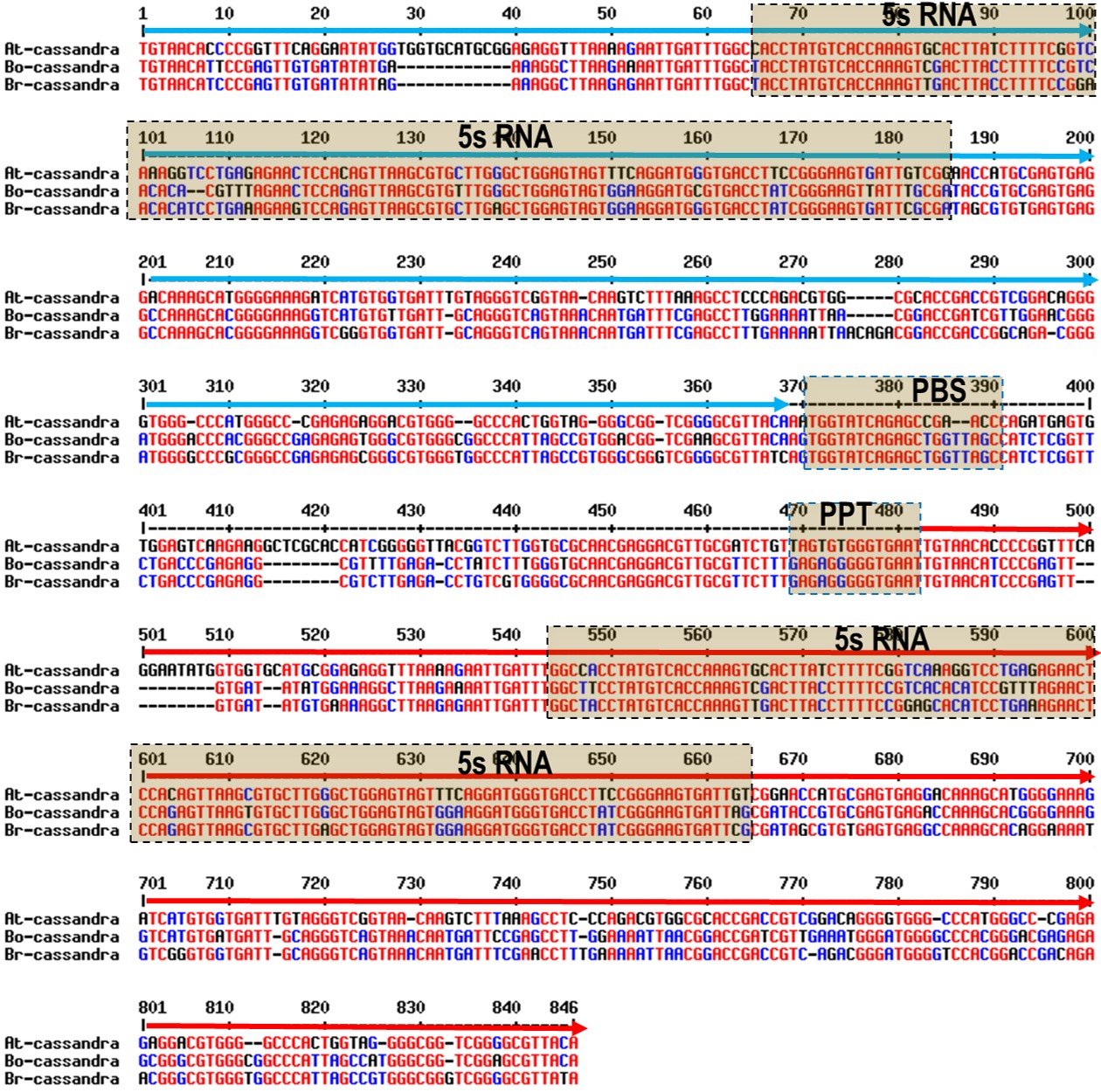
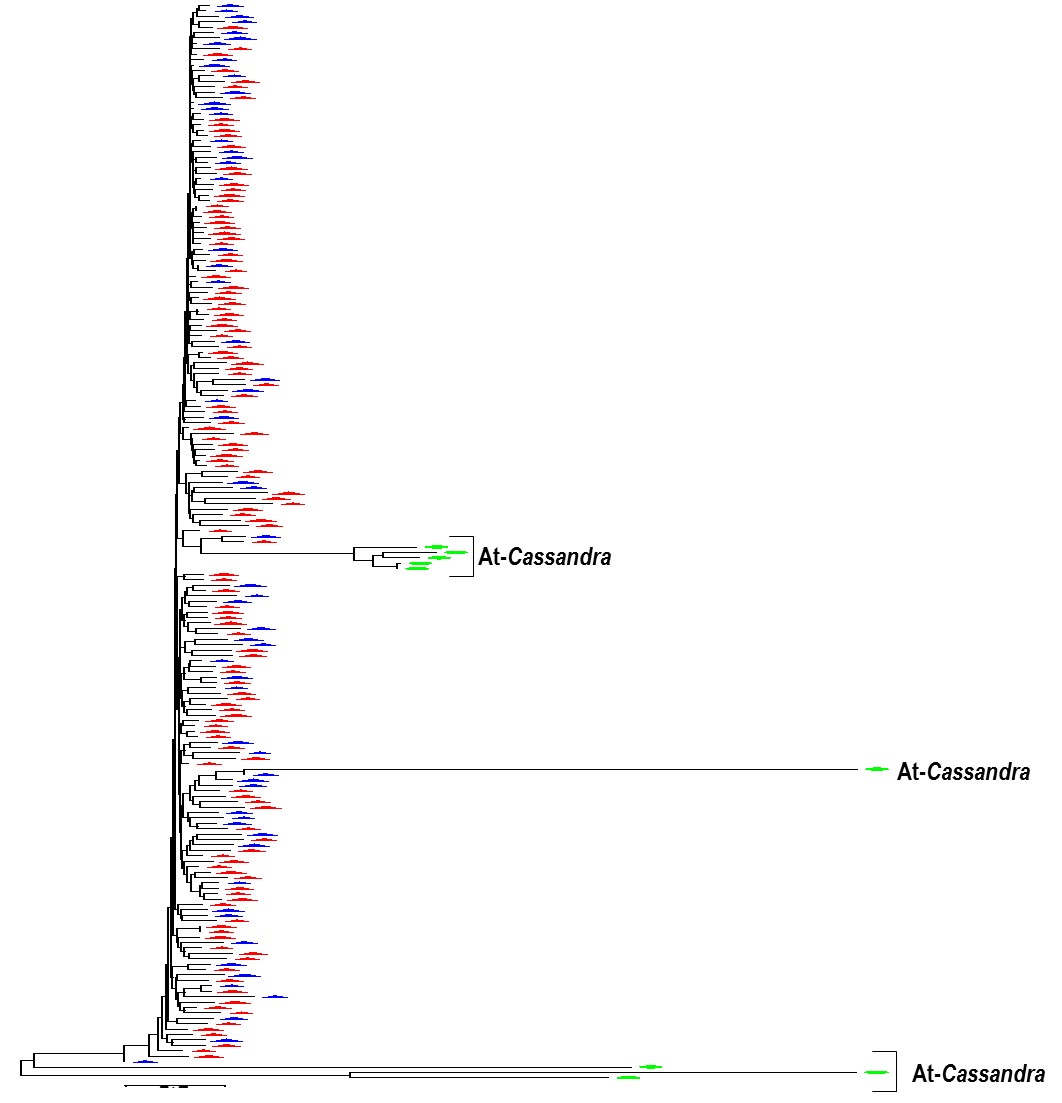
****

**Fig. S1** Sequence alignment of *Cassandra* elements from *A. thaliana*, *B. oleracea* and *B. rapa*. The right and left TRs are denoted with blue and red arrows, respectively. The conserved 5S RNA, PBS and PPT domains are highlighted with boxes.

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**Fig. S2** Distribution of intact At-*Cassandra,* Bo-*Cassandra* and Br-*Cassandra* members on *A. thaliana* (A) *B. oleracea* (B) and *B. rapa* (C) pseudo-chromosomes, respectively.

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**Fig. S3** Phylogenetic analysis of intact *Cassandra* family members from *A. thaliana, B. rapa* and *B. oleracea.* The tree was contacted using 3, 130, 60 members from *A. thaliana* (green)*, B. rapa* (blue) and *B. oleracea* (red), respectively. The neighbor-joining method used for tree generation with 500 bootstrap replications by MEGA5.

**Table S1** List of members of the At-*Cassandra* TRIM family and their physical positions, types and insertion annotations from the *A. thaliana* genome.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TRIM No z** | **Chr #** | **Start** | **End** | **Alignment length** | **E-value** | **Type** | **Insertion Position** | **Inserted/**  **flanked gene** | **Flanked gene** | |
| 1 | Chr1 | 11479693 | 11479581 | 113 | 2.00E-21 | Fragment | CDS | AT1G31960.1 |  | |
| 2 | Chr1 | 11492974 | 11493403 | 432 | 6.00E-21 | Fragment | Intergenic | AT1G31990.1 | AT1G32000.1 | |
| 3 | Chr1 | 12253078 | 12253435 | 358 | 3.00E-103 | solo | Intergenic | AT1G33780.1 | AT1G33790.1 | |
| 4 | Chr1 | 12297543 | 12297707 | 165 | 7.00E-24 | Fragment | Intergenic | AT1G33860.2 | AT1G33870.1 | |
| 5 | Chr1 | 12297759 | 12297989 | 233 | 7.00E-27 | Fragment | Intergenic | AT1G33860.2 | AT1G33870.1 | |
| 6 | Chr1 | 12299162 | 12299326 | 165 | 1.00E-28 | Fragment | Intergenic | AT1G33860.2 | AT1G33870.1 | |
| 7 | Chr1 | 12299378 | 12299542 | 165 | 2.00E-14 | Fragment | Intergenic | AT1G33860.2 | AT1G33870.1 | |
| 8 | Chr1 | 12468276 | 12467813 | 464 | 1.00E-173 | solo | Intergenic | AT1G34220.2 | AT1G34245.1 | |
| 9 | Chr1 | 12576191 | 12576484 | 294 | 3.00E-115 | solo | Intergenic | AT1G34410.1 | AT1G34400.1 | |
| 10 | Chr1 | 12958242 | 12957902 | 360 | 4.00E-90 | solo | Intergenic | AT1G80990.1 | AT2G01008.1 | |
| 11 | Chr1 | 13150436 | 13149798 | 645 | 1.00E-62 | Fragment | 5'UTR | AT1G35614.1 |  | |
| 12 | Chr1 | 13356822 | 13356475 | 348 | 6.00E-52 | solo | Intergenic | AT1G35900.1 | AT1G35910.1 | |
| 13 | Chr1 | 13494562 | 13494432 | 132 | 5.00E-40 | Fragment | Intergenic | AT1G36100.1 | AT1G36095.1 | |
| 14 | Chr1 | 13895391 | 13896006 | 617 | 8.00E-153 | solo | Intergenic | AT1G36675.1 | AT1G36730.1 | |
| 15 | Chr1 | 13896012 | 13896157 | 147 | 4.00E-13 | Fragment | Intergenic | AT1G36675.1 | AT1G36730.1 | |
| 16 | Chr1 | 14009225 | 14009146 | 80 | 9.00E-14 | Fragment | Intergenic | AT1G36950.1 | AT1G36942.1 | |
| 17 | Chr1 | 16150371 | 16150605 | 235 | 4.00E-56 | Fragment | Intergenic | AT1G43005.1 | AT1G43000.1 | |
| 18 | Chr1 | 16150629 | 16150756 | 128 | 2.00E-11 | Fragment | Intergenic | AT1G43005.1 | AT1G43000.1 | |
| 19 | Chr1 | 16668652 | 16669133 | 491 | 1.00E-148 | solo | Intergenic | AT1G43910.1 | AT1G43950.1 | |
| 20 | Chr1 | 16669136 | 16669221 | 86 | 2.00E-17 | Fragment | Intergenic | AT1G43910.1 | AT1G43950.1 | |
| 21 | Chr1 | 16688694 | 16687919 | 801 | 0 | full | CDS | AT1G43980.1 |  | |
| 22 | Chr1 | 16744737 | 16744532 | 207 | 1.00E-34 | Fragment | Intergenic | AT1G44050.1 | AT1G44080.1 | |
| 23 | Chr1 | 17573755 | 17573846 | 92 | 2.00E-11 | Fragment | Intergenic | AT1G47760.1 | AT1G47765.1 | |
| 24 | Chr1 | 17574098 | 17574298 | 202 | 6.00E-15 | Fragment | Intergenic | AT1G47760.1 | AT1G47765.1 | |
| 25 | Chr1 | 21641128 | 21641818 | 695 | 1.00E-68 | full | CDS | AT1G58330.1 |  | |
| 26 | Chr1 | 22780970 | 22781067 | 98 | 9.00E-08 | Fragment | CDS | AT1G61688.1 |  | |
| 27 | Chr1 | 22781144 | 22781265 | 122 | 1.00E-12 | Fragment | CDS | AT1G61688.1 |  | |
| **28** | **Chr1** | **24105024** | **24105119** | **96** | **6.00E-12** | **Fragment** | **Intergenic** | **AT1G64870.1** | | **AT1G64880.1** | |
| 29 | Chr2 | 1309800 | 1310537 | 738 | 0 | full | Intergenic | AT2G04037.1 | AT2G04038.1 | |
| 30 | Chr2 | 1431687 | 1431736 | 50 | 1.00E-12 | Fragment | Intergenic | AT2G04190.1 | AT2G04220.1 | |
| 31 | Chr2 | 1601376 | 1601187 | 192 | 3.00E-26 | Fragment | Intergenic | AT2G04570.1 | AT2G04620.1 | |
| 32 | Chr2 | 2010785 | 2010945 | 162 | 2.00E-24 | Fragment | Intergenic | AT2G05440.8 | AT2G05500.1 | |
| **33** | **Chr2** | **2516558** | **2516628** | **71** | **3.00E-20** | **Fragment** | **Intergenic** | **AT2G06255.1** | | **AT2G06420.1** | |
| 34 | Chr2 | 2516629 | 2516870 | 242 | 1.00E-105 | Fragment | Intergenic | AT2G06255.1 | AT2G06420.1 | |
| 35 | Chr2 | 2607827 | 2607931 | 105 | 5.00E-31 | Fragment | Intergenic | AT2G06555.2 | AT2G06570.1 | |
| **36** | **Chr2** | **2607936** | **2608128** | **194** | **3.00E-60** | **Fragment** | **Intergenic** | **AT2G06555.2** | | **AT2G06570.1** | |
| 37 | Chr2 | 2637019 | 2636198 | 824 | 0 | full | Intergenic | AT2G06570.1 | AT2G06645.1 | |
| 38 | Chr2 | 2665419 | 2664598 | 824 | 0 | full | Intergenic | AT2G06667.1 | AT2G06845.1 | |
| 39 | Chr2 | 3216757 | 3217114 | 358 | 2.00E-129 | solo | Intergenic | AT2G07560.1 | AT2G07599.1 | |
| 40 | Chr2 | 5168028 | 5167968 | 61 | 4.00E-19 | Fragment | Intron | AT2G12646.1 |  | |
| 41 | Chr2 | 5168438 | 5168025 | 414 | 6.00E-132 | Fragment | CDS | AT2G12646.1 |  | |
| 42 | Chr2 | 5168497 | 5168435 | 63 | 3.00E-20 | Fragment | CDS | AT2G12646.1 |  | |
| 43 | Chr2 | 5330214 | 5329859 | 357 | 4.00E-124 | solo | Intergenic | AT2G12945.1 | AT2G12977.1 | |
| 44 | Chr2 | 8090075 | 8090178 | 104 | 4.00E-16 | Fragment | Intergenic | AT2G18650.1 | AT2G18660.1 | |
| 45 | Chr3 | 9399937 | 9399984 | 48 | 2.00E-18 | Fragment | 5'UTR | AT3G25740.1 |  | |
| 46 | Chr3 | 11742732 | 11742655 | 78 | 9.00E-08 | Fragment | Intergenic | AT3G29830.1 | AT3G29970.1 | |
| 47 | Chr3 | 11854412 | 11855113 | 707 | 6.00E-95 | full | Intergenic | AT3G30210.1 | AT3G30220.1 | |
| 48 | Chr3 | 11933794 | 11933899 | 107 | 4.00E-25 | Fragment | CDS | AT3G30320.1 |  | |
| 49 | Chr3 | 11933907 | 11934537 | 636 | 2.00E-169 | Fragment | CDS | AT3G30320.1 |  | |
| 50 | Chr3 | 12736815 | 12737150 | 336 | 5.00E-114 | solo | Intergenic | AT3G31350.1 | AT3G31400.1 | |
| 51 | Chr3 | 13715272 | 13715219 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 52 | Chr3 | 13718814 | 13718761 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 53 | Chr3 | 13765479 | 13765416 | 64 | 2.00E-11 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 54 | Chr3 | 13809080 | 13809017 | 64 | 2.00E-11 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 55 | Chr3 | 13826009 | 13826063 | 55 | 2.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 56 | Chr3 | 13826516 | 13826569 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 57 | Chr3 | 13847691 | 13847744 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 58 | Chr3 | 13849215 | 13849276 | 62 | 1.00E-12 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 59 | Chr3 | 13849717 | 13849770 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 60 | Chr3 | 13850226 | 13850289 | 64 | 2.00E-11 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 61 | Chr3 | 13850759 | 13850812 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 62 | Chr3 | 13855539 | 13855592 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 63 | Chr3 | 13860640 | 13860693 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 64 | Chr3 | 13861657 | 13861710 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 65 | Chr3 | 13863143 | 13863196 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 66 | Chr3 | 13863492 | 13863555 | 64 | 2.00E-11 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 67 | Chr3 | 13863998 | 13864051 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 68 | Chr3 | 13864506 | 13864569 | 64 | 2.00E-11 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 69 | Chr3 | 13867904 | 13867965 | 62 | 1.00E-12 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 70 | Chr3 | 13868039 | 13868092 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 71 | Chr3 | 13869562 | 13869613 | 52 | 5.00E-09 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 72 | Chr3 | 13870732 | 13870785 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 73 | Chr3 | 13872217 | 13872270 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 74 | Chr3 | 13872728 | 13872791 | 64 | 2.00E-11 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 75 | Chr3 | 13874288 | 13874341 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 76 | Chr3 | 13876828 | 13876879 | 52 | 5.00E-09 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 77 | Chr3 | 13877813 | 13877866 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 78 | Chr3 | 13879100 | 13879153 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G32980.1 | AT3G33187.1 | |
| 79 | Chr3 | 14187019 | 14187072 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G36659.1 | AT3G41762.1 | |
| 80 | Chr3 | 14189486 | 14189539 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G36659.1 | AT3G41762.1 | |
| 81 | Chr3 | 14193442 | 14193495 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G36659.1 | AT3G41762.1 | |
| 82 | Chr3 | 14197726 | 14197779 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G41762.1 | AT3G42050.1 | |
| 83 | Chr3 | 14216356 | 14216303 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G41762.1 | AT3G42050.1 | |
| 84 | Chr3 | 14219387 | 14219334 | 54 | 9.00E-08 | Fragment | Intergenic | AT3G41762.1 | AT3G42050.1 | |
| 85 | Chr3 | 14223192 | 14223140 | 53 | 3.00E-07 | Fragment | Intergenic | AT3G41762.1 | AT3G42050.1 | |
| 86 | Chr3 | 14224714 | 14224662 | 53 | 3.00E-07 | Fragment | Intergenic | AT3G41762.1 | AT3G42050.1 | |
| 87 | Chr3 | 14226236 | 14226184 | 53 | 3.00E-07 | Fragment | Intergenic | AT3G41762.1 | AT3G42050.1 | |
| 88 | Chr3 | 14408482 | 14408177 | 307 | 4.00E-87 | Fragment | Intergenic | AT3G42180.3 | AT3G42310.1 | |
| 89 | Chr3 | 14408969 | 14408479 | 492 | 7.00E-138 | solo | Intergenic | AT3G42180.3 | AT3G42310.1 | |
| 90 | Chr3 | 14409325 | 14408638 | 691 | 0 | full | Intergenic | AT3G42180.3 | AT3G42310.1 | |
| 91 | Chr3 | 14655886 | 14656712 | 830 | 9.00E-162 | full | Intergenic | AT3G42475.1 | AT3G42550.1 | |
| 92 | Chr3 | 14656362 | 14657180 | 821 | 3.00E-149 | full | Intergenic | AT3G42475.1 | AT3G42550.1 | |
| 93 | Chr3 | 14657326 | 14657513 | 192 | 3.00E-29 | Fragment | Intergenic | AT3G42475.1 | AT3G42550.1 | |
| 94 | Chr3 | 14918921 | 14919170 | 252 | 4.00E-28 | Fragment | Intergenic | AT3G42800.1 | AT3G42830.1 | |
| 95 | Chr3 | 15349035 | 15348772 | 264 | 1.00E-25 | Fragment | Intergenic | AT3G43420.1 | AT3G43430.1 | |
| 96 | Chr3 | 15668895 | 15668992 | 98 | 2.00E-24 | Fragment | Intergenic | AT3G43810.1 | AT3G43829.1 | |
| 97 | Chr3 | 15810284 | 15809976 | 327 | 9.00E-48 | solo | Intergenic | AT3G44020.1 | AT3G44050.1 | |
| 98 | Chr4 | 1232470 | 1232742 | 273 | 1.00E-43 | Fragment | Intergenic | AT4G02770.1 | AT4G02780.1 | |
| 99 | Chr4 | 2241259 | 2241362 | 104 | 2.00E-18 | Fragment | 5'UTR | AT4G04500.1 |  | |
| 100 | Chr4 | 2663730 | 2663548 | 183 | 3.00E-20 | Fragment | Intergenic | AT4G05150.1 | AT4G05160.1 | |
| 101 | Chr4 | 3054739 | 3054802 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 102 | Chr4 | 3055237 | 3055300 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 103 | Chr4 | 3055735 | 3055798 | 64 | 5.00E-09 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 104 | Chr4 | 3056233 | 3056296 | 64 | 5.00E-09 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 105 | Chr4 | 3057198 | 3057261 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 106 | Chr4 | 3057696 | 3057759 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 107 | Chr4 | 3058194 | 3058257 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 108 | Chr4 | 3058692 | 3058755 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 109 | Chr4 | 3059190 | 3059253 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 110 | Chr4 | 3059688 | 3059751 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 111 | Chr4 | 3060186 | 3060249 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 112 | Chr4 | 3060684 | 3060747 | 64 | 2.00E-11 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 113 | Chr4 | 3061182 | 3061243 | 62 | 9.00E-08 | Fragment | Intergenic | AT4G05632.1 | AT4G06479.1 | |
| 114 | Chr4 | 4346809 | 4346458 | 357 | 9.00E-85 | solo | Intergenic | AT4G07524.1 | AT4G07526.1 | |
| **115** | **Chr4** | **4923963** | **4923775** | **189** | **4.00E-50** | **Fragment** | **Intergenic** | **AT4G08040.1** | **AT4G08073.1** | |
| 116 | Chr4 | 4933404 | 4933249 | 158 | 2.00E-39 | Fragment | Intergenic | AT4G08040.1 | AT4G08073.1 | |
| 117 | Chr4 | 5363515 | 5363249 | 267 | 3.00E-44 | solo | Intergenic | AT4G08430.1 | AT4G08450.1 | |
| 118 | Chr4 | 6214958 | 6215535 | 590 | 4.00E-47 | Fragment | CDS | AT4G09880.1 |  | |
| 119 | Chr4 | 6678341 | 6677848 | 504 | 1.00E-154 | solo | 3'UTR | AT4G10850.1 |  | |
| **120** | **Chr4** | **7762805** | **7762679** | **127** | **4.00E-13** | **Fragment** | **Intergenic** | **AT4G13340.1** | **AT4G13345.1** | |
| 121 | Chr4 | 9560719 | 9560957 | 241 | 1.00E-28 | Fragment | Intron | AT4G16990.1 |  | |
| 122 | Chr5 | 9637379 | 9637160 | 220 | 3.00E-66 | Fragment | 5'UTR | AT5G27340.1 |  | |
| 123 | Chr5 | 10546613 | 10546969 | 357 | 5.00E-117 | solo | Intergenic | AT5G28540.1 | AT5G28550.1 | |
| 124 | Chr5 | 10921169 | 10921034 | 136 | 1.00E-25 | Fragment | Intergenic | AT5G28885.1 | AT5G28900.1 | |
| 125 | Chr5 | 11184839 | 11184902 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G29231.1 | AT5G29560.1 | |
| 126 | Chr5 | 11185843 | 11185906 | 64 | 2.00E-11 | Fragment | Intergenic | AT5G29231.1 | AT5G29560.1 | |
| 127 | Chr5 | 11186345 | 11186408 | 64 | 2.00E-11 | Fragment | Intergenic | AT5G29231.1 | AT5G29560.1 | |
| 128 | Chr5 | 11186848 | 11186911 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G29231.1 | AT5G29560.1 | |
| 129 | Chr5 | 11187350 | 11187413 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G29231.1 | AT5G29560.1 | |
| 130 | Chr5 | 11187852 | 11187915 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G29231.1 | AT5G29560.1 | |
| 131 | Chr5 | 11188356 | 11188419 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G29231.1 | AT5G29560.1 | |
| 132 | Chr5 | 11188858 | 11188921 | 64 | 9.00E-14 | Fragment | Intergenic | AT5G29231.1 | AT5G29560.1 | |
| 133 | Chr5 | 11404879 | 11404645 | 235 | 5.00E-37 | Fragment | Intergenic | AT5G30341.1 | AT5G30490.1 | |
| 134 | Chr5 | 12827084 | 12827031 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 135 | Chr5 | 12831571 | 12831518 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 136 | Chr5 | 12833066 | 12833003 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 137 | Chr5 | 12833556 | 12833503 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 138 | Chr5 | 12834300 | 12834247 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 139 | Chr5 | 12835547 | 12835494 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 140 | Chr5 | 12837054 | 12836991 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 141 | Chr5 | 12837544 | 12837491 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 142 | Chr5 | 12838288 | 12838235 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 143 | Chr5 | 12839535 | 12839483 | 53 | 3.00E-07 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 144 | Chr5 | 12840281 | 12840229 | 53 | 3.00E-07 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 145 | Chr5 | 12841030 | 12840977 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 146 | Chr5 | 12841538 | 12841475 | 64 | 2.00E-11 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 147 | Chr5 | 12842029 | 12841976 | 54 | 4.00E-10 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 148 | Chr5 | 12842279 | 12842226 | 54 | 4.00E-10 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 149 | Chr5 | 12843783 | 12843720 | 64 | 2.00E-11 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 150 | Chr5 | 12869053 | 12869000 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 151 | Chr5 | 12874290 | 12874237 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 152 | Chr5 | 12875785 | 12875722 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 153 | Chr5 | 12876275 | 12876222 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 154 | Chr5 | 12877019 | 12876966 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 155 | Chr5 | 12878266 | 12878214 | 53 | 3.00E-07 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 156 | Chr5 | 12879773 | 12879710 | 64 | 5.00E-09 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 157 | Chr5 | 12880263 | 12880210 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 158 | Chr5 | 12881007 | 12880954 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 159 | Chr5 | 12882254 | 12882201 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 160 | Chr5 | 12883000 | 12882948 | 53 | 3.00E-07 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 161 | Chr5 | 12883749 | 12883696 | 54 | 9.00E-08 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 162 | Chr5 | 12884257 | 12884194 | 64 | 2.00E-11 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 163 | Chr5 | 12884748 | 12884695 | 54 | 4.00E-10 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 164 | Chr5 | 12884998 | 12884945 | 54 | 4.00E-10 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 165 | Chr5 | 12886502 | 12886439 | 64 | 2.00E-11 | Fragment | Intergenic | AT5G33898.1 | AT5G34581.1 | |
| 166 | Chr5 | 13129001 | 13129268 | 284 | 4.00E-19 | Fragment | Intergenic | AT5G34869.1 | AT5G34870.1 | |
| 167 | Chr5 | 13561069 | 13560714 | 357 | 2.00E-107 | solo | Intergenic | AT5G35338.2 | AT5G35360.1 | |
| 168 | Chr5 | 13791332 | 13791140 | 194 | 2.00E-24 | Fragment | Intergenic | AT5G35604.1 | AT5G35610.1 | |
| 169 | Chr5 | 14116129 | 14116372 | 244 | 6.00E-21 | Fragment | Intergenic | AT5G35960.1 | AT5G35970.1 | |
| 170 | Chr5 | 14578422 | 14578069 | 356 | 8.00E-110 | solo | Intergenic | AT5G36930.2 | AT5G36940.1 | |
| 171 | Chr5 | 14943682 | 14944010 | 330 | 4.00E-65 | solo | CDS | AT5G37620.1 |  | |
| 172 | Chr5 | 17449729 | 17450363 | 636 | 4.00E-133 | solo | Intergenic | AT5G43420.1 | AT5G43410.1 | |
| 173 | Chr5 | 17450378 | 17450502 | 126 | 6.00E-15 | Fragment | Intergenic | AT5G43420.1 | AT5G43410.1 | |

Z Bold letter indicates the At-Cassandra member(s) present in *Arabidopsis* and *Brassica* *oleracea* (red-TRIM no- 28) but not in *B. rapa*; *Arabidopsis* and *Brassica rapa* (black-TRIM no- 33, 36, 115, 120) but not in *B. oleracea*.

