

Supplementary files:

Table S1. Primers for *PsnWOX* gene cloning.

Gene Names	Upstream Primers (5'–3')	Downstream Primers (5'–3')
<i>PsnACT</i>	CATGCTCCTTTCTGTTCTGC	GGCTGGTCATTAGATCCTCAGTGG
<i>PsnWOX1a</i>	CACTCCCTATCATTGAGTCCTTCG	TTCTTTACAACCCCTTCATCTGC
<i>PsnWOX4a</i>	CCTTTCATTGAGTCCTTCACCATGG	TCAAACCCCTTCATCTTCCTTCC
<i>PsnWOX4b</i>	GCATCTGAAGCTAACACAGATAATGG	CGCAGATCTAAATGTGGATGATCC
<i>PsnWOX5b</i>	ATGGCTTCATCAAACAAACACTGG	AAATAGTAGAAAGCACCATGCTGC
<i>PsnWOX9</i>	TGCCAAAGTATAGCAGGCAGG	AACAACCTCACACTTGGAAAGC
<i>PsnWOX13a</i>	TAGAGAGAGATTCATGGAGGATGG	GCAATTCTGGAGGAGACATCATCC
<i>PsnWOX13b</i>	GGAAGTGGAGACTCATGGAGG	ATGCATGCCACAACGATAGTCC
<i>PsnWOX13c</i>	CATGCTCCTTTCTGTTCTGC	GGCTGGTCATTAGATCCTCAGTGG

Table S2. SQ-PCR primers for the *PsnWOX* gene.

Gene Names	Upstream Primers (5'–3')	Downstream Primers (5'–3')
<i>PsnACT</i>	CCAGCAACCGCAATACAA	CTTCACCATTCCAGTTCCATT
<i>PsnWOX1a</i>	GGTTATGAAGGTGAACAGACCAGG	TGTGTTGACGCACTTGTAGTAGC
<i>PsnWOX4a</i>	CTATGGACAGGAAACAGCTATGACC	CGTCAGAAGAGGCAAGATTCTAGG
<i>PsnWOX4b</i>	GAGGAACAGCCTTGTTTAAAGC	CTATGGACAGGAAACAGCTATGACC
<i>PsnWOX5b</i>	TGTGGCACAGGAATAAATGTGG	TGCAGCTGCAGCTTCATTGC
<i>PsnWOX9</i>	ATGGCTTCATCAAACAAACACTGG	AAATAGTAGAAAGCACCATGCTGC
<i>PsnWOX13a</i>	CCAAAGTATAGCAGGCAGGATGG	CCTCCTGCAAGATCTTGCTGG
<i>PsnWOX13b</i>	CTTGAGAGAGATTCATGGAGGATGG	CTGCCTCGACCCTATCTTGCTGG
<i>PsnWOX13c</i>	GCCAACTGACGAAAACACC	ATGCCACAACGATAGTCCTAAGC

Table S3. Motif sequences of *PsnWOX* proteins.

Motif Names	Motif Sequences
Motif 1	ILEJFRSGTRTPSRDZIQDITAZLSEYGQIEGKNVIFYWFQNHKARERQK
Motif 2	VKVMTDEQMETLRKQIAVYATICEQLVEMHKSLSAQQDLAAG
Motif 3	IPATRWNPTEQJR
Motif 4	VFINEVPLEVTSGPFBVKAAFGDDVLIHSSGQPILTDEFGVLLHSLQHG
Motif 5	GDDQLVGKMGSPGSYNPYWQLEDYGLFG
Motif 6	MKVHQLARGFWEHEPFLTGFKRLRPLAPKLANTDHSAASFDLKSFIKRPD
Motif 7	RTLELFPLHPEG
Motif 8	VEREEDSPYKRKCRSWTFECLELEDSRSC
Motif 9	MASSNKHWPSPMFKSKP
Motif 10	NNGESEVETEIESFKEKK

Table S4. Information on the Segmental duplications analysis of the *PsnWOX* genes.

