

Figure S1: Multiple sequence alignment with the amino acid sequences of HD in different classes of *Phyllostachys edulis* (Pe), *Arabidopsis thaliana* (At), and *Oryza sativa* (Os).

PeH0011	WRPQGLPERAVTILRAWLFEHFLHPYPSDVDCHI	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0014	WRPQGLPERAVTILRAWLFEHFLHPYNDVDCHI	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0015	WRPQGLPERAVTILRAWLFEHFLHPYKDSFKML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0018	WRPQGLPERAVTILRAWLFEHFLHPYPSDVDCHI	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0023	WRPQGLPERAVTILRAWLFEHFLHPYKDSFKML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0024	WRPQGLPERAVTILRAWLFEHFLHPYTDGDKQML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0031	WRPQGLPERAVTILRAWLFEHFLHPYTDGDKQML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0032	WRPQGLPERAVTILRAWLFEHFLHPYNDVDCHI	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0037	WRPQGLPERAVTILRAWLFEHFLHPYKDSFKML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0039	WRPQGLPERAVTILRAWLFEHFLHPYKDSFKML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0042	WRPQGLPERAVTILRAWLFEHFLHPYTDGDKQML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0047	WRPQGLPERAVTILRAWLFEHFLHPYKDSFKML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
AtG19700	WRPQGLPERAVTILRAWLFEHFLHPYKDSFKML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
Os12g43950	WRPQGLPERAVTILRAWLFEHFLHPYKDSFKML	LA	ROICLSRSQVS	NWFI	NARVR	WKP
PeH0090	KRTIINDQVNEHFKALIDPEMHKNATILQAWAEKLSGGSGEII	ISSQL	KNWLNNRKAKIA			
PeH0078	KRTIINDQVNEHFKALIDPEMHKNATILQAWAEKLSGGSGEII	ISSQL	KNWLNNRKAKIA			
PeH0017	RRRRAGKLPGDTTITLKQWQOQSKWVPYTEDDKAKL	VEETGLQLQKQ	NNWFI	NORKR	NWH	
PeH0054	RRRRAGKLPGDTTITLKQWQOQSKWVPYTEDDKAKL	VEETGLQLQKQ	NNWFI	NORKR	NWH	
PeH0057	RRRRAGKLPGDTTITLKQWQOQSKWVPYTEDDKAKL	VEETGLQLQKQ	NNWFI	NORKR	NWH	
PeH0058	RRRRAGKLPGDARSALMDWNTHYRWYPTTEEDKVL	AAMTGLDPKQ	NNWFI	NORKR	HWK	
PeH0074	KKKKKKLPEAROKLHWWELHYKWPYPSETEKI	ALAEATGLDQKQ	NNWFI	NORKR	HWK	
PeH0100	KKKKKKLPEAROKLHWWELHYKWPYPSETEKI	ALAEATGLDQKQ	NNWFI	NORKR	HWK	
PeH0103	RRRRAGKLPGDTTITLKQWQOQSKWVPYTPSTES	FHFSRHVTLAI	RSSSRSL	LRAERA		
PeH0104	KKKKKKLPRDAROKLHWWELHYRWYPSSEMEKAAL	AESTGLDAKQ	NNWFI	NORKR	HWK	
AtG23580	KKKKKKLPRDAROKLHWWELHYRWYPSSEMEKAAL	AESTGLDAKQ	NNWFI	NORKR	HWK	
Os07g09770	KKKKKKLPRDAROKLHWWELHYRWYPSSEMEKAAL	AESTGLDAKQ	NNWFI	NORKR	HWK	
PeH0009	VNKKIYQLEVLKITYTEDPDETLRAELSVKL	GTDROLQWV	CHRRLL	KDR		
PeH0034	TKKSPLEQIMLETFYSEVOYKPEDMAEYATSV	GLAYSQVRI	WEKRRR	KER		
PeH0036	VNKKIYQLEVLKITYTEDPDETLRAELSVKL	GTDROLQWV	CHRRLL	KDR		
PeH0041	TKKSPLEQIMLETFYSEVOYKPEDMAEYATSV	GLAYSQVRI	WEKRRR	KER		
PeH0082	TKKSPLEQIMLETFYSEVOYKPEDMAEYATSV	GLAYSQVRI	WEKRRR	KER		
PeH0093	TKKSPLEQIMLETFYSEVOYKPEDMAEYATSV	GLAYSQVRI	WEKRRR	KER		
AtG28420	QMKTFQLETLKYSSEKYPSEATRAELSEKL	DSDROLQWV	CHRRLL	KDK		
PeH0021	QDMVLPVSRROVERLDYKRLDYDAYGKESDS	SDDEEWSNSTPQKGNQEDSETDSLAE				
PeH0026	QDMVLPVSRROVERLDYKRLDYDAYGKESDS	SDDEEWSNSTPQKGNLEDSSETDSFAE				
PeH0035	QDLVLPVSGREAOQLYYKRLDYRLH	EHFKIDQYPSR	AVKESLAQELGL			
PeH0079	SVGEFPDAILEKVQPORRKFRI	PPAAVQVLRKKVFAENELPAR	TVKENLATELGI			
PeH0106	SVKGFDPVLSDEKVQPORRKFRI	PPAAVQVLRKKVFAENELPAR	TVKENLATELGI			
AtG319510	LDGDPAGVSRNRNVERLDYKRLDYDAYGKESDS	SDDEEWSNSTPQKGNQEDSETDSLAE				
PeH0060	DCSWHRYVLDGMLMLPQREGAGIQSCIRDVLLYGGCAEH	GHVGDVKEVNSDRTASSNVNI				
PeH0114	DCSWHRYVLDGMLMLPQREGAGIQSCIRDVLLYGGCAEH	GHVGDVKEVNSDRTASSNVNI				