**Table S2** List of members of the Bo-*Cassandra* TRIM family and their physical positions, types and insertion annotations from the *B. oleracea* genome.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TRIM No** | **Chr #** | **Start** | **End** | **Alignment length** | **E-value** | **Type** | **Insertion Position** | **Inserted/**  **flanked gene** | **Flanked gene** |
| 1 | C01 | 7145966 | 7146772 | 809 | 0 | Full | Intergenic | Bol009335 | Bol009334 |
| 2 | C01 | 14944371 | 14943572 | 805 | 2E-162 | Full | Intergenic | Bol004816 | Bol004817 |
| 3 | C01 | 33215752 | 33214961 | 798 | 0 | Full | Intergenic | Bol034737 | Bol034736 |
| 4 | C01 | 24336190 | 24336969 | 780 | 0 | Full | Intergenic | Bol009097 | Bol009098 |
| 5 | C01 | 9245579 | 9244819 | 764 | 0 | Full | Intergenic | Bol014994 | Bol014993 |
| 6 | C01 | 32483296 | 32484036 | 752 | 8E-128 | Full | Intergenic | Bol034804 | Bol034803 |
| 7 | C01 | 789832 | 789143 | 695 | 2E-156 | Full | Intergenic | Bol028911 | Bol028912 |
| 8 | C01 | 26165040 | 26165728 | 700 | 7E-159 | Full | Intergenic | Bol028710 | Bol028711 |
| 9 | C01 | 7163505 | 7162921 | 603 | 7E-125 | solo | Intergenic | Bol009334 | Bol028325 |
| 10 | C01 | 27938737 | 27939288 | 568 | 4E-71 | Fragment | Intergenic | Bol023271 | Bol023270 |
| 11 | C01 | 35428003 | 35427485 | 521 | 2E-85 | Fragment | Intergenic | Bol015812 | Bol015811 |
| 12 | C01 | 37907167 | 37907668 | 508 | 1E-74 | solo | Intergenic | Bol023032 | Bol023031 |
| 13 | C01 | 31606715 | 31606254 | 463 | 8E-128 | solo | Intergenic | Bol030932 | Bol030931 |
| 14 | C01 | 38335175 | 38335577 | 407 | 4E-80 | solo | Intergenic | Bol008181 | Bol008180 |
| 15 | C01 | 19836284 | 19836660 | 378 | 9E-63 | solo | Intergenic | Bol036482 | Bol036483 |
| 16 | C01 | 23283524 | 23283899 | 377 | 4E-71 | Fragment | Intergenic | Bol013781 | Bol013782 |
| 17 | C01 | 7085680 | 7085311 | 370 | 1E-114 | Fragment | Intergenic | Bol009339 | Bol009338 |
| 18 | C01 | 4130184 | 4130541 | 360 | 3E-56 | Fragment | Intergenic | Bol018041 | Bol018042 |
| 19 | C01 | 14095753 | 14095403 | 352 | 8E-97 | solo | Intergenic | Bol013121 | Bol013122 |
| 20 | C01 | 20892762 | 20893112 | 351 | 5E-89 | Fragment | Intergenic | Bol036544 | Bol036545 |
| 21 | C01 | 38335596 | 38335942 | 349 | 5E-95 | solo | Intergenic | Bol008181 | Bol008180 |
| 22 | C01 | 25982149 | 25981805 | 346 | 4E-117 | solo | Intron | Bol028697 |  |
| 23 | C01 | 27310494 | 27310840 | 347 | 3E-118 | solo | Intergenic | Bol028765 | Bol023312 |
| 24 | C01 | 29310616 | 29310274 | 344 | 2E-94 | solo | Intergenic | Bol018807 | Bol018808 |
| 25 | C01 | 24336176 | 24336514 | 339 | 3E-96 | solo | Intergenic | Bol009097 | Bol009098 |
| 26 | C01 | 19224802 | 19224485 | 320 | 5E-52 | Fragment | Intergenic | Bol014053 | Bol014054 |
| 27 | C01 | 20632601 | 20632921 | 323 | 1E-58 | Fragment | Intergenic | Bol036524 | Bol036525 |
| 28 | C01 | 26442722 | 26443035 | 317 | 3E-78 | Fragment | Intergenic | Bol028725 | Bol028726 |
| 29 | C01 | 17304718 | 17305029 | 313 | 1E-40 | Fragment | Intergenic | Bol021927 | Bol021928 |
| 30 | C01 | 5515711 | 5515414 | 300 | 7E-45 | Fragment | Intergenic | Bol019626 | Bol019627 |
| 31 | C01 | 29316460 | 29316168 | 294 | 1E-71 | Fragment | Intergenic | Bol018807 | Bol018808 |
| 32 | C01 | 19837083 | 19837360 | 278 | 1E-64 | Fragment | Intergenic | Bol036482 | Bol036483 |
| 33 | C01 | 13831701 | 13831967 | 268 | 4E-40 | Fragment | Intergenic | Bol013096 | Bol013097 |
| 34 | C01 | 19836664 | 19836913 | 261 | 2E-29 | Fragment | Intergenic | Bol036482 | Bol036483 |
| 35 | C01 | 27939051 | 27939307 | 261 | 2E-29 | Fragment | Intergenic | Bol023271 | Bol023270 |
| 36 | C01 | 19835849 | 19836091 | 254 | 2E-32 | Fragment | Intergenic | Bol036482 | Bol036483 |
| 37 | C01 | 8427950 | 8427704 | 247 | 1E-46 | Fragment | Intergenic | Bol028473 | Bol028474 |
| 38 | C01 | 14288193 | 14288425 | 237 | 6E-36 | Fragment | Intergenic | Bol013141 | Bol013142 |
| 39 | C01 | 9665972 | 9666189 | 222 | 6E-33 | Fragment | Intergenic | Bol014956 | Bol014955 |
| 40 | C01 | 14352640 | 14352859 | 223 | 2E-39 | Fragment | Intergenic | Bol013144 | Bol013145 |
| 41 | C01 | 18209558 | 18209342 | 221 | 5E-18 | Fragment | Intergenic | Bol021980 | Bol021981 |
| 42 | C01 | 7095224 | 7095013 | 213 | 5E-21 | Fragment | Intergenic | Bol009339 | Bol009338 |
| 43 | C01 | 13831306 | 13831502 | 197 | 2E-11 | Fragment | Intergenic | Bol013096 | Bol013097 |
| 44 | C01 | 16607482 | 16607280 | 203 | 1E-24 | Fragment | Intergenic | Bol032801 | Bol032800 |
| 45 | C01 | 16607935 | 16607737 | 200 | 1E-12 | Fragment | Intergenic | Bol032801 | Bol032800 |
| 46 | C01 | 28092940 | 28092758 | 183 | 3E-10 | Fragment | Intergenic | Bol023262 | Bol023261 |
| 47 | C01 | 17565271 | 17565450 | 180 | 8E-23 | Fragment | Intergenic | Bol021939 | Bol021940 |
| 48 | C01 | 19096684 | 19096843 | 160 | 3E-16 | Fragment | Intergenic | Bol014043 | Bol014044 |
| 49 | C01 | 14353172 | 14353320 | 150 | 2E-14 | Fragment | Intergenic | Bol013144 | Bol013145 |
| 50 | C01 | 6259809 | 6259669 | 141 | 4E-43 | Fragment | Intergenic | Bol019722 | Bol019723 |
| 51 | C01 | 12492458 | 12492604 | 147 | 7E-11 | Fragment | Intergenic | Bol039609 | Bol039610 |
| 52 | C01 | 28297627 | 28297484 | 144 | 7E-11 | Fragment | Intergenic | Bol023245 | Bol023244 |
| 53 | C01 | 23283313 | 23283444 | 132 | 8E-23 | Fragment | Intergenic | Bol013781 | Bol013782 |
| 54 | C01 | 27938604 | 27938726 | 124 | 4E-09 | Fragment | Intergenic | Bol023271 | Bol023270 |
| 55 | C01 | 35428149 | 35428043 | 107 | 8E-20 | Fragment | Intergenic | Bol015812 | Bol015811 |
| 56 | C01 | 6259666 | 6259585 | 83 | 1E-12 | Fragment | Intergenic | Bol019722 | Bol019723 |
| 57 | C01 | 17565501 | 17565579 | 79 | 7E-08 | Fragment | Intergenic | Bol021939 | Bol021940 |
| 58 | C01 | 31029130 | 31029213 | 84 | 1E-27 | Fragment | Intergenic | Bol030986 | Bol030985 |
| 59 | C01 | 37906960 | 37907033 | 74 | 2E-14 | Fragment | Intergenic | Bol023032 | Bol023031 |
| 60 | C01 | 6259534 | 6259484 | 51 | 7E-08 | Fragment | Intergenic | Bol019722 | Bol019723 |
| 61 | C01 | 20400928 | 20400879 | 50 | 3E-07 | Fragment | Intergenic | Bol036510 | Bol036511 |
| 62 | C01 | 20625171 | 20625135 | 37 | 4E-09 | Fragment | Intergenic | Bol036524 | Bol036525 |
| 63 | C02 | 19502405 | 19501601 | 807 | 0 | Full | Intergenic | Bol039208 | Bol039207 |
| 64 | C02 | 20527180 | 20526373 | 811 | 0 | Full | Intergenic | Bol018979 | Bol018978 |
| 65 | C02 | 31274818 | 31275622 | 807 | 0 | Full | Intergenic | Bol022826 | Bol022825 |
| 66 | C02 | 35965042 | 35964237 | 806 | 0 | Full | Intergenic | Bol020093 | Bol020092 |
| 67 | C02 | 8959247 | 8958454 | 798 | 0 | Full | Intron | Bol014205 |  |
| 68 | C02 | 10903126 | 10902324 | 804 | 0 | Full | Intergenic | Bol018246 | Bol018247 |
| 69 | C02 | 27542031 | 27541231 | 803 | 0 | Full | Intergenic | Bol035978 | Bol004446 |
| 70 | C02 | 29026738 | 29025937 | 802 | 0 | Full | Intergenic | Bol024156 | Bol024155 |
| 71 | C02 | 33508051 | 33508846 | 802 | 5E-138 | Full | Intergenic | Bol014902 | Bol014901 |
| 72 | C02 | 41401596 | 41400795 | 805 | 0 | Full | Intergenic | Bol033034 | Bol033033 |
| 73 | C02 | 3853247 | 3852455 | 795 | 0 | Full | Intergenic | Bol021284 | Bol021285 |
| 74 | C02 | 24742135 | 24741354 | 785 | 3E-155 | Full | Intergenic | Bol016562 | Bol016563 |
| 75 | C02 | 32997119 | 32997899 | 782 | 0 | Full | 3'UTR | Bol020173 |  |
| 76 | C02 | 41315061 | 41314288 | 775 | 0 | Full | Intergenic | Bol033038 | Bol033037 |
| 77 | C02 | 9991632 | 9990881 | 765 | 3E-136 | Full | Intergenic | Bol014265 | Bol014266 |
| 78 | C02 | 33507288 | 33508037 | 753 | 0 | Full | Intergenic | Bol014902 | Bol014901 |
| 79 | C02 | 385339 | 384602 | 740 | 3E-161 | Full | Intergenic | Bol012836 | Bol012837 |
| 80 | C02 | 17928119 | 17927406 | 715 | 0 | Full | Intergenic | Bol039326 | Bol039325 |
| 81 | C02 | 30673445 | 30672757 | 701 | 2E-119 | Full | Intergenic | Bol022856 | Bol022855 |
| 82 | C02 | 40406742 | 40407440 | 703 | 3E-118 | Full | Intergenic | Bol033115 | Bol033114 |
| 83 | C02 | 10902673 | 10901998 | 685 | 5E-135 | Full | Intergenic | Bol018246 | Bol018247 |
| 84 | C02 | 34268027 | 34268714 | 689 | 5E-132 | Full | Intergenic | Bol014822 | Bol014821 |
| 85 | C02 | 7134875 | 7134343 | 549 | 3E-56 | Fragment | Intergenic | Bol008956 | Bol008955 |
| 86 | C02 | 21237637 | 21238044 | 414 | 1E-107 | Fragment | Intergenic | Bol011767 | Bol011768 |
| 87 | C02 | 20149184 | 20148785 | 401 | 9E-69 | Fragment | Intergenic | Bol019000 | Bol018999 |
| 88 | C02 | 33221773 | 33222153 | 385 | 1E-30 | solo | Intergenic | Bol020181 | Bol020182 |
| 89 | C02 | 21126932 | 21126569 | 365 | 2E-38 | Fragment | Intergenic | Bol011763 | Bol011764 |
| 90 | C02 | 20526720 | 20526372 | 350 | 1E-86 | solo | Intergenic | Bol018979 | Bol018978 |
| 91 | C02 | 18678558 | 18678891 | 335 | 1E-55 | Fragment | Intergenic | Bol039269 | Bol039268 |
| 92 | C02 | 22593674 | 22593339 | 337 | 6E-39 | solo | Intergenic | Bol020846 | Bol020845 |
| 93 | C02 | 9990729 | 9990405 | 325 | 4E-71 | Fragment | Intergenic | Bol014265 | Bol014266 |
| 94 | C02 | 21234163 | 21234484 | 323 | 3E-99 | Fragment | Intergenic | Bol011767 | Bol011768 |
| 95 | C02 | 11527088 | 11527386 | 300 | 2E-73 | Fragment | Intron | Bol010464 |  |
| 96 | C02 | 22499353 | 22499641 | 289 | 3E-90 | Fragment | Intergenic | Bol020851 | Bol020849 |
| 97 | C02 | 7338865 | 7338587 | 279 | 2E-29 | Fragment | Intergenic | Bol008934 | Bol008933 |
| 98 | C02 | 33426129 | 33425852 | 281 | 3E-28 | Fragment | Intergenic | Bol020189 | Bol014904 |
| 99 | C02 | 40407179 | 40407440 | 264 | 1E-37 | Fragment | Intergenic | Bol033115 | Bol033114 |
| 100 | C02 | 11527387 | 11527622 | 236 | 1E-77 | Fragment | Intron | Bol010464 |  |
| 101 | C02 | 30712387 | 30712154 | 234 | 2E-36 | Fragment | Intergenic | Bol022856 | Bol022855 |
| 102 | C02 | 33427792 | 33427561 | 234 | 5E-15 | Fragment | Intergenic | Bol020189 | Bol014904 |
| 103 | C02 | 24654730 | 24654953 | 225 | 2E-38 | Fragment | Intergenic | Bol016557 | Bol016558 |
| 104 | C02 | 7134964 | 7134748 | 218 | 9E-29 | Fragment | Intergenic | Bol008956 | Bol008955 |
| 105 | C02 | 36891196 | 36891408 | 214 | 4E-37 | Fragment | Intergenic | Bol020036 | Bol020035 |
| 106 | C02 | 24654267 | 24654476 | 210 | 3E-22 | Fragment | Intergenic | Bol016557 | Bol016558 |
| 107 | C02 | 27685031 | 27684827 | 206 | 8E-23 | Fragment | Intergenic | Bol004451 | Bol004452 |
| 108 | C02 | 40403262 | 40403465 | 205 | 3E-16 | Fragment | Intergenic | Bol033115 | Bol033114 |
| 109 | C02 | 19671585 | 19671783 | 199 | 6E-39 | Fragment | Intergenic | Bol019029 | Bol019028 |
| 110 | C02 | 19673618 | 19673416 | 203 | 3E-41 | Fragment | Intergenic | Bol019029 | Bol019028 |
| 111 | C02 | 22486463 | 22486647 | 189 | 3E-28 | Fragment | Intergenic | Bol020851 | Bol020849 |
| 112 | C02 | 28673387 | 28673195 | 193 | 2E-14 | Fragment | Intergenic | Bol024176 | Bol024175 |
| 113 | C02 | 33220174 | 33220365 | 194 | 8E-20 | Fragment | Intergenic | Bol020181 | Bol020182 |
| 114 | C02 | 7509380 | 7509213 | 168 | 2E-11 | Fragment | Intergenic | Bol008918 | Bol008917 |
| 115 | C02 | 40045780 | 40045610 | 171 | 9E-35 | Fragment | Intergenic | Bol033142 | Bol033141 |
| 116 | C02 | 5532217 | 5532066 | 154 | 3E-13 | Fragment | Intergenic | Bol036131 | Bol036130 |
| 117 | C02 | 6850384 | 6850235 | 150 | 1E-12 | Fragment | Intergenic | Bol035990 | Bol035989 |
| 118 | C02 | 984998 | 985142 | 147 | 1E-12 | Fragment | Intergenic | Bol012861 | Bol005417 |
| 119 | C02 | 33329283 | 33329140 | 144 | 3E-44 | Fragment | Intergenic | Bol020184 | Bol020185 |
| 120 | C02 | 23866898 | 23866768 | 131 | 1E-15 | Fragment | Intergenic | Bol016494 | Bol016495 |
| 121 | C02 | 35180676 | 35180553 | 124 | 3E-25 | Fragment | Intergenic | Bol015147 | Bol015148 |
| 122 | C02 | 985204 | 985310 | 108 | 5E-18 | Fragment | Intergenic | Bol012861 | Bol005417 |
| 123 | C02 | 21124844 | 21124945 | 103 | 7E-08 | Fragment | Intergenic | Bol011763 | Bol011764 |
| 124 | C02 | 21127133 | 21127027 | 107 | 7E-08 | Fragment | Intergenic | Bol011763 | Bol011764 |
| 125 | C02 | 475684 | 475588 | 97 | 4E-09 | Fragment | Intergenic | Bol012838 | Bol012839 |
| 126 | C02 | 993850 | 993942 | 93 | 4E-09 | Fragment | Intergenic | Bol012861 | Bol005417 |
| 127 | C02 | 3887640 | 3887731 | 93 | 2E-11 | Fragment | Intergenic | Bol021289 | Bol021290 |
| 128 | C02 | 5532453 | 5532356 | 98 | 3E-19 | Fragment | Intergenic | Bol036131 | Bol036130 |
| 129 | C02 | 27688629 | 27688531 | 99 | 4E-09 | Fragment | Intergenic | Bol004451 | Bol004452 |
| 130 | C02 | 22486663 | 22486752 | 90 | 8E-17 | Fragment | Intergenic | Bol020851 | Bol020849 |
| 131 | C02 | 27689317 | 27689238 | 80 | 4E-09 | Fragment | Intergenic | Bol004451 | Bol004452 |
| 132 | C02 | 24191998 | 24191939 | 62 | 7E-08 | Fragment | Intergenic | Bol016512 | Bol016513 |
| 133 | C02 | 27685672 | 27685619 | 54 | 1E-09 | Fragment | Intergenic | Bol004451 | Bol004452 |
| 134 | C02 | 36890765 | 36890806 | 42 | 3E-07 | Fragment | Intergenic | Bol020036 | Bol020035 |
| 135 | C03 | 14594446 | 14595241 | 798 | 4E-179 | Full | Intergenic | Bol015038 | Bol015039 |
| 136 | C03 | 51274655 | 51275455 | 801 | 0 | Full | Intergenic | Bol010652 | Bol010653 |
| 137 | C03 | 21308606 | 21309386 | 789 | 0 | Full | Intergenic | Bol035545 | Bol035546 |
| 138 | C03 | 36453149 | 36452359 | 794 | 4E-120 | Full | Intergenic | Bol035652 | Bol035651 |
| 139 | C03 | 34305009 | 34304239 | 783 | 0 | Full | 3'UTR | Bol041315 |  |
| 140 | C03 | 54773820 | 54774567 | 753 | 7E-162 | Full | Intergenic | Bol013005 | Bol013006 |
| 141 | C03 | 3550010 | 3550732 | 725 | 0 | Full | Intergenic | Bol034464 | Bol034465 |
| 142 | C03 | 56112564 | 56113288 | 731 | 5E-98 | Full | Intergenic | Bol035077 | Bol035078 |
| 143 | C03 | 25302447 | 25303147 | 703 | 0 | Full | Intergenic | Bol042405 | Bol042406 |
| 144 | C03 | 833439 | 834130 | 696 | 0 | Full | Intergenic | Bol015412 | Bol015413 |
| 145 | C03 | 27873630 | 27872940 | 693 | 3E-167 | Full | Intergenic | Bol042610 | Bol042611 |
| 146 | C03 | 18267638 | 18266951 | 692 | 0 | Full | Intergenic | Bol030625 | Bol030626 |
| 147 | C03 | 41723040 | 41722365 | 677 | 0 | Full | Intergenic | Bol024114 | Bol024115 |
| 148 | C03 | 15499263 | 15499926 | 666 | 5E-132 | Full | Intergenic | Bol025598 | Bol025599 |
| 149 | C03 | 17696521 | 17695868 | 658 | 3E-78 | Full | Intergenic | Bol030568 | Bol030569 |
| 150 | C03 | 23610405 | 23611058 | 657 | 1E-151 | Full | Intergenic | Bol026667 | Bol026666 |
| 151 | C03 | 4411589 | 4410953 | 638 | 1E-160 | Full | Intergenic | Bol034614 | Bol025768 |
| 152 | C03 | 50069488 | 50068870 | 621 | 8E-91 | solo | Intergenic | Bol011930 | Bol011931 |
| 153 | C03 | 5927056 | 5927445 | 391 | 2E-88 | solo | Intergenic | Bol026042 | Bol026043 |
| 154 | C03 | 38374632 | 38374269 | 365 | 2E-91 | solo | Intergenic | Bol035593 | Bol035592 |
| 155 | C03 | 47777784 | 47778147 | 365 | 2E-109 | Fragment | Intergenic | Bol032683 | Bol032682 |
| 156 | C03 | 36451895 | 36451548 | 350 | 2E-60 | solo | Intergenic | Bol035652 | Bol035651 |
| 157 | C03 | 53067792 | 53067445 | 349 | 6E-107 | solo | 3'UTR | Bol017558 |  |
| 158 | C03 | 55142079 | 55141727 | 354 | 8E-94 | solo | Intergenic | Bol013040 | Bol013041 |
| 159 | C03 | 18863466 | 18863808 | 344 | 1E-61 | solo | Intergenic | Bol030676 | Bol030677 |
| 160 | C03 | 24218264 | 24218610 | 347 | 3E-84 | Fragment | Intergenic | Bol026609 | Bol026608 |
| 161 | C03 | 4411589 | 4411253 | 338 | 1E-64 | solo | Intergenic | Bol034614 | Bol025768 |
| 162 | C03 | 42785440 | 42785104 | 337 | 3E-112 | solo | Intergenic | Bol009238 | Bol009239 |
| 163 | C03 | 47945262 | 47945599 | 339 | 5E-49 | solo | Intergenic | Bol029829 | Bol029830 |
| 164 | C03 | 17699378 | 17699705 | 330 | 5E-52 | Fragment | Intergenic | Bol030568 | Bol030569 |
| 165 | C03 | 38374207 | 38373897 | 312 | 6E-76 | Fragment | Intergenic | Bol035593 | Bol035592 |
| 166 | C03 | 54774252 | 54774567 | 316 | 1E-61 | Fragment | Intergenic | Bol013005 | Bol013006 |
| 167 | C03 | 23913727 | 23913432 | 296 | 5E-64 | Fragment | Intergenic | Bol026644 | Bol026643 |
| 168 | C03 | 33729565 | 33729850 | 287 | 2E-63 | Fragment | Intergenic | Bol041292 | Bol041293 |
| 169 | C03 | 48669379 | 48669090 | 290 | 1E-71 | Fragment | Intergenic | Bol029880 | Bol029881 |
| 170 | C03 | 20358267 | 20357990 | 279 | 5E-58 | Fragment | Intergenic | Bol010936 | Bol010935 |
| 171 | C03 | 36947873 | 36948152 | 280 | 3E-56 | Fragment | Intergenic | Bol035627 | Bol035626 |
| 172 | C03 | 42491514 | 42491238 | 277 | 2E-42 | Fragment | Intergenic | Bol009210 | Bol009211 |
| 173 | C03 | 36451441 | 36451169 | 274 | 2E-48 | Fragment | Intergenic | Bol035652 | Bol035651 |
| 174 | C03 | 47777514 | 47777770 | 257 | 2E-38 | Fragment | Intergenic | Bol032683 | Bol032682 |
| 175 | C03 | 16347710 | 16347468 | 245 | 8E-26 | Fragment | 3'UTR | Bol025691 |  |
| 176 | C03 | 19124701 | 19124945 | 245 | 5E-24 | Fragment | Intergenic | Bol030713 | Bol030714 |
| 177 | C03 | 22080292 | 22080048 | 245 | 3E-62 | Fragment | Intergenic | Bol022992 | Bol022991 |
| 178 | C03 | 31148343 | 31148588 | 247 | 1E-27 | Fragment | Intergenic | Bol006650 | Bol006651 |
| 179 | C03 | 14854384 | 14854621 | 238 | 7E-48 | Fragment | Intergenic | Bol015060 | Bol015061 |
| 180 | C03 | 47273162 | 47272926 | 237 | 8E-57 | Fragment | Intergenic | Bol032719 | Bol032718 |
| 181 | C03 | 4780241 | 4780014 | 229 | 8E-26 | Fragment | Intergenic | Bol025840 | Bol025841 |
| 182 | C03 | 34139614 | 34139399 | 216 | 1E-37 | Fragment | Intergenic | Bol041311 | Bol041312 |
| 183 | C03 | 42491782 | 42491572 | 213 | 2E-11 | Fragment | Intergenic | Bol009210 | Bol009211 |
| 184 | C03 | 19042115 | 19042309 | 197 | 1E-37 | Fragment | Intergenic | Bol030701 | Bol030702 |
| 185 | C03 | 47272740 | 47272542 | 202 | 9E-29 | Fragment | Intergenic | Bol032719 | Bol032718 |
| 186 | C03 | 53124395 | 53124598 | 204 | 2E-08 | Fragment | Intergenic | Bol017546 | Bol017545 |
| 187 | C03 | 6795309 | 6795498 | 191 | 2E-20 | Fragment | Intergenic | Bol027964 | Bol027965 |
| 188 | C03 | 56112189 | 56112380 | 192 | 2E-42 | Fragment | Intergenic | Bol035077 | Bol035078 |
| 189 | C03 | 24812494 | 24812670 | 178 | 3E-19 | Fragment | Intergenic | Bol026557 | Bol026556 |
| 190 | C03 | 14435832 | 14435996 | 165 | 9E-29 | Fragment | 3'UTR | Bol015024 |  |
| 191 | C03 | 11744034 | 11744195 | 163 | 1E-24 | Fragment | Intergenic | Bol020593 | Bol020592 |
| 192 | C03 | 6060030 | 6059878 | 153 | 1E-21 | Fragment | Intergenic | Bol026064 | Bol026065 |
| 193 | C03 | 23689405 | 23689272 | 134 | 4E-31 | Fragment | Intergenic | Bol026659 | Bol026658 |
| 194 | C03 | 37184382 | 37184518 | 137 | 1E-18 | Fragment | Intergenic | Bol035616 | Bol035615 |
| 195 | C03 | 889043 | 888915 | 130 | 5E-15 | Fragment | Intergenic | Bol015419 | Bol015420 |
| 196 | C03 | 7272205 | 7272313 | 109 | 2E-23 | Fragment | Intergenic | Bol028012 | Bol028013 |
| 197 | C03 | 41043017 | 41042916 | 103 | 3E-10 | Fragment | Intergenic | Bol024100 | Bol024101 |
| 198 | C03 | 10614382 | 10614475 | 94 | 1E-09 | Fragment | Intergenic | Bol020399 | Bol020401 |
| 199 | C03 | 12123035 | 12122943 | 95 | 4E-09 | Fragment | Intergenic | Bol020542 | Bol020541 |
| 200 | C03 | 47945637 | 47945718 | 83 | 1E-12 | Fragment | Intergenic | Bol029829 | Bol029830 |
| 201 | C03 | 35415833 | 35415764 | 70 | 3E-07 | Fragment | Intergenic | Bol041369 | Bol041370 |
| 202 | C03 | 36947627 | 36947697 | 71 | 1E-12 | Fragment | Intergenic | Bol035627 | Bol035626 |
| 203 | C03 | 52444735 | 52444665 | 72 | 7E-11 | Fragment | Intergenic | Bol014363 | Bol014362 |
| 204 | C03 | 16347777 | 16347711 | 67 | 1E-12 | Fragment | Intergenic | Bol025691 | Bol025692 |
| 205 | C03 | 34139919 | 34139864 | 56 | 2E-08 | Fragment | Intergenic | Bol041311 | Bol041312 |
| 206 | C03 | 35416317 | 35416263 | 55 | 3E-10 | Fragment | Intergenic | Bol041369 | Bol041370 |
| 207 | C03 | 19042361 | 19042411 | 51 | 3E-10 | Fragment | Intergenic | Bol030701 | Bol030702 |
| 208 | C03 | 50608325 | 50608375 | 51 | 7E-08 | Fragment | Intergenic | Bol011971 | Bol011972 |
| 209 | C03 | 57666695 | 57666732 | 38 | 3E-07 | Fragment | Intergenic | Bol035218 | Bol035219 |
| 210 | C04 | 6876500 | 6877301 | 806 | 0 | Full | Intergenic | Bol016247 | Bol016246 |
| 211 | C04 | 27400662 | 27399858 | 807 | 0 | Full | Intergenic | Bol040324 | Bol040325 |
| 212 | C04 | 11482384 | 11483176 | 798 | 0 | Full | Intergenic | Bol027768 | Bol027767 |
| 213 | C04 | 37964503 | 37965291 | 791 | 0 | Full | Intergenic | Bol025321 | Bol025322 |
| 214 | C04 | 3931651 | 3932436 | 786 | 0 | Full | Intergenic | Bol011695 | Bol011696 |
| 215 | C04 | 27778950 | 27779724 | 784 | 0 | Full | Intergenic | Bol040350 | Bol040351 |
| 216 | C04 | 28392026 | 28391243 | 787 | 0 | Full | Intergenic | Bol009971 | Bol009970 |
| 217 | C04 | 12898292 | 12897537 | 775 | 6E-150 | Full | Intergenic | Bol015209 | Bol015208 |
| 218 | C04 | 6652512 | 6653230 | 720 | 0 | Full | Intergenic | Bol016265 | Bol016264 |
| 219 | C04 | 27401921 | 27401232 | 713 | 9E-180 | Full | Intergenic | Bol040324 | Bol040325 |
