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Discrimination of tobacco cultivars using SCAR and RAPD markers

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Electronic Supplementary Material (ESM)

The authors are fully responsible for both the content and the formal aspects of the electronic supplementary material. No editorial adjustments were made.

Table S1. The genotype collection information of the tobacco cultivars used in the study

No.	Cultivar	Year	Source	No.	Cultivar	Year	Source
1	Yunyan 85	2014	Kunming, Yunnan	28	Jiyan 10	2015	Changchun, Jilin
2	Yunyan 87	2014	Kunming, Yunnan	29	Jiyan 9	2015	Changchun, Jilin
3	Yunyan 97	2014	Kunming, Yunnan	30	Yuyan 6	2015	Xuchang, Henan
4	Yunyan 98	2014	Kunming, Yunnan	31	Yuyan 7	2015	Xuchang, Henan
5	Yunyan 99	2014	Kunming, Yunnan	32	Yuyan 10	2015	Xuchang, Henan
6	Yunyan 100	2014	Kunming, Yunnan	33	Yuyan 11	2015	Xuchang, Henan
7	Yunyan 105	2014	Kunming, Yunnan	34	Yuyan 12	2015	Xuchang, Henan
8	Yunyan 116	2014	Kunming, Yunnan	35	Zhongyan 100	2015	Xuchang, Henan
9	Yunyan 202	2014	Kunming, Yunnan	36	Zhongyan 206	2015	Xuchang, Henan
10	Yunyan 203	2014	Kunming, Yunnan	37	Longjiang 911	2015	Changchun, Jilin
11	Yunyan 317	2014	Kunming, Yunnan	38	Longjiang 925	2015	Changchun, Jilin
12	Honghuadajinyuan	2014	Kunming, Yunnan	39	Longjiang 981	2015	Changchun, Jilin
13	Yanshai 1	2015	Changchun, Jilin	40	Longjiang 982	2015	Changchun, Jilin
14	Yanshai 2	2015	Changchun, Jilin	41	K326	2015	Kunming, Yunnan
15	Yanshai 3	2015	Changchun, Jilin	42	K346	2015	Kunming, Yunnan
16	Yanshai 4	2015	Changchun, Jilin	43	NC71	2015	Kunming, Yunnan
17	Yanshai 5	2015	Changchun, Jilin	44	NC89	2015	Kunming, Yunnan
18	Yanshai 6	2015	Changchun, Jilin	45	NC102	2015	Kunming, Yunnan
19	Yanshai 7	2015	Changchun, Jilin	46	NC297	2015	Kunming, Yunnan
20	Yanshai 8	2015	Changchun, Jilin	47	Cuibi 1	2015	Kunming, Yunnan
21	Yanshai 9	2015	Changchun, Jilin	48	CT1410	2015	Kunming, Yunnan
22	Yanshai 10	2015	Changchun, Jilin	49	SAM	2015	Kunming, Yunnan
23	Yanyi 1	2015	Changchun, Jilin	50	Qinyan 96	2015	Kunming, Yunnan
24	Yanan 1	2015	Changchun, Jilin	51	V2	2015	Kunming, Yunnan
25	Jiyan 1	2015	Changchun, Jilin	52	GR17	2015	Kunming, Yunnan
26	Jiyan 5	2015	Changchun, Jilin	53	9407	2015	Kunming, Yunnan
27	Jiyan 7	2015	Changchun, Jilin				

2 Table S2. Discrimination of 17 tobacco cultivars in group I using the RAPD primers S32, S29 and S132

Primer	Band (bp)	Tobacco cultivar																
		Yunyan 203	Longjiang 925	Yunyan 85	Yunyan 317	Jiyan 10	Yuyan 10	Longjiang 911	9407	Yunyan 98	Yanshai 1	Yanshai 6	Jiyan 1	Jiyan 7	Jiyan 9	Longjiang 982	K346	SAM
S32	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	420	0	0	1	1	0	0	0	1	1	0	1	1	1	0	1	0	0
	500	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
	625	1	0	1	1	1	0	0	1	1	1	1	1	0	0	1	0	0
	1720	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0
	1880	0	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0
	2400	0	1	0	0	1	1	1	0	0	0	1	1	1	1	0	0	0
S29	620	1	0	1	1	1	1	0	1	1	1	1	1	0	0	0	1	0
	750	1	1	1	1	1	1	0	0	1	1	1	1	0	0	0	1	0
S132	1200	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1

