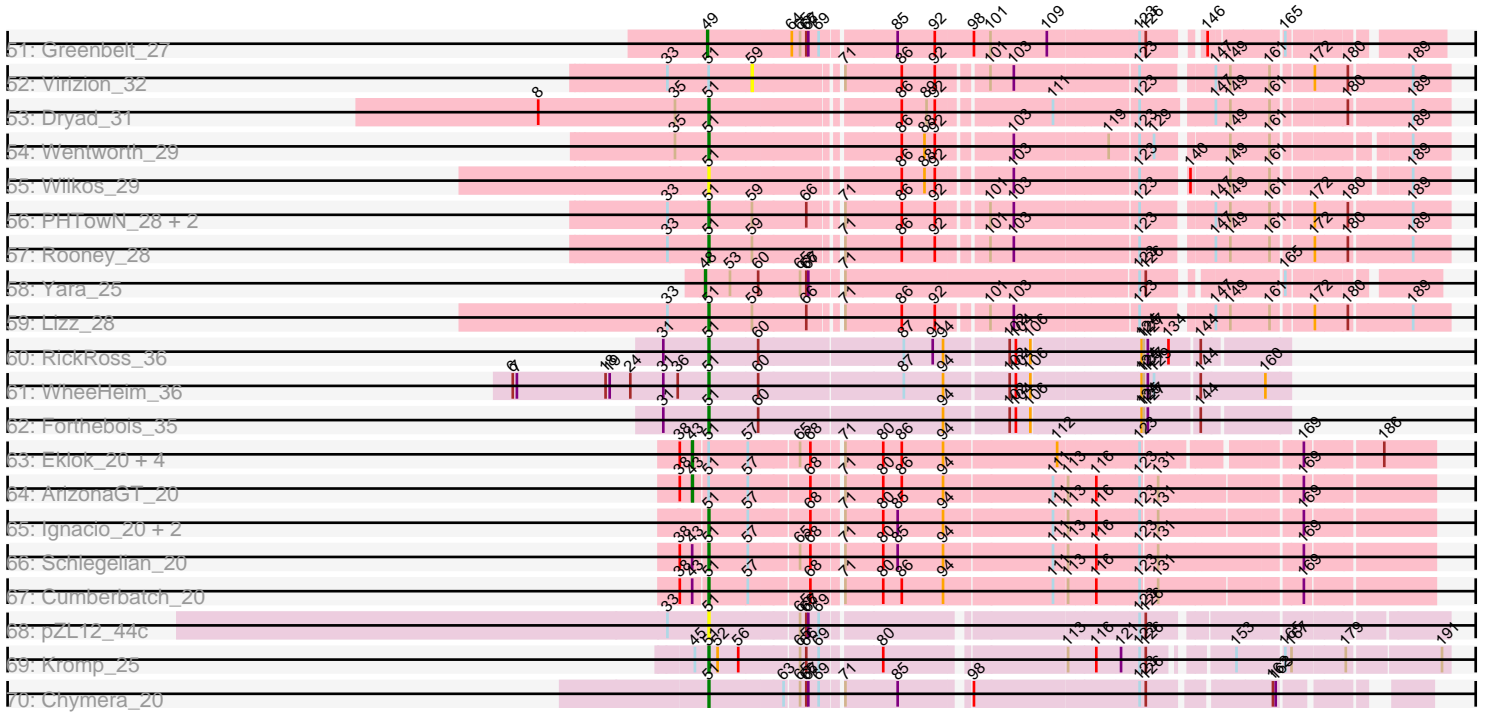


Pham 304804



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 304804 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304804 has 131 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Galaxy_24
- Track 2 : Antrice_23
- Track 3 : SPB78_22
- Track 4 : SV1_21
- Track 5 : PapayaSalad_21, Bioscum_21, Austintatious_21, Ididsumtinwong_21, Lishka_21
- Track 6 : Amethyst_26
- Track 7 : Diane_26
- Track 8 : Haizum_26, Nishikigoi_26
- Track 9 : Tefunt_26
- Track 10 : Yosif_28
- Track 11 : LilSaint_43
- Track 12 : Bmoc_42
- Track 13 : Angela_41, MulchMansion_41, LilMartin_41
- Track 14 : Mildred21_42
- Track 15 : Marsus_41
- Track 16 : Cadmus_42, Daubenski_45
- Track 17 : Riptide_41
- Track 18 : Anedea_41
- Track 19 : SaltySpittoon_46
- Track 20 : Spilled_46, CeilingFan_45, Jollison_45, Karimac_45, Brizzy_45, TomSawyer_44, Rikishi_46, Gibbi_49, AcciDwight_50, Wipeout_44, JimJam_46, Bordeaux_44, Birchlyn_43, KentuckyRacer_46, Amabiko_46, MindFlayer_44, Spelly_46, Quarant19_46, IchabodCrane_43, PumpkinSpice_45, Battuta_44, Starbow_44
- Track 21 : AngryGiraffe_45, Stanimal_46, Genie2_46, Sollertia_46, BoomerJR_46, Yaboi_46
- Track 22 : Wofford_44, Elmer_48
- Track 23 : LukeCage_45
- Track 24 : StarPlatinum_45
- Track 25 : Tomas_47
- Track 26 : Dennebes_2, Rideau_3
- Track 27 : RosePharie_2
- Track 28 : Xkcd426_33
- Track 29 : Mischief19_36
- Track 30 : Maupel_25, MeganTheeKilla_23, Gilson_25, DeluluLabubu_23, Forrest_25, Jada_23, Emma1919_25

- Track 31 : SparkleGoddess_22
- Track 32 : TunaTartare_20
- Track 33 : Francob_21
- Track 34 : Comrade_22, Karp_21, Belfort_23, Stigma_22, Westy_22
- Track 35 : Limpid_21, Annadreamy_21
- Track 36 : Faust_21, SeresaTree_21
- Track 37 : Blueeyedbeauty_23
- Track 38 : Phredrick_23, Kenrey_25
- Track 39 : Beuffert_20
- Track 40 : Moab_22
- Track 41 : Sham_19
- Track 42 : Patelgo_22
- Track 43 : Muntaha_17, Wakanda_17
- Track 44 : Frankenweenie_128
- Track 45 : EhyElimayoE_119
- Track 46 : JustBecause_116
- Track 47 : Kradal_118, Satis_118, Quantum_117, Sarkar_126
- Track 48 : Nirvana_123
- Track 49 : Kela_117
- Track 50 : SassyC_30
- Track 51 : Greenbelt_27
- Track 52 : Virizion_32
- Track 53 : Dryad_31
- Track 54 : Wentworth_29
- Track 55 : Wilkos_29
- Track 56 : PHTowN_28, Gibson_28, ShakeNBake_28
- Track 57 : Rooney_28
- Track 58 : Yara_25
- Track 59 : Lizz_28
- Track 60 : RickRoss_36
- Track 61 : WheeHeim_36
- Track 62 : Forthebois_35
- Track 63 : Eklok_20, AxeJC_20, FrumpyGal_20, Piccadilly_20, Eastland_20
- Track 64 : ArizonaGT_20
- Track 65 : Ignacio_20, Vondra_20, HFrancette_20
- Track 66 : Schlegelian_20
- Track 67 : Cumberbatch_20
- Track 68 : pZL12_44c
- Track 69 : Kromp_25
- Track 70 : Chymera_20

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

The start number called the most often in the published annotations is 51, it was called in 88 of the 120 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AcciDwight_50, Amabiko_46, Anedea_41, Angela_41, Annadreamy_21, Austintatious_21, Battuta_44, Belfort_23, Beuffert_20, Bioscum_21, Birchlyn_43, Blueeyedbeauty_23, Bmoc_42, Bordeaux_44, Brizzy_45, CeilingFan_45,

Chymera_20, Comrade_22, Cumberbatch_20, DeluluLabubu_23, Dryad_31, EhyElimayoE_119, Emma1919_25, Faust_21, Forrest_25, Forthebois_35, Francob_21, Frankenweenie_128, Gibbi_49, Gibson_28, Gilson_25, HFrancette_20, IChabodCrane_43, Ididsumtinwong_21, Ignacio_20, Jada_23, JimJam_46, Jollison_45, JustBecause_116, Karimac_45, Karp_21, Kela_117, Kenrey_25, KentuckyRacer_46, Kradal_118, Kromp_25, LilMartin_41, Limpid_21, Lishka_21, Lizz_28, LukeCage_45, Marsus_41, Maupel_25, MeganTheeKilla_23, Mildred21_42, MindFlayer_44, Mischief19_36, Moab_22, MulchMansion_41, Muntaha_17, Nirvana_123, PHTowN_28, PapayaSalad_21, Patelgo_22, Phredrick_23, PumpkinSpice_45, Quantum_117, Quarant19_46, RickRoss_36, Rikishi_46, Rooney_28, RosePharie_2, SPB78_22, SV1_21, SaltySpittoon_46, Sarkar_126, SassyC_30, Satis_118, Schlegelian_20, SeresaTree_21, ShakeNBake_28, SparkleGoddess_22, Spelly_46, Spilled_46, StarPlatinum_45, Starbow_44, Stigma_22, TomSawyer_44, Vondra_20, Wakanda_17, Wentworth_29, Westy_22, WheeHeim_36, Wilkos_29, Wipeout_44, Xkcd426_33, pZL12_44c,

