

**S1 Fig. Images of genetic linkage maps for 17 linkage groups of GMAL4593 population.**

Images illustrate maps for 'Royal Gala' (maternal parent, left), PI613981 (paternal parent, right) and combined GMAL4593 mapping population (center).

Anchor markers used to combine parental maps and connected with lines.

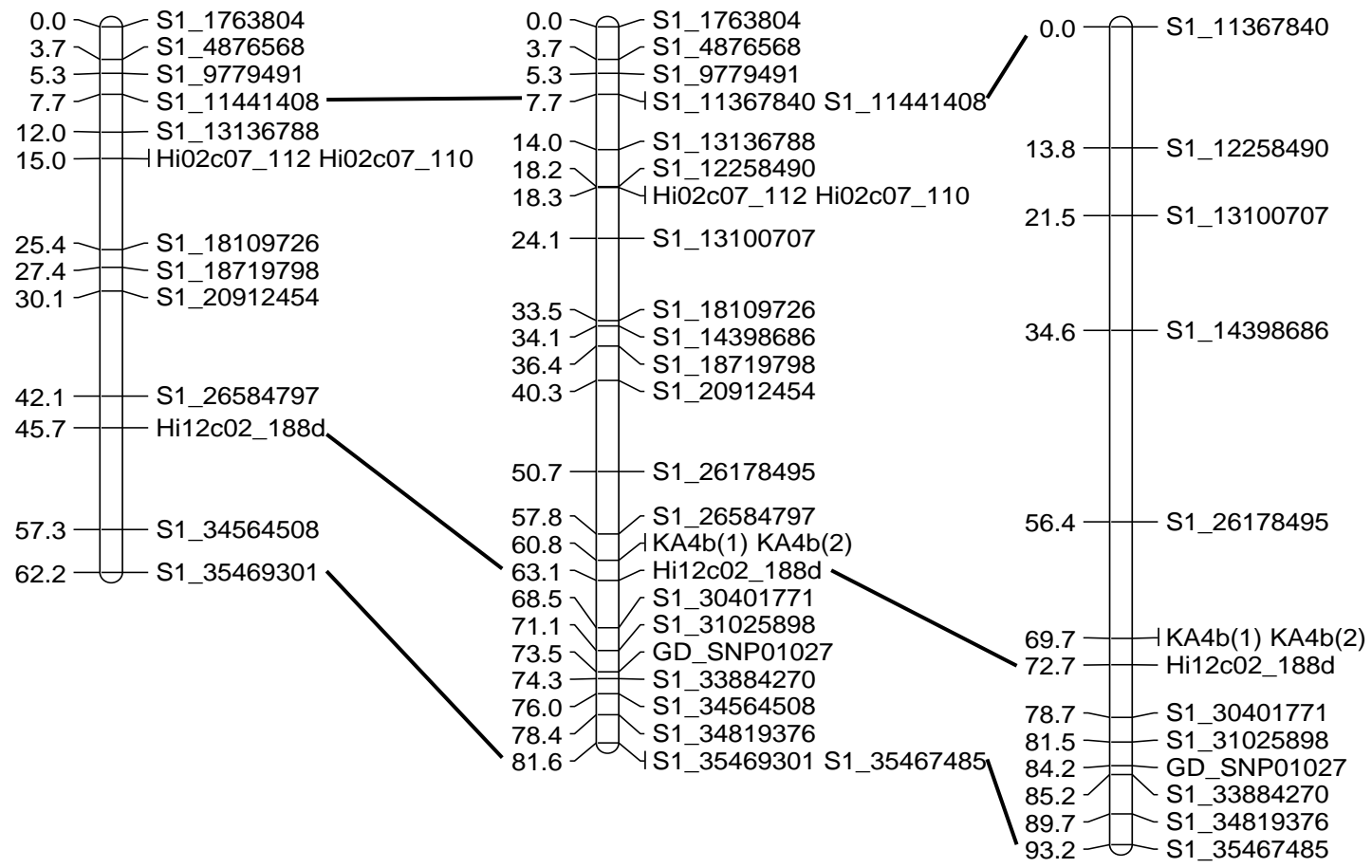
The genetic linkage maps were calculated using JoinMap4.1 software (Kyazma B.V., Wageningen, The Netherlands).

