



CO₂ Total Extracts





Yarrow CO₂ Total Extract



Achillea millefolium



Botanical name: *Achillea millefolium*
Common name: Yarrow
Origine of the plant: Librazhd
Geographical position: 700m above sea level
Collection: From May to October
Part of the plant used: Flower (wild)
Extraction method: SC-CO₂ extraction
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Achillea millefolium flower extract
 The yield of SC-CO₂ extract is 4.11%

Secondary metabolites^[1]

Volatile compound :

- Germancrene
- B-pinene
- Sabinene
- 1,8-cineole
- B-Caryophyllene
- borneol
- camphor

Total phenolic compounds 3500 mg/gr extract

Total Phenolic acid 780 mg/gr extract

- Rozmarinic acid 180 mg/gr extract

Total Flavonoids 2750 ng/gr extrat

Total Flavonols

900 mg/gr ectract

- Centaureidin 350 mg/gr extract
- Methoxyquercetin 320 mg/gr extract
- Quercetin 45 mg/gr

Total flavones

1850 mg/gr extract

- Luteolin-7-O-glucoside 650 mg/gr ectract
- Apigenin 185 mg/gr extract

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Chamomile CO₂ Total Extract



Matricaria chamomilla



Botanical name: Matricaria chamomilla

Common name: Chamomile

Origine of the plant: Voskopojë

Geographical position: 700m above sea level

Collection: August

Part of the plant used: Flower (wild)

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Matricaria chamomilla flower extract

The yield of SC-CO₂ extract is 1,86 %

Secondary metabolites^[1]

Volatile compound

β-Amyrin 25,6 %

Lupelol 7,9 %

Heptacosane 7,1 %

Tetracosane 6,59

Tetratriacosane 6,2

Total phenolic 343 mg/g extract

Total flavonoid 202 mg/g extract

- Apigenina 0,8 mg/gr extract

- Camazulene

- Luteolina

Extract SC-CO₂ 100%

- Essential oil 17 %

- Nonvolatile 33 %

- Waxes 50 %

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Mallow CO₂ Total Extract



Malva sylvestris



Botanical name: Malva sylvestris

Common name: Mallow

Origine of the plant: Gjinar

Geographical position: 700 m above sea level

Collection: From June to September

Part of the plant used: Flower and leaf (wild)

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Malva sylvestris flower extract

The yield of SC-CO₂ extract is 1,40 %

Secondary metabolites^[1]

Volatile compound

- Phenanthrene	35.13 %
- Dihydrobenzofuran	21.49 %
- Menthol	14.92 %
- Camphor	7.68 %
- Borneol	5.37 %

Phytochemical compounds

- Alkaloids
- Terpenoids
- Flavonoids
- Phenol derivatives
- Sterols
- Tannins
- Saponins
- Coumarins

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Calendula CO₂ Total Extract



Calendula officinalis



Botanical name: *Calendula officinalis*

Common name: Calendula

Origine of the plant: Fier

Geographical position: 400-500 m above sea level

Collection: From May to June

Part of the plant used: Flower (cultivated)

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery,
Cosmetics, Food, Chemistry Industry, Aromatherapy.

Calendula officinalis extract

The yield of SC-CO₂ extract 1 %

Secondary metabolites^[1]

Volatile compaund

Hidrocarbons :

Terpenes :

Secuiterpenes :

- α -Cadinol 22,52 %
- i-Cadinene 19,60 %
- Heptadecane 18,15 %
- Cadinol 22,15 %

Poliphenols 35 mg/gr extract

Flavonoids 32 mg/gr extract

- Rutin 4,8 mg/gr extract
- Nicotiflorin 0,6 mg/gr extract

Phenolic acid

- Salicylic acid 0,5 ng/gr extract
- Caffeic acid 0,6 ng/gr extract
- Ferulic acid 0,6 ng/gr extract

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Chili Pepper CO₂ Total Extract



Capsicum annuum



Botanical name: Capsicum annuum
Common name: Chili Pepper
Origine of the plant: Gjinar
Geographical position: 500 m above sea level
Collection: From August to October
Part of the plant used: Fruit
Extraction method: SC-CO₂ extraction
Appearance: Dark red liquid.
Odor: Cartacheristic and spicy
Application: Pharmaceu**t**ics, Fine Perfumery,
 Cosmetics, Food, Chemistry Industry, Aromatherapy.