Gene Pairs	Gene1	Gene2	Ka	Ks	Ka/Ks	Type
Pair1	Potri.002G008800.1	Potri.005G101800.1	0.234170767	1.271288749	0.184199512	Segmental
Pair2	Potri.002G008800.1	Potri.005G252800.1	0.063021051	0.270234573	0.233208691	Segmental
Pair3	Potri.002G124100.1	Potri.014G025300.1	0.028706733	0.19177761	0.149687616	Segmental
Pair4	Potri.004G051600.1	Potri.011G061400.1	0.087552149	0.307354202	0.284857498	Segmental
Pair5	Potri.007G012100.1	Potri.005G114700.1	0.078499102	0.187043513	0.419683639	Segmental
Pair6	Potri.008G065400.1	Potri.010G192100.1	0.061701078	0.21368582	0.288746713	Segmental
Pair7	Potri.012G047700.1	Potri.015G039100.1	0.091839004	0.226710654	0.405093463	Segmental

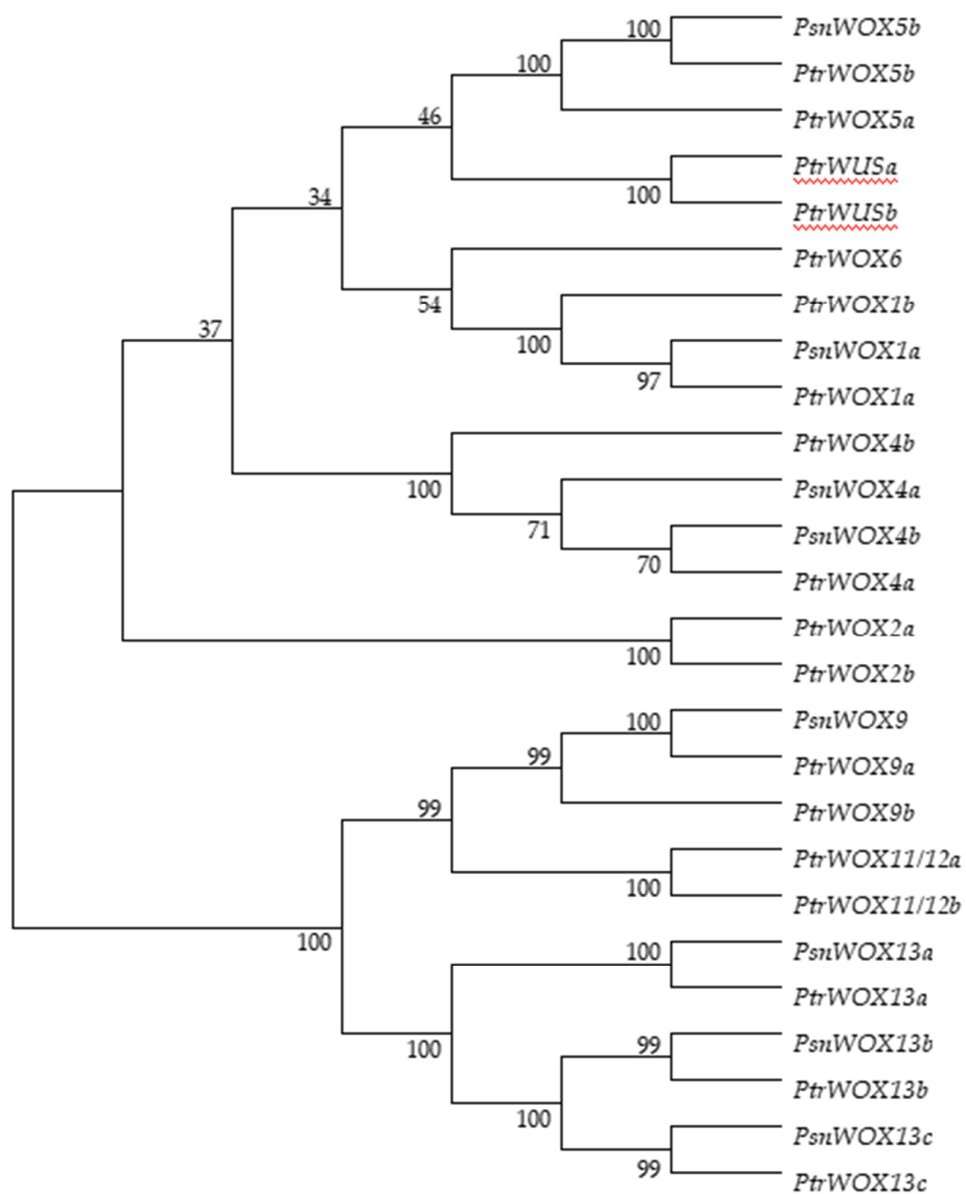


Figure S1. Phylogenetic tree of *Populus* × *xiaohei* and *P. trichocarpa*.

