**Appendix S3.** Aerial metabolite concentrations measured by High Performance Liquid Chromatography (HPLC) for 76 *Scutellaria* species. Tissue samples for most species were prepared from herbarium vouchers, but tissue samples for species with a “\*” by their name were prepared from fresh leaf and stem tissue. Data is shown in units of µmol/g fresh weight. Fresh weight of herbarium samples was estimated by multiplying their dry weight by a factor of 10.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Species | Apigenin | Apigenin 7-G | Scutellarein | Scutellarin | Hispidulin | Hispiduloside | Chrysin | Chrysin 7-G | Baicalein | Baicalin | Oroxylin A | Oroxyloside | Wogonin | Wogonoside | Acteoside |
| *S. longifolia* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.131 | 0.084 | 0 |
| *S. seleriana* | 0 | 0 | 0 | 0 | 0.008 | 0 | 0 | 0 | 0.026 | 0.322 | 0 | 0.498 | 0 | 0 | 0 |
| *S. guatemalensis* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.036 | 0 | 0.129 | 0 | 0 | 0.263 | 0.761 | 0 |
| *S. costaricana* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.139 | 0.087 | 0.656 | 5.42 |
| *S. lutea* | 0 | 0 | 0 | 0.048 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. havanensis* | 0 | 0 | 0 | 0.286 | 0 | 0 | 0.022 | 0.029 | 0 | 0.293 | 0 | 0 | 0.105 | 0.128 | 0 |
| *S. splendens* | 0.06 | 0.486 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7.029 |
| *S. discolor* | 0 | 0.52 | 0 | 0 | 0 | 0 | 2.366 | 7.312 | 0 | 0 | 0 | 0 | 0 | 0.062 | 0.816 |
| *S. insignis* \* | 0 | 0 | 0.223 | 0.926 | 0 | 0 | 0 | 0 | 0 | 0.01 | 0 | 0 | 0.152 | 0.445 | 0 |
| *S. indica var. coccinea* \* | 0.792 | 1.463 | 0.627 | 5.762 | 0.007 | 0 | 0 | 0.015 | 0 | 0.462 | 0.019 | 0 | 1.29 | 1.609 | 0.321 |
| *S. javanica* | 0.026 | 0.076 | 0 | 0 | 0.165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. barbata* \* | 0 | 0.04 | 2.164 | 0.882 | 0.064 | 0 | 0.008 | 0 | 0.496 | 0.864 | 0.025 | 0.115 | 1.305 | 0.588 | 0.173 |
| *S. siphocampyloides* | 0 | 0.071 | 0 | 0.987 | 0 | 0 | 0.055 | 0.593 | 0.242 | 13.056 | 0.12 | 5.896 | 0.059 | 1.041 | 0.094 |
| *S. antirrhinoides* | 0 | 0.164 | 0 | 0.45 | 0 | 0 | 0.046 | 1.159 | 0 | 1.171 | 0 | 0 | 0 | 0 | 0 |
| *S. angustifolia* | 0 | 0 | 0 | 0.534 | 0 | 0 | 0 | 0.078 | 0.05 | 2.797 | 0 | 0.163 | 0 | 0.95 | 0 |
| *S. angustifolia ssp. micranthum* | 0 | 0.434 | 0 | 6.045 | 0.01 | 0 | 0.582 | 10.828 | 0.03 | 2.493 | 0 | 0 | 0 | 0 | 0 |
| *S. parvula* | 0 | 0.302 | 0 | 10.18 | 0 | 0 | 0 | 2.253 | 0 | 0 | 0 | 0 | 0.441 | 8.34 | 0 |
| *S. ovata* | 0 | 4.848 | 0 | 0 | 0 | 0 | 0 | 0.125 | 0 | 0 | 0 | 0.344 | 0 | 0 | 0 |
| *S. sapphirina* | 0 | 0.052 | 0 | 0.369 | 0 | 0 | 0.129 | 4.088 | 0.104 | 7.41 | 0.046 | 0.991 | 0.138 | 3.822 | 0.826 |
| *S. racemosa* | 0 | 0.03 | 0 | 1.606 | 0.011 | 0 | 0 | 0 | 0.019 | 4.09 | 0.195 | 15 | 0 | 0.206 | 0 |
| *S. strigillosa* \* | 0.073 | 2.113 | 0 | 2.11 | 0 | 0 | 0.162 | 0.598 | 1.092 | 13.171 | 0.032 | 0.389 | 0.544 | 0.984 | 0.095 |