Capsicum annuum

The yield of SC-CO₂ extract is 6,12 %

Secondary metabolites^[1]

Volatile compounds :

Terpenes:

Capsaicinoids

- Capsaicin 36,82 %
- Dihydrocapsaicina 16,33 %
- Nonivamide 7,39 %
- N-vanillyldecanamide 2,72 %
- Nordihydrocapsaicina 0,65 %
- Homodihydrocapsaicina 3,49 %
- Homocapsaicina 1,12 %

Vitamin E

Phytosterol

- a-tocopherol 5,71 %
- β-tocopherol 0,1 %
- γ-tocopherol 0,2 %
- B-sitosterol 0,6 %

Fatty acid

- Oleic acid 0,1 %
- Palmitic acid 0,22 %

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Rock Rose CO₂ Total Extract



Cistus incanus



Botanical name: *Cistus incanus*

Common name: Rock Rose

Origine of the plant: Gjinar

Geographical position: 600- 1400 m above sea level

Collection: From April to May

Part of the plant used: Flower and leaf (wild)

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery,
Cosmetics, Food, Chemistry Industry, Aromatherapy.

Cistus incanus flower/leaf/stem extract

The yield of SC-CO₂ extract is 1,1 %

Secondary metabolites^[1]

Volatile compound :

- α -Pinene 21.56 %
- Camphor 19.07%
- Terpineol 13.05%

Flavanols 650 mg/gr extract

- Quercetin 95 mg/gr extract
- Kaempferol 54 mg/gr extract
- Myricetin 68 mg/gr extract

Biological activity

- inhibited ethanol-induced gastric lesions,
- reduced volume and acidity of the gastric juice
- increased gastric wall mucus.
- reduced the pancreatic weight (PW) to body weight (BW) ratio
- reduced the serum levels of amylase and lipase
- reduced histological damage and myeloperoxidase activity in the pancreas and lungs.

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Orange Blossom CO₂ Total Extract



Citrus aurantium



Botanical name: Citrus aurantium
Common name: Orange blossom
Origine of the plant: Gjinar
Geographical position: 700m above sea level
Collection: May
Part of the plant used: Flower
Extraction method: SC-CO₂ extraction
Analytical method test: GC- FID
Major compounds: Linalool, limonene, linalyl acetate
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Citrus aurantium flower extract

The yield of SC-CO₂ extract is 1 %

Secondary metabolites^[1]

Volatile compound :

- Linalool	38.41 %
- Limonene	17.08 %
- Linalyl Acetate	11.7 %
- b-Pinene	9.87 %
Poliphenole	80 mg/gr extract
- Anthocyanins	
- Phenolic acids	
Flavonoids	20 mg/gr extract

- Flavones
- Flavonones
- Flavonols
- Flavans

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Olive pomace CO₂ Total Extract



Olive pomace



Botanical name: Olive pomace

Common name: Olive pomace

Origine of the plant: Elbasan

Geographical position: 400-500 m above sea level

Collection: From October to November

Part of the plant used: The residue after the production of olive oil.

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Pomace olive oil extract

The yield of SC-CO₂ extract is 9 %

Secondary metabolites^[1]

Volatile compounds :

Terpenes:

Triterpene hydrocarbons:

Fatty acids :

- Oleic acid 77,58 %
- Palmylic acid 11,61 %
- Linoleic acid 5,15 %
- Stearic acid 3,86 %

Vitamin E

- a-Tocopherol 3,28 mg/10gr extract
- B-Tocopherol 0,125 mg/ 10gr extract
- Y-Tocopherol 0,27 mg/10 gr extract

Sterol

- Squalene 450 mg/gr extract
- B-Sitosterol 650 mg/gr extract

Phenolic compounds

- Hydroxytyrosol 104 ,5 mg/10 gr extract
- Tyrosol 4,25 mg/10 gr extract
- Pinoretinol 0,27 mg/ 10 gr extract



