

Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 308246 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308246 has 135 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Doomslug_119, Jant_108
- Track 2 : CaptainTrips_104, PhesterPhotato_106, Beanstalk_98, Hamulus_102, DosHalletts_99, Medindi_107, DLane_102, ShroomBoi_100, Filuzino_102, LittleShirley_110, ArcusAngelus_102, SG4_103, Seagreen_103, Chuckly_99, Okabe_94, StAnnes_107, Chevrolet_106, Whatsapiecost_96, Mova_104, Fastidio_105, Slim_106, XFactor_93, Batiatus_102, Emmaloid_106, QuickMath_103, KingJulian_110, Beakin_95, Akhila_96
- Track 3 : MulchExplorer_102, DotProduct_96, GUmbie_101, PatoPoderoso_103, Hades_99, Boomer_103, Juice456_101, Kimberlium_103
- Track 4 : Flathead_105, Brushbloom_103, Rockne_106, Ogotogo_107, PMC_102, Hegedechwinu_111
- Track 5 : Marker_107
- Track 6 : MinionDave_100, DillTech15_108
- Track 7 : Stap_97
- Track 8 : Wachhund_99, Galactic_107, LunaBlu_109, Enzomatic_115, Nitzel_97, Ovechkin_105, GigiOuiOui_97, Mozy_107, Polo2Bam_114, NewHope4_110, Ibhubesi_99, Kersh_105, SeaLumen_111, Harley_104, Byougenkin_99, Juniper1_94
- Track 9 : Mahavrat_96
- Track 10 : Phalconet_103
- Track 11 : MilanaBonita_95, Ardmore_86, Corium_101, Fruitloop_100, Melissauren88_92, IMpilo_100
- Track 12 : DeadP_101, Tweety_102, Dante_99
- Track 13 : IbOuu_93
- Track 14 : Ms6_104
- Track 15 : OwlsT2W_100
- Track 16 : Royals2015_106
- Track 17 : Mutaforma13_104, Firehouse51_97
- Track 18 : SassyB_93, PopTart_93
- Track 19 : Mwanjiwa_105
- Track 20 : SimranZ1_102
- Track 21 : Wee_105
- Track 22 : Cornucopia_102
- Track 23 : LunaStella_99, TChen_99
- Track 24 : QueenHazel_71
- Track 25 : Xula_72
- Track 26 : Ariel_16, Rearden_14

- Track 27 : HokkenD_11, Duke13_12, Schatzie_14, EricMillard_16, Beem_16, Dove_13, Wanda_16, NihilNomen_15, Yeet_14, Kalah2_16
- Track 28 : Thibault_12, Xiaokay_13, Constella_11, Bobby_17
- Track 29 : Bombitas_13, BAKA_12, Ejimix_17, Phoebus_16, Pound_16, DmpstrDiver_15, Hughesyang_15, Bagrid_14, Optimus_13, ThreeRngTarjay_15
- Track 30 : LittleE_16
- Track 31 : Omega_2
- Track 32 : Gonephishing_3
- Track 33 : Minerva_15, Klein_16, Zelink_16
- Track 34 : Odette_15
- Track 35 : Hidrated_16, Marleymoo_17
- Track 36 : Squint_16, Lucky2013_16, Nibley_12
- Track 37 : Halley_16, Redno2_15
- Track 38 : JuicyJay_17, Dallas_15
- Track 39 : Stellammi_182
- Track 40 : MooMoo_95

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 26, it was called in 36 of the 113 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Boomer_103, Brushbloom_103, Byougenkin_99, Cornucopia_102, DotProduct_96, Enzomatic_115, Firehouse51_97, Flathead_105, GUmbie_101, Galactic_107, GigiOuiOui_97, Hades_99, Harley_104, Hegedechwinu_111, lbhubesi_99, Juice456_101, Juniper1_94, Kersh_105, Kimberlium_103, LunaBlu_109, Mahavrat_96, Mozy_107, MulchExplorer_102, Mutaforma13_104, Mwanjiwa_105, NewHope4_110, Nitzel_97, OgoPogo_107, Ovechkin_105, PMC_102, PatoPoderoso_103, Polo2Bam_114, PopTart_93, QueenHazel_71, Rockne_106, Royals2015_106, SassyB_93, SeaLumen_111, SimranZ1_102, Wachhund_99, Xula_72,

Genes that have the "Most Annotated" start but do not call it:

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Genes that do not have the "Most Annotated" start:

- Akhila_96, ArcusAngelus_102, Ardmore_86, Ariel_16, BAKA_12, Bagrid_14, Batiatus_102, Beakin_95, Beanstalk_98, Beem_16, Bobby_17, Bombitas_13, CaptainTrips_104, Chevrolet_106, Chuckly_99, Constella_11, Corium_101, DLane_102, Dallas_15, Dante_99, DeadP_101, DillTech15_108, DmpstrDiver_15, Doomslug_119, DosHalletts_99, Dove_13, Duke13_12, Ejimix_17, Emmaloid_106, EricMillard_16, Fastidio_105, Filuzino_102, Fruitloop_100, Gonephishing_3, Halley_16, Hamulus_102, Hidrated_16, HokkenD_11, Hughesyang_15, IMpilo_100, lbOuu_93, Jant_108, JuicyJay_17, Kalah2_16, KingJulian_110, Klein_16, LittleE_16, LittleShirley_110, Lucky2013_16, LunaStella_99, Marker_107, Marleymoo_17, Medindi_107, Melissauren88_92, MilanaBonita_95, Minerva_15, MinionDave_100, MooMoo_95, Mova_104, Ms6_104, Nibley_12, NihilNomen_15, Odette_15, Okabe_94, Omega_2, Optimus_13, OwlsT2W_100, Phalconet_103, PhesterPotato_106, Phoebus_16, Pound_16, QuickMath_103, Rearden_14,

Redno2_15, SG4_103, Schatzie_14, Seagreen_103, ShroomBoi_100, Slim_106, Squint_16, StAnnes_107, Stap_97, Stellammi_182, TChen_99, Thibault_12, ThreeRngTarjay_15, Tweety_102, Wanda_16, Wee_105, Whatsapiecost_96, XFactor_93, Xiaokay_13, Yeet_14, Zelink_16,

Summary by start number:

Start 16:

- Found in 39 of 135 (28.9%) of genes in pham
- Manual Annotations of this start: 15 of 113
- Called 43.6% of time when present
- Phage (with cluster) where this start called: Beem_16 (J), Dallas_15 (J), Dante_99 (F1), DeadP_101 (F1), Doomslug_119 (F), Dove_13 (J), Duke13_12 (J), EricMillard_16 (J), HokkenD_11 (J), Jant_108 (F1), JuicyJay_17 (J), Kalah2_16 (J), NihilNomen_15 (J), Schatzie_14 (J), Tweety_102 (F1), Wanda_16 (J), Yeet_14 (J),

Start 17:

- Found in 2 of 135 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 113
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel_16 (J), Rearden_14 (J),

Start 18:

- Found in 42 of 135 (31.1%) of genes in pham
- Manual Annotations of this start: 1 of 113
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Marker_107 (F1),

Start 19:

- Found in 38 of 135 (28.1%) of genes in pham
- Manual Annotations of this start: 20 of 113
- Called 68.4% of time when present
- Phage (with cluster) where this start called: BAKA_12 (J), Bagrid_14 (J), Bobby_17 (J), Bombitas_13 (J), Constella_11 (J), DmpstrDiver_15 (J), Ejimix_17 (J), Halley_16 (J), Hidrated_16 (J), Hughesyang_15 (J), Klein_16 (J), LittleE_16 (J), Lucky2013_16 (J), Marleymoo_17 (J), Minerva_15 (J), Nibley_12 (J), Odette_15 (J), Optimus_13 (J), Phoebus_16 (J), Pound_16 (J), Redno2_15 (J), Squint_16 (J), Thibault_12 (J), ThreeRngTarjay_15 (J), Xiaokay_13 (J), Zelink_16 (J),

