

Additional File 4. Characteristics and relative molar abundances (%) of the compounds released after pyro-GC/MS of extractive-free senesced mature stems from WT, pNST3::CAS9-pU6::HCT_gRNA12 (gRNA12), and pNST3::CAS9-pU6::HCT_gRNA14 (gRNA14) plants.

i) Analysis of T1 plants of pNST3::CAS9-pU6::HCT_gRNA12 line and pNST3::CAS9-pU6::HCT_gRNA14 line. Standard Deviation (STD) was calculated from two technical replicates

Compound Name	Origin	Formula	MW	Main Mass Fragments	Retention Time (min)	WT-1 (%)	STD (%)	WT-2 (%)	STD (%)	gRNA12-1 (%)	STD (%)	gRNA12-2 (%)	STD (%)	gRNA14-1 (%)	STD (%)	gRNA14-2 (%)	STD (%)
phenol	H	C6H6O	94	65, 66, 94	3.55	1.7	0.2	1.8	0.3	1.4	0.1	1.4	0.2	8.4	0.2	10.2	0.1
2,5-dimethylphenol	H	C8H10O	122	77, 79, 108	5.26	1.4	0.3	1.3	0.0	1.2	0.1	1.1	0.3	6.0	0.1	6.6	0.1
2-methoxyphenol	G	C7H8O2	124	81, 109, 124	5.69	9.7	0.8	9.6	0.2	8.8	0.1	8.4	0.6	7.5	0.3	7.7	0.1
3-methylphenol	H	C7H8O	108	77, 107, 122	8.51	0.9	0.1	0.9	0.0	0.9	0.0	1.0	0.2	3.9	0.1	4.4	0.0
2-methoxy-5-methylphenol	G	C8H10O2	138	95, 123, 138	9.56	3.6	0.1	3.3	0.0	3.5	0.0	3.2	0.4	3.0	0.0	2.5	0.1
4-ethyl-2-methoxyphenol	G	C9H12O2	152	122, 137, 152	12.86	4.5	0.1	4.3	0.3	3.9	0.1	3.8	0.3	4.1	0.1	4.0	0.1
4-ethenyl-2-methoxyphenol	G	C9H10O2	150	107, 135, 150	13.9	21.3	0.1	21.1	0.2	21.1	0.5	19.5	1.1	17.3	0.4	16.6	0.2
phenol 2,6-dimethoxy	S	C8H10O3	154	65, 93, 139, 154	14.76	7.9	0.0	8.3	0.1	8.3	0.1	8.0	0.1	7.8	0.1	7.6	0.5
vanillin	G	C8H8O3	152	151, 152, 164	15.8	1.4	0.1	1.5	0.1	1.3	0.0	1.2	0.1	1.2	0.1	1.1	0.2
4-Methyl-2,6-dimethoxyphenol	G	C9H12O2	168	131, 149, 164	15.87	1.7	0.0	1.8	0.1	1.7	0.0	1.5	0.0	1.0	0.0	0.9	0.1
2-methoxy-4-(1-propenyl)phenol	G	C10H12O2	164	125, 153, 168	16.55	2.5	0.1	2.4	0.1	2.5	0.1	2.6	0.2	2.3	0.2	2.4	0.1
4-Methyl-2,6-dimethoxyphenol	G	C9H12O2	168	131, 149, 164	16.69	13.5	0.3	13.0	0.2	13.2	0.3	12.0	0.7	9.4	0.0	8.9	0.3
4-Ethyl-2,6-dimethoxyphenol	S	C10H14O3	182	167, 182	17.8	2.7	0.2	2.6	0.1	2.9	0.2	2.9	0.5	2.9	0.1	3.0	0.2
4-Hydroxy-3-methoxyphenyl acetone	G	C10H12O3	180	122, 137, 180	17.9	3.7	0.1	3.9	0.6	4.0	0.0	3.8	0.3	3.6	0.0	3.6	0.3
4-Hydroxy-3,5-dimethoxystyrene	S	C10H12O3	180	91, 137, 165, 180	18.39	13.9	0.4	14.0	0.4	14.7	0.1	14.3	0.8	12.6	1.0	12.1	0.0
4-allyl-2,6-dimethoxyphenol	S	C11H14O3	194	167, 179, 194	18.86	1.3	0.1	1.3	0.3	1.5	0.2	6.2	6.6	1.1	0.0	1.0	0.0
4-(2-Propenyl)-2,6-dimethoxyphenol	S	C11H12O3	192	91, 119, 151, 194	19.5	0.9	0.1	1.1	0.2	1.1	0.1	1.1	0.0	1.0	0.1	0.8	0.1
trans-4-propenyl-2,6-dimethoxyphenol	S	C11H14O3	194	167, 179, 194	20.18	7.3	0.0	7.7	0.1	8.1	0.0	8.0	0.8	6.7	0.0	6.5	0.1
H-unit (%)						4.1	0.7	4.1	0.3	3.5	0.0	3.5	0.7	18.3	0.2	21.3	0.0
G-unit (%)						61.9	0.1	60.9	0.7	59.9	0.0	56.0	3.7	49.7	0.7	47.7	0.3
S-unit (%)						34.0	0.8	34.9	0.4	36.6	0.0	40.5	4.4	32.1	0.9	31.0	0.3