| 220 | C04 | 11482838 | 11483540 | 708 | 0 | Full | Intergenic | Bol027768 | Bol027767 |
| 221 | C04 | 27684516 | 27683827 | 693 | 7E-153 | Full | Intron | Bol040342 |  |
| 222 | C04 | 25227036 | 25226367 | 691 | 1E-132 | Full | Intergenic | Bol040145 | Bol040146 |
| 223 | C04 | 15894475 | 15893796 | 682 | 3E-127 | Full | Intergenic | Bol008363 | Bol008364 |
| 224 | C04 | 25227397 | 25226721 | 679 | 2E-125 | Full | Intergenic | Bol040145 | Bol040146 |
| 225 | C04 | 2751649 | 2751098 | 568 | 2E-73 | Fragment | Intergenic | Bol030155 | Bol030156 |
| 226 | C04 | 13053008 | 13052515 | 495 | 2E-153 | solo | Intergenic | Bol015200 | Bol015199 |
| 227 | C04 | 11479970 | 11480444 | 477 | 5E-98 | solo | Intergenic | Bol027768 | Bol027767 |
| 228 | C04 | 29499998 | 29499573 | 427 | 9E-137 | solo | Intergenic | Bol026538 | Bol026537 |
| 229 | C04 | 2926508 | 2926924 | 419 | 3E-127 | Fragment | Intergenic | Bol030183 | Bol030184 |
| 230 | C04 | 27402494 | 27402087 | 409 | 4E-120 | solo | Intergenic | Bol040324 | Bol040325 |
| 231 | C04 | 2926024 | 2926404 | 382 | 1E-126 | solo | Intergenic | Bol030183 | Bol030184 |
| 232 | C04 | 9747089 | 9747465 | 384 | 6E-67 | Fragment | Intergenic | Bol011067 | Bol011068 |
| 233 | C04 | 23132082 | 23132445 | 365 | 4E-108 | solo | Intergenic | Bol044228 | Bol044227 |
| 234 | C04 | 25616165 | 25615800 | 367 | 8E-94 | solo | Intergenic | Bol040183 | Bol040184 |
| 235 | C04 | 29504220 | 29503859 | 363 | 1E-108 | solo | Intergenic | Bol026538 | Bol026537 |
| 236 | C04 | 33043798 | 33044149 | 353 | 1E-74 | solo | Intergenic | Bol033352 | Bol033353 |
| 237 | C04 | 15731239 | 15731577 | 341 | 9E-29 | solo | Intergenic | Bol008355 | Bol008356 |
| 238 | C04 | 39945248 | 39945586 | 339 | 7E-85 | solo | 5'UTR | Bol021652 |  |
| 239 | C04 | 20493939 | 20494262 | 325 | 9E-100 | Fragment | Intergenic | Bol027298 | Bol027299 |
| 240 | C04 | 6659297 | 6658984 | 314 | 1E-83 | Fragment | Intergenic | Bol016265 | Bol016264 |
| 241 | C04 | 20673397 | 20673109 | 289 | 5E-64 | Fragment | 5'UTR | Bol027314 |  |
| 242 | C04 | 28860997 | 28861273 | 279 | 2E-29 | Fragment | Intergenic | Bol006775 | Bol006774 |
| 243 | C04 | 32190866 | 32190583 | 284 | 9E-66 | Fragment | Intergenic | Bol033261 | Bol033262 |
| 244 | C04 | 9000745 | 9001005 | 264 | 4E-31 | Fragment | Intergenic | Bol004949 | Bol004948 |
| 245 | C04 | 15731792 | 15732031 | 242 | 6E-39 | Fragment | Intergenic | Bol008355 | Bol008356 |
| 246 | C04 | 18991940 | 18992180 | 241 | 1E-40 | Fragment | 5'UTR | Bol013449 |  |
| 247 | C04 | 33750166 | 33750404 | 240 | 1E-37 | Fragment | Intergenic | Bol014158 | Bol014157 |
| 248 | C04 | 7108336 | 7108110 | 227 | 2E-48 | Fragment | Intergenic | Bol016221 | Bol016220 |
| 249 | C04 | 19987641 | 19987835 | 195 | 8E-20 | Fragment | Intergenic | Bol013524 | Bol013525 |
| 250 | C04 | 13059649 | 13059482 | 168 | 2E-39 | Fragment | Intergenic | Bol015199 | Bol038589 |
| 251 | C04 | 2926925 | 2927083 | 160 | 8E-23 | Fragment | Intergenic | Bol030183 | Bol030184 |
| 252 | C04 | 30889857 | 30890018 | 164 | 5E-18 | Fragment | Intergenic | Bol026401 | Bol026400 |
| 253 | C04 | 2925875 | 2926025 | 151 | 5E-49 | Fragment | 3'UTR | Bol030183 |  |
| 254 | C04 | 9000399 | 9000547 | 150 | 1E-21 | Fragment | Intergenic | Bol004949 | Bol004948 |
| 255 | C04 | 27507231 | 27507365 | 137 | 3E-19 | Fragment | Intergenic | Bol040333 | Bol040334 |
| 256 | C04 | 38449489 | 38449616 | 128 | 3E-13 | Fragment | Intergenic | Bol025385 | Bol025386 |
| 257 | C04 | 10538042 | 10537923 | 121 | 4E-09 | Fragment | Intergenic | Bol027826 | Bol027825 |
| 258 | C04 | 6659410 | 6659302 | 109 | 6E-33 | Fragment | Intergenic | Bol016265 | Bol016264 |
| 259 | C04 | 25582256 | 25582155 | 102 | 5E-12 | Fragment | Intergenic | Bol040179 | Bol040180 |
| 260 | C04 | 25582478 | 25582405 | 74 | 1E-09 | Fragment | Intergenic | Bol040179 | Bol040180 |
| 261 | C04 | 27400836 | 27400769 | 69 | 7E-14 | Fragment | Intergenic | Bol040324 | Bol040325 |
| 262 | C04 | 25616232 | 25616179 | 54 | 5E-12 | Fragment | Intergenic | Bol040183 | Bol040184 |
| 263 | C04 | 27877778 | 27877832 | 55 | 3E-10 | Fragment | Intergenic | Bol040361 | Bol040362 |
| 264 | C04 | 15851397 | 15851447 | 51 | 7E-08 | Fragment | Intergenic | Bol008361 | Bol008362 |
| 265 | C04 | 28860614 | 28860662 | 49 | 4E-09 | Fragment | Intergenic | Bol006775 | Bol006774 |
| 266 | C04 | 12502741 | 12502784 | 44 | 2E-08 | Fragment | Intergenic | Bol015218 | Bol015217 |
| 267 | C04 | 25225897 | 25225855 | 43 | 7E-08 | Fragment | Intergenic | Bol040145 | Bol040146 |
| 268 | C04 | 27507456 | 27507490 | 35 | 7E-08 | Fragment | Intergenic | Bol040333 | Bol040334 |
| 269 | C05 | 13586561 | 13585758 | 807 | 0 | Full | Intergenic | Bol020918 | Bol020919 |
| 270 | C05 | 24724461 | 24725257 | 807 | 0 | Full | Intergenic | Bol013846 | Bol013845 |
| 271 | C05 | 12844080 | 12844875 | 798 | 0 | Full | Intergenic | Bol020887 | Bol020888 |
| 272 | C05 | 20315472 | 20316273 | 803 | 0 | Full | Intergenic | Bol038401 | Bol038402 |
| 273 | C05 | 20778779 | 20777979 | 803 | 0 | Full | Intergenic | Bol038427 | Bol038428 |
| 274 | C05 | 21816601 | 21815801 | 803 | 0 | Full | Intergenic | Bol038465 | Bol038466 |
| 275 | C05 | 30462290 | 30463090 | 803 | 0 | Full | 3'UTR | Bol010340 |  |
| 276 | C05 | 2623315 | 2624106 | 794 | 0 | Full | Intron | Bol041139 |  |
| 277 | C05 | 30462743 | 30463534 | 794 | 0 | Full | Intergenic | Bol010340 | Bol010341 |
| 278 | C05 | 1485175 | 1485941 | 769 | 0 | Full | Intergenic | Bol040953 | Bol040954 |
| 279 | C05 | 12843626 | 12844393 | 768 | 0 | Full | Intergenic | Bol020887 | Bol020888 |
| 280 | C05 | 18599566 | 18598811 | 765 | 5E-169 | Full | Intergenic | Bol012010 | Bol012011 |
| 281 | C05 | 3711860 | 3712589 | 733 | 0 | Full | Intergenic | Bol010427 | Bol010426 |
| 282 | C05 | 2618612 | 2617896 | 718 | 0 | Full | Intergenic | Bol041137 | Bol041138 |
| 283 | C05 | 28897324 | 28896625 | 700 | 0 | Full | Intergenic | Bol005067 | Bol005066 |
| 284 | C05 | 3711552 | 3712210 | 663 | 8E-171 | Full | Intergenic | Bol010427 | Bol010426 |
| 285 | C05 | 2886133 | 2885493 | 653 | 4E-102 | Full | Intergenic | Bol041180 | Bol041181 |
| 286 | C05 | 22324638 | 22324008 | 633 | 1E-138 | solo | Intergenic | Bol004747 | Bol004748 |
| 287 | C05 | 28929924 | 28929357 | 571 | 2E-106 | solo | Intergenic | Bol005067 | Bol005066 |
| 288 | C05 | 7209310 | 7208781 | 530 | 2E-153 | solo | Intergenic | Bol031942 | Bol031943 |
| 289 | C05 | 16122639 | 16123025 | 390 | 1E-33 | solo | Intergenic | Bol026979 | Bol026980 |
| 290 | C05 | 19728899 | 19729264 | 367 | 2E-51 | solo | Intergenic | Bol038368 | Bol038369 |
| 291 | C05 | 169523 | 169880 | 360 | 5E-21 | solo | Intergenic | Bol040691 | Bol040692 |
| 292 | C05 | 11050575 | 11050925 | 352 | 5E-64 | solo | Intergenic | Bol022545 | Bol022544 |
| 293 | C05 | 15238614 | 15238263 | 352 | 5E-86 | solo | Intergenic | Bol026895 | Bol026896 |
| 294 | C05 | 19240535 | 19240180 | 356 | 3E-47 | Fragment | Intergenic | Bol038330 | Bol038331 |
| 295 | C05 | 28291861 | 28292203 | 349 | 7E-79 | solo | Intergenic | Bol011117 | Bol011116 |
| 296 | C05 | 7208854 | 7208552 | 345 | 4E-40 | solo | Intergenic | Bol031942 | Bol031943 |
| 297 | C05 | 170050 | 170386 | 338 | 7E-51 | solo | Intergenic | Bol040691 | Bol040692 |
| 298 | C05 | 23876518 | 23876200 | 327 | 5E-86 | Fragment | Intergenic | Bol013879 | Bol013878 |
| 299 | C05 | 13152043 | 13152351 | 311 | 1E-58 | Fragment | Intergenic | Bol020901 | Bol020902 |
| 300 | C05 | 16123099 | 16123403 | 305 | 9E-69 | Fragment | Intergenic | Bol026979 | Bol026980 |
| 301 | C05 | 29261531 | 29261820 | 291 | 2E-82 | Fragment | Intergenic | Bol040413 | Bol040412 |
| 302 | C05 | 15519882 | 15520158 | 277 | 2E-42 | Fragment | Intergenic | Bol026916 | Bol026917 |
| 303 | C05 | 8621415 | 8621681 | 269 | 3E-59 | Fragment | Intergenic | Bol031991 | Bol031992 |
| 304 | C05 | 2295232 | 2295472 | 242 | 7E-48 | Fragment | Intergenic | Bol041071 | Bol041072 |
| 305 | C05 | 23460278 | 23460518 | 242 | 7E-48 | Fragment | Intergenic | Bol018099 | Bol018098 |
| 306 | C05 | 11463729 | 11463499 | 232 | 3E-16 | Fragment | Intergenic | Bol022525 | Bol022524 |
| 307 | C05 | 14292871 | 14292641 | 236 | 2E-32 | Fragment | Intergenic | Bol030746 | Bol030745 |
| 308 | C05 | 11909126 | 11908928 | 201 | 1E-61 | Fragment | Intergenic | Bol022509 | Bol022508 |
| 309 | C05 | 19240771 | 19240599 | 173 | 7E-14 | Fragment | Intergenic | Bol038330 | Bol038331 |
| 310 | C05 | 3711371 | 3711540 | 170 | 6E-30 | Fragment | Intergenic | Bol010427 | Bol010426 |
| 311 | C05 | 11464057 | 11463923 | 135 | 7E-08 | Fragment | Intergenic | Bol022525 | Bol022524 |
| 312 | C05 | 14292614 | 14292492 | 124 | 7E-11 | Fragment | Intergenic | Bol030746 | Bol030745 |
| 313 | C05 | 7590619 | 7590731 | 114 | 5E-12 | Fragment | Intergenic | Bol031954 | Bol031955 |
| 314 | C05 | 24971597 | 24971707 | 111 | 7E-08 | Fragment | Intergenic | Bol036623 | Bol036624 |
| 315 | C05 | 22293679 | 22293598 | 82 | 5E-12 | Fragment | Intergenic | Bol004745 | Bol004746 |
| 316 | C05 | 8621181 | 8621233 | 53 | 2E-11 | Fragment | Intergenic | Bol031991 | Bol031992 |
| 317 | C05 | 8621280 | 8621335 | 56 | 2E-08 | Fragment | Intergenic | Bol031991 | Bol031992 |
| 318 | C05 | 29261470 | 29261520 | 53 | 3E-07 | Fragment | Intergenic | Bol040413 | Bol040412 |
| 319 | C06 | 1839640 | 1840441 | 809 | 0 | Full | Intergenic | Bol012393 | Bol012394 |
| 320 | C06 | 5102633 | 5101831 | 805 | 0 | Full | Intergenic | Bol015939 | Bol028119 |
| 321 | C06 | 6042346 | 6041547 | 803 | 0 | Full | Intergenic | Bol028154 | Bol028155 |
| 322 | C06 | 38245513 | 38244717 | 800 | 0 | Full | Intergenic | Bol005059 | Bol005060 |
| 323 | C06 | 30088521 | 30089294 | 784 | 6E-150 | Full | Intergenic | Bol004693 | Bol004694 |
| 324 | C06 | 35055823 | 35055049 | 784 | 0 | Full | Intergenic | Bol022270 | Bol022271 |
| 325 | C06 | 44921765 | 44920987 | 781 | 0 | Full | 5'UTR | Bol033556 |  |
| 326 | C06 | 45908461 | 45909232 | 774 | 9E-137 | Full | Intergenic | Bol033700 | Bol033701 |
| 327 | C06 | 46044297 | 46043521 | 779 | 0 | Full | Intergenic | Bol033721 | Bol033722 |
| 328 | C06 | 38245955 | 38245190 | 769 | 4E-179 | Full | 5'UTR | Bol005060 |  |
| 329 | C06 | 30089009 | 30089759 | 756 | 7E-125 | Full | Intergenic | Bol004693 | Bol004694 |
| 330 | C06 | 30126346 | 30127039 | 695 | 0 | Full | Intergenic | Bol004696 | Bol004697 |
| 331 | C06 | 17446543 | 17445867 | 681 | 7E-153 | Full | Intergenic | Bol041873 | Bol041874 |
| 332 | C06 | 588973 | 589626 | 663 | 5E-52 | Full | Intergenic | Bol027139 | Bol027140 |
| 333 | C06 | 9872003 | 9872635 | 635 | 0 | solo | Intergenic | Bol041536 | Bol041535 |
| 334 | C06 | 38299166 | 38298537 | 633 | 6E-144 | solo | Intergenic | Bol005065 | Bol037241 |
| 335 | C06 | 6544742 | 6545338 | 608 | 0 | solo | Intergenic | Bol028182 | Bol028183 |
| 336 | C06 | 24347648 | 24348247 | 602 | 3E-53 | solo | Intergenic | Bol005613 | Bol005614 |
| 337 | C06 | 32176184 | 32175613 | 573 | 8E-165 | solo | Intergenic | Bol042804 | Bol042805 |
| 338 | C06 | 2483655 | 2484165 | 512 | 3E-149 | solo | Intergenic | Bol012417 | Bol012418 |
| 339 | C06 | 12990439 | 12990924 | 488 | 7E-88 | solo | Intergenic | Bol017708 | Bol017709 |
| 340 | C06 | 30373536 | 30373077 | 462 | 4E-117 | solo | Intergenic | Bol007173 | Bol007174 |
| 341 | C06 | 46999094 | 46999547 | 455 | 3E-130 | solo | Intergenic | Bol033871 | Bol033872 |
| 342 | C06 | 5605173 | 5604728 | 450 | 5E-58 | solo | Intergenic | Bol028131 | Bol028132 |
| 343 | C06 | 6540321 | 6540748 | 428 | 4E-114 | solo | Intergenic | Bol028182 | Bol028183 |
| 344 | C06 | 36072262 | 36071855 | 409 | 6E-113 | solo | Intergenic | Bol022415 | Bol022416 |
| 345 | C06 | 44071250 | 44070845 | 407 | 3E-56 | solo | Intergenic | Bol042269 | Bol042270 |
| 346 | C06 | 16303167 | 16303549 | 383 | 3E-127 | Fragment | Intergenic | Bol041787 | Bol041788 |
| 347 | C06 | 6549395 | 6549769 | 375 | 2E-146 | solo | Intergenic | Bol028182 | Bol028183 |
| 348 | C06 | 9871394 | 9871758 | 366 | 5E-123 | solo | Intergenic | Bol041536 | Bol041535 |
| 349 | C06 | 16295306 | 16295671 | 367 | 1E-104 | solo | Intergenic | Bol041787 | Bol041788 |
| 350 | C06 | 46906226 | 46905859 | 369 | 9E-103 | solo | Intron | Bol033866 |  |
| 351 | C06 | 46992304 | 46992669 | 367 | 3E-78 | solo | Intergenic | Bol033871 | Bol033872 |
| 352 | C06 | 10262096 | 10262444 | 349 | 1E-92 | solo | Intergenic | Bol041512 | Bol041511 |
| 353 | C06 | 15945107 | 15945454 | 349 | 1E-80 | solo | Intergenic | Bol031937 | Bol031938 |
| 354 | C06 | 34635252 | 34634911 | 349 | 9E-32 | solo | Intergenic | Bol043082 | Bol043083 |
| 355 | C06 | 43828252 | 43827905 | 351 | 2E-85 | solo | 5'UTR | Bol042232 |  |
| 356 | C06 | 32589367 | 32589706 | 341 | 3E-90 | solo | Intergenic | Bol042855 | Bol042856 |
| 357 | C06 | 35799833 | 35800179 | 348 | 2E-76 | solo | Intergenic | Bol022385 | Bol022386 |
| 358 | C06 | 6751517 | 6751850 | 339 | 5E-86 | solo | Intergenic | Bol028195 | Bol028196 |
| 359 | C06 | 37840590 | 37840923 | 334 | 9E-66 | solo | 3'UTR | Bol004987 |  |
| 360 | C06 | 37921785 | 37921483 | 305 | 6E-67 | Fragment | Intergenic | Bol005001 | Bol005002 |
| 361 | C06 | 3060054 | 3059775 | 281 | 2E-48 | Fragment | Intergenic | Bol013956 | Bol013955 |
| 362 | C06 | 31235821 | 31235540 | 282 | 4E-31 | Fragment | Intergenic | Bol042726 | Bol042727 |
| 363 | C06 | 34634855 | 34634578 | 279 | 1E-55 | Fragment | Intergenic | Bol043082 | Bol043083 |
| 364 | C06 | 18486660 | 18486921 | 269 | 6E-36 | Fragment | Intergenic | Bol043150 | Bol043151 |
| 365 | C06 | 6549128 | 6549391 | 264 | 1E-77 | Fragment | Intergenic | Bol028182 | Bol028183 |
| 366 | C06 | 21820842 | 21821094 | 254 | 2E-60 | Fragment | Intergenic | Bol043306 | Bol043307 |
| 367 | C06 | 30126798 | 30127054 | 257 | 1E-64 | Fragment | Intergenic | Bol004696 | Bol004697 |
| 368 | C06 | 30373846 | 30373590 | 257 | 5E-64 | Fragment | Intergenic | Bol007173 | Bol007174 |
| 369 | C06 | 14121900 | 14122145 | 247 | 8E-23 | Fragment | Intergenic | Bol031847 | Bol031848 |
| 370 | C06 | 27223542 | 27223297 | 246 | 1E-43 | Fragment | Intergenic | Bol006376 | Bol006375 |
| 371 | C06 | 37132557 | 37132802 | 246 | 1E-24 | Fragment | Intergenic | Bol017044 | Bol017043 |
| 372 | C06 | 44070830 | 44070599 | 245 | 1E-33 | Fragment | Intergenic | Bol042269 | Bol042270 |
| 373 | C06 | 42558885 | 42558655 | 235 | 1E-37 | Fragment | Intergenic | Bol042046 | Bol042047 |
| 374 | C06 | 7356941 | 7356714 | 228 | 2E-42 | Fragment | Intergenic | Bol022757 | Bol022756 |
| 375 | C06 | 34891444 | 34891671 | 228 | 3E-47 | Fragment | Intergenic | Bol043131 | Bol043132 |
| 376 | C06 | 14912371 | 14912155 | 218 | 4E-31 | Fragment | Intergenic | Bol031891 | Bol031892 |
| 377 | C06 | 18486259 | 18486472 | 214 | 9E-29 | Fragment | Intergenic | Bol043150 | Bol043151 |
| 378 | C06 | 5879456 | 5879651 | 197 | 2E-26 | Fragment | Intergenic | Bol028143 | Bol028144 |
| 379 | C06 | 5891477 | 5891672 | 197 | 2E-26 | Fragment | Intergenic | Bol028143 | Bol028144 |
| 380 | C06 | 14810502 | 14810318 | 191 | 5E-27 | Fragment | Intergenic | Bol031883 | Bol031884 |
| 381 | C06 | 4605634 | 4605819 | 186 | 8E-20 | Fragment | Intergenic | Bol015956 | Bol015955 |
| 382 | C06 | 32175605 | 32175439 | 168 | 7E-45 | Fragment | Intergenic | Bol042804 | Bol042805 |
| 383 | C06 | 13092712 | 13092552 | 161 | 1E-37 | Fragment | Intergenic | Bol017713 | Bol017714 |
| 384 | C06 | 19022753 | 19022907 | 155 | 4E-34 | Fragment | Intergenic | Bol043170 | Bol043171 |
| 385 | C06 | 4605230 | 4605346 | 117 | 2E-11 | Fragment | Intergenic | Bol015956 | Bol015955 |
| 386 | C06 | 38298383 | 38298260 | 124 | 7E-14 | Fragment | 3'UTR | Bol005065 |  |
| 387 | C06 | 15945100 | 15944988 | 113 | 1E-37 | Fragment | Intergenic | Bol031937 | Bol031938 |
| 388 | C06 | 25129547 | 25129439 | 109 | 2E-11 | Fragment | Intergenic | Bol017141 | Bol017142 |
| 389 | C06 | 41735642 | 41735750 | 109 | 2E-11 | Fragment | Intergenic | Bol024344 | Bol024343 |
| 390 | C06 | 19018725 | 19018830 | 106 | 3E-19 | Fragment | Intergenic | Bol043170 | Bol043171 |
| 391 | C06 | 31228048 | 31227944 | 105 | 1E-18 | Fragment | Intergenic | Bol042726 | Bol042727 |
| 392 | C06 | 30127152 | 30127247 | 96 | 6E-30 | Fragment | Intergenic | Bol004696 | Bol004697 |
| 393 | C06 | 30127392 | 30127475 | 84 | 5E-18 | Fragment | Intergenic | Bol004696 | Bol004697 |
| 394 | C06 | 25129349 | 25129282 | 68 | 2E-08 | Fragment | Intergenic | Bol017141 | Bol017142 |
| 395 | C06 | 43205942 | 43206002 | 61 | 4E-09 | Fragment | Intergenic | Bol042123 | Bol042124 |
| 396 | C06 | 5893680 | 5893734 | 55 | 5E-15 | Fragment | Intergenic | Bol028143 | Bol028144 |
| 397 | C06 | 16303557 | 16303614 | 58 | 1E-09 | Fragment | Intergenic | Bol041787 | Bol041788 |
| 398 | C06 | 31828044 | 31827989 | 56 | 3E-13 | Fragment | Intergenic | Bol042761 | Bol042762 |
| 399 | C06 | 36071694 | 36071636 | 59 | 2E-17 | Fragment | Intergenic | Bol022415 | Bol022416 |
| 400 | C07 | 10434131 | 10433342 | 808 | 8E-171 | Full | Intergenic | Bol026712 | Bol026713 |
| 401 | C07 | 10986266 | 10987068 | 806 | 0 | Full | Intergenic | Bol026755 | Bol026756 |
| 402 | C07 | 16098264 | 16097466 | 801 | 0 | Full | Intergenic | Bol010883 | Bol010882 |
| 403 | C07 | 16098709 | 16097919 | 801 | 0 | Full | Intergenic | Bol010883 | Bol010882 |
| 404 | C07 | 14969137 | 14968357 | 794 | 0 | Full | Intergenic | Bol015689 | Bol015688 |
| 405 | C07 | 2268531 | 2267750 | 784 | 0 | Full | Intergenic | Bol027724 | Bol027725 |
| 406 | C07 | 3660413 | 3661191 | 783 | 0 | Full | Intergenic | Bol026260 | Bol026261 |
| 407 | C07 | 13918232 | 13917452 | 783 | 0 | Full | Intergenic | Bol005217 | Bol005216 |
| 408 | C07 | 16099147 | 16098372 | 788 | 0 | Full | Intergenic | Bol010883 | Bol010882 |
| 409 | C07 | 22987258 | 22986534 | 730 | 1E-138 | Full | Intergenic | Bol031603 | Bol031604 |
| 410 | C07 | 14968696 | 14967983 | 715 | 0 | Full | Intergenic | Bol015689 | Bol015688 |
| 411 | C07 | 32010237 | 32010938 | 705 | 8E-131 | Full | Intergenic | Bol039875 | Bol039876 |
| 412 | C07 | 36886610 | 36887300 | 692 | 1E-135 | Full | Intergenic | Bol044955 | Bol044954 |
| 413 | C07 | 29665837 | 29665186 | 658 | 1E-71 | Full | Intergenic | Bol008633 | Bol008632 |
| 414 | C07 | 7215976 | 7215343 | 634 | 6E-175 | solo | Intergenic | Bol023902 | Bol023903 |
| 415 | C07 | 2867427 | 2868048 | 624 | 6E-107 | Fragment | Intergenic | Bol026121 | Bol026122 |
| 416 | C07 | 6917868 | 6917253 | 617 | 0 | solo | Intergenic | Bol032818 | Bol032817 |
| 417 | C07 | 20986883 | 20986346 | 548 | 2E-97 | Fragment | Intergenic | Bol039079 | Bol039080 |
| 418 | C07 | 21594116 | 21594628 | 514 | 9E-106 | solo | Intergenic | Bol039134 | Bol039135 |
| 419 | C07 | 15192900 | 15192402 | 500 | 1E-67 | solo | Intergenic | Bol015674 | Bol015673 |
| 420 | C07 | 28808228 | 28808689 | 462 | 5E-132 | solo | Intergenic | Bol007062 | Bol007061 |
| 421 | C07 | 14069709 | 14070087 | 381 | 6E-67 | solo | Intergenic | Bol005213 | Bol005212 |
| 422 | C07 | 32351480 | 32351094 | 387 | 5E-132 | solo | Intergenic | Bol039898 | Bol039899 |
| 423 | C07 | 11664942 | 11664571 | 372 | 2E-35 | Fragment | Intergenic | Bol026799 | Bol026800 |
| 424 | C07 | 12320245 | 12320593 | 350 | 2E-100 | solo | Intergenic | Bol019488 | Bol019489 |
| 425 | C07 | 37692810 | 37693162 | 355 | 3E-59 | Fragment | Intergenic | Bol044941 | Bol044940 |
| 426 | C07 | 4927337 | 4927679 | 343 | 2E-66 | solo | Intergenic | Bol032997 | Bol032996 |
| 427 | C07 | 28797853 | 28798198 | 348 | 1E-111 | Fragment | Intergenic | Bol007064 | Bol007063 |
| 428 | C07 | 32434884 | 32435219 | 337 | 7E-82 | solo | Intron | Bol039911 |  |
| 429 | C07 | 8178766 | 8178439 | 329 | 5E-89 | Fragment | Intergenic | Bol024014 | Bol024015 |
| 430 | C07 | 19947688 | 19947364 | 327 | 7E-85 | Fragment | Intergenic | Bol039002 | Bol039003 |
| 431 | C07 | 34537399 | 34537729 | 331 | 8E-94 | Fragment | Intergenic | Bol040105 | Bol017434 |
| 432 | C07 | 37114559 | 37114238 | 330 | 6E-67 | Fragment | Intergenic | Bol044951 | Bol044950 |
| 433 | C07 | 22781857 | 22782168 | 313 | 3E-19 | Fragment | Intergenic | Bol031593 | Bol031594 |
| 434 | C07 | 29602028 | 29601774 | 256 | 6E-33 | Fragment | Intergenic | Bol008634 | Bol008633 |
| 435 | C07 | 38315767 | 38315510 | 260 | 1E-37 | Fragment | Intergenic | Bol044929 | Bol044928 |
| 436 | C07 | 10434456 | 10434699 | 245 | 2E-23 | Fragment | Intergenic | Bol026712 | Bol026713 |
| 437 | C07 | 27622893 | 27623142 | 250 | 5E-86 | Fragment | Intergenic | Bol023811 | Bol023812 |
| 438 | C07 | 9228858 | 9229095 | 238 | 6E-67 | Fragment | 3'UTR | Bol012559 |  |
| 439 | C07 | 13844282 | 13844042 | 243 | 4E-40 | Fragment | Intergenic | Bol005222 | Bol005221 |
| 440 | C07 | 17729889 | 17729652 | 238 | 7E-48 | Fragment | 5'UTR | Bol019416 |  |
| 441 | C07 | 28188286 | 28188524 | 239 | 1E-74 | Fragment | Intergenic | Bol023866 | Bol023867 |
| 442 | C07 | 21542399 | 21542628 | 231 | 2E-45 | Fragment | Intergenic | Bol039130 | Bol039131 |
| 443 | C07 | 27622882 | 27622653 | 231 | 2E-72 | Fragment | Intergenic | Bol023811 | Bol023812 |
