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## Investigation and alleviation of mutual interference of Fe<sup>2+</sup> and PO<sub>4</sub><sup>3-</sup> ions by protonation (Article) [\(Open Access\)](#)

Darade, S.S.<sup>a</sup> [✉](#), Bandela, N.N.<sup>b</sup>

<sup>a</sup>Department of Environmental Science, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, MS 431004, India

<sup>b</sup>Hindustan Organic Chemicals Limited, Rasayani, MS 410207, India

### Abstract

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Mutual interference of iron and phosphates in the spectrophotometric estimation process is a result of the strong bond in the iron phosphate complex. The interference of these two ions can be successfully overcome by the isolation of the two ions. The present investigation was carried to study the mutual interferences of iron and phosphates in the spectrophotometric analysis. Complexing both Fe and PO<sub>4</sub> ions in the form of Fe-P complex were done for isolating the Iron and phosphate radicals from other interferences. Whereas to avoid the interference of Fe in PO<sub>4</sub> estimation, AlPO<sub>4</sub> complex was formed. This triggered the idea to pre-concentrate the two ions by protonation using a strong acid. The results obtained justified the need for isolation of Fe<sup>2+</sup> and PO<sub>4</sub><sup>3-</sup>. This study provides an exact estimation of Fe<sup>2+</sup> at pH 1.5. The results obtained were statistically correlated by Pearson's correlation coefficient and the results were statistically significant at p value 0.01. © RASAYAN. All rights reserved.

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