**Tab. S1.** The content of indole glycoside in DBL after being stored for different months

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Storage months | 2 | 4 | 6 | 8 | 10 | 12 |
| Content of indole glycoside/% | 9.23±0.06 | 9.20±0.05 | 9.15±0.08 | 9.11±0.03 | 9.08±0.05 | 9.06±0.04 |

**Tab. S2.** Factor level table

| Level | Experimental factors | | | |
| --- | --- | --- | --- | --- |
| *A* ozonization  time/min | *B* hydrochloric acid  concentration/% | *C* acidolysis  time/h | *D* pH |
| 1 | 2 | 1.5 | 1 | 5.0 |
| 2 | 3 | 2.0 | 2 | 6.0 |
| 3 | 4 | 2.5 | 3 | 7.0 |

**Tab. S3.** Chemical compositions of TIN and NIE analyzed by UPLC-Q-TOF-MS/MS

| NO. | Category | Compounds | TIN | | NIE | |
| --- | --- | --- | --- | --- | --- | --- |
| Retention time | Peak area | Retention time | Peak area |
| 1 | Organic acids | 2-Amino-3-methoxybenzoic acid | - | - | 14.45 | 62906 |
| 2 | Isonicotinic acid | - | - | 6.84 | 36983 |
| 3 | 3-Aminobenzoic acid | - | - | 0.75 | 81313 |
| 4 | Indole-3-acetic acid | - | - | 5.69 | 160373 |
| 5 | 9-Hexadecanoyloxyocta -decanoic acid | - | - | 26.84 | 264954 |
| 6 | 3-Hydroxyanthranilic acid | - | - | 11.41 | 28425 |
| 7 | 13-Oxo-9,11-tridecadienoic acid | - | - | 15.95 | 628176 |
| 8 | Dimethylmalonic acid | - | - | 8.71 | 63480 |
| 9 | 3-Hydroxybenzoic acid | - | - | 0.72 | 71333 |
| 10 | Corosolic acid | - | - | 21.4 | 610732 |
| 11 | Ethyl phosphite | - | - | 0.77 | 12239 |
| 12 | [12-Hydroxydodecanic acid](https://www.chemicalbook.com/Search.aspx?keyword=12-hydroxydodecanic acid" \t "https://www.chemicalbook.com/_blank) | 3.98 | 77720 | 13.63 | 105267 |
| 13 | 1H-1,2,3-Benzotriazole-5-  carboxylic acid | - | - | 1.41 | 50682 |
| 14 | 1. (2,5-Dimethoxyphenyl)   propionic acid | - | - | 0.72 | 47012 |
| 15 | 8-[(3S,4S)-4α-[(Z)-2-Pentenyl]-5-oxo-1-cyclopentene-3α-yl]  octanoic acid | - | - | 14.12 | 73546 |
| 16 | Hexadecanedioic acid | - | - | 12.93 | 467967 |
| 17 | 3-Aminosalicylic acid | - | - | 11.92 | 227006 |
| 18 | 16-Hydroxyhexadecanoic acid | - | - | 16.59 | 12492510 |
| 19 | Arachidonic acid | - | - | 24.19 | 116482 |
| 20 | Lignocellulosic acid | - | - | 44.56 | 28713 |
| 21 | Suberic acid | - | - | 1.15 | 27648 |
| 22 | Kojic acid | - | - | 54.89 | 39838 |
| 23 | Nicotinic acid | - | - | 9.61 | 97391 |
| 24 | S) - (-) -2-Hydroxyisopropanolic acid | - | - | 1.38 | 47058 |
| 25 | Fritillaric acid | - | - | 37.24 | 652566 |
| 26 | *Cis*-5-dodecenoic acid | - | - | 15.92 | 287300 |
| 27 | 3- (3-Indolyl) -2-oxopropionic acid | - | - | 11.25 | 68718 |
| 28 | 2-Oxymethyl sulfonic acid | - | - | 10.04 | 16143 |
| 29 | (R)-3-Hydroxy myristic acid | - | - | 13.09 | 346737 |
| 30 | Ricinoleic acid | 19.56 | 273586 | 26.87 | 43678 |
| 31 | Trisdecanoic acid | - | - | 8.22 | 55826 |
| 32 | 3,3,14,14-Tetramethylhexadecanedicarboxylic acid | - | - | 16.07 | 29611 |
