**Structural characterization and comparative analyses of the chloroplast genome of Eastern Asian species *Cardamine* *occulta* (Asian *C. flexuosa* With.) and other *Cardamine* species**

Supplementary Table S2. List of genes present in the chloroplast genome of *Cardamine occulta*.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Category | Group of genes | Name of genes | | | | |
| RNA genes | Ribosomal RNA genes | *rrn4.5*a | *rrn5*a | *rrn16*a | *rrn23*a |  |
| Transfer RNA genes | *trnA*-UGCa, b | *trnC*-GCA | *trnD*-GUC | *trnE*-UUC | *trnF*-GAA |
| *trnfM*-CAU | *trnG*-UCC a | *trnH*-GUG | *trnI*-CAUa | *trnI*-GAUa, b |
| *trnK*-UUU | *trnL*-CAAa | *trnL*-UAAb | *trnL*-UAG | *trnM*-CAU |
| *trnN*-GUUa | *trnP*-UGG | *trnQ*-UUG | *trnR*-ACGa | *trnR*-UCU |
| *trnS*-GCU | *trnS*-GGA | *trnS*-UGA | *trnT*-GGU | *trnT*-UGU |
| *trnV*-GACa | *trnV*-UACb | *trnW*-CCA | *trnY*-GUA |  |
| Photosynthetic genes | Subunits of photosystem I | *psaA* | *psaB* | *psaC* | *psaI* | *psaJ* |
| *ycf3*c | *ycf4* |  |  |  |
| Subunits of photosystem II | *psbA* | *psbB* | *psbC* | *psbD* | *psbE* |
| *psbF* | *psbH* | *psbI* | *psbJ* | *psbK* |
| *psbL* | *psbM* | *psbN* | *psbT* | *psbZ* |
| Subunits of cytochrome | *petA* | *petB*b | *petD*b | *petG* | *petL* |
| *petN* |  |  |  |  |
| Subunits of ATP synthase | *atpA* | *atpB* | *atpE* | *atpF*b | *atpH* |
| *atpI* |  |  |  |  |
| The large subunit of Rubisco | *rbcL* |  |  |  |  |
| Subunits of NADH dehydrogenase | *ndhA*b | *ndhB*a, b | *ndhC* | *ndhD* | *ndhE* |
| *ndhF* | *ndhG* | *ndhH* | *ndhI* | *ndhJ* |
| *ndhK* |  |  |  |  |
| ATP-dependent protease subunit P | *clpP*c |  |  |  |  |
| Chloroplast envelope membrane protein | *cemA* |  |  |  |  |
| Transcription and translation-related genes | Small subunit of the ribosome | *rps2* | *rps3* | *rps4* | *rps7*a | *rps8* |
| *rps11* | *rps12*a, c, d | *rps14* | *rps15* | *rps16*e |
| *rps18* | *rps19*e |  |  |  |
| Large subunit of ribosome | *rpl2*a | *rpl14* | *rpl16*b | *rpl20* | *rpl22* |
| *rpl23* | *rpl32* | *rpl33* | *rpl36* |  |
| DNA-dependent RNA polymerase | *rpoA* | *rpoB* | *rpoC1*b | *rpoC2* |  |
| Other genes | Maturase | *matK* |  |  |  |  |
| Subunit of acetyl-CoA | *accD* |  |  |  |  |
| C-type cytochrome synthesis gene | *ccsA* |  |  |  |  |
| Component of TIC complex | *ycf1*a, e |  |  |  |  |
| Genes of unknown function | Hypothetical proteins | *ycf2*a |  |  |  |  |

a - Two gene copies in IRs; b - Gene containing a single intron; c - Gene containing two introns; d - Gene divided into two independent transcription units; e – Two copies – One intact gene and another is a pseudogene.