

## Paragon x Watkins Landrace JIC 2015 QTL Plots

The bread wheat landrace NAM (nested association mapping) panel is a panel of bi-parental segregating F4 single-seed populations from crosses of spring wheat accession 'Paragon' with diverse wheat germplasm, particularly from the core set of the AE Watkins landrace collection. Population development and KASP genotyping was conducted within the WISP<sup>1</sup> project. Wheat landraces and varieties were collected from markets from 32 countries across the world. 119 of these accessions have been selected as a diverse core set, which is available from Seed-Stor<sup>2</sup>. A changing set of several NAM populations is grown every year in field trials at JIC. Phenotype data is available from Designing Future Wheat (DFW) WP3 Landraces<sup>3</sup>. QTL analyses were conducted on resulting phenotype data using R/qtl software<sup>4</sup>.

**QTL plots on 2015 trials for the following populations are attached:**

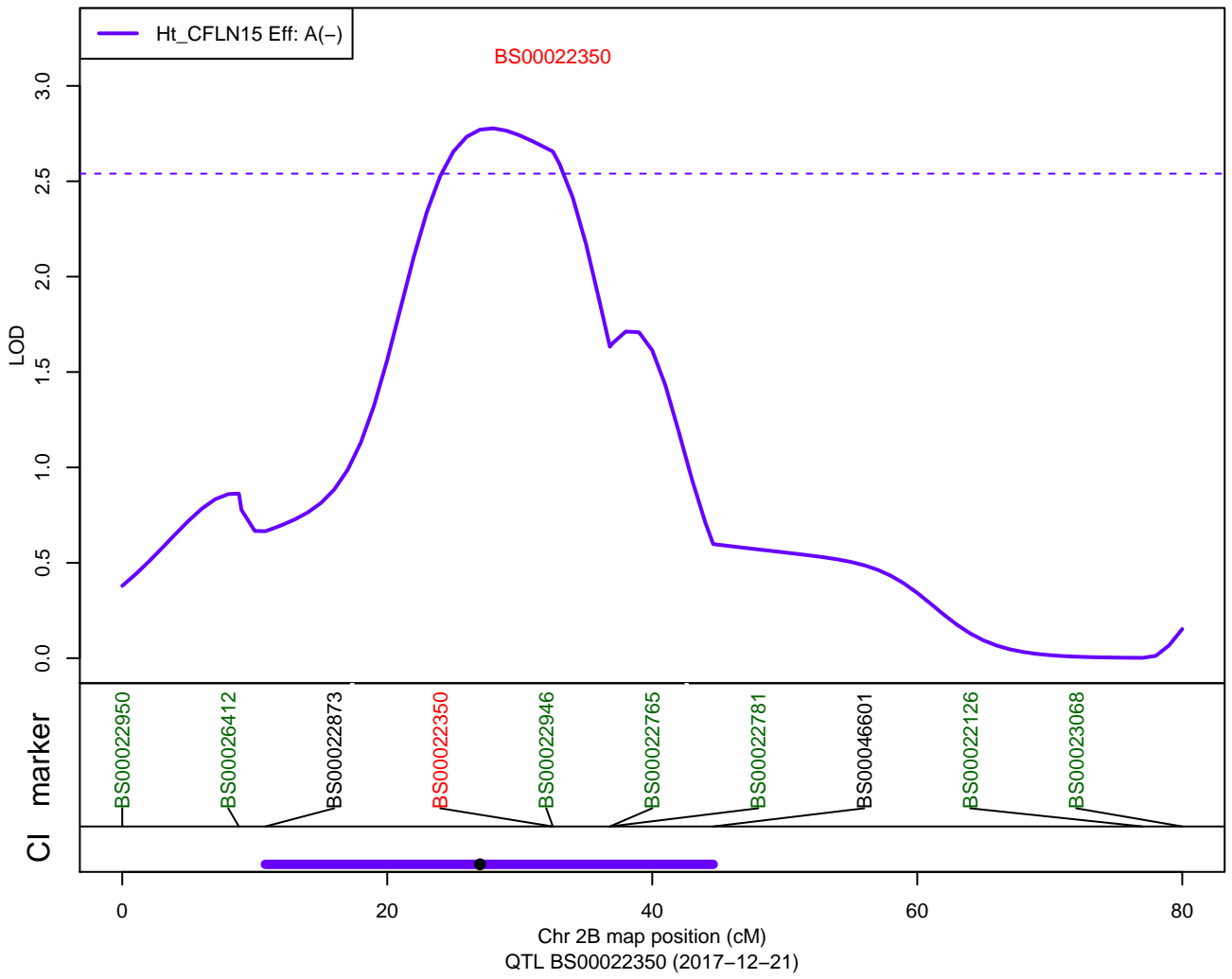
population name	traits
ParW032	AWNS,DTEM,Ht,PIGRYLD,ANTHCOL
ParW042	AWNS,DTEM,Ht,PIGRYLD
ParW045	AWNS,DTEM,Ht,PIGRYLD,ANTHCOL
ParW110	AWNS,DTEM,Ht,PIGRYLD,ANTHCOL
ParW145	AWNS,DTEM,Ht,PIGRYLD
ParW224	DTEM,Ht
ParW324	AWNS,DTEM,Ht,PIGRYLD
ParW451	AWNS,DTEM,Ht,PIGRYLD,ANTHCOL
ParW474	AWNS,DTEM,Ht,PIGRYLD
ParW496	AWNS,DTEM,Ht,PIGRYLD
ParW507	AWNS,DTEM,Ht,PIGRYLD,ANTHCOL
ParW560	AWNS,DTEM,Ht,PIGRYLD,ANTHCOL
ParW685	AWNS,DTEM,Ht,PIGRYLD
ParW694	AWNS,DTEM,Ht,PIGRYLD
ParW747	AWNS,DTEM,Ht,PIGRYLD,ANTHCOL
ParW753	DTEM,Ht,PIGRYLD,ANTHCOL

**Plot legends:** The title names trait, chromosome and population. QTL LOD scores are plotted against the chromosome. Marker names are given at the bottom of the plot. Peak markers are given over the QTL peak. Significance LOD thresholds are indicated as horizontal dotted lines. Abbreviations: AWNS: presence of awns, ANTHCOL: anther colour, DTEM: days to ear emergence after May 1st, Ht: plant height [cm], PIGRYLD: plot grain yield [kg].

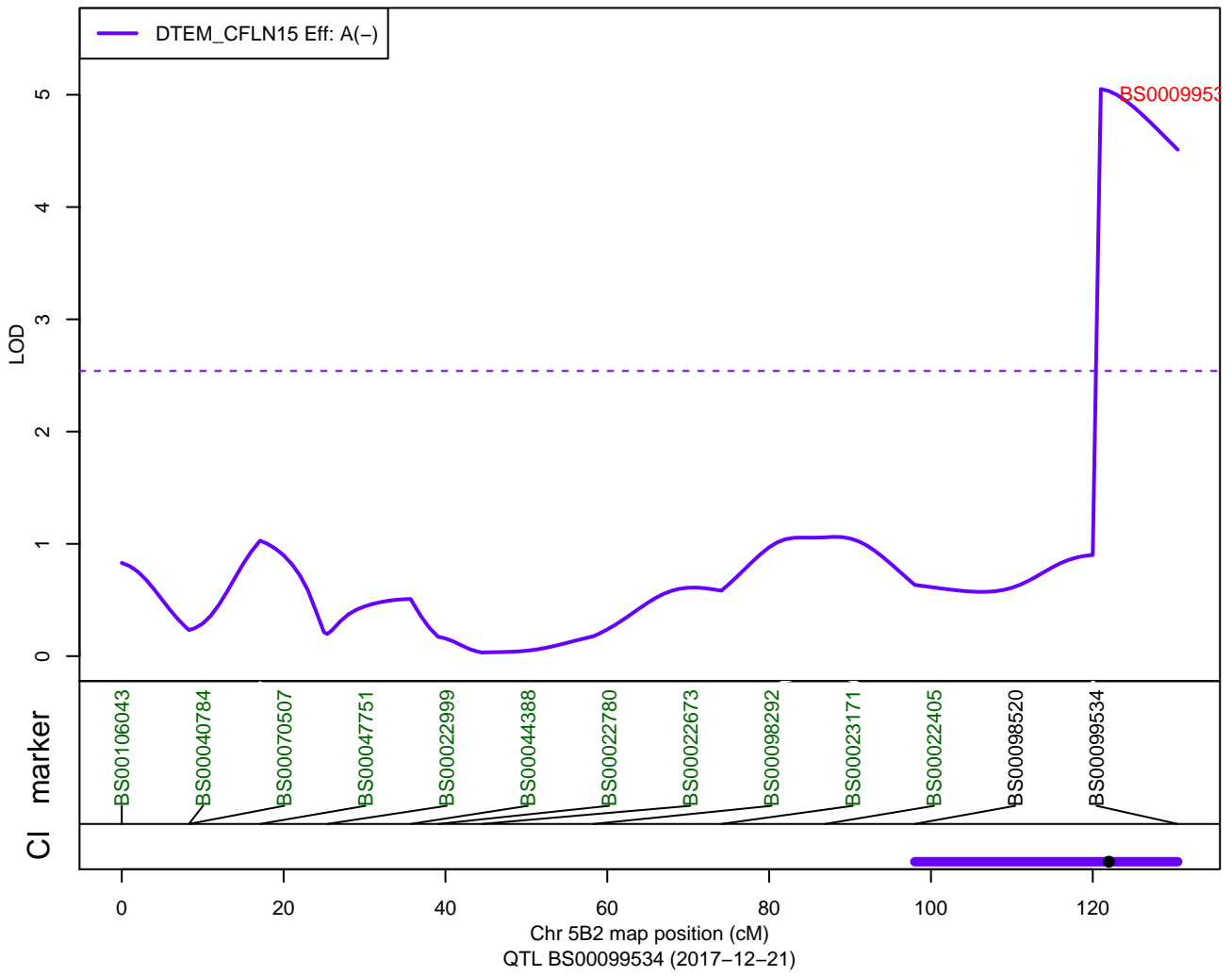
**Disclaimer:** This information cannot be used for publication purposes without permission by Simon Griffiths ([simon.griffiths@jic.ac.uk](mailto:simon.griffiths@jic.ac.uk)) John Innes Centre, Norwich, NR4 7UH, UK.

22/01/2018 Luzie Wingen ([luzie.wingen@jic.ac.uk](mailto:luzie.wingen@jic.ac.uk))

