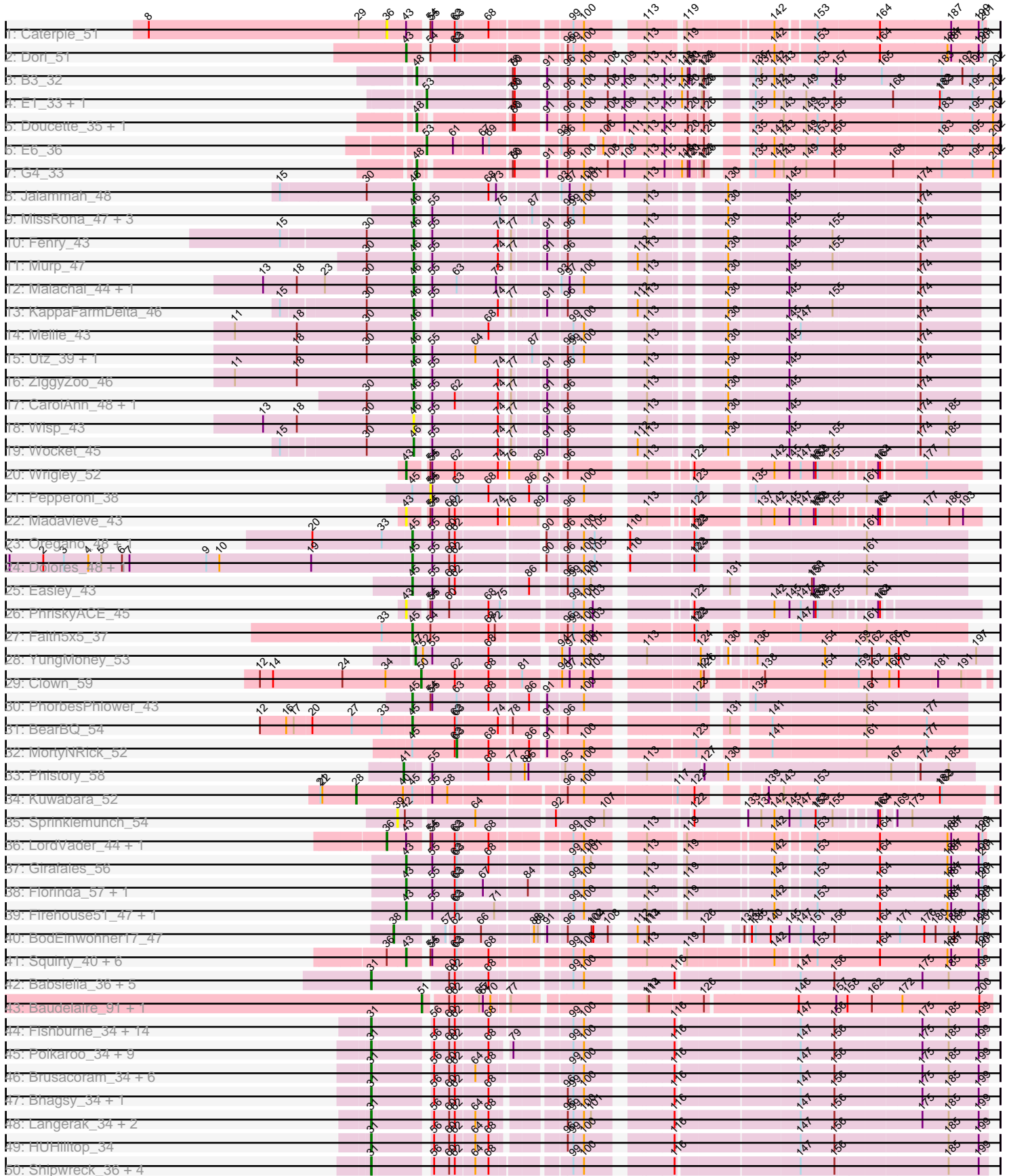


Pham 294540



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 294540 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294540 has 125 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Caterpie_51
- Track 2 : Dori_51
- Track 3 : B3_32
- Track 4 : E1_33, Anatole_33
- Track 5 : Doucette_35, B22_33
- Track 6 : E6_36
- Track 7 : G4_33
- Track 8 : Jalammah_48
- Track 9 : MissRona_47, Gambino_49, Blueberry_46, Azula_47
- Track 10 : Fenry_43
- Track 11 : Murp_47
- Track 12 : Malachai_44, Begonia_44
- Track 13 : KappaFarmDelta_46
- Track 14 : Mellie_43
- Track 15 : Utz_39, Samba_44
- Track 16 : ZiggyZoo_46
- Track 17 : CarolAnn_48, Blino_49
- Track 18 : Wisp_43
- Track 19 : Wocket_45
- Track 20 : Wrigley_52
- Track 21 : Pepperoni_38
- Track 22 : Madavieve_43
- Track 23 : Oregano_48, Annalisa_45
- Track 24 : Dolores_48, WinkNick_49
- Track 25 : Easley_43
- Track 26 : PhriskyACE_45
- Track 27 : Faith5x5_37
- Track 28 : YungMoney_53
- Track 29 : Clown_59
- Track 30 : PhorbesPhlower_43
- Track 31 : BearBQ_54
- Track 32 : MortyNRick_52
- Track 33 : Phistory_58
- Track 34 : Kuwabara_52
- Track 35 : Sprinklemunch_54
- Track 36 : LordVader_44, LastJedi_41
- Track 37 : Girafales_56

- Track 38 : Florinda_57, Quico_55
- Track 39 : Firehouse51_47, DosHalletts_47
- Track 40 : BodEinwohner17_47
- Track 41 : Squirty_40, Jennelsea_44, Donkeykong_46, Zizzle_51, Brocalys_43, Pippy_45, Clifton_42
- Track 42 : Babsiella_36, Brujita_36, HC_34, Island3_36, QueenHazel_32, Xula_31
- Track 43 : Baudelaire_91, Aegeus_91
- Track 44 : Fishburne_34, Chubbello_34, Bartholomew_33, Venti_34, Dynamo_34, FirstPlacePfu_34, BronnyJr_34, Mangethe_34, Phineas_34, Majeke_34, Vidya_34, Necropolis_34, Kari_34, Zilizebeth_34, Phegasus_34
- Track 45 : Polkaroo_34, KilKor_34, Gavriela_34, Willsammy_33, Phalm_34, Jung_33, Megiddo_34, CactusJack_34, StressBall_34, Glaske_34
- Track 46 : Brusacoram_34, Atcoo_34, Bunnies_34, Juniormint_34, Jebeks_35, Ksquared_34, Thespis_34
- Track 47 : Bhagsy_34, PeanutPie_34
- Track 48 : Langerak_34, Arib1_34, GaloreK_34
- Track 49 : HUHilltop_34
- Track 50 : Shipwreck_36, Pygmy_36, Camster_34, Bogie_36, Malithi_34
- Track 51 : GreaseLightnin_34
- Track 52 : Donovan_34
- Track 53 : StevieRay_34
- Track 54 : Etoile_34, Techage_34
- Track 55 : Sonah_34
- Track 56 : BigNuz_37, Nazo_38
- Track 57 : Phayonce_36
- Track 58 : Purky_41
- Track 59 : REQ2_43
- Track 60 : Gallia_8
- Track 61 : Min1_10
- Track 62 : P1201_08

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

The start number called the most often in the published annotations is 31, it was called in 49 of the 107 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1_34, Atcoo_34, Babsiella_36, Bartholomew_33, Bhagsy_34, Bogie_36, BronnyJr_34, Brujita_36, Brusacoram_34, Bunnies_34, CactusJack_34, Camster_34, Chubbello_34, Donovan_34, Dynamo_34, Etoile_34, FirstPlacePfu_34, Fishburne_34, GaloreK_34, Gavriela_34, Glaske_34, GreaseLightnin_34, HC_34, HUHilltop_34, Island3_36, Jebeks_35, Jung_33, Juniormint_34, Kari_34, KilKor_34, Ksquared_34, Langerak_34, Majeke_34, Malithi_34, Mangethe_34, Megiddo_34, Necropolis_34, PeanutPie_34, Phalm_34, Phegasus_34, Phineas_34, Polkaroo_34, Pygmy_36, QueenHazel_32, REQ2_43, Shipwreck_36, Sonah_34, StevieRay_34, StressBall_34, Techage_34, Thespis_34, Venti_34, Vidya_34, Willsammy_33, Xula_31, Zilizebeth_34,