**LG 1**

**RG**

**4593**

**613981**

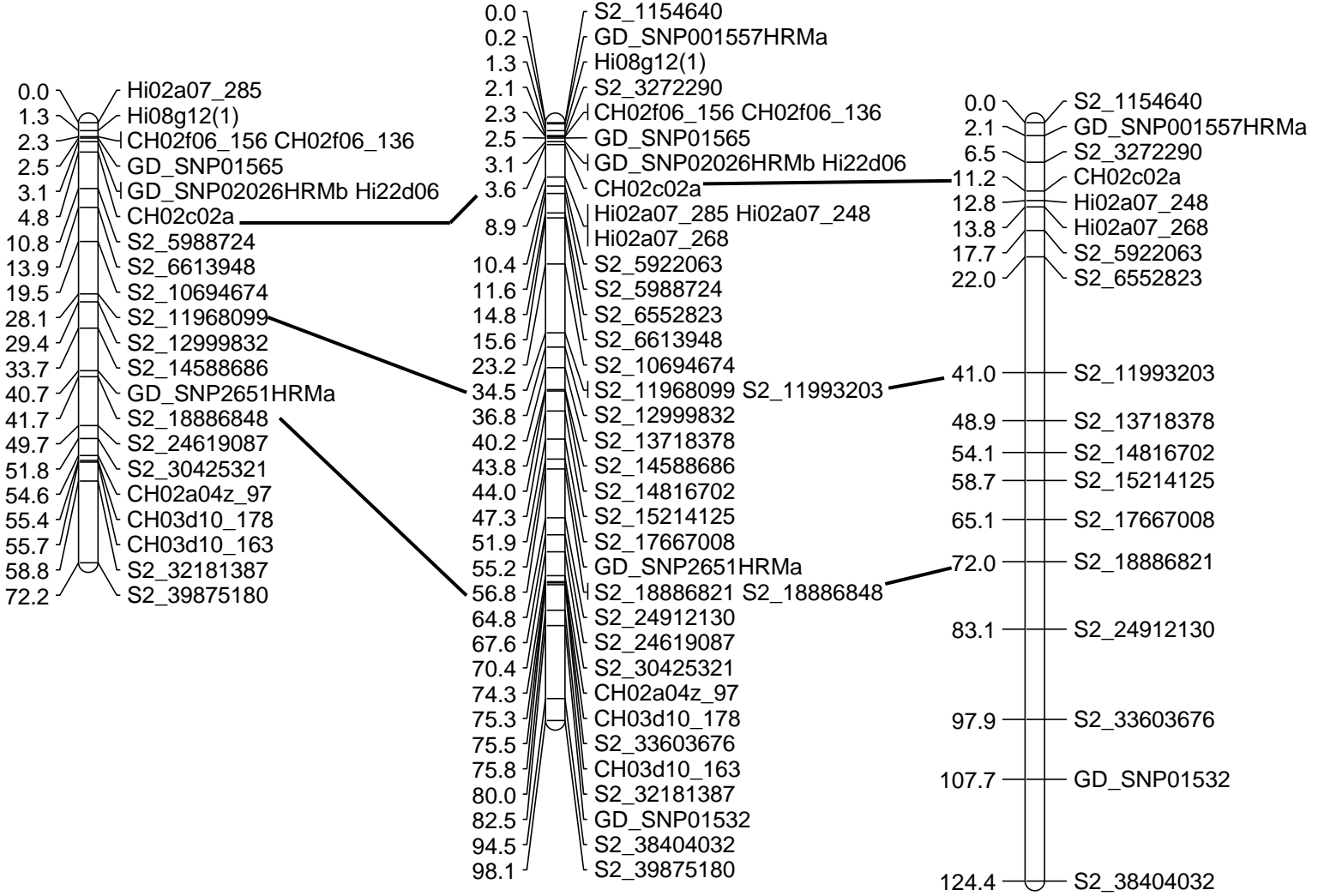


**LG 2**

**RG**

**4593**

**613981**

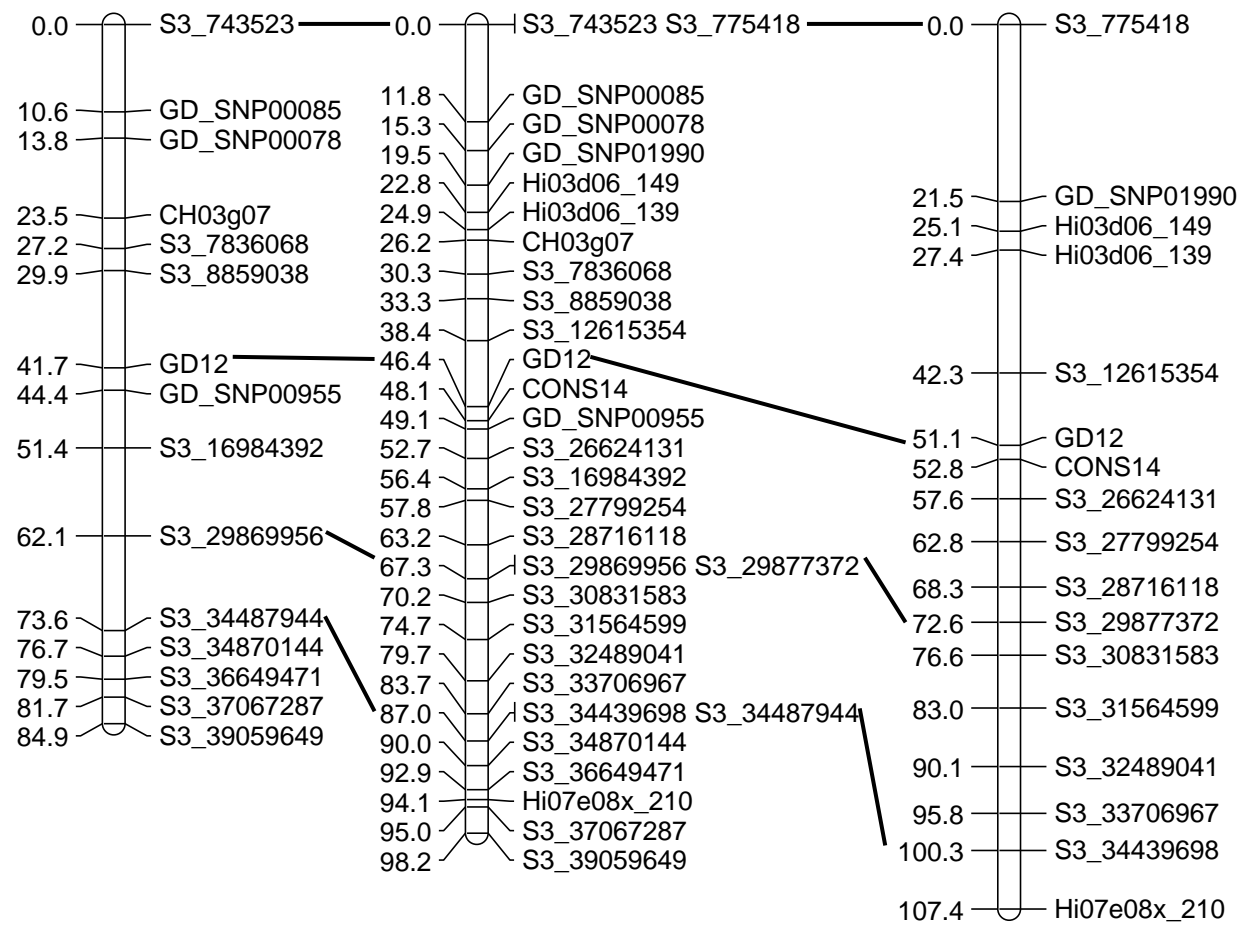


**LG 3**

**RG**

**4593**

**613981**

