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## Design and development of novel reagents for rapid and selective extraction and separation of selected precious metals

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The future viability of separation science and technology depends greatly on addressing all aspects of new trends. The R&D effort on the partitioning is presently concentrated on development and improvement of innovative extractants as alternative technologies. However, employment of new reagents and development of new processes must be reconciled with 21st century expectations for environment protection. Solvent extraction is a hydrometallurgical technique for recovery of precious metals with simple process and good separation.

Recently, the separation of precious metals has become very important due to rapidly growing demand of the metals in the field of electronic devices, autocatalysis, etc. Nowadays, various ligands have been developed for this purpose. However, these ligands suffer several limitations like slow kinetics of extraction, low solubility, poor decontamination factor, pH sensitivity and instability in acidic medium. We have recently designed and developed a new extractant (S) donor reagents name thiodiglycolamides for precious metal separation. The effects of various experimental parameters have been studied to establish the optimum conditions for the extraction and separation of these metals.

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