PhytoLab GmbH & Co. KG Dutendorfer Straße 5-7 91487 Vestenbergsgreuth

Your contact at PhytoLab:
Reference Substances
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Certificate of analysis

Article:	80435 α,β-Elemolic acid
Certificate # / Lot Number:	301815
Material batch:	13229
Sample-ID:	266949
End of analysis:	06/2025
Expiry date:	10/2026

Test	Unit	Specified value	Testresult
Appearance, SOP 100005		powder	conform
Color, SOP 100006		white	conform
Identification (UV spectrum from HPLC-DAD analysis) according to specification, SOP 204311		conform	conform
Identification (1H-NMR-spectroscopy), (outsourced), SOP 206010		conform	conform
Identification (13C-NMR-spectroscopy), (outsourced), SOP 206020		conform	conform
Identification (HPLC-HR/MS), SOP 204125		conform	conform
Identification (IR-spectroscopy, Ph.Eur. 10.3, 2.2.24 / USP43 NF37 <197>), SOP 206000		conform	conform
alpha,beta-Elemolic acid (HPLC), method 1 (% AU), SOP 440473	%	≥ 75.00	81.67
Peakpurity, (HPLC), SOP 401367		conform	conform

PhytoLab
SAFEGUARDING BOTANICAL QUALITY.

Certificate of analysis

Article: 80435 α,β-Elemolic acid
Material batch: 13229

Test	Unit	Specified value	Testresult

The reference substance alpha,beta-elemolic acid is a mixture of alpha-elemolic acid (CAS #28282-27-1) and beta-elemolic acid (CAS # 28282-54-4).

Vestenbergsgreuth, 09/Oct/2025

Laura Schnell

QC Reference Substances

This is a computer print and valid without signature. A signed certificate of analysis can be taken on request.

PhytoLab
SAFEGUARDING BOTANICAL QUALITY.

Certificate of analysis

Article:	80435 α,β-Elemolic acid
Material batch:	13229

Further information:

Shelf life/stability: The stated expiry date applies when the reference substance is stored in the original unopened container within the specified temperature range. PhytoLab does not guarantee the stability of the reference substance once the vial has been opened.

Long-term storage and handling: The reference standard should be stored in the original unopened vial, protected against light and humidity in an airtight container, within the temperature range given on the label and accompanying data sheet. If stored below room temperature, the vial should be warmed up to room temperature in a desiccator before it is opened in order to avoid condensation of humidity. The user assumes responsibility for deciding how previously opened reference standard vials should be used and the user must ensure that the contents of opened vials are still suitable for their intended use.

Exact weight: the exact weight of each vial is given on the label of the inner vial to two decimal places. This information may be used to produce stock solutions of a known concentration without having to weigh in the reference substance again. If used for this purpose, the content of the vial must be quantitatively transferred to a volumetric flask and filled up to the required level. Please note that PhytoLab is unable to guarantee the stability of the reference standard in solution.

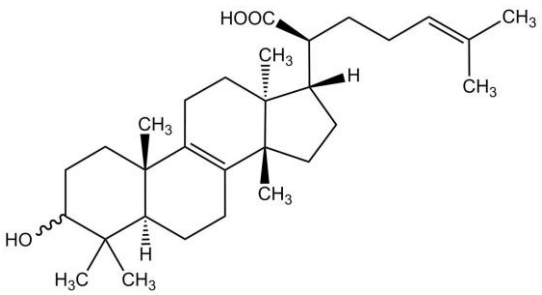
Intended use: this reference standard is solely intended for laboratory analytical purposes, research & development, and scientific teaching and training purposes. It may not be used for any other purpose and particularly not for use in, or the production of, food, animal feed, human or veterinary drugs, cosmetics, medicinal products or diagnostic agents, including in-vitro diagnostic agents. PhytoLab is unable to guarantee the suitability of this reference standard for any particular application other than its qualitative and quantitative use in chromatography and identification testing.

Further information about this reference standard can be found on the accompanying data sheet or in our webshop. Spectral and chromatographic data, and a description of the applied chromatographic method, are provided in the attachments to this COA. A detailed explanation of all data given on the COA can be found in the guide that is available from the download area in our webshop, where you can also download all of the safety data sheets.

