

Version 1/2012

PHYTOPLAN[®]
Pflanzliche Wirkstoffe und Analytik

Product List 2012

Reference Substances Natural Compounds

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Dear customer,

we are pleased to introduce our new catalogue for the year 2012. Therein you will find many new products and also a greater range in the qualities of the compounds differing in the degree of purity and the documents delivered. Please decide which item is the proper for your purpose.

Catalogue of natural compounds

In our catalog we have listed the substances which are near-term available. Often you can choose a definite degree of purity and extent of documentation (see column ' documents delivered ').

The substances are mostly of high purity and are available as identification standards or HPLC standards dependent on the extent of the documentation. Some compounds we offer you also in larger quantities in a downgraded degree of purity.

All substances are delivered with an individual certificate of analysis which shows the purity by means of HPLC DAD and DAD ultraviolet spectrum.

Due to its purity (usually > 98,0 - 99,0 %) the reference substances of our catalog are suitable for ambitious applications. On customer's request the range of the current documentation can be individually expanded and adapted.

Please check which specific requirement of the documentation for your application (e.g. for authorisation or registration, HPLC standard, working standard etc.) is demanded.

Purity, quantity and extent of documentation for all substances can individually be defined by your demand.

Reference substances for identification

This class of substances is characterized by high purity (mostly greater 99,0 %) and are sold in definite purity classification, package sizes and prices. The certificate of analysis delivered contains both chromatographic measurements of the purity with TLC, HPLC-DAD and/or GC/MS and spectroscopic measurement like NMR, UV, IR, MS inclusive data interpretation.

The extent of the certificate of analysis is listed in the catalogue in the column 'documents delivered'. On customer's request also further analytic measurements can be performed.

If you are interested we can transfer you more information about discrete substances.

Dependent on the quantity ordered the delivery time may be prolonged. The availability of these substances however is warranted for longer periods.

On demand we can extend the certificates of analysis which are designed only for HPLC standards with further documents so that these substances can also be characterized as identification standards.

HPLC-standards

We supply these substances in a purity predominantly greater 99,0%. The current purity is indicated in the certificate of analysis together with a HPLC DAD chromatogram and UV spectrum.

Bulkware

Some compounds we offer with a lower degree of purity but in larger units and at a favourable price. Even for degrees of purity not specified in the catalog we make you an offer. In all cases you are provided with a certificate with HPLC DAD chromatogram.

Isolation on request

If you are interested in one or several compounds also from a definite plant we will study the feasibility and make you an offer in accordance with the individual costs. The requirements of the documentation and the specification will be made by your defaults.

In our laboratories we use all established chromatographic separation media and separation techniques. This enables us to produce even difficult accessible substances in multigram quantities. The likewise existing classical-chemical laboratory equipment facilitates also synthetic alternatives to pure isolation.

Purification on request

If you have a substance which is not sufficiently pure for your application we can clean it up in accordance with your specification. Use our broad experience with different substance classes and separation problems. Please request for an offer.

Discounts

If ordering the 5fold or 10fold quantity of a listed unit we will give you a discount of 10% or 20% of the calculated price. In cases of greater quantities we will make even greater discounts.

Shipment costs

Dependent on the country we must charge your parcel with effective shipment costs. We will inform you on demand or in the order confirmation.

Bank connection

Please pay the bill by cash or wire transmittance to the following account:

PHYTOPLAN Diehm & Neuberger GmbH (company)

Bank account:

Heidelberger Volksbank eG (bank)

Kurfürstenanlage 8 (street)

69115 Heidelberg (post code, city)

Germany

Bank Identifier Code (BIC): GENODE61HD1

interBank-Acc. No. (IBAN): DE67 6729 0000 0022 5906 77

VAT ID: DE190955227

For inquiry please contact:

Mr. Dr. Michael Diehm or Mr. Dr. Karl Neuberger

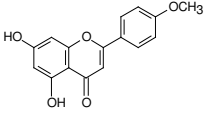
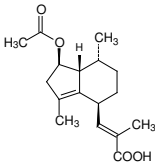
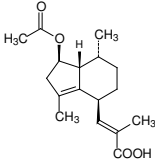
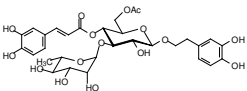
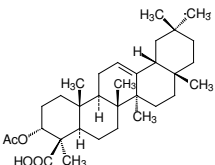
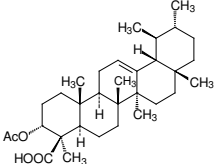
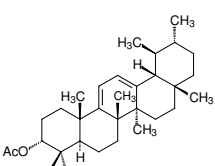
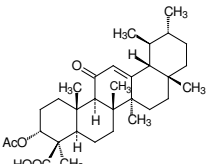
Phone: 0049 6221 401347, Fax: 0049 6221 437664,

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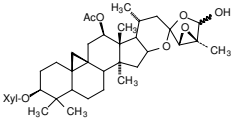
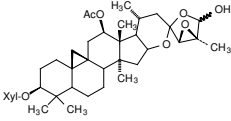
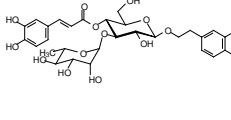
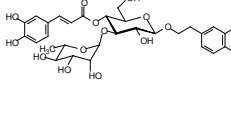
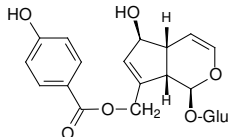
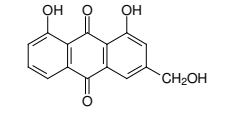
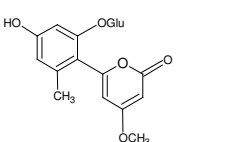
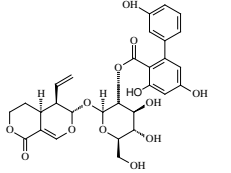
Table of compounds

Acacetin	Emodin (Frangula-)	Manassantin A
Acetoxyvaleric acid	Englerin A	Manassantin B
Acetylacteoside	(-)-Epicatechin	Morindin
Acetyl- α -boswellic acid	(-)-Epicatechingallate	Myricitrin
Acetyl- β -boswellic acid	(-)-Epigallocatechin	Narciclasine
Acetyl-9,11 dehydro- β -boswellic acid	(-)-Epigallocatechingallate	Naringenin
Acetyl-11-keto- β -boswellic acid	Eupatorin	Naringin
Actein	Frangulin (A + B)	Oleuropein
Acteoside	Frangulin A	Oenin chloride
Agnuside	Frangulin B	Orientin
Aloe-Emodin	(-)-Gallocatechin	Pectolarinarin
Aloenin A	[6]-Gingerol	Pectolarinarigenin
Amarogentin	[8]-Gingerol	Pelargonidin chloride
Apigenin	Ginkgolide A	Pelargonin-3-glucoside
Apigenin-7-glucoside	Ginkgolide B	Pelargonin-3,5-diglucoside
Apiin	Ginkgolide C	Peonidin-3-glucoside
Aristolochic acid mixture	Glucoberberoin	Petunidin-3-glucoside
Aristolochic acid sodium salt	Glucobrassicin	Picroside II
Aristolochic acid I	Glucobrassicinapin	Primin
Aristolochic acid II	Glucoerucin	Primulaverin
Aucubin	Glucosiberin	Primerin
Azadirachtin	Gluconapin	Progoitrin
Baicalein	Gluconasturtiin	Protopin
Baicalin	Glucoraphanin	Pseudohypericin
Bergamottin	Glucotropaeolin	Quercetin
Betulin	Hamamelitannin	Quercitrin
Betulinic acid	Harpagide	Retrorsine
Bilobalide	Harpagoside	Retrorsine-N-oxide
α -Boswellic acid	Hederacoside C	Rhein
β -Boswellic acid	Hederagenin	Robinin
Caftaric acid	α -Hederin	Rosmarinic acid
Casticin	Hesperetin	Rutin
Catalpol	Hesperidin	Saponarin
(-)-Catechin	Homoorientin	Senecionine
(+)-Catechin	Hydroxytyrosol	Senecionine-N-oxide
Cephaelin dihydrobromide	Hydroxyvaleric acid	Seneciophylline
Chaconine	Hyperforin DCHA	Seneciophylline-N-oxide
Chelidoniin	Hypericin	Senkirkirin
Chlorogenic acid	Hypericin sodium salt	Senoside A
Cichoric acid	Hyperoside	Senoside A1
Cnicin	Isoacteoside	Senoside B
Coptisine	Isoquercitrin	Silybin
Curcumin	Isorhamnetin	Sinalbin
Cyanidin-3-arabinoside	Isovitexin	Sinensetin
Cyanidin chloride	Isoxanthohumol	Sinigrin
Cyanidin-3-galactoside	Kaempferol	Solanine
Cyanidin-3-glucoside	Kaempferol-3-glucoside	Spiraeoside
Cyanidin-3-rutinosid	11-Keto- β -boswellic acid	Sutherlandioside B
Cyanin chloride	Lanatoside C	Sutherlandioside D
Cynarine	Lasiocarpin	Taxifolin
Cytisine	Lasiocarpin-N-Oxide	Trifolirhizin
27-Deoxyactein	Leiocarposide	Umckalin
Delphinidin chloride	Linarin	Ursolic acid
Delphinidin-3-galactoside	Lutein	Valeric acid
Delphinidin-3-glucoside	Luteolin	Vitexin
Delphinidin-3-rutinosid	Luteolin-7-glucoside	Vitexin-2''-O-rhamnoside
Echinacoside	Lycopene	Wogonin
Elenolic acid glucoside	Maackiain	Wogonoside
Eleutheroside B	Malvidin chloride	Xanthohumol
Eleutheroside E	Malvin chloride	

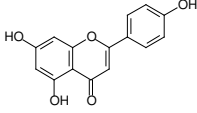
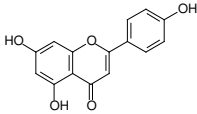
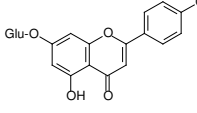
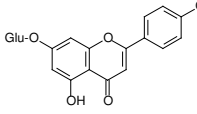
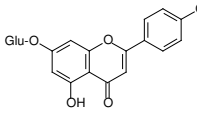
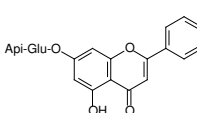
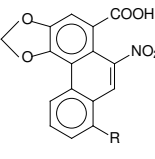
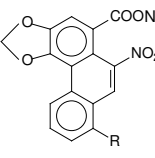
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Acacetin Linارينين, 5,7-Dihydroxy-4'-methoxyflavon from Robinia pseudoacacia Art.-Nr. 3209.99 >99.0 % [480-44-4] C ₁₆ H ₁₂ O ₅ M _r 284.26	HPLC-DAD with UV-Spectrum	20 mg 50 mg	122,- 244,-
	Acetoxyvaleric acid from Valeriana officinalis Art. 4402.RS >99.0 % [81397-67-3] C ₁₇ H ₂₄ O ₄ M _r 292.37	HPLC-DAD (2 methods), TLC (2 methods), ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS	25 mg 100 mg	305,- 1.100,-
	Acetoxyvaleric acid from Valeriana officinalis Art. 4402.99 >99.0 % [81397-67-3] C ₁₇ H ₂₄ O ₄ M _r 292.37	HPLC-DAD with UV-spectrum	25 mg	255,-
	6-O-Acetylacteoside from Harpagophytum procumbens Art. 6100.99 >99.0 % [441769-43-3] C ₃₁ H ₃₈ O ₁₆ M _r 666.64	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	110,- 190,- 380,-
	3-Acetyl-α-boswellic acid (3α,4β)-3-Acetoxy-olean-12-ene-23-acid from Boswellia serrata Art. 5154.99 >99.0 % [89913-60-0] C ₃₂ H ₅₀ O ₄ M _r 498.73	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	132,- 213,- 365,-
	3-Acetyl-β-boswellic acid (3α,4β)-3-Acetoxy-urs-12-ene-23-acid from Boswellia serrata Art. 5151.99 >99.0 % [5968-70-7] C ₃₂ H ₅₀ O ₄ M _r 498.73	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	132,- 213,- 365,-
	3-Acetyl-9-11-dehydro-β-boswellic acid (3α,4β)-3-Acetoxyurs-10,12-dien-23-acid from Boswellia serrata Art. 5156.98 >98.0 % [-] C ₃₂ H ₄₈ O ₄ M _r 496.71	HPLC-DAD with UV-spectrum	5 mg 10 mg	150,00 280,00
	3-Acetyl-11-keto-β-boswellic acid 3α-Acetoxy-urs-12-ene-11-keto-23-acid from Boswellia serrata Art. 5153.99 >99.0 % [67416-61-9] C ₃₂ H ₄₈ O ₅ M _r 512.73	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	122,- 193,- 330,-

