



Paragon X Watkins Landrace QTL Plots

Seven bi-parental bread wheat F4 mapping populations have been developed using Paragon and one of seven AE Watkins landrace collection accessions. The population development and SSR genotyping was conducted within the WGIN¹ project. The genotyping has been extended by KASPar genotyping as part of the Wheat Pre-Breeding LOLA² by the project partners in Bristol.

The populations were phenotyped for plant height and ear emergence in 2011 on the JIC trial sites at Church Farm, Norwich. Single-QTL analyses were conducted for all populations by Haley-Knott regression using R/qtl software³.

QTL plots employing the following maps are attached:

- F4 Paragon x Watkins034, 95 lines, 306 loci on map
- F4 Paragon x Watkins141, 96 lines, 352 loci on map.
- F4 Paragon x Watkins209, 88 lines, 339 loci on map.
- F4 Paragon x Watkins292. 96 lines, 377 loci on map.
- F4 Paragon x Watkins352, 96 lines, 391 loci on map.
- F4 Paragon x Watkins468, 96 lines, 335 loci on map.
- F4 Paragon x Watkins729, 82 lines. 330 loci on map.

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¹www.wgin.org.uk/resources/MappingPopulation/TAmapping.php

²www.wheatisp.org

³www.rqtl.org

Legend for the plots:

The title of each plot contains the trait, the chromosome and the population name. LOD scores are plotted along the linkage group - if a significant QTL was found in that linkage group. Marker names are given close to the bottom of the plot. Also, the name of the peak marker is given over the QTL peak. At the bottom of the plot the confidence interval is given (1.5 LOD score drop).

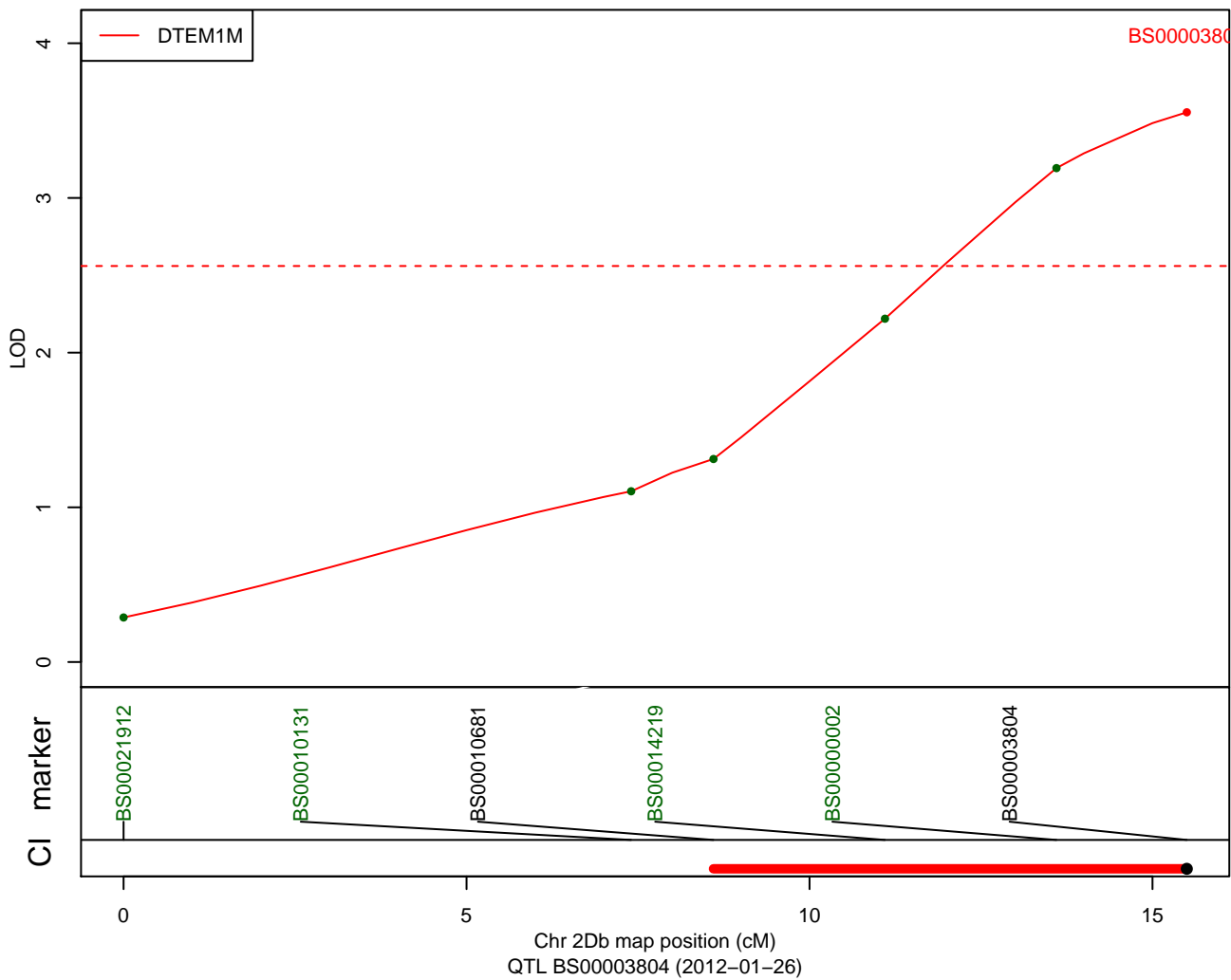
Abbreviations:

DTEM1M: days to ear emergence after May 1st.

