

عنوان مقاله:

A delve into the exploration of potential bacterial extremophiles used for metal recovery

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خلاصه مقاله:

A multitude of microbes are involved in the solubilisation of minerals and metals as this approach offers numerous advantages over traditional methods. This strategy is preferred as it is ecofriendly and economical, thus overcoming the drawbacks of the traditional approach of pyrometallurgy. Many different types of bacteria are employed in the process of Bioleaching, which are collectively grouped under chemolithotrophs, as they derive their energy from inorganic compounds. Bioleaching is the mobilization of metal cations from insoluble ores by microorganisms. All chemolithotropic bacteria are extremophiles since they have the ability to survive in extreme conditions. They carry out the process of Bioleaching through three mechanisms: Indirect, contact/ direct and cooperative bioleaching. This review gives a sneak peek into the different strains of chemolithotrophs which are used in bioleaching, and somerecent work in the field. It also gives an insight into the general process and mechanism of Bioleaching, the study of which will pave way for developing better and efficient industrial bioleaching operations

کلمات کلیدی:

Acidithiobacillus; Bioleaching; Chemolithotrophs; Leptospirillum; Metal recovery mechanism; Minerals

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