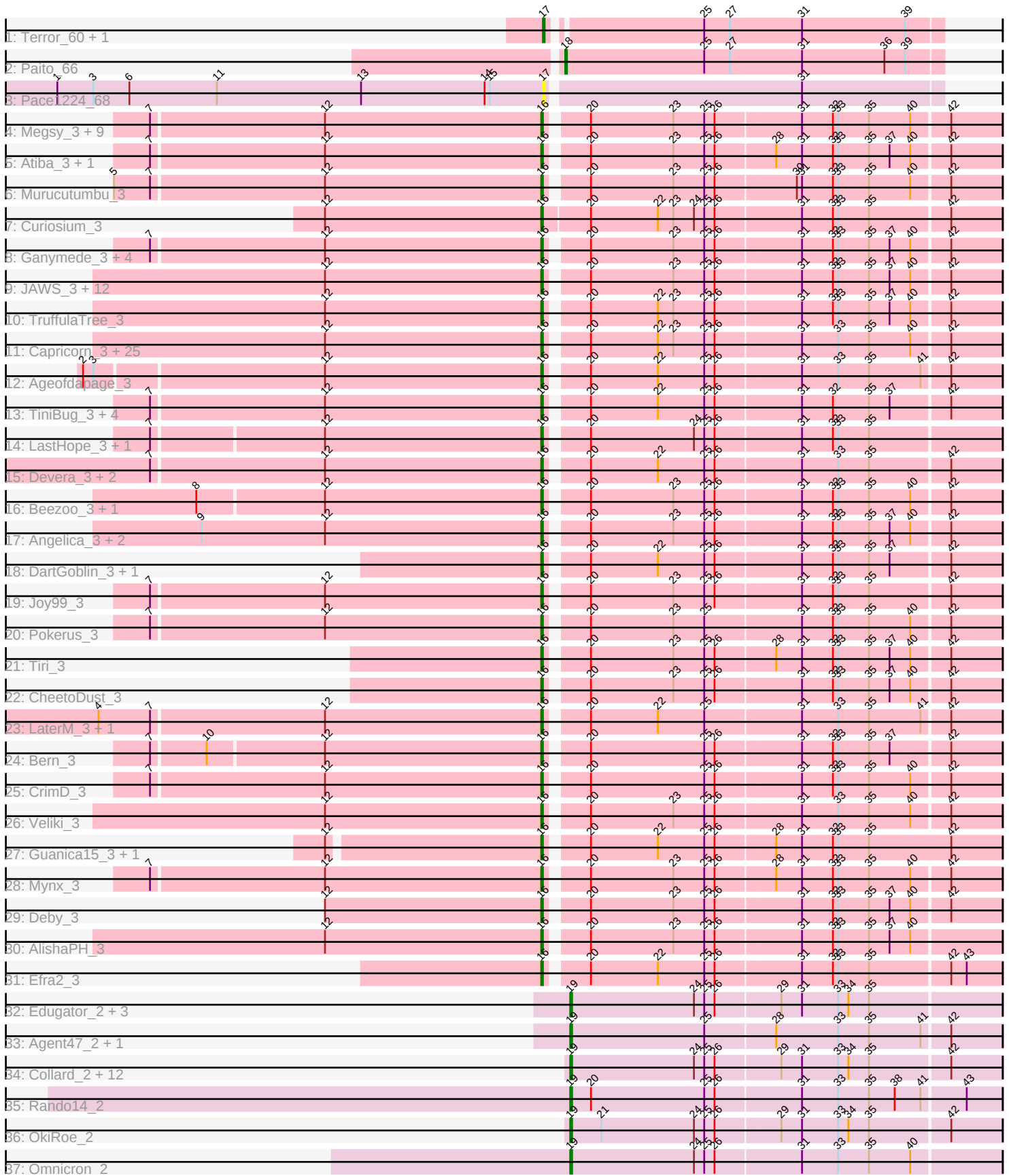




Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 330642 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330642 has 118 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Terror_60, Taheera_60
- Track 2 : Paito_66
- Track 3 : Pace1224_68
- Track 4 : Megsy_3, Clipper_3, LindNT_3, TreyKay_3, MacKat_3, YoureAdopted_3, TaiwanKao_3, Prithvi_3, BaghaKamala_3, MeaningOfLife_3
- Track 5 : Atiba_3, Tachez_3
- Track 6 : Murucutumbu_3
- Track 7 : Curiosium_3
- Track 8 : Ganymede_3, CallaLilly_3, Adonis_3, QuincyRose_3, Zavala_3
- Track 9 : JAWS_3, BarrelRoll_3, Anaya_3, Adephagia_3, Slimphazie_3, Zabiza_3, Emerson_3, HedwigODU_3, Jayhawk_3, Padpat_3, ActinUp_3, Rapunzel97_3, Ramen_3
- Track 10 : TruffulaTree_3
- Track 11 : Capricorn_3, Durfee_3, Boiii_3, Blizzard_3, ShiaSurprise_3, Homura_3, Belladonna_3, Topper_3, Twitch_3, Piatt_3, Dalmuri_3, Lunahalos_3, Inky_3, Llorens_3, Jarvi_3, BGlluviae_3, BEEST_3, Asayake_3, Hyperbowlee_3, Jeckyll_3, Rosmarinus_3, Peel_3, CREW_3, Padfoot_3, Spock_3, CaseJules_3
- Track 12 : Ageofdapage_3
- Track 13 : TiniBug_3, Urkel_3, DrHayes_3, Anma_3, SamuelLPlaqson_3
- Track 14 : LastHope_3, TingHuaYa_3
- Track 15 : Devera_3, Illumine_3, Dole_3
- Track 16 : Beezoo_3, Geraldini_3
- Track 17 : Angelica_3, Apocalypse_3, Sulley_3
- Track 18 : DartGoblin_3, Bella96_3
- Track 19 : Joy99_3
- Track 20 : Pokerus_3
- Track 21 : Tiri_3
- Track 22 : CheetoDust_3
- Track 23 : LaterM_3, Stinson_3
- Track 24 : Bern_3
- Track 25 : CrimD_3
- Track 26 : Veliki_3
- Track 27 : Guanica15_3, Yunkel11_3
- Track 28 : Mynx_3
- Track 29 : Deby_3
