

*Supporting Information for,*

## Influence of Charge on the Structure and Dynamics of Water Encapsulated in Reverse Micelles

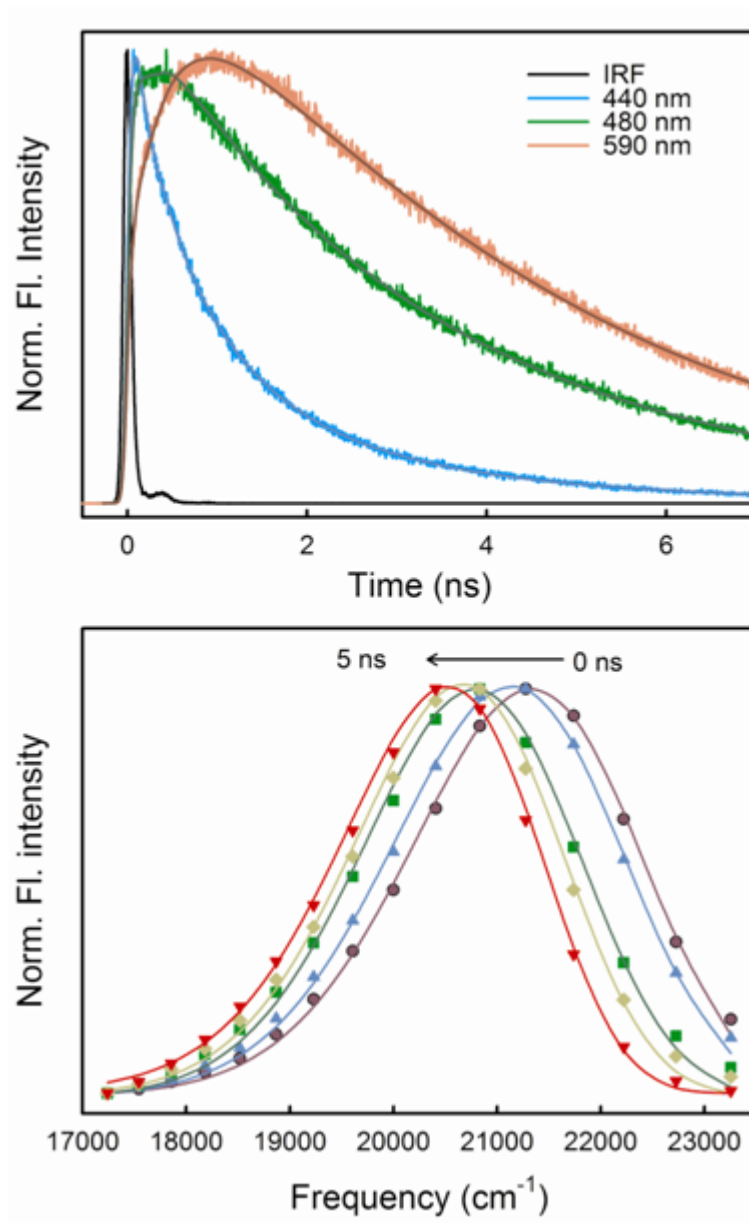
Animesh Patra<sup>1,†</sup>, Trung Quan Luong<sup>1,‡</sup>, Rajib Kumar Mitra<sup>†,\*</sup>  
and Martina Havenith<sup>‡,\*</sup>

<sup>†</sup> Department of Chemical, Biological and Macromolecular Sciences, S.N. Bose National Centre for Basic Sciences, Block JD, Sector III, Salt Lake, Kolkata 700098, India

