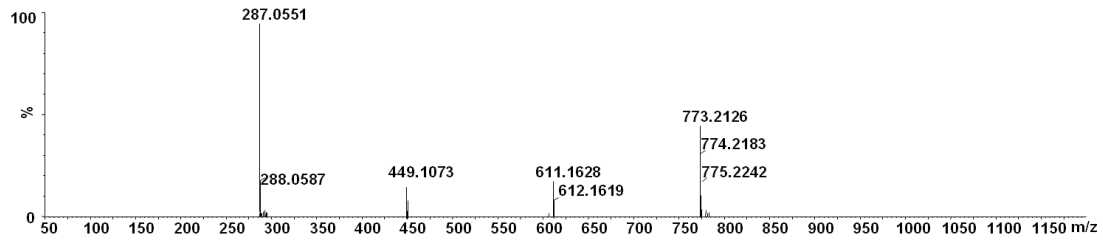
Supplementary Information

Table 1. Primer sequences used for detection of genes related to anthocyanin biosynthesis by qRT-PCR.

Gene	Forward primer sequence (5'-3')	Reverse primer sequence (5'-3')
PAL	CATGGCGTCTATGGTTCTGT	TAAACTCCGGCTTCCCATTC
4CL	AACCAACCCGGAGAGATTTG	CAGCCATCCACGTCAATAGT
C4H	GTGGAGGAGGTGAAGAAGAATC	ACCTCCGGTCAAACATAATCC
CHS	GGGCTCACGTTCCATTTACT	GGAAATGCCGAGAGGATTGA
CHI	TTGAGAAGCTGACACGGATAAC	TCTGCATCGCCATACATTCC
DFR1	GCATGGAAAGCAGCCAAAG	CTGAGTGGGAATGTTGGTATGA
DFR2	GAAGCATGGAAAGCAGCTAAAG	ACTGGTGAGAGTGCGATAATG
DFR3	CATAGTGGAGGCAGGAAAGAAG	AGCAGAGATGGAGGAGGTAAA
DFR4	CTGCTGGAGTGATCTGGATTT	GTTGCTTTCCATGCTTCCTTC
F3H1	GTGACCATGGCCATCTCATTA	GACCTTGGTTGATCTCCTTCTC
F3H2	GGGTGTCTATAGCGACGTTTC	CGTGATGGGCTCTTCCATAAT
F3'H	GGGCGTTCGCAGAACTATTA	GGATTCTGTGACTAGCCGATTT
ANS	ACATAGCTGCAACAAGGGAATA	TCCAGCCTTCCTTCCTCTAA
UFGT1	TTCCGCCTCGCCAATAAA	TGAGGTGTGGGTGAAGATTG
UFGT2	CGACTCCCGTCAACCTTTATTC	TCTGGTAGTGAGGAGGAAGATG
UFGT3	GCCGGAGCTTGCTCTATTT	CCGATCGATACTTCTGACATTCC
UFGT4	CGATTCTGGAGGCGATATCTTT	TCCCATACACTCTCCACAAATC
3AT1-1	GGCGACGGGAGTAGTATATTTG	CGGAAAGTGAGAGGGATGAAG
3AT1-2	CGGCGGATAATGAACGGATAA	GGTGATGAGTGGTGCCAATA