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

-

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

- Aegeus_91, Anatole_33, Annalisa_45, Azula_47, B22_33, B3_32, Baudelaire_91, BearBQ_54, Begonia_44, BigNuz_37, Blino_49, Blueberry_46, BodEinwohner17_47, Brocalys_43, CarolAnn_48, Caterpie_51, Clifton_42, Clown_59, Dolores_48, Donkeykong_46, Dori_51, DosHalletts_47, Doucette_35, E1_33, E6_36, Easley_43, Faith5x5_37, Fenry_43, Firehouse51_47, Florinda_57, G4_33, Gallia_8, Gambino_49, Girafales_56, Jalammah_48, Jennelsea_44, KappaFarmDelta_46, Kuwabara_52, LastJedi_41, LordVader_44, Madavieve_43, Malachai_44, Mellie_43, Min1_10, MissRona_47, MortyNRick_52, Murp_47, Nazo_38, Oregano_48, P1201_08, Pepperoni_38, Phayonce_36, Phistory_58, PhorbesPhlower_43, PhriskyACE_45, Pippy_45, Purky_41, Quico_55, Samba_44, Sprinklemunch_54, Squirty_40, Utz_39, WinkNick_49, Wisp_43, Wocket_45, Wrigley_52, YungMoney_53, ZiggyZoo_46, Zizzle_51,

Summary by start number:

Start 25:

- Found in 2 of 125 (1.6%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gallia_8 (singleton), P1201_08 (singleton),

Start 28:

- Found in 1 of 125 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kuwabara_52 (DN4),

Start 31:

- Found in 56 of 125 (44.8%) of genes in pham
- Manual Annotations of this start: 49 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1_34 (P1), Atcoo_34 (P1), Babsiella_36 (I1), Bartholomew_33 (P1), Bhagsy_34 (P1), Bogie_36 (P1), BronnyJr_34 (P1), Brujita_36 (I1), Brusacoram_34 (P1), Bunnies_34 (P1), CactusJack_34 (P1), Camster_34 (P1), Chubbello_34 (P1), Donovan_34 (P1), Dynamo_34 (P1), Etoile_34 (P1), FirstPlacePfu_34 (P1), Fishburne_34 (P1), GaloreK_34 (P1), Gavriela_34 (P1), Glaske_34 (P1), GreaseLightnin_34 (P1), HC_34 (I1), HUHilltop_34 (P1), Island3_36 (I1), Jebeks_35 (P1), Jung_33 (P1), Juniormint_34 (P1), Kari_34 (P1), KilKor_34 (P1), Ksquared_34 (P1), Langerak_34 (P1), Majeke_34 (P1), Malithi_34 (P1), Mangethe_34 (P1), Megiddo_34 (P1), Necropolis_34 (P1), PeanutPie_34 (P1), Phalm_34 (P1), Phegasus_34 (P1), Phineas_34 (P1), Polkaroo_34 (P1), Pygmy_36 (P1), QueenHazel_32 (I1), REQ2_43 (singleton), Shipwreck_36 (P1), Sonah_34 (P1), StevieRay_34 (P1), StressBall_34 (P1), Techage_34 (P1), Thespis_34 (P1), Venti_34 (P1), Vidya_34 (P1), Willsammy_33 (P1), Xula_31 (I1), Zilizebeth_34 (P1),

Start 35:

- Found in 4 of 125 (3.2%) of genes in pham
- Manual Annotations of this start: 4 of 107
- Called 100.0% of time when present

- Phage (with cluster) where this start called: BigNuz_37 (P4), Nazo_38 (P4), Phayonce_36 (P5), Purky_41 (P6),

Start 36:

- Found in 10 of 125 (8.0%) of genes in pham
- Manual Annotations of this start: 1 of 107
- Called 30.0% of time when present
- Phage (with cluster) where this start called: Caterpie_51 (AD), LastJedi_41 (F1), LordVader_44 (F),

Start 38:

- Found in 1 of 125 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BodEinwohner17_47 (F1),

Start 39:

- Found in 1 of 125 (0.8%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sprinklemunch_54 (DW),

Start 41:

- Found in 1 of 125 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phistory_58 (DN1),

Start 43:

- Found in 19 of 125 (15.2%) of genes in pham
- Manual Annotations of this start: 13 of 107
- Called 84.2% of time when present
- Phage (with cluster) where this start called: Brocalys_43 (F1), Clifton_42 (F1), Donkeykong_46 (F1), Dori_51 (AD), DosHalletts_47 (F1), Firehouse51_47 (F1), Florinda_57 (F1), Girafales_56 (F1), Jennelsea_44 (F1), Madavieve_43 (CZ1), PhriskyACE_45 (CZ4), Pippy_45 (F1), Quico_55 (F1), Squirty_40 (F3), Wrigley_52 (CY4), Zizzle_51 (F1),

Start 45:

- Found in 11 of 125 (8.8%) of genes in pham
- Manual Annotations of this start: 8 of 107
- Called 72.7% of time when present
- Phage (with cluster) where this start called: Annalisa_45 (CZ4), BearBQ_54 (DN), Dolores_48 (CZ4), Easley_43 (CZ4), Faith5x5_37 (CZ6), Oregano_48 (CZ4), PhorbesPhlower_43 (DH), WinkNick_49 (CZ4),

Start 46:

- Found in 18 of 125 (14.4%) of genes in pham
- Manual Annotations of this start: 17 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azula_47 (CV), Begonia_44 (CV), Blino_49 (CV), Blueberry_46 (CV), CarolAnn_48 (CV), Fenry_43 (CV), Gambino_49 (CV), Jalammah_48 (CV), KappaFarmDelta_46 (CV), Malachai_44 (CV), Mellie_43

(CV), MissRona_47 (CV), Murp_47 (CV), Samba_44 (CV), Utz_39 (CV), Wisp_43 (CV), Wocket_45 (CV), ZiggyZoo_46 (CV),

Start 47:

- Found in 1 of 125 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: YungMoney_53 (DC1),

Start 48:

- Found in 4 of 125 (3.2%) of genes in pham
- Manual Annotations of this start: 4 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B22_33 (BW), B3_32 (BV), Doucette_35 (BW), G4_33 (BW),

Start 50:

- Found in 1 of 125 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clown_59 (DC2),

Start 51:

- Found in 2 of 125 (1.6%) of genes in pham
- Manual Annotations of this start: 2 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus_91 (L5), Baudelaire_91 (L5),

Start 53:

- Found in 3 of 125 (2.4%) of genes in pham
- Manual Annotations of this start: 3 of 107
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anatole_33 (BV), E1_33 (BV), E6_36 (BW),

Start 54:

- Found in 18 of 125 (14.4%) of genes in pham
- No Manual Annotations of this start.
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Min1_10 (singleton), Pepperoni_38 (CZ),

Start 63:

- Found in 25 of 125 (20.0%) of genes in pham
- Manual Annotations of this start: 1 of 107
- Called 4.0% of time when present
- Phage (with cluster) where this start called: MortyNRick_52 (DN),

Summary by clusters:

There are 26 clusters represented in this pham: DN, singleton, DH, CZ1, CZ6, CZ4, BV, BW, DW, I1, F, DN4, DN1, P1, P6, AD, P4, P5, CZ, L5, DC2, CV, DC1, F1, F3, CY4,

Info for manual annotations of cluster AD:

- Start number 43 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster BV:

- Start number 48 was manually annotated 1 time for cluster BV.
- Start number 53 was manually annotated 2 times for cluster BV.

Info for manual annotations of cluster BW:

- Start number 48 was manually annotated 3 times for cluster BW.
- Start number 53 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster CV:

- Start number 46 was manually annotated 17 times for cluster CV.

Info for manual annotations of cluster CY4:

- Start number 43 was manually annotated 1 time for cluster CY4.

Info for manual annotations of cluster CZ4:

- Start number 45 was manually annotated 5 times for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 45 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DC1:

- Start number 47 was manually annotated 1 time for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 50 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DH:

- Start number 45 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DN:

- Start number 45 was manually annotated 1 time for cluster DN.
- Start number 63 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 41 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN4:

- Start number 28 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F1:

- Start number 36 was manually annotated 1 time for cluster F1.
- Start number 38 was manually annotated 1 time for cluster F1.
- Start number 43 was manually annotated 10 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 43 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster I1:

- Start number 31 was manually annotated 6 times for cluster I1.

Info for manual annotations of cluster L5:

- Start number 51 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster P1:

- Start number 31 was manually annotated 43 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 35 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 35 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 35 was manually annotated 1 time for cluster P6.