Product Data Sheet

alpha,beta-Elemolic acid

Product #: 80435



Physicochemical Data

CAS #:	
Molecular formula:	C30H48O3
Molecular weight [g/mol]:	456.71
Synonyms	α,β-Elemadienolic acid; α,β-Elemic acid; 3α,β-Hydroxytirucallic acid
Substance class:	Isoprenoids
Subgroup 1:	Terpenoid-type
Subgroup 2:	Triterpenes
Subgroup 3:	Triterpene sapogenins
Solubility:	soluble in ethanol and methanol Please note that this solubility information is based on in-house experience or taken from published data. It is not meant to guarantee solubility up to a specific concentration, nor does it guarantee stability of the reference substance in solution.

Additional Information

Please note:	The reference substance alpha,beta-elemolic acid is a mixture of alpha-Elemolic acid (CAS # 28282-27-1) and beta-Elemolic acid (CAS # 28282-54-4).
Source:	botanical origin
Long-term storage conditions:	< -15 °C

Manufacturer:

Phytolab GmbH & Co.KG
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Fax: +49 9163 88-456
Mail: ref-substances@phytolab.de
Shop: https://phyproof.phytolab.com

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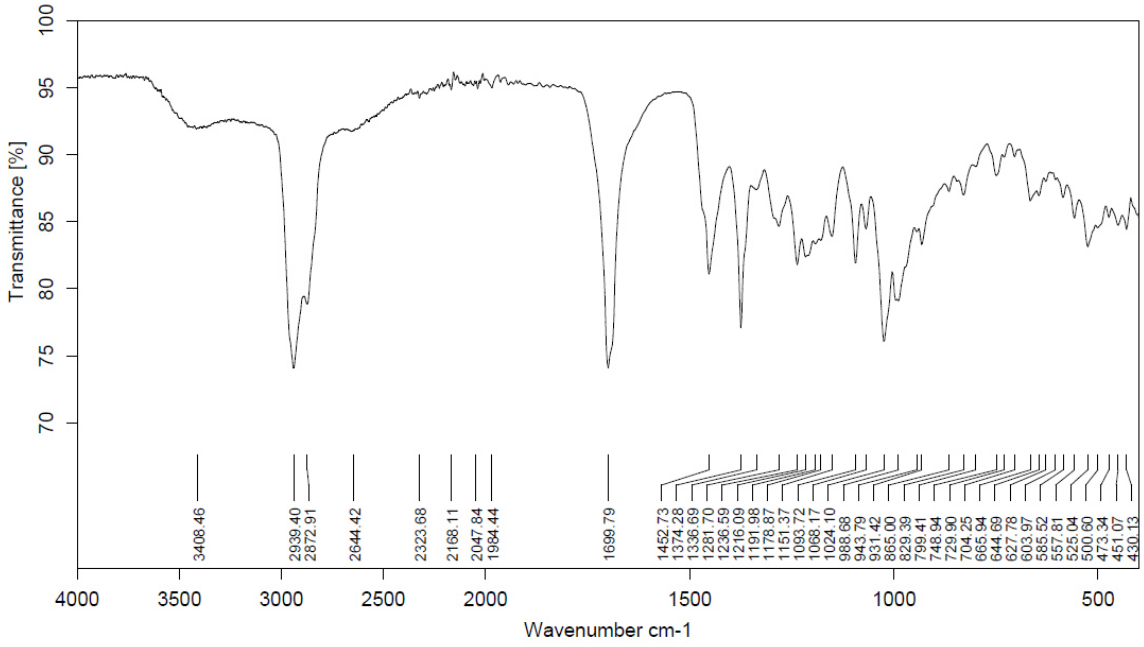
Supplements

alpha,beta-Elemolic acid **Batch # 13229**
Product # 80435

Identity tests:

IR spectrum



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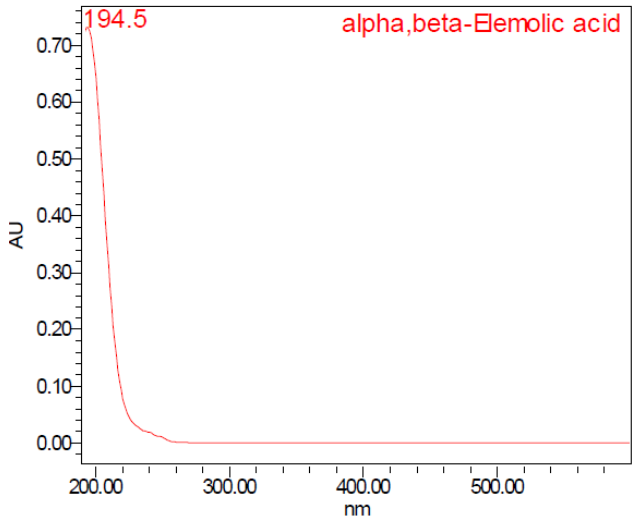
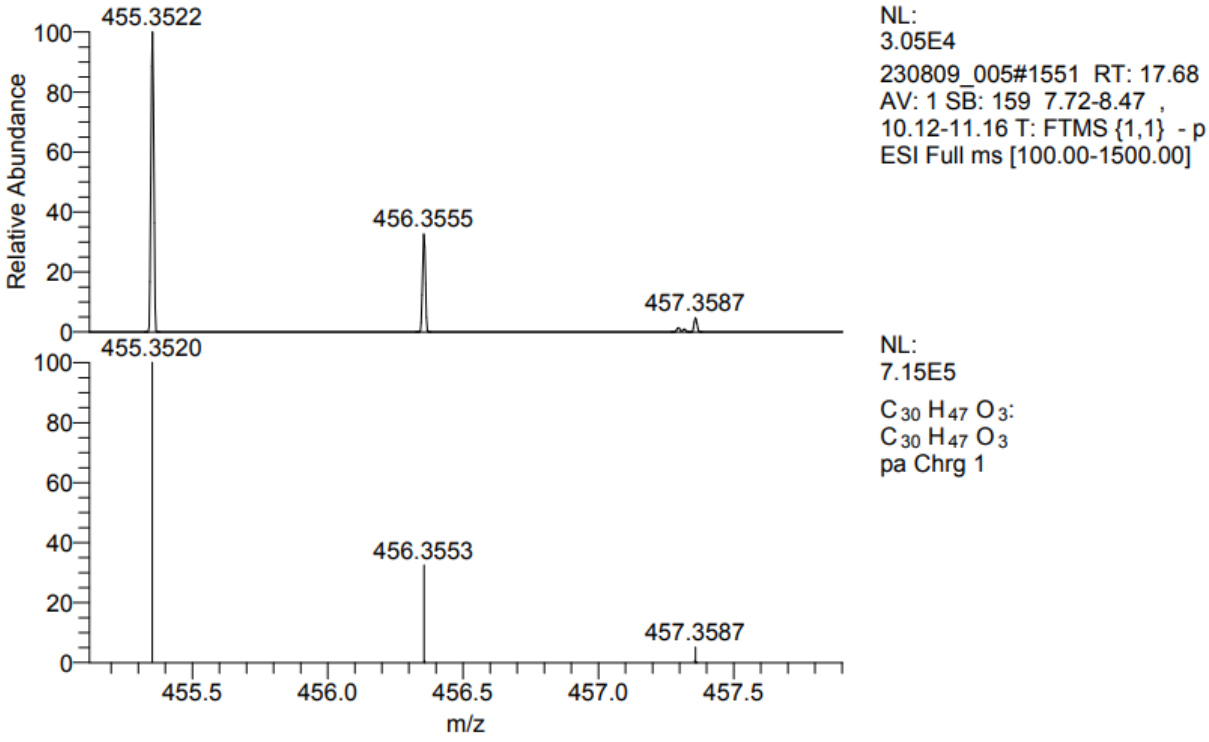
UV spectrum (derived from HPLC/PDA)



