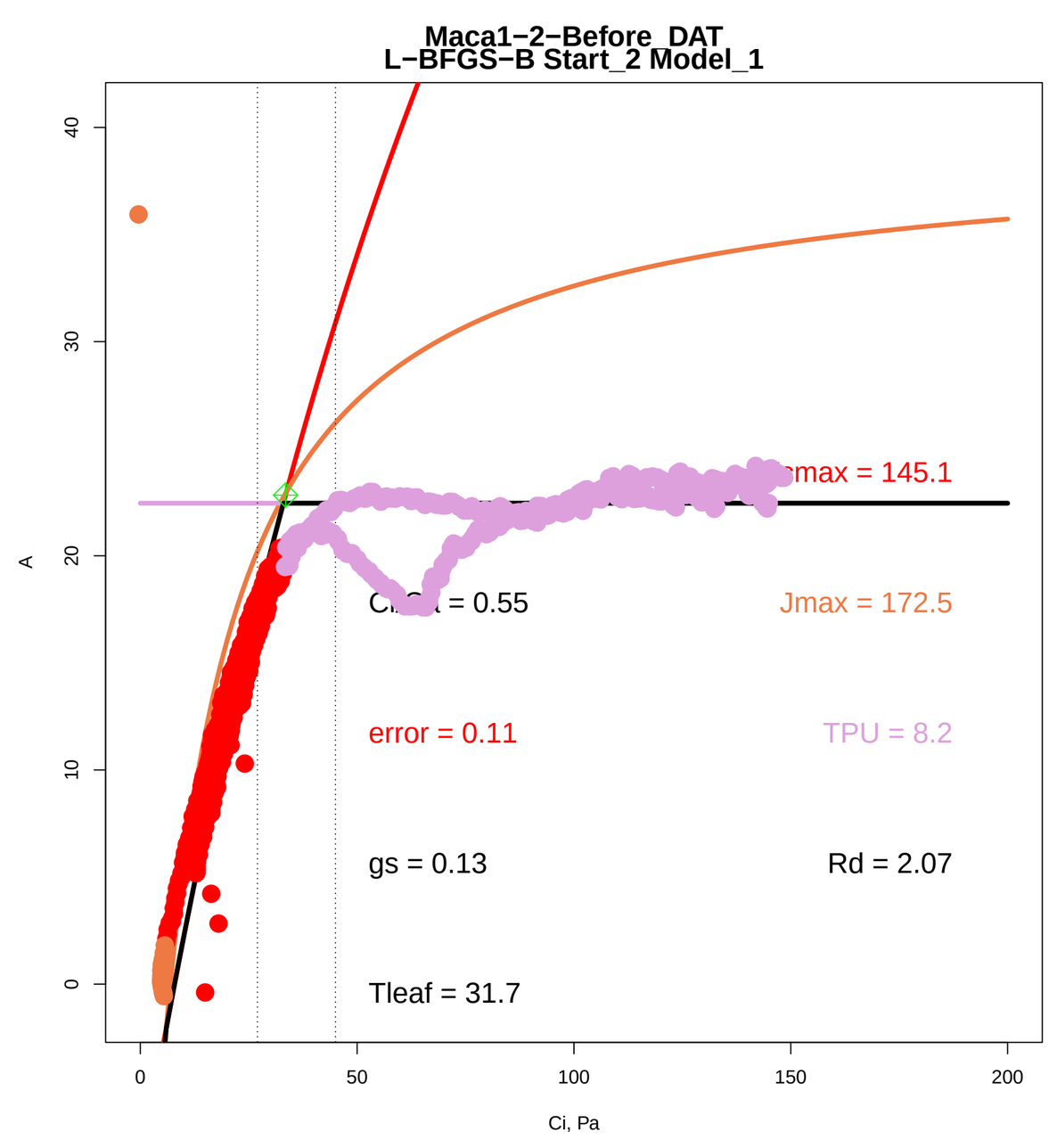
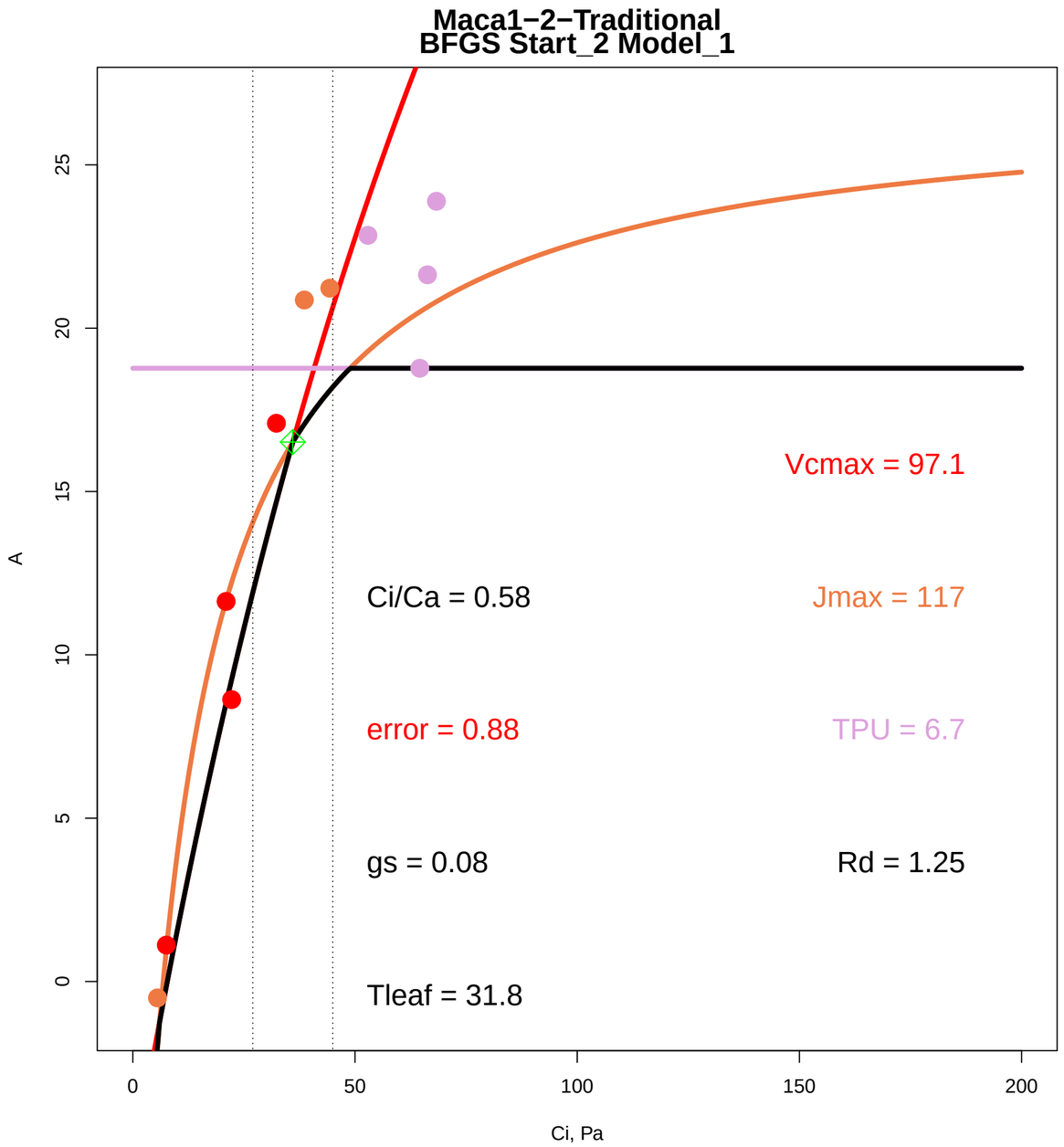
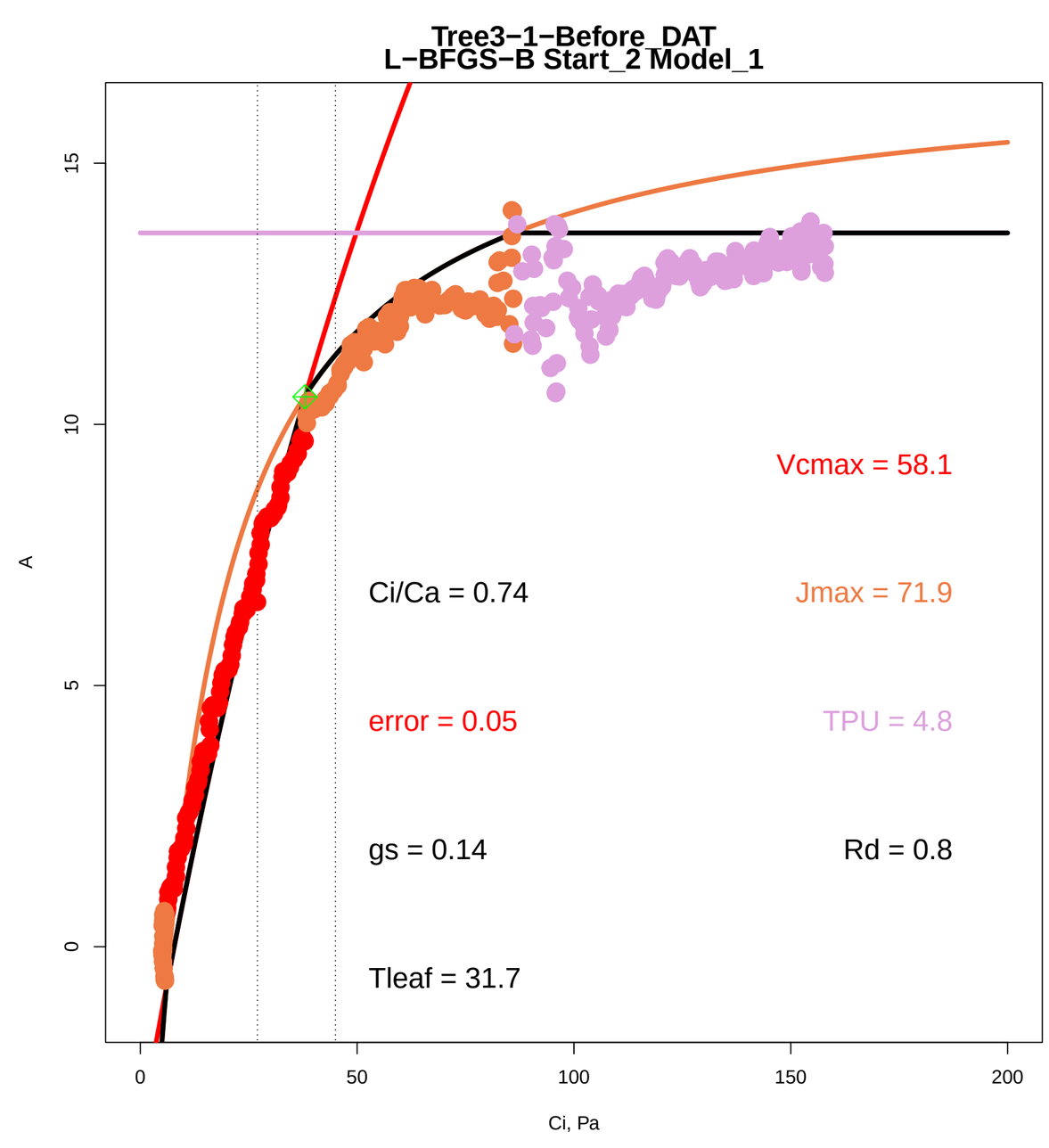
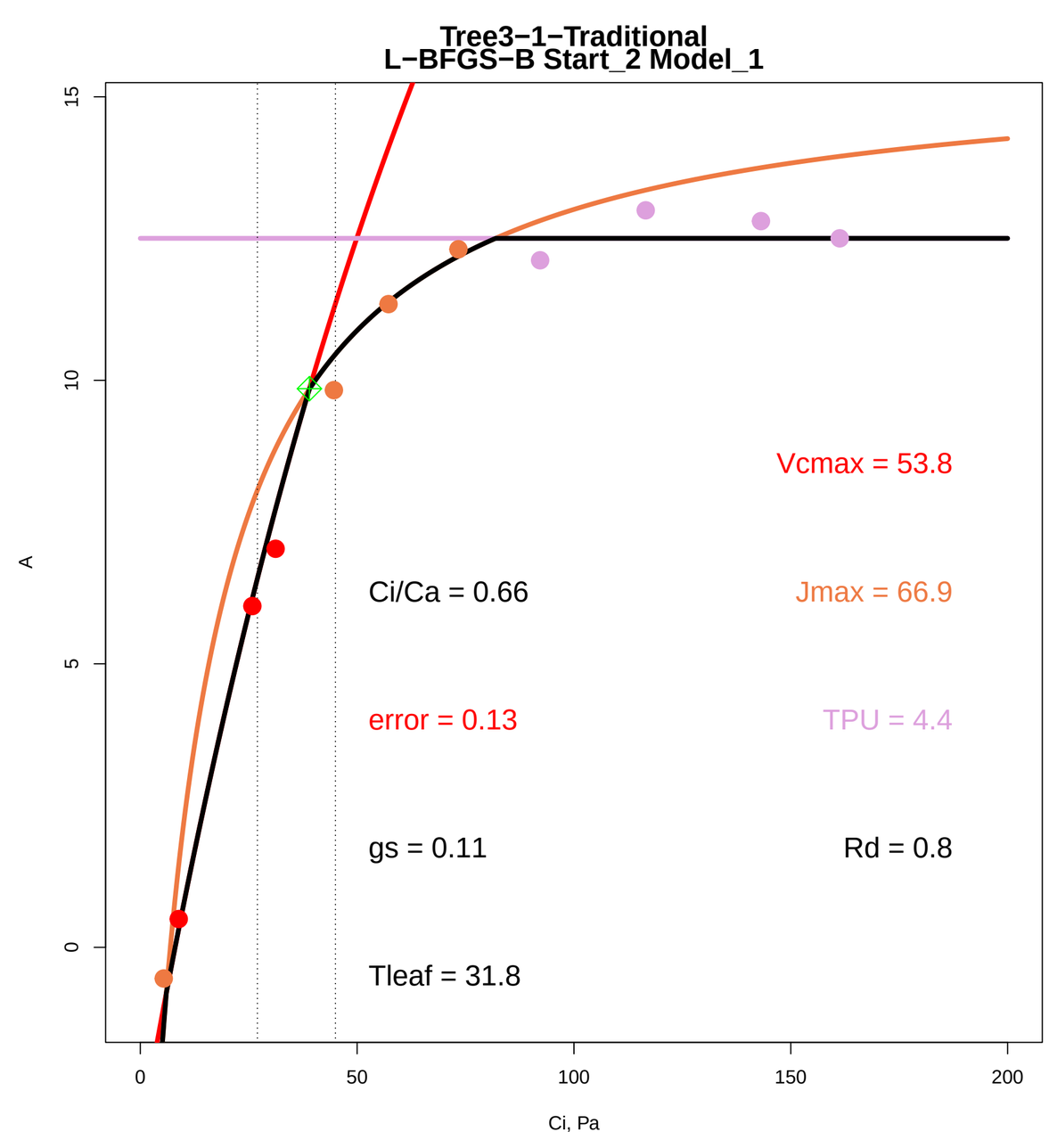
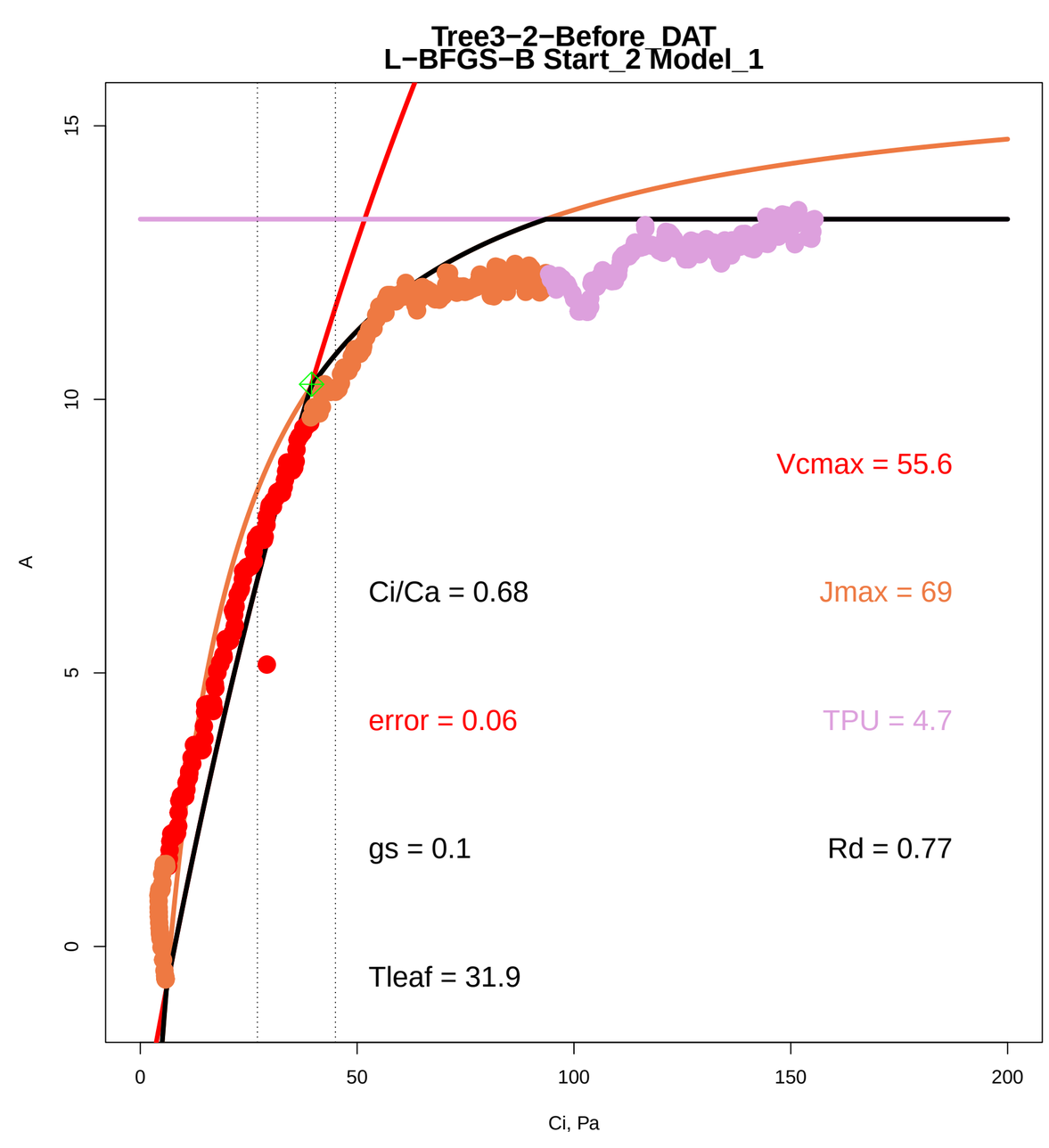
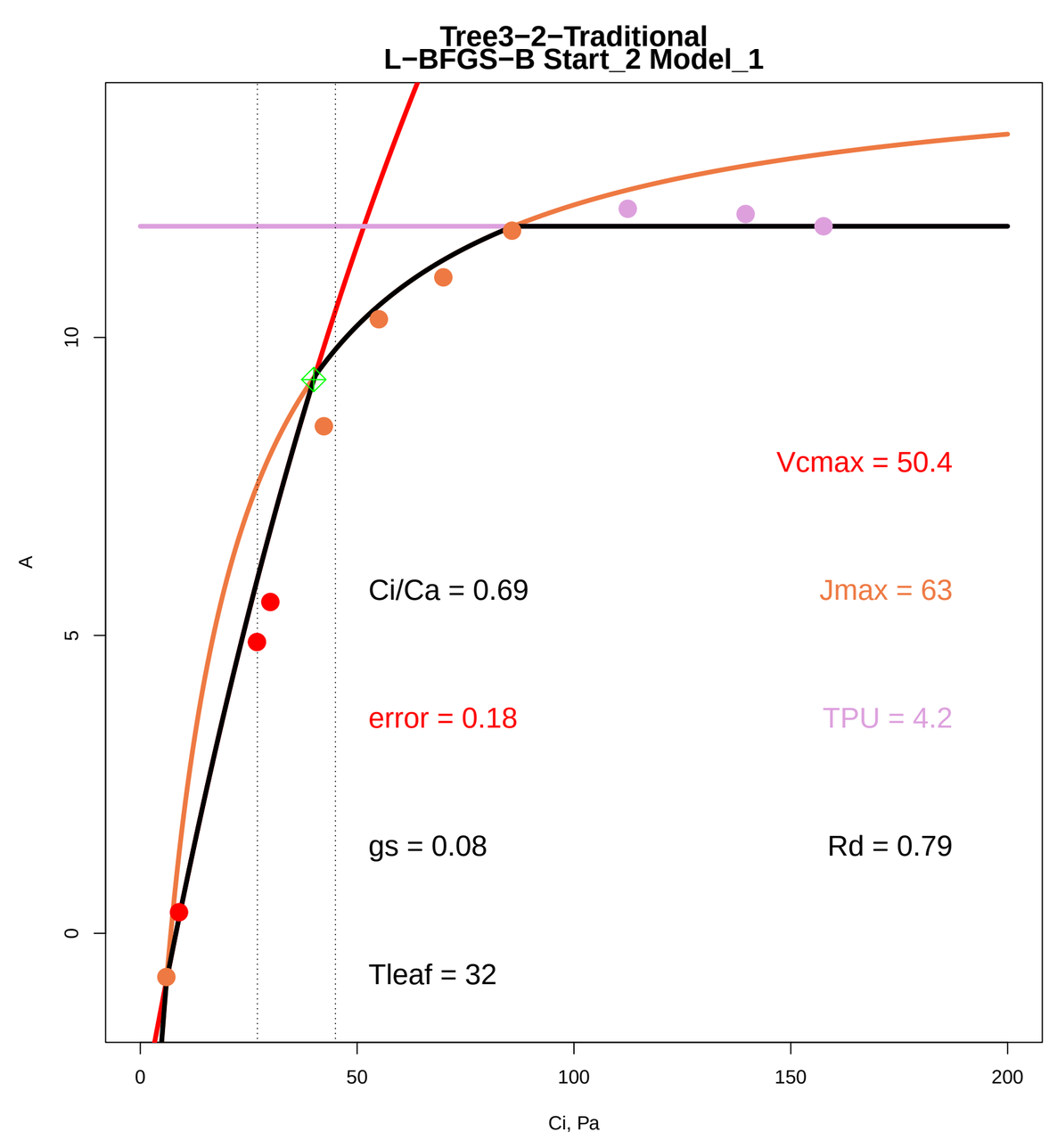

Maca1−2−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
10
20
30
40
0
50
100
150
200
Vcmax = 145.1
Jmax = 172.5
TPU = 8.2
Rd = 2.07
error = 0.11
gs = 0.13
Tleaf = 31.7

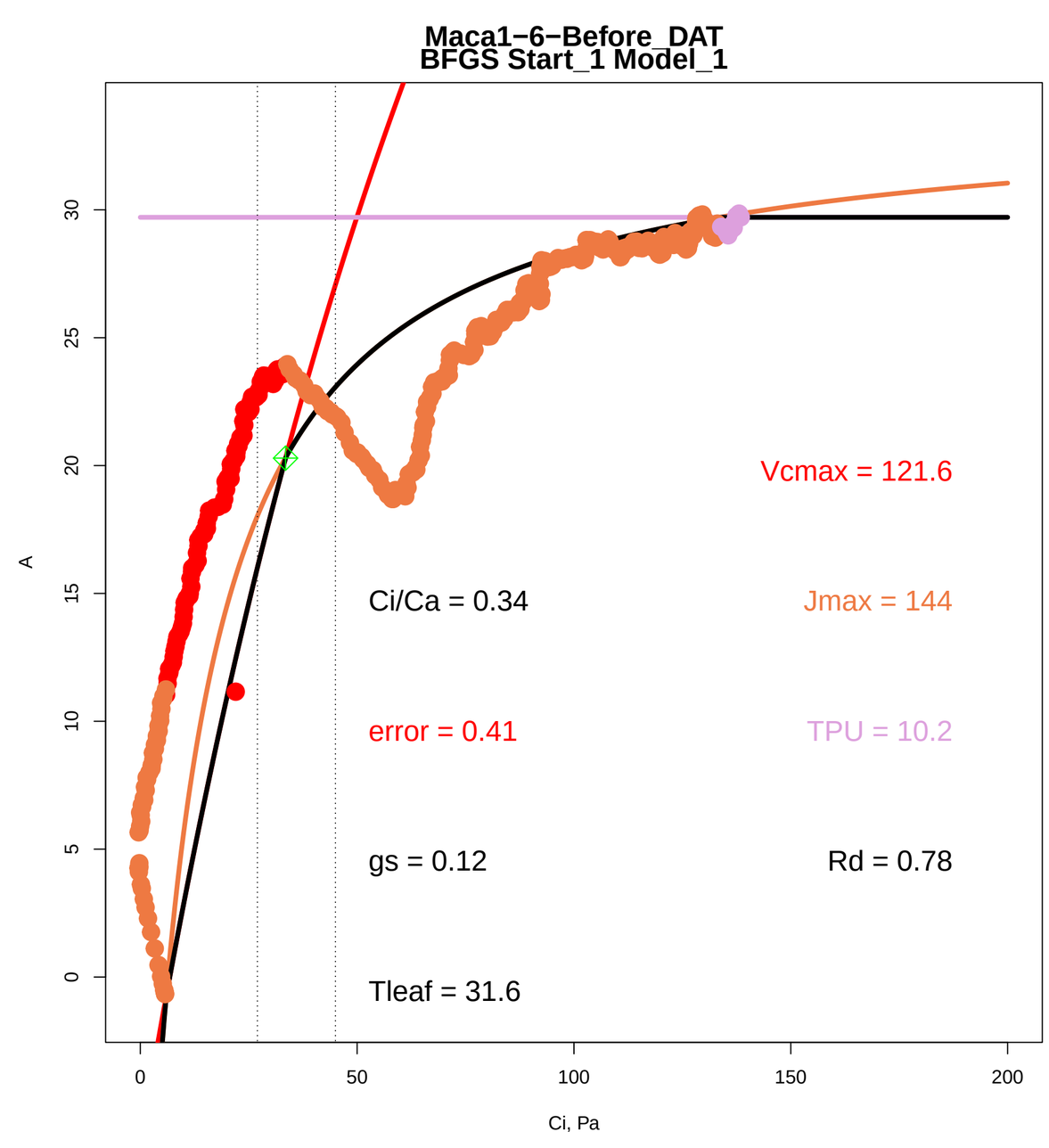

Maca1−2−Traditional
BFGS Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
25
0
50
100
150
200
Vcmax = 97.1
Jmax = 117
TPU = 6.7
Rd = 1.25
Ci/Ca = 0.58
error = 0.88
gs = 0.08
Tleaf = 31.8

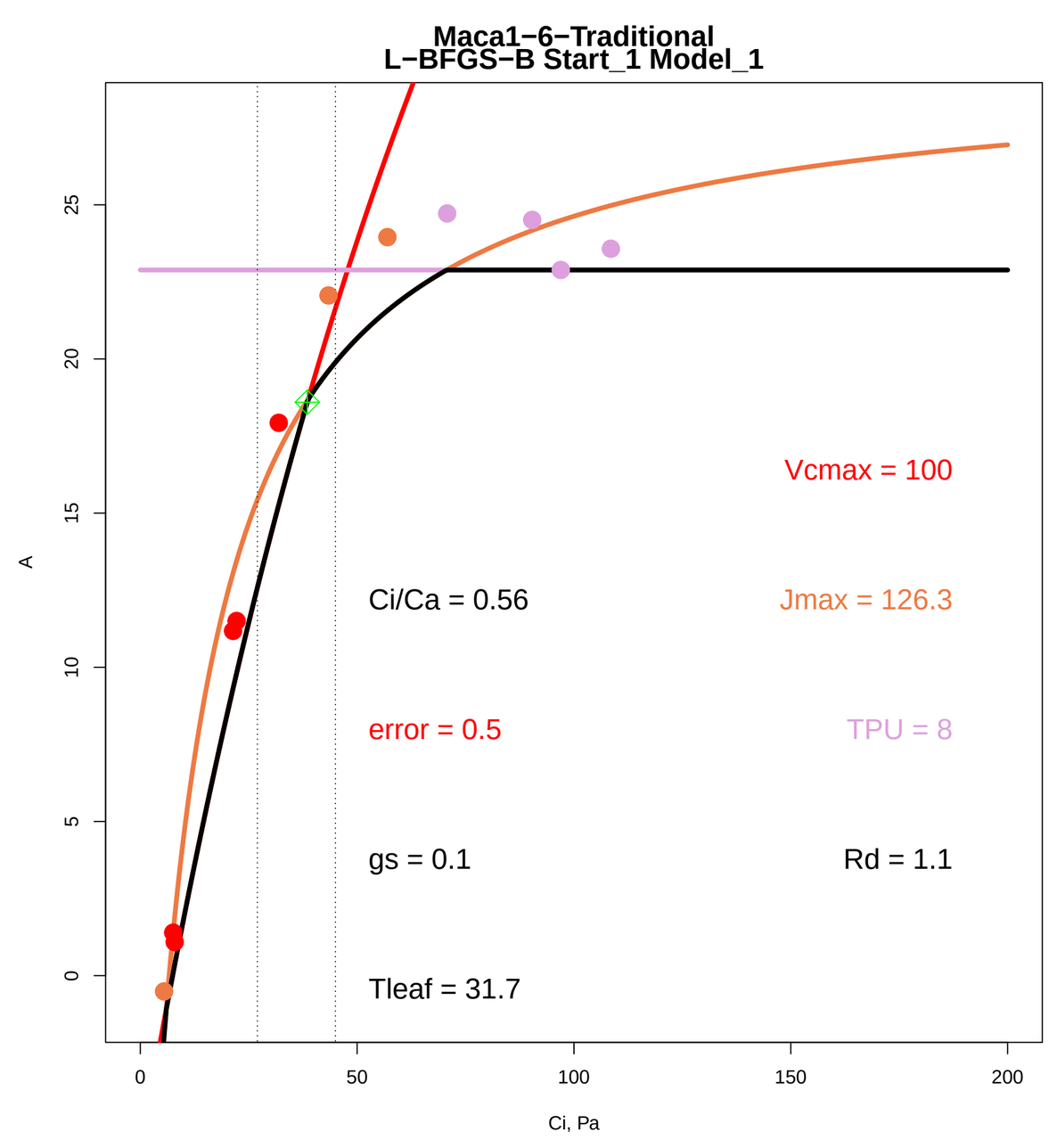

Tree3−1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 58.1
Jmax = 71.9
TPU = 4.8
Rd = 0.8
Ci/Ca = 0.74
error = 0.05
gs = 0.14
Tleaf = 31.7