3AT1-3	GTGGACTGCGCTTTCTATACTC	AGTCTTCAATGGCGGTTCTATC
3AT1-4	GTTCACCGCCTCATCTTCTATC	GTGTTGAAGGGTGAGGGATAAT
3AT1-5	CAGTTCACCGCCTCATCTT	GGCGAAGGGTGAGAGATAAAG
3AT1-6	GGCCTGGGAATTCTTCTCTAAT	GATTCCAGTCCTTTCGGATCTC
3AT1-7	CACCGCCTCATCTTCTATCAA	GAGGGTAGTGTTGAAGGGTAAG
3AT2	CCCTCACTCTAACTCGCATTTC	CGGCGAGAGGGAAATAATACTG
MYB1	GTGCTTAGGTGGTCGCTTAT	CATGGCAGACACCTTCTTCT
MYB60	GCGATCTGTTCCCACTAACA	GGGTAGCTCAAGTGGTAAGTAAG
MYB75-1	CAGCCGCTTCATCCGATAAT	GTCAATGGCGTCCGAGATAAT
MYB75-2	GCATGGTCGGAAGAAGAAGA	CACCTATTCAACCCAGCTCTAA
MYB113	CAACCTCCGATGAAGGAGATAAG	ACTGAATTCTCCCTCCTCAATAAA
ACT	CTTTGCCAAGAAGGAGATGC	TCTTGTCCTGACCACCAACA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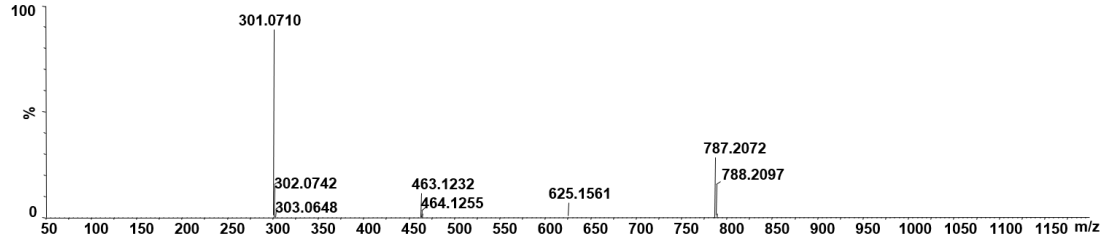
1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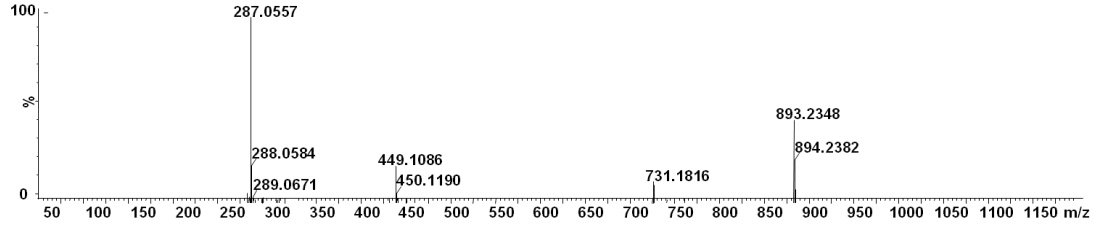
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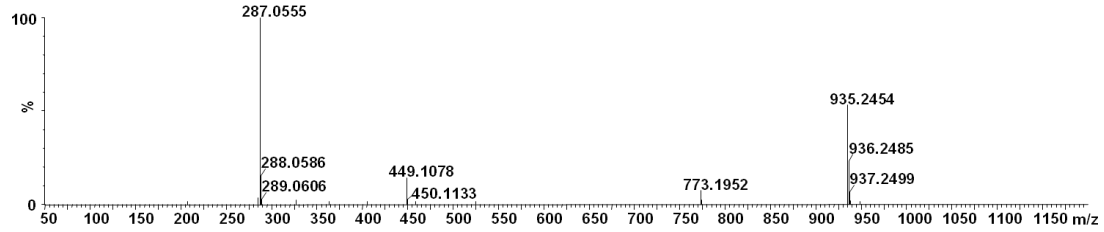
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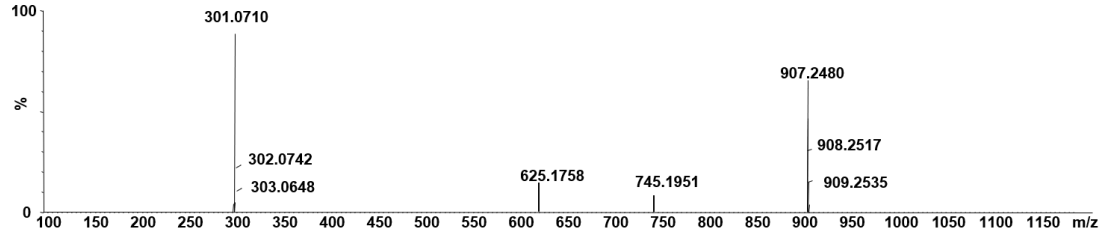
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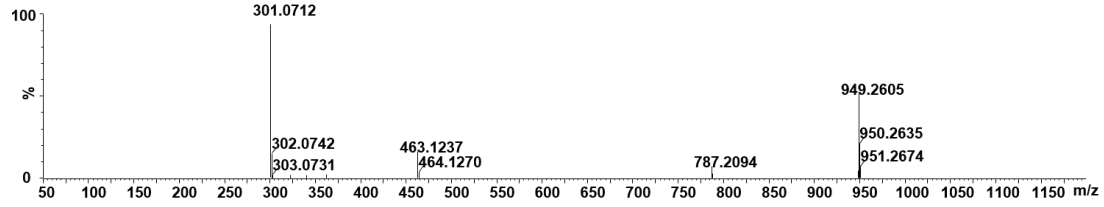
5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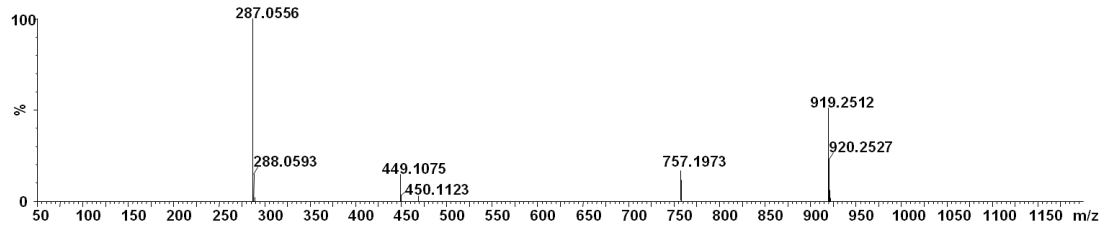