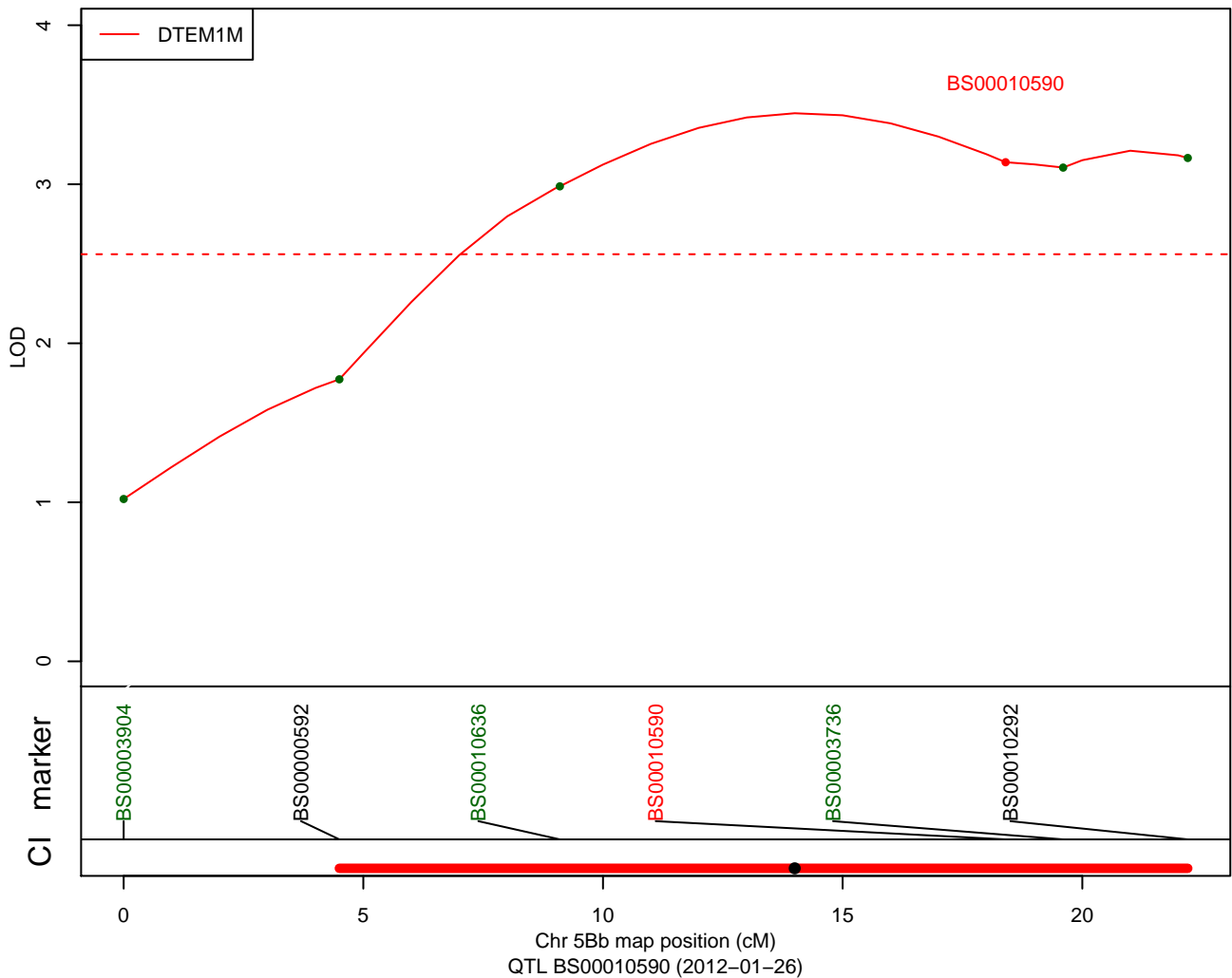
Ht: plant height

GRYLD: grain yield in t/ha

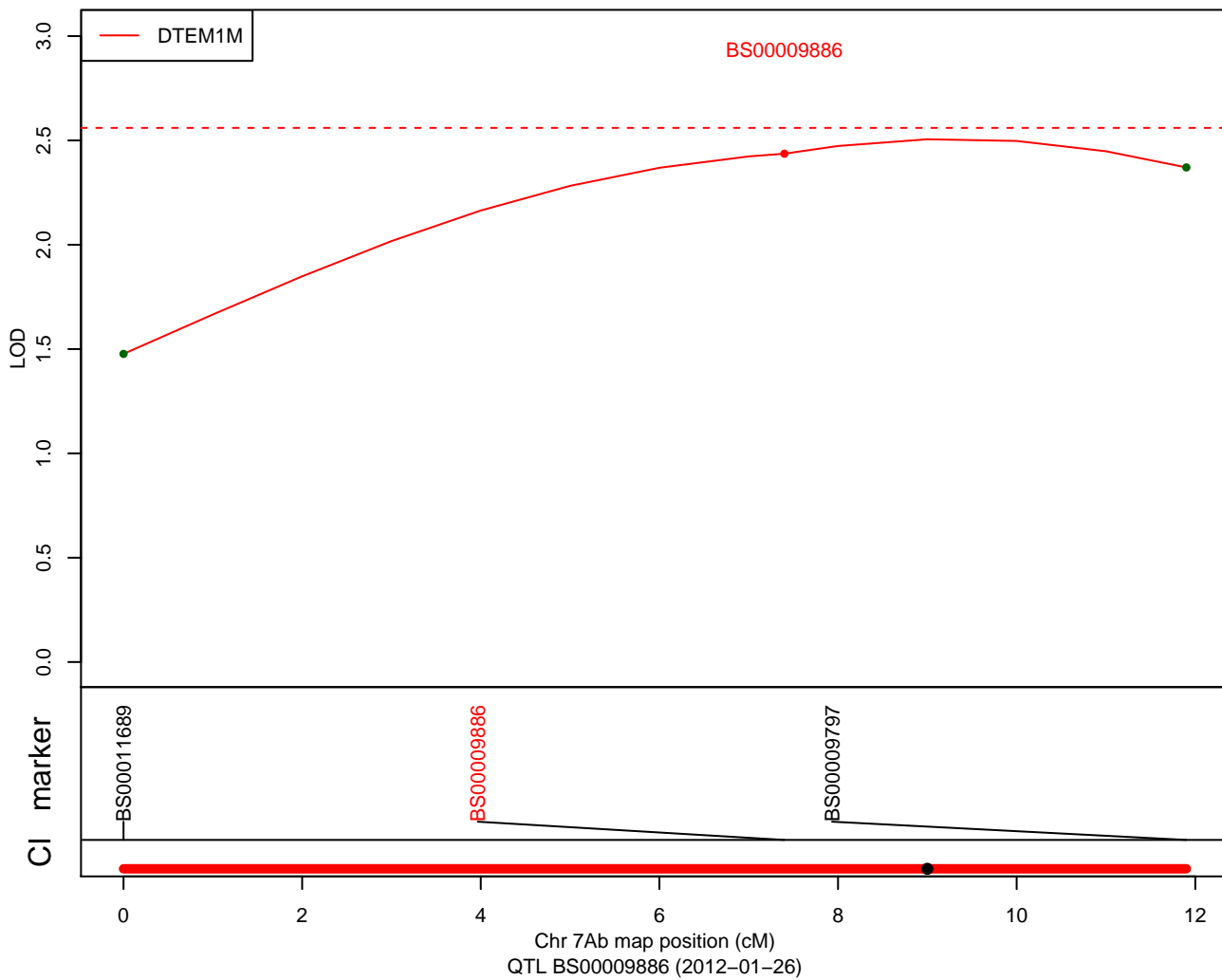
QTLs: DTEM1M - 2Db - ParW141



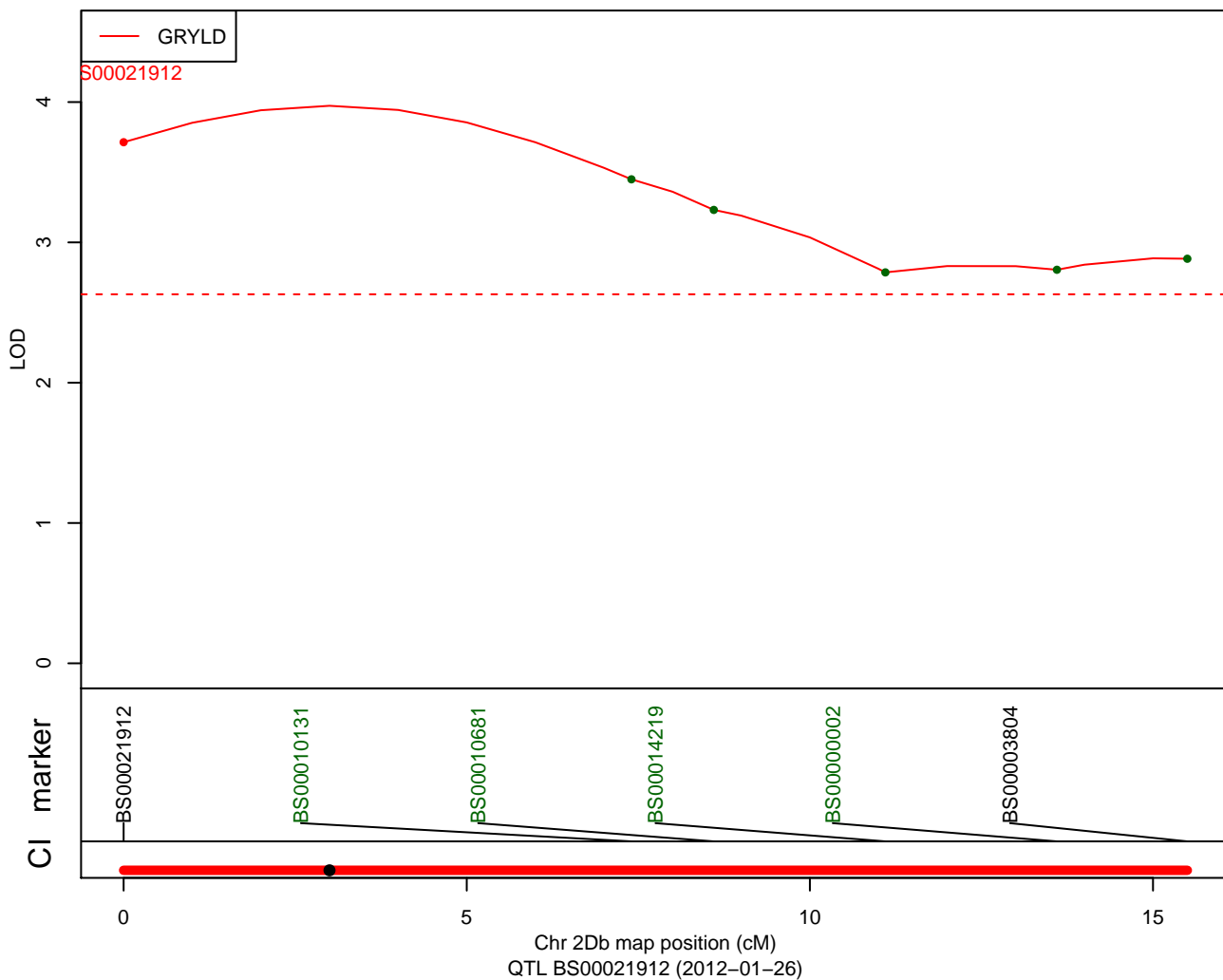
