## Role of Electrostatic and Hydrophobic Forces in the Interaction of Ionic Dyes with Charged Micelles

Sonia Freire, Jorge Bordello, Daniel Granadero, Wajih Al-Soufi and Mercedes Novo\*

Departamento de Química Física, Facultade de Ciencias, Universidade de Santiago de Compostela, E-27002 Lugo, Spain.

Corresponding author: e-mail: m.novo@usc.es . Tel.: + (34) 982 285871. Fax: + (34) 982 285872



**Figure 1S.** Variation of the molar absorptivity at two selected wavelengths with the concentration of micelles of the nonionic surfactant  $C_{12}E_7$ . Symbols are the experimental data and lines are the fitted curves. The lower graph shows the corresponding residuals.



**Figure 2S.** Variation of the fluorescence intensity at two selected wavelengths with the concentration of micelles of the nonionic surfactant  $C_{12}E_7$ . Symbols are the experimental data and lines are the fitted curves. The lower graph shows the corresponding residuals.



**Figure 3S.** Variation of the molar absorptivity at two selected wavelengths with the concentration of micelles of the cationic surfactant DTAB. Symbols are the experimental data and lines are the fitted curves. The lower graph shows the corresponding residuals.



**Figure 4S.** Variation of the fluorescence intensity at two selected wavelengths with the concentration of micelles of the cationic surfactant DTAB. Symbols are the experimental data and lines are the fitted curves. The lower graph shows the corresponding residuals.



**Figure 5S.** Variation of the molar absorptivity at two selected wavelengths with the concentration of micelles of the anionic surfactant SDS. Symbols are the experimental data and lines are the fitted curves for the concentration ranges analyzed. The lower graph shows the corresponding residuals.



**Figure 6S.** Variation of the fluorescence intensity at two selected wavelengths with the concentration of micelles of the anionic surfactant SDS. Symbols are the experimental data and lines are the fitted curves for the concentration ranges analyzed. The lower graph shows the corresponding residuals.



**Figure 7S.** "Pure" absorption (upper graph) and emission (lower graph) spectra of the ion pairs  $D^+S^-$  formed by R123 with the anionic surfactants SDS and LAS compared to the spectra of free R123 in aqueous solution.



**Figure 8S.** "Pure" absorption and fluorescence emission spectra of R123 in aqueous solution (black lines) and R123 bound to micelles of different types: nonionic (red lines), cationic (green lines) and anionic (blue lines) as obtained from PCGA (see text).