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Supplementary Tables

Supplementary Table 1. Phytochemical compounds reported from five *Helichrysum* sp.

Phytochemicals (%)	***H. cymosum* (a)**	***H. foetidum* (b)**	***H. odoratissimum* (c)**	***H. patulum* (d)**	***H. petiolare* (e)**	**References (a) (b) (c) (d) (e)**
Acridine-9-carbaldehyde	-	-	+	-	-	38[c]
Ar-curcumene	-	-	-	-	+	39[e]
cis-Alloocimene	+	-	-	-	-	13[a], 14[a], 37[a]
α-Amorphene	+	-	+	-	-	16[a,c],37[a], 40[c]
Aromadendrene	+	+	+	-	+	13[a,c,e], 14[a], 17[b], 34[e] 37[a], 41[c]
(+)-Aromadendrene	+	-	-	-	-	37[a]
Allo-aromadendrene	+	+	+	+	+	13[c], 16[a,e], 17[b,d], 41[c]
(−)-Alloaromadendrene	-	-	+	-	-	38[c]
Alloaromadendrene epoxide	+	-	-	-	-	37[a]
Benzaldehyde	+	-	-	-	-	13[a], 14[a], 42[a]
Benzylacetone	+	-	-	-	-	13[a], 14[a], 37[a]
Bicyclogermacene	+	-	-	-	-	37[a]
Borneol	+	-	+	-	+	13[a,e], 14[a], 16[e], 37[a], 39, 40[c], 42[a]
Bornylene	+	-	-	-	+	37[a]
Bornyl acetate	-	-	+	-	+	13[c], 16[c,e], 40[c], 41[c]
Bornyl formate	-	-	+	-	-	16[c]
β-Bourbonene	+	+	+	-	-	14[a], 17[b], 37[a], 40[c]
α-trans-Bergamotene	-	-	+	-	+	16[c,e]
trans-β-Bergamotene	-	-	+	-	-	13[c], 41[c]
β-Bisabolene	-	+	+	-	+	16[c,e], 17[b]
cis-α-Bisabolene	-	-	+	-	-	13[c], 41[c]
γ-Bisabolene	-	-	+	-	-	13[c], 41[c]
bicyclogermacrene	-	+	+	-	-	17[b], 40[c]
Bifloratriene	-	-	+	-	-	16[c]
α-Bisabolol	-	-	-	-	+	16[e], 34[e]
epi-α-Bisabolol	-	-	-	-	+	16[e], 34[e]
β-Bisabolol	-	-	+	-	+	13[c,e], 16[c], 34[e], 41[c]
Bulnesol	-	-	+	-	-	16[c]
α-Bulnesene	-	+	+	-	+	16[e], 17[b], 34[e], 43[c]
Cadalene	-	-	+	-	+	13[c], 16[c,e], 34[e], 41[c]
Cadinene	-	+	-	-	-	17[b]
trans-Cadina-1,4-diene (Cubebene)	+	-	+	-	+	16[a,c,e]
Cadina-1,4-diene	-	-	+	-	-	44[c]
α-Cadinene	+	-	+	-	+	16[c,e], 34[e], 37[a], 44[c]
γ-Cadinene	+	-	+	-	-	13[c], 37[a], 41[c]
ε-Cadinene	-	-	+	-	-	44[c]
δ-Cadinene	+	+	+	+	+	13[c,e], 16[a,c,e], 17[b,d], 34, 37a, 39[e], 41[c], 45[c]
trans-γ-Cadinene	+	-	+	-	+	16[a,c,e]
epi-α-Cadinol	+	-	+	-	+	16[a,c,e], 34[e]
α-Cadinol	+	-	+	-	+	13[a,e], 14[a], 16[a,c], 34[e],37[a], ,39[e],44[c]
δ-Cadinol	+	-	+	-	-	37a,44c
T-Cadinol	-	-	+	-	+	13c,e, 39e,41c
β-Calacorene	+	-	-	-	-	13a, 14a, 16a, 37a
Cis-calamenene	+	-	-	-	+	14a, 37a, 42a, 46e
Camphene	+	+	+	+	+	13a,c,e, 14, 16a,c,e, 17b,d, 37a, 39e, 41c,
Camphor	+	-	+	-	+	16a, 37a

α-Campholenal	-	-	+	-	+	16c,e, 34e
δ-4-Carene	-	-	+	-	-	40c
Δ-3-Carene	+	-	-	-	-	37a
Carotol	-	-	-	-	+	16e, 34e
Carvone	-	-	+	-	-	13c, 41c
