

Analysis Certificate**NAO48403**

Spectral Service



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Analysis method: quantitative ¹H-NMR spectroscopy, Aloin according to SAA-MET004-03
Instrument: Bruker Avance III HD 500 MHz with autom. sample changer & BBO Prodigy cryo probe
HPLC- equipment Surveyor (ThermoFinnigan, San José, CA)
Freeze-drying device Beta 1-8 LSC *plus* with LyoCube (Martin Christ GmbH, Osterode, D)
Internal Standard: Nicotinic acid amid (NSA; Fluka Chemie AG, Buchs (CH), Art.-Nr. 72340; RG 9)
Aloin (Roth, Karlsruhe (D); Art.-Nr. 1481-1;RG 21)

Sample Ident.:	Aloe Vera Whole Leaf 1X	Batch:	NOF31102014
Description:	clear, colourless liquid	Lab. No:	---
Spectral Service Code:	NAO48403-1	Results from:	27/11/2014
	Content [%]*	Content [mg/l]*	Origin of component
Aloverose (polysaccharide)	8.9	1,222.4	fresh Aloe Vera
Glucose	7.5	1,040.9	fresh Aloe Vera
Malic acid	15.4	2,120.1	fresh Aloe Vera
Lactic acid	4.0	556.2	degradation (bacterial)
Citric acid	11.4	1,577.9	WLM or added acidifier
WLM	11.4	1,571.5	whole leaf marker (WLM)
Maltodextrin	not detected		formulation aid for drying
Acetic acid	not detected		degradation (hydrolysis)
Succinic acid	detected		degradation (enzymatic)
Fumaric acid	detected		degradation (enzymatic)
Sodium benzoate	not detected		added preservative
Potassium sorbate	not detected		added preservative
Other**	detected		unknown
Dry matter	1.4		pH value: not determined
Aloin***		0.9	

* The content data [%] refer to dry matter.

** Organic and inorganic compounds not to be quantified by NMR analysis.

*** Limit of quantification 0.1 ppm.

The sample is of Aloe Vera origin without preservative. It shows small degradation by lacto bacteria.
The sample contains significant amounts of WLM. It therefore is at least partly produced of whole leaf juice.

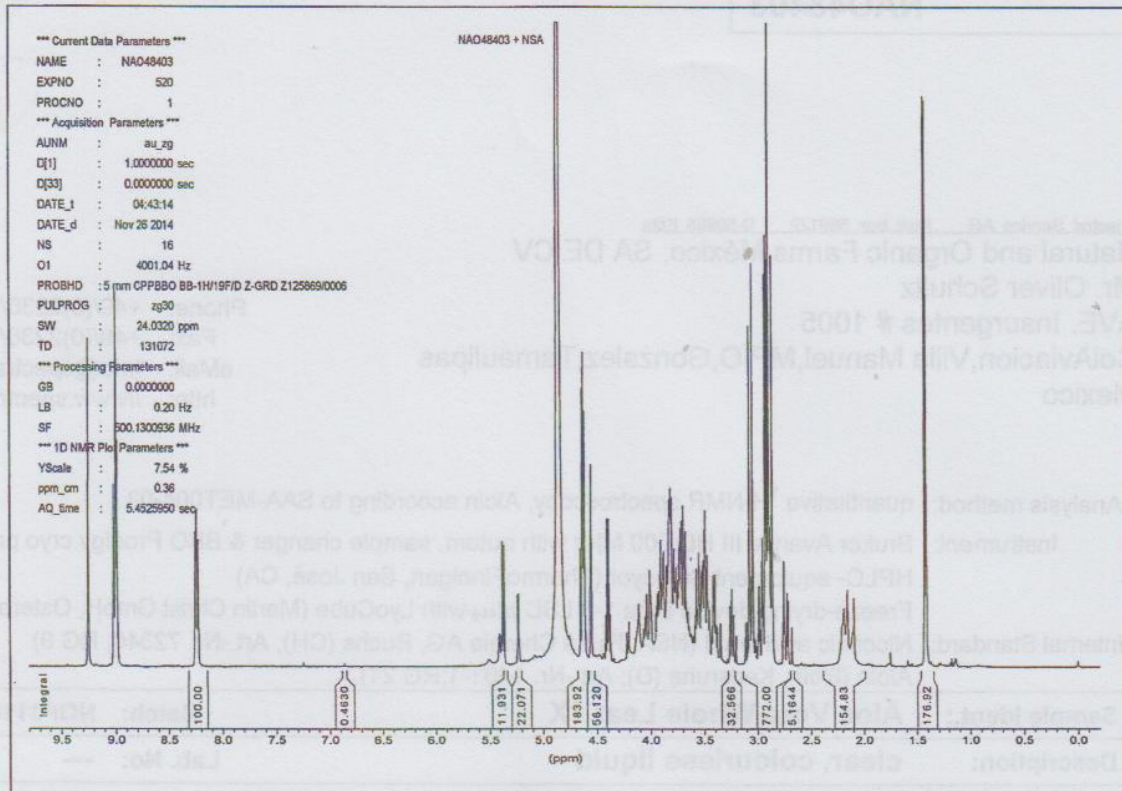


Fig. 1 $^1\text{H-NMR}$ spectrum of test item NAO48403

Cologne, 27 November 2014

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(Nutritional scientist)

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