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

- ArizonaGT_20, AxeJC_20, Eastland_20, Eklok_20, FrumpyGal_20, LilSaint_43, Piccadilly_20, Riptide_41, Tomas_47, Virizion_32,

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

- Amethyst_26, AngryGiraffe_45, Antrice_23, BoomerJR_46, Cadmus_42, Daubenski_45, Dennebes_2, Diane_26, Elmer_48, Galaxy_24, Genie2_46, Greenbelt_27, Haizum_26, Nishikigoi_26, Rideau_3, Sham_19, Sollertia_46, Stanimal_46, Tefunt_26, TunaTartare_20, Wofford_44, Yaboi_46, Yara_25, Yosif_28,

Summary by start number:

Start 43:

- Found in 9 of 131 (6.9%) of genes in pham
- Manual Annotations of this start: 6 of 120
- Called 66.7% of time when present
- Phage (with cluster) where this start called: ArizonaGT_20 (BP), AxeJC_20 (BP), Eastland_20 (BP), Eklok_20 (BP), FrumpyGal_20 (BP), Piccadilly_20 (BP),

Start 47:

- Found in 17 of 131 (13.0%) of genes in pham
- Manual Annotations of this start: 3 of 120
- Called 17.6% of time when present
- Phage (with cluster) where this start called: LilSaint_43 (BE1), Riptide_41 (BE1), Tomas_47 (BE2),

Start 48:

- Found in 6 of 131 (4.6%) of genes in pham
- Manual Annotations of this start: 6 of 120
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amethyst_26 (BD2), Diane_26 (BD2), Haizum_26 (BD2), Nishikigoi_26 (BD2), Tefunt_26 (BD2), Yara_25 (BN),

Start 49:

- Found in 4 of 131 (3.1%) of genes in pham
- Manual Annotations of this start: 3 of 120
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Dennebes_2 (BF), Greenbelt_27 (BN), Rideau_3 (BF), Yosif_28 (BD3),

Start 50:

- Found in 4 of 131 (3.1%) of genes in pham
- Manual Annotations of this start: 4 of 120
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Elmer_48 (BE2), Sham_19 (BK1), TunaTartare_20 (BK1), Wofford_44 (BE2),

Start 51:

- Found in 107 of 131 (81.7%) of genes in pham
- Manual Annotations of this start: 88 of 120
- Called 90.7% of time when present
- Phage (with cluster) where this start called: Accidwight_50 (BE2), Amabiko_46 (BE2), Anedea_41 (BE1), Angela_41 (BE1), Annadreamy_21 (BK1), Austintatious_21 (BC3), Battuta_44 (BE2), Belfort_23 (BK1), Beuffert_20 (BK1), Bioscum_21 (BC3), Birchlyn_43 (BE2), Blueeyedbeauty_23 (BK1), Bmoc_42 (BE1), Bordeaux_44 (BE2), Brizzy_45 (BE2), CeilingFan_45 (BE2), Chymera_20 (singleton), Comrade_22 (BK1), Cumberbatch_20 (BP), DeluluLabubu_23 (BK1), Dryad_31 (BN), EhyElimayoE_119 (BM), Emma1919_25 (BK1), Faust_21 (BK1), Forrest_25 (BK1), Forthebois_35 (BO), Francob_21 (BK1), Frankenweenie_128 (BM), Gibbi_49 (BE2), Gibson_28 (BN), Gilson_25 (BK1), HFrancette_20 (BP), IchabodCrane_43 (BE2), Ididsumtinwong_21 (BC3), Ignacio_20 (BP), Jada_23 (BK1), JimJam_46 (BE2), Jollison_45 (BE2), JustBecause_116 (BM), Karimac_45 (BE2), Karp_21 (BK1), Kela_117 (BM), Kenrey_25 (BK1), KentuckyRacer_46 (BE2), Kradal_118 (BM), Kromp_25 (singleton), LilMartin_41 (BE1), Limpid_21 (BK1), Lishka_21 (BC3), Lizz_28 (BN), LukeCage_45 (BE2), Marsus_41 (BE1), Maupel_25 (BK1), MeganTheeKilla_23 (BK1), Mildred21_42 (BE1), MindFlayer_44 (BE2), Mischief19_36 (BG), Moab_22 (BK1), MulchMansion_41 (BE1), Muntaha_17 (BK2), Nirvana_123 (BM), PHTown_28 (BN), PapayaSalad_21 (BC3), Patelgo_22 (BK1), Phredrick_23 (BK1), PumpkinSpice_45 (BE2), Quantum_117 (BM), Quarant19_46 (BE2), RickRoss_36 (BO), Rikishi_46 (BE2), Rooney_28 (BN), RosePharie_2 (BF), SPB78_22 (BA), SV1_21 (BC1), SaltySpittoon_46 (BE2), Sarkar_126 (BM), SassyC_30 (BN), Satis_118 (BM), Schlegelian_20 (BP), SeresaTree_21 (BK1), ShakeNBake_28 (BN), SparkleGoddess_22 (BK1), Spelly_46 (BE2), Spilled_46 (BE2), StarPlatinum_45 (BE2), Starbow_44 (BE2), Stigma_22 (BK1), TomSawyer_44 (BE2), Vondra_20 (BP), Wakanda_17 (BK2), Wentworth_29 (BN), Westy_22 (BK1), WheeHeim_36 (BO), Wilkos_29 (BN), Wipeout_44 (BE2), Xkcd426_33 (BG), pZL12_44c (singleton),

Start 52:

- Found in 92 of 131 (70.2%) of genes in pham
- Manual Annotations of this start: 8 of 120
- Called 8.7% of time when present
- Phage (with cluster) where this start called: AngryGiraffe_45 (BE2), BoomerJR_46 (BE2), Cadmus_42 (BE1), Daubenski_45 (BE1), Genie2_46 (BE2), Sollertia_46 (BE2), Stanimal_46 (BE2), Yaboi_46 (BE2),

Start 58:

- Found in 2 of 131 (1.5%) of genes in pham
- Manual Annotations of this start: 2 of 120
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antrice_23 (AS2), Galaxy_24 (AS1),

Start 59:

- Found in 6 of 131 (4.6%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Virizion_32 (BN),

Summary by clusters:

There are 18 clusters represented in this pham: AS2, singleton, BG, BA, BM, BN, BO, BK2, AS1, BF, BP, BK1, BD3, BD2, BE2, BE1, BC1, BC3,

Info for manual annotations of cluster AS1:

- Start number 58 was manually annotated 1 time for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 58 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster BC1:

- Start number 51 was manually annotated 1 time for cluster BC1.

Info for manual annotations of cluster BC3:

- Start number 51 was manually annotated 5 times for cluster BC3.

Info for manual annotations of cluster BD2:

- Start number 48 was manually annotated 5 times for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 49 was manually annotated 1 time for cluster BD3.

Info for manual annotations of cluster BE1:

- Start number 47 was manually annotated 2 times for cluster BE1.
- Start number 51 was manually annotated 7 times for cluster BE1.
- Start number 52 was manually annotated 2 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 47 was manually annotated 1 time for cluster BE2.
- Start number 50 was manually annotated 2 times for cluster BE2.
- Start number 51 was manually annotated 23 times for cluster BE2.
- Start number 52 was manually annotated 6 times for cluster BE2.

Info for manual annotations of cluster BF:

- Start number 49 was manually annotated 1 time for cluster BF.
- Start number 51 was manually annotated 1 time for cluster BF.

Info for manual annotations of cluster BG:

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

Info for manual annotations of cluster BK1:

- Start number 50 was manually annotated 2 times for cluster BK1.
- Start number 51 was manually annotated 22 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 51 was manually annotated 2 times for cluster BK2.

Info for manual annotations of cluster BM:

- Start number 51 was manually annotated 8 times for cluster BM.

Info for manual annotations of cluster BN:

- Start number 48 was manually annotated 1 time for cluster BN.
- Start number 49 was manually annotated 1 time for cluster BN.
- Start number 51 was manually annotated 7 times for cluster BN.

Info for manual annotations of cluster BO:

- Start number 51 was manually annotated 3 times for cluster BO.

Info for manual annotations of cluster BP:

- Start number 43 was manually annotated 6 times for cluster BP.
- Start number 51 was manually annotated 5 times for cluster BP.