Carvacrol	+	-	+	-	+	13c,e, 16a,c, 34e, 39e, 41c
cis-Carveol	-	-	+	-	-	13c, 41c
cis-Carvyl acetate	-	-	+	-	-	13c, 41c
trans-Carvyl acetate	-	-	+	-	-	13c, 41c
trans-Carveol	+	-	+	-	+	13a,c,e, 14a, 16a, 37a, 39e, 41c
Caryophellene	-	-	+	-	-	38c
α-Caryophyllene	-	-	+	-	-	38c, 45c
β-Caryophyllene	+	+	-	+	+	13a,e, 14a, 16a,e, 17b,d, 34e, 37a, 39e
trans-Caryophyllene	+	-	-	-	-	37a
Caryophylladienol I	+	-	-	-	-	13a, 14a, 42a
Caryophylladienol II	+	-	-	-	+	13a,e, 14a, 34e, 39e, 42a
Caryophyllenyl alcohol	+	-	-	-	+	16a, 34e
Caryophyllene alcohol l	+	-	-	-	-	16a, 37a
α-Caryophyllene alcohol	+	-	-	-	-	37a
β-Caryophyllene alcohol	+	-	-	-	+	13e, 16a, 34e, 37a, 39e
Caryophyllene oxide	+	+	+	-	+	13a,c,e, 14a, 16a,c,e, 17b, 34e, 37a, 39e, 41c, 45c
Caryophylla-4 (14),8 (15)-dien-5-ol	+	-	+	-	-	16a,c, 37a
Caryophyllenol-I	+	-	+	-	+	13a,c,e, 14a, 37a, 41c,
Caryophyllenol I	+	-	-	-	-	13a, 14a, 42a
Caryophyllenol II	+	-	-	-	+	13a,e, 14a, 34e, 39e,
Cedren-13-ol	-	-	+	-	-	38c
β-Chamigrene	-	-	+	-	+	34e
chrysanthemumate	-	+	-	-	-	17b
1,8-Cineole	+	-	+	+	+	13a,c,e, 14a, 16a,c,e, 17d, 34e , 31a, 39e, 40c, 41c
Clovenol	+	-	+	-	+	13a,c,e, 14a, 39e,41c
α-neo-clovene	-	+	-	-	-	17b
α-Copaene	+	+	+	+	+	13a,c,e, 14a, 16a,e, 17b,d, 34e ,37a, 39e, 45c
β-Copaene	+	+	+	-	+	13e, 16a,c, 17b, 34e, 37a, 39e
Cubenol	-	-	+	-	+	16c, 34e
1-epi-Cubenol	+	-	+	-	+	13c, 16a,c, 34e , 41a
α-Curcumene	-	-	+	-	-	44c
γ-curcucumene	-	-	+	+	-	13c, 17d, 41c, 45c
Cyclosativene	+	-	+	-	-	16a,c, 37a
Cyclooctanone	-	-	+	-	-	38c
p-Cymen-8-ol	+	-	+	-	+	13a,c.e, 14a, 39e, 41ce, 42a
Cyperene	-	-	-	-	+	34e
o-Cymene	+	-	+	-	+	16a,c, 34e
p-Cymene	+	+	+	-	+	13a,c, 14a,17b, 34e, 37a, 41c
p-Cymenene = α	-	-	-	-	+	13e, 34e
p-Cymenene=α,p-Dimethylstyrene	-	-	+	-		13c, 41c
p-Dimethylstyrene (2E,4E)-Deca-2,4-dienal	-	-	-	-	+	34e
Decanal	+	-	+	-	+	16a,c, 34e
(E)-2-Decenal	-	-	-	-	+	34e
1,10-Di-epi-cubenol	+	-	-	-	+	16a, 34e, 37a
α, p-Dimethylstyrene	-	-	-	-	+	39e
5,7-Di-epi-a-eudesmol	-	-	+	-	-	16c
2,7-dimethyl-2,6-Octadiene	-	-	+	-	-	38c

3,5-Dimethylcyclohex-1-ene-4-carboxaldehyde	-	-	+	-	-	38c
3α,7α-dimethyl-hexahydro-2(3H)-Benzofuranone	-	-	+	-	-	38c
19,19-Dimethyl-eicosa-8,11-dienoic acid (%)	-	-	+	-	-	43c
Docosanoic acid methyl ester	-	-	+	-	-	38c
1,22-Docosanediol	-	-	+	-	-	38c
Dodecanal dimethyl acetal	-	-	+	-	-	38c
Drimenol	-	-	+	-	-	45c
Dodecanal	+	-	-	-	-	16a, 37a
β-Elemene	+	+	+	-	-	17b, 37a ,40c, 45c
δ-Elemene	+	-	+	-	-	16c, 37a
