

Fact sheet of reference DNA sequences of *Carthamus tinctorius* (紅花)

Summary	Information
Scientific name	<i>Carthamus tinctorius</i> L.
Type of reference material used for data generation	● Flos Carthami (紅花) ● Plant voucher specimen
Flos Carthami (紅花) (number of specimens / locality)	● 5 / Yumen City, Gansu Province, China ● 5 / Guazhou County, Gansu Province, China ● 5 / Yining County, Xinjiang Uygur Autonomous Region, China
Plant voucher specimen (number of specimens / locality)	● 3 / Yumen City, Gansu Province, China ● 1 / Guazhou County, Gansu Province, China ● 1 / Yining County, Xinjiang Uygur Autonomous Region, China
Total number of specimen	● 20
Specimen source	● GCMTI collection

	● Hong Kong Chinese Materia Medica Standards (HKCMMS) Project
Method for data generation	● GCMTI RD-5:2020
Length of DNA barcode	● Nuclear internal transcribed spacer 2 (ITS2) is 222 bp ● Chloroplast <i>psbA-trnH</i> intergenic spacer (<i>psbA-trnH</i>) is 487 bp ● Chloroplast ribulose biphosphate carboxylase large chain (<i>rbcL</i>) is 553 bp

Reference DNA Sequence

Plant Specimen

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BI210513-2

>RD642-1A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BI210513-2

>RD642-1A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTAAATGGAATAAATAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BI210513-2

>RD642-1A_rbcL

AAGTGTGGAATCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTACTCCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTCGAGTAACCTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACCTGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Plant voucher specimen
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD642
Sample mark	RD642-1A
Locality	Yining County, Xinjiang Uygur Autonomous Region, China
Corresponding CMM specimen	RD600
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Plant Specimen

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BI210513-2

>RD643-1A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGGTGTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BI210513-2

>RD643-1A *psbA-trnH*

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTAAATGGAATAAAAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BI210513-2

>RD643-1A *rbcL*

AAGTGTGGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTCGAGTAACCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Plant voucher specimen
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD643
Sample mark	RD643-1A
Locality	Yumen City, Gansu Province, China
Corresponding CMM specimen	RD598
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Plant Specimen

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BI210513-2

>RD644-1B ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGGTGTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTGGCCTAAAAAGGAGTCCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BI210513-2

>RD644-1B_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTTAATGGAATAAAAAATAATATAGT
AATAGTAGATAAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BI210513-2

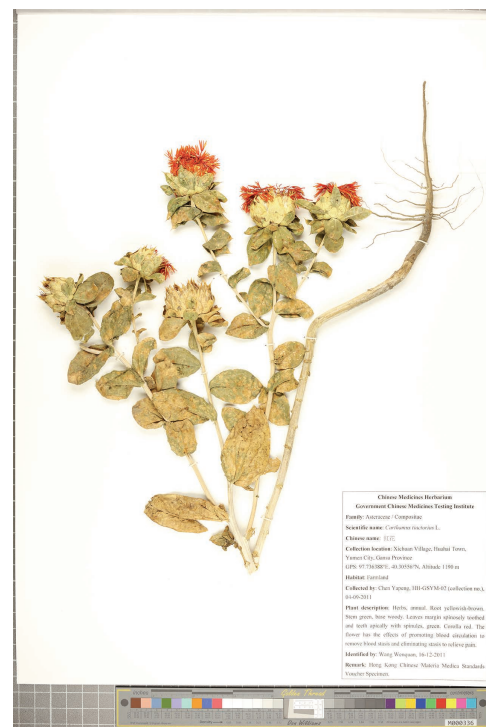
>RD644-1B_rbcL

AAGTGTGGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACCTCACAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACCTGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTACGGCATCCAAGTTG
AGAGAGATAAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Plant voucher specimen
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD644
Sample mark	RD644-1B
Locality	Yumen City, Gansu Province, China
Corresponding CMM specimen	RD598
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Plant Specimen

