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Phytochemicals of *Tinospora cordifolia*-

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
1.	Cordifoliside A tetraacetate	Methanol extract	TLC, C NMR, H NMR, DEPT, H-H COSY, H-HNOESY, C-H COLOC, C-H HETCOR	[1,2]
2.	Cordifoliside B tetraacetate	Methanol extract	TLC, C NMR, H NMR, DEPT, H-H COSY, H-HNOESY, C-H COLOC, C-H HETCOR	[1,2]
3.	Cordifoliside C tetraacetate	Methanol extract	TLC, C NMR, H NMR, DEPT, H-H COSY, H-HNOESY, C-H COLOC, C-H HETCOR	[1,2]
4.	(E)-1-(3-hydroxy-1-propenyl)-3,5-dimethoxyphenyl 4-O-beta-D-apiofuranosyl-(1-->3)-beta-D-glucopyranoside	Methanol extract	IR, NMR, Mass Spectroscopy	[3]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
5.	tinosposide B	Ethanol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC	[4]
6.	tanegoside	Ethanol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC, HPLC-LTQ-Orbitrap	[4]
7.	(+)-pinoresinol O-b-D-glucopyranoside	Ethanol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC	[4]
8.	(+)-pinoresinol monomethyl ether O-b-D-glucopyranoside	Ethanol extract, methanol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC	[4,5]
9.	(+)-syringaresinol O-b-D-glucopyranoside	Ethanol extract, methanol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC	[4,5]
10.	(-)-isolariciresinol 3a-O-b-D-glucopyranoside	Ethanol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC	[4]
11.	4-allyl-2-methoxyphenyl 6-O-b-D-apiofuranosyl (1→6)-b-D-glucopyranoside	Ethanol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC	[4]
12.	icariside D1	Ethanol extract, Alcohol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC, HPLC-LTQ-Orbitrap	[4,6]
13.	tinosinen	Ethanol extract	Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC,	[4,6]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
			HMQC, HPLC-LTQ-Orbitrap	
14.	tinosporaside	Ethanol extract	Reverse phase HPLC-UV-DAD, C NMR, H NMR, C DEPT, HPLC-LTQ-Orbitrap	[7]
15.	cordioside	Ethanol extract	Reverse phase HPLC-UV-DAD, C NMR, H NMR, C DEPT, HPLC-LTQ-Orbitrap	[7,8]
16.	columbin	Ethanol extract	Reverse phase HPLC-UV-DAD, C NMR, H NMR, C DEPT, HPLC-LTQ-Orbitrap	[7,8]
17.	4-methyl-heptadec-6-enoic acid ethyl ester	Ethanol extract	H NMR, C NMR, H-H COSY, HMBC, FAB-MS, TLC	[9]
18.	s 3-hydroxy-2,9,11-trimethoxy-5,6-dihydro isoquino[3,2-a] isoquinolinylium	Ethanol extract	ESI-MS, H NMR, C NMR, HR-ESIMS, H-H COSY, HDQC, HMBC, NOESY, DEPT	[9]
19.	lirioresino--dimethyl ether	Ethanol extract	H NMR, C NMR	[9]
20.	palmatine	Ethanol extract,	H NMR, C NMR, FAB MS, H-H COSY, HMBC, HRESI-MS, Chromatography, HPLC-MS/MS, UPLC-MS, HPLC-LTQ-Orbitrap	[2,6,9–12]
21.	jatrorrhizine	Ethanol extract	H NMR, C NMR, HPLC-MS/MS, UPLC-ESI-MS/MS, HPLC-LTQ-Orbitrap	[6,9,11,13]
22.	Cordifolioside A	Methanol extract	HPLC, NMR MS, HMBC, HMQC, DEPT, ESI-MS	[5,14,15]
23.	1-deacetyltinosposide A	Ethanol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS, Chromatography, HPLC-LTQ-Orbitrap	[2,8,10]
24.	tinosineside A	Ethanol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS,	[2,8,10]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
			Chromatography, HPLC-LTQ-Orbitrap	
25.	tinocordifolioside	Ethanol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS, Chromatography, HPLC-LTQ-Orbitrap	[2,6,10,13]
26.	(-)- pinoresinol 4-O--D-glucopyranoside	Ethanol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS, Chromatography	[2,10]
27.	8 -epitanegool	Ethanol extract, Alcohol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS, Chromatography, HPLC-LTQ-Orbitrap	[2,6,10]
28.	syringin	Ethanol extract, methanol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS, Chromatography, HMQC, DEPT	[2,5,10,15,16]
29.	(E)-1-(3-hydroxy1-propenyl)-3,5-dimethoxyphenyl-4-O--D-apiofuranosyl-(1!3)--D-glucopyranoside	Ethanol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS, Chromatography	[2,10]
30.	stigmasta-5, 11 (12)-dien-3β-ol	Ethanol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS, Chromatography	[2,10]
31.	β-sitosterol	Ethanol extract	FAB MS, C NMR, H NMR, H-H COSY, HMBC, HRESI-MS, Chromatography, DEPT, H-C HETCOR, NOE	[2,9,10,17]
32.	Tinoscorside A	Methanol extract	FTICR mass spectroscopy, H NMR, C NMR, DEPT, H-H COSY, HSQC, HMBC	[16]
33.	Tinoscorside B	Methanol extract	FTICR mass spectroscopy, H NMR, C NMR, DEPT, H-H COSY, HSQC, HMBC	[16]
34.	Tinoscorside C	Methanol extract, Alcohol extract	FTICR mass spectroscopy, H NMR, C NMR, DEPT, H-H	[8,16]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