Epiglobulol	+	-	-	-	-	13a, 14a
α-Eudesmol	+	-	-	-	-	37a
β-Eudesmo	+	-	-	-	-	37a
cis-1,2-Epoxy-terpin-4-ol	-	-	-	-	+	13e, 34e, 39e
2-ethyl-1,4-dimethyl-benzene	-	-	+	-	-	38c
5-ethyl-m-xylene	-	-	+	-	-	38c
10-epi-y-Eudesmol	-	-	+	-	+	16c,e
(E,E)-Farnesol	-	-	+	-	-	47c
Farnesene	-	-	+	-	-	44c
(E)-β-Farnesene	-	+	+	-	-	17b, 44c
E, e-α-Farnesene	+	-	-	-	-	37a
α-Fenchone	+	-	-	-	+	13a,e,14a, 39e, 42a
Fenchyl alcohol	+	-	-	-	+	13a,e, 14a, 34e, 37a
endo-Fenchol	+	-	-	-	-	37a
Furfuryl alcohol	+	-	-	-	-	37a
β-Fenchyl alcohol	+	-	-	-	-	37a
Fenchyl acetate	-	-	+	-	-	13c, 41c
Geranyl acetate	-	-	-	-	+	13e, 39e,
(E)-Geranyl acetate	-	-	+	-	+	13c,e, 39e, 41c
9-Geranyl-p-cymene	-	-	+	-	-	13e, 39e,
Germacrene A	-	-	+	-	-	16c, 40c
Germacrene D-4-ol	-	+	-	-	+	17b, 34e
Germacrene B	+	-	-	-	-	37a
Germacrene D	+	+	+	-	-	16c, 17b, 37a, 40c
Gleenol	-	-	+	-	+	16c,34e
Globulol	+	+	-	+	+	13a,e, 14a, 17b,d, 37a, 39e,
α-Guaiene	+	+	+	-	+	13c, 16,c, 17b, 34e, 37a, 40c
δ-Guaiene	+	-	+	-	-	13a,c, 14a, 41c
3,7-Guaiadiene	-	-	-	-	+	13e, 34e, 39e
Guaiol	+	-	-	-	+	16a,e, 34e
α-Gurjunene	+	+	+	-	+	13a,e, 14a, 16c,e, 17b, 34e, 37a, 39e, 41c
γ-Gurjunene	-	-	+	-	+	13e, 39e, 40c
1-Heptanol	+	-	-	+	+	13a.e, 14a, 17b,d, 34e
(E)-2-hexenal	-	-	-	+	-	17d
1-Hexanol	+	+	-	+	+	13a.e, 14a, 17b,d, 34e
Hexadecanoic acid methyl ester	-	-	+	-	-	38c
(Z)-3-hexanol acetate	-	+	-	-	-	17b
Heneicosane	-	-	+	-	-	38c
Heptenyl acetate	-	-	+	-	-	13c
Heptadecyloxirane	-	-	+	-	-	38c
Z)-3-Hexen-1-ol	+	-	+	-	-	13a,c, 14a, 37a , 41c
(3E)-3-Hexen-1-yl acetate	+	-	-	-	-	16a

(Z)-3-Hexen-1-yl 3-methylbutyrate	+	-	-	-	-	16a, 37a
Hexyl valerate	-	-	-	-	+	13e, 34e
α-Himachalene	-	-	+	-	-	16c
β-Himachalene	-	-	+	-	-	16c
γ-Himachalene	-	-	+	-	-	16c
Himachalol	-	-	+	-	-	43c
Humulene	-	-	+	-	-	43c
Humulene epoxide	-	-	+	-	-	44c
Humulene epoxide I	-	-	+	-	+	13c,e, 39e, 41c
Humulene epoxide II	+	-	+	-	+	13a,c,e, 14a, 16e, 34e, 37a, 39e, 41c
Humulene epoxide III	-	-	+	-	-	13c, 41c
Humulene oxide	+	-	-	-	-	37a
Humulene epoxide II	+	-	-	-	-	14a, 37a
10-Hydroxy calamenene	-	-	+	-	-	13c
α-Humulene	+	+	+	+	+	13a,c,e, 14a, 16 c, e, 17b,d 34e, 37a , 39e, 41c
β-Hydroagarofuran	-	-	-	-	+	16e
neo-Intermedeol	-	-	+	-	-	16e
Intermedeol	-	-	+	-	+	16c,e, 34e
1-isopropyl-3-methylbenxene	-	-	+	-	-	38c
Isoaromadendrene epoxide	-	-	+	-	-	38c
Isocaryophyllene oxide	+	-	+	-	+	13a,c,e, 14a, 34e, 39e, 41c
1-(2-Isopropyl-5-methylcyclopentyl)ethanone	-	-	+	-	-	38c
Isoborneol	+	-	+	-	-	16a,c, 37a