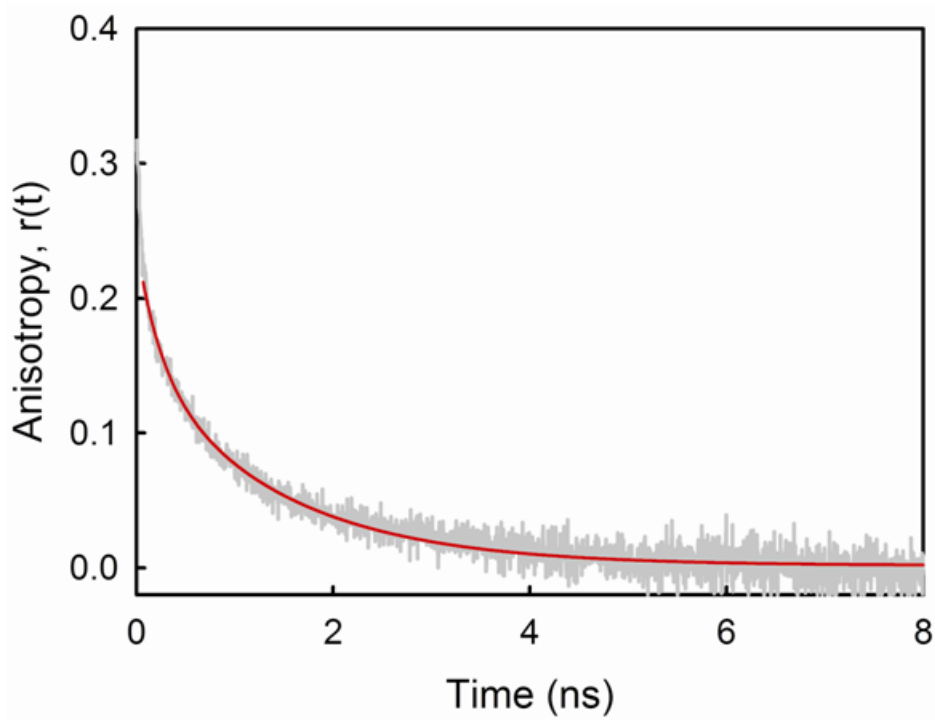
<sup>‡</sup> Department of Physical Chemistry II, Ruhr-University Bochum, 44780 Bochum, Germany

1. Contributed equally to this work.

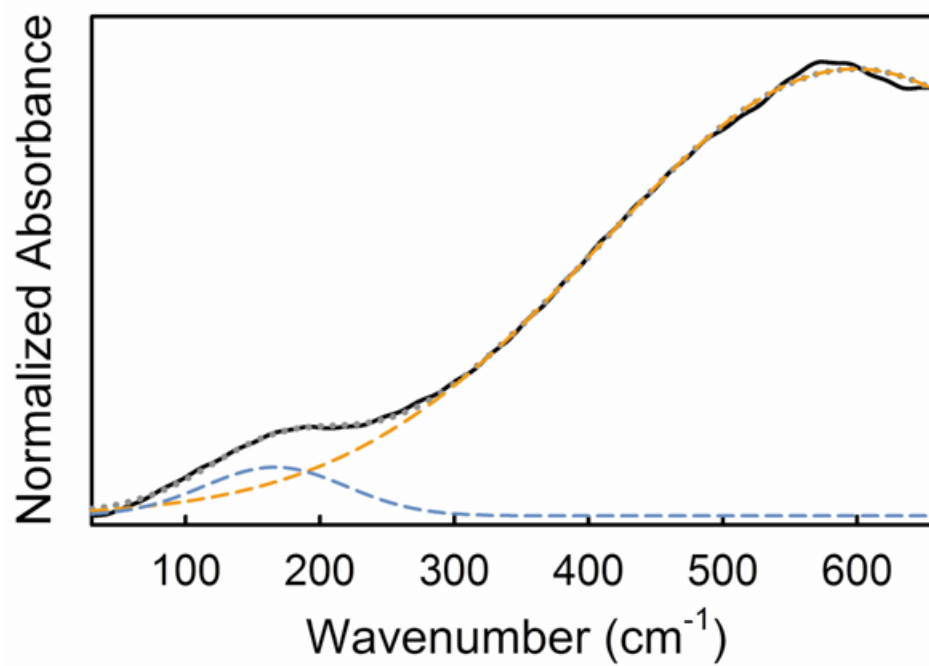
\*E-mail: [martina.havenith@rub.de](mailto:martina.havenith@rub.de); [rajib@bose.res.in](mailto:rajib@bose.res.in)