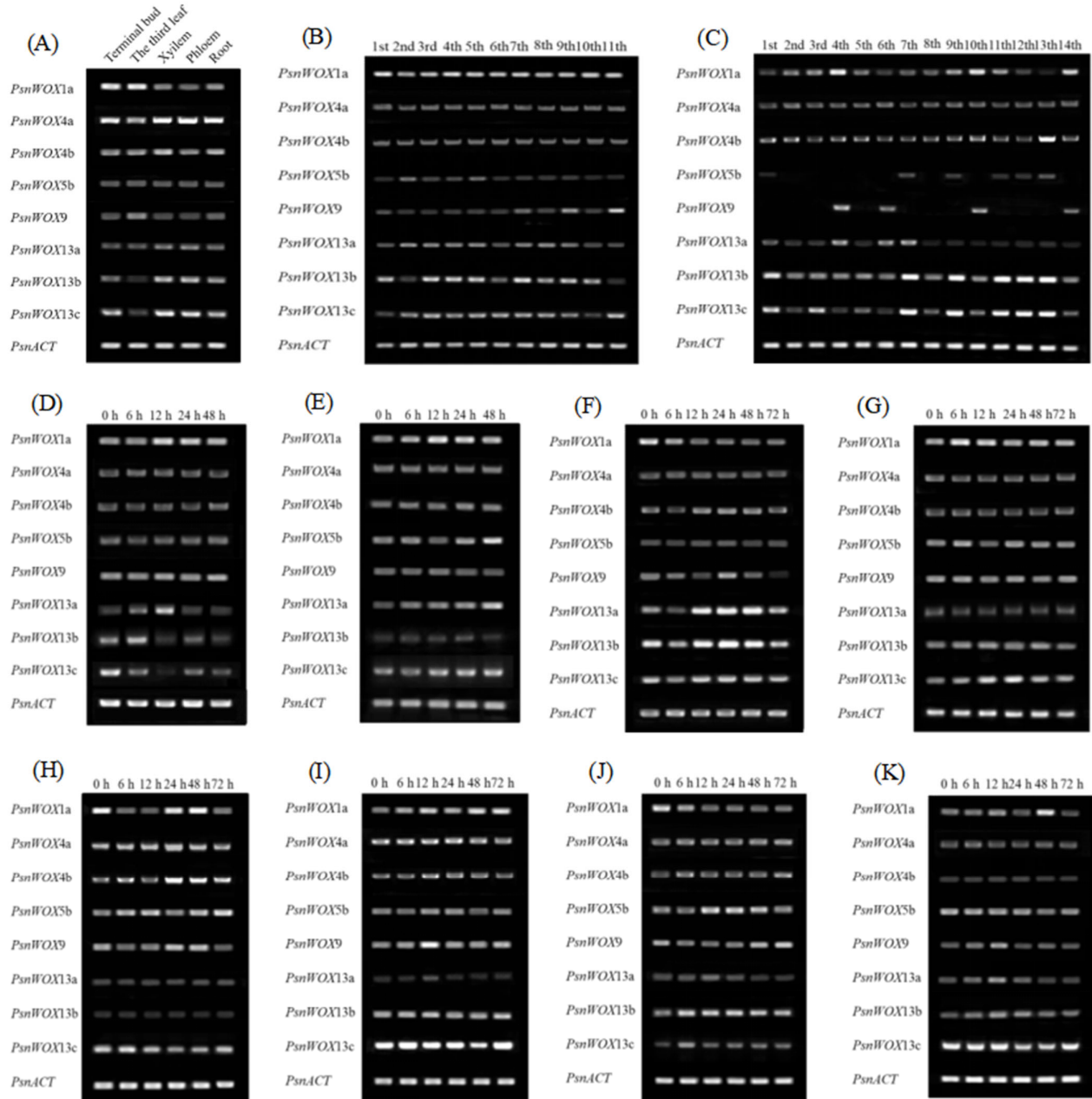


Figure S2. SQ-PCR electrophoresis profiles of the WOX gene of *Populus x xiaohei* in tissue sites and under abiotic stress. The relative expression levels of WOX genes in two different tissues (roots and leaves) of *Populus x xiaohei* seedlings treated with CdCl₂, NaCl, NaHCO₃, or PEG were analyzed by SQ-PCR. (A) Different tissue sites; (B) Stem nodes throughout the development period; (C) Leaves throughout development; (D) Expression of CdCl₂ treatment in roots; (E) Expression of CdCl₂ treatment in leaves; (F) Expression of NaCl treatment in roots; (G) Expression of NaCl treatment in leaves; (H) Expression of NaHCO₃ treatment in roots; (I) Expression of NaHCO₃ treatment in leaves; (J) Expression of PEG treatment in roots; (K) Expression of PEG treatment in leaves.

