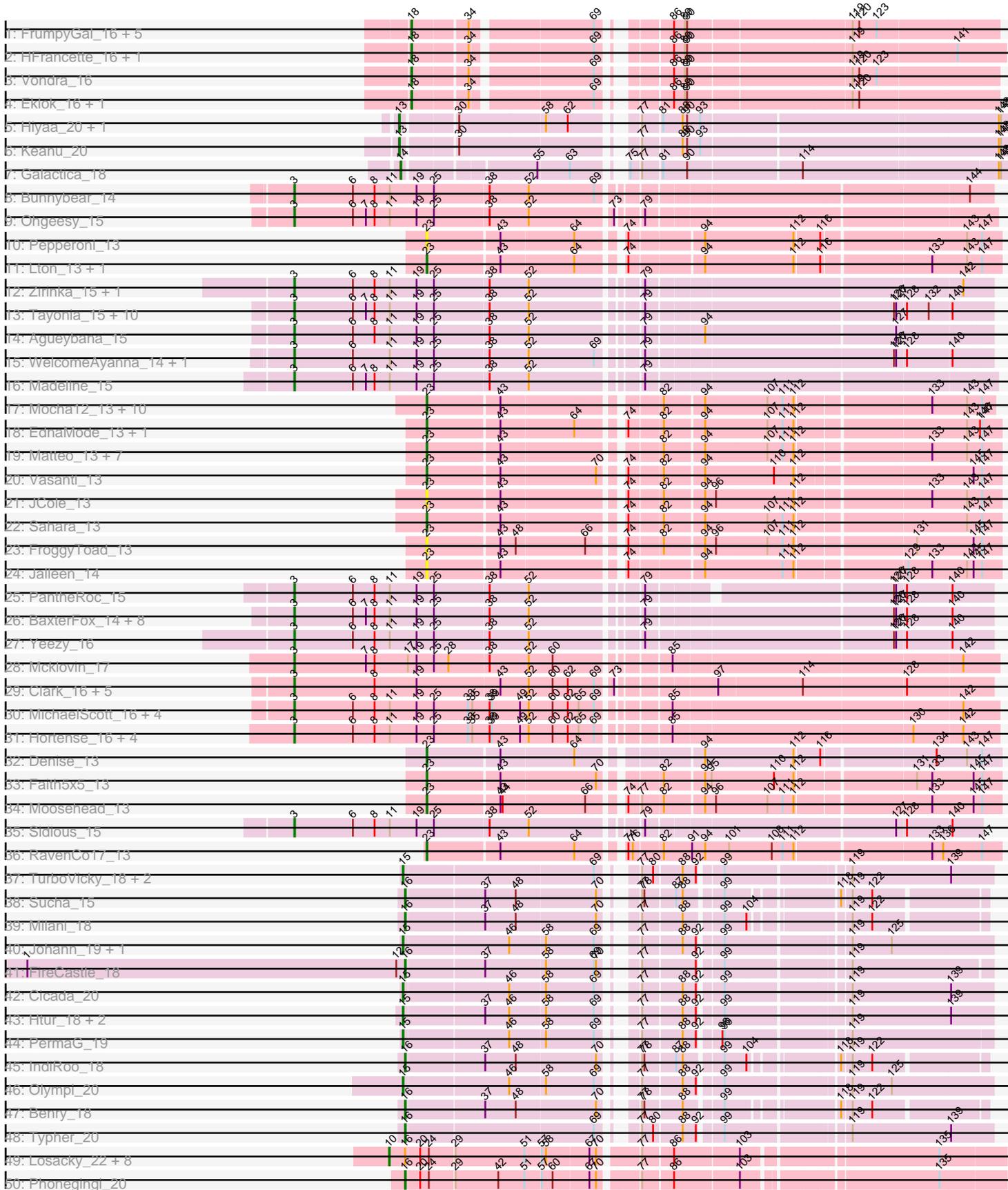# Pham 285371

Pham 285371

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 285371 Report

This analysis was run 03/28/26 on database version 641.

Pham number 285371 has 133 members, 6 are drafts.

Phages represented in each track:
• Track 1 : FrumpyGal_16, Schlegelian_16, Eastland_16, Cumberbatch_16, Piccadilly_16, ArizonaGT_16
• Track 2 : HFrancette_16, Ignacio_16
• Track 3 : Vondra_16
• Track 4 : Eklok_16, AxeJC_16
• Track 5 : Hiyaa_20, Spocter_20
• Track 6 : Keanu_20
• Track 7 : Galactica_18
• Track 8 : Bunnybear_14
• Track 9 : Ohgeesy_15
• Track 10 : Pepperoni_13
• Track 11 : Lton_13, OneDirection_13
• Track 12 : Zirinka_15, Bialota_15
• Track 13 : Tayonia_15, Maridalia_84, Zameen_15, Kita_15, Suscepit_15, Neobush_15, Antonio_15, Manasvini_15, Polly_15, Eudoria_15, Trumpet_15
• Track 14 : Agueybana_15
• Track 15 : WelcomeAyanna_14, ThankyouJordi_14
• Track 16 : Madeline_15
• Track 17 : Mocha12_13, Gizermo_13, Clap_13, Haley23_13, GemG_13, TuertoX_13, Sproutie_13, Savage_13, Whiteclaw_13, Cynthia_13, Ebert_13
• Track 18 : EdnaMode_13, Lamberg_13
• Track 19 : Matteo_13, Attis_13, SoilAssassin_13, Bjanes7_13, Pickett_13, Nettuno_13, Yeet412_13, LordFarquaad_13
• Track 20 : Vasanti_13
• Track 21 : JCole_13
• Track 22 : Sahara_13
• Track 23 : FroggyToad_13
• Track 24 : Jalleen_14
• Track 25 : PantheRoc_15
• Track 26 : BaxterFox_14, Bosnia_15, TimTam_15, Herod_15, Eviarto_15, BatStarr_15, AlumE_15, BoyNamedSue_15, Nymphadora_15
• Track 27 : Yeezy_16
• Track 28 : Mcklovin_17
• Track 29 : Clark_16, Easley_16, Dolores_16, Samman98_16, Suerte_15, Powerball_15
• Track 30 : MichaelScott_16, Oregano_16, Beenie_15, Sekhmet_16, Invectra_16
• Track 31 : Hortense_16, Twinkle_16, Howe_16, Adora_16, Shlim410_16

