**Supplementary**

Table S1.List of *Dendrobium*species, including their class compound, source, and biological activities

|  |  |  |  |  |  |  |  |  |
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| **No** | **Dendrobium Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 1 | *D. amoenum* | 1 | 1 | Terpenoid | Unspecified | Whole | Antibacteria | Shrestha et al. (2015) |
| 2 | *D. anosmum* | 1 | 1 | Terpenoid | Unspecified | Culture cell | Antioxidant | Prasetyo et al. (2020) |
| 3 | *D. aphyllum* | 14 | 14 | Phenanthrene | (1) Aphyllone A, (2) Aphyllone B, (3) Aphyllals C, (4) Aphyllals D, (5) Aphyllas E, (6) Moscatin, (7) Hircinol, (8) Moscatiline, (9) Gigantol, (10) Batatasin III, (11) Tristin, (12) Dihydroresveratrol, (13) Trigonopol B, (14) Tricetine | Stem | Antioxidant | Yang et al. (2015) |
| 4 | *D. brymerianum* | 8 | 8 | Flavonoid | (1) Mostaciline, (2) Gigantol, (3) Lusianthridine, (4) Dendroflorin, (5) Flavanthrinin, (6) Nobilone, (7) Denchrysan, (8) Tristan | Whole | Anticancer | Klongkumnuankarn et al. (2015) |
| 5 | *D. candidium* | 1 | 1 | Polysaccharide | 2,4-Dinitrofluorobenzene | Stem | Antihypertensive | Xiao et al. (2018) |
| Antiinflammatory, antioxidant | Liang et al. (2022) |
| 6 | *D. catenatum* | 2 | 1 | Peptide | unspecified | Whole | Antiproliferative | Zheng et al. (2015) |
| 1 | Polysaccharide | O-acetylated glucomannan | Stem | Immunomodulator | Liu et al. (2022); Qi et al. (2022) |
|  |  |  | Stem | Antihyperlipidemic | Han et al. (2021) |
| 7 | *D. chrysanthum* | 13 | 7 | Phenylpropanoids | (1) p-hydroxyphenylpropionic acidic, (2) p-coumaric acid lactone, (3) Caffeic acid, (4) Methoxybenzoic acid, (5) Coumarin, (6) Phenilalanin, (7) Tri-p-coumaric acidic ester | Stem | Antipyretic, immunomodulator | Cai et al. (2018) |

Table S1.Continued..

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Dendrobium Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 7 | *D. chrysanthum* |  | 2 | Flourenone | (1) Denchrysans A, (2) Denchrysans B | Stem | Immunomodulator | Ye et al. (2003) |
| 1 | Phenanthrene | Phenanthrenediglycodiglycoside denchryside A |
|  | 3 | Saponin | (1) Glucopyranosyl, (2) (25R)-26-O-(α-d-glucopyranosyl)-(1→2)-α-lrhamnopyranosyl-furost-5-ene-3β, (3) 22α, 26-triol-3-O-α-d glucopyranoside | Stem | Anticancer | Yang et al. (2019) |
| 8 | *D. chrysotoxum* | 1 | 1 | Bibenzyl | Erianin | Culture cell | Anticancer | Chen et al., (2020); Wang (2021) |
| 9 | *D. crepidatum* | 15 | 5 | Polyphenol | (1) Stigmasterol, (2) 2-methoxy-4-vinylphenol, (3) 2-methoxy-5-1-propenyl-phenol, (4) p-mesyloxyphenol, (5) 2,6-dimethoxy-4-(2-propenyl)-phenol) | Stem | Antioxidant | Paudel et al. (2019) |
| 4 | Flavonoid | (1) Tetracosane, (2) Triacontane, (3) Tetradecanoic acid, (4) Hexadecanoic acid | Stem | Anticancer | Paudel et al. (2019) |
| 4 | Alkaloid | Dendrocrepidamine A, Dendrocrepidamine B, Crepidamine, Isocrepidamine, | Stem | Antiinflamatory | Hu et al. (2020) |
| 2 | Indolizidine | (1) Crepidatumin C, (2) Crepidatumin D | Stem | Antidiabetic | Xu et al. (2020) |
| 10 | *D. delacourii* | 11 | 11 | Flavonoid | (1) Hircinol, (2) Ephemerantho-quinone, (3) Densifloral B, (4) Moscatin, (5) 4,9-dimethoxy-2,5-phenanthrenediol, (6) Gigantol, (7) Batatasin III, (8) Lusianthridin, (9) 4,4′,7,7′-tetrahydroxy-2,2′dimethoxy-9,9′,10,10′-tetrahydro-1,1′-biphenanthrene, (10) Phoyunnanin E, (11) Phoyunnanin C | Whole | Antidiabetic | Thant et al. (2022) |

Table S1.Continued..