Gene Information:

Gene: Aegeus_91 Start: 56094, Stop: 56897, Start Num: 51

Candidate Starts for Aegeus_91:

(Start: 51 @56094 has 2 MA's), (60, 56127), (62, 56136), (65, 56169), (67, 56175), (70, 56187), (77, 56208), (113, 56373), (114, 56376), (126, 56457), (146, 56595), (157, 56655), (158, 56670), (162, 56709), (172, 56757), (200, 56877),

Gene: Anatole_33 Start: 24569, Stop: 25372, Start Num: 53

Candidate Starts for Anatole_33:

(Start: 53 @24569 has 3 MA's), (78, 24692), (80, 24695), (91, 24734), (96, 24761), (100, 24785), (108, 24821), (109, 24848), (113, 24881), (115, 24908), (118, 24929), (120, 24938), (125, 24956), (126, 24959), (135, 25001), (142, 25031), (143, 25043), (149, 25076), (156, 25121), (168, 25211), (182, 25277), (183, 25280), (195, 25328), (202, 25361),

Gene: Annalisa_45 Start: 33306, Stop: 34055, Start Num: 45

Candidate Starts for Annalisa_45:

(20, 33153), (33, 33261), (Start: 45 @33306 has 8 MA's), (55, 33336), (60, 33363), (62, 33372), (90, 33489), (96, 33516), (100, 33540), (105, 33555), (110, 33585), (122, 33675), (123, 33678), (161, 33900),

Gene: Arib1_34 Start: 27945, Stop: 28808, Start Num: 31

Candidate Starts for Arib1_34:

(Start: 31 @27945 has 49 MA's), (56, 28026), (60, 28050), (62, 28059), (64, 28086), (68, 28107), (96, 28203), (99, 28212), (100, 28227), (101, 28236), (116, 28338), (147, 28521), (156, 28575), (175, 28704), (185, 28746), (199, 28794),

Gene: Atcoo_34 Start: 28426, Stop: 29292, Start Num: 31

Candidate Starts for Atcoo_34:

(Start: 31 @28426 has 49 MA's), (56, 28507), (60, 28531), (62, 28540), (64, 28567), (68, 28588), (99, 28696), (100, 28711), (116, 28822), (147, 29005), (156, 29059), (175, 29188), (185, 29230), (199, 29278),

Gene: Azula_47 Start: 35195, Stop: 35956, Start Num: 46

Candidate Starts for Azula_47:

(Start: 46 @35195 has 17 MA's), (55, 35210), (75, 35312), (87, 35345), (96, 35390), (99, 35399), (100, 35414), (113, 35483), (130, 35579), (145, 35669), (174, 35861),

Gene: B22_33 Start: 23699, Stop: 24502, Start Num: 48

Candidate Starts for B22_33:

(Start: 48 @23699 has 4 MA's), (78, 23822), (80, 23825), (91, 23864), (96, 23891), (100, 23915), (108, 23951), (109, 23978), (113, 24011), (115, 24038), (120, 24068), (126, 24089), (135, 24131), (143, 24173), (149, 24206), (153, 24224), (156, 24251), (183, 24410), (195, 24458), (202, 24491),

Gene: B3_32 Start: 23829, Stop: 24632, Start Num: 48

Candidate Starts for B3_32:

(Start: 48 @23829 has 4 MA's), (78, 23952), (80, 23955), (91, 23994), (96, 24021), (100, 24045), (108, 24081), (109, 24108), (113, 24141), (115, 24168), (118, 24189), (120, 24198), (121, 24201), (125, 24216), (126, 24219), (135, 24261), (137, 24270), (142, 24291), (143, 24303), (153, 24354), (157, 24384), (165, 24453), (183, 24540), (192, 24573), (195, 24588), (202, 24621),

Gene: Babsiella_36 Start: 28877, Stop: 29746, Start Num: 31

Candidate Starts for Babsiella_36:

(Start: 31 @28877 has 49 MA's), (60, 28985), (62, 28994), (68, 29042), (99, 29150), (100, 29165), (116, 29276), (147, 29459), (156, 29513), (175, 29642), (185, 29684), (199, 29732),

Gene: Bartholomew_33 Start: 27939, Stop: 28805, Start Num: 31

Candidate Starts for Bartholomew_33:

(Start: 31 @27939 has 49 MA's), (56, 28020), (60, 28044), (62, 28053), (68, 28101), (99, 28209), (100, 28224), (116, 28335), (147, 28518), (156, 28572), (175, 28701), (185, 28743), (199, 28791),

Gene: Baudelaire_91 Start: 56094, Stop: 56897, Start Num: 51

Candidate Starts for Baudelaire_91:

(Start: 51 @56094 has 2 MA's), (60, 56127), (62, 56136), (65, 56169), (67, 56175), (70, 56187), (77, 56208), (113, 56373), (114, 56376), (126, 56457), (146, 56595), (157, 56655), (158, 56670), (162, 56709), (172, 56757), (200, 56877),

Gene: BearBQ_54 Start: 38297, Stop: 39052, Start Num: 45

Candidate Starts for BearBQ_54:

(12, 38063), (16, 38105), (17, 38117), (20, 38144), (27, 38207), (33, 38255), (Start: 45 @38297 has 8 MA's), (62, 38363), (Start: 63 @38366 has 1 MA's), (74, 38426), (78, 38438), (91, 38480), (96, 38507), (131, 38702), (141, 38753), (161, 38897), (177, 38990),

Gene: Begonia_44 Start: 35305, Stop: 36069, Start Num: 46

Candidate Starts for Begonia_44:

(13, 35065), (18, 35119), (23, 35164), (30, 35230), (Start: 46 @35305 has 17 MA's), (55, 35320), (Start: 63 @35359 has 1 MA's), (73, 35416), (93, 35494), (97, 35506), (100, 35527), (113, 35596), (130, 35692), (145, 35782), (174, 35974),

Gene: Bhagsy_34 Start: 27935, Stop: 28798, Start Num: 31

Candidate Starts for Bhagsy_34:

(Start: 31 @27935 has 49 MA's), (56, 28016), (60, 28040), (62, 28049), (68, 28097), (96, 28193), (99, 28202), (100, 28217), (116, 28328), (147, 28511), (156, 28565), (175, 28694), (185, 28736), (199, 28784),

Gene: BigNuz_37 Start: 30064, Stop: 30867, Start Num: 35

Candidate Starts for BigNuz_37:

(Start: 35 @30064 has 4 MA's), (Start: 63 @30166 has 1 MA's), (67, 30202), (113, 30394), (128, 30490), (142, 30574), (152, 30640), (153, 30643), (155, 30667), (164, 30721), (173, 30760), (177, 30781), (179, 30784), (195, 30853),

Gene: Blino_49 Start: 38491, Stop: 39252, Start Num: 46

Candidate Starts for Blino_49:

(30, 38416), (Start: 46 @38491 has 17 MA's), (55, 38506), (62, 38542), (74, 38605), (77, 38617), (91, 38659), (96, 38686), (113, 38779), (130, 38875), (145, 38965), (174, 39157),

Gene: Blueberry_46 Start: 35195, Stop: 35956, Start Num: 46

Candidate Starts for Blueberry_46:

(Start: 46 @35195 has 17 MA's), (55, 35210), (75, 35312), (87, 35345), (96, 35390), (99, 35399), (100, 35414), (113, 35483), (130, 35579), (145, 35669), (174, 35861),

Gene: BodEinwohner17_47 Start: 35274, Stop: 36077, Start Num: 38

Candidate Starts for BodEinwohner17_47:

(Start: 38 @35274 has 1 MA's), (57, 35340), (62, 35349), (66, 35385), (88, 35451), (89, 35457), (91, 35463), (96, 35490), (102, 35526), (104, 35529), (108, 35550), (112, 35571), (113, 35583), (114, 35586), (126, 35670), (132, 35715), (134, 35721), (135, 35727), (140, 35751), (145, 35778), (147, 35796), (151, 35817), (156, 35850), (164, 35910), (171, 35937), (176, 35976), (180, 35994), (185, 36015), (188, 36024), (198, 36060), (201, 36069),

Gene: Bogie_36 Start: 29722, Stop: 30588, Start Num: 31

Candidate Starts for Bogie_36:

(Start: 31 @29722 has 49 MA's), (56, 29803), (60, 29827), (62, 29836), (64, 29863), (68, 29884), (99, 29992), (100, 30007), (116, 30118), (147, 30301), (156, 30355), (185, 30526), (199, 30574),

Gene: Brocalys_43 Start: 31207, Stop: 31986, Start Num: 43

Candidate Starts for Brocalys_43:

(Start: 36 @31177 has 1 MA's), (Start: 43 @31207 has 13 MA's), (54, 31231), (55, 31234), (62, 31270), (Start: 63 @31273 has 1 MA's), (68, 31318), (99, 31426), (100, 31441), (113, 31510), (119, 31558), (142, 31675), (153, 31726), (164, 31822), (184, 31927), (187, 31933), (199, 31975), (201, 31981),

Gene: BronnyJr_34 Start: 28436, Stop: 29302, Start Num: 31

Candidate Starts for BronnyJr_34:

(Start: 31 @28436 has 49 MA's), (56, 28517), (60, 28541), (62, 28550), (68, 28598), (99, 28706), (100, 28721), (116, 28832), (147, 29015), (156, 29069), (175, 29198), (185, 29240), (199, 29288),