Start 20:

- Found in 44 of 135 (32.6%) of genes in pham
- Manual Annotations of this start: 1 of 113
- Called 2.3% of time when present
- Phage (with cluster) where this start called: OwlsT2W_100 (F1),

Start 21:

- Found in 1 of 135 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 113
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Stellammi_182 (UNK),

Start 24:

- Found in 1 of 135 (0.7%) of genes in pham

- Manual Annotations of this start: 1 of 113
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MooMoo_95 (singleton),

Start 25:

- Found in 41 of 135 (30.4%) of genes in pham
- Manual Annotations of this start: 31 of 113
- Called 85.4% of time when present
- Phage (with cluster) where this start called: Akhila_96 (F1), ArcusAngelus_102 (F1), Batiatus_102 (F1), Beakin_95 (F1), Beanstalk_98 (F1), CaptainTrips_104 (F1), Chevrolet_106 (F1), Chuckly_99 (F1), DLane_102 (F1), DillTech15_108 (F1), DosHalletts_99 (F1), Emmaloid_106 (F1), Fastidio_105 (F1), Filuzino_102 (F1), Hamulus_102 (F1), IbOuu_93 (F1), KingJulian_110 (F1), LittleShirley_110 (F1), Medindi_107 (F1), MinionDave_100 (F1), Mova_104 (F1), Ms6_104 (F1), Okabe_94 (F8), Phalconet_103 (F1), PhesterPhotato_106 (F1), QuickMath_103 (F1), SG4_103 (F1), Seagreen_103 (F1), ShroomBoi_100 (F1), Slim_106 (F1), StAnnes_107 (F1), Stap_97 (F1), Wee_105 (F1), Whatsapiecost_96 (F1), XFactor_93 (F1),

Start 26:

- Found in 41 of 135 (30.4%) of genes in pham
- Manual Annotations of this start: 36 of 113
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boomer_103 (F1), Brushbloom_103 (F1), Byougenkin_99 (F1), Cornucopia_102 (F1), DotProduct_96 (F1), Enzomatic_115 (F1), Firehouse51_97 (F1), Flathead_105 (F1), GUmbie_101 (F1), Galactic_107 (F1), GigiOuiOui_97 (F1), Hades_99 (F1), Harley_104 (F1), Hegedechwinu_111 (F1), Ihubesi_99 (F1), Juice456_101 (F1), Juniper1_94 (F1), Kersh_105 (F1), Kimberlium_103 (F1), LunaBlu_109 (F1), Mahavrat_96 (F1), Mozy_107 (F1), MulchExplorer_102 (F1), Mutaforma13_104 (F1), Mwanjiwa_105 (F1), NewHope4_110 (F1), Nitzel_97 (F1), Ogoopogo_107 (F1), Ovechkin_105 (F1), PMC_102 (F1), PatoPoderoso_103 (F1), Polo2Bam_114 (F1), PopTart_93 (F1), QueenHazel_71 (I1), Rockne_106 (F1), Royals2015_106 (F1), SassyB_93 (F1), SeaLumen_111 (F1), SimranZ1_102 (F1), Wachhund_99 (F1), Xula_72 (I1),

Start 27:

- Found in 2 of 135 (1.5%) of genes in pham
- Manual Annotations of this start: 2 of 113
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LunaStella_99 (F4), TChen_99 (F4),

Start 28:

- Found in 2 of 135 (1.5%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Gonephishing_3 (J),

Start 30:

- Found in 2 of 135 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 113
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Omega_2 (J),

Start 31:

- Found in 41 of 135 (30.4%) of genes in pham
- Manual Annotations of this start: 3 of 113
- Called 14.6% of time when present
- Phage (with cluster) where this start called: Ardmore_86 (F1), Corium_101 (F1), Fruitloop_100 (F1), IMpilo_100 (F1), Melissauen88_92 (F1), MilanaBonita_95 (F1),

Summary by clusters:

There are 8 clusters represented in this pham: F1, singleton, F4, F, I1, J, F8, UNK,

Info for manual annotations of cluster F1:

- Start number 16 was manually annotated 3 times for cluster F1.
- Start number 18 was manually annotated 1 time for cluster F1.
- Start number 20 was manually annotated 1 time for cluster F1.
- Start number 25 was manually annotated 31 times for cluster F1.
- Start number 26 was manually annotated 34 times for cluster F1.
- Start number 31 was manually annotated 3 times for cluster F1.

Info for manual annotations of cluster F4:

- Start number 27 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster I1:

- Start number 26 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster J:

- Start number 16 was manually annotated 12 times for cluster J.
- Start number 17 was manually annotated 1 time for cluster J.
- Start number 19 was manually annotated 20 times for cluster J.
- Start number 30 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster UNK:

- Start number 21 was manually annotated 1 time for cluster UNK.

Gene Information:

Gene: Akhila_96 Start: 54481, Stop: 54954, Start Num: 25

Candidate Starts for Akhila_96:

(2, 54016), (3, 54043), (4, 54049), (5, 54052), (6, 54091), (Start: 18 @54460 has 1 MA's), (Start: 20 @54463 has 1 MA's), (Start: 25 @54481 has 31 MA's), (Start: 31 @54496 has 3 MA's), (33, 54520), (36, 54580), (40, 54619), (59, 54784), (67, 54901),

Gene: ArcusAngelus_102 Start: 56799, Stop: 57272, Start Num: 25

Candidate Starts for ArcusAngelus_102:

(2, 56334), (3, 56361), (4, 56367), (5, 56370), (6, 56409), (Start: 18 @56778 has 1 MA's), (Start: 20 @56781 has 1 MA's), (Start: 25 @56799 has 31 MA's), (Start: 31 @56814 has 3 MA's), (33, 56838), (36, 56898), (40, 56937), (59, 57102), (67, 57219),

Gene: Ardmore_86 Start: 50385, Stop: 50843, Start Num: 31

Candidate Starts for Ardmore_86:

(2, 49905), (3, 49932), (4, 49938), (5, 49941), (6, 49980), (Start: 18 @50349 has 1 MA's), (Start: 20 @50352 has 1 MA's), (Start: 25 @50370 has 31 MA's), (Start: 31 @50385 has 3 MA's), (33, 50409), (36, 50469), (40, 50508), (59, 50673), (67, 50790),

Gene: Ariel_16 Start: 10208, Stop: 10687, Start Num: 17

Candidate Starts for Ariel_16:

(Start: 17 @10208 has 1 MA's), (23, 10226), (41, 10364), (42, 10367), (51, 10442), (56, 10490), (60, 10523), (63, 10589), (70, 10682),

Gene: BAKA_12 Start: 10159, Stop: 10653, Start Num: 19

Candidate Starts for BAKA_12:

(14, 10075), (Start: 16 @10144 has 15 MA's), (Start: 19 @10159 has 20 MA's), (22, 10168), (33, 10210), (35, 10252), (38, 10291), (46, 10318), (50, 10372), (51, 10381), (67, 10567), (68, 10573),

Gene: Bagrid_14 Start: 9951, Stop: 10445, Start Num: 19

Candidate Starts for Bagrid_14:

(14, 9867), (Start: 16 @9936 has 15 MA's), (Start: 19 @9951 has 20 MA's), (22, 9960), (33, 10002), (35, 10044), (38, 10083), (46, 10110), (50, 10164), (51, 10173), (67, 10359), (68, 10365),

Gene: Batiatus_102 Start: 55920, Stop: 56396, Start Num: 25

Candidate Starts for Batiatus_102:

(2, 55455), (3, 55482), (4, 55488), (5, 55491), (6, 55530), (Start: 18 @55899 has 1 MA's), (Start: 20 @55902 has 1 MA's), (Start: 25 @55920 has 31 MA's), (Start: 31 @55935 has 3 MA's), (33, 55959), (36, 56019), (40, 56058), (59, 56223), (67, 56340),