iso-ascaridole	-	+	-	-	-	17b
Isobornyl acetate	+	-	+	-	-	16a,c, 37a
Italicene	-	+	+	-	+	13c,e, 17b, 39e, 41
endo-Isocamphane	+	-	-	-	-	37a
Isoitalicene	+	-	-	-	+	13e, 16a, 34e, 37a, 39e
Cis-Isopulegone	-	-	+	-	-	40c
Cis-Jasmone	-	-	+	-	-	40c
Juniper camphor	-	-	+	-	-	16c
Kaur-15-ene	-	-	-	-	+	13e, 39e
Kaur-16-ene	-	-	-	-	+	13e, 34e
Lavandulol	-	-	-	-	+	16e, 34e
Lavandulyl acetate	-	-	-	-	+	16e, 34e
Lavandulyl isobutyrate	-	-	-	-	+	16e,34e
Lavandulyl isovalerate	-	-	-	-	+	16e, 34e
Levomenol	-	-	+	-	-	43c
Ledol	-	-	-	-	+	13e, 39e
Limonen-4-ol	+	-	-	-	-	13a, 14a
trans-1,2-Limonene epoxide	-	-	+	-	-	13c, 41c
Limonene	+	+	+	+	+	13a,c,e, 14a, 16 c,e, 17b,d 34e, 37a, 39e, 41c
Linalool	+	-	+	-	+	13a, 14a, 16a,e, 34e, 37a, 45c
trans-Linalool oxide	+	-	-	-	-	37a
Longiborneol (=juniperol)	+	-	-	-	+	16e, 34e
Longifolene	-	-	+	-	-	16c
Ethyl linolenate	-	-	+	-	-	43c
(E)-β-Ionone	-	-	-	-	+	16e, 34e
neo-Menthol	-	-	+	-	-	16c
p-Menthone	-	-	+	-	-	40c
6-Methyl-5-hepten-2-one	-	-	+	-	+	13c,e, 34e, 39e, 41c
cis-p-Mentha-1 (7),8-dien-2-ol	+	-	-	-	-	13a, 14a, 42a
cis-p-Mentha-2,8-diene-1-ol	-	-	+	-	-	13c, 47c

(+)-p-Mentha-2,8-diene	-	-	+	-	-	38c
cis-p-Menth-3-en-1,2-diol	+	-	+	-	-	13a,c, 14a, 39e, 41c
Methyl hexyl bourgene	+	-	-	-	-	37a
Methyl 6.6-dimethylbicyclo[3.1.1]hept-2-ene-2-carboxylate	-	+	-	-	-	17b
4 methylene-2,8,8 trimethyl-2-vinyl-bicyclo nonane	-	-	+	-	-	38c
para-Methylanisole	-	-	+	-	-	16c
1-Methyl-4-acetyl-cyclohex-1-ene	-	-	+	-	-	13c, 41c
3-Methyl-N-naphthalen-1-yl-benzamide	-	-	+	-	-	38c
α-Muurolene	+	-	-	-	+	16a, 34e, 37a, 39e
α-Muurolol	-	-	+	-	+	13c, 16e, 34e , 41c
γ-Muurolene	+	-	+	-	+	13e, 16a,c,e, 39e
t-Muurolol	+	-	-	-	-	14a
(E)-Myroxide	+	-	-	-	-	16a, 37a
(Z)-Myroxide	+	-	-	-	-	16a, 37a
Myrcene	+	+	+	+	+	13a,c,e, 14a, 16a,c,e, 17b,d, 34e, 37a, 39e, 41c
Myrtenol	+	+	-	-	-	14a,15a, 15b ,42a
trans-Myrtanol acetate		-	-	-	+	16e, 34e
Myrtenal	-	-	+	-	+	13c, 16e , 41c
Myristic acid	-	-	+	-	-	43c
Myrtenyl acetate	-	+	+	-	+	13e, 16c, 17b, 34e, 39e
Nerol	+	-	-	-	-	37a
(E)-Nerolidol	-	-	+	-	+	13e, 39e, 45c
2-Nerolidol	-	-	+	-	-	38c
Neryl acetate	+	-	-	-	-	37a
Neryl valerate	-	-	-	-	+	13e, 39e
2-Nonanol	+	-	-	-	-	13a, 14a, 39a
(E)-2-Nonenal	-	-	-	-	+	13e, 34e, 39e
Nonanal	+	-	+	-	+	16a,c,e
Nonadecanoic acid, ethyl ester	-	-	+	-	-	38c
2-Nonanone	+	-	-	-	-	13a, 14a, 42a
cis-β-Ocimene	+	-	-	-	-	37a
(Z)-β-Ocimene	+	-	+	+	+	13a,c,e, 14a, 16a,c,e, 17b, 34e, 37a, 39e, 41c