Gene: Brujita_36 Start: 29775, Stop: 30644, Start Num: 31

Candidate Starts for Brujita_36:

(Start: 31 @29775 has 49 MA's), (60, 29883), (62, 29892), (68, 29940), (99, 30048), (100, 30063), (116, 30174), (147, 30357), (156, 30411), (175, 30540), (185, 30582), (199, 30630),

Gene: Brusacoram_34 Start: 27932, Stop: 28798, Start Num: 31

Candidate Starts for Brusacoram_34:

(Start: 31 @27932 has 49 MA's), (56, 28013), (60, 28037), (62, 28046), (64, 28073), (68, 28094), (99, 28202), (100, 28217), (116, 28328), (147, 28511), (156, 28565), (175, 28694), (185, 28736), (199, 28784),

Gene: Bunnies_34 Start: 27953, Stop: 28819, Start Num: 31

Candidate Starts for Bunnies_34:

(Start: 31 @27953 has 49 MA's), (56, 28034), (60, 28058), (62, 28067), (64, 28094), (68, 28115), (99, 28223), (100, 28238), (116, 28349), (147, 28532), (156, 28586), (175, 28715), (185, 28757), (199, 28805),

Gene: CactusJack_34 Start: 28196, Stop: 29059, Start Num: 31

Candidate Starts for CactusJack_34:

(Start: 31 @28196 has 49 MA's), (56, 28277), (60, 28301), (62, 28310), (68, 28358), (79, 28382), (99, 28463), (100, 28478), (116, 28589), (147, 28772), (156, 28826), (175, 28955), (185, 28997), (199, 29045),

Gene: Camster_34 Start: 27969, Stop: 28835, Start Num: 31

Candidate Starts for Camster_34:

(Start: 31 @27969 has 49 MA's), (56, 28050), (60, 28074), (62, 28083), (64, 28110), (68, 28131), (99, 28239), (100, 28254), (116, 28365), (147, 28548), (156, 28602), (185, 28773), (199, 28821),

Gene: CarolAnn_48 Start: 38490, Stop: 39251, Start Num: 46

Candidate Starts for CarolAnn_48:

(30, 38415), (Start: 46 @38490 has 17 MA's), (55, 38505), (62, 38541), (74, 38604), (77, 38616), (91, 38658), (96, 38685), (113, 38778), (130, 38874), (145, 38964), (174, 39156),

Gene: Caterpie_51 Start: 43734, Stop: 44543, Start Num: 36

Candidate Starts for Caterpie_51:

(8, 43353), (29, 43689), (Start: 36 @43734 has 1 MA's), (Start: 43 @43764 has 13 MA's), (54, 43788), (55, 43791), (62, 43827), (Start: 63 @43830 has 1 MA's), (68, 43875), (99, 43983), (100, 43998), (113, 44067), (119, 44115), (142, 44232), (153, 44283), (164, 44379), (187, 44490), (199, 44532), (201, 44538),

Gene: Chubbello_34 Start: 27935, Stop: 28801, Start Num: 31

Candidate Starts for Chubbello_34:

(Start: 31 @27935 has 49 MA's), (56, 28016), (60, 28040), (62, 28049), (68, 28097), (99, 28205), (100, 28220), (116, 28331), (147, 28514), (156, 28568), (175, 28697), (185, 28739), (199, 28787),

Gene: Clifton_42 Start: 31558, Stop: 32337, Start Num: 43

Candidate Starts for Clifton_42:

(Start: 36 @31528 has 1 MA's), (Start: 43 @31558 has 13 MA's), (54, 31582), (55, 31585), (62, 31621), (Start: 63 @31624 has 1 MA's), (68, 31669), (99, 31777), (100, 31792), (113, 31861), (119, 31909), (142, 32026), (153, 32077), (164, 32173), (184, 32278), (187, 32284), (199, 32326), (201, 32332),

Gene: Clown_59 Start: 43467, Stop: 44249, Start Num: 50

Candidate Starts for Clown_59:

(12, 43209), (14, 43230), (24, 43341), (34, 43410), (Start: 50 @43467 has 1 MA's), (62, 43518), (68, 43566), (81, 43611), (94, 43656), (97, 43668), (100, 43689), (103, 43701), (124, 43833), (126, 43836), (138, 43908), (154, 44004), (159, 44055), (162, 44076), (166, 44103), (170, 44118), (181, 44178), (191, 44214),

Gene: Dolores_48 Start: 34386, Stop: 35135, Start Num: 45

Candidate Starts for Dolores_48:

(1, 33747), (2, 33801), (3, 33834), (4, 33873), (5, 33894), (6, 33927), (7, 33939), (9, 34062), (10, 34083), (19, 34230), (Start: 45 @34386 has 8 MA's), (55, 34416), (60, 34443), (62, 34452), (90, 34569), (96, 34596), (100, 34620), (105, 34635), (110, 34665), (122, 34755), (123, 34758), (161, 34980),

Gene: Donkeykong_46 Start: 35576, Stop: 36355, Start Num: 43

Candidate Starts for Donkeykong_46:

(Start: 36 @35546 has 1 MA's), (Start: 43 @35576 has 13 MA's), (54, 35600), (55, 35603), (62, 35639), (Start: 63 @35642 has 1 MA's), (68, 35687), (99, 35795), (100, 35810), (113, 35879), (119, 35927), (142, 36044), (153, 36095), (164, 36191), (184, 36296), (187, 36302), (199, 36344), (201, 36350),

Gene: Donovan_34 Start: 27961, Stop: 28824, Start Num: 31

Candidate Starts for Donovan_34:

(Start: 31 @27961 has 49 MA's), (56, 28042), (60, 28066), (62, 28075), (64, 28102), (68, 28123), (96, 28219), (99, 28228), (100, 28243), (116, 28354), (147, 28537), (156, 28591), (175, 28720), (185, 28762), (199, 28810),

Gene: Dori_51 Start: 44920, Stop: 45693, Start Num: 43

Candidate Starts for Dori_51:

(Start: 43 @44920 has 13 MA's), (54, 44941), (62, 44980), (Start: 63 @44983 has 1 MA's), (96, 45124), (99, 45133), (100, 45148), (113, 45217), (119, 45265), (142, 45382), (153, 45433), (164, 45529), (184, 45634), (187, 45640), (199, 45682), (201, 45688),

Gene: DosHalletts_47 Start: 34853, Stop: 35650, Start Num: 43

Candidate Starts for DosHalletts_47:

(Start: 43 @34853 has 13 MA's), (55, 34895), (62, 34931), (Start: 63 @34934 has 1 MA's), (71, 34988), (99, 35090), (100, 35105), (113, 35174), (119, 35222), (142, 35339), (153, 35390), (164, 35486), (184, 35591), (187, 35597), (199, 35639), (201, 35645),

Gene: Doucette_35 Start: 25113, Stop: 25916, Start Num: 48

Candidate Starts for Doucette_35:

(Start: 48 @25113 has 4 MA's), (78, 25236), (80, 25239), (91, 25278), (96, 25305), (100, 25329), (108, 25365), (109, 25392), (113, 25425), (115, 25452), (120, 25482), (126, 25503), (135, 25545), (143, 25587), (149, 25620), (153, 25638), (156, 25665), (183, 25824), (195, 25872), (202, 25905),

Gene: Dynamo_34 Start: 28347, Stop: 29213, Start Num: 31

Candidate Starts for Dynamo_34:

(Start: 31 @28347 has 49 MA's), (56, 28428), (60, 28452), (62, 28461), (68, 28509), (99, 28617), (100, 28632), (116, 28743), (147, 28926), (156, 28980), (175, 29109), (185, 29151), (199, 29199),

Gene: E1_33 Start: 24569, Stop: 25372, Start Num: 53

Candidate Starts for E1_33:

(Start: 53 @24569 has 3 MA's), (78, 24692), (80, 24695), (91, 24734), (96, 24761), (100, 24785), (108, 24821), (109, 24848), (113, 24881), (115, 24908), (118, 24929), (120, 24938), (125, 24956), (126, 24959), (135, 25001), (142, 25031), (143, 25043), (149, 25076), (156, 25121), (168, 25211), (182, 25277), (183, 25280), (195, 25328), (202, 25361),

Gene: E6_36 Start: 26500, Stop: 27273, Start Num: 53

Candidate Starts for E6_36:

(Start: 53 @26500 has 3 MA's), (61, 26542), (67, 26584), (69, 26593), (93, 26680), (96, 26689), (106, 26728), (111, 26761), (113, 26782), (115, 26809), (120, 26839), (126, 26860), (135, 26902), (142, 26932), (143, 26944), (149, 26977), (153, 26995), (156, 27022), (183, 27181), (195, 27229), (202, 27262),

Gene: Easley_43 Start: 32655, Stop: 33410, Start Num: 45

Candidate Starts for Easley_43:

(Start: 45 @32655 has 8 MA's), (55, 32685), (60, 32712), (62, 32721), (86, 32820), (96, 32865), (99, 32874), (100, 32889), (101, 32898), (131, 33060), (150, 33171), (151, 33174), (161, 33255),

Gene: Etoile_34 Start: 27939, Stop: 28805, Start Num: 31

Candidate Starts for Etoile_34:

(Start: 31 @27939 has 49 MA's), (56, 28020), (60, 28044), (62, 28053), (68, 28101), (99, 28209), (100, 28224), (101, 28233), (116, 28335), (147, 28518), (156, 28572), (175, 28701), (185, 28743), (199, 28791),

Gene: Faith5x5_37 Start: 28702, Stop: 29454, Start Num: 45

Candidate Starts for Faith5x5_37:

(33, 28657), (Start: 45 @28702 has 8 MA's), (54, 28729), (68, 28816), (72, 28825), (96, 28915), (99, 28924), (100, 28939), (103, 28951), (122, 29074), (123, 29077), (147, 29197), (161, 29299),

Gene: Fenry_43 Start: 34202, Stop: 34963, Start Num: 46

Candidate Starts for Fenry_43:

(15, 33998), (30, 34127), (Start: 46 @34202 has 17 MA's), (55, 34217), (74, 34316), (77, 34328), (91, 34370), (96, 34397), (113, 34490), (130, 34586), (145, 34676), (155, 34742), (174, 34868),

Gene: Firehouse51_47 Start: 36491, Stop: 37288, Start Num: 43

Candidate Starts for Firehouse51_47:

(Start: 43 @36491 has 13 MA's), (55, 36533), (62, 36569), (Start: 63 @36572 has 1 MA's), (71, 36626), (99, 36728), (100, 36743), (113, 36812), (119, 36860), (142, 36977), (153, 37028), (164, 37124), (184, 37229), (187, 37235), (199, 37277), (201, 37283),

Gene: FirstPlacePfu_34 Start: 27971, Stop: 28837, Start Num: 31

Candidate Starts for FirstPlacePfu_34:

(Start: 31 @27971 has 49 MA's), (56, 28052), (60, 28076), (62, 28085), (68, 28133), (99, 28241), (100, 28256), (116, 28367), (147, 28550), (156, 28604), (175, 28733), (185, 28775), (199, 28823),

Gene: Fishburne_34 Start: 27939, Stop: 28805, Start Num: 31

Candidate Starts for Fishburne_34:

(Start: 31 @27939 has 49 MA's), (56, 28020), (60, 28044), (62, 28053), (68, 28101), (99, 28209), (100, 28224), (116, 28335), (147, 28518), (156, 28572), (175, 28701), (185, 28743), (199, 28791),

Gene: Florinda_57 Start: 36157, Stop: 36951, Start Num: 43

Candidate Starts for Florinda_57:

(Start: 43 @36157 has 13 MA's), (55, 36199), (62, 36235), (Start: 63 @36238 has 1 MA's), (67, 36274), (84, 36334), (99, 36391), (100, 36406), (113, 36475), (119, 36523), (142, 36640), (153, 36691), (164, 36787), (184, 36892), (187, 36898), (199, 36940), (201, 36946),

Gene: G4_33 Start: 24732, Stop: 25535, Start Num: 48

Candidate Starts for G4_33:

(Start: 48 @24732 has 4 MA's), (78, 24855), (80, 24858), (91, 24897), (96, 24924), (100, 24948), (108, 24984), (109, 25011), (113, 25044), (115, 25071), (118, 25092), (120, 25101), (121, 25104), (125, 25119), (126, 25122), (135, 25164), (142, 25194), (143, 25206), (149, 25239), (156, 25284), (168, 25374), (183, 25443), (195, 25491), (202, 25524),

Gene: Gallia_8 Start: 3136, Stop: 3990, Start Num: 25

Candidate Starts for Gallia_8:

(25, 3136), (26, 3139), (44, 3184), (67, 3289), (68, 3298), (96, 3394), (101, 3427), (113, 3487), (137, 3655), (144, 3691), (150, 3733), (160, 3808), (170, 3868), (184, 3943),

Gene: GaloreK_34 Start: 27935, Stop: 28798, Start Num: 31

Candidate Starts for GaloreK_34:

(Start: 31 @27935 has 49 MA's), (56, 28016), (60, 28040), (62, 28049), (64, 28076), (68, 28097), (96, 28193), (99, 28202), (100, 28217), (101, 28226), (116, 28328), (147, 28511), (156, 28565), (175, 28694), (185, 28736), (199, 28784),

Gene: Gambino_49 Start: 35195, Stop: 35956, Start Num: 46

Candidate Starts for Gambino_49:

(Start: 46 @35195 has 17 MA's), (55, 35210), (75, 35312), (87, 35345), (96, 35390), (99, 35399), (100, 35414), (113, 35483), (130, 35579), (145, 35669), (174, 35861),

Gene: Gavriela_34 Start: 28196, Stop: 29059, Start Num: 31

Candidate Starts for Gavriela_34:

(Start: 31 @28196 has 49 MA's), (56, 28277), (60, 28301), (62, 28310), (68, 28358), (79, 28382), (99, 28463), (100, 28478), (116, 28589), (147, 28772), (156, 28826), (175, 28955), (185, 28997), (199, 29045),

Gene: Girafales_56 Start: 35966, Stop: 36760, Start Num: 43

Candidate Starts for Girafales_56:

(Start: 43 @35966 has 13 MA's), (55, 36008), (62, 36044), (Start: 63 @36047 has 1 MA's), (68, 36092), (99, 36200), (100, 36215), (101, 36224), (113, 36284), (119, 36332), (142, 36449), (153, 36500), (164, 36596), (184, 36701), (187, 36707), (199, 36749), (201, 36755),

Gene: Glaske_34 Start: 28196, Stop: 29059, Start Num: 31

Candidate Starts for Glaske_34:

(Start: 31 @28196 has 49 MA's), (56, 28277), (60, 28301), (62, 28310), (68, 28358), (79, 28382), (99, 28463), (100, 28478), (116, 28589), (147, 28772), (156, 28826), (175, 28955), (185, 28997), (199, 29045),

Gene: GreaseLightnin_34 Start: 28179, Stop: 29045, Start Num: 31

Candidate Starts for GreaseLightnin_34:

(Start: 31 @28179 has 49 MA's), (60, 28284), (62, 28293), (68, 28341), (99, 28449), (100, 28464), (116, 28575), (147, 28758), (156, 28812), (175, 28941), (185, 28983), (199, 29031),

Gene: HC_34 Start: 27658, Stop: 28527, Start Num: 31

Candidate Starts for HC_34:

(Start: 31 @27658 has 49 MA's), (60, 27766), (62, 27775), (68, 27823), (99, 27931), (100, 27946), (116, 28057), (147, 28240), (156, 28294), (175, 28423), (185, 28465), (199, 28513),

Gene: HUHilltop_34 Start: 27972, Stop: 28835, Start Num: 31

Candidate Starts for HUHilltop_34:

(Start: 31 @27972 has 49 MA's), (56, 28053), (60, 28077), (62, 28086), (64, 28113), (68, 28134), (96, 28230), (99, 28239), (100, 28254), (116, 28365), (147, 28548), (156, 28602), (185, 28773), (199, 28821),

Gene: Island3_36 Start: 29775, Stop: 30644, Start Num: 31

Candidate Starts for Island3_36:

(Start: 31 @29775 has 49 MA's), (60, 29883), (62, 29892), (68, 29940), (99, 30048), (100, 30063), (116, 30174), (147, 30357), (156, 30411), (175, 30540), (185, 30582), (199, 30630),

Gene: Jalammah_48 Start: 35515, Stop: 36279, Start Num: 46

Candidate Starts for Jalammah_48:

(15, 35311), (30, 35440), (Start: 46 @35515 has 17 MA's), (68, 35614), (73, 35626), (93, 35704), (97, 35716), (100, 35737), (101, 35746), (113, 35806), (130, 35902), (145, 35992), (174, 36184),

Gene: Jebeks_35 Start: 27924, Stop: 28790, Start Num: 31

Candidate Starts for Jebeks_35:

(Start: 31 @27924 has 49 MA's), (56, 28005), (60, 28029), (62, 28038), (64, 28065), (68, 28086), (99, 28194), (100, 28209), (116, 28320), (147, 28503), (156, 28557), (175, 28686), (185, 28728), (199, 28776),

Gene: Jennelsea_44 Start: 32861, Stop: 33640, Start Num: 43

Candidate Starts for Jennelsea_44:

(Start: 36 @32831 has 1 MA's), (Start: 43 @32861 has 13 MA's), (54, 32885), (55, 32888), (62, 32924), (Start: 63 @32927 has 1 MA's), (68, 32972), (99, 33080), (100, 33095), (113, 33164), (119, 33212), (142, 33329), (153, 33380), (164, 33476), (184, 33581), (187, 33587), (199, 33629), (201, 33635),

