

Supplementary Legends

Figure S1. Position of miRNA and long-miRNA sequences retrieved from ASRP and MPSS PLUS databases on their hairpin folded precursor.

(A) Position of long-miRNA sequences retrieved from the ASRP database on their precursor (sequences are summarized in Data S1B).

(B) Position of long-miRNA sequences retrieved from the MPSS PLUS database on their precursor (sequences are summarized in Supplementary Data S1C).

For each MIR gene for which a long-miRNA sequence was found, we give the name and the size of the canonical miRNA and its position is shown in red on the hairpin. We then give the size of each long-miRNA sequence and its position is shown in red on the hairpin.

Figure S2. Biogenesis of long-miRNAs also depends on DCL3 in rosette leaves.

RNA gel blot analysis of the genetic DCL requirement for biogenesis of long-miRNAs. SmRNAs (20 µg) from rosette leaves of *dcl* mutants and of Col-0 wild type were loaded on the gels. Probed miRNAs are indicated on the left side of the blots. The loading control is U6 snRNA. The upper and lower ticks to the right of each lane mark the positions of the 24-nt and 21-nt size markers, respectively and are colored red when miRNA species of that size class are detected. ^bmiR165 stands for the miR165/miR166. ^l indicates the miRNAs encoded by a single *MIR* gene.

Figure S3. *In silico* predicted hairpin structures for the different IR loci from which smRNAs are probed in Figure 5.

Folding predictions were made using Mfold online at <http://frontend.bioinfo.rpi.edu/applications/mfold/cgi-bin/rna-form1.cgi> (1,2). *IR* gene name, genomic location, and predicted hairpin structure are given. Sequences of each hairpin and coordinates of the first and last nucleotides can be visualized by zooming in.

Supplementary References

1. Mathews, D.H., Sabina, J., Zuker, M. and Turner, D.H. (1999) Expanded sequence dependence of thermodynamic parameters improves prediction of RNA secondary structure. *J Mol Biol*, **288**, 911-940.
2. Zuker, M. (2003) Mfold web server for nucleic acid folding and hybridization prediction. *Nucleic Acids Res*, **31**, 3406-3415.

MIR164c

21-nt

```

ua u a a c c cacaaugaaucguc
aac uc uggag ag agggacgucgaa g
||||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| |||
uc c a a a u uuuacugugucuu

```

23-nt

```

ua u a a c c cacaaugaaucguc
aac uc uggag ag agggacgucgaa g
||||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| |||
uc c a a a u uuuacugugucuu

```

MIR165a

21-nt

```

a a uu a a uugauuuuuacugugucug
guug gggg aag guucgg uugagauuu u
||||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| |||
aac cccu uac cggac guucuuaga a
c c uu a gaguuacugugaaucuuaga

```

23-nt

```

a a uu a a uugauuuuuacugugucug
guug gggg aag guucgg uugagauuu u
||||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| |||
aac cccu uac cggac guucuuaga a
c c uu a gaguuacugugaaucuuaga

```

MIR167a

21-nt

```

u ac - u u a c - - u -aa u ug
gggg ggg ca c g uggagcuc agcugucuuuuu ag cu uuuuu cc uggg ugu
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
caccy guc gu g c acuuagay uuuuuuuuuuuu uc ga aagaa gg agra actu
c u a u c c c c u cu auu u gu

```

23-nt

```

u ac - u u a c - - u -aa u ug
gggg ggg ca c g uggagcuc agcugucuuuuu ag cu uuuuu cc uggg ugu
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
caccy guc gu g c acuuagay uuuuuuuuuuuu uc ga aagaa gg agra actu
c u a u c c c c u cu auu u gu

```

21-nt

```

u ac - u u a c - - u -aa u ug
gggg ggg ca c g uggagcuc agcugucuuuuu ag cu uuuuu cc uggg ugu
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
caccy guc gu g c acuuagay uuuuuuuuuuuu uc ga aagaa gg agra actu
c u a u c c c c u cu auu u gu

```

MIR167b

21-nt

```

ca a - - c u u aa auu g
ggaa agca gca c agcaagucua uu ggu gag aacgg a
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
uuuu uuacu cga c uuuuuuuuuu ga caa uu uuuaac a
cc c a uc c c a - - g a

```

25-nt

```

ca a - - c u u aa auu g
ggaa agca gca c agcaagucua uu ggu gag aacgg a
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
uuuu uuacu cga c uuuuuuuuuu ga caa uu uuuaac a
cc c a uc c c a - - g a