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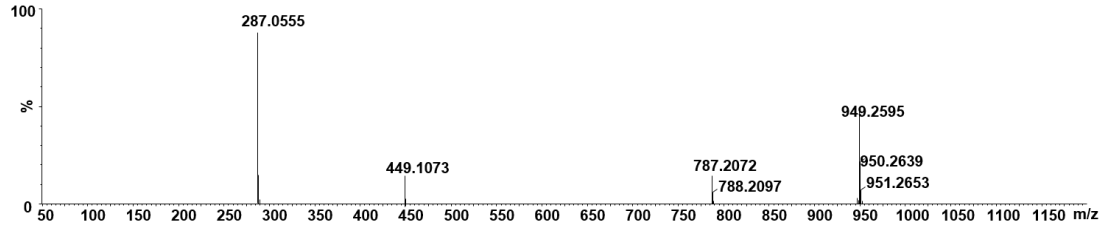

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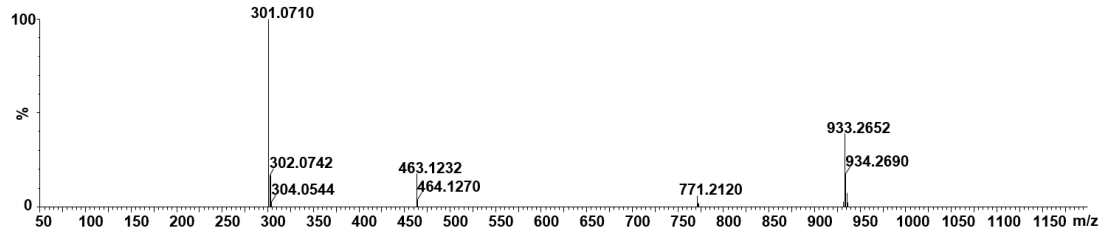

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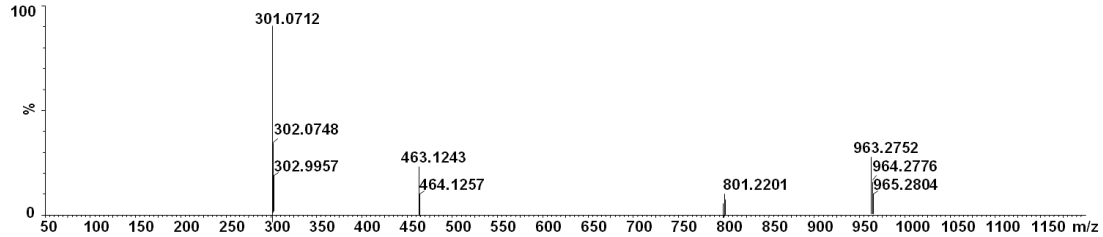

