Table S1- External accessions retrieved from GenBank (\*From same vouchered specimens)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Species** | **ITS** | **trnL** | **matK** | **rbcL** |
| *Arctium lappa* L. | KT249732.1 | AY772273.1, AY914854.1 | KT249927.1, KX344573.1 | JF949994.2, KT695471.1 |
| *Arctium minu*s (Hill) Bernh. | NA | NA | NA | HQ589961.1 |
| *Brassica nigra* (L.) K.Koch | AF128103.1 | GQ268029.1 | HM850744.1 | KX298995.1, JX520949.1, JN893428.1 |
| *Carthamus persicus* Desf. ex Willd. | NA | HM002888.1 | NA | NA |
| *Carthamus tinctorius* L. | JQ230977.1 | NA | NA | KU230344.1, GQ436451.1 |
| *Centaurea behen* L. \* | AY826250.1 | AY772294.1 | AY013496.1 | KC589816.1 |
| *Centaurea boissieri* DC. | DQ319092.1 | NA | NA | NA |
| *Centaurea bracteata* Benth. & Hook.f. | NA | NA | NA | FR865122.1 |
| *Centaurea brugueriana* Hand.-Mazz. | NA | NA | NA | KX282644.1 |
| *Centaurea cyanus* L. | NA | NA | NA | HE574606.1, AB530955.1 |
| *Centaurea depressa* M.Bieb. \* | AY826255.1 | AY772297.1 | AY013499.1 | KC589819.1 |
| *Centaurea diffusa* Lam. | NA | KC969568.1 | NA | KX678050.1 |
| *Centaurea jacea* L. | NA | KC969571.1 | NA | KJ204314.1 |
| *Centaurea mesopotamica* Bornm. | NA | NA | NA | KX282646.1 |
| *Centaurea nigrescens* Willd. | NA | NA | NA | KT695537.1 |
| *Centaurea scabiosa* L. | NA | NA | NA | KF602074.1 |
| *Centaurea solstitialis* L. | DQ319163.1 | NA | KC969491.1 | NA |
| *Centaurea triumfettii* All.  | NA | NA | NA | HG416987.1 |
| *Cirsium arvense* (L.) Scop. | NA | NA | NA | KJ204318.1 |
| *Cirsium vulgare* (Savi) Ten. | KT249791.1 | AF129826.1 | NA | NA |
| *Cousinia aitchisonii* Boiss. | EU923676.1, EU923755.1 | NA | NA | NA |
| *Cousinia alepideae* Boiss. |   | EU571406.1 | NA | NA |
| *Cousinia astracanica* (Spreng.) Tamamsch. \* | AY826266.1 | AY772308.1 | AY373670.1 | NA |
| *Cousinia birandiana* Hub.-Mor. | NA | EU571407.1 | NA | NA |
| *Cousinia caespitosa* C.Winkl. | NA | NA | AY373673.1 | NA |
| *Cousinia coronata* Franch. \* | NA | AY772309.1 | AY373662.1 | KC589835.1 |
| *Cousinia esfandiarii* Rech.f. & Aellen | NA | NA | AY013537.1 | NA |
| *Cousinia grandifolia* Kult. | NA | AY772310.1 | AY373679.1 | NA |
| *Cousinia haussknechtii* C.Winkl. | EU923668.1, EU923747.1 | NA | NA | NA |
| *Cousinia hystrix* C.A.Mey. | NA | AF129827.1 | NA | NA |
| *Cousinia lappacea* Schrenk | NA | AY772311.1 | NA | NA |
| *Cousinia microcarpa* Boiss. \* | AY826270.1 | AY772312.1 | AY373667.1 | KC589836.1 |
| *Cousinia multiloba* DC. | EU923835.1, EU923949.1 | NA | NA | NA |
| *Cousinia oxiana* Tscherneva | EU923854.1, EU923968.1 | NA | NA | NA |
| *Cousinia polycephala* Rupr. | NA | NA | NA | KC589837.1 |
| *Cousinia purpurea* C.A.Mey. ex DC. | NA | AY772314.1 | NA | NA |
| *Cousinia tenella* Fisch. & C.A.Mey. | NA | NA | NA | JQ933280.1 |
| *Cousinia tenuifolia* C.A.Mey. ex DC.  | EU923812.1, EU923926.1 | NA | NA | NA |
| *Cousinia triflora* Schrenk | NA | AY772315.1 | NA | NA |
| *Cousinia turkmenorum* Bornm. | EU923855.1, EU923969.1 | NA | NA | NA |
| *Cousinia umbrosa* Bunge \* | AY826276.1 | AY772316.1 | AY373676.1 | NA |
| *Crambe kotschyana* Boiss. | AF040010.1 | EF426778.1 | NA | NA |
| *Crambe orientalis* L. | AF040012.1 | NA | NA | KF724304.1 |
| *Crambe wildpretii* Prina & Bramwell | NA | NA | KJ747674.1 | NA |
| *Cynara cornigera* Lindl. | NA | AY772321.1 | NA | NA |
| *Cynara humilis* L. | AM269945.1 | NA | NA | KC589842.1 |
| *Korshinskya kopetdaghensis* Pimenov & Kljuykov | FJ489361.1 | NA | NA | NA |
| *Korshinskya olgae* Lipsky | GQ379341.1 | NA | NA | NA |
| *Pseudotrachydium kotschyi* (Boiss.) Pimenov & Kljuykov |   | FJ475214.1 | NA | NA |
| *Trachydium roylei* Lindl. | NA | HQ246203.1 | KX526505.1 | NA |
| *Trachydium simplicifolium* W.W. Sm. | FJ385067.1 | NA | NA | NA |
| *Trachyspermum ammi* (L.) Sprague | NA | NA | KP900777.1, MF540155.1 | NA |

NA: Not Applicable