PeH0006	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0008	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0012	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0016	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0020	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0022	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0028	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0030	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0046	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0050	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0061	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0099	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
Os08g37580	GEKKRLSAFOVRLERSFETDNKLPDRKARI	ARDLGLQROVAL	WFONRRAR	WKTQOL		
PeH0001	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0025	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0029	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0044	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0045	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0059	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0063	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0067	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0081	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0087	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
AtG228200	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
Os04g46350	KKLRLTREOSALLIEDRKEHSTLNPKOKIALAKOLN	RPROVEVWFONRRARTKLKOTIEVD				
PeH0005	KYVRYTPEQVEALERYVYECFKPSSLRROQLRE	EPILANI	EPKQKVMFQNRRCRE	KORKE		
PeH0007	KYVRYTPEQVEALERYVYECFKPSSLRROQLRE	EPILANI	EPKQKVMFQNRRCRE	KORKE		
PeH0038	KYVRYTPEQVEALERYVYECFKPSSLRROQLRE	EPILANI	EPKQKVMFQNRRCRE	KORKE		
PeH0066	KYVRYTPEQVEALERYVYECFKPSSLRROQLRE	EPILANI	EPKQKVMFQNRRCRE	KORKE		
PeH0088	KYVRYTPEQVEALERYVYECFKPSSLRROQLRE	EPILANI	EPKQKVMFQNRRCRE	KORKE		
PeH0096	KYVRYTPEQVEALERYVYECFKPSSLRROQLRE	EPILANI	EPKQKVMFQNRRCRE	KORKE		
Os10g33960	KYVRYTPEQVEALERYVYECFKPSSLRROQLRE	EPILANI	EPKQKVMFQNRRCRE	KORKE		
PeH0004	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0040	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0048	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0049	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0062	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0068	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0077	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0086	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0089	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0096	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
AtG05330	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
Os10g42490	RKKRYHRHTPHOIQOLQEMAFKECPHPDENORQ	LSREL	GLEPLOWKFW	ONKRTQMK		
PeH0052	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
PeH0053	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
PeH0065	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
PeH0075	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
PeH0107	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
PeH0108	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
PeH0111	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
AtG14440	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
Os04g35500	RTKFTAEQKARMLGFAEVGMRLKLE	DAVVQRFCEVQKRRVLKVMHNNH				
PeH0043	EYGFOTNRLVPRDKKEKOGDRGAE	DDPSVSGODEGRNFE	GGGGMGEVSVAR			
PeH0080	DQYEYLNRLNLYQRYVNSCKVSGKSNLYEAL	VSHEHAAEKAQOLPRELVVPVQVOYS				
AtG318380	NGGPAFRFLPEVTMEALLOHNTAMPGRHILEAL	ADKFSSEPRKGGKVVYOFKOLWNW				
PeH0003	RWTPTAQVLQILENIFDQNGGTPSKOKI	KEITAEISQHGQI	SETNYYNWF	ONRRARSKR		
PeH0010	RWTPTAQVLQILENIFDQNGGTPSKOKI	KEITAEISQHGQI	SETNYYNWF	ONRRARSKR		
PeH0019	RWTPTAQVLQILENIFDQNGGTPSKOKI	KEITAEISQHGQI	SETNYYNWF	ONRRARSKR		
PeH0069	QLLGTAALAGAPPPLCTPPAPHYSCLDQAAAA	AHTTAPAAAYTSYYYP	GAAPASRCT			
PeH0070	RWNPSPQIKVLEMLYRGGMRTPNALQIERIT	EELGKYGRI	EKGNYFYWF	ONHARERQ		
Os10g60270	RWNPSPQIKVLEMLYRGGMRTPNALQIERIT	EELGKYGRI	EKGNYFYWF	ONHARERQ		