| 33 | N-stearoyl taurine | - | - | 16.69 | 49682 |
| 34 | Tetradecanedioic acid | - | - | 8.84 | 31393 |
| 35 | Octanoic acid | - | - | 8.04 | 38841 |
| 36 | Trichloroethylene acid | - | - | 40.45 | 80189 |
| 37 | 21-Hydroxybenzeicosane acid | - | - | 24.55 | 1121666 |
| 38 | Myristelaidic acid | 19.04 | 29373 | 18.74 | 99083 |
| 39 | (S)-1,2,4-Butanetriol | - | - | 6.56 | 59017 |
| 40 | 9-Oxononanoic acid | - | - | 7.15 | 49092 |
| 41 | Amides, C8-18 and C18-unsatd., N,N-bis(hydroxyethyl) | - | - | 28.15 | 151887 |
| 42 | Mycophenolic acid | - | - | 25.26 | 330319 |
| 43 | Kynuric acid | - | - | 11.9 | 85319 |
| 44 | Lasarate A | - | - | 5.39 | 99003 |
| 45 | Propane-2-sulphonic acid | - | - | 36.03 | 20531 |
| 46 | (S)-1,2,4-Butane | - | - | 1.08 | 191606 |
| 47 | *Cis*-7-hexadecenoic acid | - | - | 33.24 | 393987 |
| 48 | (R)-2-Hydroxystearic acid | - | - | 23.52 | 112657464 |
| 49 | (14Z)-Eicosenoic acid | - | - | 21.3 | 431661 |
| 50 | (+) - Isomyristic acid | - | - | 21.45 | 3889129 |
| 51 | 11,14-*trans*-Eicosadienoic acid | - | - | 27.84 | 651098 |
| 52 | 2-Aminohexadecenoic acid | - | - | 22.4 | 24557 |
| 53 | 2-Hexyldecanoic acid | - | - | 29.22 | 732625 |
| 54 | 5-Amino-2-p- tolylbenzenesulfonic acid | 13.44 | 11556 | 10.48 | 55049 |
| 55 | 7-Oxo-11-dodecenoic acid | - | - | 7.25 | 39817 |
| 56 | 7-Methylnonanoic acid | - | - | 13.65 | 24580 |
| 57 | 8- (4-Sulfophenyl) octanoic acid | 17.82 | 34418 | 9.97 | 47476 |
| 58 |  | - | - | 23.78 | 131376 |
| 59 | 3-Oxo-lup-20(29)-en-28-oic acid | - | - | 28.17 | 154227 |
| 60 | *Cis*-resveratrol alkyd | - | - | 11.72 | 14880 |
| 61 | (Z) - Octadecyl-11-enoic acid | - | - | 26.92 | 77854064 |
| 62 | (3b,5b,6a)-3,6-Dihydroxy-  Cholan-24-oic acid | - | - | 6.94 | 105649 |
| 64 | 4-Methyl-2-oxovaleric acid | - | - | 0.72 | 59942 |
| 65 | Madecassic acid | - | - | 32.54 | 20770 |
| 66 | Maselinic acid | - | - | 16.69 | 57307 |
| 67 | Quinoline-4-carboxylic acid | - | - | 1.33 | 22357 |
| 68 | 9,16-Dioxo-10,12,14-  Octadecatrieic acid | - | - | 12.52 | 300513 |
| 69 | 4-Oxo-1H-Benzoquinoline-3-carboxylic acid | - | - | 10.71 | 267487 |
| 70 | p-Acetylamino benzoic acid | - | - | 3.07 | 424958 |
| 71 | 9,10-Dihydroxyoctadecane- 12-enoic acid | - | - | 13.32 | 5186221 |
| 72 | Heptadecanoic acid | - | - | 27.23 | 5929939 |
| 73 | Indole-3-acetic acid | - | - | 7.04 | 17033 |
| 74 | Menglong methyl- O-methoxyhippuric acid | - | - | 14.53 | 102767 |
| 75 | 2,2- (3-Methylcyclohexane  -1,1-diyl) diacetic acid | - | - | 6.38 | 37659 |
| 76 |  | - | - | 2.21 | 79924 |
| 77 | 2,6-Dihydroxy-4-methoxychalone-4-O-neohesperidic acid | - | - | 16.18 | 43148 |
| 78 | (S)-1,2,4-Butanetriol | - | - | 30.14 | 4560147 |
| 79 | 5-Diphenylphosphate-valeric acid | - | - | 16.02 | 62670 |
| 80 | Rhodiola saponin acid | - | - | 17.79 | 72030 |
