**Table S1.** List of GC-MS analysis of bioactive compounds from *S. tauricus* intracellular extract

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| S. No. | R.T (min) | Compound name | Activity/Application | Molecular  Formula | Molecular  weight (g/mol) | Area % | References |
| 1 | 4.5 | 2-Pentanone, 4-hydroxy-4-methyl- | paint thinner, wood colorant, rust remover | C6H12O2 | 116 | 0.9 | Qiu et al. (2019) |
| 2 | tert-Butyl Hydroperoxide | Oxidant | C4H10O2 | 90 | Gad (2014) |
| 3 | 1,3-Dioxolane-2-methanol, 2,4-dimethyl- | Chlorinating agent | C6H12O3 | 132 | Simon and Losada (2008); Fuentes et al. (2016) |
| 4 | 2-Propanol, 2-nitroso-, acetate | Cosmetics | C5H9NO3 | 131 | Lemieux and Nagabhushan (1968) |
| 5 | 2-Hexanone, 4-methyl- | Paints | C7H14O | 114 | Rebbert and Ausloos (1962) |
| 6 | 2-Acetoxyisobutyryl chloride | Epoxides synthesis | C6H9ClO3 | 164 | Zibuck (2001) |
| 7 | 6.0 | Octanoic acid, methyl ester | Oxidation | C9H18O2 | 158 | 8.6 | Schwabe et al. (1964) |
| 8 | Undecanoic acid, 2-methyl- | Antifungal | C12H24O2 | 200 | Rossi et al. (2021) |
| 9 | Methyl 6-methyl heptanoate | Biomolecule synthesis | C9H18O2 | 158 | Kroumova and Wagner (2003) |
| 10 | Decanoic acid, methyl ester | Antibacterial | C11H22O2 | 186 | Damiano et al. (2020) |
| 11 | Cyclopentaneundecanoic acid, methyl ester | Antioxidant and Antibacterial | C17H32O2 | 268 | Daniels and Temikotan (2021) |
| 12 | 6.8 | 1-Octanol, 2,7-dimethyl- | Antioxidant, hepatoprotective and anti-inflammatory | C10H22O | 158 | Abdillah et al. (2015) |
| 13 | Carbonic acid, prop-1-en-2-yl undecyl ester | Beverages production | C15H28O3 | 256 | Millero et al. (2006) |
| 14 | Hydroxylamine, O-decyl- | Reducing agent | C10H23NO | 173 | Gad (2005) |
| 15 | 1-Decanol, 2-ethyl- | Surfactant | C12H26O | 186 | Achimón et al. (2022) |
| 16 | 1-Decanol, 2-methyl- | Lubricants, Plasticizers | C11H24O | 172 | Halling et al. (1998) |
| 17 | Trichloroaceticacid, decyl ester | Disinfectant | C12H21Cl3O2 | 302 | Anand et al. (2014) |
| 18 | 1-Heptanol, 2-propyl- | Pheromone | C10H22O | 158 | Francke and Schulz (1999) |
| 19 | Octadecane, 1-(ethenyloxy)- | Anti-corrosion | C20H40O | 296 | Zeitoun et al. (2021) |
| 20 | Carbonic acid, decyl prop-1-en-2-yl ester | Beverages production | C14H26O3 | 242 | Millero et al. (2006) |
| 21 | 7.2 | 1,7-Octanediol, 3,7-dimethyl- | Polymer | C10H22O2 | 174 | 8.6 | Reddy and Ananthaprasad (2021); |
| 22 | Octanoic acid, 7-oxo- | Antibacterial | C8H14O3 | 158 | Schwabe et al. (1964) |
| 23 | 1,8-Nonanediol, 8-methyl- | Agrochemicals | C10H22O2 | 174 | Kula et al. (2001) |
| 24 | 7-Octen-2-ol, 2,6-dimethyl- | Cosmetics | C10H20O | 156 | Ham and Raymond Wells (2009) |
