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海洋沉积物中的钒、钼、铊、镓及其环境指示意义 [点此下载全文](#)

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摘要:

研究探讨沉积物中钒、钼、铊和镓的生物地球化学行为对揭示海洋环境演变机制有重要的科学意义, 基于此考虑, 本文系统分析总结了近年来海洋沉积物中V、Mo、Tl和Ga的地球化学特征以及与环境关系的研究进展, 以期对深入开展环境敏感微量元素海洋生物地球化学有所裨益。结果表明, 由于受人为输入的影响, 近海沉积物中V、Mo、Tl和Ga含量高于远海, 河口高于近海; 在表层沉积物中, 细颗粒沉积物中V、Mo、Tl和Ga含量高于粗颗粒中的, 且其含量与物源、有机质含量等沉积环境因素密切相关; 在垂直分布上, 随沉积物深度的增加, V、Mo、Tl和Ga含量趋于降低, 表明近几十年来, 随人为影响的加剧, 海洋作为地球上物质的汇获得了比以前更多的V、Mo、Tl和Ga。由此可见, 在水平方向上, 海洋沉积物中V、Mo、Tl和Ga的丰度可表明输入物源的特性, 而在柱状样中的垂直分布, 则能够表征历史年代上V、Mo、Tl和Ga沉积量的差异。由于沉积物中V、Mo、Tl和Ga的性质比较稳定, 它们在一定程度上可以揭示和表征海洋环境演变的讯息, 追溯海洋环境演变的历史以及预测将来的发展趋向。

关键词: [钒](#) [钼](#) [铊](#) [镓](#) [环境指示意义](#) [海洋沉积物](#)

V, Mo, Tl, Ga and Their Environmental Marker Function in Marine Sediment [Download Fulltext](#)

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Abstract:

The biogeochemical behaviors of V, Mo, Tl and Ga have precious values on studying environmental evolution. In this paper the geochemical characteristics of V, Mo, Tl and Ga in marine sediments was reviewed and the progress on the study of their relationships with sedimentary environment was reported through analyzing the documents published in recent years. The analysis results showed that the contents of V, Mo, Tl and Ga in the sediment of the same sea area were in the sequence as followed: estuarine > inshore > offshore due to the influences of human activities. In surface sediments, the concentrations of V, Mo, Tl and Ga in fine grain size were higher than that in coarse grain size; moreover, they were also related to material sources and the contents of organic matter strongly. In vertical profiles, the contents of V, Mo, Tl and Ga were high in the surface sediments and then decreased with the depth, suggesting that the outputs of V, Mo, Tl and Ga have been increasing with the aggravating of the human activities in the past decades. Consequently, the variations of V, Mo, Tl, Ga contents in the horizontal profiles can indicate the characteristics of material source, and can denote the historical differences in sedimentation fluxes in the vertical profiles. Due to their stable characteristics, V, Mo, Tl and Ga can be used to reveal and mark the environmental evolution to some extent.

Keywords: [vanadium](#) [molybdenum](#) [thallium](#) [gallium](#) [environmental marker function](#) [marine sediment](#)

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