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Inductively Coupled Plasma Mass Spectrometry (ICP-MS) Determination of Uranium Content in Salt Lake Water

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Abstract: The precision, accuracy and recovery of direct dilution method and matrix matching method used to determine trace uranium in the brackish water were comparatively analyzed by using inductively coupled plasma mass spectrometry (ICP-MS). The results show that the linear correlation coefficients of uranium standard curve for the two methods are greater than 0. 999 9. Meanwhile, the accuracies and recoveries of the two methods can meet the requirement of sample determination. The two methods can be used for determining trace uranium in salt lake water. The stability and reproducibility of matrix matching method are better than direct dilution method. So the matrix matching method is more suitable for determination of trace uranium content in salt lake.

Key words: Uranium; ICP-MS; Salt lake water; Direct dilution method; Matrix matching method

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