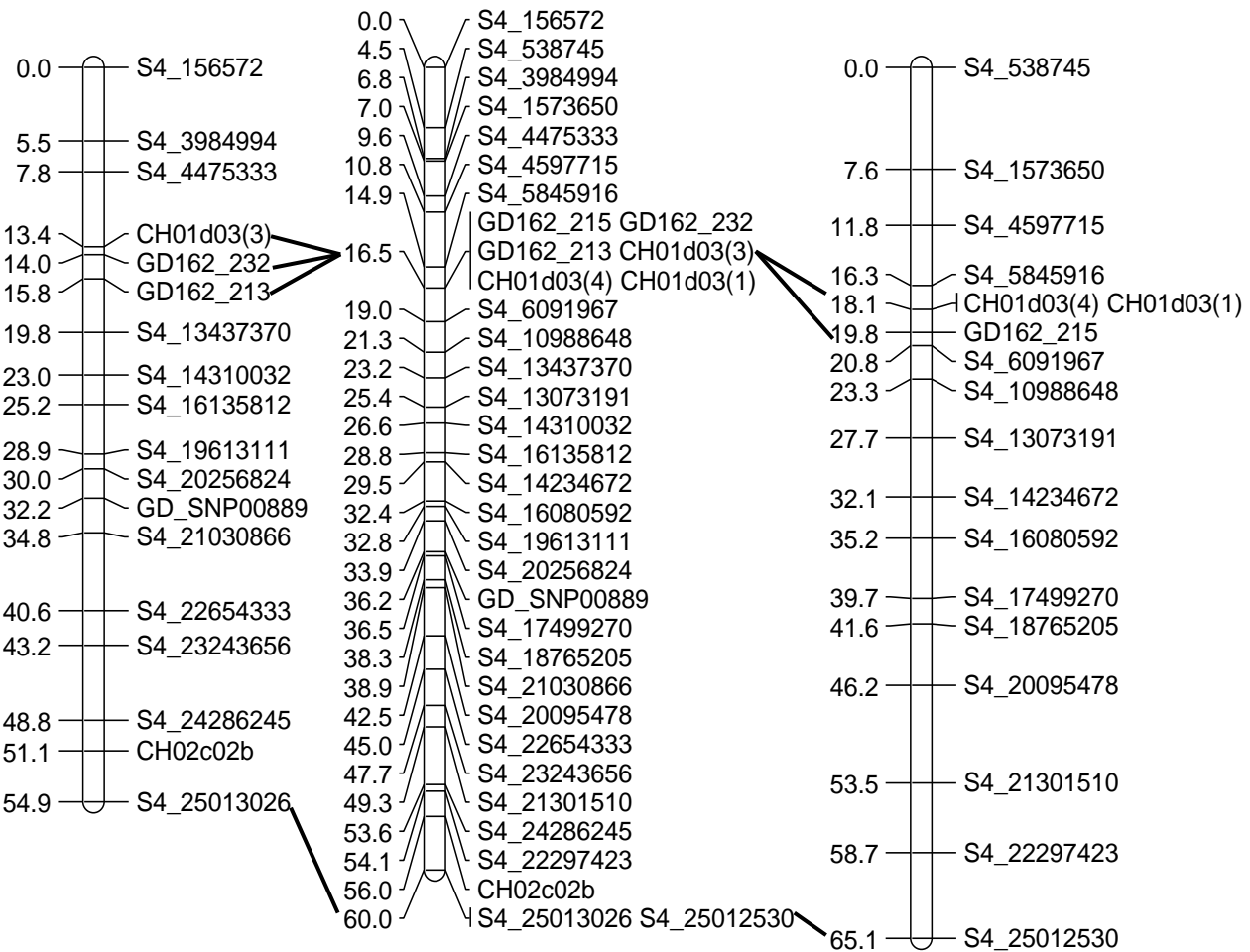


**LG 4**

**RG**

**4593**

**613981**

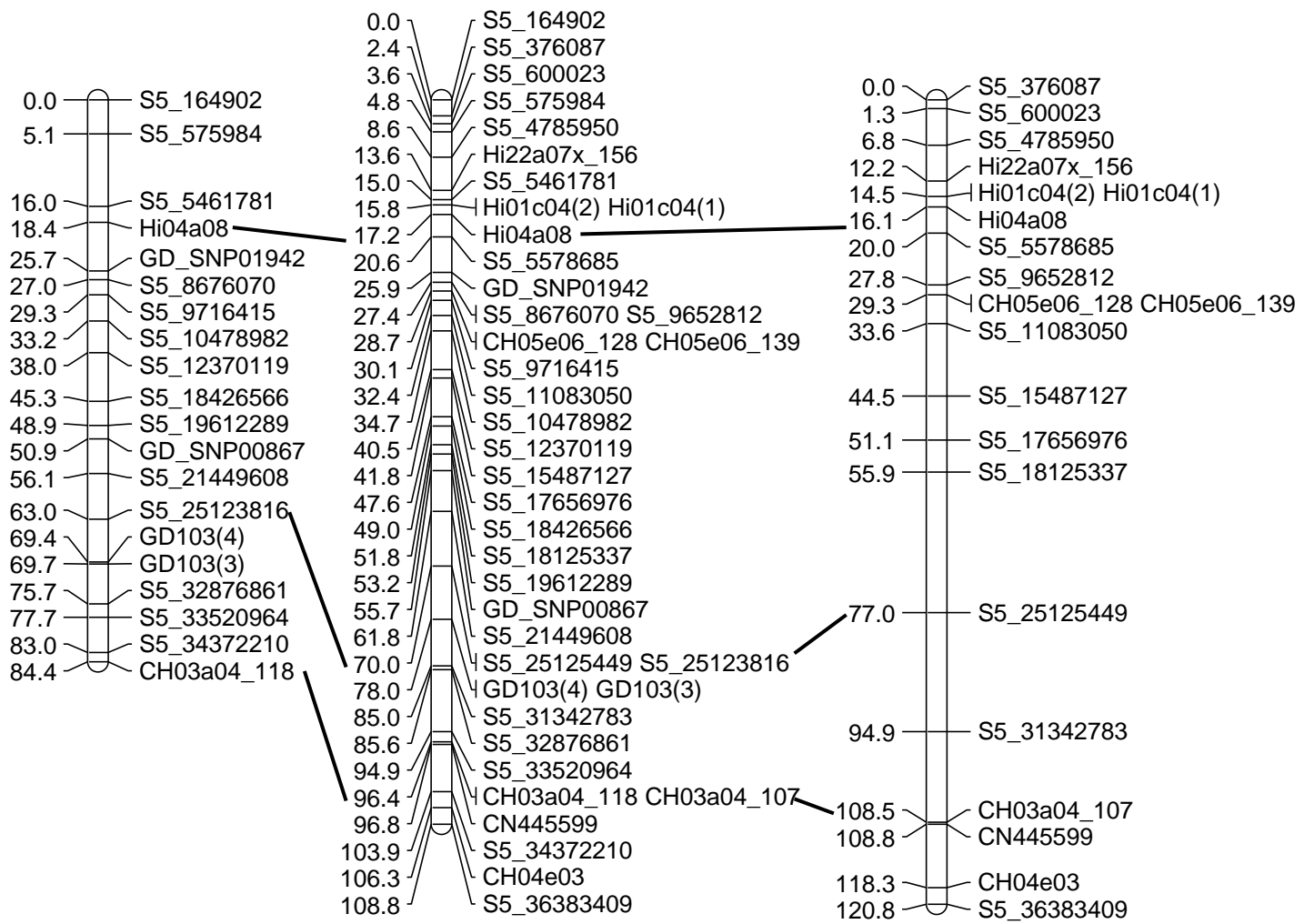


**LG 5**

**RG**

**4593**

**613981**

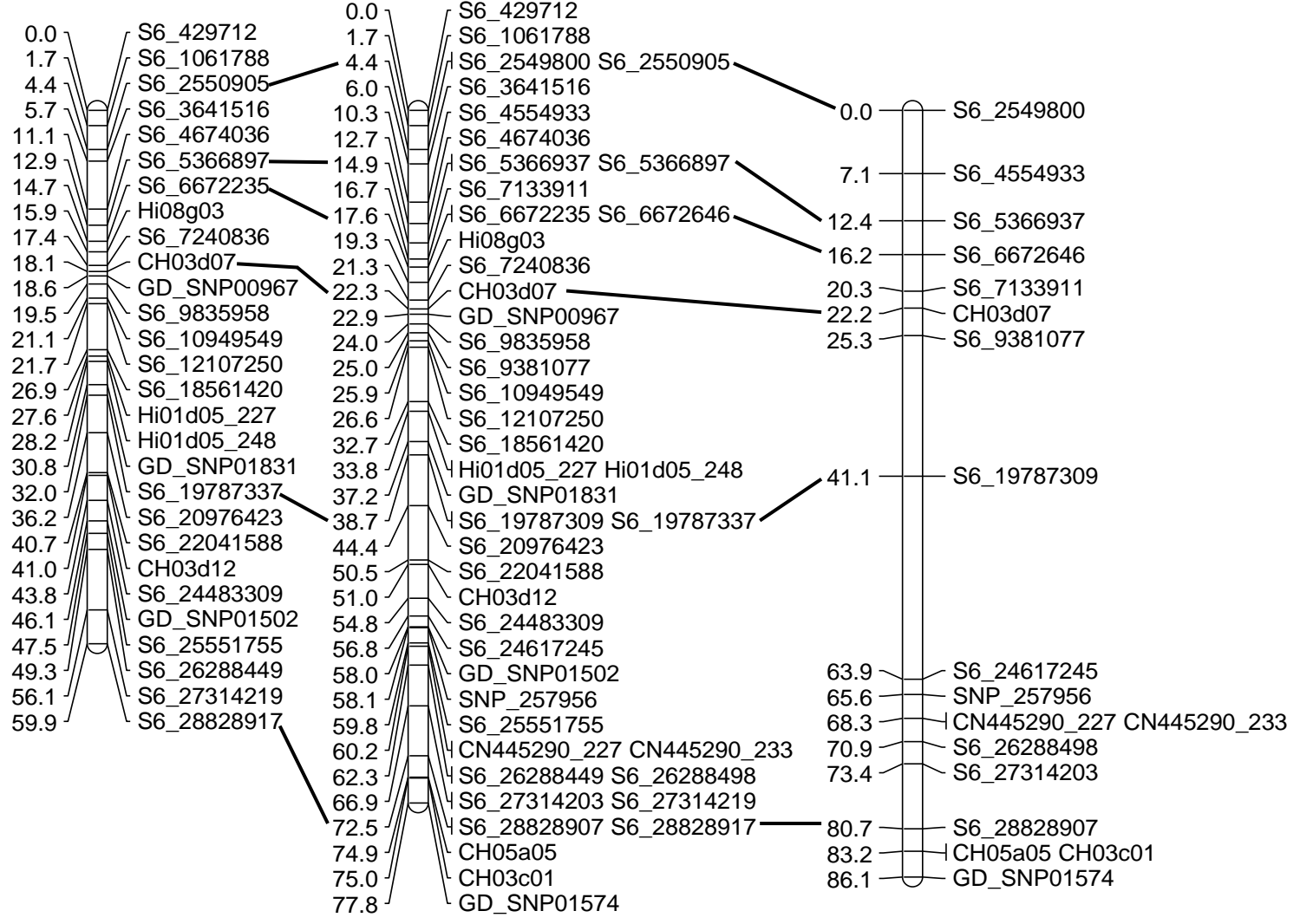


