ADDITIONS AND CORRECTIONS

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Hsin-Chou Chiang and Aaron Lukton: Interaction of Sodium Dodecyl Sulfate with the Hydrophobic Fluorescent Probe, 2-*p*-Toluidinylnaphthalene-6-sulfonate.

We have to correct some of our data which was published in ref 1 as follows:

(1) The $\Delta H = -3.245$ kcal/mol should be changed to $\Delta H = -3.245$ kcal/mol $\times$ 2.303 = -7.473 kcal/mol.[2] Thus, the original ΔS values of Table II should be corrected as follows:

Temp, °C	Ionic strength of added salt		
	0	0.05	0.10
15	−10.10	−9.049	−7.753
25	−10.10	−8.963	−7.503
35	−9.946	−8.893	−7.685

Therefore, the SDS micelle–TNS interaction is exothermic and involves a negative entropy change. However, an increase in NaCl concentration increases the association constant for the interaction by increasing the positive entropy change, that is, as noted in the corrected Table II, that salt makes the ΔS value less negative. The conclusion that the SDS micelle–TNS interaction should be hydrophobic in nature is still valid. A similar ΔS value change has been observed for the interaction of TNS with phosphatidylcholine vesicle.[3]

(2) If cmc/$[M]_{total}$ > 5%, then eq 4 in ref 1 should be changed to

$$[Mn_{total}] = \frac{1}{n}([M]_{total} - cmc)$$

with the result that the $[M]_{total}$ term of eq 7 in ref 1 should be changed to ($[M]_{total}$ − cmc). Thus, the points of I at 1/SDS = 29.5 in Figure 5a–c (without NaCl) now fall on the lines. The ($[M]_{total}$ − cmc) = $[M]_{total}$ can be assumed when $[M]_{total}$ is very large, which was the case in the experiments of Figure 5a–e or when the cmc is very small so that the ratio is cmc/$[M]_{total}$ < 5%.

(3) Some of the cmc values in Table I are significantly smaller than the literature data cited, as noted in Birdi's comment in this issue of the Journal. Our results show that the higher the salt concentration, in the range 0.033–0.10 M, the greater the deviation of cmc values obtained by TNS fluorescent measurement as compared to other methods. One possible explanation is that at these ionic strengths, TNS may induce SDS oligomer formation resulting in SDS oligomer–TNS complexes, which show TNS fluorescence enhancement at the SDS concentrations lower than literature cmc values. However, SDS oligomer–TNS complexes do not represent SDS micelle–TNS complex. Higher salt concentrations may facilitate SDS oligomer formation by the effect of increasing the hydrophobic interaction of SDS monomer and TNS. The results would show larger deviations of the cmc values reaching a maximum effect at ionic strengths higher than 0.2 M.

In our study of TNS interacting with dodecyltrimethylammonium chloride (DoTAC) (unpublished data), we found that TNS could induce the formation of DoTAC oligomer–TNS complex and that DoTAC oligomer induced by TNS could be composed of more than three monomers. It should be noted here that TNS has been found to induce self-association of human luteinizing hormone[4] and human chorionic gonadotropin[5] respectively at the concentration ranging from 1.0×10^{-5} to 8.0×10^{-4} M. We find that the absorbance of TNS in the concentration range 1×10^{-5} to 1.2×10^{-4} M in 0.5 M NaCl still follows Beer's law (366 nm, ϵ 4.1×10^3)[6] and that there is no eximer formation detectable. Therefore, the possible formation of ground state or excited state dimer of TNS can be ruled out.

References and Notes

(1) H.-C. Chiang and A. Lukton, *J. Phys. Chem.*, **79**, 1935 (1975).
(2) We are grateful to Dr. A. Yoshimura of the Institute of Chemistry, Osaka University, for this correction.
(3) C. Huang and J. P. Charlton, *Biochemistry*, **11**, 735 (1972).
(4) K. C. Ingham, M. A. Saroff, and H. Edelhoch, *Biochemistry*, **14**, 4745 (1975).
(5) K. C. Ingham, H. A. Saroff, and H. Edelhoch, *Biochemistry*, **14**, 4751 (1975).
(6) W. O. McClure and G. M. Edelman, *Biochemistry*, **5**, 1908 (1966).

—H.-C. Chiang and A. Lukton

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Eli Grushka, E. J. Kikta, Jr., and H. T. Cullinan, Jr.: Binary Liquid Diffusion Prediction in Infinitely Diluted Systems Using the Ultimate Volume Approach.

Page 757. The data for octaphenone were omitted from Table II, causing a transposition of data between octaphenone data and heptaphenone. Also, the correlation coefficient for nonaphenone is in error. The corrected table should read as follows:

TABLE II: Data from the Linear Regression D_{ij}/RT Vs. $(\rho - \rho_0)$ Forced through the Origin

Compound	$10^{15}S$	Corr coef	F test	10^{-16} a_{ij}
Acetophenone	−8.71	0.992	251	5.17
Propiophenone	−8.11	0.993	274	5.56
n-Butyrophenone	−7.63	0.986	177	5.90
Isobutyrophenone	−6.96	0.995	438	6.47
Valerophenone	−6.96	0.993	278	6.47
Isovalerophenone	−6.51	0.996	531	6.92
Hexaphenone	−6.64	0.994	351	6.78
Heptaphenone	−6.41	0.997	580	7.08
Octaphenone	−6.18	0.998	917	7.29
Nonaphenone	−5.94	0.998	1140	7.58
Decaphenone	−5.74	0.996	450	7.85
Myristophenone	−5.53	0.996	558	8.15
Benzene	−16.04	0.999	1491	2.81

It should be noted that the headings in Tables II and III which read $10^{16}a_{ij}$ should read $10^{-16}a_{ij}$.

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