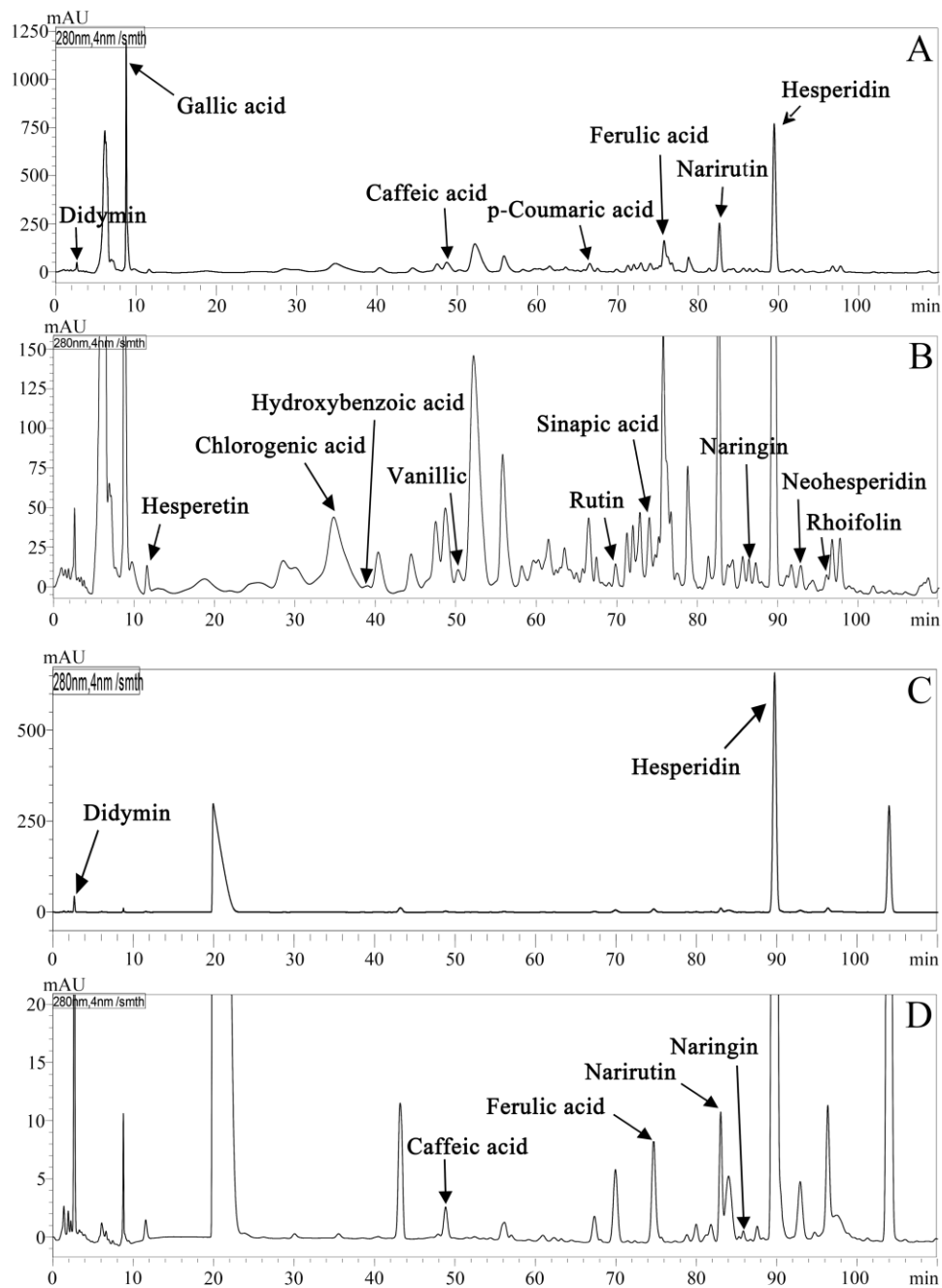


1 **Appendix A** Sequences of Primers Used for the RT Real Time PCR Experiments.

Gene	Accession Number	Primer Sequence
<i>PAL</i>	DQ088064	forward 5' GCC GTC AAA TCT TTC TGG TG 3' reverse 5' GAT TGG CAA GAA ATT GGA GC 3'
<i>C4H</i>	AF255013	forward 5' GGG ATT GTT ATT AGG AAG CGT T 3' reverse 5' GCC AAC CGA CTC CTT TCA G 3'
<i>4CL</i>	XM_006478851	forward 5' ACT TAC TCT TAT GCC GAA ACG C 3' reverse 5' TGG AAG CTC CCA TGA ACG A 3'
<i>CHS</i>	AB009350	forward 5' AGG CAT GTG CTT TCG GAG TA 3' reverse 5' CGG CAA CAC TGT GGA GGA 3'
<i>CHI</i>	AB011794	forward 5' AAC AAA GTC GCA TTT CCT CG 3' reverse 5' ACG GCG TCA TCC TCC AAG 3'
<i>FLS</i>	AB011796	forward 5' TAT CTT TCG TTG GGA CTG GG 3' reverse 5' AAG AAC GGT GAG GGC AGA A 3'
<i>EF-1α</i>	AY498567	forward 5' TTG CTG CTG TAA CAA GAT GGA C 3' reverse 5' ATG GGC ACG AAT GGG ACT 3'