			COSY, HSQC, HMBC, HPLC-LTQ-Orbitrap	
35.	Tinoscorside D	Methanol extract	FTICR mass spectroscopy, H NMR, C NMR, DEPT, H-H COSY, HSQC, HMBC	[16]
36.	borapetoside F	Methanol extract	NMR, ESI-MS	[16]
37.	borapetoside B	Methanol extract	NMR, ESI-MS, HPLC-LTQ-Orbitrap	[8,16]
38.	polypodine B 20,22-acetonide	Methanol extract	NMR, ESI-MS	[16]
39.	angelicoidenol 2-O-β-D-apiofuranosyl-(1→6)-β-D-glucopyranoside	Methanol extract	NMR, ESI-MS	[16]
40.	secoisolariciresinol-9′-Oβ-D-glucopyranoside	Methanol extract	NMR, ESI-MS	[16]
41.	pinoresinol-di-O-glucoside	Methanol extract	NMR, ESI-MS	[16]
42.	Berberine	Methanol extract	TLC, HPLC, HPLC-LTQ-Orbitrap	[6,18]
43.	Tinosporafuranol	Ethanol extract	H NMR, CNMR, DEPT, H-H COSY, H-C HETCOR, HMBC, NOE	[2,17]
44.	Tinosporafurandiol	Ethanol extract	H NMR, CNMR, DEPT, H-H COSY, H-C HETCOR, HMBC, NOE	[2,17]
45.	Tinosporaclerodanol	Ethanol extract	H NMR, CNMR, DEPT, H-H COSY, H-C HETCOR, HMBC, NOE	[2,17]
46.	Tinosporaclerodanoid	Ethanol extract	H NMR, CNMR, DEPT, H-H COSY, H-C HETCOR, HMBC, NOE	[2,17]
47.	11-hydroxymustakone	Methanol extract, Ethanol extract	NMR MS, DEPT, HMBC, HMQC, HPL20-C	[12,13,15]
48.	N-methyl-2-pyrrolidone	Methanol extract, Ethanol extract	NMR MS, DEPT, HMBC, HMQC, HPLC-MS/MS, UPLC-ESI-MS/MS	[2,15]
49.	N-formylanonaine	Methanol extract, Ethanol extract,	NMR MS, DEPT, HMBC, HMQC,	[6,12,13,15]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
		Alcohol extract	HPLC-LTQ-Orbitrap, HPLC, HPLC-MS/MS, UPLC-ESI-MS/MS	
50.	magnoflorine	Methanol extract, Ethanol extract	NMR MS, DEPT, HMBC, HMQC, HPLC-MS/MS, UPLC-ESI-MS/MS, HPLC-LTQ-Orbitrap	[2,6,11,15]
51.	(-)-epicatechin	Methanol extract	HPLC, MS	[19]
52.	yangambin	Ethanol extract	HPLC	[12]
53.	γ-guanidino butyl alcohol	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
54.	γ-guanidino butyric acid	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
55.	γ-guanidino butyraldehyde	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
56.	isocorydine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[11,13]
57.	laurifoline	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
58.	menisperine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS, HPLC-LTQ-Orbitrap	[13]
59.	xanthoplanine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
60.	Isoboldine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
61.	Boldine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
62.	chiloenamine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
63.	columbamine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS, HPLC-LTQ-Orbitrap	[6,13]
64.	stepharanine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS, HPLC-LTQ-Orbitrap	[6,13]
65.	tetrahydrojatrorrhizine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
66.	tetrahydropalmatine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[6,13]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
67.	8-oxojatrorrhizine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
68.	Choline	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
69.	glycine betaine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
70.	proline betaine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
71.	N-trans-feruloyl-4-O-methyldopamine	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
72.	N-trans-feruloyltyramine	Ethanol extract, alcohol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[6,13]
73.	20-hydroxyecdysone	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS, Reverse phase HPLC-UV-DAD, C NMR, H NMR, C DEPT	[7,13]
74.	ecdysterone	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
75.	makisterone A	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS	[13]
76.	tinocordifolin	Ethanol extract	HPLC-MS/MS, UPLC-ESI-MS/MS, HPLC-LTQ-Orbitrap	[13],
77.	Tinosposinenside A	Ethanol extract	HRFABMS, CNMR, H NMR, DEPT, NOESY, HMBC, ESIMS	[2,8,20]
78.	Tinosposinenside B	Ethanol extract	HRFABMS, CNMR, H NMR, DEPT, NOESY, HMBC, ESIMS, HPLC-LTQ-Orbitrap	[2,20]
79.	Tinosposinenside C	Ethanol extract	HRFABMS, CNMR, H NMR, DEPT, NOESY, HMBC, ESIMS, HPLC-LTQ-Orbitrap	[2,8,20]
80.	Tinosinenside	Ethanol extract	HRFABMS, CNMR, H NMR, DEPT, NOESY, HMBC, ESIMS, HPLC-LTQ-Orbitrap	[2,6,20]
81.	Amritoside A pentaacetate	Ethanol extract	FAB MS, H NMR, C NMR, DEPT, H-C COSY, HPLC-LTQ-Orbitrap	[2,21]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