| 444 | C07 | 39247615 | 39247843 | 236 | 2E-48 | Fragment | Intergenic | Bol044902 | Bol044901 |
| 445 | C07 | 39255423 | 39255650 | 236 | 3E-41 | Fragment | Intergenic | Bol044901 | Bol044900 |
| 446 | C07 | 39255727 | 39255954 | 230 | 2E-38 | Fragment | Intergenic | Bol044901 | Bol044900 |
| 447 | C07 | 19338153 | 19337930 | 225 | 2E-23 | Fragment | Intergenic | Bol013283 | Bol038955 |
| 448 | C07 | 22782259 | 22782482 | 225 | 3E-28 | Fragment | Intergenic | Bol031593 | Bol031594 |
| 449 | C07 | 39247928 | 39248147 | 222 | 6E-36 | Fragment | Intergenic | Bol044902 | Bol044901 |
| 450 | C07 | 16281383 | 16281188 | 214 | 2E-29 | Fragment | Intergenic | Bol010866 | Bol010865 |
| 451 | C07 | 27979890 | 27980107 | 218 | 1E-40 | Fragment | Intergenic | Bol023848 | Bol023849 |
| 452 | C07 | 28209807 | 28209596 | 212 | 2E-42 | Fragment | Intergenic | Bol023867 | Bol023868 |
| 453 | C07 | 37141849 | 37141645 | 205 | 1E-49 | Fragment | Intergenic | Bol044950 | Bol044949 |
| 454 | C07 | 27980285 | 27980486 | 204 | 7E-42 | Fragment | Intergenic | Bol023848 | Bol023849 |
| 455 | C07 | 37142850 | 37142647 | 204 | 1E-27 | Fragment | Intergenic | Bol044950 | Bol044949 |
| 456 | C07 | 37783979 | 37783780 | 200 | 5E-18 | Fragment | Intergenic | Bol044941 | Bol044940 |
| 457 | C07 | 13734797 | 13734990 | 195 | 9E-32 | Fragment | Intergenic | Bol005226 | Bol005225 |
| 458 | C07 | 19947236 | 19947062 | 176 | 3E-47 | Fragment | Intergenic | Bol039002 | Bol039003 |
| 459 | C07 | 13672511 | 13672678 | 168 | 5E-18 | Fragment | Intergenic | Bol015626 | Bol015627 |
| 460 | C07 | 18888950 | 18888782 | 169 | 2E-11 | Fragment | Intergenic | Bol013329 | Bol013328 |
| 461 | C07 | 24611314 | 24611169 | 147 | 5E-15 | Fragment | Intergenic | Bol010113 | Bol010114 |
| 462 | C07 | 38343211 | 38343352 | 142 | 5E-12 | Fragment | Intergenic | Bol044928 | Bol044927 |
| 463 | C07 | 15896745 | 15896607 | 139 | 5E-15 | Fragment | Intergenic | Bol005383 | Bol005382 |
| 464 | C07 | 24071622 | 24071755 | 134 | 1E-09 | Fragment | Intergenic | Bol031641 | Bol031642 |
| 465 | C07 | 11665160 | 11665036 | 125 | 1E-18 | Fragment | Intergenic | Bol026799 | Bol026800 |
| 466 | C07 | 3947830 | 3947946 | 118 | 1E-12 | Fragment | Intergenic | Bol026304 | Bol026305 |
| 467 | C07 | 29601577 | 29601457 | 123 | 7E-11 | Fragment | Intergenic | Bol008634 | Bol008633 |
| 468 | C07 | 30375551 | 30375670 | 122 | 5E-12 | Fragment | Intron | Bol021460 |  |
| 469 | C07 | 6918687 | 6918795 | 110 | 2E-14 | Fragment | Intergenic | Bol032818 | Bol032817 |
| 470 | C07 | 15182224 | 15182110 | 115 | 4E-09 | Fragment | Intergenic | Bol015674 | Bol015673 |
| 471 | C07 | 28210100 | 28209992 | 109 | 1E-18 | Fragment | Intergenic | Bol023867 | Bol023868 |
| 472 | C07 | 28799652 | 28799745 | 97 | 7E-08 | Fragment | 5'UTR | Bol007063 |  |
| 473 | C07 | 37782842 | 37782746 | 98 | 2E-14 | Fragment | Intergenic | Bol044941 | Bol044940 |
| 474 | C07 | 35579991 | 35579904 | 88 | 8E-23 | Fragment | Intergenic | Bol017337 | Bol017336 |
| 475 | C07 | 25852240 | 25852162 | 80 | 2E-08 | Fragment | Intergenic | Bol016761 | Bol016760 |
| 476 | C07 | 15192202 | 15192134 | 69 | 2E-23 | Fragment | Intergenic | Bol015674 | Bol015673 |
| 477 | C07 | 39286712 | 39286783 | 72 | 3E-13 | Fragment | Intergenic | Bol044901 | Bol044900 |
| 478 | C07 | 39305467 | 39305538 | 72 | 3E-13 | Fragment | Intergenic | Bol044901 | Bol044900 |
| 479 | C07 | 39305545 | 39305609 | 65 | 4E-09 | Fragment | Intergenic | Bol044901 | Bol044900 |
| 480 | C07 | 15192451 | 15192394 | 58 | 1E-09 | Fragment | Intergenic | Bol015674 | Bol015673 |
| 481 | C07 | 37142470 | 37142412 | 59 | 7E-08 | Fragment | Intergenic | Bol044950 | Bol044949 |
| 482 | C08 | 32500236 | 32499438 | 801 | 0 | Full | Intergenic | Bol044543 | Bol044544 |
| 483 | C08 | 10870730 | 10871510 | 784 | 0 | Full | Intergenic | Bol027038 | Bol027039 |
| 484 | C08 | 33508348 | 33509126 | 783 | 0 | Full | Intergenic | Bol044623 | Bol044624 |
| 485 | C08 | 10139759 | 10139002 | 771 | 0 | Full | Intergenic | Bol014195 | Bol014196 |
| 486 | C08 | 16091328 | 16092077 | 768 | 3E-149 | Full | Intergenic | Bol021117 | Bol021116 |
| 487 | C08 | 39755791 | 39755114 | 686 | 8E-165 | Full | 3'UTR | Bol006589 |  |
| 488 | C08 | 23345583 | 23346219 | 656 | 4E-108 | Full | Intergenic | Bol007431 | Bol007432 |
| 489 | C08 | 16596686 | 16596146 | 542 | 7E-159 | solo | 5'UTR | Bol021089 |  |
| 490 | C08 | 21064659 | 21064157 | 522 | 5E-92 | Fragment | Intergenic | Bol013171 | Bol013170 |
| 491 | C08 | 26944713 | 26945231 | 520 | 2E-156 | solo | Intergenic | Bol007990 | Bol007991 |
| 492 | C08 | 14149711 | 14149215 | 499 | 4E-120 | Fragment | Intergenic | Bol028245 | Bol028244 |
| 493 | C08 | 13243143 | 13243628 | 486 | 5E-163 | solo | Intergenic | Bol028289 | Bol028288 |
| 494 | C08 | 6756197 | 6755749 | 455 | 6E-113 | solo | Intergenic | Bol033429 | Bol033428 |
| 495 | C08 | 11443991 | 11444435 | 445 | 3E-121 | solo | Intergenic | Bol027069 | Bol027070 |
| 496 | C08 | 22877185 | 22876737 | 451 | 5E-123 | Fragment | Intergenic | Bol008687 | Bol008686 |
| 497 | C08 | 29108388 | 29108835 | 449 | 2E-100 | solo | Intergenic | Bol025206 | Bol044321 |
| 498 | C08 | 12819069 | 12819447 | 380 | 4E-43 | solo | Intergenic | Bol028314 | Bol028313 |
| 499 | C08 | 21272794 | 21272424 | 371 | 4E-108 | Fragment | Intergenic | Bol013148 | Bol006975 |
| 500 | C08 | 25133005 | 25132656 | 351 | 1E-77 | solo | Intergenic | Bol037327 | Bol037325 |
| 501 | C08 | 40566634 | 40566980 | 349 | 4E-83 | solo | Intergenic | Bol018350 | Bol018351 |
| 502 | C08 | 40568524 | 40568872 | 351 | 8E-94 | solo | Intergenic | Bol018350 | Bol018351 |
| 503 | C08 | 16595070 | 16594731 | 341 | 9E-63 | solo | 3'UTR | Bol021090 |  |
| 504 | C08 | 11424123 | 11424446 | 335 | 3E-62 | solo | Intergenic | Bol027068 | Bol027069 |
| 505 | C08 | 33508801 | 33509134 | 336 | 2E-73 | solo | Intergenic | Bol044623 | Bol044624 |
| 506 | C08 | 12819488 | 12819811 | 325 | 1E-52 | Fragment | Intergenic | Bol028314 | Bol028313 |
| 507 | C08 | 26944896 | 26945225 | 331 | 2E-94 | Fragment | Intergenic | Bol007990 | Bol007991 |
| 508 | C08 | 5030524 | 5030232 | 294 | 1E-52 | Fragment | Intergenic | Bol033519 | Bol033520 |
| 509 | C08 | 13243893 | 13244187 | 295 | 6E-70 | Fragment | Intergenic | Bol028289 | Bol028288 |
| 510 | C08 | 3790130 | 3790408 | 279 | 1E-67 | Fragment | Intergenic | Bol033485 | Bol033486 |
| 511 | C08 | 5928431 | 5928154 | 278 | 5E-55 | Fragment | Intergenic | Bol033454 | Bol033453 |
| 512 | C08 | 23971760 | 23972034 | 278 | 2E-29 | Fragment | Intergenic | Bol037424 | Bol037423 |
| 513 | C08 | 6977698 | 6977423 | 276 | 2E-51 | Fragment | Intergenic | Bol033424 | Bol033423 |
| 514 | C08 | 26941924 | 26942181 | 258 | 1E-83 | Fragment | Intergenic | Bol007990 | Bol007991 |
| 515 | C08 | 5030473 | 5030232 | 243 | 7E-42 | Fragment | Intergenic | Bol033519 | Bol033520 |
| 516 | C08 | 21700699 | 21700464 | 237 | 2E-54 | Fragment | Intergenic | Bol007008 | Bol007009 |
| 517 | C08 | 28020427 | 28020184 | 244 | 5E-61 | Fragment | Intergenic | Bol025070 | Bol025071 |
| 518 | C08 | 29108835 | 29109064 | 231 | 2E-60 | Fragment | Intergenic | Bol025206 | Bol044321 |
| 519 | C08 | 21273029 | 21272806 | 224 | 1E-46 | Fragment | Intergenic | Bol013148 | Bol006975 |
| 520 | C08 | 34148521 | 34148733 | 213 | 1E-18 | Fragment | Intergenic | Bol044673 | Bol044674 |
| 521 | C08 | 11360224 | 11360016 | 210 | 2E-36 | Fragment | Intergenic | Bol027064 | Bol027065 |
| 522 | C08 | 33618217 | 33618007 | 211 | 3E-41 | Fragment | Intergenic | Bol044631 | Bol044632 |
| 523 | C08 | 18989236 | 18989431 | 197 | 2E-42 | Fragment | Intergenic | Bol029166 | Bol029167 |
| 524 | C08 | 34922926 | 34923129 | 204 | 2E-20 | Fragment | Intergenic | Bol044725 | Bol044726 |
| 525 | C08 | 40916780 | 40916980 | 201 | 1E-09 | Fragment | Intergenic | Bol018403 | Bol018404 |
| 526 | C08 | 29565551 | 29565364 | 189 | 1E-49 | Fragment | Intergenic | Bol044354 | Bol044355 |
| 527 | C08 | 25841579 | 25841756 | 178 | 2E-38 | Fragment | Intergenic | Bol037294 | Bol037293 |
| 528 | C08 | 4825670 | 4825840 | 171 | 1E-43 | Fragment | Intergenic | Bol033515 | Bol033516 |
| 529 | C08 | 29565870 | 29565720 | 151 | 3E-41 | Fragment | Intergenic | Bol044354 | Bol044355 |
| 530 | C08 | 27643217 | 27643357 | 141 | 1E-49 | Fragment | Intergenic | Bol025037 | Bol025038 |
| 531 | C08 | 21272417 | 21272281 | 137 | 2E-26 | Fragment | Intergenic | Bol013148 | Bol006975 |
| 532 | C08 | 10396748 | 10396877 | 132 | 1E-27 | Fragment | Intergenic | Bol027007 | Bol027008 |
| 533 | C08 | 25840375 | 25840492 | 119 | 5E-27 | Fragment | Intergenic | Bol037294 | Bol037293 |
| 534 | C08 | 10871666 | 10871778 | 114 | 5E-24 | Fragment | Intergenic | Bol027038 | Bol027039 |
| 535 | C08 | 24350391 | 24350486 | 96 | 2E-08 | Fragment | Intergenic | Bol037385 | Bol037384 |
| 536 | C08 | 39755908 | 39755825 | 85 | 2E-11 | Fragment | Intergenic | Bol006589 | Bol006588 |
| 537 | C08 | 21272208 | 21272129 | 80 | 7E-11 | Fragment | Intergenic | Bol013148 | Bol006975 |
| 538 | C08 | 10396669 | 10396734 | 66 | 2E-14 | Fragment | Intergenic | Bol027007 | Bol027008 |
| 539 | C08 | 21064719 | 21064659 | 61 | 4E-09 | Fragment | Intergenic | Bol013171 | Bol013170 |
| 540 | C08 | 27643380 | 27643441 | 62 | 5E-12 | Fragment | Intergenic | Bol025037 | Bol025038 |
| 541 | C08 | 27643489 | 27643552 | 64 | 3E-13 | Fragment | Intergenic | Bol025037 | Bol025038 |
| 542 | C08 | 40885018 | 40884982 | 37 | 4E-09 | Fragment | Intergenic | Bol018399 | Bol018400 |
| 543 | C09 | 3885271 | 3886083 | 826 | 3E-152 | Full | Intergenic | Bol036283 | Bol036282 |
| 544 | C09 | 36949412 | 36950230 | 825 | 7E-116 | Full | Intergenic | Bol043663 | Bol043664 |
| 545 | C09 | 8548574 | 8549381 | 810 | 0 | Full | Intergenic | Bol032148 | Bol032149 |
| 546 | C09 | 19179574 | 19178776 | 810 | 3E-167 | Full | Intergenic | Bol030242 | Bol030243 |
| 547 | C09 | 16936632 | 16935829 | 805 | 0 | Full | Intergenic | Bol035242 | Bol035241 |
| 548 | C09 | 19585196 | 19585998 | 805 | 0 | Full | Intergenic | Bol030259 | Bol030260 |
| 549 | C09 | 20143226 | 20142425 | 805 | 0 | Full | Intergenic | Bol030297 | Bol030298 |
| 550 | C09 | 13769348 | 13770131 | 786 | 0 | Full | Intergenic | Bol007737 | Bol007736 |
| 551 | C09 | 21092747 | 21093523 | 784 | 0 | Full | Intergenic | Bol038759 | Bol038760 |
| 552 | C09 | 33860053 | 33859293 | 764 | 0 | Full | Intergenic | Bol030399 | Bol030398 |
| 553 | C09 | 6211742 | 6212460 | 723 | 0 | Full | Intergenic | Bol012681 | Bol012682 |
| 554 | C09 | 3884942 | 3885619 | 679 | 0 | Full | Intergenic | Bol036283 | Bol036282 |
| 555 | C09 | 16991352 | 16990676 | 678 | 0 | Full | Intron | Bol035239 |  |
| 556 | C09 | 20122597 | 20123270 | 682 | 2E-180 | Full | Intergenic | Bol030297 | Bol030298 |
| 557 | C09 | 36817990 | 36818652 | 680 | 1E-83 | Full | Intergenic | Bol043633 | Bol043634 |
| 558 | C09 | 9713882 | 9713219 | 667 | 3E-99 | Full | Intergenic | Bol018865 | Bol018864 |
| 559 | C09 | 7619490 | 7618850 | 646 | 1E-132 | Full | Intron | Bol032090 |  |
| 560 | C09 | 6564423 | 6565000 | 583 | 5E-101 | Fragment | Intergenic | Bol032028 | Bol032029 |
| 561 | C09 | 13782024 | 13782462 | 441 | 4E-139 | Fragment | Intergenic | Bol007737 | Bol007736 |
| 562 | C09 | 6061492 | 6061923 | 433 | 2E-171 | Fragment | Intergenic | Bol019349 | Bol019350 |
| 563 | C09 | 13534939 | 13535350 | 413 | 1E-64 | Fragment | Intergenic | Bol006820 | Bol006821 |
| 564 | C09 | 19179122 | 19178718 | 410 | 3E-96 | solo | Intergenic | Bol030242 | Bol030243 |
| 565 | C09 | 22770768 | 22770363 | 408 | 2E-109 | solo | Intergenic | Bol038871 | Bol038872 |
| 566 | C09 | 13792430 | 13792049 | 385 | 1E-74 | solo | Intergenic | Bol007737 | Bol007736 |
| 567 | C09 | 13471470 | 13471842 | 373 | 2E-57 | Fragment | Intergenic | Bol006818 | Bol006819 |
| 568 | C09 | 34503160 | 34503531 | 373 | 5E-126 | solo | 5'UTR | Bol030350 |  |
| 569 | C09 | 3884580 | 3884946 | 367 | 1E-89 | solo | Intergenic | Bol036283 | Bol036282 |
| 570 | C09 | 12211975 | 12212324 | 351 | 7E-85 | solo | Intergenic | Bol012056 | Bol012057 |
| 571 | C09 | 37862913 | 37862566 | 349 | 5E-95 | solo | Intergenic | Bol043817 | Bol043818 |
| 572 | C09 | 2710463 | 2710120 | 345 | 2E-88 | solo | Intergenic | Bol032326 | Bol032327 |
| 573 | C09 | 6554768 | 6555107 | 343 | 4E-37 | Fragment | Intergenic | Bol032028 | Bol032029 |
| 574 | C09 | 22760055 | 22759712 | 346 | 5E-86 | solo | Intergenic | Bol038871 | Bol038872 |
| 575 | C09 | 13769804 | 13770136 | 334 | 1E-89 | solo | Intergenic | Bol007737 | Bol007736 |
| 576 | C09 | 16991735 | 16991398 | 338 | 4E-108 | solo | Intron | Bol035239 |  |
| 577 | C09 | 21093197 | 21093531 | 336 | 1E-111 | solo | Intergenic | Bol038759 | Bol038760 |
| 578 | C09 | 28228035 | 28227708 | 340 | 1E-83 | Fragment | Intergenic | Bol017235 | Bol017234 |
| 579 | C09 | 35156992 | 35157329 | 339 | 4E-34 | Fragment | Intergenic | Bol043390 | Bol043391 |
| 580 | C09 | 13470550 | 13470880 | 332 | 2E-39 | Fragment | Intergenic | Bol006818 | Bol006819 |
| 581 | C09 | 6212140 | 6212460 | 323 | 3E-75 | Fragment | Intergenic | Bol012681 | Bol012682 |
| 582 | C09 | 13523250 | 13523546 | 301 | 5E-27 | Fragment | Intergenic | Bol006820 | Bol006821 |
| 583 | C09 | 18124725 | 18124997 | 273 | 4E-43 | Fragment | Intergenic | Bol029395 | Bol029396 |
| 584 | C09 | 26233971 | 26234240 | 270 | 7E-48 | Fragment | Intron | Bol016885 |  |
| 585 | C09 | 13471076 | 13471333 | 267 | 6E-36 | Fragment | Intergenic | Bol006818 | Bol006819 |
| 586 | C09 | 11080862 | 11081100 | 239 | 2E-29 | Fragment | Intergenic | Bol032597 | Bol032598 |
| 587 | C09 | 13535112 | 13535350 | 240 | 6E-36 | Fragment | Intergenic | Bol006820 | Bol006821 |
| 588 | C09 | 6564770 | 6565000 | 231 | 7E-42 | Fragment | Intergenic | Bol032028 | Bol032029 |
| 589 | C09 | 13534682 | 13534881 | 202 | 3E-22 | Fragment | Intergenic | Bol006820 | Bol006821 |
| 590 | C09 | 13792766 | 13792575 | 195 | 1E-27 | Fragment | Intergenic | Bol007737 | Bol007736 |
| 591 | C09 | 14558796 | 14558960 | 165 | 2E-23 | Fragment | Intergenic | Bol005198 | Bol005199 |
| 592 | C09 | 22481116 | 22481286 | 172 | 4E-09 | Fragment | Intergenic | Bol038847 | Bol038848 |
| 593 | C09 | 20663633 | 20663795 | 163 | 9E-32 | Fragment | Intergenic | Bol030320 | Bol030321 |
| 594 | C09 | 18124389 | 18124535 | 147 | 8E-20 | Fragment | Intergenic | Bol029395 | Bol029396 |
| 595 | C09 | 13523647 | 13523781 | 135 | 1E-12 | Fragment | Intergenic | Bol006820 | Bol006821 |
| 596 | C09 | 9431584 | 9431461 | 124 | 2E-20 | Fragment | Intergenic | Bol018880 | Bol018879 |
| 597 | C09 | 20169002 | 20168883 | 120 | 4E-09 | Fragment | Intergenic | Bol030297 | Bol030298 |
| 598 | C09 | 24253746 | 24253671 | 76 | 2E-08 | Fragment | Intergenic | Bol009903 | Bol009904 |
| 599 | C09 | 6210320 | 6210382 | 63 | 2E-17 | Fragment | Intergenic | Bol012681 | Bol012682 |
| 600 | C09 | 13470925 | 13470991 | 67 | 7E-08 | Fragment | Intergenic | Bol006818 | Bol006819 |
| 601 | C09 | 19178685 | 19178630 | 56 | 2E-08 | Fragment | Intergenic | Bol030242 | Bol030243 |
| 602 | C09 | 22760111 | 22760057 | 55 | 1E-12 | Fragment | Intergenic | Bol038871 | Bol038872 |

**Table S3** List of members of the Br-*Cassandra* TRIM family and their physical positions, types and insertion annotations from the *B. rapa* genome.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TRIM No** | **Chr #** | | **Start** | **End** | **Alignment length** | | **E-value** | **Type** | **Insertion Position** | **Inserted/flanked gene** | **Flanked gene** |
| 1 | | A01 | 681338 | 680652 | 695 | | 3.00E-77 | full | Intergenic | Bra011763 | Bra011764 |
| 2 | | A01 | 1183442 | 1183093 | 350 | | 4.00E-141 | solo | 3'UTR | Bra011666 |  |
| 3 | | A01 | 3617887 | 3617557 | 333 | | 5.00E-131 | solo | Intron | Bra011158 |  |
| 4 | | A01 | 3618174 | 3617889 | 290 | | 3.00E-126 | fragment | Intron | Bra011158 |  |
| 5 | | A01 | 4419320 | 4419454 | 135 | | 5.00E-20 | fragment | Intergenic | Bra040167 | Bra040168 |
| 6 | | A01 | 4766063 | 4766338 | 276 | | 1.00E-137 | fragment | Intergenic | Bra013289 | Bra013290 |
| 7 | | A01 | 4766338 | 4766718 | 381 | | 2.00E-176 | solo | Intergenic | Bra013289 | Bra013290 |
| 8 | | A01 | 5362422 | 5361732 | 702 | | 4.00E-98 | full | Intergenic | Bra013389 | Bra013390 |
| 9 | | A01 | 7016809 | 7017179 | 378 | | 2.00E-47 | fragment | Intergenic | Bra013671 | Bra013672 |
| 10 | | A01 | 8790316 | 8790615 | 300 | | 2.00E-87 | fragment | Intron | Bra039768 |  |
| 11 | | A01 | 9199790 | 9199837 | 48 | | 1.00E-08 | fragment | Intergenic | Bra026457 | Bra026456 |
| 12 | | A01 | 9210725 | 9210943 | 223 | | 2.00E-93 | fragment | Intergenic | Bra026456 | Bra026455 |
| 13 | | A01 | 9220257 | 9220537 | 285 | | 7.00E-121 | fragment | Intergenic | Bra026456 | Bra026455 |
| 14 | | A01 | 10027120 | 10027194 | 75 | | 5.00E-08 | fragment | Intergenic | Bra026321 | Bra026320 |
| 15 | | A01 | 10027436 | 10027550 | 115 | | 9.00E-28 | fragment | Intergenic | Bra026321 | Bra026320 |
| 16 | | A01 | 10027509 | 10027716 | 209 | | 1.00E-23 | fragment | Intergenic | Bra026321 | Bra026320 |
| 17 | | A01 | 10314079 | 10314261 | 185 | | 4.00E-33 | fragment | Intergenic | Bra026264 | Bra026263 |
| 18 | | A01 | 10458141 | 10458798 | 666 | | 3.00E-95 | full | Intergenic | Bra026240 | Bra026239 |
| 19 | | A01 | 10593803 | 10592998 | 813 | | 0 | full | Intergenic | Bra040108 | Bra040107 |
| 20 | | A01 | 11346865 | 11346959 | 95 | | 5.00E-08 | fragment | Intergenic | Bra033527 | Bra033526 |
| 21 | | A01 | 11347343 | 11347437 | 95 | | 5.00E-08 | fragment | Intergenic | Bra033527 | Bra033526 |
| 22 | | A01 | 12029749 | 12030368 | 629 | | 2.00E-130 | solo | Intergenic | Bra040697 | Bra040698 |
| 23 | | A01 | 12030196 | 12030368 | 174 | | 1.00E-33 | fragment | Intergenic | Bra040697 | Bra040698 |
| 24 | | A01 | 12542116 | 12542454 | 344 | | 4.00E-101 | solo | Intergenic | Bra036871 | Bra036870 |
| 25 | | A01 | 12944123 | 12943946 | 190 | | 8.00E-19 | fragment | Intergenic | Bra038863 | Bra038862 |
| 26 | | A01 | 12944493 | 12944265 | 230 | | 4.00E-24 | fragment | Intergenic | Bra038863 | Bra038862 |
| 27 | | A01 | 13088353 | 13087565 | 798 | | 0 | full | Intergenic | Bra037599 | Bra037600 |
| 28 | | A01 | 13088807 | 13088014 | 802 | 0 | | full | Intergenic | Bra037599 | Bra037600 |
| 29 | | A01 | 13089266 | 13088472 | 799 | 0 | | full | Intergenic | Bra037599 | Bra037600 |
| 30 | | A01 | 13159204 | 13159130 | 75 | 5.00E-08 | | fragment | Intergenic | Bra037602 | Bra037603 |
| 31 | | A01 | 13674858 | 13674229 | 639 | 5.00E-88 | | solo | Intergenic | Bra033837 | Bra033836 |
| 32 | | A01 | 13760480 | 13760317 | 165 | 3.00E-09 | | fragment | Intergenic | Bra033829 | Bra033828 |
| 33 | | A01 | 14250966 | 14251774 | 809 | 0 | | full | Intergenic | Bra033786 | Bra033785 |
| 34 | | A01 | 14548610 | 14548396 | 215 | 4.00E-27 | | fragment | Intergenic | Bra029893 | Bra029894 |
| 35 | | A01 | 14548990 | 14548845 | 146 | 3.00E-12 | | fragment | Intergenic | Bra029893 | Bra029894 |
| 36 | | A01 | 14866710 | 14866757 | 48 | 5.00E-11 | | fragment | Intergenic | Bra029915 | Bra029916 |
| 37 | | A01 | 14866814 | 14866885 | 72 | 1.00E-08 | | fragment | Intergenic | Bra029915 | Bra029916 |
| 38 | | A01 | 14943203 | 14942878 | 328 | 9.00E-59 | | solo | Intergenic | Bra029925 | Bra029926 |
| 39 | | A01 | 15489765 | 15489626 | 140 | 1.00E-08 | | fragment | Intergenic | Bra029984 | Bra029985 |
| 40 | | A01 | 15901149 | 15900658 | 514 | 1.00E-79 | | fragment | Intergenic | Bra035471 | Bra035470 |
| 41 | | A01 | 15901282 | 15901199 | 84 | 9.00E-28 | | fragment | Intergenic | Bra035471 | Bra035470 |
| 42 | | A01 | 16135009 | 16134893 | 118 | 3.00E-12 | | fragment | Intergenic | Bra035448 | Bra035447 |
| 43 | | A01 | 16135560 | 16135627 | 68 | 1.00E-08 | | fragment | Intergenic | Bra035448 | Bra035447 |
| 44 | | A01 | 18428737 | 18428999 | 263 | 8.00E-53 | | fragment | Intergenic | Bra028336 | Bra028335 |
| 45 | | A01 | 18429093 | 18429137 | 45 | 7.00E-07 | | fragment | Intergenic | Bra028336 | Bra028335 |
| 46 | | A01 | 18701299 | 18700595 | 725 | 7.00E-158 | | full | Intergenic | Bra028312 | Bra028311 |
| 47 | | A01 | 18701572 | 18700951 | 629 | 4.00E-147 | | solo | Intergenic | Bra028312 | Bra028311 |
| 48 | | A01 | 18701578 | 18701992 | 421 | 2.00E-75 | | solo | Intergenic | Bra028312 | Bra028311 |
| 49 | | A01 | 18702246 | 18702013 | 237 | 3.00E-55 | | fragment | Intergenic | Bra028312 | Bra028311 |
| 50 | | A01 | 19396119 | 19395396 | 731 | 0 | | full | Intergenic | Bra023726 | Bra023727 |
| 51 | | A01 | 20249148 | 20249035 | 114 | 2.00E-19 | | fragment | Intergenic | Bra023828 | Bra023829 |
| 52 | | A01 | 20406577 | 20406400 | 178 | 2.00E-81 | | fragment | Intergenic | Bra023848 | Bra023849 |
| 53 | | A01 | 20406818 | 20406688 | 131 | 3.00E-15 | | fragment | Intergenic | Bra023848 | Bra023849 |
| 54 | | A01 | 20555804 | 20556074 | 274 | 1.00E-14 | | fragment | Intergenic | Bra023863 | Bra023864 |
| 55 | | A01 | 21127409 | 21126994 | 419 | 4.00E-113 | | fragment | Intergenic | Bra023930 | Bra023931 |
| 56 | | A01 | 21129559 | 21129267 | 299 | 7.00E-78 | | fragment | Intergenic | Bra023930 | Bra023931 |
