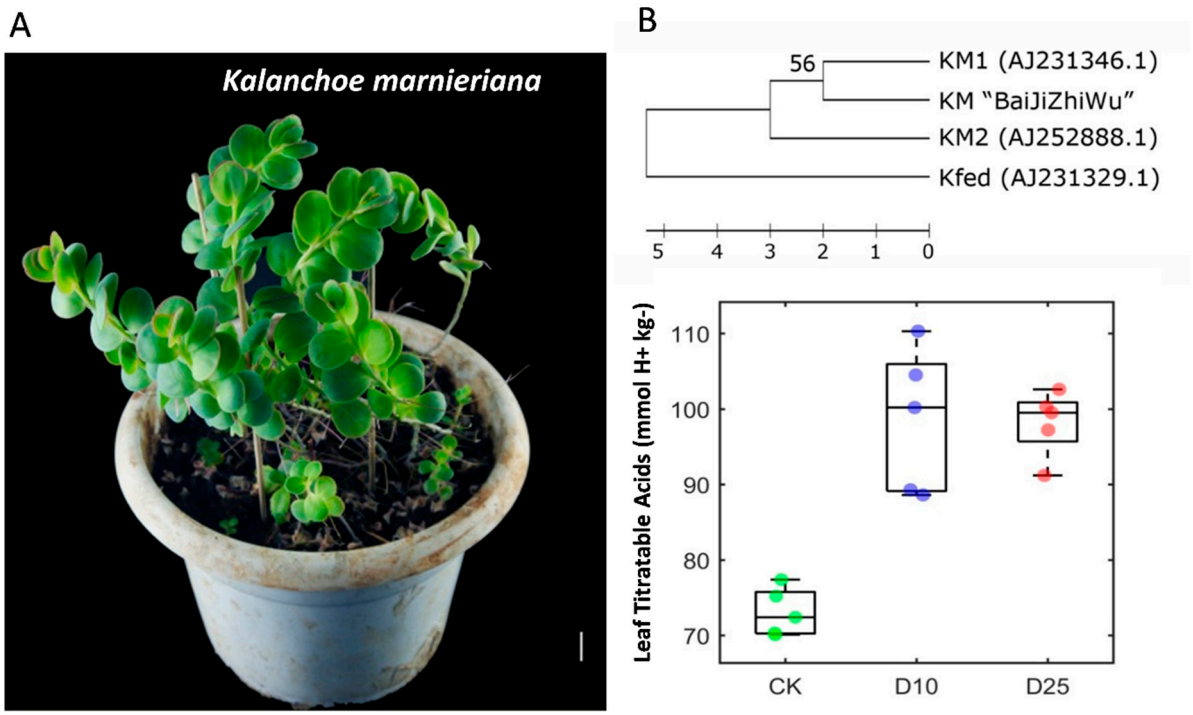
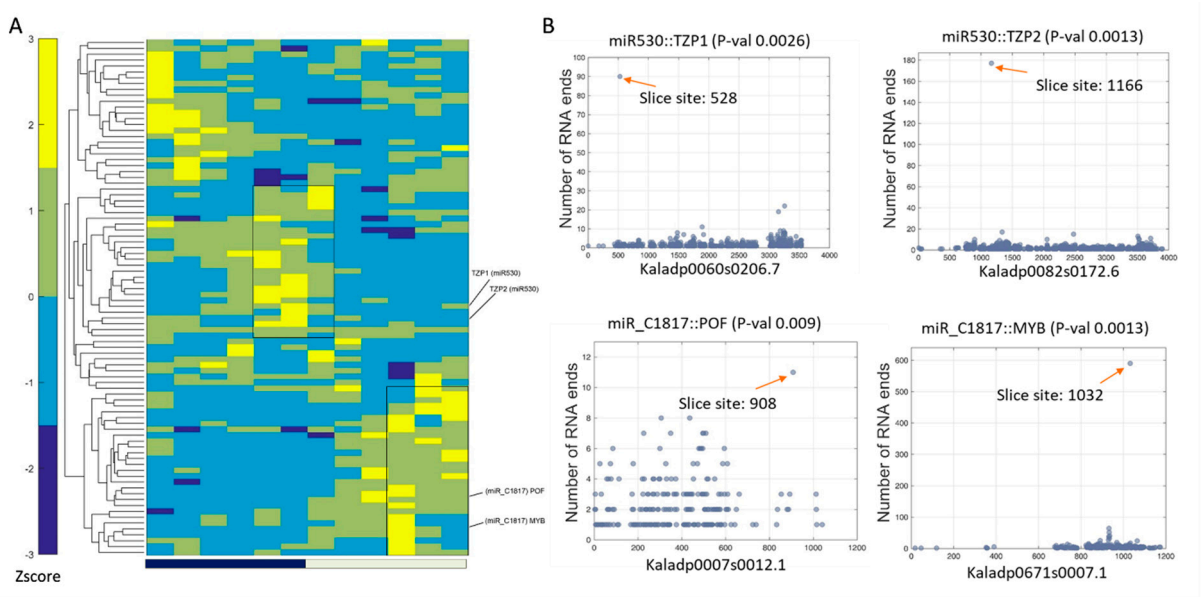
Supplementary information

Supplementary figures

Supple. Figure 1. *K. marnieriana* is a constitutive CAM plants with enhanced leaf titratable acids under drought treatments. **A**, an overall morphology of a *K. marnieriana* plant maintained in a growth chamber. **B**, the phylogenetic relationship of closely related *K. marnieriana* plants based on ITS sequences analysis [1]. KM "BaiJiZhiWu" is the accession used in this study. **C**, the measurements of leaf titratable acid under regularly watering condition (CK), withhold watering for 10 days (D10) and withhold watering for 25 days (D25).



Supple. Fig2. Diurnal expression of potential miRNA targets that are identified by the degradome analysis. **A**, a heatmap plot of diel expression of targets. The groups of morning-specific and dawn-specific expression genes are highlighted by black boxes. **B**, The TZP-like genes (TZP1 and TZP2) are revealed as the morning-specific genes that are targeted by miR530. Kal-miR_C1817 is revealed to target POF and MYB genes.



Supple. Table S1. The primers used in this study.

