Table S1 The annotation information of 11 *Codonopsis* chloroplast genomes

Category of genes	Group of genes	Accession number	Name of genes
Genes for photosynthesis	Subunits of ATP synthase	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_060685.1, NC_063738.1, NC_063743.1	*atpA*, *atpB*, *atpE*, *atpF**, *atpH*, *atpI*
	Subunits of photosystem II	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_060312.1	*psbA*, *psbB*, *psbC*, *psbD*, *psbE*, *psbF*, *psbI*, *psbJ*, *psbK*, *psbM*, *psbN*, *psbT*, *psbZ*
		NC_049093.1, NC_056284.1, NC_063738.1	*psbA*, *psbB*, *psbC*, *psbD*, *psbE*, *psbF*, *psbI*, *psbJ*(×3), *psbK*, *psbM*, *psbN*, *psbT*, *psbZ*
		NC_060685.1	*psbA*(×2), *psbB*, *psbC*, *psbD*, *psbE*, *psbF*, *psbI*, *psbJ*, *psbK*, *psbM*, *psbN*, *psbT*, *psbZ*
		NC_063743.1	*psbA*, *psbB*, *psbC*, *psbD*, *psbE*, *psbF*, *psbI*, *psbJ*, *psbK*, *psbM*, *psbN*(×2), *psbT*, *psbZ*
	Subunits of NADH-dehydrogenase	PQ541237, MW415426.1, NC_056284.1, NC_060312.1	*ndhA**(×2), *ndhB**(×2), *ndhC*, *ndhD*, *ndhE*(×2), *ndhF*, *ndhG*(×2), *ndhH*(×2), *ndhI*(×2), *ndhJ*, *ndhK*
		MH018574.1, MH251613.1, NC_036311.1, NC_063738.1	*ndhA**(×2), *ndhB**(×2), *ndhC*, *ndhD*, *ndhE*, *ndhF*, *ndhG*(×2), *ndhH*(×2), *ndhI*(×2), *ndhJ*, *ndhK*
		NC_049093.1, NC_060685.1, NC_063743.1	*ndhA**(×2), *ndhB**(×2), *ndhC*, *ndhD*, *ndhE*(×2), *ndhF*, *ndhG*(×2), *ndhH*(×2), *ndhI*(×2), *ndhJ*
	Subunits of cytochrome b/f complex	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_063738.1, NC_063743.1, NC_060685.1	*petA*, *petB**, *petD**, *petG*, *petL*, *petN*
	Subunits of photosystem I	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_060685.1, NC_063738.1, NC_063743.1	*psaA*, *psaB*, *psaC*, *psaI*, *psaJ*
	Subunit of rubisco	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_060685.1, NC_063738.1, NC_063743.1	*rbcL*
Self replication	Large subunit of ribosome	PQ541237, MW415426.1, NC_060312.1	*rpl14*, *rpl16**, *rpl2**(×2), *rpl20*, *rpl22*, *rpl23*(×3), *rpl33*, *rpl36*
		MH018574.1,	*rpl14*, *rpl16**, *rpl2**(×2), *rpl20*, *rpl22*, *rpl23*(×3), *rpl32*, *rpl33*, *rpl36*

