

Recent Publications

2010

Bevilaqua, D., O. Garcia Jr., and O.H. Tuovinen. 2010. Oxidative dissolution of bornite by *Acidithiobacillus ferrooxidans*. *Process Biochemistry* 45:101-106.

Bhatti, T.M., J.M. Bigham, M. Riekkola-Vanhanen, and O.H. Tuovinen. 2010. Altered mineralogy associated with stirred tank bioreactor leaching of a black schist ore. *Hydrometallurgy* 100:181-184.

Bhatti, T.M., J.M. Bigham, A. Vuorinen, and O.H. Tuovinen. 2011. Weathering of phlogopite in simulated bioleaching solutions. *International Journal of Mineral Processing* 98:30-34.

Bigham, J.M., F.S. Jones, B. Özkaya, E. Sahinkaya, J.A. Puhakka, and O.H. Tuovinen. 2010. Characterization of jarosites produced by chemical synthesis over a temperature gradient from 2 to 40 °C. *International Journal of Mineral Processing* 94:121-128.

Carver, S.M., R. Lepistö, and O.H. Tuovinen. 2010. Hydrolysis and metabolism of cellulose by an anaerobic, thermophilic consortium. In: *Proceedings of the Third Conference on Energy from Biomass and Waste*. International Waste Working Group, CISA – Environmental Sanitary Engineering Centre, Padova, Italy, Paper 436, 9 p.

Gaur, R.S., L. Cai, O.H. Tuovinen, and K.M. Mancl. 2010. Pretreatment of turkey fat-containing wastewater in coarse sand and gravel/coarse sand bioreactors. *Bioresource Technology* 101:1106-1110.

Gramp, J.P., J.M. Bigham, and O.H. Tuovinen. 2010. Formation of Fe-sulfides in cultures of sulfate-reducing bacteria. *Journal of Hazardous Materials* 175:1062-1067.

Kupka, D., M. Liljeqvist, P. Nurmi, J.A. Puhakka, O.H. Tuovinen, and M. Dopson. 2010. Oxidation of elemental sulfur, tetrathionate and ferrous iron by the psychrotolerant *Acidithiobacillus* strain SS3. *Research in Microbiology* 160:767-774.

Lakaniemi, A.-M., O.H. Tuovinen, and J.A. Puhakka. 2010. Biological production of H₂, CH₄ and electricity from microalgal biomass. In: *Proceedings of the 12th World Congress of Anaerobic Digestion*. International Water Association, Guadalajara, Mexico, Paper 5236, 4 p.

Nurmi, P., B. Özkaya, K. Sasaki, A.H. Kaksonen, M.L. Riekkola-Vanhanen, O.H. Tuovinen, and J.A. Puhakka. 2010. Biooxidation and precipitation for iron and sulfate removal from heap bioleaching effluent streams. *Hydrometallurgy* 101:7-14.

Nurmi, P., B. Özkaya, A.H. Kaksonen, O.H. Tuovinen, and J.A. Puhakka. 2010. Predictive modelling of Fe(III) precipitation in iron removal process for bioleaching circuits. *Bioprocess and Biosystems Engineering* 33:449-456.

Sasaki, K., K. Takatsugi, K. Kaneko, N. Kozai, T. Ohnuki, O.H. Tuovinen, and T. Hirajima. 2010. Characterization of secondary arsenic-bearing precipitates formed in the bioleaching of enargite by *Acidithiobacillus ferrooxidans*. *Hydrometallurgy* 104:124-131.

Tao, J., K.M. Mancl, and O.H. Tuovinen. 2010. Attenuation of organic matter, suspended solids, ammonium and phosphate in sanitary sewer overflow: Comparative evaluation of treatment with fixed media bioreactors. *Bioresource Technology* 101:1781-1786.

Vestola, E.A., M.K. Kuusenaho, H.M. Närhi, O.H. Tuovinen, J.A. Puhakka, J.J. Plumb, and A.H. Kaksonen. 2010. Acid bioleaching of solid waste materials from copper, steel and recycling industries. *Hydrometallurgy* 103:74-79.

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Bhatti, T.M., J.M. Bigam, A. Vuorinen, and O.H. Tuovinen. 2011. Weathering of biotite in *Acidithiobacillus ferrooxidans* cultures. *Geomicrobiology Journal* 28:130-134.

Carver, S.M., C.J. Hulatt, D.N. Thomas, and O.H. Tuovinen. 2011. Thermophilic, anaerobic co-digestion of microalgal biomass and cellulose for H₂ production. *Biodegradation* 22:805-814.

Carver, S.M., U. Münster, and O.H. Tuovinen. 2011. A solid phase extraction technique for HPLC analysis of short chain fatty acid fluxes during microbial degradation of plant polymers. *Journal of Liquid Chromatography and Related Technologies* 34:1546-1555.

Carver, S.M., P. Vuoriranta, and O.H. Tuovinen. 2011. A thermophilic microbial fuel cell design. *Journal of Power Sources* 196:3757-3760.

Kaksonen, A.H., L. Lavonen, M. Kuusenaho, A. Kolli, H. Närhi, E. Vestola, J.A. Puhakka, and O.H. Tuovinen. 2011. Bioleaching and recovery of metals from final slag waste of the copper smelting industry. *Minerals Engineering* 24:1113-1121.

Lakaniemi, A.-M., C.J. Hulatt, D.N. Thomas, O.H. Tuovinen, and J.A. Puhakka. 2011. Biogenic hydrogen and methane production from *Chlorella vulgaris* and *Dunaliella tertiolecta* biomass. *Biotechnology for Biofuels* 4:34.

Rismani-Yazdi, H., A.D. Christy, S.M. Carver, Z. Yu, D.A. Dehority, and O.H. Tuovinen. 2011. Effect of external resistance on bacterial diversity and metabolism in microbial fuel cells. *Bioresource Technology* 102:278-283.

Tao, J., K.M. Mancl, and O.H. Tuovinen. 2011. A low cost, low energy sanitary sewer overflow treatment technology: fixed media bioreactors. *Water Environment Research* 83:714-721.

2012

Bhatti, T.M., J.M. Bigham, A. Vuorinen, and O.H. Tuovinen. 2012. Chemical and bacterial leaching of metals from black schist sulfide minerals in shake flasks. *International Journal of Mineral Processing*, 110–111:25–29.

Bhatti, T.M., A. Vuorinen, and O.H. Tuovinen. 2012. Dissolution of non-sulfide phases during the chemical and bacterial leaching of a sulfidic black schist. *Hydrometallurgy* 117-118:32-35.

Carver, S.M., M.C. Nelson, Z. Yu, and O.H. Tuovinen. 2012. Hydrogen and volatile fatty acid production during fermentation of cellulosic substrates by a thermophilic consortium at 50 and 60 °C. *Bioresource Technology* 104:424-431.

Lakaniemi, A.-M., V.M. Intihar, O.H. Tuovinen, and J.A. Puhakka. 2012. Growth of *Chlorella vulgaris* and associated bacteria in non-axenic flat plate photobioreactors. *Microbial Biotechnology* 5:69-78.

Lakaniemi, A.-M., V.M. Intihar, O.H. Tuovinen, and J.A. Puhakka. 2012. Growth of *Dunaliella tertiolecta* and associated bacteria in photobioreactors. *Journal of Industrial Microbiology and Biotechnology*, in press.

Lakaniemi, A.-M., O.H. Tuovinen, and J.A. Puhakka. 2012. Production of electricity and butanol from microalgal biomass in microbial fuel cells. *Bioenergy Research* 5:481-491.