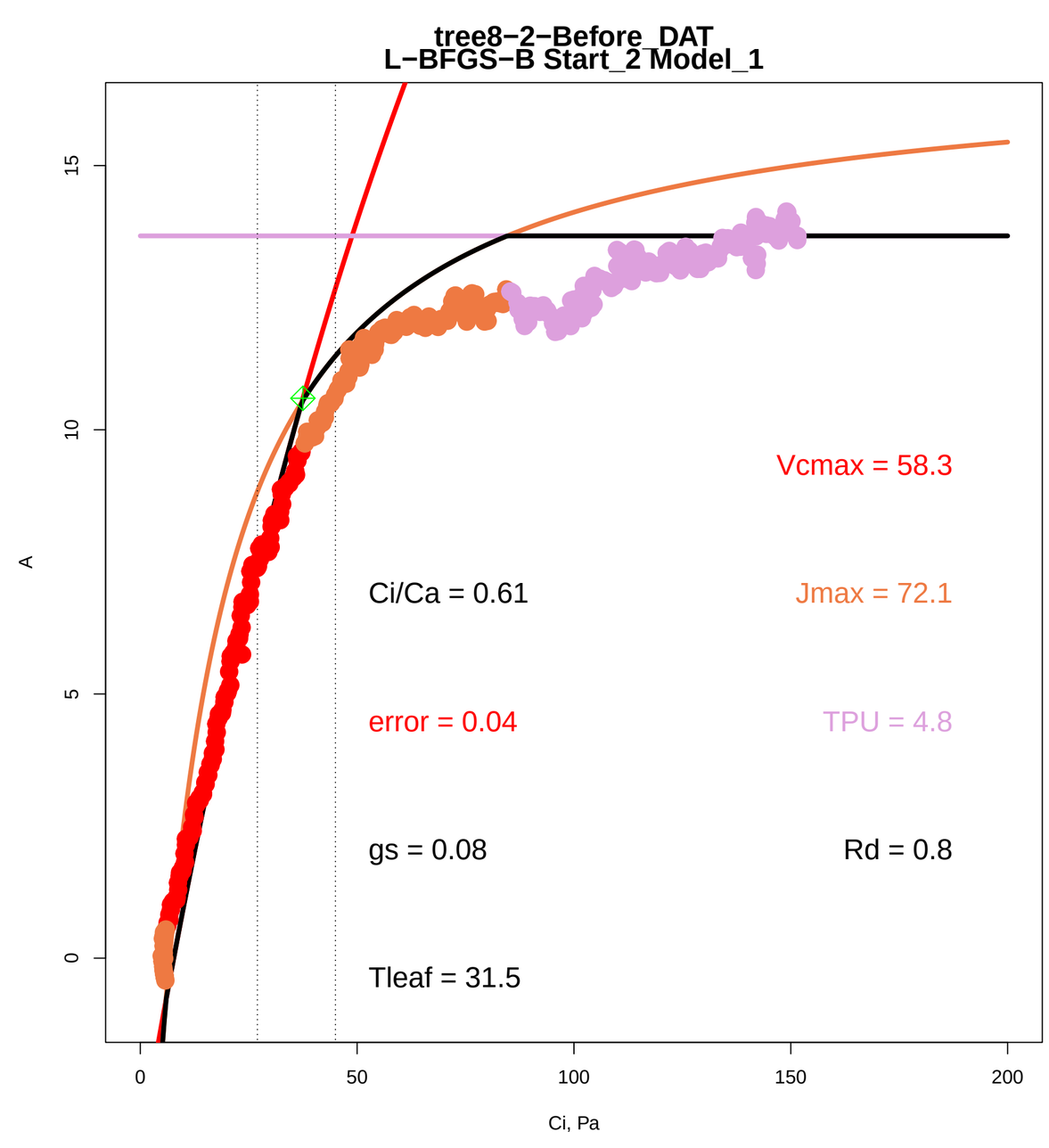

Tree3−1−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 53.8
Jmax = 66.9
TPU = 4.4
Rd = 0.8
Ci/Ca = 0.66
error = 0.13
gs = 0.11
Tleaf = 31.8

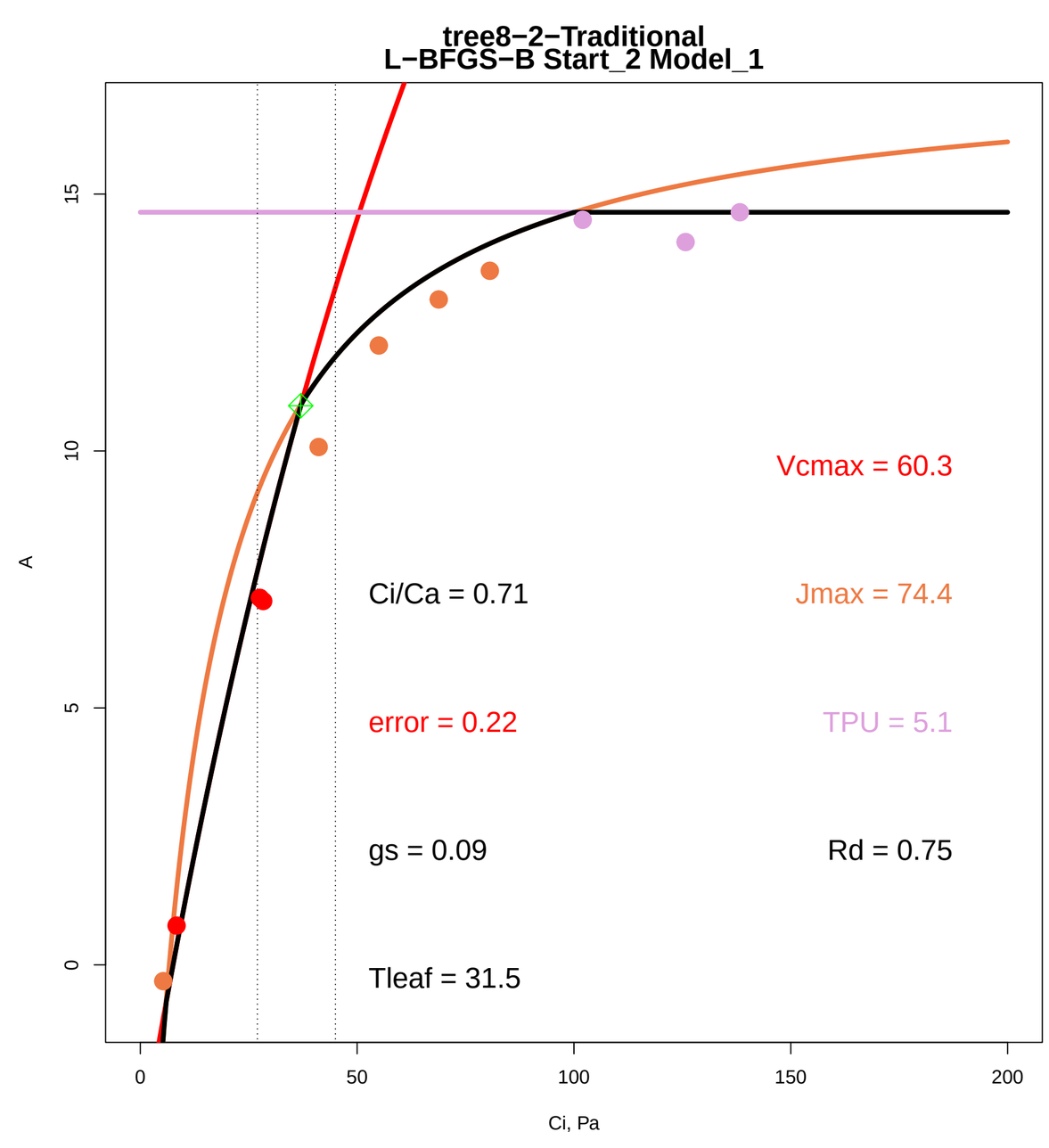

Tree3−2−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 55.6
Jmax = 69
TPU = 4.7
Rd = 0.77
Ci/Ca = 0.68
error = 0.06
gs = 0.1
Tleaf = 31.9

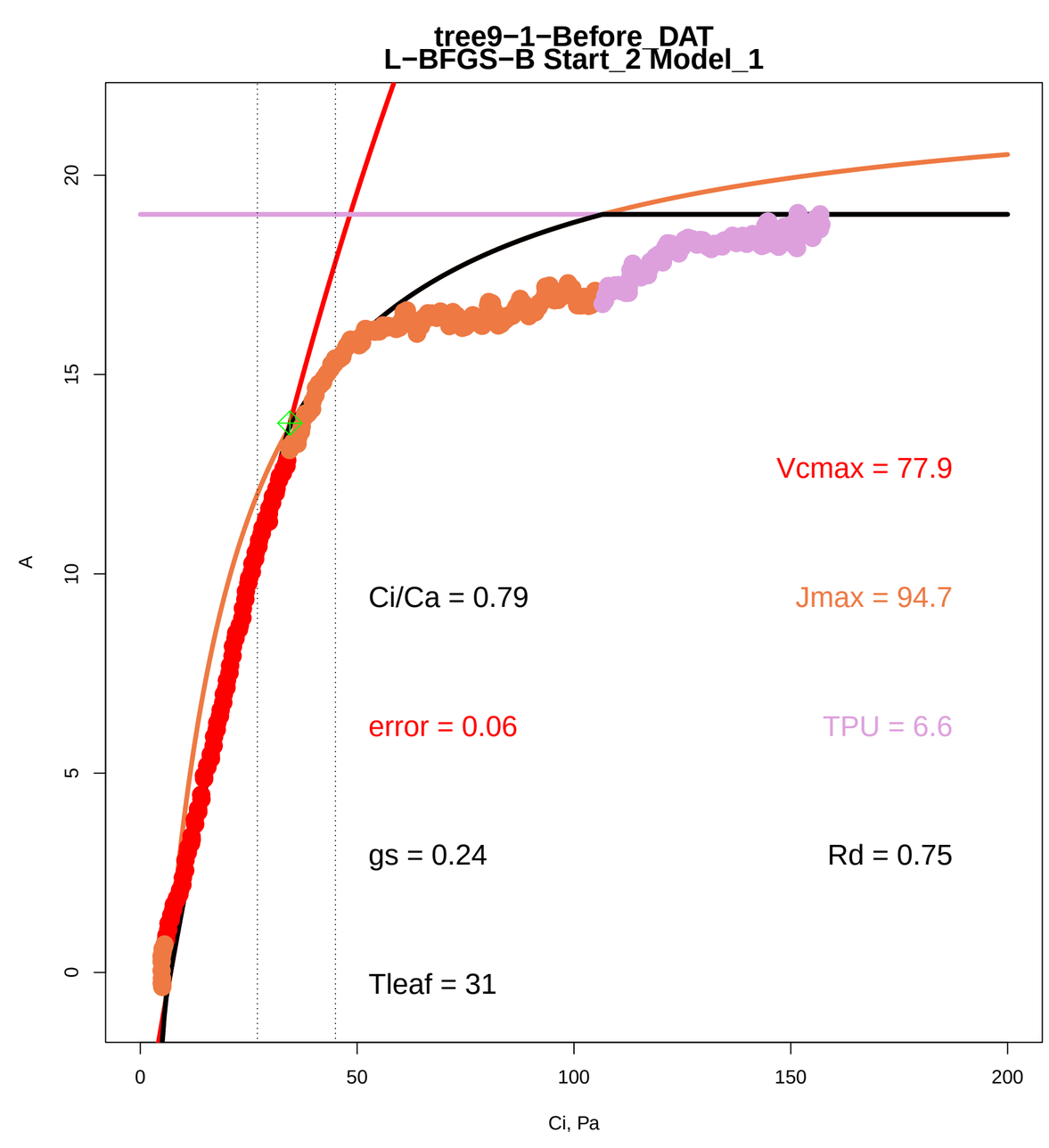

Tree3−2−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
0
50
100
150
200
Vcmax = 50.4
Jmax = 63
TPU = 4.2
Rd = 0.79
Ci/Ca = 0.69
error = 0.18
gs = 0.08
Tleaf = 32

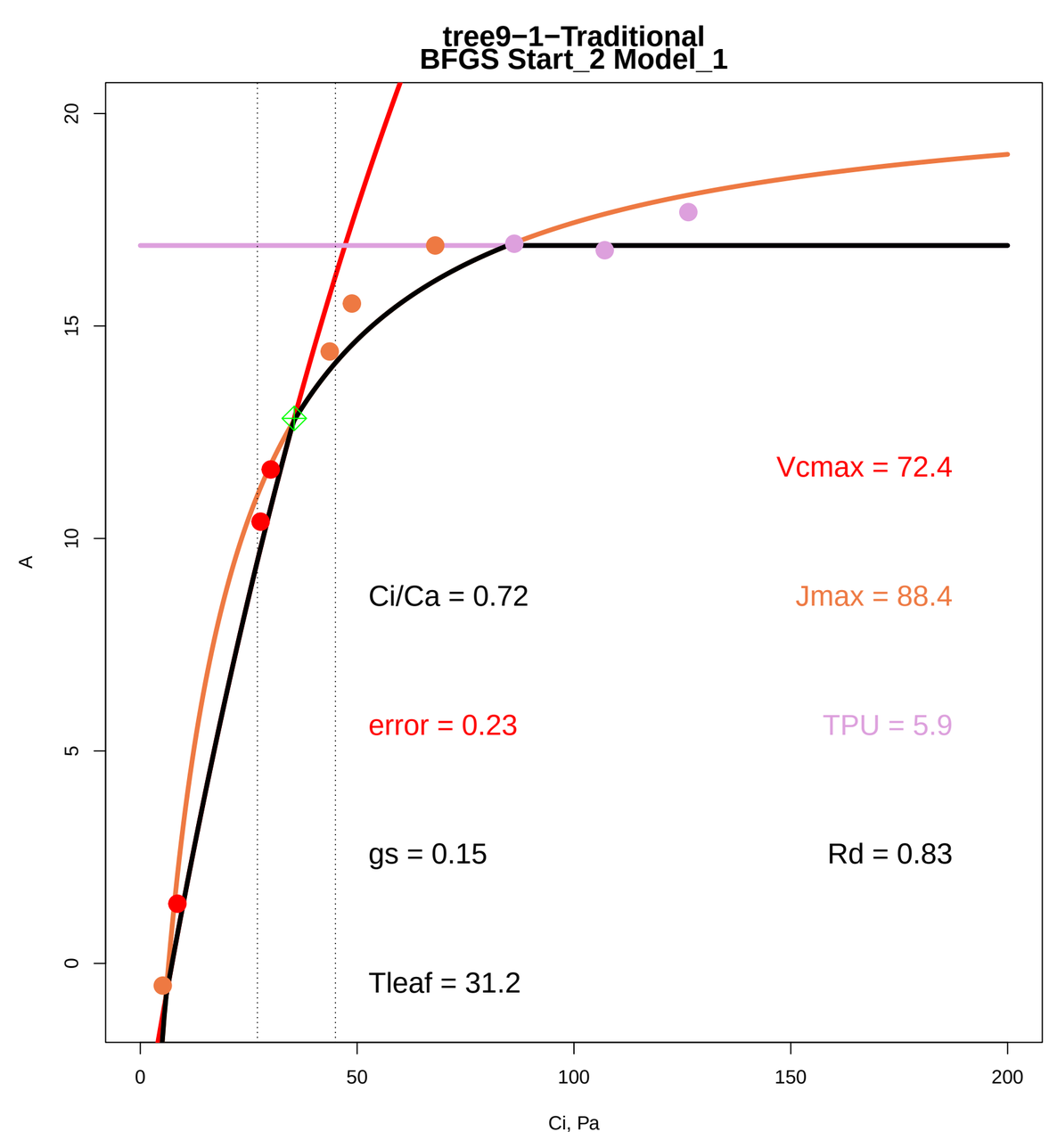

Maca1−6−Before_DAT
BFGS Start_1 Model_1
A
Ci, Pa
0
5
10
15
20
25
30
0
50
100
150
200
Vcmax = 121.6
Jmax = 144
Ci/Ca = 0.34
TPU = 10.2
error = 0.41
gs = 0.12
Rd = 0.78
Tleaf = 31.6

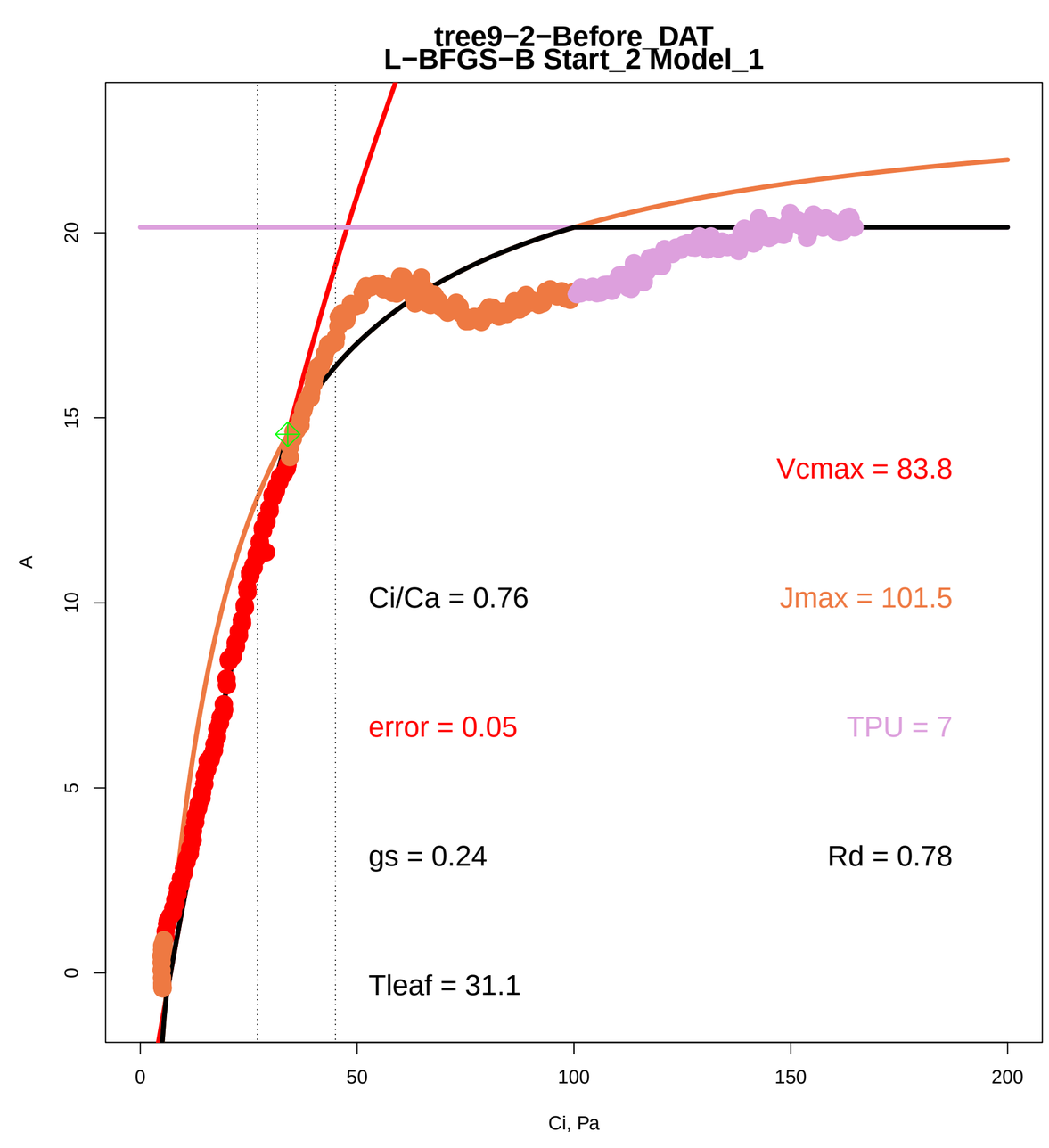

Maca1−6−Traditional
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
20
25
0
50
100
150
200
Vcmax = 100
Jmax = 126.3
TPU = 8
Rd = 1.1
Ci/Ca = 0.56
error = 0.5
gs = 0.1
Tleaf = 31.7

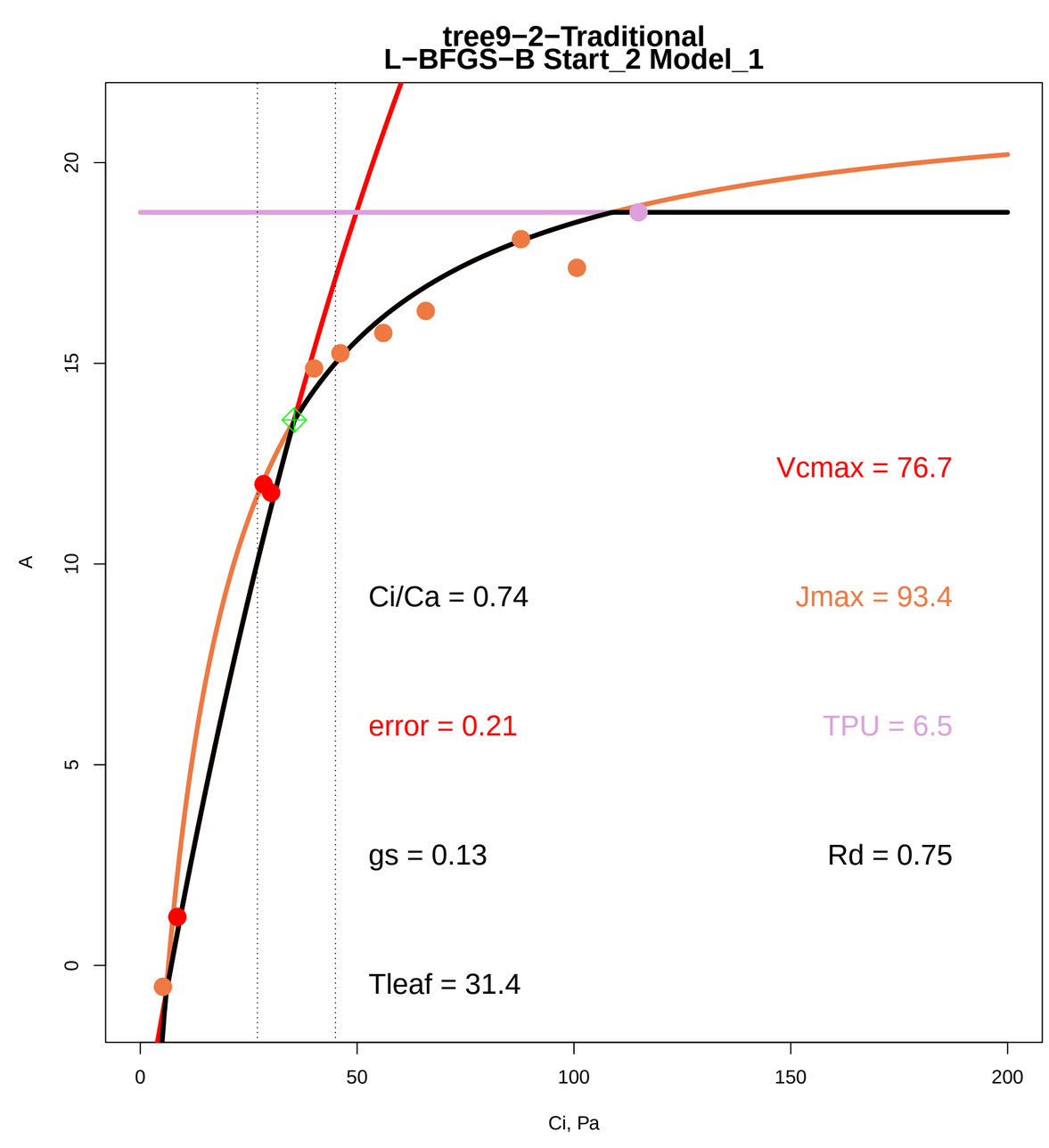

tree8−2−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 58.3
Jmax = 72.1
TPU = 4.8
Rd = 0.8
Ci/Ca = 0.61
error = 0.04
gs = 0.08
Tleaf = 31.5

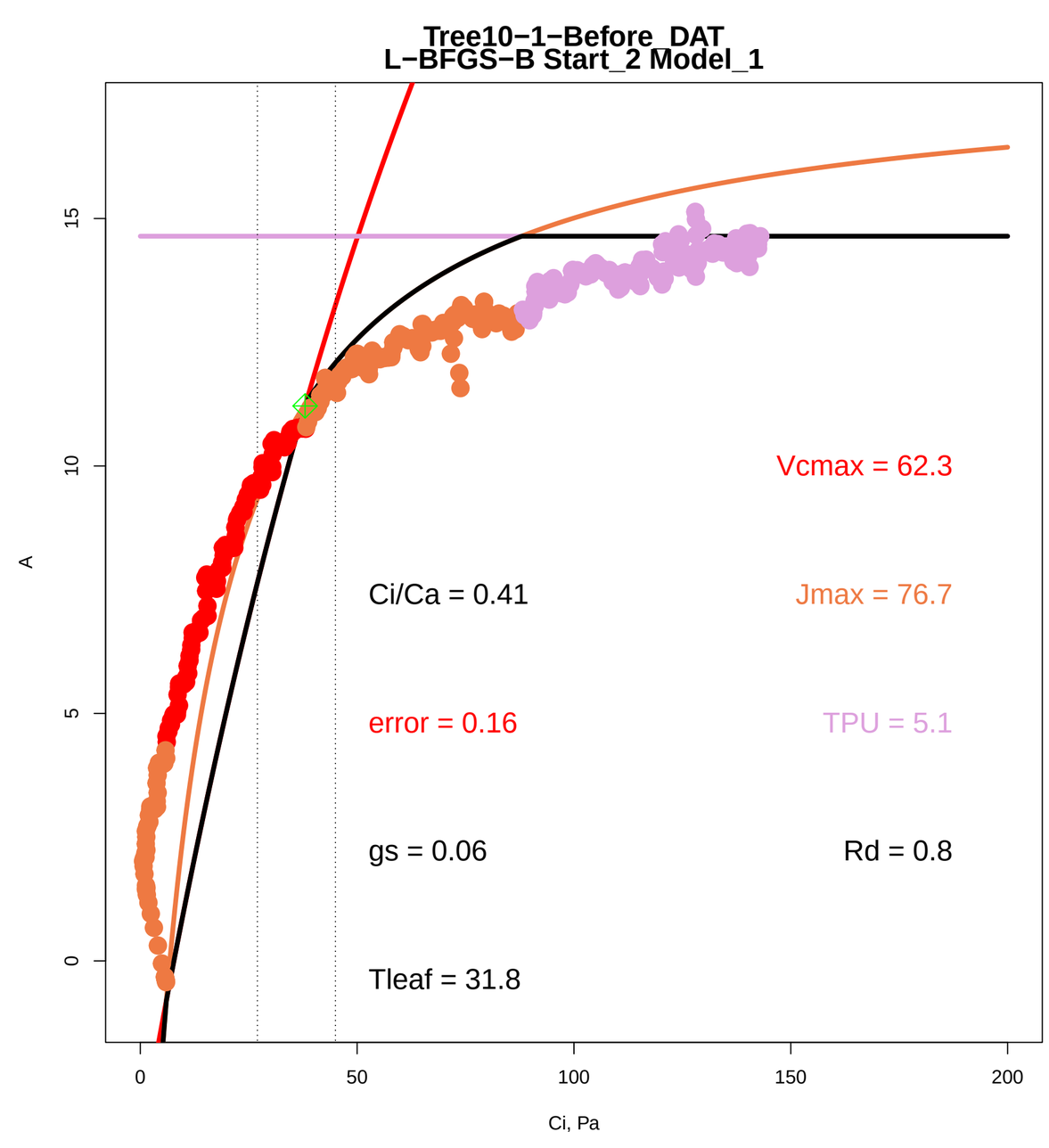

tree8−2−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 60.3
Jmax = 74.4
TPU = 5.1
Rd = 0.75
Ci/Ca = 0.71
error = 0.22
gs = 0.09
Tleaf = 31.5