Figure S2: Phylogenetic tree based on the amino acid sequences of HB proteins of *Phyllostachys edulis* (Pe), *Arabidopsis thaliana* (At), and *Oryza sativa* (Os).

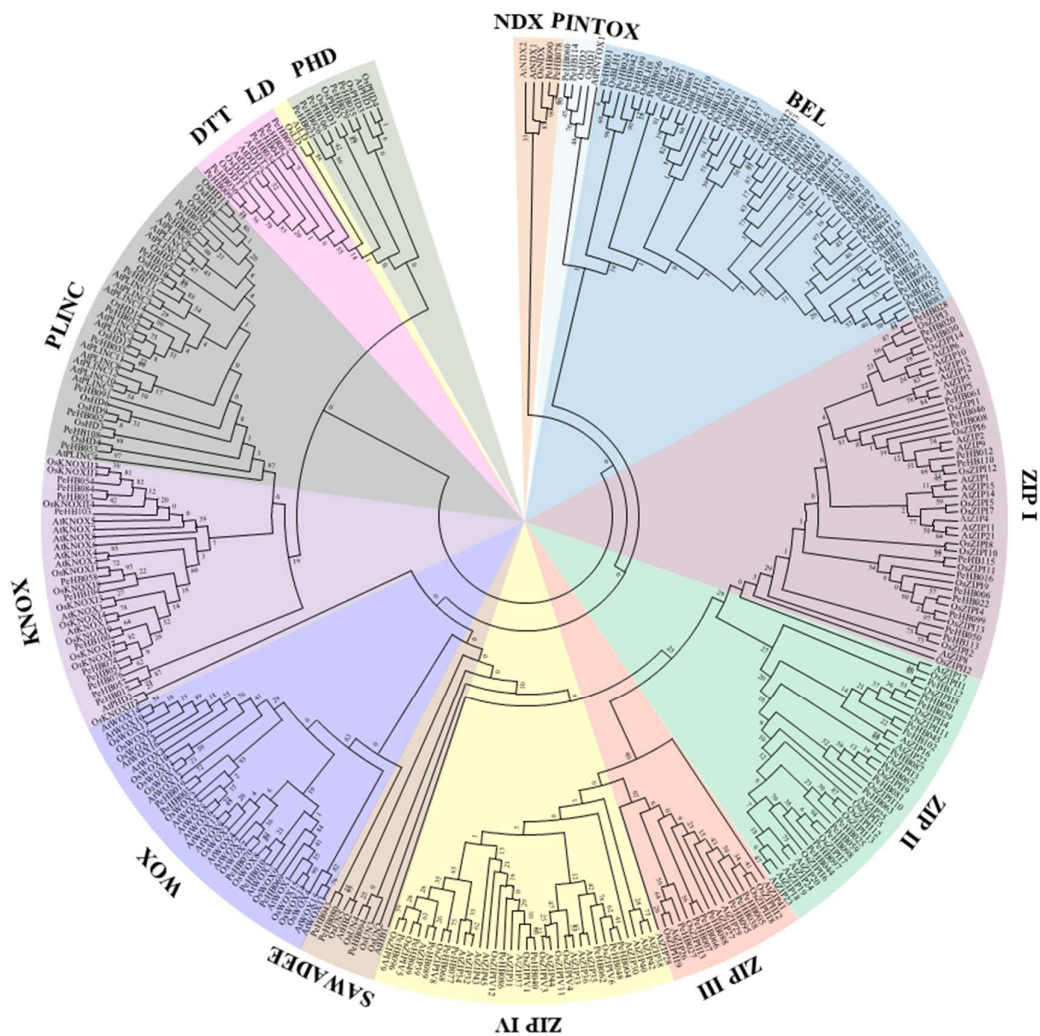


Figure S3: Gene structures of *PeHBs* in moso bamboo.