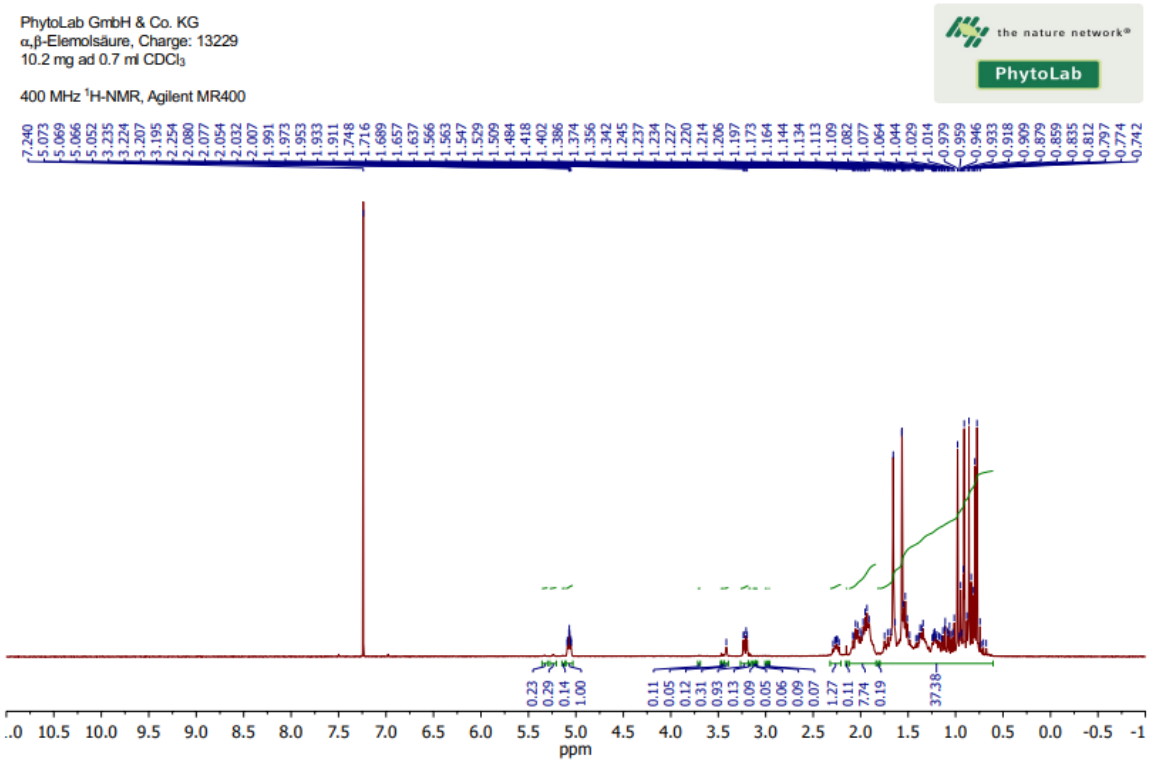
MS spectrum (ESI)

Detection: negative mode (compared with predicted spectrum)