| 57 | | A01 | 21244378 | 21244728 | 352 | 1.00E-144 | | solo | Intergenic | Bra038264 | Bra038263 |
| 58 | | A01 | 22637280 | 22636561 | 726 | 0 | | full | Intergenic | Bra021304 | Bra021303 |
| 59 | | A01 | 26301660 | 26302348 | 696 | 1.00E-67 | | full | Intergenic | Bra021323 | Bra021322 |
| 60 | | A01 | 27129076 | 27128931 | 150 | 5.00E-57 | | fragment | Intron | Bra034164 |  |
| 61 | | A01 | 27129446 | 27129095 | 352 | 5.00E-159 | | solo | Intron | Bra034164 |  |
| 62 | | A01 | 27129475 | 27129736 | 267 | 2.00E-105 | | fragment | Intron | Bra034164 |  |
| 63 | | A01 | 27130932 | 27131060 | 129 | 3.00E-52 | | fragment | Intron | Bra034164 |  |
| 64 | | A02 | 269095 | 269277 | 185 | 4.00E-33 | | fragment | Intergenic | Bra028430 | Bra028431 |
| 65 | | A02 | 4844855 | 4844056 | 809 | 0 | | full | Intergenic | Bra020057 | Bra020058 |
| 66 | | A02 | 5408807 | 5408458 | 354 | 2.00E-152 | | solo | Intergenic | Bra020171 | Bra020172 |
| 67 | | A02 | 5772603 | 5772800 | 198 | 4.00E-24 | | fragment | Intergenic | Bra020237 | Bra020238 |
| 68 | | A02 | 5913623 | 5913333 | 291 | 1.00E-29 | | fragment | Intergenic | Bra020261 | Bra020262 |
| 69 | | A02 | 5913841 | 5913791 | 51 | 5.00E-08 | | fragment | Intergenic | Bra020261 | Bra020262 |
| 70 | | A02 | 7096594 | 7096508 | 88 | 5.00E-11 | | fragment | Intergenic | Bra035634 | Bra035633 |
| 71 | | A02 | 7096789 | 7096649 | 143 | 2.00E-32 | | fragment | Intergenic | Bra035634 | Bra035633 |
| 72 | | A02 | 7096873 | 7096815 | 60 | 1.00E-08 | | fragment | Intergenic | Bra035634 | Bra035633 |
| 73 | | A02 | 8722703 | 8722936 | 234 | 7.00E-41 | | fragment | Intron | Bra022587 |  |
| 74 | | A02 | 8722966 | 8723332 | 369 | 1.00E-104 | | fragment | Intron | Bra022587 |  |
| 75 | | A02 | 8723136 | 8723344 | 209 | 1.00E-54 | | fragment | Intron | Bra022587 |  |
| 76 | | A02 | 8860699 | 8860853 | 156 | 8.00E-19 | | fragment | Intron | Bra022568 |  |
| 77 | | A02 | 8943838 | 8943749 | 90 | 5.00E-08 | | fragment | Intergenic | Bra022558 | Bra022557 |
| 78 | | A02 | 9558776 | 9558690 | 87 | 8.00E-13 | | fragment | Intergenic | Bra022476 | Bra022475 |
| 79 | | A02 | 9559349 | 9558828 | 536 | 9.00E-59 | | fragment | Intergenic | Bra022476 | Bra022475 |
| 80 | | A02 | 9559349 | 9559201 | 149 | 3.00E-21 | | fragment | Intergenic | Bra022476 | Bra022475 |
| 81 | | A02 | 9788966 | 9788858 | 109 | 7.00E-07 | | fragment | Intergenic | Bra039756 | Bra039757 |
| 82 | | A02 | 9789138 | 9789102 | 37 | 7.00E-07 | | fragment | Intergenic | Bra039756 | Bra039757 |
| 83 | | A02 | 10127669 | 10127799 | 131 | 5.00E-20 | | fragment | Intergenic | Bra034021 | Bra034020 |
| 84 | | A02 | 10237862 | 10237630 | 233 | 9.00E-25 | | fragment | Intergenic | Bra034009 | Bra034008 |
| 85 | | A02 | 10238130 | 10238029 | 103 | 5.00E-08 | | fragment | Intergenic | Bra034009 | Bra034008 |
| 86 | | A02 | 10238236 | 10238183 | 54 | 2.00E-07 | | fragment | Intergenic | Bra034009 | Bra034008 |
| 87 | | A02 | 10428009 | 10428665 | 681 | 2.00E-96 | | full | Intergenic | Bra033986 | Bra033985 |
| 88 | | A02 | 14320700 | 14320359 | 346 | 1.00E-159 | | solo | Intergenic | Bra008280 | Bra008281 |
| 89 | | A02 | 14570617 | 14569908 | 721 | 5.00E-131 | | full | Intergenic | Bra008299 | Bra008300 |
| 90 | | A02 | 14570605 | 14570295 | 312 | 7.00E-47 | | solo | Intergenic | Bra008299 | Bra008300 |
| 91 | | A02 | 14729820 | 14729693 | 128 | 2.00E-13 | | fragment | Intergenic | Bra008325 | Bra008326 |
| 92 | | A02 | 14729937 | 14729853 | 85 | 2.00E-16 | | fragment | Intergenic | Bra008325 | Bra008326 |
| 93 | | A02 | 15149878 | 15149494 | 385 | 1.00E-178 | | solo | Intergenic | Bra008372 | Bra008373 |
| 94 | | A02 | 15150620 | 15150285 | 340 | 3.00E-151 | | solo | Intergenic | Bra008372 | Bra008373 |
| 95 | | A02 | 15288725 | 15288801 | 77 | 5.00E-14 | | fragment | Intergenic | Bra008395 | Bra008396 |
| 96 | | A02 | 15288805 | 15288891 | 87 | 2.00E-22 | | fragment | Intergenic | Bra008395 | Bra008396 |
| 97 | | A02 | 15343190 | 15343055 | 137 | 8.00E-19 | | fragment | Intergenic | Bra008398 | Bra008399 |
| 98 | | A02 | 15343386 | 15343238 | 149 | 2.00E-16 | | fragment | Intergenic | Bra008398 | Bra008399 |
| 99 | | A02 | 16146545 | 16145766 | 784 | 0 | | full | Intergenic | Bra008518 | Bra008519 |
| 100 | | A02 | 16698704 | 16698758 | 55 | 2.00E-10 | | fragment | Intergenic | Bra033121 | Bra033122 |
| 101 | | A02 | 16699383 | 16699591 | 209 | 5.00E-45 | | fragment | Intergenic | Bra033121 | Bra033122 |
| 102 | | A02 | 17400419 | 17400076 | 344 | 5.00E-45 | | fragment | Intergenic | Bra033187 | Bra033188 |
| 103 | | A02 | 17541407 | 17541035 | 376 | 3.00E-43 | | solo | Intergenic | Bra033195 | Bra033196 |
| 104 | | A02 | 17992249 | 17991929 | 322 | 1.00E-36 | | solo | Intergenic | Bra021966 | Bra021967 |
| 105 | | A02 | 18324110 | 18324292 | 183 | 7.00E-44 | | fragment | Intron | Bra021997 |  |
| 106 | | A02 | 18324390 | 18325082 | 699 | 0 | | full | CDS | Bra021997 |  |
| 107 | | A02 | 19525158 | 19524470 | 699 | 5.00E-125 | | full | Intergenic | Bra022122 | Bra022123 |
| 108 | | A02 | 19525159 | 19524890 | 275 | 7.00E-44 | | fragment | Intergenic | Bra022122 | Bra022123 |
| 109 | | A02 | 19525924 | 19525178 | 757 | 2.00E-136 | | full | Intergenic | Bra022122 | Bra022123 |
| 110 | | A02 | 19976768 | 19976339 | 430 | 0 | | solo | Intron | Bra026525 |  |
| 111 | | A02 | 19977120 | 19976819 | 306 | 4.00E-138 | | solo | Intron | Bra026525 |  |
| 112 | | A02 | 19984508 | 19984217 | 296 | 9.00E-22 | | fragment | Intergenic | Bra026525 | Bra026526 |
| 113 | | A02 | 19984823 | 19984600 | 224 | 8.00E-16 | | fragment | Intergenic | Bra026525 | Bra026526 |
| 114 | | A02 | 21290174 | 21289554 | 631 | 3.00E-111 | | fragment | Intergenic | Bra026667 | Bra026668 |
| 115 | | A02 | 21298100 | 21298016 | 85 | 1.00E-23 | | fragment | Intergenic | Bra026667 | Bra026668 |
| 116 | | A02 | 22485184 | 22485323 | 142 | 3.00E-12 | | fragment | Intergenic | Bra036330 | Bra036331 |
| 117 | | A02 | 22580840 | 22580365 | 482 | 9.00E-136 | | solo | Intergenic | Bra036336 | Bra036337 |
| 118 | | A02 | 24790635 | 24790572 | 64 | 2.00E-13 | | fragment | Intergenic | Bra020525 | Bra020524 |
| 119 | | A02 | 24799595 | 24799521 | 75 | 8.00E-13 | | fragment | Intergenic | Bra020524 | Bra020523 |
| 120 | | A02 | 25119789 | 25120114 | 326 | 9.00E-96 | | solo | Intergenic | Bra020479 | Bra020478 |
| 121 | | A02 | 25775775 | 25774971 | 807 | 0 | | full | Intergenic | Bra029342 | Bra029341 |
| 122 | | A02 | 26205866 | 26205673 | 201 | 7.00E-10 | | fragment | Intergenic | Bra029272 | Bra029271 |
| 123 | | A03 | 921094 | 921746 | 659 | 2.00E-133 | | full | Intergenic | Bra005850 | Bra005851 |
| 124 | | A03 | 921550 | 921757 | 208 | 2.00E-56 | | fragment | Intergenic | Bra005850 | Bra005851 |
| 125 | | A03 | 4704438 | 4704331 | 109 | 1.00E-11 | | fragment | Intergenic | Bra006700 | Bra006701 |
| 126 | | A03 | 4704550 | 4704475 | 77 | 1.00E-11 | | fragment | Intergenic | Bra006700 | Bra006701 |
| 127 | | A03 | 4895254 | 4895181 | 74 | 2.00E-07 | | fragment | Intron | Bra006749 |  |
| 128 | | A03 | 5344993 | 5344896 | 98 | 1.00E-14 | | fragment | Intergenic | Bra006850 | Bra006851 |
| 129 | | A03 | 5993843 | 5994035 | 195 | 3.00E-15 | | fragment | Intron | Bra029035 |  |
| 130 | | A03 | 10841352 | 10841287 | 66 | 1.00E-14 | | fragment | Intergenic | Bra000380 | Bra000381 |
| 131 | | A03 | 10841436 | 10841398 | 39 | 2.00E-10 | | fragment | Intergenic | Bra000380 | Bra000381 |
| 132 | | A03 | 11449490 | 11449431 | 60 | 1.00E-08 | | fragment | Intergenic | Bra000498 | Bra000499 |
| 133 | | A03 | 11480667 | 11480320 | 352 | 3.00E-151 | | solo | Intergenic | Bra000506 | Bra000507 |
| 134 | | A03 | 11646876 | 11646538 | 339 | 7.00E-81 | | solo | Intergenic | Bra000538 | Bra000539 |
| 135 | | A03 | 11869345 | 11869996 | 657 | 5.00E-128 | | full | Intergenic | Bra000577 | Bra000578 |
| 136 | | A03 | 13739109 | 13739440 | 338 | 2.00E-38 | | solo | Intergenic | Bra000889 | Bra000890 |
| 137 | | A03 | 13918354 | 13918476 | 123 | 8.00E-13 | | fragment | Intergenic | Bra000920 | Bra000921 |
| 138 | | A03 | 16312885 | 16313485 | 610 | 2.00E-41 | | solo | Intergenic | Bra001424 | Bra001425 |
| 139 | | A03 | 17272164 | 17272077 | 88 | 2.00E-13 | | fragment | Intergenic | Bra001596 | Bra001597 |
| 140 | | A03 | 17272343 | 17272204 | 140 | 2.00E-44 | | fragment | Intergenic | Bra001596 | Bra001597 |
| 141 | | A03 | 17272526 | 17272450 | 77 | 7.00E-07 | | fragment | Intergenic | Bra001596 | Bra001597 |
| 142 | | A03 | 17510877 | 17510622 | 257 | 1.00E-30 | | fragment | Intergenic | Bra001625 | Bra001626 |
| 143 | | A03 | 17595566 | 17594764 | 807 | 0 | | full | Intergenic | Bra001633 | Bra001634 |
| 144 | | A03 | 19352312 | 19351964 | 353 | 4.00E-147 | | solo | 3'UTR | Bra001921 |  |
| 145 | | A03 | 21033496 | 21033844 | 353 | 7.00E-152 | | solo | Intron | Bra013010 |  |
| 146 | | A03 | 22443918 | 22444220 | 307 | 8.00E-130 | | solo | Intergenic | Bra012749 | Bra012748 |
| 147 | | A03 | 22444217 | 22444602 | 386 | 3.00E-166 | | solo | Intergenic | Bra012749 | Bra012748 |
| 148 | | A03 | 22783193 | 22783038 | 160 | 1.00E-60 | | fragment | Intergenic | Bra012680 | Bra012679 |
| 149 | | A03 | 22784059 | 22783711 | 353 | 2.00E-161 | | solo | Intergenic | Bra012680 | Bra012679 |
| 150 | | A03 | 23594185 | 23594811 | 630 | 0 | | solo | Intergenic | Bra012552 | Bra012551 |
| 151 | | A03 | 23595034 | 23595631 | 602 | 0 | | solo | Intergenic | Bra012552 | Bra012551 |
| 152 | | A03 | 23868654 | 23868805 | 152 | 1.00E-20 | | fragment | Intergenic | Bra012517 | Bra012516 |
| 153 | | A03 | 24520359 | 24519637 | 729 | 1.00E-141 | | full | Intergenic | Bra019387 | Bra019386 |
| 154 | | A03 | 24520359 | 24520047 | 315 | 1.00E-48 | | solo | Intergenic | Bra019387 | Bra019386 |
| 155 | | A03 | 25254802 | 25254882 | 81 | 8.00E-19 | | fragment | Intergenic | Bra019283 | Bra019282 |
| 156 | | A03 | 25270690 | 25270770 | 81 | 8.00E-19 | | fragment | Intergenic | Bra019281 | Bra019280 |
| 157 | | A03 | 25386345 | 25386697 | 353 | 7.00E-155 | | solo | Intergenic | Bra019261 | Bra019260 |
| 158 | | A03 | 26184113 | 26183681 | 436 | 4.00E-61 | | fragment | Intergenic | Bra019128 | Bra019127 |
| 159 | | A03 | 26188952 | 26188446 | 515 | 1.00E-67 | | fragment | Intergenic | Bra019127 | Bra019126 |
| 160 | | A03 | 26188931 | 26188855 | 77 | 7.00E-07 | | fragment | Intergenic | Bra019127 | Bra019126 |
| 161 | | A03 | 26190599 | 26190321 | 280 | 1.00E-20 | | fragment | Intergenic | Bra019127 | Bra019126 |
| 162 | | A03 | 26209958 | 26209636 | 336 | 2.00E-32 | | solo | Intergenic | Bra019124 | Bra019123 |
| 163 | | A03 | 26210367 | 26209966 | 412 | 3.00E-46 | | solo | Intergenic | Bra019124 | Bra019123 |
| 164 | | A03 | 26214686 | 26214364 | 336 | 2.00E-32 | | solo | Intergenic | Bra019123 | Bra019122 |
| 165 | | A03 | 26215093 | 26214694 | 409 | 5.00E-54 | | solo | Intergenic | Bra019123 | Bra019122 |
| 166 | | A03 | 31412729 | 31412619 | 112 | 8.00E-19 | | fragment | Intergenic | Bra017895 | Bra017896 |
| 167 | | A03 | 31491823 | 31491089 | 738 | 0 | | full | Intergenic | Bra017898 | Bra017899 |
| 168 | | A04 | 971409 | 971725 | 323 | 2.00E-72 | | solo | Intergenic | Bra014486 | Bra014487 |
| 169 | | A04 | 1553060 | 1553180 | 121 | 5.00E-45 | | fragment | Intergenic | Bra014580 | Bra014581 |
| 170 | | A04 | 1553422 | 1553507 | 86 | 1.00E-33 | | fragment | Intergenic | Bra014580 | Bra014581 |
| 171 | | A04 | 1553551 | 1553898 | 349 | 3.00E-145 | | solo | Intergenic | Bra014580 | Bra014581 |
| 172 | | A04 | 1709911 | 1710260 | 354 | 9.00E-99 | | solo | Intergenic | Bra014603 | Bra014604 |
| 173 | | A04 | 1894457 | 1894603 | 147 | 1.00E-17 | | fragment | Intergenic | Bra014634 | Bra014635 |
| 174 | | A04 | 2855688 | 2855824 | 137 | 1.00E-23 | | fragment | Intergenic | Bra014759 | Bra014760 |
| 175 | | A04 | 2866853 | 2867091 | 239 | 3.00E-34 | | fragment | Intergenic | Bra014760 | Bra014761 |
| 176 | | A04 | 2885423 | 2885655 | 237 | 2.00E-13 | | fragment | Intergenic | Bra014762 | Bra014763 |
| 177 | | A04 | 4459440 | 4460121 | 704 | 1.00E-141 | | full | Intron | Bra033477 |  |
| 178 | | A04 | 4460151 | 4460270 | 120 | 5.00E-23 | | fragment | Intron | Bra033477 |  |
| 179 | | A04 | 4807948 | 4808281 | 335 | 4.00E-39 | | solo | Intergenic | Bra032761 | Bra032760 |
| 180 | | A04 | 4808231 | 4808281 | 51 | 5.00E-08 | | fragment | Intergenic | Bra032761 | Bra032760 |
| 181 | | A04 | 5397765 | 5397618 | 148 | 5.00E-11 | | fragment | Intergenic | Bra032698 | Bra032697 |
| 182 | | A04 | 6310049 | 6310176 | 128 | 5.00E-11 | | fragment | Intergenic | Bra028164 | Bra028165 |
| 183 | | A04 | 6311415 | 6311542 | 128 | 1.00E-08 | | fragment | Intergenic | Bra028164 | Bra028165 |
| 184 | | A04 | 6311651 | 6311830 | 181 | 8.00E-19 | | fragment | Intergenic | Bra028164 | Bra028165 |
| 185 | | A04 | 6608412 | 6609111 | 706 | 3.00E-120 | | full | Intergenic | Bra028201 | Bra028202 |
| 186 | | A04 | 6755433 | 6756225 | 799 | 4.00E-178 | | full | 5'UTR | Bra028214 |  |
| 187 | | A04 | 7086157 | 7086506 | 352 | 2.00E-130 | | solo | Intergenic | Bra028245 | Bra028246 |
| 188 | | A04 | 7601909 | 7601994 | 86 | 3.00E-12 | | fragment | Intergenic | Bra025597 | Bra025596 |
| 189 | | A04 | 9123754 | 9122953 | 812 | 0 | | full | Intergenic | Bra030322 | Bra030321 |
| 190 | | A04 | 9947438 | 9947142 | 305 | 7.00E-38 | | fragment | Intergenic | Bra030211 | Bra030210 |
| 191 | | A04 | 10165842 | 10166071 | 230 | 7.00E-41 | | fragment | Intergenic | Bra030190 | Bra032189 |
| 192 | | A04 | 10170900 | 10171579 | 687 | 7.00E-115 | | full | Intergenic | Bra030190 | Bra032189 |
| 193 | | A04 | 10189719 | 10189568 | 152 | 8.00E-16 | | fragment | Intergenic | Bra032188 | Bra032187 |
| 194 | | A04 | 12257676 | 12257391 | 287 | 7.00E-75 | | fragment | Intergenic | Bra034382 | Bra034383 |
| 195 | | A04 | 12513067 | 12512483 | 593 | 9.00E-62 | | fragment | Intergenic | Bra035726 | Bra035725 |
| 196 | | A04 | 12978777 | 12979128 | 354 | 6.00E-69 | | solo | Intergenic | Bra035665 | Bra035664 |
| 197 | | A04 | 18406914 | 18406567 | 352 | 1.00E-141 | | solo | Intergenic | Bra037632 | Bra037631 |
| 198 | | A05 | 1137308 | 1137412 | 106 | 3.00E-12 | | fragment | Intergenic | Bra004630 | Bra004631 |
| 199 | | A05 | 1203650 | 1203489 | 169 | 6.00E-26 | | fragment | Intergenic | Bra004645 | Bra004646 |
| 200 | | A05 | 1203875 | 1203806 | 70 | 3.00E-12 | | fragment | Intergenic | Bra004645 | Bra004646 |
| 201 | | A05 | 2324959 | 2324863 | 97 | 8.00E-19 | | fragment | Intron | Bra004890 |  |
| 202 | | A05 | 3020196 | 3020433 | 238 | 4.00E-24 | | fragment | Intergenic | Bra005022 | Bra005023 |
| 203 | | A05 | 3086846 | 3086916 | 71 | 2.00E-10 | | fragment | Intergenic | Bra005034 | Bra005035 |
| 204 | | A05 | 3086961 | 3087087 | 127 | 1.00E-20 | | fragment | Intergenic | Bra005034 | Bra005035 |
| 205 | | A05 | 3923918 | 3923825 | 94 | 7.00E-10 | | fragment | Intergenic | Bra005192 | Bra005193 |
| 206 | | A05 | 6872935 | 6873259 | 329 | 1.00E-70 | | solo | Intergenic | Bra018237 | Bra018238 |
| 207 | | A05 | 8781854 | 8782656 | 808 | 0 | | full | Intergenic | Bra018506 | Bra018507 |
| 208 | | A05 | 9228701 | 9228784 | 84 | 5.00E-11 | | fragment | Intergenic | Bra018556 | Bra018557 |
| 209 | | A05 | 9228828 | 9228934 | 107 | 2.00E-10 | | fragment | Intergenic | Bra018556 | Bra018557 |
| 210 | | A05 | 9260175 | 9260326 | 152 | 5.00E-11 | | fragment | Intergenic | Bra018559 | Bra018560 |
| 211 | | A05 | 9260746 | 9260986 | 242 | 1.00E-14 | | fragment | Intergenic | Bra018559 | Bra018560 |
| 212 | | A05 | 9288125 | 9287418 | 714 | 1.00E-122 | | full | Intergenic | Bra018563 | Bra039479 |
| 213 | | A05 | 9744545 | 9744627 | 83 | 8.00E-13 | | fragment | Intergenic | Bra037066 | Bra037067 |
| 214 | | A05 | 9861050 | 9860367 | 690 | 0 | | full | Intergenic | Bra037082 | Bra037083 |
| 215 | | A05 | 9871282 | 9870710 | 577 | 0 | | solo | Intergenic | Bra037082 | Bra037083 |
| 216 | | A05 | 9871284 | 9870947 | 338 | 3.00E-129 | | solo | Intergenic | Bra037082 | Bra037083 |
| 217 | | A05 | 10003886 | 10004084 | 200 | 5.00E-23 | | fragment | Intergenic | Bra037090 | Bra037091 |
| 218 | | A05 | 10005302 | 10005518 | 222 | 2.00E-19 | | fragment | Intergenic | Bra037090 | Bra037091 |
| 219 | | A05 | 10211783 | 10212109 | 331 | 2.00E-47 | | solo | Intergenic | Bra038134 | Bra038133 |
| 220 | | A05 | 10938977 | 10938622 | 356 | 3.00E-40 | | fragment | Intergenic | Bra030410 | Bra030411 |
| 221 | | A05 | 10939223 | 10939121 | 103 | 8.00E-13 | | fragment | Intergenic | Bra030410 | Bra030411 |
| 222 | | A05 | 11209983 | 11210145 | 163 | 1.00E-17 | | fragment | Intergenic | Bra030437 | Bra030438 |
| 223 | | A05 | 11210274 | 11210399 | 126 | 9.00E-22 | | fragment | Intergenic | Bra030437 | Bra030438 |
| 224 | | A05 | 12103788 | 12103893 | 107 | 5.00E-08 | | fragment | Intergenic | Bra032273 | Bra032272 |
| 225 | | A05 | 12104050 | 12104254 | 213 | 5.00E-17 | | fragment | Intergenic | Bra032273 | Bra032272 |
| 226 | | A05 | 13638246 | 13637432 | 820 | 0 | | full | Intergenic | Bra034412 | Bra034413 |
| 227 | | A05 | 13850350 | 13851096 | 756 | 0 | | full | Intron | Bra034428 |  |
| 228 | | A05 | 13916753 | 13916806 | 54 | 2.00E-07 | | fragment | Intergenic | Bra034432 | Bra034433 |
| 229 | | A05 | 13916994 | 13917230 | 239 | 2.00E-41 | | fragment | Intergenic | Bra034432 | Bra034433 |
| 230 | | A05 | 15088921 | 15089291 | 378 | 2.00E-47 | | fragment | Intergenic | Bra033906 | Bra033907 |
| 231 | | A05 | 15284289 | 15283906 | 385 | 3.00E-145 | | solo | Intergenic | Bra033920 | Bra033921 |
| 232 | | A05 | 15284579 | 15284289 | 295 | 3.00E-129 | | fragment | Intergenic | Bra033920 | Bra033921 |
| 233 | | A05 | 16916755 | 16917106 | 352 | 2.00E-161 | | solo | Intron | Bra035748 |  |
| 234 | | A05 | 17310892 | 17310089 | 810 | 0 | | full | Intergenic | Bra035809 | Bra035810 |
| 235 | | A05 | 17312858 | 17312349 | 514 | 0 | | solo | Intergenic | Bra035809 | Bra035810 |
| 236 | | A05 | 20298793 | 20298466 | 353 | 3.00E-108 | | solo | 3'UTR | Bra027318 |  |
| 237 | | A05 | 20972518 | 20971746 | 780 | 0 | | full | Intergenic | Bra034683 | Bra034684 |
| 238 | | A06 | 7225028 | 7224887 | 144 | 5.00E-23 | | fragment | Intron | Bra025678 |  |
| 239 | | A06 | 7225150 | 7225092 | 59 | 2.00E-10 | | fragment | Intron | Bra025678 |  |
| 240 | | A06 | 7738127 | 7738670 | 549 | 0 | | solo | 3'UTR | Bra025757 |  |
| 241 | | A06 | 7738582 | 7738673 | 92 | 6.00E-35 | | fragment | Intergenic | Bra025757 | Bra025758 |
| 242 | | A06 | 9798497 | 9798338 | 163 | 1.00E-11 | | fragment | Intergenic | Bra018048 | Bra018049 |
| 243 | | A06 | 10256690 | 10256434 | 259 | 7.00E-44 | | fragment | Intergenic | Bra018103 | Bra018104 |
| 244 | | A06 | 11492199 | 11492577 | 379 | 9.00E-173 | | solo | Intergenic | Bra038291 | Bra038292 |
| 245 | | A06 | 11777542 | 11777579 | 38 | 2.00E-07 | | fragment | Intergenic | Bra019611 | Bra019610 |
| 246 | | A06 | 11994039 | 11993357 | 690 | 0 | | full | Intergenic | Bra019584 | Bra019583 |
| 247 | | A06 | 11995456 | 11995101 | 357 | 5.00E-128 | | solo | Intergenic | Bra019584 | Bra019583 |
| 248 | | A06 | 12279074 | 12279407 | 346 | 9.00E-99 | | solo | Intron | Bra019552 |  |
| 249 | | A06 | 12296325 | 12296125 | 206 | 5.00E-17 | | fragment | Intergenic | Bra019552 | Bra019551 |
| 250 | | A06 | 12296733 | 12296510 | 225 | 7.00E-38 | | fragment | Intergenic | Bra019552 | Bra019551 |
| 251 | | A06 | 12348210 | 12347971 | 240 | 6.00E-35 | | fragment | Intergenic | Bra019545 | Bra019544 |
| 252 | | A06 | 12765487 | 12765556 | 71 | 2.00E-10 | | fragment | Intergenic | Bra019503 | Bra019502 |
| 253 | | A06 | 12765621 | 12765854 | 238 | 2.00E-22 | | fragment | Intergenic | Bra019503 | Bra019502 |
| 254 | | A06 | 12872082 | 12871735 | 353 | 5.00E-128 | | solo | Intergenic | Bra019498 | Bra019497 |
| 255 | | A06 | 13697233 | 13698022 | 797 | 1.00E-159 | | full | Intergenic | Bra019442 | Bra019441 |
| 256 | | A06 | 13791798 | 13791665 | 134 | 2.00E-07 | | fragment | Intergenic | Bra019434 | Bra019433 |
| 257 | | A06 | 14025907 | 14025802 | 106 | 1.00E-26 | | fragment | Intergenic | Bra019416 | Bra019415 |
| 258 | | A06 | 14636233 | 14636050 | 184 | 5.00E-23 | | fragment | 5'UTR | Bra024267 |  |
| 259 | | A06 | 15249652 | 15249487 | 166 | 9.00E-22 | | fragment | Intergenic | Bra024365 | Bra024366 |
| 260 | | A06 | 16383328 | 16383356 | 29 | 7.00E-07 | | fragment | Intergenic | Bra009647 | Bra009648 |
| 261 | | A06 | 16870448 | 16870100 | 351 | 6.00E-137 | | solo | 3'UTR | Bra009726 |  |
| 262 | | A06 | 16991087 | 16991034 | 54 | 1.00E-14 | | fragment | Intergenic | Bra009745 | Bra009746 |
| 263 | | A06 | 18698743 | 18698405 | 345 | 3.00E-123 | | solo | Intergenic | Bra010023 | Bra010024 |
| 264 | | A06 | 19037365 | 19037158 | 208 | 1.00E-20 | | fragment | Intergenic | Bra010061 | Bra010062 |
| 265 | | A06 | 19037576 | 19037530 | 47 | 5.00E-08 | | fragment | Intergenic | Bra010061 | Bra010062 |
| 266 | | A06 | 19037759 | 19037625 | 135 | 1.00E-17 | | fragment | Intergenic | Bra010061 | Bra010062 |
| 267 | | A06 | 19038090 | 19037935 | 156 | 5.00E-11 | | fragment | Intergenic | Bra010061 | Bra010062 |