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BI210513-2

>RD645-1B ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGAYGATGCTTCGACCG

Remarks: observation at nucleotide position 49, 209

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BI210513-2

>RD645-1B_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTTAATGGAATAAAAAATAATATAGT
AATAGTAGATAAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BI210513-2

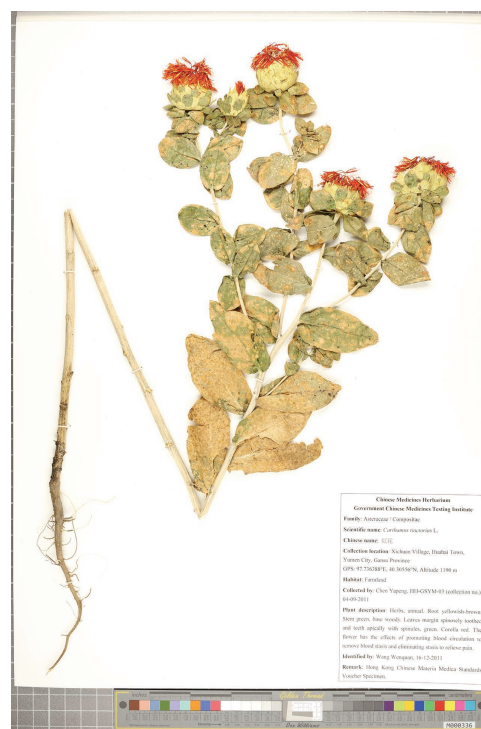
>RD645-1B_rbcL

AAGTGTGGAATCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTCGAGTAACCTCACAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACCTGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Plant voucher specimen
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD645
Sample mark	RD645-1B
Locality	Yumen City, Gansu Province, China
Corresponding CMM specimen	RD598
Authenticated	Yes
Remarks	ITS2: 49Y, 209Y

Image



Reference DNA Sequence

Plant Specimen

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BI210513-2

>RD646-1A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTGCGCTAAAAAGGAGTCCCCCTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BI210513-2

>RD646-1A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTGCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTTAATGGAATAAAAAATAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BI210513-2

>RD646-1A_rbcL

AAGTGTGGAATCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTCGAGTAACCTCACAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTACGGCATCCAAGTTG
AGAGAGATAAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Plant voucher specimen
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD646
Sample mark	RD646-1A
Locality	Guazhou County, Gansu Province, China
Corresponding CMM specimen	RD599
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BI210513

>RD598-1A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGGTGTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BI210513

>RD598-1A *psbA-trnH*

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCGAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTTTATGTTAATGGAATAATAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BI210513

>RD598-1A *rbcL*

AAGTGTGGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTACTCCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTCGAGTAACCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGCTCGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAAATTGAACAAGTATGGTCGTCCTGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD598
Sample mark	RD598-1A
Locality	Yumen City, Gansu Province, China
Corresponding plant voucher specimen	RD643, RD644, RD645
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523

>RD598-4A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523

>RD598-4A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTTTATGTTAATGGAATAATAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523

>RD598-4A_rbcL

AAGTGTGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD598
Sample mark	RD598-4A
Locality	Yumen City, Gansu Province, China
Corresponding plant voucher specimen	RD643, RD644, RD645
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523

>RD598-6A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523

>RD598-6A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTTAATGGAATAAATAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523

>RD598-6A_rbcL

AAGTGTTGGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCCGT
AAAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD598
Sample mark	RD598-6A
Locality	Yumen City, Gansu Province, China
Corresponding plant voucher specimen	RD643, RD644, RD645
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523

>RD598-7A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523

>RD598-7A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTTAATGGAATAAATAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523

>RD598-7A_rbcL

AAGTGTGGAATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTCGAGTAACTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCCGT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD598
Sample mark	RD598-7A
Locality	Yumen City, Gansu Province, China
Corresponding plant voucher specimen	RD643, RD644, RD645
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523

>RD598-8A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTGTCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523

>RD598-8A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCGAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTTAATGGAATAAATAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523