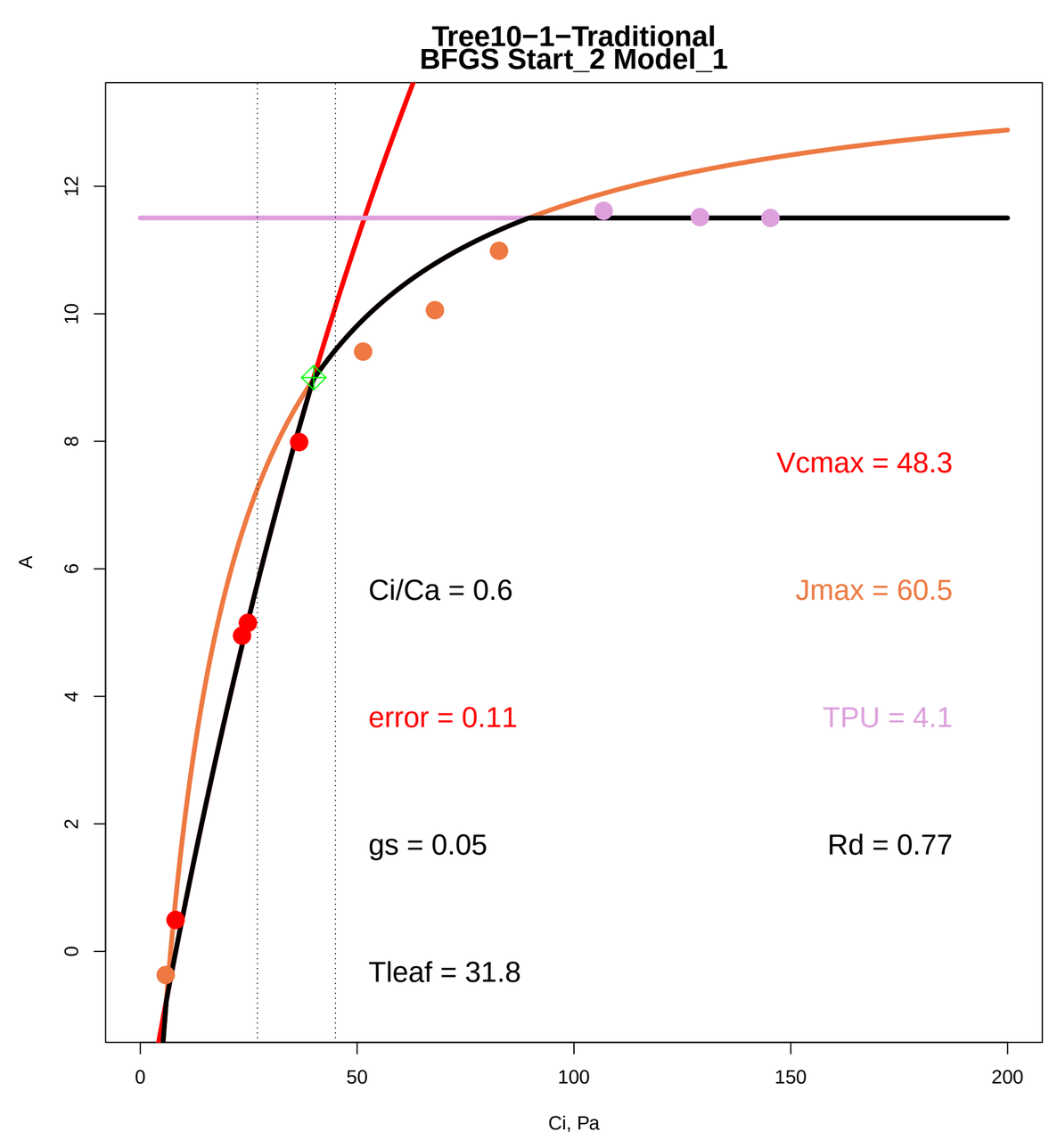

tree9−1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
0
50
100
150
200
Vcmax = 77.9
Jmax = 94.7
TPU = 6.6
Rd = 0.75
Ci/Ca = 0.79
error = 0.06
gs = 0.24
Tleaf = 31

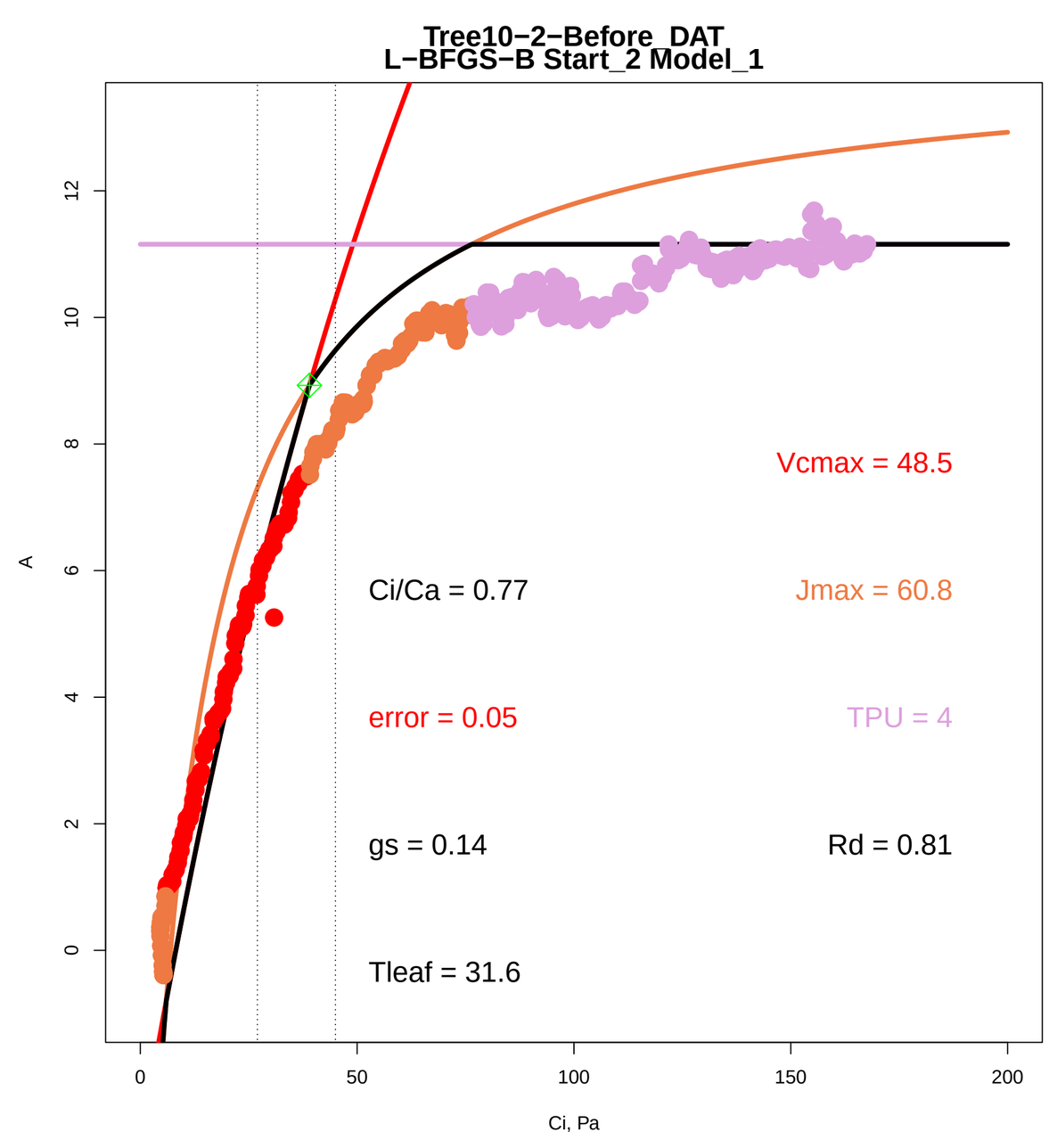

tree9−1−Traditional
BFGS Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
0
50
100
150
200
Vcmax = 72.4
Jmax = 88.4
TPU = 5.9
Rd = 0.83
Ci/Ca = 0.72
error = 0.23
gs = 0.15
Tleaf = 31.2

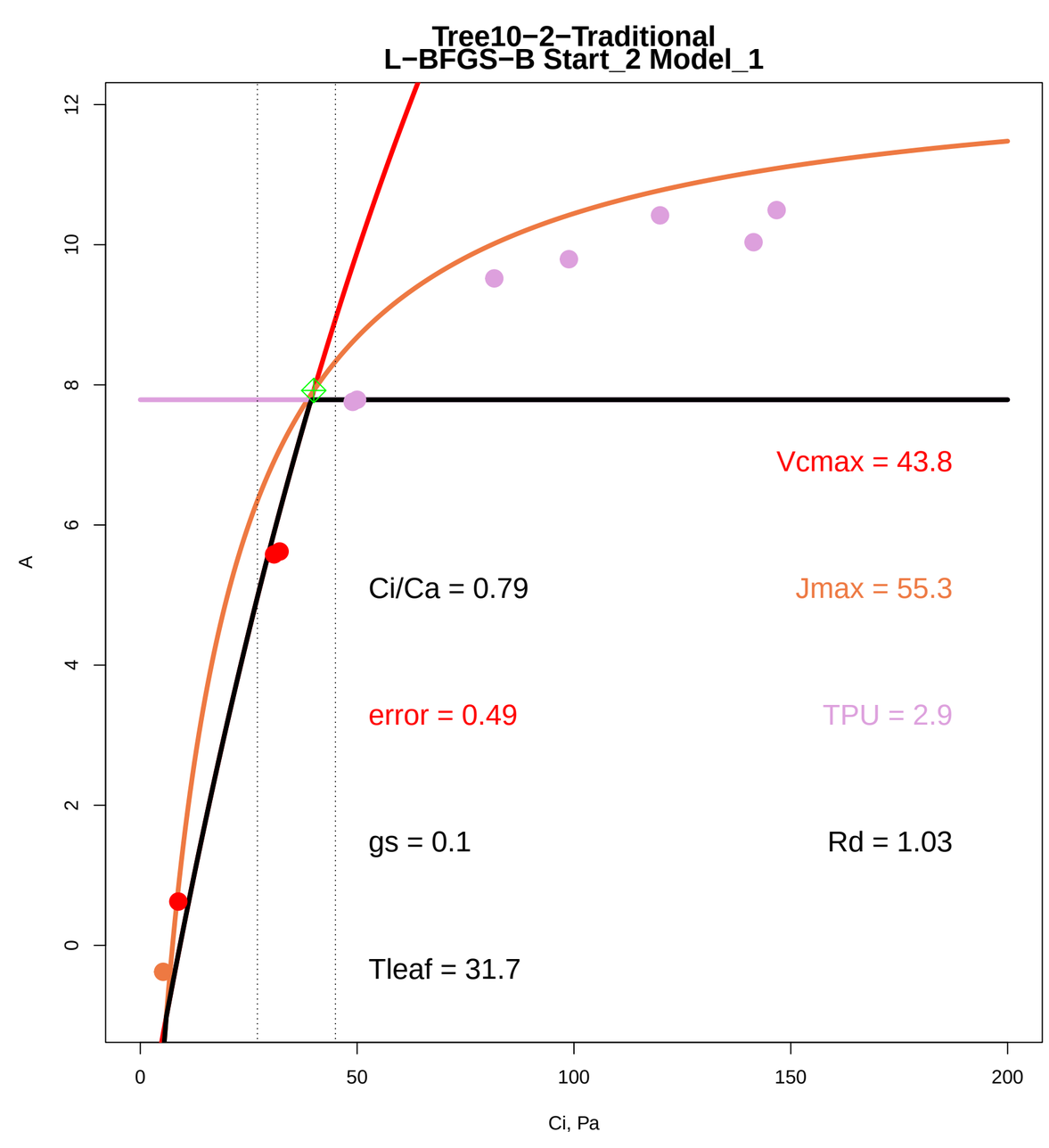

tree9−2−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
0
50
100
150
200
Vcmax = 83.8
Jmax = 101.5
TPU = 7
Rd = 0.78
Ci/Ca = 0.76
error = 0.05
gs = 0.24
Tleaf = 31.1

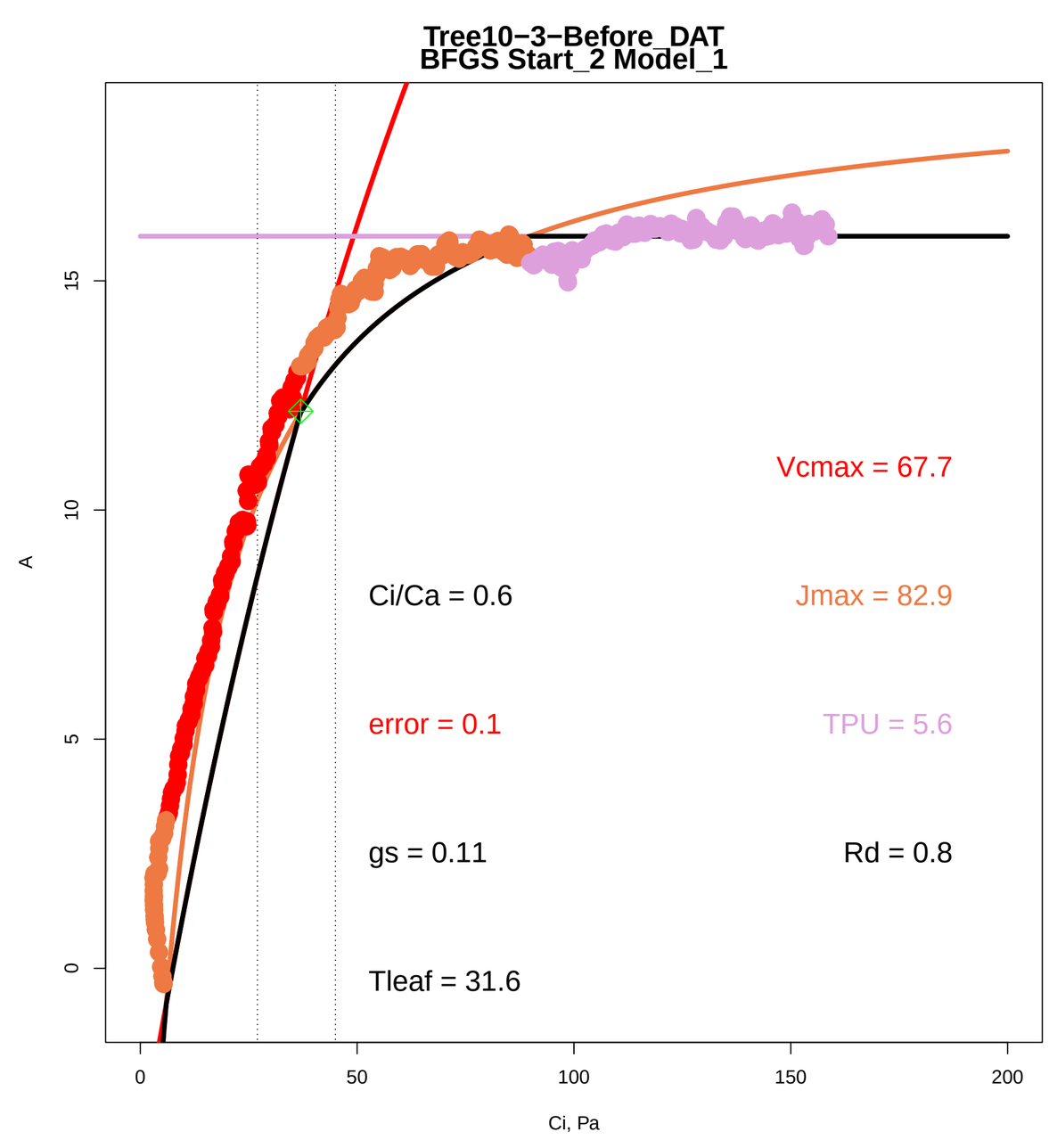

tree9−2−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
0
50
100
150
200
Vcmax = 76.7
Jmax = 93.4
TPU = 6.5
Rd = 0.75
Ci/Ca = 0.74
error = 0.21
gs = 0.13
Tleaf = 31.4

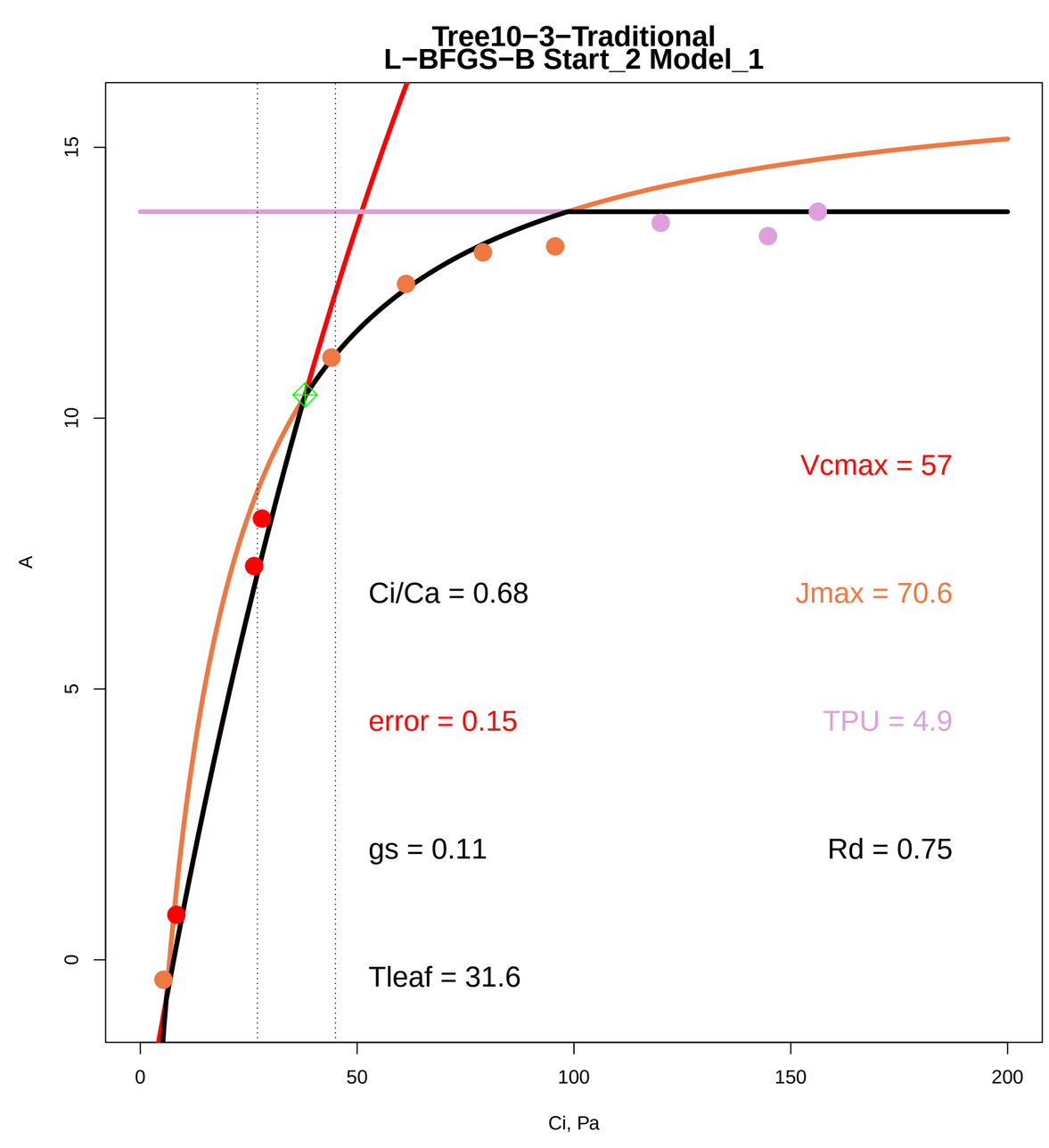

Tree10−1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 62.3
Jmax = 76.7
TPU = 5.1
Rd = 0.8
Ci/Ca = 0.41
error = 0.16
gs = 0.06
Tleaf = 31.8

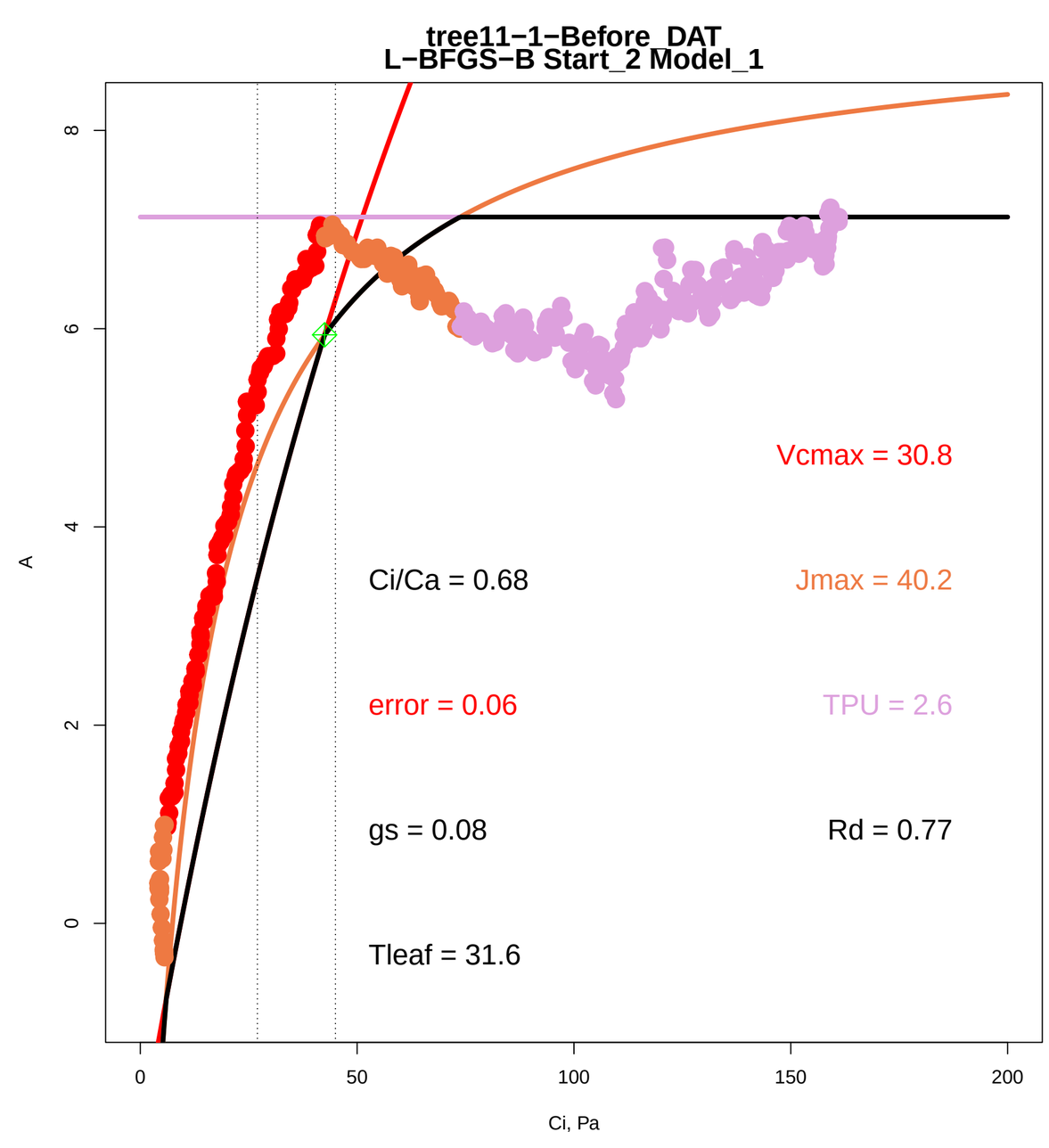

Tree10−1−Traditional
BFGS Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
10
12
0
50
100
150
200
Vcmax = 48.3
Jmax = 60.5
TPU = 4.1
Rd = 0.77
Ci/Ca = 0.6
error = 0.11
gs = 0.05
Tleaf = 31.8

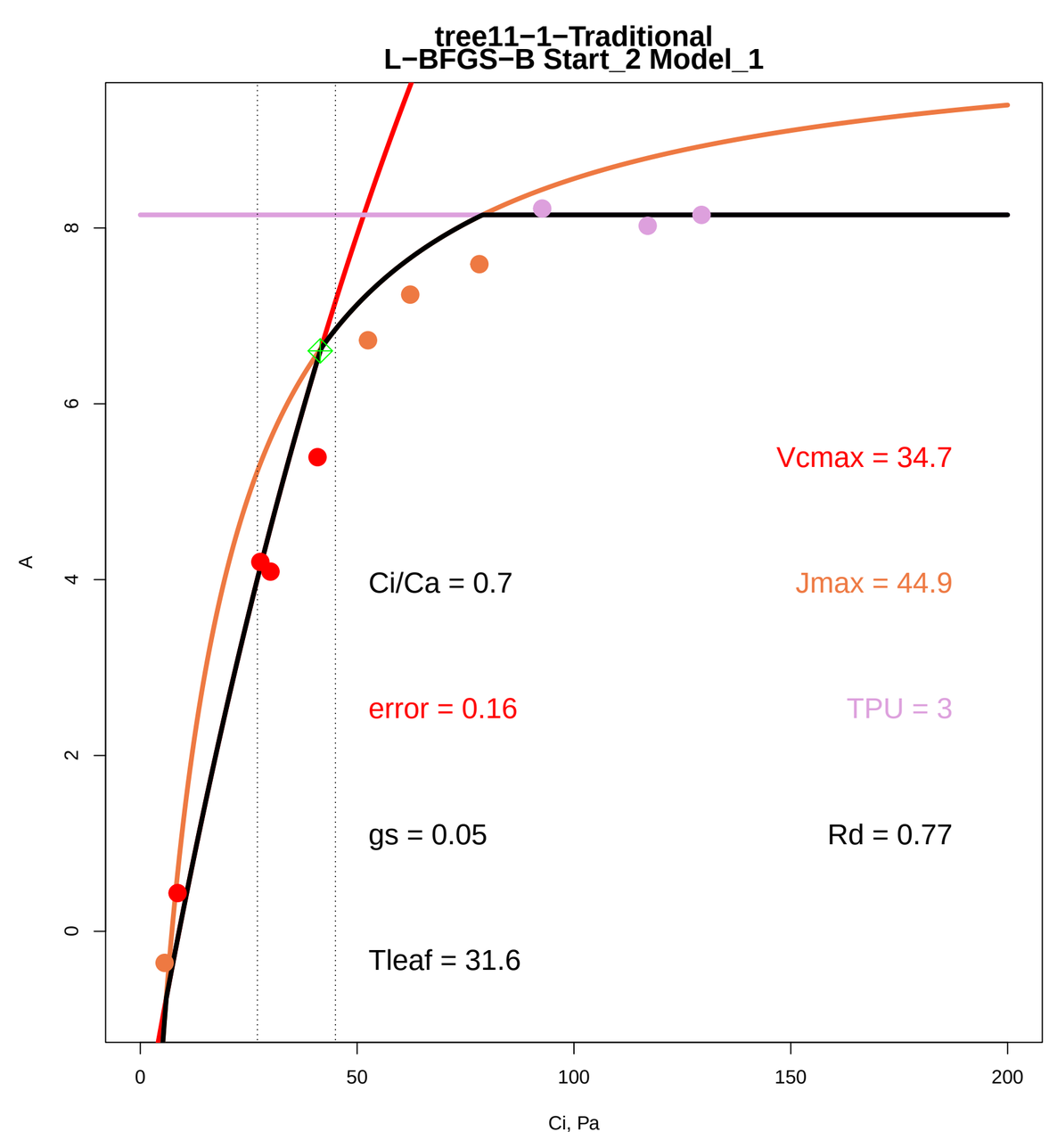

Tree10−2−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
10
12
0
50
100
150
200
Vcmax = 48.5
Jmax = 60.8
TPU = 4
Rd = 0.81
Ci/Ca = 0.77
error = 0.05
gs = 0.14
Tleaf = 31.6

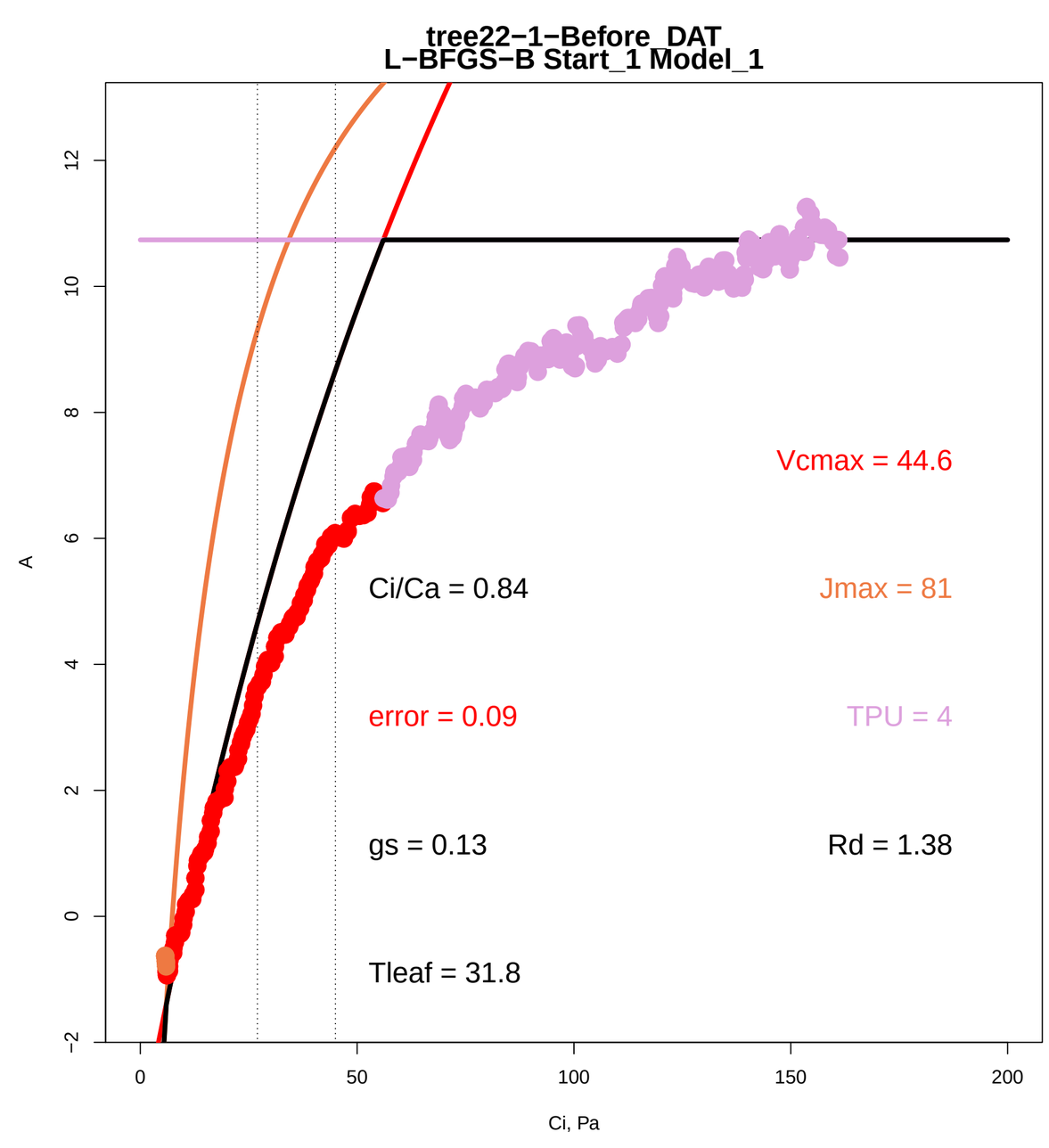

Tree10−2−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
10
12
0
50
100
150
200
Vcmax = 43.8
Jmax = 55.3
TPU = 2.9
Rd = 1.03
Ci/Ca = 0.79
error = 0.49
gs = 0.1
Tleaf = 31.7

