Basic research for a better monitoring in anaerobic digestion

Lucy Stark, Tina Giersch & Röbbe Wünschiers

HOCHSCHULE MITTWEIDA
UNIVERSITY OF APPLIED SCIENCES

Motivation

The anaerobic digestion of organic materials is a complex multi-stage process. Due to the difficult nature of the biochemical conversion of organics to biogas, the process is very sensitive. Therefore monitoring via chemical parameters can be problematic because changes are mainly caused by disturbances between the microbes. Investigating the biological state in the fermenter seems to be a good way to predict the status of the process because microbes react direct to modifications of exogenous conditions.

Analyzing the metatranscriptome requires high quality RNA, which represents all microorganisms in the fermenter. Especially in inhomogeneous mixed cultured samples biases may occur since the extraction of RNA can be problematic.

Material and Methods

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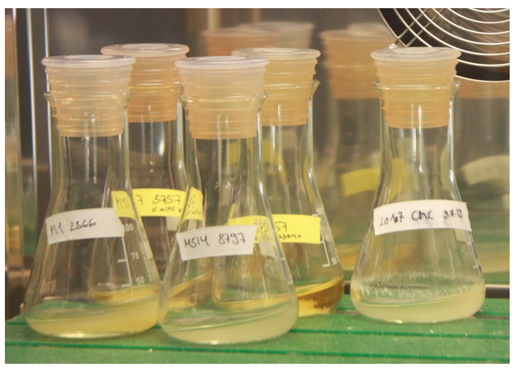
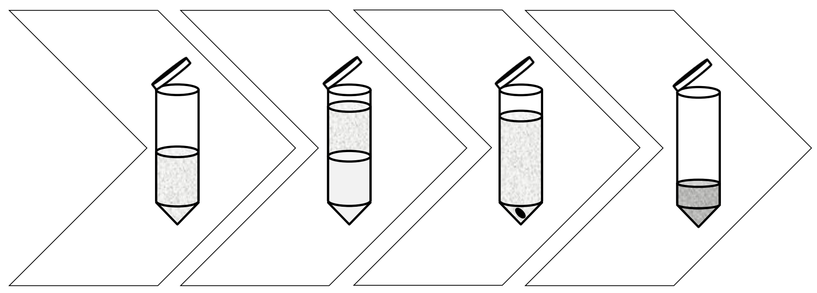
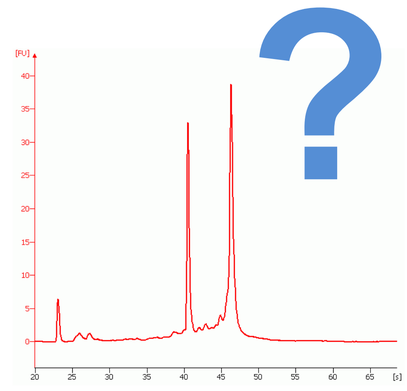


Cultivation of 9 different bacteria



RNA-Isolation with 5 extraction principles



Measuring the quantity

Results

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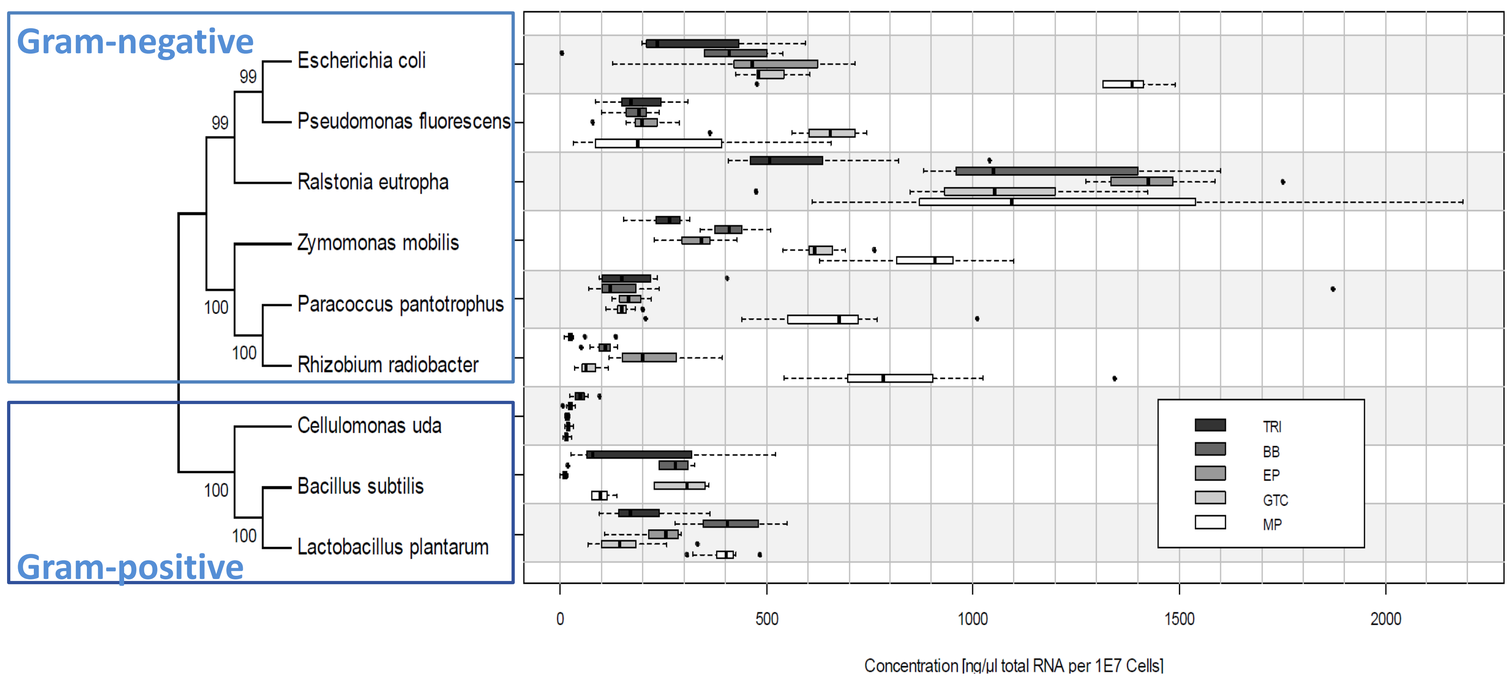