2



Appendix B HPLC chromatogram of phenolics components in blood orange pulp in on-tree storage at week 6 monitored at 280 nm wavelengths (free phenolics: A, B; bound phenolics: C, D).

7 **Appendix C** Total content (mg/kg) of flavanones and phenolic acids in 'Tarocco' blood orange pulp during cold storage at 6-10 °C and 80-85%

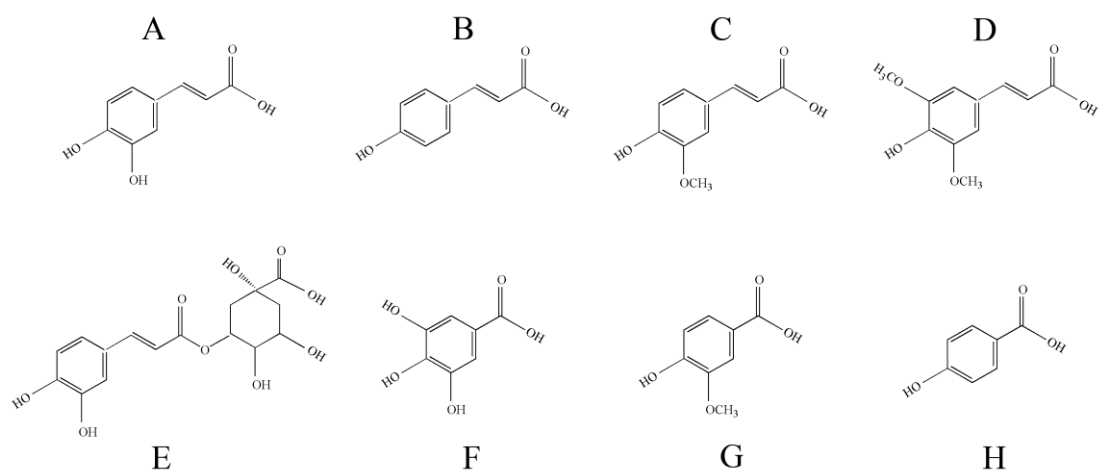
8 RH and on-tree storage for 12 weeks

Items			W0	W1	W2	W3	W4	W6	W8	W12
flavanones	Cold storage	Free state	144.95±3.95 ^d	144.19±0.97 ^{d*}	142.64±4.45 ^d	162.26±0.79 ^{c*}	127.39±0.60 ^e	192.85±5.07 ^{a*}	159.55±0.49 ^c	179.35±2.55 ^b
		Bound state	26.10±0.38 ^g	49.70±0.20 ^e	45.12±0.39 ^f	55.02±0.16 ^{d*}	46.18±0.57 ^f	77.11±1.04 ^c	97.44±0.76 ^{a*}	83.89±0.97 ^{b*}
	On-tree storage	Free state	144.95±3.95 ^d	133.90±3.52 ^e	141.26±0.51 ^d	151.77±0.39 ^c	167.54±7.68 ^{b*}	161.17±1.26 ^b	163.14±1.89 ^b	210.09±1.01 ^{a*}
		Bound state	26.10±0.38 ^f	63.57±0.22 ^{c*}	48.53±0.79 ^{e*}	46.33±0.70 ^e	84.00±0.84 ^{b*}	93.23±4.51 ^{a*}	57.54±0.91 ^d	59.40±0.67 ^d
phenolic acids	Cold storage	Free state	71.59±0.01 ^g	92.09±0.94 ^f	98.35±0.02 ^e	104.48±0.41 ^d	105.69±0.40 ^d	122.09±0.67 ^b	118.47±0.36 ^c	146.38±1.59 ^a
		Bound state	1.00±0.00 ^g	1.37±0.00 ^d	1.42±0.00 ^c	1.12±0.01 ^f	1.36±0.02 ^d	1.51±0.00 ^b	1.32±0.00 ^e	1.55±0.02 ^a
	On-tree storage	Free state	71.59±0.01 ^g	108.20±0.10 ^{e*}	119.83±1.17 ^{d*}	117.81±1.22 ^{d*}	134.62±0.59 ^{c*}	142.30±0.84 ^{b*}	142.80±0.11 ^{b*}	162.58±0.54 ^{a*}
		Bound state	1.00±0.00 ^g	1.65±0.00 ^{c*}	1.75±0.00 ^{b*}	1.23±0.00 ^{e*}	1.40±0.01 ^{d*}	1.83±0.03 ^{a*}	1.44±0.00 ^{d*}	1.67±0.02 ^{c*}