**LG 6**

**RG**

**4593**

**613981**

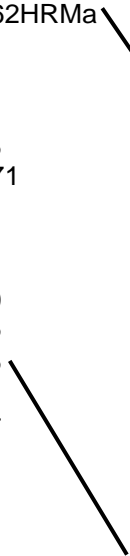
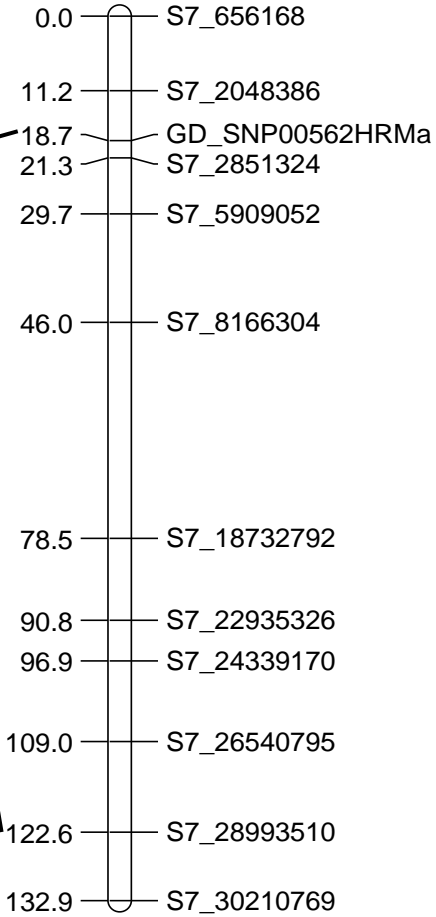
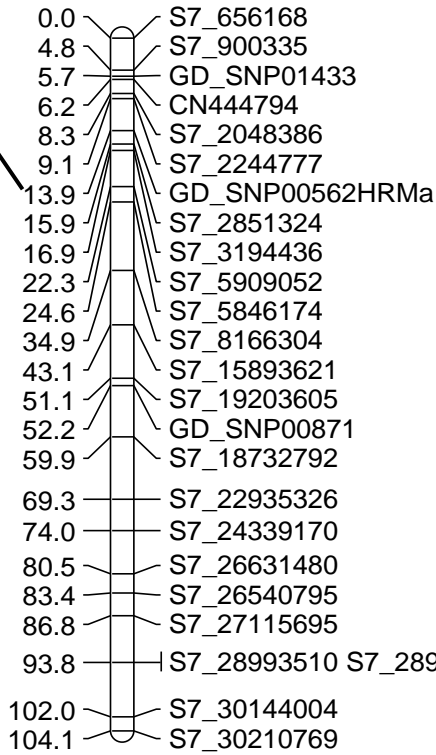
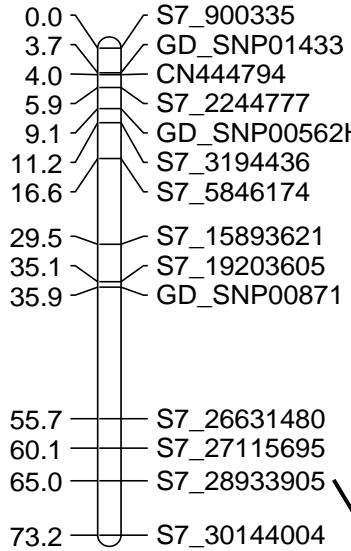