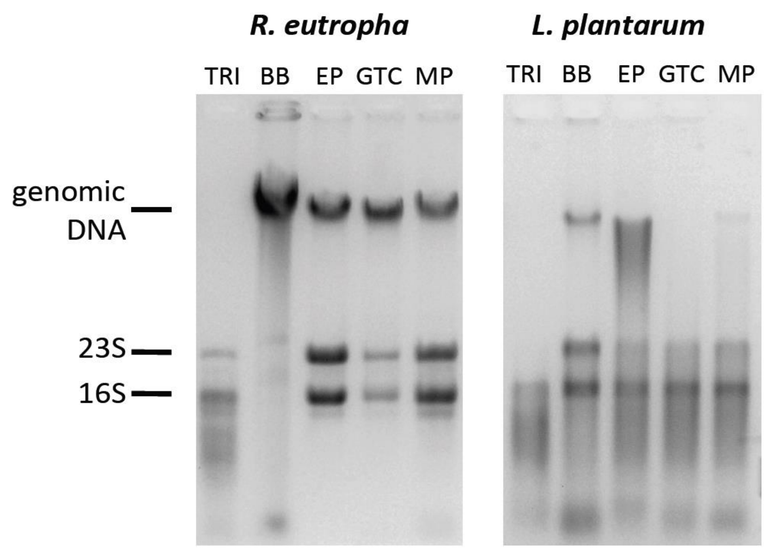

Outlook

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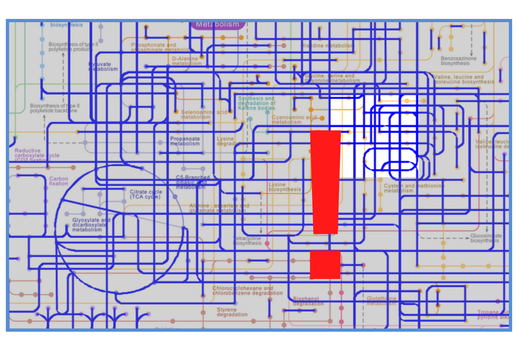
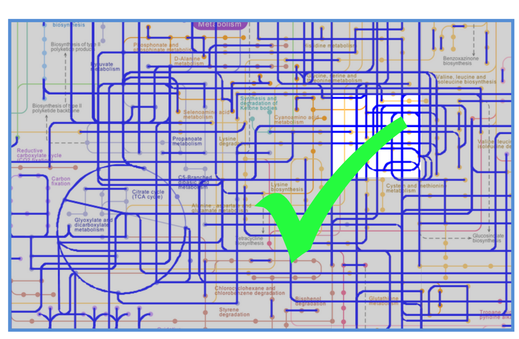


http://www.purvital.de/Jentschura-Basenkur-Saeure-Basen-Tester-pH-Teststreifen-P-Jentschura



University of Applied Sciences Mittweida
Faculty of Mathematics, Sciences and Computer Science
Technikumplatz 17, 09648 Mittweida, Germany
Contact: stark@hs-mittweida.de

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