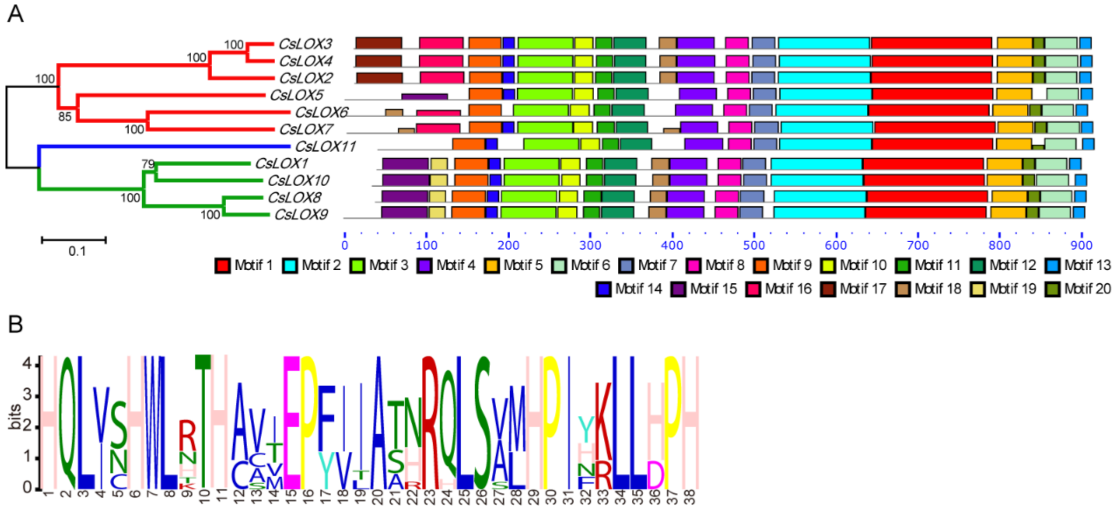
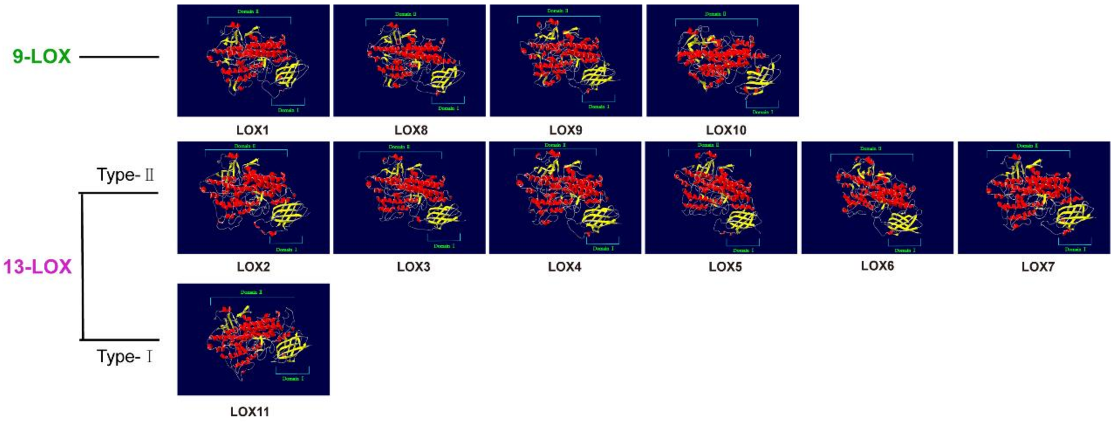
# Supplementary Data



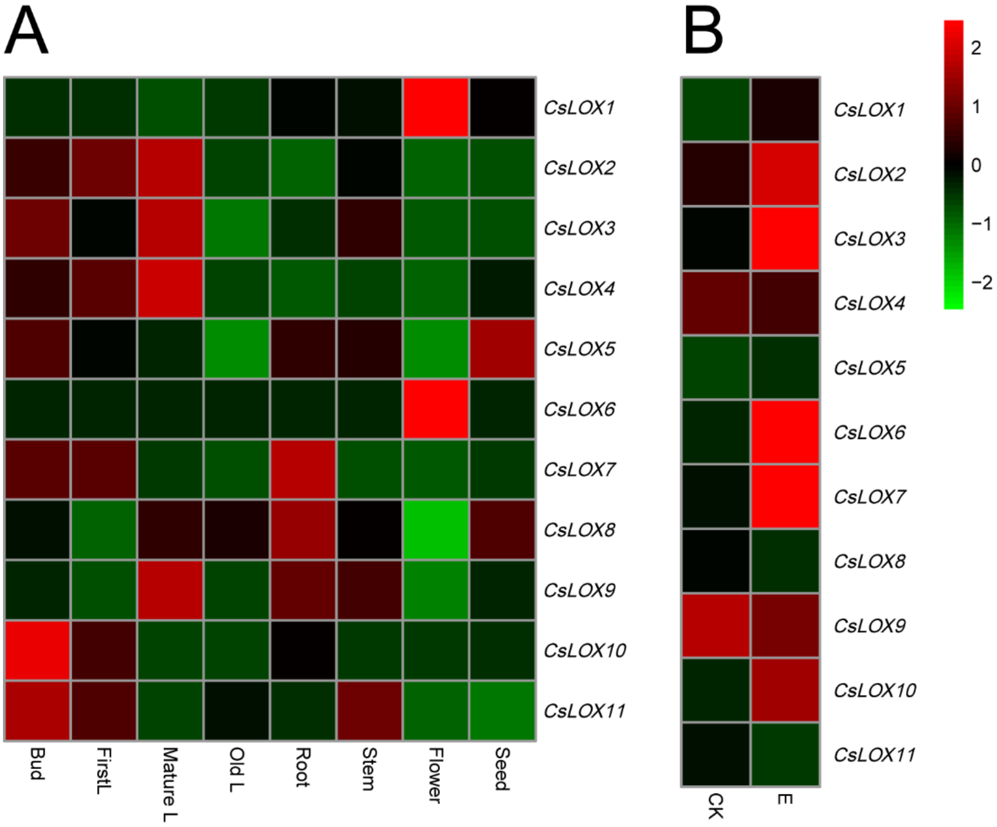
**Supplementary Fig. S1** Motifs of *CsLOX* genes in tea plant. A. Phylogenetic relationship and conserved motifs within eleven CsLOX proteins. The phylogenetic tree among eleven *CsLOX* are constructed using the NJ method, which shows different colors for each corresponding subfamily. Twenty conserved motifs are set to different colors and the motif numbers are arranged below the motifs. B. A 38-residue motif conserved among tea plant *CsLOX* sequences. The logo of motifs in *CsLOX* genes of tea plant is created using amino acid sequences. The sequence conservation at the position are shown by means of overall height in each stack. Height of each residue letter indicates relative frequency of the corresponding amino acid residue and the width is the length of the motif. The five conserved histidines (H) are marked with pink “H” letters.