Gene: Beakin_95 Start: 53183, Stop: 53656, Start Num: 25

Candidate Starts for Beakin_95:

(2, 52718), (3, 52745), (4, 52751), (5, 52754), (6, 52793), (Start: 18 @53162 has 1 MA's), (Start: 20 @53165 has 1 MA's), (Start: 25 @53183 has 31 MA's), (Start: 31 @53198 has 3 MA's), (33, 53222), (36, 53282), (40, 53321), (59, 53486), (67, 53603),

Gene: Beanstalk_98 Start: 55070, Stop: 55543, Start Num: 25

Candidate Starts for Beanstalk_98:

(2, 54605), (3, 54632), (4, 54638), (5, 54641), (6, 54680), (Start: 18 @55049 has 1 MA's), (Start: 20 @55052 has 1 MA's), (Start: 25 @55070 has 31 MA's), (Start: 31 @55085 has 3 MA's), (33, 55109), (36, 55169), (40, 55208), (59, 55373), (67, 55490),

Gene: Beem_16 Start: 10502, Stop: 11011, Start Num: 16

Candidate Starts for Beem_16:

(14, 10433), (Start: 16 @10502 has 15 MA's), (Start: 19 @10517 has 20 MA's), (22, 10526), (33, 10568), (35, 10610), (38, 10649), (46, 10676), (50, 10730), (51, 10739), (67, 10925), (68, 10931),

Gene: Bobby_17 Start: 10470, Stop: 10964, Start Num: 19

Candidate Starts for Bobby_17:

(14, 10386), (Start: 16 @10455 has 15 MA's), (Start: 19 @10470 has 20 MA's), (22, 10479), (33, 10521), (35, 10563), (38, 10602), (46, 10629), (50, 10683), (51, 10692), (54, 10719), (67, 10878), (68, 10884),

Gene: Bombitas_13 Start: 9826, Stop: 10320, Start Num: 19

Candidate Starts for Bombitas_13:

(14, 9742), (Start: 16 @9811 has 15 MA's), (Start: 19 @9826 has 20 MA's), (22, 9835), (33, 9877), (35, 9919), (38, 9958), (46, 9985), (50, 10039), (51, 10048), (67, 10234), (68, 10240),

Gene: Boomer_103 Start: 56660, Stop: 57130, Start Num: 26
Candidate Starts for Boomer_103:
(Start: 26 @56660 has 36 MA's), (33, 56696), (36, 56756), (40, 56795), (59, 56960), (67, 57077),

Gene: Brushbloom_103 Start: 57216, Stop: 57689, Start Num: 26
Candidate Starts for Brushbloom_103:
(Start: 26 @57216 has 36 MA's), (40, 57351),

Gene: Byougenkin_99 Start: 53124, Stop: 53597, Start Num: 26
Candidate Starts for Byougenkin_99:
(Start: 26 @53124 has 36 MA's), (33, 53160), (36, 53220), (40, 53259), (59, 53424),

Gene: CaptainTrips_104 Start: 55558, Stop: 56031, Start Num: 25
Candidate Starts for CaptainTrips_104:
(2, 55093), (3, 55120), (4, 55126), (5, 55129), (6, 55168), (Start: 18 @55537 has 1 MA's), (Start: 20 @55540 has 1 MA's), (Start: 25 @55558 has 31 MA's), (Start: 31 @55573 has 3 MA's), (33, 55597), (36, 55657), (40, 55696), (59, 55861), (67, 55978),

Gene: Chevrolet_106 Start: 56800, Stop: 57273, Start Num: 25
Candidate Starts for Chevrolet_106:
(2, 56335), (3, 56362), (4, 56368), (5, 56371), (6, 56410), (Start: 18 @56779 has 1 MA's), (Start: 20 @56782 has 1 MA's), (Start: 25 @56800 has 31 MA's), (Start: 31 @56815 has 3 MA's), (33, 56839), (36, 56899), (40, 56938), (59, 57103), (67, 57220),

Gene: Chuckly_99 Start: 52600, Stop: 53076, Start Num: 25
Candidate Starts for Chuckly_99:
(2, 52135), (3, 52162), (4, 52168), (5, 52171), (6, 52210), (Start: 18 @52579 has 1 MA's), (Start: 20 @52582 has 1 MA's), (Start: 25 @52600 has 31 MA's), (Start: 31 @52615 has 3 MA's), (33, 52639), (36, 52699), (40, 52738), (59, 52903), (67, 53020),

Gene: Constella_11 Start: 9340, Stop: 9834, Start Num: 19
Candidate Starts for Constella_11:
(14, 9256), (Start: 16 @9325 has 15 MA's), (Start: 19 @9340 has 20 MA's), (22, 9349), (33, 9391), (35, 9433), (38, 9472), (46, 9499), (50, 9553), (51, 9562), (54, 9589), (67, 9748), (68, 9754),

Gene: Corium_101 Start: 57602, Stop: 58060, Start Num: 31
Candidate Starts for Corium_101:
(2, 57122), (3, 57149), (4, 57155), (5, 57158), (6, 57197), (Start: 18 @57566 has 1 MA's), (Start: 20 @57569 has 1 MA's), (Start: 25 @57587 has 31 MA's), (Start: 31 @57602 has 3 MA's), (33, 57626), (36, 57686), (40, 57725), (59, 57890), (67, 58007),

Gene: Cornucopia_102 Start: 53860, Stop: 54333, Start Num: 26
Candidate Starts for Cornucopia_102:
(12, 53749), (13, 53752), (Start: 26 @53860 has 36 MA's), (40, 53995), (44, 54007), (51, 54079), (57, 54139), (67, 54277),

Gene: DLane_102 Start: 57129, Stop: 57602, Start Num: 25
Candidate Starts for DLane_102:
(2, 56664), (3, 56691), (4, 56697), (5, 56700), (6, 56739), (Start: 18 @57108 has 1 MA's), (Start: 20 @57111 has 1 MA's), (Start: 25 @57129 has 31 MA's), (Start: 31 @57144 has 3 MA's), (33, 57168), (36, 57228), (40, 57267), (59, 57432), (67, 57549),

Gene: Dallas_15 Start: 10042, Stop: 10551, Start Num: 16

Candidate Starts for Dallas_15:

(10, 9886), (14, 9973), (Start: 16 @10042 has 15 MA's), (Start: 19 @10057 has 20 MA's), (22, 10066), (33, 10108), (35, 10150), (38, 10189), (46, 10216), (50, 10270), (51, 10279), (67, 10465), (68, 10471),

Gene: Dante_99 Start: 55775, Stop: 56278, Start Num: 16

Candidate Starts for Dante_99:

(7, 55448), (8, 55577), (Start: 16 @55775 has 15 MA's), (61, 56135), (64, 56177), (65, 56183), (67, 56222), (69, 56270),

Gene: DeadP_101 Start: 53003, Stop: 53506, Start Num: 16

Candidate Starts for DeadP_101:

(7, 52676), (8, 52805), (Start: 16 @53003 has 15 MA's), (61, 53363), (64, 53405), (65, 53411), (67, 53450), (69, 53498),

Gene: DillTech15_108 Start: 56028, Stop: 56501, Start Num: 25

Candidate Starts for DillTech15_108:

(1, 55467), (2, 55563), (3, 55590), (4, 55596), (5, 55599), (6, 55638), (Start: 18 @56007 has 1 MA's), (Start: 20 @56010 has 1 MA's), (Start: 25 @56028 has 31 MA's), (Start: 31 @56043 has 3 MA's), (33, 56067), (36, 56127), (40, 56166), (59, 56331), (67, 56448),

Gene: DmpstrDiver_15 Start: 10697, Stop: 11191, Start Num: 19

Candidate Starts for DmpstrDiver_15:

(14, 10613), (Start: 16 @10682 has 15 MA's), (Start: 19 @10697 has 20 MA's), (22, 10706), (33, 10748), (35, 10790), (38, 10829), (46, 10856), (50, 10910), (51, 10919), (67, 11105), (68, 11111),

Gene: Doomslug_119 Start: 57499, Stop: 58002, Start Num: 16

Candidate Starts for Doomslug_119:

(Start: 16 @57499 has 15 MA's), (61, 57859), (64, 57901), (65, 57907), (67, 57946), (69, 57994),

Gene: DosHalletts_99 Start: 56180, Stop: 56653, Start Num: 25

Candidate Starts for DosHalletts_99:

(2, 55715), (3, 55742), (4, 55748), (5, 55751), (6, 55790), (Start: 18 @56159 has 1 MA's), (Start: 20 @56162 has 1 MA's), (Start: 25 @56180 has 31 MA's), (Start: 31 @56195 has 3 MA's), (33, 56219), (36, 56279), (40, 56318), (59, 56483), (67, 56600),

Gene: DotProduct_96 Start: 53549, Stop: 54022, Start Num: 26

Candidate Starts for DotProduct_96:

(Start: 26 @53549 has 36 MA's), (33, 53585), (36, 53645), (40, 53684), (59, 53849), (67, 53966),

Gene: Dove_13 Start: 9810, Stop: 10319, Start Num: 16

Candidate Starts for Dove_13:

(14, 9741), (Start: 16 @9810 has 15 MA's), (Start: 19 @9825 has 20 MA's), (22, 9834), (33, 9876), (35, 9918), (38, 9957), (46, 9984), (50, 10038), (51, 10047), (67, 10233), (68, 10239),

Gene: Duke13_12 Start: 10072, Stop: 10581, Start Num: 16

Candidate Starts for Duke13_12:

(14, 10003), (Start: 16 @10072 has 15 MA's), (Start: 19 @10087 has 20 MA's), (22, 10096), (33, 10138), (35, 10180), (38, 10219), (46, 10246), (50, 10300), (51, 10309), (67, 10495), (68, 10501),

Gene: Ejimix_17 Start: 11267, Stop: 11761, Start Num: 19

Candidate Starts for Ejimix_17:

(14, 11183), (Start: 16 @11252 has 15 MA's), (Start: 19 @11267 has 20 MA's), (22, 11276), (33, 11318), (35, 11360), (38, 11399), (46, 11426), (50, 11480), (51, 11489), (67, 11675), (68, 11681),

Gene: Emmaloid_106 Start: 56333, Stop: 56806, Start Num: 25

Candidate Starts for Emmaloid_106:

(2, 55868), (3, 55895), (4, 55901), (5, 55904), (6, 55943), (Start: 18 @56312 has 1 MA's), (Start: 20 @56315 has 1 MA's), (Start: 25 @56333 has 31 MA's), (Start: 31 @56348 has 3 MA's), (33, 56372), (36, 56432), (40, 56471), (59, 56636), (67, 56753),

Gene: Enzomatic_115 Start: 55702, Stop: 56175, Start Num: 26

Candidate Starts for Enzomatic_115:

(Start: 26 @55702 has 36 MA's), (33, 55738), (36, 55798), (40, 55837), (59, 56002),

Gene: EricMillard_16 Start: 10792, Stop: 11301, Start Num: 16

Candidate Starts for EricMillard_16:

(14, 10723), (Start: 16 @10792 has 15 MA's), (Start: 19 @10807 has 20 MA's), (22, 10816), (33, 10858), (35, 10900), (38, 10939), (46, 10966), (50, 11020), (51, 11029), (67, 11215), (68, 11221),

Gene: Fastidio_105 Start: 54069, Stop: 54542, Start Num: 25

Candidate Starts for Fastidio_105:

(2, 53604), (3, 53631), (4, 53637), (5, 53640), (6, 53679), (Start: 18 @54048 has 1 MA's), (Start: 20 @54051 has 1 MA's), (Start: 25 @54069 has 31 MA's), (Start: 31 @54084 has 3 MA's), (33, 54108), (36, 54168), (40, 54207), (59, 54372), (67, 54489),

Gene: Filuzino_102 Start: 57535, Stop: 58008, Start Num: 25

Candidate Starts for Filuzino_102:

(2, 57070), (3, 57097), (4, 57103), (5, 57106), (6, 57145), (Start: 18 @57514 has 1 MA's), (Start: 20 @57517 has 1 MA's), (Start: 25 @57535 has 31 MA's), (Start: 31 @57550 has 3 MA's), (33, 57574), (36, 57634), (40, 57673), (59, 57838), (67, 57955),

Gene: Firehouse51_97 Start: 56605, Stop: 57078, Start Num: 26

Candidate Starts for Firehouse51_97:

(Start: 26 @56605 has 36 MA's), (33, 56641), (36, 56701), (40, 56740), (59, 56905), (62, 56962),

Gene: Flathead_105 Start: 56108, Stop: 56581, Start Num: 26

Candidate Starts for Flathead_105:

(Start: 26 @56108 has 36 MA's), (40, 56243),

Gene: Fruitloop_100 Start: 56715, Stop: 57173, Start Num: 31

Candidate Starts for Fruitloop_100:

(2, 56235), (3, 56262), (4, 56268), (5, 56271), (6, 56310), (Start: 18 @56679 has 1 MA's), (Start: 20 @56682 has 1 MA's), (Start: 25 @56700 has 31 MA's), (Start: 31 @56715 has 3 MA's), (33, 56739), (36, 56799), (40, 56838), (59, 57003), (67, 57120),

Gene: GUmbie_101 Start: 55573, Stop: 56046, Start Num: 26

Candidate Starts for GUmbie_101:

(Start: 26 @55573 has 36 MA's), (33, 55609), (36, 55669), (40, 55708), (59, 55873), (67, 55990),

Gene: Galactic_107 Start: 56300, Stop: 56773, Start Num: 26

Candidate Starts for Galactic_107:

(Start: 26 @56300 has 36 MA's), (33, 56336), (36, 56396), (40, 56435), (59, 56600),

Gene: GigiOuiOui_97 Start: 54828, Stop: 55301, Start Num: 26

Candidate Starts for GigiOuiOui_97:

(Start: 26 @54828 has 36 MA's), (33, 54864), (36, 54924), (40, 54963), (59, 55128),

Gene: Gonephishing_3 Start: 980, Stop: 1483, Start Num: 28
Candidate Starts for Gonephishing_3:
(28, 980), (Start: 30 @986 has 1 MA's), (48, 1172), (55, 1229), (71, 1451),

Gene: Hades_99 Start: 53219, Stop: 53689, Start Num: 26
Candidate Starts for Hades_99:
(Start: 26 @53219 has 36 MA's), (33, 53255), (36, 53315), (40, 53354), (59, 53519), (67, 53636),

Gene: Halley_16 Start: 10517, Stop: 11011, Start Num: 19
Candidate Starts for Halley_16:
(10, 10346), (14, 10433), (Start: 16 @10502 has 15 MA's), (Start: 19 @10517 has 20 MA's), (22, 10526), (33, 10568), (35, 10610), (38, 10649), (46, 10676), (50, 10730), (51, 10739), (54, 10766), (67, 10925), (68, 10931),

Gene: Hamulus_102 Start: 55385, Stop: 55858, Start Num: 25
Candidate Starts for Hamulus_102:
(2, 54920), (3, 54947), (4, 54953), (5, 54956), (6, 54995), (Start: 18 @55364 has 1 MA's), (Start: 20 @55367 has 1 MA's), (Start: 25 @55385 has 31 MA's), (Start: 31 @55400 has 3 MA's), (33, 55424), (36, 55484), (40, 55523), (59, 55688), (67, 55805),