• Track 32 : Denise_13
• Track 33 : Faith5x5_13
• Track 34 : Moosehead_13
• Track 35 : Sidious_15
• Track 36 : RavenCo17_13
• Track 37 : TurboVicky_18, SBlackberry_18, Zanella_18
• Track 38 : Sucha_15
• Track 39 : Milani_18
• Track 40 : Johann_19, Goodman_19
• Track 41 : FireCastle_18
• Track 42 : Cicada_20
• Track 43 : Htur_18, Linayshia_18, Rasovi_18
• Track 44 : PermaG_19
• Track 45 : IndiRoo_18
• Track 46 : Olympi_20
• Track 47 : Benry_18
• Track 48 : Typher_20
• Track 49 : Losacky_22, Bush_21, CookieDog_21, Antuna_21, Blett_21, Warren_21, MenE_21, Dropshot_20, Appa_20
• Track 50 : Phonegingi_20
• Track 51 : Pickles13_20
• Track 52 : Lesiram_20
• Track 53 : Gingerbug_17
• Track 54 : Wrackline_25
• Track 55 : Finkle_15
• Track 56 : Mbo4_14
• Track 57 : Jace_14
• Track 58 : GMA1_15
• Track 59 : Eyre_13
• Track 60 : Gudmit_14

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

The start number called the most often in the published annotations is 3, it was called in 49 of the 127 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Adora_16, Agueybana_15, AlumE_15, Antonio_15, BatStarr_15, BaxterFox_14, Beenie_15, Bialota_15, Bosnia_15, BoyNamedSue_15, Bunnybear_14, Clark_16, Dolores_16, Easley_16, Eudoria_15, Eviarto_15, Finkle_15, GMA1_15, Herod_15, Hortense_16, Howe_16, Invectra_16, Kita_15, Madeline_15, Manasvini_15, Maridalia_84, Mcklovin_17, MichaelScott_16, Neobush_15, Nymphadora_15, Ohgeesy_15, Oregano_16, PantheRoc_15, Polly_15, Powerball_15, Samman98_16, Sekhmet_16, Shlim410_16, Sidious_15, Suerte_15, Suscepit_15, Tayonia_15, ThankyouJordi_14, TimTam_15, Trumpet_15, Twinkle_16, WelcomeAyanna_14, Yeezy_16, Zameen_15, Zirinka_15,

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

Genes that do not have the "Most Annotated" start:
• Antuna_21, Appa_20, ArizonaGT_16, Attis_13, AxeJC_16, Benry_18, Bjanes7_13, Blett_21, Bush_21, Cicada_20, Clap_13, CookieDog_21, Cumberbatch_16, Cynthia_13, Denise_13, Dropshot_20, Eastland_16, Ebert_13, EdnaMode_13, Eklok_16, Eyre_13, Faith5x5_13, FireCastle_18, FroggyToad_13, FrumpyGal_16, Galactica_18, GemG_13, Gingerbug_17, Gizermo_13, Goodman_19, Gudmit_14, HFrancette_16, Haley23_13, Hiyaa_20, Htur_18, Ignacio_16, IndiRoo_18, JCole_13, Jace_14, Jalleen_14, Johann_19, Keanu_20, Lamberg_13, Lesiram_20, Linayshia_18, LordFarquaad_13, Losacky_22, Lton_13, Matteo_13, Mbo4_14, MenE_21, Milani_18, Mocha12_13, Moosehead_13, Nettuno_13, Olympi_20, OneDirection_13, Pepperoni_13, PermaG_19, Phonegingi_20, Piccadilly_16, Pickett_13, Pickles13_20, Rasovi_18, RavenCo17_13, SBlackberry_18, Sahara_13, Savage_13, Schlegelian_16, SoilAssassin_13, Spocter_20, Sproutie_13, Sucha_15, TuertoX_13, TurboVicky_18, Typher_20, Vasanti_13, Vondra_16, Warren_21, Whiteclaw_13, Wrackline_25, Yeet412_13, Zanella_18,

Summary by start number:

Start 3:
• Found in 50 of 133 (37.6%) of genes in pham
• Manual Annotations of this start: 49 of 127
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Adora_16 (CZ4), Agueybana_15 (CZ1), AlumE_15 (CZ1), Antonio_15 (CZ1), BatStarr_15 (CZ1), BaxterFox_14 (CZ3), Beenie_15 (CZ4), Bialota_15 (CZ1), Bosnia_15 (CZ1), BoyNamedSue_15 (CZ1), Bunnybear_14 (CZ), Clark_16 (CZ4), Dolores_16 (CZ4), Easley_16 (CZ4), Eudoria_15 (CZ1), Eviarto_15 (CZ1), Finkle_15 (singleton), GMA1_15 (singleton), Herod_15 (CZ1), Hortense_16 (CZ4), Howe_16 (CZ4), Invectra_16 (CZ4), Kita_15 (CZ1), Madeline_15 (CZ1), Manasvini_15 (CZ1), Maridalia_84 (CZ1), Mcklovin_17 (CZ4), MichaelScott_16 (CZ4), Neobush_15 (CZ1), Nymphadora_15 (CZ1), Ohgeesy_15 (CZ), Oregano_16 (CZ4), PantheRoc_15 (CZ3), Polly_15 (CZ1), Powerball_15 (CZ4), Samman98_16 (CZ4), Sekhmet_16 (CZ4), Shlim410_16 (CZ4), Sidious_15 (CZ7), Suerte_15 (CZ4), Suscepit_15 (CZ1), Tayonia_15 (CZ1), ThankyouJordi_14 (CZ1), TimTam_15 (CZ1), Trumpet_15 (CZ1), Twinkle_16 (CZ4), WelcomeAyanna_14 (CZ1), Yeezy_16 (CZ3), Zameen_15 (CZ1), Zirinka_15 (CZ1),

Start 4:
• Found in 1 of 133 (0.8%) of genes in pham
• Manual Annotations of this start: 1 of 127
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jace_14 (singleton),

Start 10:
• Found in 10 of 133 (7.5%) of genes in pham
• Manual Annotations of this start: 9 of 127
• Called 90.0% of time when present
• Phage (with cluster) where this start called: Antuna_21 (GA), Appa_20 (GA), Blett_21 (GA), Bush_21 (GA), CookieDog_21 (GA), Dropshot_20 (GA), Losacky_22 (GA), MenE_21 (GA), Warren_21 (GA),

Start 13:
• Found in 3 of 133 (2.3%) of genes in pham
• Manual Annotations of this start: 3 of 127

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Hiyaa_20 (BQ), Keanu_20 (BQ), Spocter_20 (BQ),

Start 14:
• Found in 1 of 133 (0.8%) of genes in pham
• Manual Annotations of this start: 1 of 127
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Galactica_18 (BQ),

Start 15:
• Found in 12 of 133 (9.0%) of genes in pham
• Manual Annotations of this start: 12 of 127
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Cicada_20 (EJ), Goodman_19 (EJ), Htur_18 (EJ), Johann_19 (EJ), Linayshia_18 (EJ), Olympi_20 (EJ), PermaG_19 (EJ), Pickles13_20 (GA), Rasovi_18 (EJ), SBlackberry_18 (EJ), TurboVicky_18 (EJ), Zanella_18 (EJ),

Start 16:
• Found in 17 of 133 (12.8%) of genes in pham
• Manual Annotations of this start: 7 of 127
• Called 41.2% of time when present
• Phage (with cluster) where this start called: Benry_18 (EJ), FireCastle_18 (EJ), IndiRoo_18 (EJ), Milani_18 (EJ), Phonegingi_20 (GA), Sucha_15 (EJ), Typher_20 (EJ),