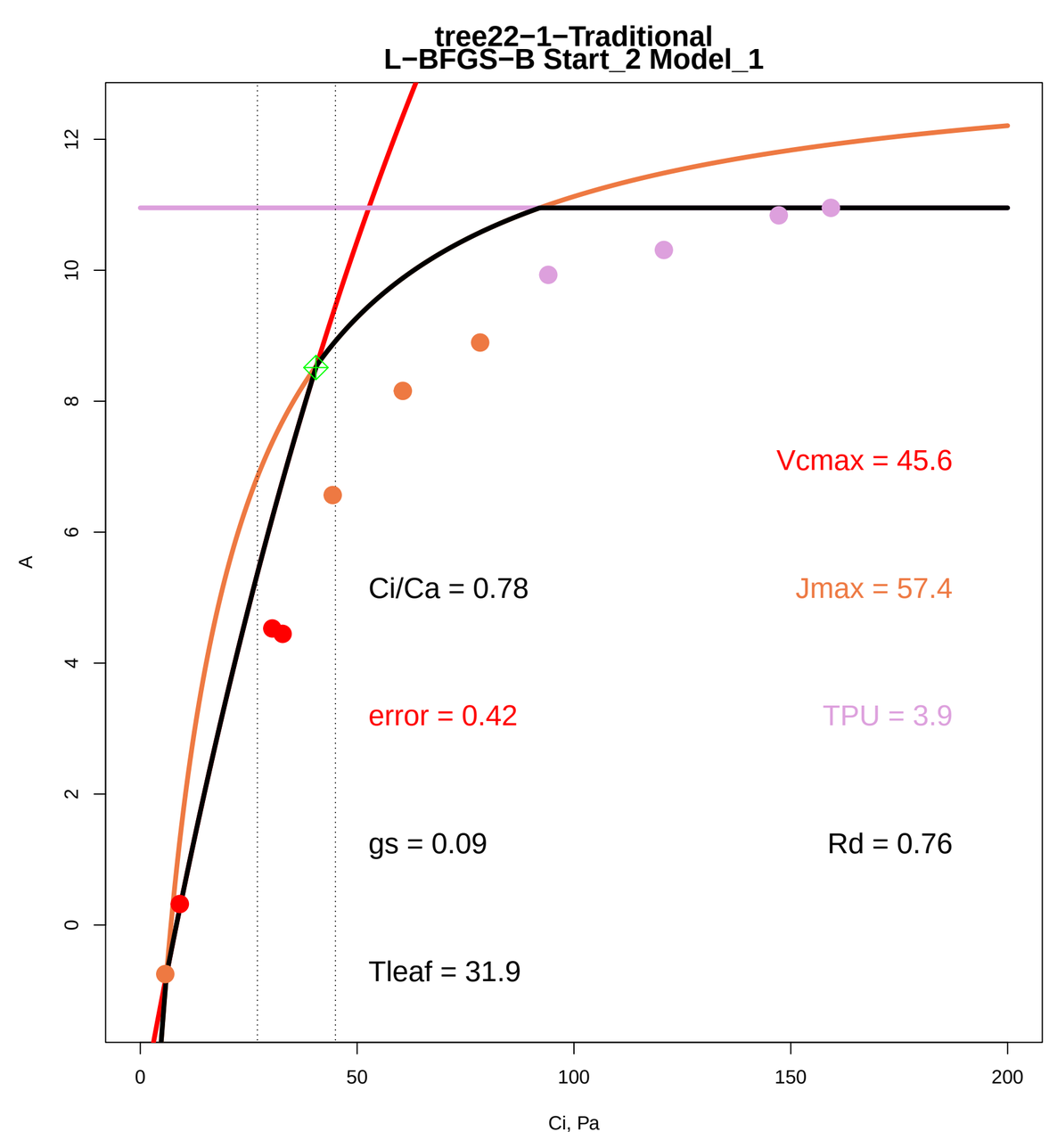

Tree10−3−Before_DAT
BFGS Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 67.7
Jmax = 82.9
TPU = 5.6
Rd = 0.8
Ci/Ca = 0.6
error = 0.1
gs = 0.11
Tleaf = 31.6

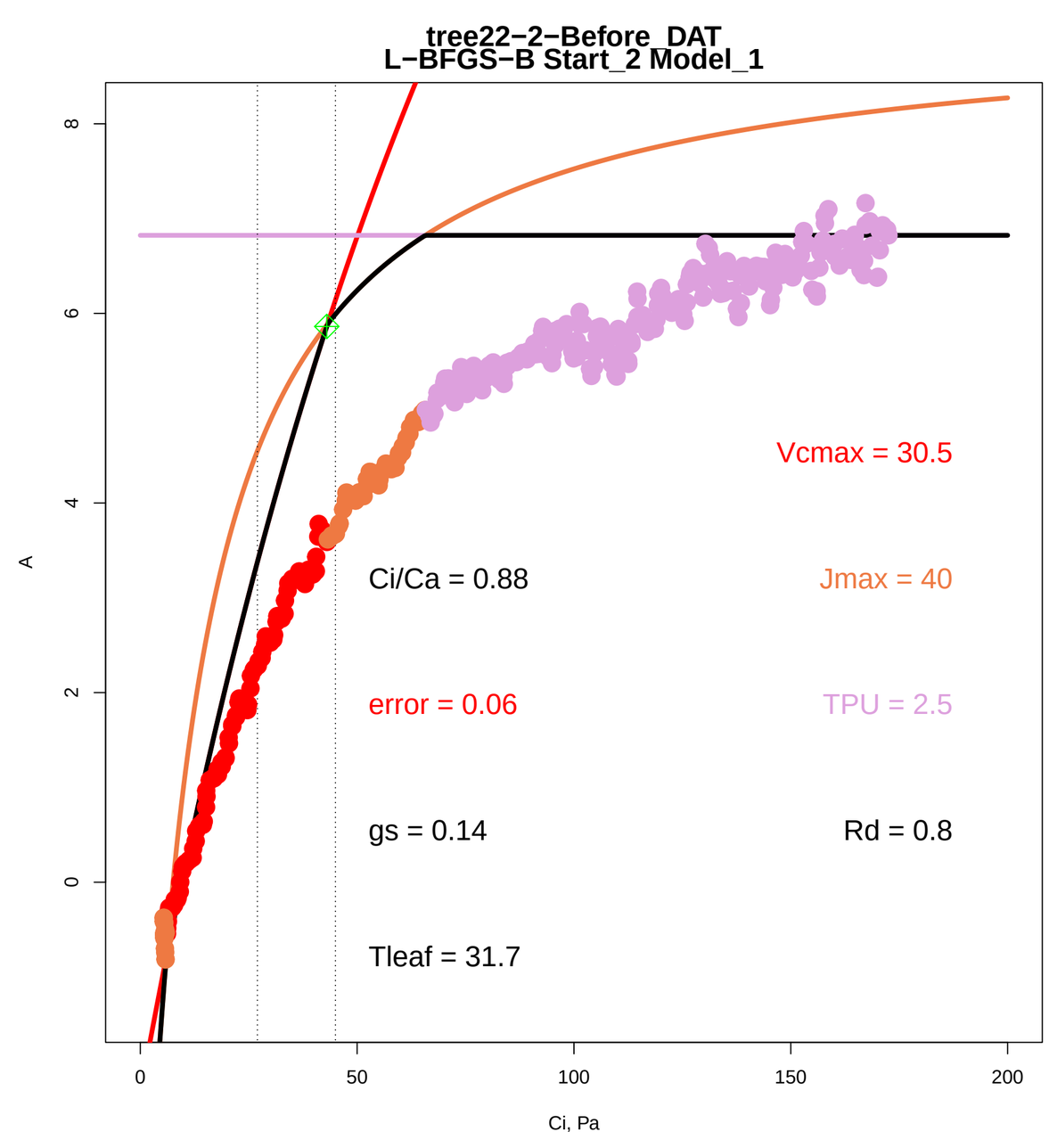

Tree10−3−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 57
Jmax = 70.6
TPU = 4.9
Rd = 0.75
Ci/Ca = 0.68
error = 0.15
gs = 0.11
Tleaf = 31.6

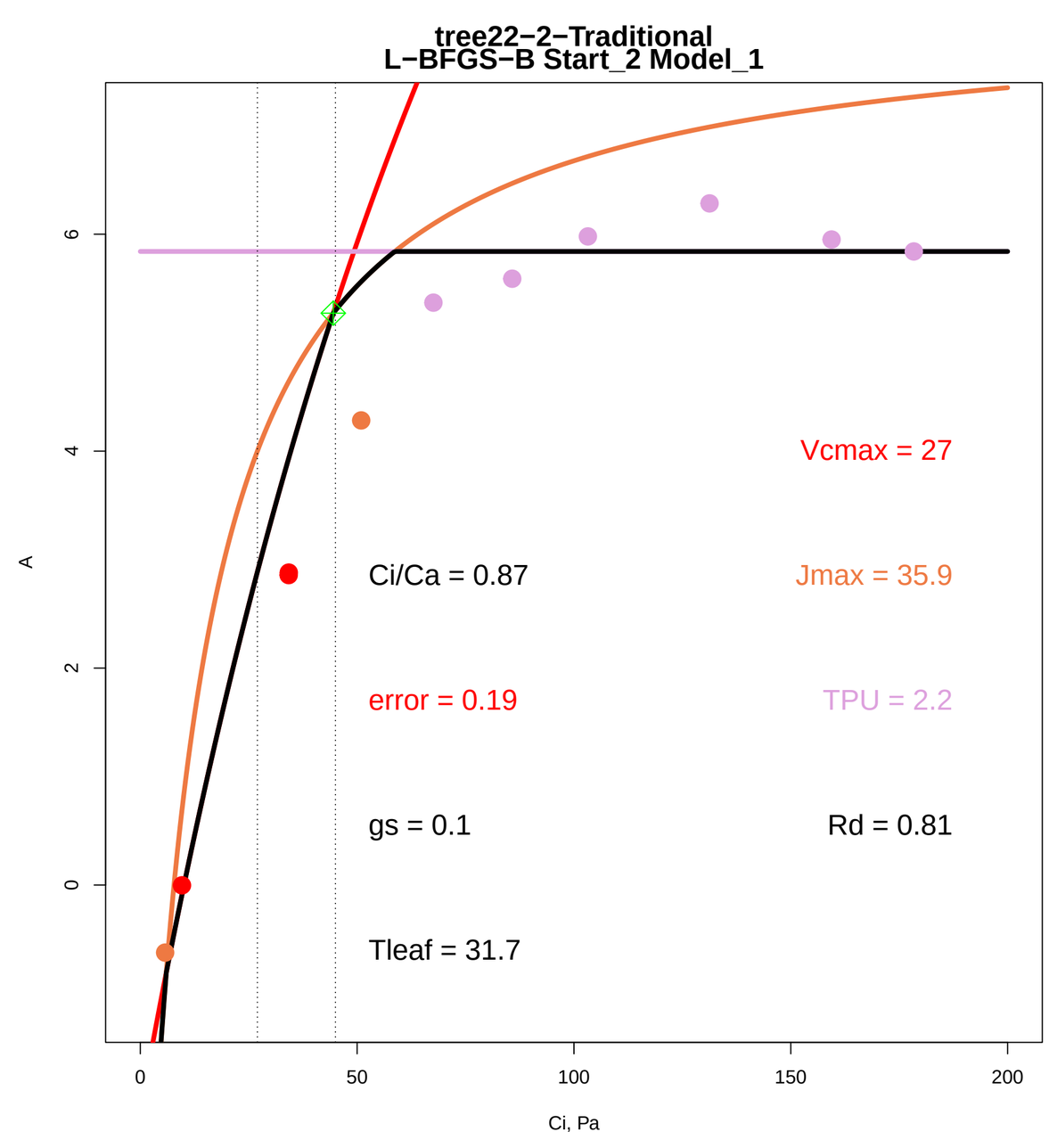

tree11−1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
0
50
100
150
200
Vcmax = 30.8
Jmax = 40.2
TPU = 2.6
Rd = 0.77
Ci/Ca = 0.68
error = 0.06
gs = 0.08
Tleaf = 31.6

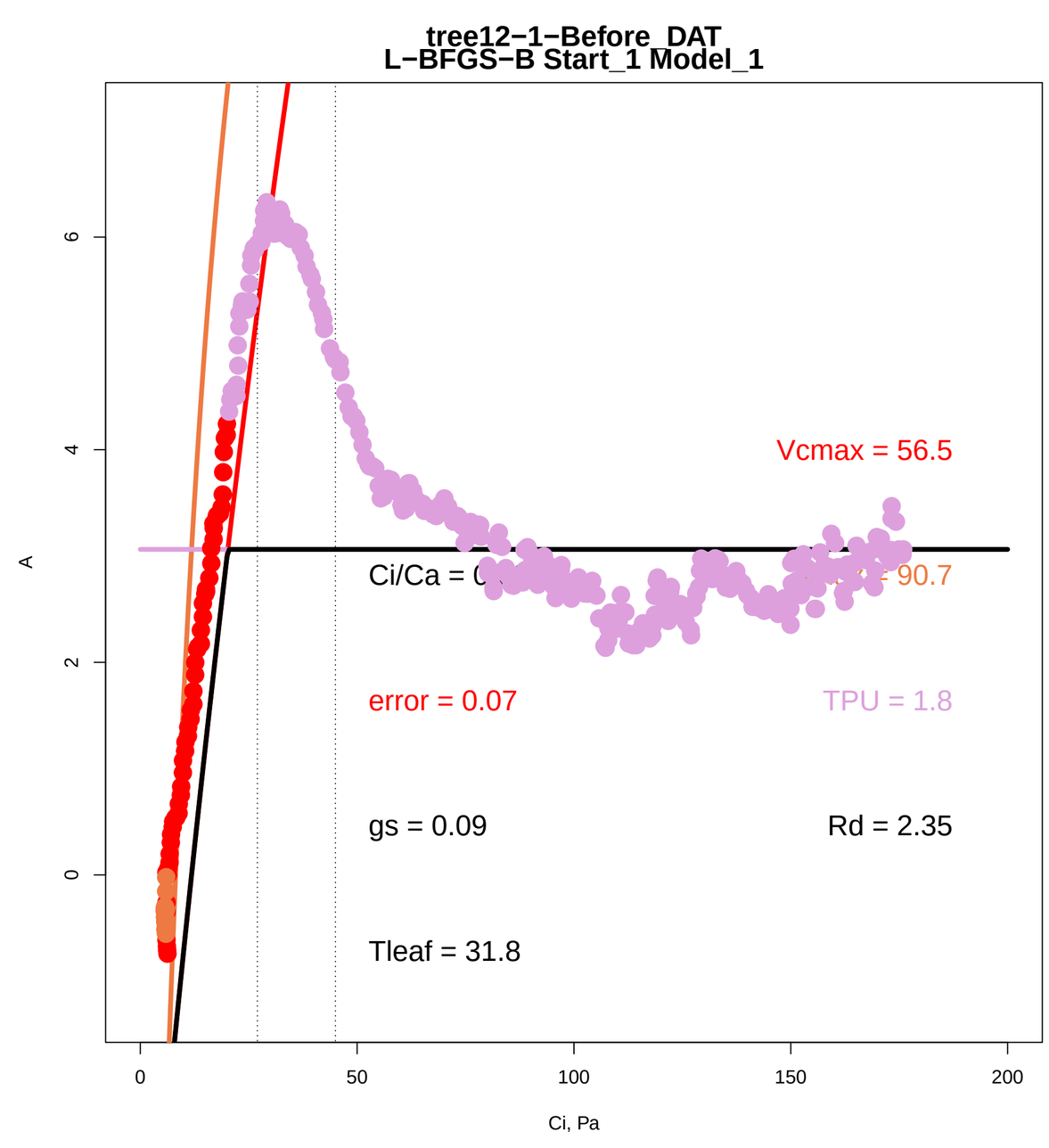

tree11−1−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
0
50
100
150
200
Vcmax = 34.7
Jmax = 44.9
TPU = 3
Rd = 0.77
Ci/Ca = 0.7
error = 0.16
gs = 0.05
Tleaf = 31.6

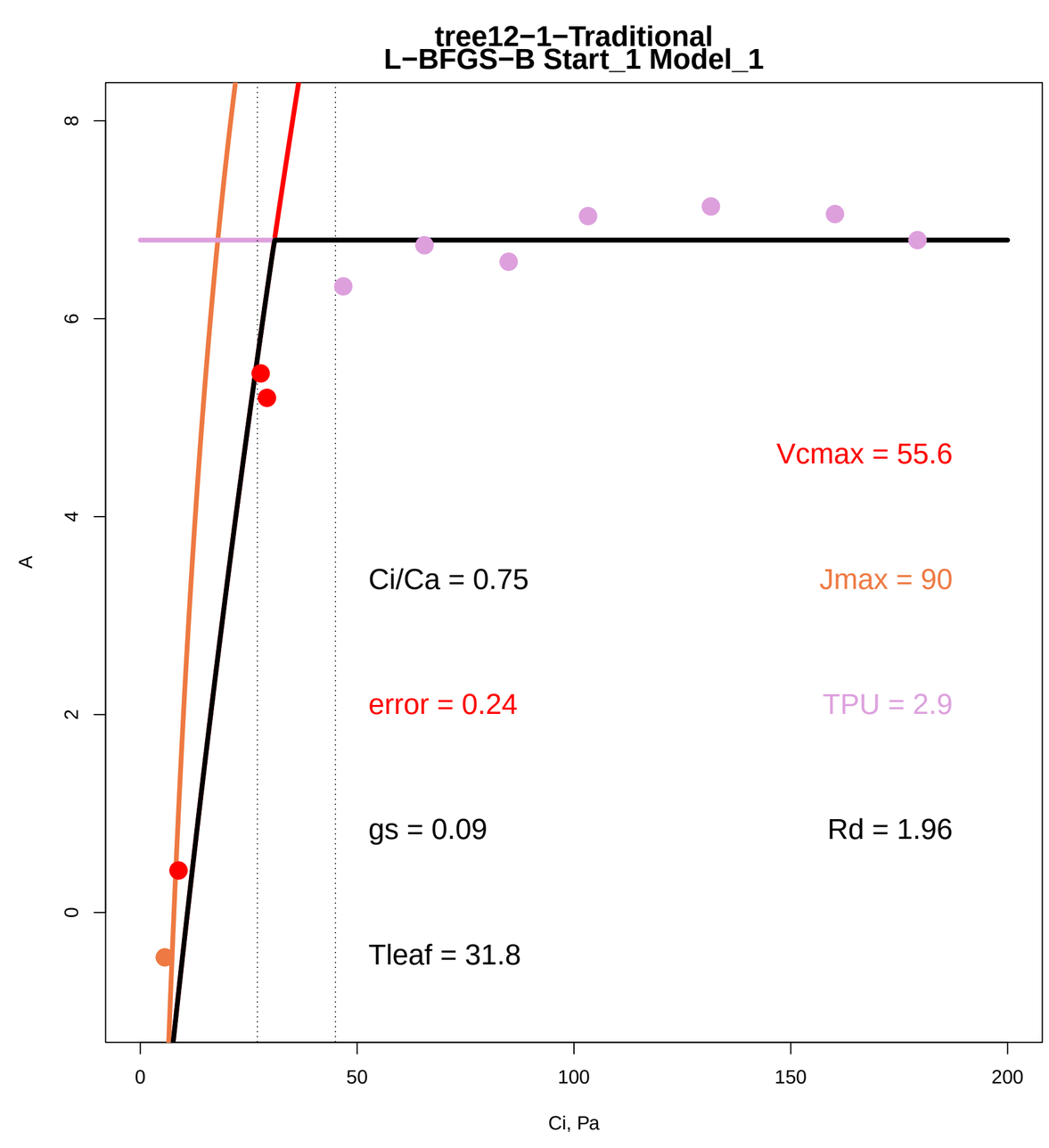

tree22−1−Before_DAT
L−BFGS−B Start_1 Model_1
A
Ci, Pa
−2
0
2
4
6
8
10
12
0
50
100
150
200
Vcmax = 44.6
Jmax = 81
TPU = 4
Rd = 1.38
Ci/Ca = 0.84
error = 0.09
gs = 0.13
Tleaf = 31.8

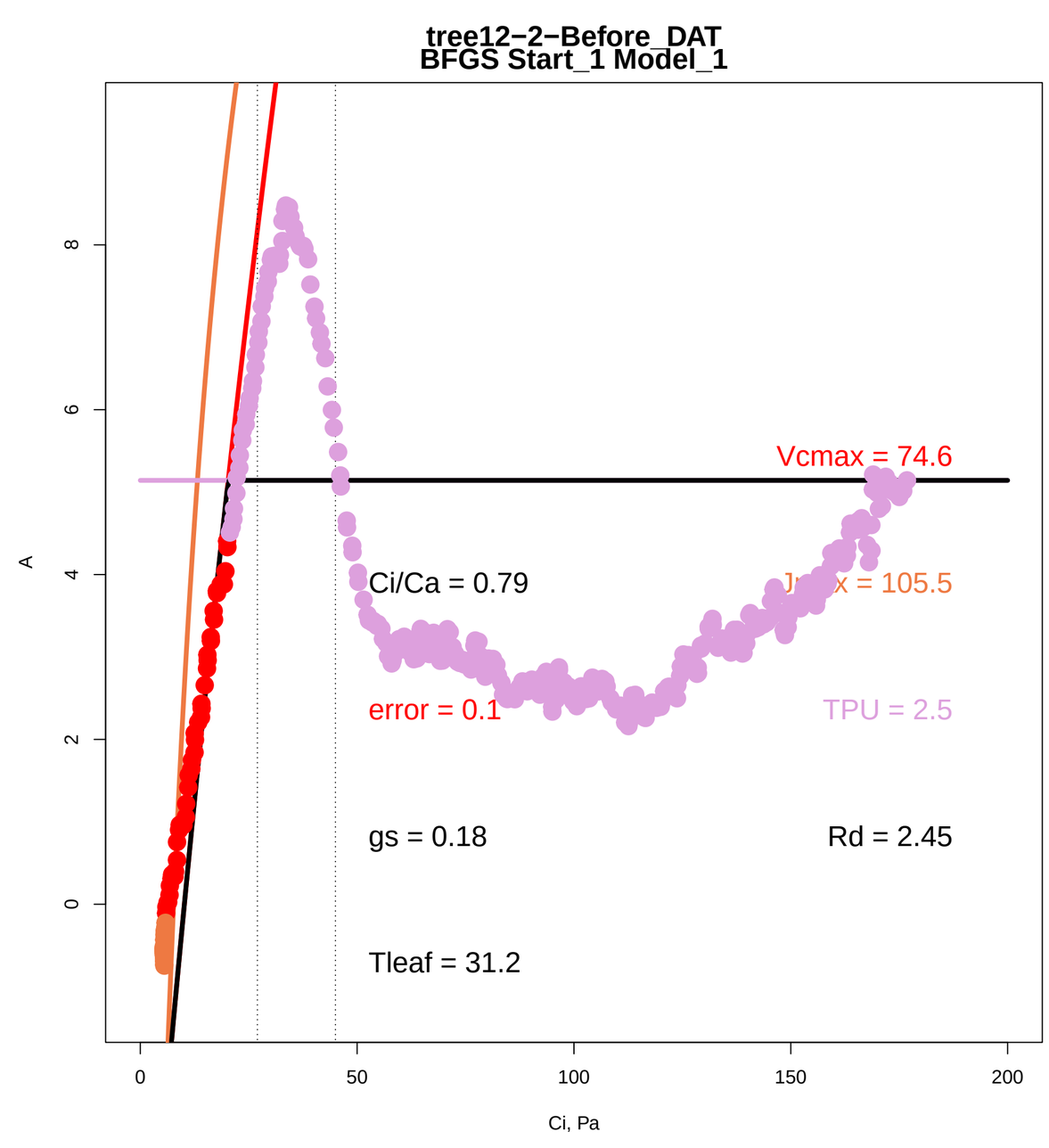

tree22−1−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
10
12
0
50
100
150
200
Vcmax = 45.6
Jmax = 57.4
TPU = 3.9
Rd = 0.76
Ci/Ca = 0.78
error = 0.42
gs = 0.09
Tleaf = 31.9

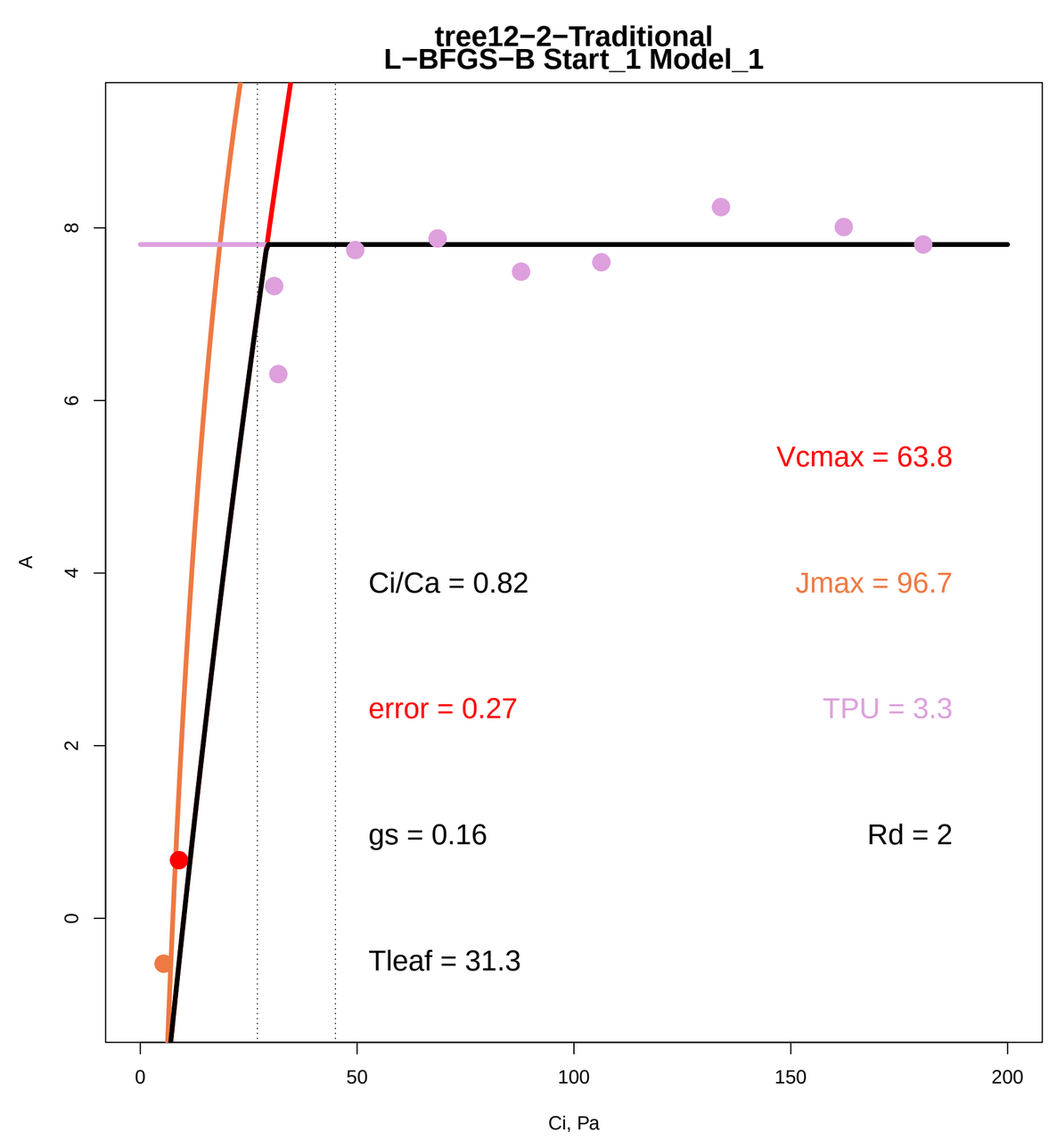

tree22−2−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
0
50
100
150
200
Vcmax = 30.5
Jmax = 40
TPU = 2.5
Rd = 0.8
Ci/Ca = 0.88
error = 0.06
gs = 0.14
Tleaf = 31.7

