

Legends to Supplemental Figures

Supplemental Figure 1. Stereochemical analysis of limonene and α -terpineol produced by the enzymes STC1 and TPS26. The separation and identification of the (-) and (+) enantiomers of limonene (A) and α -terpineol (B) was performed by gas chromatography on a chiral column with authentic standards as described in the Materials and Methods section.

Supplemental Figure 2. Volatiles released by wild type (*Stc1-McC*) and *stc1-s1.2* after herbivore attack. Volatiles from 10 day-old plants were collected after 16 h of feeding by Egyptian cotton leafworm. After separation by gas chromatography, the total ion chromatogram shows: 1, myrcene; 2, hexenyl acetate; 3, limonene; 4, linalool; 5, DMNT; 6, indole; 7, (*E*)- α -bergamotene; 8, (*E*)- β -farnesene; 9, β -sesquiphellandrene; c, contamination.

Supplemental Figure 3. Sequences of maize STC1 and TPS26 and Sorghum TPS were aligned by Clustal W. Sequences that match the consensus are boxed in red.

Supplemental Figure 4. Phylogenetic tree of sesquiterpene synthases. Sequences were aligned using ClustalX, and the tree was constructed using neighbor joining in MEGA version 3.1 (Kumar S, Tamura K & Nei M [2004] MEGA3: Integrated Software for Molecular Evolutionary Genetics Analysis and Sequence Alignment Briefings in Bioinformatics 5:150-163). Each sequence is identified by either its name or GenBank accession number. Numbers above the branches indicate the percentage of 1000 bootstrap replications in which that branch is present. The following proteins, mostly characterized sesquiterpene synthases, were selected because of their high similarity with TPS26.

AAA19216: 5-epi-aristolochene synthase [*Nicotiana tabacum*];

AAC31570: sesquiterpene synthase [*Elaeis oleifera*];

AAD02223: vetispiradiene synthase [*Solanum tuberosum*];

AAF74977: (+)-delta-cadinene synthase [*Gossypium hirsutum*];

AAG01339: terpene synthase [*Citrus junos*];

AAG09949: vetispiradiene synthase [*Lycopersicon esculentum*];

AAL79181: beta-caryophyllene synthase QHS1 [*Artemisia annua*];
AAP05760: 5-epi-aristolochene synthase 12 [*Nicotiana attenuata*];
AAP05762: 5-epi-aristolochene synthase 37 [*Nicotiana attenuata*];
AAQ04608: valencene synthase [*Citrus sinensis*];
AAR99061: germacrene D synthase [*Populus balsamifera* ssp. *trichocarpa* x *Populus deltoides*];
AAS66357: terpene synthase [*Vitis vinifera*];
AAS66358: terpenoid synthetase [*Vitis vinifera*];
AAS88571: TPS 4 [*Zea mays*];
AAS88574: TPS 5 [*Zea mays*];
AAS88576: TPS 6 [*Zea mays*];
AAS88578: TPS 9 [*Zea mays*];
AAV36464: wound-inducible putative cytosolic terpene synthase 1 [*Medicago truncatula*];
AAX16077: valencene synthase [*Perilla frutescens* var. *frutescens*];
AAX16121: germacrene-D synthase [*Actinidia deliciosa*];
AAX40665: germacrene D synthase [*Zingiber officinale*];
AAX44033: (+)-delta-cadinene synthase [*Gossypium hirsutum*];
AAX99146: TPS10, [*Zea mays*];
ABF67928: STC1 [*Zea mays*];
BAA82092: vetispiradiene synthase [*Solanum tuberosum*];
EAY85744: hypothetical protein OsI_006977 [*Oryza sativa* (*indica* cultivar-group)];
EAZ05730: hypothetical protein OsI_026962 [*Oryza sativa* (*indica* cultivar-group)];
EAZ22931: hypothetical protein OsJ_006414 [*Oryza sativa* (*japonica* cultivar-group)];
Q39760: (+)-delta-cadinene synthase isozyme XC14 [*Gossypium arboreum*];
Q40577: Aristolochene synthase (5-epi-aristolochene synthase) [*Nicotiana tabacum*]