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Dendrobium Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 11 | *D. dendrobii* | 4 | 4 | Flavonoid | (1) 4-hydroxybenzoic acid, (2) Vanillic acid, (3) Syringic acid, (4) Ferulic acid | Whole | Antiinflammatory | Yoo et al. (2017) |
| 12 | *D. denneanum* | 26 | 6 | Alkaloid | Denneanoside A - F | Stem | Antitumor | Li et al. (2013) |
| 8 | Phenanthrene | three new phenanthrene glycosides, three new 9,10-dihydrophenanthrenes, and two new 9,10-dihydro- phenanthrenes glycosides | Stem | Antiinflammatory | Lin et al. (2013) |
| 8 | Flavonoids | (1) Apigenin-6,8-di-C-glucoside, (2) Isoschaftoside, (3) Schaftoside, (4) Quercetin-3-O-rutinoside-7-O-glucoside, (5) Rutin, (6) Kaempferol-3-O-rutinoside, (7) Apigenin-7-O-rutinoside, (8) Apigenin-6-C-glucosyl-2-O-xyloside. | Stem | Antitumor | Zhou et al. (2018) |
| 13 | *D. densiflorum* | 1 | 1 | Alkaloid | Cypripedin | Whole | Anticancer | Wattanathamsan et al. (2018) |
| 14 | *D. devonianum* | 18 | 14 | Flavonoid | (1) 5- hydroxy-3-methoxy-flavone-7-O-[b-D-apiosyl-(1 6)]-b-D-glucoside, (2) Gigantol, (3) Syringaresinol, (4) N-trans-feruloyl tyramine, (5) Paprazine, (6) Vanillic acid, (7) p-hydroxybenzoic acid, (8) p-hydroxybenzaldehyde, (9) Oleanolic acid, (10) Vomifoliol, (11) 7-oxo-b-sitosterol, (12) 3b-hydroxy-5a,8a-epidioxyergosta-6,9,22 triene, (13) b-sitosterol, (14) Daucosterol | Whole | Antidiabetic | Sun et al. (2014) |
| 4 | Alkaloid | (1) Dendrodevonin A, (2) Dendrodevonin B, (3) Dendrodevonic acid A, (4) Dendrodevonic acid B | Stem | Anticancer | Wu et al. (2019) |

Table S1.Continued..

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Dendrobium Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 15 | *D. ellipsophyllum* | 1 | 1 | Bibenzyl | 4,5,4′-trihydroxy-3,3′-dimethoxy bibenzyl | Stem | Anticancer | Hlosrichok et al. (2018) |
| 16 | *D. fimbriatum* | 4 | 4 | Glycosides | (1) Gigantol-5-O-β-d-glucopyrano side, (2) 9,10-dihydro-aphyllone A-5-O-β-d-gluco pyranoside, (3) Ficusal-4-Oβ-d-glucopyranoside, (4) Botry diol-15-O-β-d-glucopyranoside | Stem | Antipyretic | Xu et al. (2017) |
| 17 | *D. findlayanum* | 27 | 9 | Alkaloid | (1) Dendrofinline A; (2) Dendrofin line B; (3) Findlayinine A; (4) Find layines E; (5) Findlayines F; (6) 6-hydroxy-dendroxine; (7) Nobiline; (8) Dihydronobilonine; (9) Mubironine | Stem | Anticancer | Yang et al. (2020) |
|
| 9 | Bibenzyl | (1) 3, 4, 4′-trihydroxy-5-metho xybibenzyl, (2) (R)-3, α-di hydroxy-4, 5, 4′-trimethoxy bibenzyl, (3) 3, 4-dihydroxy-5, 3′, 4′-trimethoxy bibenzyl, (4) 4, 4′- dihydroxy-3, 3′, (5) 5-trimethoxy bibenzyl, (6) 3′, 4- dihydroxy-3, 5-dimethoxy bibenzyl, (7) 3, 3′- di hydroxy-5-me thoxy bibenzyl, (8) 3, 3′- dihy droxy-4, 5′-dimethoxy bibenzyl, 3, 4′-di hydroxy-5-methoxy bibenzyl, (9) 4, 4′-dihydroxy-3, 5-dimethoxy bibenzy | Stem | Anticancer | Liu et al. (2020) |
| 9 | Terpenoids | (1) 3, α-dihydroxy-4, 4′, 5 -tri, 3, 4 dihydroxy- 3′, 4′, 5-, (2) 14-trihydroxyalloaromadendrane, (3) Trimethoxybibenzyl, (4) Methoxybibenzy, (5) 0β, 12, 14-tridroxyaromadendrane, (6) 10β, 13, 14-tridroxyaromadendrane, (7) Dendroside A, (8) dendronobilin I, (9) Dendronobilin N | Stem | Immunomodulator | Yang et al. (2019) |

