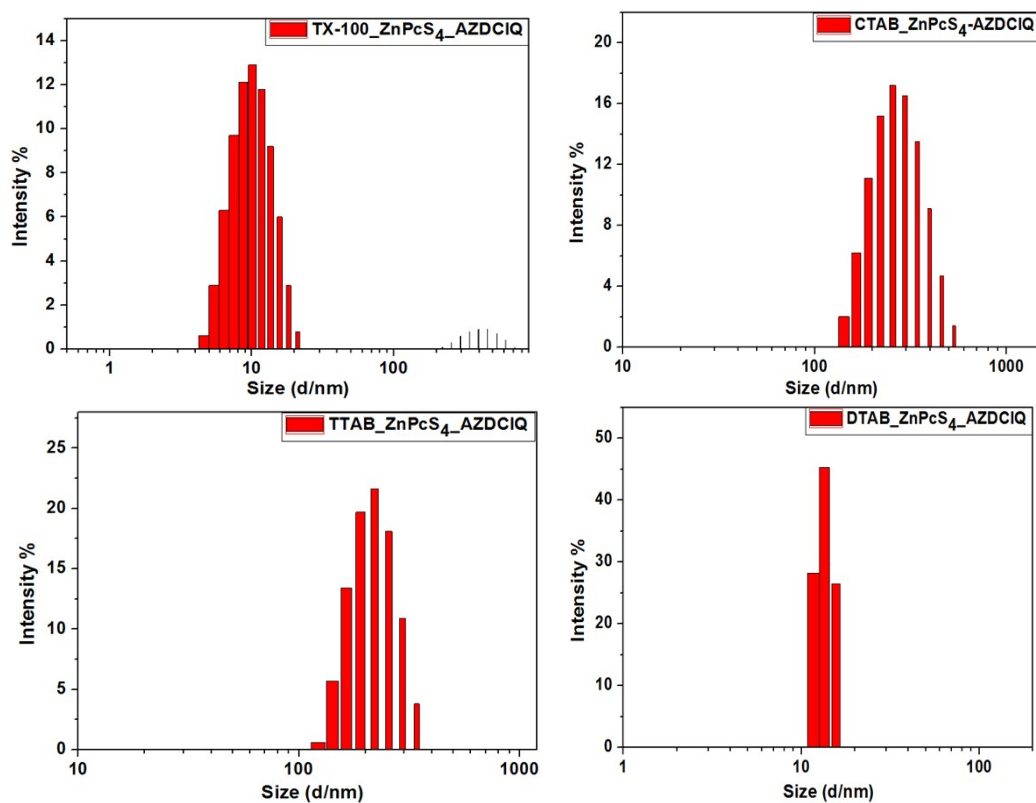
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**Figure S5:** Emission spectra of ZnPcS<sub>4</sub> ( $\lambda_{\text{ex}}$  at 344 nm) with increasing AZDCIQ in deaerated (a) H<sub>2</sub>O, (b) CTAB, (b) TTAB and (c) DTAB at 5.6 pH.



**Figure S6:** Plot of  $\log(F_0 - F)/F$  versus  $\log[\text{AZDCIQ}]$  for the determination of association constant ( $K_a$ ) of ZnPcS<sub>4</sub> and AZDCIQ in H<sub>2</sub>O, TATB, CTAB and DTAB at 5.6 pH. (association constant ( $K_a$ ) for H<sub>2</sub>O, TATB, CTAB and DTAB are  $4.48 \times 10^5 \text{ M}^{-1}$ ,  $2.14 \times 10^7 \text{ M}^{-1}$ ,  $5.56 \times 10^6 \text{ M}^{-1}$  and  $2.85 \times 10^5$  respectively).



**Figure S7:** Dynamic Light Scattering profile of different Micelle-ZnPcS<sub>4</sub>-AZDCIQ system; [TX-100] = 3.0 mM; [CTAB] = 3.65 mM; [TTAB] = 12.73 mM; [DATB] = 26.53 mM.