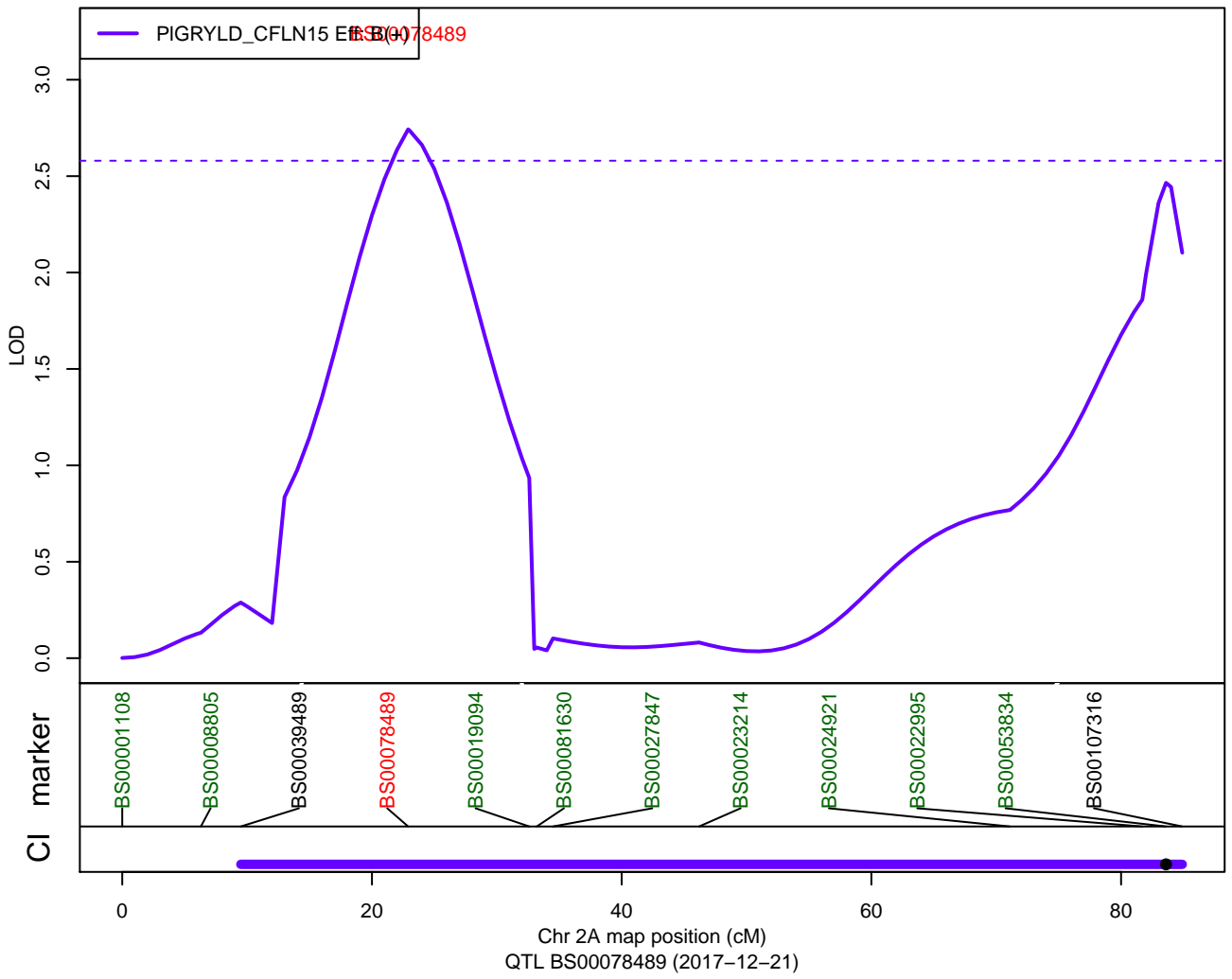
QTLs: ParW032 - Ht - 2B



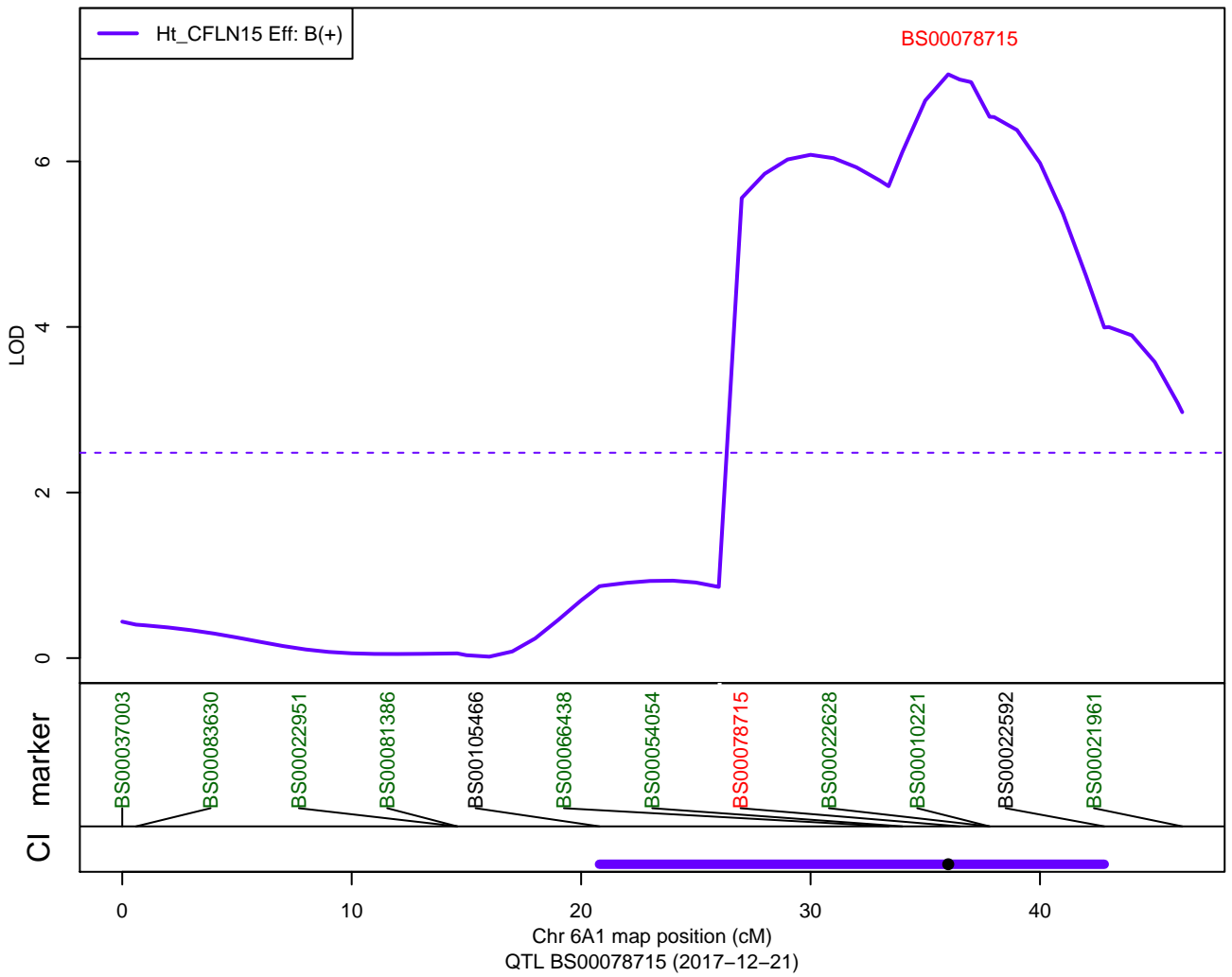
# QTLs: ParW032 – DTEM – 5B2



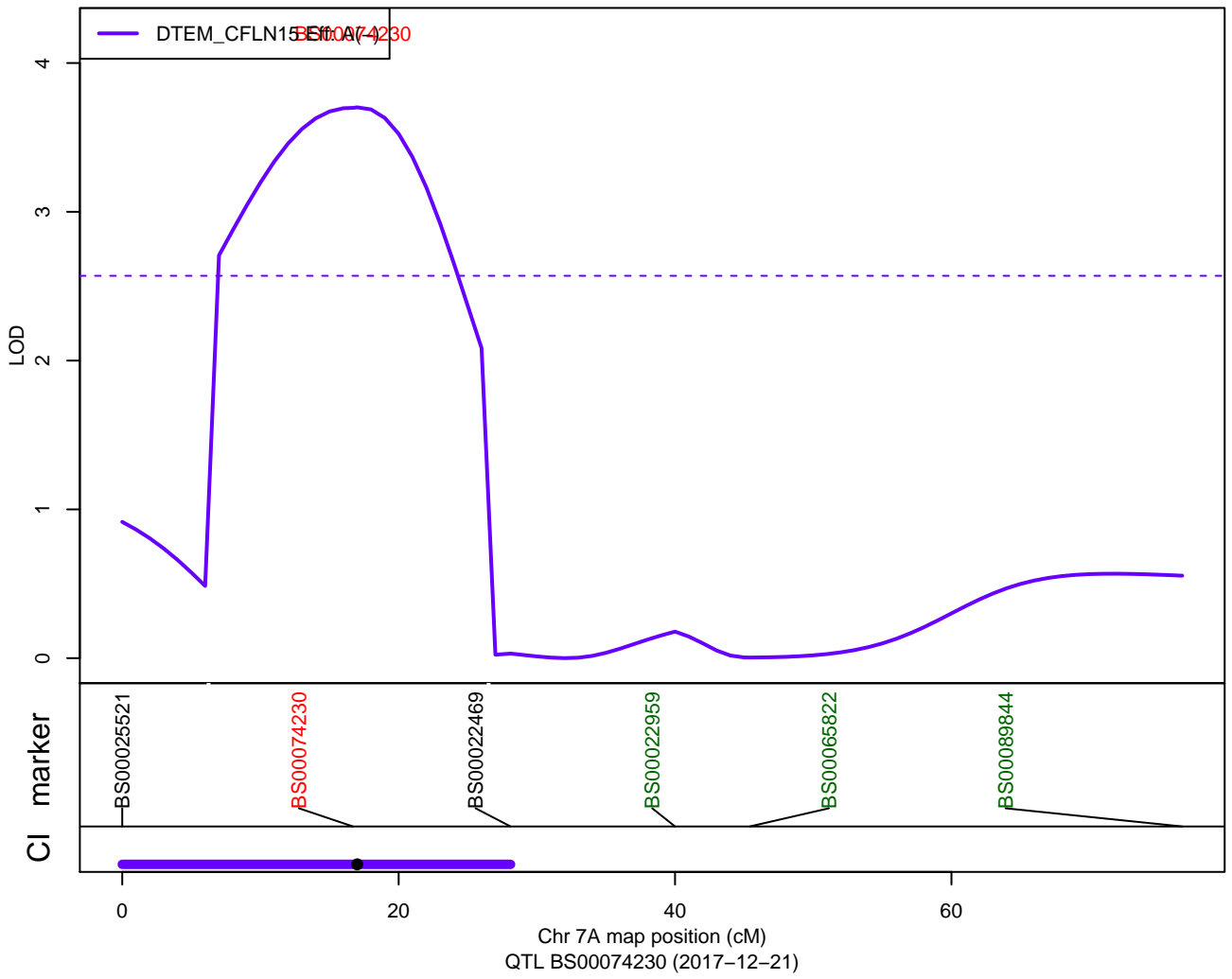
# QTLs: ParW032 - PIGRYLD - 2A



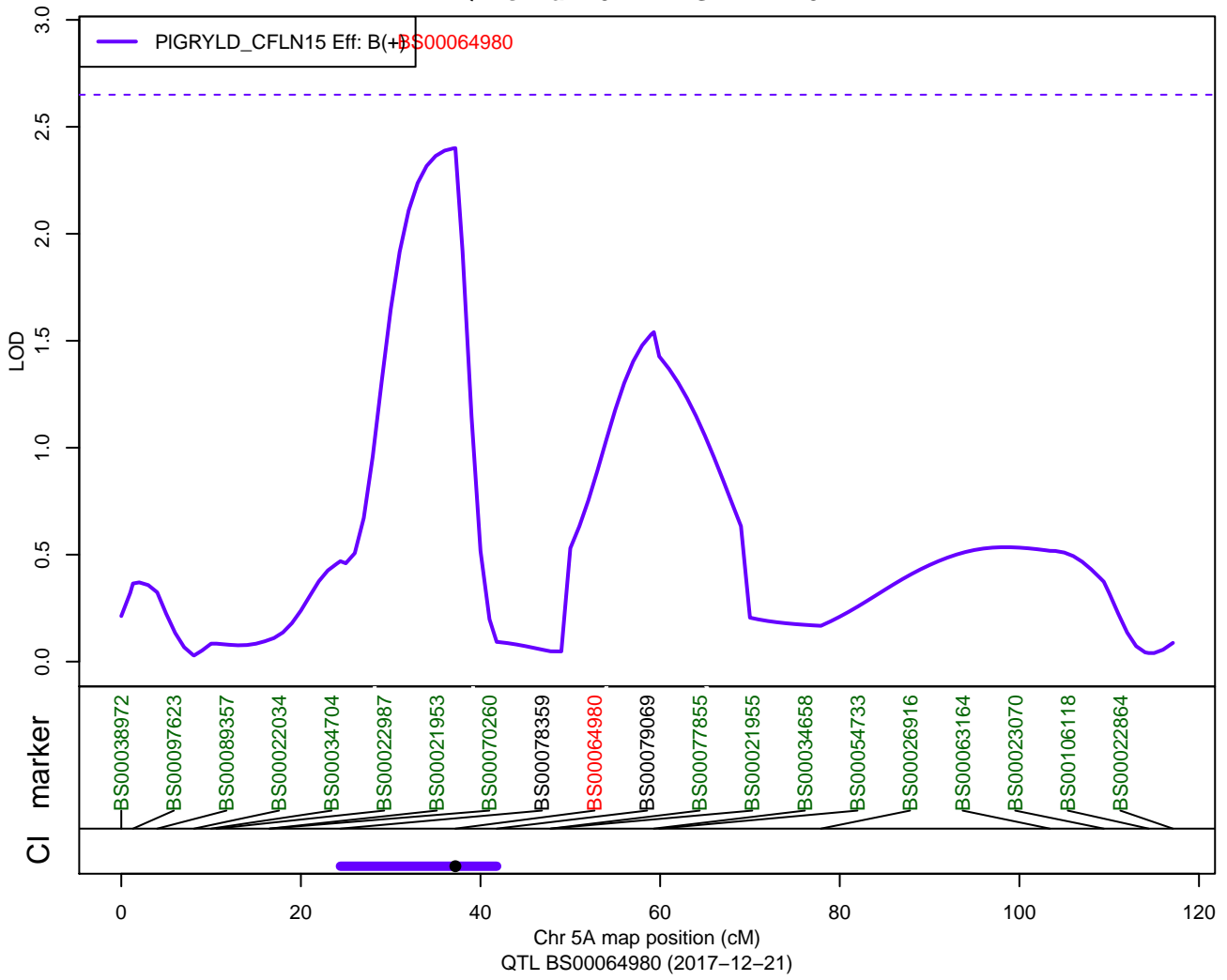
QTLs: ParW042 - Ht - 6A1



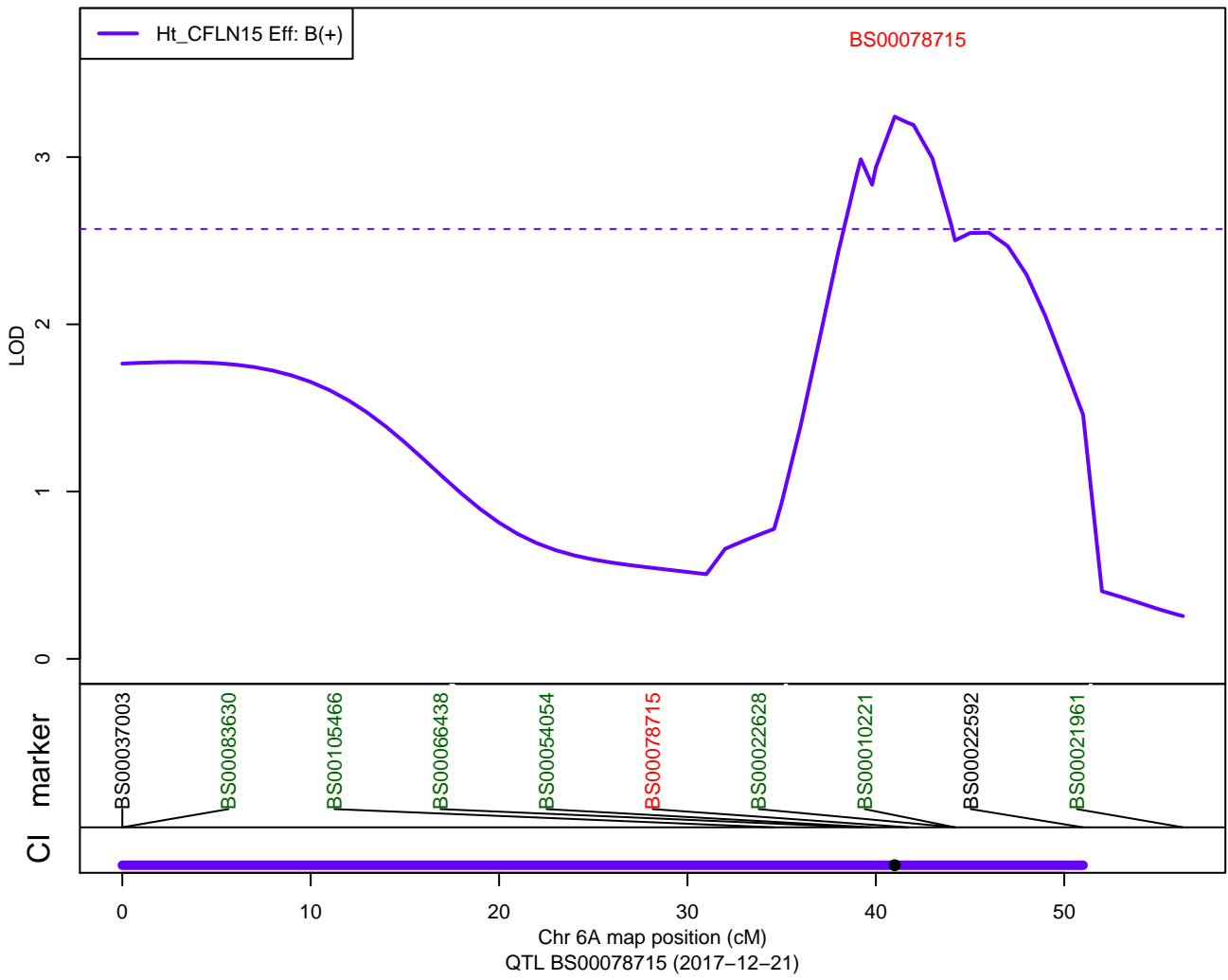
QTLs: ParW042 - DTEM - 7A



QTLs: ParW042 – PIGRYLD – 5A

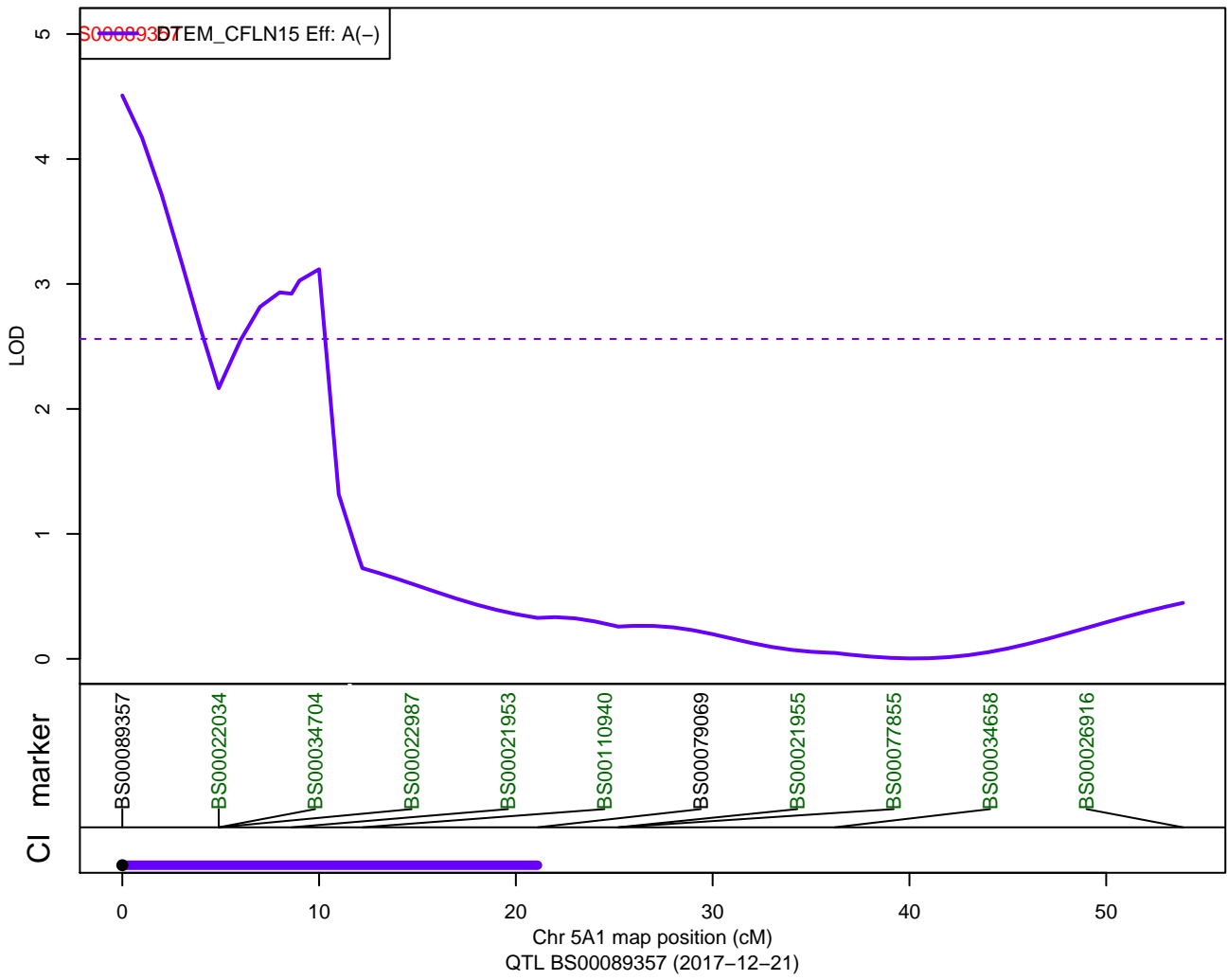


QTLs: ParW045 - Ht - 6A

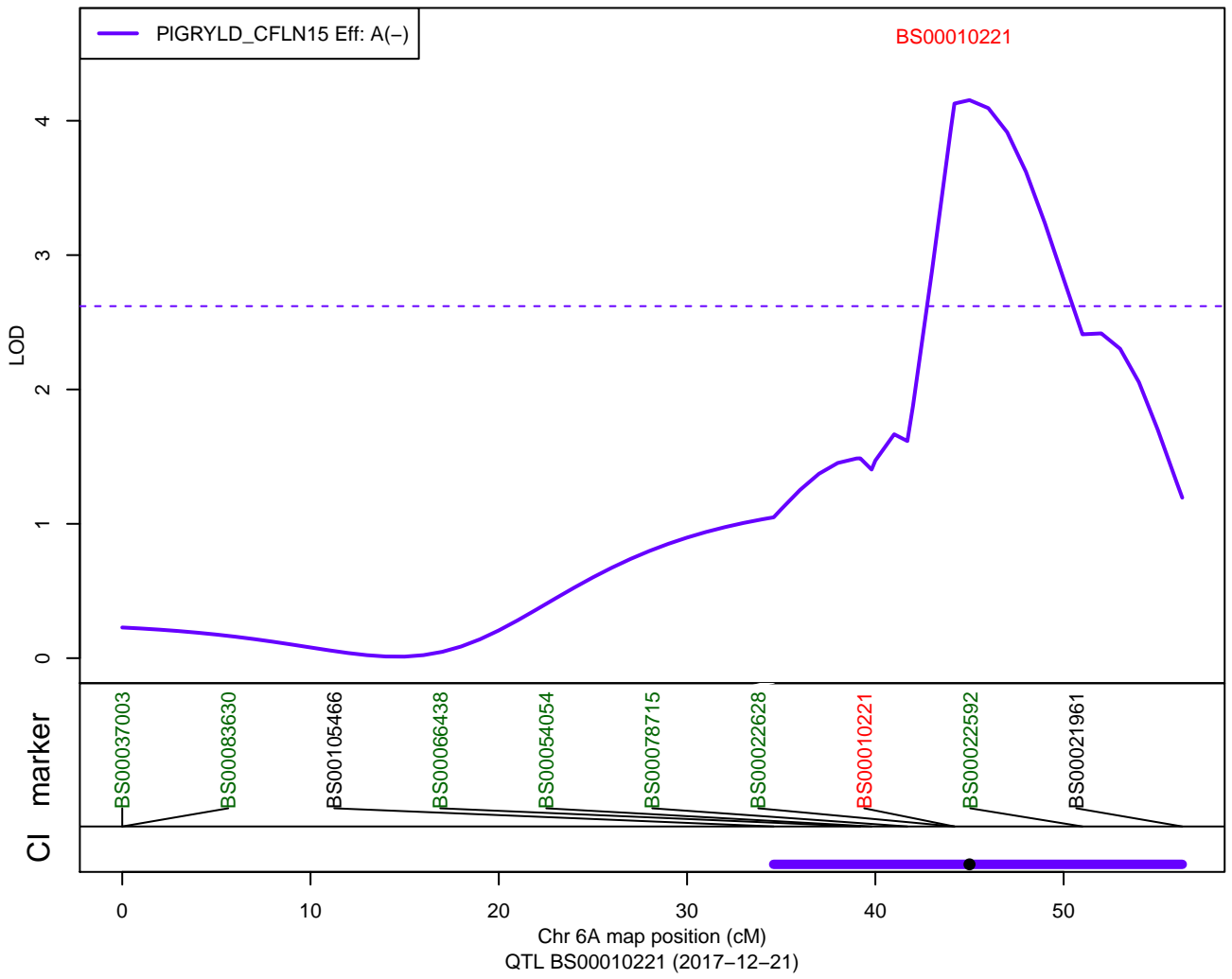