Table S1.Continued..

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| **No** | ***Dendrobium Species*** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 18 | *D. formosum* | 6 | 6 | Flavonoid | (1) Coelonin, (2) Erianthridin, (3) Moscatilin, (4) Lusianthridin, (5) Gigantol, (6) Batatasin III | Stem | Antidiabetic | Pengdee et al. (2020) |
| 19 | *D. gibsonii* | 9 | 9 | Flourene | (1) Dihydrodengibsinin; (2) Dendrogibsol; (3) Ephemeranthol A; (4) Dengibsinin; (5) Nobilone; (6) Aloifol I; (7) Lusianthridin; (8) Denchrysan A; (9) 4-methoxy-9H-fluorene-2,5,9-triol | Whole | Antidiabetic | Thant et al. (2020) |
| 20 | *D. hainanense* | 14 | 14 | Flavonoid | (1) 2-hydroxy-3-(4-hydroxy-3-methoxyphenyl)-3-methoxypropyl 3-(4-hydroxyphenyl)propanoate, (2) 3,4-dimethoxy-1-(methoxymethyl)-9,10-dihydrophenanthrene-2,7-diol, (3) Dihydroconiferyl dihydro-p-coumarate, (4) 7-hydroxy-2,3,4-trimethoxy-9,10-dihydro-phenanthrene, (5) Alatusol A, (6) Threo-8S-7-methoxysyringylglycerol, (7) (E)-coniferyl aldehyde, (8) Sinapical dehyde, (9) E-p-hydroxy cinnamic acid, (10) 4-hydroxymethyl-2-Methoxyphenol, (11) Vanillin, (12) Syringaldehyde, (13) p-hydroxyphenylpropionic methyl ester, (14) 2,6-dimthoxy-4-allyphenol | Aerial parts | Antibacterial | Zhang et al. (2019) |
| 21 | *D. hercoglossum* | 5 | 1 | Bibenzyl | 4,5-dihydroxy-3,3′-dimethoxybibenzyl | Stem | Supplement | Hu et al. (2020) |
| 4 | Flavonoid | (1) 3-hydroxy-3-methylglutaryl, (2) p-coumaroyl, (3) Feruloyl, (4) Sinapoyl |

Table S1.Continued..