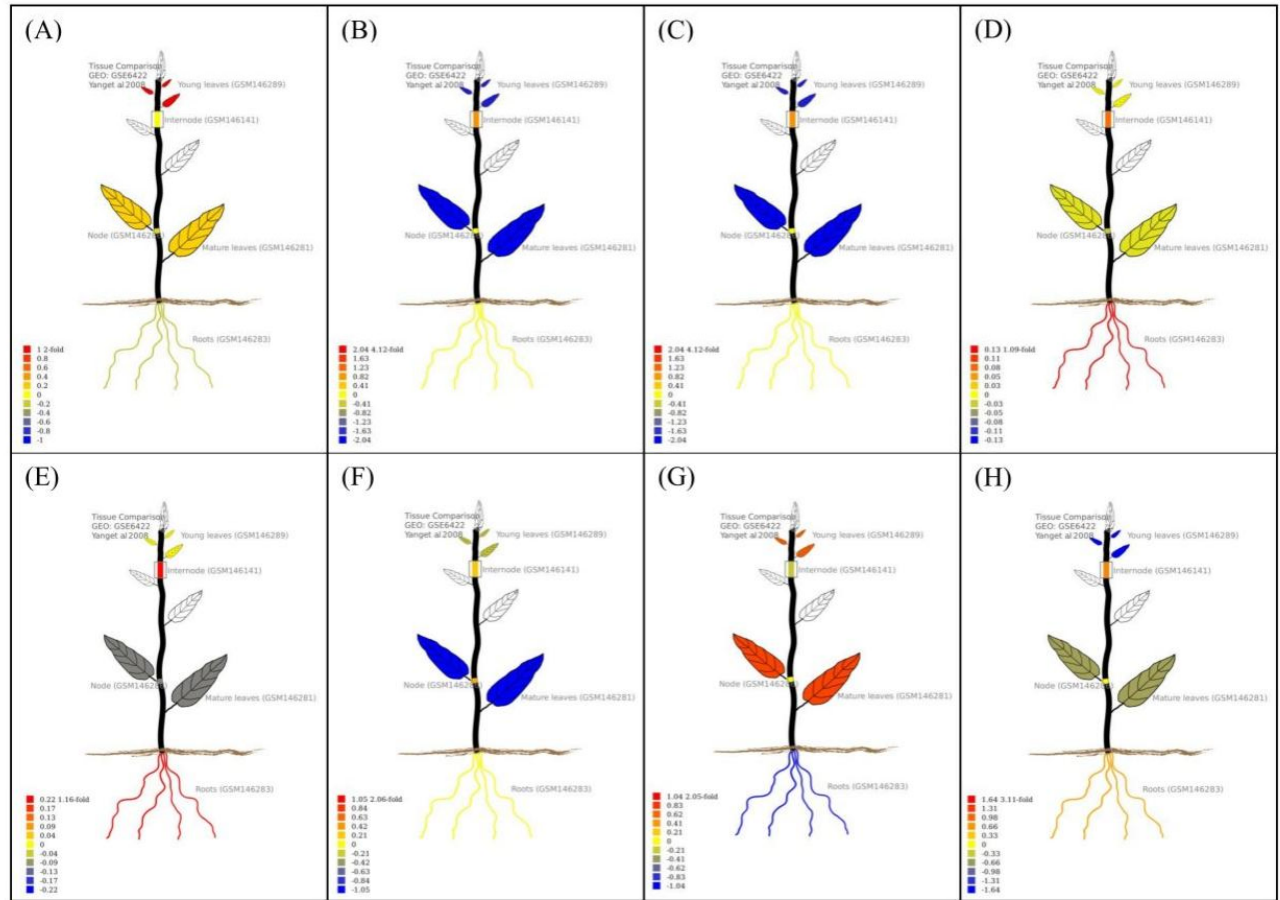


Figure S3. Tissue-specific expression profiles of *PtrWOX* genes. Visual images of *PtrWOX* genes in *P. trichocarpa* were generated using tissue-specific expression data of mature leaves, young leaves, roots, nodes, and internodes derived from <https://PlantGenIE.org> (2021.11.25). (A) *PtrWOX1a*; (B) *PtrWOX4a*; (C) *PtrWOX4b*; (D) *PtrWOX5b*; (E) *PtrWOX9*; (F) *PtrWOX13a*; (G) *PtrWOX13b*; (H) *PtrWOX13c*.