**Table Captions:**

**Table S1.** Component score coefficient matrix.

**Table S1.** Component score coefficient matrix.

|  |  |  |  |
| --- | --- | --- | --- |
| **Species** | **PC1** | **PC2** | **PC3** |
| *A. annua* | 2.177010 | -0.797003 | -1.076048 |
| *A. canina* | 2.320250 | -1.181881 | -0.278657 |
| *A. capillaris* | 1.923710 | -0.822500 | 0.407106 |
| *A. lappa* | 1.395000 | -0.584201 | 0.477699 |
| *A. rugosa* | 1.750220 | -0.116502 | 1.737629 |
| *C. album* | 2.235640 | 0.438524 | 0.415754 |
| *C. arvense* | 2.340660 | 1.528803 | 0.430915 |
| *C. bursa-pastoris* | 2.418000 | -1.179738 | -0.307519 |
| *C. majus* | 2.321960 | 0.171328 | -1.521461 |
| *C. nutans* | 2.573730 | -0.796203 | -0.447288 |
| *C. pendulus* | 1.605360 | -0.663326 | 0.190926 |
| *C. tectorum* | 2.322600 | 0.566190 | -0.185839 |
| *D. indica* | 2.986640 | -0.328706 | 1.085572 |
| *D. nemorosa* | 1.694340 | -0.804577 | -0.956276 |
| *E. canadensis* | 2.615650 | 3.563583 | -0.063806 |
| *F. multiflora* | 2.218210 | -0.950050 | 0.916002 |
| *G. carolinianum* | 0.011740 | 0.004790 | -0.006260 |
| *G. hederacea* | 2.415410 | -0.613212 | -0.532694 |
| *G. spurium* | 2.326520 | 1.556238 | -1.552653 |
| *H. plantaginea* | 2.328280 | -1.247446 | 1.041608 |
| *H. scandens* | 2.279860 | 0.043902 | 0.326051 |
| *H. spectabile* | 2.719500 | 4.650490 | 4.262516 |
| *I. lactea* | 1.947520 | -0.650118 | 2.140542 |
| *L. apetalum* | 1.850240 | -0.894322 | 0.678441 |
| *L. supina* | 2.067730 | -1.414863 | 1.637745 |
| *O. javanica* | 1.118170 | 0.888546 | 0.063676 |
| *P. aviculare* | 1.595290 | -0.479009 | 0.434638 |
| *P. depressa* | 1.708310 | -0.951885 | -0.366356 |
| *P. grandiflorus* | 1.958870 | 1.634108 | -1.796618 |
| *P. lapathifolia* | 1.829030 | -0.251765 | 0.566864 |
| *P. supina* | 2.915780 | -0.911956 | -0.722839 |
| *R. acetosa* | 1.889900 | -1.203196 | 1.733141 |
| *S. media* | 2.354050 | -0.186075 | -1.887744 |
| *S. nemorosa* | 1.982600 | 2.437285 | 1.119522 |
| *T. mongolicum* | 1.657330 | -0.366194 | 0.442879 |
| *T. peduncularis* | 2.384950 | -1.250487 | -1.998346 |
| *T. repens* | 2.324580 | 1.679804 | 0.952829 |
| *U. angustifolia* | 2.396960 | 0.212233 | -0.186357 |
| *U. laetevirens* | 1.218930 | -0.653957 | 0.285174 |
| *V. philippica* | 2.977040 | -0.225894 | -3.185578 |

**Figure Captions:**

**Figure S1.** Actual weed shot images: (a) Original weed image; (b) Image of ROI selection results, a red box represents a ROI.

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**(a) (b)**

**Figure S1.** Actual weed shot images: (a) Original weed image; (b) Image of ROI selection results, a red box represents a ROI**.**