Gene Information:

Gene: AcciDwight_50 Start: 21515, Stop: 22396, Start Num: 51

Candidate Starts for AcciDwight_50:

(Start: 51 @21515 has 88 MA's), (Start: 52 @21527 has 8 MA's), (53, 21545), (65, 21635), (70, 21671), (101, 21899), (104, 21935), (106, 21956), (125, 22097), (127, 22103), (178, 22214), (185, 22259), (190, 22313),

Gene: Amabiko_46 Start: 21560, Stop: 22441, Start Num: 51

Candidate Starts for Amabiko_46:

(Start: 51 @21560 has 88 MA's), (Start: 52 @21572 has 8 MA's), (53, 21590), (65, 21680), (70, 21716), (101, 21944), (104, 21980), (106, 22001), (125, 22142), (127, 22148), (178, 22259), (185, 22304), (190, 22358),

Gene: Amethyst_26 Start: 21581, Stop: 22531, Start Num: 48

Candidate Starts for Amethyst_26:

(23, 21512), (Start: 48 @21581 has 6 MA's), (Start: 52 @21593 has 8 MA's), (67, 21722), (86, 21833), (94, 21893), (101, 21941), (111, 22031), (128, 22154), (130, 22163), (145, 22208), (159, 22280),

Gene: Anedea_41 Start: 20439, Stop: 21461, Start Num: 51

Candidate Starts for Anedea_41:

(Start: 47 @20430 has 3 MA's), (Start: 51 @20439 has 88 MA's), (Start: 52 @20451 has 8 MA's), (67, 20571), (106, 20856), (124, 20997), (125, 21000), (127, 21006), (161, 21168), (178, 21270), (190, 21369),

Gene: Angela_41 Start: 20420, Stop: 21442, Start Num: 51

Candidate Starts for Angela_41:

(Start: 47 @20411 has 3 MA's), (Start: 51 @20420 has 88 MA's), (Start: 52 @20432 has 8 MA's), (67, 20552), (106, 20837), (124, 20978), (125, 20981), (127, 20987), (135, 21020), (178, 21251), (190, 21350),

Gene: AngryGiraffe_45 Start: 21514, Stop: 22407, Start Num: 52

Candidate Starts for AngryGiraffe_45:

(Start: 47 @21493 has 3 MA's), (Start: 52 @21514 has 8 MA's), (63, 21604), (67, 21634), (102, 21889), (106, 21919), (124, 22060), (125, 22063), (127, 22069), (163, 22249),

Gene: Annadreamy_21 Start: 9808, Stop: 10824, Start Num: 51

Candidate Starts for Annadreamy_21:

(46, 9796), (Start: 51 @9808 has 88 MA's), (Start: 52 @9820 has 8 MA's), (63, 9910), (67, 9940), (106, 10225), (124, 10366), (125, 10369), (127, 10375), (160, 10519), (179, 10630), (182, 10660), (193, 10768),

Gene: Antrice_23 Start: 17547, Stop: 18524, Start Num: 58

Candidate Starts for Antrice_23:

(8, 17244), (9, 17247), (11, 17280), (27, 17400), (Start: 58 @17547 has 2 MA's), (61, 17562), (62, 17595), (73, 17676), (79, 17718), (84, 17739), (90, 17787), (96, 17817), (103, 17907), (114, 18006), (120, 18054), (123, 18090), (138, 18147), (142, 18174), (157, 18249), (175, 18366), (186, 18441), (187, 18456),

Gene: ArizonaGT_20 Start: 16980, Stop: 17939, Start Num: 43

Candidate Starts for ArizonaGT_20:

(38, 16962), (Start: 43 @16980 has 6 MA's), (Start: 51 @16995 has 88 MA's), (57, 17049), (68, 17130), (71, 17166), (80, 17220), (86, 17247), (94, 17307), (111, 17457), (113, 17475), (116, 17508), (123, 17562), (131, 17583), (169, 17766),

Gene: Austintatious_21 Start: 16123, Stop: 17064, Start Num: 51

Candidate Starts for Austintatious_21:

(Start: 51 @16123 has 88 MA's), (65, 16243), (68, 16258), (71, 16294), (80, 16348), (85, 16369), (92, 16423), (116, 16618), (123, 16672), (126, 16681),

Gene: AxeJC_20 Start: 16979, Stop: 17923, Start Num: 43

Candidate Starts for AxeJC_20:

(38, 16961), (Start: 43 @16979 has 6 MA's), (Start: 51 @16994 has 88 MA's), (57, 17048), (65, 17114), (68, 17129), (71, 17165), (80, 17219), (86, 17246), (94, 17306), (112, 17462), (123, 17561), (169, 17750), (186, 17849),

Gene: Battuta_44 Start: 21536, Stop: 22417, Start Num: 51

Candidate Starts for Battuta_44:

(Start: 51 @21536 has 88 MA's), (Start: 52 @21548 has 8 MA's), (53, 21566), (65, 21656), (70, 21692), (101, 21920), (104, 21956), (106, 21977), (125, 22118), (127, 22124), (178, 22235), (185, 22280), (190, 22334),

Gene: Belfort_23 Start: 10560, Stop: 11573, Start Num: 51

Candidate Starts for Belfort_23:

(44, 10539), (46, 10548), (Start: 51 @10560 has 88 MA's), (Start: 52 @10572 has 8 MA's), (63, 10662), (67, 10692), (106, 10977), (124, 11118), (125, 11121), (127, 11127), (160, 11271), (161, 11277), (179, 11379), (183, 11418), (190, 11478), (193, 11517),

Gene: Beuffert_20 Start: 9455, Stop: 10507, Start Num: 51

Candidate Starts for Beuffert_20:

(41, 9419), (Start: 51 @9455 has 88 MA's), (Start: 52 @9467 has 8 MA's), (65, 9575), (104, 9875), (106, 9896), (125, 10037), (127, 10043), (151, 10166), (163, 10226), (178, 10313), (193, 10451),

Gene: Bioscum_21 Start: 16159, Stop: 17100, Start Num: 51

Candidate Starts for Bioscum_21:

(Start: 51 @16159 has 88 MA's), (65, 16279), (68, 16294), (71, 16330), (80, 16384), (85, 16405), (92, 16459), (116, 16654), (123, 16708), (126, 16717),

Gene: Birchlyn_43 Start: 19417, Stop: 20298, Start Num: 51

Candidate Starts for Birchlyn_43:

(Start: 51 @19417 has 88 MA's), (Start: 52 @19429 has 8 MA's), (53, 19447), (65, 19537), (70, 19573), (101, 19801), (104, 19837), (106, 19858), (125, 19999), (127, 20005), (178, 20116), (185, 20161), (190, 20215),

Gene: Blueeyedbeauty_23 Start: 10302, Stop: 11318, Start Num: 51

Candidate Starts for Blueeyedbeauty_23:

(40, 10266), (44, 10281), (46, 10290), (Start: 51 @10302 has 88 MA's), (Start: 52 @10314 has 8 MA's), (63, 10404), (67, 10434), (106, 10719), (124, 10860), (125, 10863), (127, 10869), (160, 11013), (171, 11079), (179, 11124),

Gene: Bmoc_42 Start: 20722, Stop: 21744, Start Num: 51

Candidate Starts for Bmoc_42:

(Start: 47 @20713 has 3 MA's), (Start: 51 @20722 has 88 MA's), (Start: 52 @20734 has 8 MA's), (63, 20824), (67, 20854), (88, 21004), (99, 21064), (106, 21139), (124, 21280), (125, 21283), (127, 21289), (129, 21298), (161, 21451), (178, 21553), (190, 21652),

Gene: BoomerJR_46 Start: 21403, Stop: 22296, Start Num: 52

Candidate Starts for BoomerJR_46:

(Start: 47 @21382 has 3 MA's), (Start: 52 @21403 has 8 MA's), (63, 21493), (67, 21523), (102, 21778), (106, 21808), (124, 21949), (125, 21952), (127, 21958), (163, 22138),

Gene: Bordeaux_44 Start: 21689, Stop: 22570, Start Num: 51

Candidate Starts for Bordeaux_44:

(Start: 51 @21689 has 88 MA's), (Start: 52 @21701 has 8 MA's), (53, 21719), (65, 21809), (70, 21845), (101, 22073), (104, 22109), (106, 22130), (125, 22271), (127, 22277), (178, 22388), (185, 22433), (190, 22487),

Gene: Brizzy_45 Start: 21210, Stop: 22091, Start Num: 51

Candidate Starts for Brizzy_45:

(Start: 51 @21210 has 88 MA's), (Start: 52 @21222 has 8 MA's), (53, 21240), (65, 21330), (70, 21366), (101, 21594), (104, 21630), (106, 21651), (125, 21792), (127, 21798), (178, 21909), (185, 21954), (190, 22008),

Gene: Cadmus_42 Start: 21195, Stop: 22091, Start Num: 52

Candidate Starts for Cadmus_42:

(26, 21078), (34, 21132), (Start: 47 @21174 has 3 MA's), (Start: 52 @21195 has 8 MA's), (65, 21303), (70, 21339), (75, 21390), (101, 21567), (104, 21603), (106, 21624), (125, 21765), (127, 21771), (178, 21897), (190, 21996),

Gene: CeilingFan_45 Start: 21449, Stop: 22330, Start Num: 51

Candidate Starts for CeilingFan_45:

(Start: 51 @21449 has 88 MA's), (Start: 52 @21461 has 8 MA's), (53, 21479), (65, 21569), (70, 21605), (101, 21833), (104, 21869), (106, 21890), (125, 22031), (127, 22037), (178, 22148), (185, 22193), (190, 22247),