- Track 30 : AlishaPH_3
- Track 31 : Efra2_3

- Track 32 : Edugator_2, AlleyCat_2, Psycho_2, Dadosky_2
- Track 33 : Agent47_2, InvictusManeo_2
- Track 34 : Collard_2, Heftyboy_2, Paola_2, Waterfoul_2, Thyatira_2, Gengar_2, SoSeph_2, Guillsminger_2, BananenDer11_2, Feyre_2, Miryou_2, Leston_2, DoubleChamp_2
- Track 35 : Rando14_2
- Track 36 : OkiRoe_2
- Track 37 : Omnicron_2

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

The start number called the most often in the published annotations is 16, it was called in 90 of the 114 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp_3, Adephagia_3, Adonis_3, Ageofdapage_3, AlishaPH_3, Anaya_3, Angelica_3, Anma_3, Apocalypse_3, Asayake_3, Atiba_3, BEEST_3, BGlluviae_3, BaghaKamala_3, BarrelRoll_3, Beezoo_3, Bella96_3, Belladonna_3, Bern_3, Blizzard_3, Boiii_3, CREW_3, CallaLilly_3, Capricorn_3, CaseJules_3, CheetoDust_3, Clipper_3, CrimD_3, Curiosium_3, Dalmuri_3, DartGoblin_3, Deby_3, Devera_3, Dole_3, DrHayes_3, Durfee_3, Efra2_3, Emerson_3, Ganymede_3, Geraldini_3, Guanica15_3, HedwigODU_3, Homura_3, Hyperbowlee_3, Illumine_3, Inky_3, JAWS_3, Jarvi_3, Jayhawk_3, Jeckyll_3, Joy99_3, LastHope_3, LaterM_3, LindNT_3, Llorens_3, Lunahalos_3, MacKat_3, MeaningOfLife_3, Megsy_3, Murucutumbu_3, Mynx_3, Padfoot_3, Padpat_3, Peel_3, Piatt_3, Pokerus_3, Prithvi_3, QuincyRose_3, Ramen_3, Rapunzel97_3, Rosmarinus_3, SamuelLPlaqueson_3, ShiaSurprise_3, Slimphazie_3, Spock_3, Stinson_3, Sulley_3, Tachez_3, TaiwanKao_3, TingHuaYa_3, TiniBug_3, Tiri_3, Topper_3, TreyKay_3, TruffulaTree_3, Twitch_3, Urkel_3, Veliki_3, YoureAdopted_3, Yunkel11_3, Zabiza_3, Zavala_3,