| 81 | Myristic acid | 20.33 | 99265 | 37.66 | 74247 |
| 82 | Neoabietic acid | - | - | 23.88 | 47570 |
| 83 | Nervonic acid | - | - | 37.58 | 30986 |
| 84 | N-hexadecyl-L-hydroxyproline | - | - | 19.64 | 59272 |
| 85 | Decanoic acid | - | - | 31.28 | 308511 |
| 86 | Nonanoic acid | - | - | 11.38 | 25533 |
| 87 | Oleic acid | 22.82 | 391387 | 28.53 | 861880 |
| 88 | Palmitic acid | 22.8 | 166939 | 28.53 | 1235019 |
| 89 | Stearic acid | 21.51 | 1148450 | 29.48 | 28725542 |
| 90 | Tridecanoic acid | - | - | 19.35 | 847677 |
| 91 | Hendecanoic acid | - | - | 14.32 | 24656 |
| 92 | Ursolic acid | - | - | 26.51 | 259873 |
| 93 | (4E, 6E, 10Z) -8-Hydroxy-4,6,10- hexadecyltriaenoic acid | - | - | 15.33 | 42790 |
| 94 | (2R) -2-Hydroxyoctanoic acid | - | - | 2.69 | 176798 |
| 95 | Flunixin meglumine | - | - | 9.27 | 22803 |
| 96 | Taprostine | - | - | 24.32 | 34880 |
| 97 | Myristic acid alkyne | - | - | 17.69 | 149080 |
| 98 | Guanosine 5'-monophosphate disodium salt | - | - | 0.67 | 18108 |
| 99 | Mycophenolic acid | 8.22 | 30435 | - | - |
| 100 | Rosmarinic acid | 0.63 | 70522 | - | - |
| 101 | Phthalic acid | 19.62 | 67825 | - | - |
| 102 | Dihydrocaffeic acid | 1.05 | 36865 | - | - |
| 103 | Glucuronic acid | 0.76 | 9378 | - | - |
| 104 | 6-Hydroxyhexadecanoic acid | 16.96 | 43615 | - | - |
| 105 | y-Linolenic acid | 20.61 | 258726 | - | - |
| 106 | Robust acid | 16.66 | 69790 | - | - |
| 107 | Retinoic acid | 19.98 | 19745 | - | - |
| 108 | 13R-Hydroxy-9Z, 11E -octadecadienoic acid | 18.38 | 29282 | - | - |
| 111 | Acandronic acid | 14.5 | 25297 | - | - |
| 112 | *Cis*-9-Palmitoleic acid | 20.97 | 239106 | - | - |
| 113 | Iso lauric acid | 18 | 43713 | - | - |
| 114 | Pentadecanoic acid | 21.09 | 63458 | - | - |
| 115 | Quinine acid M-H | 0.63 | 94442 | - | - |
| 116 | Caffeic acid | 1.05 | 30308 | - | - |
| 117 | Linoleic acid | 21.79 | 648110 | - | - |
| 118 | DL-A-Hydroxystearic acid | 19.04 | 799624 | - | - |
| 119 | 2-Hydroxy myristic acid | 16.44 | 157443 | - | - |
| 120 | 4-Naphthalene imide butyric acid | 6.05 | 75826 | - | - |
| 121 | Sodium dodecylbenzenesulphonate | 18.33 | 116619 | - | - |
| 122 | (9S, 10E, 12Z) -9-Hydroxyoctadecahydro  -10,12-dienoic acid | 17.04 | 17152 | - | - |
| 123 | Flavonoids | Hesperetin | - | - | 11.77 | 21068 |
| 124 | Glycyrrhetinic acid dihydrocoumarin | - | - | 18.69 | 205731 |
| 125 | Pioglitazone n-oxide | - | - | 13.47 | 40739 |
| 126 | 2,8-Quinolinediol | - | - | 9.81 | 39083 |
| 127 | 9-5-Hydroxymethoxy-2-yl-1H -purine-6-one | - | - | 7.89 | 36178 |
| 128 | Avilufen | - | - | 15.74 | 26490 |
| 129 | Rosiglitazone | - | - | 11.35 | 12620 |
| 130 | 4-hydroxychalcone | - | - | 13.42 | 35917 |
| 131 | Cardamonin | 0.63 | 19209 | 12.34 | 23848 |
| 132 | Genistein | - | - | 6.38 | 19745 |
| 133 | Double pregnenolone | - | - | 18.41 | 84744 |
| 134 | 5,5-Diphenylhydantoin | - | - | 11.41 | 320169 |