Primer name	Sequences	Usage
TEDI-F	TGTTGTTCCTGCCACAGAAG	Internal control realtime PCR
TEDI-R	TAGAGGGTGAAGGTCCCAGA	Internal control realtime PCR
TZP1-F	TTAGCCGGTAAAAGCTACCATGTT	realtime PCR
TZP1-R	TGGAACCAGCTTGCTCATTTG	realtime PCR
TZP2-F	TTTATCATGTGGCGTACGTTGAT	realtime PCR
TZP2-R	AGAACAAGCTTGGCACCTTTAGA	realtime PCR
mi530-mature	TGCATTTGCACCTGCACCTTT	realtime PCR
pre-mi530+EX-F	CTCGAGCTTACCCTCCTCCTTC	miRNA over-expressor
pre-mi530+EX-R	GAATTCCCACTGCACAGACAC	miRNA over-expressor
TZP1-F	CTAGGTTAGGTGCAGGTGTAAATGCAA	Dual-Luciferase Reporters
TZP1-R	CCGGTTGCATTTACACCTGCACCTAAC	Dual-Luciferase Reporters
TZP2-F	CTAGGTCAGGCGCAGGTGCAAATGCAA	Dual-Luciferase Reporters
TZP2-R	CCGGTTGCATTTGCACCTGCGCCTGAC	Dual-Luciferase Reporters

Supple. Table S2. The statistics of small RNA sequencing results in *Kalanchoë marianeria*

The number of reads were filtered using

	Total	**Percentage**	**Unique**	**Percentage**
Raw reads	251741931	100.00%	106659931	100.00%
3ADT&length filter	34244478	13.60%	13432958	12.59%
Junk reads	1116037	0.44%	710834	0.67%
Rfam	10230068	4.06%	158387	0.15%
Repeats	118538	0.05%	3212	0.00%
valid reads	206077270	81.86%	92355587	86.59%
rRNA	9146690	3.63%	126123	0.12%
tRNA	490550	0.19%	11605	0.01%
snoRNA	63505	0.03%	4281	0.00%
snRNA	62392	0.02%	3979	0.00%
other Rfam RNA	466931	0.19%	12399	0.01%

Supple. Table 3. The predict miRNA targets in the diel transcriptome based on the degradome analysis. The slice site and the alignment are identified by the CleaveLand 4.0 pipeline (https://github.com/MikeAxtell/CleaveLand4).

Transcript Name	Slice Site	Query(miRNA)	Category	p-value	Arabidopsis-symbol
Kaladp0078s0017.1	869	kal-miR164d	0	0.00043	anac021,ANAC022,NAC1
Kaladp0002s0088.1	1899	mdm-miR160a	0	0.00043	ARF16
Kaladp0072s0008.1	3436	mdm-miR162a	0	0.00043	ASU1,ATDCL1,CAF,DCL1,EMB60,EMB76,SIN1,SUS1
Kaladp0099s0085.3	1725	mdm-miR172i_R-1	0	0.00043	RAP2.7,TOE1
Kaladp0891s0016.1	1750	mdm-MIR172i-p5	0	0.00043	AP2,FL1,FLO2
Kaladp0024s0700.1	699	mdm-miR2111a	0	0.00043	
Kaladp0058s0662.1	3179	mdm-miR403a	0	0.00043	AGO2
Kaladp0007s0012.1	908	kal-miR_C1878_star	0	0.00086	
Kaladp0192s0039.1	1060	kal-miR164d	0	0.00086	ANAC098,ATCUC2,CUC2
Kaladp0095s0509.1	1300	kal-miR166a	0	0.00086	ATHB-15,ATHB15,CNA,ICU4
Kaladp0032s0311.1	1525	kal-miR172c	0	0.00086	RAP2.7,TOE1
Kaladp0381s0002.1	300	kal-miR858	0	0.00086	AtMYB6,MYB6
Kaladp0964s0014.1	950	mdm-miR159d	0	0.00086	ATMYB65,MYB65
Kaladp0002s0088.2	1515	mdm-miR160a	0	0.00086	ARF16
Kaladp0092s0159.1	1341	mdm-miR166a	0	0.00086	ATHB-15,ATHB15,CNA,ICU4
Kaladp0053s0463.1	686	mdm-miR168a_1ss2CT	0	0.00086	AGO1
Kaladp0032s0311.3	1495	mdm-miR172a_R+1	0	0.00086	RAP2.7,TOE1
Kaladp0099s0085.2	1728	mdm-miR172i_R-1	0	0.00086	RAP2.7,TOE1

Kaladp0099s0085.1	1550	mdm-MIR172i-p5	0	0.00086	RAP2.7,TOE1
Kaladp0024s0700.2	560	mdm-miR2111a	0	0.00086	
Kaladp0094s0012.1	1656	mdm-miR156t_L-1_1ss15AT	1	0.001	
Kaladp0671s0007.1	1032	kal-miR_C1878_star	0	0.00129	ATMYB66,MYB66,WER,WER1
Kaladp0048s0186.1	867	kal-miR164d	0	0.00129	ANAC100,ATNAC5,NAC100
Kaladp0099s0085.4	1674	mdm-MIR172i-p5	0	0.00129	RAP2.7,TOE1
Kaladp0515s0205.1	301	mdm-MIR858-p5_1ss17AG	0	0.00129	ATMYB5,MYB5
Kaladp0082s0172.6	1166	ptc-miR530a_R+1_1ss20TG	0	0.00129	TZP
Kaladp0674s0167.1	889	kal-miR164d	0	0.00172	ANAC079,ANAC080,ATNAC4,NAC080
Kaladp0043s0276.1	1291	kal-miR166a	0	0.00172	ATHB-15,ATHB15,CNA,ICU4
Kaladp0840s0019.1	1865	kal-miR319	0	0.00172	ATTCP24,TCP24
Kaladp0058s0602.1	739	lja-miR397_L-2R+2	0	0.00172	ATLAC17,LAC17
Kaladp0040s0160.1	1321	mdm-miR156a_1ss16AG	0	0.00172	SPL2
Kaladp0087s0171.1	969	mdm-miR156t_L-1R+1_1ss15AT	0	0.00172	SPL9
Kaladp0008s0410.1	1782	mdm-miR160a	0	0.00172	ARF16
Kaladp0032s0311.2	1450	mdm-miR172a_R+1	0	0.00172	RAP2.7,TOE1
Kaladp0082s0172.1	1317	ptc-miR530a_R+1_1ss20TG	0	0.00172	TZP
Kaladp0095s0553.1	863	kal-miR164d	0	0.00215	ANAC100,ATNAC5,NAC100
Kaladp0008s0827.1	1161	kal-miR166a	0	0.00215	ATHB-14,ATHB14,PHB,PHB-1D
Kaladp0101s	1649	kal-miR172c	0	0.00215	RAP2.7,TOE1

