Developing proteomics and metaproteomics as tools for increased oil recovery - biannual report 2011

by Trygve Devold Kjellsen — last modified 2011-07-26 13:06
History

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Qualitative and quantitative differences in protein accumulation profiles from the water and oil phase after incubation experiments have been analysed using DIGE followed by MALDI tof/tof identification of proteins. A method for extraction of proteins present in the oil phase has been developed and will potentially give valuable information about the enzymes and pathways directly involved in bioconversion of the oil phase. Proteins extracted and separated from the oil phase will be sent in for identification. Several of the tested bacterial consortia produce water soluble biosurfactants. Using different chromatographic techniques, one of the biosurfactants have been partially purified. The partially purified biosurfactant, which has not yet been identified, emulsifies oil in water at very low concentrations and seems to have high chemical stability. The biosurfactant will be sent for identification by FTICR. The drafts for two papers are now being written. One presents the results from proteomics work with certain bacterial consortia and bioconversion of heavy oil, and one presenting the biosurfactant.