

**Table S4.** Distribution of simple sequence repeats in the *Asclepias syriaca* plastome.

Repeat unit	Length (bp)	Number of SSRs	Start position (SSR-containing region)
A	10	13	4,799 ( <i>trnK-UUU-rps16</i> ), 33,757 ( <i>psbM-trnD-GUC</i> ), 34,771 ( <i>trnE-UUC-trnT-GGU</i> ), 40,298 ( <i>trnG-UCC-trnfM-CAU</i> ), 48,311 ( <i>ycf3</i> intron 1), 51,040 ( <i>trnT-UGU-trnL-UAA</i> ), 73,208 ( <i>rps18-rpl20</i> ), 86,172 ( <i>rpl14-rpl16</i> ), 122,384 ( <i>ndhD-psaC</i> ), 123,891 ( <i>ndhG-ndhI</i> ), 123,998 ( <i>ndhG-ndhI</i> ), 124,162 ( <i>ndhG-ndhI</i> ), 158,780 ( <i>rpl2-trnH-GUG</i> )
	11	3	5,524 ( <i>rps16</i> intron), 78,893 ( <i>psbB-psbT</i> ), 119,327 ( <i>rpl32-trnL-UAG</i> )
	12	4	7,351 ( <i>rps16-trnQ-UUG</i> ), 11,821 ( <i>atpA-atpF</i> ), 39,275 ( <i>psbC-trnS-UGA</i> ), 70,044 ( <i>psbE-petL</i> )
	14	2	82,826 ( <i>petD-rpoA</i> ), 128,457 ( <i>ndhH-rps15</i> )
	16	1	108,563 ( <i>trnA-UGC-rnr23</i> )
T	10	11	17,378 ( <i>rps2-rpoC2</i> ), 47,795 ( <i>ycf3</i> intron 1), 52,436 ( <i>trnF-GAA-ndhJ</i> ), 55,710 ( <i>trnV-UAC</i> intron), 64,670 ( <i>psaI-ycf4</i> ), 65,708 ( <i>ycf4-cemA</i> ), 73,883 ( <i>rpl20-rps12_5'</i> ), 89,417 ( <i>rps19-rpl2</i> ), 118,151 ( <i>ndhF-rpl32</i> ), 125,950 ( <i>ndhA</i> intron), 128,567 ( <i>rps15</i> )
	11	7	4,054 ( <i>matK-trnK-UUU_5'</i> ), 21,229 ( <i>rpoC2</i> ), 56,627 ( <i>trnM-CAU-atpE</i> ), 61,469 ( <i>rbcL-ΨaccD</i> ), 74,467 ( <i>rpl20-rps12_5'</i> ), 88,999 ( <i>rpl22</i> ), 120,698 ( <i>ccsA-ndhD</i> )
	12	7	14,291 ( <i>atpH-atpI</i> ), 14,485 ( <i>atpH-atpI</i> ), 39,140 ( <i>psbC-trnS-UGA</i> ), 87,863 ( <i>rpl16-rps3</i> ), 117,856 ( <i>ndhF-rpl32</i> ), 131,470 ( <i>Ψycf1</i> ), 132,550 ( <i>Ψycf1</i> )
	13	2	9,980 ( <i>trnG-GCC-trnR-UCU</i> ), 60,912 ( <i>rbcL-ΨaccD</i> )
	14	3	12,544 ( <i>atpF</i> intron), 36,045 ( <i>trnT-GGU-psbD</i> ), 119,566 ( <i>trnL-UAG-ccsA</i> )
	16	3	52,652 ( <i>trnF-GAA-ndhJ</i> ), 118,822 ( <i>rpl32-trnL-UAG</i> ), 139,628 ( <i>rnr23-trnA-UGC</i> )
	18	1	69,800 ( <i>psbE-petL</i> )
	20	1	85,645 ( <i>rps8-rpl14</i> )
C	13	1	44,096 ( <i>psaA</i> )
AT	10	5	7,705 ( <i>trnQ-UUG-psbK</i> ), 22,575 ( <i>rpoC2</i> ), 59,175 ( <i>atpB-rbcL</i> ), 59,196 ( <i>atpB-rbcL</i> ), 124,316 ( <i>ndhG-ndhI</i> )
	12	3	35,267 ( <i>trnE-UUC-trnT-GGU</i> ), 52,545 ( <i>trnF-GAA-ndhJ</i> ), 130,621 ( <i>Ψycf1</i> )
TA	10	3	51,098 ( <i>trnT-UGU-trnL-UAA</i> ), 124,100 ( <i>ndhG-ndhI</i> ), 124,188 ( <i>ndhG-ndhI</i> )
TC	10	1	150,831 ( <i>ycf2</i> )
GA	10	1	97,366 ( <i>ycf2</i> )
AAT	12	1	46,179 ( <i>psaA-ycf3</i> )
ATT	12	1	60,925 ( <i>rbcL-accD</i> )
TAA	12	1	113,489 ( <i>trnN-GUU-Ψycf1</i> )
TAT	12	1	29,894 ( <i>rpoB-trnC-GCA</i> )
TTA	12	2	60,942 ( <i>rbcL-accD</i> ), 134,706 ( <i>Ψycf1-trnN-GUU</i> )
TTC	12	1	38,923 ( <i>psbC</i> )
AACC	12	1	134,185 ( <i>Ψycf1</i> )
ATAA	12	2	8,584 ( <i>psbI-trnS-GCU</i> ), 76,238 ( <i>ΨclpP</i> )
ATTA	12	2	33,012 ( <i>petN-psbM</i> ), 124,333 ( <i>ndhG-ndhI</i> )
TATT	12	1	117,744 ( <i>ndhF-rpl32</i> )
TTAA	12	1	86,784 ( <i>rpl16</i> intron)
TTAT	16	2	54,814 ( <i>ndhC-trnV-UAC</i> ), 54,831 ( <i>ndhC-trnV-UAC</i> )
TTTA	12	4	50,063 ( <i>rps4-trnT-UGU</i> ), 501,05 ( <i>rps4-trnT-UGU</i> ), 74,228 ( <i>rpl20-rps12_5'</i> ), 81,683 ( <i>petD</i> intron)
CATT	12	1	130,923 ( <i>Ψycf1</i> )
CTTT	12	1	47,397 ( <i>ycf3</i> intron 2)
GGTT	12	1	114,010 ( <i>Ψycf1</i> )
ATAAT	15	1	35,212 ( <i>trnE-UUC-trnT-GGU</i> )
AAGATG	18	1	114,909 ( <i>Ψycf1-ndhF</i> )
ATATAC	18	1	31,124 ( <i>trnC-GCA-petN</i> )
TAATAG	18	1	151,196 ( <i>ycf2</i> )
TAATGA	18	1	114,655 ( <i>Ψycf1</i> )
TCATTA	18	1	133,534 ( <i>Ψycf1</i> )
TGAATT	18	1	124,367 ( <i>ndhG-ndhI</i> )
CTATTA	18	1	96,993 ( <i>ycf2</i> )