Start 18:
• Found in 11 of 133 (8.3%) of genes in pham
• Manual Annotations of this start: 11 of 127
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ArizonaGT_16 (BP), AxeJC_16 (BP), Cumberbatch_16 (BP), Eastland_16 (BP), Eklok_16 (BP), FrumpyGal_16 (BP), HFrancette_16 (BP), Ignacio_16 (BP), Piccadilly_16 (BP), Schlegelian_16 (BP), Vondra_16 (BP),

Start 21:
• Found in 1 of 133 (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: Mbo4_14 (singleton),

Start 22:
• Found in 1 of 133 (0.8%) of genes in pham
• Manual Annotations of this start: 1 of 127
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gingerbug_17 (GF),

Start 23:
• Found in 35 of 133 (26.3%) of genes in pham
• Manual Annotations of this start: 31 of 127
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Attis_13 (CZ2), Bjanes7_13 (CZ2), Clap_13 (CZ2), Cynthia_13 (CZ2), Denise_13 (CZ5), Ebert_13 (CZ2), EdnaMode_13 (CZ2), Eyre_13 (singleton), Faith5x5_13 (CZ6), FroggyToad_13 (CZ2), GemG_13 (CZ2), Gizermo_13 (CZ2), Gudmit_14 (singleton), Haley23_13 (CZ2), JCole_13 (CZ2), Jalleen_14 (CZ2), Lamberg_13 (CZ2), LordFarquaad_13 (CZ2), Lton_13 (CZ), Matteo_13 (CZ2), Mocha12_13 (CZ2), Moosehead_13 (CZ6), Nettuno_13 (CZ2), OneDirection_13 (CZ6), Pepperoni_13 (CZ), Pickett_13 (CZ2), RavenCo17_13 (CZ8), Sahara_13 (CZ2), Savage_13 (CZ2), SoilAssassin_13 (CZ2), Sproutie_13 (CZ2), TuertoX_13 (CZ2), Vasanti_13 (CZ2), Whiteclaw_13 (CZ2), Yeet412_13 (CZ2),

Start 24:
• Found in 13 of 133 (9.8%) of genes in pham
• Manual Annotations of this start: 2 of 127
• Called 15.4% of time when present
• Phage (with cluster) where this start called: Lesiram_20 (GF), Wrackline_25 (GF),

Summary by clusters:

There are 15 clusters represented in this pham: CZ7, singleton, GF, EJ, CZ2, CZ3, CZ1, CZ6, CZ8, CZ4, CZ5, CZ, BP, BQ, GA,

Info for manual annotations of cluster BP:
•Start number 18 was manually annotated 11 times for cluster BP.

Info for manual annotations of cluster BQ:
•Start number 13 was manually annotated 3 times for cluster BQ.
•Start number 14 was manually annotated 1 time for cluster BQ.

Info for manual annotations of cluster CZ:
•Start number 3 was manually annotated 2 times for cluster CZ.
•Start number 23 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:
•Start number 3 was manually annotated 25 times for cluster CZ1.

Info for manual annotations of cluster CZ2:
•Start number 23 was manually annotated 23 times for cluster CZ2.

Info for manual annotations of cluster CZ3:
•Start number 3 was manually annotated 3 times for cluster CZ3.

Info for manual annotations of cluster CZ4:
•Start number 3 was manually annotated 17 times for cluster CZ4.

Info for manual annotations of cluster CZ5:
•Start number 23 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:
•Start number 23 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster CZ7:
•Start number 3 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster CZ8:
•Start number 23 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster EJ:
•Start number 15 was manually annotated 11 times for cluster EJ.
•Start number 16 was manually annotated 6 times for cluster EJ.

Info for manual annotations of cluster GA:
•Start number 10 was manually annotated 9 times for cluster GA.
•Start number 15 was manually annotated 1 time for cluster GA.
•Start number 16 was manually annotated 1 time for cluster GA.

Info for manual annotations of cluster GF:
•Start number 22 was manually annotated 1 time for cluster GF.
•Start number 24 was manually annotated 2 times for cluster GF.

Gene Information:

Gene: Adora_16 Start: 8998, Stop: 9920, Start Num: 3
Candidate Starts for Adora_16:
(Start: 3 @8998 has 49 MA's), (6, 9079), (8, 9109), (11, 9130), (19, 9166), (25, 9190), (33, 9235), (35, 9241), (38, 9265), (39, 9268), (49, 9307), (52, 9319), (60, 9352), (62, 9373), (65, 9388), (69, 9409), (85, 9487), (130, 9805), (142, 9871),

Gene: Agueybana_15 Start: 9286, Stop: 10190, Start Num: 3
Candidate Starts for Agueybana_15:
(Start: 3 @9286 has 49 MA's), (6, 9367), (8, 9397), (11, 9418), (19, 9454), (25, 9478), (38, 9550), (52, 9604), (79, 9739), (94, 9811), (127, 10063),

Gene: AlumE_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for AlumE_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (140, 10134),

Gene: Antonio_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Antonio_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Antuna_21 Start: 10705, Stop: 11480, Start Num: 10
Candidate Starts for Antuna_21:
(Start: 10 @10705 has 9 MA's), (Start: 16 @10726 has 7 MA's), (20, 10744), (Start: 24 @10756 has 2 MA's), (29, 10789), (51, 10882), (57, 10903), (58, 10909), (67, 10966), (70, 10975), (77, 11020), (86, 11059), (103, 11146), (135, 11392),

Gene: Appa_20 Start: 10567, Stop: 11342, Start Num: 10
Candidate Starts for Appa_20:
(Start: 10 @10567 has 9 MA's), (Start: 16 @10588 has 7 MA's), (20, 10606), (Start: 24 @10618 has 2 MA's), (29, 10651), (51, 10744), (57, 10765), (58, 10771), (67, 10828), (70, 10837), (77, 10882), (86, 10921), (103, 11008), (135, 11254),

Gene: ArizonaGT_16 Start: 9256, Stop: 9965, Start Num: 18
Candidate Starts for ArizonaGT_16:
(Start: 18 @9256 has 11 MA's), (34, 9325), (69, 9475), (86, 9538), (89, 9553), (90, 9556), (119, 9769), (120, 9778), (123, 9802),

Gene: Attis_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for Attis_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (133, 8994), (143, 9042), (147, 9063),

Gene: AxeJC_16 Start: 9272, Stop: 9981, Start Num: 18
Candidate Starts for AxeJC_16:
(Start: 18 @9272 has 11 MA's), (34, 9341), (69, 9491), (86, 9554), (89, 9569), (90, 9572), (119, 9785), (120, 9794),

Gene: BatStarr_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for BatStarr_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (140, 10134),

Gene: BaxterFox_14 Start: 8633, Stop: 9537, Start Num: 3
Candidate Starts for BaxterFox_14:
(Start: 3 @8633 has 49 MA's), (6, 8714), (7, 8732), (8, 8744), (11, 8765), (19, 8801), (25, 8825), (38, 8897), (52, 8951), (79, 9086), (126, 9407), (127, 9410), (128, 9422), (140, 9482),