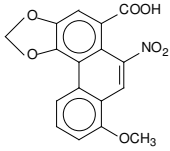
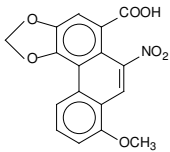
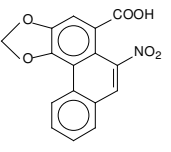
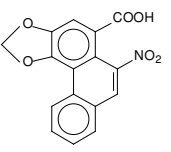
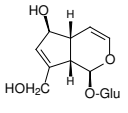
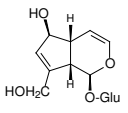
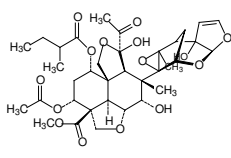
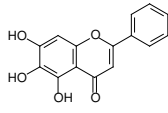
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Actein from <i>Cimicifuga racemosa</i> Art. 3506.RS >99.0 % [18642-44-9] C ₃₇ H ₅₆ O ₁₁ M _r 676.84	HPLC-DAD (2 methods), TLC (2 methods), ¹ H-NMR, ¹³ C-NMR - (with Interpretation), IR, MS, hr-MS, Melting point	10 mg 460,- 50 mg 2.050,-	
	Actein from <i>Cimicifuga racemosa</i> Art. 3506.99 >99.0 % [18642-44-9] C ₃₇ H ₅₆ O ₁₁ M _r 676.84	HPLC-DAD with UV-spectrum	5 mg 200,- 10 mg 350,- 20 mg 550,-	
	Acteoside Verbascoside from <i>Paulownia tormentosa</i> Art. 6101.RS >98.0 % [61276-17-3] C ₂₉ H ₃₆ O ₁₅ M _r 624.59	HPLC-DAD, TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS	20 mg 270,- 50 mg 540,-	
	Acteoside Verbascoside from <i>Paulownia tormentosa</i> Art. 6101.98 >98.0 % [61276-17-3] C ₂₉ H ₃₆ O ₁₅ M _r 624.59	HPLC-DAD with UV-spectrum	10 mg 128,- 20 mg 215,- 50 mg 430,-	
	Agnuside 10-p-Hydroxybenzoylaucubin from <i>Vitex agnus castus</i> Art. 2102.98 >98.0 % [11027-63-7] C ₂₂ H ₂₆ O ₁₁ M _r 466.44	HPLC-DAD with UV-spectrum	10 mg 150,- 20 mg 255,-	
	Aloe-Emodin 1,8-Dihydroxy-3-(hydroxymethyl)- anthraquinone, synthetic Art. 3714.99 >99.0 % [481-72-1] C ₁₅ H ₁₀ O ₅ M _r 270.23	HPLC-DAD with UV-spectrum	20 mg 130,- 50 mg 260,-	
	Aloenin A from <i>Aloe arborescens</i> Art. 4105.99 >99.0 % [38412-46-3] C ₁₉ H ₂₂ O ₁₀ M _r 410.38	HPLC-DAD with UV-spectrum	10 mg 135,- 20 mg 250,- 50 mg 500,-	
	Amarogentin from <i>Gentiana lutea</i> Art. 2122.99 >99.0 % [21018-84-8] C ₂₉ H ₃₀ O ₁₃ M _r 586.54	HPLC-DAD with UV-spectrum	10 mg 145,- 20 mg 260,-	

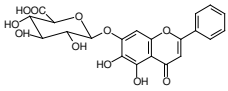
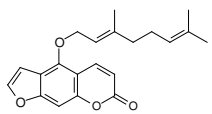
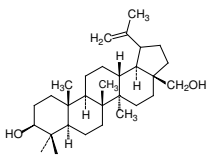
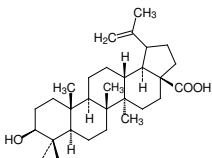
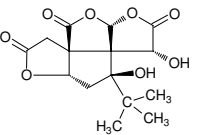
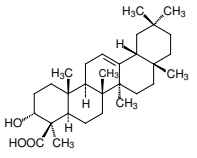
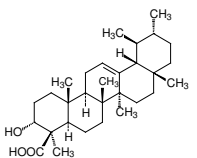
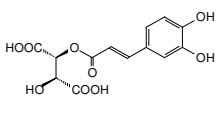
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Apigenin 4',5,7-Trihydroxyflavone from Chamomillae romana Art. 3205.99 >99.0 % [520-36-5] C ₁₅ H ₁₀ O ₅ M _r 270.23	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	125,- 250,- 440,-
	Apigenin 4',5,7-Trihydroxyflavone from Chamomillae romana Art. 3205.97 >97.0 % [520-36-5] C ₁₅ H ₁₀ O ₅ M _r 270.23	HPLC-DAD with UV-spectrum	50 mg	110,-
	Apigenin-7-glucoside Apigetrin, Cossmetin, 7-Glucosylapigenin from Chamomillae romana Art. 3207.RS >99.0 % [578-74-5] C ₂₁ H ₂₀ O ₁₀ M _r 432.38	HPLC-DAD (2 methods) TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg 100 mg	240,- 480,- 720,-
	Apigenin-7-glucoside Apigetrin, Cossmetin, 7-Glucosylapigenin from Chamomillae romana Art. 3207.99 >99.0 % [578-74-5] C ₂₁ H ₂₀ O ₁₀ M _r 432.38	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	110,- 190,- 350,-
	Apigenin-7-glucoside Apigetrin, Cossmetin, 7-Glucosylapigenin from Chamomillae romana Art. 3207.97 >97.0 % [578-74-5] C ₂₁ H ₂₀ O ₁₀ M _r 432.38	HPLC-DAD with UV-spectrum	100 mg	105,-
	Apiin Apioside, Apigenin-7-apiosylglucoside from Petroselinum crispum Art. 3244.98 >98.0 % [26544-34-3] C ₂₆ H ₂₈ O ₁₄ M _r 564.50	HPLC-DAD with UV-spectrum	10 mg 20 mg	210,- 350,-
	Aristolochic acid mixture of Aristolochic acids with Aristolochic acid I and II as main components from Aristolochia clematitis Art. 4610.96 >96.0 % [67123-64-2]	HPLC-DAD with UV-spectrum	500 mg	155,- 260,-
	Aristolochic acid Sodium salt mixture of Aristolochic acids I und II as main components, Sodium salt from Aristolochia clematitis Art. 4615.96 >96.0 % [10190-99-5]	HPLC-DAD with UV-spectrum	250 mg 500 mg	160,-

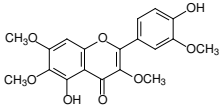
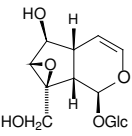
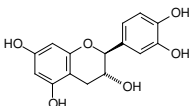
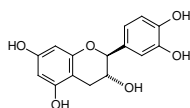
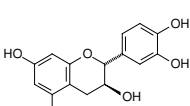
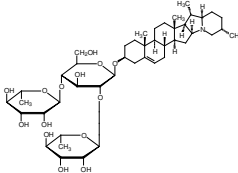
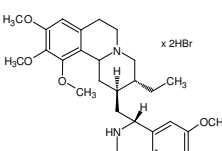
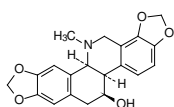
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Aristolochic acid I from <i>Aristolochia clematitis</i> Art. 4611.99 >99.0 % [313-67-7] C ₁₇ H ₁₁ NO ₇ M _r 341.28	HPLC-DAD with UV-spectrum	20 mg 50 mg	150,- 300,-
	Aristolochic acid I Aristolochin from <i>Aristolochia clematitis</i> Art. 4611.96 >96.0 % [313-67-7] C ₁₇ H ₁₁ NO ₇ M _r 341.28	HPLC-DAD with UV-spectrum	250 mg 500 mg	245,- 430,-
	Aristolochic acid II Noraristolochic acid from <i>Aristolochia clematitis</i> Art. 4613.99 >99.0 % [475-80-9] C ₁₆ H ₉ NO ₆ M _r 311.25	HPLC-DAD with UV-spectrum	20 mg 50 mg	200,- 400,-
	Aristolochic acid II from <i>Aristolochia clematitis</i> Art. 4613.96 >96.0 % [475-80-9] C ₁₆ H ₉ NO ₆ M _r 311.25	HPLC-DAD with UV-spectrum	250 mg 500 mg	350,- 600,-
	Aucubin Rhinanthin, Aucuboside from <i>Aucuba japonica</i> Art. 2101.RS >99.0 % [479-98-1] C ₁₅ H ₂₂ O ₉ M _r 346.33	HPLC-DAD (2 methods), TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg	180,- 330,-
	Aucubin Rinanthin, Aucuboside from <i>Aucuba japonica</i> Art. 2101.99 >99.0 % [479-98-1] C ₁₅ H ₂₂ O ₉ M _r 346.33	HPLC-DAD with UV-spectrum	20 mg 50 mg	120,- 230,-
	Azadirachtin from <i>Azadirachta indica</i> Art. 4501.97 >97.0 % [11141-17-6] C ₃₅ H ₄₄ O ₁₆ M _r 720.72	HPLC-DAD with UV-spectrum	1 mg 5 mg 10 mg	85,- 305,- 560,-
	Baicalein 5,6,7-Trihydroxyflavone from <i>Scutellaria baicalensis</i> Art. 3204.99 >99.0 % [491-67-8] C ₁₅ H ₁₀ O ₅ M _r 270.24	HPLC-DAD with UV-spectrum	20 mg 50 mg	150,- 260,-

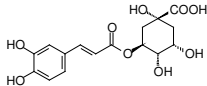
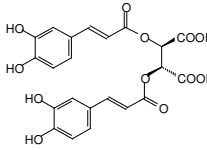
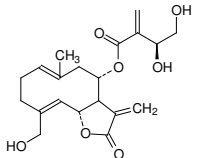
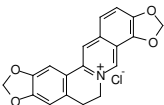
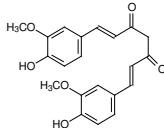
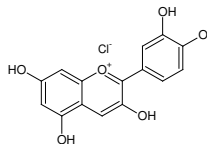
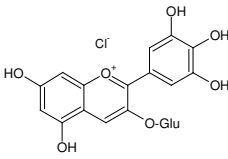
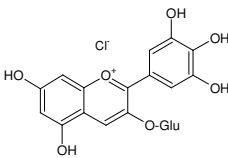
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Baicalin Baicalein-7-β-D-glucopyranoside uronate from <i>Scutellaria baicalensis</i></p> <p>Art. 3206.99 >99.0 % [21967-41-9] C₂₁H₁₈O₁₁ M_r 446.37</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	120,- 210,-
	<p>Bergamottin 5-Geranyloxypsoralen from <i>Oleum bergamottae</i></p> <p>Art. 2114.99 >99.0 % [7380-40-7] C₂₁H₂₂O₄ M_r 338.42</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	115,- 230,-
	<p>Betulin Lup-20(29)-ene-3,28-diol, Betulinol from <i>Betula pendula</i></p> <p>Art. 5142.98 >98.0 % [473-98-3] C₃₀H₅₀O₂ M_r 442.73</p>	HPLC-DAD with UV-spectrum	1 g	90,-
	<p>Betulinic acid 3β-Hydroxy-lup-20(29)-ene-28-acid from <i>Platanus acerifolia</i></p> <p>Art. 5144.99 >99.0 % [472-15-1] C₃₀H₄₈O₃ M_r 456.71</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	108,- 216,-
	<p>Bilobalide from <i>Ginkgo biloba</i></p> <p>Art. 4255.98 >98.0 % [33570-04-6] C₁₅H₁₈O₈ M_r 326.30</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	110,- 160,-
	<p>α-Boswellic acid (3α,4β)-3-Hydroxy-olean-12-ene-23-acid from <i>Boswellia serrata</i></p> <p>Art. 5155.99 >99.0 % [471-66-9] C₃₀H₄₈O₃ M_r 456.73</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	132,- 213,- 365,-
	<p>β-Boswellic acid (3α,4β)-3-Hydroxyurs-12-ene-23-acid from <i>Boswellia serrata</i></p> <p>Art. 5150.99 >99.0 % [631-69-6] C₃₀H₄₈O₃ M_r 456.73</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	132,- 213,- 365,-
	<p>Caftaric acid 2-Caffeoyltartaric acid from <i>Echinacea pallidea</i></p> <p>Art. 6106.98 >98.0 % [67879-58-7] C₁₃H₁₂O₉ M_r 312.24</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	203,- 355,-

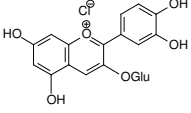
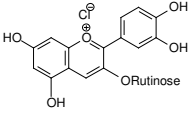
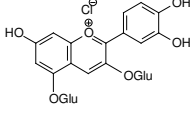
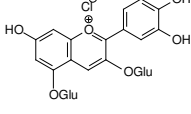
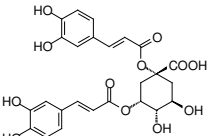
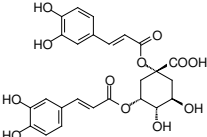
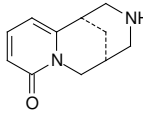
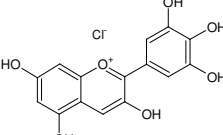
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Casticin Vitexicarpin from Vitex agnus castus Art. 3238.98 >98.0 % [479-91-4] C ₁₉ H ₁₈ O ₈ M _r 374.32	HPLC-DAD with UV-spectrum	10 mg 20 mg	145,- 227,-
	Catalpol from Picrorhiza kurrooa Art. 2109.99 >99.0 % [2415-24-9] C ₁₅ H ₂₂ O ₁₀ M _r 362.33	HPLC-DAD with UV-spectrum	20 mg 50 mg	117,- 235,-
	(-)-Catechin (-)-Catechol, 3,3',4',5,7-Pentahydroxyflavan, from Acacia catechu Art. 3303.RS >99.0 % [18829-70-4] C ₁₅ H ₁₄ O ₆ M _r 290.27	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point,	20 mg	310,-
	(-)-Catechin (-)-Catechol, 3,3',4',5,7-Pentahydroxyflavan, from Acacia catechu Art. 3303.99 >99.0 % [18829-70-4] C ₁₅ H ₁₄ O ₆ M _r 290.27	HPLC-DAD with UV-spectrum	10 mg 20 mg	140,- 237,-
	(+)-Catechin from Acacia catechu Art. 3304.99 >99.0 % [154-23-4] C ₁₅ H ₁₄ O ₆ M _r 290.27	HPLC-DAD with UV-spectrum	20 mg 50 mg	110,- 220,-
	α-Chaconin aus Solanum tuberosum Art.-Nr. 6208.98 >98.0 % [20562-03-2] C ₄₅ H ₇₃ NO ₁₄ M _r 852.4	HPLC-DAD mit UV-Spektrum	5 mg 10 mg	140,- 250,-
	Cephaelin dihydrobromide Desmethylemetin dihydrobromide from Ipecacuanha Art.-Nr. 6304.97 >97.0 % [6014-81-9] C ₂₈ H ₃₈ N ₂ O ₄ x 2HBr M _r 628.45	HPLC-DAD with UV-spectrum	20 mg 50 mg	193,- 386,-
	Chelidonine Stylophorin from Chelidonium majus Art. 6302.98 >98.0 % [476-32-4] C ₂₀ H ₁₉ NO ₅ M _r 353.37	HPLC-DAD with UV-spectrum	20 mg 50 mg	120,- 220,-