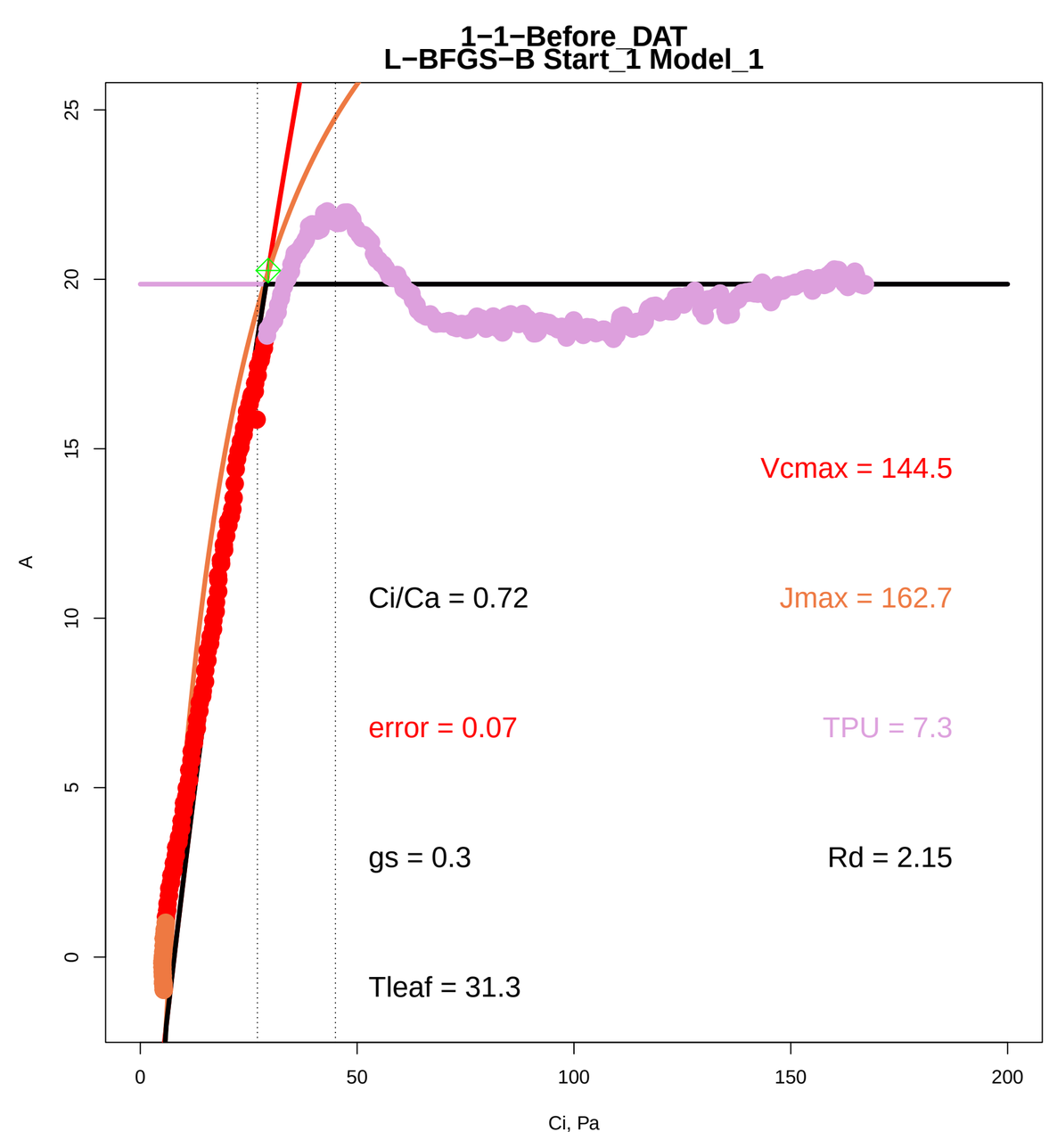

tree22−2−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
0
50
100
150
200
Vcmax = 27
Jmax = 35.9
TPU = 2.2
Rd = 0.81
Ci/Ca = 0.87
error = 0.19
gs = 0.1
Tleaf = 31.7

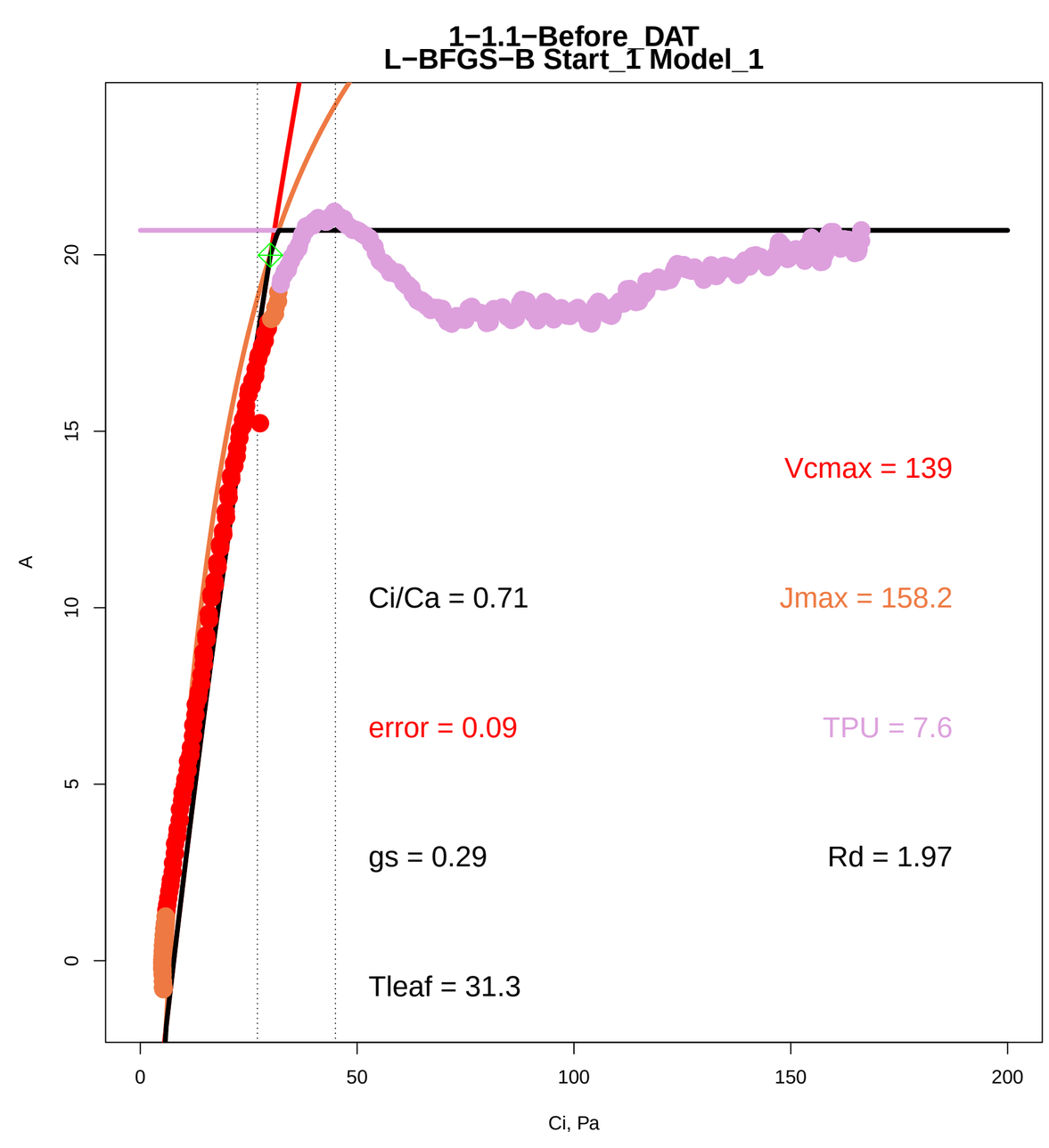

tree12−1−Before_DAT
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
2
4
6
0
50
100
150
200
Vcmax = 56.5
Ci/Ca = 0
= 90.7
error = 0.07
TPU = 1.8
gs = 0.09
Rd = 2.35
Tleaf = 31.8

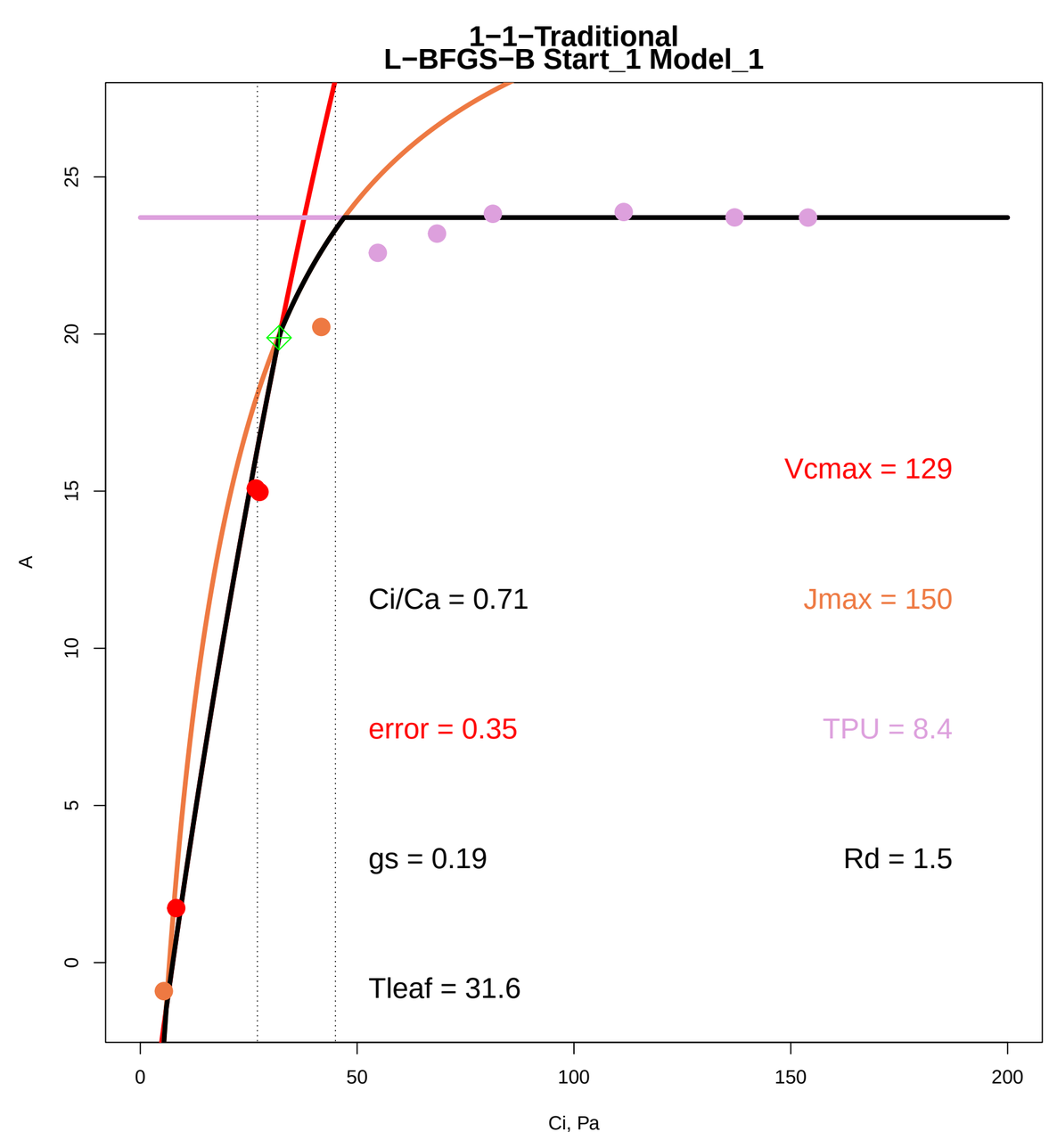

tree12−1−Traditional
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
2
4
6
8
0
50
100
150
200
Vcmax = 55.6
Jmax = 90
TPU = 2.9
Rd = 1.96
Ci/Ca = 0.75
error = 0.24
gs = 0.09
Tleaf = 31.8

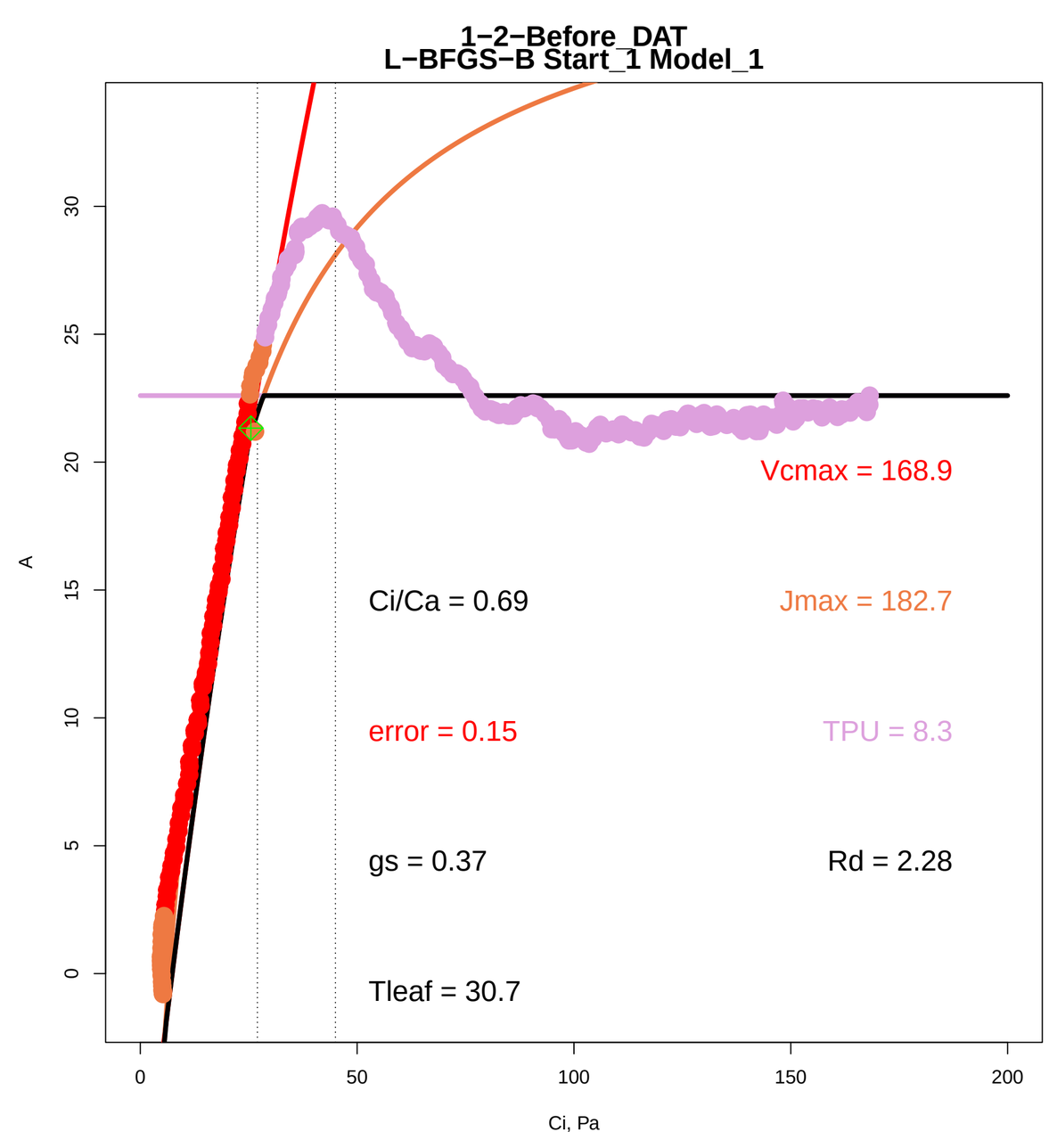

tree12−2−Before_DAT
BFGS Start_1 Model_1
A
Ci, Pa
0
2
4
6
8
0
50
100
150
200
Vcmax = 74.6
Ci/Ca = 0.79
error = 0.1
TPU = 2.5
gs = 0.18
Rd = 2.45
Tleaf = 31.2

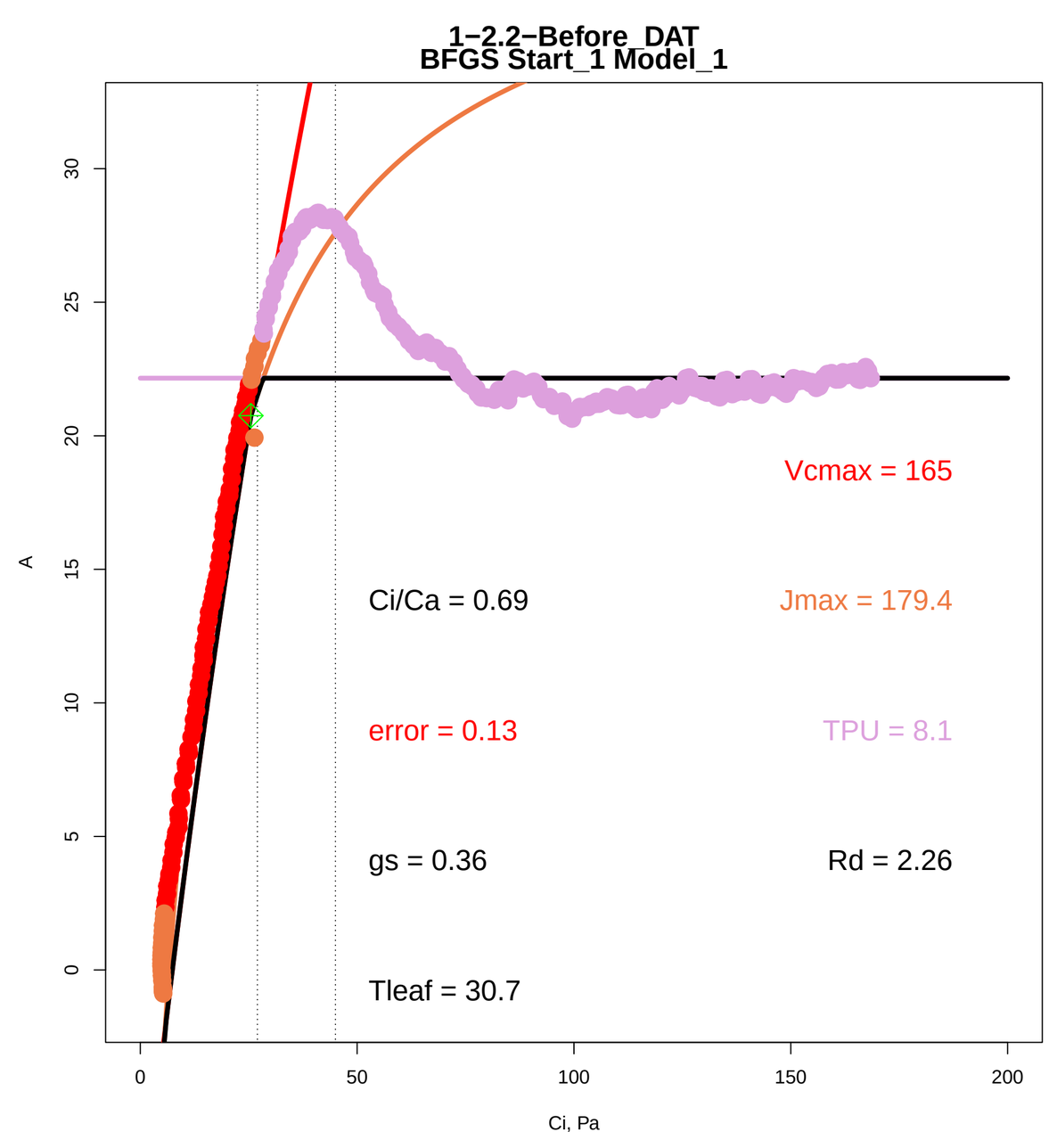

tree12−2−Traditional
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
2
4
6
8
0
50
100
150
200
Vcmax = 63.8
Jmax = 96.7
TPU = 3.3
Rd = 2
Ci/Ca = 0.82
error = 0.27
gs = 0.16
Tleaf = 31.3

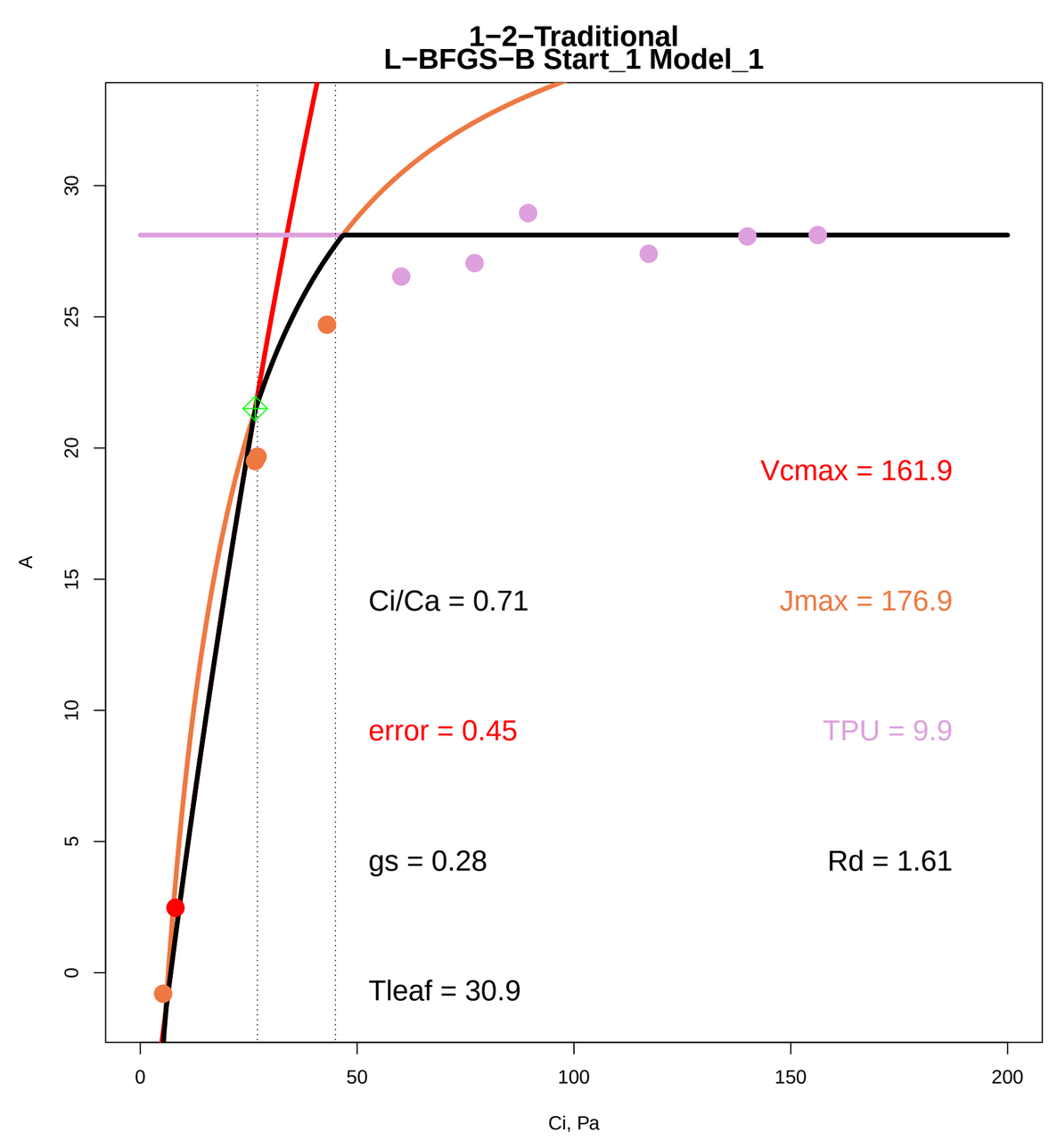

1−1−Before_DAT
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
20
25
0
50
100
150
200
Vcmax = 144.5
Ci/Ca = 0.72
Jmax = 162.7
error = 0.07
TPU = 7.3
gs = 0.3
Rd = 2.15
Tleaf = 31.3

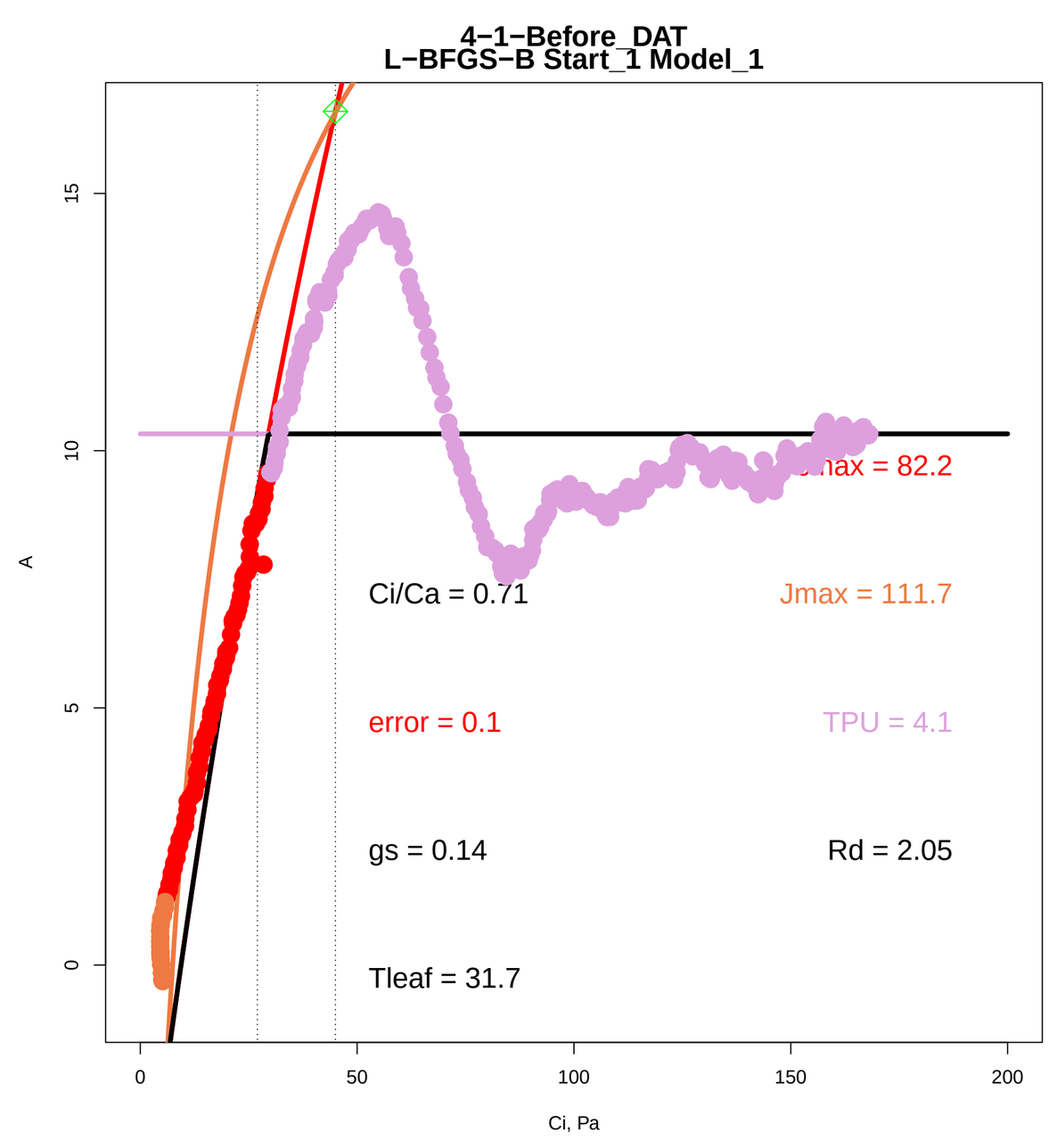

1−1.1−Before_DAT
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
20
0
50
100
150
200
Vcmax = 139
Jmax = 158.2
Ci/Ca = 0.71
TPU = 7.6
error = 0.09
gs = 0.29
Rd = 1.97
Tleaf = 31.3

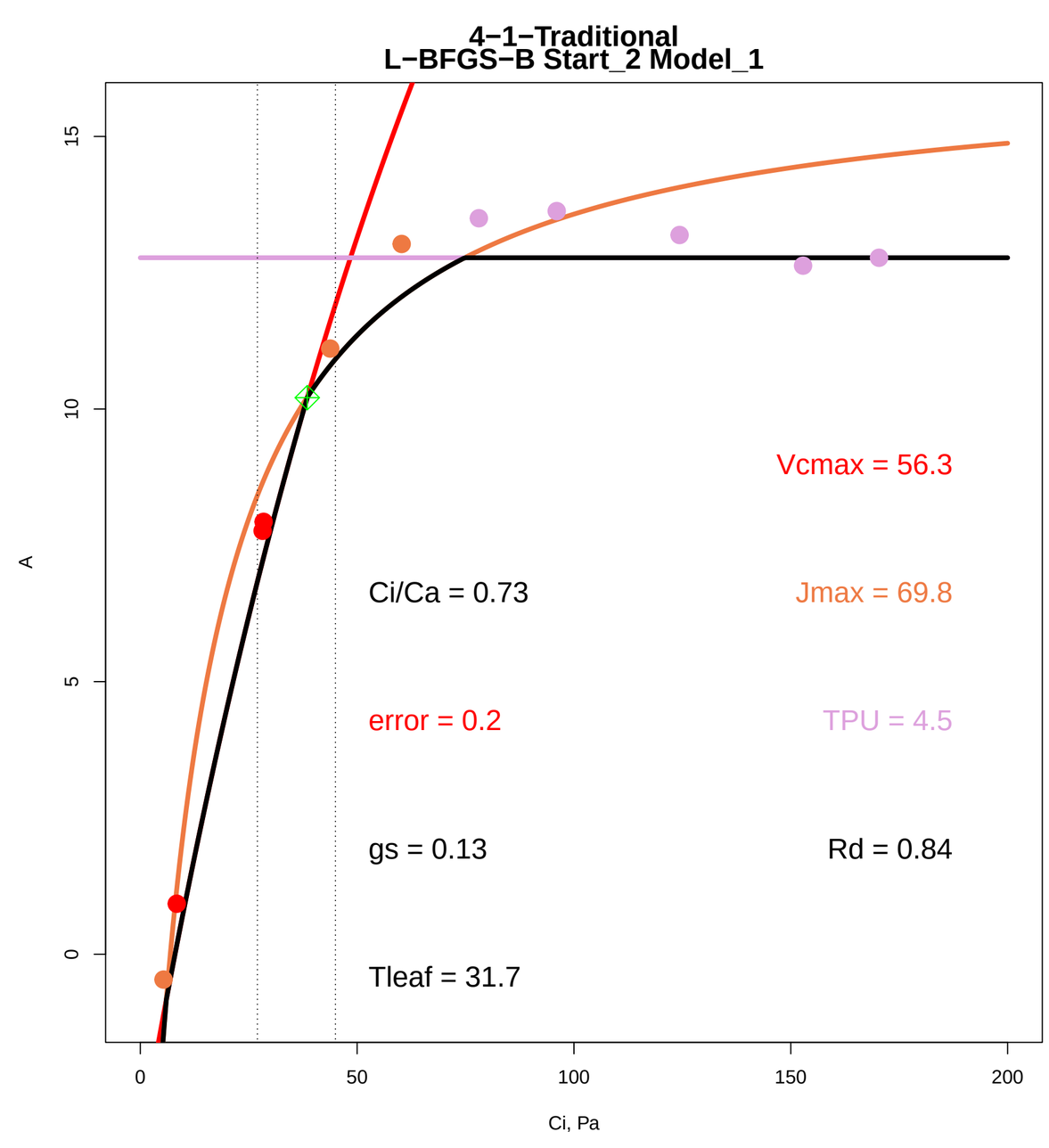

1−1−Traditional
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
20
25
0
50
100
150
200
Vcmax = 129
Jmax = 150
TPU = 8.4
Rd = 1.5
Ci/Ca = 0.71
error = 0.35
gs = 0.19
Tleaf = 31.6