QTLs: DTEM1M - 5Bb - ParW141



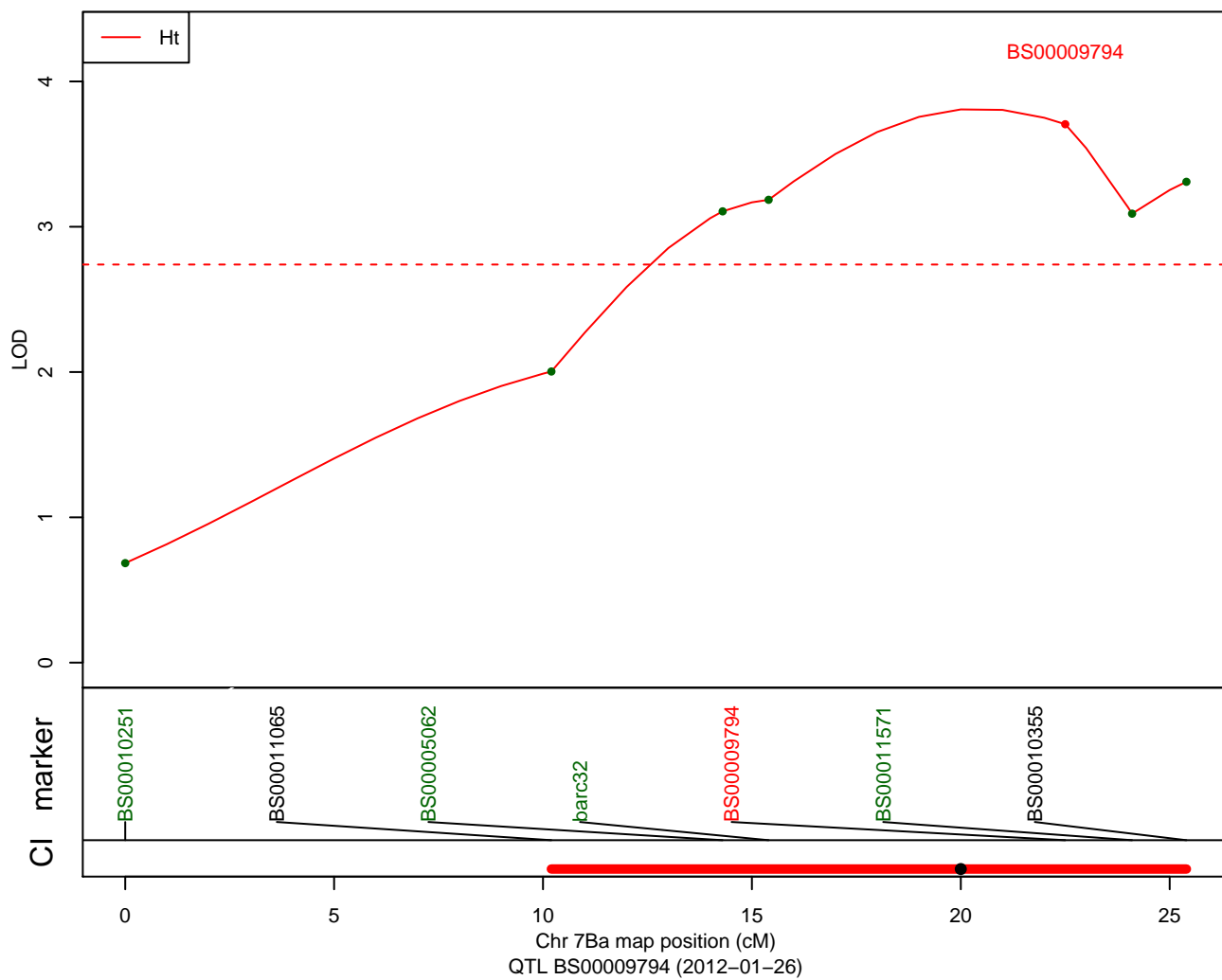
QTLs: DTEM1M – 7Ab – ParW141



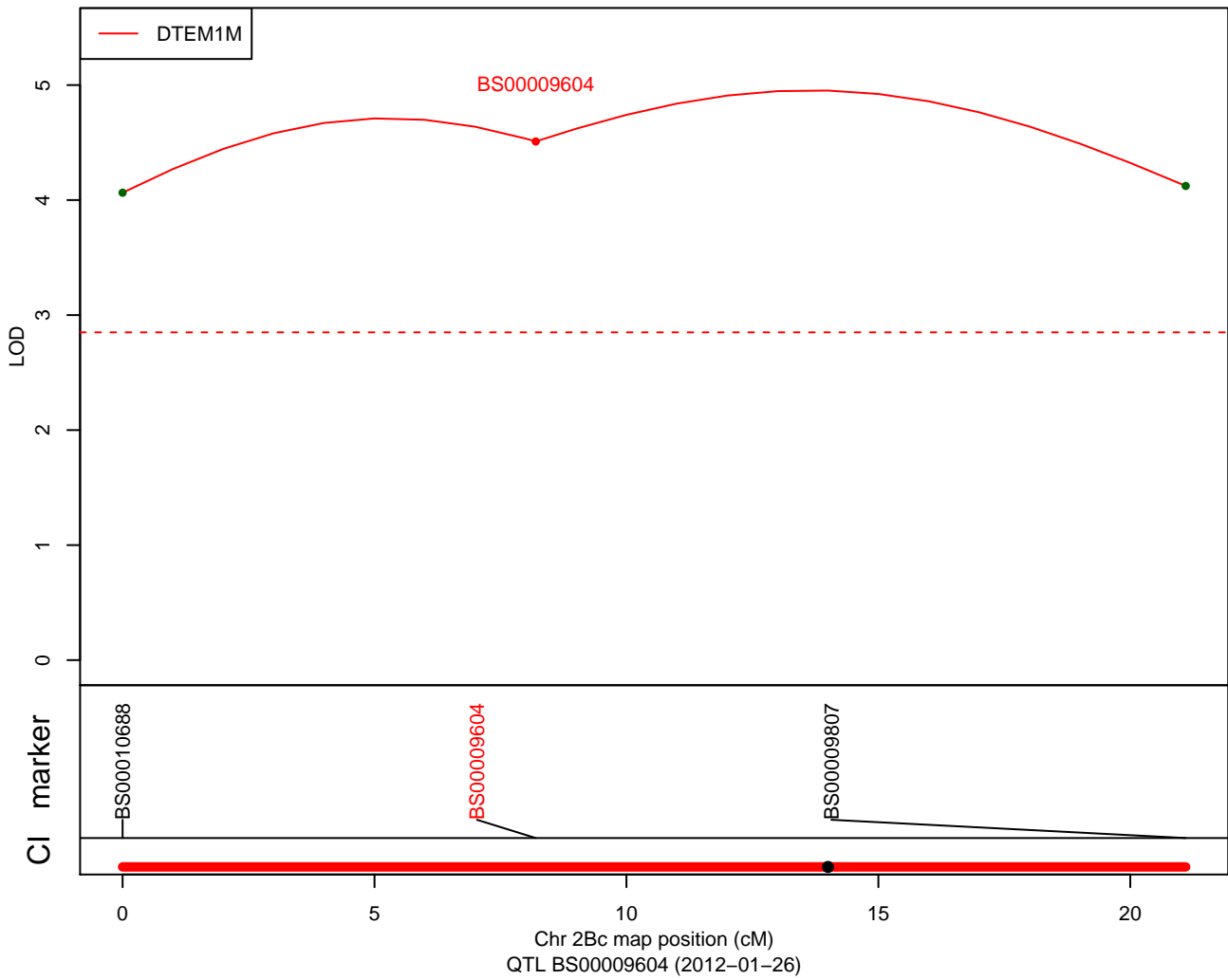
QTLs: GRYLD – 2Db – ParW141