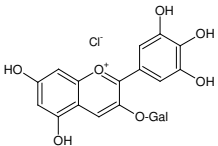
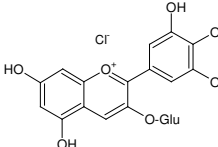
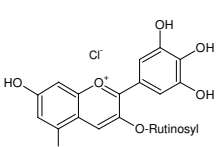
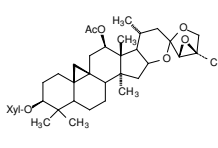
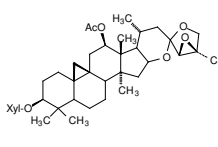
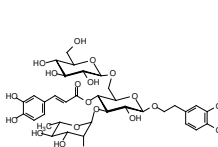
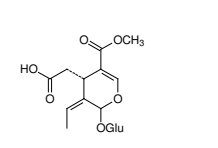
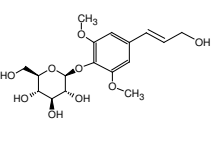
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Chlorogenic acid 3-Caffeoylchiric acid from green coffee beans Art.-Nr. 6107.99 >99.0 % [327-97-9] C ₁₆ H ₁₈ O ₉ M _r 354.31	HPLC-DAD with UV-spectrum	20 mg 50 mg	92,- 125,-
	Cichoric acid 2,3-Dicaffeoyltartaric acid from Echinacea pallidea Art. 6105.98 >98.0 % [70831-56-0] C ₂₂ H ₁₈ O ₁₂ M _r 474.38	HPLC-DAD with UV-spectrum	10 mg 20 mg	200,- 350,-
	Cnicin from Cnicus benedictus Art. 2113.98 >98.0 % [24394-09-0] C ₂₀ H ₂₆ O ₇ M _r 378.42	HPLC-DAD with UV-spectrum	10 mg 20 mg	120,- 200,-
	Coptisine chloride Bis(methylenedioxy)protoberberin from Chelidonium majus Art. 6301.RS >99.0 % [6020-18-4] C ₁₉ H ₁₄ NO ₄ Cl M _r 355.78	HPLC-DAD with UV-spectrum	10 mg 20 mg	115,- 200,-
	Curcumin Diferuloylmethane from Curcuma longa Art. 4320.98 >98.0 % [458-37-7] C ₂₁ H ₂₀ O ₆ M _r 368.39	HPLC-DAD with UV-spectrum	10 mg 20 mg	116,- 212,-
	Cyanidin chloride Cyanidol aus Rosa centifolia Art. 5003.97 >97.0 % [528-58-5] C ₁₅ H ₁₁ ClO ₆ M _r 322.70	HPLC-DAD with UV-spectrum	20 mg	134,-
	Cyanidin-3-arabioside chloride Ideain from Vaccinium vitis-idaea Art. 5023.97 >97.0 % [57186-11-5] C ₂₀ H ₁₉ O ₁₀ Cl M _r 454.82	HPLC-DAD with UV-spectrum	10 mg	180,-
	Cyanidin-3-galactoside chloride Ideain aus Vaccinium vitis-idaea Art. 5022.97 >97.0 % [27661-36-5] C ₂₁ H ₂₁ O ₁₁ Cl M _r 484.84	HPLC-DAD with UV-spectrum	10 mg	180,-

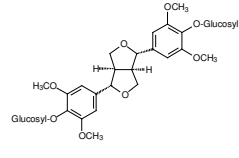
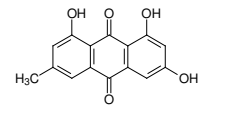
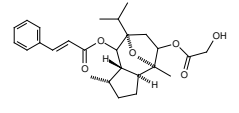
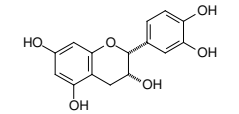
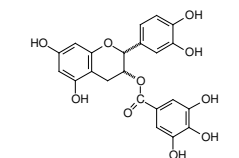
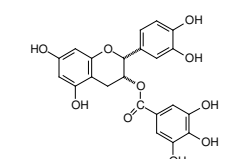
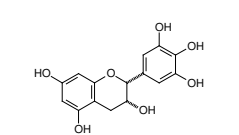
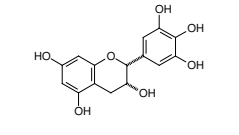
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Cyanidin-3-glucoside Kuromanin chloride, Asterin from <i>Rosa centifolia</i> Art. 5002.97 >97.0 % [7084-24-4] C ₂₁ H ₂₁ ClO ₁₁ M _r 484.84	HPLC-DAD with UV-spectrum	10 mg	160,-
	Cyanidin-3-rutinoside Antirrhinin, Keracyanin from <i>Ribes nigrum</i> Art. 5004.97 >97.0 % [18719-76-1] C ₂₁ H ₂₁ ClO ₁₁ M _r 630.98	HPLC-DAD with UV-spectrum	20 mg 50 mg	160,- 320,-
	Cyanin chloride Cyanidin-3,5-diglucoside chloride from <i>Rosa centifolia</i> Art. 5001.98 >98.0 % [2611-67-8] C ₂₇ H ₃₁ ClO ₁₆ M _r 646.96	HPLC-DAD with UV-spectrum	20 mg 50 mg	115,- 230,-
	Cyanin chloride Cyanidin-3,5-diglucoside chloride from <i>Rosa centifolia</i> Art. 5001.96 >96.0 % [2611-67-8] C ₂₇ H ₃₁ ClO ₁₆ M _r 646.96	HPLC-DAD with UV-spectrum	100 mg	120,-
	Cynarin 1,3-Dicaffeoylquinic acid from <i>Cynara scolymus</i> Art. 6103.RS >99.0 % [1182-34-9] C ₂₅ H ₂₄ O ₁₂ M _r 516.46	HPLC-DAD, TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	10 mg 20 mg 50 mg	190,- 310,- 620,-
	Cynarin 1,3-Dicaffeoylquinic acid from <i>Cynara scolymus</i> Art. 6103.99 >99.0 % [1182-34-9] C ₂₅ H ₂₄ O ₁₂ M _r 516.46	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	152,- 245,- 490,-
	Cytisine Laburnin from <i>Laburnum anagyroides</i> Art. 6204.98 >98.0 % [485-35-8] C ₁₁ H ₁₄ N ₂ O M _r 190.25	HPLC-DAD with UV-spectrum	20 mg 50 mg	155,- 310,-
	Delphinidin chloride aus <i>Vaccinium myrtillus</i> Art.. 5015.97 >97.0 % [528-53-0] C ₁₅ H ₁₁ O ₇ Cl M _r 338.70	HPLC-DAD with UV-spectrum	10 mg 20 mg	125,- 230,-

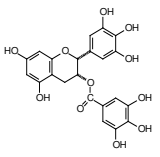
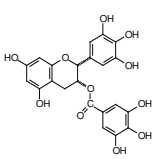
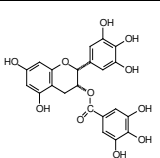
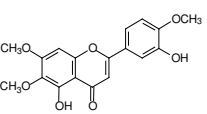
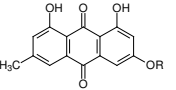
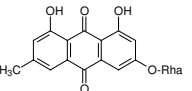
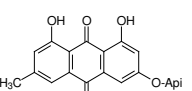
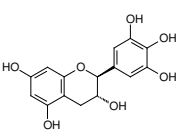
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Delphinidin-3-galactoside chloride Empetrin from <i>Vaccinium myrtillus</i> Art. 5017.95 >95.0 % [28500-00-7] C ₂₁ H ₂₁ O ₁₂ Cl M _r 500.84	HPLC-DAD with UV-spectrum	10 mg 20 mg	200,- 380,-
	Delphinidin-3-glucoside chloride Myrtillin from <i>Vaccinium myrtillus</i> Art. 5018.95 >95.0 % [6906-38-3] C ₂₁ H ₂₁ O ₁₂ Cl M _r 500.84	HPLC-DAD with UV-spectrum	10 mg 20 mg	180,- 340,-
	Delphinidin-3-rutinoside Delphinidin-3-glucorhamnoside, Tulipanin from <i>Ribes nigrum</i> Art. 5009.97 >97.0 % [15674-58-5] C ₂₇ H ₃₁ ClO ₁₆ Cl M _r 646.98	HPLC-DAD with UV-spectrum	20 mg 50 mg	155,- 310,-
	27-Deoxyactein 26-Deoxyactein, 23-epi-26-Deoxyactein from <i>Cimicifuga racemosa</i> Art. 3505.RS >99.0 % [-] C ₃₇ H ₅₆ O ₁₀ M _r 660.84	HPLC-DAD (2 methods), TLC (2 methods), ¹ H-NMR, ¹³ C-NMR - (with Interpretation), IR, MS, hr-MS, Melting point	10 mg 50 mg	470,- 2.100,-
	27-Deoxyactein 26-Deoxyactein, 23-epi-26-Deoxyactein from <i>Cimicifuga racemosa</i> Art. 3505.99 >99.0 % [-] C ₃₇ H ₅₆ O ₁₀ M _r 660.84	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	210,- 370,- 680,-
	Echinacoside from <i>Echinacea pallidea</i> Art. 6104.98 >98.0 % [82854-37-3] C ₃₅ H ₄₆ O ₂₀ M _r 786.70	HPLC-DAD with UV-spectrum	10 mg 20 mg	205,- 360,-
	Elenolic acid glucoside Oleoside-11-methylester from <i>Olea europaea</i> Art. 2131.98 >98.0 % [60539-23-3] C ₁₇ H ₂₄ O ₁₁ M _r 404.38	HPLC-DAD with UV-spectrum	20 mg 50 mg	160,- 320,-
	Eleutheroside B Syringin, Syringoside from <i>Syringa vulgaris</i> Art. 3203.99 >99.0 % [118-34-3] C ₁₇ H ₂₄ O ₉ M _r 372.36	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	105,- 185,- 320,-

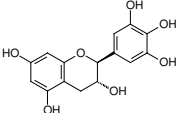
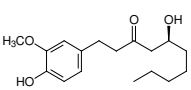
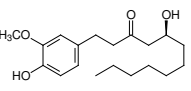
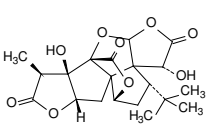
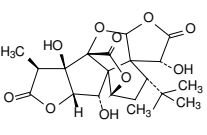
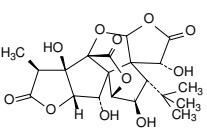
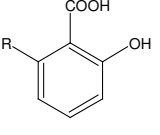
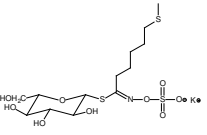
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Eleutheroside E Syringaresinol-4',4'-O-bis-β-D-glucoside from Eleutherococcus</p> <p>Art. 3202.96 >96.0 % [39432-56-9] C₃₄H₄₆O₁₈ M_r 742.71</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	126,- 212,- 363,-
	<p>Emodin Frangula-Emodin, Rheum-Emodin, Archin from Rhamnus frangula</p> <p>Art. 3266.99 >99.0 % [518-82-1] C₁₅H₁₀O₅ M_r 270.23</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	112,- 224,-
	<p>Englerin A aus Phyllanthus engleri</p> <p>Art.-Nr. 1901.95 >95.0 % [-] C₂₆H₃₅O₁₆ M_r 443.56</p>	HPLC-DAD mit UV-Spektrum	10 mg	210,-
	<p>(-)-Epicatechin from Acacia catechu</p> <p>Art. 3305.99 >99.0 % [490-46-0] C₁₅H₁₄O₆ M_r 290.27</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	105,- 210,-
	<p>(-)-Epicatechin gallate from Camellia sinensis</p> <p>Art. 3307.RS >99.0 % [1257-08-5] C₂₂H₁₈O₁₀ M_r 442.38</p>	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	10 mg 50 mg	190,- 850,-
	<p>(-)-Epicatechin gallate from Camellia sinensis</p> <p>Art. 3307.99 >99.0 % [1257-08-5] C₂₂H₁₈O₁₀ M_r 442.38</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	153,- 260,- 610,-
	<p>(-)-Epigallocatechin from Camellia sinensis</p> <p>Art. 3306.RS >99.0 % [970-74-1] C₁₅H₁₄O₇ M_r 306.27</p>	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	10 mg 50 mg	205,- 850,-
	<p>(-)-Epigallocatechin from Camellia sinensis</p> <p>Art. 3306.99 >99.0 % [970-74-1] C₁₅H₁₄O₇ M_r 306.27</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	163,- 276,- 630,-