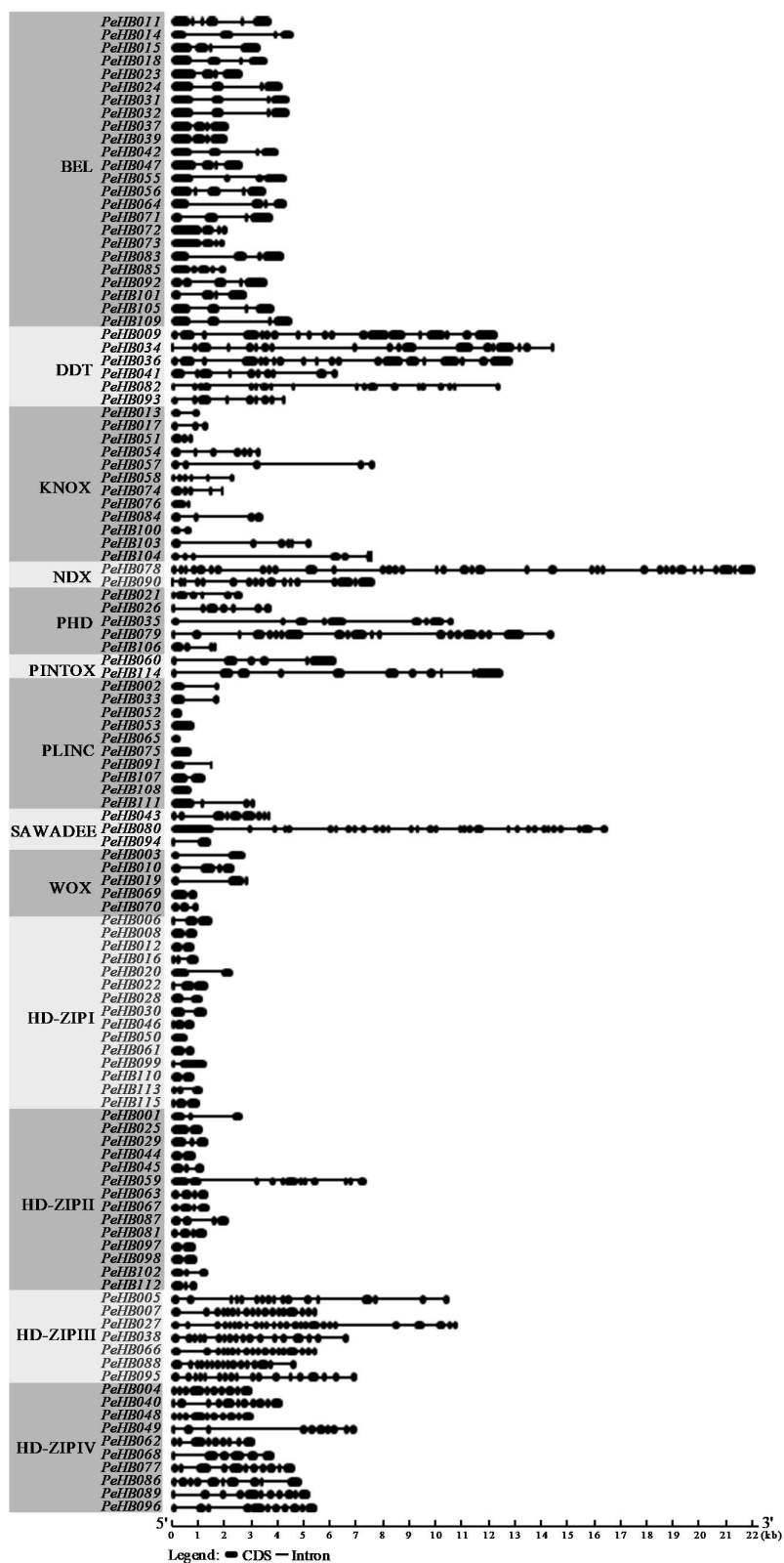


Figure S4: Information of the 20 motifs in PeHBs.