9

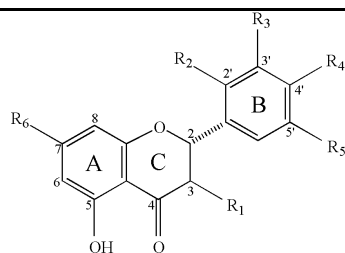
10 Data are represented ± standard deviation (SD) of means. Different letters in the same line indicate significant difference at $P < 0.05$. An asterisk

11 (*) indicates significant difference ($P < 0.05$) at the same sampling time between two storage methods.



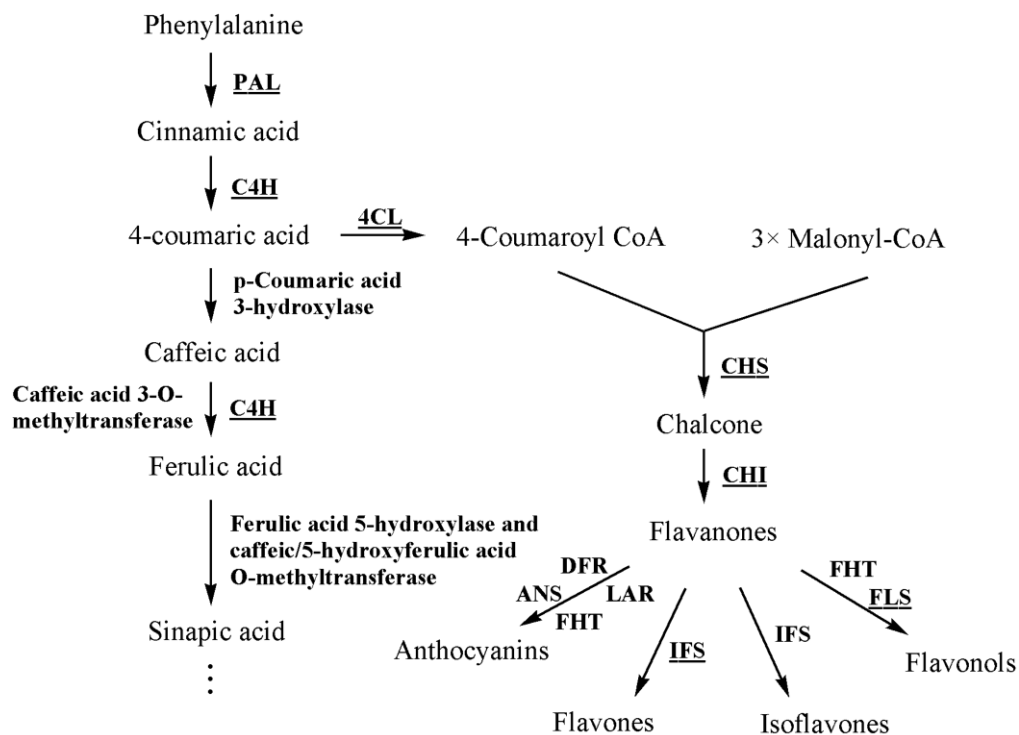
- 12 **Appendix D** Chemical structures of benzoic and cinnamic acids found in ‘Tarocco’
- 13 blood orange. A: caffeic acid, B: p-coumaric acid, C: ferulic acid, D: sinapic acid, E:
- 14 chlorogenic acid, F: gallic acid, G: vanillic acid, H: hydroxybenzoic acid.

15 **Appendix E** Chemical structure of flavonoids.



Substituted group		R ₁	R ₂	R ₃	R ₄	R ₅	R ₆
flavanones	Narirutin	H	H	H	OH	H	O-Rut
	Hesperidin	H	H	OH	OCH ₃	H	O-Rut
	Didymin	H	H	H	OCH ₃	H	O-Rut
	Naringin	H	H	H	OH	H	O-Neo
	Neohesperidin	H	H	OH	OCH ₃	H	O-Neo
flavonol	Hesperetin	H	H	OH	OCH ₃	H	OH
	Rutin	O-Rut	H	H	OH	OH	OH
flavone	Rhoifolin	H	H	H	OH	H	O-Neo

16



17 **Appendix F** Phenolics biosynthesis pathway in citrus. Underlined enzymes are those
 18 studied in this work. PAL, phenylalanine ammonia-lyase; C4H, cinnamate
 19 4-hydroxylase; 4CL, 4-hydroxy-cinnamoyl CoA ligase; CHS, chalcone synthase; CHI,
 20 chalcone isomerase; FSI, flavone synthase; FLS, flavonol synthase.