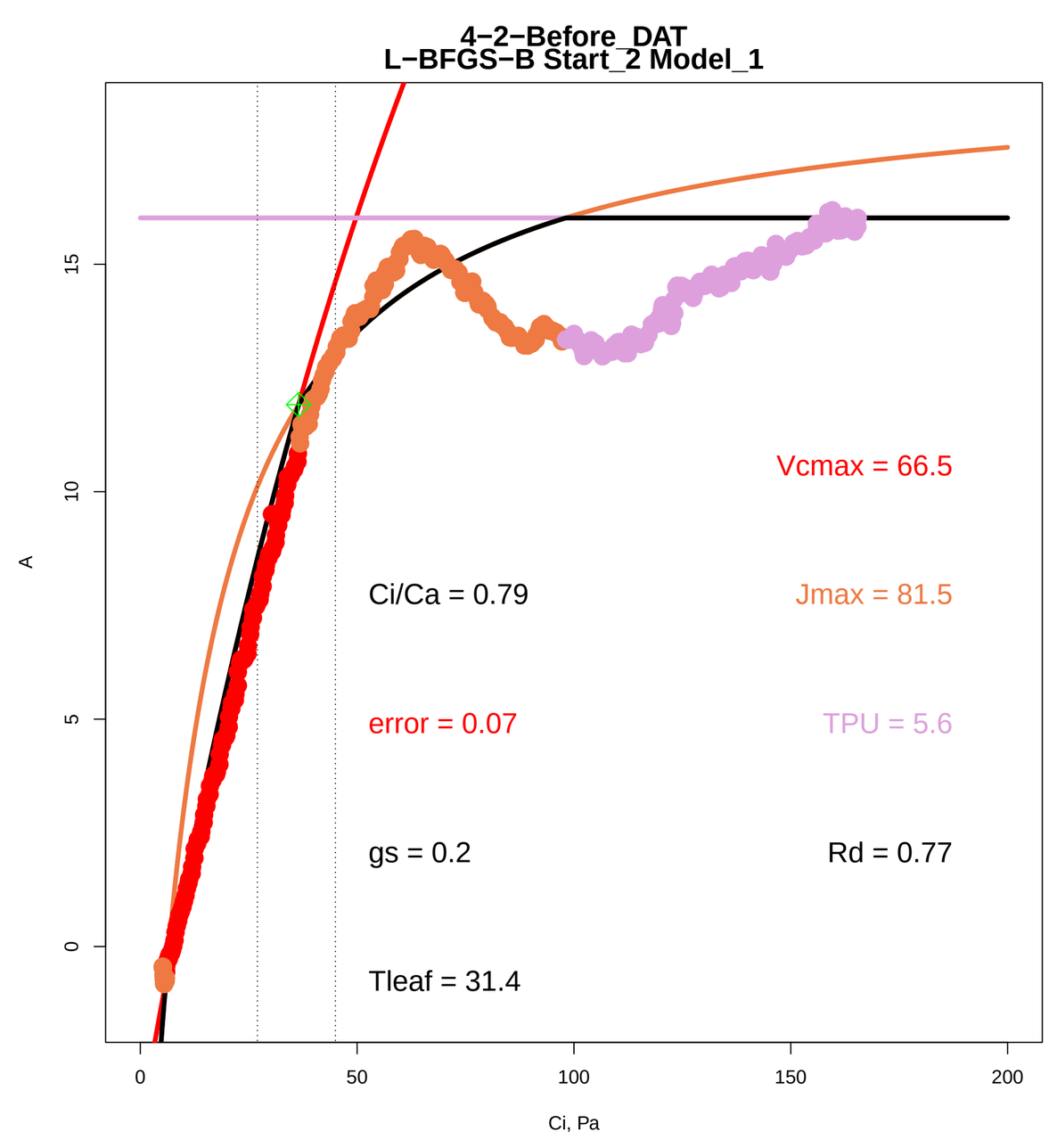

1−2−Before_DAT
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
20
25
30
0
50
100
150
200
Vcmax = 168.9
Jmax = 182.7
TPU = 8.3
Rd = 2.28
Ci/Ca = 0.69
error = 0.15
gs = 0.37
Tleaf = 30.7

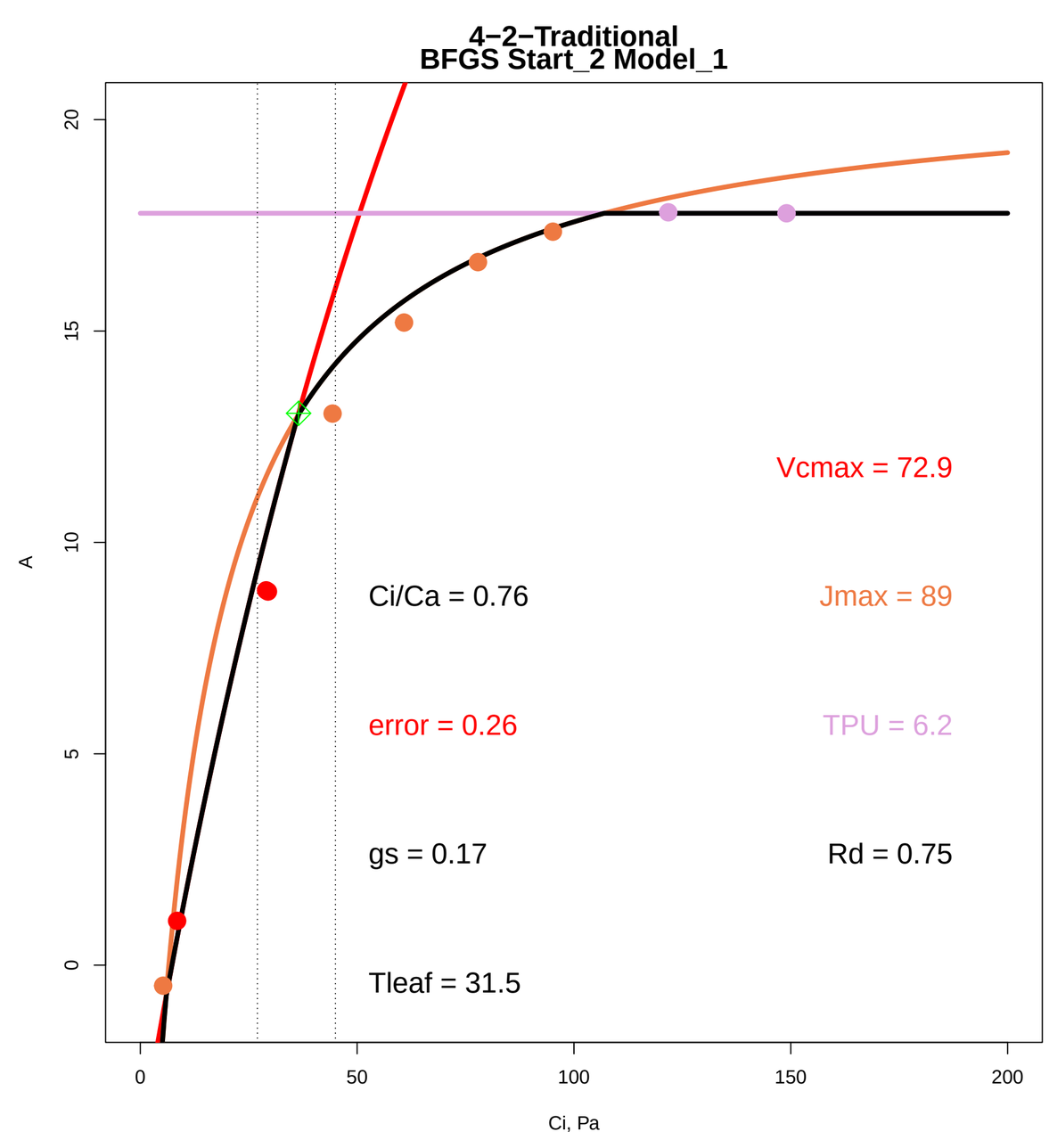

1−2.2−Before_DAT
BFGS Start_1 Model_1
A
Ci, Pa
0
5
10
15
20
25
30
0
50
100
150
200
Vcmax = 165
Jmax = 179.4
TPU = 8.1
Rd = 2.26
Ci/Ca = 0.69
error = 0.13
gs = 0.36
Tleaf = 30.7

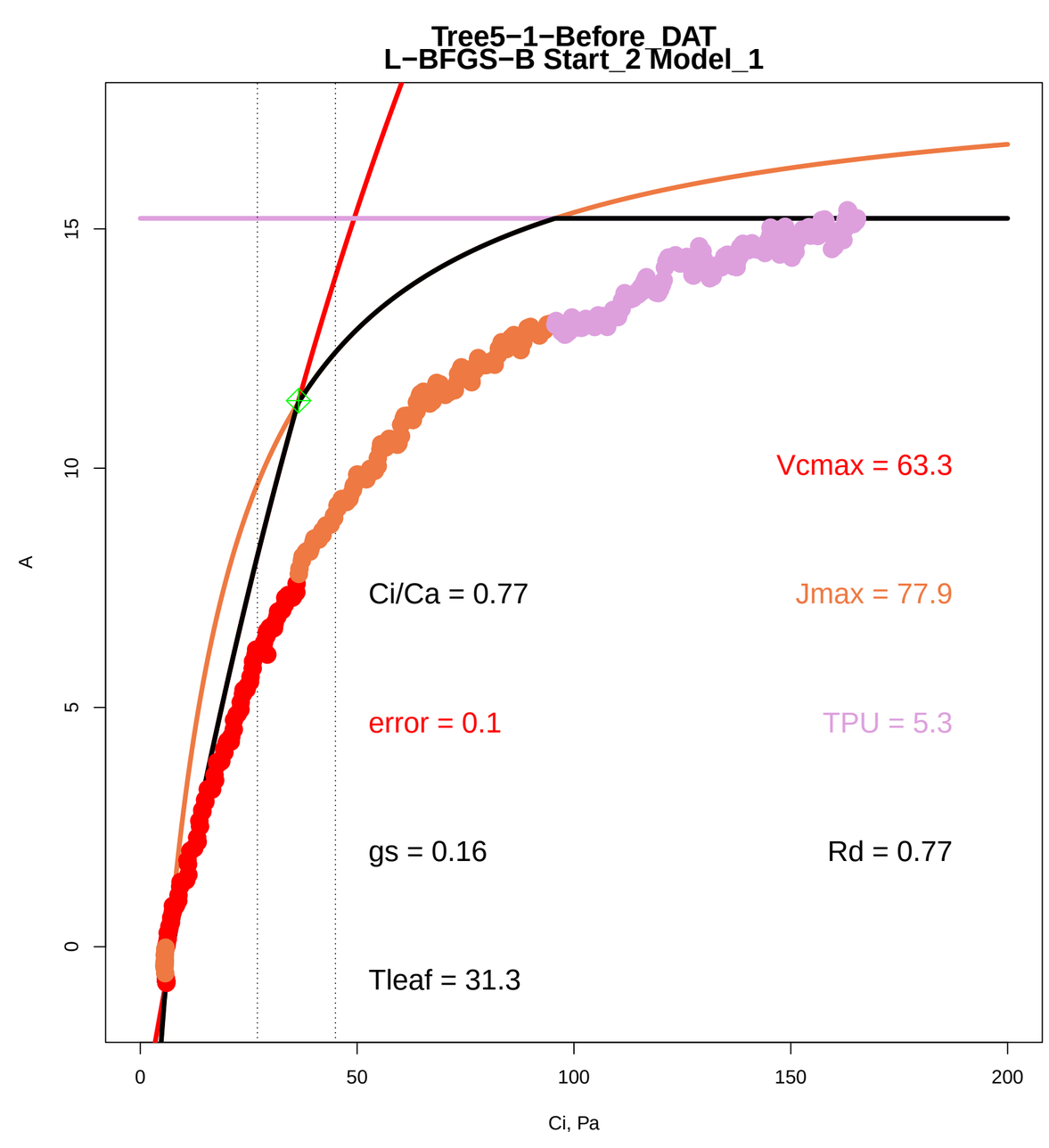

1−2−Traditional
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
20
25
30
0
50
100
150
200
Vcmax = 161.9
Jmax = 176.9
TPU = 9.9
Rd = 1.61
Ci/Ca = 0.71
error = 0.45
gs = 0.28
Tleaf = 30.9

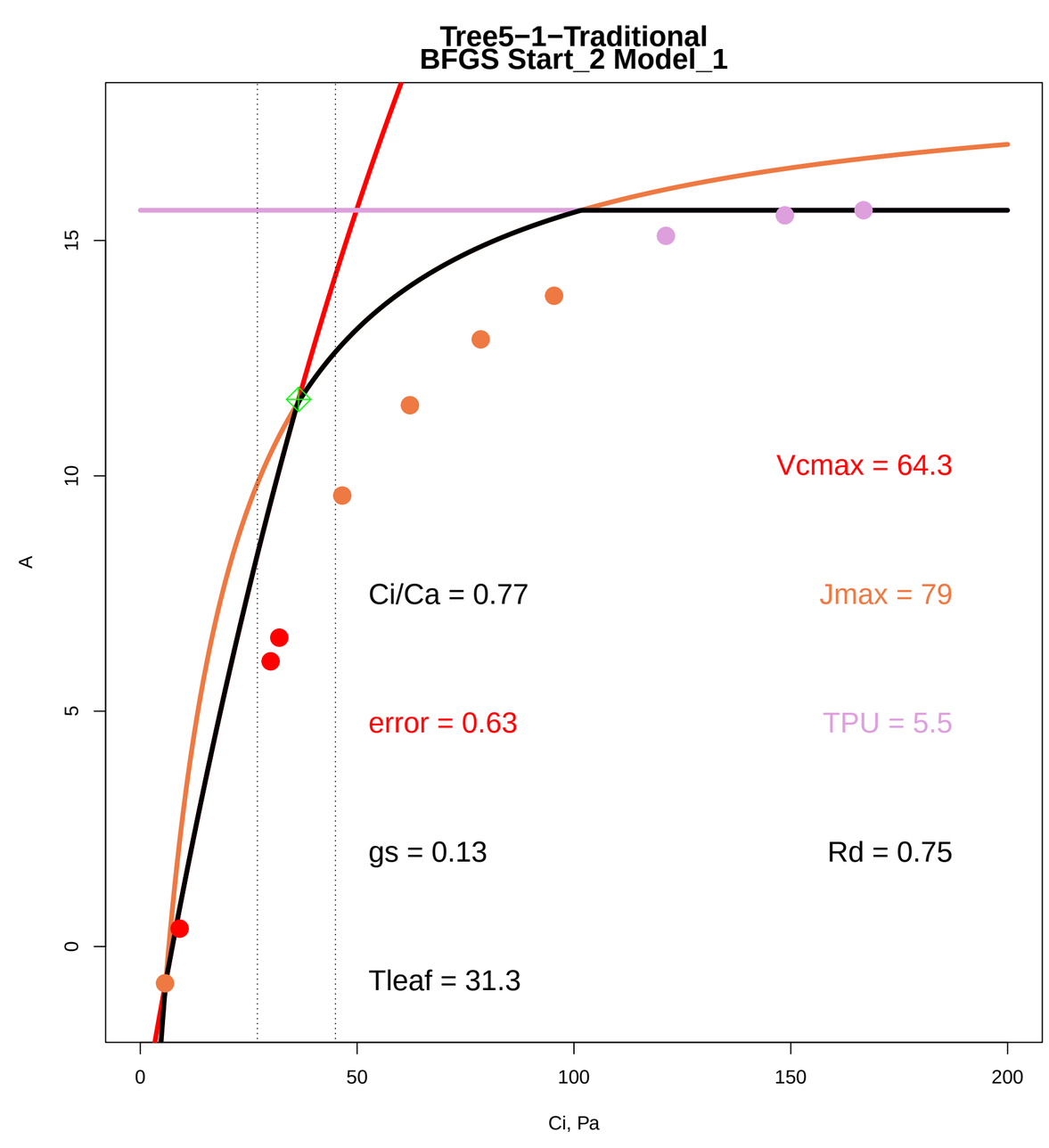

4−1−Before_DAT
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
max = 82.2
Ci/Ca = 0.71
Jmax = 111.7
error = 0.1
TPU = 4.1
gs = 0.14
Rd = 2.05
Tleaf = 31.7

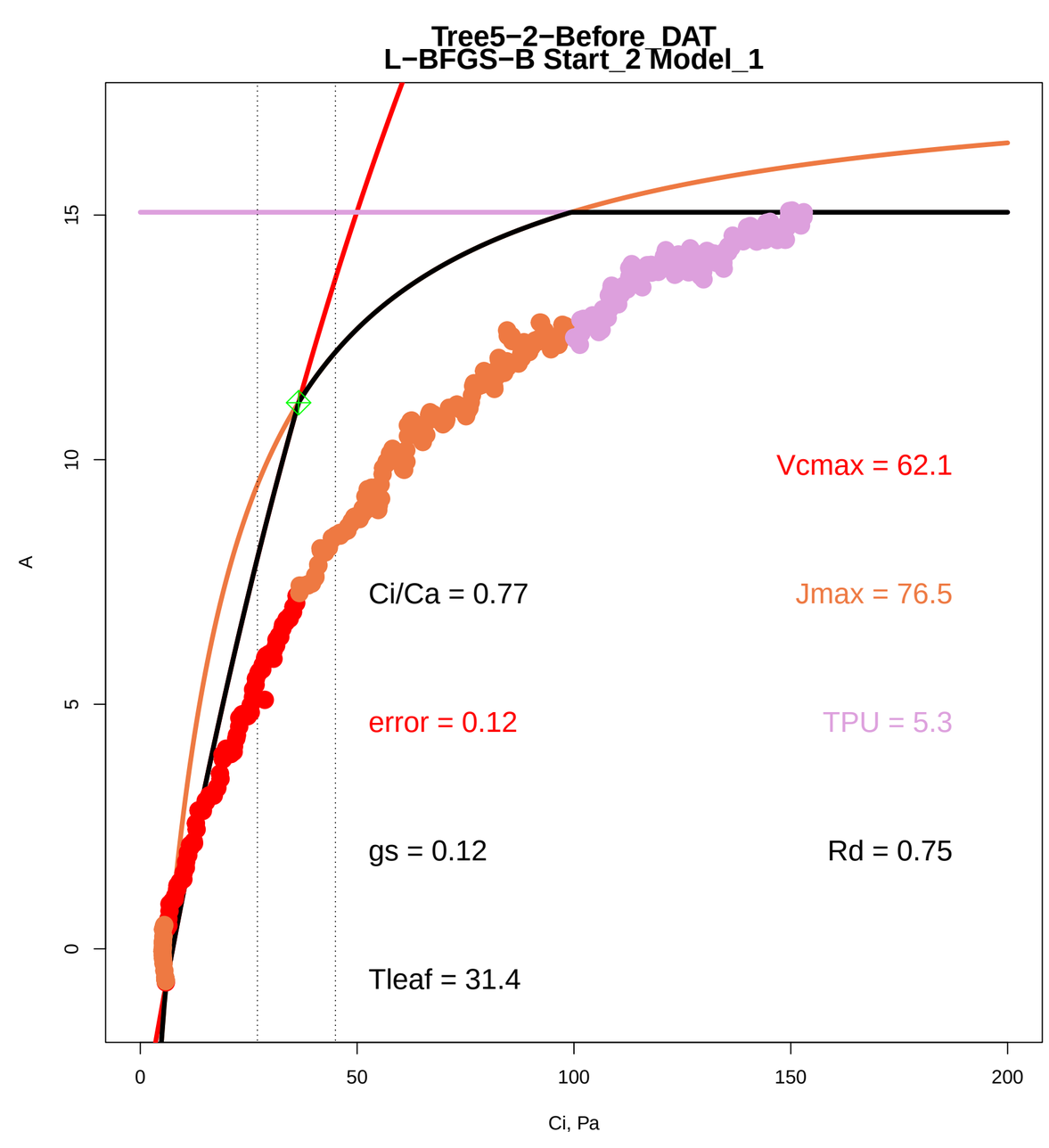

4−1−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 56.3
Jmax = 69.8
TPU = 4.5
Rd = 0.84
Ci/Ca = 0.73
error = 0.2
gs = 0.13
Tleaf = 31.7

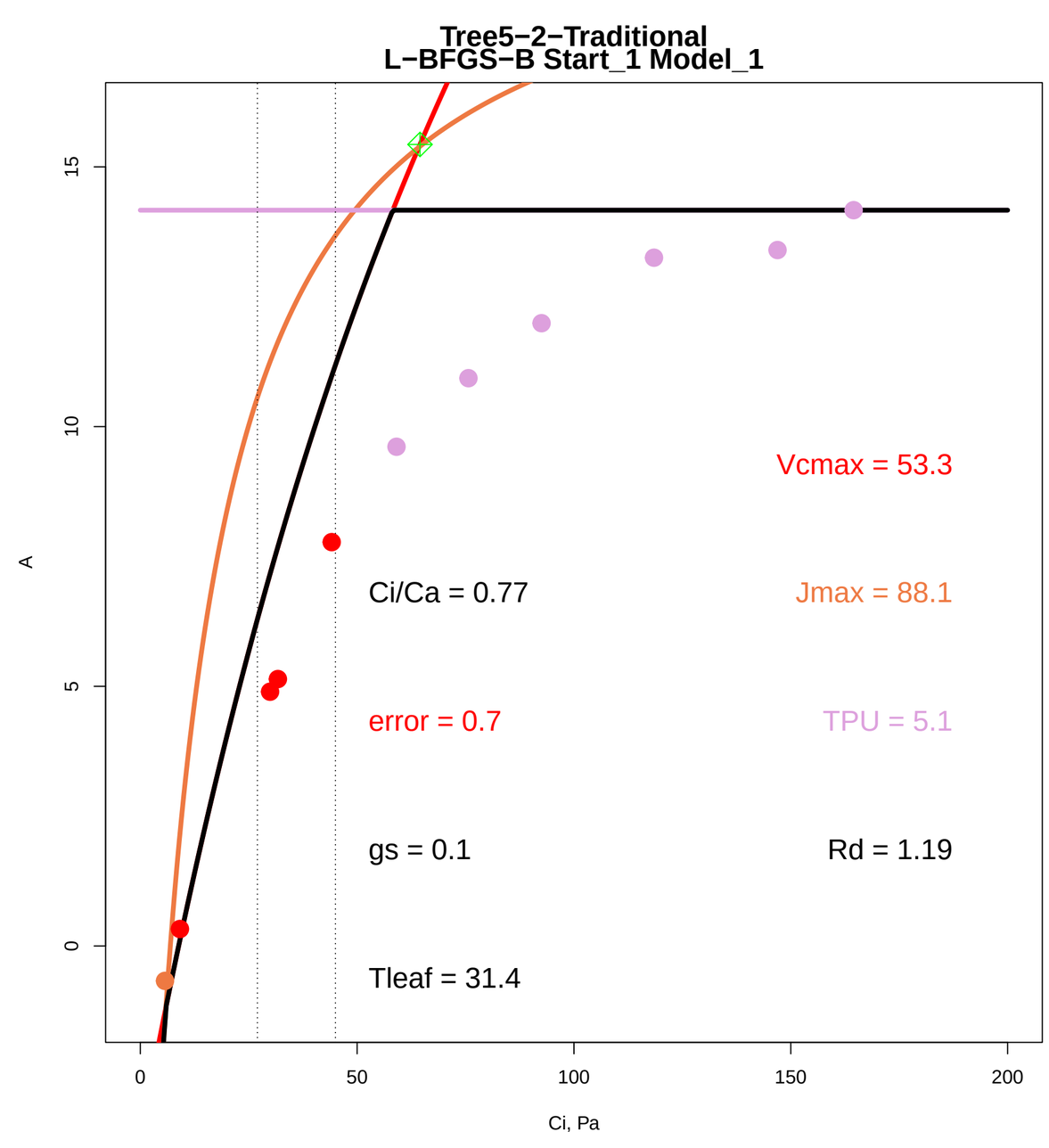

4−2−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 66.5
Jmax = 81.5
TPU = 5.6
Rd = 0.77
Ci/Ca = 0.79
error = 0.07
gs = 0.2
Tleaf = 31.4

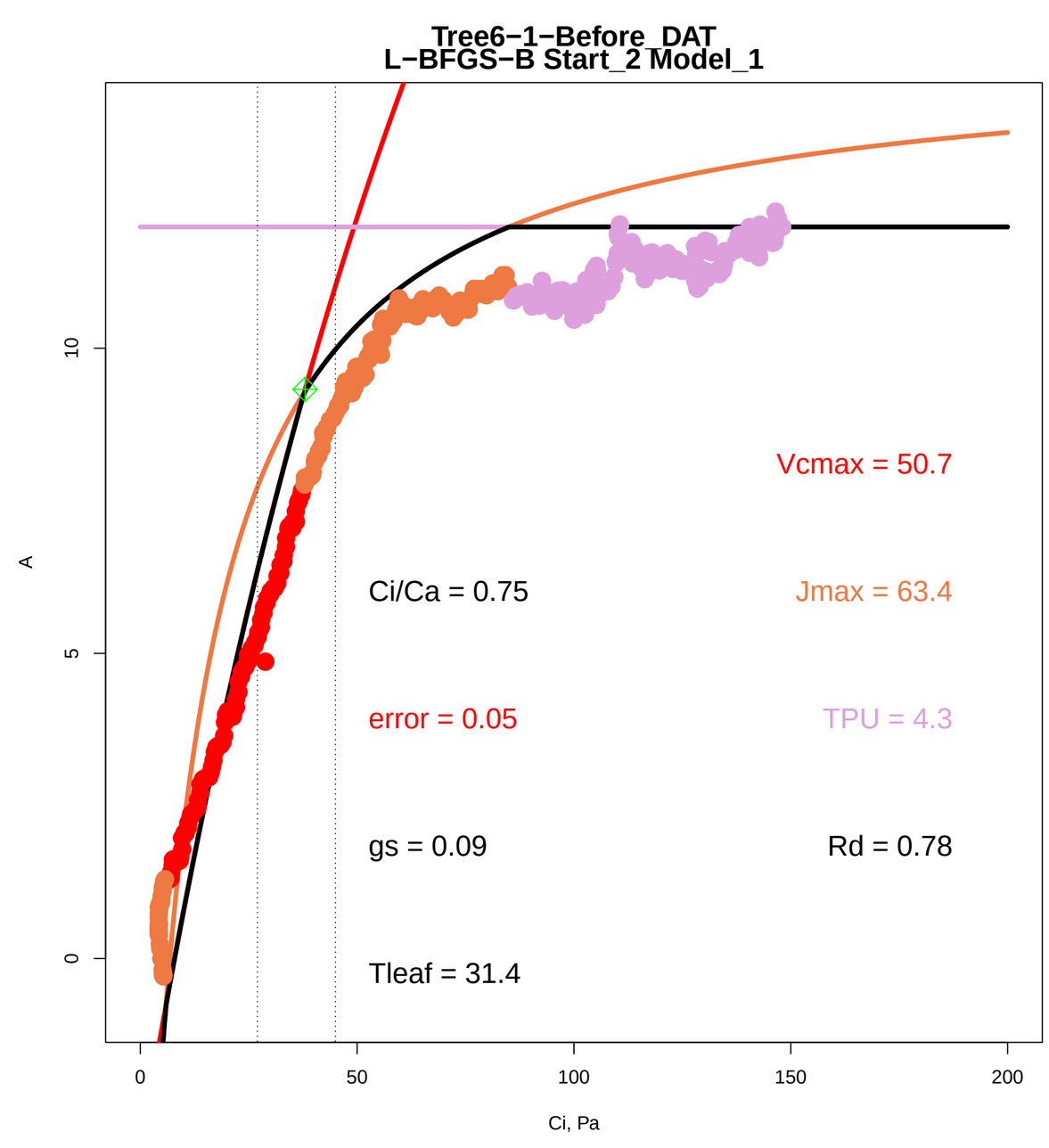

4−2−Traditional
BFGS Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
0
50
100
150
200
Vcmax = 72.9
Jmax = 89
TPU = 6.2
Rd = 0.75
Ci/Ca = 0.76
error = 0.26
gs = 0.17
Tleaf = 31.5