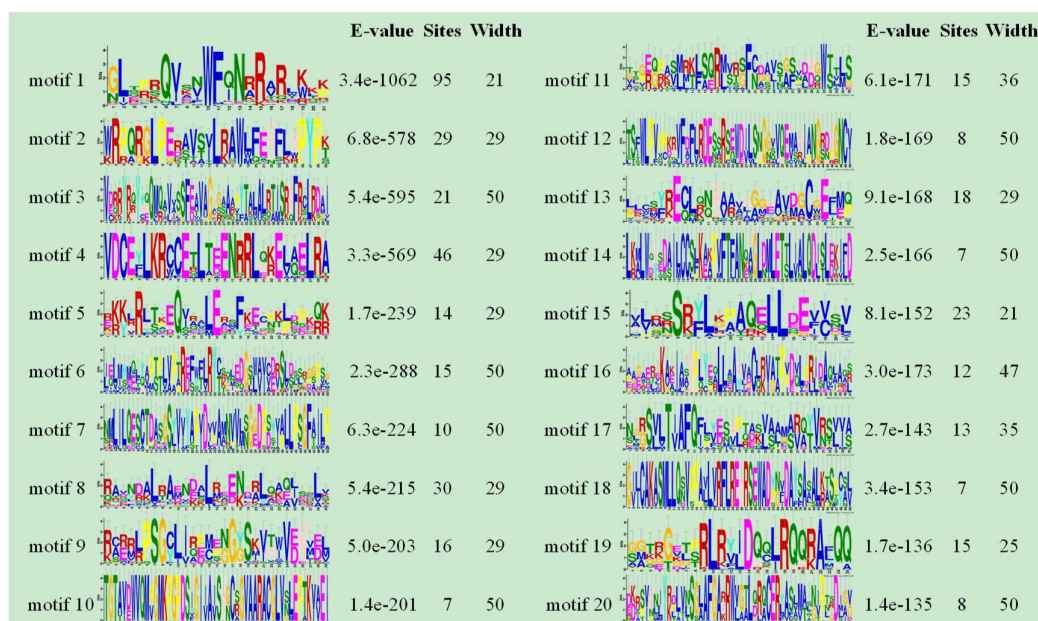


Figure S5: GO analysis of *PeHBs*.