```

MIR168a

21-nt

```

a - c g c u a ggugacacgcccugugacuu
caac ugg gg uc gaaug uggugacgg rppa caaacu u
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
guug aac cc ag cuaga aactuuuuu gccc gguuag
u u g c c a gagagpuuuuuuuuuca

```

24-nt

```

a - c g c u a ggugacacgcccugugacuu
caac ugg gg uc gaaug uggugacgg rppa caaacu u
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
guug aac cc ag cuaga aactuuuuu gccc gguuag
u u g c c a gagagpuuuuuuuuuca

```

23-nt

```

a - c g c u a ggugacacgcccugugacuu
caac ugg gg uc gaaug uggugacgg rppa caaacu u
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
guug aac cc ag cuaga aactuuuuu gccc gguuag
u u g c c a gagagpuuuuuuuuuca

```

24-nt

```

a - c g c u a ggugacacgcccugugacuu
caac ugg gg uc gaaug uggugacgg rppa caaacu u
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
guug aac cc ag cuaga aactuuuuu gccc gguuag
u u g c c a gagagpuuuuuuuuuca

```

24-nt

```

a - c g c u a ggugacacgcccugugacuu
caac ugg gg uc gaaug uggugacgg rppa caaacu u
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
guug aac cc ag cuaga aactuuuuu gccc gguuag
u u g c c a gagagpuuuuuuuuuca

```

23-nt

```

a - c g c u a ggugacacgcccugugacuu
caac ugg gg uc gaaug uggugacgg rppa caaacu u
||||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
guug aac cc ag cuaga aactuuuuu gccc gguuag
u u g c c a gagagpuuuuuuuuuca

```


MIR169m

21-nt

```
ua  -  a  aa -uu  u  uu -    u  u -uu  ----  guakgug  -  caa  u
gaagg  aga  guc  agagaa  agagaa  caauu  gg  uagcccagga  gacu  gcccug  utuu  uaguuuuuuuu  ucau  guuuga  gggac  a
|||||  |||  |||  |||||  |||||  |||  |||  |||  |||||  |||  |||  |||  |||||  |||||  |||  |||  |||  |||||  |||  |||  |||
uuuc  uu  deg  uuuuu  uuuuuu  guuu  cc  auuguuuuu  cuua  cggac  agaa  actuuuuuuac  agaa  cggacu  uuug  a
ua  a  g  ac  uuc  -  uu  u  -  -  -  uac  aaau  -----  a  --a  a
```

24-nt

```
ua  -  a  aa -uu  u  uu -    u  u -uu  ----  guakgug  -  caa  u
gaagg  aga  guc  agagaa  agagaa  caauu  gg  uagcccagga  gacu  gcccug  utuu  uaguuuuuuuu  ucau  guuuga  gggac  a
|||||  |||  |||  |||||  |||||  |||  |||  |||  |||||  |||  |||  |||  |||||  |||||  |||  |||  |||  |||||  |||  |||  |||
uuuc  uu  deg  uuuuu  uuuuuu  guuu  cc  auuguuuuu  cuua  cggac  agaa  actuuuuuuac  agaa  cggacu  uuug  a
ua  a  g  ac  uuc  -  uu  u  -  -  -  uac  aaau  -----  a  --a  a
```

MIR171a

21-nt

```
cc  uu  c  c  cuuacuuagaccacacccgug
auagagagcu  cu  gaaauugcg  ugguuua  ucaau  a
|||||  |||  |||  |||||  |||||  |||||  |||||
uguuuuuuua  ga  cuuauaccg  gcccga  aguuua  u
-|  cu  c  u  uuaauuuuuuuuuuuuuuuuu
```

23-nt

```
cc  uu  c  c  cuuacuuagaccacacccgug
auagagagcu  cu  gaaauugcg  ugguuua  ucaau  a
|||||  |||  |||  |||||  |||||  |||||  |||||
uguuuuuuua  ga  cuuauaccg  gcccga  aguuua  u
-|  cu  c  u  uuaauuuuuuuuuuuuuuuuu
```

23-nt

```
cc  uu  c  c  cuuacuuagaccacacccgug
auagagagcu  cu  gaaauugcg  ugguuua  ucaau  a
|||||  |||  |||  |||||  |||||  |||||  |||||
uguuuuuuua  ga  cuuauaccg  gcccga  aguuua  u
-|  cu  c  u  uuaauuuuuuuuuuuuuuuuu
```