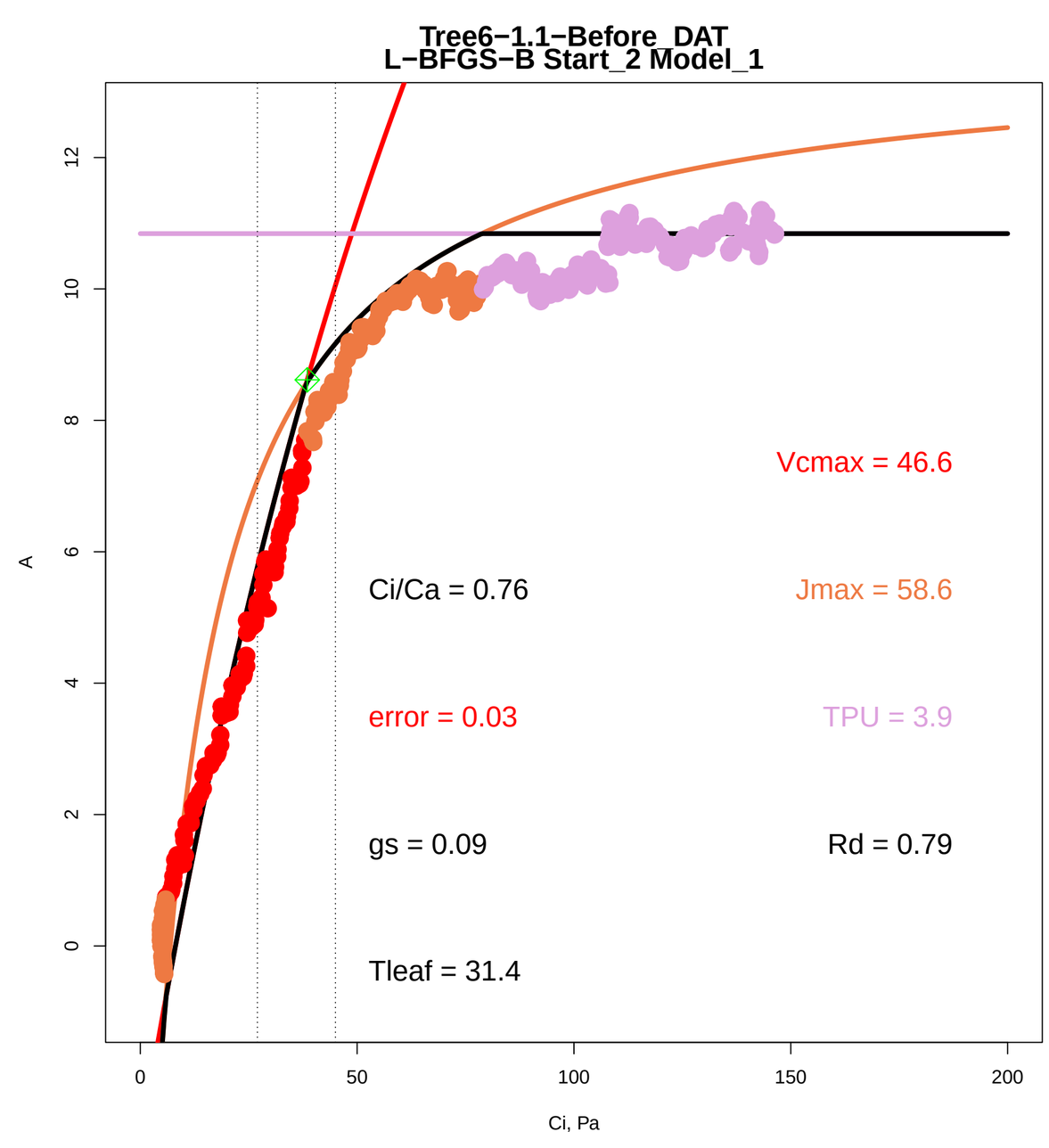

Tree5−1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 63.3
Jmax = 77.9
TPU = 5.3
Rd = 0.77
Ci/Ca = 0.77
error = 0.1
gs = 0.16
Tleaf = 31.3

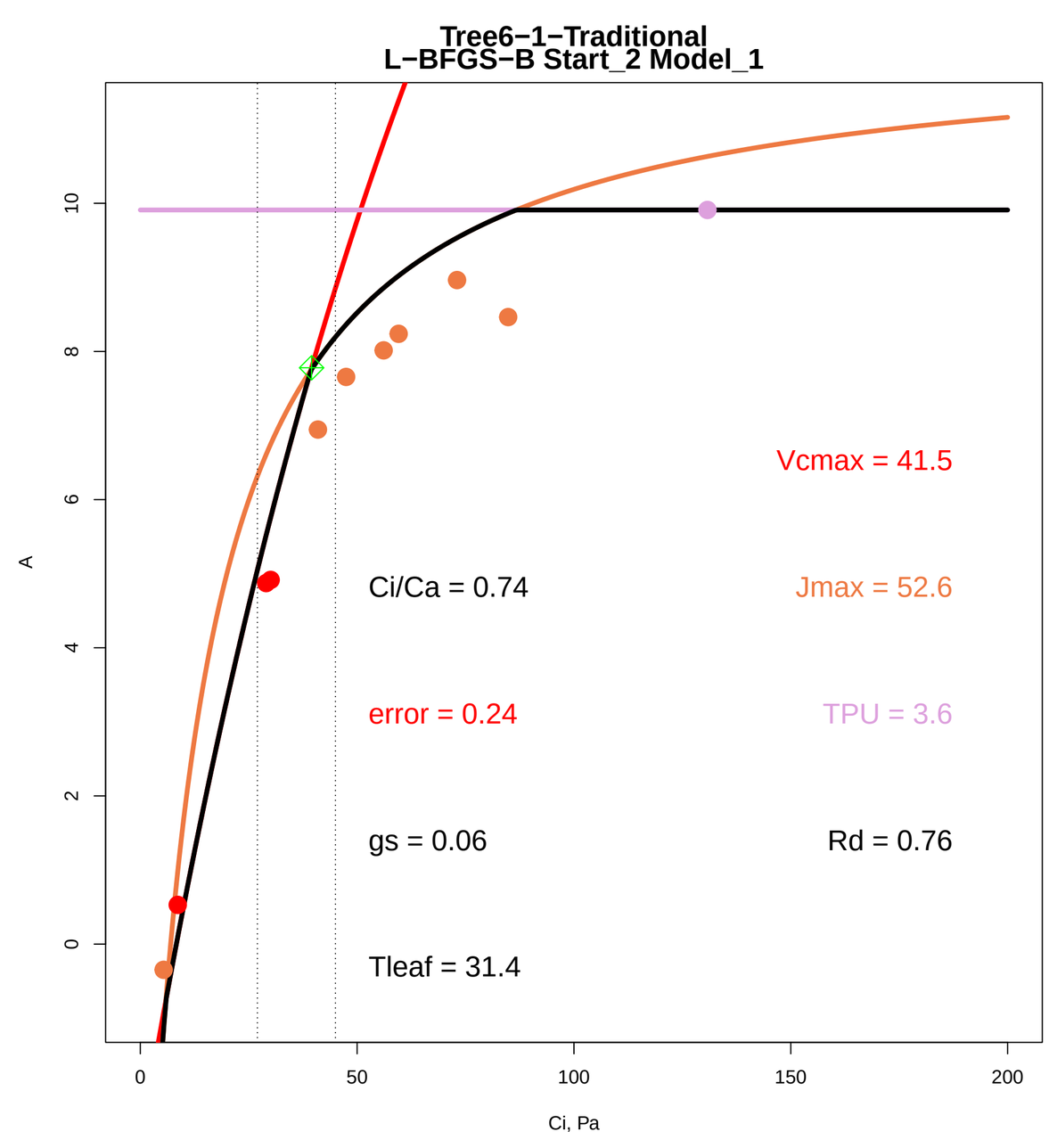

Tree5−1−Traditional
BFGS Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 64.3
Jmax = 79
TPU = 5.5
Rd = 0.75
Ci/Ca = 0.77
error = 0.63
gs = 0.13
Tleaf = 31.3

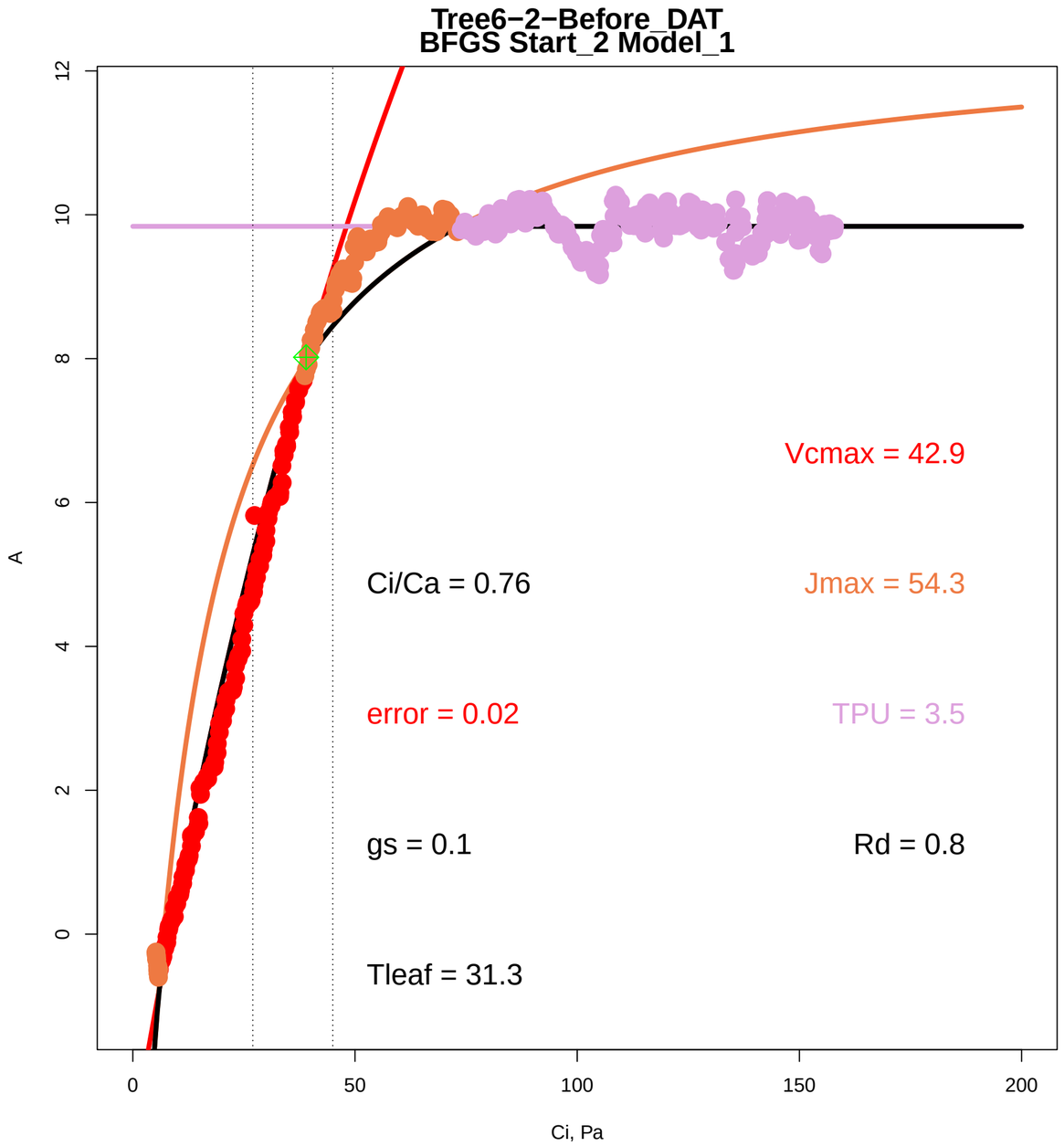

Tree5−2−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 62.1
Jmax = 76.5
TPU = 5.3
Rd = 0.75
Ci/Ca = 0.77
error = 0.12
gs = 0.12
Tleaf = 31.4

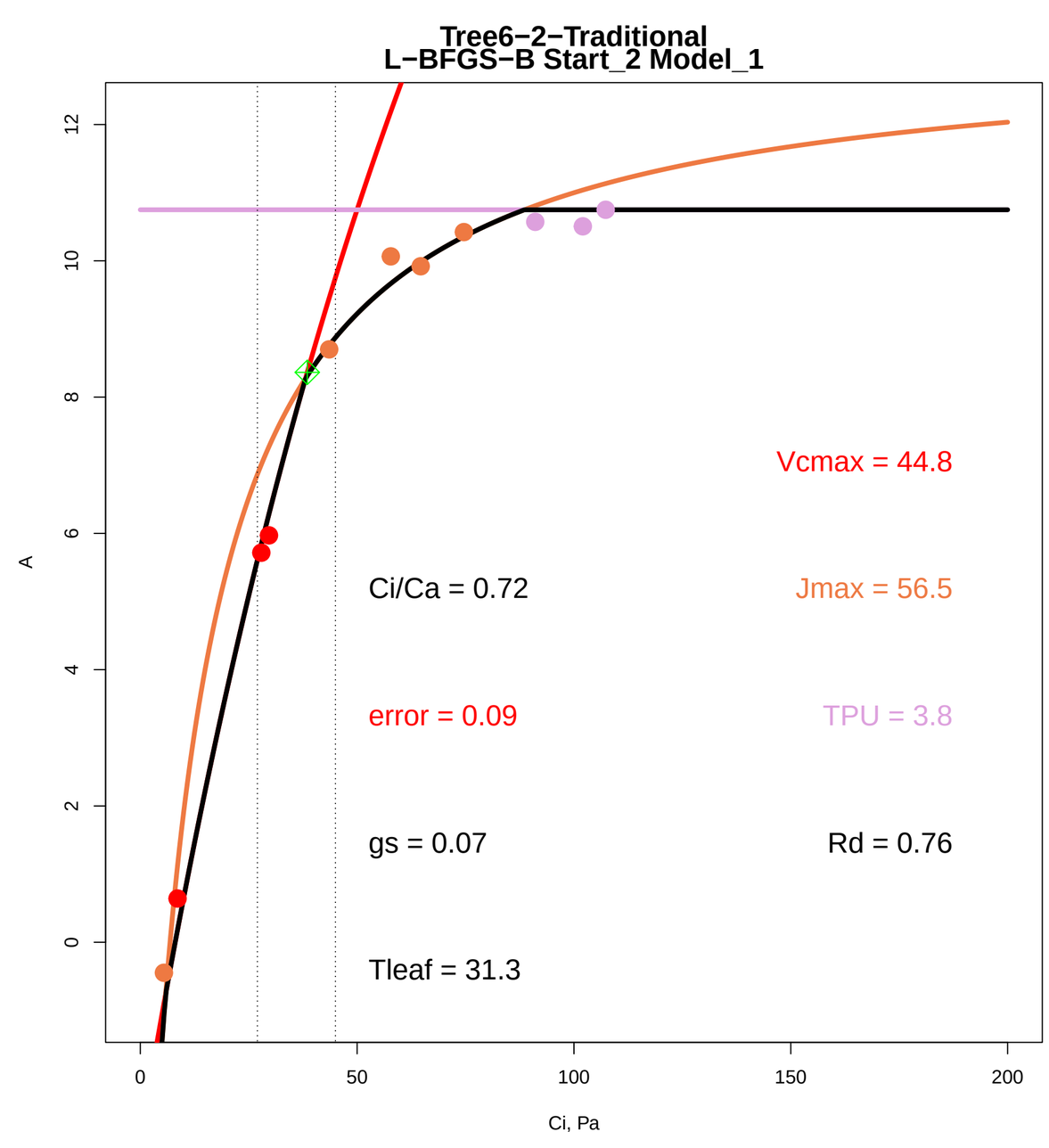

Tree5−2−Traditional
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 53.3
Jmax = 88.1
TPU = 5.1
Rd = 1.19
Ci/Ca = 0.77
error = 0.7
gs = 0.1
Tleaf = 31.4

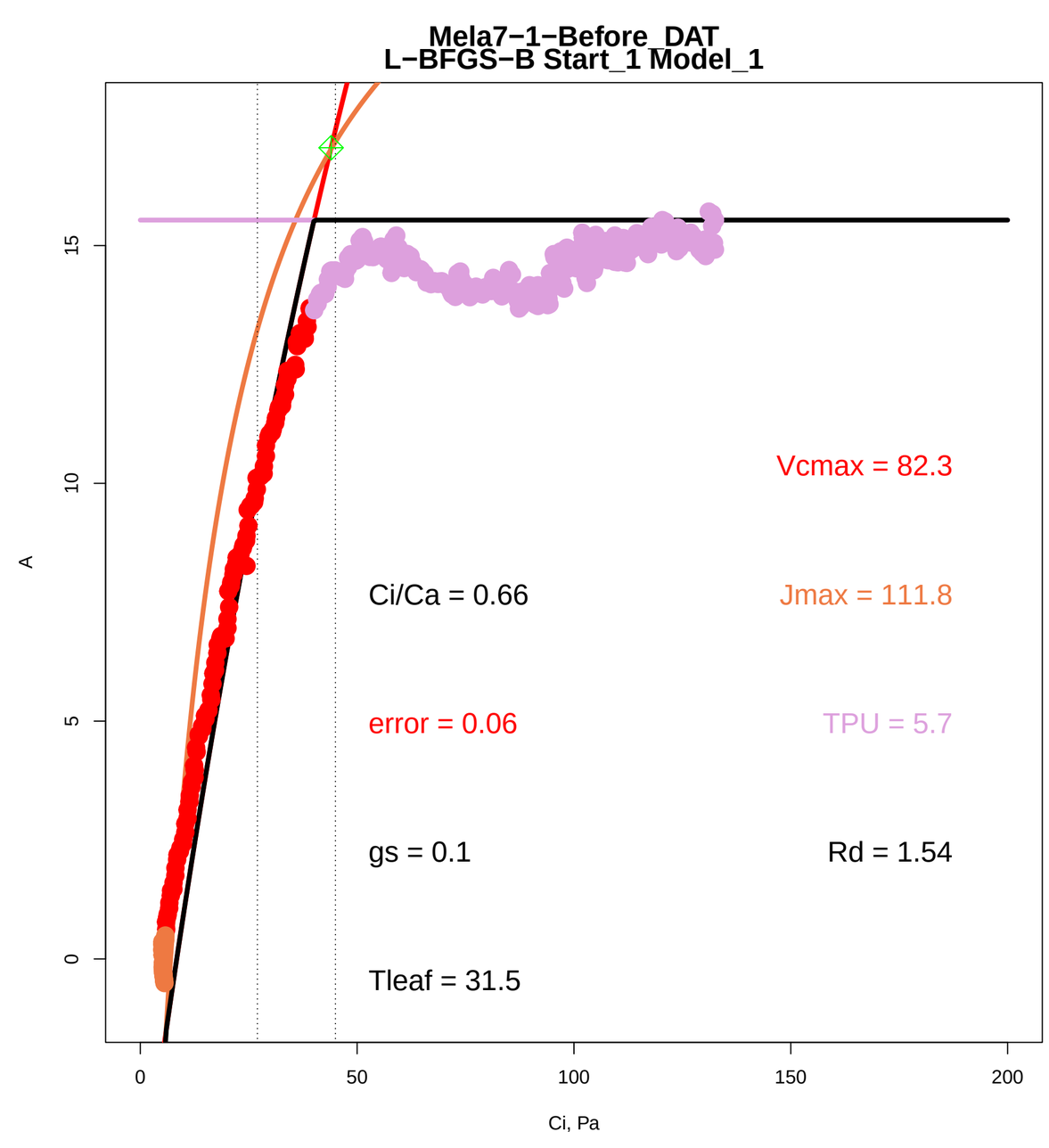

Tree6−1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
0
50
100
150
200
Vcmax = 50.7
Jmax = 63.4
TPU = 4.3
Rd = 0.78
Ci/Ca = 0.75
error = 0.05
gs = 0.09
Tleaf = 31.4

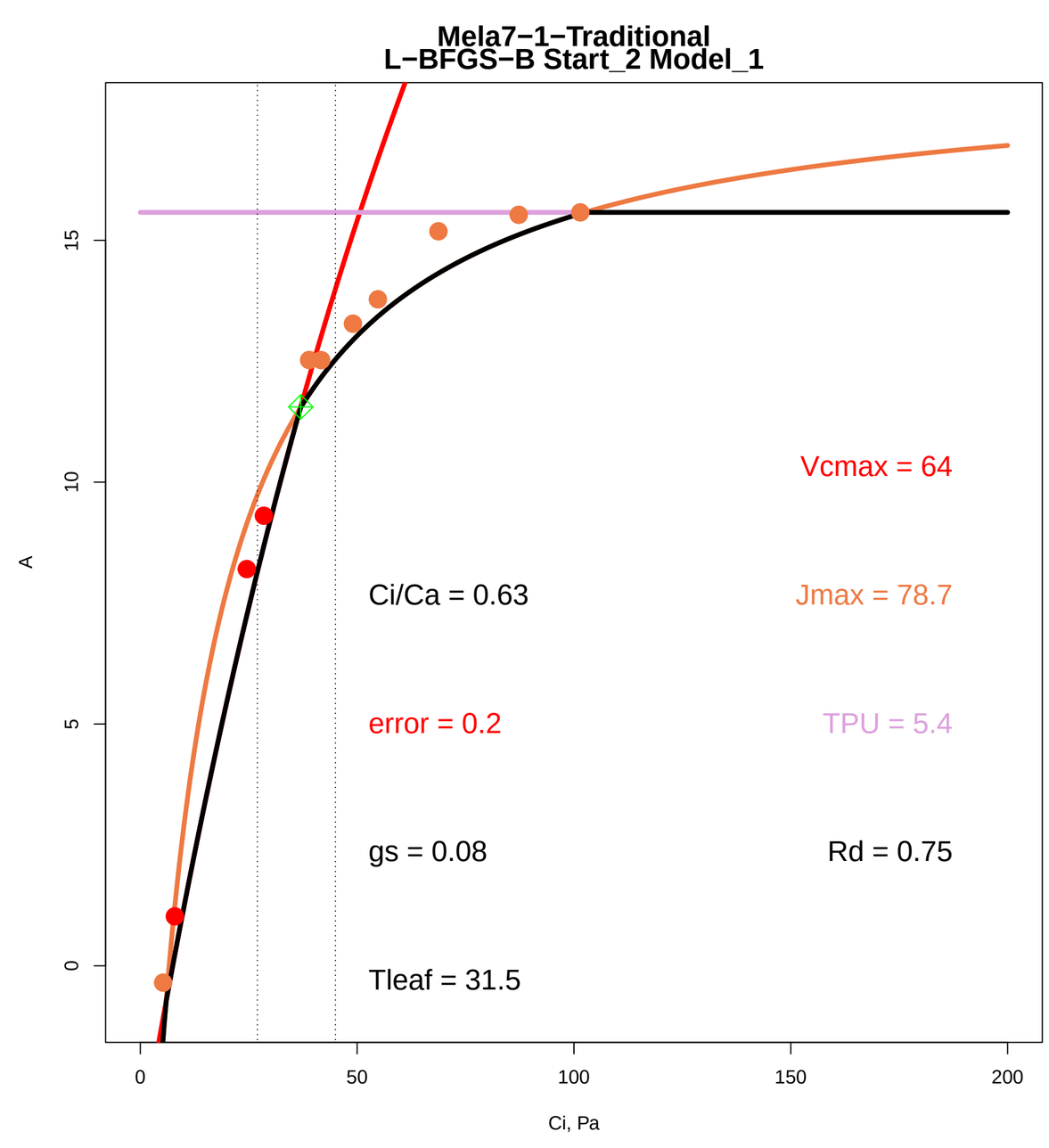

Tree6−1.1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
10
12
0
50
100
150
200
Vcmax = 46.6
Jmax = 58.6
TPU = 3.9
Rd = 0.79
Ci/Ca = 0.76
error = 0.03
gs = 0.09
Tleaf = 31.4

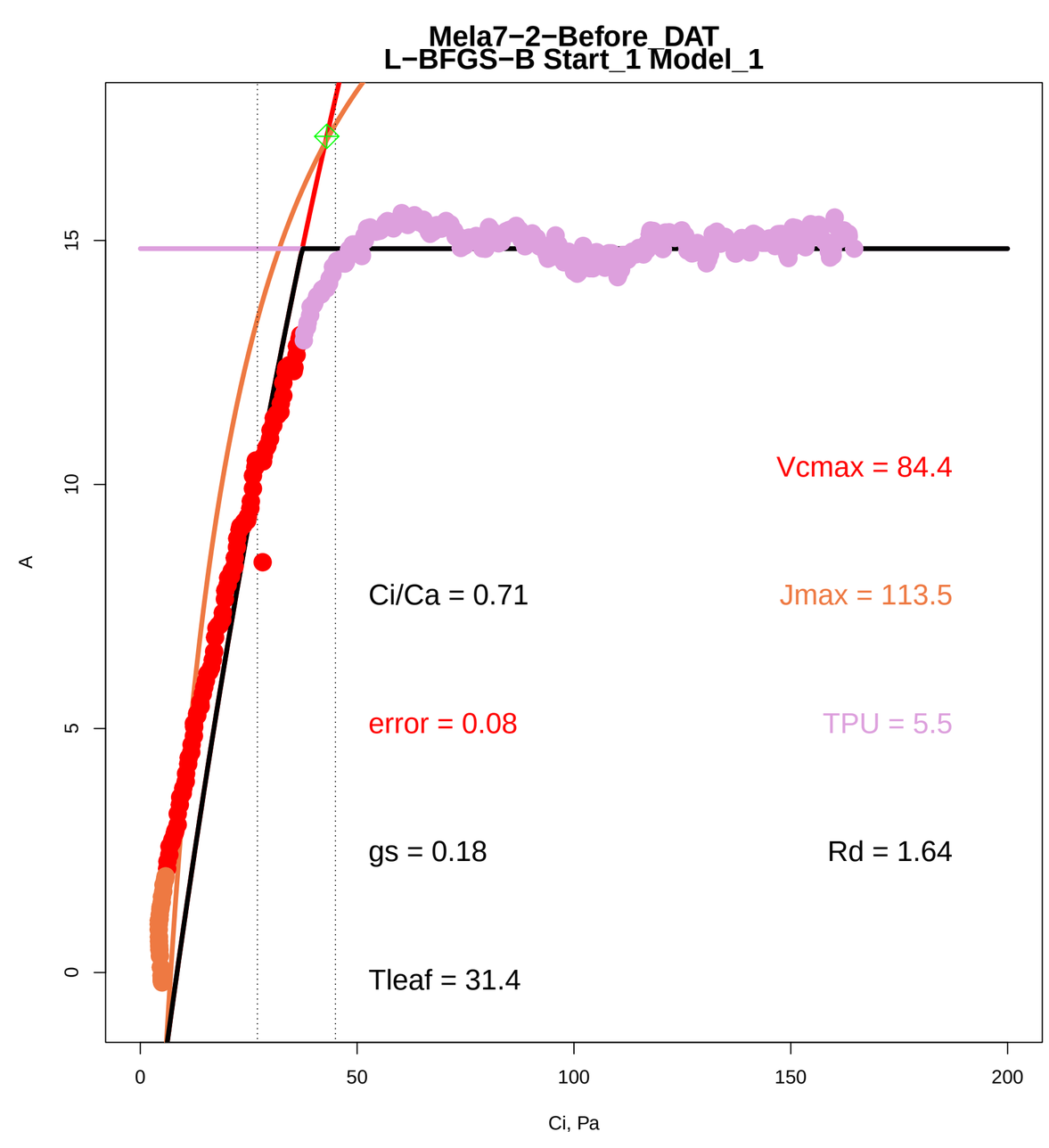

Tree6−1−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
10
0
50
100
150
200
Vcmax = 41.5
Jmax = 52.6
TPU = 3.6
Rd = 0.76
Ci/Ca = 0.74
error = 0.24
gs = 0.06
Tleaf = 31.4

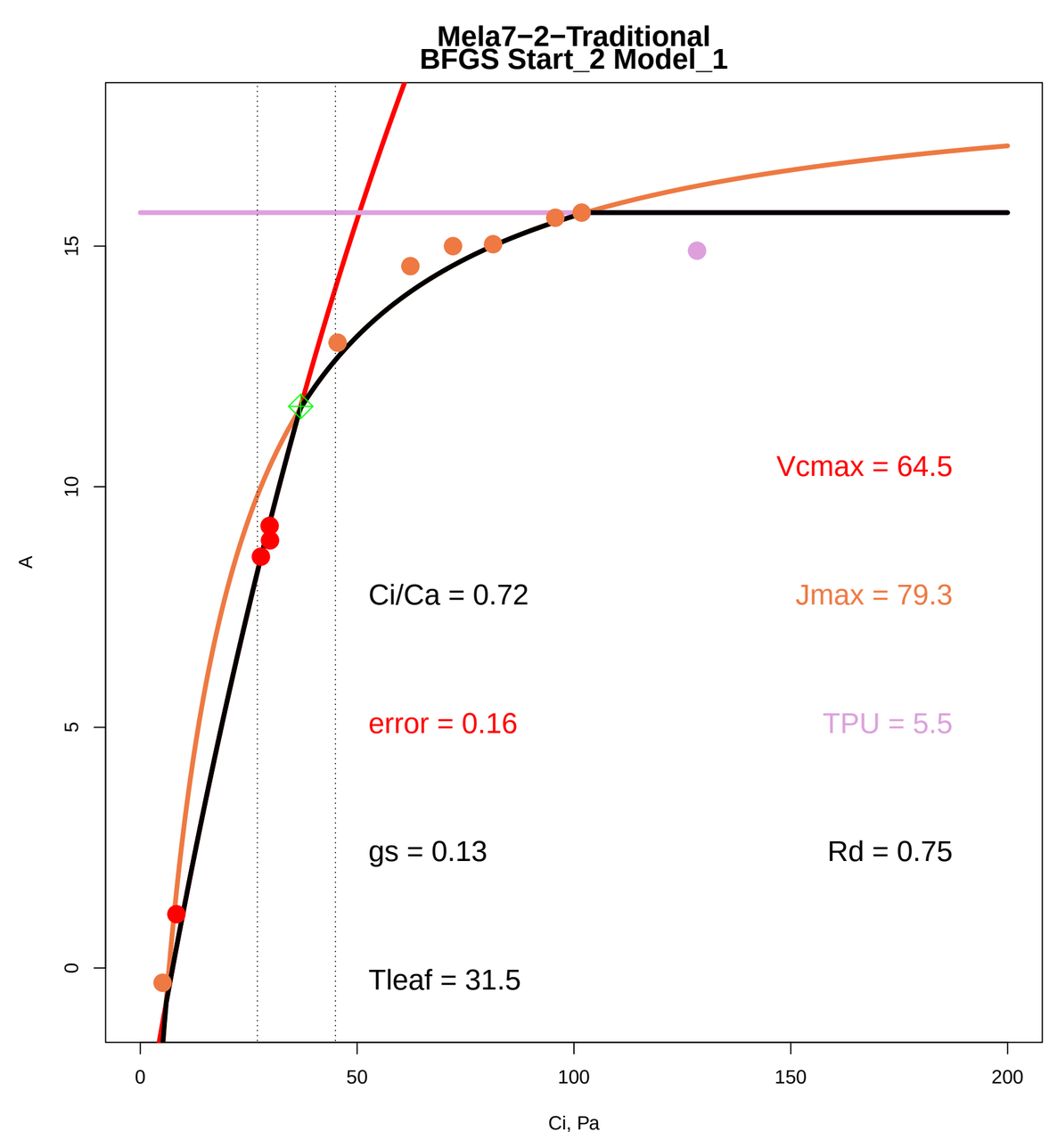

Tree6−2−Before_DAT
BFGS Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
10
12
0
50
100
150
200
Vcmax = 42.9
Jmax = 54.3
TPU = 3.5
Rd = 0.8
Ci/Ca = 0.76
error = 0.02
gs = 0.1
Tleaf = 31.3

