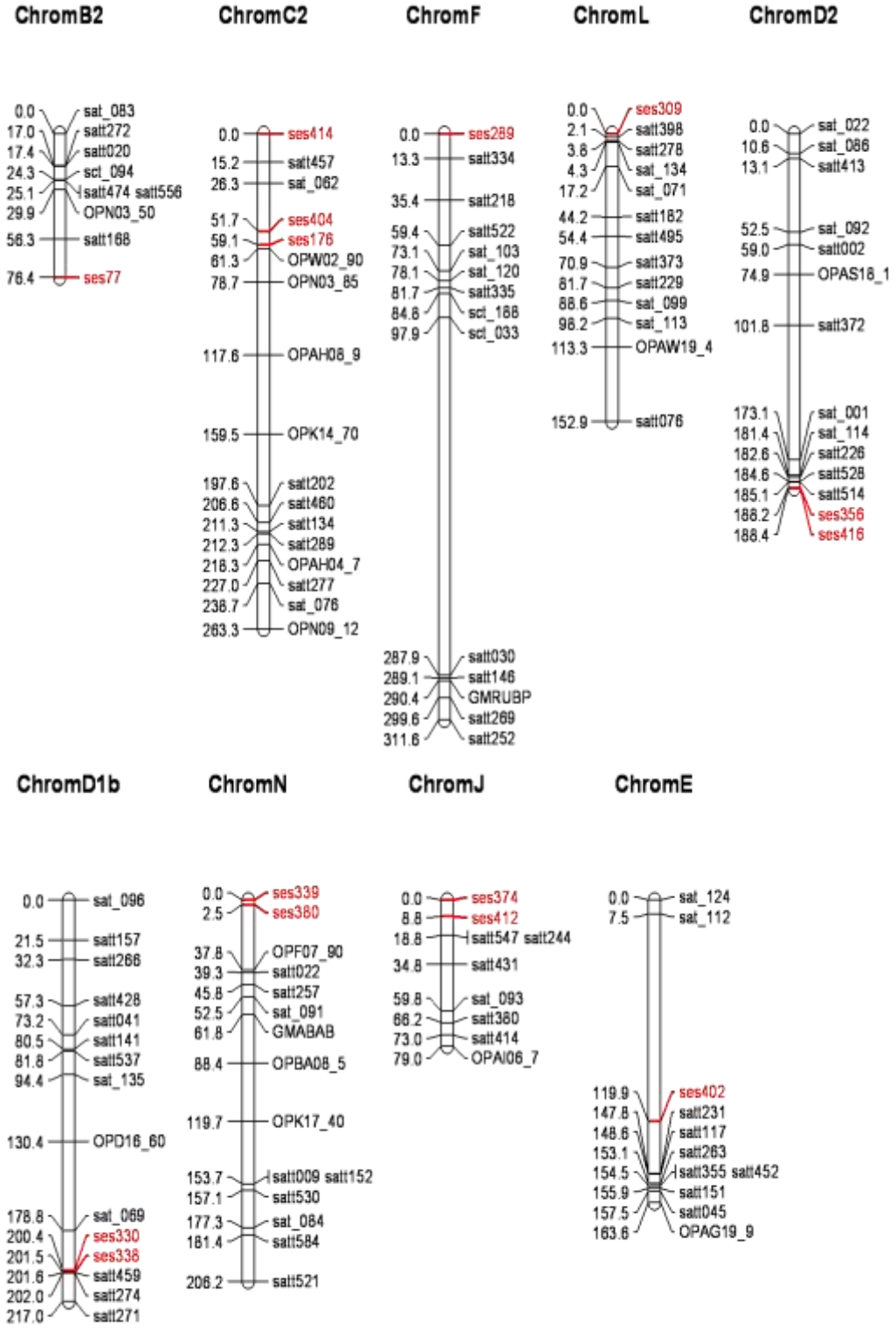
Appendix A **Comparison of EST-SSR and genomic SSR in polymorphism**