82.	Amritoside B pentaacetate	Ethanol extract	FAB MS, H NMR, C NMR, DEPT, H-C COSY	[2,21]
83.	Amritoside C pentaacetate	Ethanol extract	FAB MS, H NMR, C NMR, DEPT, H-C COSY, HPLC-LTQ-Orbitrap	[2,21]
84.	Amritoside D pentaacetate	Ethanol extract	FAB MS, H NMR, C NMR, DEPT, H-C COSY	[2,21]
85.	Cordifolide A	Methanol extract	HRESIMS, H NMR, C NMR, HMBC, HMQC, NOESY, HPLC-LTQ-Orbitrap	[2,6,22]
86.	Cordifolide B	Methanol extract	HRESIMS, H NMR, C NMR, HMBC, HMQC, NOESY	[2,22]
87.	Cordifolide C	Methanol extract	HRESIMS, H NMR, C NMR, HMBC, HMQC, NOESY	[2,22]
88.	Oblongine	Ethanol extract (Stem)	HPLC-ESI-QTOF-MS	[11]
89.	Cordifoliside D	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
90.	Tinospinoside D	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
91.	Tinospinoside B	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
92.	Rumphioside A	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
93.	Rumphioside F	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
94.	Tinosineside B	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
95.	Palmatoside F	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
96.	Rumphioside D	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
97.	Sagittatoside D	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
98.	Borapetoside H	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
99.	(5*R*,6*R*,8*S*,9*R*,10*R*,12*S*)-15,16-Epoxy-2-oxo-6-*O*-(β-D-glucopyranosyl)–cleroda-3,13(16) 14-trien-17,12-olid-18-oic acid methyl ester	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
100.	Isocolumbin	Alcohol extract	HPLC-LTQ-Orbitrap	[8]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
101.	Tinoside	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
102.	Tinocapilactone B	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
103.	Rumphioside I	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
104.	Borapetoside C	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
105.	Borapetoside A	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
106.	8-Hydroxycolumbin	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
107.	6-Hydroxycolumbin	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
108.	Boropetoside G	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
109.	Tinocrisposide	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
110.	(2*R*,5*R*,6*R*,8*S*,9*S*,10*S*,12*S*)-15,16-Epoxy-2-hydroxy-6-*O*-{β-D-glucopyranosyl-(1→6)-*α*-D-xylopyranosyl}-cleroda-3,13(16),14-trien-17,12-olid-18-oic acid methyl ester	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
111.	6′-*O*-Lactoylborapetoside B	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
112.	Tinospinoside E	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
113.	Sagittatoside B	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
114.	Tinospinoside C	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
115.	Sagittatoside C	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
116.	Tinosponone	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
117.	Sagittatoside A	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
118.	2-O-Lactoylborapetoside B	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
119.	Tinotufolin D	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
120.	(2aβ,3*α*,5aβ,6β,7*α*,8a*α*)-6-2-(3-Furanyl) ethyl-2a,3,4,5,5a,6,7,8,8a,8b-decahydro-2a,3-dihydroxy-6,7,8b-trimethyl-2*H*-naphtho1,8-*bc*furan-2-one	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
121.	Tinotufolin C	Alcohol extract	HPLC-LTQ-Orbitrap	[8]
122.	Lotusine	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
123.	Tembetarine	Alcohol extract	HPLC-LTQ-Orbitrap	[6]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
124.	13-Hydroxy-2,3,9,10-tetramethoxy-5,8,13,13a-tetrahydro-6H-isoquino[3,2-α]-isoquinolinium	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
125.	Trans-syringin	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
126.	S-trans-N-methyltetra-hydrocolumbamine	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
127.	Cyclanoline	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
128.	2,3,9,10-Tetramethoxy-7-methyl-5,8,13,13a-tetrahydro-6H-isoquino[3,2-α]-isoquinolinium	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
129.	Dehydrodiscretamine	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
130.	Demethyleneberberine	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