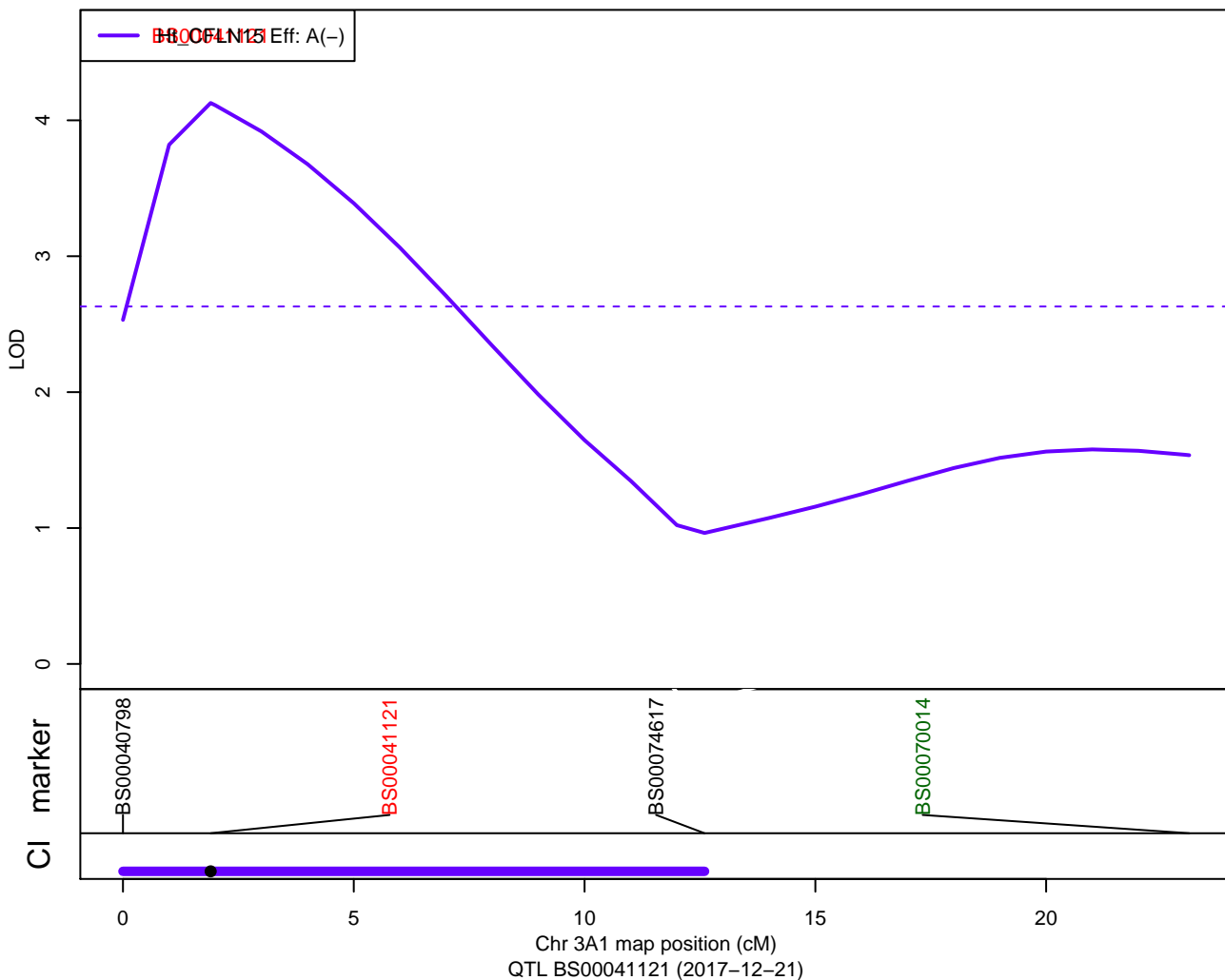
# QTLs: ParW045 – DTEM – 5A1



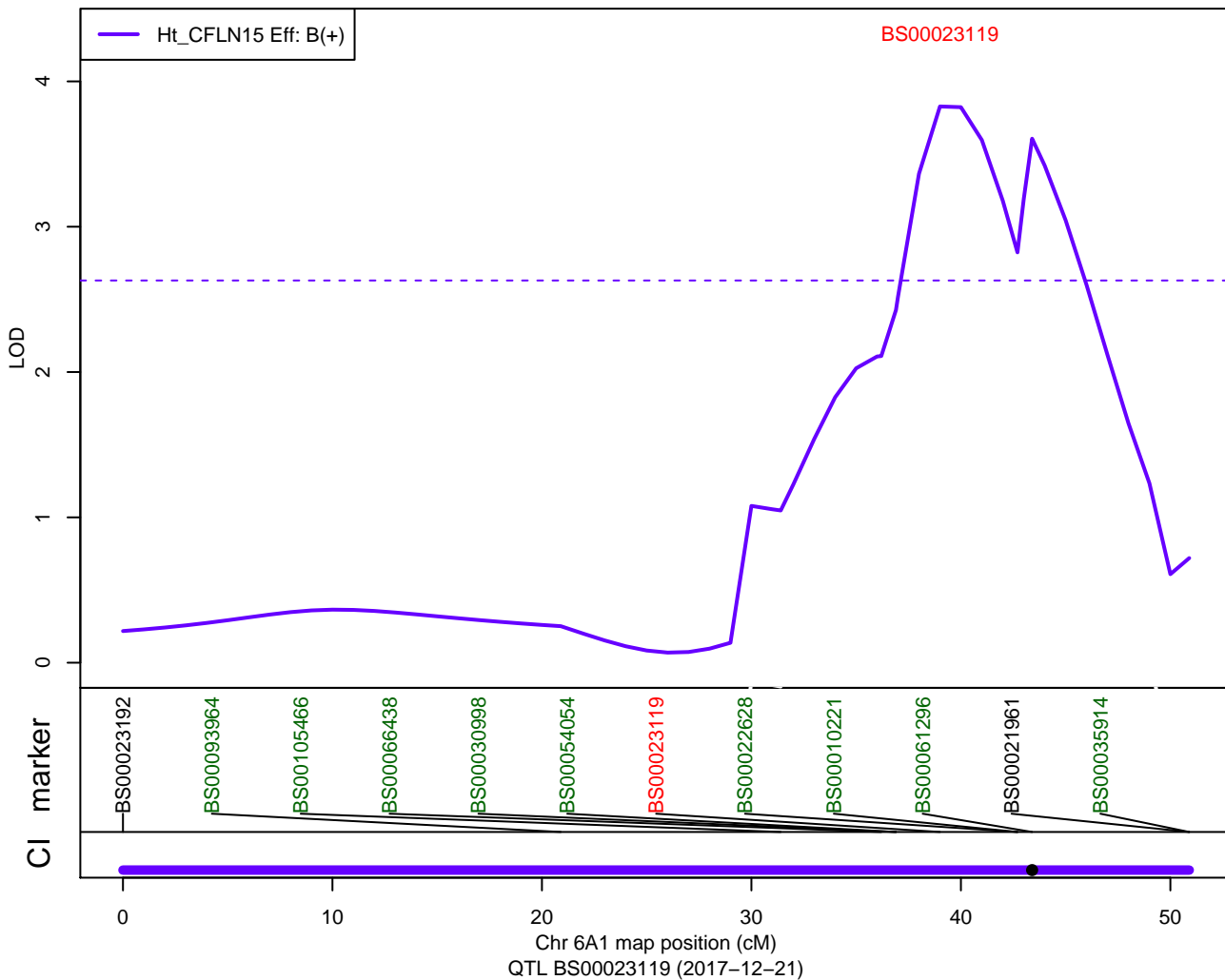
QTLs: ParW045 – PIGRYLD – 6A



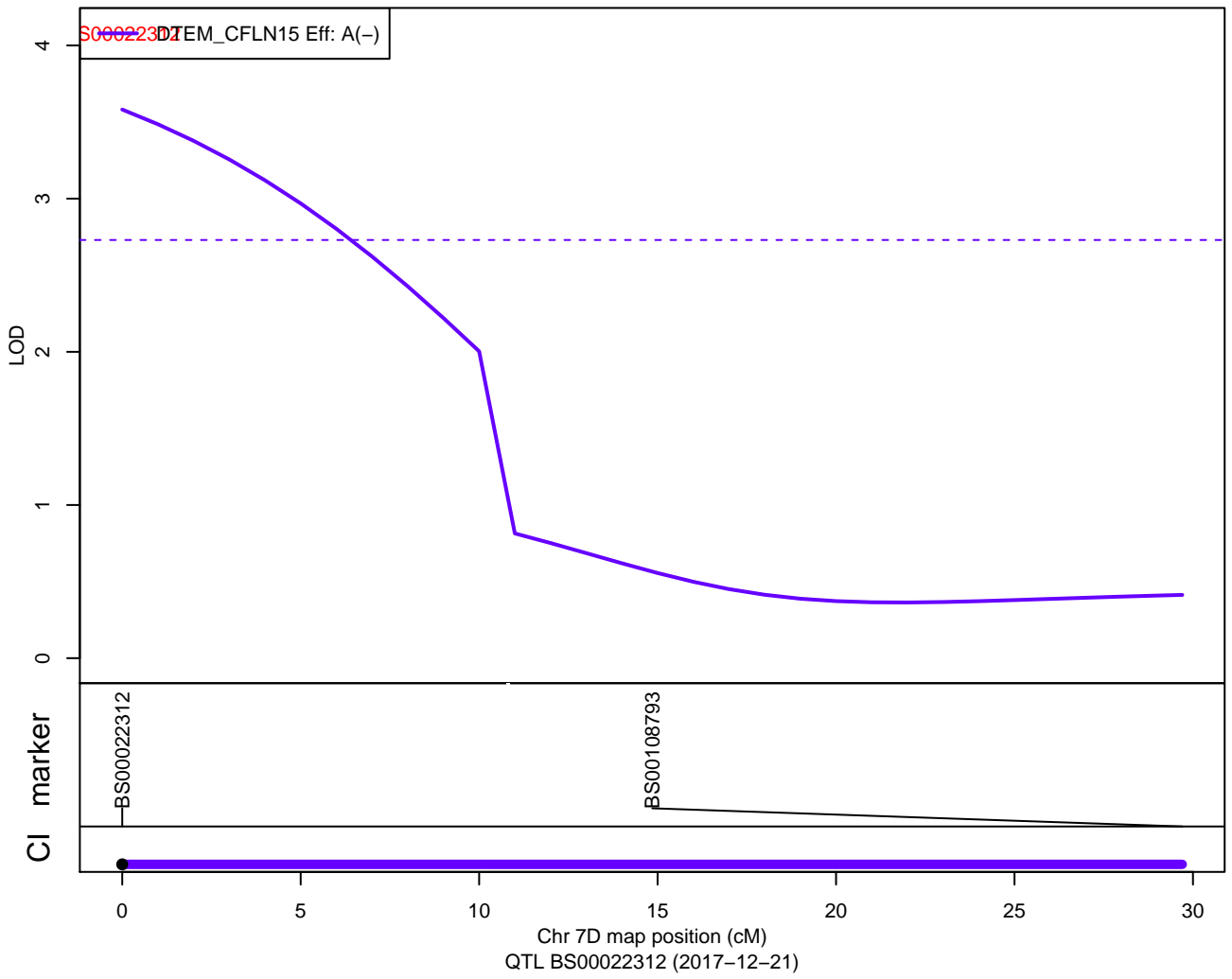
QTLs: ParW110 - Ht - 3A1



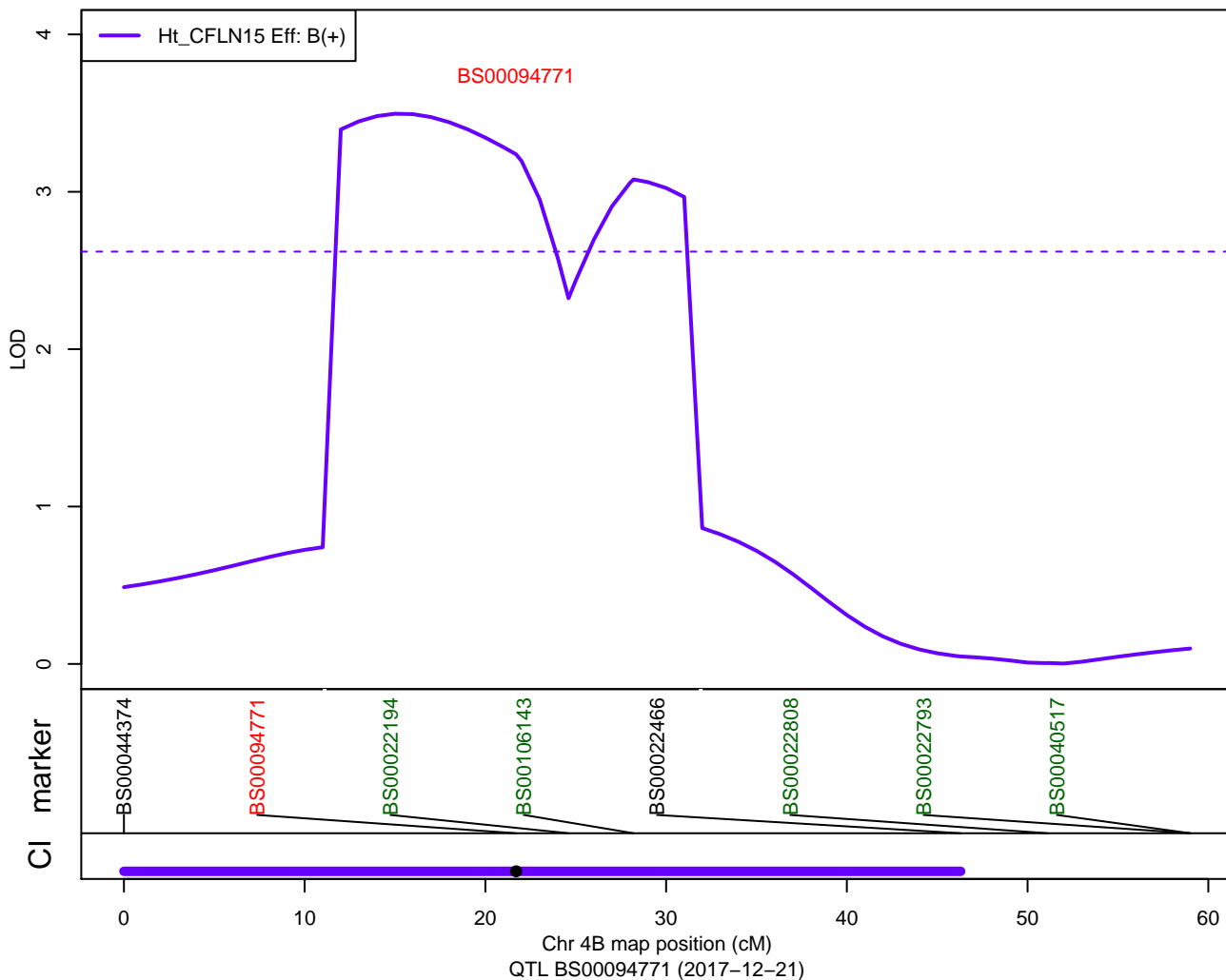
QTLs: ParW110 - Ht - 6A1



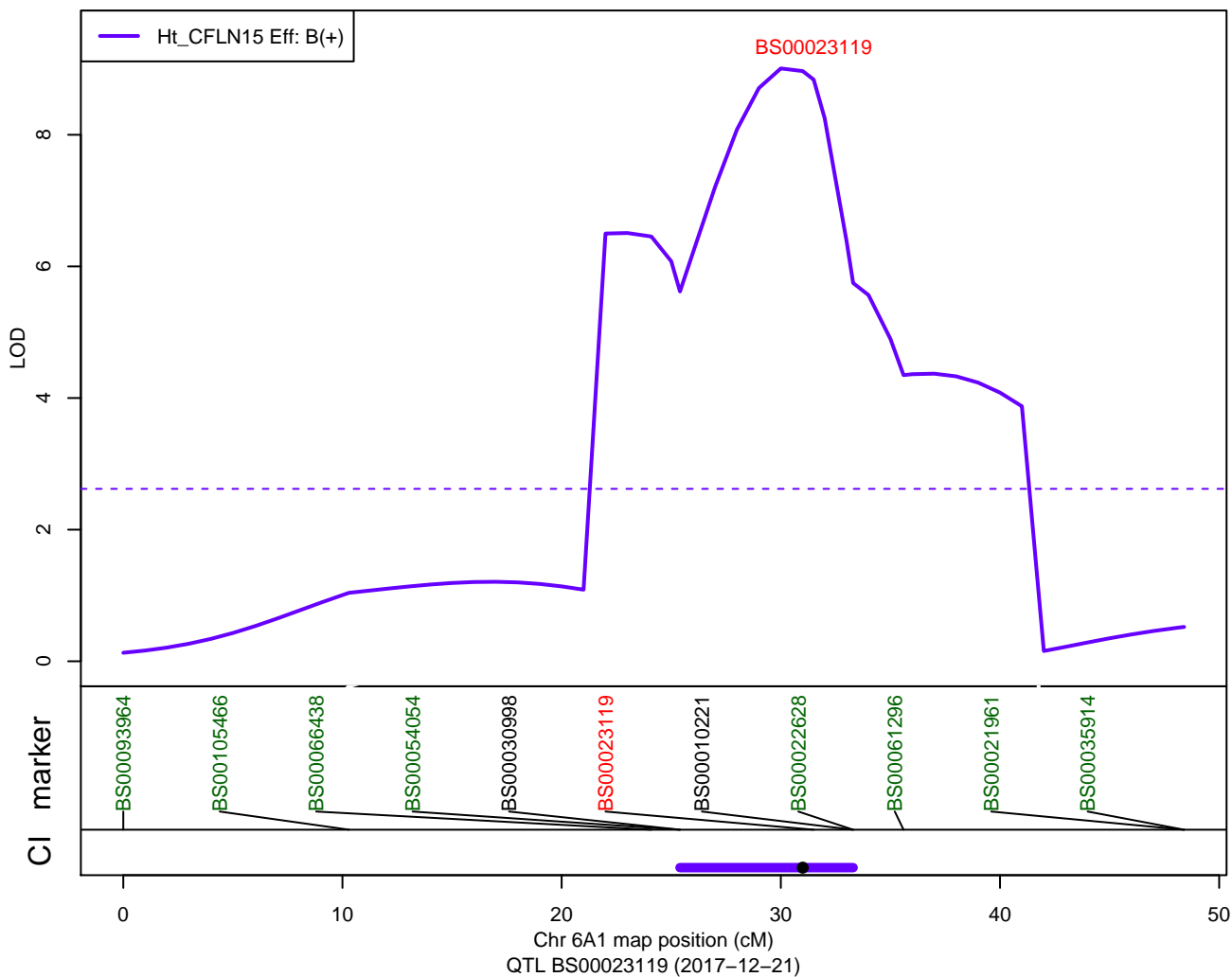
QTLs: ParW110 - DTEM - 7D



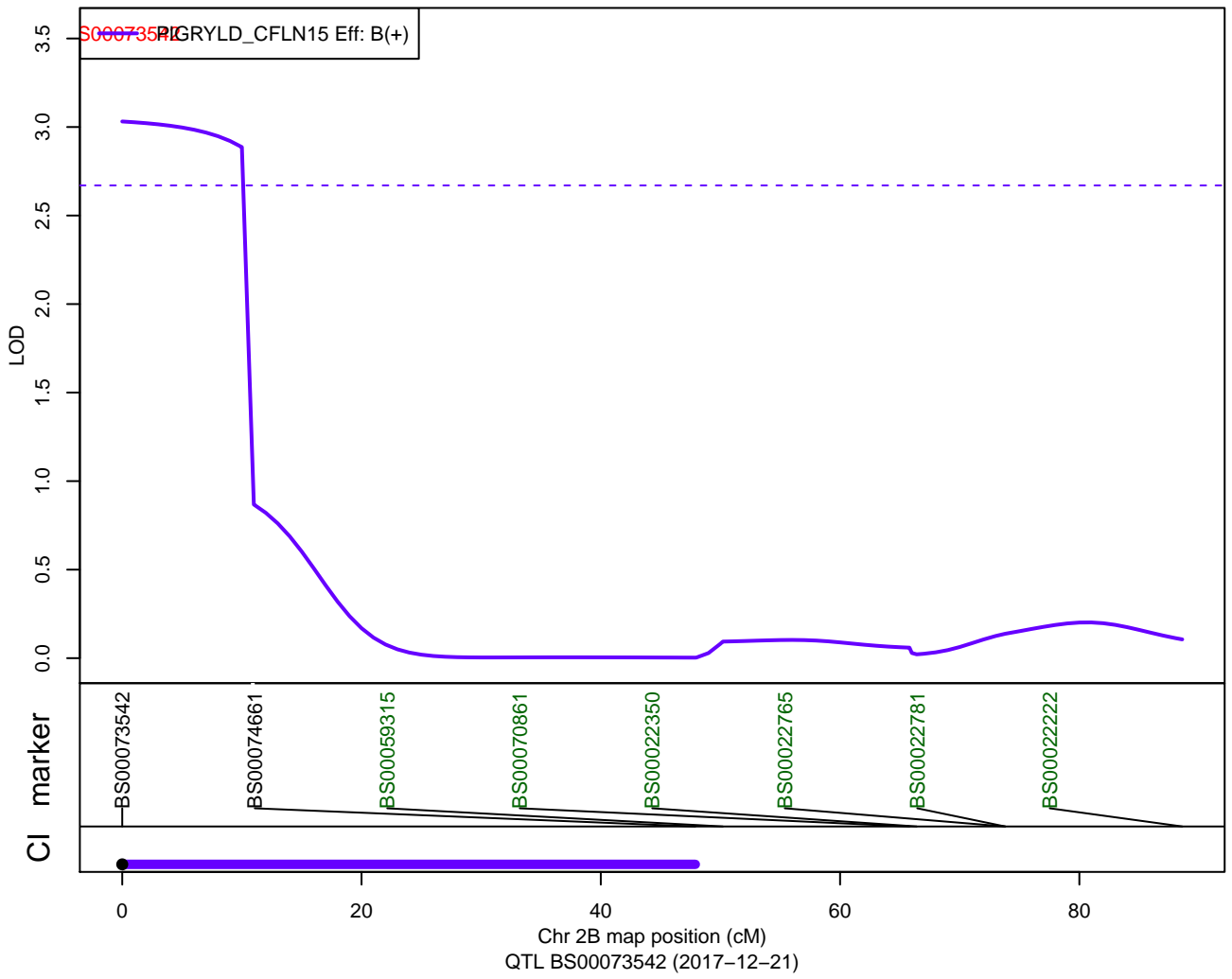
### QTLs: ParW145 – Ht – 4B



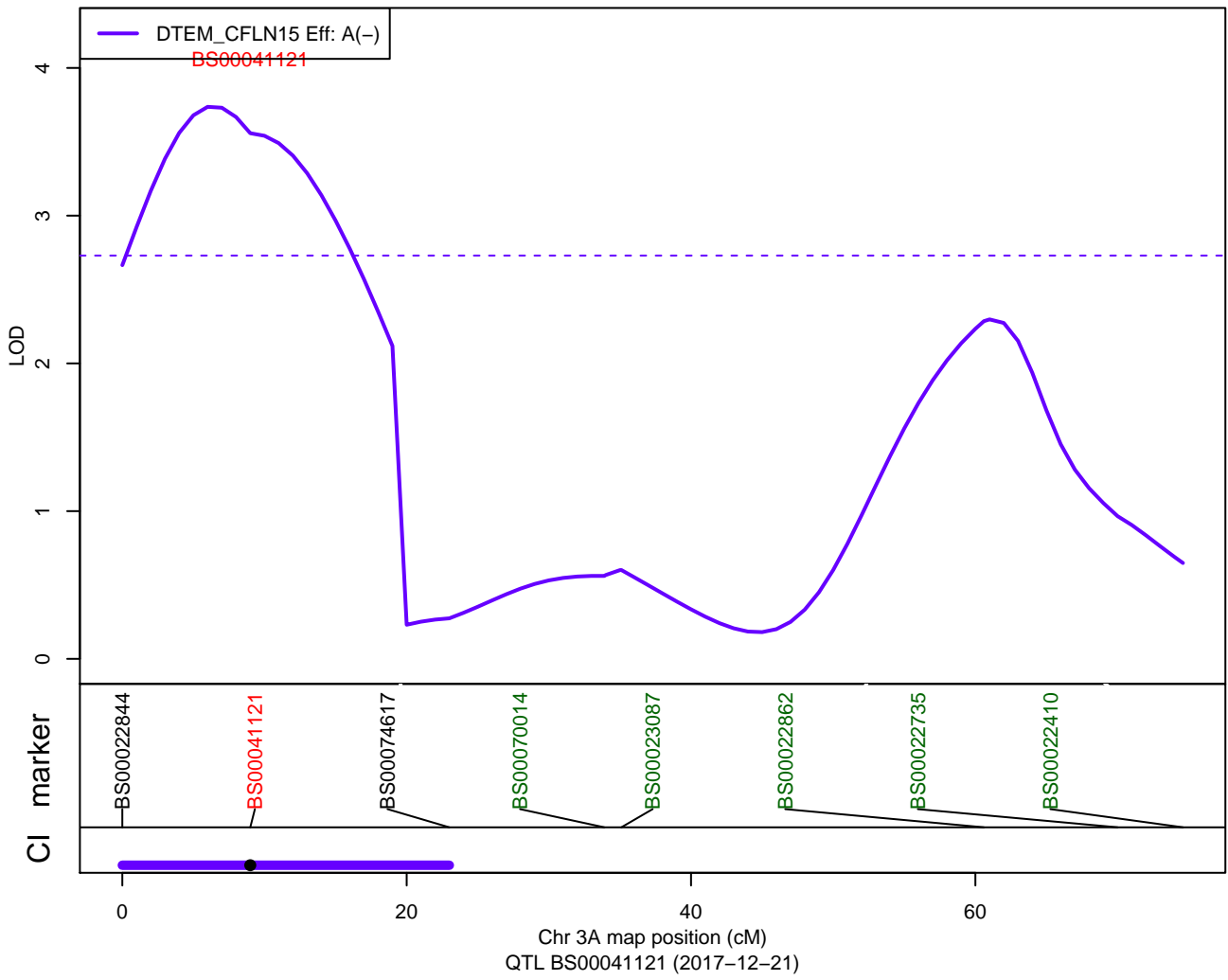
### QTLs: ParW145 – Ht – 6A1



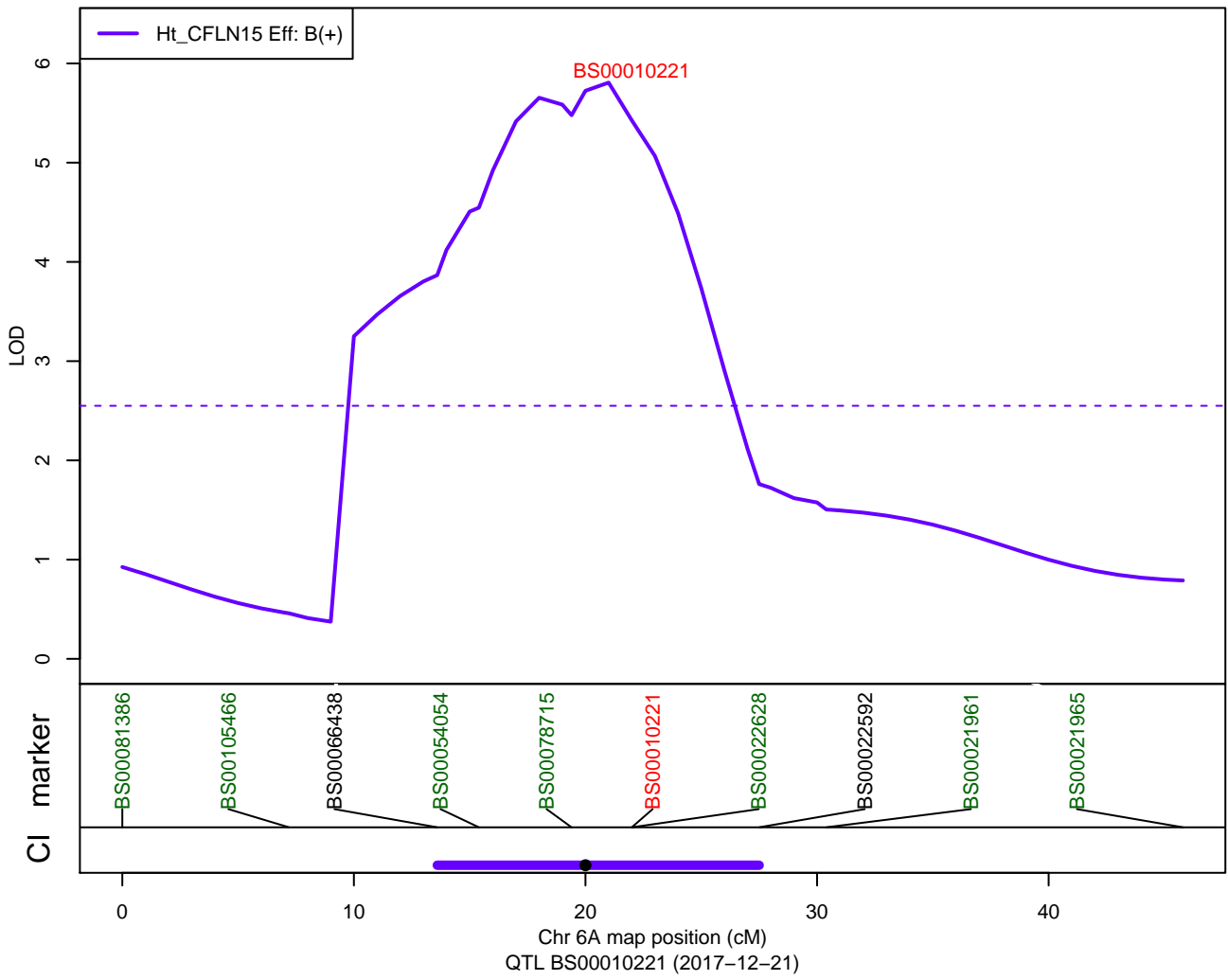