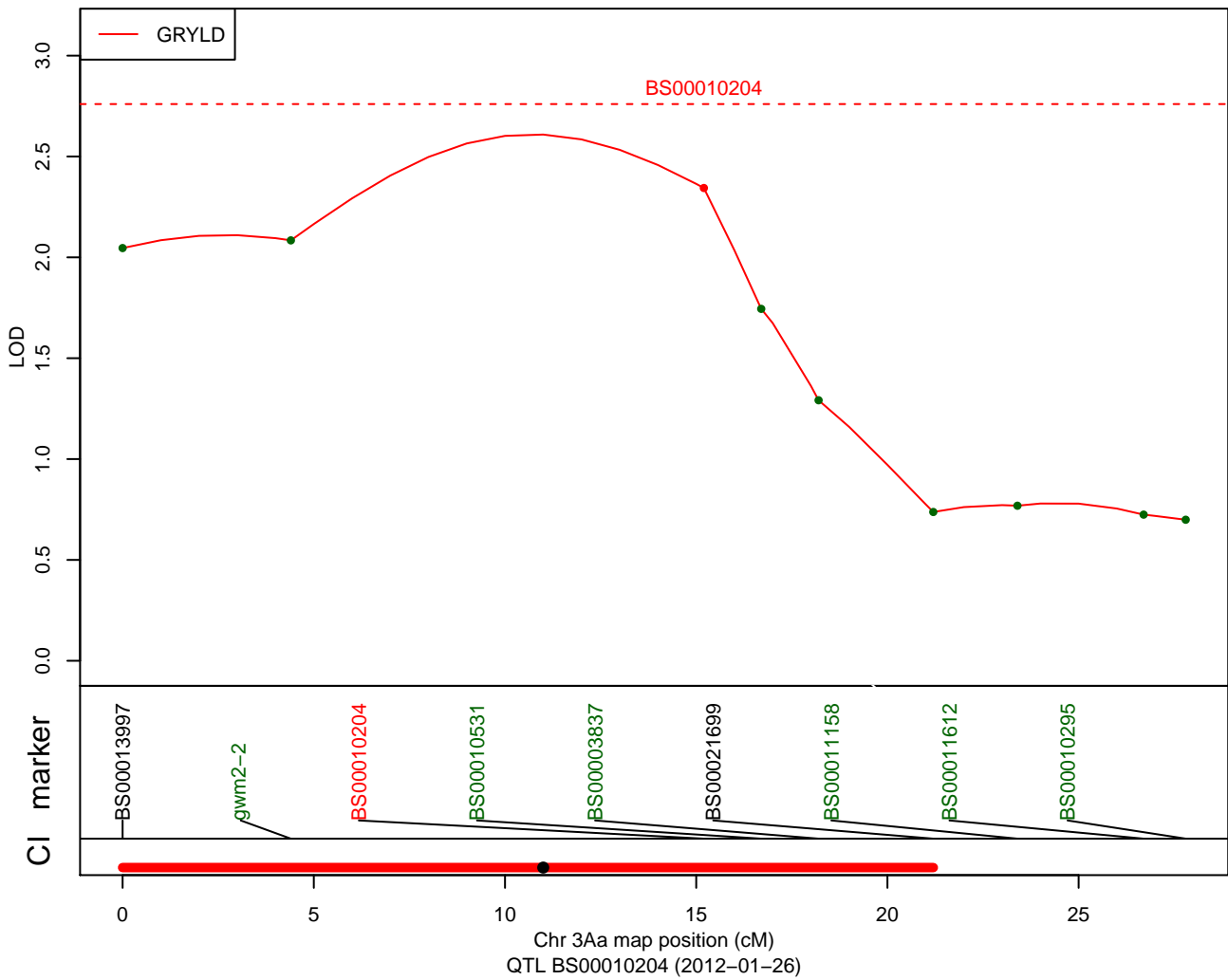
QTLs: Ht - 7Ba - ParW141



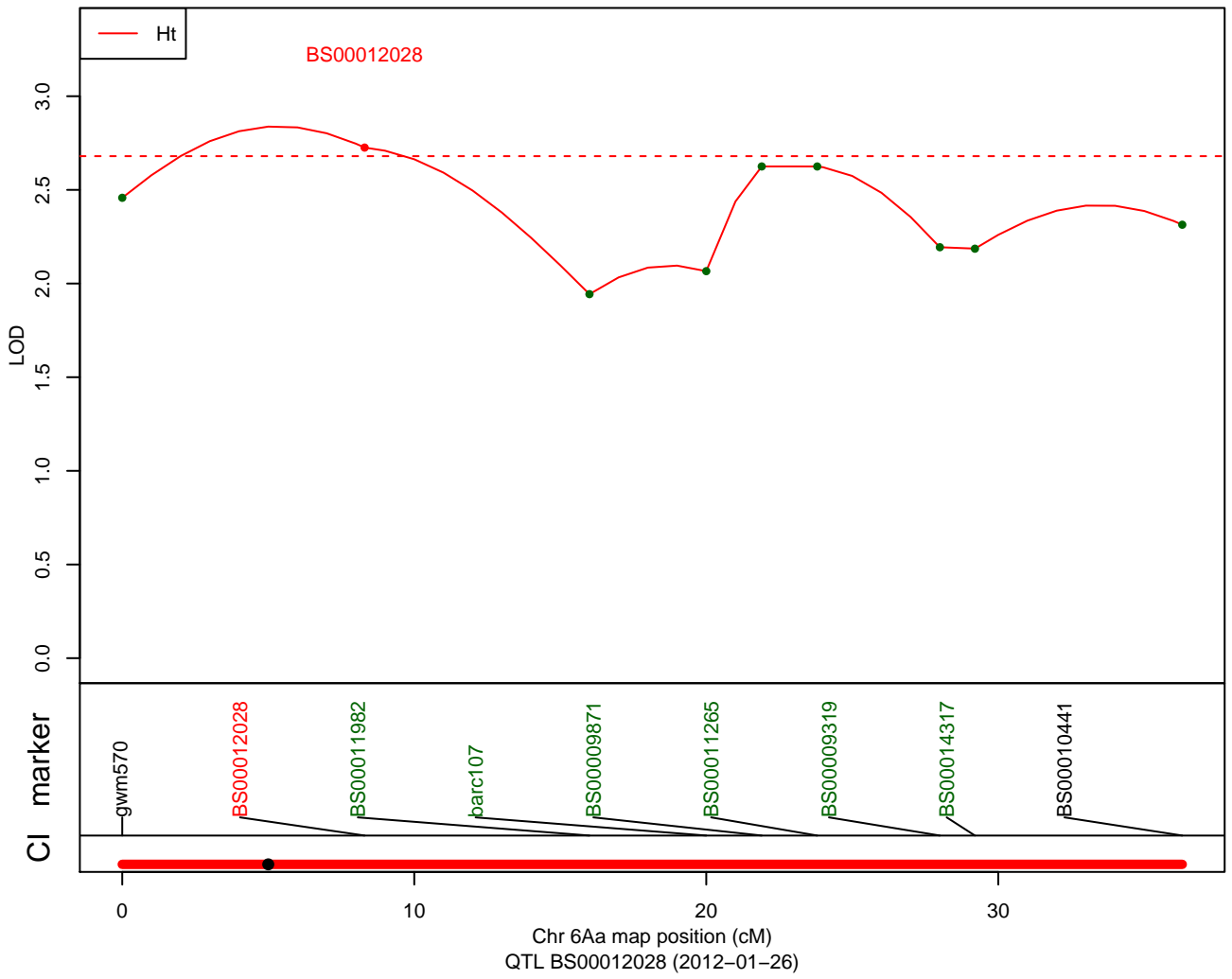
QTLs: DTEM1M – 2Bc – ParW209



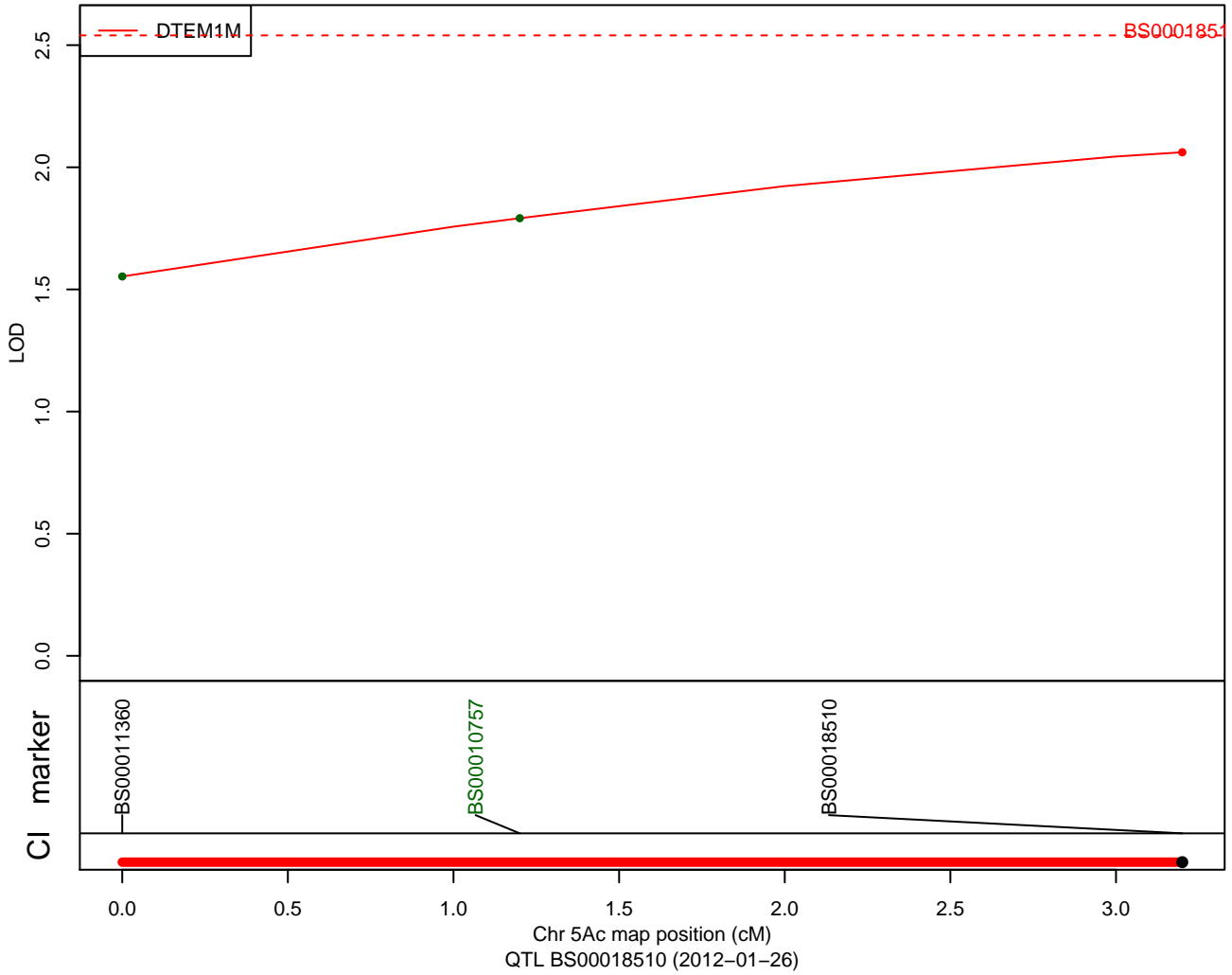
QTLs: GRYLD – 3Aa – ParW209