23-nt

```
cc  uu  c  c  cuuacuuagaccacacccgug
auagagagcu  cu  gaaauugcg  ugguuua  ucaau  a
|||||  |||  |||  |||||  |||||  |||||  |||||
uguuuuuuua  ga  cuuauaccg  gcccga  aguuua  u
-|  cu  c  u  uuaauuuuuuuuuuuuuuuuu
```

MIR171b

21-nt

```
-----ugca  --aa  a  a  a  u  g  a  --  c  uaa
ggg  cgg  gaauu  g  cgguuuuuuu  aauu  ugg  cuu  c
|||  |||  |||  |||  |||  |||  |||  |||  |||  |||
cga  ggc  cuuaa  c  ggcgaguuu  uuuu  ggc  ggg  u
auuuuuuuuu  aau  a  c  gu  c  gu  a  uac
```

23-nt

```
-----ugca  --aa  a  a  a  u  g  a  --  c  uaa
ggg  cgg  gaauu  g  cgguuuuuuu  aauu  ugg  cuu  c
|||  |||  |||  |||  |||  |||  |||  |||  |||  |||
cga  ggc  cuuaa  c  ggcgaguuu  uuuu  ggc  ggg  u
auuuuuuuuu  aau  a  c  gu  c  gu  a  uac
```

MIR171c

21-nt

```
ugagcgcauuugagaccacaaucga  ug  -  uac  ug
gaaauugg  cgguuuuuuuuu  aauccg  utuuu  u
|||||  |||  |||  |||||  |||||  |||||  |||||
-----uuugcgca  gu  a  --u  uu
```

23-nt

```
ugagcgcauuugagaccacaaucga  ug  -  uac  ug
gaaauugg  cgguuuuuuuuu  aauccg  utuuu  u
|||||  |||  |||  |||||  |||||  |||||  |||||
-----uuugcgca  gu  a  --u  uu
```

24-nt

```
ugagcgcauuugagaccacaaucga  ug  -  uac  ug
gaaauugg  cgguuuuuuuuu  aauccg  utuuu  u
|||||  |||  |||  |||||  |||||  |||||  |||||
-----uuugcgca  gu  a  --u  uu
```

23-nt

```
ugagcgcauuugagaccacaaucga  ug  -  uac  ug
gaaauugg  cgguuuuuuuuu  aauccg  utuuu  u
|||||  |||  |||  |||||  |||||  |||||  |||||
-----uuugcgca  gu  a  --u  uu
```

25-nt

```
ugagcgcauuugagaccacaaucga  ug  -  uac  ug
gaaauugg  cgguuuuuuuuu  aauccg  utuuu  u
|||||  |||  |||  |||||  |||||  |||||  |||||
-----uuugcgca  gu  a  --u  uu
```

24-nt

```
ugagcgcauuugagaccacaaucga  ug  -  uac  ug
gaaauugg  cgguuuuuuuuu  aauccg  utuuu  u
|||||  |||  |||  |||||  |||||  |||||  |||||
-----uuugcgca  gu  a  --u  uu
```

MIR172b

20-nt

```

--a gc c a gaa uga u
g ggggca caaaaggauc caug au uaaa acccuaa
| | | | | | | | | | | | | | | | | | | | | | | |
c cggggc gaaagcuaag guaa ua guuu ugggaa
caa ua a a aug -ua -
    
```

23-nt

```

--a gc c a gaa uga u
g ggggca caaaaggauc caug au uaaa acccuaa
| | | | | | | | | | | | | | | | | | | | | | | |
c cggggc gaaagcuaag guaa ua guuu ugggaa
uaaca ua a a aug -ua -
    
```

23-nt

```

--a gc c a gaa uga u
g ggggca caaaaggauc caug au uaaa acccuaa
| | | | | | | | | | | | | | | | | | | | | | | |
c cggggc gaaagcuaag guaa ua guuu ugggaa
caa ua a a aug -ua -
    
```

MIR173

22-nt

```

a g a u ucaaaaaag u u
uaaag cccccccccca cccaaa uaccag gg uug ag u
| | | | | | | | | | | | | | | | | | | | | | | |
guacc gaaagcgaaggu uuuuu agguac cc aau uc u
a g - u uuuuuuuga - u
    
```