QTLs: ParW145 - PIGRYLD - 2B



# QTLs: ParW224 - DTEM - 3A

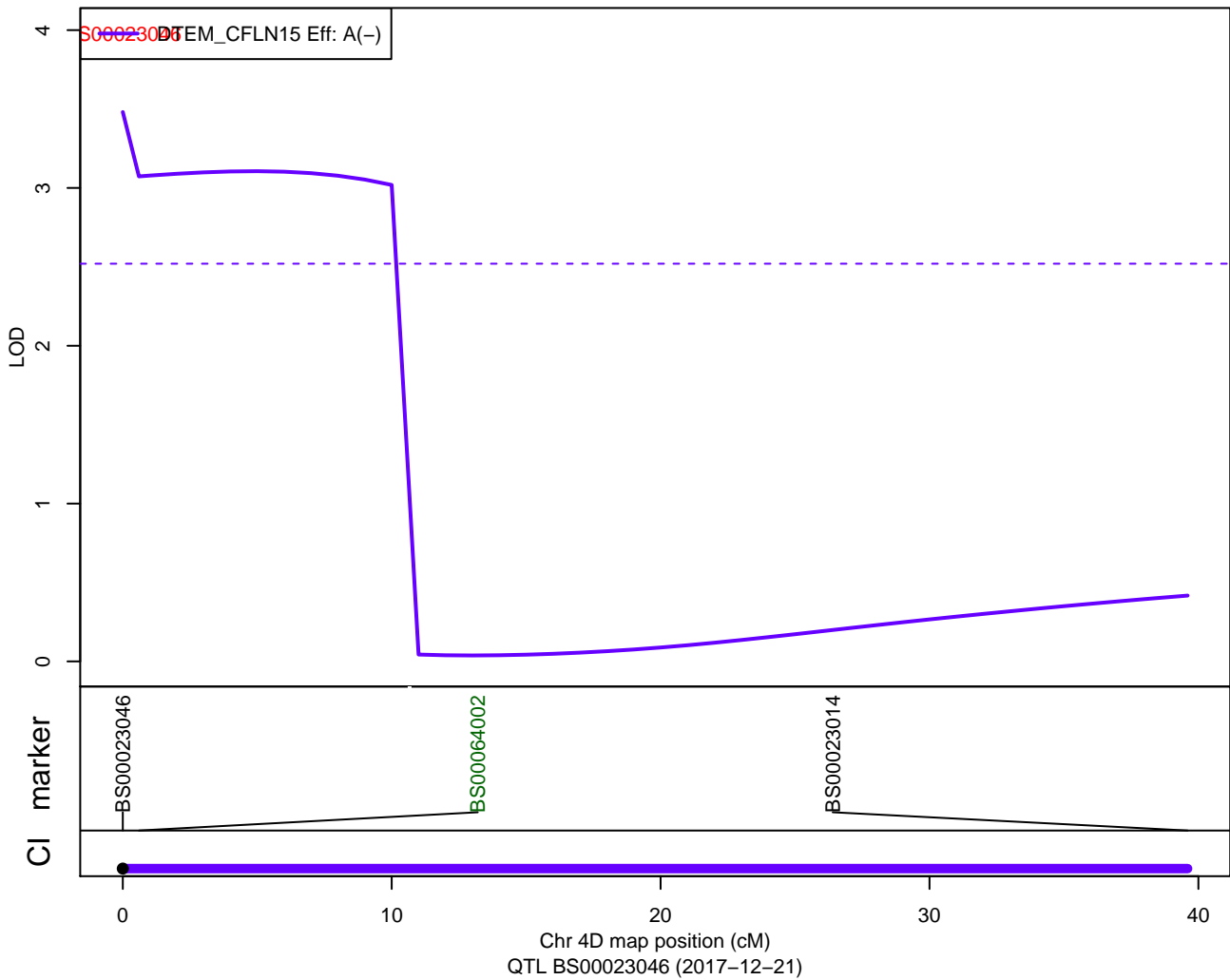


QTLs: ParW451 - Ht - 6A

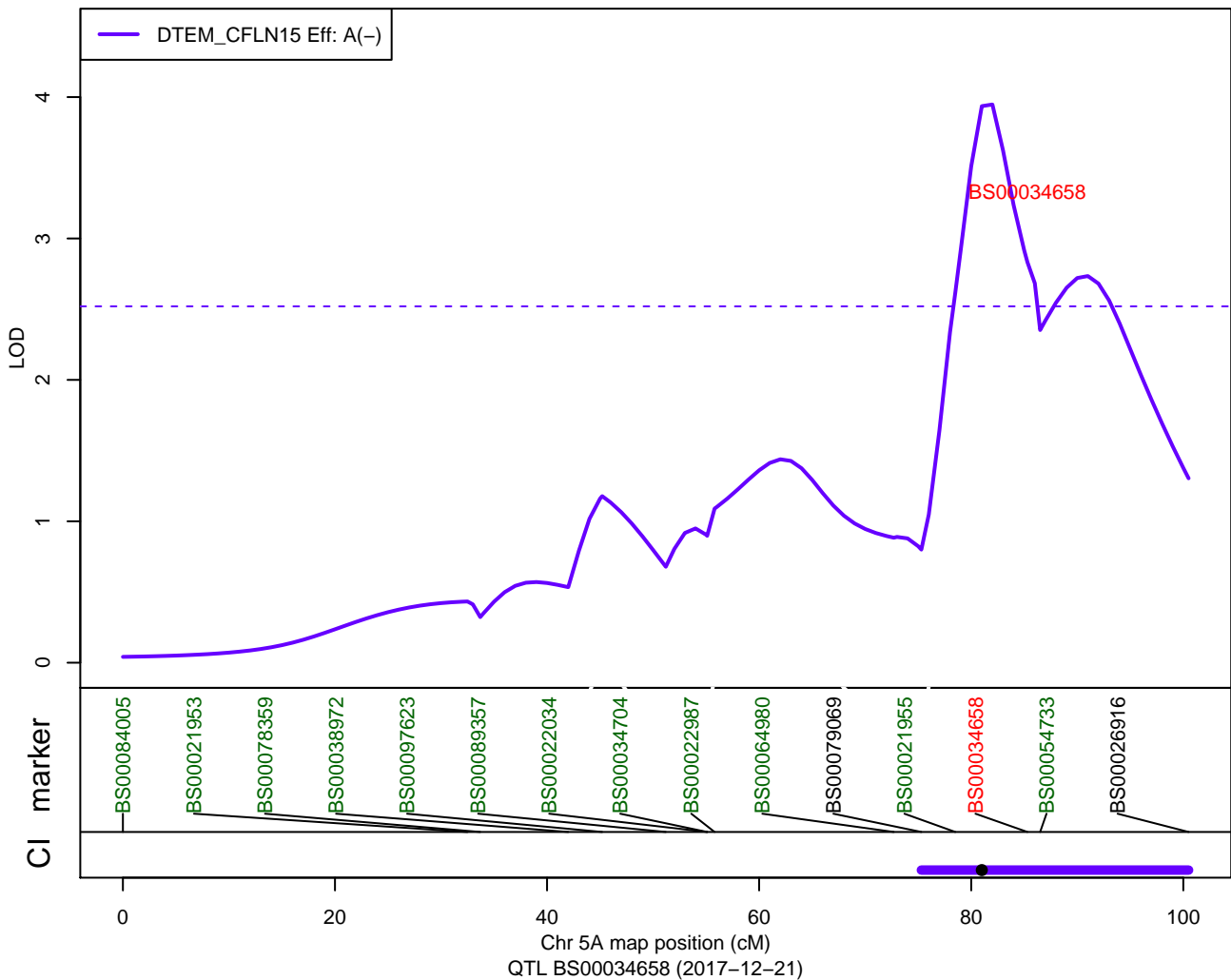




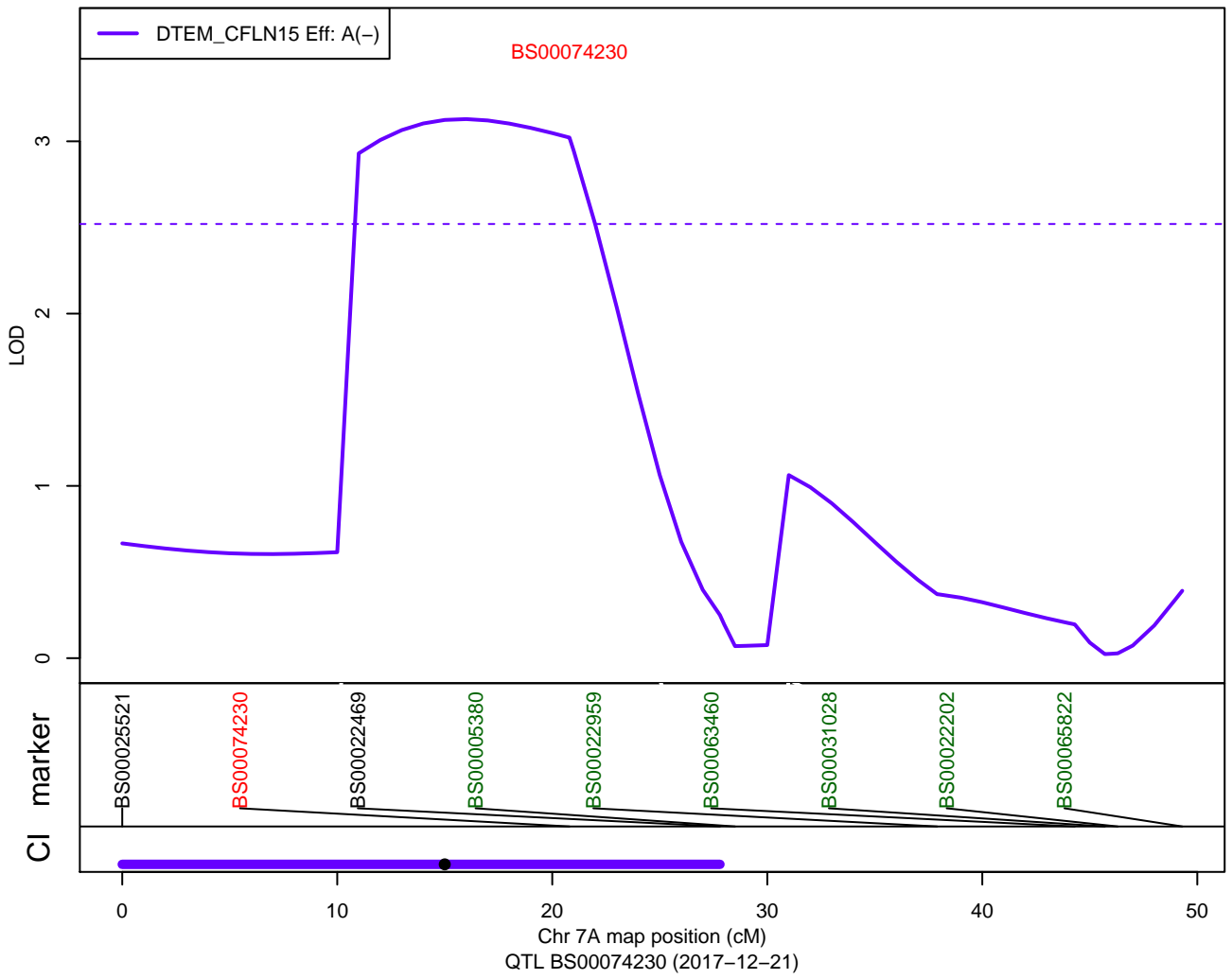
### QTLs: ParW451 – DTEM – 4D



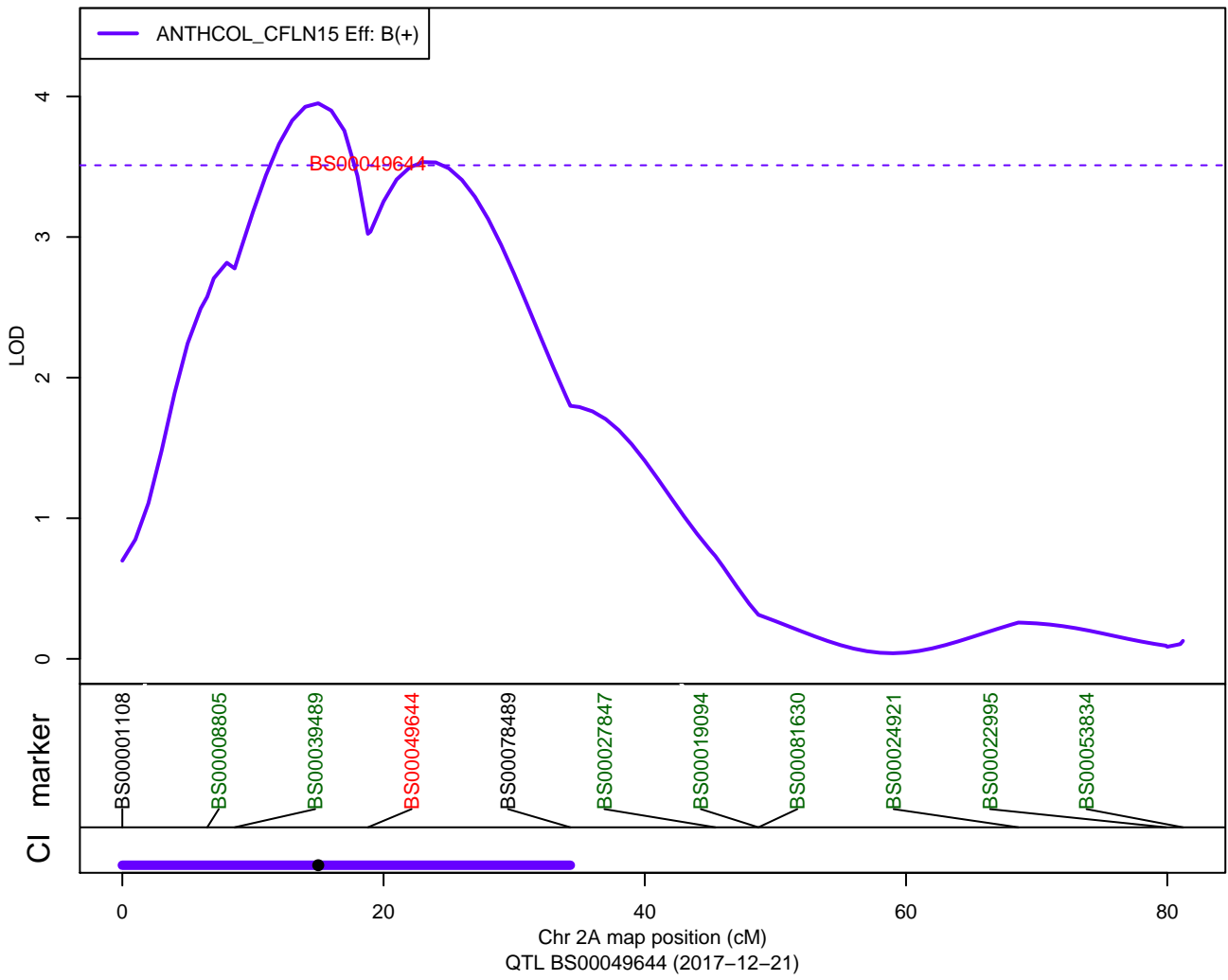
### QTLs: ParW451 – DTEM – 5A



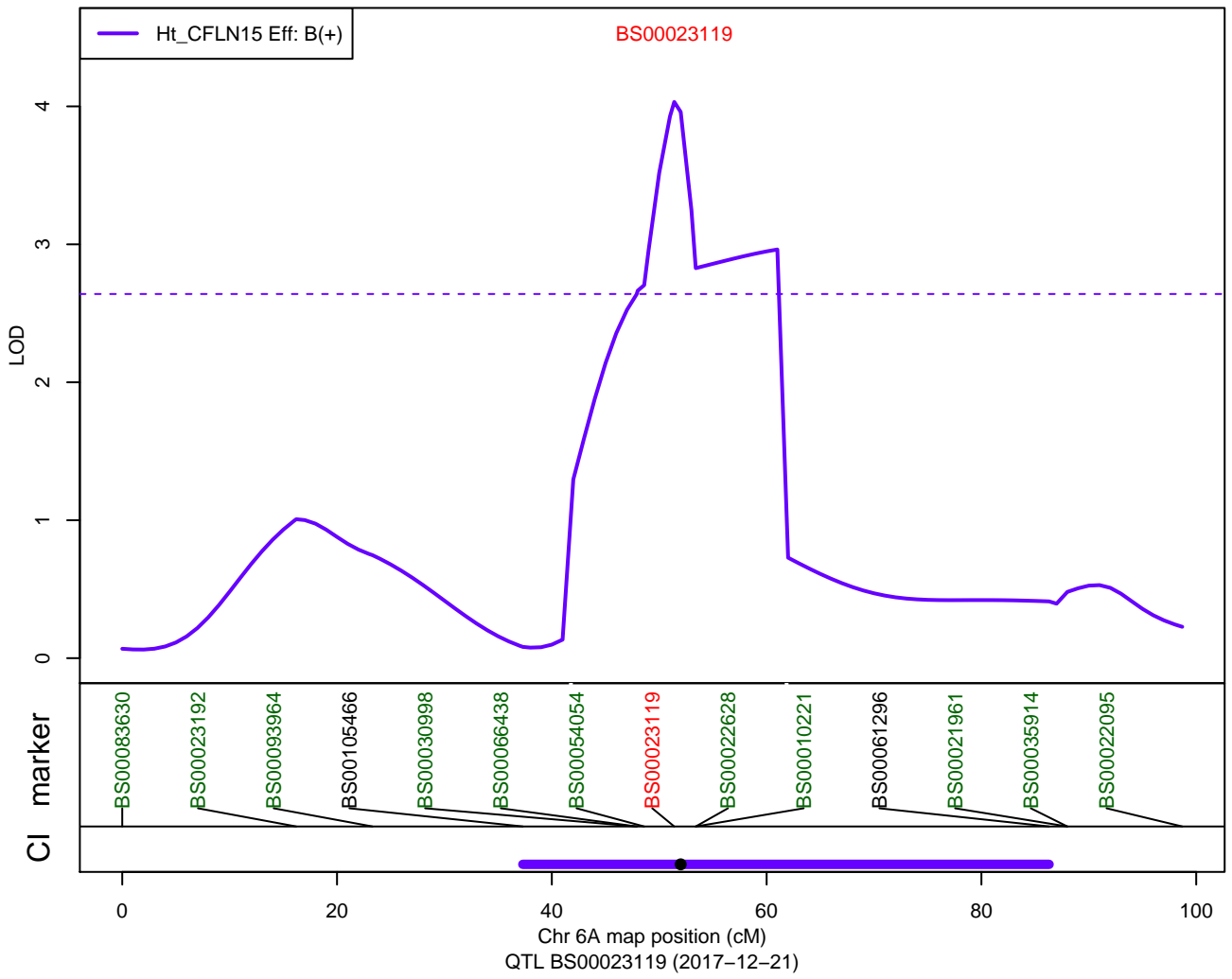
QTLs: ParW451 - DTEM - 7A



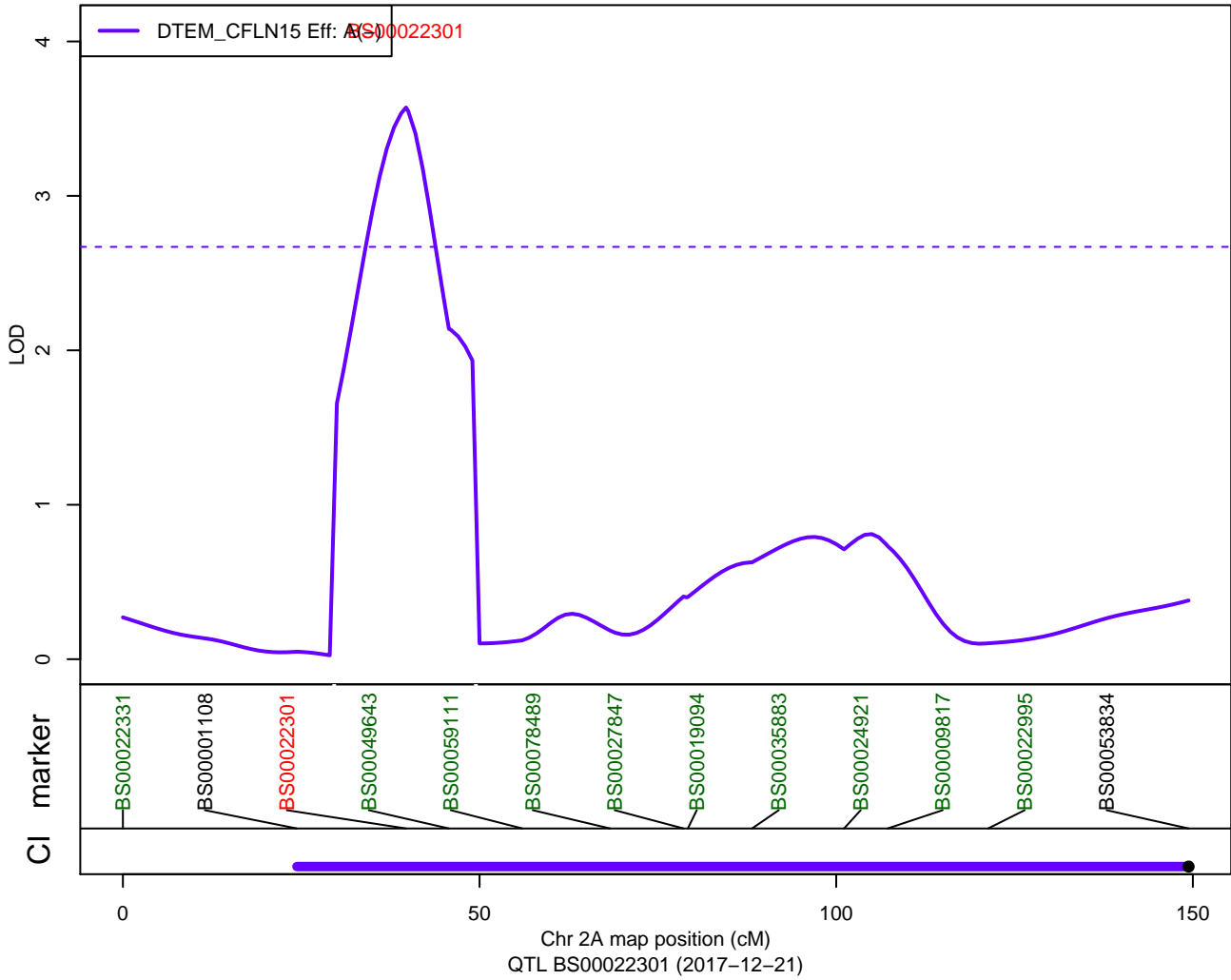
# QTLs: ParW451 - ANTHCOL - 2A



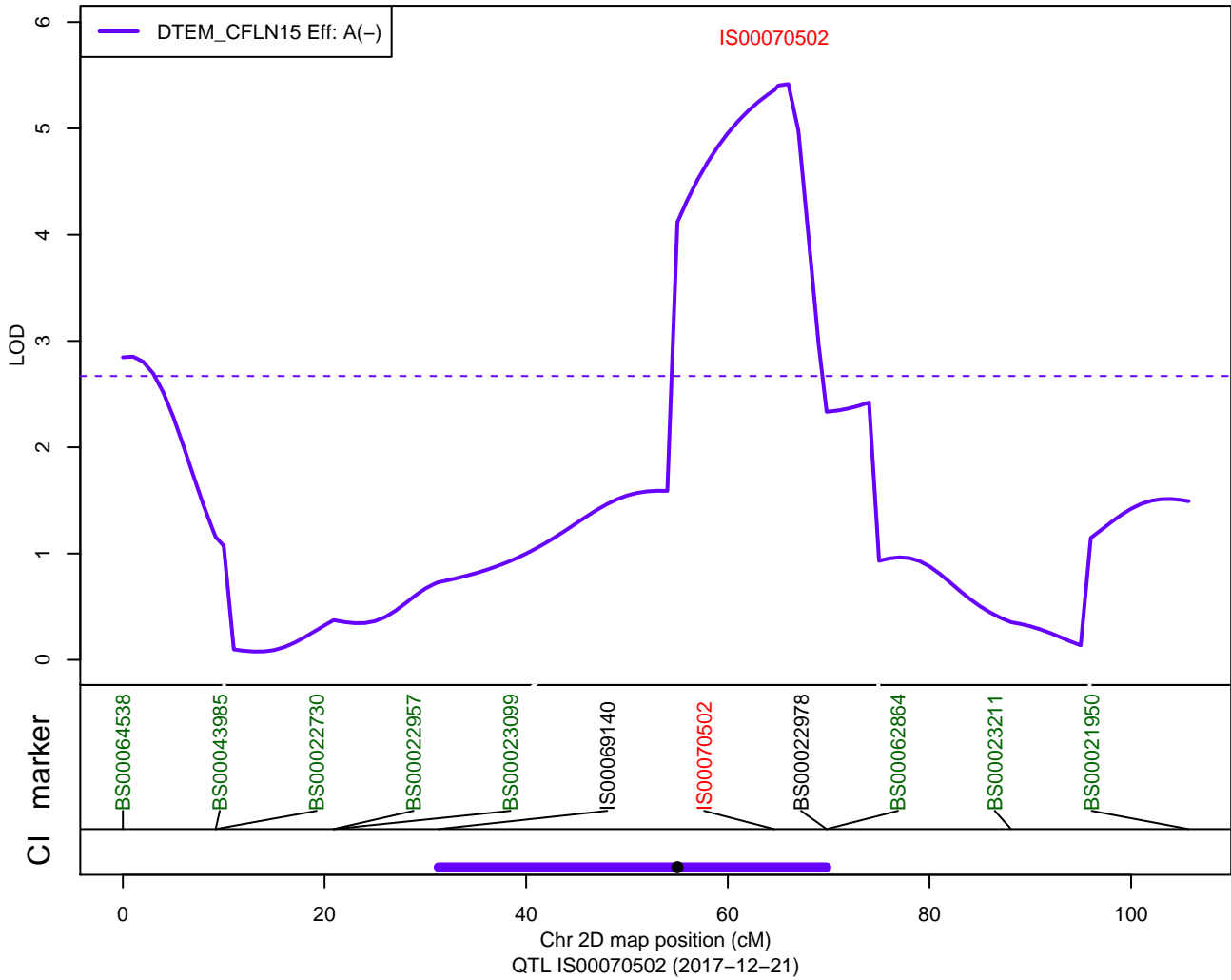