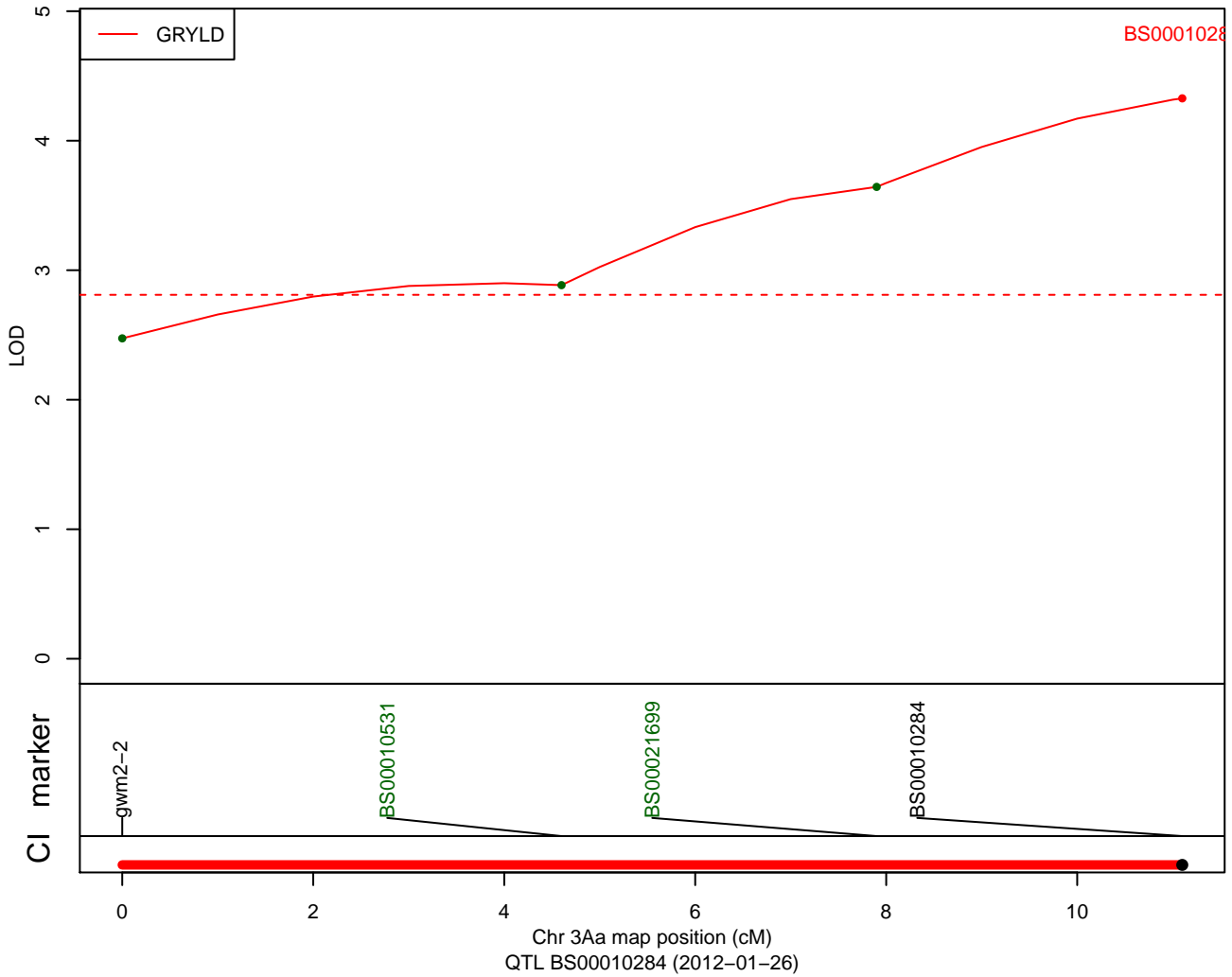
QTLs: Ht - 6Aa - ParW209



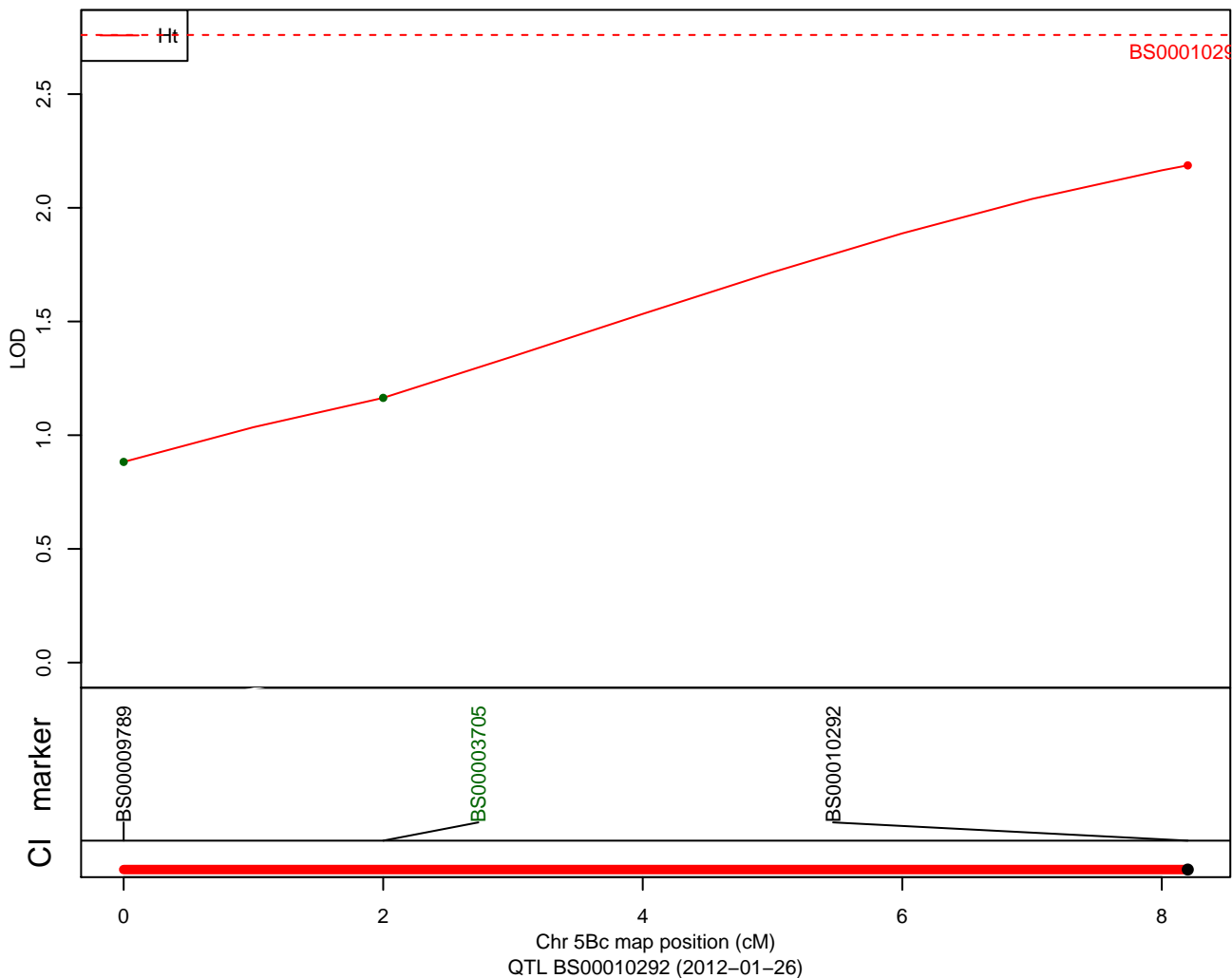
QTLs: DTEM1M – 5Ac – ParW292



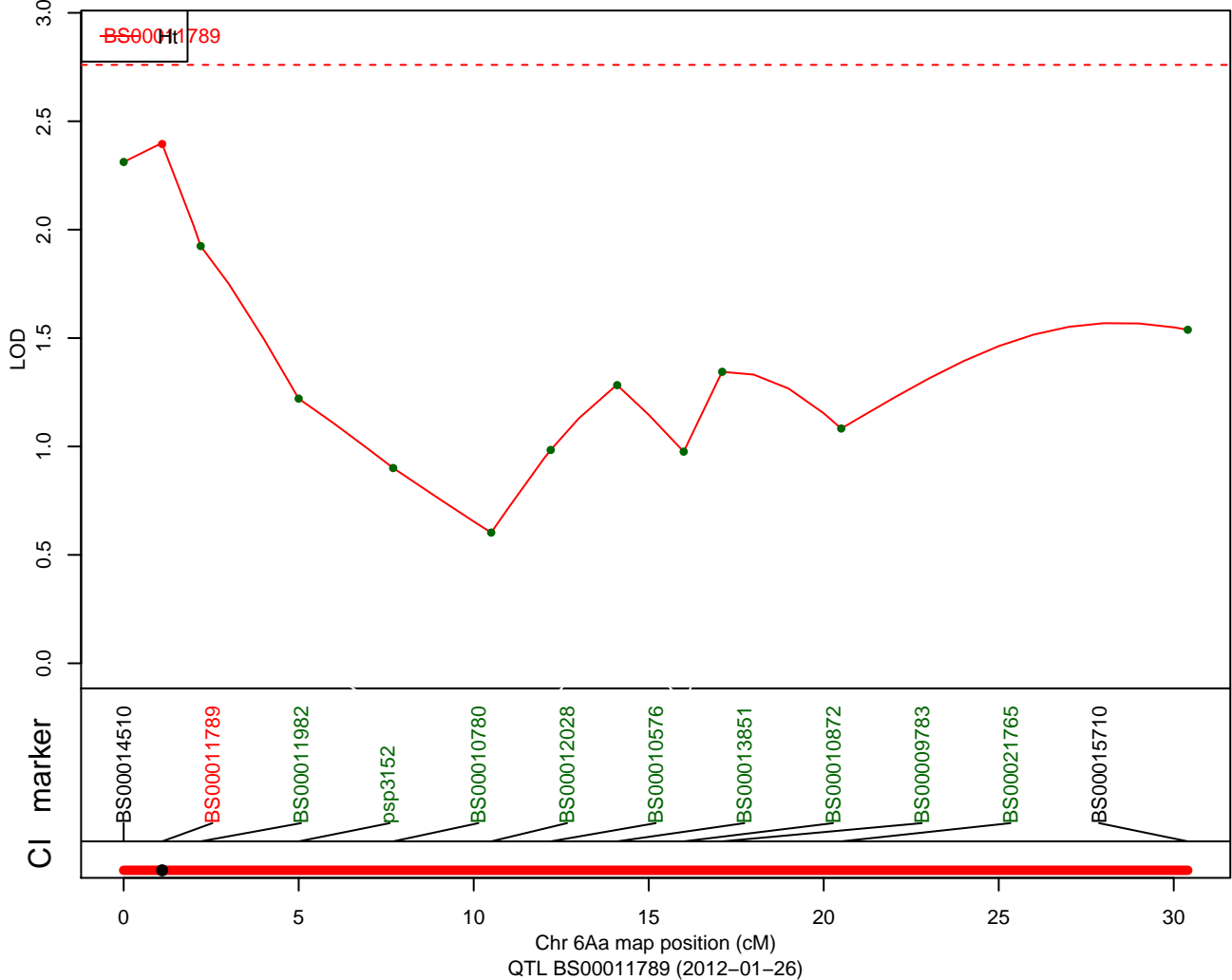