**LG 7**

**RG**

**4593**

**613981**



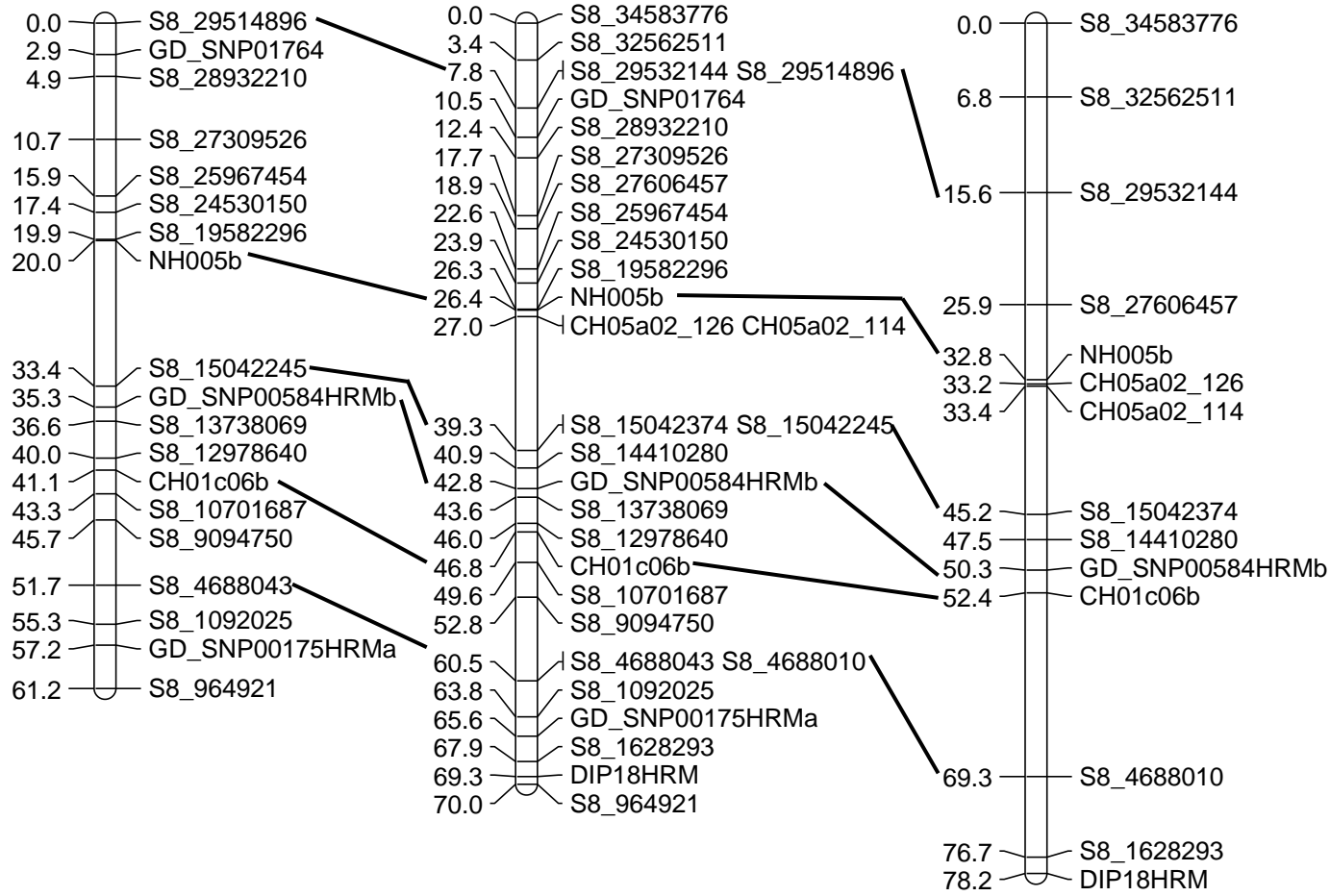


**LG 8**

**RG**

**4593**

**613981**

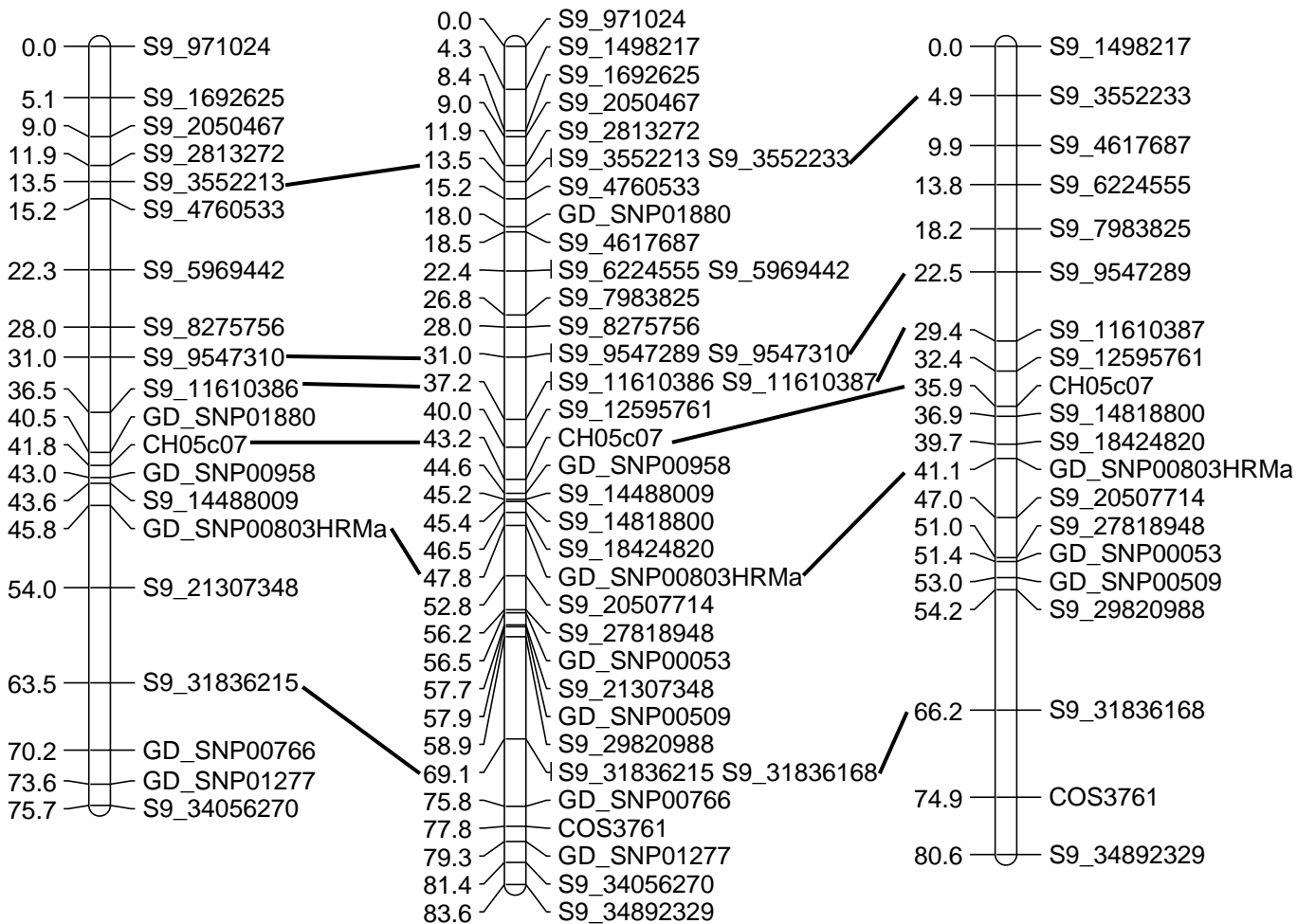


**LG 9**

**RG**

**4593**

**613981**

