附表 1 黑涩楠叶绿体基因组的重复序列分析

Appendix table 1 Analysis of repeat sequence in the *Aronia melanocarpa* chloroplast genome

No.	Size (bp)	Repeat start 1	Type	Size (bp)	Repeat start 2	Mismatch (bp)	E-value	Region	Gene
1	40	102516	F	40	125215	0	5.94E-15	IRb, SSC	
2	39	5167	F	39	5203	0	2.38E-14	LSC	
3	42	149342	F	41	149363	1	1.86E-13	IRa	
4	41	98178	F	42	98198	1	1.86E-13	IRb	
5	41	98178	F	40	98200	1	7.25E-13	IRb	
6	35	49416	F	35	49450	0	6.08E-12	LSC	
7	35	98184	F	35	98205	0	6.08E-12	IRb	
8	39	46497	F	39	102518	1	1.10E-11	LSC, IRb	*ycf3*
9	38	46497	F	38	125217	1	4.30E-11	LSC, SSC	*ycf3*, *ndhA*
10	40	5166	F	38	5204	2	5.34E-10	LSC	
11	40	98179	F	43	98197	3	1.01E-09	IRb	
12	31	39186	F	31	39216	0	1.56E-09	LSC	
13	37	5169	F	39	5203	2	2.03E-09	LSC	
14	37	78	F	37	97	2	2.92E-08	LSC	
15	34	95174	F	34	95192	2	1.57E-06	IRb	*ycf2*
16	34	152356	F	34	152374	2	1.57E-06	IRa	*ycf2*
17	26	10042	F	26	10065	0	1.59E-06	LSC	
18	37	68	F	34	90	3	2.60E-06	LSC	
19	33	111466	F	33	111497	2	5.92E-06	IRb	
20	33	136052	F	33	136083	2	5.92E-06	IRa	
21	32	5143	R	32	5143	2	2.22E-05	LSC	
22	32	70644	R	32	70644	2	2.22E-05	LSC	
23	24	5128	F	24	5151	0	2.55E-05	LSC	
24	24	113729	F	24	133829	0	2.55E-05	IRb, IRa	*ycf1*
25	28	152362	F	28	152380	1	3.32E-05	IRa	*ycf2*
26	31	10829	R	31	10829	2	8.34E-05	LSC	
27	31	39152	R	31	39152	2	8.34E-05	LSC	
28	23	5295	F	23	5317	0	1.02E-04	LSC	
29	23	10589	F	23	10609	0	1.02E-04	LSC	
30	23	50061	F	23	50084	0	1.02E-04	LSC	
31	23	62466	F	23	62489	0	1.02E-04	LSC	
32	23	85976	F	23	85998	0	1.02E-04	LSC	*rpl16*
33	23	136062	F	23	136093	0	1.02E-04	IRa	
34	34	117286	R	34	117291	3	1.28E-04	SSC	
35	33	117287	R	34	117291	3	1.28E-04	SSC	
36	28	10584	F	30	10602	2	3.12E-04	LSC	
37	22	33842	R	22	33842	0	4.08E-04	LSC	

38	22	34307	R	22	34307	0	4.08E-04	LSC	
39	22	116434	R	22	116434	0	4.08E-04	SSC	
40	32	66680	R	33	83041	3	4.67E-04	LSC	
41	26	1740	F	26	1753	1	4.94E-04	LSC	
42	29	8498	F	28	38207	2	1.17E-03	LSC	
43	29	10411	R	29	34293	2	1.17E-03	LSC	
44	29	92752	F	29	92773	2	1.17E-03	IRb	*ycf2*
45	29	154780	F	29	154801	2	1.17E-03	IRa	*ycf2*
46	21	15521	R	21	15521	0	1.63E-03	LSC	
47	21	38482	C	21	66687	0	1.63E-03	LSC	
48	21	70659	R	21	70659	0	1.63E-03	LSC	
49	21	118156	R	21	118156	0	1.63E-03	SSC	
50	32	339	F	31	75817	3	1.70E-03	LSC	

附表 2 黑涩楠叶绿体基因组中的简单重复序列

Appendix table 2 Simple sequence repeats (SSRs) in the *Aronia melanocarpa* chloroplast genome