# QTLs: ParW474 – Ht – 6A



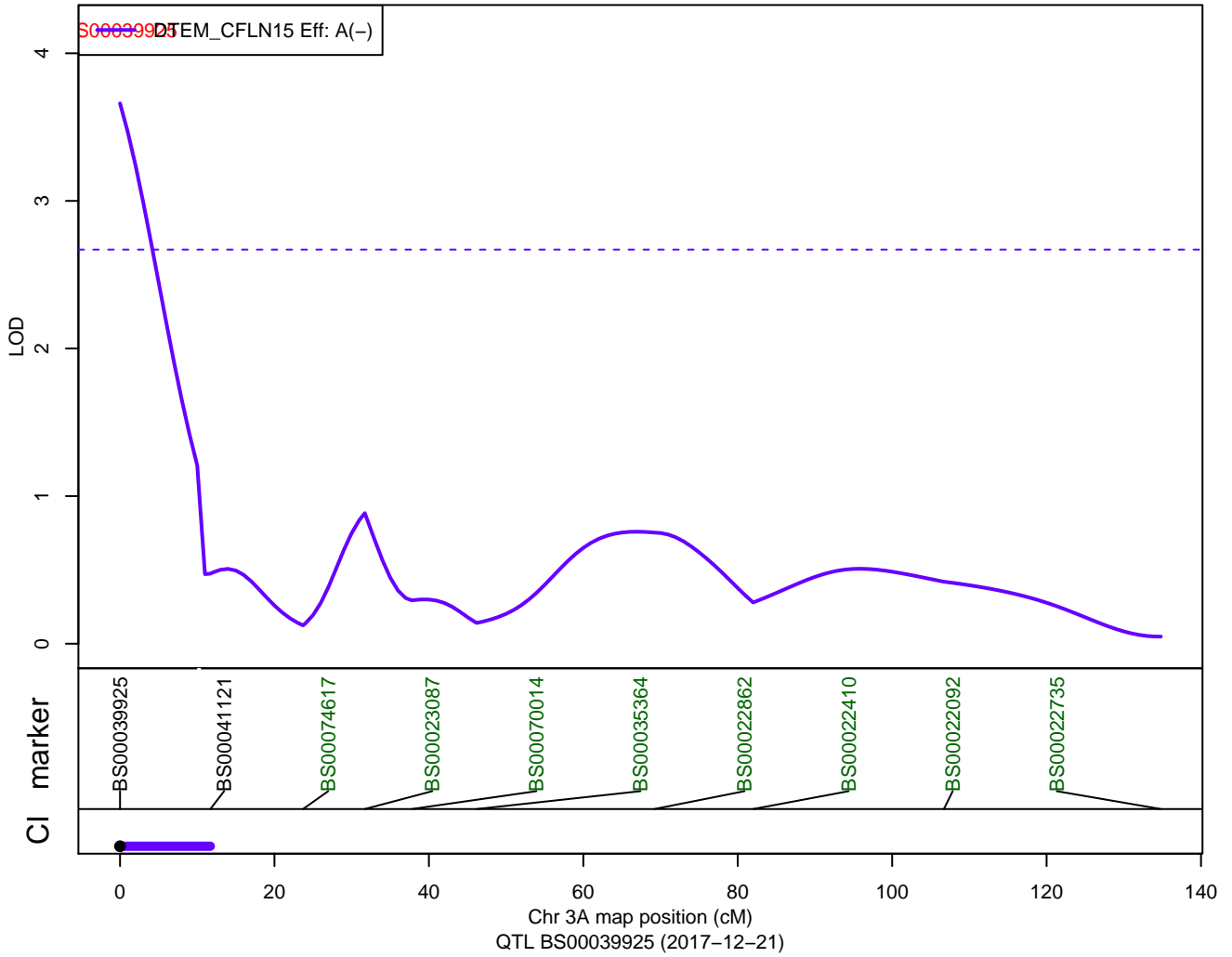
### QTLs: ParW474 – DTEM – 2A



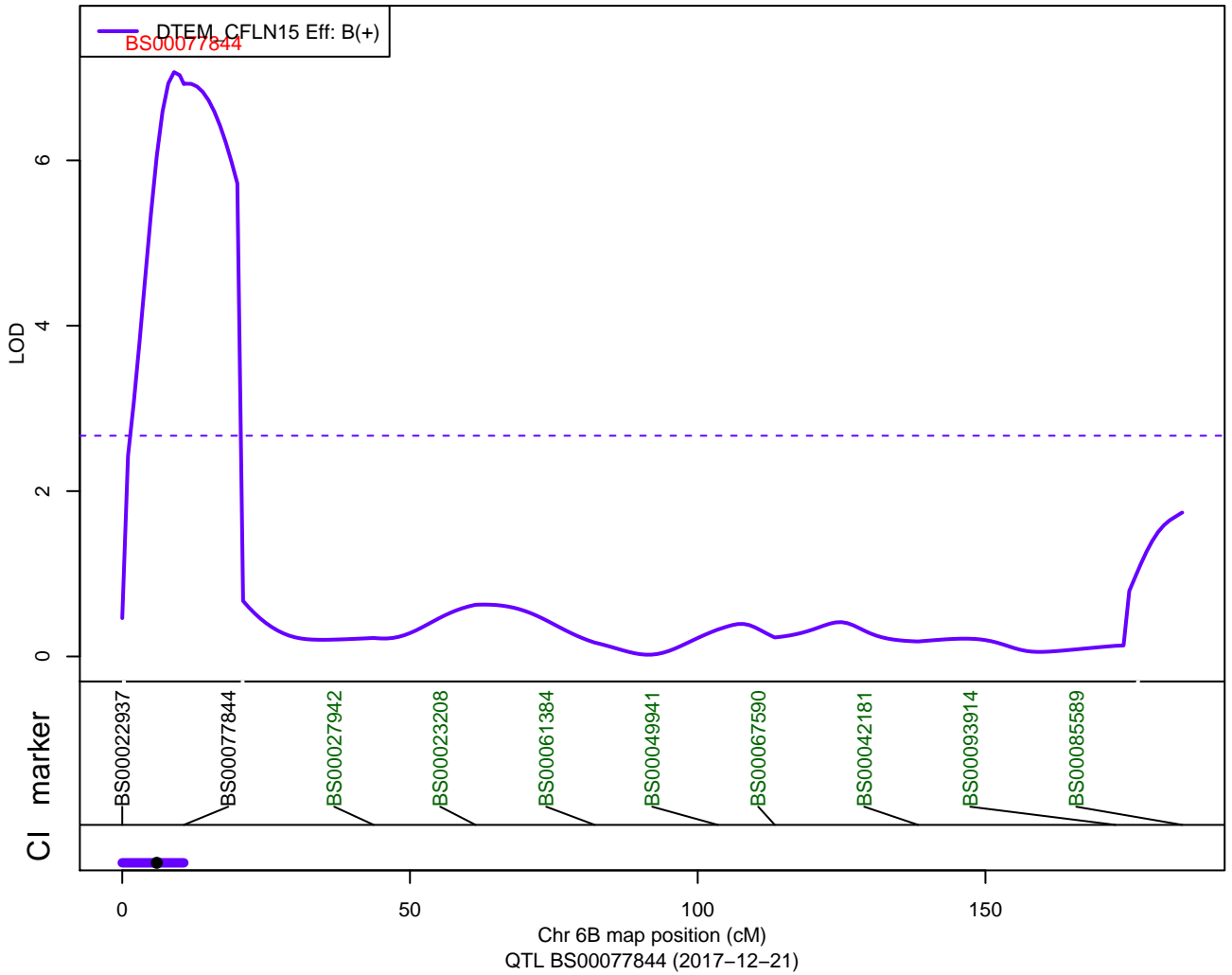
### QTLs: ParW474 – DTEM – 2D



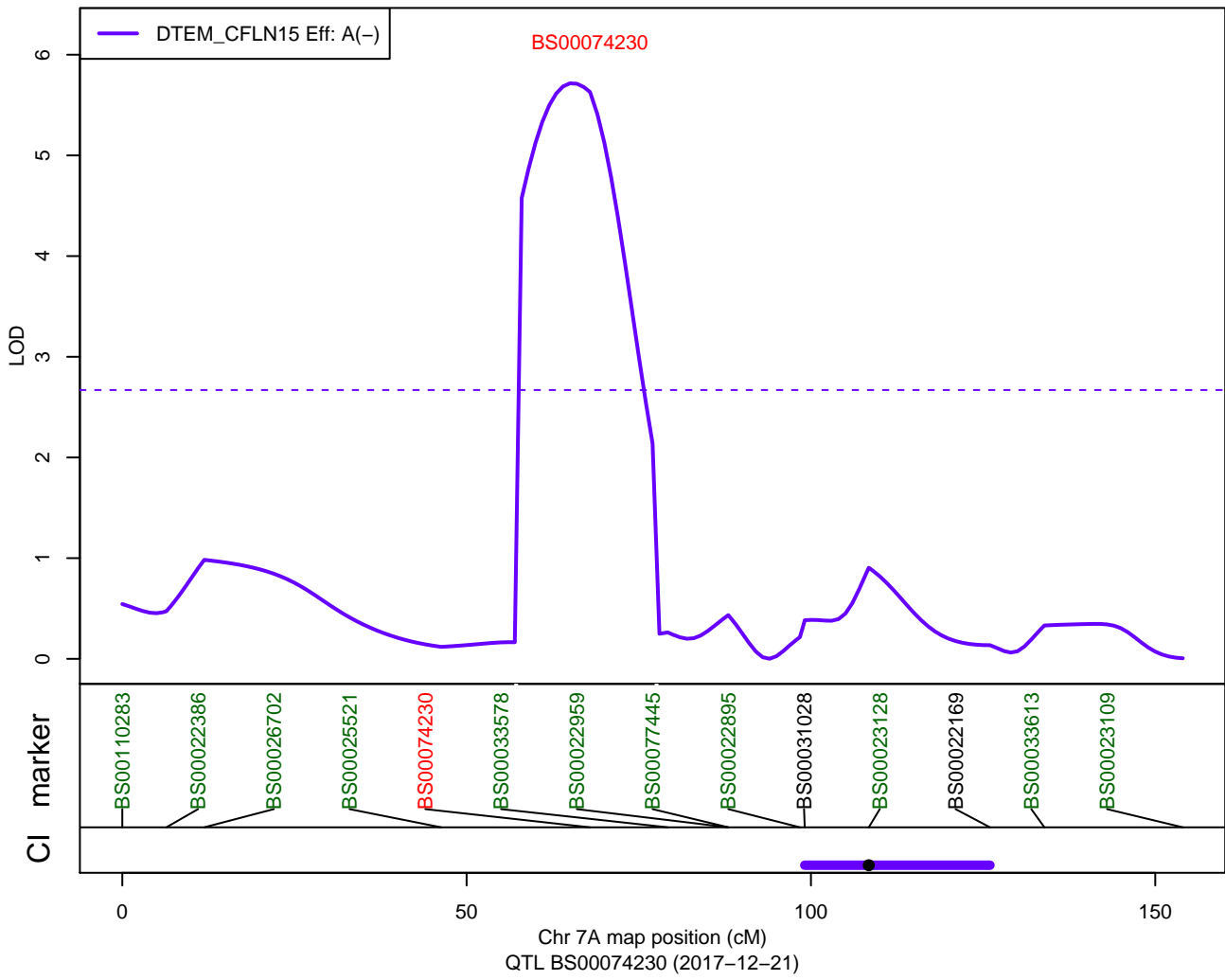
### QTLs: ParW474 – DTEM – 3A



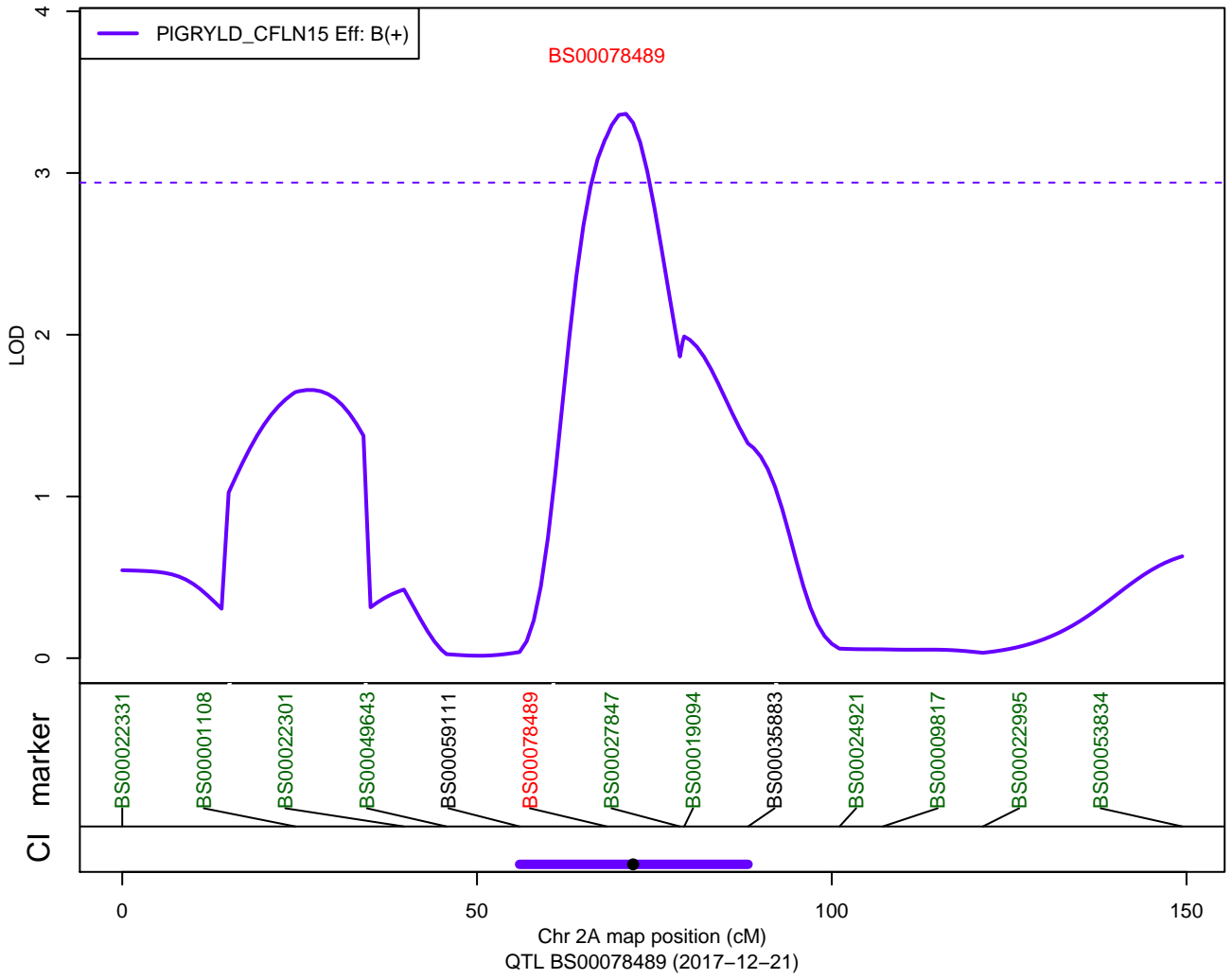
### QTLs: ParW474 – DTEM – 6B



### QTLs: ParW474 - DTEM - 7A

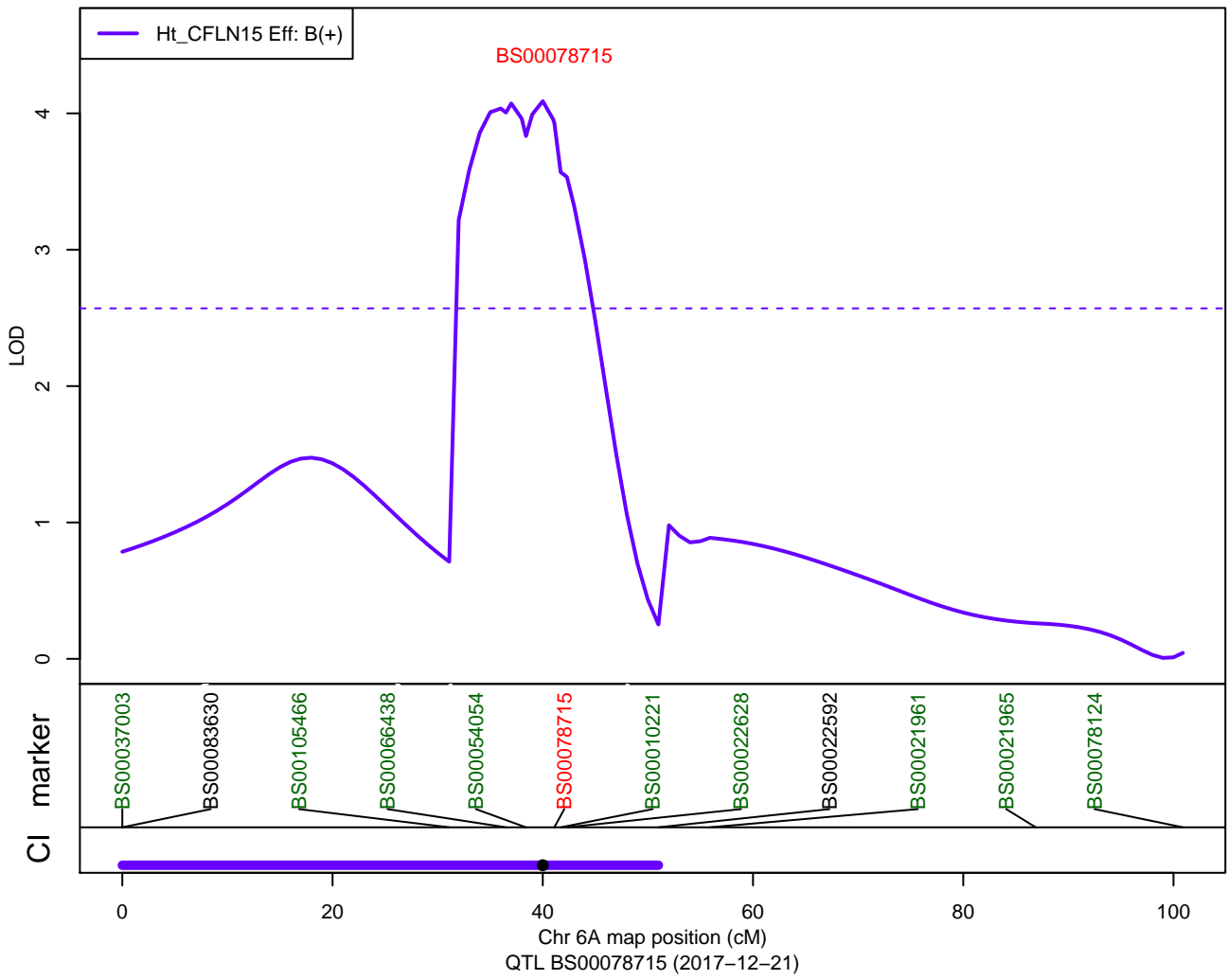


QTLs: ParW474 – PIGRYLD – 2A

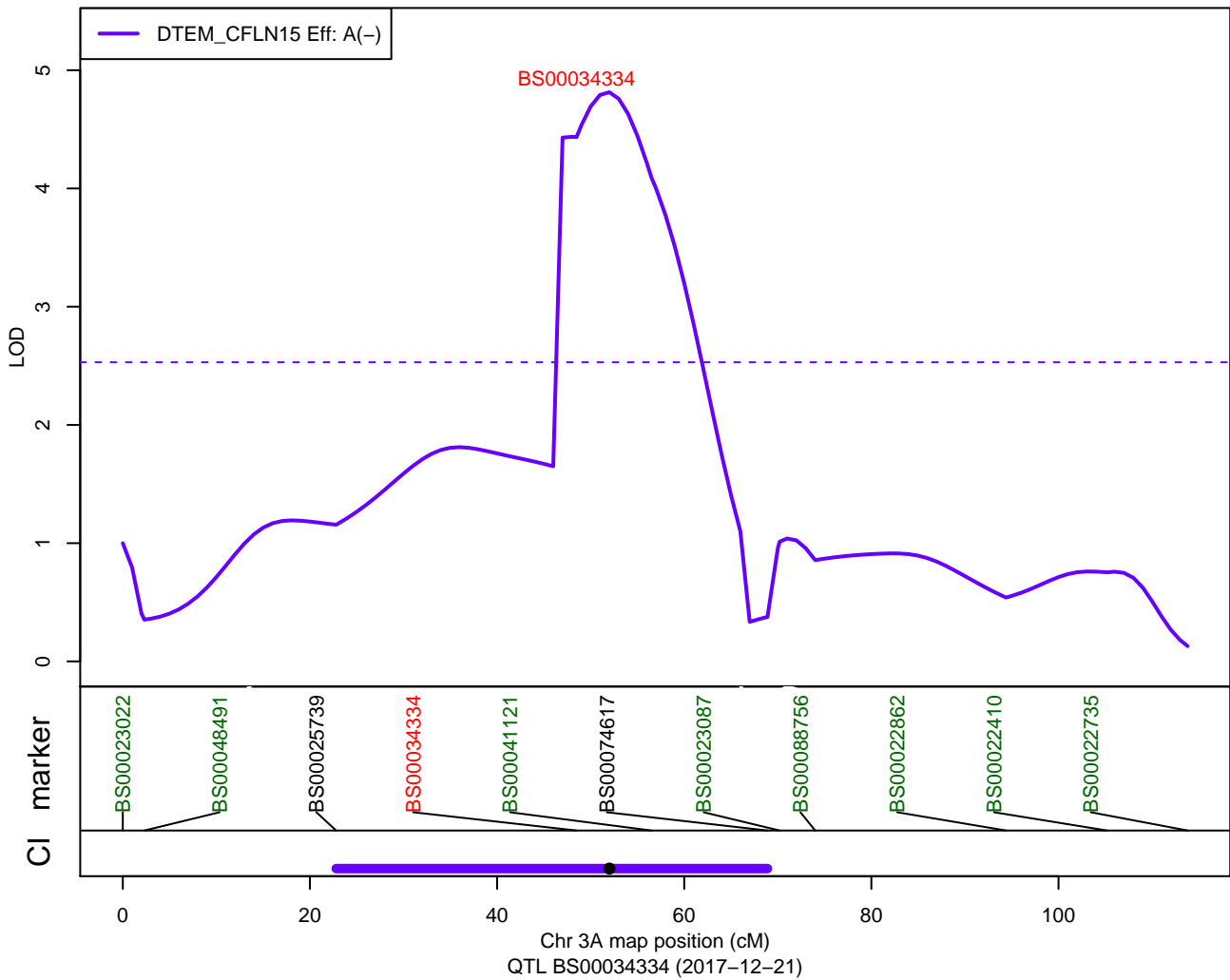




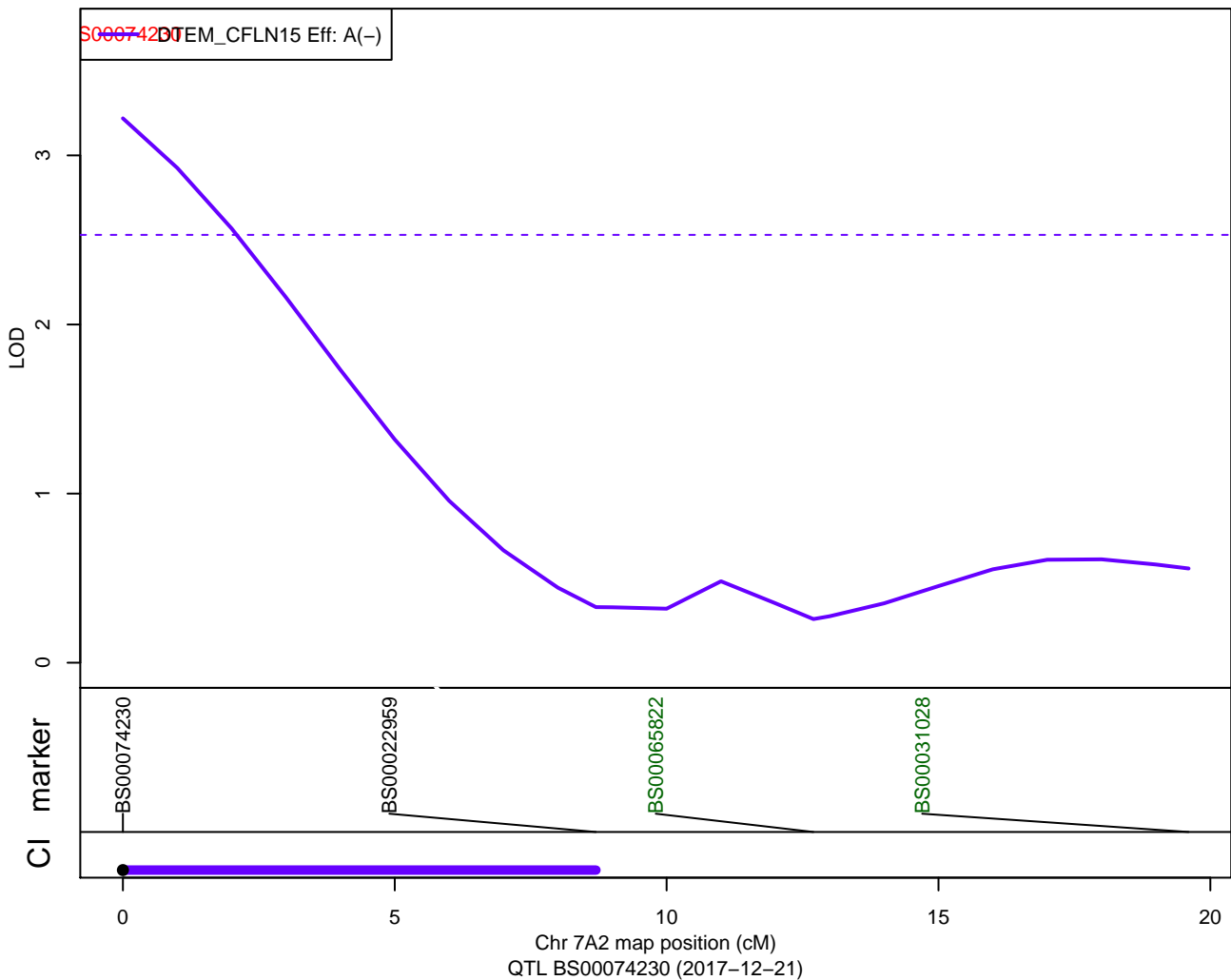