Coneflower CO₂ Total Extract



Echinacea purpurea



Botanical name: Echinacea purpurea
Common name: Coneflower
Origine of the plant: Gjinar
Geographical position: 1400 m above sea level
Collection: From July to August
Part of the plant used: Aerial part
Extraction method: SC-CO₂ extraction
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Echinacea purpurea extract

The yield of SC-CO₂ extract is 1.15 %

Secondary metabolites^[1]

Volatile compound :

- Hexadecanoic acid 18.51 %
- Germacra-4- trien-1-ol 12.57 %
- Valerenic acid 9.09 %
- Izophytol 8.66 %
- Farnesyl acetate 7.68 %
- b-Sitosterol 5,9 %

Poliphenole

Caffeic acid 41,3 mg/gr extract

- Chicoric acid 36 mg/gr
- Caftaric acid 5,3 mg/gr

Alkamides 0,97 mg/gr extract

Sterol

β- Sitosterol 5,9 %

Fatty acids

Valeric acid 9,09 %

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Oregano CO₂ Total Extract



Origanum vulgare



Botanical name: *Origanum vulgare*
Common name: Oregano
Origine of the plant: Përmet
Geographical position: 1500 m above sea level
Collection: From April to September
Part of the plant used: Leaf (cultivated)
Extraction method: SC-CO₂ extraction
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Origanum Vulgare leaf extract
 The yield of SC-CO₂ extract is 4,33

Secondary metabolites^[1]

Volatile compound

Carvacrol	7,8,1 %
Thymol	10 %
Carvacrol acetate	3,07 %
Camphene	2,49 %
b-Pinene	2,19 %

Phenolic compound	24 %
Rozmarinic acid	3 %

Metabolic activity

- Antimicrobial
- Antidepressant,
- Cytoprotective
- Antiviral,
- Antiangiogenic
- Antitumor activities

[1] *Testing methods: GC-FID, HPLC, Elissa.*



St. John's Wort CO₂ Total Extract



Hypericum perforatum



Botanical name: Hypericum perforatum
Common name: St. John's Wort
Origine of the plant: Librazhd
Geographical position: 700m above sea level
Collection: Late June
Part of the plant used: Flower and twig
Extraction method: SC-CO₂ extraction
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Hypericum perforatum flower extract
yield of SC-CO₂ extract 4,11 %

Secondary metabolites^[1]

Volatile compound

Terpenes

- 2-Methyl decane 19.76 %
- α -Pinene 19.75 %
- Muurolene 6.28 %

Flavonoids

- apigenin,
- luteolin
- quercetin,

POLIFENOLS :

- Hypericin 0,1 -0,25 %
- hyperforin 4 -5.5 %

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Lemon Balm CO₂ Total Extract



Melissa officinalis



Botanical name: *Melissa officinalis*

Common name: Lemon Balm

Origine of the plant: Librazhd

Geographical position: 700m above sea level

Collection: From May to June

Part of the plant used: Leaf

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery,
Cosmetics, Food, Chemistry Industry, Aromatherapy.

Melissa officinalis leaf extract

The yield of SC-CO₂ extract is 1,47 %

Secondary metabolites^[1]

Volatile compound

- Citronellal 35 %
- Citronellol 23,7 %
- b-Caryophyllene 10,09 %
- Geraniol 9,7 %

Flavonoid :

- Apigenin 0,8 mg/gr extract
- Rutin
- Cynaroside
- Isoquercitina
- Cynarozide

Phelolic acid :

- Rozmarinic acid 7,5 %
- Ferulic acid
- Coimarinic acid
- Chlorogjenic acid

- Caffeic acid

Triterpenes :

- Ursolic acid
- Oleanolic acid
- Betulinic acid

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Wild Basil CO₂ Total Extract



Ocimum gratissimum



Botanical name: *Ocimum gratissimum*
Common name: Wild Basil
Origine of the plant: Elbasan
Geographical position: 1500 m above sea level
Collection: From July
Part of the plant used: Leaf
Extraction method: SC-CO₂ extraction
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Ocimum gratissimum leaf extract
The yield of SC-CO₂ extract is 1,58 %