No.	SSR type	SSR	Size	Start	End	Region	Gene
1	c	(T)13(A)12	28	316	343	LSC	
2	p1	(T)11	11	2897	2907	LSC	*matK*
3	p1	(A)11	11	4901	4911	LSC	
4	p1	(C)11	11	5660	5670	LSC	*rps16*
5	c	(C)13(A)11	24	5818	5841	LSC	*rps16*
6	p1	(T)12	12	6721	6732	LSC	
7	p1	(A)13	13	7160	7172	LSC	
8	p1	(A)15	15	8045	8059	LSC	
9	p1	(T)10	10	8659	8668	LSC	
10	p1	(T)11	11	9482	9492	LSC	
11	p1	(T)11	11	9840	9850	LSC	*trnG-GCC*
12	p2	(TA)7	14	10542	10555	LSC	
13	p1	(T)14	14	13231	13244	LSC	*atpF*
14	p1	(T)10	10	13973	13982	LSC	
15	p1	(A)12	12	14558	14569	LSC	
16	p1	(C)10	10	15051	15060	LSC	
17	p1	(A)15	15	15265	15279	LSC	
18	p1	(T)19	19	15523	15541	LSC	
19	p1	(T)15	15	17372	17386	LSC	
20	p1	(T)11	11	19620	19630	LSC	*rpoC2*
21	p1	(T)10	10	27317	27326	LSC	*rpoB*
22	p1	(T)10	10	27962	27971	LSC	
23	p1	(A)14	14	28398	28411	LSC	
24	p1	(T)11	11	29708	29718	LSC	
25	p1	(A)10	10	32117	32126	LSC	
26	c	(A)16(T)12	58	38488	38545	LSC	

27	p1	(A)11	11	39117	39127	LSC	
28	p1	(A)15	15	45106	45120	LSC	
29	p1	(A)13	13	47461	47473	LSC	
30	p1	(A)14	14	50209	50222	LSC	
31	p1	(G)11	11	50506	50516	LSC	
32	c	(T)10(A)12	54	52183	52236	LSC	
33	p1	(T)12	12	53650	53661	LSC	
34	c	(TA)6(T)10	81	54446	54526	LSC	
35	p1	(T)11	11	55578	55588	LSC	
36	p1	(T)10	10	57597	57606	LSC	*atpB*
37	p1	(T)16	16	60312	60327	LSC	
38	p1	(T)18	18	66693	66710	LSC	
39	p1	(G)10	10	68032	68041	LSC	
40	p1	(T)13	13	68458	68470	LSC	
41	p1	(A)11	11	68776	68786	LSC	
42	p1	(A)15	15	70695	70709	LSC	
43	p2	(AT)6	12	71306	71317	LSC	
44	p1	(T)10	10	71834	71843	LSC	
45	p1	(T)17	17	72552	72568	LSC	
46	p1	(T)15	15	73982	73996	LSC	*clpP*
47	p1	(T)17	17	74717	74733	LSC	*clpP*
48	p1	(A)12	12	81458	81469	LSC	
49	p1	(T)15	15	83047	83061	LSC	
50	c	(T)11(T)10	107	84673	84779	LSC	
51	p1	(A)10	10	85530	85539	LSC	*rpl16*
52	p1	(T)12	12	86029	86040	LSC	
53	p1	(T)12	12	86285	86296	LSC	
54	p1	(T)10	10	87086	87095	LSC	
55	p1	(T)11	11	87950	87960	IRb	
56	p1	(T)10	10	103851	103860	IRb	
57	p1	(A)20	20	116436	116455	SSC	
58	c	(T)18(T)12(C)10(T)11	127	117285	117411	SSC	
59	p1	(A)10	10	117864	117873	SSC	
60	p2	(AT)6	12	118407	118418	SSC	
61	p1	(T)10	10	123739	123748	SSC	
62	p1	(T)15	15	125650	125664	SSC	*ndhA*
63	p1	(A)10	10	126205	126214	SSC	*ndhA*
64	p1	(T)10	10	131555	131564	SSC	*ycf1*
65	p1	(A)16	16	132186	132201	SSC	*ycf1*
66	p1	(A)10	10	143723	143732	IRa	
67	p1	(A)11	11	159623	159633	IRa	