		MH251613.1, NC_036311.1	
		NC_049093.1	*rpl14*, *rpl16**, *rpl2**(×2), *rpl20*, *rpl22*, *rpl33*, *rpl36*
		NC_056284.1, NC_063738.1, NC_063743.1	*rpl14*, *rpl16**, *rpl2**(×3), *rpl20*, *rpl22*, *rpl33*, *rpl36*
		NC_060685.1	*rpl14*, *rpl16*, *rpl2**(×3), *rpl20*, *rpl22*, *rpl32*(×2), *rpl33*, *rpl36*
	DNA dependent RNA polymerase	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_060685.1, NC_063738.1, NC_063743.1	*rpoA*, *rpoB*, *rpoC1*, *rpoC2*
	Small subunit of ribosome	PQ541237, MW415426.1, NC_056284.1, NC_060312.1, NC_063738.1, NC_063743.1	*rps11*, *rps12*(×2), *rps14*, *rps15*(×2) *rps16*, *rps18*, *rps19*, *rps2*, *rps3*, *rps4*, *rps7*(×2), *rps8*
		MH018574.1, MH251613.1, NC_036311.1, NC_049093.1	*rps11*, *rps12*(×2), *rps14*, *rps15*(×2), *rps16*, *rps18*, *rps19*, *rps2*, *rps3*, *rps4*, *rps7*(×2), *rps8*
		NC_060685.1	*rps11*, *rps12*(×2), *rps14*(×2), *rps15*(×2), *rps16*, *rps18*, *rps19*, *rps2*, *rps3*(×2), *rps4*, *rps7*(×2), *rps8*
	rRNA	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_063738.1, NC_063743.1, NC_060685.1	*rrn16S*(×2), *rrn23S*(×2), *rrn5S*(×2), *rrn4.5S*(×2)
	tRNA	PQ541237	*trnH*-GUG, *trnK*-UUU*, *trnT*-UGU, *trnS*-GGA, *trnM*-CAUe, *trnG*-GCC, *trnS*-UGA, *trnT*-GGU, *trnE*-UUC*(×3), *trnY*-GUA, *trnD*-GUC, *trnC*-GCA, *trnR*-UCU, *trnS*-GCU, *trnQ*-UUG, *trnF*-GAA, *trnV*-UAC*, *trnL*-UAA*, *trnW*-CCA, *trnP*-UGG, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG
		MH018574.1, MH251613.1, NC_036311.1	*trnH*-GUG, *trnK*-UUU*(×2), *trnT*-UGU, *trnS*-GGA, *trnM*-CAU(×5), *trnG*-GCC, *trnS*-UGA, *trnT*-GGU, *trnE*-UUC*(×3), *trnY*-GUA, *trnD*-GUC, *trnC*-GCA, *trnR*-UCU, *trnS*-CGA*, *trnS*-GCU, *trnQ*-UUG, *trnF*-GAA, *trnL*-UAA*, *trnW*-CCA, *trnP*-UGG, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG
		MW415426.1	*trnH*-GUG, *trnK*-UUU*, *trnT*-UGU, *trnS*-GGA, *trnM*-CAU(×5), *trnG*-GCC, *trnS*-UGA, *trnT*-GGU, *trnE*-UUC*(×3), *trnY*-GUA, *trnD*-GUC, *trnC*-GCA, *trnP*-UGG, *trnW*-CCA, *trnL*-UAA*, *trnV*-UAC*, *trnF*-GAA, *trnQ*-UUG, *trnS*-GCU, *trnR*-UCU, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG
		NC_049093.1	*trnH*-GUG, *trnK*-UUU*, *trnT*-UGU(×2), *trnS*-GGA, *trnM*-CAU(×5), *trnG*-GCC, *trnS*-UGA, *trnT*-GGU, *trnE*-UUC*(×3), *trnY*-GUA, *trnD*-GUC, *trnC*-GCA, *trnP*-UGG, *trnW*-CCA, *trnL*-UAA*, *trnV*-UAC*, *trnF*-GAA, *trnQ*-UUG, *trnS*-GCU, *trnR*-UCU, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG
		NC_056284.1	*trnH*-GUG, *trnK*-UUU*, *trnT*-UGU, *trnS*-GGA, *trnM*-CAU(×5), *trnG*-GCC, *trnS*-UGA, *trnT*-GGU, *trnE*-UUC*(×3), *trnY*-GUA, *trnD*-GUC, *trnC*-GCA, *trnR*-UCU, *trnS*-CGA*, *trnS*-GCU, *trnQ*-UUG, *trnF*-GAA, *trnV*-UAC*, *trnL*-UAA*, *trnW*-CCA, *trnP*-UGG, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG(×2)
		NC_060312.1	*trnH*-GUG, *trnK*-UUU*, *trnT*-UGU, *trnS*-GGA, *trnM*-CAU(×5), *trnG*-GCC, *trnS*-UGA, *trnT*-GGU, *trnE*-UUC**(×3), *trnY*-GUA, *trnD*-GUC, *trnC*-GCA, *trnR*-UCU, *trnS*-GCU, *trnQ*-UUG, *trnF*-GAA, *trnV*-UAC*, *trnL*-UAA*, *trnW*-CCA, *trnP*-UGG, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG
		NC_060685.1	*trnH*-GUG, *trnQ*-UUG*,g, *trnT*-UGU, *trnS-GGA, trnM*-CAU(×5), *trnK*-UUU*, *trnG*-GCC, *trnS*-UGA, *trnT*-GGU, *trnE*-UUC*(×3), *trnY-GUA, trnD*-GUC, *trnR*-UCU, *trnG*-UCC, *trnS*-GCU, *trnC*-GCA, *trnW*-CCA, *trnP-UGG, trnL*-UAA*, *trnF*-GAA, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG
		NC_063738.1	*trnH*-GUG, *trnK*-UUU*, *trnT*-UGU, *trnS*-GGA, *trnM*-CAU(×5), *trnG*-GCC, *trnS*-UGA, *trnT*-GGU, *trnE*-UUC*(×3), *trnY*-GUA, *trnD*-GUC, *trnC*-GCA, *trnR*-UCU, *trnS*-CGA*, *trnS*-GCU, *trnQ*-UUG, *trnF*-GAA, *trnV*-UAC*, *trnL*-UAA*, *trnW*-CCA, *trnP*-UGG, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG
		NC_063743.1	*trnH*-GUG, *trnK*-UUU*, *trnT*-UGU(×2), *trnV*-UAC*, *trnF*-GAA, *trnQ*-UUG, *trnS*-GCU, *trnS*-CGA*, *trnR*-UCU, *trnC*-GCA, *trnD*-GUC, *trnY*-GUA, *trnE*-UUC*(×3), *trnM*-CAU(×5), *trnT*-GGU, *trnS*-UGA, *trnG*-GCC, *trnS*-GGA, *trnP*-UGG, *trnW*-CCA, *trnL*-UAA*, *trnL*-CAA(×2), *trnV*-GAC(×2), *trnA*-UGC*(×2), *trnR*-ACG(×2), *trnN*-GUU(×2), *trnL*-UAG