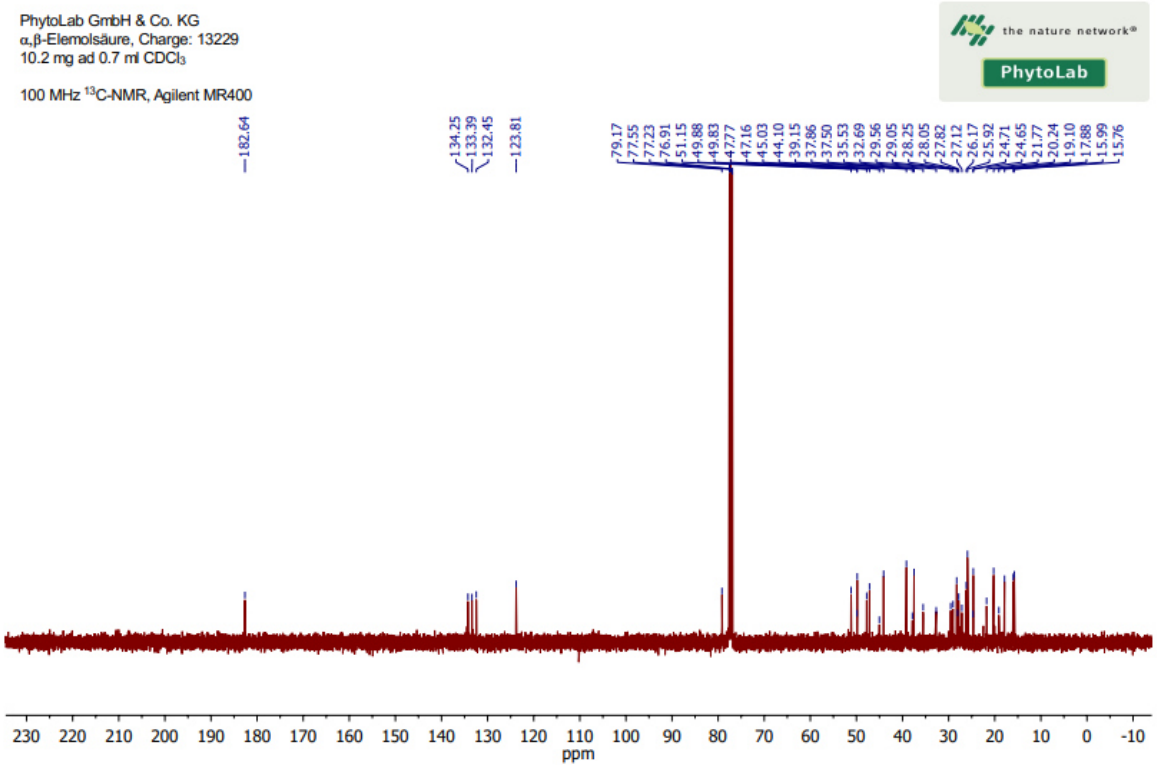


NMR spectra

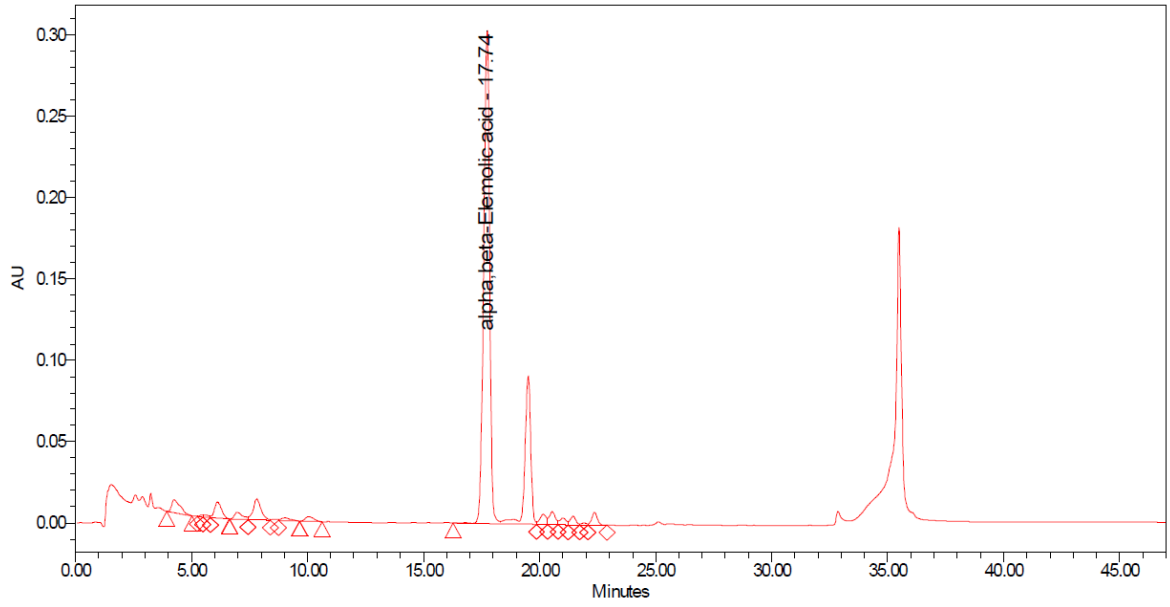
^{1}H-NMR



^{13}C-NMR



Chromatographic purity:



Peak Results

	Name	RT	Area	Height	Chromatographic_Purity	Amount	Units
1		4.257	207548	7992	2.43		
2		5.458	10134	1127	0.12		
3		5.619	22884	1360	0.27		
4		6.126	208010	9892	2.43		
5		6.978	105197	4220	1.23		
6		7.818	301649	12791	3.53		
7		9.042	52380	1822	0.61		

8		10.058	74736	2971	0.87		
9	alpha,beta-Elemolic acid	17.740	6987257	303515	81.70	23.600	mg/100mL
10		20.161	120230	6260	1.41		
11		20.549	143318	7979	1.68		
12		21.014	78931	4087	0.92		
13		21.446	88973	5253	1.04		
14		21.922	19204	1237	0.22		
15		22.371	131621	7798	1.54		

Analytical conditions

Column:	Luna C18, 250 x 4.6mm, 5µm
Mobile Phase:	eluent A: H_2O pH 2.0 (H_3PO_4)
	eluent B: CH_3CN
Mode:	gradient

Time [min]	Eluent A [%]	Eluent B [%]
0	30	70
30	0	100
32	30	70
47	30	70

Flow:	0.8 ml/min
Injection Volume:	60 µl
Column Temperature:	23 °C
Sample concentration:	approx. 23.6 mg/100 ml
Sample preparation:	dissolved in CH_3CN
Detection:	UV, 210 nm
Special note:	-

Please note: Values on the certificate of analysis may vary as these are average values of at least six injections while above chromatogram and report is only one example. Non-integrated peaks originate from the blank injection.