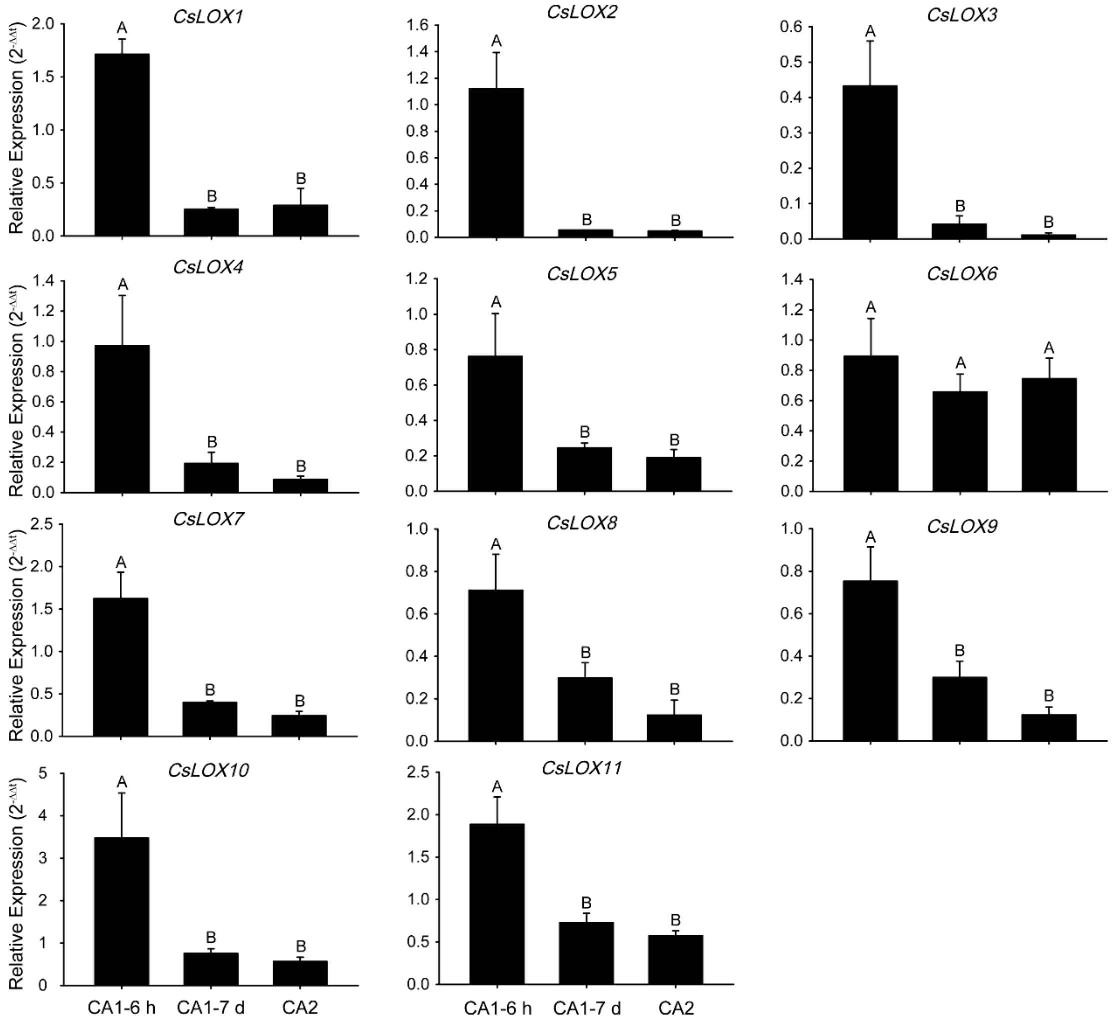
**Supplementary Fig. S2** Prediction of the 3-dimensional structure of CsLOX proteins. The yellow ribbons indicate the ß-barrel, and the red ribbons indicate the bundle of helices.


CsLOX1
CsLOX2
CsLOX3
CsLOX4
CsLOX5
CsLOX6
CsLOX7
CsLOX8
CsLOX9
CsLOX10
CsLOX11
Consensus
Domain I
Domain II
C-terminus