Other genes	c-type cytochrom synthesis gene	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_063738.1, NC_063743.1, NC_060685.1	*ccsA*
	Envelope membrane protein	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_060685.1, NC_063738.1, NC_063743.1	*cemA*
	Protease	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_063738.1	*clpP***
		NC_060685.1, NC_063743.1	*clpP**
	Maturase	PQ541237, MH018574.1, MH251613.1, MW415426.1, NC_036311.1, NC_049093.1, NC_056284.1, NC_060312.1, NC_060685.1, NC_063738.1, NC_063743.1	*matK*
Unknown	Conserved open reading frames	PQ541237, MH251613.1	*ycf1**(×2) *ycf2**(×2), *ycf3***, *ycf4*
		MW415426.1	*ycf1***(×2), *ycf2**(×2), *ycf3***, *ycf4*
		NC_036311.1	*ycf1*(×2), *ycf2*(×2), *ycf3***, *ycf4*
		NC_063738.1	*ycf1***(×2), *ycf2*(×2), *ycf3***, *ycf4*
		MH018574.1, NC_056284.1	*ycf1*(×2), *ycf2*(×2), *ycf3***, *ycf4*
		NC_049093.1	*ycf1*(×2), *ycf2*(×2), *ycf3***, *ycf4*
		NC_060312.1, NC_063743.1	*ycf1*(×2), *ycf2*(×2), *ycf3***, *ycf4*
		NC_060685.1	*ycf1*(×2),*ycf2**(×2), *ycf3***, *ycf4*

*: Gene contains one intron; **: Gene contains two introns; (×2): The number of repetitive units was 2; (×3): The number of repetitive units was 3; (×5): The number of repetitive units was 5.

PQ541237: *C. pilosula*; NC_060312.1: *C. pilosula*; NC_063738.1: *C. bhutanica*; NC_056284.1: *C. tsinlingensis*; NC_036311.1: *C. minima*; MH251613.1: *C. lanceolata*; MH018574.1: *C. lanceolata*; NC_063743.1: *C. javanica*; NC_049093.1: *C. hongii*; MW415426.1: *C. pilosula* subsp. *Tangshen*; NC_060685.1: *C. convolvulacea*

Note: Supplementary Tables S2-S9 were not included in the PDF file due to the large size of the Excel file. If you need the file for review, please contact the *Medicinal Plant Biology* Editorial Office via mpb@maxapress.com, and we will send the file for your review.