1 – present; 0 – absent

Table S3. Discrimination of 7 tobacco cultivars in group II using the RAPD primer S29

Primer	Band (bp)	Tobacco cultivar						
		Yanshai 2	Honghuadajinyuan	Yanshai 8	NC71	Cuibi 1	Yanshai 10	Jiyan 5
S29	700	1	1	1	0	1	1	0
	750	1	0	1	0	1	0	0
	950	1	0	0	0	0	0	0
	1000	0	1	1	0	0	0	0
	2000	0	1	1	0	1	1	1

1 – present; 0 – absent

Table S4. Discrimination of 16 tobacco cultivars in group III using the RAPD primers S32, S29 and S114

Primer	Band (bp)	Tobacco cultivar															
		Yunyan 99	Yunyan 97	Yunyan 116	K326	Yanshai 3	Yanshai 4	Yiyan 1	Yuyan 12	Zhongyan 206	NC102	V2	Yanshai 5	Yanshai 9	Yanan 1	NC89	Qinyan 96
S32	420	1	1	1	0	1	1	1	1	0	0	1	1	1	1	0	1
	500	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1
	625	1	1	1	0	1	0	1	1	0	0	1	1	1	1	0	1
	1000	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1
	1720	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0
	1880	1	1	1	1	0	1	1	1	1	0	1	1	0	1	0	1
	2400	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1
S29	620	1	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0
	750	0	0	1	0	1	1	1	0	0	0	0	1	1	1	0	0
	1000	1	1	1	0	0	0	1	0	0	0	1	1	0	0	0	0
	1100	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1
	1200	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0
S114	500	1	1	1	0	1	1	1	1	1	0	0	1	1	1	0	0
	1800	0	0	0	1	0	0	1	1	1	1	0	1	1	1	0	0

1 – present; 0 – absent

Table S5. Discrimination of 13 tobacco cultivars in group IV using the RAPD primers S29, S42, S301 and L189

Primer	Band (bp)	Tobacco cultivar												
		Yunyan 87	Yunyan 100	Yunyan 105	Yunyan 202	Yanshai 7	Yuyan 6	Yuyan 7	Yuyan 11	Zhongyan 100	Longjiang 981	NC297	CT1410	GR17
S29	620	1	1	1	1	0	1	1	1	1	1	0	0	1
	950	0	0	0	0	0	0	1	0	0	0	0	0	0
	1000	1	1	0	1	0	1	0	0	0	1	0	0	1
	1200	0	0	0	0	0	0	0	0	0	0	0	0	1
S42	980	0	1	1	0	1	1	1	0	1	1	1	1	1
	2000	0	0	0	0	1	0	0	0	1	0	0	1	0
	2500	0	0	0	0	1	1	0	0	1	0	1	1	1
S301	750	0	0	0	0	0	1	0	0	1	1	0	0	0
	2050	1	0	0	0	0	1	0	1	1	0	0	0	0
L189	750	1	1	1	1	0	0	0	0	1	1	0	1	1