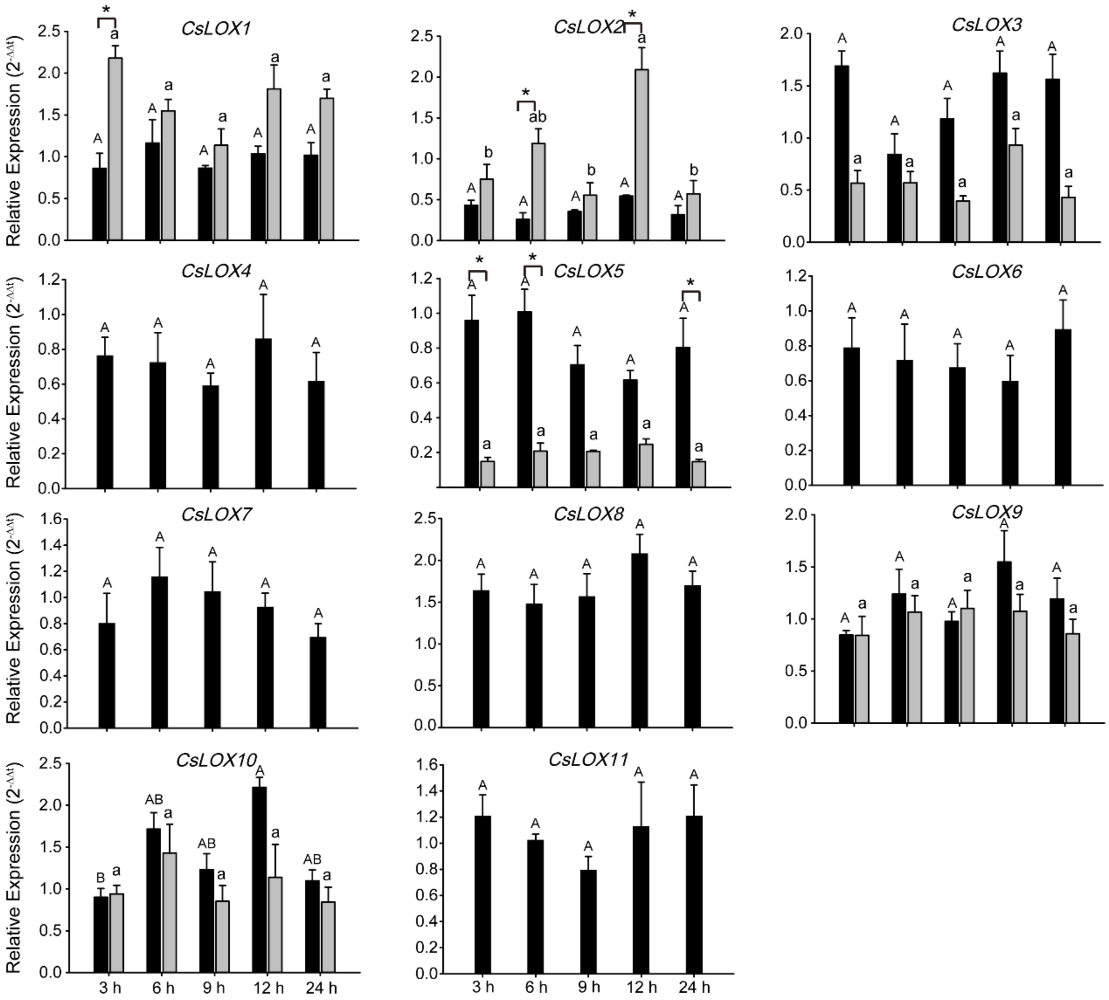
**Supplementary Fig. S3** Multiple sequence alignments of eleven CsLOX proteins. The protein sequences were aligned using the DNAMAN software. The consensus amino acid residues are marked with letters at the bottom. The conserved domains are involved in substrate binding (Domain I) and oxygen binding (Domain II), which are indicated with a solid red box. The red triangle and solid blue box indicate a conserved amino acid sequence proposed to be essential for iron binding (His522, His527, His713, Asn717 and Ile861).



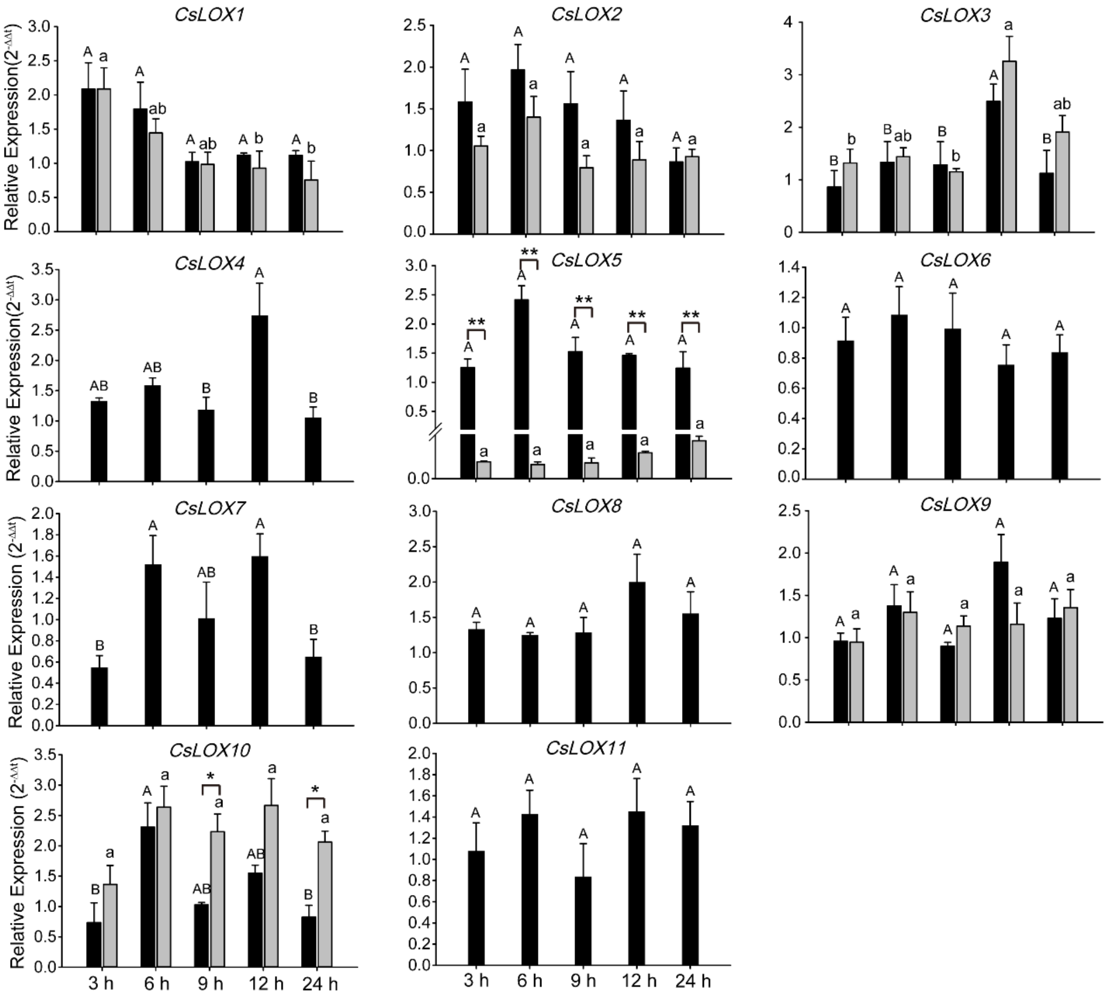
**Supplementary Fig. S4** Heat map analysis of *CsLOX* gene expression data based on RNA-Seq. Green and red colors represent low and high levels of transcript abundance, respectively. A. Expression patterns of Cs*LOX* genes across different tissues (bud, first leaf, mature leaf in summer, old leaf in winter, root, stem, flower, seed). B. Expression patterns of *CsLOX* genes under insect feeding treatment (CK for control leaf collected at five time points (3, 6, 9, 12 and 24 h) and E for leaf partially consumed by *Ectropis oblique,* sampled at five time points (3, 6, 9, 12 and 24 h).