| 268 | | A06 | 19038527 | 19038332 | 196 | 2.00E-13 | | fragment | Intergenic | Bra010061 | Bra010062 |
| 269 | | A06 | 19632573 | 19632836 | 264 | 3.00E-49 | | fragment | Intergenic | Bra010133 | Bra010134 |
| 270 | | A06 | 21520012 | 21519747 | 266 | 2.00E-31 | | fragment | Intron | Bra037427 |  |
| 271 | | A06 | 21520436 | 21520176 | 261 | 1.00E-30 | | fragment | Intron | Bra037427 |  |
| 272 | | A06 | 21523510 | 21523370 | 142 | 5.00E-17 | | fragment | Intergenic | Bra037427 | Bra037426 |
| 273 | | A06 | 21653906 | 21653976 | 71 | 5.00E-11 | | fragment | Intron | Bra025416 |  |
| 274 | | A06 | 22599805 | 22599003 | 811 | 0 | | full | Intergenic | Bra025245 | Bra025244 |
| 275 | | A06 | 23819225 | 23818431 | 808 | 1.00E-141 | | full | Intergenic | Bra024849 | Bra024850 |
| 276 | | A06 | 23927188 | 23927370 | 189 | 9.00E-22 | | fragment | Intergenic | Bra024860 | Bra024861 |
| 277 | | A06 | 24431237 | 24431073 | 166 | 7.00E-10 | | fragment | Intergenic | Bra024964 | Bra024965 |
| 278 | | A06 | 24450479 | 24450820 | 343 | 2.00E-53 | | fragment | Intergenic | Bra024966 | Bra024967 |
| 279 | | A06 | 24703398 | 24703621 | 224 | 4.00E-30 | | fragment | Intergenic | Bra025016 | Bra025017 |
| 280 | | A06 | 24703650 | 24703936 | 289 | 2.00E-31 | | fragment | Intergenic | Bra025016 | Bra025017 |
| 281 | | A06 | 25291219 | 25291306 | 88 | 5.00E-11 | | fragment | Intergenic | Bra033746 | Bra033745 |
| 282 | | A07 | 1831025 | 1830830 | 200 | 2.00E-84 | | fragment | Intergenic | Bra039895 | Bra039894 |
| 283 | | A07 | 1831443 | 1831028 | 420 | 0 | | solo | Intergenic | Bra039895 | Bra039894 |
| 284 | | A07 | 2715751 | 2716440 | 696 | 7.00E-118 | | full | Intergenic | Bra015173 | Bra015172 |
| 285 | | A07 | 3061777 | 3061845 | 69 | 3.00E-09 | | fragment | Intergenic | Bra015150 | Bra015149 |
| 286 | | A07 | 3062046 | 3062150 | 106 | 3.00E-12 | | fragment | Intergenic | Bra015150 | Bra015149 |
| 287 | | A07 | 3945341 | 3944551 | 799 | 0 | | full | Intergenic | Bra015052 | Bra015051 |
| 288 | | A07 | 4293655 | 4293002 | 658 | 1.00E-178 | | full | Intron | Bra015011 |  |
| 289 | | A07 | 4497264 | 4497404 | 141 | 2.00E-35 | | fragment | Intergenic | Bra014995 | Bra014994 |
| 290 | | A07 | 4859162 | 4859252 | 91 | 3.00E-15 | | fragment | Intergenic | Bra014958 | Bra014957 |
| 291 | | A07 | 4859349 | 4859415 | 68 | 5.00E-11 | | fragment | Intergenic | Bra014958 | Bra014957 |
| 292 | | A07 | 4866508 | 4866567 | 60 | 5.00E-11 | | fragment | Intergenic | Bra014958 | Bra014957 |
| 293 | | A07 | 4866645 | 4866704 | 60 | 5.00E-11 | | fragment | Intergenic | Bra014958 | Bra014957 |
| 294 | | A07 | 4866782 | 4866993 | 212 | 3.00E-37 | | fragment | Intergenic | Bra014958 | Bra014957 |
| 295 | | A07 | 5570061 | 5570002 | 60 | 1.00E-08 | | fragment | Intergenic | Bra014888 | Bra014887 |
| 296 | | A07 | 6366061 | 6365985 | 77 | 5.00E-14 | | fragment | Intergenic | Bra030126 | Bra030125 |
| 297 | | A07 | 6745736 | 6745429 | 309 | 1.00E-57 | | fragment | Intergenic | Bra030077 | Bra030076 |
| 298 | | A07 | 6745951 | 6745751 | 203 | 1.00E-20 | | fragment | Intergenic | Bra030077 | Bra030076 |
| 299 | | A07 | 6746081 | 6745958 | 124 | 2.00E-13 | | fragment | Intergenic | Bra030077 | Bra030076 |
| 300 | | A07 | 7406444 | 7406685 | 242 | 1.00E-45 | | fragment | Intergenic | Bra012466 | Bra012465 |
| 301 | | A07 | 7611965 | 7611620 | 352 | 6.00E-140 | | solo | Intron | Bra012436 |  |
| 302 | | A07 | 8451777 | 8451506 | 272 | 5.00E-85 | | fragment | Intergenic | Bra012330 | Bra012329 |
| 303 | | A07 | 8772143 | 8772496 | 355 | 5.00E-54 | | fragment | Intergenic | Bra012294 | Bra012293 |
| 304 | | A07 | 10082107 | 10081986 | 122 | 4.00E-24 | | fragment | Intergenic | Bra012092 | Bra012091 |
| 305 | | A07 | 10811824 | 10811683 | 142 | 2.00E-31 | | fragment | Intergenic | Bra011979 | Bra011978 |
| 306 | | A07 | 11207945 | 11208279 | 341 | 2.00E-44 | | fragment | Intron | Bra011932 |  |
| 307 | | A07 | 11208257 | 11208423 | 172 | 2.00E-10 | | fragment | Intron | Bra011932 |  |
| 308 | | A07 | 11271410 | 11271196 | 215 | 3.00E-34 | | fragment | Intergenic | Bra011926 | Bra011925 |
| 309 | | A07 | 11271626 | 11271575 | 53 | 7.00E-07 | | fragment | Intergenic | Bra011926 | Bra011925 |
| 310 | | A07 | 11316214 | 11315659 | 584 | 9.00E-62 | | fragment | Intergenic | Bra011923 | Bra011922 |
| 311 | | A07 | 11784462 | 11784983 | 530 | 4.00E-76 | | fragment | Intergenic | Bra003193 | Bra003194 |
| 312 | | A07 | 11800138 | 11800338 | 204 | 8.00E-19 | | fragment | Intergenic | Bra003194 | Bra003195 |
| 313 | | A07 | 11800586 | 11800626 | 41 | 7.00E-07 | | fragment | Intergenic | Bra003194 | Bra003195 |
| 314 | | A07 | 12995794 | 12995442 | 353 | 6.00E-143 | | solo | Intergenic | Bra003393 | Bra003394 |
| 315 | | A07 | 14314686 | 14314823 | 138 | 5.00E-17 | | fragment | Intergenic | Bra003660 | Bra003661 |
| 316 | | A07 | 14756432 | 14757020 | 603 | 4.00E-107 | | fragment | Intergenic | Bra003732 | Bra003733 |
| 317 | | A07 | 14756777 | 14757020 | 244 | 4.00E-61 | | fragment | Intergenic | Bra003732 | Bra003733 |
| 318 | | A07 | 16658156 | 16657809 | 352 | 3.00E-151 | | solo | Intergenic | Bra004068 | Bra004069 |
| 319 | | A07 | 17013563 | 17013327 | 237 | 2.00E-35 | | fragment | 5'UTR | Bra004131 |  |
| 320 | | A07 | 18593719 | 18593347 | 377 | 2.00E-28 | | fragment | Intergenic | Bra016261 | Bra016260 |
| 321 | | A07 | 19568528 | 19568371 | 158 | 6.00E-72 | | fragment | Intron | Bra016071 |  |
| 322 | | A07 | 21728961 | 21729594 | 643 | 0 | | solo | Intergenic | Bra035010 | Bra035011 |
| 323 | | A07 | 21729270 | 21729594 | 331 | 9.00E-96 | | solo | Intergenic | Bra035010 | Bra035011 |
| 324 | | A08 | 176359 | 176128 | 233 | 7.00E-38 | | fragment | Intergenic | Bra030838 | Bra030839 |
| 325 | | A08 | 1216113 | 1215418 | 710 | 8.00E-124 | | full | Intergenic | Bra030969 | Bra030970 |
| 326 | | A08 | 1216567 | 1215778 | 797 | 2.00E-140 | | full | Intergenic | Bra030969 | Bra030970 |
| 327 | | A08 | 1959603 | 1959255 | 353 | 5.00E-159 | | solo | Intergenic | Bra014284 | Bra014283 |
| 328 | | A08 | 2039853 | 2040547 | 710 | 3.00E-120 | | full | Intergenic | Bra014276 | Bra014275 |
| 329 | | A08 | 2791453 | 2791193 | 261 | 1.00E-104 | | fragment | Intergenic | Bra014175 | Bra014174 |
| 330 | | A08 | 2791888 | 2791793 | 96 | 6.00E-35 | | fragment | Intergenic | Bra014175 | Bra014174 |
| 331 | | A08 | 2989588 | 2989362 | 230 | 8.00E-16 | | fragment | Intergenic | Bra014155 | Bra014154 |
| 332 | | A08 | 3293961 | 3293687 | 276 | 2.00E-47 | | fragment | Intergenic | Bra014125 | Bra014124 |
| 333 | | A08 | 3294098 | 3294049 | 50 | 7.00E-10 | | fragment | Intergenic | Bra014125 | Bra014124 |
| 334 | | A08 | 3294277 | 3294115 | 164 | 5.00E-23 | | fragment | Intergenic | Bra014125 | Bra014124 |
| 335 | | A08 | 3565667 | 3565405 | 264 | 1.00E-08 | | fragment | Intergenic | Bra014095 | Bra014094 |
| 336 | | A08 | 3566157 | 3565868 | 291 | 2.00E-22 | | fragment | Intergenic | Bra014095 | Bra014094 |
| 337 | | A08 | 3566568 | 3566516 | 53 | 3.00E-09 | | fragment | Intergenic | Bra014095 | Bra014094 |
| 338 | | A08 | 3775085 | 3774992 | 94 | 3.00E-12 | | fragment | Intergenic | Bra014079 | Bra014078 |
| 339 | | A08 | 3971831 | 3972090 | 264 | 2.00E-115 | | fragment | Intergenic | Bra014056 | Bra014055 |
| 340 | | A08 | 4452298 | 4452175 | 124 | 2.00E-13 | | fragment | Intergenic | Bra014024 | Bra014023 |
| 341 | | A08 | 4452529 | 4452295 | 238 | 4.00E-30 | | fragment | Intergenic | Bra014024 | Bra014023 |
| 342 | | A08 | 4452714 | 4452581 | 136 | 7.00E-07 | | fragment | Intergenic | Bra014024 | Bra014023 |
| 343 | | A08 | 4697495 | 4697731 | 237 | 2.00E-28 | | fragment | Intergenic | Bra014003 | Bra014002 |
| 344 | | A08 | 4706480 | 4705753 | 734 | 0 | | full | Intergenic | Bra014002 | Bra014001 |
| 345 | | A08 | 5595133 | 5595369 | 239 | 2.00E-32 | | fragment | Intergenic | Bra034894 | Bra034893 |
| 346 | | A08 | 5828402 | 5828139 | 265 | 1.00E-30 | | fragment | Intron | Bra034875 |  |
| 347 | | A08 | 7091523 | 7092218 | 705 | 3.00E-83 | | full | Intergenic | Bra036774 | Bra036773 |
| 348 | | A08 | 9391570 | 9391038 | 541 | 7.00E-81 | | solo | Intergenic | Bra035232 | Bra035233 |
| 349 | | A08 | 9740099 | 9740169 | 71 | 8.00E-13 | | fragment | Intergenic | Bra035271 | Bra035272 |
| 350 | | A08 | 9921074 | 9921469 | 405 | 2.00E-38 | | solo | Intergenic | Bra035290 | Bra035291 |
| 351 | | A08 | 11066187 | 11066016 | 173 | 5.00E-14 | | fragment | Intergenic | Bra020941 | Bra020940 |
| 352 | | A08 | 15283373 | 15282726 | 652 | 1.00E-82 | | full | Intergenic | Bra010576 | Bra010577 |
| 353 | | A08 | 15471490 | 15471640 | 151 | 9.00E-25 | | fragment | Intergenic | Bra010601 | Bra010602 |
| 354 | | A08 | 15471855 | 15471920 | 66 | 2.00E-07 | | fragment | Intergenic | Bra010601 | Bra010602 |
| 355 | | A08 | 15471962 | 15472024 | 63 | 3.00E-15 | | fragment | Intergenic | Bra010601 | Bra010602 |
| 356 | | A08 | 16264304 | 16264116 | 193 | 5.00E-11 | | fragment | Intergenic | Bra010751 | Bra010752 |
| 357 | | A08 | 17313669 | 17313752 | 84 | 5.00E-23 | | fragment | Intergenic | Bra010965 | Bra010966 |
| 358 | | A08 | 17702802 | 17703148 | 349 | 1.00E-104 | | solo | Intergenic | Bra016284 | Bra016285 |
| 359 | | A08 | 19717203 | 19717153 | 51 | 5.00E-08 | | fragment | Intergenic | Bra016731 | Bra016732 |
| 360 | | A09 | 226050 | 226205 | 162 | 1.00E-57 | | fragment | Intergenic | Bra036272 | Bra036273 |
| 361 | | A09 | 2302458 | 2302578 | 123 | 3.00E-15 | | fragment | Intron | Bra036182 |  |
| 362 | | A09 | 4015294 | 4014833 | 470 | 4.00E-67 | | fragment | Intergenic | Bra037197 | Bra037196 |
| 363 | | A09 | 4015294 | 4015127 | 170 | 9.00E-22 | | fragment | Intergenic | Bra037197 | Bra037196 |
| 364 | | A09 | 6212706 | 6212898 | 194 | 2.00E-31 | | fragment | Intergenic | Bra027785 | Bra027784 |
| 365 | | A09 | 6546231 | 6545551 | 691 | 1.00E-116 | | full | Intergenic | Bra027736 | Bra027735 |
| 366 | | A09 | 7110880 | 7110940 | 62 | 2.00E-07 | | fragment | Intergenic | Bra027653 | Bra027652 |
| 367 | | A09 | 7110962 | 7111381 | 422 | 7.00E-84 | | fragment | Intergenic | Bra027653 | Bra027652 |
| 368 | | A09 | 7247355 | 7247992 | 648 | 5.00E-122 | | solo | Intergenic | Bra027635 | Bra027634 |
| 369 | | A09 | 7660805 | 7660711 | 95 | 1.00E-17 | | fragment | Intergenic | Bra027019 | Bra027020 |
| 370 | | A09 | 7661244 | 7661116 | 129 | 8.00E-19 | | fragment | Intergenic | Bra027019 | Bra027020 |
| 371 | | A09 | 8510257 | 8511054 | 807 | 0 | | full | 5'UTR | Bra027102 |  |
| 372 | | A09 | 9534680 | 9534737 | 58 | 7.00E-10 | | fragment | Intergenic | Bra027879 | Bra027880 |
| 373 | | A09 | 10471387 | 10471133 | 255 | 3.00E-89 | | fragment | Intergenic | Bra037856 | Bra037857 |
| 374 | | A09 | 11332686 | 11332758 | 73 | 2.00E-16 | | fragment | Intergenic | Bra037889 | Bra037890 |
| 375 | | A09 | 11332931 | 11333010 | 81 | 1.00E-11 | | fragment | Intergenic | Bra037889 | Bra037890 |
| 376 | | A09 | 11333069 | 11333443 | 376 | 2.00E-56 | | solo | Intergenic | Bra037889 | Bra037890 |
| 377 | | A09 | 11703838 | 11704078 | 243 | 2.00E-44 | | fragment | Intergenic | Bra037922 | Bra037923 |
| 378 | | A09 | 11704235 | 11704601 | 369 | 2.00E-38 | | solo | Intergenic | Bra037922 | Bra037923 |
| 379 | | A09 | 11719763 | 11720156 | 394 | 5.00E-165 | | solo | Intergenic | Bra037923 | Bra037924 |
| 380 | | A09 | 12841856 | 12841943 | 88 | 1.00E-08 | | fragment | Intergenic | Bra032787 | Bra032786 |
| 381 | | A09 | 13422082 | 13421401 | 688 | 4.00E-144 | | full | Intergenic | Bra027549 | Bra027548 |
| 382 | | A09 | 13769200 | 13768868 | 337 | 1.00E-88 | | solo | Intergenic | Bra027506 | Bra027505 |
| 383 | | A09 | 13769392 | 13768931 | 463 | 2.00E-170 | | fragment | Intergenic | Bra027506 | Bra027505 |
| 384 | | A09 | 13769536 | 13769392 | 146 | 6.00E-60 | | fragment | Intergenic | Bra027506 | Bra027505 |
| 385 | | A09 | 14193391 | 14193489 | 99 | 5.00E-20 | | fragment | Intergenic | Bra027457 | Bra027456 |
| 386 | | A09 | 14220043 | 14219849 | 197 | 2.00E-16 | | fragment | Intergenic | Bra027453 | Bra027452 |
| 387 | | A09 | 14605947 | 14606296 | 354 | 6.00E-134 | | solo | Intergenic | Bra017361 | Bra017362 |
| 388 | | A09 | 15487671 | 15487791 | 121 | 8.00E-19 | | fragment | Intergenic | Bra017448 | Bra017449 |
| 389 | | A09 | 15584639 | 15584987 | 354 | 7.00E-155 | | solo | Intergenic | Bra017459 | Bra017460 |
| 390 | | A09 | 16120079 | 16119686 | 395 | 2.00E-62 | | fragment | Intergenic | Bra017529 | Bra017530 |
| 391 | | A09 | 16120351 | 16120277 | 75 | 8.00E-13 | | fragment | Intergenic | Bra017529 | Bra017530 |
| 392 | | A09 | 16707902 | 16708521 | 629 | 2.00E-130 | | solo | Intron | Bra017586 |  |
| 393 | | A09 | 16708349 | 16708521 | 174 | 1.00E-33 | | fragment | Intron | Bra017586 |  |
| 394 | | A09 | 16829634 | 16828980 | 663 | 6.00E-103 | | full | Intergenic | Bra017599 | Bra017600 |
| 395 | | A09 | 16829665 | 16829338 | 330 | 1.00E-45 | | solo | Intergenic | Bra017599 | Bra017600 |
| 396 | | A09 | 17466063 | 17466028 | 36 | 1.00E-08 | | fragment | Intergenic | Bra029510 | Bra029509 |
| 397 | | A09 | 17466341 | 17466177 | 166 | 7.00E-10 | | fragment | Intergenic | Bra029510 | Bra029509 |
| 398 | | A09 | 17961677 | 17961361 | 321 | 1.00E-144 | | solo | Intergenic | Bra029454 | Bra029453 |
| 399 | | A09 | 18531715 | 18531635 | 81 | 3.00E-09 | | fragment | Intergenic | Bra028082 | Bra028081 |
| 400 | | A09 | 18532103 | 18531712 | 408 | 1.00E-51 | | solo | Intergenic | Bra028082 | Bra028081 |
| 401 | | A09 | 19077359 | 19076942 | 435 | 3.00E-18 | | fragment | Intergenic | Bra028044 | Bra028043 |
| 402 | | A09 | 19077634 | 19077399 | 237 | 3.00E-09 | | fragment | Intergenic | Bra028044 | Bra028043 |
| 403 | | A09 | 19452633 | 19452551 | 83 | 1.00E-17 | | fragment | Intergenic | Bra028009 | Bra028008 |
| 404 | | A09 | 20467601 | 20467863 | 263 | 5.00E-54 | | fragment | Intron | Bra023230 |  |
| 405 | | A09 | 20768938 | 20768976 | 39 | 5.00E-08 | | fragment | Intergenic | Bra023203 | Bra023202 |
| 406 | | A09 | 21045863 | 21045738 | 127 | 8.00E-13 | | fragment | Intergenic | Bra023172 | Bra023171 |
| 407 | | A09 | 21045970 | 21045895 | 76 | 5.00E-11 | | fragment | Intergenic | Bra023172 | Bra023171 |
| 408 | | A09 | 21046181 | 21045988 | 194 | 7.00E-41 | | fragment | Intergenic | Bra023172 | Bra023171 |
| 409 | | A09 | 21046470 | 21046251 | 220 | 4.00E-30 | | fragment | Intergenic | Bra023172 | Bra023171 |
| 410 | | A09 | 21108473 | 21108544 | 73 | 3.00E-09 | | fragment | Intergenic | Bra023163 | Bra023162 |
| 411 | | A09 | 21108606 | 21108733 | 128 | 2.00E-25 | | fragment | Intergenic | Bra023163 | Bra023162 |
| 412 | | A09 | 22308781 | 22308550 | 234 | 3.00E-12 | | fragment | Intergenic | Bra032354 | Bra032353 |
| 413 | | A09 | 23512863 | 23512593 | 272 | 3.00E-18 | | fragment | Intergenic | Bra024687 | Bra024686 |
| 414 | | A09 | 24155955 | 24155608 | 354 | 3.00E-86 | | solo | Intergenic | Bra024596 | Bra024595 |
| 415 | | A09 | 24739341 | 24738635 | 727 | 2.00E-170 | | full | Intergenic | Bra036022 | Bra036023 |
| 416 | | A09 | 27694849 | 27694042 | 808 | 0 | | full | Intergenic | Bra007169 | Bra007170 |
| 417 | | A09 | 27695304 | 27694498 | 811 | 0 | | full | Intergenic | Bra007169 | Bra007170 |
| 418 | | A09 | 28327384 | 28327122 | 263 | 3.00E-58 | | fragment | Intergenic | Bra007278 | Bra007279 |
| 419 | | A09 | 29898431 | 29897919 | 520 | 5.00E-85 | | fragment | Intergenic | Bra007582 | Bra007583 |
| 420 | | A09 | 29898431 | 29898327 | 105 | 1.00E-23 | | fragment | Intergenic | Bra007582 | Bra007583 |
| 421 | | A09 | 31686906 | 31687000 | 95 | 5.00E-08 | | fragment | Intergenic | Bra039941 | Bra039940 |
| 422 | | A09 | 34701447 | 34701308 | 141 | 5.00E-57 | | fragment | Intergenic | Bra031799 | Bra031798 |
| 423 | | A09 | 34702020 | 34701714 | 309 | 1.00E-131 | | solo | Intergenic | Bra031799 | Bra031798 |
| 424 | | A09 | 36374927 | 36375281 | 356 | 2.00E-106 | | fragment | Intron | Bra032510 |  |
| 425 | | A10 | 171159 | 171309 | 152 | 8.00E-16 | | fragment | Intergenic | Bra037937 | Bra037938 |
| 426 | | A10 | 216161 | 216469 | 314 | 4.00E-67 | | solo | Intron | Bra037939 |  |
| 427 | | A10 | 216483 | 216678 | 196 | 3.00E-37 | | fragment | Intron | Bra037939 |  |
| 428 | | A10 | 216765 | 217185 | 424 | 4.00E-116 | | fragment | Intron | Bra037939 |  |
| 429 | | A10 | 535919 | 536434 | 522 | 4.00E-107 | | solo | Intergenic | Bra015619 | Bra015618 |
| 430 | | A10 | 536371 | 536434 | 64 | 5.00E-11 | | fragment | Intergenic | Bra015619 | Bra015618 |
| 431 | | A10 | 571167 | 571217 | 51 | 5.00E-08 | | fragment | Intergenic | Bra015616 | Bra015615 |
| 432 | | A10 | 1306560 | 1306385 | 177 | 5.00E-17 | | fragment | Intergenic | Bra015515 | Bra015514 |
| 433 | | A10 | 2448341 | 2448706 | 366 | 0 | | fragment | 5'UTR | Bra015332 |  |
| 434 | | A10 | 3660113 | 3659391 | 729 | 0 | | full | Intergenic | Bra015197 | Bra015196 |
| 435 | | A10 | 4244723 | 4244375 | 350 | 9.00E-139 | | solo | Intergenic | Bra033328 | Bra033327 |
| 436 | | A10 | 5012187 | 5011771 | 423 | 6.00E-69 | | solo | Intergenic | Bra003116 | Bra003115 |
| 437 | | A10 | 5012360 | 5011942 | 420 | 2.00E-87 | | fragment | Intergenic | Bra003116 | Bra003115 |
| 438 | | A10 | 5012635 | 5012458 | 178 | 4.00E-24 | | fragment | Intergenic | Bra003116 | Bra003115 |
| 439 | | A10 | 5214110 | 5214870 | 773 | 9.00E-133 | | full | Intergenic | Bra003100 | Bra003099 |
| 440 | | A10 | 5214552 | 5214795 | 251 | 5.00E-54 | | fragment | Intergenic | Bra003100 | Bra003099 |
| 441 | | A10 | 5476514 | 5476381 | 134 | 5.00E-17 | | fragment | Intergenic | Bra003069 | Bra003068 |
| 442 | | A10 | 5664790 | 5665010 | 222 | 3.00E-43 | | fragment | Intergenic | Bra003052 | Bra003051 |
| 443 | | A10 | 6166320 | 6166493 | 174 | 7.00E-10 | | fragment | Intergenic | Bra002998 | Bra002997 |
| 444 | | A10 | 6574313 | 6573972 | 347 | 1.00E-141 | | solo | Intergenic | Bra002946 | Bra002945 |
| 445 | | A10 | 8206238 | 8206879 | 654 | 8.00E-124 | | full | Intergenic | Bra002695 | Bra002692 |
| 446 | | A10 | 10923047 | 10922699 | 353 | 2.00E-149 | | solo | Intergenic | Bra002205 | Bra002204 |
| 447 | | A10 | 12083052 | 12083115 | 64 | 5.00E-11 | | fragment | Intergenic | Bra002027 | Bra002026 |
| 448 | | A10 | 12087663 | 12088033 | 378 | 2.00E-47 | | fragment | Intergenic | Bra002027 | Bra002026 |
| 449 | | A10 | 12335188 | 12335014 | 176 | 5.00E-11 | | fragment | Intergenic | Bra002002 | Bra002001 |
| 450 | | A10 | 12562130 | 12562420 | 301 | 2.00E-28 | | fragment | Intergenic | Bra001975 | Bra001974 |
| 451 | | A10 | 16432680 | 16432597 | 85 | 1.00E-11 | | fragment | Intergenic | Bra009384 | Bra009385 |

**Table S4** List of the intact members of *Cassandra* TRIM family from the *Oryza sativa* genome.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TRIM No** | **Subject id Z** | **Start** | **End** | **Alignment length** | **E-value** |
| 1 | gi297613623-NC\_008405.2 | 21281683 | 21282460 | 778 | 0 |
| 2 | gi297603645-NC\_008397.2 | 2325533 | 2324759 | 775 | 0 |
| 3 | gi297611005-NC\_008403.2 | 8683570 | 8682799 | 773 | 0 |
| 4 | gi297598437-NC\_008394.4 | 12172102 | 12172865 | 769 | 0 |
| 5 | gi297607852-NC\_008400.2 | 13536648 | 13535880 | 769 | 0 |
| 6 | gi297606578-NC\_008399.2 | 19335931 | 19336698 | 768 | 0 |
| 7 | gi297606578-NC\_008399.2 | 19113009 | 19112242 | 768 | 0 |
| 8 | gi297609017-NC\_008401.2 | 17094084 | 17094849 | 768 | 0 |
| 9 | gi297612483-NC\_008404.2 | 25322598 | 25323364 | 768 | 0 |
| 10 | gi297598437-NC\_008394.4 | 1389063 | 1388317 | 765 | 0 |
| 11 | gi297603645-NC\_008397.2 | 28112983 | 28112256 | 728 | 0 |
| 12 | gi297612483-NC\_008404.2 | 7275532 | 7274805 | 728 | 0 |
| 13 | gi297605017-NC\_008398.2 | 16861018 | 16860298 | 723 | 0 |
| 14 | gi297598437-NC\_008394.4 | 12313239 | 12313960 | 722 | 0 |
| 15 | gi297606578-NC\_008399.2 | 767319 | 768019 | 713 | 0 |
| 16 | gi297606578-NC\_008399.2 | 4130052 | 4129362 | 704 | 0 |
| 17 | gi297598437-NC\_008394.4 | 24444925 | 24445614 | 691 | 0 |
| 18 | gi297598437-NC\_008394.4 | 18489646 | 18488970 | 688 | 0 |
| 19 | gi297598437-NC\_008394.4 | 18626752 | 18627428 | 688 | 0 |
| 20 | gi297603645-NC\_008397.2 | 11679412 | 11680095 | 686 | 0 |
| 21 | gi297598437-NC\_008394.4 | 29575642 | 29574960 | 683 | 0 |
| 22 | gi297598437-NC\_008394.4 | 19087925 | 19088604 | 680 | 0 |
| 23 | gi297609017-NC\_008401.2 | 17181009 | 17180343 | 667 | 0 |
| 24 | gi297603645-NC\_008397.2 | 2325906 | 2325253 | 654 | 0 |
| 25 | gi297607852-NC\_008400.2 | 890682 | 891303 | 629 | 0 |
| 26 | gi297602023-NC\_008396.2 | 7172777 | 7173403 | 627 | 0 |
| 27 | gi297602023-NC\_008396.2 | 10168545 | 10169132 | 624 | 0 |
| 28 | gi297612483-NC\_008404.2 | 25837616 | 25838235 | 622 | 0 |
| 29 | gi297611005-NC\_008403.2 | 523078 | 523695 | 621 | 0 |
| 30 | gi297607852-NC\_008400.2 | 16227999 | 16227405 | 616 | 0 |
| 31 | gi297606578-NC\_008399.2 | 23300402 | 23299802 | 614 | 0 |
| 32 | gi297603645-NC\_008397.2 | 9642084 | 9642693 | 612 | 0 |

**Z** TRIM members were analyzed against the *O. sativa japonica* cultivar group genome (GP/39947.9512/) at NCBI using *Os*-Cassandra (AY271961).