| *S. scordiifolia* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.444 | 0 | 0.381 | 0 | 0 | 0.066 | 0.668 | 0 |
| *S. galericulata* | 0 | 0 | 0 | 2.711 | 0 | 0 | 0 | 0.48 | 0 | 3.251 | 0 | 0.148 | 0.149 | 0.712 | 0 |
| *S. dependens* \* | 1.888 | 4.859 | 0 | 0.05 | 0 | 0 | 0.051 | 0.344 | 0.065 | 2.027 | 0.241 | 1.365 | 3.288 | 7.201 | 0.388 |
| *S. lateriflora* | 0.1 | 0.582 | 0 | 5.337 | 0 | 0 | 0 | 0 | 0.096 | 8.599 | 0.038 | 0.85 | 0.088 | 0.307 | 0.711 |
| *S. resinosa* | 0.024 | 0.644 | 0.554 | 10.003 | 0.295 | 0 | 0.085 | 0.579 | 0 | 0.411 | 0.015 | 0.558 | 0 | 0 | 0 |
| *S. drummondii* | 0 | 0 | 0.023 | 3.044 | 0.022 | 0 | 0.063 | 0.28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. potosina* | 0 | 0.428 | 0.189 | 7.276 | 0.119 | 0 | 0 | 0.326 | 0 | 0 | 0 | 0 | 0.058 | 0.4 | 0 |
| *S. wrightii* \* | 0 | 0.01 | 0 | 0.744 | 0.218 | 0 | 0.603 | 0.785 | 7.325 | 25.033 | 1.172 | 6.418 | 1.251 | 1.163 | 0 |
| *S. hispidula* | 0 | 0 | 0.122 | 2.055 | 0.088 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. suffrutescens* | 0 | 0 | 0 | 0.303 | 0 | 0 | 0 | 0 | 0.118 | 3.75 | 0 | 0.142 | 0 | 0 | 0 |
| *S. multiglandulosa* | 0 | 0.156 | 0.142 | 6.723 | 0.196 | 0 | 0 | 0.039 | 0 | 0 | 0 | 0 | 0 | 0.015 | 0 |
| *S. arenicola* | 0 | 0.185 | 0 | 0 | 0.09 | 0 | 0 | 0.069 | 0 | 0 | 0 | 0 | 0 | 0.022 | 0.101 |
| *S. glabriuscula* | 0 | 0.716 | 0 | 4.425 | 0.037 | 0 | 0.078 | 2.887 | 0 | 0 | 0 | 0 | 0 | 0.159 | 0 |
| *S. elliptica* | 0.048 | 0.116 | 0 | 0 | 0 | 0 | 0.054 | 0.105 | 0 | 0 | 0 | 0.067 | 0 | 0.057 | 0 |
| *S. integrifolia* | 0.055 | 0.227 | 0 | 0 | 0.402 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.095 | 0 |
| *S. serrata* | 0 | 0 | 0 | 8.107 | 0 | 0 | 0.109 | 0.355 | 0 | 0 | 0 | 0 | 1.076 | 3.005 | 0 |
| *S. incana* | 0 | 0.406 | 0 | 6.787 | 0 | 0 | 0.011 | 0.143 | 0 | 0 | 0 | 0 | 0 | 0.259 | 0.607 |
| *S. pinnatifida* | 0.162 | 1.907 | 0 | 0 | 0.018 | 0 | 0 | 0.035 | 0 | 0 | 0 | 0 | 0 | 0 | 0.221 |
| *S. orientalis* | 0 | 0 | 0.248 | 3.017 | 0 | 0 | 0.101 | 0.528 | 0.648 | 8.034 | 0.056 | 0.38 | 0.835 | 2.005 | 0 |
| *S. multicaulis* | 0 | 0 | 0 | 1.127 | 0 | 0 | 0 | 0.138 | 0 | 0.071 | 0 | 0 | 0 | 0.075 | 0.126 |
| *S. heydei* | 0 | 0.047 | 0 | 1.467 | 0 | 0 | 0.076 | 0.832 | 0 | 0.101 | 0 | 0 | 0 | 0 | 0.884 |
| *S. leptosiphon* | 0 | 0 | 0 | 0.035 | 0 | 0 | 0.664 | 2.234 | 0 | 2.556 | 0.026 | 0 | 0.031 | 0.399 | 0.627 |
| *S. prostrata* | 0.164 | 0 | 0 | 0 | 0.061 | 0 | 3.94 | 0.487 | 0.061 | 0.041 | 0.376 | 0 | 0 | 0.095 | 0 |
| *S. alpina* | 1.117 | 4.163 | 0.775 | 10.734 | 0.013 | 0 | 0.411 | 0.691 | 0 | 0 | 0 | 0 | 0.018 | 0 | 0.498 |
| *S. przewalskii* | 0 | 0.055 | 0 | 0 | 0.009 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. baicalensis* \* | 0.105 | 0.116 | 0.44 | 0.62 | 0.009 | 0 | 1.675 | 0.612 | 0.149 | 11.294 | 0.076 | 0.289 | 1.202 | 2.152 | 0.003 |
| *S. tournefortii* \* | 0 | 0.093 | 0 | 1.486 | 0 | 0 | 0.166 | 1.642 | 0.311 | 0.337 | 0.026 | 0.436 | 0.819 | 3.367 | 0 |
