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Removal and Separation of Noble Metal Ions Using Ion Exchange and Solvent Extraction

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Message from the Guest Editors

The noble metals are highly resistant to oxidation and do not readily dissolve. Except for gold, most are typically found in nature as sulfides. Another source of these metals is the recycling industry, where end-of-life metals or alloys are reclaimed and reused. Following the extraction process, these metals need to be separated from other impurities, a task accomplished through various technologies, including electrowinning, chemical precipitation, and, more recently, ion exchange as well as solvent extraction. Recent developments in ionic liquids and deep eutectic solvents have opened new avenues for extracting and separating these metals using modern techniques.

This Special Issue presents research in ion exchange as well as solvent extraction for selectively recovering noble metals from their associated impurities. Additionally, it seeks to delve into the comprehensive analysis of the thermodynamic as well as kinetic aspects of ion exchange and solvent extraction processes. Review articles are invited but are expected to demonstrate salient guides to new and novel approaches in addition to a forward-looking direction for future investigations.

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Message from the Editor-in-Chief

Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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