Gene: Harley_104 Start: 56809, Stop: 57282, Start Num: 26
Candidate Starts for Harley_104:
(Start: 26 @56809 has 36 MA's), (33, 56845), (36, 56905), (40, 56944), (59, 57109),

Gene: Hegedechwinu_111 Start: 56173, Stop: 56646, Start Num: 26
Candidate Starts for Hegedechwinu_111:
(Start: 26 @56173 has 36 MA's), (40, 56308),

Gene: Hidrated_16 Start: 10630, Stop: 11124, Start Num: 19
Candidate Starts for Hidrated_16:
(14, 10546), (Start: 16 @10615 has 15 MA's), (Start: 19 @10630 has 20 MA's), (22, 10639), (33, 10681), (38, 10762), (46, 10789), (50, 10843), (51, 10852), (54, 10879), (67, 11038), (68, 11044),

Gene: HokkenD_11 Start: 10075, Stop: 10584, Start Num: 16
Candidate Starts for HokkenD_11:
(14, 10006), (Start: 16 @10075 has 15 MA's), (Start: 19 @10090 has 20 MA's), (22, 10099), (33, 10141), (35, 10183), (38, 10222), (46, 10249), (50, 10303), (51, 10312), (67, 10498), (68, 10504),

Gene: Hughesyang_15 Start: 10697, Stop: 11191, Start Num: 19
Candidate Starts for Hughesyang_15:
(14, 10613), (Start: 16 @10682 has 15 MA's), (Start: 19 @10697 has 20 MA's), (22, 10706), (33, 10748), (35, 10790), (38, 10829), (46, 10856), (50, 10910), (51, 10919), (67, 11105), (68, 11111),

Gene: IMpilo_100 Start: 54178, Stop: 54636, Start Num: 31
Candidate Starts for IMpilo_100:
(2, 53698), (3, 53725), (4, 53731), (5, 53734), (6, 53773), (Start: 18 @54142 has 1 MA's), (Start: 20 @54145 has 1 MA's), (Start: 25 @54163 has 31 MA's), (Start: 31 @54178 has 3 MA's), (33, 54202), (36, 54262), (40, 54301), (59, 54466), (67, 54583),

Gene: lbOuu_93 Start: 53527, Stop: 54000, Start Num: 25
Candidate Starts for lbOuu_93:

(Start: 18 @53506 has 1 MA's), (Start: 20 @53509 has 1 MA's), (Start: 25 @53527 has 31 MA's),
(Start: 31 @53542 has 3 MA's), (33, 53566), (36, 53626), (40, 53665), (59, 53830), (67, 53947),

Gene: lbhubesi_99 Start: 53678, Stop: 54151, Start Num: 26

Candidate Starts for lbhubesi_99:

(Start: 26 @53678 has 36 MA's), (33, 53714), (36, 53774), (40, 53813), (59, 53978),

Gene: Jant_108 Start: 53958, Stop: 54461, Start Num: 16

Candidate Starts for Jant_108:

(Start: 16 @53958 has 15 MA's), (61, 54318), (64, 54360), (65, 54366), (67, 54405), (69, 54453),

Gene: Juice456_101 Start: 55348, Stop: 55818, Start Num: 26

Candidate Starts for Juice456_101:

(Start: 26 @55348 has 36 MA's), (33, 55384), (36, 55444), (40, 55483), (59, 55648), (67, 55765),

Gene: JuicyJay_17 Start: 11333, Stop: 11842, Start Num: 16

Candidate Starts for JuicyJay_17:

(10, 11177), (14, 11264), (Start: 16 @11333 has 15 MA's), (Start: 19 @11348 has 20 MA's), (22, 11357), (33, 11399), (35, 11441), (38, 11480), (46, 11507), (50, 11561), (51, 11570), (67, 11756), (68, 11762),

Gene: Juniper1_94 Start: 54576, Stop: 55049, Start Num: 26

Candidate Starts for Juniper1_94:

(Start: 26 @54576 has 36 MA's), (33, 54612), (36, 54672), (40, 54711), (59, 54876),

Gene: Kalah2_16 Start: 11101, Stop: 11610, Start Num: 16

Candidate Starts for Kalah2_16:

(14, 11032), (Start: 16 @11101 has 15 MA's), (Start: 19 @11116 has 20 MA's), (22, 11125), (33, 11167), (35, 11209), (38, 11248), (46, 11275), (50, 11329), (51, 11338), (67, 11524), (68, 11530),

Gene: Kersh_105 Start: 58630, Stop: 59103, Start Num: 26

Candidate Starts for Kersh_105:

(Start: 26 @58630 has 36 MA's), (33, 58666), (36, 58726), (40, 58765), (59, 58930),

Gene: Kimberlium_103 Start: 55448, Stop: 55918, Start Num: 26

Candidate Starts for Kimberlium_103:

(Start: 26 @55448 has 36 MA's), (33, 55484), (36, 55544), (40, 55583), (59, 55748), (67, 55865),

Gene: KingJulian_110 Start: 58451, Stop: 58924, Start Num: 25

Candidate Starts for KingJulian_110:

(2, 57986), (3, 58013), (4, 58019), (5, 58022), (6, 58061), (Start: 18 @58430 has 1 MA's), (Start: 20 @58433 has 1 MA's), (Start: 25 @58451 has 31 MA's), (Start: 31 @58466 has 3 MA's), (33, 58490), (36, 58550), (40, 58589), (59, 58754), (67, 58871),

Gene: Klein_16 Start: 10094, Stop: 10588, Start Num: 19

Candidate Starts for Klein_16:

(10, 9923), (14, 10010), (Start: 16 @10079 has 15 MA's), (Start: 19 @10094 has 20 MA's), (22, 10103), (33, 10145), (35, 10187), (38, 10226), (46, 10253), (50, 10307), (51, 10316), (67, 10502), (68, 10508),

Gene: LittleE_16 Start: 11249, Stop: 11752, Start Num: 19

Candidate Starts for LittleE_16:

(Start: 19 @11249 has 20 MA's), (32, 11297), (37, 11381), (39, 11387), (43, 11411), (46, 11417), (47, 11420), (50, 11474), (58, 11546), (62, 11618), (67, 11684), (69, 11732),

Gene: LittleShirley_110 Start: 57229, Stop: 57702, Start Num: 25

Candidate Starts for LittleShirley_110:

(2, 56764), (3, 56791), (4, 56797), (5, 56800), (6, 56839), (Start: 18 @57208 has 1 MA's), (Start: 20 @57211 has 1 MA's), (Start: 25 @57229 has 31 MA's), (Start: 31 @57244 has 3 MA's), (33, 57268), (36, 57328), (40, 57367), (59, 57532), (67, 57649),

Gene: Lucky2013_16 Start: 9992, Stop: 10495, Start Num: 19

Candidate Starts for Lucky2013_16:

(Start: 19 @9992 has 20 MA's), (32, 10040), (37, 10124), (39, 10130), (43, 10154), (46, 10160), (47, 10163), (50, 10217), (53, 10238), (58, 10289), (62, 10361), (67, 10427), (69, 10475),

Gene: LunaBlu_109 Start: 57722, Stop: 58195, Start Num: 26

Candidate Starts for LunaBlu_109:

(Start: 26 @57722 has 36 MA's), (33, 57758), (36, 57818), (40, 57857), (59, 58022),

Gene: LunaStella_99 Start: 54190, Stop: 54663, Start Num: 27

Candidate Starts for LunaStella_99:

(Start: 27 @54190 has 2 MA's), (32, 54223), (33, 54226), (40, 54325), (44, 54337), (51, 54409), (57, 54469), (66, 54592), (67, 54607),

Gene: Mahavrat_96 Start: 53605, Stop: 54078, Start Num: 26

Candidate Starts for Mahavrat_96:

(Start: 26 @53605 has 36 MA's), (33, 53641), (36, 53701), (51, 53824), (59, 53905),