131.	Pinoresinol-di-*O*-β-D-glucopyranoside	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
132.	13-Hydroxypalmatine	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
133.	3-Hydroxy-2,9,11-trimethoxy-5,6-dihydro isoquino[3,2-*α*]-isoquinolinylium	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
134.	3(*a*,4-dihydroxy-3-methoxybenzyl)-4-(4-*h*ydroxy-3-methoxybenzyl) tetrahydrofuran	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
135.	Syringaresinol-di-*O*-β-D-glucoside	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
136.	Palmaturbine	Ethanol extract, Alcohol extract	H NMR, C NMR, HPLC-LTQ-Orbitrap	[6,9]
137.	Sagitiside A	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
138.	Pinoresinol-O-β-D-glucopyranoside	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
139.	Syringaresinol-O-β-D-glucopyranoside	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
140.	Lyoniresinol-2*α*-O-β-D-glucopyranoside	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
141.	13-methylberberine	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
142.	Tinosposide A	Alcohol extract, Ethanol extract	HPLC-LTQ-Orbitrap, Reverse phase HPLC, High resolution FAB-MS, H-NMR, 2-D NOESY, HMBC, HMQC	[4,6]
143.	3,9-Dihydroxy-megastigmane-3-O-β-d-glucopyranosyl (6→1)-β-d-xylpyranoside	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
144.	4-allyl-2-methoxyphenyl-6-*O*-β-D-	Alcohol extract	HPLC-LTQ-Orbitrap	[6]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
	glucopyranosyl-(6→1)-β-D-apiofuranoside			
145.	Tinocordiside	Methanol extract, Ethanol extract, Alcohol extract	NMR MS, DEPT, HMBC, HMQC, UPLC-MS, HPLC-LTQ-Orbitrap	[6,12,15]
146.	*N-p*-Coumaroyltyramine	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
147.	β-Sitosterol glycoside	Alcohol extract	HPLC-LTQ-Orbitrap	[6]
148.	tinosporide A	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
149.	tinosporin A	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
150.	tinosporin B	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
151.	medioresinol	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
152.	(+)-glaberide I	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
153.	sesamin	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
154.	sesamolin	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
155.	5-(hydroxymethyl)-1H-pyrrole-2-carbaldehyde	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
156.	β-hydroxypropiovanillone	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
157.	2-methyl-4,5-dimethoxybenzoic acid	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
158.	p-hydroxyl phenethanol	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
159.	tachioside	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC,	[5]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
			NOE, NOESY	
160.	icariside D2	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
161.	salidroside	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
162.	p-hydroxybenzoic acid	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
163.	4-(2-hydroxyethyl) benzoic acid	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
164.	3(17)-phytene 1,2-diol	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
165.	malabarolide	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
166.	lupeol	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
167.	3-O-acetyloleanolic acid	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
168.	cycloeucalenol	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
169.	cycloabyssinone	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
170.	cycloartane-3β,25-diol	Methanol extract	HR-ESI-MS, C NMR, H NMR, HMBC, NOE, NOESY	[5]
171.	Tinosinenoside G	Ethanol extract	C NMR, H NMR, HR-ESI-MS	[23]
172.	Tinosinenoside H	Ethanol extract	C NMR, H NMR, HR-ESI-MS	[23]
173.	Tinosinenoside I	Ethanol extract	C NMR, H NMR, HR-ESI-MS	[23]
174.	Tinosinenoside J	Ethanol extract	C NMR, H NMR, HR-ESI-MS	[23]
175.	4-epi-2-deacetoxytinosinenoside D	Ethanol extract	C NMR, H NMR, HR-ESI-MS	[23]

No.	TC Phytochemicals	Type of Extract	Analytical methods	References
176.	Tinosinenoside K	Ethanol extract	C NMR, H NMR, HR-ESI-MS	[23]
177.	tinosinenside A	Ethanol extract	HR-ESI-MS, H NMR, C NMR, DEPT, HSQC, HMBC, COSY, NOESY	[24]
178.	2-isopropyl-5-phenylmethyl-imidazolidinone-4-one	Ethanol extract	HR-ESI-MS, H NMR, C NMR, DEPT, HSQC, HMBC, COSY, NOESY	[24]

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