# QTLs: ParW496 - Ht - 6A



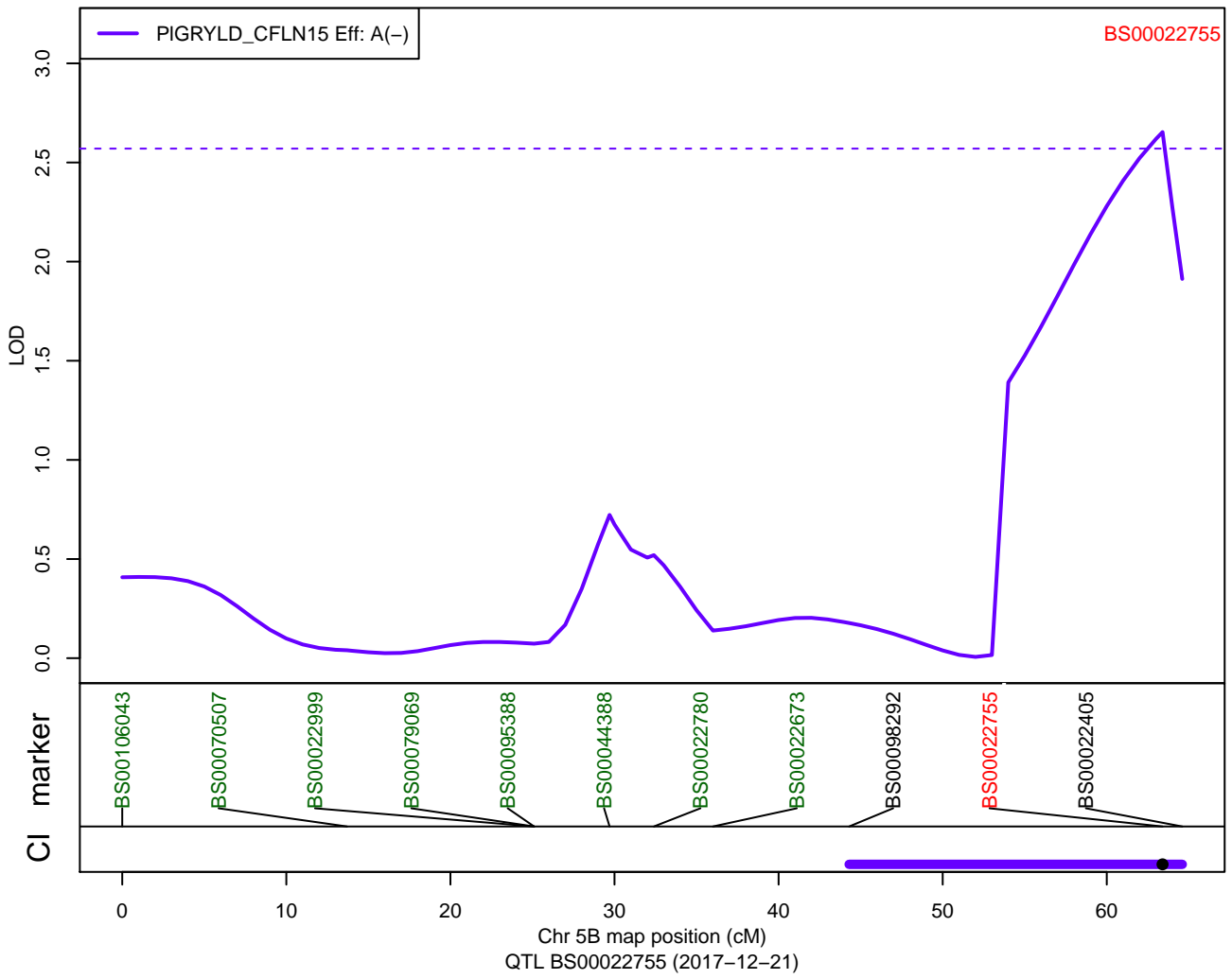
### QTLs: ParW496 – DTEM – 3A



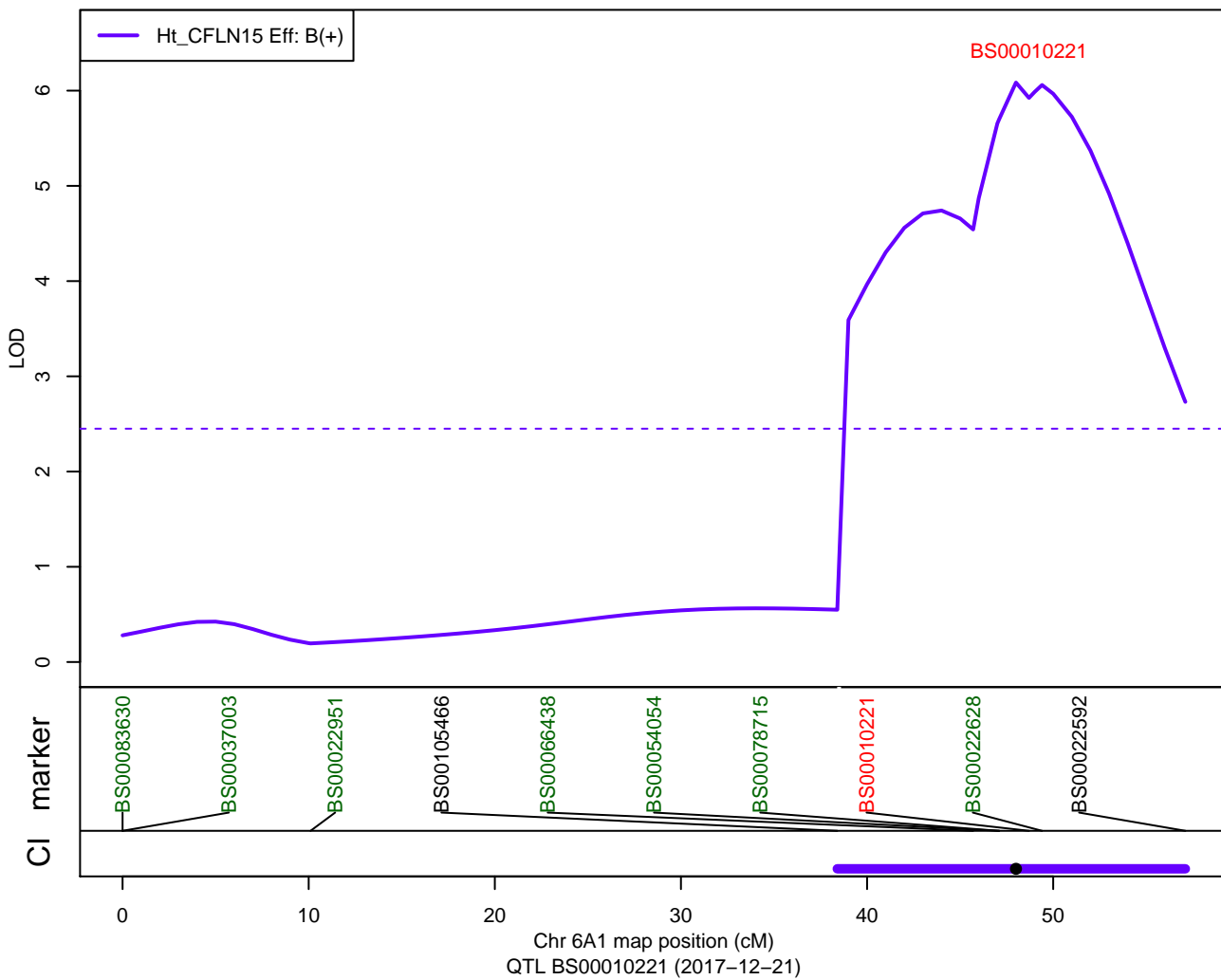
### QTLs: ParW496 – DTEM – 7A2



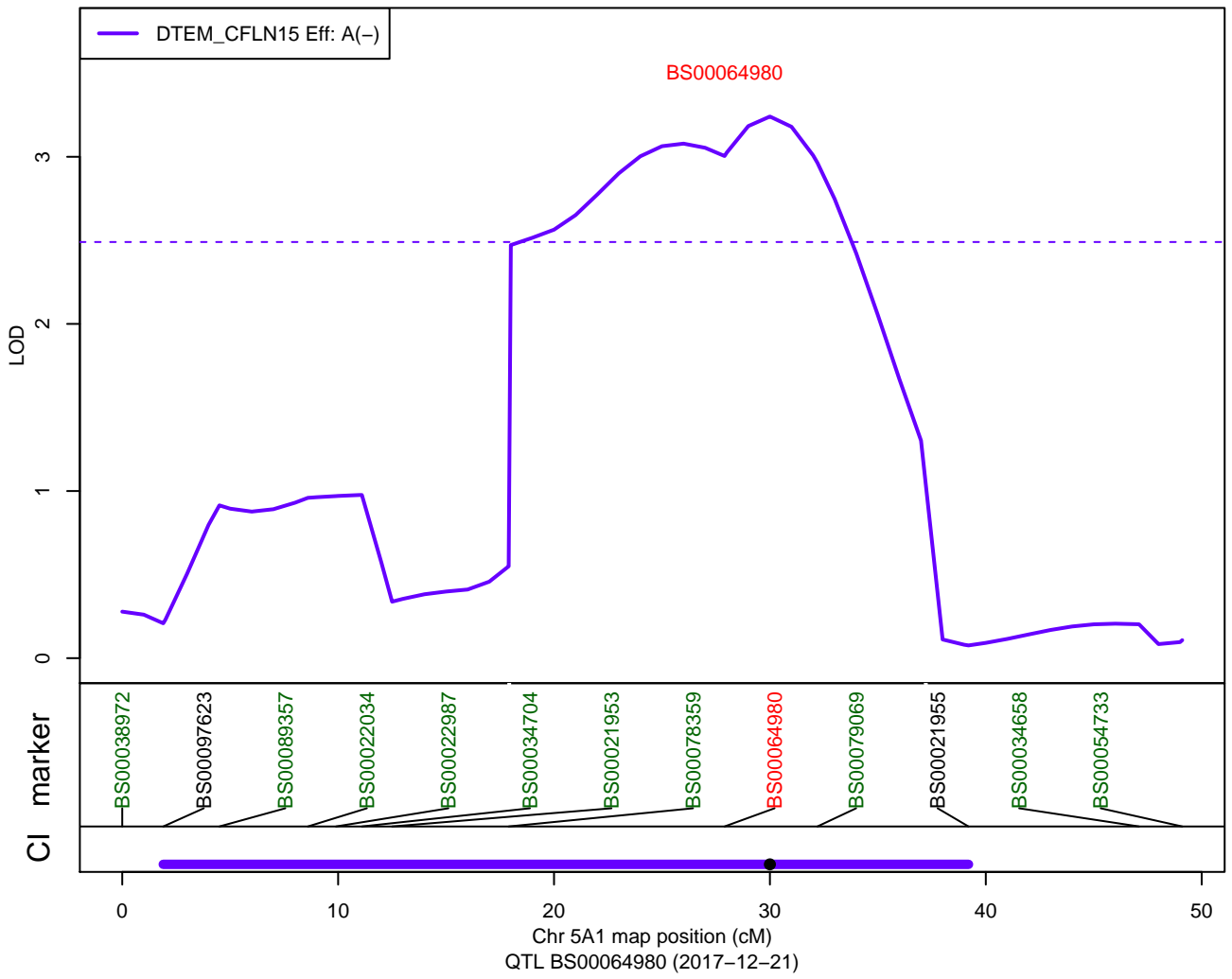
QTLs: ParW496 – PIGRYLD – 5B



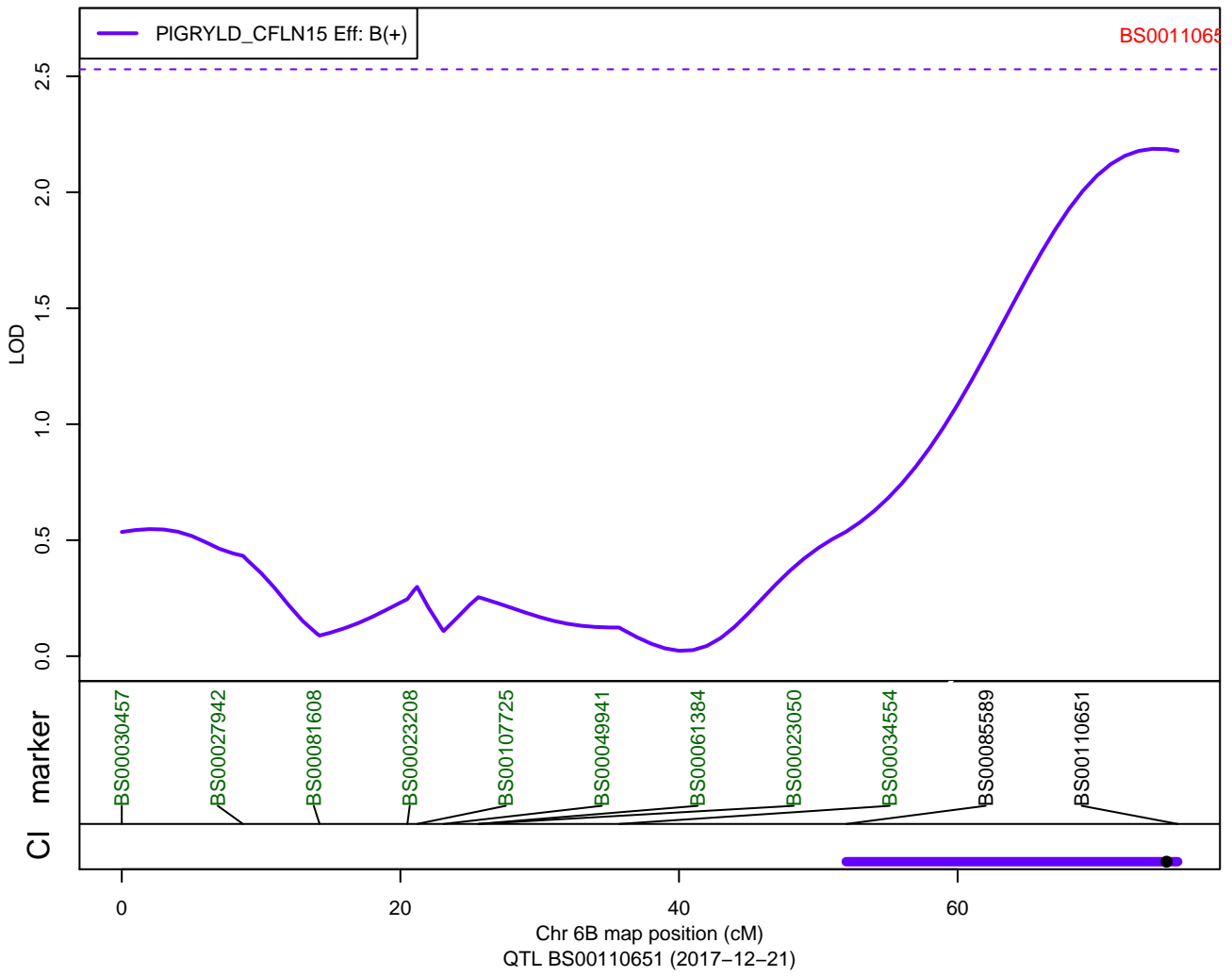
QTLs: ParW507 - Ht - 6A1



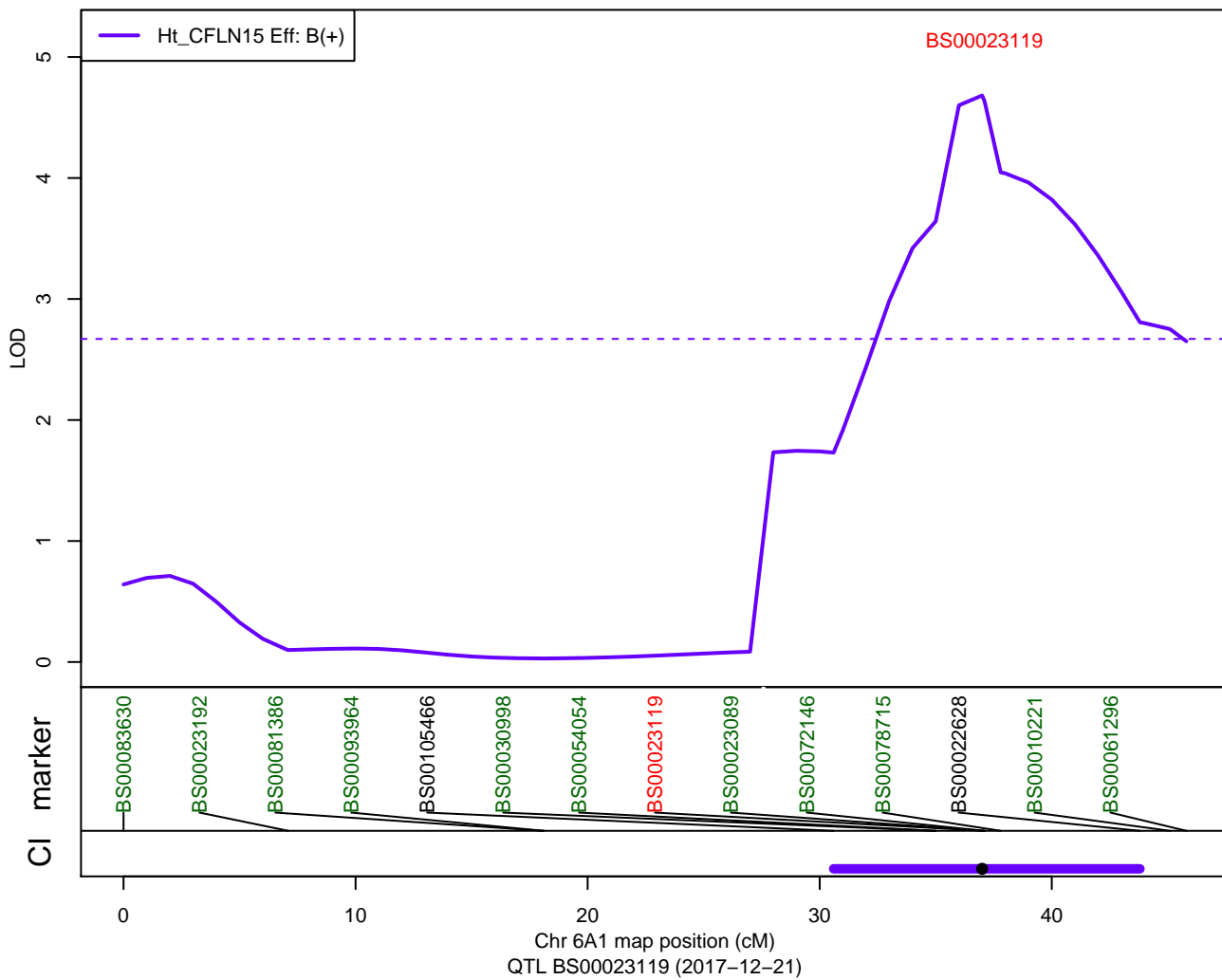
QTLs: ParW507 – DTEM – 5A1



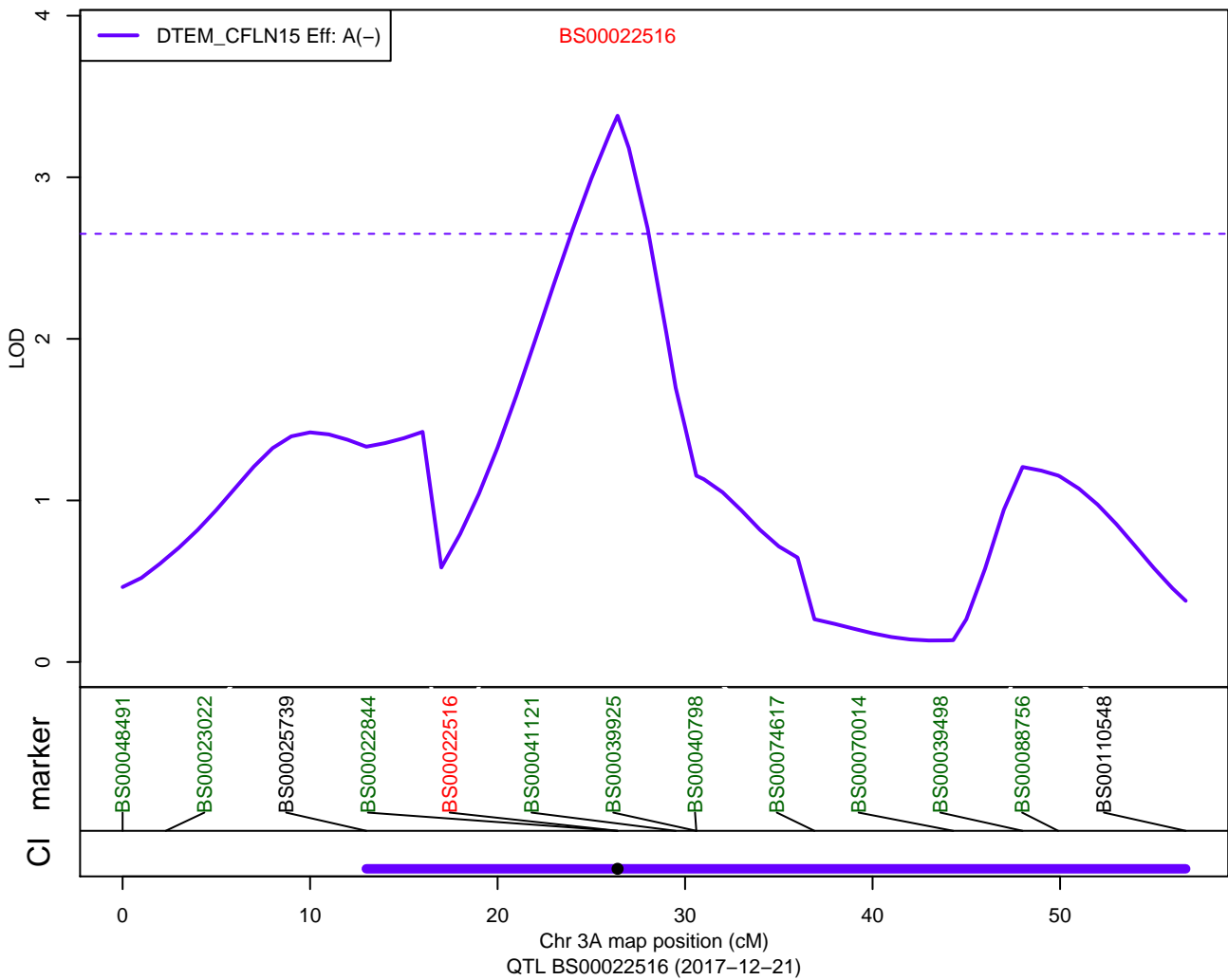
# QTLs: ParW507 - PIGRYLD - 6B



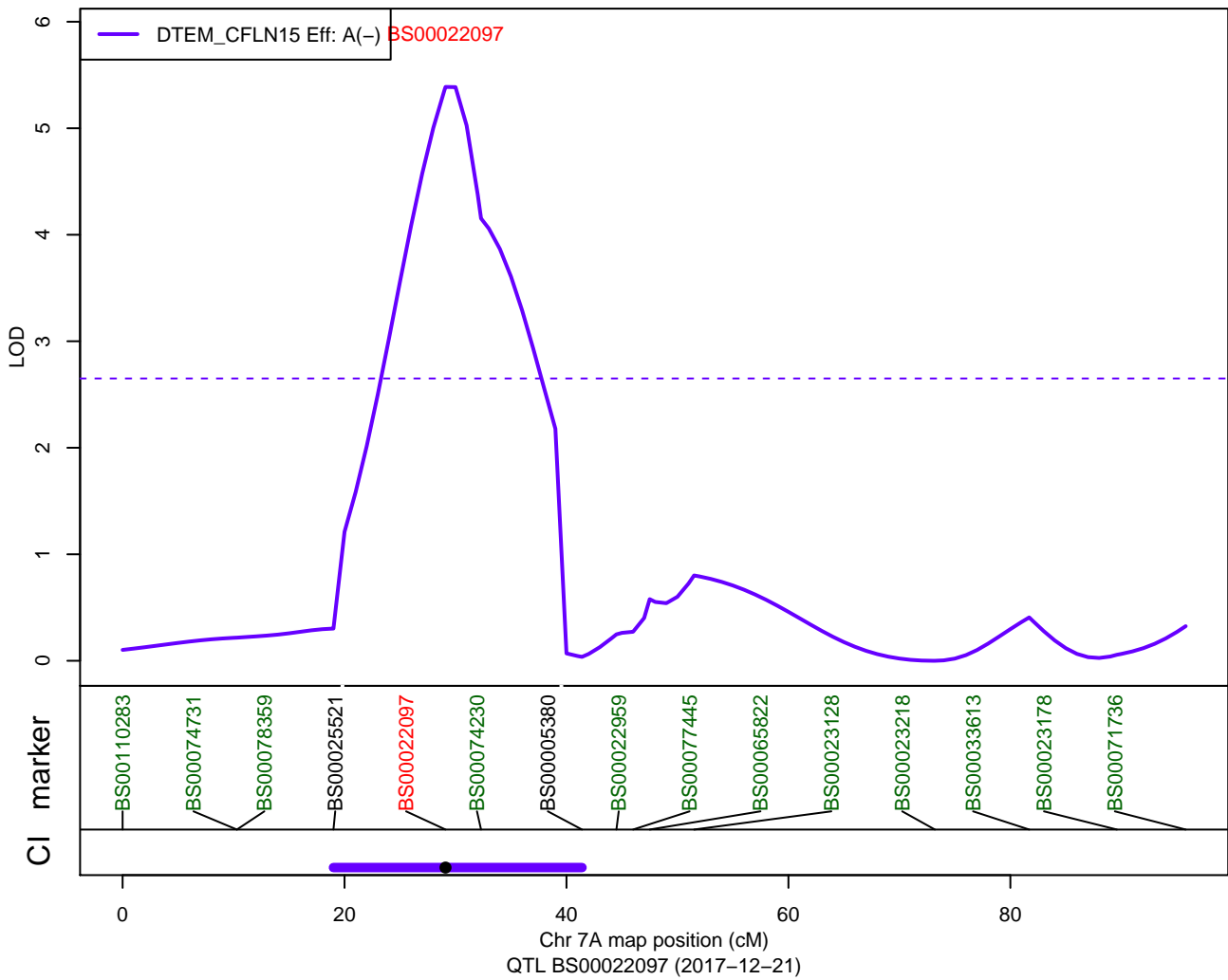