0311.2					
Kaladp0003s0028.1	803	lja-miR397_L-2R+2	0	0.00215	LAC12
Kaladp0088s0066.1	1536	mdm-miR156a_1ss16AG	0	0.00215	SPL2
Kaladp0011s1053.1	843	mdm-miR156t_L-1R+1_1ss15AT	0	0.00215	
Kaladp0039s0575.1	1601	mdm-miR160a	0	0.00215	ARF16
Kaladp0101s0311.1	1694	mdm-miR172a_R+1	0	0.00215	RAP2.7,TOE1
Kaladp0071s0243.2	1751	mdm-miR172i_R-1	0	0.00215	RAP2.7,TOE1
Kaladp0082s0172.3	1196	ptc-miR530a_R+1_1ss20TG	0	0.00215	TZP
Kaladp0039s0699.2	812	kal-miR166a	0	0.00258	IFL,IFL1,REV
Kaladp0060s0206.7	528	kal-miR530a	0	0.00258	TZP
Kaladp0003s0134.1	649	kal-miR858	0	0.00258	ATMYB12,MYB12,PFG1
Kaladp0039s0575.2	1490	mdm-miR160a	0	0.00258	ARF16
Kaladp0071s0243.1	1744	mdm-miR172i_R-1	0	0.00258	RAP2.7,TOE1
Kaladp0003s0134.3	800	mdm-MIR858-p5_1ss17AG	0	0.00258	ATMYB12,MYB12,PFG1
Kaladp0082s0172.2	1233	ptc-miR530a_R+1_1ss20TG	0	0.00258	TZP
Kaladp0059s0285.1	261	ath-MIR858a-p5_1ss17AG	0	0.00301	
Kaladp0008s0827.3	1028	kal-miR166a	0	0.00301	ATHB-14,ATHB14,PHB,PHB-1D
Kaladp0060s0206.6	639	kal-miR530a	0	0.00301	TZP
Kaladp0024s0285.2	1196	mdm-miR159d	0	0.00301	ATMYB65,MYB65
Kaladp0033s0012.1	646	mdm-miR160a	0	0.00301	ARF10
Kaladp0081s	1749	mdm-miR166a	0	0.00301	IFL,IFL1,REV

0257.1					
Kaladp0082s0172.5	838	ptc-miR530a_R+1_1ss20TG	0	0.00301	TZP
Kaladp0060s0206.5	528	kal-miR530a	0	0.00344	TZP
Kaladp0003s0134.2	1084	kal-miR858	0	0.00344	
Kaladp0024s0285.1	2322	mdm-miR159d	0	0.00344	ATMYB65,MYB65
Kaladp0039s0699.1	1611	mdm-miR166a	0	0.00344	IFL,IFL1,REV
Kaladp0082s0172.7	908	ptc-miR530a_R+1_1ss20TG	0	0.00344	TZP
Kaladp0023s0071.1	1071	kal-miR396b	0	0.00387	AtGRF1,GRF1
Kaladp0060s0206.1	1624	kal-miR530a	0	0.00387	TZP
Kaladp0003s0134.4	993	kal-miR858	0	0.00387	
Kaladp0042s0136.1	2093	mdm-miR159d	0	0.00387	ATMYB65,MYB65
Kaladp1184s0001.1	1364	mdm-miR160a	0	0.00387	ARF17
Kaladp0081s0257.2	1666	mdm-miR166a	0	0.00387	IFL,IFL1,REV
Kaladp0082s0172.4	908	ptc-miR530a_R+1_1ss20TG	0	0.00387	TZP
Kaladp0023s0071.2	529	kal-miR396b	0	0.0043	AtGRF1,GRF1
Kaladp0060s0206.3	405	kal-miR530a	0	0.0043	TZP
Kaladp0042s0136.2	1098	mdm-miR159d	0	0.0043	ATMYB65,MYB65
Kaladp0048s0026.1	1910	mdm-miR160a	0	0.0043	ARF16
Kaladp0011s0278.2	1270	kal-miR396b	0	0.00473	AtGRF3,GRF3
Kaladp0060s0206.4	1624	kal-miR530a	0	0.00473	TZP
Kaladp0061s0059.1	1734	mdm-miR160a	0	0.00473	ARF16

Kaladp0040s0154.2	986	kal-miR156a	0	0.00515	
Kaladp0040s0154.4	1189	kal-miR156a	0	0.00515	
Kaladp0011s1278.1	1152	kal-miR396b	0	0.00515	AtGRF7,GRF7
Kaladp0060s0206.2	414	kal-miR530a	0	0.00515	TZP
Kaladp0040s0154.7	1082	mdm-miR156t_L-1_1ss15AT	0	0.00515	
Kaladp0008s0827.2	1057	mdm-miR166a	0	0.00515	ATHB-14,ATHB14,PHB,PHB-1D
Kaladp0131s0018.1	729	mdm-miR2111a	0	0.00515	
Kaladp0040s0411.1	464	kal-miR_C1878_star	0	0.00558	ATMYB66,MYB66,WER,WER1
Kaladp0040s0154.3	1125	kal-miR156a	0	0.00558	
Kaladp0040s0154.5	1094	kal-miR156a	0	0.00558	
Kaladp0053s0048.1	1702	kal-miR167a	0	0.00558	ARF6
Kaladp0011s0278.1	1270	kal-miR396b	0	0.00558	AtGRF4,GRF4
Kaladp0008s0813.1	2639	kal-miR167a	0	0.00601	ARF8,ATARF8
Kaladp0630s0030.1	738	kal-miR397d	0	0.00601	ATLMCO4,IRX12,LAC4,LMCO4
Kaladp0131s0018.2	725	mdm-miR2111a	0	0.00601	
Kaladp0039s0128.1	922	ppe-miR169d_L-1R+1_1ss2GC	0	0.00601	
Kaladp0008s0921.1	206	kal-miR172c	0	0.00644	
Kaladp0042s0376.1	1113	kal-miR396b	0	0.00644	AtGRF7,GRF7
Kaladp0040s0154.6	1988	mdm-miR156t_L-1_1ss15AT	0	0.00644	
Kaladp0023s0076.1	239	mdm-miR2111a	0	0.00644	XTH6
Kaladp0911s0004.2	915	kal-miR166a	0	0.00687	ABI5,GIA1