Gene: Beenie_15 Start: 8840, Stop: 9762, Start Num: 3
Candidate Starts for Beenie_15:
(Start: 3 @8840 has 49 MA's), (6, 8921), (8, 8951), (11, 8972), (19, 9008), (25, 9032), (33, 9077), (35, 9083), (38, 9107), (39, 9110), (49, 9149), (52, 9161), (60, 9194), (62, 9215), (65, 9230), (69, 9251), (85, 9329), (142, 9713),

Gene: Benry_18 Start: 10815, Stop: 11500, Start Num: 16
Candidate Starts for Benry_18:
(Start: 16 @10815 has 7 MA's), (37, 10917), (48, 10959), (70, 11067), (77, 11091), (78, 11094), (88, 11142), (99, 11187), (118, 11316), (119, 11328), (122, 11355),

Gene: Bialota_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Bialota_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (142, 10149),

Gene: Bjanes7_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for Bjanes7_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (133, 8994), (143, 9042), (147, 9063),

Gene: Blett_21 Start: 10720, Stop: 11495, Start Num: 10
Candidate Starts for Blett_21:
(Start: 10 @10720 has 9 MA's), (Start: 16 @10741 has 7 MA's), (20, 10759), (Start: 24 @10771 has 2 MA's), (29, 10804), (51, 10897), (57, 10918), (58, 10924), (67, 10981), (70, 10990), (77, 11035), (86, 11074), (103, 11161), (135, 11407),

Gene: Bosnia_15 Start: 9285, Stop: 10189, Start Num: 3

Candidate Starts for Bosnia_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (140, 10134),

Gene: BoyNamedSue_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for BoyNamedSue_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (140, 10134),

Gene: Bunnybear_14 Start: 9302, Stop: 10206, Start Num: 3
Candidate Starts for Bunnybear_14:
(Start: 3 @9302 has 49 MA's), (6, 9383), (8, 9413), (11, 9434), (19, 9470), (25, 9494), (38, 9566), (52, 9620), (69, 9710), (144, 10175),

Gene: Bush_21 Start: 10701, Stop: 11476, Start Num: 10
Candidate Starts for Bush_21:
(Start: 10 @10701 has 9 MA's), (Start: 16 @10722 has 7 MA's), (20, 10740), (Start: 24 @10752 has 2 MA's), (29, 10785), (51, 10878), (57, 10899), (58, 10905), (67, 10962), (70, 10971), (77, 11016), (86, 11055), (103, 11142), (135, 11388),

Gene: Cicada_20 Start: 12850, Stop: 13571, Start Num: 15
Candidate Starts for Cicada_20:
(Start: 15 @12850 has 12 MA's), (46, 12988), (58, 13036), (69, 13102), (77, 13129), (88, 13180), (92, 13198), (99, 13225), (119, 13378), (139, 13513),

Gene: Clap_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Clap_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Clark_16 Start: 8856, Stop: 9763, Start Num: 3
Candidate Starts for Clark_16:
(Start: 3 @8856 has 49 MA's), (8, 8967), (19, 9024), (43, 9135), (52, 9174), (60, 9207), (62, 9228), (69, 9264), (73, 9282), (97, 9399), (114, 9513), (128, 9648),

Gene: CookieDog_21 Start: 10701, Stop: 11476, Start Num: 10
Candidate Starts for CookieDog_21:
(Start: 10 @10701 has 9 MA's), (Start: 16 @10722 has 7 MA's), (20, 10740), (Start: 24 @10752 has 2 MA's), (29, 10785), (51, 10878), (57, 10899), (58, 10905), (67, 10962), (70, 10971), (77, 11016), (86, 11055), (103, 11142), (135, 11388),

Gene: Cumberbatch_16 Start: 9256, Stop: 9965, Start Num: 18
Candidate Starts for Cumberbatch_16:
(Start: 18 @9256 has 11 MA's), (34, 9325), (69, 9475), (86, 9538), (89, 9553), (90, 9556), (119, 9769), (120, 9778), (123, 9802),

Gene: Cynthia_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Cynthia_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Denise_13 Start: 8374, Stop: 9102, Start Num: 23
Candidate Starts for Denise_13:

(Start: 23 @8374 has 31 MA's), (43, 8470), (64, 8569), (94, 8713), (112, 8833), (116, 8866), (134, 9013), (143, 9055), (147, 9076),

Gene: Dolores_16 Start: 8841, Stop: 9748, Start Num: 3
Candidate Starts for Dolores_16:
(Start: 3 @8841 has 49 MA's), (8, 8952), (19, 9009), (43, 9120), (52, 9159), (60, 9192), (62, 9213), (69, 9249), (73, 9267), (97, 9384), (114, 9498), (128, 9633),

Gene: Dropshot_20 Start: 10567, Stop: 11342, Start Num: 10
Candidate Starts for Dropshot_20:
(Start: 10 @10567 has 9 MA's), (Start: 16 @10588 has 7 MA's), (20, 10606), (Start: 24 @10618 has 2 MA's), (29, 10651), (51, 10744), (57, 10765), (58, 10771), (67, 10828), (70, 10837), (77, 10882), (86, 10921), (103, 11008), (135, 11254),

Gene: Easley_16 Start: 8845, Stop: 9752, Start Num: 3
Candidate Starts for Easley_16:
(Start: 3 @8845 has 49 MA's), (8, 8956), (19, 9013), (43, 9124), (52, 9163), (60, 9196), (62, 9217), (69, 9253), (73, 9271), (97, 9388), (114, 9502), (128, 9637),

Gene: Eastland_16 Start: 9257, Stop: 9966, Start Num: 18
Candidate Starts for Eastland_16:
(Start: 18 @9257 has 11 MA's), (34, 9326), (69, 9476), (86, 9539), (89, 9554), (90, 9557), (119, 9770), (120, 9779), (123, 9803),

Gene: Ebert_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Ebert_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: EdnaMode_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for EdnaMode_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (64, 8556), (74, 8607), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (143, 9042), (146, 9060), (147, 9063),

Gene: Eklok_16 Start: 9272, Stop: 9981, Start Num: 18
Candidate Starts for Eklok_16:
(Start: 18 @9272 has 11 MA's), (34, 9341), (69, 9491), (86, 9554), (89, 9569), (90, 9572), (119, 9785), (120, 9794),

Gene: Eudoria_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Eudoria_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Eviarto_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Eviarto_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (140, 10134),

Gene: Eyre_13 Start: 9038, Stop: 9778, Start Num: 23
Candidate Starts for Eyre_13:
(Start: 23 @9038 has 31 MA's), (43, 9134), (64, 9236), (74, 9287), (76, 9293), (82, 9329), (91, 9368), (94, 9386), (96, 9401), (108, 9476), (111, 9491), (112, 9506), (117, 9548), (133, 9683), (136, 9698),

