METHOD SPECIFICATION
Faculty of Biosciences, NMBU

Method name: Volatile fatty acids (VFA)
BIOVIT-No.: Msp1132

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1. Method of analysis / Principle / Main instrument

Volatile fatty acids (VFA), are separated by gas chromatography.
After separation, areas from 6 different fatty acids in the sample are compared to areas derived from an external standard mixture of the same acids. The ratio of sample area to standard area multiplied by standard concentration gives the concentration of the acids in the sample. Samples and standards should contain 5 % concentrated formic acid.

Main instrument

Trace 1300 GC with autosampler and Chromeleon software (Thermo Scientific).
The choice of column, gas flow and temperature program is based on the application GC_FF00653 (Restek).
Column: Stabilwax - DA 30m, 0.25mm ID, 0.25 µm

2. Referanse

Restek: Applikasjon GC_FF00653
(http://www.restek.com/chromatogram/view/GC_FF00653)

3. Requirements for grinding and storage

Rumen fluid should be added 5 % formic acid (ratio of 9.5 mL + 0.5 mL) right after sampling. Storage in the refrigerator. (The samples are stable for several months). Alternatively the samples can be snap frozen, and 5 % formic acid added after thawing.
Other sample materials, e.g. intestinal content, must also be added 5% formic acid before sample preparation.

4. Contact persons

Lab manager: Hanne Kolsrud Hustoft
Responsible for analysis: Elin Follaug Johnsen

5. Additional literature

- Manual for GC
- Chromeleon Manuals

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