

Interactive comment on “Linking dissolved organic matter composition to metal bioavailability in agricultural soils: effect of anionic surfactants” by M. C. Hernandez-Soriano and J. C. Jimenez-Lopez

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Comments: I read the paper. One important issue is needed to discuss in this issue. First of all, authors used a term “organic ligand” and also DOM, when we consider DOM, there should be no organic ligand, it should be functional groups bound in DOM. If author consider “organic ligand” it should be counted in inorganic chemistry, not in aquatic or soil DOM. This should be one important issue that should be clarified.

Another important mistake of this paper is misinterpretation of the fluorescence

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(excitation-emission matrix) spectroscopy (EEMS). Authors need to study well about EEMS in aqueous FDOM overall, not only one specific paper. Author can use parallel factor (PARAFAC) for separate the fluorescent components in soil DOM. For your understanding, EEMS can not distinguish “the reduced quinone-like component”. This is a functional group in humic acids or fulvic acids. So authors need to use PARAFAC to distinguish the humic acids or fulvic acids in soil DOM. Then then they can argue that soil DOM is composed of soil humic acids or fulvic acids. Further, if you would not like to use PARAFAC in your study, you can simply say, humic-like components with two fluorescence peaks (Peak C and Peak A). For your better understanding I have provided one reference below.

Another “fluorescence components” should be used “fluorescent components” throughout the manuscript.

Author can read the following reference paper for better understanding between DOM and metals which can be applicable to soils. [Reference: Mostofa KMG, Liu CQ, Yoshioka T, Vione D, Zhang YL, Sakugawa H (2013) Fluorescent dissolved organic matter in natural waters. In: Mostofa KMG, Yoshioka T, Mottaleb A, Vione D (Eds), Photo-biogeochemistry of Organic Matter: Principles and Practices in Water Environments, Springer, New York, Chapter 6, pp 429-559

Mostofa KMG, Wu FC, Liu CQ, Yoshioka T, Sakugawa H, Tanoue E (2011) Photochemical, microbial and metal complexation behavior of fluorescent dissolved organic matter in the aquatic environments (Invited review). *Geochemical Journal* 45:235-254]

Thank you.

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