23-nt

```

a g a u ucaaaaaag u u
uaaag cccccccccca cccaaa uaccag gg uug ag u
| | | | | | | | | | | | | | | | | | | | | | | |
guacc gaaagcgaaggu uuuuu agguac cc aau uc u
a g - u uuuuuuuga - u
    
```

23-nt

```

a g a u ucaaaaaag u u
uaaag cccccccccca cccaaa uaccag gg uug ag u
| | | | | | | | | | | | | | | | | | | | | | | |
guacc gaaagcgaaggu uuuuu agguac cc aau uc u
a g - u uuuuuuuga - u
    
```

23-nt

```

a g a u ucaaaaaag u u
uaaag cccccccccca cccaaa uaccag gg uug ag u
| | | | | | | | | | | | | | | | | | | | | | | |
guacc gaaagcgaaggu uuuuu agguac cc aau uc u
a g - u uuuuuuuga - u
    
```

MIR390a

21-nt

```

-- su u a g --u - c a
gaaq agaaqa c gu aagcuaagga gaaagcgcaca gaa gaa ag u
| | | | | | | | | | | | | | | | | | | | | | | |
cauc uuuuuu g ua uuaggaucuu cauaagcgcaga uaa caa ug u
au ug u c a uuu u u c
    
```

24-nt

```

-- su u a g --u - c a
gaaq agaaqa c gu aagcuaagga gaaagcgcaca gaa gaa ag u
| | | | | | | | | | | | | | | | | | | | | | | |
cauc uuuuuu g ua uuaggaucuu cauaagcgcaga uaa caa ug u
au ug u c a uuu u u c
    
```

25-nt

```

-- su u a g --u - c a
gaaq agaaqa c gu aagcuaagga gaaagcgcaca gaa gaa ag u
| | | | | | | | | | | | | | | | | | | | | | | |
cauc uuuuuu g ua uuaggaucuu cauaagcgcaga uaa caa ug u
au ug u c a uuu u u c
    
```

23-nt

```

-- su u a g --u - c a
gaaq agaaqa c gu aagcuaagga gaaagcgcaca gaa gaa ag u
| | | | | | | | | | | | | | | | | | | | | | | |
cauc uuuuuu g ua uuaggaucuu cauaagcgcaga uaa caa ug u
au ug u c a uuu u u c
    
```

MIR390b

21-nt

```

su aa g uggcuaccagggcugaauguuu
gaaaa aguuuu aagcuaagga gaaagcgcaca u
| | | | | | | | | | | | | | | | | | | | | | | |
uuuu uuuaaa uuaggaucuu cauaagcgcaga g
uu cc a uggcuuuugaaagcgggaauu
    
```

23-nt

```

su aa g uggcuaccagggcugaauguuu
gaaaa aguuuu aagcuaagga gaaagcgcaca u
| | | | | | | | | | | | | | | | | | | | | | | |
uuuu uuuaaa uuaggaucuu cauaagcgcaga g
uu cc a uggcuuuugaaagcgggaauu
    
```


MIR776

21-nt

```
ug a u c - uu ag a u - u aa
u gg uaa agcca gacc ucaauaaga cuaa aac ug gaAAA cgu gac g
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
a cc aaU uggg cuuj ghuuuuuu gaaU uag ac cuuuu gca cug a
gu - u a u cu cu a - a u cu
```

24-nt

```
ug a u c - uu ag a u - u aa
u gg uaa agcca gacc ucaauaaga cuaa aac ug gaAAA cgu gac g
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
a cc aaU uggg cuuj ghuuuuuu gaaU uag ac cuuuu gca cug a
gu - u a u cu cu a - a u cu
```

23-nt

```
ug a u c - uu ag a u - u aa
u gg uaa agcca gacc ucaauaaga cuaa aac ug gaAAA cgu gac g
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
a cc aaU uggg cuuj ghuuuuuu gaaU uag ac cuuuu gca cug a
gu - u a u cu cu a - a u cu
```

MIR780

21-nt

```
uu u u u a a ----- a u guuucbaaacuacacag
cagau cagauuu cacgaaga auuagc uaacagc c gagga auugpauuu aac c
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
uuuuu gucuaaaa gupuuuu uggagc guuuuaga g uuuuu uaaacuaaa uag u
cg - u a a c uuuuu auac - gagguuuuguuagguae
```

24-nt

```
uu u u u a a ----- a u guuucbaaacuacacag
cagau cagauuu cacgaaga auuagc uaacagc c gagga auugpauuu aac c
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
agguguuuuu gucuaaaa gupuuuu uggagc guuuuaga g uuuuu uaaacuaaa uag u
cg - u a a c uuuuu auac - gagguuuuguuagguae
```