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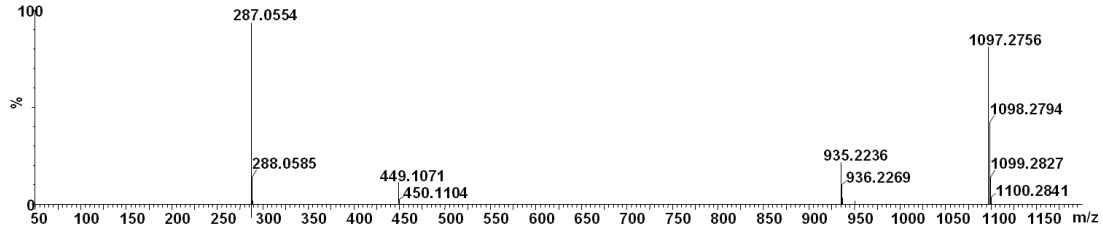

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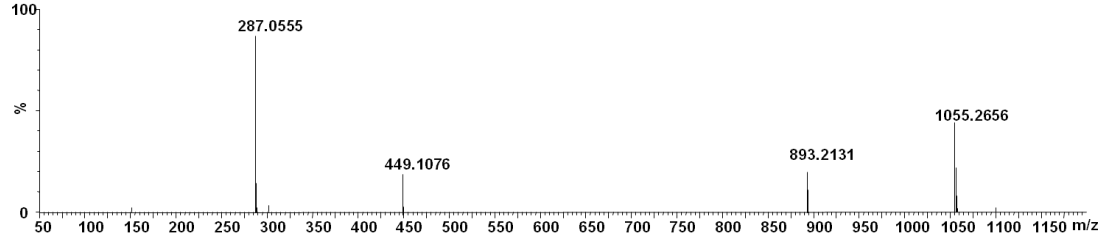

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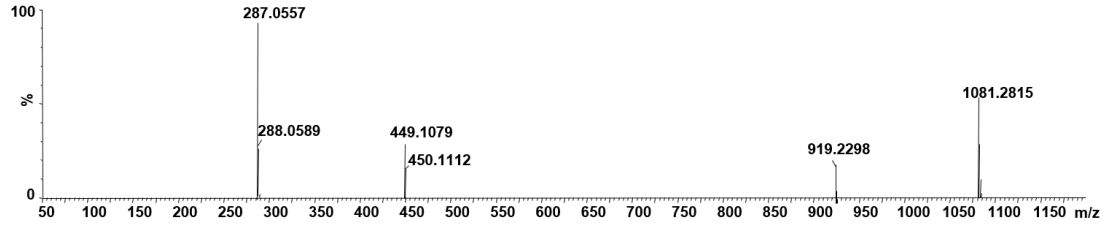

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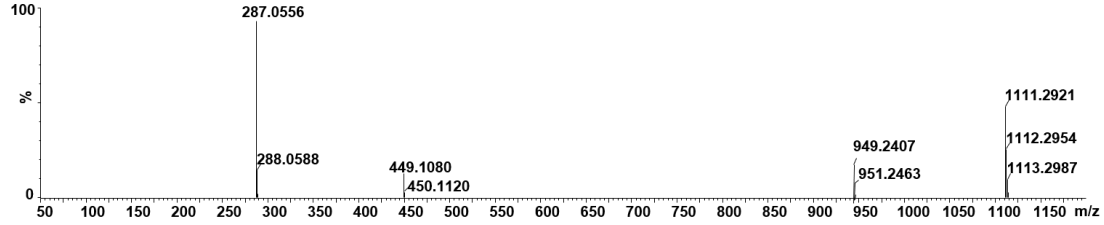

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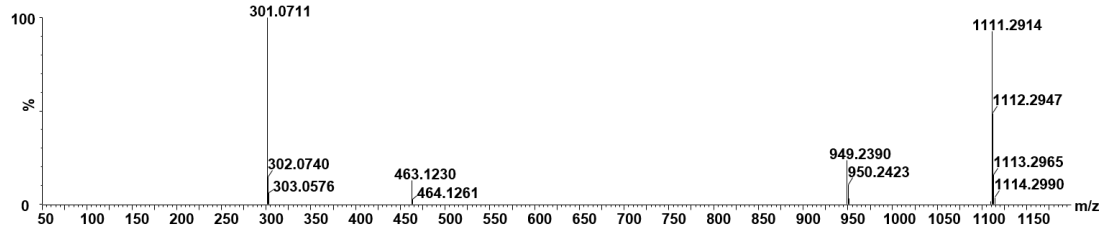