(E)-β-Ocimene	+	+	+	+	+	13a,e, 14a, 16a,c,e, 17b,d, 34e, 37a,41c
trans-β-Ocimene	+	-	+	-	-	37a, 40c
allo-Ocimene	+	-	-	-	-	16a
neo-allo- Ocimene	+	-	-	+	-	16, 17d
Methyl octadec-9-en-12-ynoate	-	-	+	-	-	43c
9,15-Octadecadienoic acid methyl ester	-	-	+	-	-	38c
12-Octadecenoic acid methyl ester	-	-	+	-	-	38c
2-Octanol	+	-	-	-	-	13a, 14a, 37a, 42a
1-Octen-3-yl acetate	-	-	+	-	-	16c
3-Octanol	-	-	+	-	-	13c, 41c
1-Octen-3-ol	+	-	+	-	+	13a,c,e, 14a, 39e, 42a, 43c
1-Octenyl acetate	-	-	+	-	-	13c,41c
Octyl acetate	+	-	-	-	-	37a
2-(2-octenyl)-cyclopentanone	-	-	+	-	-	38c
9,12,15-Octadecatrienoic acid ethyl ester	-	-	+	-	-	38c
Z,E-3,13-Octadecadien-1-ol	-	-	+	-	-	38c
Palustrol	-	-	-	-	+	13e, 39e

Palmitic acid	-	-	+	-	-	43c
Patchouli alcohol	-	-	-	-	+	16e,34e
β-Patcholene	-	-	+	-	-	40c
Phellandral	+	-	-	-	-	37a
α-Phellandrene epoxide	+	-	-	-	-	37a
β-phellandrene	-	+	-	-	-	17b
Perilla aldehyde	+	-	-	-	-	16a
Pelugone	-	-	+	-	-	40c
Perillen	-	-	+	-	-	13c, 41c
2-Phenylethyl acetate	+	-	+	-	-	13c, 14a, 37a, 41c
Phytol	-	-	+	-	-	43c
α-Pinene	+	-	+	+	+	13a,c,e, 14a, 16c, 17d, 34e , 41c, 45c
α-Pinene oxide	+	-	-	-	+	13e, 16a,e, 34e, 39e
β-Pinene	+	-	+	+	+	13c,e, 14a, 16c,e, 17d, 34e, 37a,, 39e, 45c
cis-Pinocamphone	-	+	-	-	+	16e, 17b, 34e
trans-Pinocarvyl acetate	-	-	+	-	+	13e, 16c,e, 39e
trans-Pinocarveol	+	+	-	-	+	14a, 16e, 17b, 34e, 37a, 42a
Pinocarvone	+	-	-	-	+	13a, 14a, 16c, 34c 37a, 42a
cis-Piperitol	-	-	+	-	-	13c, 41c
Piperitone	-	-	+	-	-	40c
3-phenyl-3-methylbutanoic acid methyl ester	-	-	+	-	-	38c
Phthalic acid mono-2-ethylhexyl ester	-	-	+	-	-	38c
Phthalic acid, butyl pent-2-en-4-yn-1-yl ester	-	-	+	-	-	38c
Piperitenone	-	-	+	-	-	40c
Porosadienol	-	-	+	-	-	13c, 41c
Rosifoliol	+	-	-	-	-	14a, 37a, 42a
Rosefuran	-	-	+	+	-	13c, 41c
Sabinene	+	+	+	+	-	13a, 14a, 16a,c, 17b,d , 34e , 37a, 42a, 44e
cis-Sabinene hydrate	+	+	+	+	+	16a,c,e, 17b,d, 40c
Santalene	-	-	+	-	-	44c
trans-sabinene hydrate	-	+	+	-	-	16c, 17b
Safranal	+	-	-	-	+	16e, 37a
Selina-3,7-(11)-diene	-	-	+	-	-	13c,16c, 41c
Selina-5,11-diene	+	-	+	-	-	13a,c, 14a, 37a, 42a
α-Selinene	+	+	+	-	-	13c , 17b, 37a
7-epi-α-selinene	-	+	-	-	-	17b
γ-Selinene	+	-	+	-	-	37a, 40c
β-Selinene	+	+	+	-	+	16a,c,e, 17b, 34e, 37a, 40c , 41c
Spathulenol	+	-	+	-	+	13c,e, 16e, 34e, 37a, 39e, 41c
α-Terpinene	+	+	+	+	+	13a,e, 14a, 16a,c,e, 17b,d, 34e, 37a, 39e ,42a, 40c
α-Terpinenyl acetate	-	-	+	-	-	40c
γ-Terpinene	+	+	+	+	+	13a,c,e,14a,16c,e,17b,d,34e,37a, 39e, 41c, 42a
