**Itemized Response to the Comments**

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**Article Title:** Mass transfer process study of Fe (III) extraction from ammonium dihydrogen phosphate solution

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Response to the Comments from Reviewer A:

The paper is interesting, it gives an overview of the influence of several parameters in the new Fe (III) extraction process, but some details need to be corrected before publication.

1. For all abbreviations used in the text, the full name of the component must be given when using the abbreviation for the first time (for example, MAP line 8, D2EHPA line 12 …)

***>>>*Re:** Thanks for your comment. We fully agree with the reviewer’s suggestion. We have added the full name of MAP and D2EHPA in the abstract.

1. Row 60 has typing errors.

>>>Re: Thanks for your careful review. But we don’t find the spelling errors on line 60.

In equation 4. the term log(K c) must be clearly written, as it is currently written it appears that C is a sub-script of K.

>>>Re: Thanks for your careful review. We have corrected this mistake.

1. In the comment of Figure 3, based on the slope of the line of 0.263, it was concluded that a chelate complex [FeA3·HA] is formed in the reaction. It is necessary to further explain on what basis this conclusion is drawn.

>>>Re: Thanks for your comment. We find a mistake in equation 5, which has now been corrected. According to figure 3, the value of m is 0.263, and the approximate value of m is 0.25.Since m is the number of solvent molecules in the extraction complex D2EHPA, m equal to 0.25 means that an iron ion can replace 0.25 hydrogen ions from an HA molecule, that is, an iron ion can replace 1 hydrogen ion from 4 HA molecules. Therefore, the chelate complex of (FeH3A4)2+(o) can be obtained. A similar mechanism is mentioned in the following references:

J. H. Luo, J. L, X. X. Duan, Y. Jin, *Ind. Eng. Chem. Res.* **52** (2013) 4306-4311 (<http://doi.org/10.1021/ie3031899>)

1. The influence of several parameters on the kinetics of Fe (III) extraction was investigated in the paper. The impact of each of the tested parameters should be added to the conclusion of the paper.

>>>Re: Thanks for your comment. We fully agree with the reviewer’s suggestion. We have added the impact of each of the tested parameters to the conclusion of the paper.

Response to the Comments from Reviewer B:

1. The temperature shown below the diagram is 243 K, should be 343 K.

>>>Re: Thanks for your careful review. We have corrected these mistakes.

1. unit on ordinate should be mol / l?

>>>Re: Thanks for your comment. The unit on ordinate in Fig. 4, 6, 8, 10 and 12 represents the concentration of iron ions per minute on the unit interface area.