Kaladp1040s0002.2	1152	kal-miR167a	0	0.00687	ARF6
Kaladp0008s0921.2	206	kal-miR172c	0	0.00687	
Kaladp0032s0085.1	976	kal-miR396b	0	0.00687	AtGRF5,GRF5
Kaladp0011s0430.1	422	kal-miR858	0	0.00687	ATMYB4,MYB4
Kaladp1040s0002.1	1224	kal-miR167a	0	0.00729	ARF6
Kaladp0911s0004.1	1001	mdm-miR166a	0	0.00729	ABI5,GIA1
Kaladp0011s0687.1	916	mdm-miR2111a	0	0.00729	
Kaladp0011s1344.1	1955	kal-miR319	0	0.00772	MEE35,TCP4
Kaladp0630s0020.1	1741	kal-miR319	0	0.00815	MEE35,TCP4
Kaladp0017s0020.1	1491	mdm-miR156t_L-1_1ss15AT	0	0.00815	
Kaladp0050s0212.1	644	kal-miR396b	0	0.00858	AtGRF2,GRF2
Kaladp0017s0020.3	1377	mdm-miR156t_L-1_1ss15AT	0	0.00858	
Kaladp0045s0344.1	2578	kal-miR167a	0	0.009	ARF8,ATARF8
Kaladp0008s0428.1	159	kal-miR172c	0	0.009	
Kaladp0017s0020.2	1172	mdm-miR156t_L-1_1ss15AT	0	0.009	
Kaladp0011s0794.1	1794	ppe-miR169d_L-1R+1_1ss2GC	0	0.009	ATHAP2A,EMB2220,HAP2A,NF-YA1
Kaladp0045s0344.2	2140	kal-miR167a	0	0.00943	ARF8,ATARF8
Kaladp0044s0073.1	487	kal-miR858	0	0.01071	ATMYB111,MYB111,PFG3
Kaladp0062s0155.1	1768	mdm-miR160a	0	0.01071	NPY2
Kaladp0441s0001.2	1216	kal-miR858	0	0.01284	ATMYB123,ATTT2,MYB123,TT2
Kaladp0441s	1130	kal-miR858	0	0.01326	ATMYB12,MYB12,PFG1

0001.1					
Kaladp0082s0106.1	174	mtr-MIR2673a-p3_2ss3TA20TG	0	0.01666	ATFIB2,FIB2
Kaladp0011s1345.4	932	mdm-miR159d	1	0.01863	
Kaladp0066s0109.1	465	kal-miR858	0	0.01877	ATMYB5,MYB5
Kaladp0096s0027.1	270	kal-miR858	1	0.02099	ATMYB3,MYB3
Kaladp0020s0191.2	645	kal-miR396b	0	0.02844	WRKY21
Kaladp0192s0023.1	561	mdm-miR396b_1ss2TC	0	0.0297	ATMMS21,HPY2,MMS21
Kaladp0674s0155.1	1443	kal-miR167a	0	0.03095	AtTCP14,TCP14
Kaladp0032s0387.1	241	mtr-MIR2673a-p3_2ss3TA20TG	0	0.03095	
Kaladp0043s0146.1	304	kal-miR_C689	0	0.0347	PQL1,PQL2
Kaladp0630s0021.1	1263	mdm-miR159d	0	0.03677	
Kaladp0011s1345.1	1422	mdm-miR159d	0	0.0376	
Kaladp0011s1345.3	1234	mdm-miR159d	0	0.03802	
Kaladp0030s0093.3	533	kal-miR166a	0	0.03885	AtTLP3,TLP3
Kaladp0878s0004.1	154	fve-miR396e_R+1_1ss21TC	1	0.03942	
Kaladp0030s0093.2	486	kal-miR166a	0	0.04009	AtTLP3,TLP3
Kaladp0030s0093.1	662	kal-miR166a	0	0.0405	AtTLP3,TLP3
Kaladp0213s0007.1	942	kal-miR166a	0	0.04339	GAMMA-SNAP,GSNAP
Kaladp0037s0134.1	503	kal-miR858	0	0.04627	AtMYB109,MYB109
Kaladp0168s0012.1	815	mdm-miR159d	0	0.04627	
Kaladp0024s0331.2	1421	ppe-miR169d_L-1R+1_1ss2GC	0	0.04709	NF-YA9
Kaladp0058s	1253	mdm-	1	0.04918	

0159.1		miR393g_2ss12CT16TC			
Kaladp0013s0034.1	300	kal-miR858	0	0.05282	ATMYB73,MYB73
Kaladp0779s0001.2	217	ath-MIR858a-p5_1ss17AG	4	0.05487	
Kaladp0048s0300.1	1742	kal-miR_C450_star	4	0.05487	
Kaladp0024s0105.1	233	kal-miR_C5376	4	0.05487	
Kaladp0002s0088.2	1516	mdm-miR160a_L+1R-1	4	0.05487	ARF16
Kaladp0040s0342.1	175	kal-miR_C625_star	1	0.06278	PMP22
Kaladp0100s0087.8	1370	kal-miR858	1	0.06503	
Kaladp0045s0167.1	1018	bol-MIR9410-p3_2ss5TG18TA	2	0.06702	ATMGL,MGL
Kaladp0048s0753.2	252	cca-miR396a-3p_L+2R-2	2	0.06702	
Kaladp0007s0012.1	854	kal-miR_C1878	2	0.06702	
Kaladp0007s0012.2	986	kal-miR_C1878_star	2	0.06702	
Kaladp0024s0285.2	1195	kal-miR_C207_star	2	0.06702	ATMYB65,MYB65
Kaladp0071s0070.1	457	kal-miR_C400_star	2	0.06702	
Kaladp0087s0188.1	972	kal-miR167a_star	2	0.06702	
Kaladp0779s0001.1	251	kal-miR858	2	0.06702	
Kaladp0087s0171.1	970	mdm-miR156t	2	0.06702	SPL9
Kaladp0093s0080.1	1547	mdm-miR171c	2	0.06702	ATHAM3,HAM3
Kaladp0032s0361.1	1008	mdm-miR171c_1ss14CT	2	0.06702	ATHAM3,HAM3
Kaladp0099s0085.3	1726	mdm-miR172i_L+1R-1	2	0.06702	RAP2.7,TOE1
Kaladp0007s0058.2	180	vvi-MIR3627-p5_2ss5CG18C	2	0.06702	ELF9