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| **No** | ***Dendrobium Species*** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 22 | *D. heterocarpum* | 7 | 6 | Bibenzyl, Phenylpropanoid | (1) Amoenylin, (2) Methyl 3-(4-hydroxyphenyl) propionate, (3) 3,4-dihydroxy-5,4’-dimethoxybibenzyl, (4) Dendrocandin B, (5) Dendrofalconerol A, (6) Syringaresinol | Whole | Anti-obesity | Warinhomhoun et al. (2022) |
| 1 | Flavonoid | unspecified | Leaf | Antioxidant | Longchar and Deb (2022) |
| 23 | *D. houshanense* | 6 | 4 | Bibenzyl | (1) 3-hydroxy-5-methoxybibenzyl, (2) 3-hydroxy-5,40-dimethoxybibenzyl, (3) Dendrocandin U, (4) Dendrocandin B | Stem | Anti-inflammatory | Li et al. (2020) |
| 1 | Polysaccharides | Tyramin | Whole | Anti-inflammatory | Xie et al. (2018, 2019) |
| 1 | Polysaccharides | Heteropolysaccharide | Culture cell | Antitumor | Si et al. (2018) |
|
| 24 | *D. infundibulum* | 9 | 9 | Alkaloid, Bibenzyl | (1) Dendoinfundin A, (2) Dendoinfundin B, (3) Batatasin III, (4) Dendrosinen B, (5) Ephemeranthol A, (6) Moscatilin, (7) Aloifol I, (8) 3,3′-dihydroxy-4,5 dimethoxybibenzyl, (9) 5,4′-dihydroxy-3,4,3′-trimethoxybibenzyl | Whole | Antidiabetic | Na Ranong et al. (2019) |
| 25 | *D. lasianthera* | 2 | 2 | Alkaloid, Tannin | unspecified | Leaf and stem | Antioxidant | Pratiwi et al. (2021) |
| 26 | *D. lindleyi* | 5 | 5 | Bibenzyl, Alkaloid | Chrysotoxine, Cypripedin, Gigantol, Moscatilin, Novel 4,5-dihydroxy-3,3´,4´-trimethoxybibenzyl | Whole | Immunomodulator | Pratiwi et al. (2021) |
| 27 | *D. loddigesii* | 18 | 4 | Polyphenol | Moscatilin, Gigantol, Tristin, 2,4,7-trihydroxyl-9,10-dihydro-phenanthrene | Stem | Anti-inflammatory | Li et al. (2018) |

Table S1.Continued..

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | ***Dendrobium Species*** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 27 | *D. loddigesii* | 18 | 1 | Bibenzyl | Moscatilin |  | Unspecified | Cardile et al. (2020) |
| 14 | Flavonoid | (1) Threo-7-Oethyl-9-O-(4-hydro xyphenyl)propionyl-guaiacylglycerol, (2) (R)-4,5,4ʹ-trihydroxy-3,3ʹ,α-tri methoxybibenzyl, (3) (S)5,5′,7-trihydroxy-3′,4′-dimethoxyflavanone, (4) Crepidatin, (5) Moscatilin, (6) 4,5,4′-trihydroxy3,3′-dimetho xybibenzyl, (7) 4′,5-dihydroxy-3,3′dimethoxybibenzyl, (8) Tristin, (9) Batatasin III 9, (10) 3,5,3′-hydroxybibenzyl, (11) Aphyllals C, (12) Densiflorol A, (13) Dihydro coniferyl dihydro-p-coumarate, (14) p-hydroxyphenethyl trans-ferulate 14 | Stem | Antiaging | Ma et al. (2019) |
| 28 | *D. longicornu* | 22 | 5 | Polyphenol | (1) Tetracosanoicacid, (2) 9-Hexa decyn-1-ol, (3) 3-Heptadecanol, (4) Pentafluoropropionate trans-2-dode cen-1-ol, 6,10-Dimethyl-4-unde canol, (5) α-Cadinol | Stem | Antioxidant, anticancer | Paudel et al. (2020) |
| 17 | Flavonoid | (1) Hydroxyacetic acid, (2) 4-Pyri dinecarboxylic acid, (3) Docosanoic acid, (4) Cedrene, (5) 14-methyl-pentadecanoic acid, (6) 7-Hexa decenoic acid, (7) 15-methyl-hexa decanoic acid, (8) 5-Isopentyl-4-methyl-2-(methylsulfanyl)-6-((trimethylsilyl)oxy) pyrimidine, (9) Hexahydro-2,5-Methano-2H-furo [3,2-b]-pyran-8-ol, (10) 8-Methyl-6-nonenoic acid, (11) E,E,Z,-1,3,12-Nonadecatriene-5 14-diol, (12) (Z,Z,Z)-9,12,15-Octadecatrienoic | Culture cell | Antibacteria | Paudel et al. (2020) |

Table S1.Continued..