(147, 9752),

Gene: Faith5x5_13 Start: 8333, Stop: 9061, Start Num: 23
Candidate Starts for Faith5x5_13:
(Start: 23 @8333 has 31 MA's), (43, 8429), (70, 8558), (82, 8621), (94, 8672), (95, 8681), (110, 8765), (112, 8792), (131, 8945), (133, 8966), (145, 9023), (147, 9035),

Gene: Finkle_15 Start: 8643, Stop: 9571, Start Num: 3
Candidate Starts for Finkle_15:
(Start: 3 @8643 has 49 MA's), (9, 8757), (19, 8805), (28, 8847), (46, 8928), (52, 8955), (56, 8970), (59, 8985), (60, 8988), (63, 9012), (65, 9024), (66, 9033), (97, 9216), (121, 9420), (140, 9534), (145, 9561),

Gene: FireCastle_18 Start: 12516, Stop: 13228, Start Num: 16
Candidate Starts for FireCastle_18:
(1, 11994), (12, 12504), (Start: 16 @12516 has 7 MA's), (37, 12618), (58, 12699), (69, 12765), (70, 12768), (77, 12792), (92, 12861), (99, 12888), (119, 13041),

Gene: FroggyToad_13 Start: 8377, Stop: 9105, Start Num: 23
Candidate Starts for FroggyToad_13:
(Start: 23 @8377 has 31 MA's), (43, 8473), (48, 8494), (66, 8587), (74, 8623), (82, 8665), (94, 8716), (96, 8731), (107, 8800), (111, 8821), (112, 8836), (131, 8989), (145, 9067), (147, 9079),

Gene: FrumpyGal_16 Start: 9257, Stop: 9966, Start Num: 18
Candidate Starts for FrumpyGal_16:
(Start: 18 @9257 has 11 MA's), (34, 9326), (69, 9476), (86, 9539), (89, 9554), (90, 9557), (119, 9770), (120, 9779), (123, 9803),

Gene: GMA1_15 Start: 8784, Stop: 9703, Start Num: 3
Candidate Starts for GMA1_15:
(Start: 3 @8784 has 49 MA's), (25, 8970), (27, 8982), (40, 9048), (52, 9096), (56, 9111), (60, 9129), (65, 9165), (71, 9195), (72, 9204), (83, 9270), (109, 9414), (114, 9456), (115, 9465), (130, 9606), (138, 9651), (145, 9684),

Gene: Galactica_18 Start: 14113, Stop: 14858, Start Num: 14
Candidate Starts for Galactica_18:
(Start: 14 @14113 has 1 MA's), (55, 14272), (63, 14314), (75, 14362), (77, 14374), (81, 14398), (90, 14431), (114, 14578), (148, 14839), (149, 14842),

Gene: GemG_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for GemG_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Gingerbug_17 Start: 10503, Stop: 11179, Start Num: 22
Candidate Starts for Gingerbug_17:
(5, 10386), (Start: 22 @10503 has 1 MA's), (31, 10548), (32, 10551), (36, 10578), (37, 10581), (41, 10596), (50, 10632), (53, 10644), (58, 10662), (61, 10677), (77, 10755), (92, 10824), (100, 10863), (124, 11025),

Gene: Gizermo_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Gizermo_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Goodman_19 Start: 12763, Stop: 13484, Start Num: 15
Candidate Starts for Goodman_19:
(Start: 15 @12763 has 12 MA's), (46, 12901), (58, 12949), (69, 13015), (77, 13042), (88, 13093), (92, 13111), (99, 13138), (119, 13291), (125, 13345),

Gene: Gudmit_14 Start: 9147, Stop: 9878, Start Num: 23
Candidate Starts for Gudmit_14:
(Start: 23 @9147 has 31 MA's), (43, 9243), (64, 9342), (74, 9393), (82, 9435), (107, 9573), (112, 9609), (133, 9783), (143, 9831), (147, 9852),

Gene: HFrancette_16 Start: 9271, Stop: 9989, Start Num: 18
Candidate Starts for HFrancette_16:
(Start: 18 @9271 has 11 MA's), (34, 9340), (69, 9490), (86, 9553), (89, 9568), (90, 9571), (119, 9784), (141, 9925),

Gene: Haley23_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Haley23_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Herod_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Herod_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (140, 10134),

Gene: Hiyaa_20 Start: 15134, Stop: 15891, Start Num: 13
Candidate Starts for Hiyaa_20:
(Start: 13 @15134 has 3 MA's), (30, 15197), (58, 15311), (62, 15341), (77, 15404), (81, 15428), (88, 15455), (90, 15461), (93, 15479), (148, 15872), (149, 15875),

Gene: Hortense_16 Start: 9045, Stop: 9967, Start Num: 3
Candidate Starts for Hortense_16:
(Start: 3 @9045 has 49 MA's), (6, 9126), (8, 9156), (11, 9177), (19, 9213), (25, 9237), (33, 9282), (35, 9288), (38, 9312), (39, 9315), (49, 9354), (52, 9366), (60, 9399), (62, 9420), (65, 9435), (69, 9456), (85, 9534), (130, 9852), (142, 9918),

Gene: Howe_16 Start: 9045, Stop: 9967, Start Num: 3
Candidate Starts for Howe_16:
(Start: 3 @9045 has 49 MA's), (6, 9126), (8, 9156), (11, 9177), (19, 9213), (25, 9237), (33, 9282), (35, 9288), (38, 9312), (39, 9315), (49, 9354), (52, 9366), (60, 9399), (62, 9420), (65, 9435), (69, 9456), (85, 9534), (130, 9852), (142, 9918),

Gene: Htur_18 Start: 12781, Stop: 13508, Start Num: 15
Candidate Starts for Htur_18:
(Start: 15 @12781 has 12 MA's), (37, 12886), (46, 12919), (58, 12967), (69, 13033), (77, 13060), (88, 13111), (92, 13129), (99, 13156), (119, 13315), (139, 13450),

Gene: Ignacio_16 Start: 9271, Stop: 9989, Start Num: 18
Candidate Starts for Ignacio_16:
(Start: 18 @9271 has 11 MA's), (34, 9340), (69, 9490), (86, 9553), (89, 9568), (90, 9571), (119, 9784), (141, 9925),

Gene: IndiRoo_18 Start: 10824, Stop: 11509, Start Num: 16
Candidate Starts for IndiRoo_18:
(Start: 16 @10824 has 7 MA's), (37, 10926), (48, 10968), (70, 11076), (77, 11100), (78, 11103), (87, 11142), (88, 11151), (99, 11196), (104, 11226), (118, 11325), (119, 11337), (122, 11364),

Gene: Invectra_16 Start: 8840, Stop: 9762, Start Num: 3
Candidate Starts for Invectra_16:
(Start: 3 @8840 has 49 MA's), (6, 8921), (8, 8951), (11, 8972), (19, 9008), (25, 9032), (33, 9077), (35, 9083), (38, 9107), (39, 9110), (49, 9149), (52, 9161), (60, 9194), (62, 9215), (65, 9230), (69, 9251), (85, 9329), (142, 9713),