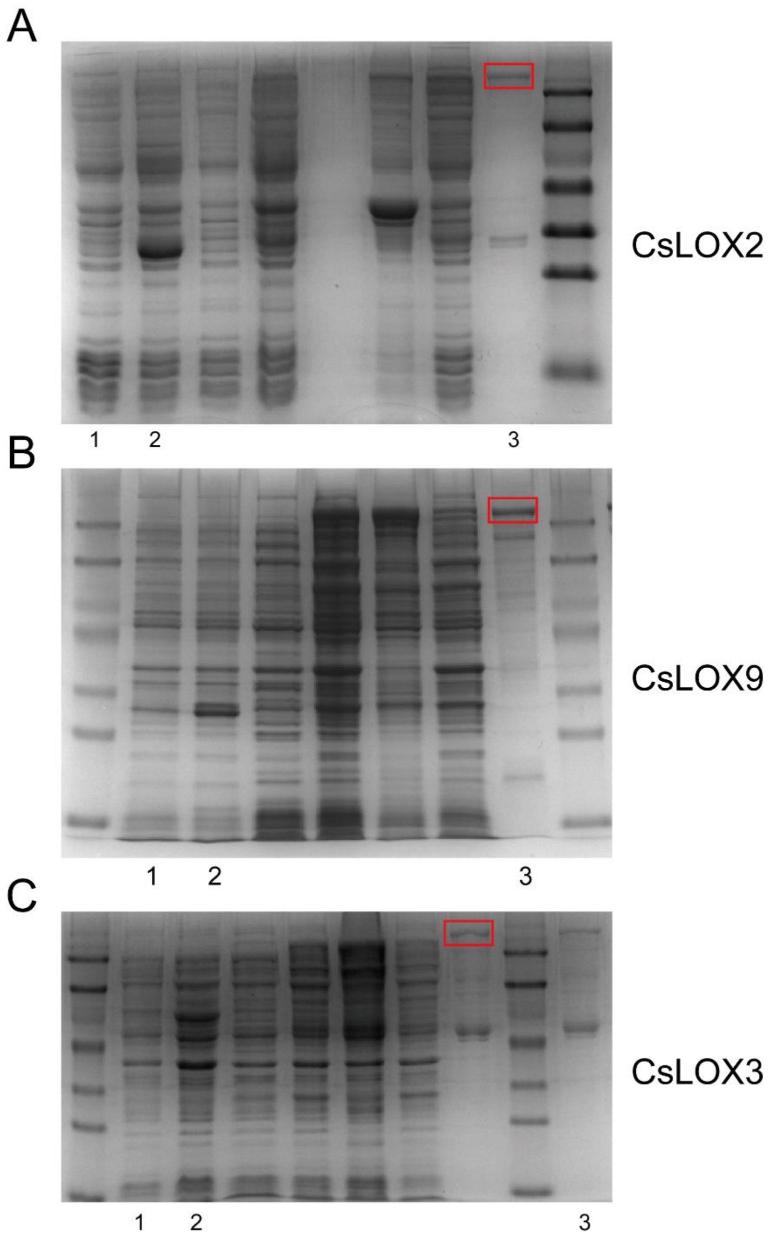
**Supplementary Fig. S5** qRT-PCR analysis of *CsLOX* genes under cold-acclimation treatment (CA1-6h, CA1-7d, CA2, see Materials and Methods). Bars show the mean±SD (n= 3) of three biological replicates. Letters above the bars represent significant differences at *P* < 0.05.



**Supplementary Fig. S6** Expression pattern of *CsLOX* genes under ABA phytohormone treatments. qRT-PCR analysis of *CsLOX* genes at different time points. Black bars and grey bars indicate full-length and AS transcripts, respectively. Data represent the means±SD (n= 3) of three biological replicates. Different letters above the bars denote significant differences at $P$< 0.05. The asterisks indicate the significance level (*$P$ < 0.05, **$P$ < 0.01) based on a Tukey's honestly significant difference test.



**Supplementary Fig. S7** Expression pattern of *CsLOX* genes under SA phytohormone treatments. qRT-PCR analysis of *CsLOX* genes at different time points. Black bars and grey bars indicate the full-length and AS transcripts, respectively. Data represent the means±SD (n= 3) of three biological replicates. Different letters above the bars denote significant differences at *P*< 0.05. The asterisks indicate significance level (**P* < 0.05, ***P* < 0.01) based on a Tukey's honestly significant difference test.



**Supplementary Fig. S8** Heterologous expression of CsLOX in E. coli. A. SDS-PAGE image shows the purified CsLOX2 recombinant protein. 1, protein extracted from empty pGEX-4T-1 before induction. 2, protein extracted from empty pGEX-4T-1 after induction. 3, purified protein of CsLOX2. B. SDS-PAGE image shows the purified CsLOX9 recombinant protein. 1, protein extracted from empty pGEX-4T-1 before induction. 2, protein extracted from empty pGEX-4T-1 after induction. 3, purified protein of CsLOX9. C. SDS-PAGE image shows the purified CsLOX3 recombinant protein. 1, protein extracted from empty pMAL-C2X before induction. 2, protein extracted from empty pMAL-C2X after induction. 3, purified protein of CsLOX3. The solid box shows the position of expected protein.