		A			
Kaladp0024s0457.1	589	kal-miR_C689_star	3	0.07181	
Kaladp0067s0186.1	1151	kal-miR319_star	3	0.07181	
Kaladp0048s0753.2	250	kal-miR396b_star	3	0.07181	
Kaladp0550s0075.1	1294	kal-miR530a_star	3	0.07181	
Kaladp0098s0188.1	2417	mtr-miR396b-3p_2ss5AG20AT	3	0.07181	AHA2,HA2,PMA2
Kaladp0002s0132.1	955	csi-MIR399f-p5_1ss8TC	1	0.07914	iqd2
Kaladp0067s0202.2	510	mdm-miR171c	0	0.08055	
Kaladp0057s0041.1	2846	kal-miR166a_star	0	0.0845	
Kaladp0024s0280.3	548	kal-miR_C625_star	0	0.08765	
Kaladp0102s0075.1	1443	mdm-miR159d	1	0.08958	AP4.3A
Kaladp0079s0026.1	236	kal-miR397d	0	0.09039	
Kaladp0001s0197.2	303	kal-miR156a_star	0	0.09235	
Kaladp0063s0058.1	2178	gma-MIR5775-p3_2ss9AC18GT	0	0.09547	CRR2
Kaladp0008s0391.1	391	kal-miR858	0	0.10323	ATMYB7,ATY49,MYB7
Kaladp0008s0500.2	556	kal-miR858	0	0.104	ATMYB123,ATTT2,MYB123,TT2
Kaladp0035s0040.1	617	kal-miR396b	0	0.10439	
Kaladp0008s0500.3	467	kal-miR858	0	0.10593	ATMYB123,ATTT2,MYB123,TT2
Kaladp0008s0500.1	412	kal-miR858	0	0.1067	ATMYB12,MYB12,PFG1
Kaladp0068s0375.2	295	kal-miR_C689_star	4	0.10673	HXK3
Kaladp0102s0152.2	1945	kal-miR156a_star	4	0.10673	
Kaladp0072s0073.3	406	lus-MIR399b-p5_2ss6AG17AT	4	0.10673	

Kaladp0011s0996.1	364	mdm-miR403a	4	0.10673	
Kaladp0036s0147.1	2933	ppe-MIR171d-p3_1ss13TG	4	0.10673	TPR4,WSIP2
Kaladp0079s0134.2	754	kal-miR530a	0	0.12422	ATSRG1,SRG1
Kaladp0037s0196.1	545	kal-miR858	0	0.12497	TFIIS
Kaladp0016s0093.1	2414	kal-miR_C625_star	0	0.12723	
Kaladp0102s0125.1	463	kal-miR858	0	0.12873	AtMYB36,MYB36
Kaladp0042s0136.2	1097	kal-miR_C207_star	2	0.12954	ATMYB65,MYB65
Kaladp0036s0247.1	951	kal-miR_C5376	2	0.12954	
Kaladp0550s0075.1	986	kal-miR156a_star	2	0.12954	
Kaladp0043s0276.1	1293	kal-miR166a	2	0.12954	ATHB-15,ATHB15,CNA,ICU4
Kaladp0024s0202.1	243	kal-miR166a_star	2	0.12954	LTA2,PLE2
Kaladp0779s0018.5	217	kal-miR169c_star	2	0.12954	APG2,PGA2,TATC,UNE3
Kaladp0088s0122.1	366	kal-miR319	2	0.12954	
Kaladp0062s0033.1	1177	kal-miR530a_star	2	0.12954	CER6,CUT1,G2,KCS6,POP1
Kaladp0015s0067.1	1441	mdm-miR171c	2	0.12954	ATHAM3,HAM3
Kaladp0007s0058.1	181	vvi-MIR3627-p5_2ss5CG18CA	2	0.12954	ELF9
Kaladp0048s0183.2	568	kal-miR_C625_star	0	0.1336	SKIP6
Kaladp0048s0183.3	568	kal-miR_C625_star	0	0.13397	SKIP6
Kaladp0048s0183.1	568	kal-miR_C625_star	0	0.13434	SKIP6
Kaladp0808s0041.2	572	mdm-miR160a	0	0.13695	ATERF-5,ATERF5,ERF5
Kaladp0059s0142.2	969	ath-MIR5655-p5_2ss15CT18TA	3	0.13847	