1 – present; 0 – absent

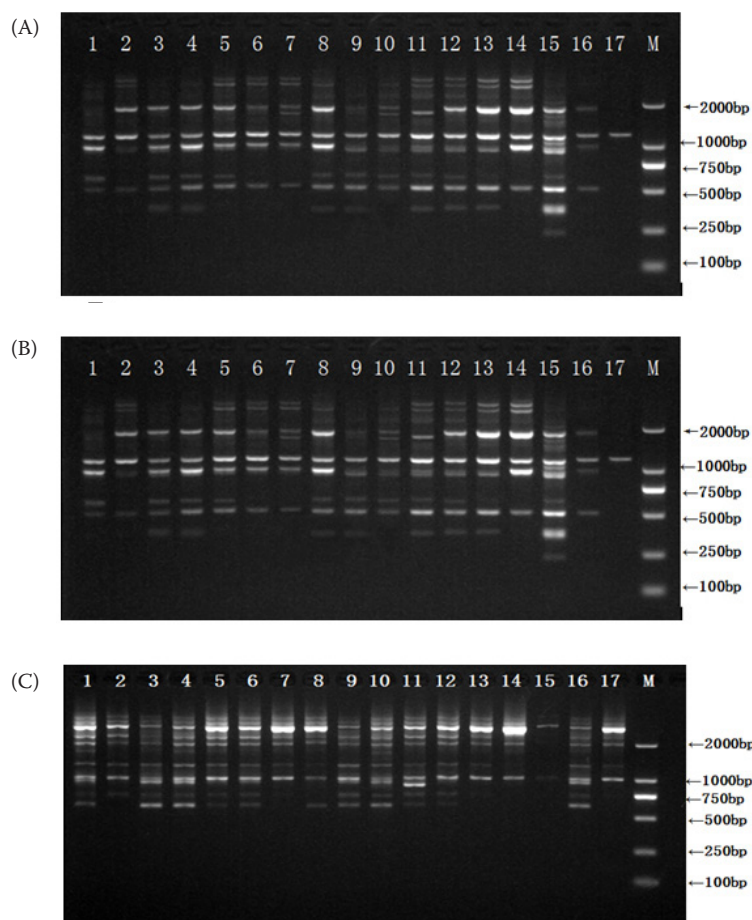


Figure S1. The RAPD profiles of the tobacco cultivars in group I: RAPD profiles of primer S32 (A), the RAPD profiles of primer S29 (B), the RAPD profiles of primer S132 (C)

Lanes 1–17 are the tobacco cultivars Yunyan 203, Longjiang 925, Yunyan 85, Yunyan 317, Jiyan 10, Yuyan 10, Longjiang 911, 9407, Yunyan 98, Yanshai 1, Yanshai 6, Jiyan 1, Jiyan 7, Jiyan 9, Longjiang 982, K346 and SAM, respectively; M indicates the DL2000 DNA ladder

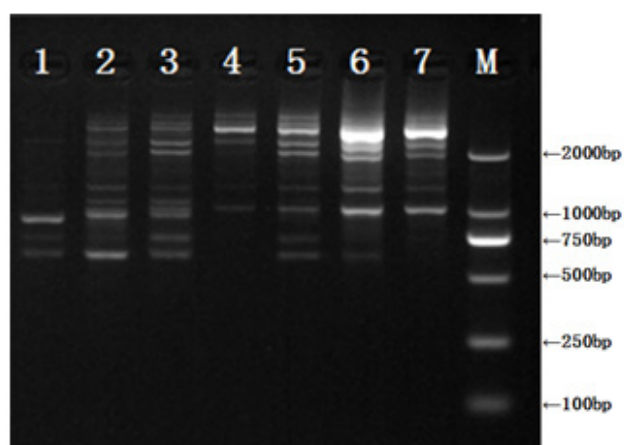


Figure S2. The RAPD profiles of the tobacco cultivars in group II using primer S29

Lanes 1–7 are the tobacco cultivars Yanshai 2, Honghuadajinyuan, Yanshai 8, NC 71, Cuibi 1, Yanshai 10 and Jiyan 5, respectively; M indicates the DL2000 DNA ladder

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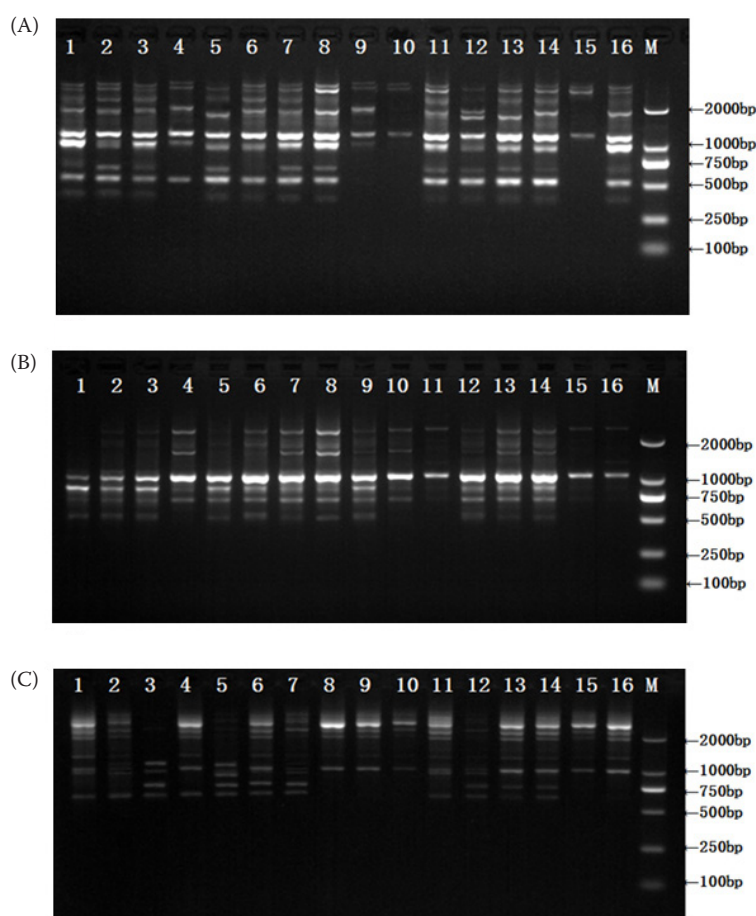