Gene: Marker_107 Start: 57234, Stop: 57731, Start Num: 18

Candidate Starts for Marker_107:

(Start: 18 @57234 has 1 MA's), (Start: 20 @57237 has 1 MA's), (40, 57393), (44, 57405), (51, 57477), (57, 57537), (67, 57675),

Gene: Marleymoo_17 Start: 11175, Stop: 11669, Start Num: 19

Candidate Starts for Marleymoo_17:

(14, 11091), (Start: 16 @11160 has 15 MA's), (Start: 19 @11175 has 20 MA's), (22, 11184), (33, 11226), (38, 11307), (46, 11334), (50, 11388), (51, 11397), (54, 11424), (67, 11583), (68, 11589),

Gene: Medindi_107 Start: 56911, Stop: 57384, Start Num: 25

Candidate Starts for Medindi_107:

(2, 56446), (3, 56473), (4, 56479), (5, 56482), (6, 56521), (Start: 18 @56890 has 1 MA's), (Start: 20 @56893 has 1 MA's), (Start: 25 @56911 has 31 MA's), (Start: 31 @56926 has 3 MA's), (33, 56950), (36, 57010), (40, 57049), (59, 57214), (67, 57331),

Gene: Melissauren88_92 Start: 52600, Stop: 53058, Start Num: 31

Candidate Starts for Melissauren88_92:

(2, 52120), (3, 52147), (4, 52153), (5, 52156), (6, 52195), (Start: 18 @52564 has 1 MA's), (Start: 20 @52567 has 1 MA's), (Start: 25 @52585 has 31 MA's), (Start: 31 @52600 has 3 MA's), (33, 52624), (36, 52684), (40, 52723), (59, 52888), (67, 53005),

Gene: MilanaBonita_95 Start: 54496, Stop: 54954, Start Num: 31

Candidate Starts for MilanaBonita_95:

(2, 54016), (3, 54043), (4, 54049), (5, 54052), (6, 54091), (Start: 18 @54460 has 1 MA's), (Start: 20 @54463 has 1 MA's), (Start: 25 @54481 has 31 MA's), (Start: 31 @54496 has 3 MA's), (33, 54520), (36, 54580), (40, 54619), (59, 54784), (67, 54901),

Gene: Minerva_15 Start: 10577, Stop: 11071, Start Num: 19

Candidate Starts for Minerva_15:

(10, 10406), (14, 10493), (Start: 16 @10562 has 15 MA's), (Start: 19 @10577 has 20 MA's), (22, 10586), (33, 10628), (35, 10670), (38, 10709), (46, 10736), (50, 10790), (51, 10799), (67, 10985), (68, 10991),

Gene: MinionDave_100 Start: 56257, Stop: 56730, Start Num: 25

Candidate Starts for MinionDave_100:

(1, 55696), (2, 55792), (3, 55819), (4, 55825), (5, 55828), (6, 55867), (Start: 18 @56236 has 1 MA's), (Start: 20 @56239 has 1 MA's), (Start: 25 @56257 has 31 MA's), (Start: 31 @56272 has 3 MA's), (33, 56296), (36, 56356), (40, 56395), (59, 56560), (67, 56677),

Gene: MooMoo_95 Start: 53643, Stop: 54116, Start Num: 24

Candidate Starts for MooMoo_95:

(3, 53208), (4, 53214), (5, 53217), (6, 53256), (Start: 20 @53628 has 1 MA's), (Start: 24 @53643 has 1 MA's), (36, 53739), (40, 53778),

Gene: Mova_104 Start: 56218, Stop: 56691, Start Num: 25

Candidate Starts for Mova_104:

(2, 55753), (3, 55780), (4, 55786), (5, 55789), (6, 55828), (Start: 18 @56197 has 1 MA's), (Start: 20 @56200 has 1 MA's), (Start: 25 @56218 has 31 MA's), (Start: 31 @56233 has 3 MA's), (33, 56257), (36, 56317), (40, 56356), (59, 56521), (67, 56638),

Gene: Mozy_107 Start: 56105, Stop: 56578, Start Num: 26

Candidate Starts for Mozy_107:

(Start: 26 @56105 has 36 MA's), (33, 56141), (36, 56201), (40, 56240), (59, 56405),

Gene: Ms6_104 Start: 52476, Stop: 52949, Start Num: 25

Candidate Starts for Ms6_104:

(Start: 18 @52455 has 1 MA's), (Start: 20 @52458 has 1 MA's), (Start: 25 @52476 has 31 MA's), (Start: 31 @52491 has 3 MA's), (33, 52515), (36, 52575), (40, 52614), (67, 52896),

Gene: MulchExplorer_102 Start: 55119, Stop: 55589, Start Num: 26

Candidate Starts for MulchExplorer_102:

(Start: 26 @55119 has 36 MA's), (33, 55155), (36, 55215), (40, 55254), (59, 55419), (67, 55536),

Gene: Mutaforma13_104 Start: 56140, Stop: 56613, Start Num: 26

Candidate Starts for Mutaforma13_104:

(Start: 26 @56140 has 36 MA's), (33, 56176), (36, 56236), (40, 56275), (59, 56440), (62, 56497),

Gene: Mwanjiwa_105 Start: 57292, Stop: 57765, Start Num: 26

Candidate Starts for Mwanjiwa_105:

(12, 57181), (13, 57184), (Start: 26 @57292 has 36 MA's), (40, 57427), (51, 57511), (57, 57571),

Gene: NewHope4_110 Start: 55848, Stop: 56321, Start Num: 26

Candidate Starts for NewHope4_110:

(Start: 26 @55848 has 36 MA's), (33, 55884), (36, 55944), (40, 55983), (59, 56148),

Gene: Nibley_12 Start: 8610, Stop: 9113, Start Num: 19

Candidate Starts for Nibley_12:

(Start: 19 @8610 has 20 MA's), (32, 8658), (37, 8742), (39, 8748), (43, 8772), (46, 8778), (47, 8781), (50, 8835), (53, 8856), (58, 8907), (62, 8979), (67, 9045), (69, 9093),

Gene: NihilNomen_15 Start: 10561, Stop: 11070, Start Num: 16

Candidate Starts for NihilNomen_15:

(14, 10492), (Start: 16 @10561 has 15 MA's), (Start: 19 @10576 has 20 MA's), (22, 10585), (33, 10627), (35, 10669), (38, 10708), (46, 10735), (50, 10789), (51, 10798), (67, 10984), (68, 10990),

Gene: Nitzel_97 Start: 53296, Stop: 53769, Start Num: 26

Candidate Starts for Nitzel_97:

(Start: 26 @53296 has 36 MA's), (33, 53332), (36, 53392), (40, 53431), (59, 53596),

Gene: Odette_15 Start: 10059, Stop: 10553, Start Num: 19

Candidate Starts for Odette_15:

(10, 9888), (14, 9975), (Start: 16 @10044 has 15 MA's), (Start: 19 @10059 has 20 MA's), (22, 10068), (33, 10110), (35, 10152), (38, 10191), (46, 10218), (49, 10269), (50, 10272), (51, 10281), (67, 10467), (68, 10473),

Gene: Ogopogo_107 Start: 55303, Stop: 55776, Start Num: 26

Candidate Starts for Ogopogo_107:

(Start: 26 @55303 has 36 MA's), (40, 55438),

Gene: Okabe_94 Start: 52263, Stop: 52736, Start Num: 25

Candidate Starts for Okabe_94:

(2, 51798), (3, 51825), (4, 51831), (5, 51834), (6, 51873), (Start: 18 @52242 has 1 MA's), (Start: 20 @52245 has 1 MA's), (Start: 25 @52263 has 31 MA's), (Start: 31 @52278 has 3 MA's), (33, 52302), (36, 52362), (40, 52401), (59, 52566), (67, 52683),