24-nt

```
uu u u u a a ----- a u guuucbaaacuacacag
cagau cagauuu cacgaaga auuagc uaacagc c gagga auugpauuu aac c
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
uuuuu gucuaaaa gupuuuu uggagc guuuuaga g uuuuu uaaacuaaa uag u
cg - u a a c uuuuu auac - gagguuuuguuagguae
```

23-nt

```
uu u u u a a ----- a u guuucbaaacuacacag
cagau cagauuu cacgaaga auuagc uaacagc c gagga auugpauuu aac c
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
uuuuu gucuaaaa gupuuuu uggagc guuuuaga g uuuuu uaaacuaaa uag u
cg - u a a c uuuuu auac - gagguuuuguuagguae
```

24-nt

```
uu u u u a a ----- a u guuucbaaacuacacag
cagau cagauuu cacgaaga auuagc uaacagc c gagga auugpauuu aac c
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
uuuuu gucuaaaa gupuuuu uggagc guuuuaga g uuuuu uaaacuaaa uag u
cg - u a a c uuuuu auac - gagguuuuguuagguae
```

23-nt

```
uu u u u a a ----- a u guuucbaaacuacacag
cagau cagauuu cacgaaga auuagc uaacagc c gagga auugpauuu aac c
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
uuuuu gucuaaaa gupuuuu uggagc guuuuaga g uuuuu uaaacuaaa uag u
cg - u a a c uuuuu auac - gagguuuuguuagguae
```

24-nt

```
uu u u u a a ----- a u guuucbaaacuacacag
cagau cagauuu cacgaaga auuagc uaacagc c gagga auugpauuu aac c
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
uuuuu gucuaaaa gupuuuu uggagc guuuuaga g uuuuu uaaacuaaa uag u
cg - u a a c uuuuu auac - gagguuuuguuagguae
```


Figure S1B: Position of long-miRNA sequences retrieved from the MPSS PLUS database on their precursor

MIR156b

20-nt

Sequence alignment for MIR156b 20-nt precursor showing conserved regions and stem-loop structure.

23-nt

Sequence alignment for MIR156b 23-nt precursor showing conserved regions and stem-loop structure.

25-nt

Sequence alignment for MIR156b 25-nt precursor showing conserved regions and stem-loop structure.

MIR156c

21-nt

Sequence alignment for MIR156c 21-nt precursor showing conserved regions and stem-loop structure.

23-nt

Sequence alignment for MIR156c 23-nt precursor showing conserved regions and stem-loop structure.

23-nt

Sequence alignment for MIR156c 23-nt precursor showing conserved regions and stem-loop structure.

MIR157c

21-nt

Sequence alignment for MIR157c 21-nt precursor showing conserved regions and stem-loop structure.

23-nt

Sequence alignment for MIR157c 23-nt precursor showing conserved regions and stem-loop structure.

MIR160a

21-nt

Sequence alignment for MIR160a 21-nt precursor showing conserved regions and stem-loop structure.

24-nt

Sequence alignment for MIR160a 24-nt precursor showing conserved regions and stem-loop structure.

MIR163

24-nt

Sequence alignment for MIR163 24-nt precursor showing conserved regions and stem-loop structure.

26-nt

Sequence alignment for MIR163 26-nt precursor showing conserved regions and stem-loop structure.

MIR165a

21-nt

Sequence alignment for MIR165a 21-nt precursor showing conserved regions and stem-loop structure.

23-nt

Sequence alignment for MIR165a 23-nt precursor showing conserved regions and stem-loop structure.

MIR390a

21-nt

```

--      AU U A      G      -13 - C A
GAGG AGAGG C GU AAGTUCAGGA GGAUAGGCGCA GAU GAU AC U
||||| ||||| ||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
CAUC UUUUUU G UA UUUUAGUUUU CUUAUUGGGUU UUA CUA UG U
AU      CG U C      A      UUU U U C

```

23-nt

```

--      AU U A      G      -13 - C A
GAGG AGAGG C GU AAGTUCAGGA GGAUAGGCGCA GAU GAU AC U
||||| ||||| ||| ||||| ||||| ||||| ||||| ||||| |||||
CAUC UUUUUU G UA UUUUAGUUUU CUUAUUGGGUU UUA CUA UG U
AU      CG U C      A      UUU U U C