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | ***Dendrobium* Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 28 | *D. longicornu* |  |  | Flavonoid | acid, (13) 9-Methoxy-11-Oxa tetracyclo [4.2.1.1(2,5).1(7,10)] undec-3-ene, (14) 8-Methyl-8-oxide-8-Azabicyclo [3.2.1] octan-3-ol, (15) Pentafluoropropionate-trans-2-dodecen-1-ol, (16) Cyclobutane carboxylic acid, (17) Methyl-6-methyl-3-pyridyl ketone-4-cyclo hexyl-thiosemicarbazone | Culture cell | Antibacteria | Paudel et al. (2020) |
| 29 | *D. moniliforme* |  | 25 | Phenanthrene | (1) 9,10-dihydrophenanthrene,1,5-dihydroxy-3,4,7-trimethoxy-9,10-dihydrophenanthrene, (2) Hircinol, (3) (2R\*,3S\*)-3-hydroxymethyl-9-methoxy-2-(40-hydroxy-30,50-dimethoxyphenyl)-2,3,6,7-tetrahydro phenanthro[4,3-b]furan-5,11-diol, (4) diospyrosin, (5) Aloifol I, (6) Moscatilin, (7) 3,40-dihydroxy-30,4,5-trimethoxybibenzyl, (8) Gigantol, (9) 3,30-dihydroxy-4,5-dimethox ybibenzyl, (10) Long icornuol A, (11) N-trans-cinna moyltyramine, (12) Paprazine, (13) N-trans-feruloyl 30-O-methyl dopamine, (14) Moupinamide, (15) Dihydroconiferyldihydro-p-couma rate, (16) Dihydrosinapyl dihydro-p-coumarate, (17) 3-isopropyl-5-aceto xycyclohexene-2-one-1, (18) p-hydro xybenzaldehyde, (19) Vanillin, (20) p hydroxyphenylpropionic acid, (21) Vanillic acid, (22) Protocatechuic acid, (23) (þ)-syringaresinol, (24) b-sitosterol, (25) Daucosterol | Whole | Anti-inflammatory, immunomodulator | Zhao et al. (2015) |

Table S1.Continued..

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | ***Dendrobium* Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 29 | *D. moniliforme* |  | 20 | Bibenzyl, Polyphenol | (1) Dimethylsulfoxonium formylmethylide, (2) 4H-Pyran-4-one, 2,3-dihydro-3,5-dihydroxy-6-methyl, (3) 3-Cyclohexene-1-methanol,.alpha.,alpha.,4-trimethyl-,(S), (4) 3(2H)-Furanone, 4-methoxy-2,5-dimethyl- (5) Thiophene-3-ol, tetrahydro-, 1,1-dioxide, (6) 2-Furancarboxaldehyde, 5-(hydroxymethyl) (7) 5-Acetoxymethyl-2-furaldehyde, (9) 2-Methoxy-4-vinylphenol (10) Phenol, 2,6-dimethoxy-, (11) 4-Methyl-2,5-dimethoxybenzaldehyde, (12) Cinnamic acid, 4-hydroxy-3-methoxy-, (13) Phenol, 2,6-dimethoxy-4-(2-propenyl), (14) 4-((1E)-3-Hydroxy-1-propenyl)-2-methoxyphenol, (15) Pentadecanoic acid, (16) Methyl (3,4-dimethoxyphenyl)(hydroxy) acetate, (17) Benzenemethanol, 2,5-dimethoxy-, acetate, (18) Bis[(4-methoxyphenyl)methyl]disulfide, (19) Tetradecanal, (20) .gamma.-Sitosterol | Stem | Antioxidant, anticancer | Paudel et al. (2018) |
| 30 | *D. moschatum* | 10 | 10 | Flavonoids, tannins, saponins, alkaloids, glycosides, steroids and phenols | (1) Coumarin, (2) oxalic acid, (3) palmitin, (4) dihydrocoumarin, (5) 2,4-dimethyl-2-pentanol, (6) sulfurous, (7) 2-benzedicarboxylic acid, (8) bis (2-methylpropyl) ester, (9) 1-iodo-2-methylnonane, (10) palmitic acid | Leaf | Antioxidant, antimicrobial, anti-inflammatory, anticancer, anti hiv | Rajput and Saikia (2020) |

Table S1.Continued..