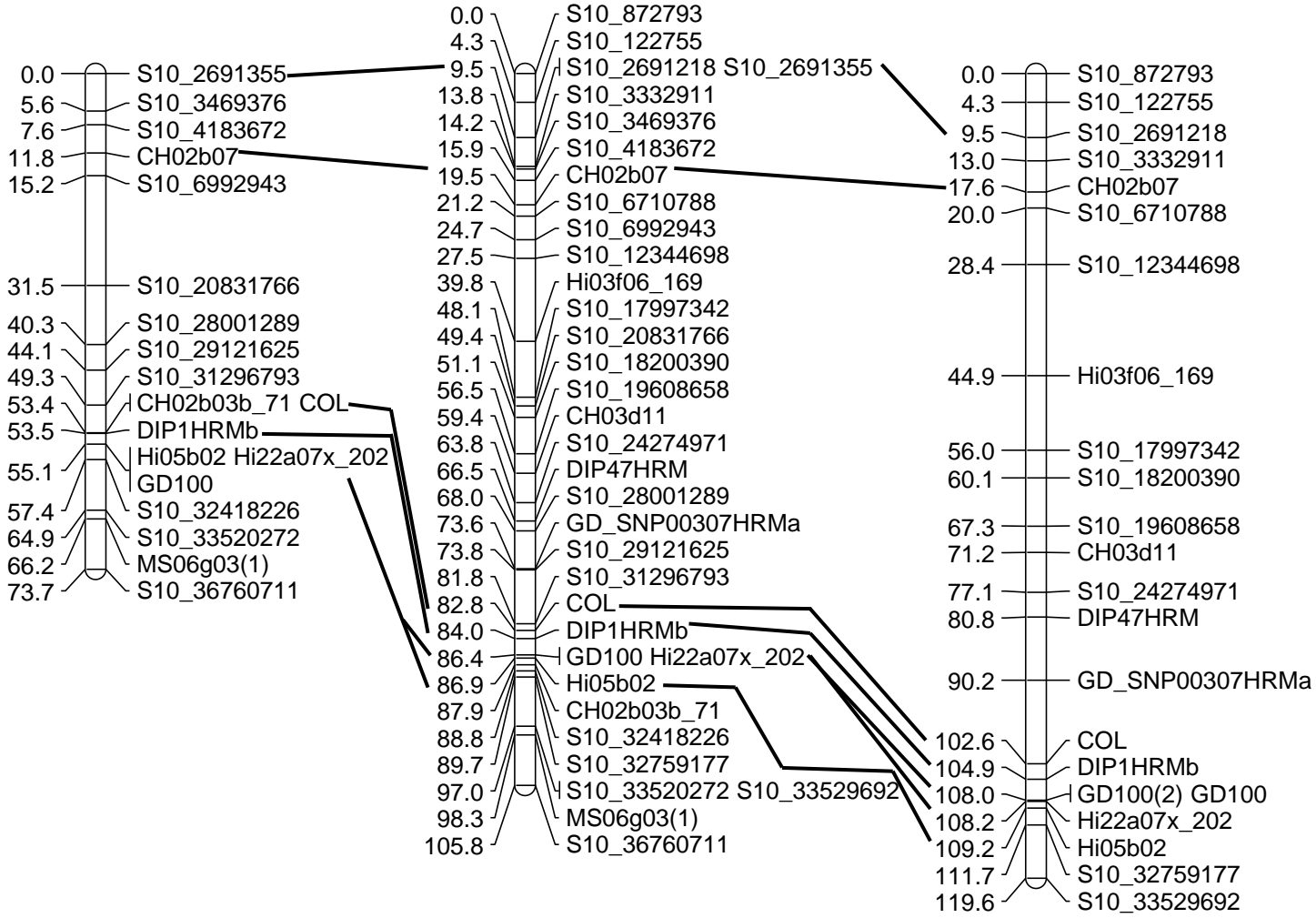


**LG 10**

**RG**

**4593**

**613981**

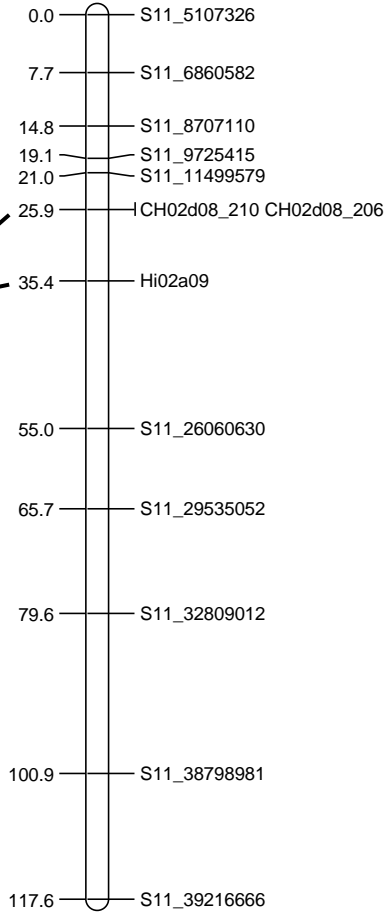
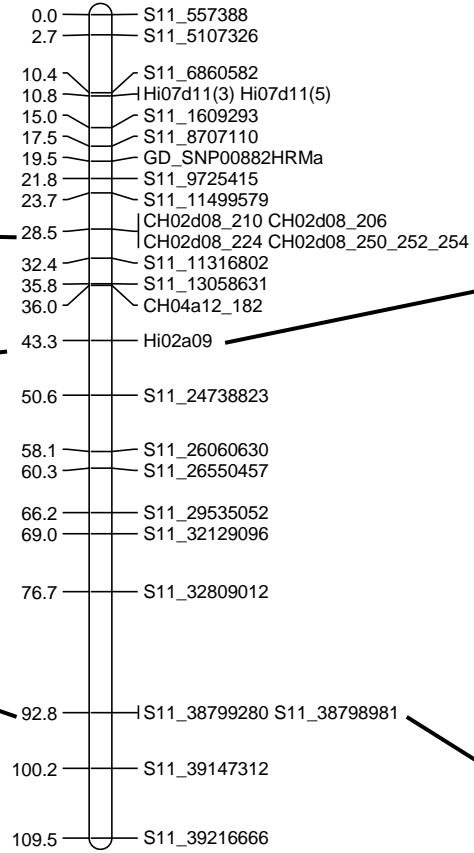
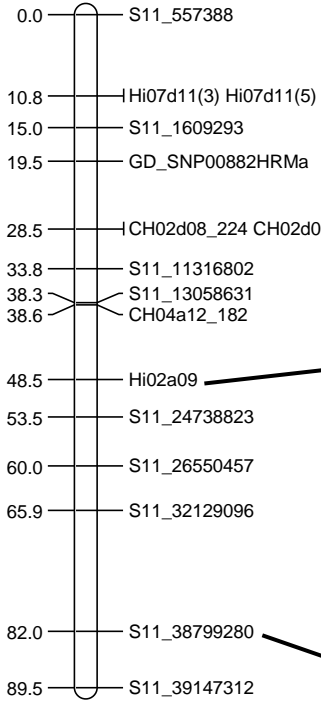