```

24-nt

```

--      AU U A      G      -13 - C A
GAGG AGAGG C GU AAGTUCAGGA GGAUAGGCGCA GAU GAU AC U
||||| ||||| ||| ||||| ||||| ||||| ||||| ||||| |||||
CAUC UUUUUU G UA UUUUAGUUUU CUUAUUGGGUU UUA CUA UG U
AU      CG U C      A      UUU U U C

```

MIR390b

21-nt

```

AU AA      G      UGGCUACCCAGUGUGUAGUUU
GAGAA AGTAAU AAGTUCAGGA GGAUAGGCGCA U
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
UUUUU UGUAU UUGGUGUUU CUUAUUGGGUU G
CU      CC      A      UGUUUAUUGUACUUGGUGUAAU

```

23-nt

```

AU AA      G      UGGCUACCCAGUGUGUAGUUU
GAGAA AGTAAU AAGTUCAGGA GGAUAGGCGCA U
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
UUUUU UGUAU UUGGUGUUU CUUAUUGGGUU G
CU      CC      A      UGUUUAUUGUACUUGGUGUAAU

```

24-nt

```

AU AA      G      UGGCUACCCAGUGUGUAGUUU
GAGAA AGTAAU AAGTUCAGGA GGAUAGGCGCA U
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
UUUUU UGUAU UUGGUGUUU CUUAUUGGGUU G
CU      CC      A      UGUUUAUUGUACUUGGUGUAAU

```

MIR391

21-nt

```

--      CACAU G ---- CU U A G U AAC A - AU U C      G C      ----CU
UAGU GUGUUU ACAU UGU UUUU UCU CU U GU UAA UGA AUA AAG UUGU CU UGGAGAUUA CU CAUAC CUUUU
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
AUCU CACAAU UGUU ACU UGAA AGA GA G CA AAUU ACPU UAU UUC AAGCA GC UUUUUUUUUU GC GUGUGU GAAGA
CC      -AAU G UAAU -U - - G U -CU A A CU U A      G A      AUCAUU

```

24-nt

```

--      CACAU G ---- CU U A G U AAC A - AU U C      G C      ----CU
UAGU GUGUUU ACAU UGU UUUU UCU CU U GU UAA UGA AUA AAG UUGU CU UGGAGAUUA CU CAUAC CUUUU
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
AUCU CACAAU UGUU ACU UGAA AGA GA G CA AAUU ACPU UAU UUC AAGCA GC UUUUUUUUUU GC GUGUGU GAAGA
CC      -AAU G UAAU -U - - G U -CU A A CU U A      G A      AUCAUU

```

MIR393a

21-nt

```

A A      C U -U      AGGUAUUUUUUUUUUUUUUUUUU
GAGGA GGAUCCAAAGGAGU GAU GAUUC AAUAU U
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
UUUUU CUAAGUUUUUUU UGA CUAUUGU U
C A      U      U      UUUUUUUUUUUUUUUUUUUUUUU

```

24-nt

```

A A      C U -U      AGGUAUUUUUUUUUUUUUUUUUU
GAGGA GGAUCCAAAGGAGU GAU GAUUC AAUAU U
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
UUUUU CUAAGUUUUUUU UGA CUAUUGU U
C A      U      U      UUUUUUUUUUUUUUUUUUUUUUU

```

MIR393b

21-nt

```

A U      -U U      UGUUUUUUUUUUUUUUUUUUUUUUUUU
AGGAA GGAUCCAAAGGAGU GAU GAUUC AA UAGC C
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
UUUUU CUAAGUUUUUUU UGA CUAUUGU U
A      C      U      UUUUUUUUUUUUUUUUUUUUUUUUU

```

24-nt

```

A U      -U U      UGUUUUUUUUUUUUUUUUUUUUUUUUU
AGGAA GGAUCCAAAGGAGU GAU GAUUC AA UAGC C
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
UUUUU CUAAGUUUUUUU UGA CUAUUGU U
A      C      U      UUUUUUUUUUUUUUUUUUUUUUUUU

```

MIR394a

20-nt

```

U - A - - U C GU      -A -AU A
CU AAG UU UUU UUGGA U U CCUUUUUUUU UACAU AGGAGUGU U
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
GU UGC UG AUA AACUU A A GUGUAGUAAU GUGU UGUUAAUA A
U - U - U      C U UG      AA      CUU      U

