



**Additional file 6: Phylogenetic analysis of *Vitis vinifera*, *Solanum lycopersicum* and *Arabidopsis thaliana* Lox families.**

Bayesian tree using PhyloBayes3 (Lartillot et al. 2009) and the LG+Gamma model (Le and Gascuel 2008).

Support at nodes are posterior probabilities from the consensus of two independent, satisfactorily converged Bayesian analyses (maxdiff statistics lower than 0.3). The alignment was done using Muscle (<http://www.ebi.ac.uk/Tools/msa/muscle/help/>).

The Uniprot ID of the sequences analyzed are listed in brackets: *A. thaliana* sequences: AtLOX1 (Q06327), AtLOX2 (P38418), AtLOX3 (Q9LNR3), AtLOX4 (Q9FNX8), AtLOX5 (Q9LUW0), AtLOX6 (Q9CAG3); *V. vinifera* sequences: PnLOXA (Vv06s0004g01510, D7SLA9), SbLOXA (D5FUD8), Vv06s0004g01450 (F6GUD0), Vv06s0004g01470 (F6GUA7), Vv06s0004g01480 (F6GUA6), Vv06s0004g01500 (F6GUA5), Vv13s0064g01480 (F6HB91), Vv14s0128g00790 (F6HZ11), Vv01s0010g02750 (D7TAQ3), Vv09s0002g01080 (D7TZR1), SbLOXO (D5FUE0), SbLOXC (D5FUD9), Vv05s0020g03170 (F6HDN6); *Solanum lycopersicum* sequences: TomLoxA (P38415), TomLoxB (P38416), TomLoxC (K4ASM0), TomLoxC.2 (Q96573), TomLoxD (K4BN32), TomLoxD.2 (Q96574), TomLoxF (C0KKU8), Solyc12g011040.1 (K4DCJ0), Solyc01g099150.2 (K4B0V2), Solyc05g014790.2 (K4BYJ7), Solyc01g099200.2 (K4B0V7), Solyc09g075860.2 (K4CVG3), Solyc01g099210.2 (K4B0V8), Solyc08g029000.2 (K4CJW3), Solyc09g075870.1 (K4CVG4), Solyc01g099180.2 (K4B0V5).