

## Electronic supplementary information (ESI)

### **Interaction between sodium dodecylsulfate (SDS) and pluronic (L61) in aqueous medium: assessment of the nature and morphology of the formed mixed aggregates by NMR, EPR, SANS and FF-TEM measurements**

G. K. S. Prameela,<sup>†</sup> B. V. N. Phani Kumar,<sup>‡</sup> J. Subramanian,<sup>†</sup> K. Tsuchiya,<sup>€</sup> A. Pan,<sup>‡</sup> V. K. Aswal,<sup>\*,¶</sup> M. Abe,<sup>€</sup> A. B. Mandal<sup>\*,†,§</sup> and S. P. Moulik<sup>\*,‡</sup>

<sup>†</sup>*Inorganic & Physical Chemistry Laboratory, CSIR – Central Leather Research Institute, Adyar, Chennai-600020, India. Tel: +91-44-24437126; Fax: +91-44-24911589;*

*E-mail: [abmandal@hotmail.com](mailto:abmandal@hotmail.com)*

<sup>‡</sup>*NMR, CATERS, CSIR – Central Leather Research Institute, Adyar, Chennai-600020, India. Tel: +91-44-24437126; Fax: +91-44-24911589;*

<sup>€</sup>*Research Institute for Science and Technology, Tokyo University of Science, 2641 Yamazaki, Noda, Chiba 278-8510, Japan.*

<sup>‡</sup>*Centre for Surface Science, Department of Chemistry, Jadavpur University, Kolkata 700032, India. Phone: +91-33-2414-6411; Fax: +91-33-2414-6266; E-mail: [spmcss@yahoo.com](mailto:spmcss@yahoo.com)*

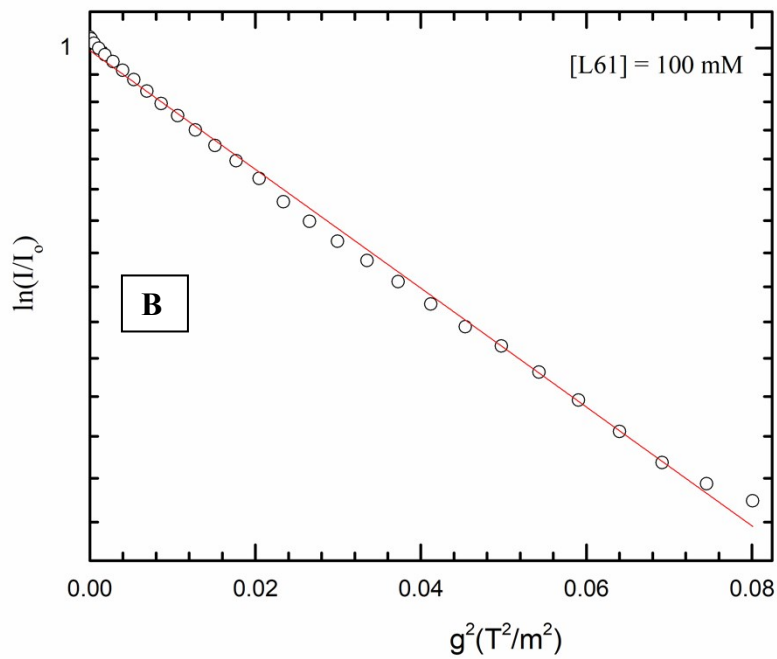
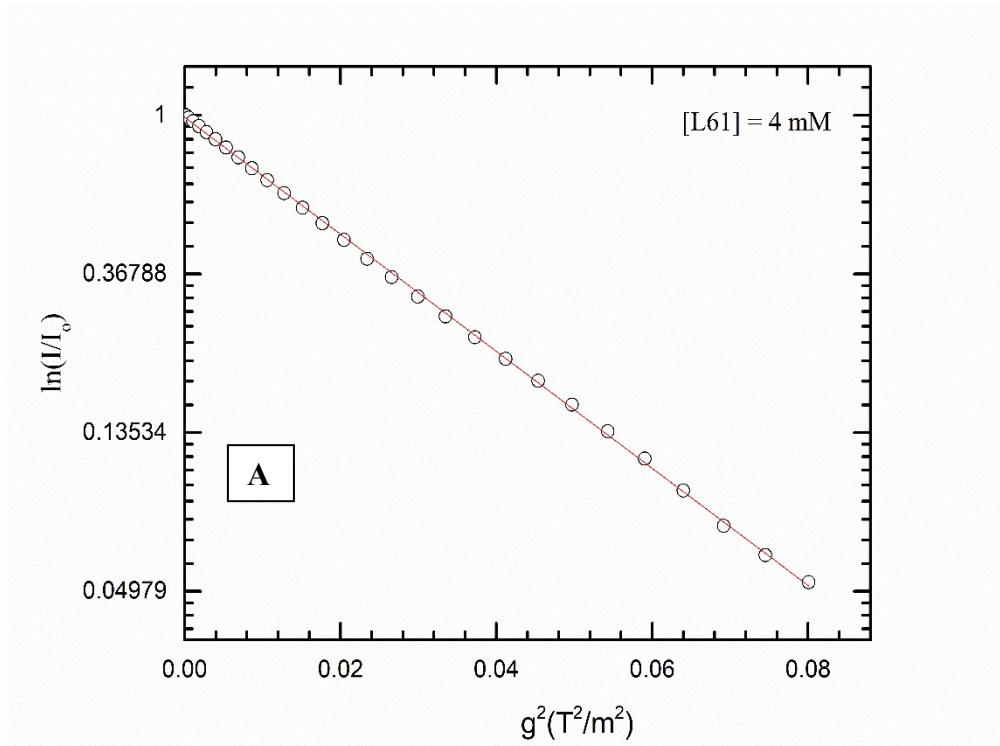
<sup>¶</sup>*Solid State Physics Division, Bhabha Atomic Research Centre, Trombay, Mumbai 400085, India.*