1-Terpineol	+	-	-	-	-	37a
Terpinen-4-ol	+	-	+	-	-	37a, 40c, 44c
4-Terpineol	+	+	+	-	+	16c,e, 17b,34e, 37a
4-Terpineol acetate	-	-	+	-	-	16c
α-Terpineol	+	-	+	-	+	13a,,e, 14a, 16a,c,e, 34, 37a, 39e, 42a
δ-Terpineol	+	-	+	-	+	13a,e, 14a, 16a, 34e, 37a, 39e , 42a

Terpinolene	+	+	+	+	+	13a,e, 14a, 16a,e, 17b,d, 34e, 37a, 39e, 40c, 42a, 45c,
α- Terpinolene	+	-	-	-	-	37a
7-Tetradecyne	-	-	+	-	-	38c
6,10,14-trimethyl-2-pentadecanone	-	-	+	-	-	38c
3,7,11,16-tetramethyl-hexadeca-2,6,10,14-tetraen-1-ol	-	-	+	-	-	38c
6-(p-Tolyl)-2-methyl-2-heptenol	-	-	+	-	-	38c
trans-Guai-11-en-10-ol	-	+	-	-	-	17b
3-Thujanol	-	-	-	-	+	16e, 34e
α-Thujene	+	+	-	+	-	17b,d, 37a
Thymol methyl ether	-	-	-	-	+	13e, 34e, 39e
Tricyclene	-	+	+	-	+	,16c,e, 17b, 34e
Undecanal	-	-	-	-	+	16e, 34e
Valencene	+	-	+	-	+	16a,c,e, 34e , 37a
Valeranone	+	+	-	-	+	16e, 17b ,34e, 37a
Viridiflorol	+	-	+	-	+	13a,c,e, 14a, 16e, 34e, 42a, 41c
Viridiflorene	-	+	+	-	-	16c, 17b
Vulgarol-β	+	-	-	-	-	37a
α-Ylangene	+	-	+	-	-	13a,c,, 14a, 16a,c, 41c, 42a,

Supplementary Table 2. Antibacterial activities of five *Helichrysum* species

Species	**Pathogens**	**Extract/positive control and part used**	**Method**	**Mic values and Activity**	**Reference**
H. cymosum	A	Acetone extract(AE), Essential oil (EO) Helihumulone (H) (Aerial part) Ciprofloxacin (+ control)	disc diffusion and microdilution	MICs: 1 – 8 mg/ml (EO), 0.078 – 0.313 mg/ml (AE), 0.016 – 0.125 mg/ml (H). ZI: 3.7 to 8.0 mm (extracts) and 3.7 to 8.0 mm (control) Result; Activities exhibited against *E. faecalis*, B. cereus, *B. subtilis* and *S. aureus*.	(14, 42)
	B	Ethanol extracts (Whole plant)	micro plate	MIC: 0.8 to 1.6 mg/ml	(56)
	C	Acetone and methanol extracts, Essential oil (Aerial parts) Ciprofloxacin (+ control 0.01 mg/ml)	disc diffusion	MIC: <0.25 mg/ml and ZI: 7 and 5 mm (extracts against *S. aureus* and *B. cereus*) MIC: 0.0003 mg/ml and ZI: 6 mm (control)	(13)
H. foetidum	D	Chloroform and methanol extract (ratio1:1), (leaf and stem) ciprofloxacin (+ control)	Microdilution	MIC: 0.01 mg/ml and 0.5 mg/mL (Extracts) MIC: 0.0003 mg/ml (control) Activities against *Bacillus cereus* and *Staphylococcus aureus*	(26)
	E	Essential oils	agar diffusion and microdilution	MIC and MBC (3.8 mg/ml to > 7.5 mg/ml)	(57)
