Table S3 A summary of genetic associations between SNPs and phenotypic traits detected in *Populus tomentosa* association population using a multilocus Bayesian model (BAMD)

Trait	Number of SNPs	R^2	Locus	Position	Mutation
Lignin	4	0.102			
			SNP24	Promoter	[A : T]^{nc}
			SNP44	Intron1	[G : T]^{nc}
			SNP49	Exon 3	[C : A]^{ns}
			SNP60	Exon 6	[G : C]^{s}
α-cellulose	7	0.124			
			SNP3	Promoter	[A : G]^{nc}
			SNP18	Promoter	[T : A]^{nc}
			SNP36	promoter	[A : T]^{nc}
			SNP41	5’UTR	[T : C]^{nc}
			SNP49	Exon 3	[C : A]^{ns}
			SNP62	Intron 6	[T : G]^{nc}
			SNP81	Intron 10	[T : C]^{nc}
Holocellulose	5	0.090			
			SNP45	Exon 2	[A : C]^{s}
			SNP48	Intron 2	[A : T]^{nc}
			SNP66	Exon 7	[A : G]^{s}
			SNP81	Intron 10	[T : C]^{nc}
			SNP88	Exon 12	[G : A]^{ns}
Fiber length	3	0.066			
			SNP44	Intron1	[G : T]^{nc}
			SNP75	Exon 10	[T : C]^{s}
			SNP89	3’UTR	[G : C]^{nc}
Fiber width	4	0.106			
			SNP23	promoter	[T : C]^{nc}
			SNP59	Exon 6	[A : C]^{ns}
			SNP70	Intron 9	[A : T]^{nc}
			SNP90	3’UTR	[G : A]^{nc}
Microfibril angle (MFA)	3	0.071			
			SNP7	promoter	[C : G]^{nc}
			SNP18	Promoter	[T : A]^{nc}
			SNP48	Intron 2	[A : T]^{nc}
Diameter at breast height (D)	7	0.090			
			SNP23	promoter	[T : C]^{nc}
			SNP36	promoter	[A : T]^{nc}
			SNP48	Intron 2	[A : T]^{nc}

			SNP62	Intron 6	[T : G]^{nc}
			SNP75	Exon 10	[T : C]^{s}
			SNP80	Intron 10	[A : G]^{nc}
			SNP81	Intron 10	[T : C]^{nc}
Tree height (H)	2	0.039			
			SNP49	Exon 3	[A : T]^{ns}
			SNP81	Intron 10	[T : C]^{nc}
Stem volume(V)	3	0.067			
			SNP36	promoter	[A : T]^{nc}
			SNP75	Exon 10	[T : C]^{s}
			SNP80	Intron 10	[A : G]^{nc}

R^2 = percentage of the phenotypic variance explained; nonsynonymous polymorphism (ns); synonymous polymorphism (s); noncoding polymorphism (nc).