عنوان فارسی مقاله:
Acidithiobacillus caldus گوگرد زدایی زیستی زغال سنگ با
و تحلیل اثرات متقابل سطحی بین سلول ها و پیریت

عنوان انگلیسی مقاله:
Biodesulfurization of coal with Acidithiobacillus caldus
and analysis of the interfacial interaction between cells and pyrite
4. Conclusion

Acidophilic and thermophilic strain *A. caldus* was firstly used for biodesulfurization of coals. The final results showed it achieved pyritic desulfurization and total desulfurization was about 47% and 19%, respectively. After processed for 40 d, the cells attached to the surface of pyrite and there was clear corrosion on the mineral surface. Moreover, the cells grown on different sulfur containing substrates presented distinct surface characteristics. In contrast, the cells grown on pyrite and elemental sulfur had more hydrophilic functional groups than thiosulfate. The elemental sulfur was the main sulfur speciation occurring in the coal pyrite bioleaching but no other secondary mineral components were detected.