**LG 11**

**RG**

**4593**

**613981**

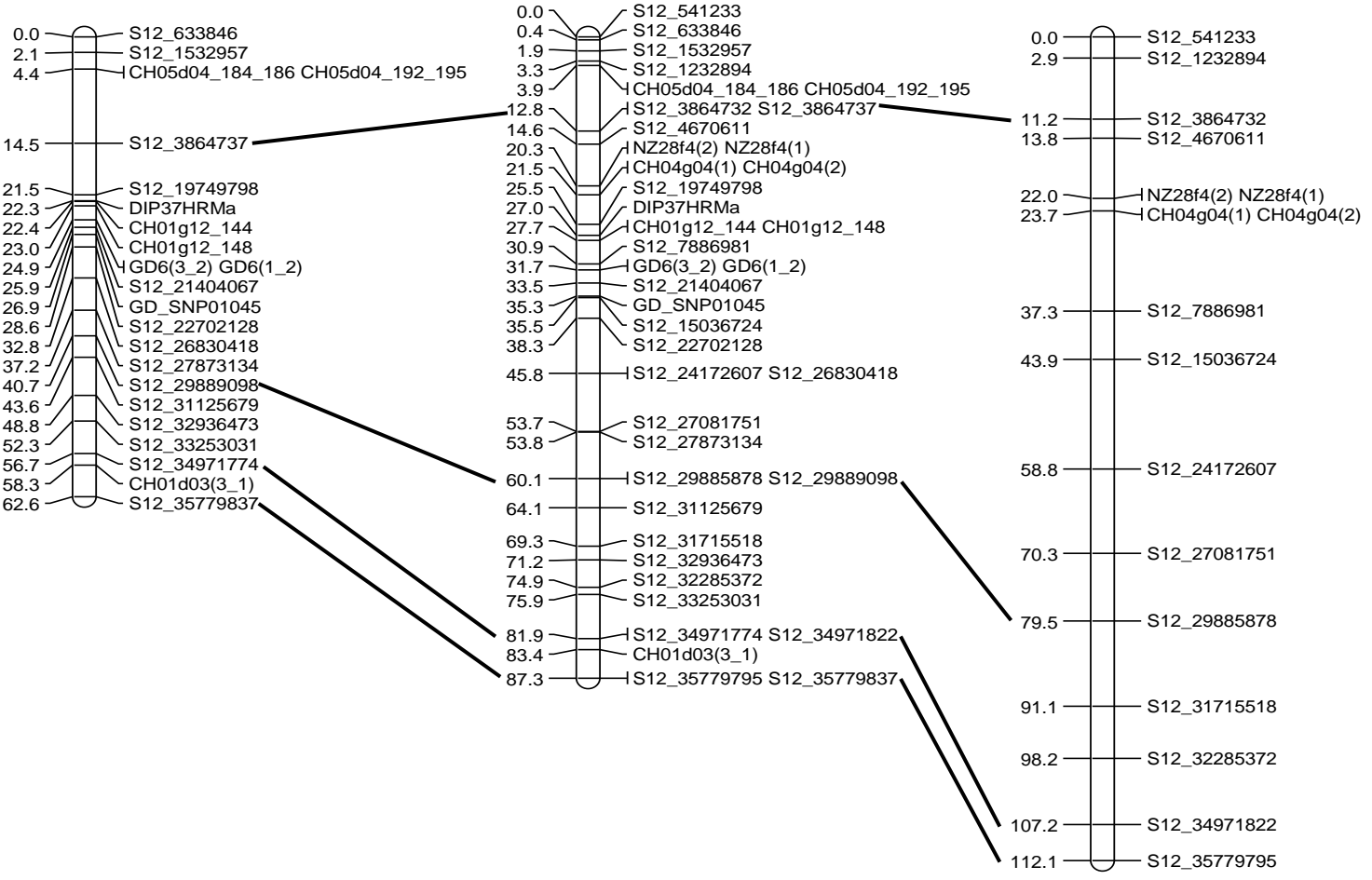


LG 12

RG

4593

613981

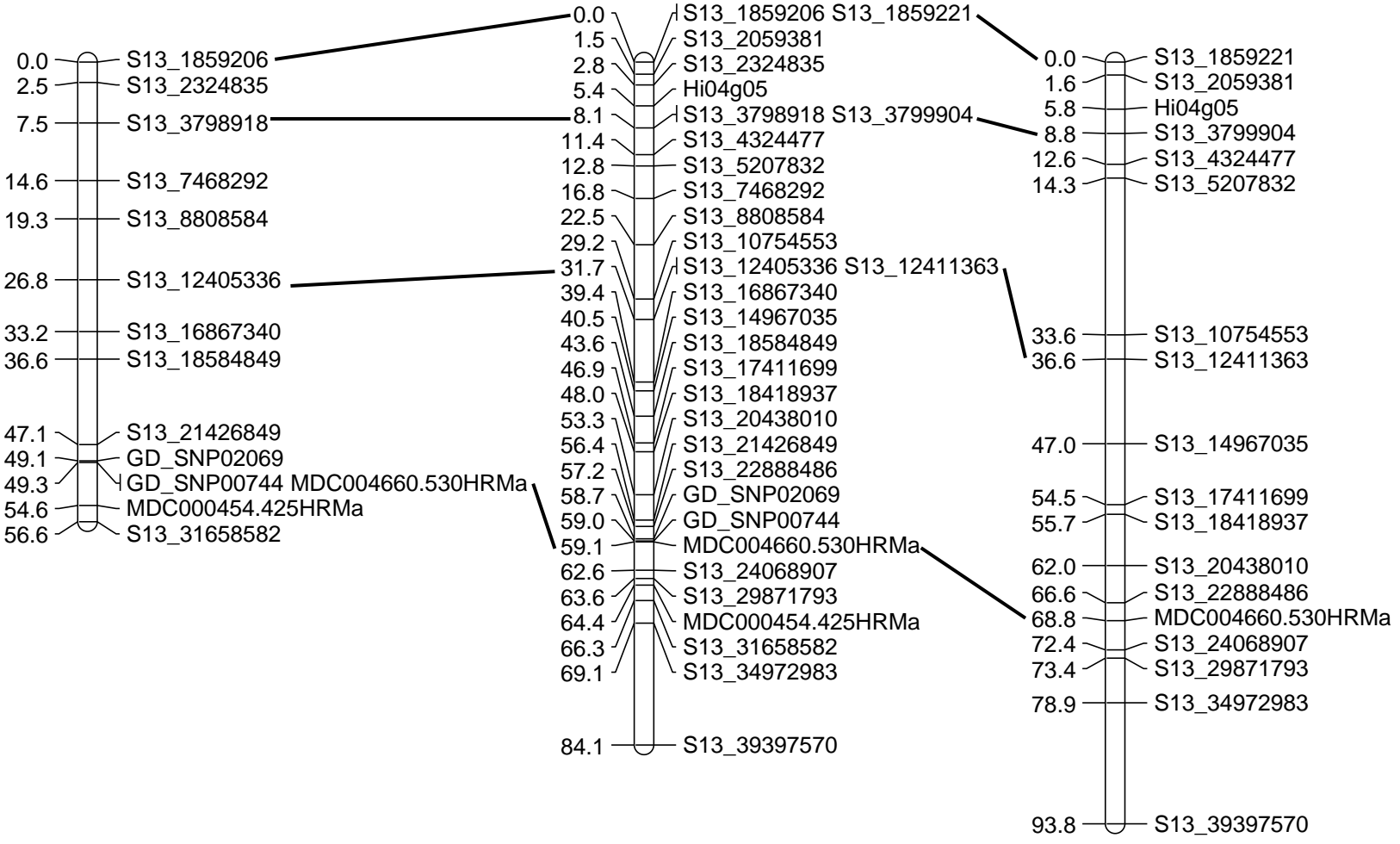


**LG 13**

**RG**

**4593**

**613981**

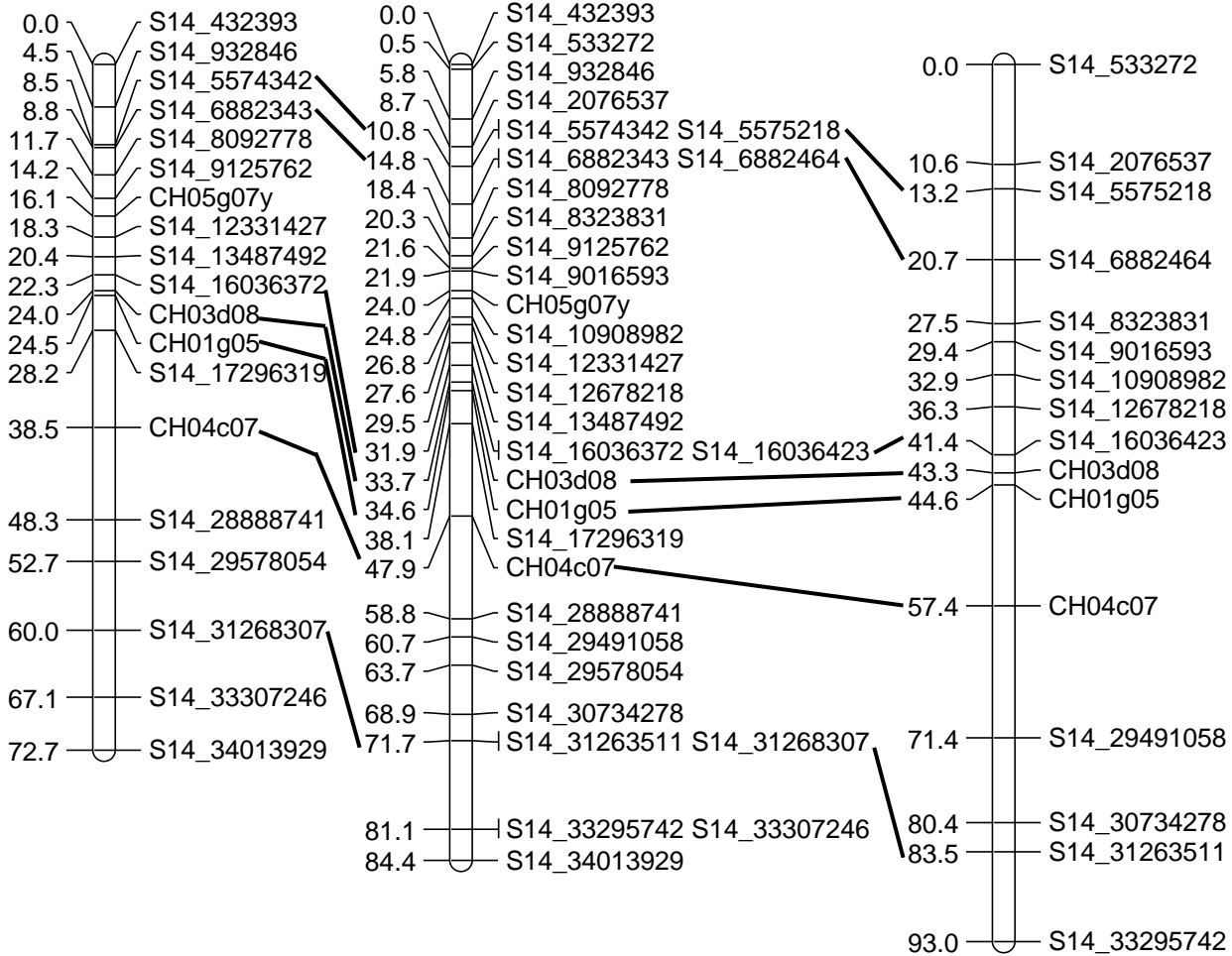