EST-SSRs	alleles No.	PIC value	Genomic SSRs	alleles No.	PIC value
SES377	2	0.43	Satt575	2	0.58
SES373	2	0.50	Satt490	2	0.39
SES398	2	0.20	Satt341	2	0.47
SES412	2	0.39	Satt380	2	0.47
SES404	2	0.52	Satt293	2	0.73
SES413	2	0.37	Satt168	2	0.42
SES388	2	0.50	Satt237	2	0.42
SES309	2	0.52	Satt197	2	0.37
SES314	2	0.52	soyprp	2	0.64
SES395	2	0.46	Satt341	2	0.47
SES414	2	0.47	Satt270	2	0.51
SES415	2	0.54	gmabab	2	0.43
SES289	2	0.44	Satt122	2	0.49
SES339	2	0.47	Satt066	2	0.37
SES394	2	0.51	Satt358	2	0.39
SES417	2	0.47	Satt239	2	0.38
SES351	2	0.50	Satt519	3	0.43
SES347	2	0.50	Satt336	3	0.32
SES356	5	0.87	Satt244	3	0.52
SES308	2	0.60	Satt082	4	0.63
SES402	3	0.63	Satt076	2	0.46
SES366	3	0.20	Satt514	6	0.89
SES406	3	0.69	Satt482	2	0.20
SES407	3	0.39	Satt420	2	0.47
SES416	3	0.57	Satt307	2	0.25
SES397	3	0.51	Satt437	2	0.83
SES288	3	0.63	Satt389	2	0.32
SES350	3	0.60	Satt561	2	0.54
SES408	3	0.70	Satt544	3	0.44
SES380	4	0.77	Satt543	2	0.24
Average	2.46	0.52	Average	2.23	0.47
Max	5	0.87	Max	6	0.89
Min	2	0.20	Min	2	0.20

Appendix B　Locations of 16 EST-SSR markers on genetic map



Appendix C *In silico* mapping of novel developed EST-SSR markers of soybean

Name of Markers	MLG	Genetic Position (cM)	Chromosome No.	Position on Soybean Genome (bp)	Flanking Markers	
					Upstream Markers	Downstream Markers
ses147	A1	68.09	Gm05	34593634	Sat_171	Satt385
ses387	A1	75.71	Gm05	35877079	Satt619	Satt545
ses407	A1	101.06	Gm05	40977965	Satt200	Satt174
ses136	A2	2.37	Gm08	292069	Sat_383	Satt390
ses192	B1	32.25	Gm11	3459923	Sat_272	Sat_270
ses271	B1	82.83	Gm11	24226423	Satt332	Satt430
ses358	B1	113.03	Gm11	38205877	Satt359	Satt453
ses77	B2	107.21	Gm14	48669346	Satt560	Satt687
ses373	B2	84.08	Gm14	43189479	Satt272	Sat_355
ses406	B2	17.3	Gm14	3105342	Sat_342	Satt126
ses409	B2	18.05	Gm14	3307803	Sat_342	Satt126
ses288	C1	79.24	Gm04	39240798	Sat_416	Satt361
ses379	C1	78.96	Gm04	32803097	Sat_357	Sat_416
ses68	C2	153.97	Gm06	50029404	Satt357	—
ses75	C2	49.14	Gm06	7349770	Satt291	Sat_336
ses96	C2	76.67	Gm06	11248390	Sat_153	Satt170
ses176	C2	84.51	Gm06	12417481	Satt322	Satt450
ses268	C2	151.56	Gm06	49310540	Satt371	Satt357
ses385	C2	112.91	Gm06	34922435	Satt100	Sat_312
ses397	C2	39.56	Gm06	5958114	Sat_062	Satt432
ses404	C2	83.58	Gm06	12172967	Satt305	Satt322
ses413	C2	100.78	Gm06	15599692	Satt376	Satt363
ses414	C2	51.92	Gm06	7774533	Satt291	Sat_336
ses274	D1a	41.69	Gm01	23911181	Satt320	Satt221
ses89	D1b	41.14	Gm02	7957061	Satt095	Satt701
ses99	D1b	116.81	Gm02	46324850	Satt703	Sat_069
ses104	D1b	48.79	Gm02	9665286	Sat_173	Satt558
ses282	D1b	40.13	Gm02	7737478	Satt095	Satt701
ses314	D1b	21.37	Gm02	3090148	Sat_227	Satt216
ses330	D1b	132.32	Gm02	48256761	Sat_183	Satt274
ses338	D1b	132.32	Gm02	48256901	Sat_183	Satt274
ses350	D1b	36.81	Gm02	6979677	Satt095	Satt701
ses366	D1b	102.61	Gm02	44165576	Satt546	Sat_139
ses66	D2	89.83	Gm17	36814878	Sat_001	Satt301
ses71	D2	75.68	Gm17	13181029	Sat_222	Satt389