QTLs: GRYLD – 3Aa – ParW292



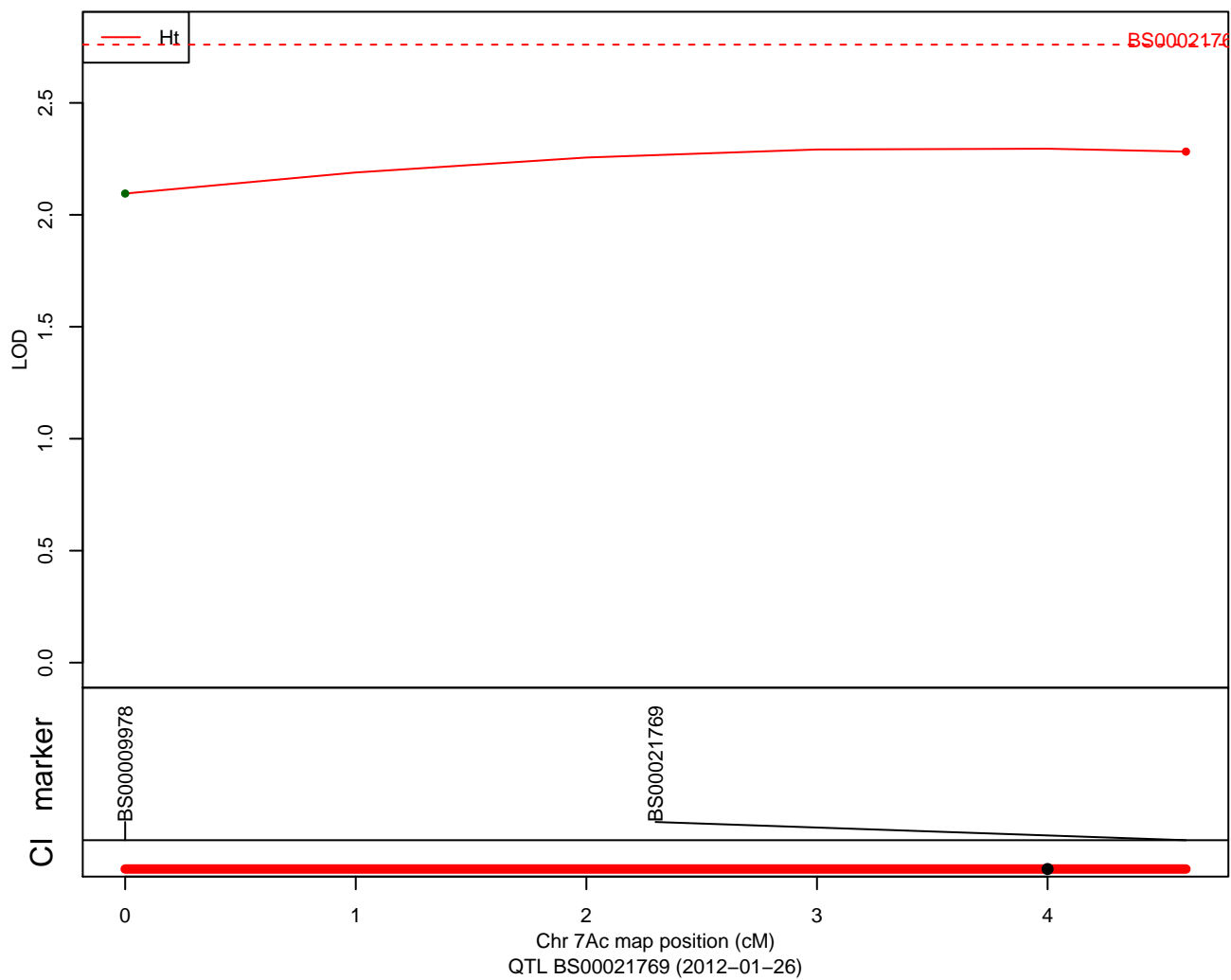
QTLs: Ht - 5Bc - ParW292



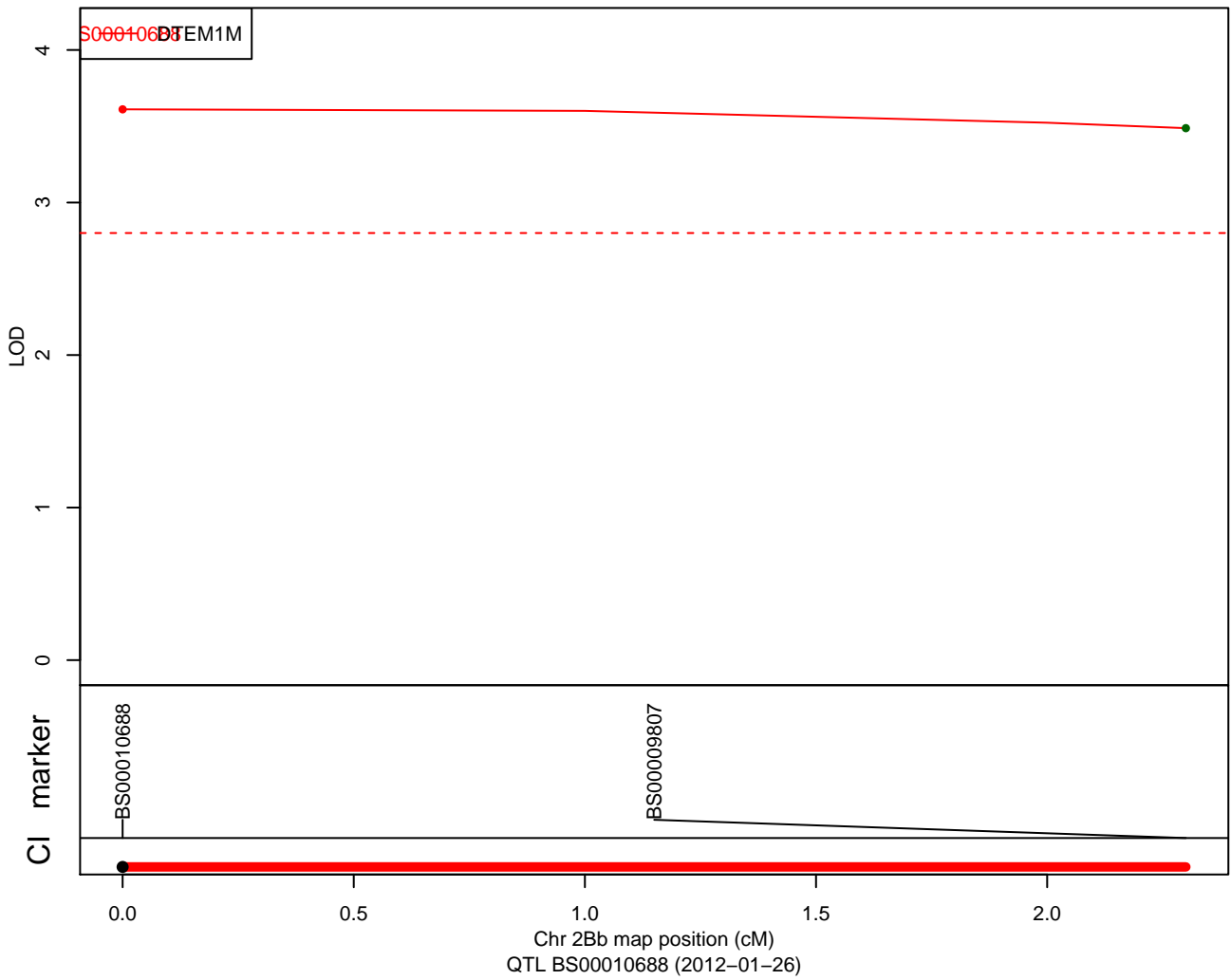
QTLs: Ht - 6Aa - ParW292



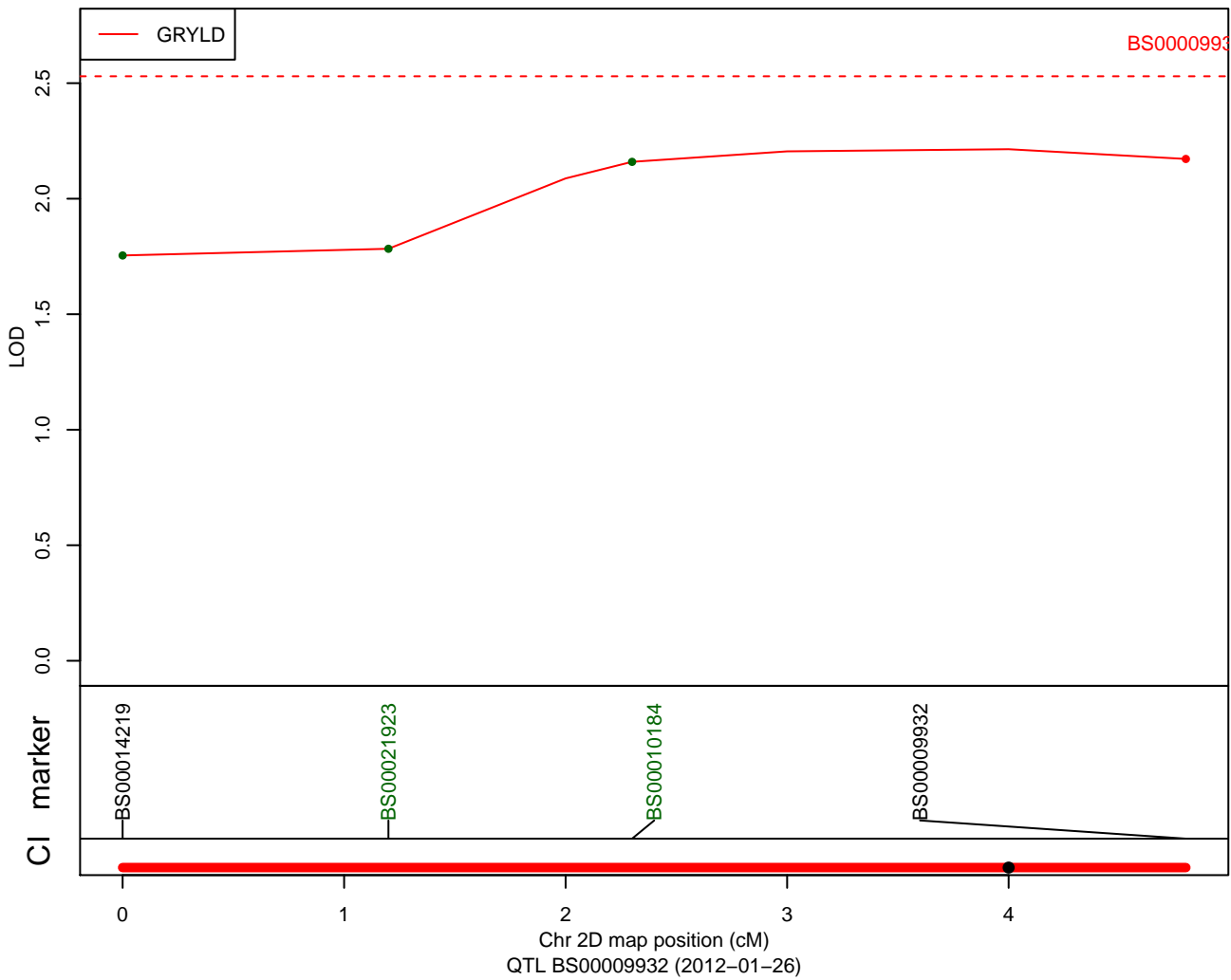