**LG 14**

**RG**

**4593**

**613981**

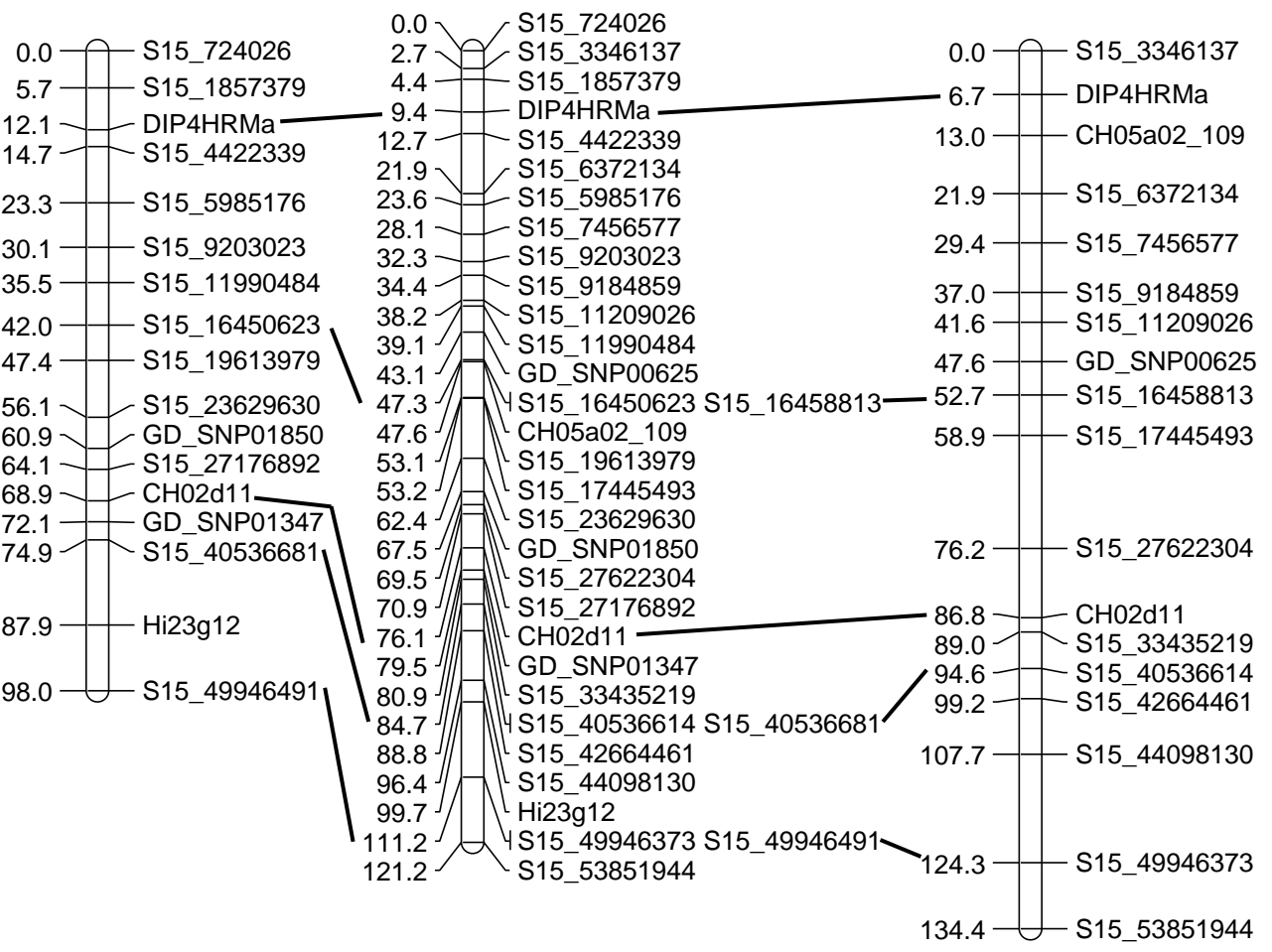


**LG 15**

**RG**

**4593**

**613981**



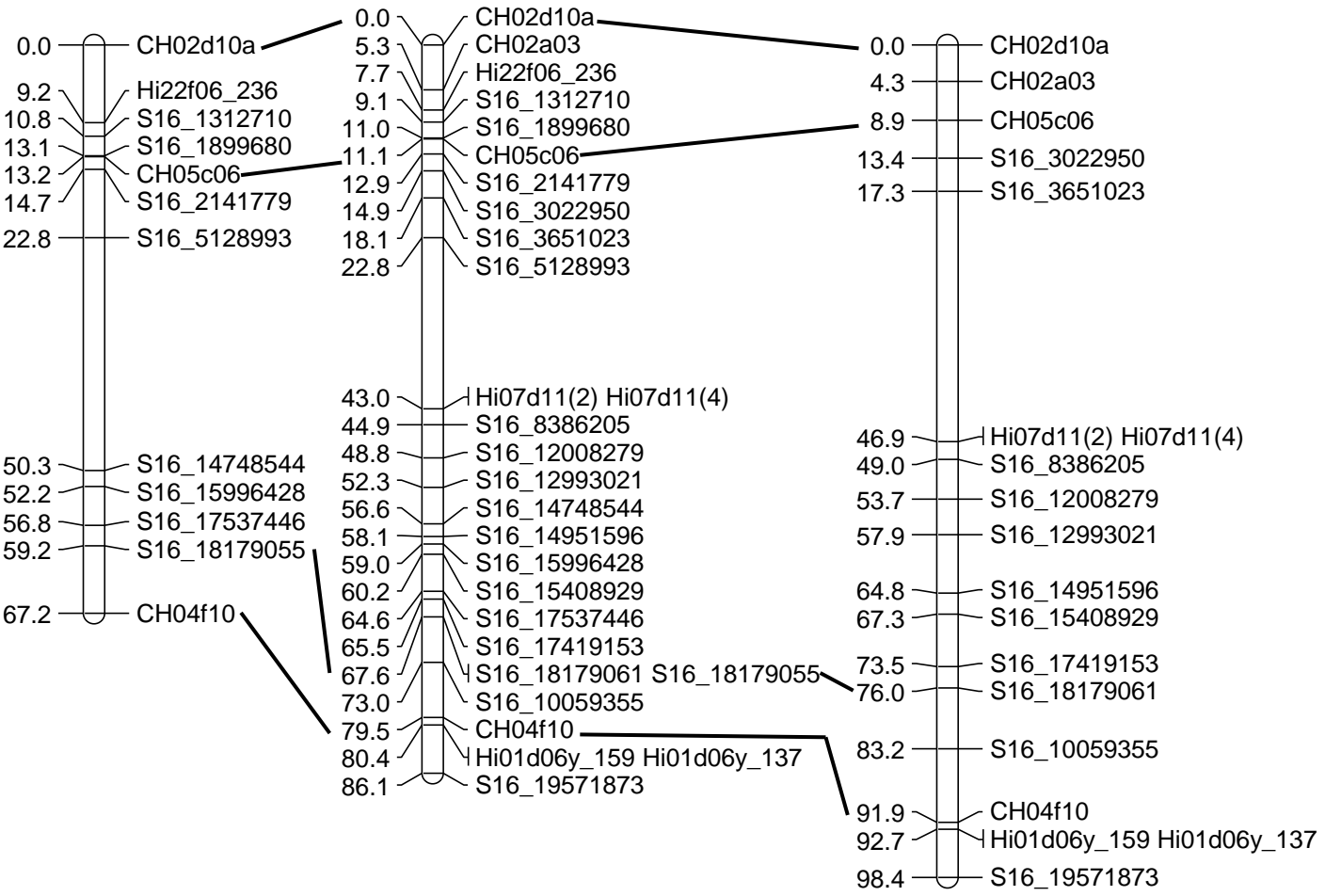


**LG 16**

**RG**

**4593**

**613981**



**LG 17**

**RG**

**4593**

**613981**