	F	Methanol and 7, 4′-dihydroxy-5-methoxyflavanone, 6′-methoxy-2′, 4, 4′-trihydroxychalcone, 6′-methoxy2′, 4-dihydroxychalcone-4′-O-β-D-glucoside, apigenin, apigenin-7-O-β-D-glucoside, and Kaur-16-en-18-oic acid. (Flower and leaf) erythromycin (+ control)	fluorescence-based antibacterial growth inhibition	Concentrations: 85.4% of 1 mg/ml and 21.8% of 0.1 mg/ml (Extract) Inhibition: 75.0%–85.0% against Bacillus subtilis at a concentration of 1 mg/ml (all compound)	(31)
H. odoratissimum	G	Acetone and methanol extract neomycin and ciprofloxacin (+controls)	disc diffuse on and broth microdilution	MIC: 0.5 mg/ml to >16.0 mg/ml ZI: from 4.1 mm to 9.4 mm (extracts showed activities against S. aureus, E. faecalis and B. cereus)	(58)

	H	Acetone extracts (aerial parts)	Agar dilution	0.01 mg/ml to 1.0 mg/ml extract exhibited activities against B. cereus, B. pumilus, B. subtilis, M. kristinae, S. aureus and E. cloacae	(59)
	I	Acetone and methanol extracts, essential oils (aerial parts), Ciprofloxacin (0.01 mg/ml + control).	disc diffusion	MIC: <0.25 mg/ml extract exhibited activities against S. aureus and B. cereus	(13)
	J	Chloroform: methanol (1:1) (leaf and stem), ciprofloxacin (+ control)	96-well microplate	4.0 mg/ml and 2.0 mg/ml Activities exhibited against S. aureus and B. cereus (leaf and stem).	(26)
	K	Essential oils chloramphenicol (25 µg + control) tetracycline (25 µg + control)	Disc diffusion and broth microdilution	MIC: 1.3 mg/ml to 10.0 mg/ml ZI: 6.7 mm to 17.0 MIC (control): 1.3 mg/ml to 10.0 mg/ml ZI (control): 6.0 mm to 23.7 mm Volatile oil showed activities against tested organisms.	(45)
H. patulum	L	Chloroform and methanol extracts (ratio 1:1), (leaf and stem) Ciprofloxacin and amphotericin (+ control)	96-well microplate	MIC: 4.0 mg/ml Antibacterial activities of the extracts was observed on S. aureus, B. cereus	(26)
H. petiolare	M	Aqueous extracts (leaf), ciprofloxacin (50 mg/ml + control)	disc diffusion	ZI: 9 mm to 15 mm ZI (control): 27 mm to 55 mm Extracts exhibited activities against pathogens.	(32)
	N	Chloroform and methanol extracts (ratio 1:1), (leaf and stem), ciprofloxacin (+ control)	96-well microplate	MIC: 4.0 mg/ml and 2 mg/ml Antibacterial activities were exhibited against S. aureus and B. cereus by the extracts.	(26)
	O	Acetone and methanol extracts, essential oils (EO) (leaf), neomycin 30 µg/disc (+ control)	disc diffusion and microtiter plate dilution	MIC: 312.5 µg/ml to 625 µg/ml ZI: 2.5 mm to 9.0 mm extracts MIC: 8000 µg/ml ZI: <1.0 mm which was lower than 6.0 mm MIC: 0.08–0.31 µg/ml control Extracts showed activities against S. aureus and B. cereus and EO against S. aureus.	(39)
