

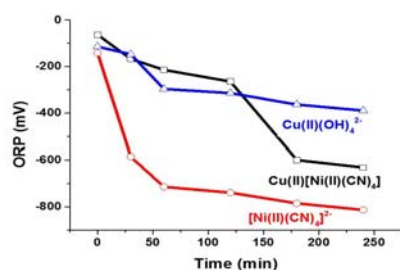
TiO₂ cathode for selective generation of Cu¹⁺ in Cu^{II}[Ni^{II}(CN)₄]¹⁻ towards gaseous CF₄ removal in an electro-scrubbing

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The present investigation focuses on removal of gaseous CF₄ using electrogenerated Cu(I)[Ni(II)(CN)₄]¹⁻ in KOH medium. At a first sight, the following figure shows the reduction of Cu²⁺ and Ni²⁺ selectively on TiO₂ electrode through their oxidation/reduction potential (ORP) during electrolysis. On the basis of this result, Cu²⁺ can be reduced to Cu¹⁺ and its electrocatalytic removal of CF₄ was investigated. Additionally, with the help of reduction efficiency, CV and online FTIR analyzer, results, the removal of CF₄ was confirmed.



Key words: Homogeneous mediator, Ni(II)(CN)₄²⁻, MER, degradation, Gaseous CF₄.