| *S. altissima* | 0.082 | 0 | 0 | 3.343 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0.07 | 0 | 0 | 0 | 0 |
| *S. oblonga* | 0 | 0 | 0 | 0.227 | 0 | 0 | 0 | 0 | 0 | 0.155 | 0 | 0.188 | 0 | 0 | 0 |
| *S. purpurascens* | 0 | 0 | 0 | 0.204 | 0 | 0 | 0.024 | 0.021 | 0 | 0.057 | 0 | 0 | 0.079 | 0.033 | 0 |
| *S. angulosa* | 0 | 0.835 | 0 | 5.147 | 0 | 0 | 0.214 | 4.398 | 0.371 | 20.328 | 0 | 0 | 0 | 0 | 0 |
| *S. astinae* | 0 | 0.096 | 0 | 0.892 | 0 | 0 | 0.213 | 7.275 | 0.131 | 7.369 | 0 | 0.829 | 0.075 | 1.627 | 0 |
| *S. blepharophylla* | 0 | 0 | 0 | 0.153 | 0 | 0 | 0 | 0 | 0.017 | 0.021 | 0 | 0 | 0.375 | 0.065 | 0 |
| *S. brittonii* | 0 | 0 | 0 | 9.031 | 0 | 0 | 0 | 0.467 | 0 | 0.104 | 0 | 0 | 0.134 | 1.468 | 0.208 |
| *S. californica* | 0 | 0.075 | 0 | 0.38 | 0 | 0 | 0 | 0 | 0.047 | 6.365 | 0 | 0.868 | 0 | 0.242 | 0 |
| *S. coccinea* | 0 | 0 | 0 | 0 | 0.015 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.469 | 0.011 | 0 |
| *S. coerulea* | 0.18 | 1.82 | 0 | 0 | 0.011 | 2.285 | 0 | 0.028 | 0 | 0 | 0 | 0 | 1.338 | 2.427 | 3.77 |
| *S. epilobiifolia* | 0 | 0 | 0 | 2.502 | 0 | 0 | 0.084 | 1.081 | 0 | 2.674 | 0 | 0.578 | 0 | 0 | 0 |
| *S. formosa* | 0 | 0 | 0 | 0 | 0.119 | 0 | 0.158 | 0.108 | 0.794 | 2.683 | 0.751 | 0.551 | 0 | 0.091 | 0 |
| *S. fruticosa* | 2.577 | 2.693 | 0 | 0 | 0.46 | 0 | 5.844 | 6.179 | 0 | 0 | 0 | 0 | 0 | 0 | 1.381 |
| *S. holmgreniorum* | 0 | 0.159 | 0 | 1.01 | 0 | 0 | 0.099 | 1.954 | 0.275 | 14.006 | 0 | 0.428 | 0.077 | 2.763 | 1.414 |
| *S. hookeri* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. isocheila* | 0 | 0 | 0 | 0 | 0.004 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. javalambrensis* | 0 | 0 | 0 | 0.433 | 0 | 0 | 0 | 1.255 | 0.107 | 5.395 | 0.04 | 0.566 | 0.311 | 2.967 | 0.274 |
| *S. leonardii* | 0 | 0.032 | 0.019 | 1.986 | 0 | 0 | 0 | 0.309 | 0 | 0.037 | 0 | 0 | 0.079 | 0.235 | 0 |
| *S. lutilaba* | 0.135 | 0.486 | 1.414 | 20.648 | 0.101 | 0 | 0 | 0 | 0 | 0 | 0 | 0.111 | 0 | 0.079 | 0 |
| *S. microphylla* | 0.26 | 0.081 | 0 | 9.704 | 0.214 | 0 | 0.412 | 1.528 | 0.653 | 4.943 | 0.283 | 3.343 | 0.249 | 0.678 | 0.214 |
| *S. muriculata* | 0 | 0 | 0.048 | 1.73 | 0.088 | 0 | 0 | 0 | 0 | 0.235 | 0.047 | 0.436 | 0.992 | 0.743 | 0 |
| *S. paucifolia* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.194 | 2.399 | 0.032 | 0.302 | 1.517 | 2.9 | 0 |
| *S. pekinensis var. alpina* \* | 1.063 | 0.578 | 0 | 0 | 0 | 0 | 5.299 | 10.259 | 0.2 | 1.246 | 0.16 | 0.067 | 0 | 0.004 | 0.329 |
| *S. peregrina* | 0.082 | 1.184 | 0.017 | 1.213 | 0 | 0 | 0 | 0.162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. pseudoserrata* | 0.062 | 0.126 | 0 | 0 | 0 | 0 | 0.039 | 0.059 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *S. relenorskyi* | 0.031 | 0.433 | 0 | 1.281 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.807 |
| *S. sumatrana* | 1.176 | 0.918 | 0.144 | 2.675 | 0 | 0 | 0.741 | 0.729 | 0.144 | 0.776 | 0 | 0 | 0 | 0 | 0 |
| *S. tessellata* | 0 | 0.641 | 0.135 | 9.278 | 0.108 | 0 | 0 | 0.272 | 0 | 0 | 0 | 0 | 0 | 0.09 | 0 |