Kaladp0048s0753.1	252	cca-miR396a-3p_L+2R-2	3	0.13847	
Kaladp0024s0688.1	687	kal-miR164d_star	3	0.13847	
Kaladp0048s0753.1	250	kal-miR396b_star	3	0.13847	
Kaladp0003s0155.1	888	mdm-miR162a	3	0.13847	
Kaladp0891s0016.1	1751	mdm-miR172i_L+1R-1	3	0.13847	AP2,FL1,FLO2
Kaladp0048s0753.1	249	stu-miR396-3p_L-1_1ss3CT	3	0.13847	
Kaladp0040s0498.1	399	mdm-miR159d	1	0.1428	
Kaladp0049s0025.4	424	mdm-miR393g_2ss12CT16TC	0	0.14766	TAPX
Kaladp0083s0083.2	77	kal-miR166a_star	0	0.15461	ATMAP2K_ALPHA,ATMEK5,ATMKK5,MAP2K_A,MEK5,MKK5
Kaladp0011s0995.1	1125	bol-MIR9410-p3_2ss5TG18TA	4	0.15574	
Kaladp0088s0122.3	366	kal-miR319	4	0.15574	
Kaladp0433s0005.1	1687	kal-miR_C625_star	0	0.15606	VHA-A
Kaladp0048s0113.1	846	mdm-MIR397a-p3_2ss7TG21AG	0	0.17475	AtVEX1
Kaladp0092s0167.1	338	mtr-MIR2673a-p3_2ss3TA20TG	0	0.18324	
Kaladp0067s0129.1	523	mdm-miR159d	0	0.18359	ATBPC6,BBR/BPC6,BPC6
Kaladp1222s0012.1	1379	fve-MIR845-p5_2ss6GC19AT	2	0.18788	
Kaladp0030s0092.1	199	ghr-MIR827a-p3_1ss6CG	2	0.18788	
Kaladp0024s0285.1	2321	kal-miR_C207_star	2	0.18788	ATMYB65,MYB65
Kaladp0095s0509.1	1302	kal-miR166a	2	0.18788	ATHB-15,ATHB15,CNA,ICU4
Kaladp0779s0018.3	215	kal-miR169c_star	2	0.18788	APG2,PGA2,TATC,UNE3
Kaladp0048s0043.1	125	kal-miR319_star	2	0.18788	ATL31,CNI1

Kaladp0072s0073.1	526	lus-MIR399b-p5_2ss6AG17AT	2	0.18788	
Kaladp0099s0085.4	1675	mdm-miR172i_L+1R-1	2	0.18788	RAP2.7,TOE1
Kaladp0003s0028.1	804	mdm-MIR397a-p3_2ss7TG21AG	2	0.18788	LAC12
Kaladp0048s0753.2	249	stu-miR396-3p_L-1_1ss3CT	2	0.18788	
Kaladp0076s0185.1	442	vvi-miR3630-3p_L-1_1ss2TA	2	0.18788	
Kaladp0059s0142.1	953	ath-MIR5655-p5_2ss15CT18TA	3	0.20034	
Kaladp0036s0141.1	938	cca-miR396a-3p_L+2R-2	3	0.20034	
Kaladp0102s0029.1	79	kal-miR_C400_star	3	0.20034	
Kaladp0060s0028.1	651	kal-miR_C625_star	3	0.20034	
Kaladp0068s0375.1	357	kal-miR_C689_star	3	0.20034	HXK3
Kaladp0008s0921.2	392	kal-miR172c_star	3	0.20034	
Kaladp0042s0225.1	456	kal-miR858	3	0.20034	
Kaladp0002s0088.1	1900	mdm-miR160a_L+1R-1	3	0.20034	ARF16
Kaladp0047s0031.1	568	mdm-miR168a_1ss2CT	3	0.20034	
Kaladp0110s0011.1	233	mdm-miR403a	3	0.20034	
Kaladp0048s0788.1	2721	kal-miR_C5376	4	0.20207	SEU
Kaladp0103s0028.1	853	kal-miR_C625_star	4	0.20207	EMB161,EMB251,EMB2775,RFC3
Kaladp0779s0018.1	217	kal-miR169c_star	4	0.20207	APG2,PGA2,TATC,UNE3
Kaladp0008s0921.1	392	kal-miR172c_star	4	0.20207	
Kaladp0058s0478.2	181	mtr-miR396b-3p	4	0.20207	GUX1,PGSIP1

Kaladp0152s0023.1	437	vvi-MIR3627-p5_2ss5CG18CA	1	0.23106	AtTLP2,TLP2
Kaladp0093s0071.1	388	nta-MIR171a-p5_1ss11GA	0	0.23334	
Kaladp0023s0071.2	530	fve-miR396e_R+1_1ss21TC	2	0.2423	AtGRF1,GRF1
Kaladp0103s0004.2	1556	gma-MIR5775-p3_2ss9AC18GT	2	0.2423	VAD1
Kaladp0042s0136.1	2092	kal-miR_C207_star	2	0.2423	ATMYB65,MYB65
Kaladp0053s0163.1	808	kal-miR164d_star	2	0.2423	AtXRN3,XRN3
Kaladp0092s0159.1	1343	kal-miR166a	2	0.2423	ATHB-15,ATHB15,CNA,ICU4
Kaladp0011s1053.1	844	mdm-miR156t	2	0.2423	
Kaladp0008s0410.1	1783	mdm-miR160a_L+1R-1	2	0.2423	ARF16
Kaladp0099s0085.2	1729	mdm-miR172i_L+1R-1	2	0.2423	RAP2.7,TOE1
Kaladp0082s0121.1	431	mdm-MIR397a-p3_2ss7TG21AG	2	0.2423	
Kaladp0084s0021.3	407	kal-miR_C689_star	4	0.24585	
Kaladp0043s0306.1	1131	kal-miR858_star	4	0.24585	AAA1,ATKTN1,BOT1,ERH3,FRA2,FRC2,FTR,KTN1,LUE1
Kaladp0072s0073.4	632	lus-MIR399b-p5_2ss6AG17AT	4	0.24585	
Kaladp0017s0020.2	1173	mdm-miR156t_R-1_1ss15AT	4	0.24585	
Kaladp0039s0588.1	586	bol-MIR9410-p3_2ss5TG18TA	3	0.25776	
Kaladp0095s0382.1	395	kal-miR_C400_star	3	0.25776	ATMAPK3,ATMPK3,MPK3
Kaladp0475s0002.1	398	kal-miR156a_star	3	0.25776	
Kaladp0088s0122.2	365	kal-miR319	3	0.25776	
Kaladp0072s	292	lus-MIR399b-	3	0.25776	

