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Removal of interferences in ICP/MS using deuterium as a collision gas

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The use of collision cell in ICP/MS has brought the removal of isobaric interferences in Ar ACP/MS especially for the species related to Ar background such as Ar dimers and Ar related molecular species. Determination of Fe or Se has been limited because of those interferences. However, the use of collision cell can eliminate or reduce molecular interferences. Hydrogen or Helium has been used as a collision gas. Different approaches such as reaction cell could be introduced instead of collision by using more reactive gases such as ammonia. However, the introduction of hydrogen in the collision cell does react with sample elements and produce molecular species to some degree. Matrix such as Br could react with hydrogen to make BrH to interfere on the determination of Se. The use of deuterium can

alleviate this problem. The accuracy and precision could be improved by the use of deuterium especially for the complex matrix samples. Details of the improvement of complex matrixed sample such as oyster will be discussed.

Biography

Yong-Nam Pak has completed his PhD in Analytical Chemistry by University of Missouri. He has worked as Professor of Department of Chemistry at Korea National University of Education. He has published more than 80 papers in reputed journals and has serving as a Vice President of Korea Analytical Science and Technology.

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