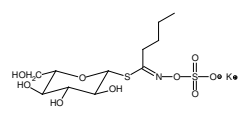
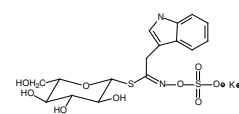
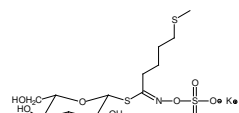
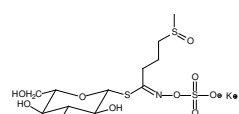
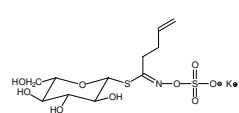
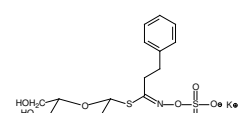
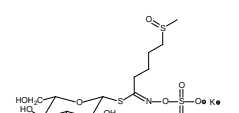
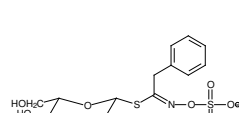
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	(-)-Epigallocatechin gallate from <i>Camellia sinensis</i> Art. 3308.RS >99.0 % [989-51-5] $C_{22}H_{18}O_{11}$ M_r 458.37	HPLC-DAD, TLC, 1H -NMR, ^{13}C -NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg	260,- 520,-
	(-)-Epigallocatechin gallate from <i>Camellia sinensis</i> Art. 3308.99 >99.0 % [989-51-5] $C_{22}H_{18}O_{11}$ M_r 458.37	HPLC-DAD with UV-spectrum	20 mg 50 mg	200,- 400,-
	(-)-Epigallocatechin gallate from <i>Camellia sinensis</i> Art. 3308.96 >96.0 % [989-51-5] $C_{22}H_{18}O_{11}$ M_r 458.37	HPLC-DAD with UV-spectrum	100 mg	125,-
	Eupatorin 3',5-Dihydroxy-4',6,7-trimethoxyflavon from <i>Orthosiphon stamineus</i> Art.. 3283.99 >99.0 % [855-96-9] $C_{18}H_{16}O_7$ M_r 344.32	HPLC-DAD with UV-spectrum	20 mg	140,-
	Frangulin Mixture of A and B approx. 1:4 from <i>Rhamnus frangula</i> Art. 3270.97 >97.0 % [60529-33-1]	HPLC-DAD with UV-spectrum	100 mg	135,-
	Frangulin A Emodinrhamnoside, Rhamnoxanthin from <i>Rhamnus frangula</i> Art. 3268.98 >98.0 % [521-62-0] $C_{21}H_{20}O_9$ M_r 416.38	HPLC-DAD with UV-spectrum	20 mg	140,-
	Frangulin B 6-O-(Apiofuranosyl)-1,6,8-trihydroxy-3- methylanthraquinone from <i>Rhamnus frangula</i> Art. 3269.98 >98.0 % [14101-04-3] $C_{20}H_{18}O_9$ M_r 402.36	HPLC-DAD with UV-spectrum	10 mg 20 mg	140,- 235,-
	(-)-Gallocatechin Gallocatechol from <i>Camellia sinensis</i> Art. 3309.RS >99.0 % [3371-27-5] $C_{15}H_{14}O_7$ M_r 306.27	HPLC-DAD, TLC, 1H -NMR, ^{13}C -NMR - (with Interpretation), UV, IR, MS, Melting point	10 mg 20 mg 50 mg	160,- 230,- 455,-

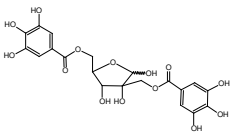
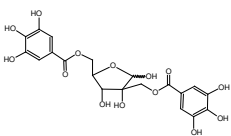
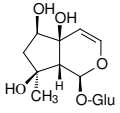
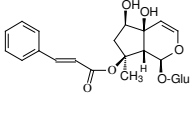
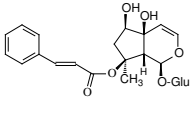
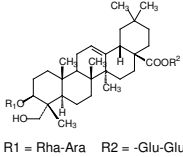
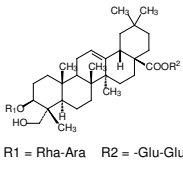
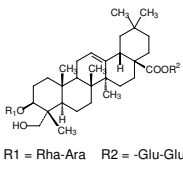
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>(-)-Gallocatechin Gallocatechol from <i>Camellia sinensis</i></p> <p>Art. 3309.99 >99.0 % [3371-27-5] C₁₅H₁₄O₇ M_r 306.27</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	130,- 208,- 415,-
	<p>[6]-Gingerol from <i>Zingiber officinale</i></p> <p>Art. 4301.98 >98.0 % [23513-14-6] C₁₇H₂₆O₄ M_r 294.39</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	143,- 244,-
	<p>[8]-Gingerol from <i>Zingiber officinale</i></p> <p>Art. 4302.98 >98.0 % [23513-08-8] C₁₉H₃₀O₄ M_r 322.44</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	158,- 270,-
	<p>Ginkgolide A from <i>Ginkgo biloba</i></p> <p>Art. 4251.98 >98.0 % [15291-75-5] C₂₀H₂₄O₉ M_r 408.41</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	105,- 160,-
	<p>Ginkgolide B 1-Hydroxyginkgolide A from <i>Ginkgo biloba</i></p> <p>Art. 4250.99 >99.0 % [15291-77-7] C₂₀H₂₄O₁₀ M_r 424.40</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	145,- 240,-
	<p>Ginkgolide C 1,7-Dihydroxyginkgolide A from <i>Ginkgo biloba</i></p> <p>Art. 4252.95 >95.0 % [15291-76-6] C₂₀H₂₄O₁₁ M_r 440.40</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	120,- 187,-
	<p>Ginkgolic acids RN from <i>Ginkgo biloba</i></p> <p>Art. 4110.90 >90.0 % [-] C₂₀H₃₂O₃ / C₂₂H₃₄O₃ / C₂₄H₃₈O₃ M_r 320.5 / 346.5 / 374.6</p> <p>R = C₁₃H₂₇, C₁₅H₂₉, C₁₇H₃₃</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	160,- 260,- 450,-
	<p>Glucoberteroin 4-Methylthiopentylglucosinolate potassium from <i>Berberoa incana</i></p> <p>Art. 3412.97 >97.0 % [29611-01-6] C₁₃H₂₄KNO₉S₃ M_r 473.64</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	200,- 450,-

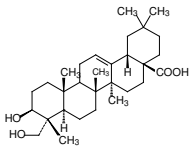
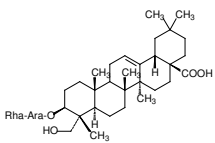
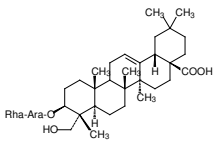
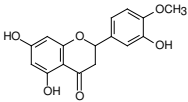
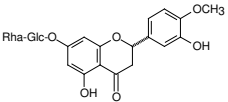
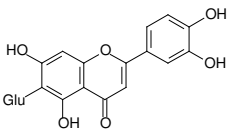
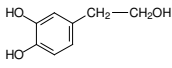
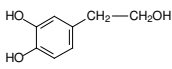
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Glucobrassicinapin 4-Pentenylglucosinolat Kaliumsalz aus Brassica napus</p> <p>Art.-Nr. 3419.97 >97.0 % [19041-10-2] C₁₂H₂₀KNO₉S₂ M_r 443.52</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	140,- 250,- 500,-
	<p>Glucobrassicin 3-Indolylmethylglucosinolat potassium salt aus Brassica oleracea</p> <p>Art. 3407.97 >97.0 % [4356-52-9] C₁₆H₁₉KN₂O₉S₂ M_r 487.26</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	130,- 220,-
	<p>Glucocerucin 4-Methylthiobutylglucosinolat potassium salt from Eruca sativa</p> <p>Art. 3411.97 >97.0 % [21973-56-8] C₁₂H₂₂KNO₉S₃ M_r 459.61</p>	HPLC-DAD with UV- spectrum	10 mg 20 mg	150,- 280,-
	<p>Glucioiberin 3-(Methylsulfinyl)propylglucosinolat pot. salt from Iberis amara</p> <p>Art. 3413.99 >99.0 % [554-88-1] C₁₁H₂₀KNO₁₀S₃ M_r 461.56</p>	HPLC-DAD with UV- spectrum	10 mg 20 mg 50 mg	120,- 200,- 400,-
	<p>Gluconapin 3-Butenylglucosinolat potassium salt from Brassica napus</p> <p>Art. 3417.97 >97.0 % [19041-09-9] C₁₁H₁₈KNO₉S₂ M_r 429.50</p>	HPLC-DAD with UV- spectrum	10 mg 20 mg 50 mg	125,- 220,- 440,-
	<p>Gluconasturtiin Phenylethylglucosinolat potassium salt from Nasturtium officinale</p> <p>Art. 3405.97 >97.0 % [499-30-9] C₁₅H₂₀KNO₉S₂ M_r 461.16</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	130,- 220,-
	<p>Glucoraphanin 3-(methylsulfinyl)butyl-glucosinolat pot. salt from Brassica oleracea</p> <p>Art.-Nr. 3421.97 >97.0 % [21414-41-5] C₁₂H₂₂KNO₁₀S₃ M_r 475.66</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	130,- 220,-
	<p>Glucotropaeolin Benzylglucosinolat potassium salt from Tropaeolum majus</p> <p>Art. 3403.99 >99.0 % [5115-71-9] C₁₄H₁₈KNO₉S₂ M_r 447.52</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	110,- 220,-

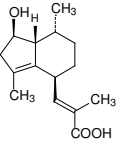
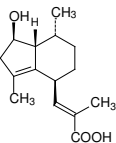
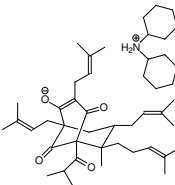
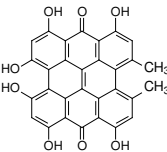
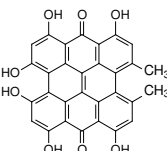
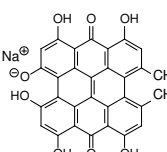
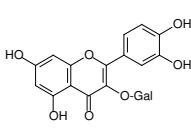
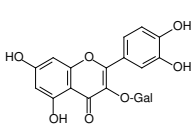
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Hamamelitannin from Hamamelis virginiana</p> <p>Art. 3315.99 >99.0 % [469-32-9] C₂₀H₂₀O₁₄ M_r 484.37</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	125,- 210,-
	<p>Hamamelitannin from Hamamelis virginiana</p> <p>Art. 3315.96 >96.0 % [469-32-9] C₂₀H₂₀O₁₄ M_r 484.37</p>	HPLC-DAD with UV-spectrum	50 mg 100 mg	110,- 200,-
	<p>Harpagide from Harpagophytum procumbens</p> <p>Art. 2120.99 >99.0 % [6926-08-5] C₁₅H₂₄O₁₀ M_r 364.34</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	160,- 270,-
	<p>Harpagoside 8-O-Cinnamoylharpagide from Harpagophytum procumbens</p> <p>Art. 2121.RS >99.0 % [19210-12-9] C₂₄H₃₀O₁₁ M_r 494.48</p>	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg	250,- 500,-
	<p>Harpagoside 8-O-Cinnamoylharpagide from Harpagophytum procumbens</p> <p>Art. 2121.99 >99.0 % [19210-12-9] C₂₄H₃₀O₁₁ M_r 494.48</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	100,- 170,- 340,-
	<p>Hederacoside C Hederasaponin C from Hedera helix</p> <p>Art. 5133.RS >99.0 % [14216-03-6] C₅₉H₉₆O₂₆ M_r 1221.39</p> <p>R1 = Rha-Ara R2 = -Glu-Glu-Rha</p>	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg	165,- 330,-
	<p>Hederacoside C Hederasaponin C from Hedera helix</p> <p>Art. 5133.99 >99.0 % [14216-03-6] C₅₉H₉₆O₂₆ M_r 1221.39</p> <p>R1 = Rha-Ara R2 = -Glu-Glu-Rha</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	116,- 232,- 420,-
	<p>Hederacoside C Hederasaponin C aus Hedera helix</p> <p>Art. 5133.95 >95.0 % [14216-03-6] C₅₉H₉₆O₂₆ M_r 1221.39</p> <p>R1 = Rha-Ara R2 = -Glu-Glu-Rha</p>	HPLC-DAD with UV-spectrum	50 mg 100 mg	105,- 185,-

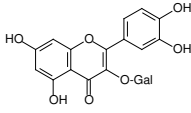
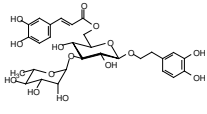
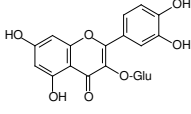
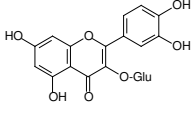
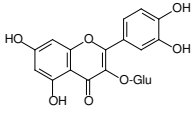
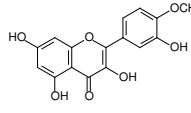
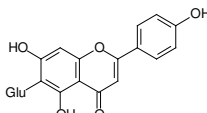
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Hederagenin from Hedera helix Art. 5135.98 >98.0 % [465-99-6] C ₃₀ H ₄₈ O ₄ M _r 472.73	HPLC-DAD with UV-spectrum	20 mg 50 mg	113,- 226,-
	α-Hederin from Hedera helix Art. 5136.RS >99.0 % [27013-91-8] C ₄₁ H ₆₆ O ₁₂ M _r 750.97	HPLC-DAD, TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	10 mg 20 mg	195,- 320,-
	α-Hederin from Hedera helix Art. 5136.99 >99.0 % [27013-91-8] C ₄₁ H ₆₆ O ₁₂ M _r 750.97	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	122,- 208,- 416,-
	Hesperetin Cyanidanon-4'-methylether synthetic Art. 3320.98 >98.0 % [520-33-2] C ₁₆ H ₁₄ O ₆ M _r 302.28	HPLC-DAD with UV-spectrum	20 mg 50 mg	110,- 220,-
	Hesperidin Hesperetin-7-rutinoside, Cirantin from Citrus sinensis Art. 3321.98 >98.0 % [520-26-3] C ₂₈ H ₃₄ O ₁₅ M _r 610.57	HPLC-DAD with UV-spectrum	20 mg 50 mg	116,- 232,-
	Homoorientin 6-C-Glucoluteolin, Isoorientin from Adonis vernalis Art. 3277.99 >99.0 % [4261-42-1] C ₂₁ H ₂₀ O ₁₁ M _r 448.38	HPLC-DAD with UV-spectrum	5 mg 10 mg	108,- 169,-
	Hydroxytyrosol 3,4-Dihydroxyphenylethanol from Olea europaea Art. 4440.RS >98.0 % [10597-60-1] C ₈ H ₁₀ O ₃ M _r 154.17	HPLC-DAD, TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS	25 mg	185,-
	Hydroxytyrosol 3,4-Dihydroxyphenylethanol from Olea europaea Art. 4440.98 >98.0 % [10597-60-1] C ₈ H ₁₀ O ₃ M _r 154.17	HPLC-DAD with UV-spectrum	25 mg 50 mg	130,- 210,-

Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Hydroxyvalerenic acid from Valeriana officinalis</p> <p>Art. 4401.RS >99.0 % [1619-16-5] C₁₅H₂₂O₃ M_r 250.34</p>	HPLC-DAD (2 methods), TLC (2 methods), ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Elemental analysis Melting point	25 mg 50 mg 100 mg	235,- 395,- 670,-
	<p>Hydroxyvalerenic acid from Valeriana officinalis</p> <p>Art. 4401.99 >99.0 % [1619-16-5] C₁₅H₂₂O₃ M_r 250.34</p>	HPLC-DAD with UV-spectrum	25 mg 50 mg 100 mg	180,- 310,- 560,-
	<p>Hyperforin / Adhyperforin-Dicyclohexylammonium salt(4:1) natural mixture from Hypericum perfor.</p> <p>Art.-Nr. 4213.90 >950.0 % [238074-03-8] C₃₅H₅₁O₄ x C₁₂H₂₄N M_r 718.11</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg	170,- 315,-
	<p>Hypericin from Hypericum perforatum</p> <p>Art. 3720.RS >99.0 % [548-04-9] C₃₀H₁₆O₈ M_r 504.45</p>	HPLC-DAD, TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, hr-MS, Melting point	10 mg 20 mg	355,- 610,-
	<p>Hypericin from Hypericum perforatum</p> <p>Art. 3720.98 >98.0 % [548-04-9] C₃₀H₁₆O₈ M_r 504.45</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	180,- 300,- 510,-
	<p>Hypericin Sodium salt from Hypericum perforatum</p> <p>Art. 3721.98 >98.0 % [-] C₃₀H₁₅O₈Na M_r 526.45</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	190,- 300,- 510,-
	<p>Hyperoside Hyperin, Quercetin-3-galactoside from Hypericum perforatum</p> <p>Art. 3252.RS >99.0 % [482-36-0] C₂₁H₂₀O₁₂ M_r 464.38</p>	HPLC-DAD (2 methods), TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg 100 mg	155,- 310,- 510,-
	<p>Hyperoside Hyperin, Quercetin-3-galactoside from Hypericum perforatum</p> <p>Art. 3252.99 >99.0 % [482-36-0] C₂₁H₂₀O₁₂ M_r 464.38</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	125,- 250,- 425,-

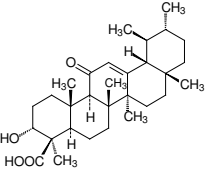
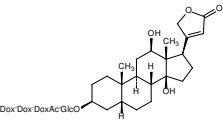
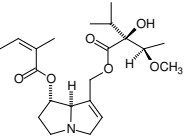
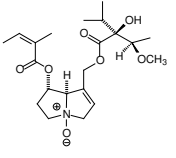
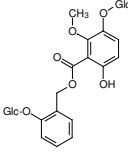
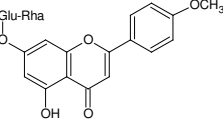
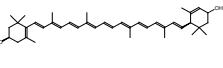
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Hyperoside Hyperin, Quercetin-3-galactoside from <i>Hypericum perforatum</i></p> <p>Art. 3252.97 >97.0 % [482-36-0] C₂₁H₂₀O₁₂ M_r 464.38</p>	HPLC-DAD with UV-spectrum	100 mg	145,-
	<p>Isoocteoside Isoverbascoside from <i>Harpagophytum procumbens</i></p> <p>Art. 6102.99 >99.0 % [61303-13-7] C₂₉H₃₆O₁₅ M_r 624.59</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	180,- 360,-
	<p>Isoorientin see Homoorientin</p>			
	<p>Isoquercitrin Quercetin-3-glucoside from <i>Sambucus nigra</i></p> <p>Art. 3254.RS >99.0 % [21637-25-2] C₂₁H₂₀O₁₂ M_r 464.38</p>	HPLC-DAD (2 methods), TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg 100 mg	180,- 360,- 590,-
	<p>Isoquercitrin Quercetin-3-glucoside from <i>Tiliae officinalis</i></p> <p>Art. 3254.99 >99.0 % [21637-25-2] C₂₁H₂₀O₁₂ M_r 464.38</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	135,- 270,- 460,-
	<p>Isoquercitrin Quercetin-3-glucosid aus <i>Tiliae officinalis</i></p> <p>Art. 3254.97 >97.0 % [21637-25-2] C₂₁H₂₀O₁₂ M_r 464.38</p>	HPLC-DAD with UV-spectrum	50 mg 100 mg	160,- 290,-
	<p>Isorhamnetin 4'-O-Methylquercetin from <i>Calendula officinalis</i></p> <p>Art. 3251.98 >98.0 % [480-19-3] C₁₆H₁₂O₇ M_r 316.27</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	112,- 193,-
	<p>Isovitexin from <i>Saponaria officinalis</i></p> <p>Art. 3230.RS >99.0 % [38953-85-4] C₂₁H₂₀O₁₀ M_r 432.38</p>	HPLC-DAD, TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	5 mg 10 mg	165,- 280,-

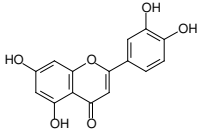
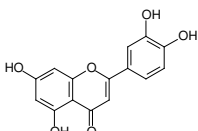
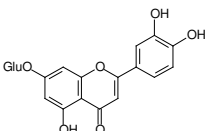
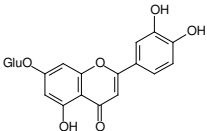
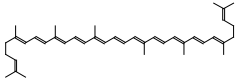
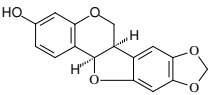
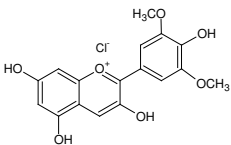
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Isovitexin from <i>Saponaria officinalis</i></p> <p>Art. 3230.99 >99.0 % [38953-85-4] C₂₁H₂₀O₁₀ M_r 432.38</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg	120,- 205,-
	<p>Isoxanthohumol from <i>Humulus lupulus</i></p> <p>Art. 3325.99 >99.0 % [70872-29-6] C₂₁H₂₂O₅ M_r 354.40</p>	HPLC-DAD with UV-Spectrum	10 mg 20 mg 50 mg	112,- 173,- 345,-
	<p>Kaempferol Robigenin, Trifolitin from <i>Aesculus hippocastanum</i></p> <p>Art. 3240.RS >99.0 % [520-18-3] C₁₅H₁₀O₆ M_r 286.24</p>	HPLC-DAD, TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg 100 mg	180,- 360,- 620,-
	<p>Kaempferol Robigenin, Trifolitin from <i>Aesculus hippocastanum</i></p> <p>Art. 3240.99 >99.0 % [520-18-3] C₁₅H₁₀O₆ M_r 286.24</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	135,- 260,- 450,-
	<p>Kaempferol Robigenin, Trifolitin from <i>Aesculus hippocastanum</i></p> <p>Art. 3240.97 >97.0 % [520-18-3] C₁₅H₁₀O₆ M_r 286.24</p>	HPLC-DAD with UV-spectrum	250 mg 500 mg	115,- 300,-
	<p>Kaempferol-3-glucoside Astragalin from <i>Aesculus hippocastanum</i></p> <p>Art. 3242.RS >99.0 % [480-10-4] C₂₁H₂₀O₁₁ M_r 448.38</p>	HPLC-DAD (2 methods), TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	10 mg 20 mg	260,- 440,-
	<p>Kaempferol-3-glucoside Astragalin from <i>Aesculus hippocastanum</i></p> <p>Art. 3242.99 >99.0 % [480-10-4] C₂₁H₂₀O₁₁ M_r 448.38</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	210,- 360,- 750,-
	<p>Kaempferol-3-glucoside Astragalin from <i>Aesculus hippocastanum</i></p> <p>Art. 3242.97 >97.0 % [480-10-4] C₂₁H₂₀O₁₁ M_r 448.38</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	140,- 250,-

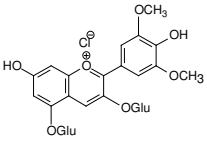
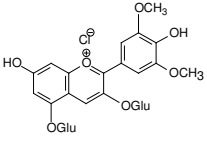
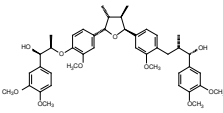
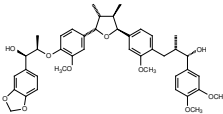
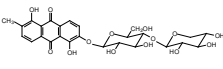
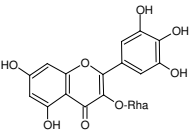
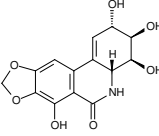
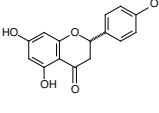
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>11-Keto-β-boswellic acid 3α-Hydroxy-urs-12-ene-11-keto-23-acid from <i>Boswellia serrata</i></p> <p>Art. 5152.99 >99.0 % [17019-92-0] C₃₀H₄₆O₄ M_r 470.69</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	122,- 193,- 330,-
	<p>Kuromanin chloride see Cyanidin-3-glucoside chloride</p>			
	<p>Lanatoside C Digilanid C from <i>Digitalis lanata</i></p> <p>Art.-Nr. 5103.99 >99 % [17575-22-3] C₄₉H₇₆O₂₀ M_r 985.14</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	102,- 205,-
	<p>Lasiocarpin 7-Angelyleuropin from <i>Heliotropium</i></p> <p>Art. 6210.96 >96.0 % [303-34-4] C₂₁H₃₃NO₇ M_r 441.49</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	160,- 280,-
	<p>Lasiocarpin-N-Oxide 7-Angelyleuropin-N-Oxide from <i>Heliotropium</i></p> <p>Art. 6211.96 >96.0 % [127-30-0] C₂₁H₃₃NO₈ M_r 457.49</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	160,- 280,-
	<p>Leiocarposide 2'-Hydroxybenzyl-3-methoxybenzoate-2',4-diglucoside from <i>Solidago virgaurea</i></p> <p>Art.-Nr. 2125.99 >99 % [71953-77-0] C₂₇H₃₄O₁₆ M_r 614.56</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	200,- 350,-
	<p>Linarin Acacetin-7-rutinosid from <i>Linaria vulgaris</i></p> <p>Art. 3210.98 >98.0 % [480-36-4] C₂₈H₃₂O₁₄ M_r 592.57</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	160,- 280,-
	<p>Lutein Xanthophyll, β,ε-Carotene-3,3'-diol from <i>Brassica oleracea</i></p> <p>Art. 4205.90 >90 % [127-40-2] C₄₀H₅₆O₂ M_r 568.88</p>	HPLC-DAD with UV-spectrum	5 mg	128,-

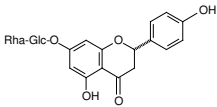
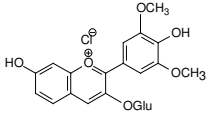
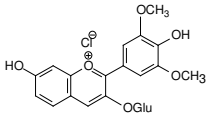
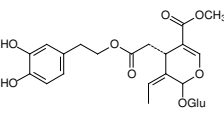
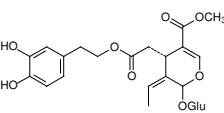
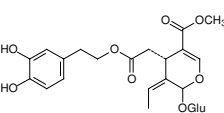
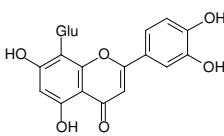
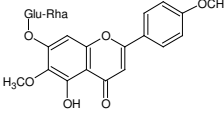
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Luteolin Digitoflavone from Reseda luteola</p> <p>Art. 3260.RS >99.0 % [491-70-3] C₁₅H₁₀O₆ M_r 286.23</p>	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg	200,- 340,-
	<p>Luteolin Digitoflavone from Reseda luteola</p> <p>Art. 3260.99 >99.0 % [491-70-3] C₁₅H₁₀O₆ M_r 286.23</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	125,- 250,- 470,-
	<p>Luteolin-7-glucoside Glucoluteolin from Reseda luteola</p> <p>Art. 3262.RS >99.0 % [5373-11-5] C₂₁H₂₀O₁₁ M_r 448.38</p>	HPLC-DAD (2 methods) TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg	200,- 340,-
	<p>Luteolin-7-glucoside Glucoluteolin from Reseda luteola</p> <p>Art. 3262.99 >99.0 % [5373-11-5] C₂₁H₂₀O₁₁ M_r 448.38</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	125,- 255,- 470,-
	<p>Lycopene ψ,ψ-Carotene, (all-trans)-Lycopene from Solanum lycopersicum</p> <p>Art. 4207.90 >90 % [502-65-8] C₄₀H₅₆ M_r 536.88</p>	HPLC-DAD with UV-spectrum	5 mg	117,-
	<p>Maackiain Demethylpterocarpin, Inermin from Baptisia tinctoria</p> <p>Art.-Nr. 3226.98 >98 % [2035-15-6] C₁₆H₁₂O₅C₄₀H₅₆ M_r 284.27</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	130,- 210,-
	<p>Malvidin-3-glucoside see Oeninchlorid</p>			
	<p>Malvidin chloride from Malva silvestris</p> <p>Art. 5008.97 >97.0 % [643-84-5] C₁₇H₁₅ClO₇ M_r 366.75</p>	HPLC-DAD with UV-spectrum	10 mg	120,-

Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Malvin chloride Malvidin-3,5-diglucoside chloride from <i>Malva silvestris</i></p> <p>Art. 5005.97 >97.0 % [16727-30-3] C₂₉H₃₅ClO₁₇ M_r 691.04</p>	HPLC-DAD with UV-spectrum	20 mg	150,-
	<p>Malvin chloride Malvidin-3,5-diglucoside chloride from <i>Malva silvestris</i></p> <p>Art. 5005.90 >90.0 % [16727-30-3] C₂₉H₃₅ClO₁₇ M_r 691.04</p>	HPLC-DAD with UV-spectrum	100 mg	100,-
	<p>Manassantin A from <i>Saururus chinensis</i></p> <p>Art.-Nr. 3101.98 >98.0 % [88497-87-4] C₄₂H₅₂O₁₁ M_r 732.34</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	200,- 350,-
	<p>Manassantin B from <i>Saururus chinensis</i></p> <p>Art.-Nr. 3103.98 >98.0 % [88497-88-5] C₄₁H₄₈O₁₁ M_r 716.30</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	170,- 300,-
	<p>Morindin aus <i>Morinda citrifolia</i></p> <p>Art.-Nr. 3271.95 >95.0 % [60450-21-7] C₂₆H₂₈O₁₄ M_r 564.50</p>	HPLC-DAD mit UV-Spektrum	10 mg	200,-
	<p>Myricitrin Myricetin-3-O-rhamnoside, Myricitroside from <i>Myrica cerifera</i></p> <p>Art. 3258.99 >99.0 % [17912-87-7] C₂₁H₂₀O₁₂ M_r 464.38</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	120,- 240,-
	<p>Narciclasin Lycoricidinol from <i>Narcissus pseudonarcissus</i></p> <p>Art. 6350.97 >97.0 % [29477-83-6] C₁₄H₁₃NO₇ M_r 307.26</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	200,- 350,-
	<p>Naringenin Naringetol, Pelarginadon from <i>Citrus paradisi</i></p> <p>Art. 3323.98 >98.0 % [480-41-1] C₁₅H₁₂O₅ M_r 272.26</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	110,- 220,-