0073.2		p5_2ss6AG17AT			
Kaladp0085s0097.1	335	mdm-miR403a	3	0.25776	
Kaladp0055s0162.1	620	mdm-MIR397a-p3_2ss7TG21AG	0	0.2593	
Kaladp0010s0061.1	639	ath-MIR858a-p5_1ss17AG	1	0.26609	
Kaladp0043s0292.1	2260	kal-miR169c_star	1	0.26638	
Kaladp1221s0044.1	846	kal-miR396b	0	0.28439	
Kaladp0006s0047.1	85	kal-miR156a_star	4	0.28723	KING1
Kaladp0038s0106.1	1550	kal-miR166a_star	4	0.28723	
Kaladp0062s0137.1	1000	kal-miR167a	4	0.28723	ATLIP1,LIP1
Kaladp0067s0257.3	305	kal-miR172c_star	4	0.28723	ARFA1F,ATARFA1F
Kaladp0011s0278.2	1271	fve-miR396e_R+1_1ss21TC	2	0.29308	AtGRF3,GRF3
Kaladp0103s0004.1	1563	gma-MIR5775-p3_2ss9AC18GT	2	0.29308	VAD1
Kaladp0095s0382.2	395	kal-miR_C400_star	2	0.29308	ATMAPK3,ATMPK3,MPK3
Kaladp0008s0827.3	1030	kal-miR166a	2	0.29308	ATHB-14,ATHB14,PHB,PHB-1D
Kaladp0779s0018.4	217	kal-miR169c_star	2	0.29308	APG2,PGA2,TATC,UNE3
Kaladp0028s0100.1	818	kal-miR319	2	0.29308	AtHsp90.2,ERD8,HSP81-2,HSP90.2
Kaladp0094s0012.2	1561	mdm-miR156t	2	0.29308	
Kaladp0059s0103.1	440	mdm-miR162a	2	0.29308	AtCTR1,CTR1,SIS1
Kaladp0099s0085.1	1551	mdm-miR172i_L+1R-1	2	0.29308	RAP2.7,TOE1
Kaladp0048s0753.2	335	mdm-miR396b_1ss2TC	2	0.29308	
Kaladp0048s0652.1	2725	vvi-miR3630-3p_L-1_1ss2TA	2	0.29308	

Kaladp0011s0186.1	870	kal-miR_C625_star	3	0.31107	
Kaladp0016s0260.1	482	kal-miR167a	3	0.31107	
Kaladp0068s0032.1	707	kal-miR397d	3	0.31107	ATLAC1,LAC1
Kaladp0674s0024.1	733	kal-miR858	3	0.31107	
Kaladp0039s0575.1	1602	mdm-miR160a_L+1R-1	3	0.31107	ARF16
Kaladp0051s0089.1	229	mdm-miR403a	3	0.31107	AtHsp90.4,Hsp81.4
Kaladp0048s0102.5	211	csi-MIR167b-p3_1ss19CT	4	0.32634	
Kaladp0090s0069.2	1121	kal-miR397d_star	4	0.32634	FAB1B
Kaladp0101s0088.2	698	kal-miR530a_star	4	0.32634	AT-HSFB2A,HSFB2A
Kaladp0008s0029.2	284	mdm-MIR10981b-p5_2ss15TG18AT	4	0.32634	
Kaladp0808s0002.1	596	ath-MIR5655-p5_2ss15CT18TA	2	0.34045	
Kaladp0048s0102.6	211	csi-MIR167b-p3_1ss19CT	2	0.34045	
Kaladp0023s0071.1	1072	fve-miR396e_R+1_1ss21TC	2	0.34045	AtGRF1,GRF1
Kaladp0041s0017.1	244	fve-MIR845-p5_2ss6GC19AT	2	0.34045	
Kaladp0021s0092.1	1440	kal-miR_C5376	2	0.34045	
Kaladp0039s0699.2	814	kal-miR166a	2	0.34045	IFL,IFL1,REV
Kaladp0032s0009.1	787	kal-miR166a_star	2	0.34045	ATSCO1,ATSCO1/CPEF-G,SCO1
Kaladp0096s0089.1	756	kal-miR169c	2	0.34045	
Kaladp0779s0018.2	215	kal-miR169c_star	2	0.34045	APG2,PGA2,TATC,UNE3
Kaladp0094s	1364	mdm-	2	0.34045	

0012.3		miR156t_L-1_1ss15AT			
Kaladp0032s0311.1	1526	mdm-miR172i_L+1R-1	2	0.34045	RAP2.7,TOE1
Kaladp0056s0149.1	1451	kal-miR164d_star	3	0.36054	TSL
Kaladp0048s0789.1	565	kal-miR167a_star	3	0.36054	
Kaladp0606s0013.1	1074	kal-miR319	3	0.36054	CLT3
Kaladp0043s0253.1	328	kal-miR319_star	3	0.36054	CARA
Kaladp0043s0306.2	998	kal-miR858_star	3	0.36054	AAA1,ATKTN1,BOT1,ERH3,FRA2,FRC2,FTR,KTN1,LUE1
Kaladp0059s0103.3	421	mdm-miR162a	3	0.36054	AtCTR1,CTR1,SIS1
Kaladp0048s0753.1	335	mdm-miR396b_1ss2TC	3	0.36054	
Kaladp0001s0295.1	1302	hbr-MIR6173-p5_2ss21AG22GC	4	0.3633	
Kaladp0090s0069.1	1255	kal-miR397d_star	4	0.3633	FAB1B
Kaladp0008s0029.3	284	mdm-MIR10981b-p5_2ss15TG18AT	4	0.3633	
Kaladp0051s0086.2	325	mdm-miR168a_1ss2CT	4	0.3633	
Kaladp0091s0175.2	127	mdm-miR2111a	4	0.3633	
Kaladp1222s0058.1	666	aly-MIR408-p5_2ss4CT20TC	1	0.37077	
Kaladp0011s0278.1	1271	fve-miR396e_R+1_1ss21TC	2	0.38465	AtGRF4,GRF4
Kaladp0047s0013.1	2255	fve-MIR845-p5_2ss6GC19AT	2	0.38465	BGAL3
Kaladp0011s0987.1	1602	kal-miR_C5376	2	0.38465	ATAZG1,AZG1
Kaladp0032s0009.2	787	kal-miR166a_star	2	0.38465	ATSCO1,ATSCO1/CPEF-G,SCO1