Secondary metabolites^[1]

Volatile compound

Eugenol 69 %

Linalool 14 %

Eucaliptol 5,1 %

Total Phenoles 72 mg/gr extract

Phenolic acid 10 mg/gr extract

- Rosmarinic acid 5 mg/gr extract

- Caffeic acid 1,5 mg/gr extract

- Chicoric acid

- Ferulic acid

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Peppermint CO₂ Total Extract



Mentha piperita



Botanical name: *Mentha piperita*
Common name: Peppermint
Origine of the plant: Italy
Geographical position: 700 m above sea level
Collection: October
Part of the plant used: Leaves
Extraction method: SC-CO₂ extraction
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Mentha piperita leaf extract

The yield of SC-CO₂ extract is 2,44 %

Secondary metabolites^[1]

Volatile compound

Menthol	43,66 %
Menthone	20,02 %
1,8-cineole	6,49 %
Iso-menthone	7 %
Menthol acetate	3,31 %
Total flavonoids	10,2 mg/gr extract
- Apigenina	
- Rutin	
- Catechin	

Total polyphenols 2,5 mg/gr extract

- Vanillic,
- homovanillic,
- hydroxybenzoic,
- syringic,
- 4-hydroxy cinnamic,
- trans-hydroxy cinnamic,
- 2-hydroxy cinnamic,
- ferulic acids

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Black Locust CO₂ Total Extract



Robinia pseudoacacia



Botanical name: Robinia pseudoacacia
Common name: Black locust
Origine of the plant: Gjinar
Geographical position: 600- 1400 m above sea level
Collection: From May to June
Part of the plant used: Flower
Extraction method: SC-CO₂ extraction
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery,
 Cosmetics, Food, Chemistry Industry, Aromatherapy.

Robinia pseudoacacia flower extract
 The yield of SC-CO₂ extract is 1,40 %

Secondary metabolites^[1]

Volatile compounds

Terpenes

- Terpeneol 27 %
- Linalool 24,2 %
- Nerolidol 14 %
- Geraniol 12,2 %

Flavonoids 12 mg/gr extract

- Quercetin
- Robins
- Rutin
- Acacetin

Sterol 0,9 mg/gr extract

- b-sitosterol
- b-sitostanol
- camphesterol
- a-sitosterol
- squalene
- lupeol

Carotenoid

Total chlorophyll

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Rosehip CO₂ Total Extract



Rosa canina



Botanical name: Rosa canina

Common name: Rosehip

Origine of the plant: Librazhd

Geographical position: 1700 m above sea level

Collection: From May to October

Part of the plant used: Fruit

Extraction method: SC-CO₂ extraction

Appearance: Dark brown viscous liquid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery,
Cosmetics, Food, Chemistry Industry, Aromatherapy.

Rosa canina fruit extract

The yield of SC-CO₂ extract is 1.55 %

Secondary metabolites^[1]

Volatile compounds

Terpenes

Nonadecane 20 %

2-Phenethyl alcohol 12,6 %

Hexadecane 9,7 %

Docosane 8,6 %

n-eicosane 6,9 %

n-Heicosane 6,9 %

Flavonoids

Quercetina 2 mg/gr extract

Polyphenols 560 mg/gr extract

Fatty acids

- linoleic acid (52.45%)

- linolenic acid (20.55%),

- oleic acid (19.81%),

- palmitic acid (3.64%),

- stearic acid (2.34%)

- arachidic acid (0.95%)

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Spanish Broom CO₂ Total Extract



Spartium junceum



Botanical name: Spartium junceum
Common name: Spanish Broom
Origine of the plant: Gjinar
Geographical position: 400- 1200 m above sea level
Collection: From May to September
Part of the plant used: Flower
Extraction method: SC-CO₂ extraction
Appearance: Dark brown solid.
Odor: Natural and fresh fragrance
Application: Pharmaceuticals, Fine Perfumery, Cosmetics, Food, Chemistry Industry, Aromatherapy.