**Table S5** List of the intact members of *Cassandra* TRIM family from the *Medicago truncatula* genome.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TRIM No** | **subject id Z** | **Start** | **End** | **Alignment length** | **E-value** |
| 1 | gi61806856-AC143338.29 | 863 | 111269 | 110412 | 0 |
| 2 | gi90659905-AC152496.15 | 848 | 60830 | 59987 | 0 |
| 3 | gi257900558-AC130652.29 | 844 | 40232 | 41073 | 0 |
| 4 | gi66351807-AC139854.21 | 783 | 103118 | 103890 | 0 |
| 5 | gi51870795-AC137077.26 | 783 | 48019 | 47240 | 0 |
| 6 | gi50872497-AC140913.25 | 782 | 55099 | 55867 | 0 |
| 7 | gi61675779-AC135234.16 | 781 | 41007 | 40244 | 1.00E-178 |
| 8 | gi114306911-AC144930.26 | 759 | 74328 | 73576 | 0 |
| 9 | gi30231345-AC140030.6 | 713 | 53624 | 52918 | 0 |
| 10 | gi156231119-AC131249.44 | 706 | 64426 | 63723 | 0 |

**Z** TRIM members were analyzed against the *Medicago truncatula* genome at NCBI using *Mt*-Cassandra (AY603369).

**Table S6** List of the intact members of *Cassandra* TRIM family from the *Zea mays* genome.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TRIM No** | **Chr # Z** | **Start** | **End** | **Alignment length** | **E-value** |
| 1 | chr9 | 5201758 | 5200974 | 807 | 3.00E-82 |
| 2 | chr6 | 117820902 | 117821691 | 807 | 1.00E-105 |
| 3 | chr10 | 1913439 | 1912675 | 806 | 5.00E-70 |
| 4 | chr2 | 130877929 | 130877152 | 805 | 4.00E-115 |
| 5 | chr9 | 41301305 | 41302078 | 804 | 3.00E-117 |
| 6 | chr2 | 127830772 | 127831557 | 803 | 1.00E-125 |
| 7 | chr1 | 207313457 | 207314239 | 802 | 1.00E-111 |
| 8 | chr4 | 192725085 | 192725870 | 802 | 1.00E-125 |
| 9 | chr8 | 138751273 | 138752050 | 802 | 1.00E-106 |
| 10 | chr7 | 14622071 | 14622848 | 801 | 3.00E-97 |
| 11 | chr4 | 158367203 | 158367978 | 801 | 3.00E-121 |
| 12 | chr10 | 54197486 | 54196703 | 801 | 4.00E-120 |
| 13 | chr1 | 35816424 | 35817207 | 800 | 2.00E-108 |
| 14 | chr4 | 220079886 | 220079105 | 800 | 2.00E-119 |
| 15 | chr10 | 136276526 | 136275755 | 800 | 1.00E-106 |
| 16 | chr1 | 18529122 | 18528333 | 799 | 1.00E-116 |
| 17 | chr7 | 42811643 | 42810861 | 799 | 4.00E-130 |
| 18 | chr7 | 28024612 | 28025387 | 799 | 2.00E-113 |
| 19 | chr4 | 49115686 | 49114905 | 799 | 4.00E-101 |
| 20 | chr5 | 172733301 | 172734081 | 799 | 1.00E-110 |
| 21 | chr8 | 131587672 | 131586889 | 799 | 5.00E-105 |
| 22 | chr10 | 131067553 | 131066776 | 799 | 2.00E-128 |
| 23 | chr3 | 10526831 | 10527619 | 799 | 4.00E-96 |
| 24 | chr1 | 254415032 | 254414248 | 798 | 9.00E-152 |
| 25 | chr1 | 49855531 | 49854748 | 798 | 9.00E-132 |
| 26 | chr9 | 79052849 | 79053622 | 798 | 3.00E-102 |
| 27 | chr7 | 58804802 | 58804014 | 798 | 1.00E-126 |
| 28 | chr6 | 90316582 | 90317366 | 798 | 6.00E-134 |
| 29 | chr2 | 104983951 | 104984731 | 798 | 8.00E-108 |
| 30 | chr4 | 224959238 | 224958459 | 798 | 5.00E-164 |
| 31 | chr4 | 80884671 | 80883888 | 798 | 9.00E-142 |
| 32 | chr4 | 56649719 | 56650499 | 798 | 3.00E-131 |
| 33 | chr4 | 155839853 | 155840632 | 798 | 1.00E-120 |
| 34 | chr5 | 163206758 | 163207541 | 798 | 1.00E-126 |
| 35 | chr5 | 71843240 | 71842464 | 798 | 8.00E-83 |
| 36 | chr8 | 165181421 | 165180651 | 798 | 8.00E-48 |
| 37 | chr1 | 291406154 | 291405376 | 797 | 2.00E-138 |
| 38 | chr1 | 165438873 | 165438089 | 797 | 3.00E-127 |
| 39 | chr1 | 139388573 | 139389352 | 797 | 1.00E-105 |
| 40 | chr9 | 5086643 | 5085861 | 797 | 1.00E-116 |
| 41 | chr9 | 111638163 | 111637393 | 797 | 5.00E-100 |
| 42 | chr7 | 44502631 | 44501849 | 797 | 1.00E-121 |
| 43 | chr6 | 14947361 | 14948147 | 797 | 0 |
| 44 | chr2 | 104984452 | 104985233 | 797 | 2.00E-99 |
| 45 | chr4 | 83541776 | 83540992 | 797 | 6.00E-119 |
| 46 | chr5 | 123171258 | 123170477 | 797 | 2.00E-119 |
| 47 | chr8 | 175626726 | 175627475 | 797 | 3.00E-82 |
| 48 | chr10 | 108031665 | 108030898 | 797 | 3.00E-112 |
| 49 | chr10 | 142354718 | 142353942 | 797 | 5.00E-105 |
| 50 | chr3 | 101043220 | 101042438 | 797 | 2.00E-143 |
| 51 | chr3 | 89683199 | 89682432 | 797 | 3.00E-117 |
| 52 | chr3 | 98110539 | 98109760 | 797 | 1.00E-100 |
| 53 | chr1 | 12418486 | 12417703 | 796 | 2.00E-158 |
| 54 | chr1 | 233966997 | 233967782 | 796 | 3.00E-142 |
| 55 | chr1 | 83870110 | 83869334 | 796 | 3.00E-97 |
| 56 | chr9 | 50900395 | 50899616 | 796 | 9.00E-137 |
| 57 | chr7 | 49562602 | 49563375 | 796 | 4.00E-115 |
| 58 | chr6 | 46502400 | 46501623 | 796 | 3.00E-116 |
| 59 | chr4 | 205670675 | 205671462 | 796 | 3.00E-151 |
| 60 | chr8 | 104308808 | 104308030 | 796 | 6.00E-89 |
| 61 | chr1 | 201799574 | 201800355 | 795 | 3.00E-136 |
| 62 | chr1 | 141213831 | 141214613 | 795 | 1.00E-126 |
| 63 | chr1 | 217885596 | 217884822 | 795 | 3.00E-116 |
| 64 | chr9 | 135731150 | 135731932 | 795 | 4.00E-130 |
| 65 | chr9 | 36380781 | 36380017 | 795 | 2.00E-123 |
| 66 | chr6 | 29296101 | 29296875 | 795 | 3.00E-116 |
| 67 | chr6 | 56156198 | 56155417 | 795 | 5.00E-110 |
| 68 | chr4 | 22940721 | 22941506 | 795 | 1.00E-125 |
| 69 | chr4 | 210405027 | 210405811 | 795 | 1.00E-125 |
| 70 | chr5 | 35969712 | 35970488 | 795 | 4.00E-140 |
| 71 | chr8 | 135198869 | 135198090 | 795 | 6.00E-139 |
| 72 | chr8 | 75175481 | 75176264 | 795 | 4.00E-135 |
| 73 | chr8 | 11577776 | 11576993 | 795 | 9.00E-132 |
| 74 | chr1 | 125381572 | 125380789 | 794 | 2.00E-167 |
| 75 | chr1 | 103345369 | 103344584 | 794 | 3.00E-147 |
| 76 | chr1 | 110644139 | 110643362 | 794 | 2.00E-133 |
| 77 | chr1 | 233967812 | 233968593 | 794 | 3.00E-126 |
| 78 | chr1 | 45219895 | 45219119 | 794 | 7.00E-123 |
| 79 | chr9 | 64938898 | 64938113 | 794 | 1.00E-130 |
| 80 | chr9 | 146461339 | 146460562 | 794 | 2.00E-103 |
| 81 | chr7 | 153379231 | 153378448 | 794 | 2.00E-167 |
| 82 | chr2 | 118281698 | 118280917 | 794 | 3.00E-121 |
| 83 | chr2 | 40355260 | 40354496 | 794 | 3.00E-116 |
| 84 | chr2 | 131398117 | 131398890 | 794 | 1.00E-105 |
| 85 | chr4 | 211058452 | 211057672 | 794 | 1.00E-150 |
| 86 | chr4 | 12479072 | 12479852 | 794 | 2.00E-139 |
| 87 | chr4 | 161406499 | 161405724 | 794 | 2.00E-119 |
| 88 | chr8 | 39932090 | 39931310 | 794 | 7.00E-123 |
| 89 | chr10 | 18039471 | 18040252 | 794 | 3.00E-151 |
| 90 | chr10 | 46483694 | 46482919 | 794 | 3.00E-127 |
| 91 | chr3 | 145011335 | 145012123 | 794 | 3.00E-151 |
| 92 | chr9 | 10371165 | 10370381 | 793 | 3.00E-162 |
| 93 | chr9 | 8300709 | 8299925 | 793 | 4.00E-155 |
| 94 | chr2 | 42231607 | 42232388 | 793 | 7.00E-143 |
| 95 | chr4 | 199520183 | 199519400 | 793 | 4.00E-150 |
| 96 | chr4 | 34471077 | 34470292 | 793 | 3.00E-147 |
| 97 | chr8 | 6571178 | 6571962 | 793 | 1.00E-155 |
| 98 | chr8 | 5291186 | 5290418 | 793 | 2.00E-119 |
| 99 | chr1 | 115737447 | 115736666 | 792 | 1.00E-160 |
| 100 | chr1 | 118769831 | 118769046 | 792 | 9.00E-152 |
| 101 | chr1 | 215543785 | 215544566 | 792 | 3.00E-131 |
| 102 | chr9 | 42385315 | 42384535 | 792 | 7.00E-138 |
| 103 | chr4 | 99566343 | 99567122 | 792 | 2.00E-134 |
| 104 | chr4 | 51045357 | 51046137 | 792 | 2.00E-119 |
| 105 | chr8 | 63987632 | 63986853 | 792 | 4.00E-125 |
| 106 | chr3 | 117838671 | 117837888 | 792 | 4.00E-155 |
| 107 | chr3 | 55723887 | 55724667 | 792 | 3.00E-142 |
| 108 | chr3 | 92220993 | 92221775 | 792 | 9.00E-142 |
| 109 | chr4 | 18391079 | 18390318 | 791 | 4.00E-130 |
| 110 | chr3 | 154023887 | 154023108 | 791 | 3.00E-146 |
| 111 | chr3 | 34587749 | 34588523 | 791 | 3.00E-102 |
| 112 | chr6 | 115378647 | 115377867 | 790 | 2.00E-154 |
| 113 | chr6 | 40894237 | 40893459 | 790 | 3.00E-132 |
| 114 | chr2 | 135520067 | 135520848 | 790 | 3.00E-157 |
| 115 | chr1 | 288721827 | 288722605 | 789 | 6.00E-134 |
| 116 | chr7 | 112485969 | 112485188 | 789 | 6.00E-149 |
| 117 | chr6 | 128258426 | 128259182 | 789 | 8.00E-93 |
| 118 | chr2 | 127961873 | 127961091 | 789 | 7.00E-158 |
| 119 | chr7 | 73658460 | 73659231 | 788 | 2.00E-114 |
| 120 | chr4 | 34493583 | 34494365 | 788 | 3.00E-161 |
| 121 | chr10 | 47628030 | 47627248 | 788 | 3.00E-161 |
| 122 | chr3 | 65360404 | 65361186 | 788 | 2.00E-159 |
| 123 | chr3 | 151702034 | 151702805 | 788 | 2.00E-114 |
| 124 | chr3 | 54254645 | 54253879 | 787 | 8.00E-88 |
| 125 | chr10 | 124419213 | 124418444 | 786 | 7.00E-148 |
| 126 | chr3 | 65788345 | 65787568 | 786 | 2.00E-138 |
| 127 | chr4 | 211641925 | 211641156 | 785 | 2.00E-133 |
| 128 | chr3 | 85635567 | 85634796 | 785 | 3.00E-121 |
| 129 | chr3 | 138622321 | 138621554 | 785 | 1.00E-95 |
| 130 | chr1 | 66307867 | 66307097 | 784 | 3.00E-141 |
| 131 | chr4 | 119661773 | 119662535 | 784 | 2.00E-134 |
| 132 | chr7 | 80392616 | 80393386 | 783 | 6.00E-114 |
| 133 | chr5 | 199393738 | 199392977 | 782 | 1.00E-110 |
| 134 | chr3 | 68543890 | 68544661 | 782 | 6.00E-129 |
| 135 | chr9 | 8301736 | 8300961 | 781 | 3.00E-141 |
| 136 | chr7 | 153987396 | 153988143 | 781 | 6.00E-79 |
| 137 | chr2 | 79474942 | 79474174 | 781 | 1.00E-135 |
| 138 | chr8 | 88036754 | 88035982 | 781 | 7.00E-118 |
| 139 | chr9 | 58943696 | 58944461 | 780 | 2.00E-129 |
| 140 | chr2 | 59341676 | 59340918 | 780 | 2.00E-124 |
| 141 | chr3 | 58185097 | 58185870 | 780 | 3.00E-151 |
| 142 | chr3 | 56495479 | 56494716 | 780 | 9.00E-137 |
| 143 | chr1 | 62448925 | 62448168 | 779 | 2.00E-133 |
| 144 | chr2 | 89416000 | 89415242 | 779 | 9.00E-147 |
| 145 | chr2 | 48673498 | 48674264 | 779 | 6.00E-139 |
| 146 | chr4 | 20744507 | 20745266 | 779 | 9.00E-152 |
| 147 | chr10 | 35185103 | 35184338 | 779 | 4.00E-125 |
| 148 | chr3 | 207411361 | 207410608 | 779 | 4.00E-120 |
| 149 | chr2 | 125323621 | 125322865 | 778 | 1.00E-121 |
| 150 | chr4 | 151950045 | 151949288 | 778 | 2.00E-123 |
| 151 | chr3 | 229160497 | 229161259 | 778 | 3.00E-146 |
| 152 | chr1 | 143372267 | 143371505 | 777 | 2.00E-144 |
| 153 | chr1 | 178404589 | 178405338 | 777 | 2.00E-144 |
| 154 | chr1 | 188731006 | 188730250 | 777 | 3.00E-126 |
| 155 | chr1 | 177419948 | 177420703 | 777 | 6.00E-104 |
| 156 | chr9 | 110934829 | 110934063 | 777 | 6.00E-149 |
| 157 | chr7 | 63492516 | 63491762 | 777 | 4.00E-96 |
| 158 | chr6 | 83924249 | 83923484 | 777 | 9.00E-137 |
| 159 | chr6 | 71477489 | 71478255 | 777 | 6.00E-119 |
| 160 | chr5 | 86297124 | 86297881 | 777 | 4.00E-165 |
| 161 | chr3 | 23117068 | 23117834 | 777 | 9.00E-142 |
| 162 | chr1 | 126490907 | 126491666 | 776 | 6.00E-109 |
| 163 | chr9 | 73514959 | 73515720 | 776 | 7.00E-133 |
| 164 | chr4 | 34470571 | 34469803 | 776 | 3.00E-156 |
| 165 | chr4 | 28935267 | 28934508 | 776 | 6.00E-144 |
| 166 | chr8 | 12875443 | 12874682 | 776 | 2.00E-114 |
| 167 | chr3 | 66405366 | 66406131 | 776 | 1.00E-130 |
| 168 | chr1 | 156995457 | 156994696 | 775 | 2.00E-172 |
| 169 | chr1 | 22070891 | 22071654 | 775 | 3.00E-141 |
| 170 | chr9 | 46070089 | 46069330 | 775 | 0 |
| 171 | chr9 | 73515467 | 73516226 | 775 | 4.00E-115 |
| 172 | chr9 | 15602714 | 15603469 | 775 | 3.00E-97 |
| 173 | chr7 | 60101276 | 60100513 | 775 | 2.00E-118 |
| 174 | chr8 | 115697829 | 115698587 | 775 | 4.00E-135 |
| 175 | chr8 | 59333968 | 59334725 | 775 | 1.00E-130 |
| 176 | chr8 | 69165825 | 69165065 | 775 | 1.00E-116 |
| 177 | chr3 | 53392151 | 53392915 | 775 | 4.00E-135 |
| 178 | chr3 | 63533520 | 63534279 | 775 | 3.00E-127 |
| 179 | chr1 | 160850935 | 160851695 | 774 | 6.00E-144 |
| 180 | chr1 | 7774642 | 7773890 | 774 | 6.00E-139 |
| 181 | chr1 | 203054570 | 203055324 | 774 | 1.00E-130 |
| 182 | chr9 | 65486769 | 65486008 | 774 | 3.00E-142 |
| 183 | chr9 | 60860164 | 60860924 | 774 | 3.00E-121 |
| 184 | chr9 | 85918446 | 85917685 | 774 | 3.00E-121 |
| 185 | chr9 | 85943259 | 85942498 | 774 | 3.00E-121 |
| 186 | chr6 | 82068051 | 82067293 | 774 | 1.00E-126 |
| 187 | chr2 | 92038880 | 92039648 | 774 | 6.00E-144 |
| 188 | chr2 | 129454580 | 129453815 | 774 | 2.00E-124 |
| 189 | chr4 | 96761685 | 96760925 | 774 | 6.00E-109 |
| 190 | chr8 | 45158030 | 45157280 | 774 | 8.00E-108 |
| 191 | chr10 | 48307203 | 48306440 | 774 | 3.00E-127 |
| 192 | chr3 | 102679990 | 102680746 | 774 | 2.00E-124 |
| 193 | chr1 | 78696424 | 78697185 | 773 | 7.00E-118 |
| 194 | chr9 | 119941350 | 119942112 | 773 | 2.00E-143 |
| 195 | chr9 | 67176005 | 67175246 | 773 | 9.00E-137 |
| 196 | chr9 | 55823339 | 55822579 | 773 | 6.00E-134 |
| 197 | chr7 | 23463508 | 23462747 | 773 | 0 |
| 198 | chr7 | 71583716 | 71582958 | 773 | 3.00E-122 |
| 199 | chr7 | 142380510 | 142379753 | 773 | 1.00E-121 |
| 200 | chr6 | 63980947 | 63981711 | 773 | 7.00E-128 |
| 201 | chr2 | 222164480 | 222165238 | 773 | 7.00E-163 |
| 202 | chr5 | 210152565 | 210151808 | 773 | 2.00E-128 |
| 203 | chr8 | 71134493 | 71135249 | 773 | 2.00E-129 |
| 204 | chr8 | 45494125 | 45493385 | 773 | 4.00E-115 |
| 205 | chr10 | 48248931 | 48248170 | 773 | 3.00E-136 |
| 206 | chr10 | 27041959 | 27042714 | 773 | 1.00E-125 |
| 207 | chr3 | 121625028 | 121624264 | 773 | 7.00E-123 |
| 208 | chr3 | 170225806 | 170225062 | 773 | 2.00E-94 |
| 209 | chr1 | 213702238 | 213701477 | 772 | 7.00E-153 |
| 210 | chr1 | 155089320 | 155088559 | 772 | 6.00E-134 |
| 211 | chr1 | 14706478 | 14705721 | 772 | 3.00E-131 |
| 212 | chr9 | 49790883 | 49790119 | 772 | 3.00E-136 |
| 213 | chr7 | 135312943 | 135312185 | 772 | 2.00E-144 |
| 214 | chr7 | 77292627 | 77291868 | 772 | 3.00E-137 |
| 215 | chr7 | 67537411 | 67536650 | 772 | 2.00E-129 |
| 216 | chr7 | 59568650 | 59567894 | 772 | 7.00E-123 |
| 217 | chr7 | 106201310 | 106200556 | 772 | 1.00E-115 |
| 218 | chr6 | 96360018 | 96360773 | 772 | 1.00E-135 |
| 219 | chr2 | 122671942 | 122671175 | 772 | 3.00E-166 |
| 220 | chr2 | 79756146 | 79755385 | 772 | 2.00E-134 |
| 221 | chr2 | 121053497 | 121052739 | 772 | 4.00E-130 |
| 222 | chr2 | 136155679 | 136154919 | 772 | 1.00E-126 |
| 223 | chr4 | 108948943 | 108948190 | 772 | 4.00E-130 |
| 224 | chr4 | 126919972 | 126919217 | 772 | 7.00E-123 |
| 225 | chr4 | 68799085 | 68799840 | 772 | 2.00E-114 |
| 226 | chr5 | 95714725 | 95715491 | 772 | 4.00E-145 |
| 227 | chr5 | 109597431 | 109596672 | 772 | 6.00E-124 |
| 228 | chr8 | 128450419 | 128451182 | 772 | 3.00E-162 |
| 229 | chr8 | 89790492 | 89789732 | 772 | 1.00E-125 |
| 230 | chr8 | 45588299 | 45589059 | 772 | 3.00E-122 |
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| 234 | chr3 | 230582467 | 230581705 | 772 | 4.00E-135 |
| 235 | chr3 | 110455577 | 110456331 | 772 | 6.00E-134 |
| 236 | chr1 | 162735991 | 162735236 | 771 | 2.00E-134 |
| 237 | chr1 | 143462613 | 143463374 | 771 | 3.00E-126 |
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| 240 | chr9 | 1371638 | 1372399 | 771 | 3.00E-151 |
| 241 | chr7 | 29526889 | 29526135 | 771 | 1.00E-130 |
| 242 | chr7 | 77846800 | 77846046 | 771 | 3.00E-127 |
| 243 | chr7 | 45498618 | 45499378 | 771 | 1.00E-120 |
| 244 | chr6 | 89097090 | 89096343 | 771 | 3.00E-112 |
| 245 | chr2 | 90629504 | 90630264 | 771 | 5.00E-154 |
| 246 | chr2 | 218710879 | 218711637 | 771 | 6.00E-134 |
| 247 | chr4 | 214281605 | 214280846 | 771 | 1.00E-130 |
| 248 | chr4 | 214414311 | 214413558 | 771 | 1.00E-120 |
| 249 | chr4 | 231009194 | 231008451 | 771 | 3.00E-111 |
| 250 | chr4 | 86668657 | 86667909 | 771 | 8.00E-103 |
| 251 | chr5 | 49804358 | 49805110 | 771 | 1.00E-126 |
| 252 | chr8 | 88312678 | 88311931 | 771 | 9.00E-157 |
| 253 | chr10 | 35184596 | 35183839 | 771 | 3.00E-132 |
| 254 | chr3 | 120738707 | 120739470 | 771 | 4.00E-140 |
| 255 | chr3 | 78324864 | 78325619 | 771 | 2.00E-114 |
| 256 | chr1 | 72942573 | 72943328 | 770 | 3.00E-136 |
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| 258 | chr9 | 20418007 | 20418747 | 770 | 2.00E-109 |
| 259 | chr7 | 11673335 | 11672578 | 770 | 4.00E-170 |
| 260 | chr7 | 73952010 | 73952769 | 770 | 6.00E-149 |
| 261 | chr7 | 37263716 | 37262961 | 770 | 2.00E-124 |
| 262 | chr6 | 62582066 | 62581317 | 770 | 1.00E-120 |
| 263 | chr2 | 87031356 | 87030603 | 770 | 3.00E-132 |
| 264 | chr4 | 158895926 | 158895166 | 770 | 1.00E-150 |
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| 266 | chr8 | 93129426 | 93128668 | 770 | 4.00E-155 |
| 267 | chr8 | 166375927 | 166375185 | 770 | 3.00E-132 |
| 268 | chr8 | 83835569 | 83836324 | 770 | 2.00E-119 |
| 269 | chr10 | 59579767 | 59580526 | 770 | 1.00E-125 |
| 270 | chr3 | 108266375 | 108267120 | 770 | 1.00E-125 |
| 271 | chr3 | 78240670 | 78241425 | 770 | 2.00E-109 |
| 272 | chr1 | 115736943 | 115736185 | 769 | 2.00E-154 |
| 273 | chr1 | 137161217 | 137161975 | 769 | 2.00E-143 |
| 274 | chr1 | 77970471 | 77971222 | 769 | 4.00E-130 |
| 275 | chr1 | 194807290 | 194808047 | 769 | 3.00E-127 |
| 276 | chr1 | 165439378 | 165438626 | 769 | 2.00E-118 |
| 277 | chr9 | 61199732 | 61200491 | 769 | 6.00E-149 |
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| 280 | chr9 | 61858966 | 61859716 | 769 | 8.00E-108 |
| 281 | chr7 | 104296243 | 104295485 | 769 | 9.00E-142 |
| 282 | chr7 | 168843613 | 168844368 | 769 | 3.00E-141 |
| 283 | chr7 | 36627022 | 36626287 | 769 | 1.00E-100 |
| 284 | chr6 | 55307633 | 55308390 | 769 | 2.00E-124 |
| 285 | chr6 | 139480070 | 139480820 | 769 | 1.00E-120 |
| 286 | chr2 | 117209795 | 117210553 | 769 | 3.00E-126 |
| 287 | chr2 | 127685246 | 127684508 | 769 | 2.00E-94 |
| 288 | chr4 | 230595078 | 230594319 | 769 | 7.00E-163 |
| 289 | chr4 | 107930280 | 107931039 | 769 | 1.00E-140 |
| 290 | chr4 | 201314659 | 201315416 | 769 | 1.00E-135 |
| 291 | chr4 | 87220333 | 87219582 | 769 | 7.00E-128 |
| 292 | chr5 | 203763845 | 203763093 | 769 | 2.00E-153 |
| 293 | chr5 | 35903944 | 35903189 | 769 | 2.00E-134 |
| 294 | chr5 | 108227509 | 108226751 | 769 | 4.00E-130 |
| 295 | chr8 | 40128572 | 40127824 | 769 | 6.00E-114 |
| 296 | chr10 | 7642923 | 7643667 | 769 | 3.00E-126 |
| 297 | chr10 | 56150863 | 56151616 | 769 | 6.00E-119 |
| 298 | chr3 | 93795609 | 93794859 | 769 | 1.00E-130 |
| 299 | chr3 | 133700185 | 133700942 | 769 | 2.00E-118 |
| 300 | chr3 | 135639831 | 135639073 | 769 | 7.00E-118 |
| 301 | chr1 | 239433539 | 239432783 | 768 | 0 |
| 302 | chr1 | 17621339 | 17622098 | 768 | 2.00E-153 |
| 303 | chr1 | 225277328 | 225278079 | 768 | 4.00E-135 |
| 304 | chr9 | 147200914 | 147201671 | 768 | 4.00E-135 |
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| 306 | chr7 | 170241344 | 170242102 | 768 | 3.00E-141 |
| 307 | chr7 | 146058368 | 146057609 | 768 | 1.00E-140 |
| 308 | chr7 | 75487483 | 75486731 | 768 | 4.00E-120 |
| 309 | chr7 | 115435304 | 115436053 | 768 | 3.00E-117 |
| 310 | chr7 | 29583164 | 29582413 | 768 | 3.00E-116 |
| 311 | chr6 | 65261545 | 65260797 | 768 | 9.00E-157 |
| 312 | chr6 | 101745909 | 101745153 | 768 | 2.00E-133 |
| 313 | chr2 | 85764266 | 85765023 | 768 | 9.00E-147 |
| 314 | chr2 | 178529591 | 178530343 | 768 | 2.00E-123 |
| 315 | chr2 | 142951284 | 142952035 | 768 | 3.00E-121 |
| 316 | chr4 | 96963813 | 96964574 | 768 | 7.00E-158 |
| 317 | chr4 | 128185415 | 128186175 | 768 | 5.00E-154 |
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| 321 | chr5 | 32003671 | 32004415 | 768 | 3.00E-141 |
| 322 | chr5 | 47007497 | 47008255 | 768 | 9.00E-137 |
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| 324 | chr8 | 54096755 | 54097516 | 768 | 7.00E-148 |
| 325 | chr10 | 94530375 | 94529621 | 768 | 6.00E-119 |
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| 327 | chr3 | 108261711 | 108262472 | 768 | 3.00E-151 |
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| 330 | chr1 | 157025823 | 157025065 | 767 | 7.00E-158 |
| 331 | chr1 | 177503080 | 177503833 | 767 | 2.00E-153 |
| 332 | chr1 | 117478312 | 117479071 | 767 | 1.00E-145 |
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| 334 | chr1 | 116219954 | 116219198 | 767 | 1.00E-120 |
| 335 | chr9 | 144691578 | 144690826 | 767 | 2.00E-133 |
| 336 | chr7 | 73400683 | 73401440 | 767 | 2.00E-149 |
| 337 | chr6 | 56213408 | 56214164 | 767 | 3.00E-156 |
| 338 | chr6 | 87876722 | 87875962 | 767 | 3.00E-152 |
| 339 | chr2 | 68048100 | 68047343 | 767 | 4.00E-125 |
| 340 | chr4 | 77856837 | 77856083 | 767 | 3.00E-121 |
| 341 | chr4 | 77625094 | 77624341 | 767 | 6.00E-119 |
| 342 | chr5 | 116396212 | 116396971 | 767 | 2.00E-163 |
| 343 | chr5 | 144803003 | 144802253 | 767 | 4.00E-145 |
| 344 | chr5 | 125475278 | 125474521 | 767 | 6.00E-119 |
| 345 | chr8 | 52620058 | 52620812 | 767 | 6.00E-144 |
| 346 | chr8 | 30324589 | 30325342 | 767 | 4.00E-135 |
| 347 | chr10 | 106596644 | 106597398 | 767 | 6.00E-124 |
| 348 | chr3 | 193458219 | 193457480 | 767 | 2.00E-118 |
| 349 | chr1 | 86142245 | 86141485 | 766 | 2.00E-168 |
| 350 | chr1 | 34510350 | 34511098 | 766 | 1.00E-140 |
| 351 | chr9 | 91770671 | 91769913 | 766 | 3.00E-151 |
| 352 | chr7 | 65075360 | 65074603 | 766 | 3.00E-151 |
| 353 | chr6 | 84780862 | 84781623 | 766 | 2.00E-159 |
| 354 | chr2 | 72661498 | 72660738 | 766 | 9.00E-162 |
| 355 | chr2 | 186823119 | 186822360 | 766 | 4.00E-160 |
| 356 | chr2 | 186299435 | 186300192 | 766 | 7.00E-153 |
| 357 | chr2 | 156322221 | 156321466 | 766 | 3.00E-147 |
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| 361 | chr2 | 79475444 | 79474689 | 766 | 1.00E-115 |
| 362 | chr4 | 97860929 | 97861688 | 766 | 2.00E-153 |
| 363 | chr4 | 225005707 | 225006464 | 766 | 6.00E-129 |
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| 368 | chr10 | 78570971 | 78571729 | 766 | 7.00E-143 |
| 369 | chr3 | 57531626 | 57532377 | 766 | 4.00E-125 |
| 370 | chr1 | 261657645 | 261656885 | 765 | 2.00E-163 |
| 371 | chr1 | 271282501 | 271281744 | 765 | 3.00E-151 |
| 372 | chr1 | 117228565 | 117227813 | 765 | 2.00E-133 |
| 373 | chr1 | 154794985 | 154795737 | 765 | 3.00E-127 |
| 374 | chr9 | 108567612 | 108566854 | 765 | 0 |
| 375 | chr9 | 131510830 | 131510071 | 765 | 2.00E-158 |
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| 377 | chr9 | 101838553 | 101837795 | 765 | 3.00E-156 |
| 378 | chr9 | 155171325 | 155172082 | 765 | 3.00E-156 |
| 379 | chr9 | 48521186 | 48520428 | 765 | 7.00E-153 |
| 380 | chr7 | 29489966 | 29490724 | 765 | 7.00E-153 |
| 381 | chr7 | 41727599 | 41728350 | 765 | 4.00E-150 |
| 382 | chr6 | 52908026 | 52907269 | 765 | 3.00E-156 |
| 383 | chr6 | 83823440 | 83824198 | 765 | 7.00E-153 |
| 384 | chr6 | 157634434 | 157635189 | 765 | 1.00E-140 |
| 385 | chr6 | 17668568 | 17669321 | 765 | 6.00E-139 |
| 386 | chr6 | 135323587 | 135324342 | 765 | 7.00E-138 |
| 387 | chr6 | 141069315 | 141068561 | 765 | 1.00E-135 |
| 388 | chr6 | 46065372 | 46066107 | 765 | 7.00E-133 |
| 389 | chr2 | 193145254 | 193146013 | 765 | 9.00E-162 |
| 390 | chr2 | 186825724 | 186824966 | 765 | 3.00E-161 |
| 391 | chr2 | 26142187 | 26141429 | 765 | 7.00E-153 |
| 392 | chr2 | 131017027 | 131016269 | 765 | 2.00E-144 |
| 393 | chr2 | 160021352 | 160022105 | 765 | 6.00E-144 |
| 394 | chr2 | 153101878 | 153102634 | 765 | 3.00E-137 |
| 395 | chr4 | 89878931 | 89878172 | 765 | 4.00E-160 |
| 396 | chr5 | 101437456 | 101436698 | 765 | 2.00E-154 |
| 397 | chr5 | 14376069 | 14375320 | 765 | 4.00E-140 |
| 398 | chr5 | 43548533 | 43547781 | 765 | 4.00E-130 |
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| 402 | chr10 | 95463167 | 95462409 | 765 | 3.00E-156 |
| 403 | chr10 | 84086526 | 84087284 | 765 | 3.00E-146 |
| 404 | chr3 | 120363271 | 120364029 | 765 | 3.00E-161 |
| 405 | chr3 | 120362767 | 120363524 | 765 | 7.00E-158 |
| 406 | chr3 | 130477059 | 130477809 | 765 | 7.00E-153 |