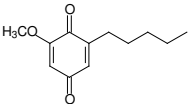
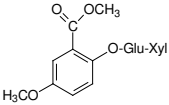
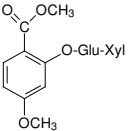
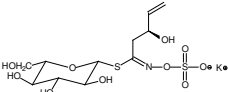
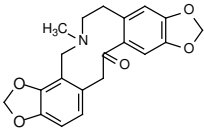
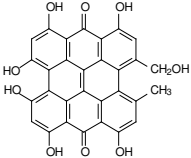
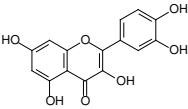
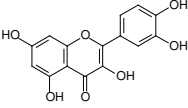
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Naringin Naringenin-7-rhamnoglucoside, Aurantiin from Citrus paradisi</p> <p>Art. 3322.99 >99.0 % [10236-47-2] C₂₇H₃₂O₁₄ M_r 580.54</p>	HPLC-DAD with UV-spectrum	20 mg 110,- 50 mg 220,-	
	<p>Oenin chloride Malvidin-3-glucoside from Vitis vinifera</p> <p>Art. 5007.85 >85.0 % [7228-78-6] C₂₃H₂₅ClO₁₂ M_r 528.88</p>	HPLC-DAD mit UV-Spektrum	100 mg 125,-	
	<p>Oenin chloride Malvidin-3-glucoside from Vitis vinifera</p> <p>Art. 5007.97 >97.0 % [7228-78-6] C₂₃H₂₅ClO₁₂ M_r 528.88</p>	HPLC-DAD mit UV-Spektrum	10 mg 132,- 20 mg 220,-	
	<p>Oleuropein from Olea europaea</p> <p>Art. 2111.RS >98.0 % [32619-42-4] C₂₅H₃₂O₁₃ M_r 540.52</p>	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 190,- 50 mg 330,-	
	<p>Oleuropein from Olea europaea</p> <p>Art. 2111.98 >98.0 % [32619-42-4] C₂₅H₃₂O₁₃ M_r 540.52</p>	HPLC-DAD with UV-spectrum	20 mg 135,- 50 mg 270,-	
	<p>Oleuropein from Olea europaea</p> <p>Art. 2111.90 >90.0 % [32619-42-4] C₂₅H₃₂O₁₃ M_r 540.52</p>	HPLC-DAD with UV-spectrum	500 mg 120,- 1000 mg 180,-	
	<p>Orientin 8-C-Glucoluteolin, Lutexin from Adonis vernalis</p> <p>Art. 3276.99 >99.0 % [28608-75-5] C₂₁H₂₀O₁₁ M_r 448.36</p>	HPLC-DAD with UV-spectrum	5 mg 110,- 10 mg 175,-	
	<p>Pectolarin Pectolarinoside, Neolarin from Linaria vulgaris</p> <p>Art. 3211.98 >98.0 % [28978-02-1] C₂₉H₃₄O₁₅ M_r 622.58</p>	HPLC-DAD with UV-spectrum	10 mg 160,- 20 mg 280,-	

Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Pectolarigenin 5,7-Dihydroxy-4',6-dimethoxyflavon from <i>Linaria vulgaris</i></p> <p>Art. 3212.97 >97.0 % [520-12-7] C₁₇H₁₄O₆ M_r 314.30</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	160,- 280,-
	<p>Pelargonidin chloride from <i>Pelargonium zonale</i></p> <p>Art.-Nr. 5006.97 >97.0 % [134-03-3] C₁₅H₁₁O₅Cl M_r 306.70</p>	HPLC-DAD with UV-spectrum	10 mg	110,-
	<p>Pelargonidin-3-glucoside aus</p> <p>Art.-Nr. 5024.97 >97.0 % [18466-51-8] C₂₁H₂₁O₁₀Cl M_r 468.84</p>	HPLC-DAD with UV-spectrum	10 mg	180,-
	<p>Pelargonidin-3,5-diglucoside Pelargonin, Salvinin from <i>Pelargonium zonale</i></p> <p>Art.-Nr. 5025.97 >97.0 % [17334-58-6] C₂₇H₃₁O₁₅Cl M_r 630.97</p>	HPLC-DAD with UV-spectrum	10 mg	160,-
	<p>Peonidin-3-glucoside from <i>Vitis vinifera</i></p> <p>Art.-Nr. 5020.97 >97.0 % [6906-39-4] C₂₂H₂₃O₁₁Cl M_r 498.85</p>	HPLC-DAD mit UV-Spektrum	5 mg 10 mg	130,- 220,-
	<p>Petunidin-3-glucoside from <i>Vitis vinifera</i></p> <p>Art.-Nr. 5021.97 >97.0 % [6988-81-4] C₂₂H₂₃O₁₂Cl M_r 514.85</p>	HPLC-DAD mit UV-Spektrum	5 mg 10 mg	130,- 220,-
	<p>Picroside II 6-Vanilloylcatalpol from <i>Picrorhiza kurroa</i></p> <p>Art. 2104.98 >98.0 % [39012-20-9] C₂₃H₂₈O₁₃ M_r 512.47</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	120,- 240,-
	<p>Primin 2-Methoxy-6-pentyl-p-benzoquinone synthetic</p> <p>Art. 1001.RS >99.0 % [15121-94-5] C₁₂H₁₆O₃ M_r 208.26</p>	HPLC-DAD (2 methods), TLC (2 methods), ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point, Elemental analysis	20 mg 50 mg	240,- 480,-

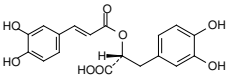
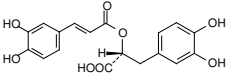
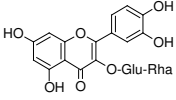
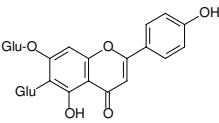
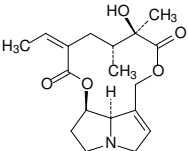
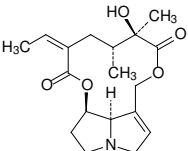
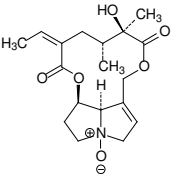
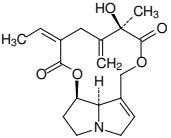
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	Primin 2-Methoxy-6-pentyl-p-benzoquinone synthetic Art. 1001.99 >99.0 % [15121-94-5] C ₁₂ H ₁₆ O ₃ M _r 208.26	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	210,- 420,- 760,-
	Primulaverin from Primula veris Art. 4101.99 >99.0 % [154-61-0] C ₂₀ H ₂₈ O ₁₃ M _r 476.43	HPLC-DAD with UV-spectrum	10 mg 20 mg	140,- 240,-
	Primverin from Primula veris Art. 4102.99 >99.0 % [154-60-9] C ₂₀ H ₂₈ O ₁₃ M _r 476.43	HPLC-DAD with UV-spectrum	10 mg 20 mg	145,- 245,-
	Progoitrin 2-Hydroxybut-3-enylglucosinolat potassium salt from Brassica napus Art. 3415.97 >97.0 % [585-95-5] C ₁₁ H ₁₈ KNO ₁₀ S ₂ M _r 427.48	HPLC-DAD with UV- spectrum	10 mg 20 mg 50 mg	125,- 220,- 440,-
	Protopin Fumarin, Biflorin, Macleyin aus Chelidonium majus Art.-Nr. 6307.98 >98.0 % [130-86-9] C ₂₀ H ₁₉ NO ₅ M _r 353.37	HPLC-DAD mit UV-Spektrum	10 mg 20 mg	130,- 240,-
	Pseudohypericin from Hypericum perforatum Art. 3272.97 >97.0 % [55954-61-5] C ₃₀ H ₁₆ O ₉ M _r 520.43	HPLC-DAD with UV-spectrum	5 mg 10 mg 20 mg	190,- 300,- 510,-
	Quercetin Sophoretin, Meletin synthetic from Rutin Art. 3201.RS >99.0 % [117-39-5] C ₁₅ H ₁₀ O ₇ M _r 302.24	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point, Elemental analysis	20 mg 50 mg 100 mg	160,- 255,- 430,-
	Quercetin Dihydrate Sophoretin, Meletin Synthetic from Rutin Art. 3201.99 >99.0 % [6151-25-3] C ₁₅ H ₁₀ O ₇ ·2H ₂ O M _r 338.27	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	115,- 170,- 290,-

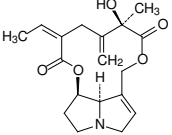
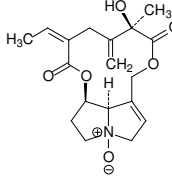
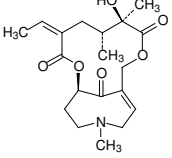
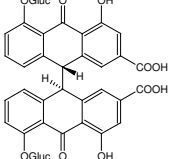
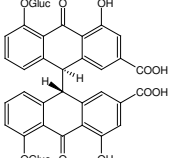
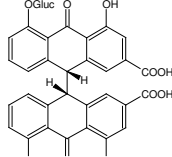
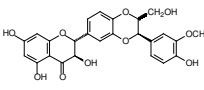
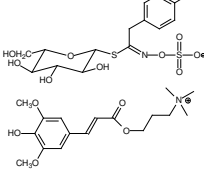
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Quercitrin Quercetin-rhamnoside from <i>Aesculus hippocastanum</i></p> <p>Art. 3253.RS >99.0 % [522-12-3] C₂₁H₂₀O₁₁ M_r 448.38</p>	HPLC-DAD (2 methods) TLC, ¹ H-NMR, ¹³ C-NMR - (with Interpretation), UV, IR, MS, Melting point	10 mg 20 mg 50 mg	175,- 300,- 600,-
	<p>Quercitrin Quercetin-rhamnoside from <i>Aesculus hippocastanum</i></p> <p>Art. 3253.99 >99.0 % [522-12-3] C₂₁H₂₀O₁₁ M_r 448.38</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	117,- 183,- 325,-
	<p>Retrorsine β-Longilobin, 12,18-Dihydroxysenecionan- 11,16-dione, from <i>Senecio retrorsus</i></p> <p>Art. 6203.98 >98.0 % [480-54-6] C₁₈H₂₅NO₆ M_r 351.40</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	125,- 250,-
	<p>Retrorsine β-Longilobin, 12,18-Dihydroxysenecionan- 11,16-dion; from <i>Senecio retrorsus</i></p> <p>Art. 6203.95 >95.0 % [480-54-6] C₁₈H₂₅NO₆ M_r 351.40</p>	HPLC-DAD with UV-spectrum	100 mg	210,-
	<p>Retrorsine N-oxide 12,18-Dihydroxysenecionan-11,16-dione-4- oxide; from <i>Senecio retrorsus</i></p> <p>Art. 6253.96 >96.0 % [15503-86-3] C₁₈H₂₅NO₇ M_r 367.40</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	130,- 230,-
	<p>Rhein Cassic acid, Crysazin-3-carboxylic acid from <i>Rheum palmatum</i></p> <p>Art. 3272.99 >99.0 % [478-43-3] C₁₅H₈O₆ M_r 284.23</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	145,- 290,- 490,-
	<p>Rhein Cassic acid, Crysazin-3-carboxylic acid from <i>Rheum palmatum</i></p> <p>Art. 3272.97 >97.0 % [478-43-3] C₁₅H₈O₆ M_r 284.23</p>	HPLC-DAD with UV-spectrum	250 mg	120,-
	<p>Robinin Kaempferol-3-robinoside-7-rhamnosid aus <i>Pseudoacacia</i></p> <p>Art.-Nr. 3326.98 >98.0 % [301-19-9] C₃₃H₄₀O₁₉ M_r 740.67</p>	HPLC-DAD mit UV-Spektrum	10 mg 20 mg	130,- 200,-