>RD598-8A_rbcL

AAGTGTGGAATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACCTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACCTGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGCTCGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCCGT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD598
Sample mark	RD598-8A
Locality	Yumen City, Gansu Province, China
Corresponding plant voucher specimen	RD643, RD644, RD645
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BI210513

>RD599-1A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BI210513

>RD599-1A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTTTATGTTAATGGAATAAAAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BI210513

>RD599-1A_rbcL

AAGTGTGGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACCTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACCTGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD599
Sample mark	RD599-1A
Locality	Guazhou County, Gansu Province, China
Corresponding plant voucher specimen	RD646
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BI210513

>RD599-2A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTGCGCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BI210513

>RD599-2A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTTTATGTTAATGGAATAAAAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BI210513

>RD599-2A_rbcL

AAGTGTGGAATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACCTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGCAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACCTGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAATCATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD599
Sample mark	RD599-2A
Locality	Guazhou County, Gansu Province, China
Corresponding plant voucher specimen	RD646
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523

>RD599-3A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523

>RD599-3A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTATGTTAATGGAATAAATAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523

>RD599-3A_rbcL

AAGTGTGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGACAGTACGT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD599
Sample mark	RD599-3A
Locality	Guazhou County, Gansu Province, China
Corresponding plant voucher specimen	RD646
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523

>RD599-4A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAAG
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523

>RD599-4A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCGAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTTTATGTTAATGGAATAAAAAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523

>RD599-4A_rbcL

AAGTGTTGGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACCTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACCTGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGCTCGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD599
Sample mark	RD599-4A
Locality	Guazhou County, Gansu Province, China
Corresponding plant voucher specimen	RD646
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523

>RD599-5A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTGCGCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523

>RD599-5A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCAATCGTTTATGAAGTTTATTTCGAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTTTATGTTAATGGAATAAATAATATAGT
AATAGTAGATAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523

>RD599-5A_rbcL

AAGTGTGGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAATCATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD599
Sample mark	RD599-5A
Locality	Guazhou County, Gansu Province, China
Corresponding plant voucher specimen	RD646
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523-2

>RD600-3A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523-2

>RD600-3A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTCGATTAGCGTGTTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTTTATGTTAATGGAAAAATAAAATATAGT
AATAGTAGATAAATACTAAATAGTAGATAATCTAGAT
AATAGGGGCGGATGTAGCCAAGTGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523-2

>RD600-3A_rbcL

AAGTGTGGAATCAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAAGTGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD600
Sample mark	RD600-3A
Locality	Yining County, Xinjiang Uygur Autonomous Region, China
Corresponding plant voucher specimen	RD642
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523-2

>RD600-5A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGGTGTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTGGCCTAAAAAGGAGTCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523-2

>RD600-5A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTTCGATTAGCGTGTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
GCTCTTTTTTATGTTAATGGAAAAATAAAATATAGT
AATAGTAGATAAATACTAAATAGTAGATAATACTAGAT
AATAGGGGCGGATGTAGCCAAGTGGATCAAGGCAGT

Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523-2

>RD600-5A_rbcL

AAGTGTGGATTCAAAGCTGGTGTAAAGATTATAAA
TTGACTTATTATACTCTGACTATAAAACCAAGGATA
CTGATATCTTGGCAGCATTTTCGAGTAACTCCTCAACCT
GGAGTTCCGCCTGAAGAAGCAGGGGCCGAGTAGCT
GCCGAATCTTCTACTGGTACATGGACAACGTGTGGA
CCGATGGGCTTACGAGCCTTGATCGTTACAAAGGGCG
ATGCTATGGAATCGAGCCTGTTCTGGAGAAGAACT
CAATTTATTGCTTATGTAGCTTACCCATTAGACCTTTT
TGAAGAAGGTTCTGTACTAACATGTTTACTTCCATTG
TAGGTAATGTATTTGGGTTCAAAGCCCTGCGTGCTCT
ACGTCTGGAAGATTGCGAATCCCTACTGCGTATGTT
AAAACCTTTCCAAGTCCGCCTCACGGCATCCAAGTTG
AGAGAGATAAAATTGAACAAGTATGGTCGTCCTCGTT
GGGATGTACTATTAAACCTAAATTGGGGTTATCCGCT
AAAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD600
Sample mark	RD600-5A
Locality	Yining County, Xinjiang Uygur Autonomous Region, China
Corresponding plant voucher specimen	RD642
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523-2