**Supplementary Table. S1 Detailed information of *CsLOX* gene family was identified from tea plant genome.**

| ID | Full-length (bp) | CDS length (bp) | Predicted Scaffold | Protein |  |  | Sub-cellular location |  | Predicted functionality |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Protein length (aa) | Mol.Wt (Da) | PI | TargetP | MultiLoc2 |  |
| *CsLOX1* | 2796 | 2586 | Scaffold1403 | 861 | 97915.63 | 5.8 | Any other location | Cytoplasm | 9-LOX |
| *CsLOX2* | 3039 | 2703 | Scaffold11162 | 900 | 102258.59 | 6.39 | Chloroplast | Chloroplast | 13-LOX |
| *CsLOX3* | 2947 | 2706 | Scaffold1936 | 901 | 101802.22 | 6.37 | Chloroplast | Chloroplast | 13-LOX |
| *CsLOX4* | 2825 | 2712 | Scaffold1939 | 902 | 101993.9 | 6.76 | Chloroplast | Chloroplast | 13-LOX |
| *CsLOX5* | 2956 | 2745 | Scaffold1275 | 914 | 103284.87 | 8.27 | Chloroplast | Chloroplast | 13-LOX |
| *CsLOX6* | 2872 | 2721 | Scaffold10095 | 906 | 102826.65 | 6.78 | Chloroplast | Chloroplast | 13-LOX |
| *CsLOX7* | 3129 | 2739 | Scaffold338 | 912 | 102809.89 | 8.28 | Chloroplast | Chloroplast | 13-LOX |
| *CsLOX8* | 2610 | 2610 | Scaffold5989 | 869 | 99648.72 | 5.82 | Any other location | Cytoplasm | 9-LOX |
| *CsLOX9* | 2839 | 2721 | Scaffold1291 | 906 | 104304.95 | 5.87 | Secretory pathway | Cytoplasm | 9-LOX |
| *CsLOX10* | 2776 | 2622 | Scaffold3698 | 873 | 100256.11 | 7.7 | Any other location | Cytoplasm | 9-LOX |
| *CsLOX11* | 2674 | 2631 | Scaffold844 | 876 | 99679.47 | 7.37 | Chloroplast | Chloroplast | 13-LOX |

**Supplementary Table. S2 Analysis of secondary structure of CsLOX proteins**

| ID | α-Helix | β－sheet | Random coil |
|---|---|---|---|
| CsLOX1 | 309 | 127 | 425 |
| CsLOX2 | 307 | 117 | 476 |
| CsLOX3 | 307 | 117 | 476 |
| CsLOX4 | 323 | 118 | 461 |
| CsLOX5 | 336 | 122 | 456 |
| CsLOX6 | 330 | 110 | 466 |
| CsLOX7 | 323 | 125 | 464 |
| CsLOX8 | 308 | 124 | 437 |
| CsLOX9 | 317 | 129 | 460 |
| CsLOX10 | 307 | 123 | 443 |
| CsLOX11 | 306 | 111 | 459 |

**Supplementary Table. S3** Analysis of cis-acting regulatory elements in the promoter region of *CsLOX* genes.

| Function (CsLOX1) | cis-regulatory element |
|---|---|
| light responsiveness | ACE,AE-box,ATCT-motif,Box 4,Box I,CATT-motif,GA-motif,GAG-motif,GATA-motif,GT1-motif,I-box,MNF1,MRE,Sp1,TCCC-motif,as-2-box |
| auxin responsiveness | AuxRR-core |
| MeJA-responsiveness | CGTCA-motif,TGACG-motif |
| ethylene-responsive | ERE |
| abscisic acid responsiveness | |
| salicylic acid responsiveness | |
| gibberellin-responsive | GARE-motif,gibberellin-responsive |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | TC-rich repeats |
| anaerobic induction | |
| anoxic specific inducibility | |
| drought-inducibility | |
| wound-responsive | |

| Function (CsLOX2) | cis-regulatory element |
|---|---|
| light responsiveness | AAAC-motif,AT1-motif,ATC-motif,ATCT-motif,Box 4,Box I,GA-motif,GAG-motif,GATA-motif,GT1-motif,I-box |
| auxin responsiveness | |
| MeJA-responsiveness | CGTCA-motif,TGACG-motif |
| ethylene-responsive | |
| abscisic acid responsiveness | |
| gibberellin-responsive | GARE-motif |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | |
| salicylic acid responsiveness | |
| anaerobic induction | ARE |
| anoxic specific inducibility | |
| drought-inducibility | |
| wound-responsive | WUN-motif |

| Function (CsLOX3) | cis-regulatory element |
|---|---|
| light responsiveness | ATCC-motif,GAG-motif, Sp1 |
| auxin responsiveness | |
| MeJA-responsiveness | CGTCA-motif,TGACG-motif |
| ethylene-responsive | |
| abscisic acid responsiveness | |
| salicylic acid responsiveness | TCA-element |
| gibberellin-responsive | |
| heat stress responsiveness | |
| defense and stress responsiveness | |
| anaerobic induction | |
| anoxic specific inducibility | |
| drought-inducibility | |
| wound-responsive | WUN-motif |

| Function (CsLOX4) | cis-regulatory element |
|---|---|
| light responsiveness | ACE,Box 4,Box I,G-Box,GATA-motif,I-box, Sp1,as-2-box,chs-Unit 1 m1 |
| auxin responsiveness | |
| MeJA-responsiveness | |
| ethylene-responsive | |
| abscisic acid responsiveness | ABRE |
| salicylic acid responsiveness | TCA-element |
| gibberellin-responsive | GARE-motif |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | TC-rich repeats |
| anaerobic induction | ARE |
| anoxic specific inducibility | GC-motif |
| drought-inducibility | |
| wound-responsive | WUN-motif |

