

**Melon13-lipoxygenase *CmLOX18* may be involved in
C6 volatiles biosynthesis in fruit**

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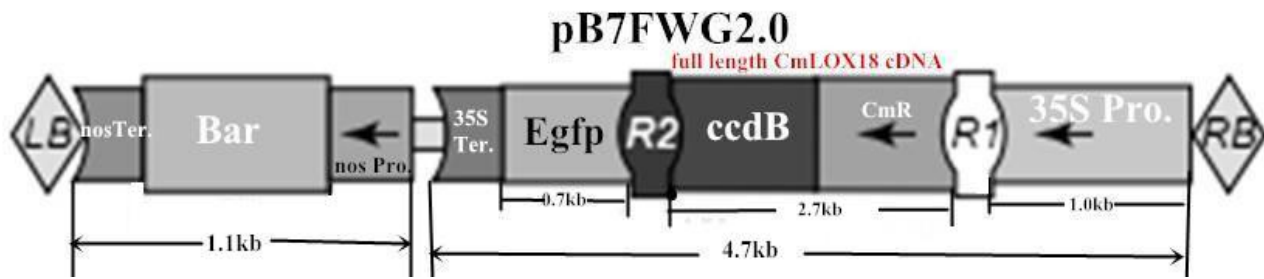


Figure S1 Schematic diagram of pB7WG2.0/LOX construct.

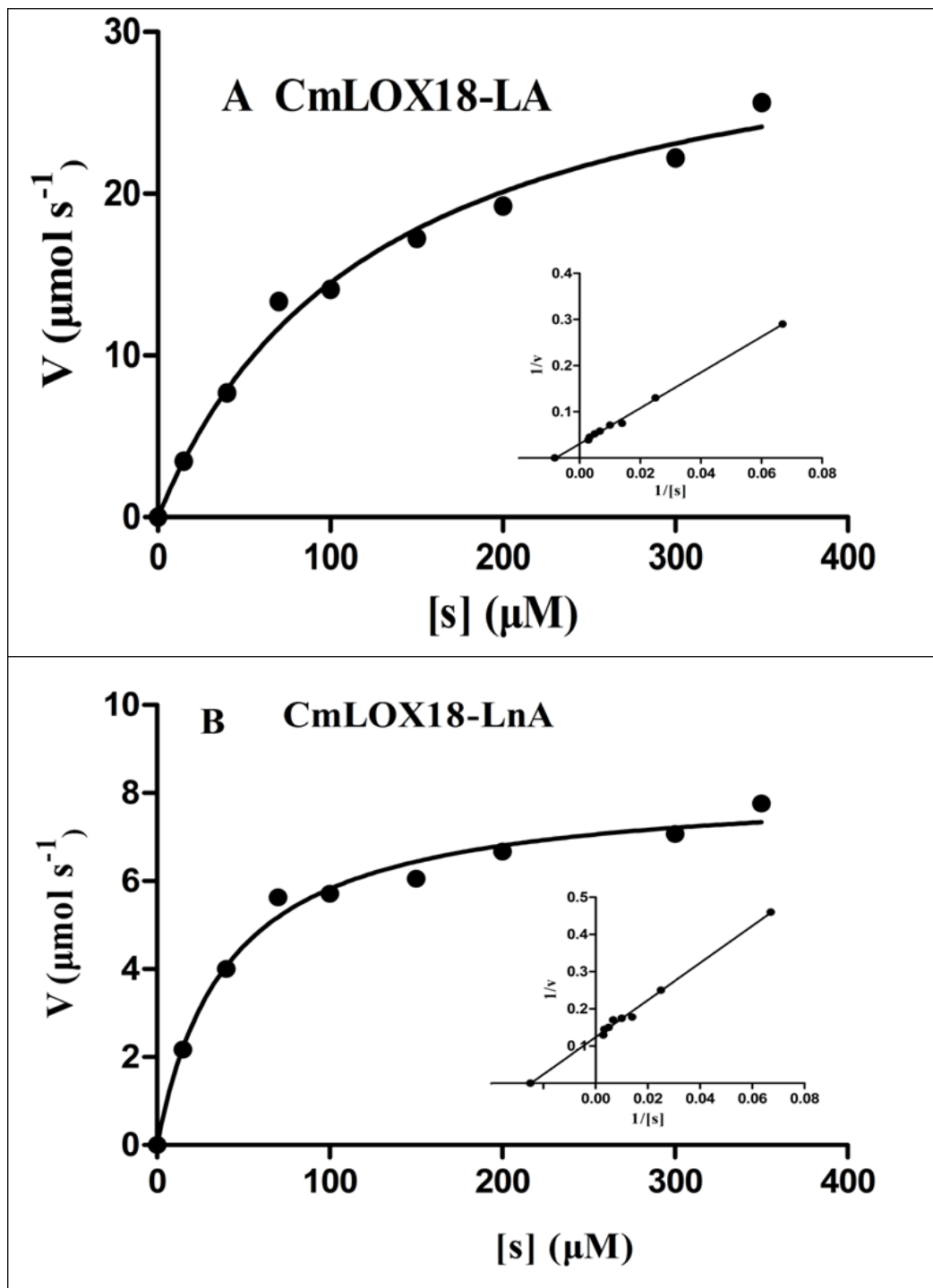


Figure S2 Effect of substrate concentration, linoleic acid (LA) and linolenic acid (LNA) on CmLOX18 enzymatic activity. Inserts are Lineweaver-Burk plots.