Gene: Chymera_20 Start: 16278, Stop: 17153, Start Num: 51

Candidate Starts for Chymera_20:

(Start: 51 @16278 has 88 MA's), (63, 16380), (65, 16398), (66, 16407), (67, 16410), (69, 16425), (71, 16449), (85, 16524), (98, 16608), (123, 16827), (126, 16836), (162, 16989), (163, 16992),

Gene: Comrade_22 Start: 10175, Stop: 11188, Start Num: 51

Candidate Starts for Comrade_22:

(44, 10154), (46, 10163), (Start: 51 @10175 has 88 MA's), (Start: 52 @10187 has 8 MA's), (63, 10277), (67, 10307), (106, 10592), (124, 10733), (125, 10736), (127, 10742), (160, 10886), (161, 10892), (179, 10994), (183, 11033), (190, 11093), (193, 11132),

Gene: Cumberbatch_20 Start: 16995, Stop: 17939, Start Num: 51

Candidate Starts for Cumberbatch_20:

(38, 16962), (Start: 43 @16980 has 6 MA's), (Start: 51 @16995 has 88 MA's), (57, 17049), (68, 17130), (71, 17166), (80, 17220), (86, 17247), (94, 17307), (111, 17457), (113, 17475), (116, 17508), (123, 17562), (131, 17583), (169, 17766),

Gene: Daubenski_45 Start: 21959, Stop: 22855, Start Num: 52

Candidate Starts for Daubenski_45:

(26, 21842), (34, 21896), (Start: 47 @21938 has 3 MA's), (Start: 52 @21959 has 8 MA's), (65, 22067), (70, 22103), (75, 22154), (101, 22331), (104, 22367), (106, 22388), (125, 22529), (127, 22535), (178, 22661), (190, 22760),

Gene: DeluluLabubu_23 Start: 10056, Stop: 11072, Start Num: 51

Candidate Starts for DeluluLabubu_23:

(Start: 51 @10056 has 88 MA's), (Start: 52 @10068 has 8 MA's), (63, 10158), (67, 10188), (78, 10266), (94, 10365), (106, 10473), (124, 10614), (125, 10617), (127, 10623), (179, 10878), (193, 11016),

Gene: Dennebes_2 Start: 2618, Stop: 3529, Start Num: 49

Candidate Starts for Dennebes_2:

(Start: 49 @2618 has 3 MA's), (Start: 52 @2630 has 8 MA's), (57, 2672), (66, 2753), (69, 2771), (71, 2795), (94, 2936), (101, 3002), (108, 3080), (110, 3089), (123, 3197), (129, 3218), (150, 3278), (165, 3344),

Gene: Diane_26 Start: 21914, Stop: 22867, Start Num: 48

Candidate Starts for Diane_26:

(23, 21845), (Start: 48 @21914 has 6 MA's), (Start: 52 @21926 has 8 MA's), (67, 22055), (86, 22166), (94, 22226), (101, 22274), (111, 22364), (128, 22487), (130, 22496), (158, 22604), (159, 22616),

Gene: Dryad_31 Start: 20705, Stop: 21643, Start Num: 51

Candidate Starts for Dryad_31:

(8, 20459), (35, 20657), (Start: 51 @20705 has 88 MA's), (86, 20954), (89, 20990), (92, 21002), (111, 21149), (123, 21251), (147, 21344), (149, 21362), (161, 21413), (180, 21506), (189, 21590),

Gene: Eastland_20 Start: 16964, Stop: 17908, Start Num: 43

Candidate Starts for Eastland_20:

(38, 16946), (Start: 43 @16964 has 6 MA's), (Start: 51 @16979 has 88 MA's), (57, 17033), (65, 17099), (68, 17114), (71, 17150), (80, 17204), (86, 17231), (94, 17291), (112, 17447), (123, 17546), (169, 17735), (186, 17834),

Gene: EhyElimayoE_119 Start: 77532, Stop: 78617, Start Num: 51

Candidate Starts for EhyElimayoE_119:

(39, 77493), (Start: 51 @77532 has 88 MA's), (Start: 52 @77544 has 8 MA's), (53, 77562), (65, 77652), (66, 77661), (69, 77679), (71, 77703), (101, 77886), (105, 77928), (123, 78081), (126, 78090), (129, 78102), (146, 78171), (154, 78216), (155, 78222), (174, 78327), (176, 78339), (178, 78357), (188,

78438),

Gene: Eklok_20 Start: 16979, Stop: 17923, Start Num: 43

Candidate Starts for Eklok_20:

(38, 16961), (Start: 43 @16979 has 6 MA's), (Start: 51 @16994 has 88 MA's), (57, 17048), (65, 17114), (68, 17129), (71, 17165), (80, 17219), (86, 17246), (94, 17306), (112, 17462), (123, 17561), (169, 17750), (186, 17849),

Gene: Elmer_48 Start: 22460, Stop: 23479, Start Num: 50

Candidate Starts for Elmer_48:

(46, 22448), (Start: 50 @22460 has 4 MA's), (Start: 52 @22472 has 8 MA's), (67, 22592), (93, 22760), (95, 22772), (106, 22877), (124, 23018), (125, 23021), (127, 23027), (143, 23099), (164, 23201), (178, 23285), (194, 23435),

Gene: Emma1919_25 Start: 10751, Stop: 11767, Start Num: 51

Candidate Starts for Emma1919_25:

(Start: 51 @10751 has 88 MA's), (Start: 52 @10763 has 8 MA's), (63, 10853), (67, 10883), (78, 10961), (94, 11060), (106, 11168), (124, 11309), (125, 11312), (127, 11318), (179, 11573), (193, 11711),

Gene: Faust_21 Start: 10072, Stop: 10977, Start Num: 51

Candidate Starts for Faust_21:

(Start: 51 @10072 has 88 MA's), (Start: 52 @10084 has 8 MA's), (63, 10174), (67, 10204), (72, 10246), (106, 10489), (116, 10567), (124, 10630), (125, 10633), (127, 10639), (166, 10828),

Gene: Forrest_25 Start: 10874, Stop: 11890, Start Num: 51

Candidate Starts for Forrest_25:

(Start: 51 @10874 has 88 MA's), (Start: 52 @10886 has 8 MA's), (63, 10976), (67, 11006), (78, 11084), (94, 11183), (106, 11291), (124, 11432), (125, 11435), (127, 11441), (179, 11696), (193, 11834),

Gene: Forthebois_35 Start: 16763, Stop: 17539, Start Num: 51

Candidate Starts for Forthebois_35:

(31, 16697), (Start: 51 @16763 has 88 MA's), (60, 16832), (94, 17090), (102, 17174), (104, 17183), (106, 17204), (124, 17342), (125, 17345), (127, 17351), (144, 17420),

Gene: Francob_21 Start: 9667, Stop: 10566, Start Num: 51

Candidate Starts for Francob_21:

(Start: 51 @9667 has 88 MA's), (Start: 52 @9679 has 8 MA's), (65, 9787), (77, 9883), (101, 10051), (104, 10087), (106, 10108), (125, 10249), (127, 10255), (147, 10330), (178, 10372), (190, 10471),

Gene: Frankenweenie_128 Start: 82432, Stop: 83532, Start Num: 51

Candidate Starts for Frankenweenie_128:

(28, 82351), (30, 82369), (42, 82405), (Start: 51 @82432 has 88 MA's), (Start: 52 @82444 has 8 MA's), (66, 82561), (67, 82564), (74, 82612), (80, 82657), (101, 82786), (121, 82960), (123, 82981), (126, 82990), (129, 83002), (146, 83071), (154, 83116), (176, 83239), (184, 83299), (188, 83338),

Gene: FrumpyGal_20 Start: 16964, Stop: 17908, Start Num: 43

Candidate Starts for FrumpyGal_20:

(38, 16946), (Start: 43 @16964 has 6 MA's), (Start: 51 @16979 has 88 MA's), (57, 17033), (65, 17099), (68, 17114), (71, 17150), (80, 17204), (86, 17231), (94, 17291), (112, 17447), (123, 17546), (169, 17735), (186, 17834),

Gene: Galaxy_24 Start: 18066, Stop: 19004, Start Num: 58

Candidate Starts for Galaxy_24:

(15, 17853), (17, 17883), (32, 17949), (54, 18045), (Start: 58 @18066 has 2 MA's), (63, 18117), (73, 18180), (82, 18240), (84, 18246), (90, 18294), (96, 18324), (103, 18414), (123, 18597), (181, 18873),

Gene: Genie2_46 Start: 21517, Stop: 22410, Start Num: 52

Candidate Starts for Genie2_46:

(Start: 47 @21496 has 3 MA's), (Start: 52 @21517 has 8 MA's), (63, 21607), (67, 21637), (102, 21892), (106, 21922), (124, 22063), (125, 22066), (127, 22072), (163, 22252),

Gene: Gibbi_49 Start: 21309, Stop: 22190, Start Num: 51

Candidate Starts for Gibbi_49:

(Start: 51 @21309 has 88 MA's), (Start: 52 @21321 has 8 MA's), (53, 21339), (65, 21429), (70, 21465), (101, 21693), (104, 21729), (106, 21750), (125, 21891), (127, 21897), (178, 22008), (185, 22053), (190, 22107),