| Function (CsLOX5) | cis-regulatory element |
|---|---|
| light responsiveness | 4cl-CMA2a,AE-box,ATCT-motif,Box 4,Box I,G-box,LAMP-element,Sp1, TCT-motif,chs-CMA1a,chs-CMA2a,rbcS-CMA7a |
| auxin responsiveness | |
| MeJA-responsiveness | |
| ethylene-responsive | ERE |
| abscisic acid responsiveness | ABRE |
| salicylic acid responsiveness | |
| gibberellin-responsive | GARE-motif |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | TC-rich repeats |
| anaerobic induction | |
| anoxic specific inducibility | |
| drought-inducibility | MBS |
| wound-responsive | |

| Function (CsLOX6) | cis-regulatory element |
|---|---|
| light responsiveness | AAAC-motif,AT1-motif,Box 4,Box I, Box II,G-Box,GA-motif,GAG-motif,GATA-motif,GT1-motif,MNF1,MRE,Sp1,TCCC-motif |
| auxin responsiveness | |
| MeJA-responsiveness | |
| ethylene-responsive | ERE |
| abscisic acid responsiveness | |
| salicylic acid responsiveness | |
| gibberellin-responsive | GARE-motif |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | |
| anaerobic induction | ARE |
| anoxic specific inducibility | |
| drought-inducibility | MBS |
| wound-responsive | WUN-motif |

| Function (CsLOX7) | cis-regulatory element |
|---|---|
| light responsiveness | 4cl-CMA2b,Box I,G-Box,GA-motif,GATA-motif, GT1-motif,I-box,L-box,LAMP-element,MRE,Sp1,TCCC-motif,as-2-box |
| auxin responsiveness | |
| MeJA-responsiveness | |
| ethylene-responsive | |
| abscisic acid responsiveness | |
| salicylic acid responsiveness | TCA-element |
| gibberellin-responsive | |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | TC-rich repeats |
| anaerobic induction | ARE |
| anoxic specific inducibility | |
| drought-inducibility | |
| wound-responsive | WUN-motif |

| Function (CsLOX8) | cis-regulatory element |
|---|---|
| light responsiveness | 4cl-CMA2b,ACE,AE-box,ATCT-motif,Box 4,Box I,GAG-motif,GT1-motif,Gap-box,L-box,MRE,chs-CMA1a |
| auxin responsiveness | |
| MeJA-responsiveness | |
| ethylene-responsive | ERE |
| abscisic acid responsiveness | |
| salicylic acid responsiveness | |
| gibberellin-responsive | GARE-motif |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | |
| anaerobic induction | ARE |
| anoxic specific inducibility | |
| drought-inducibility | |
| wound-responsive | |

| Function (CsLOX9) | cis-regulatory element |
|---|---|
| light responsiveness | ACE,ATCC-motif,Box 4,G-Box,GATA-motif,I-box,Sp1,TCT-motif,as-2-box,chs-CMA1a |
| auxin responsiveness | AuxRR-core |
| MeJA-responsiveness | |
| ethylene-responsive | |
| abscisic acid responsiveness | ABRE |
| salicylic acid responsiveness | TCA-element |
| gibberellin-responsive | P-box |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | TC-rich repeats |
| anaerobic induction | ARE |
| anoxic specific inducibility | |
| drought-inducibility | |
| wound-responsive | |

| Function (CsLOX10) | cis-regulatory element |
|---|---|
| light responsiveness | ACE,AE-box,Box 4,G-Box,GA-motif,GAG-motif,GT1-motif,I-box,Sp1,TCCC-motif,TCT-motif |
| auxin responsiveness | |
| MeJA-responsiveness | CGTCA-motif,TGACG-motif |
| ethylene-responsive | |
| abscisic acid responsiveness | |
| salicylic acid responsiveness | TCA-element |
| gibberellin-responsive | |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | TC-rich repeats |
| anaerobic induction | ARE |
| anoxic specific inducibility | |
| drought-inducibility | MBS |
| wound-responsive | |

| Function (CsLOX11) | cis-regulatory element |
|---|---|
| light responsiveness | ACE,Box 4,Box I,G-Box,GT1-motif,Sp1,TCCC-motif |
| auxin responsiveness | |
| MeJA-responsiveness | CGTCA-motif,TGACG-motif |
| ethylene-responsive | |
| abscisic acid responsiveness | ABRE |
| salicylic acid responsiveness | TCA-element |
| gibberellin-responsive | |
| heat stress responsiveness | HSE |
| defense and stress responsiveness | TC-rich repeats |
| anaerobic induction | ARE |
| anoxic specific inducibility | |
| drought-inducibility | |
| wound-responsive | |

**Supplementary Table. S4 Plant lipoxygenase sequences used for phylogenetic tree construction**

| Organism | Sequence ID | GeneBank Accession |
|---|---|---|
| *Arabidopsis thaliana* | *AtLOX1* | Q06327 |
| | *AtLOX2* | P38418 |
| | *AtLOX3* | Q9SMW1 |
| | *AtLOX4* | Q9FNX8 |
| | *AtLOX5* | Q9FNX7 |
| | *AtLOX6* | Q9CAG3 |
| *Glycine max* | *GmLOX1* | P08170 |
| | *GmLOX2* | P09435 |
| | *GmLOX3* | P09186 |
| | *GmLOX4* | P38417 |
| | *GmLOX6* | AAA96817 |
| | *GmLOX7* | P24095 |
| *Hordeum vulgare* | *HvLOX1* | P93184 |
| | *HvLOX2* | Q8GSM3 |
| | *HvLOX3* | Q8GSM2 |
| | *HvLOX4* | CAI84707 |
| | *HvLOXA* | P29114 |
| | *HvLOXB* | AAB60715 |
| | *HvLOXC* | AAB70865 |
| *Lens culinaris* | *LcLOX1* | P38414 |
| *Lycopersicon esculentum* | *LeLOX1* | P38415 |
| | *LeLOX2* | P38416 |
| | *LeLOX3* | AAG21691 |
| | *LeLOX4* | Q96573 |
| | *LeLOX5* | Q96574 |
| *Nicotiana attenuata* | *NaLOX1* | AAP83136 |
| | *NaLOX2* | AAP83137 |
| | *NaLOX3* | AAP83138 |
| *Nicotiana tabacum* | *NtLOX1* | CAA58859 |
| *Oryza sativa* | *OsLOX1* | Q76I22 |
| | *OsLOX2* | P29250 |
| | *OsLOX3* | Q7G794 |
| | *OsLOX3b* | Q53RB0 |
| | *OsLOX5* | Q7XV13 |
| | *OsLOX6* | Q8H016 |
| | *OsLOX7* | P38419 |
| | *OsLOX8* | Q84YK8 |