*E-mail: [vkaswal@barc.gov.in](mailto:vkaswal@barc.gov.in)*

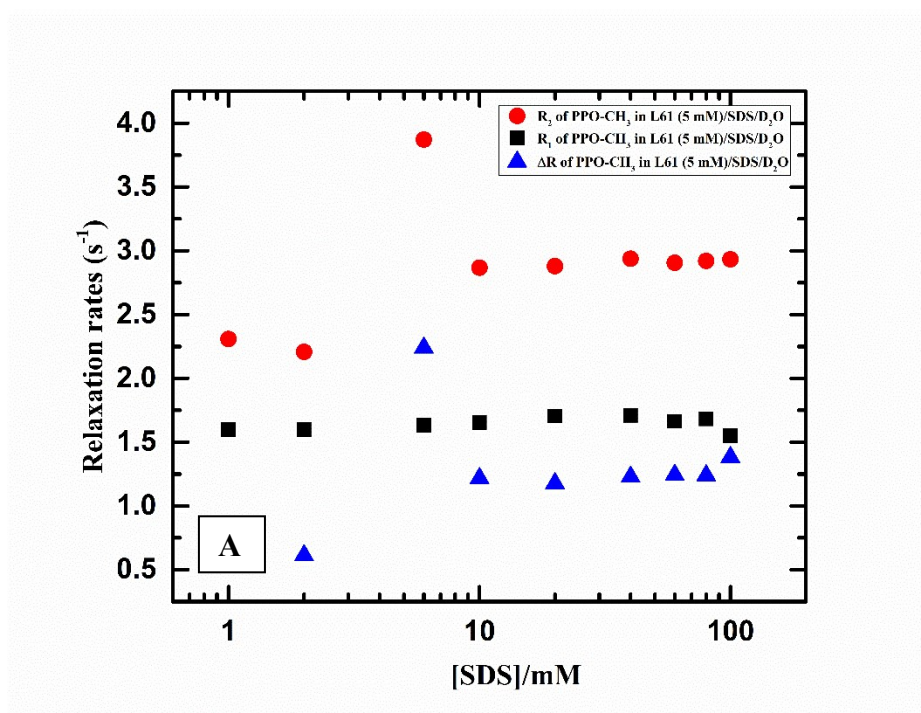
**Author for Correspondence:** [abmandal@hotmail.com](mailto:abmandal@hotmail.com); [abmandal@cgcric.res.in](mailto:abmandal@cgcric.res.in)

---

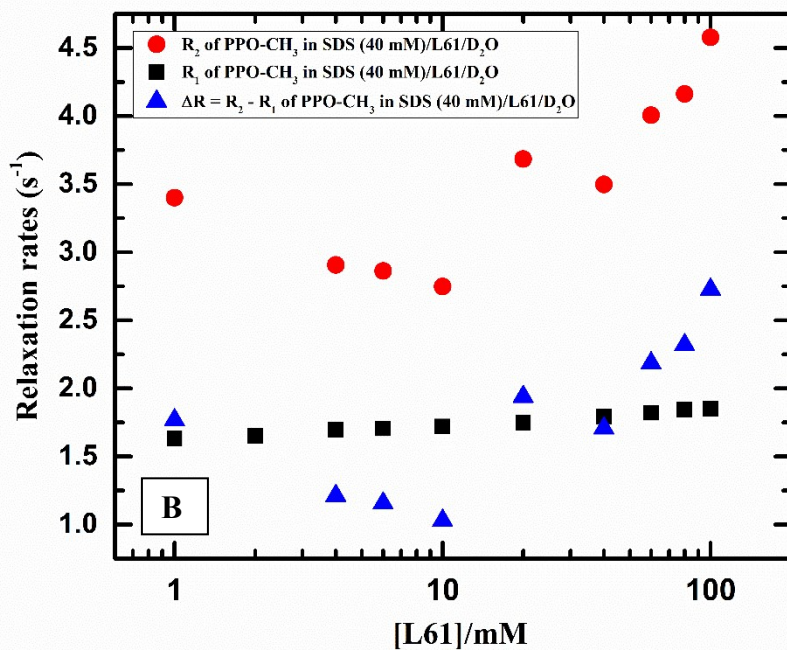
<sup>§</sup>Present address: CSIR-Central Glass and Ceramic Research Institute, Jadavpur, Kolkata – 700 032, India.



**Fig. S1:** Spin-echo attenuation decays for SDS (40 mM)/L61/D<sub>2</sub>O at 25°C: (A) [L61] = 4 mM (top) and (B) [L61] = 100 mM (bottom). The solid line represents the best fit of the experimental data described by the Stejskal-Tanner equation,  $I = I_0 e^{-kD}$ , where  $k = (\gamma_n \delta g)^2 (\Delta - \delta/3)$ .



**Fig. S2A:** Relaxation rates  $R_1$ ,  $R_2$ , and  $\Delta R$  of PPO-CH<sub>3</sub> of SDS/L61 (5 mM)/D<sub>2</sub>O (System-a) against [SDS].



**Fig. S2B:** Relaxation rates  $R_1$ ,  $R_2$ , and  $\Delta R$  of PPO-CH<sub>3</sub> of L61/SDS (40 mM)/D<sub>2</sub>O (System-b) against [L61].