ii) Analysis of T2 plants of two lines of pNST3::CAS9-pU6::HCT_gRNA14. Standard Deviation (STD) was calculated from seven biological replicates for the transgenic lines and four biological replicates for WT plant.

Compound name	Origin	Formula	MW	Main mass fragments	Retention Time(min) (min)	WT (%)	STD (%)	gRNA14 Line1 (%)	STD (%)	gRNA14 Line2 (%)	STD (%)
phenol	H	C6H6O	94	65, 66, 94	3.55	1.8	0.5	10.3	3.2	6.5	3.4
2,5-dimethylphenol	H	C8H10O	122	77, 79, 108	5.26	1.3	0.2	3.4	1.1	3.9	1.8
2-methoxyphenol	G	C7H8O2	124	81, 109, 124	5.69	6.6	0.5	15.3	2.2	6.7	0.6
3-methylphenol	H	C7H8O	108	77, 107, 122	8.51	0.4	0.1	2.8	0.7	1.5	0.7
2-methoxy-5-methylphenol	G	C8H10O2	138	95, 123, 138	9.56	2.4	0.4	2.0	0.4	1.9	0.1
4-ethyl-2-methoxyphenol	G	C9H12O2	152	122, 137, 152	12.86	3.0	0.4	2.5	0.4	3.8	0.2
4-ethenyl-2-methoxyphenol	G	C9H10O2	150	107, 135, 150	13.9	19.8	0.8	13.6	1.0	17.6	2.8
phenol 2,6-dimethoxy	S	C8H10O3	154	65, 93, 139, 154	14.76	6.8	0.7	6.3	1.0	7.7	0.9
vanillin	G	C8H8O3	152	151, 152, 164	15.8	2.6	0.6	5.5	0.6	1.8	0.4
4-Methyl-2,6-dimethoxyphenol	G	C9H12O2	168	131, 149, 164	15.87	2.3	0.3	2.5	0.6	2.3	0.2
2-methoxy-4-(1-propenyl)phenol	G	C10H12O2	164	125, 153, 168	16.55	3.4	0.4	1.8	0.2	2.9	0.3
4-Methyl-2,6-dimethoxyphenol	G	C9H12O2	168	131, 149, 164	16.69	12.9	0.6	8.5	0.9	11.0	1.2
4-Ethyl-2,6-dimethoxyphenol	S	C10H14O3	182	167, 182	17.8	3.0	0.4	2.5	0.7	3.4	0.3
4-Hydroxy-3-methoxyphenyl acetone	G	C10H12O3	180	122, 137, 180	17.9	4.3	0.4	2.0	0.4	3.6	0.3
4-Hydroxy-3,5-dimethoxystyrene	S	C10H12O3	180	91, 137, 165, 180	18.39	15.8	1.0	11.0	1.5	13.8	1.8
4-allyl-2,6-dimethoxyphenol	S	C11H14O3	194	167, 179, 194	18.86	2.6	0.0	1.6	0.2	1.6	0.4
4-(2-Propenyl)-2,6-dimethoxyphenol	S	C11H12O3	192	91, 119, 151, 194	19.5	2.0	0.3	1.6	0.2	2.0	0.4
trans-4-propenyl-2,6-dimethoxyphenol	S	C11H14O3	194	167, 179, 194	20.18	9.0	0.8	6.5	1.0	8.1	0.9
H-unit (%)						3.5	0.7	16.5	4.8	11.8	6.0
G-unit (%)						57.4	0.2	53.9	1.8	51.7	3.9
S-unit (%)						39.1	0.6	29.6	3.9	36.5	2.3