| | | |
|---|---|---|
| | *OsLOXRCI1* | Q9FSE5 |
| *Pisum sativum* | *PsLOX1* | AAB71759 |
| | *PsLOX2* | P14856 |
| | *PsLOX3* | P09918 |
| | *PsLOX7* | CAC04380 |
| | *PsLOX8* | CAA75609 |
| | *PsLOX9* | CAG44504 |
| | *PsLOXG* | CAA53730 |
| *Phaseolus vulgaris* | *PvLOX1* | P27480 |
| | *PvLOX1b* | AAB18970 |
| | *PvLOX2b* | AAG42354 |
| | *PvLOX2c* | AAF15396 |
| *Solanum tuberosum* | *StLOX1* | CAA64765 |
| | *StLOX2* | AAD09202 |
| | *StLOX3* | AAB67865 |
| | *StLOX4* | CAA65268 |
| | *StLOX5* | CAA65269 |
| *Zea mays* | *ZmLOX1* | AAL73499 |
| | *ZmLOX2* | AAF76207 |
| *Triticum aestivum L.* | *TaLOX1* | GQ166692 |
| | *TaLOX2* | GQ166691 |
| *Actinidia deliciosa* | *AdLOX2* | DQ497797 |
| *Vitis vinifera* | *VvLOXA* | XP_002285574 |
| | *VvLOXC* | FJ858257 |
| | *VvLOXG* | XP_002283147 |
| | *VvLOXH* | XP_002283135 |
| | *VvLOXI* | XP_002283123 |
| | *VvLOXJ* | XP_002263854 |
| | *VvLOXL* | XP_002278007 |
| | *VvLOXP* | XP_002265505 |
| | *VvLOXT* | XP_010651289.1 |
| | *VvLOXU* | XP_010659819.1 |
| | *VvLOXV* | XP_010659859.1 |
| | *VvLOXW* | NP_001290017.1 |
| *Populus trichocarpa* | *PtLOX1* | XP_002299250.1 |
| | *PtLOX2* | XP_002297796.2 |
| | *PtLOX3* | XP_006368564.1 |
| | *PtLOX4* | XP_006388115.1 |
| | *PtLOX5* | XP_006369132.1 |
| | *PtLOX6* | XP_002304125.1 |

| | | |
|---|---|---|
| | *PtLOX7* | XP_006382593.1 |
| | *PtLOX8* | XP_006382594.1 |
| | *PtLOX9* | XP_011036799.1 |
| | *PtLOX10* | XP_006382595.1 |
| | *PtLOX11* | XP_002311617.1 |
| | *PtLOX12* | XP_002311724.1 |
| | *PtLOX13* | XP_002314229.2 |
| | *PtLOX14* | XP_002314548.2 |
| | *PtLOX15* | XP_002315780.1 |
| | *PtLOX16* | XP_002319014.2 |
| | *PtLOX17* | XP_002319015.2 |
| | *PtLOX18* | XP_002320037.2 |
| | *PtLOX19* | XP_002320571.2 |
| | *PtLOX20* | XP_002323952.2 |
| *Camellia sinensis* | *CsLOX1* | EU195885.2 |
| | *CsLOX2* | FJ418174.1 |
| | *CsLOX3* | FJ794853.1 |
| | *CsLOX4* | MG708225 |
| | *CsLOX5* | MG708226 |
| | *CsLOX6* | MG708227 |
| | *CsLOX7* | MG708228 |
| | *CsLOX8* | MG708229 |
| | *CsLOX9* | MG708230 |
| | *CsLOX10* | MG708231 |
| | *CsLOX11* | MG708232 |

**Supplementary Table. S5 Primers used in this study (application details of primers are described in materials and methods)**

| Primer name | Sequence (5 '- 3 ' ) | Target gene |
|---|---|---|
| P1 (5’ RACE, GSP1) | CCATGATGCCTCCATGTCCTTACCGAG | *CsLOX3* |
| P2 (5’ RACE, GSP2) | TCAAGAGTGCAACTTCGGGCTTGTTG | |
| P3 (3’ RACE, GSP2) | GTGGAGCTGGTGTGGTTCCTTATGAGC | *CsLOX3* |
| P4 (3’ RACE, GSP2) | GACAGGAAAGGGAGTTCCAAAGAGC | |
| P5 (5’ RACE, GSP1) | ATCTGTTGCACGAATTCCTCATCATCC | *CsLOX11* |
| P6 (5’ RACE, GSP2) | TGTTTCTGTCTGGTTATCTTGGTTGCGAC | |
| P7 - F | AAACACATTATGAGAGCCAC | *CsLOX3* |
| P8 - R | CACAAATGCATTCACTTCTC | |
| P9 - F | GGGGATTGAGCAAAAACCC | *CsLOX11* |
| P10 - R | GATACCTAATAGCATATCAATTTGA | |
| P11 - F | ATCTGGTTCCGCGTGGATCCATGTTGCAGACTCAAACGCA | *CsLOX2* |
| P12 - R | TCACGATGCGGCCGCTCGAGTCAAATTGAGATGCTATTAGGAA | |
| P13 - F | AGGATTTCAGAATTCGGATCCATGTTGAATAGTCAAACCCAC | *CsLOX3* |
| P14 - R | CAAGCTTGCCTGCAGGTCGACTCAAATTGAGATGCTCTTTGG | |
| P15 - F | ATCTGGTTCCGCGTGGATCCATGCTACCAACCCTCTTCC | *CsLOX9* |
| P16 - R | TCACGATGCGGCCGCTCGAGTTAGATTGAGACACTATTAGGAATT | |
| P19 - F | TCTTGATTAATGCCGATGG | *α-CsLOX1* |
| P20 - F | TATCAAGAGTGGATGGAC | *β-CsLOX1* |
| P21 - R | AAATGCCTCCAATGGTTC | *α, β-CsLOX1* |
| P22 - F | CAACAAGTCATACTTGCCAG | *α-CsLOX2* |
| P23 - F | AATGCAAGACAGTGTTGCAC | *β-CsLOX2* |
| P24 - R | GCCTGTTACTCGCTATTATG | *α, β-CsLOX2* |