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | ***Dendrobium* Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 31 | *D. nobile* | 33 | 4 | Bibenzyl | benzedicarboxylic acid, bis (2-methyl propyl) ester, 1-iodo-2-methyl nonane, palmitic acid | Stem | Antibacteria | Cheng et al. (2020) |
| 4 | Alkaloid | (1) Noresinol, (2) Syringaresinol, (3) dihydroconiferyl dihydro-p-coumara, (4) dihydrosinapyl dihydro-p-coumarate |
| 8 | Terpenoid | (1) 12-trihydroxypicrotoxane-2(15)-lactone, (2) 3,11,13-trihydro xypicrotoxane-2(15)-lactone, (3) 8,12-dihydroxy-copacamphan-3-en-2-one, (4) Quinate, (5) Uinic acid butyl ester, (6) n-butyl-1-O-α-L-rhamnopyranoside, (7) benzyl-O-β-D-glucopyranoside, (8) d p-hydroxy phenylethanol | Stem | Neuroprotective | Ma et al. (2019) |
| 10 | Bibenzyl | (1) Nobilin D, (2) Nobilin E, (3) Nobilon, (4) Crepidatin, (5) chryso tobibenzyl, (6) Dendrobin A, (7) Chrysotoxine, (8) Moscatilin, (9) Gigantol, (10) Dendroflorin | Stem | Antioxidant | Zhang et al. (2007) |
|
| 5 | Terpenoids | (1) Dendronobilin A, (2) Dendro nobilin B, (3) Dendrodensiflorol, (4) Dendrobine, (5) Findlayanin | Stem | Anticancer | Meng et al. (2017) |
| 2 | Bibenzyl | (1) Dendrocoumarin, (2) Itolide A, (3) Dendrodise | Stem | Anticancer | Zhou et al. (2018) |
| 32 | *D. ochreatum* | 1 | 1 | Flavonoid | Unspecified | Stem | Antioxidant | Banerje et al. (2015) |
| 33 | *D. officinale* | 19 | 2 | Polysaccharides | (1) DOP1-DES, (2) DOP2-DES | Stem | Antioxidant | Liang et al. (2018); Xing et al. (2018); Zhao et al. (2017) |
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Table S1.Continued..

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | ***Dendrobium* Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 33 | *D. officinale* |  | 2 | Polysaccharides | (1) DWDOP, (2) FWDOP | Stem | Antitumor | Yu et al. (2018) |
|  | 1 | Flavonoid | Gigantol | Leaf |  | Zheng et al. (2018) |
|  | 1 | polysaccharides | Unspecified |  | Antioxidant | Zhao et al. (2019) |
|  | 7 | Alkaloid | Glicoperine, Xanthoplanine, Senkirkenine, Pelletierine, Hordenine, Piperidine, Quinine |  | Unspecified | Jiao et al. (2018) |
|  | 6 | Alkaloid | Betaine isohemiphloin, Hordenine, Piperidine, Quinine, Theobromine, Trigonelline | Leaf, stem | Unspecified | Cao et al. (2019) |
| 34 | *D. oppositifolium* | 4 | 4 | Glycoside | (1) Caffeoylcholine 6-glucoside, (2) Cocamidopropyl, (3) Dopamine hydrocloride, (4) Putrescine | Stem | Unspecified | Takamiya et al. (2018) |
| 35 | *D. ovatum* | 1 | 1 | Bibenzyl | Moscatilin | Whole | Unspecified | Pujari et al. (2021) |
| 36 | *D. palpebrae* | 10 | 1 | Alkaloid | dendropalpebrone | Whole | Antioxidant | Kyokong et al. (2019) |
| 9 | Flavonoid | (1) Gigantol, (2) Lusianthridin, (3) Nobilone, (4) 1,5,7-trimethoxyphenanthrene-2,6-diol, (5) 2,5-dihydroxy-4,9-dimethoxyphenanthrene, (6) Moscatilin, (7) Scoparone, (8) 4,5,4′-trihydroxy-3,3′-dimethoxybibenzyl, (9) dendroflorin |
| 37 | *D. parishii* | 7 | 7 | Bibenzyl | (1) 4,3′,4′-trihydroxy-3,5-dimethoxybibenzyl, (2) -Dendroparishiol, (3) s flavanthrinin, (4) Moscatilin, (5) 4,5,4′-trihy droxy-3,3′-dimethoxybibenzyl, (6) Dendrocandin E, (7) Asiatic acid | Whole | Antioxidant, antiinflammatory | Kongkatitham et al. (2018) |

Table S1.Continued..