| 25 | Methyl 6-oxoheptanoate | Antibacterial | C8H14O3 | 158 | Idan et al. (2015) |
| 26 | 3-Heptanol, 4-methyl- | Therapeutics | C8H18O | 130 | Ley and Madin (1991) |
| 27 | 4-Heptanone, 2,3:5,6-diepoxy-2,6-dimethyl- | Oxidant | C9H14O3 | 170 | Ley and Madin (1991) |
| 28 | 3-Tridecanol | Lubricant | C13H28O | 200 | Chagnes et al. (2010) |
| 29 | 2-Dodecanone | Insecticide | C12H24O | 184 | Wang et al. (2019) |
| 30 | 7.7 | Succinic acid, 2-methylpent-3-yl pentafluorobenzyl ester | Antioxidant | C17H19F5O4 | 382 | 8.6 | Cullere et al. (2004) |
| 31 | 1,1'-Biphenyl, 2-iodo- | Substrate | C12H9I | 280 | Fang et al. (2021) |
| 32 | Benzamide, N-(1,4,6-trimethyl-1H-pyrazolo[3,4-b]pyridin-3-yl)- | Substrate | C16H16N4O | 280 | Jachak et al. (2006) |
| 33 | 4-[N'-(4-Methoxy-benzoyl)-hydrazino]-4-oxo-butyric acid methyl ester | Antibacterial | C13H16N2O5 | 280 | EL-Hashash et al. (2014) |
| 34 | Dibenzo[a,c]phenazine | Fluorochrome | C20H12N2 | 280 | Xie et al. (2019) |
| 35 | Benzofuro[3,2-d]pyrimidine, 4-(2-pyridylthio)- | Therapeutic | C15H9N3OS | 279 | Campos et al. (2022) |
| 36 | (9E)-Styrylanthracene | Luminophore | C22H16 | 280 | Zhang et al. (2017) |
| 37 | 1H-Purine-2,6-dione,3,7-dihydro-3-methyl-7-carboxymethyl-8-n-butyl | Anti-inflammatory | C12H16N4O4 | 280 | Abou-Ghadir et al. (2014) |
| 38 | Methyl 2-phenyl-2,3-epoxyindan-1-one-3-carboxylate | Catalyst | C17H12O4 | 280 | Godwin et al. (2012) |
| 39 | Propyl N-(heptafluorobutyryl)pyroglutamate | Metabolite | C12H12F7NO4 | 367 | (Hušek et al. (2016) |
| 40 | 8.7 | Z,Z-2,5-Pentadecadien-1-ol | Pharmacological | C15H28O | 224 | 6.8 | Ganesh and Mohankumar (2017) |
| 41 | 10-Octadecenal | Adjuvant/ pheromones | C18H34O | 266 | Gil et al. (1995) |
| 42 | 3-(Prop-2-enoyloxy)tetradecane | Phytoconstituent | C17H32O2 | 268 | Ezekwe et al. (2020) |
| 43 | l-Gala-l-ido-octose | Neuritogenic | C8H16O8 | 240 | Jahan et al. (2020) |
| 44 | 5-(Prop-2-enoyloxy)pentadecane | Antimicrobial | C18H34O2 | 282 | Xue et al. (2017); Gadhi et al. (2019) |
| 45 | 2-Cyclopropylcarbonyloxytridecane | aphrodisiac, anti-inflammatory, antihypertensive | C17H32O2 | 268 | Bhargawanet al. (2016) |
| 46 | Imidazole, 2-amino-5-[(2-carboxy)vinyl]- | Therapeutic | C6H7N3O2 | 153 | Shalini et al. (2010) |
| 47 | 4-Cyclopropylcarbonyloxytetradecane | Cytotoxic and Antibacterial | C18H34O2 | 282 | Talbaoui et al. (2020) |
| 48 | 9.5 | 1-Chloroundecane | Precursor for fatty acid synthesis | C11H23Cl | 190 | 14.7 | Gensler and Thomas (1952) |
| 49 | Dodecane, 1-chloro- | Hydrocarbon | C12H25Cl | 204 | Moldoveanu (2019) |