| | | |
|---|---|---|
| P25 - F | ATCCAGACAGTAGTCCTAC | *α-CsLOX3* |
| P26 - F | AACATTTTCAGGTGTTAACC | *β-CsLOX3* |
| P27 - R | ATGTAAGGCTCTGTCACG | *α, β-CsLOX3* |
| P28 - F | ATTCTCAGCAAACTAGATCCTG | *α-CsLOX5* |
| P29 - F | GTCAAAGAGAGTTTGATAAATGG | *β-CsLOX5* |
| P30 - R | GTGTCTTGAACGGCCATTAC | *α, β-CsLOX5* |
| P31 - F | TGGCTGCTTCAACTTCTTATTCTG | *α-CsLOX9* |
| P32 - F | ATGGTGACCCTGGGGCTTTC | *β-CsLOX9* |
| P33 - R | TGTAGTGACATAGTGGAGCTGG | *α, β-CsLOX9* |
| P34 - F | TTCCAGCTAGATATGCAATGG | *α-CsLOX10* |
| P35 - F | CATGGTCTTGGTGGATAGAG | *β-CsLOX10* |
| P36 - R | GGTTGGGTATCCGCAGTC | *α, β-CsLOX10* |
| P37 - F | GAACCATTGGAGGCATTTG | *CsLOX1* |
| P38 - R | ATTCAAATTGAAACACTATTAGG | |
| P39 - F | TTTGAAGAATAGGGTTGGAGC | *CsLOX2* |
| P40 - R | TCACTGTTAATCTCTTAGCCC | |
| P41 - F | CTAAACACATTATGAGAGCCAC | *CsLOX3* |
| P42 - R | TAGGATTTGGACAGTATGAGAC | |
| P43 - F | ACTTGAAGAATAGATGTGGAGC | *CsLOX4* |
| P44 - R | TCTTACAAATGCATTCACTTCTC | |
| P45 - F | GTTCCTAACAGCATCTCTATC | *CsLOX5* |
| P46 - R | GTAGCCATTACAATCACTCTC | |
| P47 - F | GACCCAAGCCTCACAAATAG | *CsLOX6* |

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|---|---|---|
| P48 - R | GCTTCATTTATGCTACTCACAC | |
| P49 - F | ATTTCTCTTCTCTCACTCTCAC | *CsLOX7* |
| P50 - R | GAACACCTCTCCATCACACT | |
| P51 - F | GGACTATTGCTCCTTCTACTAT | *CsLOX8* |
| P52 - R | GGTACATGTTTCGACTAGCTC | |
| P53 - F | TTTGAGAGATTTGGAAAGACGC | *CsLOX9* |
| P54 - R | ACCATTAGATTGAGACACTATTAG | |
| P55 - F | AGTGCCTTATACCTTGCTCT | *CsLOX10* |
| P56 - R | TTCTAGATTGAGATACTGTTGG | |
| P57 - F | AGGATAATCATGGAACAACGTG | *CsLOX11* |
| P58 - R | GCTCCGTTGAACGATAATTTG | |
| P59 - F | TATCAAGAGTGGATGGAC | *β-CsLOX1* |
| P60 - R | CCATTTCGTCATTCTTGTA | |
| P61 - F | ATGCAAGACAGTGTTGCAC | *β-CsLOX2* |
| P62 - R | GTGGAAGGTTTACTCCTTC | |
| P63 - F | AACATTTTCAGGTGTTAACC | *β-CsLOX3* |
| P64- R | AAAGACCTTCTTCAGCATC | |
| P65 - F | GTCAAAGAGAGTTTGATAAATGG | *β-CsLOX5* |
| P66 - R | GGATCCTCAACAGCCATAC | |
| P67 - F | ATGGTGACCCTGGGGCTTTC | *β-CsLOX9* |
| P68 - R | TGTAGTGACATAGTGGAGCTGG | |
| P69 - F | CATGGTCTTGGTGGATAGAG | *β-CsLOX10* |
| P70 - R | ACCCATATAACAATGGTGCATG | |
| P71 - F | TTGGCATCGTTGAGGGTCT | *GADPH* |

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|---|---|---|
| P72 - R | CAGTGGGAACACGGAAAGC | |
| P73 - F | CTAAACACATTATGAGAGCCAC | *CsLOX3* |
| P74 - R | GGCTCTTCCGATGTGCATAT | |
| P75 - F | CTCAACTTTGGGCAGTATCC | *CsLOX6* |
| P76 - R | GCTTCATTTATGCTACTCACAC | |
| P77 - F | ATTTCTCTTCTCTCACTCTCAC | *CsLOX7* |
| P78 - R | GCAACACAACATTCCTTCCG | |
| P79 - F | GGTTGATCCTGCCAGTAGTC | *18S rRNA* |
| P80- R | CTACGGAAACCTTGTTACGAC | |
| P81 - F | GGGGACAAGTTTGTACAAAAAAGCAGGCTATGTTGCAGACTCAAACGCA | *CsLOX2* |
| P82- R | GGGGACCACTTTGTACAAGAAAGCTGGGTAATTGAGATGCTATTAGGAACTC | |
| P83 - F | GGGGACAAGTTTGTACAAAAAAGCAGGCTATGCTACCAACCCTCTTCC | *CsLOX9* |
| P84- R | GGGGACCACTTTGTACAAGAAAGCTGGGTGATTGAGACACTATTAGGAATTC | |