QTLs: Ht - 7Ac - ParW292



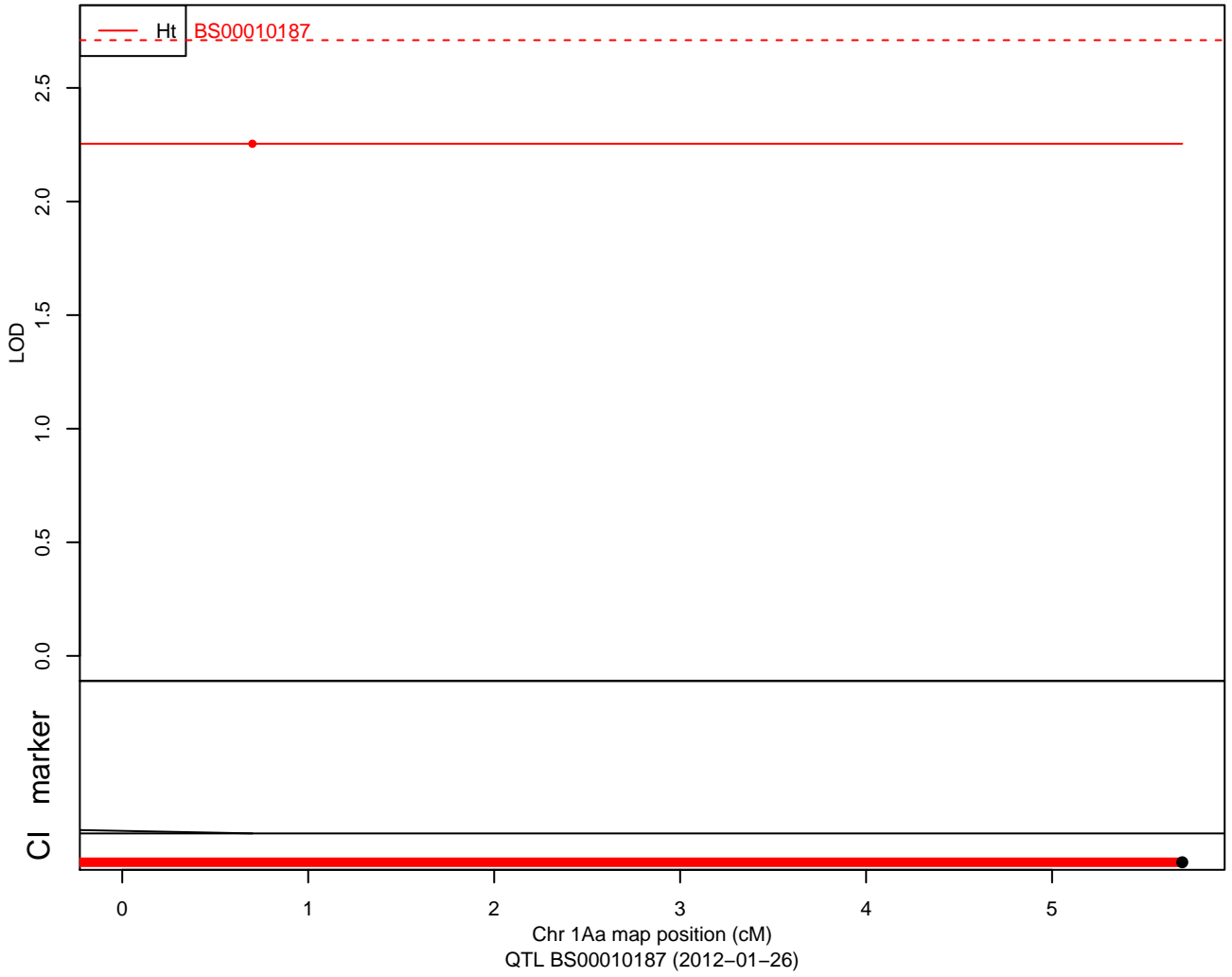
QTLs: DTEM1M - 2Bb - ParW34

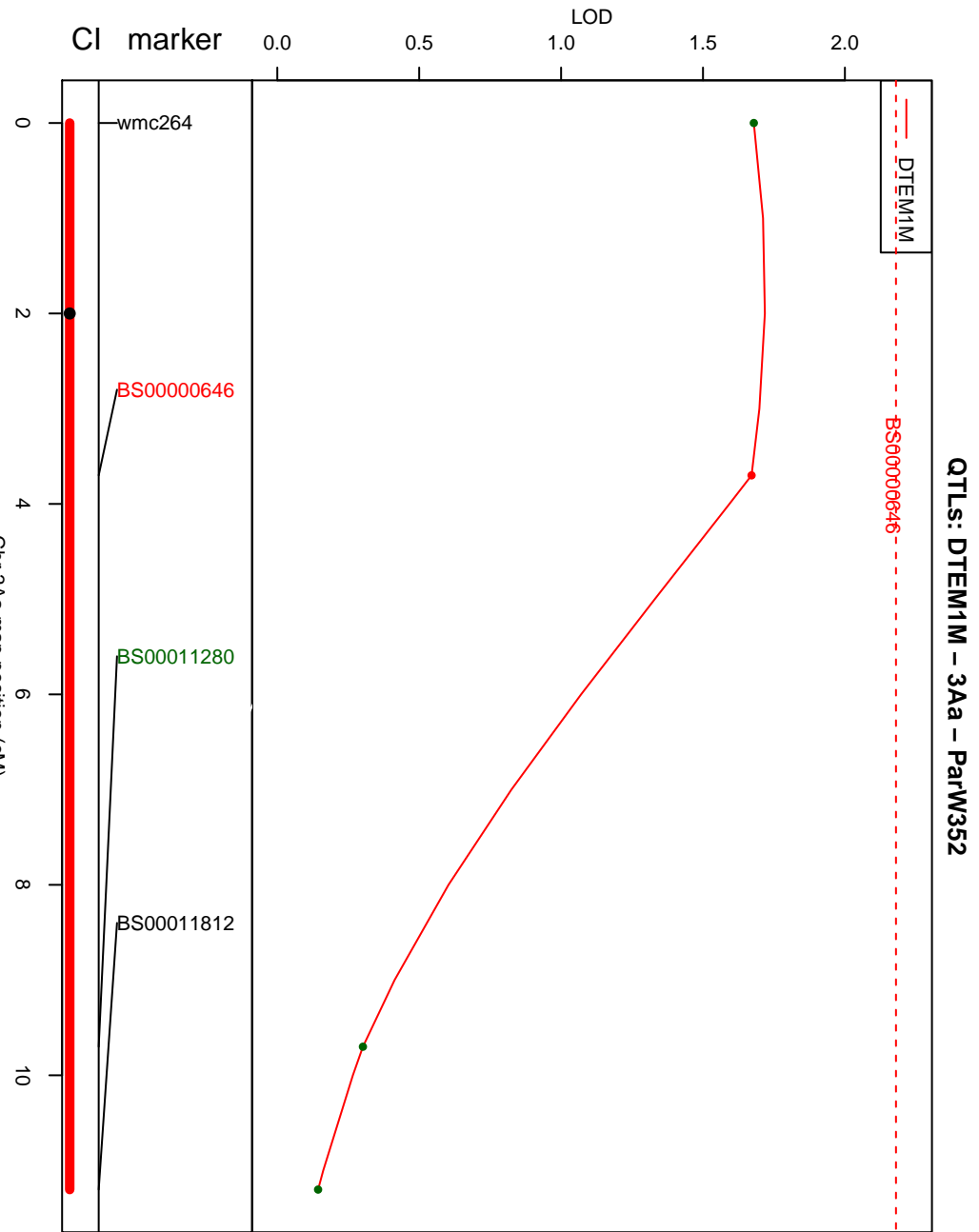
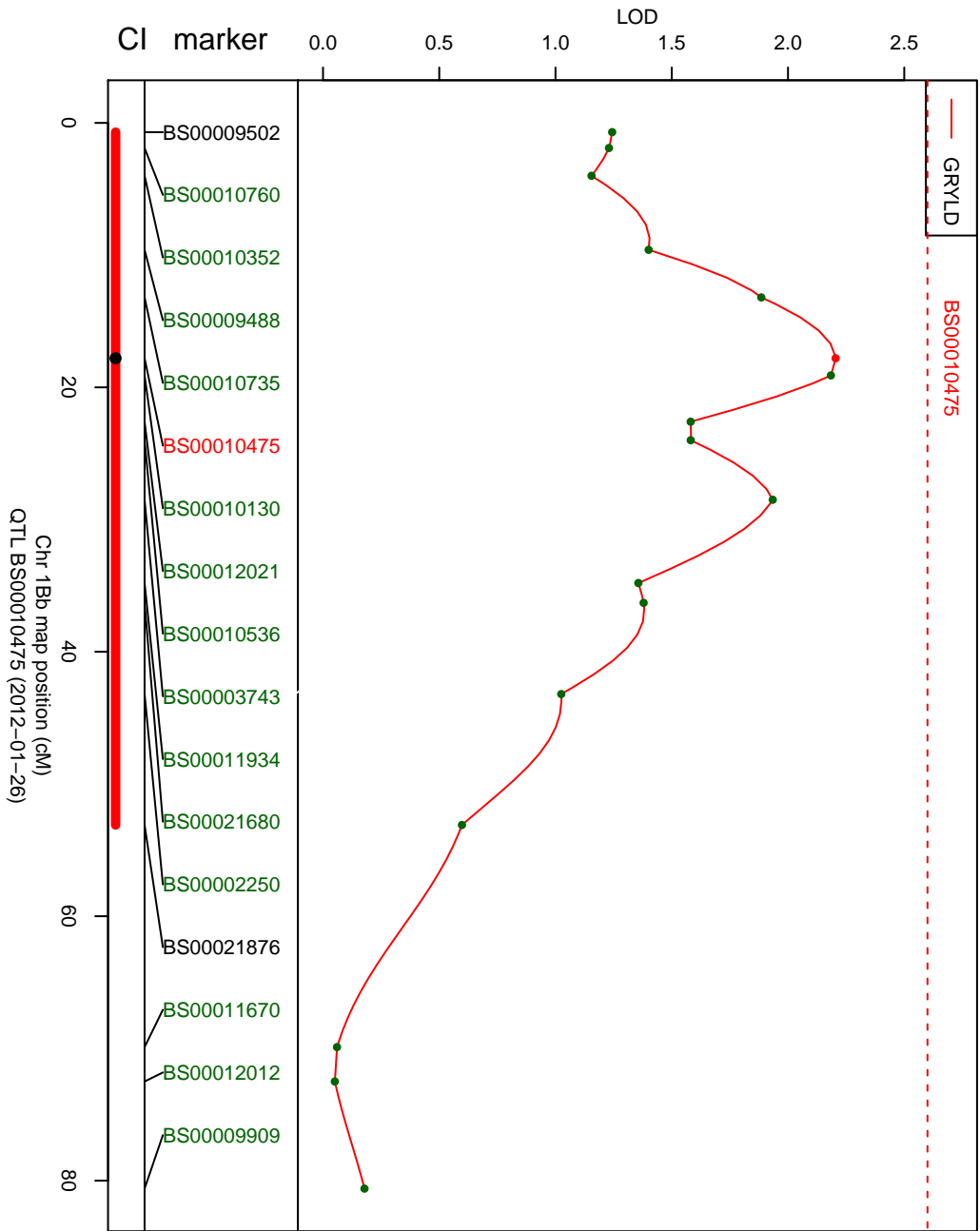