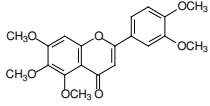
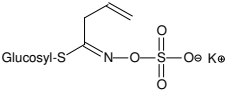
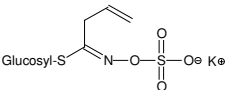
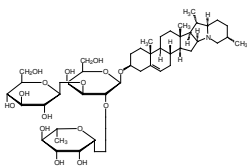
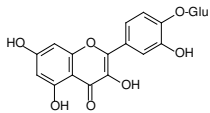
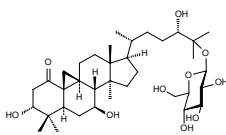
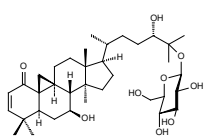
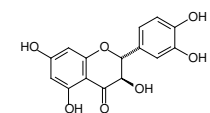
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Rosmarinic acid from Rosmarinus officinalis</p> <p>Art. 6130.RS >99.0 % [20283-92-5] C₁₈H₁₆O₈ M_r 360.32</p>	HPLC-DAD, TLC 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point, water content, residue of solvent	20 mg 50 mg	200,- 370,-
	<p>Rosmarinic acid from Rosmarinus officinalis</p> <p>Art. 6130.99 >99.0 % [20283-92-5] C₁₈H₁₆O₈ M_r 360.32</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	110,- 200,-
	<p>Rutin Rutoside, Quercetin-3-rutinoside, Sophorin from Sophora japonica</p> <p>Art. 3256.99 >99.0 % [153-18-4] C₂₇H₃₀O₁₆ M_r 610.52</p>	HPLC-DAD with UV-spectrum	50 mg 100 mg	130,- 220,-
	<p>Saponarin from Saponaria officinalis</p> <p>Art. 3232.99 >99.0 % [20310-89-8] C₂₇H₃₀O₁₅ M_r 594.53</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	152,- 255,-
	<p>Senecionine Aureine, 12-Hydroxysenecionan-11,16-dione from Senecio vulgaris</p> <p>Art. 6202.RS >99.0 % [130-01-8] C₁₈H₂₅NO₅ M_r 335.39</p>	HPLC-DAD, GC-MS TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg	220,- 480,-
	<p>Senecionine Aureine, 12-Hydroxysenecionan-11,16-dione from Senecio vulgaris</p> <p>Art. 6202.99 >99.0 % [130-01-8] C₁₈H₂₅NO₅ M_r 335.39</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	117,- 165,- 360,-
	<p>Senecionine-N-oxide 12-Hydroxysenecionan-11,16-dione-4-oxide from Senecio vulgaris</p> <p>Art. 6252.95 >95.0 % [13268-67-2] C₁₈H₂₅NO₆ M_r 351.39</p>	HPLC-DAD with UV-spectrum	10 mg	200,-
	<p>Seneciphylline Jacodine, α-Longilobine from Senecio vulgaris</p> <p>Art. 6201.RS >99.0 % [480-81-9] C₁₈H₂₃NO₅ M_r 333.38</p>	HPLC-DAD, GC-MS, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg	240,- 500,-

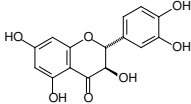
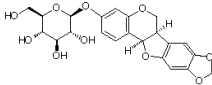
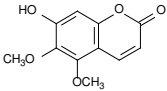
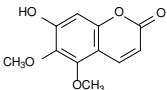
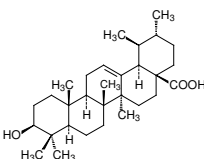
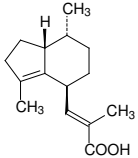
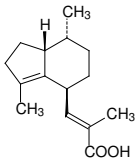
Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Seneciphylline Jacodine, α- Longilobine from <i>Senecio vulgaris</i></p> <p>Art. 6201.99 >99.0 % [480-81-9] C₁₈H₂₃NO₅ M_r 333.38</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	135,- 210,-
	<p>Seneciphylline-N-oxide from <i>Senecio vulgaris</i></p> <p>Art. 6251.97 >97.0 % [38710-26-8] C₁₈H₂₃NO₆ M_r 349.37</p>	HPLC-DAD with UV-spectrum	10 mg	230,-
	<p>Senkirkinine Renardine from <i>Tussilago farfara</i></p> <p>Art. 6203.95 >95.0 % [2318-18-5] C₁₉H₂₇NO₆ M_r 365.4</p>	HPLC-DAD with UV-spectrum	10 mg	160,-
	<p>Sennoside A from <i>Cassia angustifolia</i></p> <p>Art. 3280.98 >98.0 % [81-27-6] C₄₂H₃₈O₂₀ M_r 862.72</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	100,- 135,- 270,-
	<p>Sennoside A1 Sennosid A', Sennosid G from <i>Cassia angustifolia</i></p> <p>Art. 3282.95 >95.0 % [66575-30-2] C₄₂H₃₈O₂₀ M_r 862.72</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	140,- 200,-
	<p>Sennoside B from <i>Cassia angustifolia</i></p> <p>Art. 3281.98 >98.0 % [128-57-4] C₄₂H₃₈O₂₀ M_r 862.72</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg 50 mg	100,- 135,- 270,-
	<p>Silybin Diastereomeric mixture of Silybin A and B Silibinin, Silymarin from <i>Silybum marianum</i></p> <p>Art. 3215.98 >98.0 % [22888-70-6] C₂₅H₂₂O₁₀ M_r 482.44</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	100,- 200,-
	<p>Sinalbin from <i>Sinapis alba</i></p> <p>Art. 3409.99 >99.0 % [20196-67-2] C₃₀H₄₂NO₁₄S₂ M_r 704.80</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	117,- 215,-

Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Sinensetin from <i>Orthosiphon stamineus</i></p> <p>Art. 3263.98 >98.0 % [2306-27-6] C₂₀H₂₀O₇ M_r 372.38</p>	HPLC-DAD with UV-Spektrum	10 mg 20 mg	138,- 235,-
	<p>Sinigrin Monohydrate Sinigraside, Allylglucosinolate from <i>Sinapis nigra</i></p> <p>Art. 3401.99 >99.0 % [3952-98-5] C₁₀H₁₆KNO₉S₂·H₂O M_r 415.48</p>	HPLC-DAD with UV-spectrum	50 mg	108,-
	<p>Sinigrin Monohydrate Sinigraside, Allylglucosinolate from <i>Sinapis nigra</i></p> <p>Art. 3401.97 >97.0 % [3952-98-5] C₁₀H₁₆KNO₉S₂·H₂O M_r 415.48</p>	HPLC-DAD with UV-spectrum	1 g	165,-
	<p>α-Solanin Tomatin, Solatunin aus <i>Solanum tuberosum</i></p> <p>Art.-Nr. 6207.99 >99.0 % [20562-02-1] C₄₅H₇₃NO₁₅ M_r 868.044</p>	HPLC-DAD with UV-spektrum	20 mg 50 mg	150,- 300,-
	<p>Spiraeoside Quercetin-4'-glucoside from <i>Filipendula ulmaria</i></p> <p>Art. 3257.98 >98.0 % [20229-56-5] C₂₁H₂₀O₁₂ M_r 464.38</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	115,- 190,-
	<p>Sutherlandioside B from <i>Sutherlandia frutescens</i></p> <p>Art. 5170.98 >98.0 % [1055329-47-9] C₃₆H₆₀O₁₀ M_r 652.87</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	150,- 270,-
	<p>Sutherlandioside D from <i>Sutherlandia frutescens</i></p> <p>Art. 5171.98 >98.0 % [1055329-49-1] C₃₆H₅₈O₉ M_r 634.77</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	150,- 270,-
	<p>(+)-Taxifolin Dihydroquercetin, Distylin from <i>Pseudozuga menziesii</i></p> <p>Art. 3211.RS >99.0 % [480-18-2] C₁₅H₁₂O₇ M_r 304.24</p>	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	20 mg 50 mg 100 mg	180,- 360,- 600,-

Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>(+)-Taxifolin Dihydroquercetin, Distylin from Pseudozuga menziesii</p> <p>Art. 3211.99 >99.0 % [480-18-2] C₁₅H₁₂O₇ M_r 304.24</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg 100 mg	125,- 250,- 440,-
	<p>Trifolirhizin from Baptisia tinctoria</p> <p>Art. 3225.96 >96.0 % [6807-83-6] C₂₂H₂₂O₁₀ M_r 446.40</p>	HPLC-DAD with UV-Spektrum	20 mg	135,-
	<p>Umckalin 7-Hydroxy-5,6-dimethoxycumarin from Pelargonium sidoides</p> <p>Art. 3501.RS >99.0 % [43053-62-9] C₁₁H₁₀O₅ M_r 222.19</p>	HPLC-DAD 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	5 mg 10 mg 20 mg	120,- 200,- 350,-
	<p>Umckalin 7-Hydroxy-5,6-dimethoxycumarin from Pelargonium sidoides</p> <p>Art. 3501.99 >99.0 % [43053-62-9] C₁₁H₁₀O₅ M_r 222.19</p>	HPLC-DAD with UV-Spektrum	10 mg	250,-
	<p>Ursolic acid (3β)-3-Hydroxy-12-ursen-28-oic acid from Arctostaphylos uva ursi</p> <p>Art.-Nr. 5121.99 >99.0 % [77-52-1] C₃₀H₄₈O₃ M_r 456.71</p>	HPLC-DAD with UV-Spektrum	20 mg 50 mg	102,- 205,-
	<p>Valerenic acid from Valeriana officinalis</p> <p>Art. 4400.RS >99.0 % [3569-10-6] C₁₅H₂₂O₂ M_r 234.34</p>	HPLC-DAD/UV (2 methods), TLC (2 methods), 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point, Elemental analysis	25 mg 50 mg 100 mg	255,- 430,- 740,-
	<p>Valerenic acid from Valeriana officinalis</p> <p>Art. 4400.99 >99.0 % [3569-10-6] C₁₅H₂₂O₂ M_r 234.34</p>	HPLC-DAD with UV-spectrum	25 mg 50 mg 100 mg	198,- 340,- 600,-
	<p>Verbascoside see Acteoside</p>			

Catalogue of Natural Compounds

Structure	Compound	documents delivered	quantity	price [Euro]
	<p>Vitexin 8-Glucosylapigenin, Orientoside from <i>Crataegus monogyna</i></p> <p>Art. 3234.RS >99.0 % [3681-93-4] C₂₁H₂₀O₁₀ M_r 432.38</p>	HPLC-DAD, TLC, 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point	10 mg	235,-
	<p>Vitexin 8-Glucosylapigenin, Orientoside from <i>Crataegus monogyna</i></p> <p>Art. 3234.99 >99.0 % [3681-93-4] C₂₁H₂₀O₁₀ M_r 432.38</p>	HPLC-DAD with UV-spectrum	5 mg 10 mg	105,- 170,-
	<p>Vitexin-2''-O-rhamnoside from <i>Crataegus monogyna</i></p> <p>Art. 3236.99 >99.0 % [64820-99-1] C₂₇H₃₀O₁₄ M_r 587.53</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	105,- 175,-
	<p>Wogonin 5,7-Dihydroxy-8-methoxyflavone from <i>Scutellaria baicalensis</i></p> <p>Art. 3213.97 >97.0 % [632-85-9] C₁₆H₁₂O₅ M_r 284.27</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	130,- 200,-
	<p>Wogonoside Wogonin-7-β-D-glucopyranosidouronat from <i>Scutellaria baicalensis</i></p> <p>Art. 3214.97 >97.0 % [51059-44-0] C₂₂H₂₀O₁₁ M_r 460.39</p>	HPLC-DAD with UV-spectrum	10 mg 20 mg	150,- 260,-
	<p>Xanthohumol from <i>Humulus lupulus</i></p> <p>Art. 3324.99 >99.0 % [6754-58-1] C₂₁H₂₂O₅ M_r 354.41</p>	HPLC-DAD, TLC 1H-NMR, 13C-NMR - (with Interpretation), UV, IR, MS, Melting point, water content, residue of solvent	20 mg 50 mg	250,- 480,-
	<p>Xanthohumol from <i>Humulus lupulus</i></p> <p>Art. 3324.RS >99.0 % [6754-58-1] C₂₁H₂₂O₅ M_r 354.41</p>	HPLC-DAD with UV-spectrum	20 mg 50 mg	155,- 310,-

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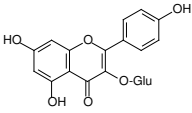


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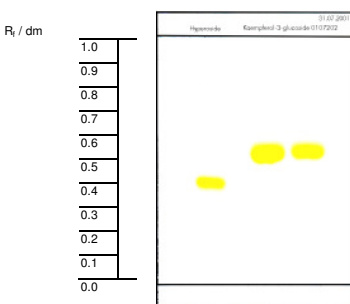
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Certificate of analysis of a reference substance: Kaempferol-3-glucoside

 <p>Pflanzliche Wirkstoffe und Analytik</p>		PHYTOPLAN Dielm & Neuberger GmbH Im Neuenheimer Feld 519 D-69120 Heidelberg Tel.: 0 62 21/40 13 47 Fax: 0 62 21/43 76 64	
<p>CERTIFICATE OF ANALYSIS</p>		Date: 31.07.2001 CA-No.: 1051/1	
<p>Product name: Kaempferol-3-glucoside</p>			
<p>Basic data</p> Name: Kaempferol-3-glucoside Batch No.: 0107202 CAS-No.: [480-10-4] Formula: C ₂₁ H ₂₀ O ₁₁ Molecular weight: 448,39 Storage temperature: 4 °C Source: Aesculus hippocastanum Stability: 3 years Date of manufacture: July 2001 Article No.: 3242.RS		<p>Molecular formula</p> 	
<p>Determination</p>		<p>Specification</p>	
<p>Results</p>			
<p>Properties</p> Aspect Solubility Identity Melting point NMR* ¹ H ¹³ C IR* UV* FAB-MS* Purity TLC* HPLC* Assay HPLC		yellow needles soluble in hot methanol, low soluble in water 165-175 °C (methanol/water) accordant to reference spectrum accordant to reference spectrum consistent with structure accordant to reference spectrum λ _{max} [nm] = 348, 265 ± 2 log ε _{l,max} = 4.20, 4.32 ± 0.05 molecular ion peak at m/z 449 [M+H] ⁺ 1 spot content of impurities at 254 nm: < 1.0 % at spectrum max plot: < 1.0 % 99.0 % at 254 nm, Spectrum Max Plot	
		conforms conforms 168-170 °C; conforms conforms conforms conforms λ _{max} [nm] = 349.38; 265.52 log ε _{l,max} 4.21, 4.31 peak at m/z 449; conforms 1 spot; conforms 0.49 %; conforms 0.64 %; conforms 99.51, 99.36 %; conforms	
<p>Result: The product meets the requirements</p>			
 Dr. M. Dielm (Quality Control)		 Dr. K. Neuberger (Quality Assurance)	