| 407 | chr3 | 108551386 | 108552140 | 765 | 6.00E-129 |
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| 410 | chr9 | 8301214 | 8300456 | 764 | 3.00E-156 |
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| 413 | chr6 | 74514394 | 74515152 | 764 | 7.00E-158 |
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| 418 | chr2 | 87454059 | 87453306 | 764 | 4.00E-145 |
| 419 | chr4 | 64714165 | 64713407 | 764 | 3.00E-156 |
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| 422 | chr4 | 24744725 | 24745476 | 764 | 2.00E-134 |
| 423 | chr4 | 211058944 | 211058203 | 764 | 6.00E-119 |
| 424 | chr5 | 36166214 | 36166971 | 764 | 3.00E-166 |
| 425 | chr5 | 96288009 | 96288764 | 764 | 9.00E-162 |
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| 428 | chr5 | 180551762 | 180551004 | 764 | 2.00E-154 |
| 429 | chr8 | 78320713 | 78321471 | 764 | 7.00E-163 |
| 430 | chr8 | 43850978 | 43850225 | 764 | 6.00E-139 |
| 431 | chr8 | 79717019 | 79717773 | 764 | 1.00E-135 |
| 432 | chr10 | 7366028 | 7365270 | 764 | 2.00E-159 |
| 433 | chr10 | 87291423 | 87290665 | 764 | 2.00E-159 |
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| 436 | chr10 | 41632844 | 41632093 | 764 | 3.00E-146 |
| 437 | chr10 | 116749218 | 116748461 | 764 | 2.00E-144 |
| 438 | chr10 | 48248419 | 48247671 | 764 | 1.00E-125 |
| 439 | chr3 | 56617671 | 56616913 | 764 | 2.00E-164 |
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| 442 | chr3 | 202963280 | 202962530 | 764 | 3.00E-126 |
| 443 | chr1 | 206493739 | 206492981 | 763 | 2.00E-159 |
| 444 | chr1 | 144845248 | 144846006 | 763 | 7.00E-158 |
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| 448 | chr1 | 163678584 | 163679335 | 763 | 3.00E-146 |
| 449 | chr9 | 17258126 | 17257368 | 763 | 2.00E-164 |
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| 453 | chr9 | 58307706 | 58306952 | 763 | 1.00E-130 |
| 454 | chr7 | 169728349 | 169727591 | 763 | 7.00E-163 |
| 455 | chr7 | 134754875 | 134755631 | 763 | 3.00E-156 |
| 456 | chr7 | 84349642 | 84350394 | 763 | 2.00E-123 |
| 457 | chr6 | 86011444 | 86010686 | 763 | 3.00E-166 |
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| 459 | chr6 | 34168228 | 34168977 | 763 | 7.00E-148 |
| 460 | chr2 | 145408607 | 145409364 | 763 | 1.00E-160 |
| 461 | chr2 | 186825219 | 186824463 | 763 | 4.00E-160 |
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| 464 | chr2 | 200057156 | 200056398 | 763 | 7.00E-153 |
| 465 | chr2 | 99235461 | 99236217 | 763 | 9.00E-152 |
| 466 | chr2 | 100654706 | 100655462 | 763 | 6.00E-144 |
| 467 | chr2 | 60418768 | 60418022 | 763 | 3.00E-142 |
| 468 | chr4 | 44434126 | 44434884 | 763 | 2.00E-164 |
| 469 | chr4 | 12974229 | 12973471 | 763 | 2.00E-154 |
| 470 | chr4 | 181622452 | 181621701 | 763 | 2.00E-144 |
| 471 | chr5 | 4378753 | 4377995 | 763 | 2.00E-164 |
| 472 | chr8 | 80732160 | 80732918 | 763 | 3.00E-171 |
| 473 | chr8 | 112796344 | 112797102 | 763 | 2.00E-164 |
| 474 | chr10 | 13665599 | 13664841 | 763 | 7.00E-158 |
| 475 | chr3 | 34655666 | 34656424 | 763 | 7.00E-163 |
| 476 | chr3 | 159179259 | 159180017 | 763 | 3.00E-156 |
| 477 | chr3 | 228354506 | 228353748 | 763 | 7.00E-153 |
| 478 | chr3 | 83685239 | 83685992 | 763 | 3.00E-147 |
| 479 | chr3 | 213420653 | 213421404 | 763 | 7.00E-138 |
| 480 | chr3 | 65340801 | 65341552 | 763 | 2.00E-123 |
| 481 | chr0 | 797028 | 797786 | 763 | 7.00E-153 |
| 482 | chr1 | 262040259 | 262041007 | 762 | 1.00E-145 |
| 483 | chr1 | 91752982 | 91753735 | 762 | 4.00E-140 |
| 484 | chr1 | 11545655 | 11546399 | 762 | 3.00E-126 |
| 485 | chr7 | 97751882 | 97751126 | 762 | 4.00E-150 |
| 486 | chr6 | 57805813 | 57806566 | 762 | 3.00E-152 |
| 487 | chr6 | 57864726 | 57865479 | 762 | 1.00E-150 |
| 488 | chr6 | 91351582 | 91352324 | 762 | 2.00E-123 |
| 489 | chr4 | 34494088 | 34494845 | 762 | 3.00E-161 |
| 490 | chr4 | 78826222 | 78825477 | 762 | 2.00E-119 |
| 491 | chr8 | 70002773 | 70003515 | 762 | 2.00E-124 |
| 492 | chr10 | 47627525 | 47626768 | 762 | 3.00E-161 |
| 493 | chr10 | 18122493 | 18123243 | 762 | 7.00E-133 |
| 494 | chr3 | 146939688 | 146938931 | 762 | 7.00E-163 |
| 495 | chr3 | 207591683 | 207592438 | 762 | 7.00E-153 |
| 496 | chr3 | 34655161 | 34655917 | 762 | 4.00E-150 |
| 497 | chr3 | 48002557 | 48001816 | 762 | 3.00E-132 |
| 498 | chr1 | 90956784 | 90957532 | 761 | 7.00E-158 |
| 499 | chr1 | 161953384 | 161954118 | 761 | 1.00E-100 |
| 500 | chr7 | 43404607 | 43405362 | 761 | 3.00E-161 |
| 501 | chr6 | 57853464 | 57854217 | 761 | 1.00E-155 |
| 502 | chr6 | 82425168 | 82424412 | 761 | 2.00E-153 |
| 503 | chr6 | 62845069 | 62844319 | 761 | 6.00E-149 |
| 504 | chr4 | 108650987 | 108650231 | 761 | 4.00E-160 |
| 505 | chr5 | 114646844 | 114646088 | 761 | 2.00E-158 |
| 506 | chr5 | 49080266 | 49079520 | 761 | 1.00E-126 |
| 507 | chr8 | 74111815 | 74112570 | 761 | 1.00E-150 |
| 508 | chr8 | 44769220 | 44769969 | 761 | 3.00E-126 |
| 509 | chr3 | 98574088 | 98573336 | 761 | 2.00E-129 |
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| 511 | chr1 | 187983310 | 187982559 | 760 | 7.00E-153 |
| 512 | chr1 | 142390669 | 142391418 | 760 | 1.00E-150 |
| 513 | chr7 | 30062528 | 30061784 | 760 | 1.00E-125 |
| 514 | chr6 | 110797166 | 110797905 | 760 | 6.00E-139 |
| 515 | chr2 | 21614228 | 21614981 | 760 | 2.00E-158 |
| 516 | chr5 | 34047682 | 34046931 | 760 | 7.00E-148 |
| 517 | chr8 | 140622539 | 140621786 | 760 | 9.00E-162 |
| 518 | chr10 | 104815129 | 104815870 | 760 | 7.00E-133 |
| 519 | chr3 | 116416589 | 116415849 | 760 | 1.00E-135 |
| 520 | chr1 | 98978281 | 98977529 | 759 | 7.00E-153 |
| 521 | chr1 | 219590598 | 219589848 | 759 | 3.00E-146 |
| 522 | chr1 | 137806094 | 137805342 | 759 | 7.00E-138 |
| 523 | chr7 | 18942168 | 18942919 | 759 | 3.00E-141 |
| 524 | chr7 | 92153470 | 92152720 | 759 | 6.00E-134 |
| 525 | chr7 | 35982397 | 35981645 | 759 | 7.00E-133 |
| 526 | chr6 | 59404482 | 59403734 | 759 | 3.00E-137 |
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| 531 | chr7 | 15046274 | 15045541 | 758 | 8.00E-103 |
| 532 | chr6 | 51972983 | 51973719 | 758 | 1.00E-116 |
| 533 | chr5 | 160565832 | 160565080 | 758 | 3.00E-156 |
| 534 | chr10 | 78369349 | 78370098 | 758 | 2.00E-159 |
| 535 | chr10 | 68454424 | 68455177 | 758 | 2.00E-153 |
| 536 | chr3 | 220957790 | 220958541 | 758 | 2.00E-154 |
| 537 | chr1 | 5129591 | 5128840 | 757 | 7.00E-153 |
| 538 | chr9 | 26060034 | 26060783 | 757 | 1.00E-145 |
| 539 | chr6 | 117446969 | 117446223 | 757 | 7.00E-148 |
| 540 | chr2 | 219160865 | 219161616 | 757 | 2.00E-149 |
| 541 | chr5 | 185509021 | 185508272 | 757 | 7.00E-148 |
| 542 | chr3 | 21007401 | 21008152 | 757 | 3.00E-156 |
| 543 | chr3 | 64361239 | 64360489 | 757 | 9.00E-152 |
| 544 | chr7 | 50103100 | 50103832 | 756 | 1.00E-126 |
| 545 | chr8 | 31865202 | 31865951 | 756 | 6.00E-144 |
| 546 | chr7 | 15655127 | 15654387 | 755 | 1.00E-121 |
| 547 | chr1 | 16357705 | 16358434 | 754 | 3.00E-142 |
| 548 | chr7 | 28791723 | 28790989 | 754 | 7.00E-148 |
| 549 | chr4 | 221227560 | 221226820 | 754 | 3.00E-176 |
| 550 | chr1 | 218530400 | 218531139 | 753 | 9.00E-152 |
| 551 | chr7 | 43288602 | 43287861 | 753 | 3.00E-132 |
| 552 | chr7 | 154271954 | 154272690 | 753 | 3.00E-107 |
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| 554 | chr2 | 89787053 | 89786308 | 753 | 3.00E-147 |
| 555 | chr9 | 62692690 | 62693437 | 752 | 9.00E-157 |
| 556 | chr3 | 23206002 | 23206733 | 752 | 1.00E-126 |
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| 559 | chr2 | 159763738 | 159764473 | 750 | 1.00E-105 |
| 560 | chr4 | 134419053 | 134418318 | 750 | 4.00E-130 |
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| 562 | chr5 | 26017829 | 26017107 | 750 | 6.00E-144 |
| 563 | chr3 | 52292540 | 52291803 | 750 | 3.00E-122 |
| 564 | chr7 | 71686469 | 71685738 | 749 | 2.00E-123 |
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| 566 | chr6 | 130182920 | 130182187 | 748 | 2.00E-143 |
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| 568 | chr4 | 43350157 | 43349434 | 748 | 1.00E-115 |
| 569 | chr10 | 51705917 | 51706651 | 748 | 2.00E-153 |
| 570 | chr7 | 21304383 | 21303652 | 747 | 2.00E-139 |
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| 573 | chr4 | 201891307 | 201892037 | 747 | 3.00E-142 |
| 574 | chr5 | 5863265 | 5863991 | 747 | 3.00E-111 |
| 575 | chr1 | 213528592 | 213529329 | 746 | 1.00E-165 |
| 576 | chr1 | 262204554 | 262205288 | 746 | 7.00E-153 |
| 577 | chr6 | 118514395 | 118513664 | 746 | 3.00E-176 |
| 578 | chr6 | 59179519 | 59180254 | 746 | 2.00E-167 |
| 579 | chr4 | 121077878 | 121077143 | 746 | 2.00E-177 |
| 580 | chr1 | 220916879 | 220917613 | 745 | 7.00E-163 |
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| 582 | chr5 | 96543599 | 96544327 | 745 | 4.00E-160 |
| 583 | chr8 | 147116180 | 147115446 | 745 | 3.00E-92 |
| 584 | chr4 | 53883137 | 53882407 | 744 | 2.00E-177 |
| 585 | chr10 | 49066697 | 49065966 | 744 | 2.00E-168 |
| 586 | chr10 | 112992527 | 112993248 | 744 | 5.00E-60 |
| 587 | chr3 | 224275403 | 224276135 | 744 | 3.00E-126 |
| 588 | chr9 | 123417370 | 123418097 | 743 | 3.00E-141 |
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| 592 | chr10 | 21548242 | 21548942 | 742 | 3.00E-111 |
| 593 | chr6 | 154642216 | 154641495 | 741 | 4.00E-86 |
| 594 | chr4 | 48662038 | 48661304 | 741 | 3.00E-176 |
| 595 | chr3 | 196359254 | 196358525 | 741 | 4.00E-125 |
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| 600 | chr4 | 24745226 | 24745953 | 738 | 9.00E-162 |
| 601 | chr8 | 91659192 | 91659913 | 738 | 2.00E-153 |
| 602 | chr7 | 3534779 | 3534050 | 737 | 9.00E-167 |
| 603 | chr7 | 1981990 | 1982708 | 737 | 5.00E-95 |
| 604 | chr6 | 19381967 | 19382689 | 737 | 1.00E-121 |
| 605 | chr2 | 79756621 | 79755896 | 737 | 1.00E-160 |
| 606 | chr10 | 23546250 | 23546972 | 737 | 7.00E-153 |
| 607 | chr7 | 66112306 | 66111583 | 736 | 9.00E-167 |
| 608 | chr1 | 203054063 | 203054781 | 735 | 1.00E-115 |
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| 613 | chr4 | 124305841 | 124305123 | 735 | 4.00E-115 |
| 614 | chr4 | 1462193 | 1462909 | 735 | 8.00E-73 |
| 615 | chr5 | 121416585 | 121417308 | 735 | 5.00E-105 |
| 616 | chr10 | 43577513 | 43578236 | 735 | 2.00E-109 |
| 617 | chr1 | 66308371 | 66307653 | 734 | 1.00E-135 |
| 618 | chr1 | 257459877 | 257460593 | 734 | 6.00E-94 |
| 619 | chr7 | 91435533 | 91436249 | 734 | 2.00E-114 |
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| 625 | chr9 | 69638152 | 69637427 | 733 | 3.00E-117 |
| 626 | chr9 | 135504484 | 135505207 | 733 | 8.00E-113 |
| 627 | chr6 | 35394399 | 35395101 | 732 | 6.00E-74 |
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| 629 | chr5 | 109395015 | 109395729 | 732 | 6.00E-89 |
| 630 | chr10 | 66323266 | 66322552 | 732 | 3.00E-107 |
| 631 | chr1 | 289222797 | 289222090 | 731 | 1.00E-91 |
| 632 | chr9 | 119940902 | 119941606 | 731 | 3.00E-126 |
| 633 | chr7 | 23463031 | 23462320 | 731 | 2.00E-118 |
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| 635 | chr2 | 88675391 | 88676103 | 731 | 1.00E-111 |
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| 640 | chr1 | 113670336 | 113669617 | 730 | 2.00E-98 |
| 641 | chr6 | 83162189 | 83162909 | 730 | 6.00E-124 |
| 642 | chr2 | 104983446 | 104984165 | 730 | 9.00E-132 |
| 643 | chr2 | 117055471 | 117054749 | 730 | 3.00E-131 |
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| 645 | chr5 | 104009070 | 104009787 | 730 | 2.00E-118 |
| 646 | chr3 | 221444329 | 221445049 | 730 | 3.00E-127 |
| 647 | chr3 | 26083468 | 26084182 | 730 | 5.00E-100 |
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| 652 | chr9 | 38016066 | 38016780 | 729 | 2.00E-134 |
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| 656 | chr4 | 225879768 | 225879059 | 729 | 3.00E-132 |
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| 659 | chr3 | 56929090 | 56928374 | 729 | 3.00E-116 |
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| 663 | chr1 | 152510644 | 152509937 | 728 | 6.00E-84 |
| 664 | chr9 | 76297455 | 76298173 | 728 | 1.00E-116 |
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| 667 | chr6 | 121951447 | 121950733 | 728 | 9.00E-137 |
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| 671 | chr4 | 72392835 | 72392120 | 728 | 2.00E-109 |
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| 677 | chr8 | 266125 | 265421 | 728 | 3.00E-102 |
| 678 | chr10 | 124053003 | 124053709 | 728 | 8.00E-88 |
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| 686 | chr1 | 203051687 | 203052393 | 727 | 5.00E-105 |
| 687 | chr9 | 5087649 | 5086937 | 727 | 4.00E-125 |
| 688 | chr9 | 44713930 | 44713223 | 727 | 4.00E-125 |
| 689 | chr7 | 36741056 | 36741771 | 727 | 1.00E-130 |
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| 691 | chr7 | 55111880 | 55112594 | 727 | 3.00E-112 |
| 692 | chr2 | 64980303 | 64979590 | 727 | 2.00E-123 |
| 693 | chr4 | 216395764 | 216396479 | 727 | 4.00E-130 |
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| 697 | chr4 | 86881245 | 86880539 | 727 | 2.00E-103 |
| 698 | chr5 | 121380733 | 121381444 | 727 | 3.00E-141 |
| 699 | chr8 | 6841988 | 6842704 | 727 | 2.00E-119 |
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| 719 | chr4 | 124303887 | 124304594 | 726 | 4.00E-130 |
| 720 | chr5 | 186094439 | 186095144 | 726 | 1.00E-125 |
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| 722 | chr5 | 96288847 | 96289555 | 726 | 4.00E-115 |
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| 726 | chr3 | 73153594 | 73152883 | 726 | 4.00E-106 |
| 727 | chr1 | 143304435 | 143305145 | 725 | 2.00E-124 |
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| 766 | chr2 | 146796678 | 146797393 | 724 | 2.00E-143 |
| 767 | chr2 | 118027560 | 118028274 | 724 | 3.00E-117 |
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| 775 | chr4 | 118158977 | 118159691 | 724 | 6.00E-124 |
| 776 | chr4 | 119662308 | 119663013 | 724 | 2.00E-114 |
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| 782 | chr10 | 43728770 | 43729467 | 724 | 1.00E-105 |
| 783 | chr3 | 170469638 | 170468927 | 724 | 7.00E-123 |
| 784 | chr3 | 78549514 | 78550226 | 724 | 1.00E-121 |
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| 786 | chr3 | 230567428 | 230566722 | 724 | 1.00E-106 |
| 787 | chr1 | 154360195 | 154360910 | 723 | 6.00E-139 |
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| 789 | chr1 | 150624407 | 150623697 | 723 | 2.00E-128 |
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| 791 | chr1 | 232308377 | 232307668 | 723 | 3.00E-127 |
| 792 | chr1 | 160851952 | 160852661 | 723 | 3.00E-126 |
| 793 | chr1 | 238661008 | 238660296 | 723 | 1.00E-116 |
| 794 | chr9 | 143836887 | 143837593 | 723 | 9.00E-157 |
| 795 | chr9 | 83136679 | 83137392 | 723 | 2.00E-123 |
| 796 | chr7 | 18747741 | 18747026 | 723 | 1.00E-135 |
| 797 | chr7 | 30472955 | 30473668 | 723 | 9.00E-132 |
| 798 | chr7 | 173232241 | 173232949 | 723 | 3.00E-127 |
| 799 | chr6 | 82549521 | 82550236 | 723 | 5.00E-159 |
| 800 | chr6 | 95929102 | 95928392 | 723 | 2.00E-134 |
| 801 | chr6 | 123911802 | 123912497 | 723 | 3.00E-92 |
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| 804 | chr4 | 225006212 | 225006917 | 723 | 2.00E-124 |
| 805 | chr4 | 221203361 | 221204073 | 723 | 4.00E-120 |
| 806 | chr5 | 97767328 | 97766615 | 723 | 4.00E-140 |
| 807 | chr5 | 138870990 | 138870278 | 723 | 2.00E-129 |
| 808 | chr10 | 95931471 | 95930759 | 723 | 4.00E-140 |
| 809 | chr10 | 76883671 | 76882960 | 723 | 3.00E-132 |
| 810 | chr10 | 80966490 | 80967203 | 723 | 3.00E-121 |
| 811 | chr10 | 53773199 | 53772494 | 723 | 2.00E-119 |
| 812 | chr3 | 111577175 | 111577887 | 723 | 3.00E-136 |
| 813 | chr1 | 12685876 | 12686590 | 722 | 3.00E-147 |
| 814 | chr1 | 104675492 | 104676206 | 722 | 2.00E-144 |
| 815 | chr1 | 95854830 | 95854120 | 722 | 3.00E-137 |
| 816 | chr1 | 137877103 | 137877793 | 722 | 3.00E-92 |
| 817 | chr9 | 94904221 | 94903511 | 722 | 2.00E-134 |
| 818 | chr7 | 79053339 | 79054052 | 722 | 7.00E-138 |
| 819 | chr6 | 25405873 | 25406587 | 722 | 6.00E-134 |
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| 838 | chr3 | 96020251 | 96020955 | 722 | 7.00E-118 |
| 839 | chr0 | 3771371 | 3772065 | 722 | 4.00E-106 |
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| 857 | chr8 | 17164022 | 17163317 | 721 | 4.00E-91 |
| 858 | chr10 | 39309781 | 39309070 | 721 | 6.00E-144 |
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| 871 | chr6 | 111770109 | 111769414 | 720 | 4.00E-125 |
| 872 | chr6 | 69318976 | 69319680 | 720 | 3.00E-121 |
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| 875 | chr4 | 137330823 | 137331523 | 720 | 5.00E-95 |
| 876 | chr5 | 64061851 | 64061143 | 720 | 1.00E-120 |
| 877 | chr8 | 132760050 | 132760759 | 720 | 9.00E-157 |
| 878 | chr10 | 61121280 | 61121993 | 720 | 3.00E-142 |
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| 880 | chr10 | 18406131 | 18405430 | 720 | 8.00E-83 |
| 881 | chr3 | 197365838 | 197365128 | 720 | 7.00E-143 |
| 882 | chr3 | 228244136 | 228243426 | 720 | 1.00E-130 |
| 883 | chr3 | 132395563 | 132394864 | 720 | 4.00E-125 |
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| 885 | chr2 | 148606153 | 148606864 | 719 | 1.00E-150 |
| 886 | chr5 | 102813730 | 102813023 | 719 | 2.00E-134 |
| 887 | chr5 | 128694461 | 128695168 | 719 | 6.00E-124 |
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| 894 | chr2 | 148566987 | 148567690 | 718 | 9.00E-132 |
| 895 | chr4 | 35612843 | 35612131 | 718 | 3.00E-156 |
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| 897 | chr8 | 26507048 | 26507759 | 718 | 3.00E-152 |
| 898 | chr8 | 47110289 | 47111000 | 718 | 1.00E-135 |
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| 902 | chr3 | 104276860 | 104277567 | 718 | 4.00E-115 |
| 903 | chr2 | 133760744 | 133760033 | 717 | 5.00E-154 |
| 904 | chr4 | 75398244 | 75397539 | 717 | 9.00E-157 |
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| 906 | chr7 | 46171427 | 46172136 | 716 | 2.00E-138 |
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| 909 | chr5 | 105034519 | 105035230 | 716 | 3.00E-147 |
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| 923 | chr0 | 3776711 | 3777411 | 712 | 2.00E-124 |
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| 927 | chr3 | 119608409 | 119609110 | 711 | 3.00E-131 |
| 928 | chr3 | 117083641 | 117084342 | 711 | 1.00E-116 |
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| 934 | chr10 | 53773672 | 53772990 | 709 | 8.00E-98 |
| 935 | chr3 | 224274932 | 224275630 | 709 | 3.00E-102 |
| 936 | chr2 | 43701228 | 43700539 | 708 | 1.00E-126 |
| 937 | chr8 | 58308136 | 58307443 | 708 | 1.00E-121 |
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| 963 | chr9 | 119169391 | 119170082 | 702 | 9.00E-162 |
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| 970 | chr2 | 98958385 | 98959075 | 701 | 1.00E-150 |
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| 973 | chr4 | 83541271 | 83540582 | 700 | 2.00E-158 |
| 974 | chr2 | 139988732 | 139989413 | 699 | 5.00E-159 |
| 975 | chr3 | 152899938 | 152900621 | 699 | 7.00E-143 |
| 976 | chr9 | 32489282 | 32488597 | 698 | 8.00E-93 |
| 977 | chr9 | 54505502 | 54504839 | 698 | 1.00E-66 |
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| 980 | chr4 | 153268327 | 153267642 | 698 | 6.00E-119 |
| 981 | chr10 | 60804860 | 60805548 | 698 | 1.00E-126 |
| 982 | chr7 | 107809211 | 107809884 | 697 | 1.00E-95 |
| 983 | chr2 | 123622099 | 123621416 | 697 | 5.00E-105 |
| 984 | chr5 | 136963680 | 136962989 | 697 | 4.00E-175 |
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| 987 | chr10 | 64715235 | 64715911 | 696 | 5.00E-100 |
| 988 | chr1 | 254438525 | 254437842 | 695 | 6.00E-134 |
| 989 | chr2 | 106585230 | 106585915 | 695 | 3.00E-112 |
| 990 | chr6 | 151074743 | 151074061 | 694 | 2.00E-124 |
| 991 | chr6 | 48728913 | 48729593 | 694 | 2.00E-113 |
| 992 | chr5 | 11342045 | 11341360 | 694 | 6.00E-104 |
| 993 | chr3 | 127856015 | 127856694 | 693 | 8.00E-83 |
| 994 | chr7 | 75780622 | 75779944 | 692 | 2.00E-93 |
| 995 | chr7 | 123778183 | 123777501 | 690 | 3.00E-127 |
| 996 | chr2 | 31600800 | 31601468 | 690 | 9.00E-152 |
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| 998 | chr5 | 46819588 | 46818911 | 688 | 3.00E-102 |
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| 1000 | chr1 | 291749040 | 291749711 | 687 | 1.00E-95 |
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| 1002 | chr7 | 138106002 | 138105360 | 686 | 5.00E-50 |
| 1003 | chr3 | 66919875 | 66920539 | 686 | 4.00E-91 |
| 1004 | chr1 | 52700716 | 52701396 | 685 | 3.00E-131 |
| 1005 | chr9 | 64135362 | 64136023 | 685 | 2.00E-138 |
| 1006 | chr10 | 96130171 | 96130833 | 683 | 1.00E-75 |
| 1007 | chr3 | 87506065 | 87505396 | 683 | 3.00E-111 |
| 1008 | chr5 | 111962186 | 111961517 | 682 | 1.00E-95 |
| 1009 | chr8 | 147544899 | 147544226 | 682 | 6.00E-124 |
| 1010 | chr4 | 22941889 | 22942564 | 681 | 6.00E-124 |
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| 1012 | chr10 | 43731210 | 43731870 | 679 | 4.00E-96 |
| 1013 | chr1 | 142457248 | 142457916 | 678 | 6.00E-129 |
| 1014 | chr10 | 121408093 | 121407427 | 678 | 6.00E-134 |
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| 1016 | chr5 | 128356160 | 128356825 | 676 | 1.00E-106 |
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| 1019 | chr7 | 160557281 | 160556644 | 674 | 3.00E-82 |
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| 1021 | chr1 | 181192585 | 181191936 | 673 | 6.00E-74 |
| 1022 | chr7 | 93559820 | 93560482 | 673 | 2.00E-118 |
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| 1043 | chr5 | 145548590 | 145549234 | 658 | 1.00E-86 |
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| 1048 | chr1 | 95954096 | 95954736 | 651 | 3.00E-111 |
| 1049 | chr9 | 5102698 | 5102060 | 651 | 1.00E-115 |
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| 1052 | chr7 | 94608673 | 94609313 | 650 | 3.00E-162 |
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| 1056 | chr2 | 79366801 | 79367430 | 648 | 2.00E-83 |
| 1057 | chr5 | 132970091 | 132970728 | 648 | 4.00E-106 |
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| 1074 | chr1 | 147606190 | 147606813 | 629 | 2.00E-109 |
| 1075 | chr1 | 259687236 | 259687850 | 629 | 8.00E-78 |
| 1076 | chr1 | 137868926 | 137869535 | 625 | 2.00E-58 |
| 1077 | chr10 | 25179346 | 25178731 | 621 | 9.00E-152 |
| 1078 | chr3 | 184380488 | 184379879 | 621 | 1.00E-86 |
| 1079 | chr5 | 122847276 | 122847885 | 617 | 6.00E-104 |
| 1080 | chr1 | 90943658 | 90944264 | 616 | 2.00E-114 |
| 1081 | chr8 | 161780293 | 161780882 | 614 | 6.00E-109 |
| 1082 | chr7 | 68940459 | 68939862 | 611 | 1.00E-76 |
| 1083 | chr6 | 56157155 | 56157756 | 610 | 2.00E-103 |
| 1084 | chr1 | 223898336 | 223897749 | 608 | 2.00E-99 |
| 1085 | chr5 | 13642998 | 13643588 | 608 | 3.00E-77 |
| 1086 | chr6 | 113446680 | 113446082 | 606 | 6.00E-84 |
| 1087 | chr4 | 68065880 | 68065291 | 606 | 4.00E-66 |

**Z** TRIM members were analyzed against the *Zea mays* genome at MaizeGDB, against the sequence database B73 RefGen\_v2 (MGSC), using *Zm*-Cassandra (AY271958).