### QTLs: ParW560 - Ht - 6A1



### QTLs: ParW560 – DTEM – 3A

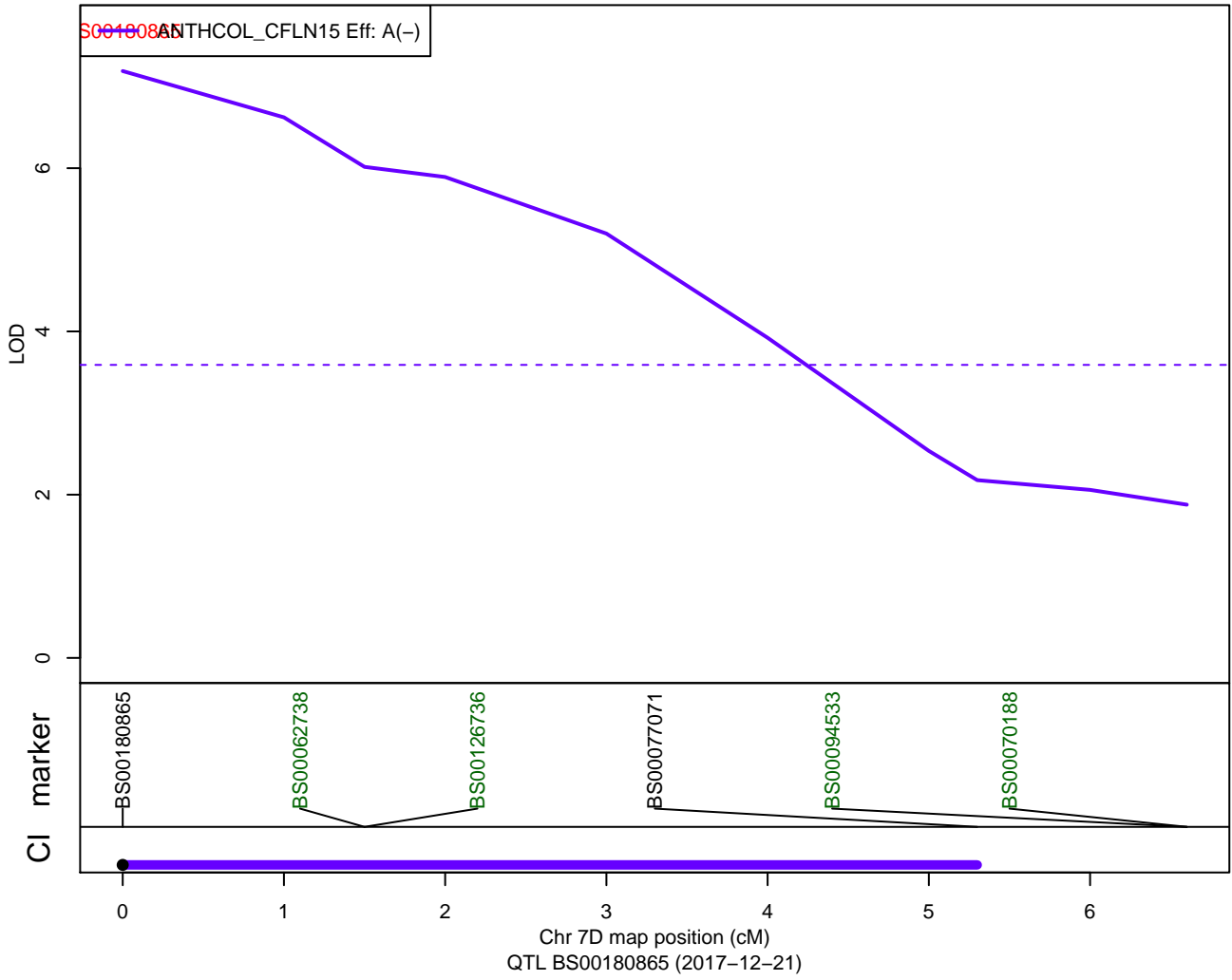


### QTLs: ParW560 – DTEM – 7A

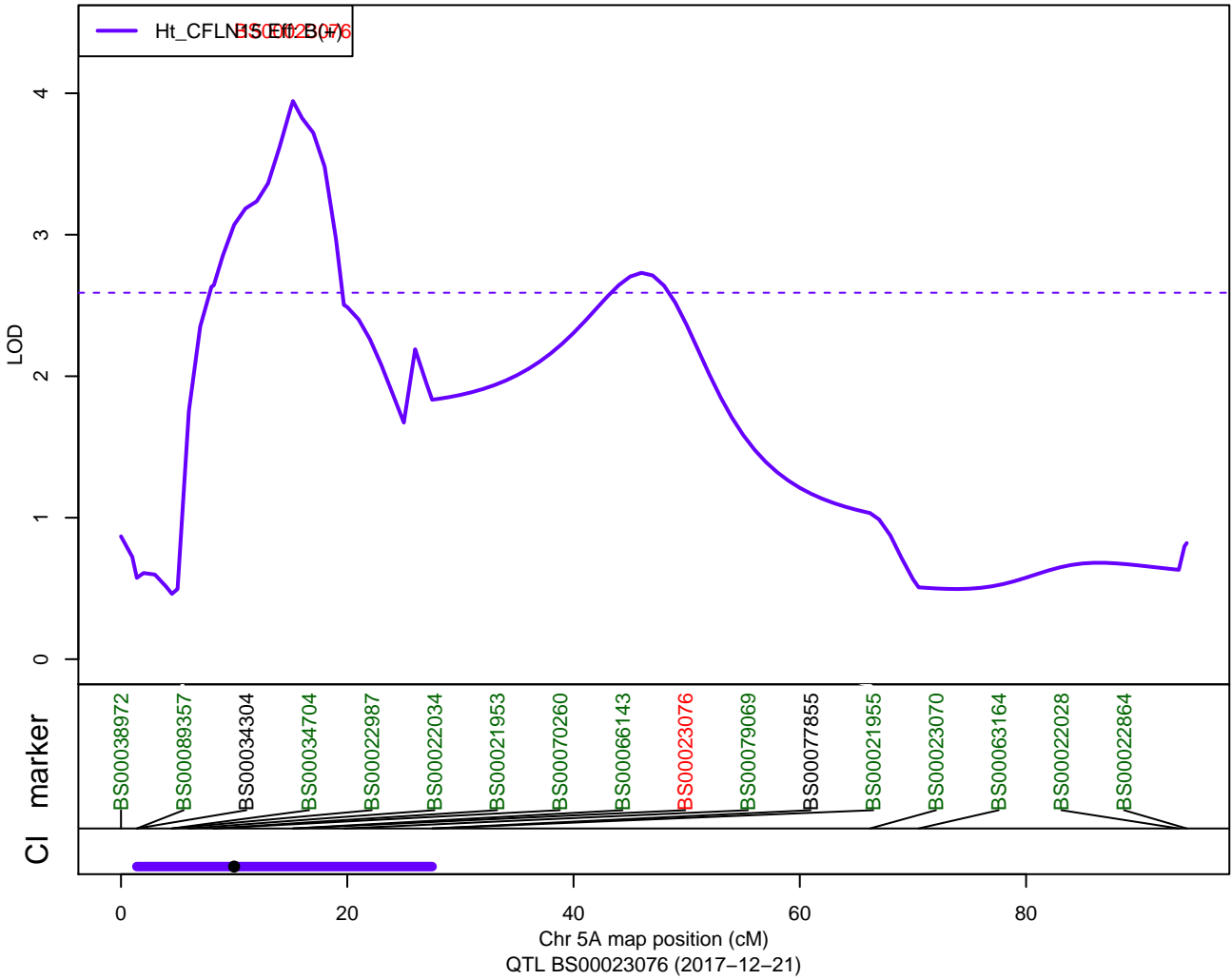




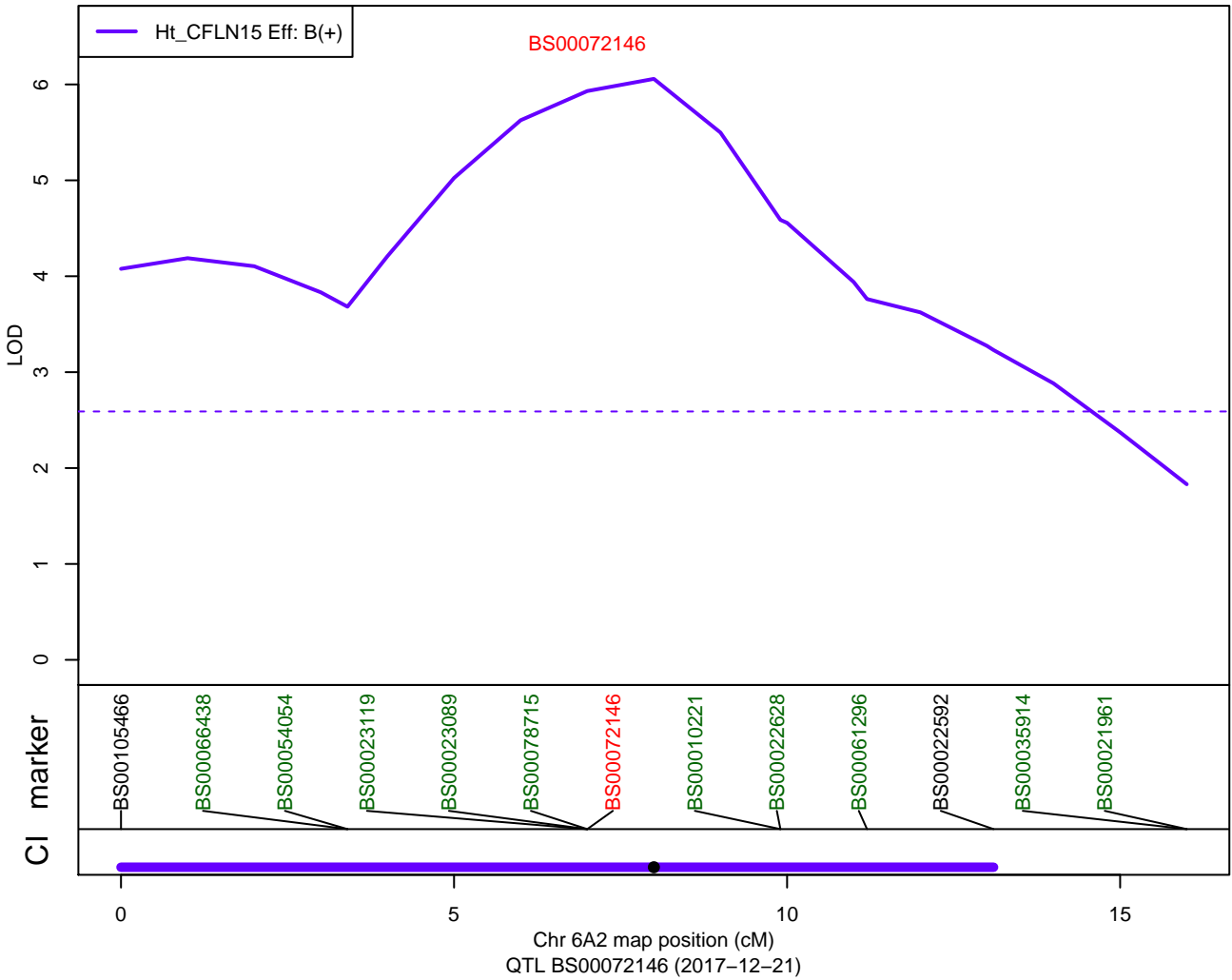
QTLs: ParW560 - ANTHCOL - 7D



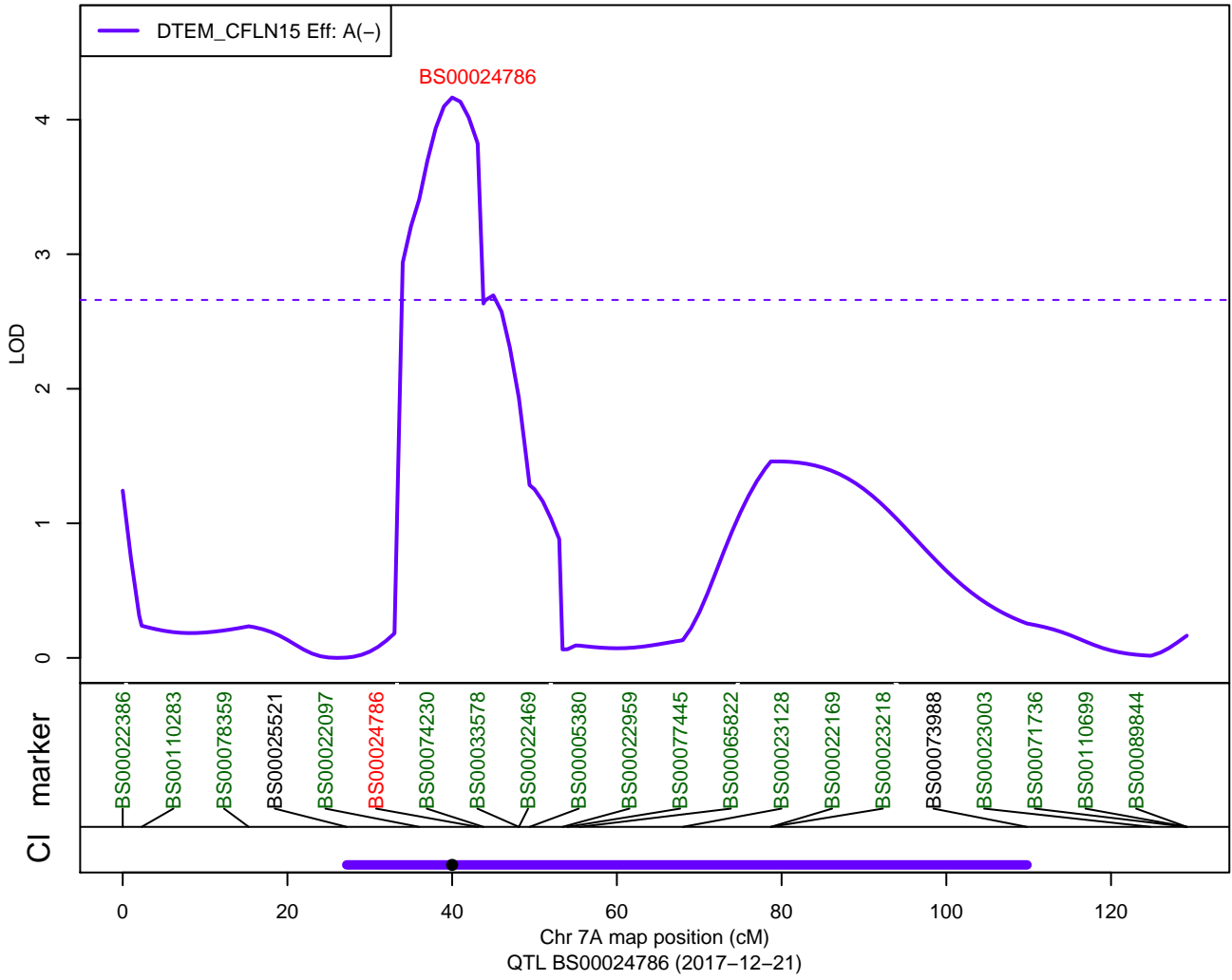
QTLs: ParW685 – Ht – 5A



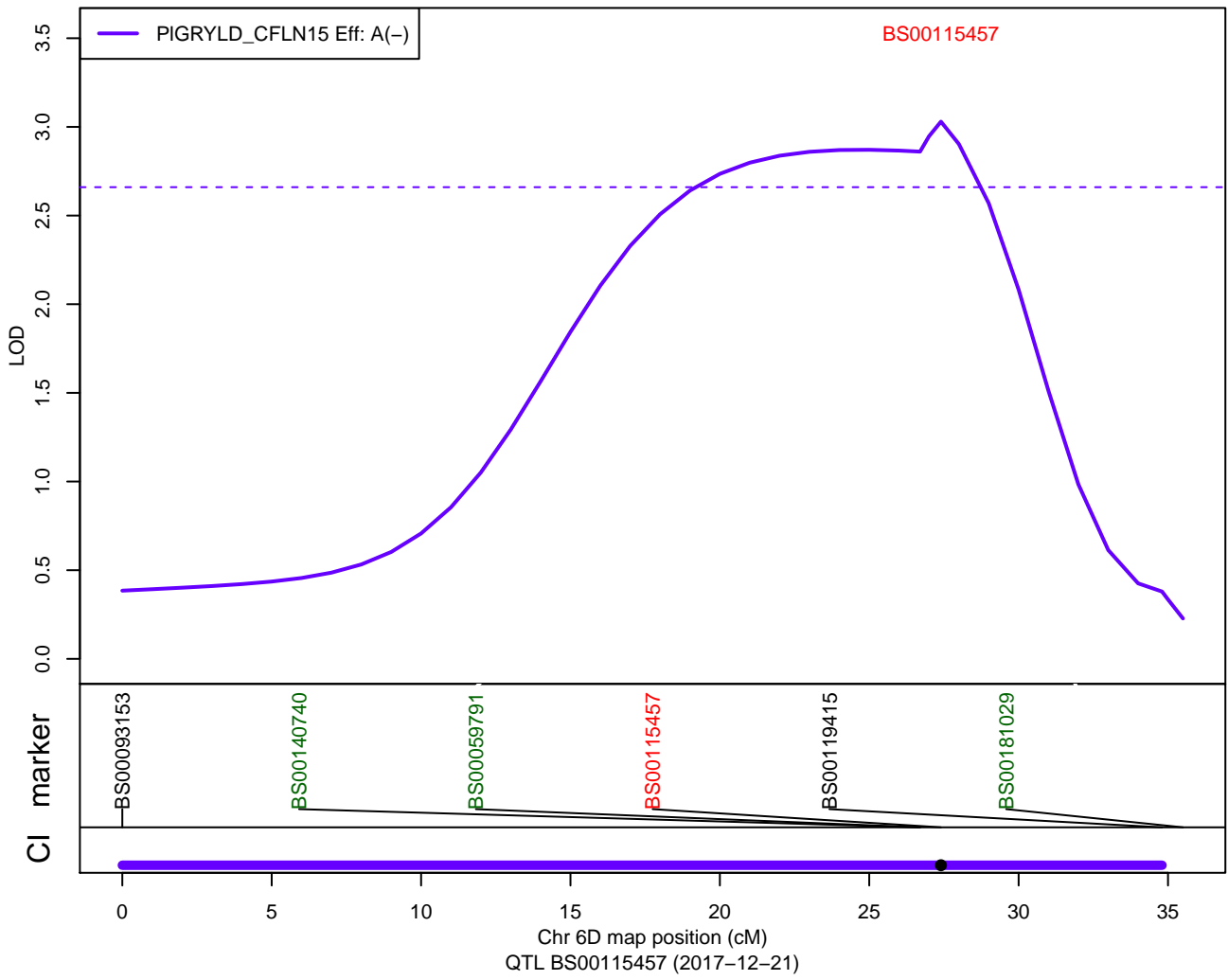
QTLs: ParW685 – Ht – 6A2



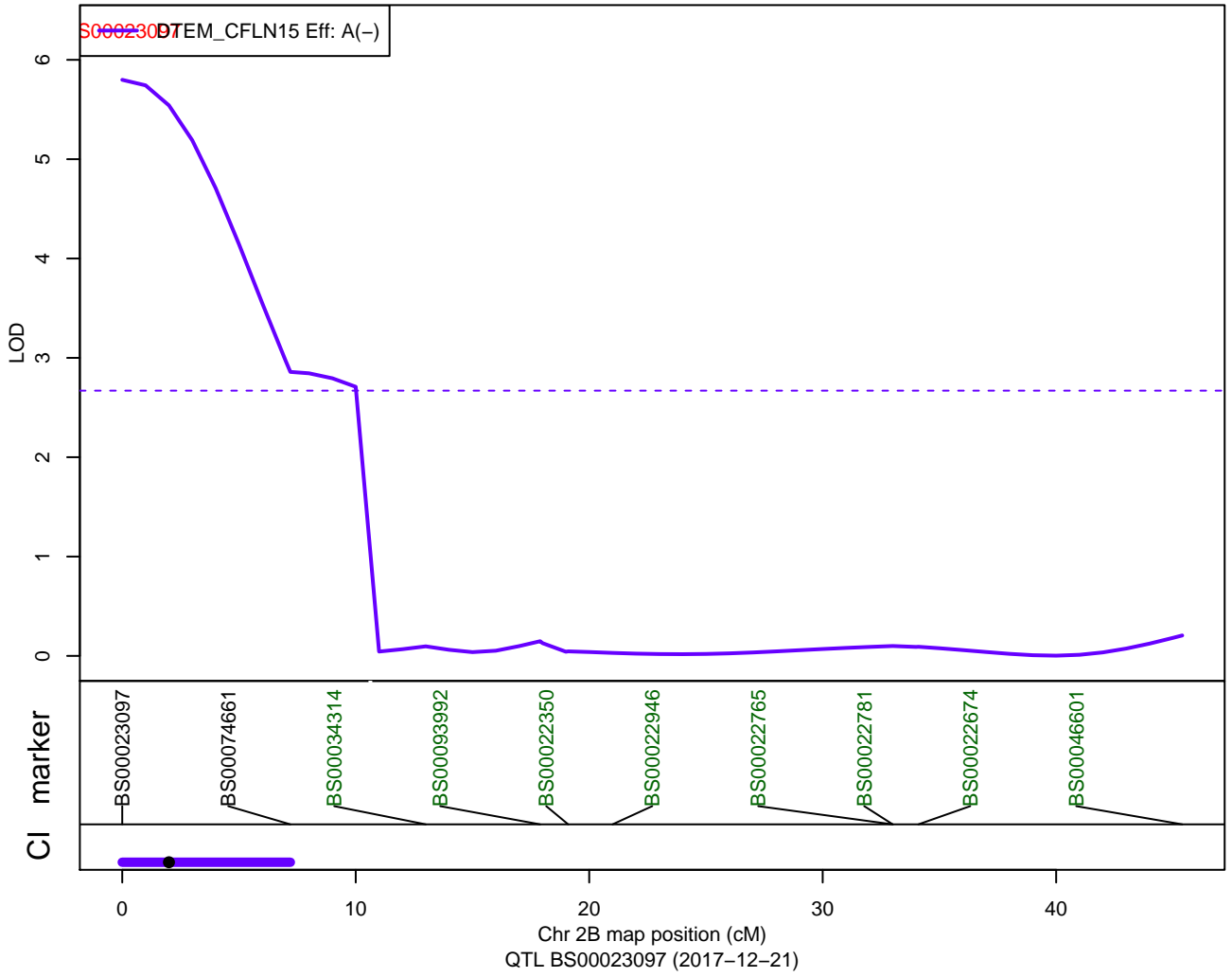
QTLs: ParW685 – DTEM – 7A



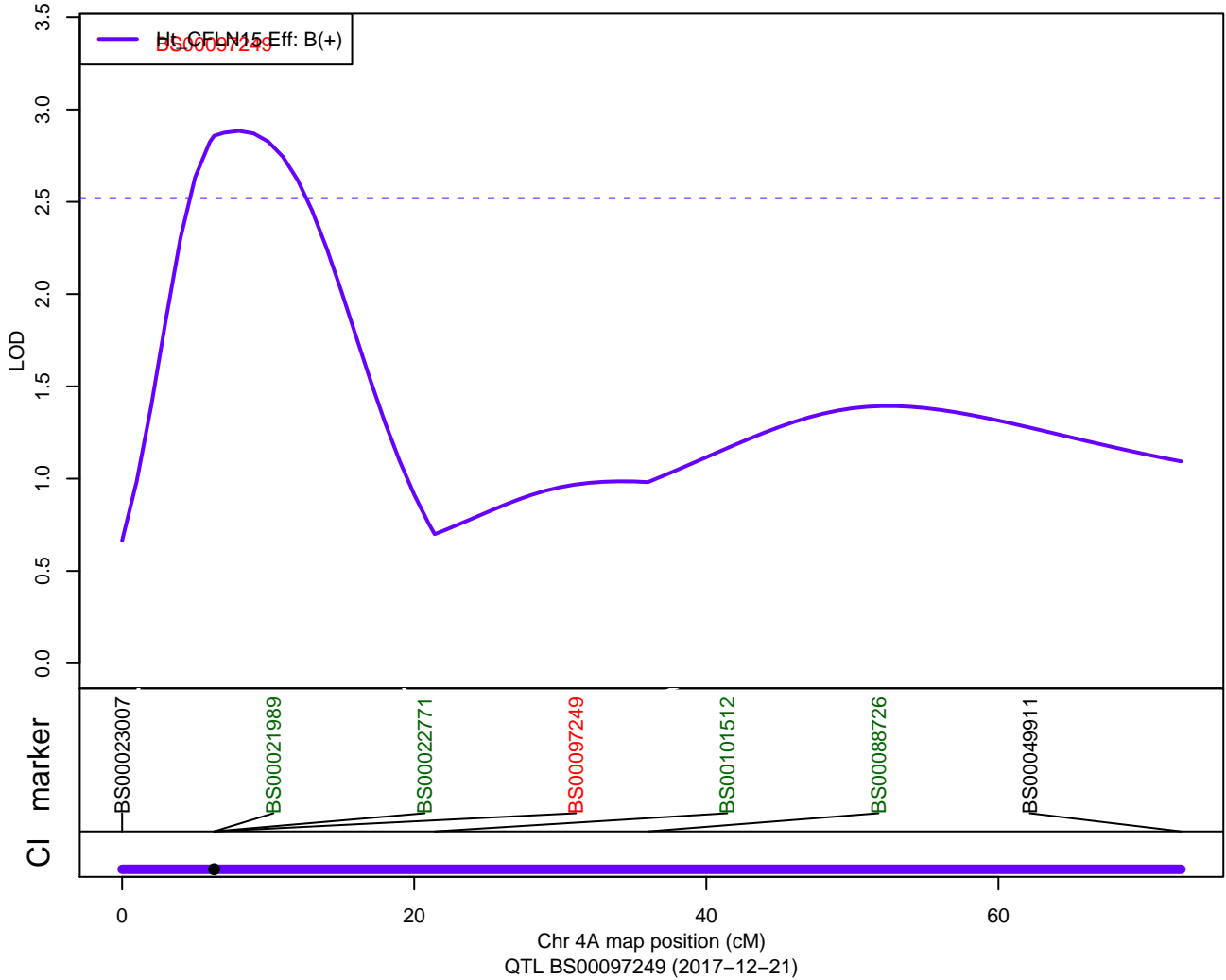
QTLs: ParW685 – PIGRYLD – 6D