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| **No** | ***Dendrobium* Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 38 | *D. plicatile* | 16 | 5 | Bibenzyl | (1) 2-chloro-3, 4’-dihydroxy-3’,5-dimethoxybibenzyl, (2) 3-methyl gigantol, (3) 3’-hydroxy-3,4,4’,5-tetramethoxybibenzyl, (4) Batatasin III, (5) Moscatilin | Aerial parts | Anticancer | Chen et al. (2020) |
| 11 | Alkaloids | (1) Erianthridin, (2) Coelonin, (3) 2,5-dihydroxy-4-methoxy-9,10-di hydrophenanthrene, (4) Lusian thridin, (5) 1,4,7-trihydroxy-2-me thoxy9,10 dihydrophenanthrene, (6) Emphernathol A, (7) 3,7-dihydroxy-2,4-dimethoxy-9,10-dihydrophe nanthrene, (8) Calanhydroquinone, (9) 3,7-dihydroxy-2,4-dimethoxy-phe nanthrene, (10) Nudol, (11) Denthy rsinin |
| 39 | *D. polyanthum* | 10 | 10 | Flavonoid | (1) Moscatilin, (2) Gigantol, (3) Bata tasin, (4) Moscatin, (5) 9,10-dihydro moscatin, (6) 10-dihydrophenan threne-2,4,7-triol, (7) Corchoionoside C, (8) β-sitosterol, (9) Daucosterol, (10) 3,6,9-trihydroxy-3,4-dihydro anthracen-1(2H)-one | Stem | Unspecified | Hu et al. (2009) |
|
| 40 | *D. primulinum* | 12 | 12 | Glycoside | (1) 2,4,5,9S-tetrahydroxy-9,10-di hydrophenanthrene 4-O- -D-gluco pyranoside, (2) 2,4,7-trihydroxy-9,10 -dihydrophenanthrene, (3) Denthyr sinol, (4) Moscatin , (5) moscatilin, (6) Gigantol, (7) Batatasin III, (8) Tristin, (9) 3,4 ,5-trihydroxybibenzyl, (10) 3,6,9-trihydroxy-3,4-dihydro anthracen-1(2H)-one, (11) -sitosterol, (12) -daucosterol | Whole | Unspecified | Ye et al. (2016) |

Table S1.Continued..

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| **No** | ***Dendrobium* Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 41 | *D. pulchellum* | 5 | 4 | Bibenzyl | (1) Chrysotobibenzyl, (2) Chrysotoxine, (3) Crepidatin, (4) Moscatilin | Stem | anticancer, antiinflammatory, antioxidant, anti platelet aggregation | Chanvorachote et al. (2013) |
| 1 | Bibenzyl | Chrysotoxine | Stem | Anticancer | Bhummaphan et al. (2018) |
| 42 | *D. scabrilingue* | 10 | 1 | Bibenzyl | Dendroscabrol | Whole | Antidiabetic | Sarakulwattana et al. (2020) |
| 1 | Alkaloids | Dinaphthalenone |
| 8 | Flavonoid | (1) (Z)-ferulic acid tetracosyl ester, (2) (E)-ferulic acid tetra cosyl ester, (3) Gigantol, (4) Batatasin III, (5) Coelonin, (6) Aloifol I, (7) Lusianthridin, (8) RF-3192C |
| 43 | *D. senile* | 8 | 8 | Alkaloids | (1) 2,5,7-trihydroxy-4-methoxyphe nanthrene, (2) Moscatin, (3) 2,5-di hydroxy-4,9-dimethoxyphenanthrene, (4) Moscatilin, (5) Aloi fol I, (6) 4, 40,8,80-tetramethoxy[1,10-biphenan threne]-2,20,7,70-tetrol, (7) 2,20,7, 70-tetrahydroxy-4,40-dimetho xy-1,1-biphenanthrene, (8) Bleformin G | Whole | Antiobesity | Pann Phyu et al. (2022) |
| 44 | *D. sinense* | 16 | 16 | Bibenzyl | (1) Dendrosinens A, (2) Dendrosinens B, (3) Dendrosinens C, (4) Dendrosinens D, (5) 3,4,30-trimethoxy-5,40-dihydroxybibenzyl (DTB), (6) AloifolI, (7) 5,30-dihydroxy-3,4-dimethoxybibenzyl, (8) Longicornuol A, (9) Trigonopol A, (10) Coniferyl p-coumarate, (11) Sinapyl p-coumarate, (12) Coniferyl aldehyde, (13) Syringaldehyde, (14) 3-hydroxy-1-(4-hydroxy-3,5-dimethoxyphenyl)-1-propanone, (15) Tectochrysin, (16) Syringaresinol | Whole | Anticancer | Chen et al. (2014) |

Table S1.Continued..

