Editorial Office

***Applied Environmental Biotechnology***

Nov. 9th, 2024

**Submission of a New Manuscript**

Dear Editor,

We are writing to submit our manuscript entitled **“Metagenomic analysis of compositions and metabolic potential of microbial community in production water from** **CO2- and water-flooded petroleum reservoirs”** for your consideration as a research paper in ***Applied Environmental Biotechnology***. This manuscript is original research and has not been submitted for publication elsewhere. All the authors have read the manuscript and agree for its submission to ***Applied Environmental Biotechnology***.

This manuscript focuses on the compositions and functions of microbial communities in four production water samples from CO2- and water-flooded oil reservoirs in Jilin oilfield. By using metagenomic sequencing analysis, we found that the microbial community compositions in CO2-flooded oil reservoir samples were very different from those in water-flooded ones, with lower microbial diversity. And the comparison analysis showed the significant different phylotypes separately in the two oil reservoirs. According to the high-quality metagenome assembled genomes (MAGs) obtained, diverse MAGs was identified in CO2- and water-flooded oil reservoir samples with the metabolic potential of hydrocarbon degradation, fermentation, methanogenesis, carbon fixation and sulfur/nitrogen metabolism. Our findings contribute to expand the knowledge on the microbial communities and their roles in oil reservoirs especially impacted by CO2 injection, and also provide basic biological information for carbon capture, utilization and storage (CCUS).

This manuscript will be of interest to a wide audience and researchers from a large range of different disciplines, including environmental biology, ecology as well as petroleum microbiology. We believe that this manuscript fits well to ***Applied Environmental Biotechnology***.

We greatly appreciate your kind assistance in handling our manuscript. Thank you for your time and efforts.

Sincerely,

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