Manuscript Title: **"Solvent, Substituents and pH Effects towards the Spectral Shifts of some highly colored Indicators"**

Submitted to: Journal of the Serbian Chemical Society

Thank you for your reply regarding our first submission and we did consider ALL the authors instructions as understood and the paper NOW is in order and is uploaded as a new manuscript and we hope that it is acceptable for further steps. However, if you or the referees are of the opinion that further changes are required, please do not hesitate to contact me immediately with ALL respect.

**Scientific motivation & relevance to the stated scope of the journal**

In our group, this article is part of a continuing investigation of solution chemistry and the properties of compounds containing azo chromophoric group in different solvents. Most of these compounds on the treatment of their application, they must dissolve in the proper solvent. Besides, their dissociation constant (p*K*a) is an important physicochemical parameter in the biophysical characterization of using azo dyes as drugs and may be helpful in predicting the behavior of a drug under *in* *vivo* conditions.

In the present work, we aimed to throw light on the solvents effect on the absorption spectra of highly colored indicators (Sudan orange, Alizarin Yellow G, Aurin Tricarboxylic acid, Alizarin yellow GG, Titan yellow and Eriochrome black-T) in the visible and UV region as a new study where no publication exist to our knowledge. These indicators are well selected to have different substituents where their effect on spectral shifts is tested. Also, the UV/Vis absorption spectral shifts are analyzed by multiple regression analysis and Kamlet-Taft's equation. The observed solvatochromism was found to depend on the presence of donor and acceptor substituents in the conjugated systems of the indicator and the physical properties of the solvent molecules.

Also, the UV–Vis absorption spectra of the indicators were investigated in aqueous buffer solutions of different pH. The dissociation constants (p*K*a) of the investigtated indicators were precisely assessed – by the described methods for the first time - that is in contrast to literature where wide ranges of pH are given for their colour change.

*Previous publication from our group in Journal of the Serbian Chemical Society*: M.S. Masoud, A.M. Hafez, M.Sh. Ramadan, A.E. Ali, *J. Serb. Chem. Soc.* **67** (2002) 833-842.

THANK YOU

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