```

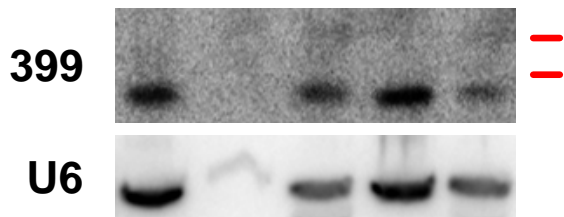
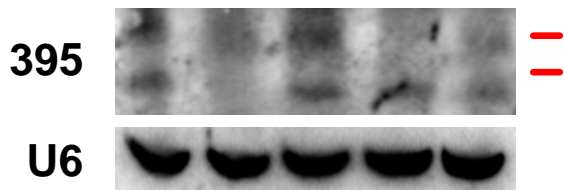
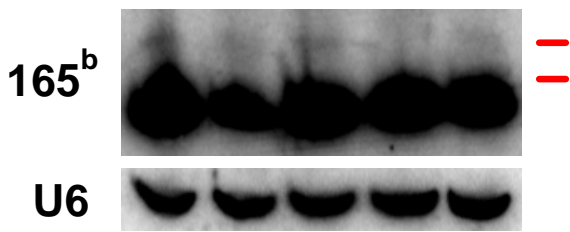
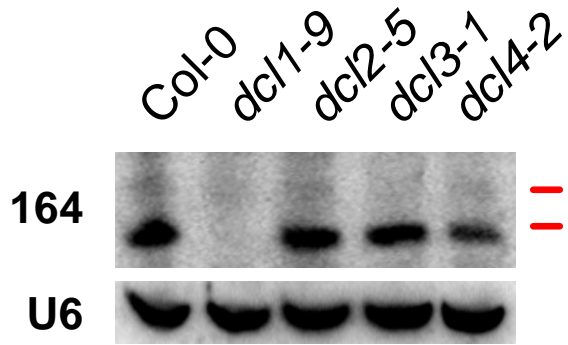
24-nt

```

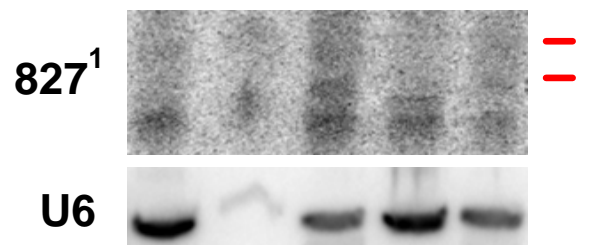
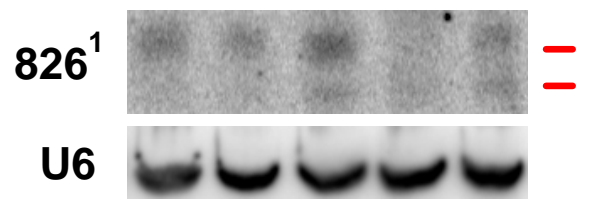
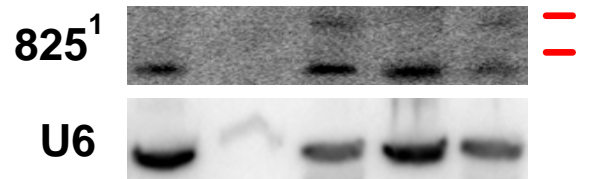
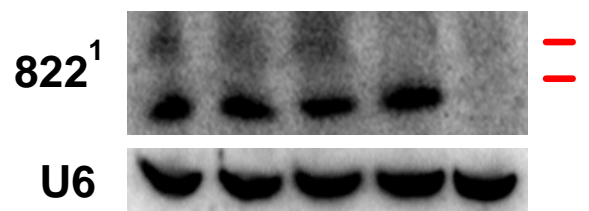
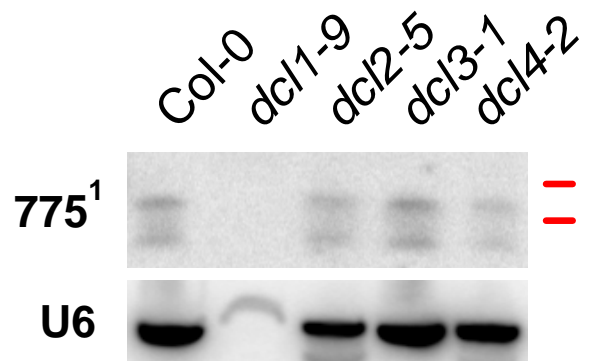
U - A - - U C GU      -A -AU A
CU AAG UU UUU UUGGA U U CCUUUUUUUU UACAU AGGAGUGU U
||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
GU UGC UG AUA AACUU A A GUGUAGUAAU GUGU UGUUAAUA A
U - U - U      C U UG      AA      CUU      U