>RD600-6A ITS2

CGCATCGCGTCGCCCCAGACCATGCTCCCCCATGGGG
AAGTGTGTTGGTYTGGGACGAAGAGTGGTCTCCCGTGT
CGATGGTGCGGTTGGCCTAAAAAGGAGTCCCCTTTGG
CGGACGCACGGCTAGTGGTGGTTGTAAGGACTTCGT
AACGAGCCGTGTTGATGCTAGGGAATTGCTCTCTAAA
GACCCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523-2

>RD600-6A_psbA-trnH

ATAATTTCCCTCTAGACTTAGCTGCTATCGAAGCTCCA
TCTACAAATGGATAAGACTTTGGTCTGATTGTATAGG
AGTTTTTGAACATAAAAAAGGAGCAATAGCTTCCCTCT
TGTTTTATCAAGAGGGCGTTATTGCTCCTTTTTTATT
TAGTAGTATTACCTTACACAGTTTCTTTAAAAATAAC
AAGGGGCTTTTCTAGTTTGGTTTCGATTAGCGTGTTTA
TCTTTGTATTAATTTCTATTATAGGTTTATATATCCTTT
TCCCAATCGTTTATGAAGTTTATTTCCAATTCACCTT
CAATCTAAAATAGATAAAAAATTATAATTTTGATTATT
TATTGCTTTTATTTAGAAAATAAGAAAGAAATAATAT
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Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523-2

>RD600-6A_rbcL

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AAAAACTACGGTAGAGCTGTTTATGAATGTCTT

Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD600
Sample mark	RD600-6A
Locality	Yining County, Xinjiang Uygur Autonomous Region, China
Corresponding plant voucher specimen	RD642
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523-2

>RD600-7A ITS2

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Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523-2

>RD600-7A_psbA-trnH

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Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523-2

>RD600-7A_rbcL

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Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD600
Sample mark	RD600-7A
Locality	Yining County, Xinjiang Uygur Autonomous Region, China
Corresponding plant voucher specimen	RD642
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA Sequence

Chinese Materia Medica (CMM)

DNA Information

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2)

Batch ID. BIC220523-2

>RD600-8A ITS2

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GACCTAACGTGTCGTCTTACGACGATGCTTCGACCG

Remarks: observation at nucleotide position 49

Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*)

Batch ID. BIC220523-2

>RD600-8A_psbA-trnH

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GCTCTTTTATGTAAATGGAATAAATAATATAGT
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Chloroplast ribulose biphosphate carboxylase large chain (*rbcL*)

Batch ID. BIC220523-2

>RD600-8A_rbcL

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Reference Detail

Description of reference material	Specimen of Flos Carthami
Scientific name	<i>Carthamus tinctorius</i> L.
Laboratory number	RD600
Sample mark	RD600-8A
Locality	Yining County, Xinjiang Uygur Autonomous Region, China
Corresponding plant voucher specimen	RD642
Authenticated	Yes
Remarks	ITS2: 49Y

Image



Reference DNA sequences in FASTA format

Internal transcribed spacer 2 of nuclear ribosomal RNA (ITS2) sequence of plant voucher specimen of *Carthamus tinctorius* and Chinese Materia Medica (CMM) Flos Carthami

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Chloroplast *psbA-trnH* intergenic spacer (*psbA-trnH*) sequence of plant voucher specimen of *Carthamus tinctorius* and Chinese Materia Medica (CMM) Flos Carthami

>RD642-1A_psbA-trnH

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Partial chloroplast ribulose biphosphate carboxylase large chain (*rbcL*) sequence of plant voucher specimen of *Carthamus tinctorius* and Chinese Materia Medica (CMM) Flos Carthami

>RD642-1A_rbcL

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