Gene: JCole_13 Start: 8428, Stop: 9156, Start Num: 23
Candidate Starts for JCole_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (74, 8674), (82, 8716), (94, 8767), (96, 8782), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Jace_14 Start: 8989, Stop: 9902, Start Num: 4
Candidate Starts for Jace_14:
(2, 8959), (Start: 4 @8989 has 1 MA's), (26, 9184), (28, 9193), (35, 9223), (47, 9280), (52, 9301), (60, 9334), (62, 9355), (73, 9409), (105, 9568), (106, 9580),

Gene: Jalleen_14 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for Jalleen_14:
(Start: 23 @8361 has 31 MA's), (43, 8457), (74, 8607), (94, 8700), (111, 8805), (112, 8820), (129, 8961), (133, 8994), (143, 9042), (145, 9051), (147, 9063),

Gene: Johann_19 Start: 12763, Stop: 13484, Start Num: 15
Candidate Starts for Johann_19:
(Start: 15 @12763 has 12 MA's), (46, 12901), (58, 12949), (69, 13015), (77, 13042), (88, 13093), (92, 13111), (99, 13138), (119, 13291), (125, 13345),

Gene: Keanu_20 Start: 15177, Stop: 15934, Start Num: 13
Candidate Starts for Keanu_20:
(Start: 13 @15177 has 3 MA's), (30, 15240), (77, 15447), (88, 15498), (90, 15504), (93, 15522), (148, 15915), (149, 15918),

Gene: Kita_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Kita_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Lamberg_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for Lamberg_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (64, 8556), (74, 8607), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (143, 9042), (146, 9060), (147, 9063),

Gene: Lesiram_20 Start: 11288, Stop: 11985, Start Num: 24
Candidate Starts for Lesiram_20:
(Start: 24 @11288 has 2 MA's), (31, 11333), (37, 11366), (62, 11477), (70, 11513), (77, 11540), (88, 11591), (92, 11609),

Gene: Linayshia_18 Start: 12773, Stop: 13500, Start Num: 15
Candidate Starts for Linayshia_18:

(Start: 15 @12773 has 12 MA's), (37, 12878), (46, 12911), (58, 12959), (69, 13025), (77, 13052), (88, 13103), (92, 13121), (99, 13148), (119, 13307), (139, 13442),

Gene: LordFarquaad_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for LordFarquaad_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (133, 8994), (143, 9042), (147, 9063),

Gene: Losacky_22 Start: 10847, Stop: 11622, Start Num: 10
Candidate Starts for Losacky_22:
(Start: 10 @10847 has 9 MA's), (Start: 16 @10868 has 7 MA's), (20, 10886), (Start: 24 @10898 has 2 MA's), (29, 10931), (51, 11024), (57, 11045), (58, 11051), (67, 11108), (70, 11117), (77, 11162), (86, 11201), (103, 11288), (135, 11534),

Gene: Lton_13 Start: 8390, Stop: 9118, Start Num: 23
Candidate Starts for Lton_13:
(Start: 23 @8390 has 31 MA's), (43, 8486), (64, 8585), (74, 8636), (94, 8729), (112, 8849), (116, 8882), (133, 9023), (143, 9071), (147, 9092),

Gene: Madeline_15 Start: 9287, Stop: 10197, Start Num: 3
Candidate Starts for Madeline_15:
(Start: 3 @9287 has 49 MA's), (6, 9368), (7, 9386), (8, 9398), (11, 9419), (19, 9455), (25, 9479), (38, 9551), (52, 9605), (79, 9740),

Gene: Manasvini_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Manasvini_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Maridalia_84 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Maridalia_84:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Matteo_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for Matteo_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (133, 8994), (143, 9042), (147, 9063),

Gene: Mbo4_14 Start: 9106, Stop: 9801, Start Num: 21
Candidate Starts for Mbo4_14:
(21, 9106), (45, 9211), (68, 9325), (113, 9550), (137, 9727),

Gene: Mcklovin_17 Start: 10161, Stop: 11080, Start Num: 3
Candidate Starts for Mcklovin_17:
(Start: 3 @10161 has 49 MA's), (7, 10260), (8, 10272), (17, 10317), (19, 10329), (25, 10353), (28, 10371), (38, 10425), (52, 10479), (60, 10512), (85, 10647), (142, 11031),

Gene: MenE_21 Start: 10835, Stop: 11610, Start Num: 10
Candidate Starts for MenE_21:
(Start: 10 @10835 has 9 MA's), (Start: 16 @10856 has 7 MA's), (20, 10874), (Start: 24 @10886 has 2 MA's), (29, 10919), (51, 11012), (57, 11033), (58, 11039), (67, 11096), (70, 11105), (77, 11150), (86, 11189), (103, 11276), (135, 11522),

Gene: MichaelScott_16 Start: 8840, Stop: 9762, Start Num: 3
Candidate Starts for MichaelScott_16:
(Start: 3 @8840 has 49 MA's), (6, 8921), (8, 8951), (11, 8972), (19, 9008), (25, 9032), (33, 9077), (35, 9083), (38, 9107), (39, 9110), (49, 9149), (52, 9161), (60, 9194), (62, 9215), (65, 9230), (69, 9251), (85, 9329), (142, 9713),

Gene: Milani_18 Start: 11474, Stop: 12159, Start Num: 16
Candidate Starts for Milani_18:
(Start: 16 @11474 has 7 MA's), (37, 11576), (48, 11618), (70, 11726), (77, 11750), (88, 11801), (99, 11846), (104, 11876), (119, 11987), (122, 12014),

Gene: Mocha12_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Mocha12_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Moosehead_13 Start: 8336, Stop: 9064, Start Num: 23
Candidate Starts for Moosehead_13:
(Start: 23 @8336 has 31 MA's), (43, 8432), (44, 8435), (66, 8546), (74, 8582), (77, 8597), (82, 8624), (94, 8675), (96, 8690), (107, 8759), (111, 8780), (112, 8795), (133, 8969), (145, 9026), (147, 9038),

Gene: Neobush_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Neobush_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Nettuno_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for Nettuno_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (133, 8994), (143, 9042), (147, 9063),

Gene: Nymphadora_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Nymphadora_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (140, 10134),

Gene: Ohgeesy_15 Start: 8633, Stop: 9543, Start Num: 3
Candidate Starts for Ohgeesy_15:
(Start: 3 @8633 has 49 MA's), (6, 8714), (7, 8732), (8, 8744), (11, 8765), (19, 8801), (25, 8825), (38, 8897), (52, 8951), (73, 9059), (79, 9086),

Gene: Olympi_20 Start: 12753, Stop: 13474, Start Num: 15
Candidate Starts for Olympi_20:
(Start: 15 @12753 has 12 MA's), (46, 12891), (58, 12939), (69, 13005), (77, 13032), (88, 13083), (92, 13101), (99, 13128), (119, 13281), (125, 13335),