ses74	D2	15.98	Gm17	4051444	Satt310	Satt328
ses93	D2	36.35	Gm17	7167618	Satt486	Satt256
ses351	D2	14.49	Gm17	3682535	Sct_192	Satt226
ses356	D2	103.6	Gm17	38385222	Sat_354	Satt186
ses416	D2	103.35	Gm17	38384017	Sat_354	Satt186
ses212	E	29.31	Gm15	10373987	Satt651	Sat_273
ses323	E	21.92	Gm15	5675467	Satt212	Satt651
ses402	E	63.99	Gm15	50195375	Satt685	Sat_376
ses90	F	143.13	Gm13	42215854	Satt656	Sat_074
ses110	F	63.01	Gm13	24541491	Satt663	Sat_103
ses239	F	94.26	Gm13	33492466	Satt362	Sct_188
ses289	F	13.32	Gm13	13677870	Satt146	Satt516
ses403	F	68.45	Gm13	25846646	Sat_229	Sat_234
ses417	F	70.46	Gm13	28022072	Satt334	Satt510
ses120	G	110.6	Gm18	61417140	Sat_372	—
ses381	G	35.13	Gm18	5288550	Satt235	Sat_315
ses72	H	70.5	Gm12	32000008	Satt314	Sat_205
ses398	H	66.2	Gm12	17123298	Sat_401	Satt253
ses408	H	108.48	Gm12	39686740	Satt434	—
ses122	I	71.28	Gm20	39399189	satt330	satt292
ses336	I	16.41	Gm20	22284149	Sctt012	Satt700
ses325	J	31.27	Gm16	5703713	Sat_339	Satt693
ses346	J	84.58	Gm16	36083595	Satt431	Sat_395
ses365	J	38.74	Gm16	26873402	Sat_093	Satt414
ses374	J	16.79	Gm16	1910483	Satt287	Satt285
ses388	J	20	Gm16	2503715	Satt287	Satt285
ses405	J	27.88	Gm16	4841943	Sat_339	Satt693
ses412	J	25.55	Gm16	4006217	Sat_228	Sat_339
ses415	J	38.74	Gm16	26872887	Sat_093	Satt414
ses377	K	49.53	Gm09	27880576	Satt326	Satt001
ses118	L	100.61	Gm19	47947922	Satt664	Satt513
ses309	L	9.54	Gm19	1013956	Satt495	Satt232
ses324	L	60.93	Gm19	41164336	Sat_340	Sct_010
ses347	L	88.16	Gm19	44938176	Sat_099	Sat_286
ses127	M	27.12	Gm07	3429961	Sat_316	satt567
ses308	M	141.47	Gm07	44003543	Sat_359	Sat_330
ses395	M	45.88	Gm07	7210413	Satt540	Sat_244
ses339	N	2.47	Gm03	203324	—	Sat_379
ses380	N	37.89	Gm03	28320863	Sat_166	Sat_275
ses131	O	56.04	Gm10	33587432	Satt585	Satt128
ses185	O	56.06	Gm10	33855580	Satt585	Satt128
ses234	O	23.84	Gm10	2890135	Sat_303	Sat_318
ses287	O	88.06	Gm10	40332938	Satt123	Satt331
ses367	O	75.62	Gm10	38842187	Satt478	Sat_242

ses394	O	69.09	Gm10	38099995	Sat_341	Satt563

Appendix D **Soybean cultivars used for screening polymorphic EST-SSRs**

No.	Accessions	No.	Accessions	No.	Accessions
1	Jian 96	10	Baojiao 98-5016	19	Bei 98-97-4
2	Jian 97	11	Heinong 45	20	Heihe 30
3	Ha 99	12	Kengfeng 9	21	Heihe 19
4	Jiyu 47	13	Yang 02	22	Habei 46-1
5	Heihe 18	14	Nongda 5918-2	23	Heijiao 99
6	Heihe 17	15	Dongnong 46	24	Beijiao 94-64
7	Beifeng 16	16	Heinong 44	25	Heihe 31
8	Heifu 97-43	17	Hefeng 45	26	Dongnong 594
9	Heihe 22	18	Suinong 11		