Figure S3. The RAPD profiles of the tobacco cultivars in group III: the RAPD profiles of primer S32 (A), the RAPD profiles of primer S29 (B), the RAPD profiles of primer S114 (C) Lanes 1–16 are the tobacco cultivars Yunyan 99, Yunyan 97, Yunyan 116, K326, Yanshai 3, Yanshai 4, Yiyan 1, Yuyan 12, Zhongyan 206, NC102, V2, Yanshai 5, Yanshai 9, Yanan 1, NC 89 and Qinyan 96, respectively; M indicates the DL2000 DNA ladder

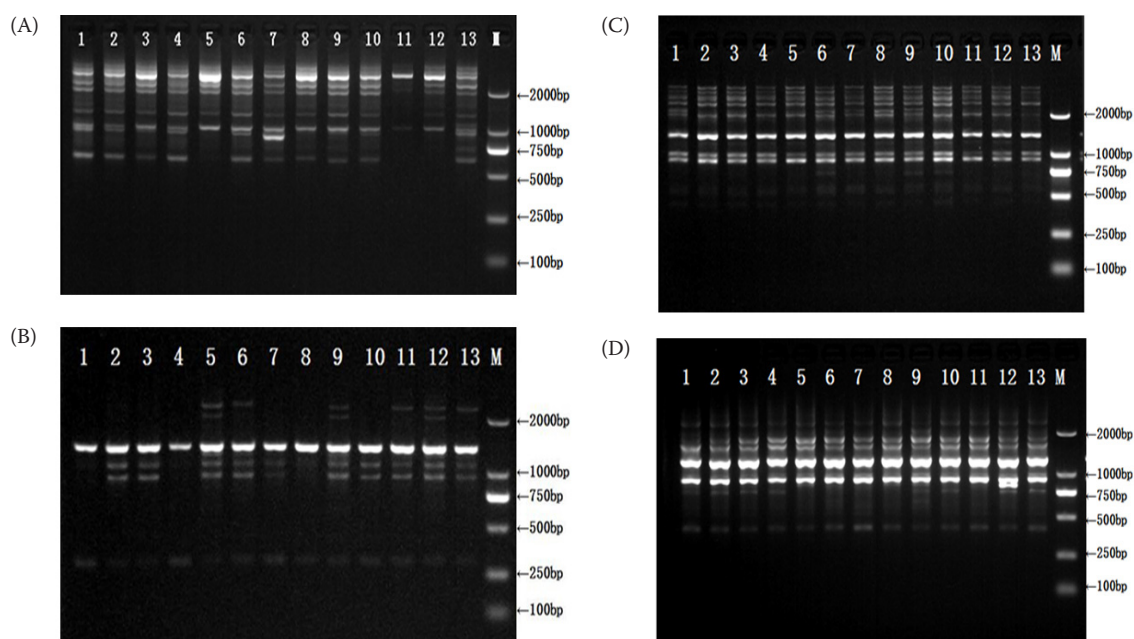


Figure S4. The RAPD profiles of the tobacco cultivars in group IV: the RAPD profiles of primer S29 (A), the RAPD profiles of primer S42 (B), the RAPD profiles of primer S301 (C), the RAPD profiles of primer L189 (D)

Lanes 1–13 are the tobacco cultivars Yunyan 87, Yunyan 100, Yunyan 105, Yunyan 202, Yanshai 7, Yuyan 6, Yuyan 7, Yuyan 11, Zhongyan 100, Longjiang 981, NC297, CT1410 and GR17, respectively; M indicates the DL2000 DNA ladder