Gene: OneDirection_13 Start: 8334, Stop: 9062, Start Num: 23
Candidate Starts for OneDirection_13:
(Start: 23 @8334 has 31 MA's), (43, 8430), (64, 8529), (74, 8580), (94, 8673), (112, 8793), (116, 8826), (133, 8967), (143, 9015), (147, 9036),

Gene: Oregano_16 Start: 8511, Stop: 9433, Start Num: 3

Candidate Starts for Oregano_16:
(Start: 3 @8511 has 49 MA's), (6, 8592), (8, 8622), (11, 8643), (19, 8679), (25, 8703), (33, 8748), (35, 8754), (38, 8778), (39, 8781), (49, 8820), (52, 8832), (60, 8865), (62, 8886), (65, 8901), (69, 8922), (85, 9000), (142, 9384),

Gene: PantheRoc_15 Start: 8634, Stop: 9523, Start Num: 3
Candidate Starts for PantheRoc_15:
(Start: 3 @8634 has 49 MA's), (6, 8715), (8, 8745), (11, 8766), (19, 8802), (25, 8826), (38, 8898), (52, 8952), (79, 9087), (126, 9393), (127, 9396), (128, 9408), (140, 9468),

Gene: Pepperoni_13 Start: 8684, Stop: 9412, Start Num: 23
Candidate Starts for Pepperoni_13:
(Start: 23 @8684 has 31 MA's), (43, 8780), (64, 8879), (74, 8930), (94, 9023), (112, 9143), (116, 9176), (143, 9365), (147, 9386),

Gene: PermaG_19 Start: 12827, Stop: 13545, Start Num: 15
Candidate Starts for PermaG_19:
(Start: 15 @12827 has 12 MA's), (46, 12965), (58, 13013), (69, 13079), (77, 13106), (88, 13157), (92, 13175), (98, 13199), (99, 13202), (119, 13355),

Gene: Phonegingi_20 Start: 10589, Stop: 11340, Start Num: 16
Candidate Starts for Phonegingi_20:
(Start: 16 @10589 has 7 MA's), (20, 10607), (Start: 24 @10619 has 2 MA's), (29, 10652), (42, 10709), (51, 10745), (57, 10766), (60, 10781), (67, 10829), (70, 10838), (77, 10883), (86, 10922), (103, 11009), (135, 11252),

Gene: Piccadilly_16 Start: 9256, Stop: 9965, Start Num: 18
Candidate Starts for Piccadilly_16:
(Start: 18 @9256 has 11 MA's), (34, 9325), (69, 9475), (86, 9538), (89, 9553), (90, 9556), (119, 9769), (120, 9778), (123, 9802),

Gene: Pickett_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for Pickett_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (133, 8994), (143, 9042), (147, 9063),

Gene: Pickles13_20 Start: 10749, Stop: 11503, Start Num: 15
Candidate Starts for Pickles13_20:
(Start: 10 @10731 has 9 MA's), (Start: 15 @10749 has 12 MA's), (Start: 16 @10752 has 7 MA's), (20, 10773), (Start: 24 @10785 has 2 MA's), (51, 10911), (54, 10926), (61, 10953), (62, 10968), (67, 10995), (70, 11004), (77, 11049), (86, 11088), (97, 11145), (102, 11172), (135, 11415),

Gene: Polly_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Polly_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Powerball_15 Start: 8347, Stop: 9254, Start Num: 3
Candidate Starts for Powerball_15:
(Start: 3 @8347 has 49 MA's), (8, 8458), (19, 8515), (43, 8626), (52, 8665), (60, 8698), (62, 8719), (69, 8755), (73, 8773), (97, 8890), (114, 9004), (128, 9139),

Gene: Rasovi_18 Start: 12781, Stop: 13508, Start Num: 15

Candidate Starts for Rasovi_18:
(Start: 15 @12781 has 12 MA's), (37, 12886), (46, 12919), (58, 12967), (69, 13033), (77, 13060), (88, 13111), (92, 13129), (99, 13156), (119, 13315), (139, 13450),

Gene: RavenCo17_13 Start: 9219, Stop: 9959, Start Num: 23
Candidate Starts for RavenCo17_13:
(Start: 23 @9219 has 31 MA's), (43, 9315), (64, 9417), (74, 9468), (76, 9474), (82, 9510), (91, 9549), (94, 9567), (101, 9600), (108, 9657), (111, 9672), (112, 9687), (133, 9864), (136, 9879), (147, 9933),

Gene: SBlackberry_18 Start: 12619, Stop: 13340, Start Num: 15
Candidate Starts for SBlackberry_18:
(Start: 15 @12619 has 12 MA's), (69, 12871), (77, 12898), (80, 12913), (88, 12949), (92, 12967), (99, 12994), (119, 13147), (139, 13282),

Gene: Sahara_13 Start: 8445, Stop: 9173, Start Num: 23
Candidate Starts for Sahara_13:
(Start: 23 @8445 has 31 MA's), (43, 8541), (74, 8691), (82, 8733), (94, 8784), (107, 8868), (111, 8889), (112, 8904), (143, 9126), (147, 9147),

Gene: Samman98_16 Start: 8856, Stop: 9763, Start Num: 3
Candidate Starts for Samman98_16:
(Start: 3 @8856 has 49 MA's), (8, 8967), (19, 9024), (43, 9135), (52, 9174), (60, 9207), (62, 9228), (69, 9264), (73, 9282), (97, 9399), (114, 9513), (128, 9648),

Gene: Savage_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Savage_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Schlegelian_16 Start: 9256, Stop: 9965, Start Num: 18
Candidate Starts for Schlegelian_16:
(Start: 18 @9256 has 11 MA's), (34, 9325), (69, 9475), (86, 9538), (89, 9553), (90, 9556), (119, 9769), (120, 9778), (123, 9802),

Gene: Sekhmet_16 Start: 8840, Stop: 9762, Start Num: 3
Candidate Starts for Sekhmet_16:
(Start: 3 @8840 has 49 MA's), (6, 8921), (8, 8951), (11, 8972), (19, 9008), (25, 9032), (33, 9077), (35, 9083), (38, 9107), (39, 9110), (49, 9149), (52, 9161), (60, 9194), (62, 9215), (65, 9230), (69, 9251), (85, 9329), (142, 9713),

Gene: Shlim410_16 Start: 9045, Stop: 9967, Start Num: 3
Candidate Starts for Shlim410_16:
(Start: 3 @9045 has 49 MA's), (6, 9126), (8, 9156), (11, 9177), (19, 9213), (25, 9237), (33, 9282), (35, 9288), (38, 9312), (39, 9315), (49, 9354), (52, 9366), (60, 9399), (62, 9420), (65, 9435), (69, 9456), (85, 9534), (130, 9852), (142, 9918),