	P	Acetone and methanol extracts, essential oils (aerial parts), ciprofloxacin (0.01 mg/ml) + control	disc diffusion	MIC: <0.25 mg/ml to 8.0 mg/ml [70]. The extract showed activities against S. aureus	(13)

Pathogens used

A = (*Enterococcus faecalis, Bacillus cereus, Bacillus subtilis, Staphylococcus aureus, Pseudomonas aeruginosa, Escherichia coli, Yersinia enterocolitica, Klebsiella pneumoniae, Cryptococcus neoformans* and *Candida albicans*), **B** = (*Bacillus subtilis, S. aureus, E. coli* and *K. pneumonia*), **C** = (*E. coli, Yersinia enterocolitica, Klebsiella pneumoniae, S. aureus* and *B. cereus*), **D** = (*Bacillus cereus, Staphylococcus aureus, Staphylococcus epidermidis, Klebsiella pneumoniae* and *Pseudomonas aeruginosa*), **E** = (*Acinetobacter calcoaceticus, Bacillus cereus, Escherichia coli, Klebsiella pneumoniae, Micrococcus kristinae, Proteus vulgaris, Pseudomonas aeruginosa, Salmonella* spp.*, Salmonella typhi, Serratia marcescens, Staphylococcus aureus, Staphylococcus epidermidis* and *Streptococcus faecalis*), **F** = (*Bacillus subtilis*),**G** = (*S. aureus, Enterococcus faecalis, B. cereus, P. aeruginosa, K. pneumoniae, Serratia odorifera* and *Moraxella catarrhalis*), **H** = (*Bacillus cereus, Bacillus pumilus, B. subtilis, Micrococcus kristinae, S. aureus, Enterobacter cloacae, E. coli, K. pneumoniae, P. aeruginosa* and *S. marcescens*), **I** = (E. *coli, Yersinia enterocolitica, Klebsiella pneumoniae, S. aureus* and *B. cereus*), **J** = (*S. aureus, Staphylococcus epidermidis, B. cereus, K. pneumonia* and *P. aeruginosa*), **K** = *B. cereus, B. pumilus, S. aureus, S. aureus, Streptococcus faecalis, E. cloacae, E. coli, K. pneumoniae, P. vulgaris, P. vulgaris, P. aeruginosa* and *Serratia marcescens*), **L** = (*Bacillus cereus, Staphylococcus aureus* and *Staphylococcus epidermidis, Klebsiella pneumoniae* and *Pseudomonas aeruginosa, Cryptococcus neoformans*), **M** = (*S. aureus, Pseudomonas aeruginosa* and *Mycobacterium smegmatis*), **N** = (*S. aureus, Staphylococcus epidermidis, B. cereus, K. pneumoniae* and *P. aeruginosa*), **O** = (*Staphylococcus aureus, Escherichia coli, Bacillus cereus, Bacillus subtilis, Yersinia enterocolitica* and *Klebsiella pneumoniae*), **P** = (*E. coli, Y. enterocolitica, Klebsiella pneumoniae, S. aureus* and *B. cereus*).