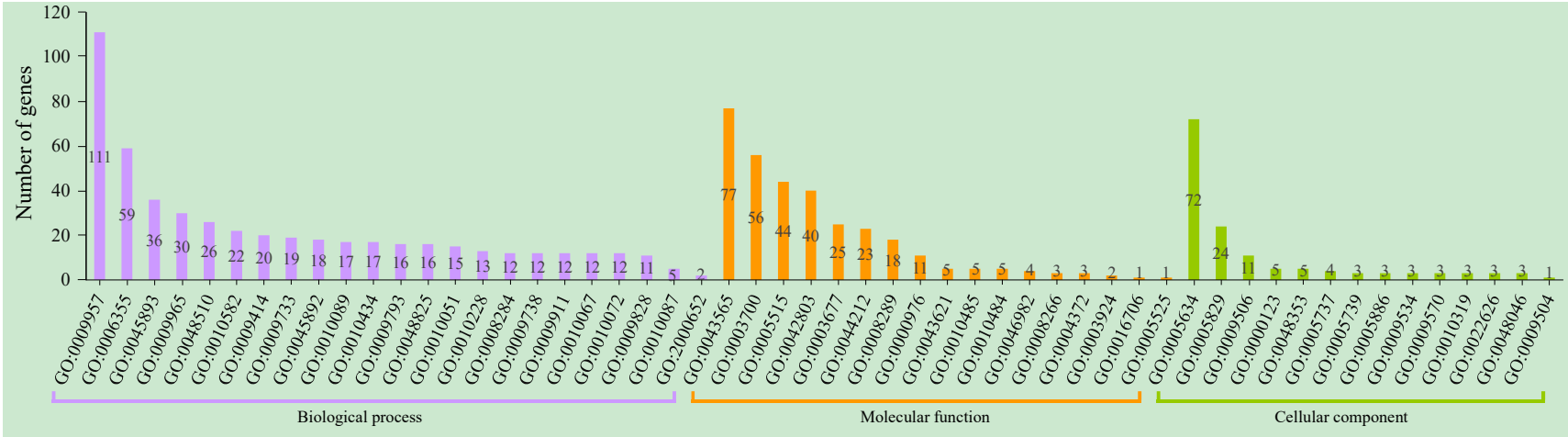


Figure S6: Transactive analysis of four members belonging to KNOX class in yeast. The control vectors and fusion constructs of four KNOX genes were transformed into AH109 yeast cells respectively, and inoculated onto SD/-Trp and SD/-Ade /-Leu/-Trp/X-a-GAL plates for further selection.

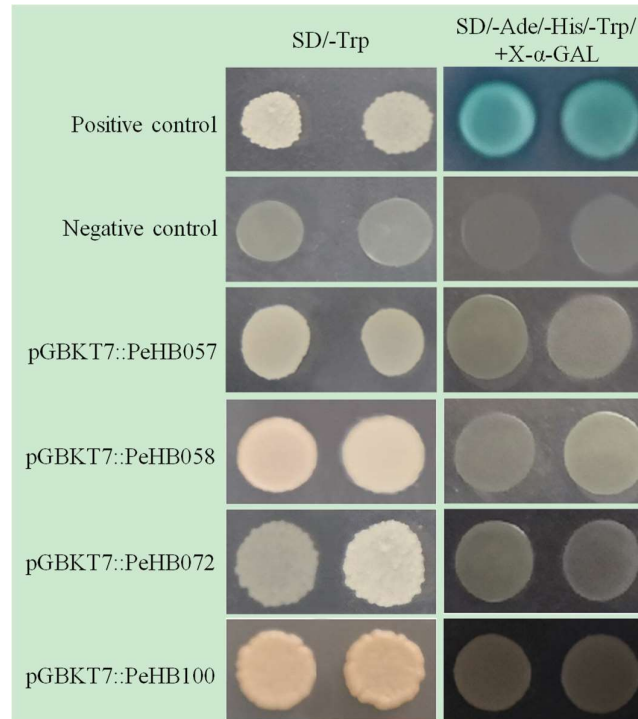


Figure S7: The content changes of cellulose (a) and hemicellulose (b) in winter bamboo shoots during storage. Asterisks indicated a significant difference between the storage shoots and the fresh shoots ($*p < 0.05$).