Table S1 Nucleotide sequences of primers used for PCR amplification in the present study.

Pimer name	Sequence (5' to 3')
<i>CmLOX18-F</i>	TGGAGACTATCACAATCG
<i>CmLOX18-R</i>	CTTTCCCATCACCTCTAA
<i>LeHPL-F</i>	AGCTACGGATTGCCGTTAGT
<i>LeHPL-R</i>	TCCACCACCATAATCC
<i>TomloxA-F</i>	TACCTCCCAAATCGTCCCAC
<i>TomloxA -R</i>	TGCGCTGTGATGGTTTTCAA
<i>TomloxB-F</i>	TGGCTTGGAATTTGGGCAG
<i>TomloxB-R</i>	TCTTGTCGCCATGTCCTTCT
<i>TomloxC-F</i>	GCAATGCATCATGTGTGCTA
<i>TomloxC-R</i>	GTAAATGTCGAATTCCCTTCG
<i>TomloxD-F</i>	GGCTTGCTTTACTCCTGGTC
<i>TomloxD-R</i>	AAATCAAAGCGCCAGTTCTT
<i>TomloxE-F</i>	AAGCCGGAAATTCATGCCAG
<i>TomloxE-R</i>	TTCCAACCAATGTCTGCAGC
<i>TomloxF-F</i>	CCGAATCAAAGGGTGACTTT
<i>TomloxF-R</i>	GGTCTGTGATGATCGATTGC
<i>Actin-F</i>	TATGGTCAAGGCTGGGTTCG
<i>Actin-R</i>	CCATGCTCGATGGGGTACTT

Table S2 Overexpression CmLOX18 in fruits volatile compounds in wild type (“Zhongshu 6”) and transgenic (CM18-01, 03 and 04) ripe fruits.

No	Aroma compounds	WT		CM18-01		CM18-03		CM18-04	
		Breaker	B+7	Breaker	B+7	Breaker	B+7	Breaker	B+7
Aldehydes(7)									
1	Hexanal	76.6	62.3	108.5	99.7	133.1	112.2	122	100
2	cis-3-Hexenal	32.1	22.1	64.7	44.6	70.4	55.4	65.9	60
3	3-Furaldehyde	16.7	11.3	14.4	13.2	15.1	10.7	15.4	12.1
4	Heptanal	8.5	6.3	7.0	5.7	7.2	6.5	8.0	7.7
5	Benzaldehyde	nd	0.5	nd	0.4	nd	0.7	nd	0.6
6	phynylatablehyde	0.2	1.7	0.3	2.0	nd	1.5	0.5	1.9
7	Citralcistrans	nd	0.1	nd	nd	nd	0.2	nd	nd
Alcohols(6)									
8	1-Pentanol	1.97	2.18	1.87	1.99	2.02	2.11	1.99	2.3
9	cis-3-Hexen-1-ol	15.7	19.7	30.7	38.9	33.8	45.5	31	47.2
10	5-methyl-5-Hexen-1-ol	nd	0.18	nd	0.1	0.5	0.35	nd	0.2
11	2-Heptyn-1-ol	nd	nd	nd	nd	1.7	1.7	nd	nd
12	Benezyl alcohol	0.12	0.88	nd	0.54	nd	0.81	nd	0.66
13	Phenethyl alcohol	nd	0.71	nd	0.74	nd	0.68	nd	0.69
Acids(5)									
14	Acetic acid	4.12	1.35	4.02	1.37	3.92	1.29	4.3	1.4

15	Butanoic acid	0.2	nd	0.1	nd	0.1	nd	0.1	nd
16	Hexanoic acid	1.21	0.62	1.22	0.70	1.18	0.63	1.29	0.72
17	Octanoic acid	0.32	0.11	0.31	0.16	0.29	0.19	0.35	0.15
18	Pentadecanoic acid	0.1	nd	0.08	nd	0.09	nd	0.1	nd
Ketones(4)									
19	1-Penten-3-one	nd	1.22	nd	1.44	nd	1.5	nd	0.9
20	6-Methyl-5-hepten-2-one	nd	0.09	nd	0.07	nd	nd	nd	0.07
21	Geranylacetone	nd	0.087	nd	0.09	nd	0.065	nd	0.076
22	beta-lonone	1.11	3.01	1.4	3.2	1.2	3.3	1.4	2.99
Others(4)									
23	Birch-Me Methyl salicylate	nd	2.99	nd	3.1	nd	3.02	nd	3.0
24	Eugenol	1.73	4.89	1.55	5.3	1.65	5.1	1.75	7.3
25	2-Isobutylthiazole	0.16	nd	0.1	0.06	0.23	nd	0.17	0.09
26	Naphthalene	0.14	0.22	0.09	0.2	0.1	0.25	0.12	0.24