Gene: Omega_2 Start: 991, Stop: 1488, Start Num: 30

Candidate Starts for Omega_2:

(28, 985), (Start: 30 @991 has 1 MA's), (34, 1042), (48, 1177), (55, 1234), (71, 1456),

Gene: Optimus_13 Start: 10160, Stop: 10654, Start Num: 19

Candidate Starts for Optimus_13:

(14, 10076), (Start: 16 @10145 has 15 MA's), (Start: 19 @10160 has 20 MA's), (22, 10169), (33, 10211), (35, 10253), (38, 10292), (46, 10319), (50, 10373), (51, 10382), (67, 10568), (68, 10574),

Gene: Ovechkin_105 Start: 56777, Stop: 57250, Start Num: 26

Candidate Starts for Ovechkin_105:

(Start: 26 @56777 has 36 MA's), (33, 56813), (36, 56873), (40, 56912), (59, 57077),

Gene: OwlsT2W_100 Start: 54967, Stop: 55455, Start Num: 20

Candidate Starts for OwlsT2W_100:

(Start: 20 @54967 has 1 MA's), (40, 55117),

Gene: PMC_102 Start: 55131, Stop: 55604, Start Num: 26

Candidate Starts for PMC_102:

(Start: 26 @55131 has 36 MA's), (40, 55266),

Gene: PatoPoderoso_103 Start: 58453, Stop: 58926, Start Num: 26

Candidate Starts for PatoPoderoso_103:

(Start: 26 @58453 has 36 MA's), (33, 58489), (36, 58549), (40, 58588), (59, 58753), (67, 58870),

Gene: Phalconet_103 Start: 55878, Stop: 56351, Start Num: 25

Candidate Starts for Phalconet_103:

(2, 55413), (3, 55440), (4, 55446), (5, 55449), (6, 55488), (Start: 18 @55857 has 1 MA's), (Start: 20 @55860 has 1 MA's), (Start: 25 @55878 has 31 MA's), (Start: 31 @55893 has 3 MA's), (33, 55917), (36, 55977), (40, 56016), (59, 56181), (60, 56184), (67, 56298),

Gene: PhesterPhotato_106 Start: 55852, Stop: 56325, Start Num: 25

Candidate Starts for PhesterPhotato_106:

(2, 55387), (3, 55414), (4, 55420), (5, 55423), (6, 55462), (Start: 18 @55831 has 1 MA's), (Start: 20 @55834 has 1 MA's), (Start: 25 @55852 has 31 MA's), (Start: 31 @55867 has 3 MA's), (33, 55891), (36, 55951), (40, 55990), (59, 56155), (67, 56272),

Gene: Phoebus_16 Start: 10807, Stop: 11301, Start Num: 19

Candidate Starts for Phoebus_16:

(14, 10723), (Start: 16 @10792 has 15 MA's), (Start: 19 @10807 has 20 MA's), (22, 10816), (33, 10858), (35, 10900), (38, 10939), (46, 10966), (50, 11020), (51, 11029), (67, 11215), (68, 11221),

Gene: Polo2Bam_114 Start: 55702, Stop: 56175, Start Num: 26

Candidate Starts for Polo2Bam_114:

(Start: 26 @55702 has 36 MA's), (33, 55738), (36, 55798), (40, 55837), (59, 56002),

Gene: PopTart_93 Start: 53534, Stop: 54007, Start Num: 26

Candidate Starts for PopTart_93:

(Start: 26 @53534 has 36 MA's), (33, 53570), (36, 53630), (40, 53669), (51, 53753), (59, 53834),

Gene: Pound_16 Start: 10895, Stop: 11389, Start Num: 19

Candidate Starts for Pound_16:

(14, 10811), (Start: 16 @10880 has 15 MA's), (Start: 19 @10895 has 20 MA's), (22, 10904), (33, 10946), (35, 10988), (38, 11027), (46, 11054), (50, 11108), (51, 11117), (67, 11303), (68, 11309),

Gene: QueenHazel_71 Start: 46520, Stop: 46993, Start Num: 26

Candidate Starts for QueenHazel_71:

(9, 46307), (11, 46364), (Start: 26 @46520 has 36 MA's), (33, 46556), (36, 46616), (40, 46655), (59, 46820), (67, 46937),

Gene: QuickMath_103 Start: 55756, Stop: 56229, Start Num: 25

Candidate Starts for QuickMath_103:

(2, 55291), (3, 55318), (4, 55324), (5, 55327), (6, 55366), (Start: 18 @55735 has 1 MA's), (Start: 20 @55738 has 1 MA's), (Start: 25 @55756 has 31 MA's), (Start: 31 @55771 has 3 MA's), (33, 55795), (36, 55855), (40, 55894), (59, 56059), (67, 56176),

Gene: Rearden_14 Start: 9413, Stop: 9892, Start Num: 17

Candidate Starts for Rearden_14:

(Start: 17 @9413 has 1 MA's), (23, 9431), (41, 9569), (42, 9572), (51, 9647), (56, 9695), (60, 9728), (63, 9794), (70, 9887),

Gene: Redno2_15 Start: 10287, Stop: 10781, Start Num: 19

Candidate Starts for Redno2_15:

(10, 10116), (14, 10203), (Start: 16 @10272 has 15 MA's), (Start: 19 @10287 has 20 MA's), (22, 10296), (33, 10338), (35, 10380), (38, 10419), (46, 10446), (50, 10500), (51, 10509), (54, 10536), (67, 10695), (68, 10701),

Gene: Rockne_106 Start: 55143, Stop: 55616, Start Num: 26

Candidate Starts for Rockne_106:

(Start: 26 @55143 has 36 MA's), (40, 55278),

Gene: Royals2015_106 Start: 55014, Stop: 55487, Start Num: 26

Candidate Starts for Royals2015_106:

(Start: 26 @55014 has 36 MA's), (33, 55050), (40, 55149),

Gene: SG4_103 Start: 57246, Stop: 57719, Start Num: 25

Candidate Starts for SG4_103:

(2, 56781), (3, 56808), (4, 56814), (5, 56817), (6, 56856), (Start: 18 @57225 has 1 MA's), (Start: 20 @57228 has 1 MA's), (Start: 25 @57246 has 31 MA's), (Start: 31 @57261 has 3 MA's), (33, 57285), (36, 57345), (40, 57384), (59, 57549), (67, 57666),

Gene: SassyB_93 Start: 53534, Stop: 54007, Start Num: 26

Candidate Starts for SassyB_93:

(Start: 26 @53534 has 36 MA's), (33, 53570), (36, 53630), (40, 53669), (51, 53753), (59, 53834),

Gene: Schatzie_14 Start: 9811, Stop: 10320, Start Num: 16

Candidate Starts for Schatzie_14:

(14, 9742), (Start: 16 @9811 has 15 MA's), (Start: 19 @9826 has 20 MA's), (22, 9835), (33, 9877), (35, 9919), (38, 9958), (46, 9985), (50, 10039), (51, 10048), (67, 10234), (68, 10240),

Gene: SeaLumen_111 Start: 55702, Stop: 56175, Start Num: 26

Candidate Starts for SeaLumen_111:

(Start: 26 @55702 has 36 MA's), (33, 55738), (36, 55798), (40, 55837), (59, 56002),

Gene: Seagreen_103 Start: 56384, Stop: 56857, Start Num: 25

Candidate Starts for Seagreen_103:

(2, 55919), (3, 55946), (4, 55952), (5, 55955), (6, 55994), (Start: 18 @56363 has 1 MA's), (Start: 20 @56366 has 1 MA's), (Start: 25 @56384 has 31 MA's), (Start: 31 @56399 has 3 MA's), (33, 56423), (36, 56483), (40, 56522), (59, 56687), (67, 56804),

Gene: ShroomBoi_100 Start: 56090, Stop: 56563, Start Num: 25

Candidate Starts for ShroomBoi_100:

(2, 55625), (3, 55652), (4, 55658), (5, 55661), (6, 55700), (Start: 18 @56069 has 1 MA's), (Start: 20 @56072 has 1 MA's), (Start: 25 @56090 has 31 MA's), (Start: 31 @56105 has 3 MA's), (33, 56129), (36, 56189), (40, 56228), (59, 56393), (67, 56510),

Gene: SimranZ1_102 Start: 55162, Stop: 55635, Start Num: 26

Candidate Starts for SimranZ1_102:

(Start: 26 @55162 has 36 MA's), (40, 55297),

Gene: Slim_106 Start: 56324, Stop: 56797, Start Num: 25

Candidate Starts for Slim_106:

(2, 55859), (3, 55886), (4, 55892), (5, 55895), (6, 55934), (Start: 18 @56303 has 1 MA's), (Start: 20 @56306 has 1 MA's), (Start: 25 @56324 has 31 MA's), (Start: 31 @56339 has 3 MA's), (33, 56363), (36, 56423), (40, 56462), (59, 56627), (67, 56744),

Gene: Squint_16 Start: 9809, Stop: 10312, Start Num: 19

Candidate Starts for Squint_16:

(Start: 19 @9809 has 20 MA's), (32, 9857), (37, 9941), (39, 9947), (43, 9971), (46, 9977), (47, 9980), (50, 10034), (53, 10055), (58, 10106), (62, 10178), (67, 10244), (69, 10292),

Gene: StAnnes_107 Start: 57587, Stop: 58060, Start Num: 25

Candidate Starts for StAnnes_107:

(2, 57122), (3, 57149), (4, 57155), (5, 57158), (6, 57197), (Start: 18 @57566 has 1 MA's), (Start: 20 @57569 has 1 MA's), (Start: 25 @57587 has 31 MA's), (Start: 31 @57602 has 3 MA's), (33, 57626), (36, 57686), (40, 57725), (59, 57890), (67, 58007),

Gene: Stap_97 Start: 53013, Stop: 53486, Start Num: 25

Candidate Starts for Stap_97:

(1, 52452), (2, 52548), (3, 52575), (4, 52581), (5, 52584), (Start: 18 @52992 has 1 MA's), (Start: 20 @52995 has 1 MA's), (Start: 25 @53013 has 31 MA's), (Start: 31 @53028 has 3 MA's), (33, 53052), (36, 53112), (40, 53151), (59, 53316), (67, 53433),

Gene: Stellammi_182 Start: 81233, Stop: 81754, Start Num: 21

Candidate Starts for Stellammi_182:

(15, 81209), (Start: 21 @81233 has 1 MA's), (29, 81260), (33, 81287), (45, 81398), (52, 81464), (57, 81521), (61, 81575), (62, 81596), (65, 81626), (67, 81665), (72, 81740),

Gene: TChen_99 Start: 56141, Stop: 56614, Start Num: 27

Candidate Starts for TChen_99:

(Start: 27 @56141 has 2 MA's), (32, 56174), (33, 56177), (40, 56276), (44, 56288), (51, 56360), (57, 56420), (66, 56543), (67, 56558),

Gene: Thibault_12 Start: 10087, Stop: 10581, Start Num: 19

Candidate Starts for Thibault_12:

(14, 10003), (Start: 16 @10072 has 15 MA's), (Start: 19 @10087 has 20 MA's), (22, 10096), (33, 10138), (35, 10180), (38, 10219), (46, 10246), (50, 10300), (51, 10309), (54, 10336), (67, 10495), (68, 10501),

Gene: ThreeRngTarjay_15 Start: 10651, Stop: 11145, Start Num: 19

Candidate Starts for ThreeRngTarjay_15:

(14, 10567), (Start: 16 @10636 has 15 MA's), (Start: 19 @10651 has 20 MA's), (22, 10660), (33, 10702), (35, 10744), (38, 10783), (46, 10810), (50, 10864), (51, 10873), (67, 11059), (68, 11065),

Gene: Tweety_102 Start: 55234, Stop: 55737, Start Num: 16

Candidate Starts for Tweety_102:

(7, 54907), (8, 55036), (Start: 16 @55234 has 15 MA's), (61, 55594), (64, 55636), (65, 55642), (67, 55681), (69, 55729),

Gene: Wachhund_99 Start: 52953, Stop: 53426, Start Num: 26

Candidate Starts for Wachhund_99:

(Start: 26 @52953 has 36 MA's), (33, 52989), (36, 53049), (40, 53088), (59, 53253),

Gene: Wanda_16 Start: 10079, Stop: 10588, Start Num: 16

Candidate Starts for Wanda_16:

(14, 10010), (Start: 16 @10079 has 15 MA's), (Start: 19 @10094 has 20 MA's), (22, 10103), (33, 10145), (35, 10187), (38, 10226), (46, 10253), (50, 10307), (51, 10316), (67, 10502), (68, 10508),

Gene: Wee_105 Start: 57330, Stop: 57806, Start Num: 25

Candidate Starts for Wee_105:

(2, 56865), (3, 56892), (4, 56898), (5, 56901), (6, 56940), (Start: 18 @57309 has 1 MA's), (Start: 20 @57312 has 1 MA's), (Start: 25 @57330 has 31 MA's), (Start: 31 @57345 has 3 MA's), (33, 57369), (36, 57429), (40, 57468), (59, 57633), (67, 57750),

Gene: Whatsapiecost_96 Start: 51056, Stop: 51529, Start Num: 25

Candidate Starts for Whatsapiecost_96:

(2, 50591), (3, 50618), (4, 50624), (5, 50627), (6, 50666), (Start: 18 @51035 has 1 MA's), (Start: 20 @51038 has 1 MA's), (Start: 25 @51056 has 31 MA's), (Start: 31 @51071 has 3 MA's), (33, 51095), (36, 51155), (40, 51194), (59, 51359), (67, 51476),

Gene: XFactor_93 Start: 53847, Stop: 54320, Start Num: 25

Candidate Starts for XFactor_93:

(2, 53382), (3, 53409), (4, 53415), (5, 53418), (6, 53457), (Start: 18 @53826 has 1 MA's), (Start: 20 @53829 has 1 MA's), (Start: 25 @53847 has 31 MA's), (Start: 31 @53862 has 3 MA's), (33, 53886), (36, 53946), (40, 53985), (59, 54150), (67, 54267),

Gene: Xiaokay_13 Start: 10103, Stop: 10597, Start Num: 19

Candidate Starts for Xiaokay_13:

(14, 10019), (Start: 16 @10088 has 15 MA's), (Start: 19 @10103 has 20 MA's), (22, 10112), (33, 10154), (35, 10196), (38, 10235), (46, 10262), (50, 10316), (51, 10325), (54, 10352), (67, 10511), (68, 10517),

Gene: Xula_72 Start: 47007, Stop: 47480, Start Num: 26

Candidate Starts for Xula_72:

(9, 46794), (Start: 26 @47007 has 36 MA's), (33, 47043), (36, 47103), (40, 47142), (59, 47307), (67, 47424),

Gene: Yeet_14 Start: 9811, Stop: 10320, Start Num: 16

Candidate Starts for Yeet_14:

(14, 9742), (Start: 16 @9811 has 15 MA's), (Start: 19 @9826 has 20 MA's), (22, 9835), (33, 9877), (35, 9919), (38, 9958), (46, 9985), (50, 10039), (51, 10048), (67, 10234), (68, 10240),

Gene: Zelink_16 Start: 10679, Stop: 11173, Start Num: 19

Candidate Starts for Zelink_16:

(10, 10508), (14, 10595), (Start: 16 @10664 has 15 MA's), (Start: 19 @10679 has 20 MA's), (22, 10688), (33, 10730), (35, 10772), (38, 10811), (46, 10838), (50, 10892), (51, 10901), (67, 11087), (68, 11093),