| 135 | 2E, 6E-2,6-bis (pyridin-4-ylmethylene) cyclohexane-1-one | - | - | 16.84 | 7717387 |
| 136 | 1. hydroxy-4-hydroxyphenyl-1H   5-quinoline-2-one | - | - | 11.23 | 97167 |
| 137 | Silymarin | - | - | 18.12 | 65772 |
| 138 | 1. Hydroxy-2-phenyltryptophan   -4-one | - | - | 10.97 | 524590 |
| 140 | 4-Methylumbelliferone | - | - | 8.2 | 16814 |
| 142 | 7-Ethoxy-2- (2-hydroxyphenyl) chromium 4-one | - | - | 17.43 | 28697 |
| 143 | 5-Cholesten-3-one | - | - | 23.37 | 34318 |
| 144 | Houttuynia cordata ketone | 12.79 | 24925 | - | - |
| 145 | Levofloxacin hydrochloride | 9.8 | 129690 | - | - |
| 146 | 5,7-Dihydroxy-3-4-hydroxyphenyl-6-methoxy-4-chromone | 12.78 | 36652 | - | - |
| 147 | Alkaloids | Albendazole | - | - | 13.45 | 123355 |
| 148 | Indene-3-monooxime | - | - | 14.32 | 300373 |
| 149 | Simba Xin | - | - | 26.26 | 137739 |
| 150 | Sinomenine | - | - | 5.77 | 72563 |
| 151 | Indirubin | 6.82 | 74073 | 14.45 | 82673 |
| 152 | N-Desmethylclozapine | - | - | 10.76 | 85350 |
| 153 | 9H-Pyrido [3,4-B] indole | - | - | 10.81 | 209289 |
| 154 | Indole imide IV | - | - | 13.32 | 15169 |
| 155 | 5,6-Dimethylbenzimidazole | - | - | 1.21 | 12026 |
| 156 | Clozapine n-oxide | - | - | 9.63 | 16948 |
| 157 | Arachidonic acid | - | - | 22.83 | 549657 |
| 158 | N-pivaloyl aniline | - | - | 7.4 | 32441 |
| 159 | 2-(3-Pyridyl)-1H-benzimidazole 97 | 18.2 | 36415 | 18.56 | 19548 |
| 160 | Arachidonic p-nitroaniline | - | - | 18.61 | 23967 |
| 161 | H-9 2HCL | - | - | 6.61 | 82261 |
| 162 | 6,11-Dihydrothiochromone [4,3-b] indole | - | - | 5.67 | 60752 |
| 163 | N - (3,4-Dimethylphenyl) -1-phenylmethylamine oxide | - | - | 8.12 | 27404 |
| 164 | 2-Benzothiazolol | - | - | 10.33 | 34899 |
| 165 | 2-Amino-4-phenylphenol | - | - | 12.8 | 16251 |
| 166 | 5-Acetynylaniline | - | - | 2.62 | 75840 |
| 167 | 4-Hydroxyquinoline | 8.62 | 17272 | 11.69 | 77873 |
| 168 | Levocetirizine | - | - | 12.34 | 59174 |
| 169 | 1. Acetyl-3,7-   dihydroxybenzoxazine | - | - | 7.76 | 29491 |
| 170 | Monoacetyl aminophenyl sulfone | - | - | 19.33 | 845128 |
| 171 | 3-Chloroaniline-4-phenyl- 2-phenylthiazide | - | - | 13.03 | 297532 |
| 172 | NS-398 | - | - | 8.22 | 99545 |
| 173 | Palmitoyl N-isopropylamide | - | - | 28.84 | 220781 |
| 174 | Propyloxyoxime | - | - | 13.39 | 18461 |
| 175 | Propyrrhetinic acid | - | - | 13.03 | 36518 |
| 176 | 4'-Chloro-3-methoxycinnamanilide | - | - | 15.77 | 22894 |
| 177 | 7-Methoxy-1-methylpyridino [3,4-b] indole | - | - | 8.4 | 12947 |
| 178 | 3,3,5,5-Tetratert-butyl-4,4- dihydroxybiphenyl | - | - | 33.24 | 245512 |
| 179 | Dinofuran | - | - | 11.66 | 134329 |
| 180 | Milrinone | - | - | 10.25 | 56829 |
| 181 | Mollupentin | - | - | 8.68 | 14227 |
| 182 | 5-Hydroxyquinoline | 8.62 | 17272 | - | - |
| 183 | N - (6-Aminohexyl) -1-chloronaphthalene- 5-sulfonamide | 0.63 | 15466 | - | - |