| 50 | Tetradecane, 1-chloro- | Chlorination | C14H29Cl | 232 | Assassi et al. (2005) |
| 51 | Nonane, 1-chloro- | Hydrocarbon | C9H19Cl | 162 | Moldoveanu (2019) |
| 52 | 10.0 | Benzene, 1,4-bis(trifluoromethyl)- | Fluorochrome | C8H4F6 | 214 | 1.7 | Skhirtladze et al. (2022) |
| 53 | Pyrimidine, 4,5-diamino-6-chloro-2-(trifluoromethyl)- | Transcriptional activator | C5H4ClF3N4 | 212 | Palanki et al. (2000) |
| 54 | 1H-Imidazole, 1-(2,2,3,3,3-pentafluoro-1-oxopropyl)- | Anticancer | C6H3F5N2O | 214 | Zhang et al. (2014) |
| 55 | Sulfaguanidine | Enzyme inhibitor | C7H10N4O2S | 214 | Akocak et al. (2021) |
| 56 | Anthracene, 2-chloro- | Antibacterial | C14H9Cl | 212 | de Bony et al. (1984) |
| 57 | Ethyl iodoacetate | Enzyme activator | C4H7IO2 | 214 | Tanaka and Hayashi (2008) |
| 58 | 8-Methyl-4-(1-pyrrolidinyl)pyrido[3,2-c]pyridazine | Cancer therapies | C12H14N4 | 214 | Jubete et al. (2019) |
| 59 | [1,1'-Biphenyl]-4-carboxylic acid, 4'-hydroxy- | Precursor for synthesis of bioactive molecules | C13H10O3 | 214 | Patel et al. (2009) |
| 60 | Benzoic acid, 2-(1,2,4-triazol-3-yl-aminocarbonyl)- | Breast and prostate cancer therapy | C10H8N4O3 | 232 | Jamieson et al. (2012) |
| 61 | 10.4 | 5-Amino-2-methoxy-4-(1H-1,2,3,4-tetrazol-5-yl)phenol | Antimicrobial | C8H9N5O2 | 207 | 1.7 | Arulmurugan and Kavitha (2010) |
| 62 | 4H-Pyrido[1,2-a]pyrimidine-3-carboxamide, 6,7,8,9-tetrahydro-6-methyl-4-oxo- | Antimicrobial and antitumor | C10H13N3O2 | 207 | Al-Taisan et al. (2010) |
| 63 | 1-Adamantanecarboxamide, N,N-dimethyl- | Anticancer | C13H21NO | 207 | Su et al. (2012) |
| 64 | trans-4-Ethoxy-β-methyl-β-nitrostyrene | Cardiovascular therapy | C11H13NO3 | 207 | Alves-Santos et al. (2019) |
| 65 | Pent-3-yn-2-ol, 2-cyclopropyl-5-(1-piperidyl)- | Anti-inflammatory | C13H21NO | 207 | Alam et al. (2020) |
| 66 | Carbamic acid, 4-methoxyphenyl-, allylester | Catalytic activity | C11H13NO3 | 207 | Anderson et al. (2005) |
| 67 | Thiophen-2-methylamine, N-(2-fluorophenyl)- | Catalytic activity | C11H10FNS | 207 | HasanTanak et al. (2020) |
| 68 | 2-(1-Piperidino)-3-nitropyridine | Antimicrobial | C10H13N3O2 | 207 | Sivaprakash et al. (2019) |
| 69 | Benzoic acid, 4-amino-, pentyl ester | Cytotoxicity | C12H17NO2 | 207 | Krátký et al. (2019) |
| 70 | 11.5 | 4-(Benzoylmethyl)-6-methyl-2H-1,4-benzoxazin-3-one | Antimicrobial | C17H15NO3 | 281 |  | Ozden et al. (2000) |
| 71 | Adenine, N4-pentafluoropropionyl- | Oxidization | C8H4F5N5O | 281 | 1.5 | Tsunoda et al. (2011) |
| 72 | 2-Furancarboxylic acid, N'-[(8-hydroxy-5-quinolinyl)methylidene]hydrazide | Antioxidant | C15H11N3O3 | 281 | Gülerman et al. (2000) |