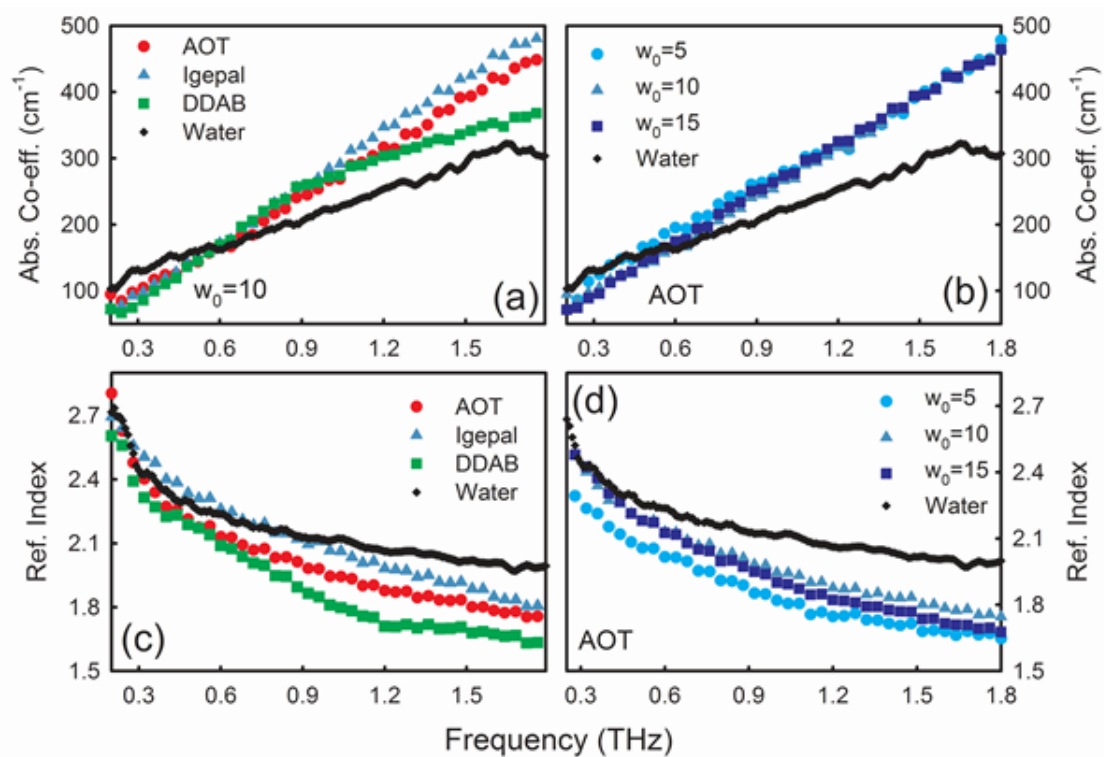
**Figure S1.** A representative fluorescence decay transient of C343 in AOT RM at  $w_0=10$ . The corresponding TRES is shown in the lower panel.



**Figure S2.** Anisotropy decay transient of C343 in AOT RM at  $w_0=10$ . The red line denotes a double exponential fit.



**Figure S3.** The deconvoluted FIR spectrum of AOT RM (black solid line). The grey dotted line is the overall fitted curve, the blue and orange broken lines are the two Gaussian decomposition curves designated as SB and LB, respectively.



**Figure S4.** (a) and (c) show absorption coefficient and refractive index as a function of frequency of water inside AOT, DDAB and Igepal RM at a hydration level of  $w_0=10$ . The same values for water have been given for comparison. (b) and (d) show absorption coefficient and refractive index as a function of frequency of water inside AOT RM for different level of hydration.