Gene: Gibson_28 Start: 19877, Stop: 20806, Start Num: 51

Candidate Starts for Gibson_28:

(33, 19820), (Start: 51 @19877 has 88 MA's), (59, 19937), (66, 20012), (71, 20045), (86, 20126), (92, 20174), (101, 20228), (103, 20261), (123, 20420), (147, 20507), (149, 20525), (161, 20576), (172, 20624), (180, 20669), (189, 20753),

Gene: Gilson_25 Start: 10704, Stop: 11720, Start Num: 51

Candidate Starts for Gilson_25:

(Start: 51 @10704 has 88 MA's), (Start: 52 @10716 has 8 MA's), (63, 10806), (67, 10836), (78, 10914), (94, 11013), (106, 11121), (124, 11262), (125, 11265), (127, 11271), (179, 11526), (193, 11664),

Gene: Greenbelt_27 Start: 19143, Stop: 20069, Start Num: 49

Candidate Starts for Greenbelt_27:

(Start: 49 @19143 has 3 MA's), (64, 19257), (65, 19269), (66, 19278), (67, 19281), (69, 19296), (85, 19395), (92, 19449), (98, 19503), (101, 19527), (109, 19608), (123, 19722), (126, 19731), (146, 19791), (165, 19878),

Gene: HFrancette_20 Start: 17010, Stop: 17954, Start Num: 51

Candidate Starts for HFrancette_20:

(Start: 51 @17010 has 88 MA's), (57, 17064), (68, 17145), (71, 17181), (80, 17235), (85, 17256), (94, 17322), (111, 17472), (113, 17490), (116, 17523), (123, 17577), (131, 17598), (169, 17781),

Gene: Haizum_26 Start: 21588, Stop: 22541, Start Num: 48

Candidate Starts for Haizum_26:

(23, 21519), (Start: 48 @21588 has 6 MA's), (Start: 52 @21600 has 8 MA's), (67, 21729), (86, 21840), (94, 21900), (100, 21945), (101, 21948), (111, 22038), (128, 22161), (130, 22170), (145, 22215), (158, 22278), (159, 22290),

Gene: IchabodCrane_43 Start: 21263, Stop: 22144, Start Num: 51

Candidate Starts for IchabodCrane_43:

(Start: 51 @21263 has 88 MA's), (Start: 52 @21275 has 8 MA's), (53, 21293), (65, 21383), (70, 21419), (101, 21647), (104, 21683), (106, 21704), (125, 21845), (127, 21851), (178, 21962), (185, 22007), (190, 22061),

Gene: Ididsumtinwong_21 Start: 16159, Stop: 17100, Start Num: 51

Candidate Starts for Ididsumtinwong_21:

(Start: 51 @16159 has 88 MA's), (65, 16279), (68, 16294), (71, 16330), (80, 16384), (85, 16405), (92, 16459), (116, 16654), (123, 16708), (126, 16717),

Gene: Ignacio_20 Start: 17010, Stop: 17954, Start Num: 51

Candidate Starts for Ignacio_20:

(Start: 51 @17010 has 88 MA's), (57, 17064), (68, 17145), (71, 17181), (80, 17235), (85, 17256), (94, 17322), (111, 17472), (113, 17490), (116, 17523), (123, 17577), (131, 17598), (169, 17781),

Gene: Jada_23 Start: 10056, Stop: 11072, Start Num: 51

Candidate Starts for Jada_23:

(Start: 51 @10056 has 88 MA's), (Start: 52 @10068 has 8 MA's), (63, 10158), (67, 10188), (78, 10266), (94, 10365), (106, 10473), (124, 10614), (125, 10617), (127, 10623), (179, 10878), (193, 11016),

Gene: JimJam_46 Start: 21637, Stop: 22518, Start Num: 51

Candidate Starts for JimJam_46:

(Start: 51 @21637 has 88 MA's), (Start: 52 @21649 has 8 MA's), (53, 21667), (65, 21757), (70, 21793), (101, 22021), (104, 22057), (106, 22078), (125, 22219), (127, 22225), (178, 22336), (185, 22381), (190, 22435),

Gene: Jollison_45 Start: 21517, Stop: 22398, Start Num: 51

Candidate Starts for Jollison_45:

(Start: 51 @21517 has 88 MA's), (Start: 52 @21529 has 8 MA's), (53, 21547), (65, 21637), (70, 21673), (101, 21901), (104, 21937), (106, 21958), (125, 22099), (127, 22105), (178, 22216), (185, 22261), (190, 22315),

Gene: JustBecause_116 Start: 76599, Stop: 77684, Start Num: 51

Candidate Starts for JustBecause_116:

(12, 76401), (14, 76410), (28, 76518), (30, 76536), (Start: 51 @76599 has 88 MA's), (Start: 52 @76611 has 8 MA's), (65, 76719), (66, 76728), (67, 76731), (69, 76746), (80, 76824), (92, 76899), (121, 77127), (123, 77148), (126, 77157), (146, 77238), (154, 77283), (176, 77406), (188, 77505), (192, 77562),

Gene: Karimac_45 Start: 21666, Stop: 22547, Start Num: 51

Candidate Starts for Karimac_45:

(Start: 51 @21666 has 88 MA's), (Start: 52 @21678 has 8 MA's), (53, 21696), (65, 21786), (70, 21822), (101, 22050), (104, 22086), (106, 22107), (125, 22248), (127, 22254), (178, 22365), (185, 22410), (190, 22464),

Gene: Karp_21 Start: 9776, Stop: 10789, Start Num: 51

Candidate Starts for Karp_21:

(44, 9755), (46, 9764), (Start: 51 @9776 has 88 MA's), (Start: 52 @9788 has 8 MA's), (63, 9878), (67, 9908), (106, 10193), (124, 10334), (125, 10337), (127, 10343), (160, 10487), (161, 10493), (179, 10595), (183, 10634), (190, 10694), (193, 10733),

Gene: Kela_117 Start: 76479, Stop: 77564, Start Num: 51

Candidate Starts for Kela_117:

(14, 76290), (28, 76398), (30, 76416), (Start: 51 @76479 has 88 MA's), (Start: 52 @76491 has 8 MA's), (65, 76599), (66, 76608), (67, 76611), (69, 76626), (80, 76704), (92, 76779), (121, 77007), (123, 77028), (126, 77037), (146, 77118), (154, 77163), (176, 77286), (188, 77385), (192, 77442),

Gene: Kenrey_25 Start: 10757, Stop: 11773, Start Num: 51

Candidate Starts for Kenrey_25:

(46, 10745), (Start: 51 @10757 has 88 MA's), (Start: 52 @10769 has 8 MA's), (63, 10859), (67, 10889), (99, 11099), (106, 11174), (124, 11315), (125, 11318), (127, 11324), (179, 11579), (193, 11717),

Gene: KentuckyRacer_46 Start: 21450, Stop: 22331, Start Num: 51

Candidate Starts for KentuckyRacer_46:

(Start: 51 @21450 has 88 MA's), (Start: 52 @21462 has 8 MA's), (53, 21480), (65, 21570), (70, 21606), (101, 21834), (104, 21870), (106, 21891), (125, 22032), (127, 22038), (178, 22149), (185, 22194), (190, 22248),

Gene: Kradal_118 Start: 77529, Stop: 78614, Start Num: 51

Candidate Starts for Kradal_118:

(39, 77490), (Start: 51 @77529 has 88 MA's), (Start: 52 @77541 has 8 MA's), (53, 77559), (65, 77649), (66, 77658), (69, 77676), (71, 77700), (101, 77883), (105, 77925), (123, 78078), (126, 78087), (129, 78099), (146, 78168), (154, 78213), (155, 78219), (168, 78294), (174, 78324), (176, 78336), (178, 78354), (188, 78435),

Gene: Kromp_25 Start: 22282, Stop: 23208, Start Num: 51

Candidate Starts for Kromp_25:

(45, 22267), (Start: 51 @22282 has 88 MA's), (Start: 52 @22294 has 8 MA's), (56, 22324), (65, 22402), (66, 22411), (69, 22429), (80, 22507), (113, 22744), (116, 22777), (121, 22810), (123, 22831), (126, 22840), (153, 22933), (165, 22990), (167, 22999), (179, 23071), (191, 23197),

Gene: LilMartin_41 Start: 20368, Stop: 21390, Start Num: 51

Candidate Starts for LilMartin_41:

(Start: 47 @20359 has 3 MA's), (Start: 51 @20368 has 88 MA's), (Start: 52 @20380 has 8 MA's), (67, 20500), (106, 20785), (124, 20926), (125, 20929), (127, 20935), (135, 20968), (178, 21199), (190, 21298),

Gene: LilSaint_43 Start: 20604, Stop: 21635, Start Num: 47

Candidate Starts for LilSaint_43:

(Start: 47 @20604 has 3 MA's), (Start: 51 @20613 has 88 MA's), (Start: 52 @20625 has 8 MA's), (67, 20745), (106, 21030), (124, 21171), (125, 21174), (127, 21180), (161, 21342), (178, 21444), (190, 21543),