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| **No** | ***Dendrobium* Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 45 | *D. snowflake* | 5 | 2 | Terpenoids | (1) Flakinins A, (2) Flakinins B | Whole |  | Morita et al. (2000) |
| 3 | Alkaloid | (1) Mubironines A, (2) Mubironine B, (3) Mubironine C |
| 46 | *D. sonia* | 11 | 1 | Flavonoid | Anthocyanin | Flowers | Antioxidant | Obsuwan et al. (2019) |
| 10 | Flavonoid | (1) Dencoumarin, (2) 6-feruloyloxyhexanoic ester, (3) Psoralen, (4) 6,7-dimethoxycoumarin, (5) Sinapaldehyde, (6) 2-hydroxy-5-methoxypropiophenone, (7) Zhebeiresinol, (8) Pinoresinol, (9) Syringaresinol, (10) Sesqui-illisimonan A | Stem | Antiinflamatory | Xiang Cai et al. (2020) |
| 47 | *D. speciosum* | 1 | 1 | Flavonoid | unspecified | Stem, leaf | Antioxidant | Moretti et al. (2013) |
| 48 | *D. tosaense* | 1 | 1 | Polyphenol | Gigantol | Stem | Antioxidant, melanogenesis inhibitor | Chan et al. (2018) |
| 49 | *D. venustum* | 7 | 7 | Flavonoid | (1) Flavanthrinin, (2) Gigantol, (3) Densiflorol B, (4) Lusianthridin, (5) Batatasin III, (6) Phoyunnanin C, (7) Phoyunnanin C, | Whole | Antimalaria, antiherpetic | Sukphan et al. (2014) |
| 50 | *D. wardianum* | 13 | 1 | Terpenoids | Wardianumine A | Stem | Anticancer | Zhang et al. (2017) |
| 1 | Bibenzyl | Dendocandin |
| 11 | Alkaloid, Bibenzyl | (1) Denbinobin, (2) 9,10-dihydro-denbinobin, (3) Mostatin, (4) loddigesiinols A, (5) Moscatilin, (6) 5-hydroxy-3,4′-dimethoxybibenzyl, (7) 3,4- dihydroxy-5,4′-dimethoxy bibenzyl, (8) Dendrocandin A, (9) Gigantol, (10) Dendrocandin U, (11) Dihydroshihunine, |

Table S1.Continued..

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| **No** | ***Dendrobium* Species** | **Total compound** | **Number of compounds** | **Class compounds** | **Specific compounds** | **Plant organ/ source** | **Bioactivity** | **References** |
| 51 | *D. williamsonii* | 23 | 23 | Bibenzyl | (1) Dendrowillol, (2) Moniliformine, (3) Amoenylin, (4) 4,4′-dihydroxy-3,5-dimethoxybibenzyl, (5) Aloifol I, (6) Moscatilin, (7) 3-(2-(7-methoxybenzo[d][1,3] dioxol-5 yl)ethyl)phenol, (8) Rel-(3R,3′S,4R,4′S)-3,3′,4,4′-tetrahydro-6,6′-dimethoxy[3,3′-bi-2H-benzopyran]-4,4′-diol, (9) (+)-syringaresinol, (10) Coniferyl p-coumarate, (11) Balanophonin, (12) Scoparone, (13) 3-hydroxy-1-(4-hydroxy-3,5 dimethoxyphenyl)-1-pro panone, (14) p-hydroxybenzoic acid, (15) Salicylic acid, (16) Methyl 4-hydroxybenzoate, (17) Vanillin, (18) Ergosta-8(9),22-diene-3,5,6,7 tetraol, (19) Stigmast-4-en-3α,6β-diol, (20) 3β-hydroxy-5α,8α-epidioxyergosta-6,9,22-triene, (21) Betulin, (22) β-sitosterol, (23) Daucosterol | Whole | Antitumor | Yang et al. (2018) |