 <p>Pflanzliche Wirkstoffe und Analytik</p>		PHYTOPLAN Dielm & Neuberger GmbH Im Neuenheimer Feld 519 D-69120 Heidelberg Tel.: 0 62 21/40 13 47 Fax: 0 62 21/43 76 64	
<p>Analytical Report to the Certificate of Analysis (CA)</p>		CA-No.: 1051/1 Date: 31.07.2001 page: 1 of 15	
<p>Kaempferol-3-glucoside</p> Batch No.: 0107202			
<p>Content Table</p>			
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 <p>Pflanzliche Wirkstoffe und Analytik</p>		PHYTOPLAN Dielm & Neuberger GmbH Im Neuenheimer Feld 519 D-69120 Heidelberg Tel.: 0 62 21/40 13 47 Fax: 0 62 21/43 76 64	
<p>Analytical Report to the Certificate of Analysis (CA)</p>		CA-No.: 1051/1 Date: 31.07.2001 page: 2 of 15	
<p>Kaempferol-3-glucoside</p> Batch No.: 0107202			
<p>1. Manufacturing Procedure</p> Kaempferol-3-glucoside was isolated from the blooms of aesculus hippocastanum by an extraction process with methanol and ethyl acetate. A pure product was obtained by preparative column chromatography on an RP18-phase with methanol / water as eluent. The substance was crystallized from methanol / water (9:1) and dried at 40 °C / 10 mbar over a period of 24 hours.			
<p>2. Characteristics</p> Kaempferol-3-glucoside is stable to moisture and air and has only low tendency to be hydrolysed or to be oxidized. No hygroscopy was observed. In order to prevent any decomposition it should be stored at a dry place in a refrigerator.			
<p>3. Melting Point</p> Found: 168-170 °C (water / methanol 9:1) Ref. ^[1] : 177-178 °C (methanol)			

 <p>Pflanzliche Wirkstoffe und Analytik</p>		PHYTOPLAN Dielm & Neuberger GmbH Im Neuenheimer Feld 519 D-69120 Heidelberg Tel.: 0 62 21/40 13 47 Fax: 0 62 21/43 76 64	
<p>Analytical Report to the Certificate of Analysis (CA)</p>		CA-No.: 1051/1 Date: 31.07.2001 page: 3 of 15	
<p>Kaempferol-3-glucoside</p> Batch No.: 0107202			
<p>4. TLC-Analysis</p> <p><u>Parameters</u> Stationary phase: Silica gel 60 F₂₅₄, 0.20 mm thickness (Art.-No. 1.05554, Merck, Darmstadt, Ger.) Mobile phase: Ethyl acetate / formic acid / water (20/2/3; v/v/v) Sample solvent: Methanol Development length: 10 cm Retention factor: R_f = 0.54 (chamber saturation) Detection: UV₂₅₄, Diphenylboryloxyethylamine (Naturstoffreagenz A), 10 % in ethanol, after drying spraying with macrogel 400 / 10 min. at 110 °C; visualized at UV₃₆₅ Applied quantities: 20, 10 µg Chromatogram: 1 spot with one very weak impurity below at R_f = 0.49 (UV₃₆₅) Reference: Hyperoside</p>			
<p>TLC-Chromatogram (1:1)</p>			
R _f / dm			
		Trace 1: Hyperoside Trace 2 + 3 : Kaempferol-3-glucoside, 20 µg, 10 µg; after spraying with Naturstoffreagenz A	

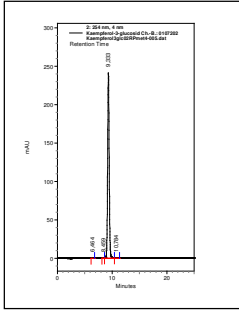
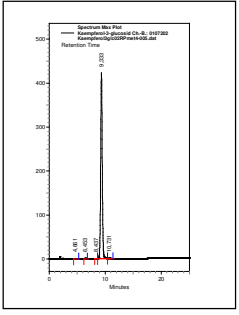
Certificate of analysis of a reference substance: Kaempferol-3-glucoside

<p>PHYTOPLAN Pflanzliche Wirkstoffe und Analytik</p>	<p>PHYTOPLAN Dielm & Neuberger GmbH Im Neuenheimer Feld 519 D-69120 Heidelberg Tel.: 0 62 21/40 13 47 Fax: 0 62 21/43 76 64</p>
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Analytical Report to the Certificate of Analysis (CA) CA-No.: 1051/1
Date: 31.07.2001
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Kaempferol-3-glucoside Batch No.: 0107202

5. HPLC-Analysis
Column Type: Eurospher 100-5 C18, 250 x 4 mm with integrated precolumn 5 x 4 mm
Sample solvent: Methanol
Mobile phase: Methanol/Acetonitril/Phosphoric acid pH 2.5 (34/10/56, v/v/v)
Detection: DAD, 210-450 nm
Injection vol.: 5 µl, c = 0.5 mg/ml
Flow rate: 1.00 ml/min.
Temperature: 20 °C

PK #	Retention Time	Area	Area Percent	Capacity factor	Lambda Max
1	6.464	8515	0.18	2.23	257
2	6.459	5169	0.11	3.23	212
3	9.333	4726060	99.51	3.67	265
4	10.784	9453	0.20	4.39	214
Tota ls		4749197	100,00		

PK #	Retention Time	Area	Area Percent	Capacity factor	Lambda Max
1	6.443	7671	0.13	2.22	257
2	6.448	6661	0.11	3.22	265
3	9.333	6021564	99.62	3.67	265
4	10.752	8753	0.14	4.38	212
Tota ls		6044639	100,00		

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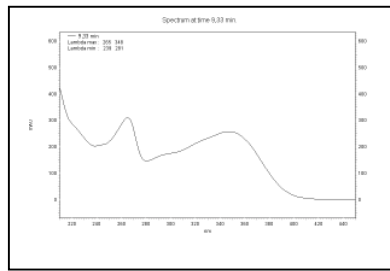
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PK #	Retention Time	Area	Area Percent	Capacity factor	Lambda Max
1	6.453	7052	0.14	2.23	259
2	6.448	5566	0.11	3.22	211
3	9.333	4861505	99.57	3.67	265
4	10.752	8572	0.18	4.38	212
Tot als		4882695	100,00		

PK #	Retention Time	Area	Area Percent	Capacity factor	Lambda Max
1	4.661	11299	0.14	1.33	217
2	6.453	14319	0.17	2.23	252
3	8.437	9885	0.12	3.22	213
4	9.333	8295465	99.36	3.67	265
5	10.731	18038	0.22	4.37	217
Tot als		8349006	100,00		

* A Spectrum Max Plot is a chromatogram with each point plotted at its maximum absorbance. This plot gives an indication of the appearance of the chromatogram when the wavelengths are optimized for each peak.



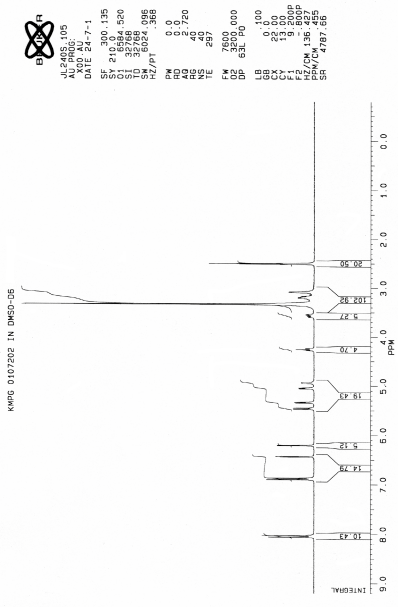
The UV-spectrum recorded with HPLC-DAD at time 9.33 min. is consistent with the UV-spectrum of the isolated substance.

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6. ¹H-NMR-Spectrum
300 MHz, 297 K, solvent: DMSO-d₆



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¹H-NMR-Spectrum
Peak List

Peak no	Point	ppm	Frequency (Hz)	Height
1	5562	12.615	3786.298	31.957
2	13010	8.053	2417.001	20.849
3	13020	8.047	2415.231	6.195
4	13030	8.041	2413.433	1.677
5	13058	8.024	2408.226	22.744
6	13072	8.015	2405.679	2.719
7	14898	6.897	2069.924	21.729
8	14920	6.883	2065.969	1.733
9	14948	6.866	2060.671	21.903
10	15652	6.435	1931.239	16.198
11	15662	6.429	1929.564	14.782
12	16020	6.209	1863.668	16.893
13	16032	6.202	1861.490	15.684
14	17226	5.470	1641.880	9.302
15	17264	5.447	1634.924	9.901
16	17434	5.343	1603.761	7.577
17	17458	5.329	1599.297	7.794
18	17906	5.054	1517.011	5.768
19	17930	5.039	1512.515	5.966
20	18084	4.945	1484.314	4.300
21	19180	4.274	1282.791	3.266
22	19210	4.256	1277.294	6.910
23	19240	4.237	1271.781	3.033
24	20294	3.591	1077.920	2.900
25	20320	3.576	1073.166	3.168
26	20352	3.556	1067.300	3.858
27	20382	3.538	1061.774	3.624
28	20888	3.228	968.804	1.514
29	20914	3.212	963.891	3.200
30	20934	3.199	960.206	5.344
31	20954	3.188	956.681	4.687
32	20970	3.178	953.711	3.822
33	20994	3.163	949.200	3.991
34	21128	3.080	924.523	9.123

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Kaempferol-3-glucoside
Batch No.: 0107202

¹H-NMR-Spectrum
300 MHz, 297 K, solvent: DMSO-d₆

Assignment of the signals
[500 MHz, solvent: CDCl₃, temperature: 303 K]

Assignment of the signals

Proton at C-Atom	Chemical shift	Comparison data ^[1]	Solvent-signals, OH-signals
6	6.21, d (2.0 Hz)	6.21, d (2.0 Hz)	2.50 (DMSO)
8	6.43, d (2.0 Hz)	6.44, d (2.0 Hz)	3.33 (water signal of the solvent)
2''	8.04, d (8.8 Hz)	8.04, d (8.8 Hz)	5.33, 5.04, 4.93, 4.25 (OH-signals),
3''	6.88, d (9.4 Hz)	6.88, d (8.8 Hz)	12.62 (OH-O hydrogen bridge)
5''	6.88, d (9.4 Hz)	6.88, d (8.8 Hz)	
6''	8.04, d (8.8 Hz)	8.04, d (8.8 Hz)	
1''	5.46, d (7.3 Hz)	5.45, d (7.4 Hz)	
2''	3.08-3.19 m	no data cited	
3''	3.08-3.19 m		
4''	3.08-3.19 m		
5''	3.08-3.19 m		
6''A	3.08-3.19 m		
6''B	3.55, dd (5.0 Hz, 11.5 Hz)		

The assignment was performed with the help of the data given in Ref.^[1].

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¹³C-NMR-Spectrum
75 MHz, 297 K, solvent: DMSO-d₆

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¹³C-NMR-Spectrum
75 MHz, 297 K, solvent: DMSO-d₆

Assignment of the signals

C-Atom	Chemical shift	Comparison data ^[2]	Solvent-signals
2	156.4	156.3	38.7 – 40.4 (DMSO)
3	133.3	133.0	
4	177.5	177.5	
5	161.2	161.1	
6	98.7	98.7	
7	164.1	164.1	
8	93.7	93.6	
9	156.3	156.3	
10	104.1	104.1	
1''	121.0	121.0	
2''	130.9	130.7	
3''	115.1	115.0	
4''	160.0	159.8	
5''	115.1	115.0	
6''	130.9	130.7	
1''	101.0	101.4	
2''	74.3	74.2	
3''	76.5	76.5	
4''	70.0	70.1	
5''	77.5	77.2	
6''	60.9	61.0	

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8. FT-IR-Spectrum
KBr-Pellet

No	cm-1	%T	Intensity	No	cm-1	%T	Intensity
1	554.00	74.025	W	15	1246.00	67.923	M
2	584.00	72.624	W	16	1286.00	56.564	M
3	636.00	71.563	M	17	1353.00	52.707	S
4	657.00	72.603	W	18	1442.00	60.393	M
5	797.00	73.287	W	19	1466.00	69.857	M
6	837.00	76.953	W	20	1506.00	53.644	M
7	965.00	78.205	W	21	1558.00	59.498	M
8	983.00	68.545	M	22	1579.00	64.324	M
9	1017.00	54.019	M	23	1607.00	46.474	S
10	1066.00	49.720	S	24	1649.00	48.716	S
11	1091.00	66.601	M	25	2897.00	60.715	M
12	1112.00	67.983	M	26	2920.00	60.451	M
13	1181.00	43.075	S	27	3435.00	27.065	VS
14	1220.00	64.828	M	28	3524.00	34.486	S

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9. UV-VIS-Spectrum
Solvent: Methanol (UVASOL, Merck)
Conc.: 6.7×10^{-5} mol/l

Maxima: λ_{max} [nm]	log ϵ_{max}	Minima: λ_{min} [nm]	log ϵ_{min}
349.38	4.21	282.17	3.99
265.52	4.31	240.55	4.10

Data given in Ref. 1): λ_{max} [nm] log ϵ : 348.7 (4.20), 265.5 (4.35).

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10. FAB⁻-MASS Spectrum

Result
The measurement technic of the FAB⁻-MS mode leads to the molecule ions [M+H]⁺ and [M+Na]⁺. The peaks at m/z 449 (448+1) and m/z 471 (448+23) show the expected molecular mass (448) of Kaempferol-3-glucoside. Most other detected peaks derived from the NBA-matrix.

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11. Instrumentation

Determination	Apparatus
Melting Point	MEL-TEMP II apparatus, Laboratory Devices, USA
HPLC-Analysis	Pump: Shimadzu LC-10ADvp Detector (DAD): Shimadzu SPD-M10Avp Injector: Rheodyne 7725i, 10 μ L loop
¹ H-NMR-Spectrum	Bruker AM 300
¹³ C-NMR-Spectrum	Bruker AM 300
UV-VIS-Spectrum	Varian CARY 2300 Spectralphotometer
FT-IR-Spektrum	FT-IR-Spektrometer 1760X Perkin-Elmer
FAB ⁻ -MASS Spectrum	JEOL JMS-700

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12. References

- [1] T. Sekine et al., Chem. Pharm. Bull., **1993**, 41(6), 1185-87.
- [2] K. R. Markham, T. J. Marby, Carbon-13 NMR Studies of Flavonoids-III, Tetrahedron, **1978**, 34, 1389-97.