Gene: Limpid_21 Start: 9807, Stop: 10823, Start Num: 51

Candidate Starts for Limpid_21:

(46, 9795), (Start: 51 @9807 has 88 MA's), (Start: 52 @9819 has 8 MA's), (63, 9909), (67, 9939), (106, 10224), (124, 10365), (125, 10368), (127, 10374), (160, 10518), (179, 10629), (182, 10659), (193, 10767),

Gene: Lishka_21 Start: 16123, Stop: 17064, Start Num: 51

Candidate Starts for Lishka_21:

(Start: 51 @16123 has 88 MA's), (65, 16243), (68, 16258), (71, 16294), (80, 16348), (85, 16369), (92, 16423), (116, 16618), (123, 16672), (126, 16681),

Gene: Lizz_28 Start: 19686, Stop: 20615, Start Num: 51

Candidate Starts for Lizz_28:

(33, 19629), (Start: 51 @19686 has 88 MA's), (59, 19746), (66, 19821), (71, 19854), (86, 19935), (92, 19983), (101, 20037), (103, 20070), (123, 20229), (147, 20316), (149, 20334), (161, 20385), (172, 20433), (180, 20478), (189, 20562),

Gene: LukeCage_45 Start: 21302, Stop: 22297, Start Num: 51

Candidate Starts for LukeCage_45:

(Start: 51 @21302 has 88 MA's), (Start: 52 @21314 has 8 MA's), (63, 21404), (67, 21434), (106, 21719), (124, 21860), (125, 21863), (127, 21869), (161, 22019), (179, 22115), (185, 22160), (190, 22214),

Gene: Marsus_41 Start: 20139, Stop: 21161, Start Num: 51

Candidate Starts for Marsus_41:

(Start: 47 @20130 has 3 MA's), (Start: 51 @20139 has 88 MA's), (Start: 52 @20151 has 8 MA's), (67, 20271), (106, 20556), (124, 20697), (125, 20700), (127, 20706), (178, 20970), (190, 21069),

Gene: Maupel_25 Start: 10704, Stop: 11720, Start Num: 51

Candidate Starts for Maupel_25:

(Start: 51 @10704 has 88 MA's), (Start: 52 @10716 has 8 MA's), (63, 10806), (67, 10836), (78, 10914), (94, 11013), (106, 11121), (124, 11262), (125, 11265), (127, 11271), (179, 11526), (193, 11664),

Gene: MeganTheeKilla_23 Start: 10065, Stop: 11081, Start Num: 51

Candidate Starts for MeganTheeKilla_23:

(Start: 51 @10065 has 88 MA's), (Start: 52 @10077 has 8 MA's), (63, 10167), (67, 10197), (78, 10275), (94, 10374), (106, 10482), (124, 10623), (125, 10626), (127, 10632), (179, 10887), (193, 11025),

Gene: Mildred21_42 Start: 20566, Stop: 21576, Start Num: 51

Candidate Starts for Mildred21_42:

(46, 20554), (Start: 51 @20566 has 88 MA's), (Start: 52 @20578 has 8 MA's), (53, 20596), (67, 20698), (106, 20983), (124, 21124), (125, 21127), (127, 21133), (161, 21295), (178, 21394), (185, 21439), (190, 21493),

Gene: MindFlayer_44 Start: 21170, Stop: 22051, Start Num: 51

Candidate Starts for MindFlayer_44:

(Start: 51 @21170 has 88 MA's), (Start: 52 @21182 has 8 MA's), (53, 21200), (65, 21290), (70, 21326), (101, 21554), (104, 21590), (106, 21611), (125, 21752), (127, 21758), (178, 21869), (185, 21914), (190, 21968),

Gene: Mischief19_36 Start: 37234, Stop: 38199, Start Num: 51

Candidate Starts for Mischief19_36:

(13, 37042), (19, 37096), (22, 37111), (29, 37159), (Start: 51 @37234 has 88 MA's), (Start: 52 @37246 has 8 MA's), (66, 37363), (67, 37366), (92, 37525), (107, 37669), (110, 37684), (111, 37687), (113, 37705), (117, 37741), (129, 37813), (184, 38092), (190, 38152), (192, 38188),

Gene: Moab_22 Start: 10215, Stop: 11114, Start Num: 51

Candidate Starts for Moab_22:

(Start: 51 @10215 has 88 MA's), (Start: 52 @10227 has 8 MA's), (65, 10335), (104, 10635), (106, 10656), (125, 10797), (127, 10803), (131, 10818), (133, 10827), (178, 10920), (190, 11019),

Gene: MulchMansion_41 Start: 20368, Stop: 21390, Start Num: 51

Candidate Starts for MulchMansion_41:

(Start: 47 @20359 has 3 MA's), (Start: 51 @20368 has 88 MA's), (Start: 52 @20380 has 8 MA's), (67, 20500), (106, 20785), (124, 20926), (125, 20929), (127, 20935), (135, 20968), (178, 21199), (190, 21298),

Gene: Muntaha_17 Start: 8933, Stop: 9943, Start Num: 51

Candidate Starts for Muntaha_17:

(Start: 51 @8933 has 88 MA's), (Start: 52 @8945 has 8 MA's), (67, 9071), (101, 9299), (106, 9356), (124, 9497), (125, 9500), (127, 9506), (161, 9665), (163, 9674), (177, 9752), (178, 9761), (190, 9860),

Gene: Nirvana_123 Start: 80829, Stop: 81929, Start Num: 51

Candidate Starts for Nirvana_123:

(28, 80748), (30, 80766), (42, 80802), (Start: 51 @80829 has 88 MA's), (Start: 52 @80841 has 8 MA's), (65, 80949), (66, 80958), (67, 80961), (74, 81009), (80, 81054), (92, 81129), (101, 81183), (121, 81357), (123, 81378), (126, 81387), (129, 81399), (146, 81468), (154, 81513), (176, 81636),

Gene: Nishikigoi_26 Start: 21588, Stop: 22541, Start Num: 48

Candidate Starts for Nishikigoi_26:

(23, 21519), (Start: 48 @21588 has 6 MA's), (Start: 52 @21600 has 8 MA's), (67, 21729), (86, 21840), (94, 21900), (100, 21945), (101, 21948), (111, 22038), (128, 22161), (130, 22170), (145, 22215), (158, 22278), (159, 22290),

Gene: PHTown_28 Start: 19684, Stop: 20613, Start Num: 51

Candidate Starts for PHTown_28:

(33, 19627), (Start: 51 @19684 has 88 MA's), (59, 19744), (66, 19819), (71, 19852), (86, 19933), (92, 19981), (101, 20035), (103, 20068), (123, 20227), (147, 20314), (149, 20332), (161, 20383), (172, 20431), (180, 20476), (189, 20560),

Gene: PapayaSalad_21 Start: 16134, Stop: 17075, Start Num: 51

Candidate Starts for PapayaSalad_21:

(Start: 51 @16134 has 88 MA's), (65, 16254), (68, 16269), (71, 16305), (80, 16359), (85, 16380), (92, 16434), (116, 16629), (123, 16683), (126, 16692),

Gene: Patelgo_22 Start: 9829, Stop: 10728, Start Num: 51

Candidate Starts for Patelgo_22:

(Start: 51 @9829 has 88 MA's), (Start: 52 @9841 has 8 MA's), (65, 9949), (75, 10036), (104, 10249), (106, 10270), (125, 10411), (127, 10417), (131, 10432), (133, 10441), (178, 10534), (190, 10633),

Gene: Phredrick_23 Start: 9963, Stop: 10979, Start Num: 51

Candidate Starts for Phredrick_23:

(46, 9951), (Start: 51 @9963 has 88 MA's), (Start: 52 @9975 has 8 MA's), (63, 10065), (67, 10095), (99, 10305), (106, 10380), (124, 10521), (125, 10524), (127, 10530), (179, 10785), (193, 10923),

Gene: Piccadilly_20 Start: 16963, Stop: 17907, Start Num: 43

Candidate Starts for Piccadilly_20:

(38, 16945), (Start: 43 @16963 has 6 MA's), (Start: 51 @16978 has 88 MA's), (57, 17032), (65, 17098), (68, 17113), (71, 17149), (80, 17203), (86, 17230), (94, 17290), (112, 17446), (123, 17545), (169, 17734), (186, 17833),

Gene: PumpkinSpice_45 Start: 21560, Stop: 22441, Start Num: 51

Candidate Starts for PumpkinSpice_45:

(Start: 51 @21560 has 88 MA's), (Start: 52 @21572 has 8 MA's), (53, 21590), (65, 21680), (70, 21716), (101, 21944), (104, 21980), (106, 22001), (125, 22142), (127, 22148), (178, 22259), (185, 22304), (190, 22358),

Gene: Quantum_117 Start: 77529, Stop: 78614, Start Num: 51

Candidate Starts for Quantum_117:

(39, 77490), (Start: 51 @77529 has 88 MA's), (Start: 52 @77541 has 8 MA's), (53, 77559), (65, 77649), (66, 77658), (69, 77676), (71, 77700), (101, 77883), (105, 77925), (123, 78078), (126, 78087), (129, 78099), (146, 78168), (154, 78213), (155, 78219), (168, 78294), (174, 78324), (176, 78336), (178, 78354), (188, 78435),

Gene: Quaran19_46 Start: 21551, Stop: 22432, Start Num: 51

Candidate Starts for Quaran19_46:

(Start: 51 @21551 has 88 MA's), (Start: 52 @21563 has 8 MA's), (53, 21581), (65, 21671), (70, 21707), (101, 21935), (104, 21971), (106, 21992), (125, 22133), (127, 22139), (178, 22250), (185, 22295), (190, 22349),

Gene: RickRoss_36 Start: 16891, Stop: 17667, Start Num: 51

Candidate Starts for RickRoss_36:

(31, 16825), (Start: 51 @16891 has 88 MA's), (60, 16960), (87, 17161), (91, 17203), (94, 17218), (102, 17302), (104, 17311), (106, 17332), (124, 17470), (125, 17473), (127, 17479), (134, 17509), (144, 17548),

Gene: Rideau_3 Start: 2618, Stop: 3529, Start Num: 49

Candidate Starts for Rideau_3:

(Start: 49 @2618 has 3 MA's), (Start: 52 @2630 has 8 MA's), (57, 2672), (66, 2753), (69, 2771), (71, 2795), (94, 2936), (101, 3002), (108, 3080), (110, 3089), (123, 3197), (129, 3218), (150, 3278), (165, 3344),

Gene: Rikishi_46 Start: 21466, Stop: 22347, Start Num: 51

Candidate Starts for Rikishi_46:

(Start: 51 @21466 has 88 MA's), (Start: 52 @21478 has 8 MA's), (53, 21496), (65, 21586), (70, 21622), (101, 21850), (104, 21886), (106, 21907), (125, 22048), (127, 22054), (178, 22165), (185, 22210), (190, 22264),

Gene: Riptide_41 Start: 20156, Stop: 21187, Start Num: 47

Candidate Starts for Riptide_41:

(Start: 47 @20156 has 3 MA's), (Start: 51 @20165 has 88 MA's), (Start: 52 @20177 has 8 MA's), (67, 20297), (81, 20390), (106, 20582), (124, 20723), (125, 20726), (127, 20732), (161, 20894), (178, 20996), (190, 21095),

Gene: Rooney_28 Start: 19874, Stop: 20803, Start Num: 51

Candidate Starts for Rooney_28:

(33, 19817), (Start: 51 @19874 has 88 MA's), (59, 19934), (71, 20042), (86, 20123), (92, 20171), (101, 20225), (103, 20258), (123, 20417), (147, 20504), (149, 20522), (161, 20573), (172, 20621), (180, 20666), (189, 20750),

Gene: RosePharie_2 Start: 2633, Stop: 3526, Start Num: 51

Candidate Starts for RosePharie_2:

(Start: 51 @2633 has 88 MA's), (66, 2762), (67, 2765), (69, 2780), (80, 2858), (83, 2876), (92, 2933), (94, 2945), (110, 3074), (126, 3191), (137, 3230), (167, 3353),

Gene: SPB78_22 Start: 19359, Stop: 20186, Start Num: 51

Candidate Starts for SPB78_22:

(Start: 43 @19338 has 6 MA's), (Start: 51 @19359 has 88 MA's), (55, 19398), (57, 19413), (65, 19479), (66, 19488), (67, 19491), (68, 19494), (76, 19554), (80, 19584), (85, 19605), (88, 19644), (92, 19659), (94, 19671), (104, 19749), (111, 19803), (132, 19944), (152, 20043),

Gene: SV1_21 Start: 16368, Stop: 17315, Start Num: 51

Candidate Starts for SV1_21:

(Start: 51 @16368 has 88 MA's), (65, 16488), (68, 16503), (71, 16539), (80, 16593), (85, 16614), (92, 16668), (116, 16863), (122, 16905), (123, 16917), (126, 16926),

Gene: SaltySpittoon_46 Start: 21560, Stop: 22441, Start Num: 51

Candidate Starts for SaltySpittoon_46:

(Start: 51 @21560 has 88 MA's), (Start: 52 @21572 has 8 MA's), (53, 21590), (65, 21680), (70, 21716), (101, 21944), (104, 21980), (106, 22001), (125, 22142), (127, 22148), (178, 22259), (185, 22304), (190, 22358),

Gene: Sarkar_126 Start: 77529, Stop: 78614, Start Num: 51

Candidate Starts for Sarkar_126:

(39, 77490), (Start: 51 @77529 has 88 MA's), (Start: 52 @77541 has 8 MA's), (53, 77559), (65, 77649), (66, 77658), (69, 77676), (71, 77700), (101, 77883), (105, 77925), (123, 78078), (126, 78087), (129, 78099), (146, 78168), (154, 78213), (155, 78219), (168, 78294), (174, 78324), (176, 78336), (178, 78354), (188, 78435),

Gene: SassyC_30 Start: 20015, Stop: 20932, Start Num: 51

Candidate Starts for SassyC_30:

(20, 19877), (25, 19907), (Start: 51 @20015 has 88 MA's), (86, 20264), (88, 20297), (92, 20312), (103, 20402), (119, 20528), (123, 20561), (141, 20621), (147, 20648), (161, 20717), (189, 20879),

Gene: Satis_118 Start: 77525, Stop: 78610, Start Num: 51

Candidate Starts for Satis_118:

(39, 77486), (Start: 51 @77525 has 88 MA's), (Start: 52 @77537 has 8 MA's), (53, 77555), (65, 77645), (66, 77654), (69, 77672), (71, 77696), (101, 77879), (105, 77921), (123, 78074), (126, 78083), (129, 78095), (146, 78164), (154, 78209), (155, 78215), (168, 78290), (174, 78320), (176, 78332), (178, 78350), (188, 78431),

Gene: Schlegelian_20 Start: 16993, Stop: 17943, Start Num: 51

Candidate Starts for Schlegelian_20:

(38, 16960), (Start: 43 @16978 has 6 MA's), (Start: 51 @16993 has 88 MA's), (57, 17047), (65, 17113), (68, 17128), (71, 17164), (80, 17218), (85, 17239), (94, 17305), (111, 17455), (113, 17473), (116, 17506), (123, 17560), (131, 17581), (169, 17770),

Gene: SeresaTree_21 Start: 9462, Stop: 10367, Start Num: 51

Candidate Starts for SeresaTree_21:

(Start: 51 @9462 has 88 MA's), (Start: 52 @9474 has 8 MA's), (63, 9564), (67, 9594), (72, 9636), (106, 9879), (116, 9957), (124, 10020), (125, 10023), (127, 10029), (166, 10218),

Gene: ShakeNBake_28 Start: 19702, Stop: 20631, Start Num: 51

Candidate Starts for ShakeNBake_28:

(33, 19645), (Start: 51 @19702 has 88 MA's), (59, 19762), (66, 19837), (71, 19870), (86, 19951), (92, 19999), (101, 20053), (103, 20086), (123, 20245), (147, 20332), (149, 20350), (161, 20401), (172, 20449), (180, 20494), (189, 20578),

Gene: Sham_19 Start: 9266, Stop: 10291, Start Num: 50

Candidate Starts for Sham_19:

(Start: 50 @9266 has 4 MA's), (Start: 52 @9278 has 8 MA's), (63, 9368), (67, 9398), (106, 9683), (124, 9824), (125, 9827), (127, 9833), (153, 9947), (178, 10100),

Gene: Sollertia_46 Start: 21517, Stop: 22410, Start Num: 52

Candidate Starts for Sollertia_46:

(Start: 47 @21496 has 3 MA's), (Start: 52 @21517 has 8 MA's), (63, 21607), (67, 21637), (102, 21892), (106, 21922), (124, 22063), (125, 22066), (127, 22072), (163, 22252),

Gene: SparkleGoddess_22 Start: 10174, Stop: 11190, Start Num: 51

Candidate Starts for SparkleGoddess_22:

(44, 10153), (46, 10162), (Start: 51 @10174 has 88 MA's), (Start: 52 @10186 has 8 MA's), (63, 10276), (67, 10306), (106, 10591), (124, 10732), (125, 10735), (127, 10741), (179, 10996), (183, 11035), (190, 11095), (193, 11134),

Gene: Spelly_46 Start: 21515, Stop: 22396, Start Num: 51

Candidate Starts for Spelly_46:

(Start: 51 @21515 has 88 MA's), (Start: 52 @21527 has 8 MA's), (53, 21545), (65, 21635), (70, 21671), (101, 21899), (104, 21935), (106, 21956), (125, 22097), (127, 22103), (178, 22214), (185, 22259), (190, 22313),

Gene: Spilled_46 Start: 21269, Stop: 22150, Start Num: 51

Candidate Starts for Spilled_46:

(Start: 51 @21269 has 88 MA's), (Start: 52 @21281 has 8 MA's), (53, 21299), (65, 21389), (70, 21425), (101, 21653), (104, 21689), (106, 21710), (125, 21851), (127, 21857), (178, 21968), (185, 22013), (190, 22067),