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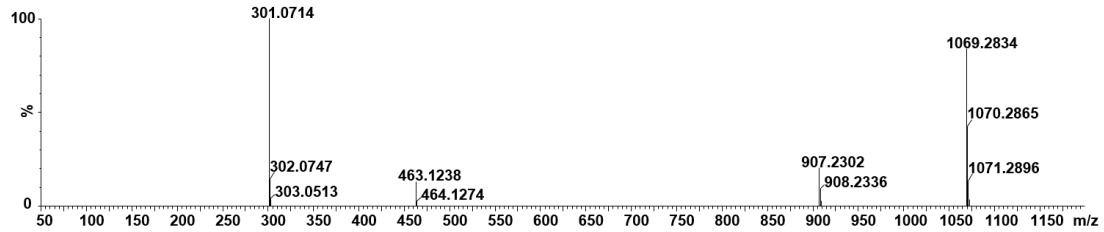

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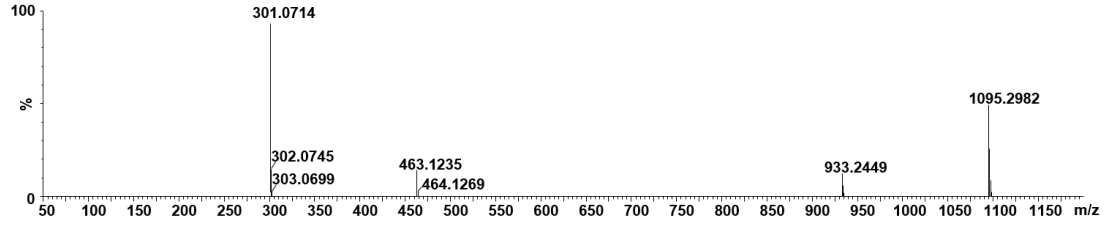

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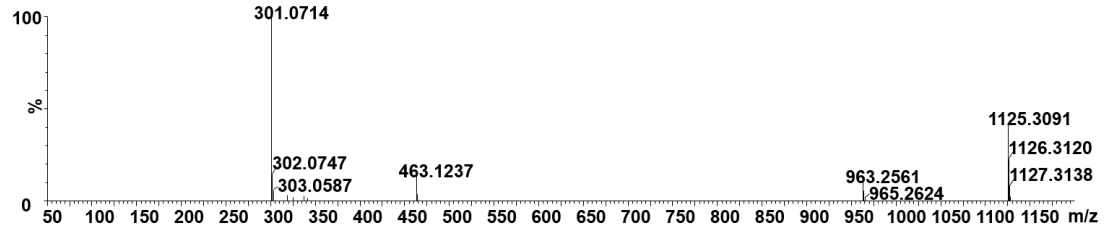

14b

Figure 1. UPLC-QTOF-MS/MS of anthocyanins in two purple sweetpotato leaves. Precursor analysis of (1) Cyanidin 3-sophoroside-5-glucoside; (2) Peonidin 3-sophoroside-5-glucoside; (3) Cyanidin

3-(6''-p-hydroxybenzoylsoph)-5-glucoside; (4) Cyanidin 3-(6''-caffeylsophoroside)-5-glucoside; (5) Peonidin 3-(6''-p-hydroxybenzoylsophoroside)-5-glucoside; (6) Peonidin 3-(6''-caffeoylsophoroside)-5-glucoside; (7) Cyanidin 3-(6''-p-coumarylsophoroside)-5-glucoside; (8) Cyanidin 3-(6''-feruloylsophoroside)-5-glucoside; (9) Peonidin 3-(6''-p-coumarylsophoroside)-5-glucoside; (10) Peonidin 3-(6''-feruloylsophoroside)-5-glucoside; (11a) Cyanidin 3-(6',6''-dicaffeylsophoroside)-5-glucoside; (11b) Cyanidin 3-(6'-caffeoyl-6''-p-hydroxybenzoylsophoroside)-5-glucoside; (12a) Cyanidin 3-(6'-caffeoyl-6''-feruloylsophoroside)-5-glucoside; (12b) Cyanidin 3-(6'-caffeoyl-6''-p-coumaryl sophoroside)-5-glucoside; (13a)Peonidin 3-(6',6''-dicaffeoylsophoroside)-5-glucoside; (13b) Peonidin 3-(6'-caffeoyl-6''-p-hydroxybenzoylsophoroside)-5-glucoside; (14a) Peonidin 3-(6'-caffeoyl-6''-p-coumarylsophoroside)-5-glucoside; (14b) Peonidin 3-(6'-caffeoyl-6''-feruloylsophoroside)-5-glucoside.