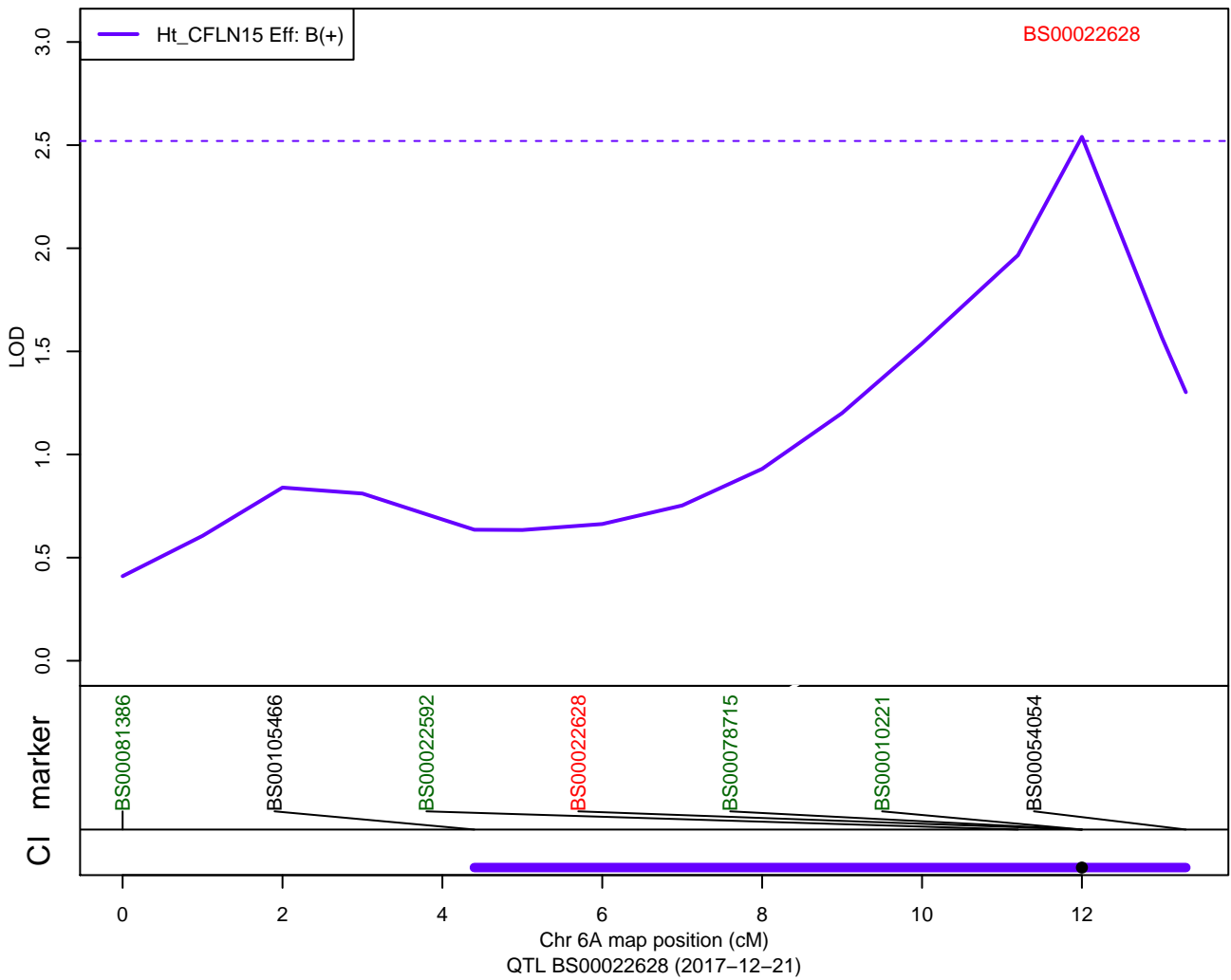
QTLs: ParW694 - DTEM - 2B



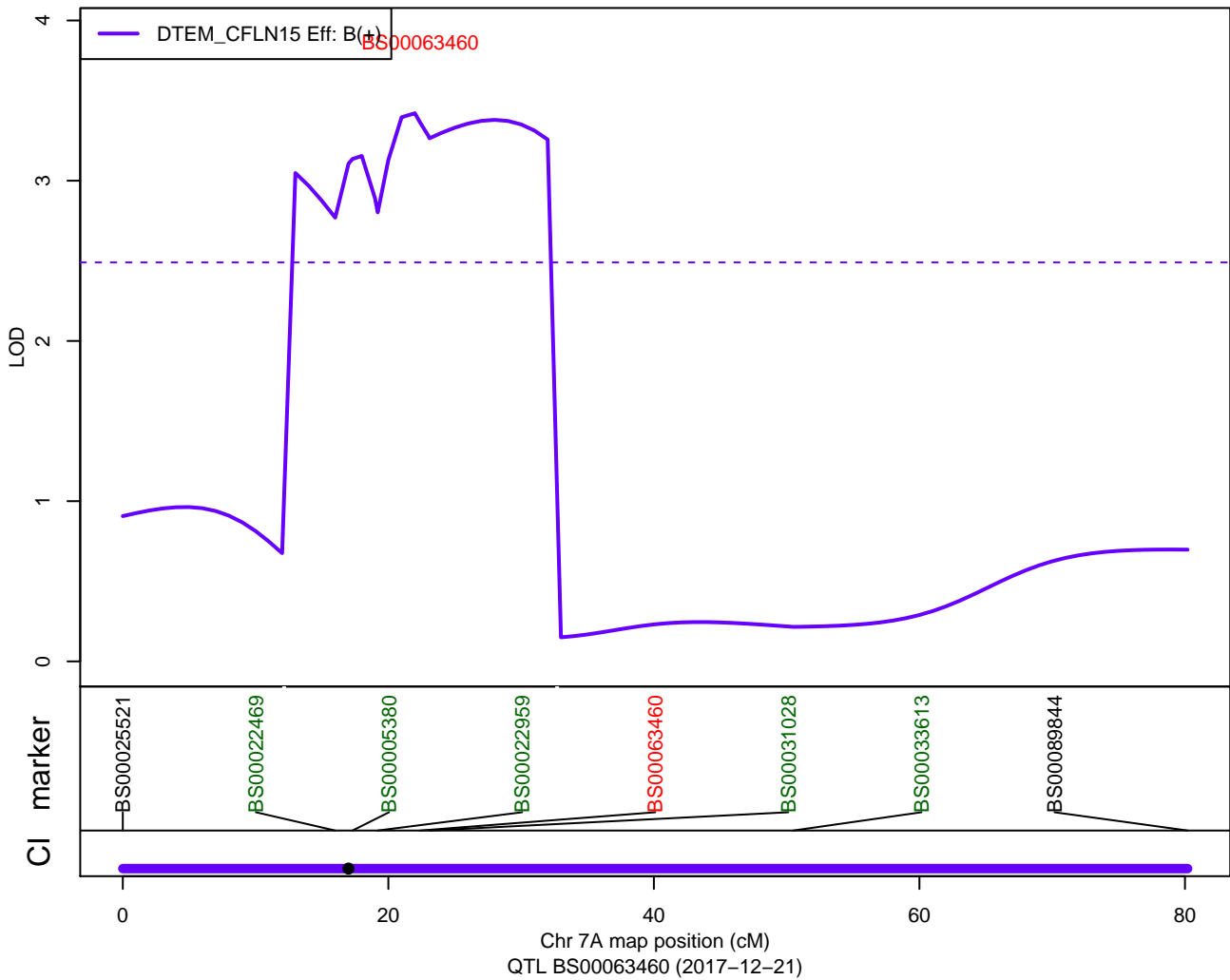
QTLs: ParW747 – Ht – 4A



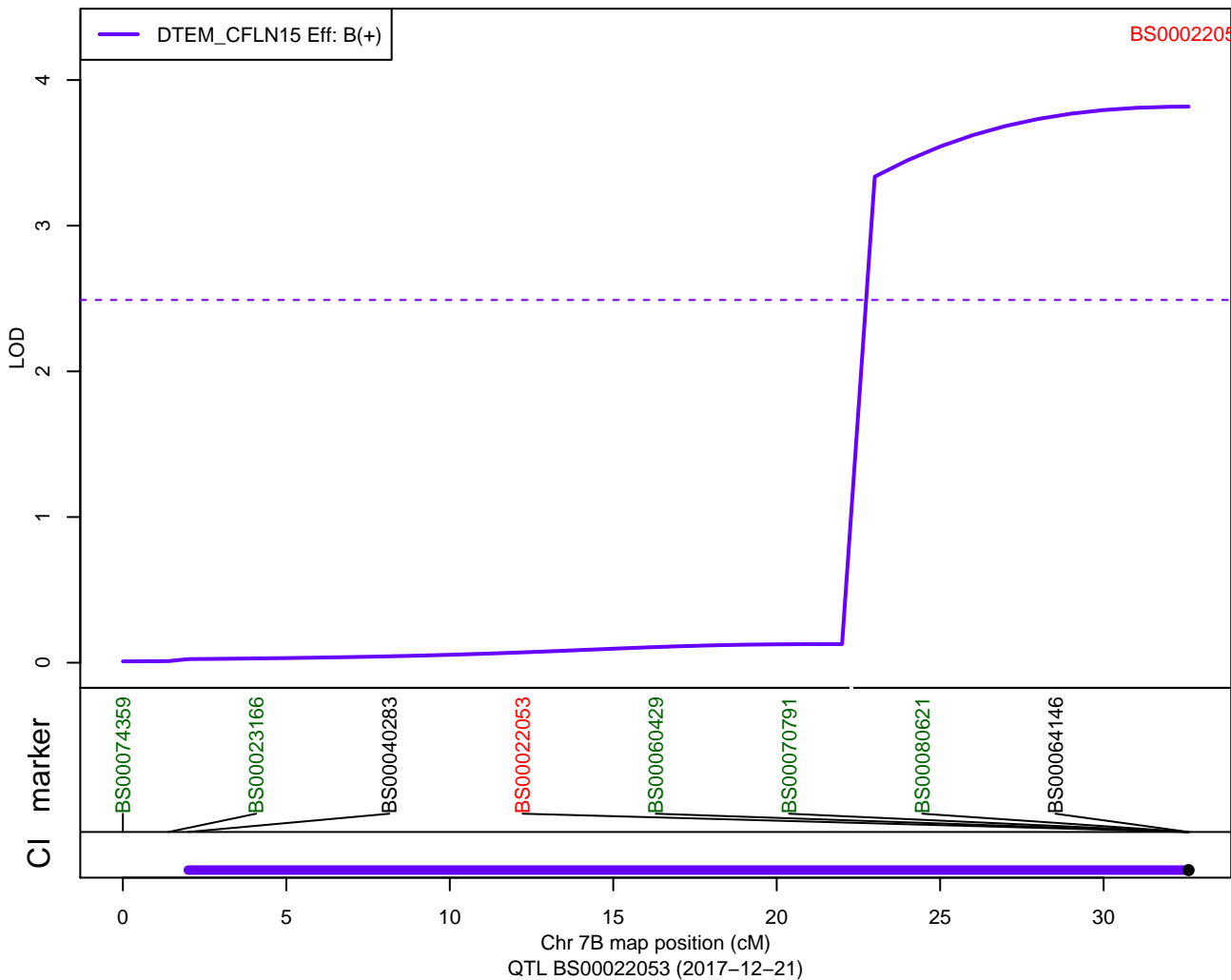
QTLs: ParW747 – Ht – 6A



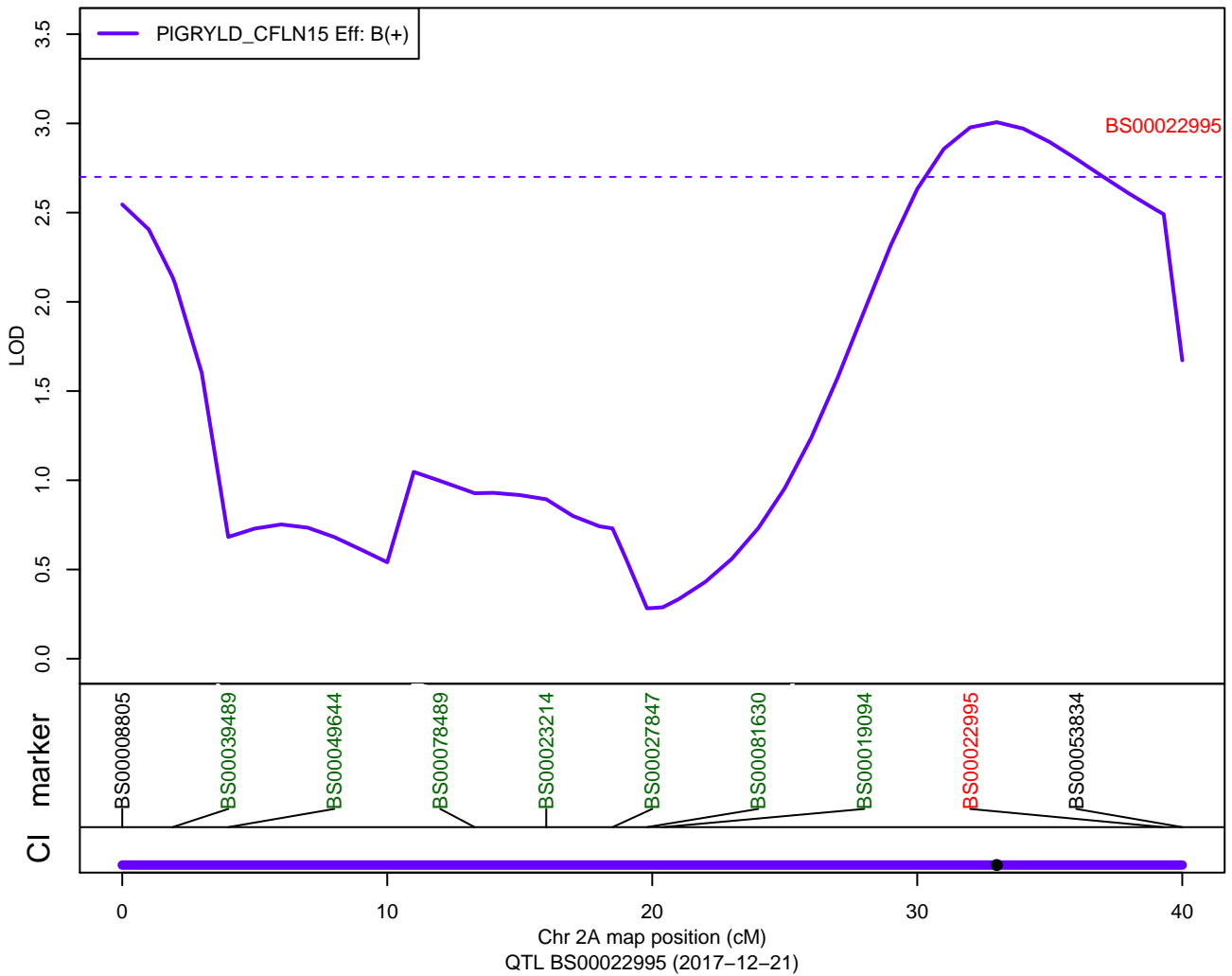
### QTLs: ParW747 – DTEM – 7A



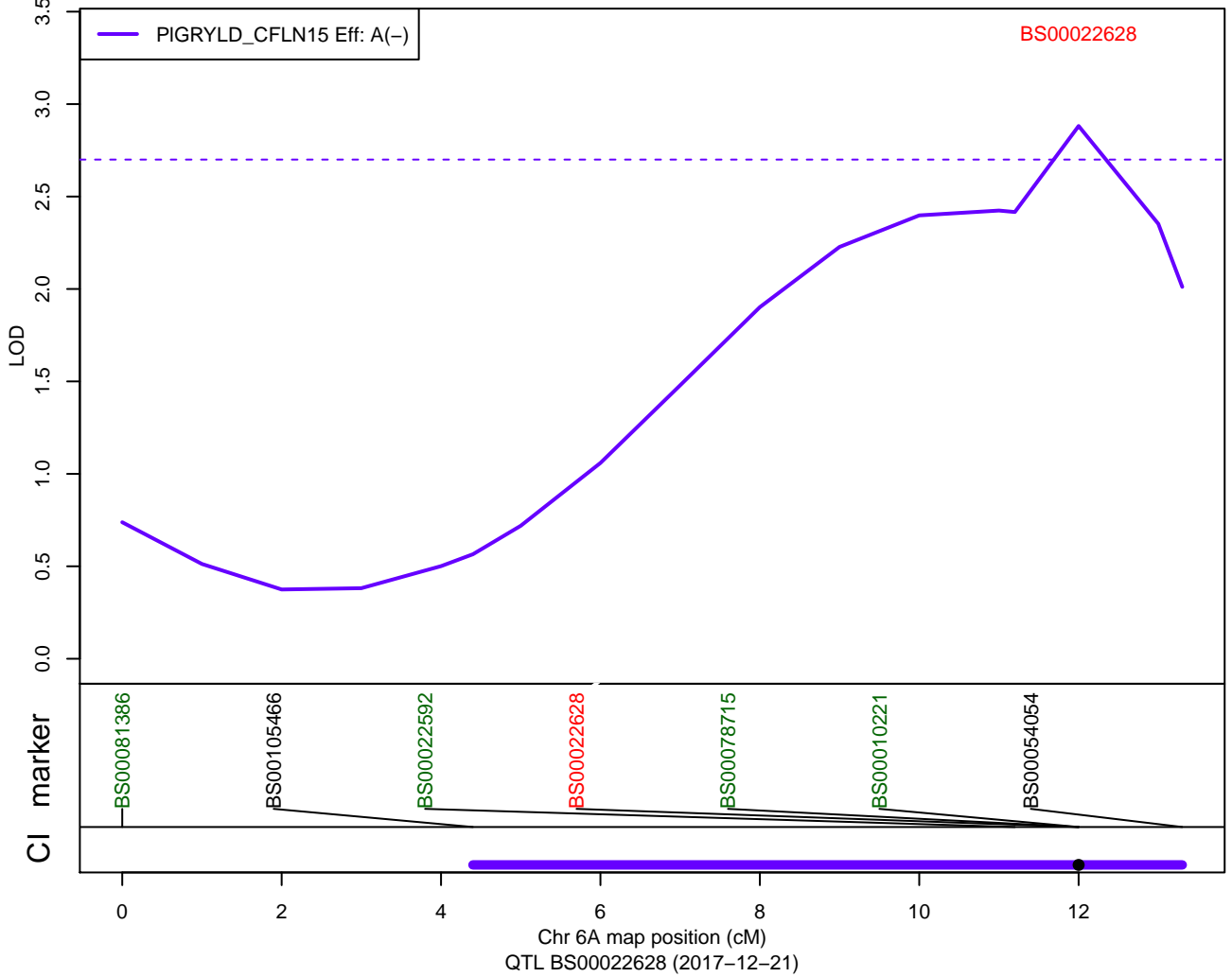
### QTLs: ParW747 – DTEM – 7B



### QTLs: ParW747 – PIGRYLD – 2A

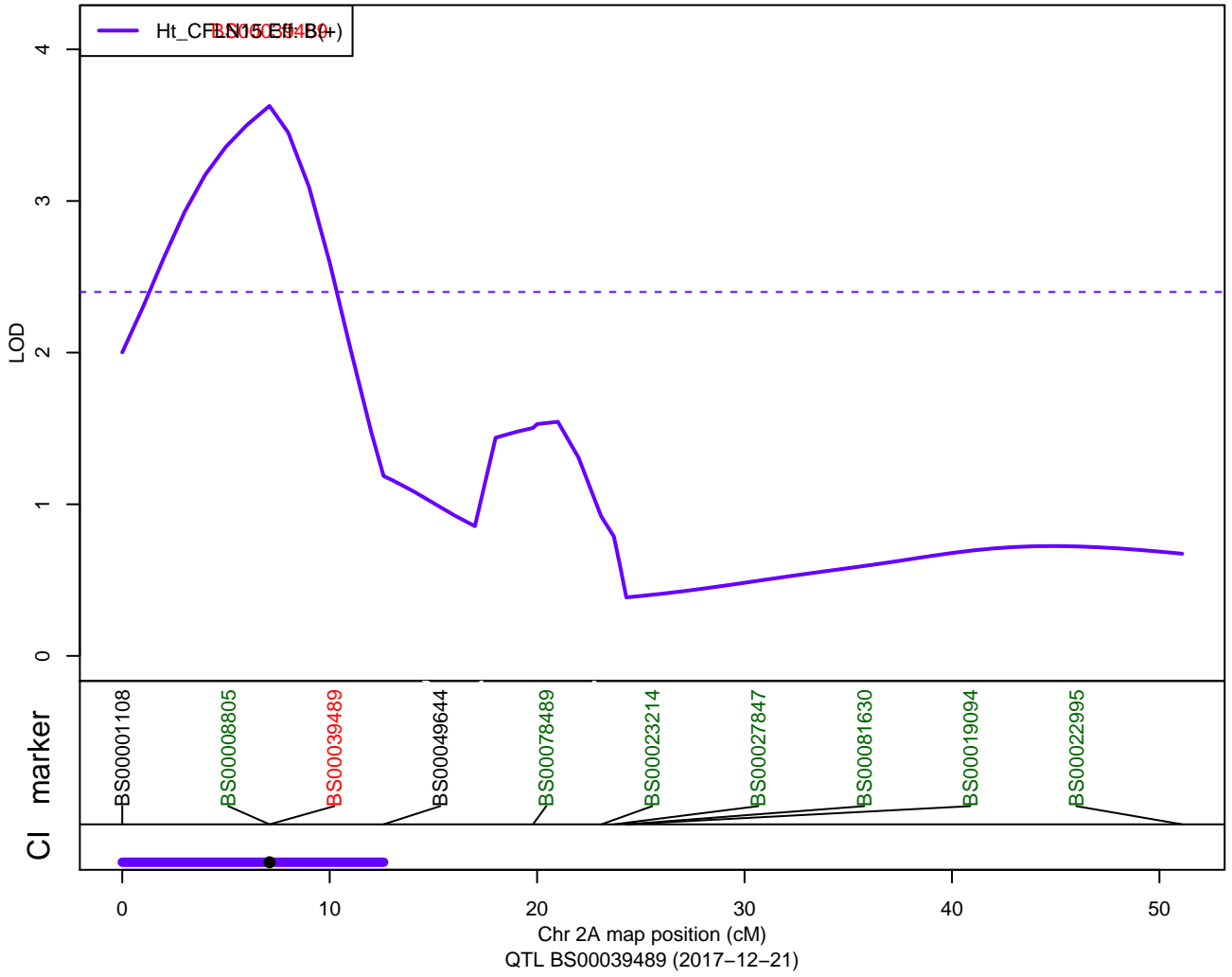


### QTLs: ParW747 – PIGRYLD – 6A





QTLs: ParW753 - Ht - 2A



QTLs: ParW753 – PIGRYLD – 2A