Gene: Stanimal_46 Start: 21406, Stop: 22299, Start Num: 52

Candidate Starts for Stanimal_46:

(Start: 47 @21385 has 3 MA's), (Start: 52 @21406 has 8 MA's), (63, 21496), (67, 21526), (102, 21781), (106, 21811), (124, 21952), (125, 21955), (127, 21961), (163, 22141),

Gene: StarPlatinum_45 Start: 21511, Stop: 22506, Start Num: 51

Candidate Starts for StarPlatinum_45:

(Start: 51 @21511 has 88 MA's), (Start: 52 @21523 has 8 MA's), (63, 21613), (67, 21643), (106, 21928), (124, 22069), (125, 22072), (127, 22078), (160, 22222), (161, 22228), (179, 22324), (185, 22369), (190, 22423),

Gene: Starbow_44 Start: 21536, Stop: 22417, Start Num: 51

Candidate Starts for Starbow_44:

(Start: 51 @21536 has 88 MA's), (Start: 52 @21548 has 8 MA's), (53, 21566), (65, 21656), (70, 21692), (101, 21920), (104, 21956), (106, 21977), (125, 22118), (127, 22124), (178, 22235), (185, 22280), (190, 22334),

Gene: Stigma_22 Start: 10178, Stop: 11191, Start Num: 51

Candidate Starts for Stigma_22:

(44, 10157), (46, 10166), (Start: 51 @10178 has 88 MA's), (Start: 52 @10190 has 8 MA's), (63, 10280), (67, 10310), (106, 10595), (124, 10736), (125, 10739), (127, 10745), (160, 10889), (161, 10895), (179, 10997), (183, 11036), (190, 11096), (193, 11135),

Gene: Tefunt_26 Start: 21591, Stop: 22544, Start Num: 48

Candidate Starts for Tefunt_26:

(23, 21522), (Start: 48 @21591 has 6 MA's), (Start: 52 @21603 has 8 MA's), (67, 21732), (86, 21843), (94, 21903), (101, 21951), (111, 22041), (128, 22164), (130, 22173), (145, 22218), (158, 22281), (159, 22293),

Gene: TomSawyer_44 Start: 21154, Stop: 22035, Start Num: 51

Candidate Starts for TomSawyer_44:

(Start: 51 @21154 has 88 MA's), (Start: 52 @21166 has 8 MA's), (53, 21184), (65, 21274), (70, 21310), (101, 21538), (104, 21574), (106, 21595), (125, 21736), (127, 21742), (178, 21853), (185, 21898), (190, 21952),

Gene: Tomas_47 Start: 23372, Stop: 24385, Start Num: 47

Candidate Starts for Tomas_47:

(Start: 47 @23372 has 3 MA's), (Start: 51 @23381 has 88 MA's), (Start: 52 @23393 has 8 MA's), (63, 23483), (67, 23513), (106, 23798), (110, 23822), (124, 23939), (125, 23942), (127, 23948), (153, 24050), (173, 24164), (179, 24206), (190, 24305),

Gene: TunaTartare_20 Start: 9544, Stop: 10569, Start Num: 50

Candidate Starts for TunaTartare_20:

(46, 9532), (Start: 50 @9544 has 4 MA's), (Start: 52 @9556 has 8 MA's), (67, 9676), (106, 9961), (124, 10102), (125, 10105), (127, 10111), (153, 10225), (161, 10273), (178, 10378), (190, 10486),

Gene: Virizion_32 Start: 20133, Stop: 21002, Start Num: 59

Candidate Starts for Virizion_32:

(33, 20016), (Start: 51 @20073 has 88 MA's), (59, 20133), (71, 20241), (86, 20322), (92, 20370), (101, 20424), (103, 20457), (123, 20616), (147, 20703), (149, 20721), (161, 20772), (172, 20820), (180, 20865), (189, 20949),

Gene: Vondra_20 Start: 17009, Stop: 17959, Start Num: 51

Candidate Starts for Vondra_20:

(Start: 51 @17009 has 88 MA's), (57, 17063), (68, 17144), (71, 17180), (80, 17234), (85, 17255), (94, 17321), (111, 17471), (113, 17489), (116, 17522), (123, 17576), (131, 17597), (169, 17786),

Gene: Wakanda_17 Start: 9090, Stop: 10106, Start Num: 51

Candidate Starts for Wakanda_17:

(Start: 51 @9090 has 88 MA's), (Start: 52 @9102 has 8 MA's), (67, 9228), (101, 9456), (106, 9513), (124, 9654), (125, 9657), (127, 9663), (161, 9828), (163, 9837), (177, 9915), (178, 9924), (190, 10023),

Gene: Wentworth_29 Start: 20065, Stop: 20982, Start Num: 51

Candidate Starts for Wentworth_29:

(35, 20017), (Start: 51 @20065 has 88 MA's), (86, 20314), (88, 20347), (92, 20362), (103, 20452), (119, 20578), (123, 20611), (129, 20632), (149, 20716), (161, 20767), (189, 20929),

Gene: Westy_22 Start: 10178, Stop: 11191, Start Num: 51

Candidate Starts for Westy_22:

(44, 10157), (46, 10166), (Start: 51 @10178 has 88 MA's), (Start: 52 @10190 has 8 MA's), (63, 10280), (67, 10310), (106, 10595), (124, 10736), (125, 10739), (127, 10745), (160, 10889), (161, 10895), (179, 10997), (183, 11036), (190, 11096), (193, 11135),

Gene: WheeHeim_36 Start: 16771, Stop: 17556, Start Num: 51

Candidate Starts for WheeHeim_36:

(6, 16486), (7, 16492), (18, 16621), (19, 16627), (24, 16657), (31, 16705), (36, 16726), (Start: 51 @16771 has 88 MA's), (60, 16840), (87, 17041), (94, 17098), (102, 17182), (104, 17191), (106, 17212), (124, 17350), (125, 17353), (127, 17359), (129, 17368), (144, 17428), (160, 17521),

Gene: Wilkos_29 Start: 19977, Stop: 20894, Start Num: 51

Candidate Starts for Wilkos_29:

(Start: 51 @19977 has 88 MA's), (86, 20226), (88, 20259), (92, 20274), (103, 20364), (123, 20523), (140, 20580), (149, 20628), (161, 20679), (189, 20841),

Gene: Wipeout_44 Start: 21905, Stop: 22786, Start Num: 51

Candidate Starts for Wipeout_44:

(Start: 51 @21905 has 88 MA's), (Start: 52 @21917 has 8 MA's), (53, 21935), (65, 22025), (70, 22061), (101, 22289), (104, 22325), (106, 22346), (125, 22487), (127, 22493), (178, 22604), (185, 22649), (190, 22703),

Gene: Wofford_44 Start: 21938, Stop: 22957, Start Num: 50

Candidate Starts for Wofford_44:

(46, 21926), (Start: 50 @21938 has 4 MA's), (Start: 52 @21950 has 8 MA's), (67, 22070), (93, 22238), (95, 22250), (106, 22355), (124, 22496), (125, 22499), (127, 22505), (143, 22577), (164, 22679), (178, 22763), (194, 22913),

Gene: Xkcd426_33 Start: 33252, Stop: 34259, Start Num: 51

Candidate Starts for Xkcd426_33:

(1, 32271), (2, 32316), (3, 32346), (4, 32418), (5, 32517), (21, 33123), (37, 33213), (Start: 51 @33252 has 88 MA's), (67, 33384), (113, 33729), (115, 33753), (118, 33774), (126, 33825), (139, 33876), (148, 33930), (156, 33972), (157, 33975), (169, 34053), (170, 34062),

Gene: Yaboi_46 Start: 21494, Stop: 22387, Start Num: 52

Candidate Starts for Yaboi_46:

(Start: 47 @21473 has 3 MA's), (Start: 52 @21494 has 8 MA's), (63, 21584), (67, 21614), (102, 21869), (106, 21899), (124, 22040), (125, 22043), (127, 22049), (163, 22229),

Gene: Yara_25 Start: 19303, Stop: 20226, Start Num: 48

Candidate Starts for Yara_25:

(Start: 48 @19303 has 6 MA's), (53, 19333), (60, 19372), (65, 19429), (66, 19438), (67, 19441), (71, 19480), (123, 19879), (126, 19888), (165, 20041),

Gene: Yosif_28 Start: 22917, Stop: 23870, Start Num: 49

Candidate Starts for Yosif_28:

(10, 22689), (16, 22770), (23, 22803), (Start: 49 @22917 has 3 MA's), (Start: 52 @22932 has 8 MA's), (53, 22950), (57, 22974), (65, 23049), (66, 23058), (86, 23172), (97, 23250), (101, 23280), (130, 23496), (136, 23517), (159, 23619), (163, 23637), (179, 23721),

Gene: pZL12_44c Start: 32427, Stop: 31489, Start Num: 51

Candidate Starts for pZL12_44c:

(33, 32484), (Start: 51 @32427 has 88 MA's), (65, 32307), (66, 32298), (67, 32295), (69, 32280), (123, 31875), (126, 31866),