| 73 | 1-Phenyl-4-(trifluoromethyl)-1H,4H,5H,6H,7H-pyrazolo[3,4-b]pyridin-6-one | Antiproliferative | C13H10F3N3O | 281 | Martín-Acosta et al. (2021) |
| 74 | Acetamide, 2-(2,4-difluorophenoxy)-N-(4-fluorophenyl)- | Inhibitor | C14H10F3NO2 | 281 | Williams et al. (2015) |
| 75 | Succinic acid, 3,5-dinitrobenzyl 2-methylhex-3-yl ester | Enzyme activator | C18H24N2O8 | 396 | Martinez et al. (2008) |
| 76 | Oxalic acid, monoamide, N-(2-fluorophenyl)-, heptyl ester | Antioxidant | C15H20FNO3 | 281 | 1.5 | Ganyam et al. (2019) |
| 77 | Propanamide, 2,2,3,3,3-pentafluoro-N-(2,4,6-trimethylphenyl)- | Inhibitor | C12H12F5NO | 281 | Talley et al. (2000) |
| 78 | 12.3 | 3-Trifluoroacetoxypentadecane | Antimicrobial | C17H31F3O2 | 324 | 0.7 | Hussein et al. (2016) |
| 79 | Z-10-Tetradecen-1-ol acetate | Pharmaceutical | C16H30O2 | 254 | Hameed et al. (2015) |
| 80 | Dodecanoic acid, 3-hydroxy- | Cytotoxic | C12H24O3 | 216 | Viegas et al. (1989) |
| 81 | 3-Trifluoroacetoxydodecane | Antioxidant | C14H25F3O2 | 282 | Zagulyaeva et al. (2010) |
| 82 | 10-Undecenoic acid, octyl ester | Antimicrobial | C19H36O2 | 296 | Van der Steen and Stevens (2009) |
| 83 | 3-Cyclopropylcarbonyloxydodecane | Reducing Agent | C16H30O2 | 254 | Bolade et al. (2018) |
| 84 | 13.3 | 1-Hexadecanol, 2-methyl- | Antioxidant | C17H36O | 256 | 0.2 | Hussein et al. (2015) |
| 85 | 1-Dodecanol, 3,7,11-trimethyl- | Cytotoxic | C15H32O | 228 | Fahem et al. (2020) |
| 86 | Pentadecanoic acid | Oxidation | C15H30O2 | 242 | Jenkins et al. (2015) |
| 87 | Hexadecane, 1,1-bis(dodecyloxy)- | Antioxidant | C40H82O2 | 594 | Ser et al. (2015) |
| 88 | Cyclopropanetetradecanoic acid, 2-octyl-, methyl ester | Pharmacological | C26H50O2 | 394 | Srivastava et al. (2015) |
| 89 | Heptadecanoic acid, heptadecyl ester | Antimicrobial | C34H68O2 | 508 | Gautam et al. (2016) |
| 90 | 2-Myristynoyl pantetheine | C25H44N2O5S | 484 | Srivastava et al. (2015) |
| 91 | 13.6 | Oleic Acid | Anti-tumor | C18H34O2 | 282 | 1.9 | Carrillo Pérez et al. (2012) |
| 92 | 13-Octadecenoic acid | Anti-protozoal | C18H34O2 | 282 | Carballeira et al. (2009) |
| 93 | cis-Vaccenic acid | Protects from Heart failure | C18H34O2 | 282 | Djoussé et al. (2014) |
| 94 | 9-Octadecenoic acid, (E)- | Inhibitor | C18H34O2 | 282 | Carballeira et al. (2009) |
| 95 | 9-Hexadecenoic acid | Cosmetics | C16H30O2 | 254 | Takigawa et al. (2005) |
| 96 | cis-13-Eicosenoic acid | Anti-obesity | C20H38O2 | 310 | Senarath et al. (2018) |
| 97 | 3-Heptafluorobutyroxytetradecane | Polymerization | C18H29F7O2 | 410 | MacKenzie and Tenaschuk (1979) |
| 98 | n-Nonadecanol-1 | Antifeedant | C19H40O | 284 | Aznar-Fernández et al. (2019) |

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