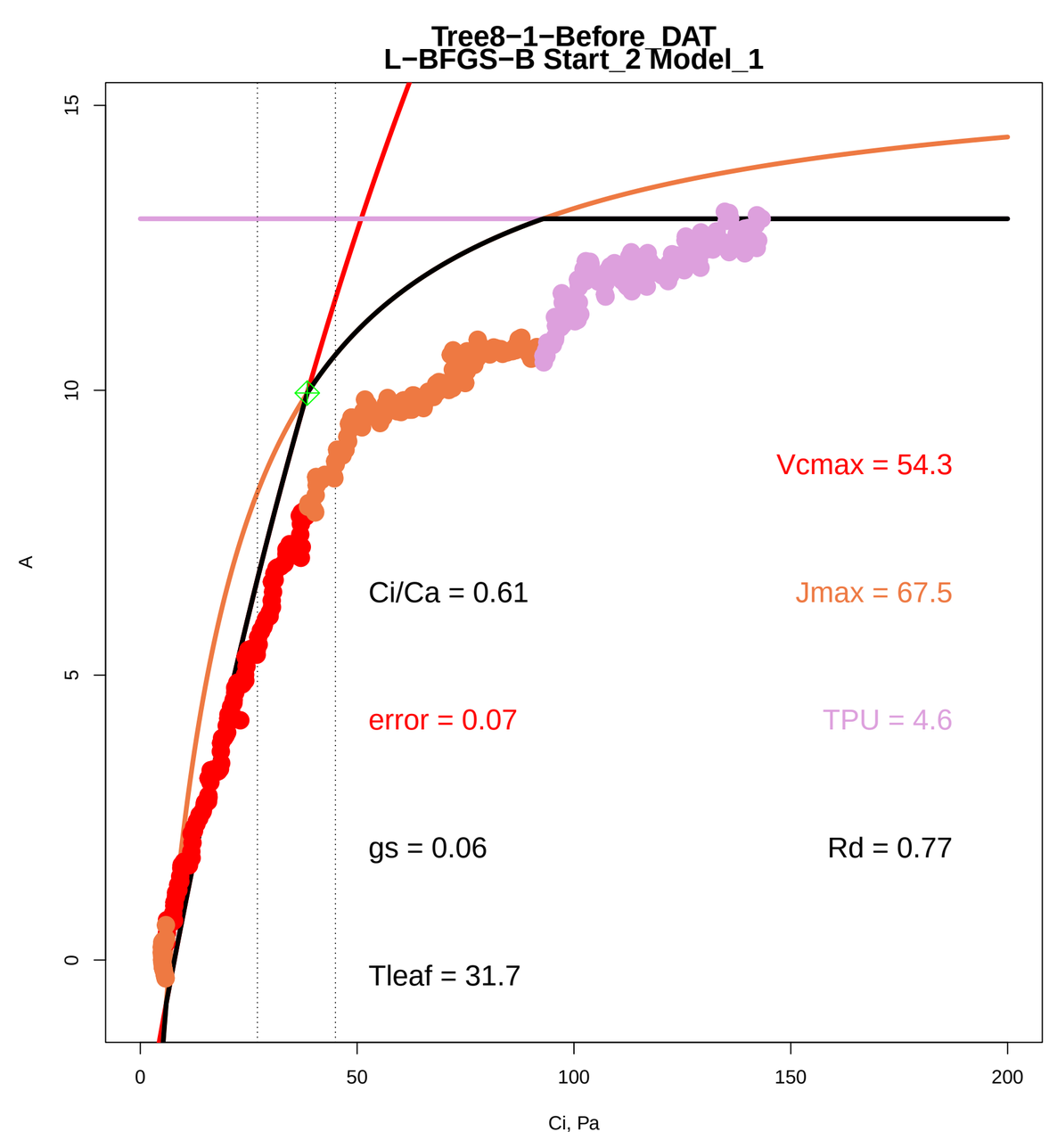

Tree6−2−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
2
4
6
8
10
12
0
50
100
150
200
Vcmax = 44.8
Jmax = 56.5
TPU = 3.8
Rd = 0.76
Ci/Ca = 0.72
error = 0.09
gs = 0.07
Tleaf = 31.3

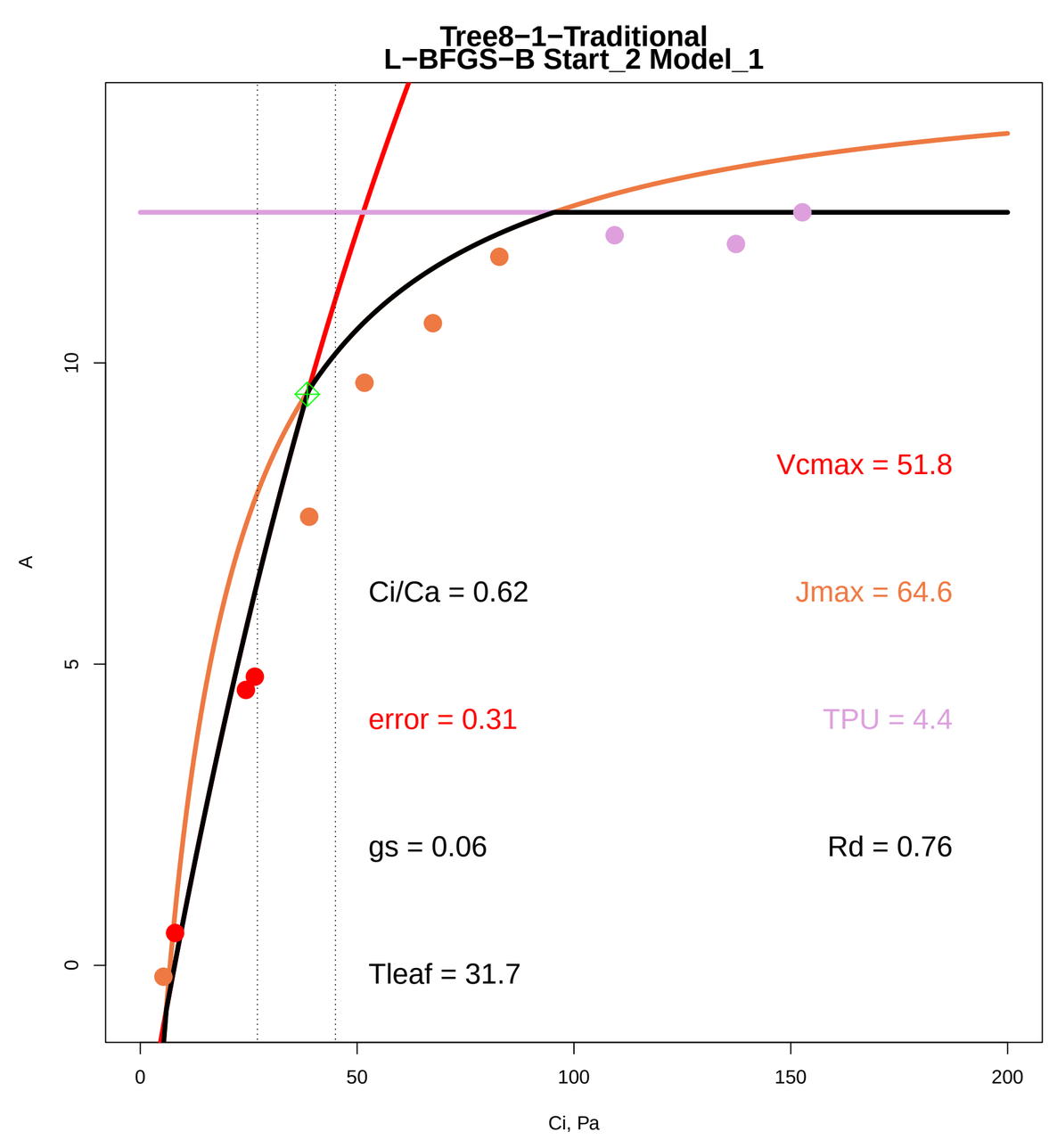

Mela7−1−Before_DAT
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 82.3
Jmax = 111.8
TPU = 5.7
Rd = 1.54
Ci/Ca = 0.66
error = 0.06
gs = 0.1
Tleaf = 31.5

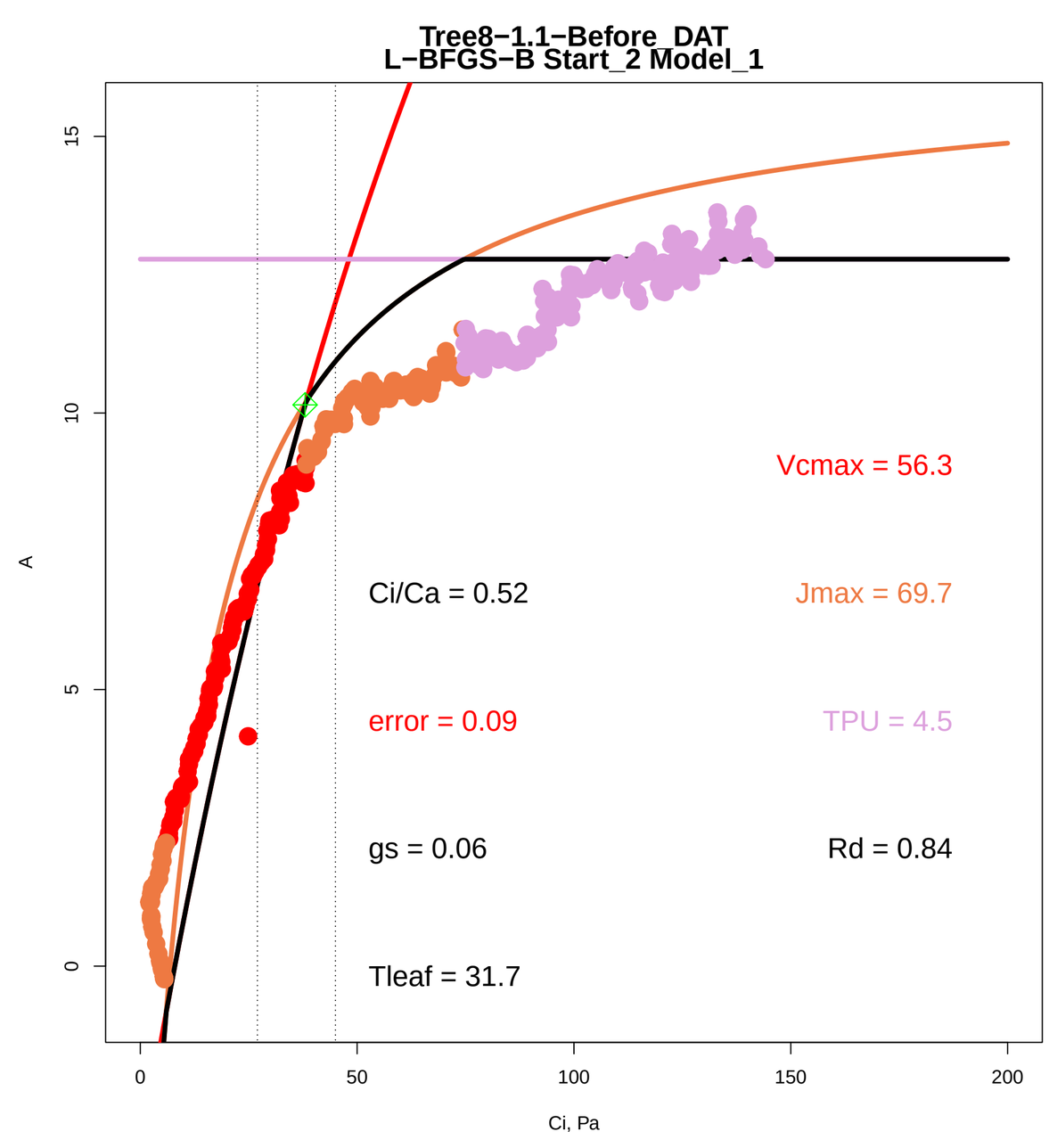

Mela7−1−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 64
Jmax = 78.7
TPU = 5.4
Rd = 0.75
Ci/Ca = 0.63
error = 0.2
gs = 0.08
Tleaf = 31.5

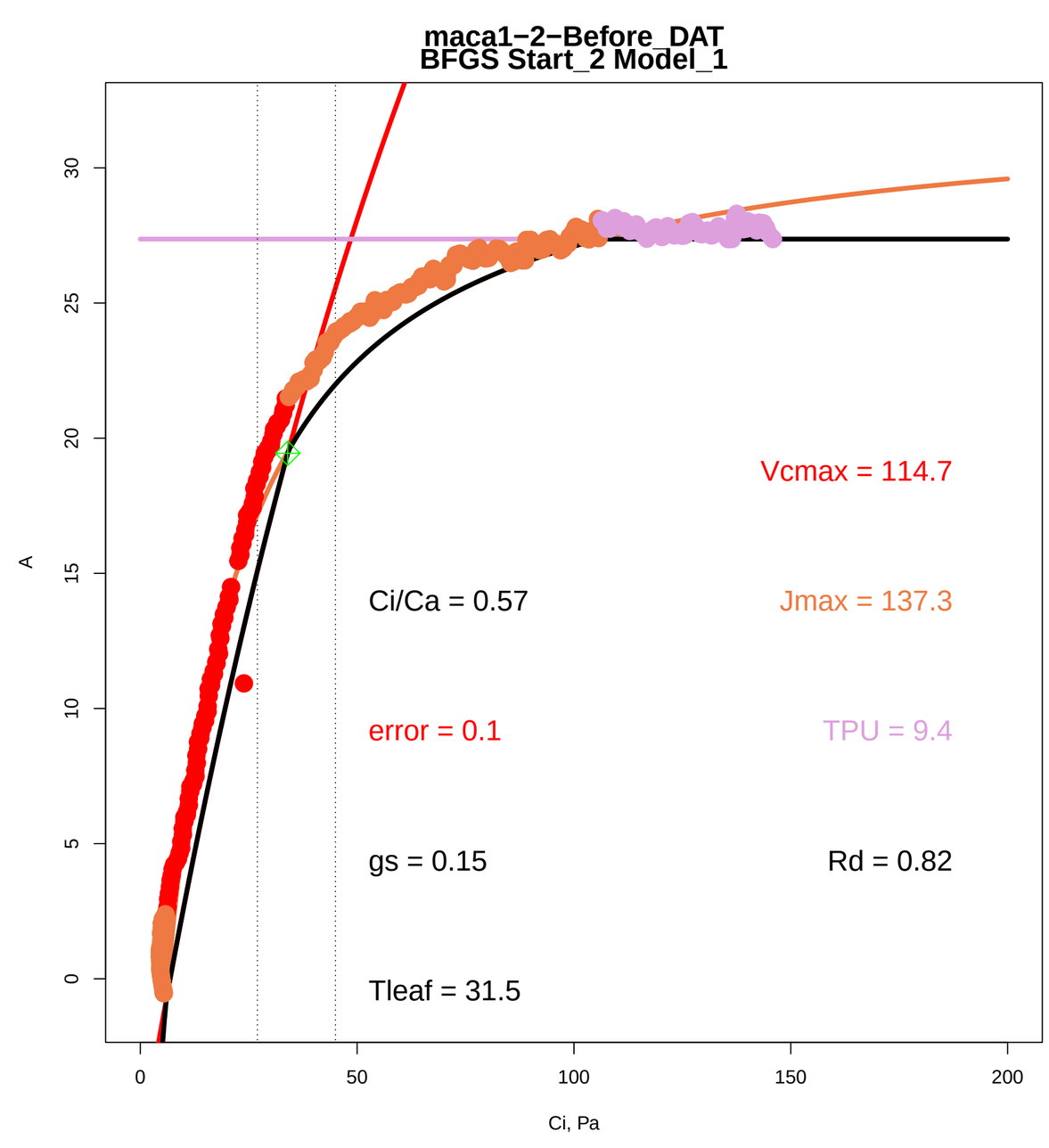

Mela7−2−Before_DAT
L−BFGS−B Start_1 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 84.4
Jmax = 113.5
TPU = 5.5
Rd = 1.64
Ci/Ca = 0.71
error = 0.08
gs = 0.18
Tleaf = 31.4

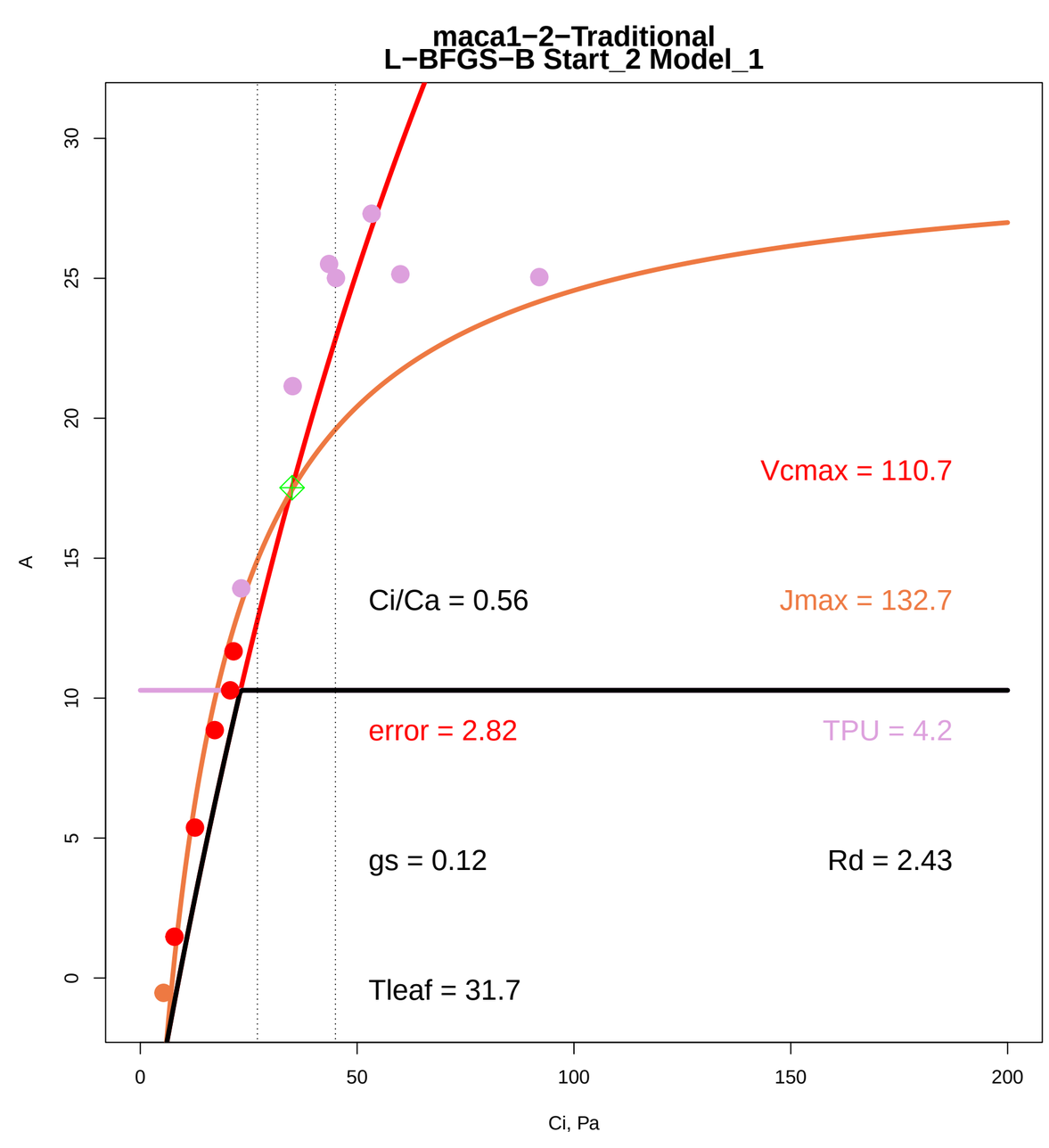

Mela7−2−Traditional
BFGS Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 64.5
Jmax = 79.3
TPU = 5.5
Rd = 0.75
Ci/Ca = 0.72
error = 0.16
gs = 0.13
Tleaf = 31.5

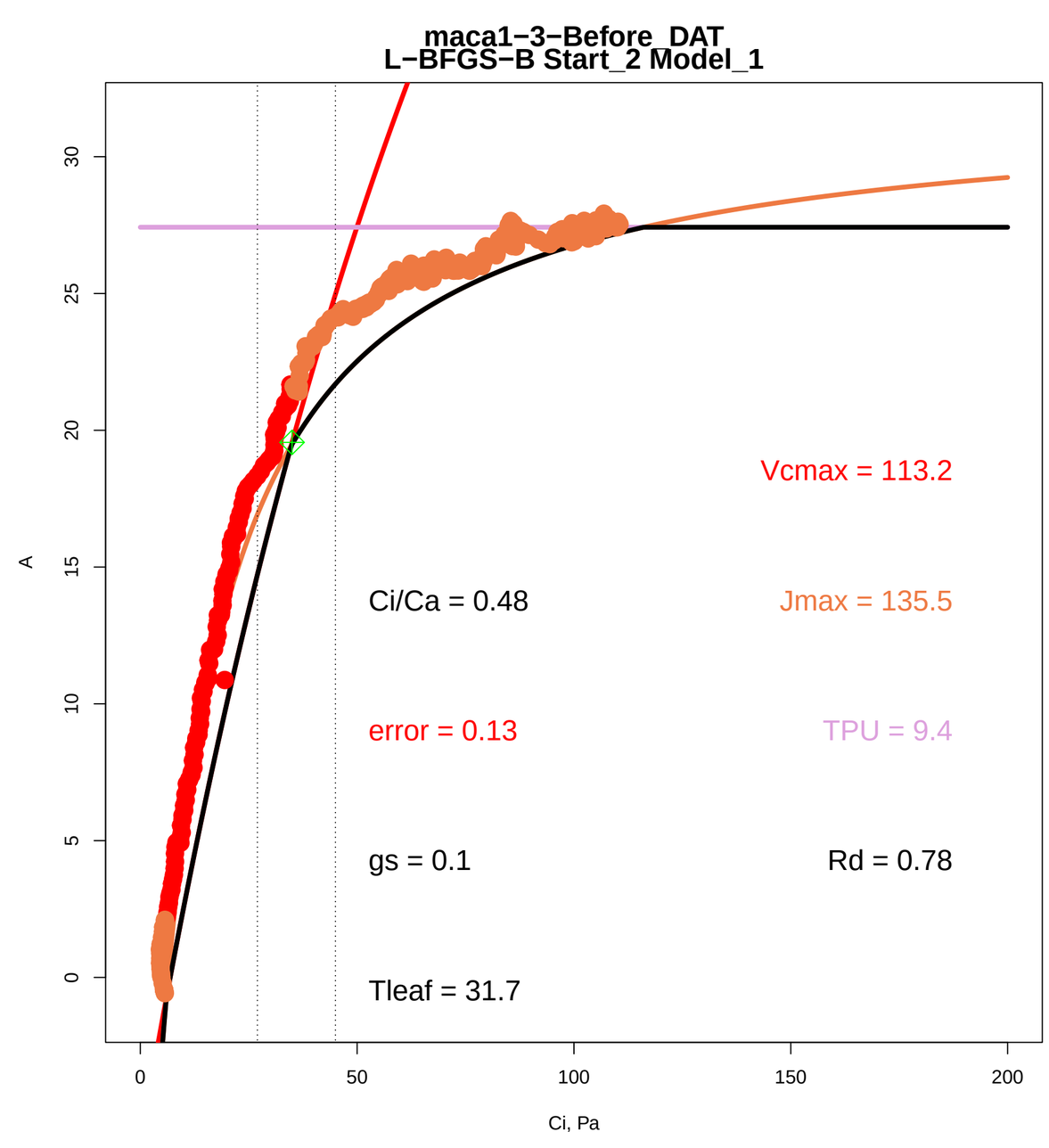

Tree8−1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 54.3
Jmax = 67.5
TPU = 4.6
Rd = 0.77
Ci/Ca = 0.61
error = 0.07
gs = 0.06
Tleaf = 31.7

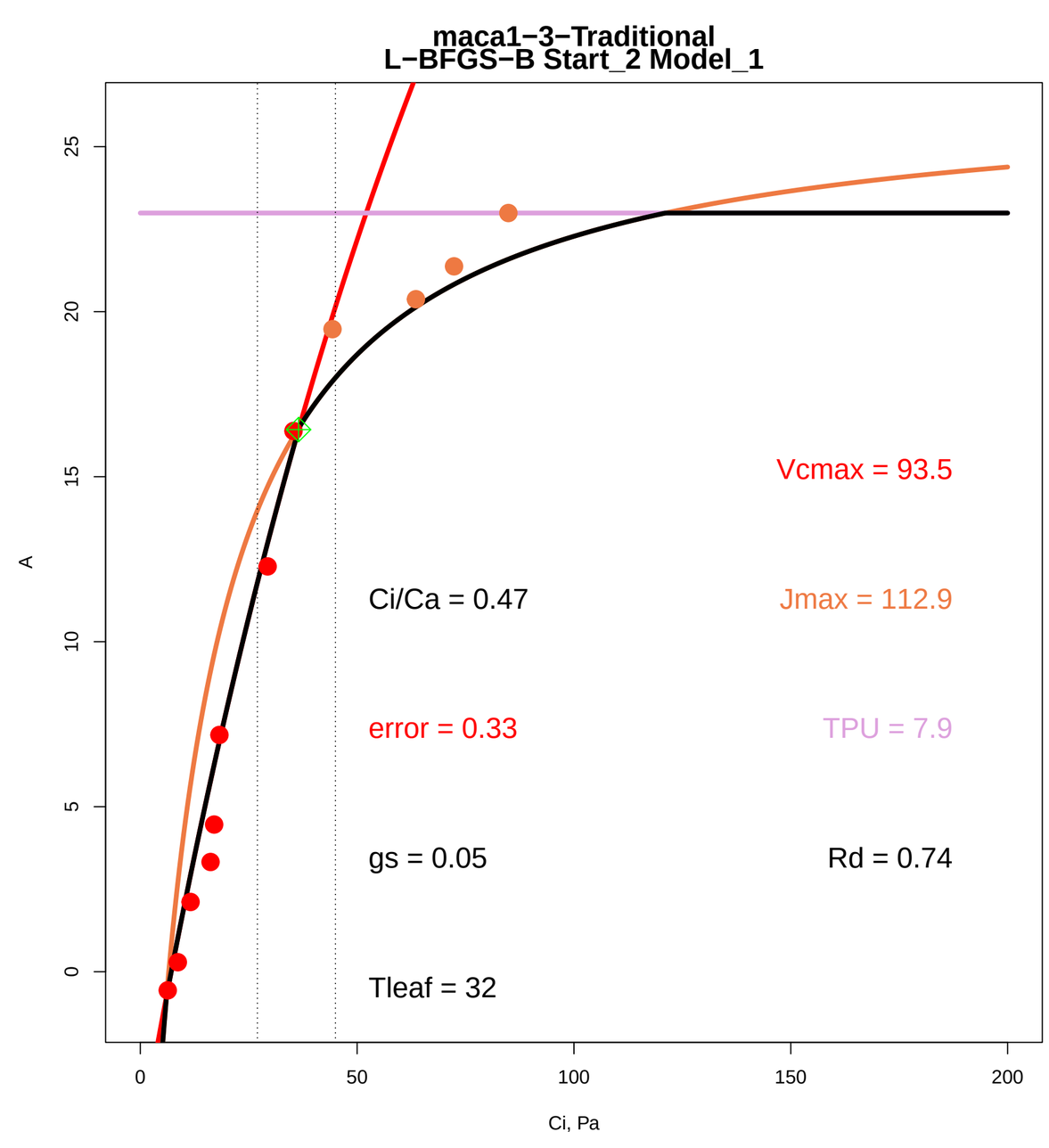

Tree8−1−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
0
50
100
150
200
Vcmax = 51.8
Jmax = 64.6
TPU = 4.4
Rd = 0.76
Ci/Ca = 0.62
error = 0.31
gs = 0.06
Tleaf = 31.7


Tree8−1.1−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
0
50
100
150
200
Vcmax = 56.3
Jmax = 69.7
TPU = 4.5
Rd = 0.84
Ci/Ca = 0.52
error = 0.09
gs = 0.06
Tleaf = 31.7


maca1−2−Before_DAT
BFGS Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
25
30
0
50
100
150
200
Vcmax = 114.7
Jmax = 137.3
TPU = 9.4
Rd = 0.82
Ci/Ca = 0.57
error = 0.1
gs = 0.15
Tleaf = 31.5


maca1−2−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
25
30
0
50
100
150
200
Vcmax = 110.7
Jmax = 132.7
Ci/Ca = 0.56
TPU = 4.2
error = 2.82
gs = 0.12
Rd = 2.43
Tleaf = 31.7


maca1−3−Before_DAT
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
25
30
0
50
100
150
200
Vcmax = 113.2
Jmax = 135.5
TPU = 9.4
Rd = 0.78
Ci/Ca = 0.48
error = 0.13
gs = 0.1
Tleaf = 31.7


maca1−3−Traditional
L−BFGS−B Start_2 Model_1
A
Ci, Pa
0
5
10
15
20
25
0
50
100
150
200
Vcmax = 93.5
Jmax = 112.9
TPU = 7.9
Rd = 0.74
Ci/Ca = 0.47
error = 0.33
gs = 0.05
Tleaf = 32