QTLs: GRYLD - 2D - ParW34

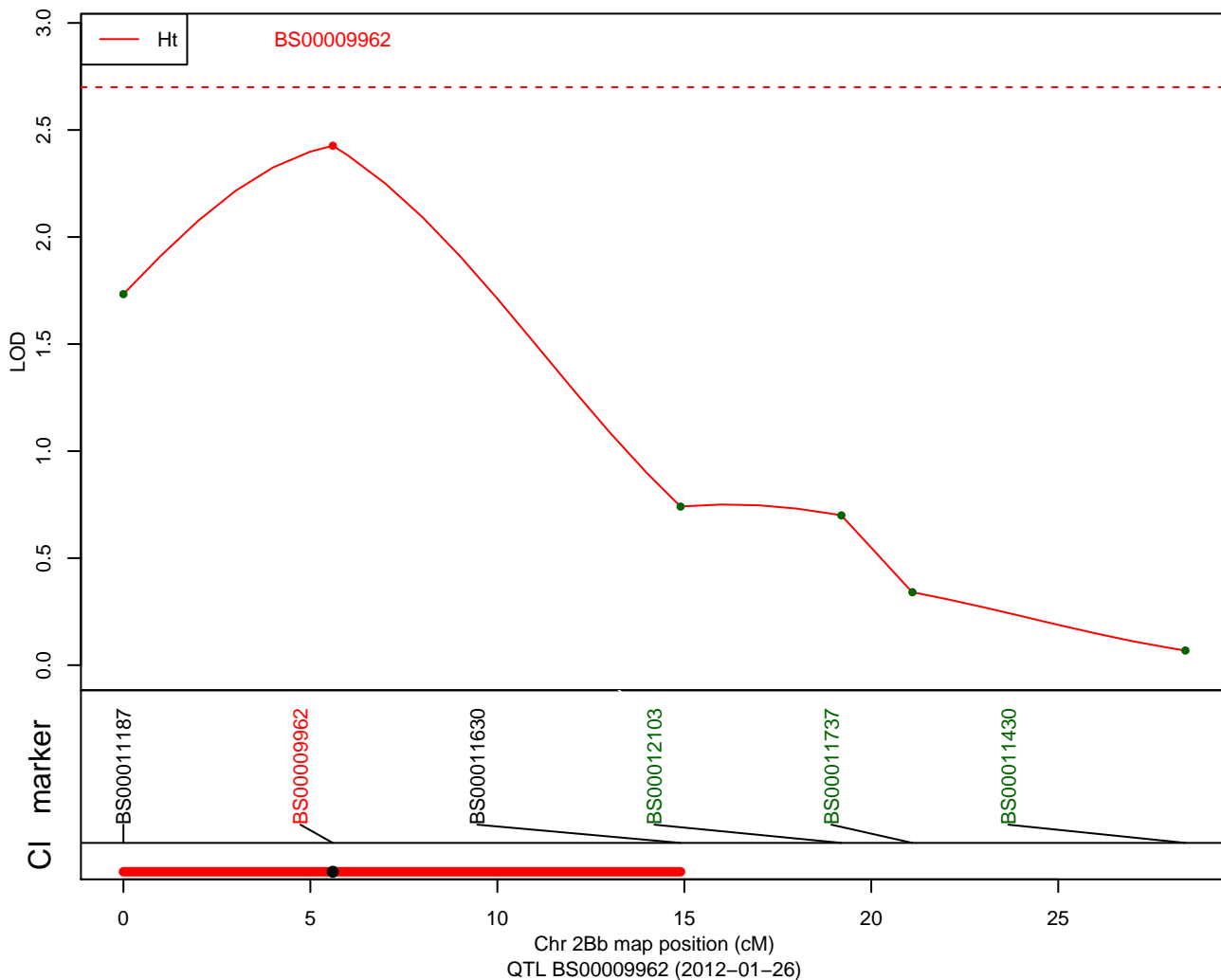


QTLs: Ht - 1Aa - ParW34

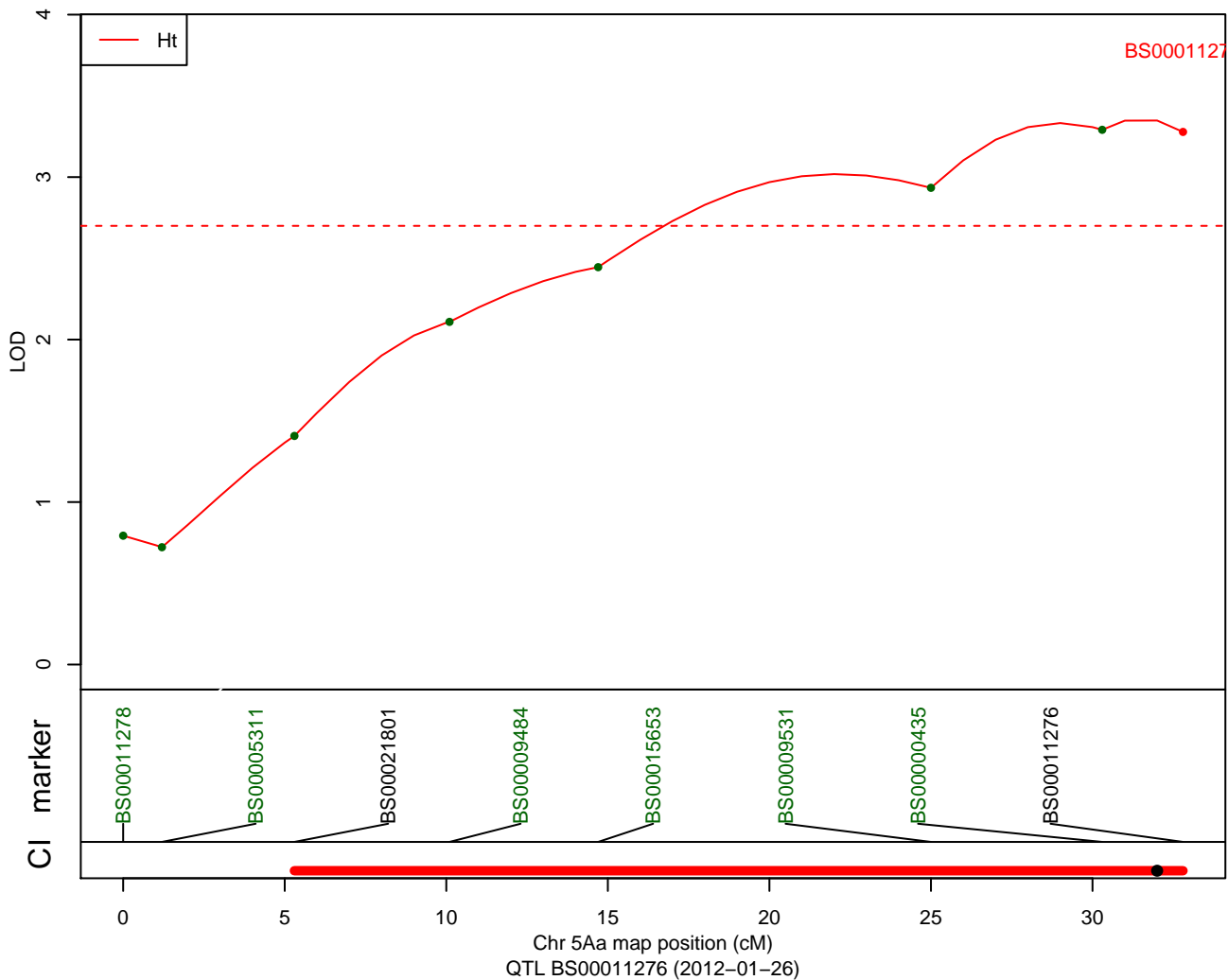




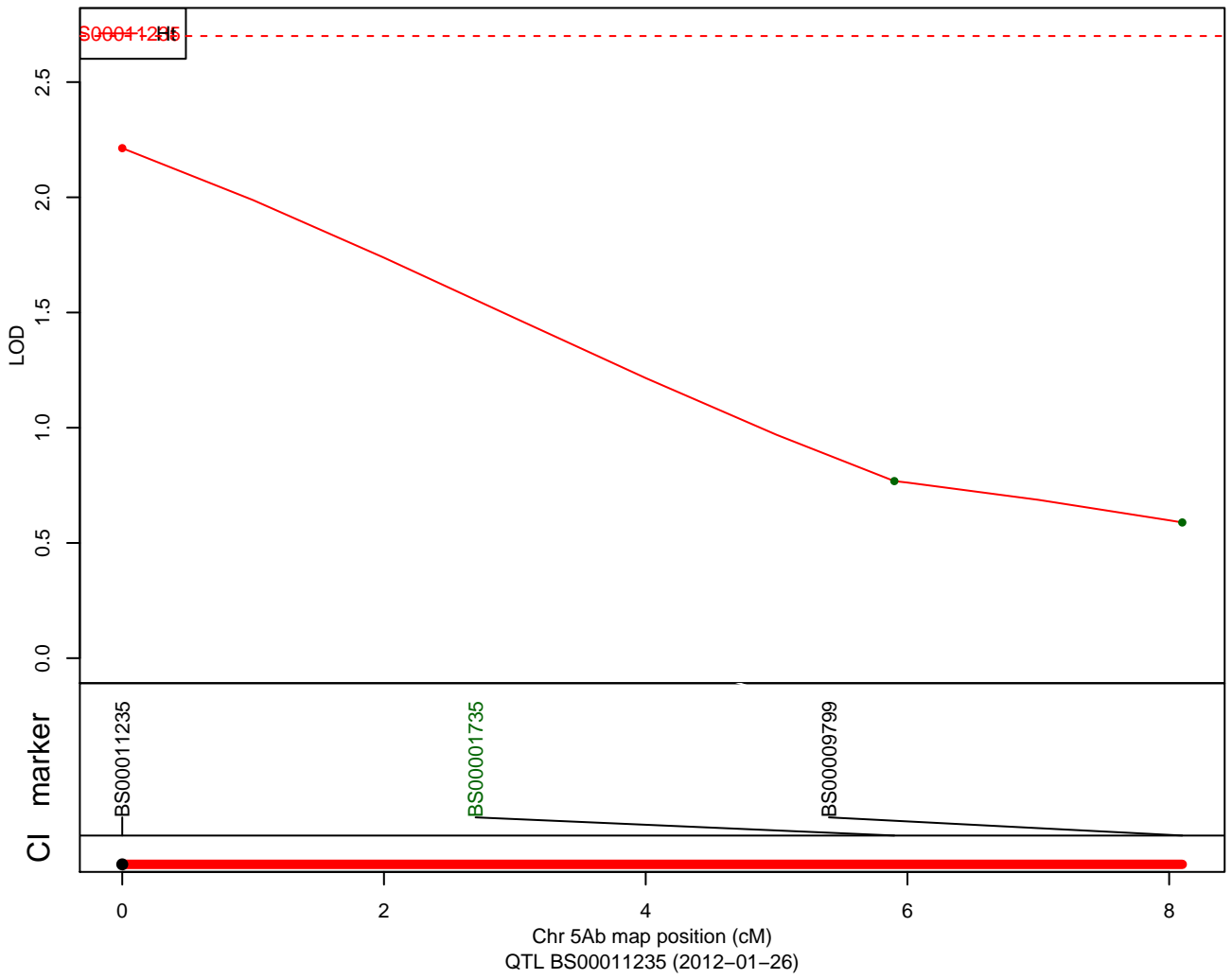
QTLs: Ht - 2Bb - ParW352



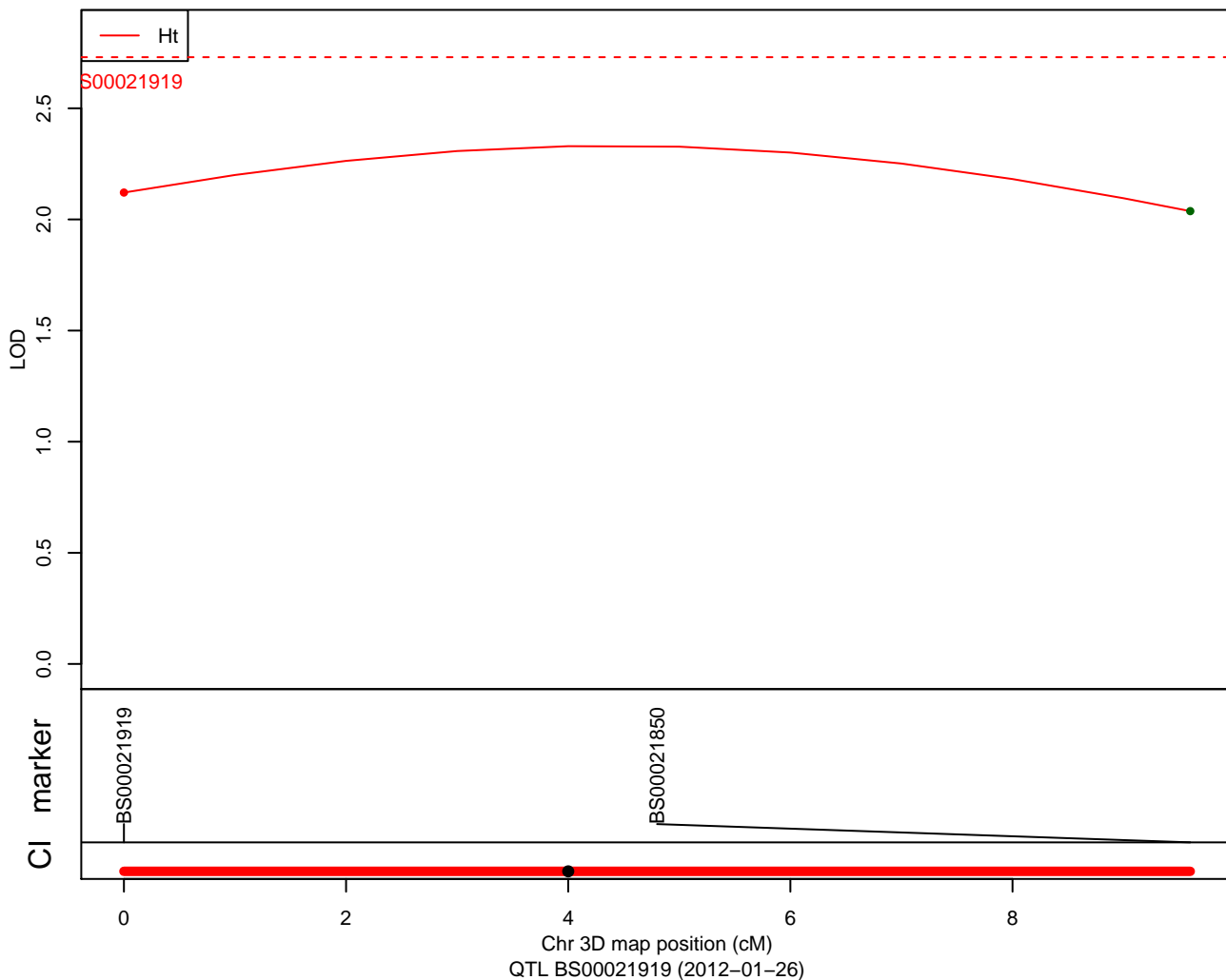
QTLs: Ht - 5Aa - ParW352



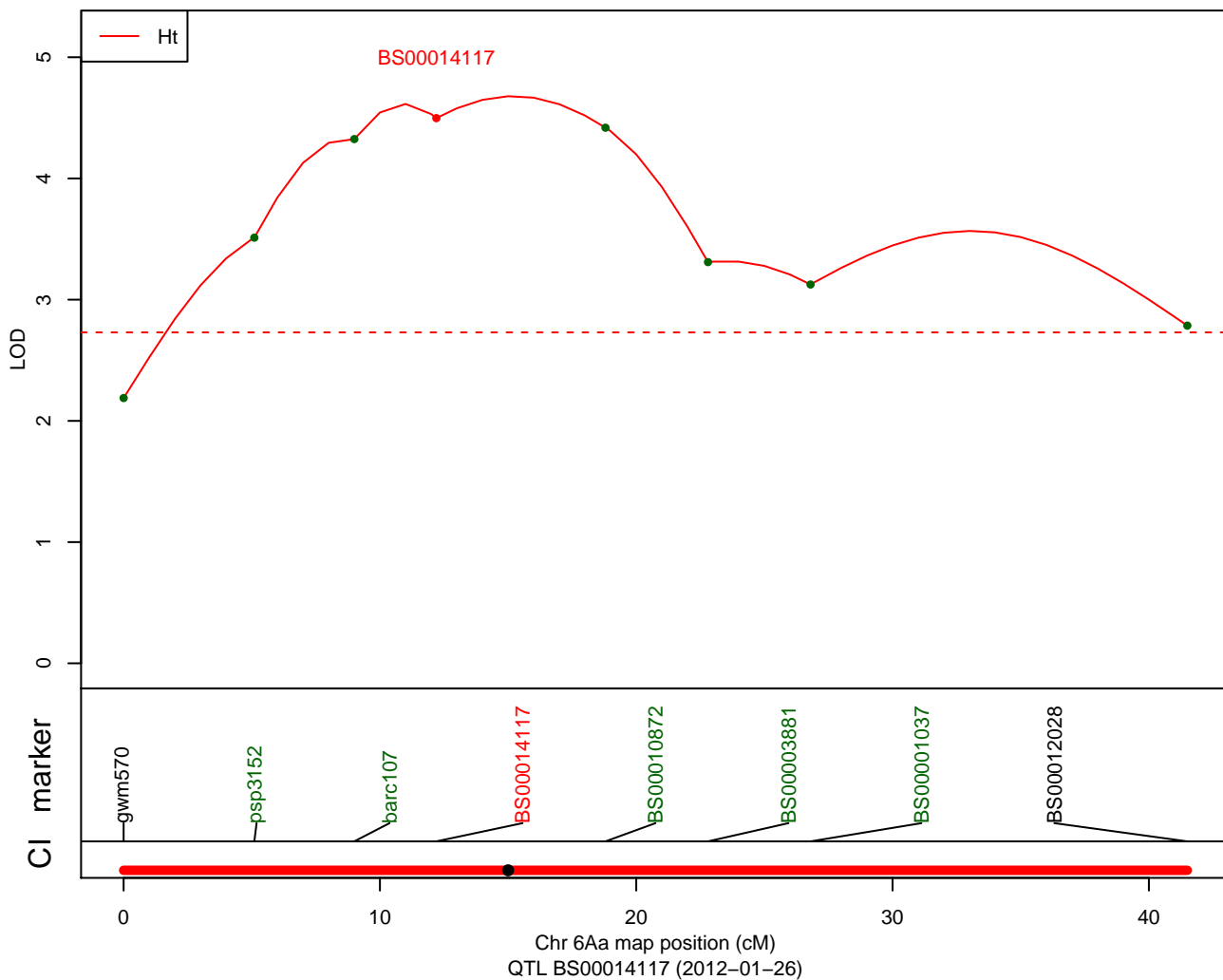
QTLs: Ht - 5Ab - ParW352



QTLs: Ht - 3D - ParW468



QTLs: Ht - 6Aa - ParW468



QTLs: DTEM1M - 5Aa - ParW729