```


Rosette L



Rosette L



VAZQUEZ *et al.* Figure S2

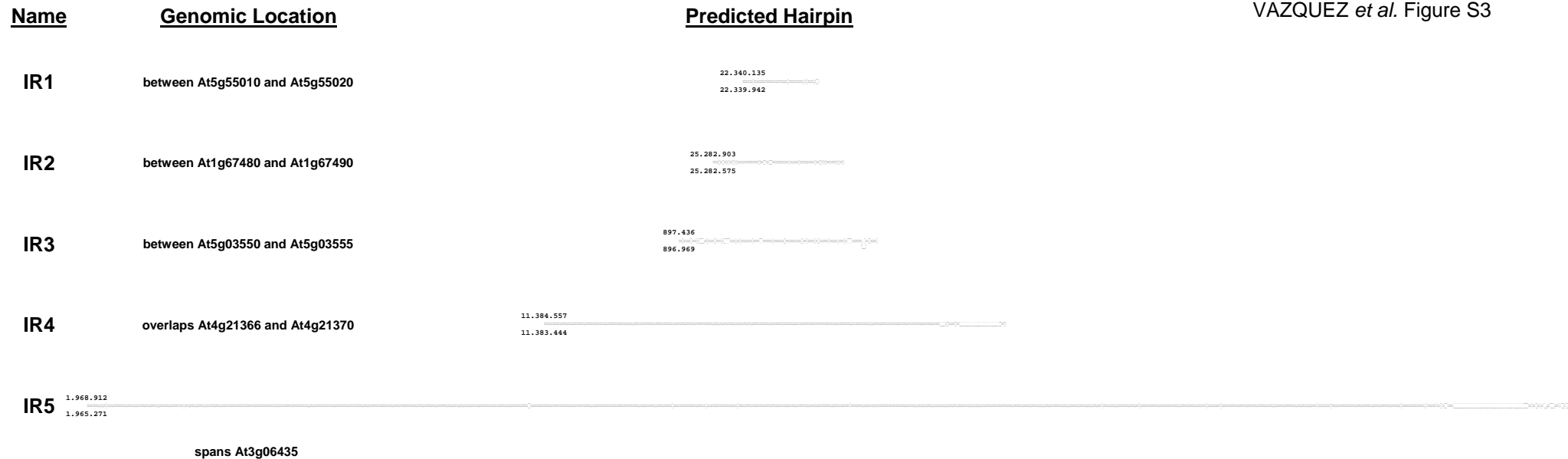


Table SI. Changes in the distribution of the size of miRNA sequences^a in leaf and inflorescence.

miRNA length (nt)	Normalized Nr. reads ^a		miRNA Class	Ratio reads Inf/Leaf
	Leaf	Inflorescences		
20	1881	5591	Canonical	0.99
21	67002	61471		
22	2085	3430		
23	158	365	Long	2.97
24	67	331		
25	11	6		

^a Based on 71, 294 leaf reads and 36,104 inflorescence reads of smRNA sequences derive from *MIR* genes in the datasets of (14) and (17). *MIR163*-derived smRNAs were excluded.

Data were normalized for equal numbers of reads obtained with the two organs.

Table SII. Distribution of miRNAs sequences on IR loci*.

	Tissue datasets	Nr. unique miRNAs	Nr. reads	% matching both strands	% of Single Hit matching	
					Forward strand	Reverse strand
IR1	Leaves	31	93	2.2	3.3	96.7
	Inflorescences	56	140	0.7	2.2	97.8
IR2	Leaves	4	10	0.0	0.0	100.0
	Inflorescences	36	289	0.0	0.3	99.7
IR3	Leaves	18	96	0.0	1.0	99.0
	Inflorescences	15	126	0.0	0.0	100.0
IR4	Leaves	5	5	80.0	0	100.0
	Inflorescences	61	96	95.8	0	100.0
IR5	Leaves	794	3180	92.6	2.5	97.5
	Inflorescences	2090	4746	85.0	9.3	90.7

* Analysis of datasets of (14) and (17).