Spartium junceum extract

The yield of SC-CO₂ extract is 0.85 %

Secondary metabolites^[1]

Volatile compounds :

Terpenes:

Camfenol	23,68 %
Ethyl tetradecanoate	22,12 %
Caryophyllene oxide	13,05 %
Ethyl do decanoate	12,05 %
Camphor	10,14 %
Total phenolics	71 mg/gr extract
Flaconoides	0,05 mg7gr extract
Myristic acid etil ester	22,12 %
Lauric acid etil ester	12,05 %

Antioxidant activity & Anti-tyrosinase activity

Of particular interest is the inhibitory potential of S. junceum, which can be characterized as having potent tyrosinase inhibitory activity. Therefore, the tyrosinase inhibitory properties of S. junceum make it a suitable candidate for the management of epidermal hyperpigmentation.

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Elderflower CO₂ Total Extract



Sambucus nigra



Botanical name: Sambucus nigra

Common name: Elderflower

Origine of the plant: Gjinar

Geographical position: 900 m above sea level

Collection: July

Part of the plant used: Flower

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery,
Cosmetics, Food, Chemistry Industry, Aromatherapy.

Sambucus nigra elderflower extract

The yield of SC-CO₂ extract is 1 %

Secondary metabolites^[1]

Volatile compounds

Terpenes:

- Heneicosane	18,8 %
- Tricosane	17,3 %
- Nonadecane	12,3 %
- 2-Hexanone	10,5 %

Phenolic acid 220 mg/gr extract

- Ferulic acid,
- Cumaric acid
- Benzoic acid
- Anisic acid

Fatty acid 105 mg/gr extract

- Palmilic acid
- Stearic acid
- Behenic acid
- Nonanoic acid

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Rosemary CO₂ Total Extract



Salvia rosmarinus



Botanical name: *Salvia rosmarinus*

Common name: Rosemary

Origine of the plant: Librazhd

Geographical position: 1000 m above sea level

Collection: From June to September

Part of the plant used: Leaf

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery,
Cosmetics, Food, Chemistry Industry, Aromatherapy.

Salvia rosmarinus leaf extract

The yield of SC-CO₂ extract is 2,74 %

Secondary metabolites^[1]

Volatile compounds :

Terpenes:

Camphor	32,23 %
Verbenone	14,9 %
α -thujene	11,69 %
Bornyl acetate	10.99 %
1.8-cineole	8,1 %

Terpenoids 650 mg/gr extract

- carnosic acid,
- carnosol acid,
- ursolic acid

Phenolic acids 750 mg/ gr extract

- Caffeic acid,
- Rosmarinic acid
- Chlorogenic acid,

Flavonoids 450 mg/gr extract

- Luteolin
- Pectolinarigenin
- Apigenin
- Acacetin

[1] *Testing methods: GC-FID, HPLC, Elissa.*



Sage CO₂ Total Extract



Salvia officinalis



Botanical name: *Salvia officinalis*

Common name: Sage

Origine of the plant: Gjinar

Geographical position: 1400 m above sea level

Collection: From July to September

Part of the plant used: Leaf (wild)

Extraction method: SC-CO₂ extraction

Appearance: Dark brown solid.

Odor: Natural and fresh fragrance

Application: Pharmaceuticals, Fine Perfumery,
Cosmetics, Food, Chemistry Industry, Aromatherapy.

Salvia officinalis leaf extract

The yield of SC-CO₂ extract is 2,63 %

Secondary metabolites^[1]

Volatile compounds :

Terpenes:

- *a*-thujone 22,28 %

- Camphor 19,18 %

- 1.8-Cineole 8,13 %

- *b*-thujone 6,5 %

- Camphene 5,46 %

Phenoloc acid 1850 mg/gr extract

- Rosmarinic acid 1458 mg/gr extract

- Caffeic acid 13 mg/gr extract

- Chlorogenic acid

- Coumaric acid

- Vanillic acid

Flavonoid 315 mg/gr
extract

- Apigenin 1,2 mg/gr
extract

- Luteolin 14.5 mg/gr
extract

- Myricetina 41 mg/gr
extract

- Quercetin 4,5 mg/gr
extract

- Rutin 175 mg/gr extract



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