Gene: Sidious_15 Start: 8632, Stop: 9521, Start Num: 3
Candidate Starts for Sidious_15:
(Start: 3 @8632 has 49 MA's), (6, 8713), (8, 8743), (11, 8764), (19, 8800), (25, 8824), (38, 8896), (52, 8950), (79, 9085), (127, 9409), (128, 9421), (140, 9481),

Gene: SoilAssassin_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for SoilAssassin_13:

(Start: 23 @8361 has 31 MA's), (43, 8457), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (133, 8994), (143, 9042), (147, 9063),

Gene: Spocter_20 Start: 15122, Stop: 15879, Start Num: 13
Candidate Starts for Spocter_20:
(Start: 13 @15122 has 3 MA's), (30, 15185), (58, 15299), (62, 15329), (77, 15392), (81, 15416), (88, 15443), (90, 15449), (93, 15467), (148, 15860), (149, 15863),

Gene: Sproutie_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Sproutie_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Sucha_15 Start: 9812, Stop: 10497, Start Num: 16
Candidate Starts for Sucha_15:
(Start: 16 @9812 has 7 MA's), (37, 9914), (48, 9956), (70, 10064), (77, 10088), (78, 10091), (87, 10130), (88, 10139), (99, 10184), (118, 10313), (119, 10325), (122, 10352),

Gene: Suerte_15 Start: 8339, Stop: 9246, Start Num: 3
Candidate Starts for Suerte_15:
(Start: 3 @8339 has 49 MA's), (8, 8450), (19, 8507), (43, 8618), (52, 8657), (60, 8690), (62, 8711), (69, 8747), (73, 8765), (97, 8882), (114, 8996), (128, 9131),

Gene: Suscepit_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Suscepit_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Tayonia_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Tayonia_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: ThankyouJordi_14 Start: 9309, Stop: 10216, Start Num: 3
Candidate Starts for ThankyouJordi_14:
(Start: 3 @9309 has 49 MA's), (6, 9390), (11, 9441), (19, 9477), (25, 9501), (38, 9573), (52, 9627), (69, 9717), (79, 9762), (126, 10086), (127, 10089), (128, 10101), (140, 10161),

Gene: TimTam_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for TimTam_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (140, 10134),

Gene: Trumpet_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Trumpet_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: TuertoX_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for TuertoX_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: TurboVicky_18 Start: 12613, Stop: 13334, Start Num: 15
Candidate Starts for TurboVicky_18:
(Start: 15 @12613 has 12 MA's), (69, 12865), (77, 12892), (80, 12907), (88, 12943), (92, 12961), (99, 12988), (119, 13141), (139, 13276),

Gene: Twinkle_16 Start: 9045, Stop: 9967, Start Num: 3
Candidate Starts for Twinkle_16:
(Start: 3 @9045 has 49 MA's), (6, 9126), (8, 9156), (11, 9177), (19, 9213), (25, 9237), (33, 9282), (35, 9288), (38, 9312), (39, 9315), (49, 9354), (52, 9366), (60, 9399), (62, 9420), (65, 9435), (69, 9456), (85, 9534), (130, 9852), (142, 9918),

Gene: Typher_20 Start: 12746, Stop: 13464, Start Num: 16
Candidate Starts for Typher_20:
(Start: 16 @12746 has 7 MA's), (69, 12995), (77, 13022), (80, 13037), (88, 13073), (92, 13091), (99, 13118), (119, 13271), (139, 13406),

Gene: Vasanti_13 Start: 8380, Stop: 9105, Start Num: 23
Candidate Starts for Vasanti_13:
(Start: 23 @8380 has 31 MA's), (43, 8476), (70, 8605), (74, 8626), (82, 8668), (94, 8719), (110, 8812), (112, 8839), (145, 9067), (147, 9079),

Gene: Vondra_16 Start: 9268, Stop: 9977, Start Num: 18
Candidate Starts for Vondra_16:
(Start: 18 @9268 has 11 MA's), (34, 9337), (69, 9487), (86, 9550), (89, 9565), (90, 9568), (119, 9781), (120, 9790), (123, 9814),

Gene: Warren_21 Start: 10765, Stop: 11540, Start Num: 10
Candidate Starts for Warren_21:
(Start: 10 @10765 has 9 MA's), (Start: 16 @10786 has 7 MA's), (20, 10804), (Start: 24 @10816 has 2 MA's), (29, 10849), (51, 10942), (57, 10963), (58, 10969), (67, 11026), (70, 11035), (77, 11080), (86, 11119), (103, 11206), (135, 11452),

Gene: WelcomeAyanna_14 Start: 9309, Stop: 10216, Start Num: 3
Candidate Starts for WelcomeAyanna_14:
(Start: 3 @9309 has 49 MA's), (6, 9390), (11, 9441), (19, 9477), (25, 9501), (38, 9573), (52, 9627), (69, 9717), (79, 9762), (126, 10086), (127, 10089), (128, 10101), (140, 10161),

Gene: Whiteclaw_13 Start: 8428, Stop: 9147, Start Num: 23
Candidate Starts for Whiteclaw_13:
(Start: 23 @8428 has 31 MA's), (43, 8524), (82, 8716), (94, 8767), (107, 8851), (111, 8872), (112, 8887), (133, 9061), (143, 9109), (147, 9130),

Gene: Wrackline_25 Start: 11988, Stop: 12664, Start Num: 24
Candidate Starts for Wrackline_25:
(Start: 24 @11988 has 2 MA's), (31, 12033), (37, 12066), (41, 12081), (53, 12129), (58, 12147), (67, 12204), (75, 12228), (76, 12231), (77, 12240), (84, 12273), (122, 12492),

Gene: Yeet412_13 Start: 8361, Stop: 9089, Start Num: 23
Candidate Starts for Yeet412_13:
(Start: 23 @8361 has 31 MA's), (43, 8457), (82, 8649), (94, 8700), (107, 8784), (111, 8805), (112, 8820), (133, 8994), (143, 9042), (147, 9063),

Gene: Yeezy_16 Start: 8643, Stop: 9547, Start Num: 3

Candidate Starts for Yeezy_16:
(Start: 3 @8643 has 49 MA's), (6, 8724), (8, 8754), (11, 8775), (19, 8811), (25, 8835), (38, 8907), (52, 8961), (79, 9096), (126, 9417), (127, 9420), (128, 9432), (140, 9492),

Gene: Zameen_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Zameen_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (7, 9384), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (126, 10059), (127, 10062), (128, 10074), (132, 10104), (140, 10134),

Gene: Zanella_18 Start: 12616, Stop: 13337, Start Num: 15
Candidate Starts for Zanella_18:
(Start: 15 @12616 has 12 MA's), (69, 12868), (77, 12895), (80, 12910), (88, 12946), (92, 12964), (99, 12991), (119, 13144), (139, 13279),

Gene: Zirinka_15 Start: 9285, Stop: 10189, Start Num: 3
Candidate Starts for Zirinka_15:
(Start: 3 @9285 has 49 MA's), (6, 9366), (8, 9396), (11, 9417), (19, 9453), (25, 9477), (38, 9549), (52, 9603), (79, 9738), (142, 10149),