Kaladp0003s0134.2	1083	kal-miR858	2	0.38465	
Kaladp0011s0688.1	101	kal-miR858_star	2	0.38465	PRA1.A2
Kaladp0059s0103.2	440	mdm-miR162a	2	0.38465	AtCTR1,CTR1,SIS1
Kaladp0037s0298.1	637	mdm-miR168a_1ss2CT	2	0.38465	
Kaladp0032s0311.3	1496	mdm-miR172i_L+1R-1	2	0.38465	RAP2.7,TOE1
Kaladp0091s0175.1	127	mdm-miR2111a	2	0.38465	
Kaladp0042s0242.1	989	mdm-miR396b_1ss2TC	2	0.38465	
Kaladp0055s0456.2	776	kal-miR_C1878_star	4	0.39824	
Kaladp0067s0271.1	599	kal-miR164d	4	0.39824	ATUXS2,AUD1,UXS2
Kaladp0053s0164.1	694	kal-miR172c_star	4	0.39824	APS2,ASA1
Kaladp0091s0175.4	127	mdm-miR2111a	4	0.39824	
Kaladp0011s0106.1	984	hbr-MIR6173-p5_2ss21AG22GC	3	0.40646	
Kaladp0023s0025.2	877	kal-miR169c	3	0.40646	ATHMA1,HMA1
Kaladp0091s0111.1	385	kal-miR319_star	3	0.40646	
Kaladp0085s0126.1	168	nta-MIR168a-p3_2ss1CA19GC	3	0.40646	
Kaladp0031s0011.1	596	ath-MIR5655-p5_2ss15CT18TA	2	0.42589	
Kaladp0022s0101.2	761	kal-miR_C450	2	0.42589	ATLCB1,EMB2779,FBR11,LCB1
Kaladp0040s0482.1	919	kal-miR_C450_star	2	0.42589	
Kaladp0008s0827.2	1059	kal-miR166a	2	0.42589	ATHB-14,ATHB14,PHB,PHB-1D
Kaladp0101s	815	kal-	2	0.42589	AT-HSFB2A,HSFB2A

0088.1		miR530a_star			
Kaladp0003s0134.3	799	kal-miR858	2	0.42589	ATMYB12,MYB12,PFG1
Kaladp0094s0012.2	1560	mdm-miR156t_L-1_1ss15AT	2	0.42589	
Kaladp0048s0026.1	1911	mdm-miR160a_L+1R-1	2	0.42589	ARF16
Kaladp0042s0133.2	2035	vvi-MIR3627-p5_2ss5CG18CA	1	0.42713	
Kaladp0550s0061.2	1741	gma-MIR5368-p3_2ss1AT18CA	4	0.43126	
Kaladp0055s0456.1	990	kal-miR_C1878_star	4	0.43126	
Kaladp0068s0181.1	190	kal-miR_C689_star	4	0.43126	
Kaladp0095s0221.1	2184	kal-miR172c_star	4	0.43126	ATCAP-C,ATSMC3,ATSMC4,SMC3
Kaladp0012s0053.1	1257	gma-MIR5775-p3_2ss9AC18GT	3	0.44909	
Kaladp0021s0108.1	1121	kal-miR_C207	3	0.44909	ATWL4,CIPK12,SnRK3.9,WL4
Kaladp0067s0271.2	599	kal-miR164d	3	0.44909	ATUXS2,AUD1,UXS2
Kaladp0011s0056.1	459	kal-miR858_star	3	0.44909	ATMEPCT,ISPD,MCT
Kaladp0740s0004.1	1965	lja-miR397_L-2R+2	3	0.44909	
Kaladp0032s0311.2	1451	mdm-miR172i_L+1R-1	3	0.44909	RAP2.7,TOE1
Kaladp0085s0126.2	100	nta-MIR168a-p3_2ss1CA19GC	3	0.44909	
Kaladp0020s0210.2	1316	gma-MIR5775-p3_2ss9AC18GT	4	0.46247	
Kaladp0048s0514.7	376	mdm-miR403a	4	0.46247	PSD
Kaladp0048s0892.1	2564	ath-MIR858a-p5_1ss17AG	0	0.46398	
Kaladp0023s0084.1	297	bol-MIR9410-p3_2ss5TG18TA	2	0.46437	HSL2
Kaladp0032s	977	fve-	2	0.46437	AtGRF5,GRF5

0085.1		miR396e_R+1_1ss21TC			
Kaladp0053s0155.1	194	gma-MIR5775-p3_2ss9AC18GT	2	0.46437	
Kaladp0021s0108.2	1125	kal-miR_C207	2	0.46437	ATWL4,CIPK12,SnRK3.9,WL4
Kaladp0095s0791.1	289	kal-miR_C5376	2	0.46437	TBL34
Kaladp0081s0257.1	1751	kal-miR166a	2	0.46437	IFL,IFL1,REV
Kaladp0093s0040.2	2113	kal-miR397d	2	0.46437	
Kaladp0003s0134.4	992	kal-miR858	2	0.46437	
Kaladp0746s0002.1	865	mdm-miR156t_R-1_1ss15AT	2	0.46437	SPL3
Kaladp0095s0416.1	273	mdm-miR162a	2	0.46437	
Kaladp0071s0243.2	1752	mdm-miR172i_L+1R-1	2	0.46437	RAP2.7,TOE1
Kaladp0022s0101.1	1025	kal-miR_C450	3	0.48865	ATLCB1,EMB2779,FBR11,LCB1
Kaladp0048s0887.1	498	kal-miR167a	3	0.48865	
Kaladp0023s0025.1	877	kal-miR169c	3	0.48865	ATHMA1,HMA1
Kaladp0093s0040.3	2279	lja-miR397_L-2R+2	3	0.48865	
Kaladp0007s0071.2	881	lus-MIR399b-p5_2ss6AG17AT	3	0.48865	
Kaladp0051s0086.1	404	mdm-miR168a_1ss2CT	3	0.48865	
Kaladp0042s0159.1	334	ppe-MIR171e-p5	3	0.48865	NQR
Kaladp0039s0644.1	776	kal-miR_C516_star	4	0.49196	
Kaladp0008s0481.1	571	kal-miR397d_star	4	0.49196	
Kaladp0024s0978.1	202	kal-miR530a_star	4	0.49196	FBA2

[1] Gehrig H, GauβMann O, Marx H, Schwarzottb D, Klugeb M. **Molecular phylogeny of the genus Kalanchoe (Crassulaceae) inferred from nucleotide sequences of the ITS-1 and ITS-2 regions**. *Plant Science*, 2001, **160**(5):827-835.