| 184 | Coconut amide propyl betaine | 13.67 | 23913 | - | - |
| 185 | Chelerythrine | 15.63 | 19763 | - | - |
| 186 | Biotin XX hydrazide | 21.13 | 40036 | - | - |
| 187 | 13Z-docosamide | 21.74 | 64762 | - | - |
| 189 | N-desmethylclomipramine hydrochloride | 0.63 | 19209 | - | - |
| 190 | Oleoyl ethanolamide-d2 | 0.63 | 20523 | - | - |
| 191 | Hexadecanamide | 18.84 | 40974 | - | - |
| 192 | Morphine | 8.4 | 24689 | - | - |
| 193 | Octadecanamide | 22.97 | 1598762 | - | - |
| 194 | *Cis*-13-Docosenoamide | 24.23 | 1860279 | - | - |
| 195 | Polyphenols | Salmeterol | - | - | 17.95 | 86211 |
| 196 | Terpineol | - | - | 12.49 | 37636 |
| 197 | 4-Nonylphenol | - | - | 24.42 | 59588 |
| 198 | 4-Bromophenol | - | - | 13.01 | 81507 |
| 199 | Isosteviol | - | - | 18.74 | 73028 |
| 200 | Kaempferol | - | - | 18.18 | 24558470 |
| 201 | Dipentanol A | - | - | 16.12 | 53623 |
| 202 | Triptolide | 17.82 | 189-170 | 17.82 | 65235 |
| 203 | Fingolimod hydrochloride | 20.84 | 65259 | - | - |
| 204 | 2-Tert-butyl-4,6-di-nitrophenol | 12.8 | 11404 | - | - |
| 205 | 3-Tert-butyl-4,6-di-nitrophenol | 12.8 | 11404 | - | - |
| 206 | Aldehyde | Pyridoxal | - | - | 13.5 | 70130 |
| 207 | Protamine sulfate | - | - | 28.53 | 63737 |
| 208 | 2-(1H-Indol-3-yl) acetaldehyde | - | - | 9.61 | 49888 |
| 209 | 4-Acetamidobenzaldehyde | - | - | 5.84 | 54914 |
| 210 | *Cis*-11-Hexadecenal | - | - | 30.35 | 63445 |
| 211 | Indole acetaldehyde | - | - | 10.89 | 379196 |
| 212 | 4-Hydroxybenzaldehyde | - | - | 1.41 | 42221 |
| 213 | 2,5-Dihydroxybenzaldehyde | - | - | 54.84 | 41241 |
| 214 | Esters | Horse estrone-3-sulfate | - | - | 13.99 | 35369 |
| 215 | Phenethyl caffeate | - | - | 13.73 | 18995 |
| 216 | N-Octadecyl-L homoserine lactone | - | - | 19.61 | 38409 |
| 217 | Bromoprolactide | - | - | 13.5 | 31488 |
| 218 | Carbaryl | - | - | 11.61 | 78403 |
| 219 | 1. O-caffeoylquinic acid   methyl ester | 0.68 | 29390 | - | - |
| 220 | Dibutyl phthalate | 19.6 | 110362 | - | - |
| 221 | DI-n-octyl phthalate | 24.05 | 20741 | - | - |
| 222 | Polysacchar-ides | Sucrose | 0.68 | 13745 | 54.89 | 21077 |
| 223 | Cyclohexapentylose | 26.93 | 18138 | 56.95 | 37983 |
| 224 | Maltoheptaose | - | - | 54.92 | 59380 |
| 225 | Molasses | - | - | 0.75 | 18730 |
| 226 | Maltotriose | 19.6 | 30189 | - | - |
| 227 | α, β-trehalose | 0.66 | 247451 | - | - |
| 228 | Glycosides | 3'-(O-Methyl) inosine | - | - | 14.25 | 246888 |
| 229 | Bufalin | - | - | 14.04 | 105741 |
| 230 | Dihydrohesperidin-7-O -neohesperidoside | - | - | 15.2 | 21645 |
| 231 | Ginsenoside F1 | - | - | 28.56 | 26111 |
| 232 | (S)-Ginsenoside Rh2 | - | - | 27.79 | 25636 |
| 233 | 3-O-astaxanthin glycoside | - | - | 9.66 | 8875 |
|  | Proteins | Diacetyl second generation Isopentenyl red actin | - | - | 10.58 | 21197 |
|  | Dehydrocyclic peptide | - | - | 14.12 | 75576 |