Gene: Jung_33 Start: 27903, Stop: 28766, Start Num: 31

Candidate Starts for Jung_33:

(Start: 31 @27903 has 49 MA's), (56, 27984), (60, 28008), (62, 28017), (68, 28065), (79, 28089), (99, 28170), (100, 28185), (116, 28296), (147, 28479), (156, 28533), (175, 28662), (185, 28704), (199, 28752),

Gene: Juniormint_34 Start: 27975, Stop: 28841, Start Num: 31

Candidate Starts for Juniormint_34:

(Start: 31 @27975 has 49 MA's), (56, 28056), (60, 28080), (62, 28089), (64, 28116), (68, 28137), (99, 28245), (100, 28260), (116, 28371), (147, 28554), (156, 28608), (175, 28737), (185, 28779), (199, 28827),

Gene: KappaFarmDelta_46 Start: 33140, Stop: 33901, Start Num: 46

Candidate Starts for KappaFarmDelta_46:

(15, 32939), (30, 33065), (Start: 46 @33140 has 17 MA's), (55, 33155), (74, 33254), (77, 33266), (91, 33308), (96, 33335), (112, 33416), (113, 33428), (130, 33524), (145, 33614), (155, 33680), (174, 33806),

Gene: Kari_34 Start: 27936, Stop: 28802, Start Num: 31

Candidate Starts for Kari_34:

(Start: 31 @27936 has 49 MA's), (56, 28017), (60, 28041), (62, 28050), (68, 28098), (99, 28206), (100, 28221), (116, 28332), (147, 28515), (156, 28569), (175, 28698), (185, 28740), (199, 28788),

Gene: KilKor_34 Start: 28196, Stop: 29059, Start Num: 31

Candidate Starts for KilKor_34:

(Start: 31 @28196 has 49 MA's), (56, 28277), (60, 28301), (62, 28310), (68, 28358), (79, 28382), (99, 28463), (100, 28478), (116, 28589), (147, 28772), (156, 28826), (175, 28955), (185, 28997), (199, 29045),

Gene: Ksquared_34 Start: 27953, Stop: 28819, Start Num: 31

Candidate Starts for Ksquared_34:

(Start: 31 @27953 has 49 MA's), (56, 28034), (60, 28058), (62, 28067), (64, 28094), (68, 28115), (99, 28223), (100, 28238), (116, 28349), (147, 28532), (156, 28586), (175, 28715), (185, 28757), (199, 28805),

Gene: Kuwabara_52 Start: 36557, Stop: 37444, Start Num: 28

Candidate Starts for Kuwabara_52:

(21, 36500), (22, 36503), (Start: 28 @36557 has 1 MA's), (40, 36629), (Start: 45 @36644 has 8 MA's), (55, 36671), (58, 36695), (96, 36854), (100, 36878), (117, 37013), (122, 37037), (139, 37109), (143, 37130), (153, 37181), (182, 37367), (183, 37370),

Gene: Langerak_34 Start: 27955, Stop: 28818, Start Num: 31

Candidate Starts for Langerak_34:

(Start: 31 @27955 has 49 MA's), (56, 28036), (60, 28060), (62, 28069), (64, 28096), (68, 28117), (96, 28213), (99, 28222), (100, 28237), (101, 28246), (116, 28348), (147, 28531), (156, 28585), (175, 28714), (185, 28756), (199, 28804),

Gene: LastJedi_41 Start: 31571, Stop: 32380, Start Num: 36

Candidate Starts for LastJedi_41:

(Start: 36 @31571 has 1 MA's), (Start: 43 @31601 has 13 MA's), (54, 31625), (55, 31628), (62, 31664), (Start: 63 @31667 has 1 MA's), (68, 31712), (99, 31820), (100, 31835), (113, 31904), (119, 31952), (142, 32069), (153, 32120), (164, 32216), (184, 32321), (187, 32327), (199, 32369), (201, 32375),

Gene: LordVader_44 Start: 30174, Stop: 30983, Start Num: 36

Candidate Starts for LordVader_44:

(Start: 36 @30174 has 1 MA's), (Start: 43 @30204 has 13 MA's), (54, 30228), (55, 30231), (62, 30267), (Start: 63 @30270 has 1 MA's), (68, 30315), (99, 30423), (100, 30438), (113, 30507), (119, 30555), (142, 30672), (153, 30723), (164, 30819), (184, 30924), (187, 30930), (199, 30972), (201, 30978),

Gene: Madavieve_43 Start: 34739, Stop: 35503, Start Num: 43

Candidate Starts for Madavieve_43:

(Start: 43 @34739 has 13 MA's), (54, 34766), (55, 34769), (60, 34796), (62, 34805), (74, 34868), (76, 34880), (89, 34922), (96, 34949), (113, 35042), (122, 35096), (137, 35189), (142, 35210), (145, 35234), (147, 35252), (151, 35273), (152, 35276), (153, 35279), (155, 35303), (163, 35354), (164, 35357), (177, 35417), (186, 35453), (193, 35474),

Gene: Majeke_34 Start: 27977, Stop: 28843, Start Num: 31

Candidate Starts for Majeke_34:

(Start: 31 @27977 has 49 MA's), (56, 28058), (60, 28082), (62, 28091), (68, 28139), (99, 28247), (100, 28262), (116, 28373), (147, 28556), (156, 28610), (175, 28739), (185, 28781), (199, 28829),

Gene: Malachai_44 Start: 35305, Stop: 36069, Start Num: 46

Candidate Starts for Malachai_44:

(13, 35065), (18, 35119), (23, 35164), (30, 35230), (Start: 46 @35305 has 17 MA's), (55, 35320), (Start: 63 @35359 has 1 MA's), (73, 35416), (93, 35494), (97, 35506), (100, 35527), (113, 35596), (130, 35692), (145, 35782), (174, 35974),

Gene: Malithi_34 Start: 27862, Stop: 28728, Start Num: 31

Candidate Starts for Malithi_34:

(Start: 31 @27862 has 49 MA's), (56, 27943), (60, 27967), (62, 27976), (64, 28003), (68, 28024), (99, 28132), (100, 28147), (116, 28258), (147, 28441), (156, 28495), (185, 28666), (199, 28714),

Gene: Mangethe_34 Start: 27977, Stop: 28843, Start Num: 31

Candidate Starts for Mangethe_34:

(Start: 31 @27977 has 49 MA's), (56, 28058), (60, 28082), (62, 28091), (68, 28139), (99, 28247), (100, 28262), (116, 28373), (147, 28556), (156, 28610), (175, 28739), (185, 28781), (199, 28829),

Gene: Megiddo_34 Start: 28196, Stop: 29059, Start Num: 31

Candidate Starts for Megiddo_34:

(Start: 31 @28196 has 49 MA's), (56, 28277), (60, 28301), (62, 28310), (68, 28358), (79, 28382), (99, 28463), (100, 28478), (116, 28589), (147, 28772), (156, 28826), (175, 28955), (185, 28997), (199, 29045),

Gene: Mellie_43 Start: 33024, Stop: 33788, Start Num: 46

Candidate Starts for Mellie_43:

(11, 32739), (18, 32838), (30, 32949), (Start: 46 @33024 has 17 MA's), (68, 33123), (99, 33231), (100, 33246), (113, 33315), (130, 33411), (145, 33501), (147, 33519), (174, 33693),

Gene: Min1_10 Start: 3743, Stop: 4495, Start Num: 54

Candidate Starts for Min1_10:

(37, 3686), (52, 3734), (54, 3743), (56, 3749), (60, 3773), (64, 3809), (83, 3881), (98, 3935), (129, 4118), (148, 4235), (164, 4346), (178, 4418), (189, 4466),

Gene: MissRona_47 Start: 35196, Stop: 35957, Start Num: 46

Candidate Starts for MissRona_47:

(Start: 46 @35196 has 17 MA's), (55, 35211), (75, 35313), (87, 35346), (96, 35391), (99, 35400), (100, 35415), (113, 35484), (130, 35580), (145, 35670), (174, 35862),

Gene: MortyNRick_52 Start: 37928, Stop: 38608, Start Num: 63

Candidate Starts for MortyNRick_52:

(Start: 45 @37859 has 8 MA's), (62, 37925), (Start: 63 @37928 has 1 MA's), (68, 37973), (86, 38024), (91, 38042), (100, 38093), (123, 38231), (141, 38309), (161, 38453), (177, 38546),

Gene: Murp_47 Start: 36766, Stop: 37527, Start Num: 46

Candidate Starts for Murp_47:

(30, 36691), (Start: 46 @36766 has 17 MA's), (55, 36781), (74, 36880), (77, 36892), (91, 36934), (96, 36961), (112, 37042), (113, 37054), (130, 37150), (145, 37240), (155, 37306), (174, 37432),

Gene: Nazo_38 Start: 30066, Stop: 30869, Start Num: 35

Candidate Starts for Nazo_38:

(Start: 35 @30066 has 4 MA's), (Start: 63 @30168 has 1 MA's), (67, 30204), (113, 30396), (128, 30492), (142, 30576), (152, 30642), (153, 30645), (155, 30669), (164, 30723), (173, 30762), (177, 30783), (179, 30786), (195, 30855),

Gene: Necropolis_34 Start: 27936, Stop: 28802, Start Num: 31

Candidate Starts for Necropolis_34:

(Start: 31 @27936 has 49 MA's), (56, 28017), (60, 28041), (62, 28050), (68, 28098), (99, 28206), (100, 28221), (116, 28332), (147, 28515), (156, 28569), (175, 28698), (185, 28740), (199, 28788),

Gene: Oregano_48 Start: 33939, Stop: 34688, Start Num: 45

Candidate Starts for Oregano_48:

(20, 33786), (33, 33894), (Start: 45 @33939 has 8 MA's), (55, 33969), (60, 33996), (62, 34005), (90, 34122), (96, 34149), (100, 34173), (105, 34188), (110, 34218), (122, 34308), (123, 34311), (161, 34533),

Gene: P1201_08 Start: 2597, Stop: 3520, Start Num: 25

Candidate Starts for P1201_08:

(25, 2597), (26, 2600), (32, 2642), (44, 2690), (62, 2765), (67, 2804), (70, 2816), (89, 2882), (96, 2924), (101, 2957), (113, 3017), (137, 3185), (150, 3263), (170, 3398), (184, 3473), (194, 3509), (196, 3512),

Gene: PeanutPie_34 Start: 27935, Stop: 28798, Start Num: 31

Candidate Starts for PeanutPie_34:

(Start: 31 @27935 has 49 MA's), (56, 28016), (60, 28040), (62, 28049), (68, 28097), (96, 28193), (99, 28202), (100, 28217), (116, 28328), (147, 28511), (156, 28565), (175, 28694), (185, 28736), (199, 28784),

Gene: Pepperoni_38 Start: 29786, Stop: 30508, Start Num: 54

Candidate Starts for Pepperoni_38:

(Start: 45 @29759 has 8 MA's), (54, 29786), (55, 29789), (Start: 63 @29828 has 1 MA's), (68, 29873), (86, 29924), (91, 29942), (100, 29993), (123, 30131), (135, 30182), (161, 30353),

Gene: Phalm_34 Start: 28196, Stop: 29059, Start Num: 31

Candidate Starts for Phalm_34:

(Start: 31 @28196 has 49 MA's), (56, 28277), (60, 28301), (62, 28310), (68, 28358), (79, 28382), (99, 28463), (100, 28478), (116, 28589), (147, 28772), (156, 28826), (175, 28955), (185, 28997), (199, 29045),

Gene: Phayonce_36 Start: 29962, Stop: 30771, Start Num: 35

Candidate Starts for Phayonce_36:

(Start: 35 @29962 has 4 MA's), (60, 30052), (61, 30058), (113, 30298), (128, 30394), (142, 30478), (152, 30544), (153, 30547), (155, 30571), (173, 30664), (177, 30685), (195, 30757),

Gene: Phegasus_34 Start: 27944, Stop: 28810, Start Num: 31

Candidate Starts for Phegasus_34:

(Start: 31 @27944 has 49 MA's), (56, 28025), (60, 28049), (62, 28058), (68, 28106), (99, 28214), (100, 28229), (116, 28340), (147, 28523), (156, 28577), (175, 28706), (185, 28748), (199, 28796),

Gene: Phineas_34 Start: 28307, Stop: 29173, Start Num: 31

Candidate Starts for Phineas_34:

(Start: 31 @28307 has 49 MA's), (56, 28388), (60, 28412), (62, 28421), (68, 28469), (99, 28577), (100, 28592), (116, 28703), (147, 28886), (156, 28940), (175, 29069), (185, 29111), (199, 29159),

Gene: Phistory_58 Start: 36964, Stop: 37761, Start Num: 41

Candidate Starts for Phistory_58:

(Start: 41 @36964 has 1 MA's), (55, 36991), (68, 37075), (77, 37111), (82, 37132), (85, 37138), (95, 37192), (100, 37219), (113, 37288), (127, 37357), (130, 37390), (167, 37633), (174, 37675), (185, 37720),

Gene: PhorbesPhlower_43 Start: 29950, Stop: 30699, Start Num: 45

Candidate Starts for PhorbesPhlower_43:

(Start: 45 @29950 has 8 MA's), (54, 29977), (55, 29980), (Start: 63 @30019 has 1 MA's), (68, 30064), (86, 30115), (91, 30133), (100, 30184), (123, 30322), (135, 30373), (161, 30544),

Gene: PhriskyACE_45 Start: 34290, Stop: 35057, Start Num: 43

Candidate Starts for PhriskyACE_45:

(Start: 43 @34290 has 13 MA's), (54, 34317), (55, 34320), (60, 34347), (68, 34404), (75, 34422), (99, 34512), (100, 34527), (103, 34539), (122, 34650), (142, 34764), (145, 34788), (147, 34806), (151, 34827), (152, 34830), (153, 34833), (155, 34857), (163, 34908), (164, 34911),

Gene: Pippy_45 Start: 33164, Stop: 33943, Start Num: 43

Candidate Starts for Pippy_45:

(Start: 36 @33134 has 1 MA's), (Start: 43 @33164 has 13 MA's), (54, 33188), (55, 33191), (62, 33227), (Start: 63 @33230 has 1 MA's), (68, 33275), (99, 33383), (100, 33398), (113, 33467), (119, 33515), (142, 33632), (153, 33683), (164, 33779), (184, 33884), (187, 33890), (199, 33932), (201, 33938),

Gene: Polkaroo_34 Start: 27953, Stop: 28816, Start Num: 31

Candidate Starts for Polkaroo_34:

(Start: 31 @27953 has 49 MA's), (56, 28034), (60, 28058), (62, 28067), (68, 28115), (79, 28139), (99, 28220), (100, 28235), (116, 28346), (147, 28529), (156, 28583), (175, 28712), (185, 28754), (199, 28802),

Gene: Purky_41 Start: 30689, Stop: 31480, Start Num: 35

Candidate Starts for Purky_41:

(Start: 35 @30689 has 4 MA's), (Start: 63 @30788 has 1 MA's), (67, 30824), (96, 30923), (113, 31016), (142, 31196), (147, 31238), (152, 31262), (153, 31265), (155, 31289), (163, 31340), (164, 31343), (173, 31382), (177, 31403), (190, 31454),

Gene: Pygmy_36 Start: 29778, Stop: 30644, Start Num: 31

Candidate Starts for Pygmy_36:

(Start: 31 @29778 has 49 MA's), (56, 29859), (60, 29883), (62, 29892), (64, 29919), (68, 29940), (99, 30048), (100, 30063), (116, 30174), (147, 30357), (156, 30411), (185, 30582), (199, 30630),

Gene: QueenHazel_32 Start: 27811, Stop: 28680, Start Num: 31

Candidate Starts for QueenHazel_32:

(Start: 31 @27811 has 49 MA's), (60, 27919), (62, 27928), (68, 27976), (99, 28084), (100, 28099), (116, 28210), (147, 28393), (156, 28447), (175, 28576), (185, 28618), (199, 28666),

Gene: Quico_55 Start: 35977, Stop: 36771, Start Num: 43

Candidate Starts for Quico_55:

(Start: 43 @35977 has 13 MA's), (55, 36019), (62, 36055), (Start: 63 @36058 has 1 MA's), (67, 36094), (84, 36154), (99, 36211), (100, 36226), (113, 36295), (119, 36343), (142, 36460), (153, 36511), (164, 36607), (184, 36712), (187, 36718), (199, 36760), (201, 36766),

Gene: REQ2_43 Start: 33255, Stop: 34112, Start Num: 31

Candidate Starts for REQ2_43:

(Start: 31 @33255 has 49 MA's), (49, 33318), (52, 33324), (59, 33360), (100, 33540), (108, 33576), (113, 33633), (122, 33699), (142, 33783), (182, 34029), (183, 34032),

Gene: Samba_44 Start: 35414, Stop: 36175, Start Num: 46

Candidate Starts for Samba_44:

(18, 35228), (30, 35339), (Start: 46 @35414 has 17 MA's), (55, 35429), (64, 35492), (87, 35564), (96, 35609), (99, 35618), (100, 35633), (113, 35702), (130, 35798), (145, 35888), (174, 36080),

Gene: Shipwreck_36 Start: 29753, Stop: 30619, Start Num: 31

Candidate Starts for Shipwreck_36:

(Start: 31 @29753 has 49 MA's), (56, 29834), (60, 29858), (62, 29867), (64, 29894), (68, 29915), (99, 30023), (100, 30038), (116, 30149), (147, 30332), (156, 30386), (185, 30557), (199, 30605),

Gene: Sonah_34 Start: 27925, Stop: 28791, Start Num: 31

Candidate Starts for Sonah_34:

(Start: 31 @27925 has 49 MA's), (56, 28006), (60, 28030), (62, 28039), (64, 28066), (68, 28087), (99, 28195), (100, 28210), (116, 28321), (147, 28504), (156, 28558), (175, 28687), (185, 28729), (199, 28777),

Gene: Sprinklemunch_54 Start: 39274, Stop: 40071, Start Num: 39

Candidate Starts for Sprinklemunch_54:

(39, 39274), (42, 39286), (64, 39388), (92, 39499), (107, 39568), (122, 39664), (133, 39736), (137, 39757), (142, 39778), (145, 39802), (147, 39820), (152, 39844), (153, 39847), (155, 39871), (163, 39922), (164, 39925), (169, 39940), (173, 39964),

Gene: Squirty_40 Start: 32337, Stop: 33116, Start Num: 43

Candidate Starts for Squirty_40:

(Start: 36 @32307 has 1 MA's), (Start: 43 @32337 has 13 MA's), (54, 32361), (55, 32364), (62, 32400), (Start: 63 @32403 has 1 MA's), (68, 32448), (99, 32556), (100, 32571), (113, 32640), (119, 32688), (142, 32805), (153, 32856), (164, 32952), (184, 33057), (187, 33063), (199, 33105), (201, 33111),

Gene: StevieRay_34 Start: 27895, Stop: 28758, Start Num: 31

Candidate Starts for StevieRay_34:

(Start: 31 @27895 has 49 MA's), (60, 28000), (62, 28009), (68, 28057), (79, 28081), (99, 28162), (100, 28177), (116, 28288), (147, 28471), (156, 28525), (175, 28654), (185, 28696), (199, 28744),

Gene: StressBall_34 Start: 28196, Stop: 29059, Start Num: 31

Candidate Starts for StressBall_34:

(Start: 31 @28196 has 49 MA's), (56, 28277), (60, 28301), (62, 28310), (68, 28358), (79, 28382), (99, 28463), (100, 28478), (116, 28589), (147, 28772), (156, 28826), (175, 28955), (185, 28997), (199, 29045),

Gene: Techage_34 Start: 27962, Stop: 28828, Start Num: 31

Candidate Starts for Techage_34:

(Start: 31 @27962 has 49 MA's), (56, 28043), (60, 28067), (62, 28076), (68, 28124), (99, 28232), (100, 28247), (101, 28256), (116, 28358), (147, 28541), (156, 28595), (175, 28724), (185, 28766), (199, 28814),

Gene: Thespis_34 Start: 27932, Stop: 28798, Start Num: 31

Candidate Starts for Thespis_34:

(Start: 31 @27932 has 49 MA's), (56, 28013), (60, 28037), (62, 28046), (64, 28073), (68, 28094), (99, 28202), (100, 28217), (116, 28328), (147, 28511), (156, 28565), (175, 28694), (185, 28736), (199, 28784),

Gene: Utz_39 Start: 34104, Stop: 34865, Start Num: 46

Candidate Starts for Utz_39:

(18, 33918), (30, 34029), (Start: 46 @34104 has 17 MA's), (55, 34119), (64, 34182), (87, 34254), (96, 34299), (99, 34308), (100, 34323), (113, 34392), (130, 34488), (145, 34578), (174, 34770),

Gene: Venti_34 Start: 27939, Stop: 28805, Start Num: 31

Candidate Starts for Venti_34:

(Start: 31 @27939 has 49 MA's), (56, 28020), (60, 28044), (62, 28053), (68, 28101), (99, 28209), (100, 28224), (116, 28335), (147, 28518), (156, 28572), (175, 28701), (185, 28743), (199, 28791),

Gene: Vidya_34 Start: 27972, Stop: 28838, Start Num: 31

Candidate Starts for Vidya_34:

(Start: 31 @27972 has 49 MA's), (56, 28053), (60, 28077), (62, 28086), (68, 28134), (99, 28242), (100, 28257), (116, 28368), (147, 28551), (156, 28605), (175, 28734), (185, 28776), (199, 28824),

Gene: Willsammy_33 Start: 27679, Stop: 28542, Start Num: 31

Candidate Starts for Willsammy_33:

(Start: 31 @27679 has 49 MA's), (56, 27760), (60, 27784), (62, 27793), (68, 27841), (79, 27865), (99, 27946), (100, 27961), (116, 28072), (147, 28255), (156, 28309), (175, 28438), (185, 28480), (199, 28528),

Gene: WinkNick_49 Start: 34309, Stop: 35058, Start Num: 45

Candidate Starts for WinkNick_49:

(1, 33670), (2, 33724), (3, 33757), (4, 33796), (5, 33817), (6, 33850), (7, 33862), (9, 33985), (10, 34006), (19, 34153), (Start: 45 @34309 has 8 MA's), (55, 34339), (60, 34366), (62, 34375), (90, 34492), (96, 34519), (100, 34543), (105, 34558), (110, 34588), (122, 34678), (123, 34681), (161,

34903),

Gene: Wisp_43 Start: 34155, Stop: 34916, Start Num: 46

Candidate Starts for Wisp_43:

(13, 33915), (18, 33969), (30, 34080), (Start: 46 @34155 has 17 MA's), (55, 34170), (74, 34269), (77, 34281), (91, 34323), (96, 34350), (113, 34443), (130, 34539), (145, 34629), (174, 34821), (185, 34866),

Gene: Wocket_45 Start: 33305, Stop: 34066, Start Num: 46

Candidate Starts for Wocket_45:

(15, 33104), (30, 33230), (Start: 46 @33305 has 17 MA's), (55, 33320), (74, 33419), (77, 33431), (91, 33473), (96, 33500), (112, 33581), (113, 33593), (130, 33689), (145, 33779), (155, 33845), (174, 33971), (185, 34016),

Gene: Wrigley_52 Start: 36935, Stop: 37699, Start Num: 43

Candidate Starts for Wrigley_52:

(Start: 43 @36935 has 13 MA's), (54, 36962), (55, 36965), (62, 37001), (74, 37064), (76, 37076), (89, 37118), (96, 37145), (113, 37238), (122, 37292), (142, 37406), (145, 37430), (147, 37448), (151, 37469), (152, 37472), (153, 37475), (155, 37499), (163, 37550), (164, 37553), (177, 37613),

Gene: Xula_31 Start: 27335, Stop: 28204, Start Num: 31

Candidate Starts for Xula_31:

(Start: 31 @27335 has 49 MA's), (60, 27443), (62, 27452), (68, 27500), (99, 27608), (100, 27623), (116, 27734), (147, 27917), (156, 27971), (175, 28100), (185, 28142), (199, 28190),

Gene: YungMoney_53 Start: 42952, Stop: 43722, Start Num: 47

Candidate Starts for YungMoney_53:

(Start: 47 @42952 has 1 MA's), (52, 42964), (55, 42976), (68, 43057), (94, 43147), (97, 43159), (100, 43180), (101, 43189), (113, 43249), (124, 43321), (130, 43342), (136, 43369), (154, 43465), (159, 43516), (162, 43537), (166, 43564), (170, 43579), (197, 43699),

Gene: ZiggyZoo_46 Start: 35375, Stop: 36136, Start Num: 46

Candidate Starts for ZiggyZoo_46:

(11, 35090), (18, 35189), (Start: 46 @35375 has 17 MA's), (55, 35390), (74, 35489), (77, 35501), (91, 35543), (96, 35570), (113, 35663), (130, 35759), (145, 35849), (174, 36041),

Gene: Zilizabeth_34 Start: 27971, Stop: 28837, Start Num: 31

Candidate Starts for Zilizabeth_34:

(Start: 31 @27971 has 49 MA's), (56, 28052), (60, 28076), (62, 28085), (68, 28133), (99, 28241), (100, 28256), (116, 28367), (147, 28550), (156, 28604), (175, 28733), (185, 28775), (199, 28823),

Gene: Zizzle_51 Start: 36006, Stop: 36785, Start Num: 43

Candidate Starts for Zizzle_51:

(Start: 36 @35976 has 1 MA's), (Start: 43 @36006 has 13 MA's), (54, 36030), (55, 36033), (62, 36069), (Start: 63 @36072 has 1 MA's), (68, 36117), (99, 36225), (100, 36240), (113, 36309), (119, 36357), (142, 36474), (153, 36525), (164, 36621), (184, 36726), (187, 36732), (199, 36774), (201, 36780),