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

-

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

- Agent47_2, AlleyCat_2, BananenDer11_2, Collard_2, Dadosky_2, DoubleChamp_2, Edugator_2, Feyre_2, Gengar_2, Guillsminger_2, Heftyboy_2, InvictusManeo_2, Leston_2, Miryou_2, OkiRoe_2, Omnicron_2, Pace1224_68, Paito_66, Paola_2, Psycho_2, Rando14_2, SoSeph_2, Taheera_60, Terror_60, Thyatira_2, Waterfoul_2,

Summary by start number:

Start 16:

- Found in 92 of 118 (78.0%) of genes in pham
- Manual Annotations of this start: 90 of 114
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp_3 (K1), Adephagia_3 (K1), Adonis_3 (K1), Ageofdapage_3 (K1), AlishaPH_3 (K1), Anaya_3 (K1), Angelica_3 (K1), Anma_3 (K1), Apocalypse_3 (K1), Asayake_3 (K1), Atiba_3 (K1), BEEST_3 (K1), BGlluviae_3 (K1), BaghaKamala_3 (K1), BarrelRoll_3 (K1), Beezoo_3 (K1),

Bella96_3 (K1), Belladonna_3 (K1), Bern_3 (K1), Blizzard_3 (K1), Boiii_3 (K1), CREW_3 (K1), CallaLilly_3 (K1), Capricorn_3 (K1), CaseJules_3 (K1), CheetoDust_3 (K1), Clipper_3 (K1), CrimD_3 (K1), Curiosity_3 (K1), Dalmuri_3 (K1), DartGoblin_3 (K1), Deby_3 (K1), Devera_3 (K1), Dole_3 (K1), DrHayes_3 (K1), Durfee_3 (K1), Efra2_3 (K1), Emerson_3 (K1), Ganymede_3 (K1), Geraldini_3 (K1), Guanica15_3 (K1), HedwigODU_3 (K1), Homura_3 (K1), Hyperbowlee_3 (K1), Illumine_3 (K1), Inky_3 (K1), JAWS_3 (K1), Jarvi_3 (K1), Jayhawk_3 (K1), Jeckyll_3 (K1), Joy99_3 (K1), LastHope_3 (K1), LaterM_3 (K1), LindNT_3 (K1), Llorens_3 (K1), Lunahalos_3 (K1), MacKat_3 (K1), MeaningOfLife_3 (K1), Megsy_3 (K1), Murucutumbu_3 (K1), Mynx_3 (K1), Padfoot_3 (K1), Padpat_3 (K1), Peel_3 (K1), Piatt_3 (K1), Pokerus_3 (K1), Prithvi_3 (K1), QuincyRose_3 (K1), Ramen_3 (K1), Rapunzel97_3 (K1), Rosmarinus_3 (K1), SamuelLPlaqson_3 (K1), ShiaSurprise_3 (K1), Slimphazie_3 (K1), Spock_3 (K1), Stinson_3 (K1), Sulley_3 (K1), Tachez_3 (K1), TaiwanKao_3 (K1), TingHuaYa_3 (K1), TiniBug_3 (K1), Tiri_3 (K1), Topper_3 (K1), TreyKay_3 (K1), TruffulaTree_3 (K1), Twitch_3 (K1), Urkel_3 (K1), Veliki_3 (K1), YoureAdopted_3 (K1), Yunkel11_3 (K1), Zabiza_3 (K1), Zavala_3 (K1),

Start 17:

- Found in 3 of 118 (2.5%) of genes in pham
- Manual Annotations of this start: 2 of 114
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pace1224_68 (G2), Taheera_60 (G1), Terror_60 (G1),

Start 18:

- Found in 1 of 118 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 114
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Paito_66 (G1),

Start 19:

- Found in 22 of 118 (18.6%) of genes in pham
- Manual Annotations of this start: 21 of 114
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agent47_2 (K5), AlleyCat_2 (K5), BananenDer11_2 (K5), Collard_2 (K5), Dadosky_2 (K5), DoubleChamp_2 (K5), Edugator_2 (K5), Feyre_2 (K5), Gengar_2 (K5), Guillsminger_2 (K5), Heftyboy_2 (K5), InvictusManeo_2 (K5), Leston_2 (K5), Miryou_2 (K5), OkiRoe_2 (K5), Omnicron_2 (K5), Paola_2 (K5), Psycho_2 (K5), Rando14_2 (K5), SoSeph_2 (K5), Thyatira_2 (K5), Waterfoul_2 (K5),

Summary by clusters:

There are 4 clusters represented in this pham: K1, G1, K5, G2,

Info for manual annotations of cluster G1:

- Start number 17 was manually annotated 2 times for cluster G1.
- Start number 18 was manually annotated 1 time for cluster G1.

Info for manual annotations of cluster K1:

- Start number 16 was manually annotated 90 times for cluster K1.

Info for manual annotations of cluster K5:

•Start number 19 was manually annotated 21 times for cluster K5.

Gene Information:

Gene: ActinUp_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for ActinUp_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Adephagia_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Adephagia_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Adonis_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Adonis_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),

Gene: Agent47_2 Start: 300, Stop: 545, Start Num: 19

Candidate Starts for Agent47_2:

(Start: 19 @300 has 21 MA's), (25, 378), (28, 417), (33, 453), (35, 471), (41, 501), (42, 516),

Gene: Ageofdapage_3 Start: 435, Stop: 689, Start Num: 16

Candidate Starts for Ageofdapage_3:

(2, 174), (3, 180), (12, 309), (Start: 16 @435 has 90 MA's), (20, 456), (22, 495), (25, 522), (26, 528), (31, 576), (33, 597), (35, 615), (41, 645), (42, 660),

Gene: AlishaPH_3 Start: 475, Stop: 729, Start Num: 16

Candidate Starts for AlishaPH_3:

(12, 349), (Start: 16 @475 has 90 MA's), (20, 496), (23, 544), (25, 562), (26, 568), (31, 616), (32, 634), (33, 637), (35, 655), (37, 667), (40, 679),

Gene: AlleyCat_2 Start: 300, Stop: 545, Start Num: 19

Candidate Starts for AlleyCat_2:

(Start: 19 @300 has 21 MA's), (24, 372), (25, 378), (26, 384), (29, 420), (31, 432), (33, 453), (34, 459), (35, 471),

Gene: Anaya_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Anaya_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Angelica_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Angelica_3:

(9, 278), (12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Anma_3 Start: 440, Stop: 694, Start Num: 16

Candidate Starts for Anma_3:

(7, 215), (12, 314), (Start: 16 @440 has 90 MA's), (20, 461), (22, 500), (25, 527), (26, 533), (31, 581), (32, 599), (35, 620), (37, 632), (42, 665),

Gene: Apocalypse_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Apocalypse_3:

(9, 278), (12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Asayake_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Asayake_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Atiba_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Atiba_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (28, 578), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),

Gene: BEEST_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for BEEST_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: BGlluviae_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for BGlluviae_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: BaghaKamala_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for BaghaKamala_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: BananenDer11_2 Start: 274, Stop: 519, Start Num: 19

Candidate Starts for BananenDer11_2:

(Start: 19 @274 has 21 MA's), (24, 346), (25, 352), (26, 358), (29, 394), (31, 406), (33, 427), (34, 433), (35, 445), (42, 490),

Gene: BarrelRoll_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for BarrelRoll_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Beezoo_3 Start: 473, Stop: 727, Start Num: 16

Candidate Starts for Beezoo_3:

(8, 275), (12, 347), (Start: 16 @473 has 90 MA's), (20, 494), (23, 542), (25, 560), (26, 566), (31, 614), (32, 632), (33, 635), (35, 653), (40, 677), (42, 698),

Gene: Bella96_3 Start: 440, Stop: 694, Start Num: 16

Candidate Starts for Bella96_3:

(Start: 16 @440 has 90 MA's), (20, 461), (22, 500), (25, 527), (26, 533), (31, 581), (32, 599), (33, 602), (35, 620), (37, 632), (42, 665),

Gene: Belladonna_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Belladonna_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Bern_3 Start: 436, Stop: 690, Start Num: 16

Candidate Starts for Bern_3:

(7, 214), (10, 244), (12, 310), (Start: 16 @436 has 90 MA's), (20, 457), (25, 523), (26, 529), (31, 577), (32, 595), (33, 598), (35, 616), (37, 628), (42, 661),

Gene: Blizzard_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Blizzard_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Boiiii_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Boiiii_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: CREW_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for CREW_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: CallaLilly_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for CallaLilly_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),

Gene: Capricorn_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Capricorn_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: CaseJules_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for CaseJules_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: CheetoDust_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for CheetoDust_3:

(Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),

Gene: Clipper_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Clipper_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Collard_2 Start: 274, Stop: 519, Start Num: 19

Candidate Starts for Collard_2:

(Start: 19 @274 has 21 MA's), (24, 346), (25, 352), (26, 358), (29, 394), (31, 406), (33, 427), (34, 433), (35, 445), (42, 490),

Gene: CrimD_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for CrimD_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Curiosium_3 Start: 517, Stop: 777, Start Num: 16

Candidate Starts for Curiosium_3:

(12, 391), (Start: 16 @517 has 90 MA's), (20, 544), (22, 583), (23, 592), (24, 604), (25, 610), (26, 616), (31, 664), (32, 682), (33, 685), (35, 703), (42, 748),

Gene: Dadosky_2 Start: 300, Stop: 545, Start Num: 19

Candidate Starts for Dadosky_2:

(Start: 19 @300 has 21 MA's), (24, 372), (25, 378), (26, 384), (29, 420), (31, 432), (33, 453), (34, 459), (35, 471),

Gene: Dalmuri_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Dalmuri_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: DartGoblin_3 Start: 440, Stop: 694, Start Num: 16

Candidate Starts for DartGoblin_3:

(Start: 16 @440 has 90 MA's), (20, 461), (22, 500), (25, 527), (26, 533), (31, 581), (32, 599), (33, 602), (35, 620), (37, 632), (42, 665),

Gene: Deby_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Deby_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Devera_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Devera_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (22, 512), (25, 539), (26, 545), (31, 593), (33, 614), (35, 632), (42, 677),

Gene: Dole_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Dole_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (22, 512), (25, 539), (26, 545), (31, 593), (33, 614), (35, 632), (42, 677),

Gene: DoubleChamp_2 Start: 274, Stop: 519, Start Num: 19

Candidate Starts for DoubleChamp_2:

(Start: 19 @274 has 21 MA's), (24, 346), (25, 352), (26, 358), (29, 394), (31, 406), (33, 427), (34, 433), (35, 445), (42, 490),

Gene: DrHayes_3 Start: 440, Stop: 694, Start Num: 16

Candidate Starts for DrHayes_3:

(7, 215), (12, 314), (Start: 16 @440 has 90 MA's), (20, 461), (22, 500), (25, 527), (26, 533), (31, 581), (32, 599), (35, 620), (37, 632), (42, 665),

Gene: Durfee_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Durfee_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Edugator_2 Start: 300, Stop: 545, Start Num: 19

Candidate Starts for Edugator_2:

(Start: 19 @300 has 21 MA's), (24, 372), (25, 378), (26, 384), (29, 420), (31, 432), (33, 453), (34, 459), (35, 471),

Gene: Efra2_3 Start: 445, Stop: 699, Start Num: 16

Candidate Starts for Efra2_3:

(Start: 16 @445 has 90 MA's), (20, 466), (22, 505), (25, 532), (26, 538), (31, 586), (32, 604), (33, 607), (35, 625), (42, 670), (43, 679),

Gene: Emerson_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Emerson_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Feyre_2 Start: 275, Stop: 520, Start Num: 19

Candidate Starts for Feyre_2:

(Start: 19 @275 has 21 MA's), (24, 347), (25, 353), (26, 359), (29, 395), (31, 407), (33, 428), (34, 434), (35, 446), (42, 491),

Gene: Ganymede_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Ganymede_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),

Gene: Gengar_2 Start: 300, Stop: 545, Start Num: 19

Candidate Starts for Gengar_2:

(Start: 19 @300 has 21 MA's), (24, 372), (25, 378), (26, 384), (29, 420), (31, 432), (33, 453), (34, 459), (35, 471), (42, 516),

Gene: Geraldini_3 Start: 473, Stop: 727, Start Num: 16

Candidate Starts for Geraldini_3:

(8, 275), (12, 347), (Start: 16 @473 has 90 MA's), (20, 494), (23, 542), (25, 560), (26, 566), (31, 614), (32, 632), (33, 635), (35, 653), (40, 677), (42, 698),

Gene: Guanica15_3 Start: 445, Stop: 702, Start Num: 16

Candidate Starts for Guanica15_3:

(12, 325), (Start: 16 @445 has 90 MA's), (20, 466), (22, 505), (25, 532), (26, 538), (28, 571), (31, 586), (32, 604), (33, 607), (35, 625), (42, 673),

Gene: Guillsminger_2 Start: 275, Stop: 520, Start Num: 19

Candidate Starts for Guillsminger_2:

(Start: 19 @275 has 21 MA's), (24, 347), (25, 353), (26, 359), (29, 395), (31, 407), (33, 428), (34, 434), (35, 446), (42, 491),

Gene: HedwigODU_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for HedwigODU_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Heftyboy_2 Start: 296, Stop: 541, Start Num: 19

Candidate Starts for Heftyboy_2:

(Start: 19 @296 has 21 MA's), (24, 368), (25, 374), (26, 380), (29, 416), (31, 428), (33, 449), (34, 455), (35, 467), (42, 512),

Gene: Homura_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Homura_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Hyperbowlee_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Hyperbowlee_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Illumine_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Illumine_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (22, 512), (25, 539), (26, 545), (31, 593), (33, 614), (35, 632), (42, 677),

Gene: Inky_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Inky_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: InvictusManeo_2 Start: 300, Stop: 545, Start Num: 19

Candidate Starts for InvictusManeo_2:

(Start: 19 @300 has 21 MA's), (25, 378), (28, 417), (33, 453), (35, 471), (41, 501), (42, 516),

Gene: JAWS_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for JAWS_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Jarvi_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Jarvi_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Jayhawk_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Jayhawk_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Jeckyll_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Jeckyll_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Joy99_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Joy99_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (42, 677),

Gene: LastHope_3 Start: 447, Stop: 701, Start Num: 16

Candidate Starts for LastHope_3:

(7, 225), (12, 321), (Start: 16 @447 has 90 MA's), (20, 468), (24, 528), (25, 534), (26, 540), (31, 588), (32, 606), (33, 609), (35, 627),

Gene: LaterM_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for LaterM_3:

(4, 197), (7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (22, 512), (25, 539), (31, 593), (33, 614), (35, 632), (41, 662), (42, 677),

Gene: Leston_2 Start: 300, Stop: 545, Start Num: 19

Candidate Starts for Leston_2:

(Start: 19 @300 has 21 MA's), (24, 372), (25, 378), (26, 384), (29, 420), (31, 432), (33, 453), (34, 459), (35, 471), (42, 516),

Gene: LindNT_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for LindNT_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Llorens_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Llorens_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Lunahalos_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Lunahalos_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: MacKat_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for MacKat_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: MeaningOfLife_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for MeaningOfLife_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Megsy_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Megsy_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Miryou_2 Start: 275, Stop: 520, Start Num: 19

Candidate Starts for Miryou_2:

(Start: 19 @275 has 21 MA's), (24, 347), (25, 353), (26, 359), (29, 395), (31, 407), (33, 428), (34, 434), (35, 446), (42, 491),

Gene: Murucutumbu_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Murucutumbu_3:

(5, 206), (7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (30, 590), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Mynx_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Mynx_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (28, 578), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: OkiRoe_2 Start: 275, Stop: 520, Start Num: 19

Candidate Starts for OkiRoe_2:

(Start: 19 @275 has 21 MA's), (21, 293), (24, 347), (25, 353), (26, 359), (29, 395), (31, 407), (33, 428), (34, 434), (35, 446), (42, 491),

Gene: Omnicron_2 Start: 241, Stop: 486, Start Num: 19

Candidate Starts for Omnicron_2:

(Start: 19 @241 has 21 MA's), (24, 313), (25, 319), (26, 325), (31, 373), (33, 394), (35, 412), (40, 436),

Gene: Pace1224_68 Start: 44266, Stop: 44490, Start Num: 17

Candidate Starts for Pace1224_68:

(1, 43984), (3, 44005), (6, 44026), (11, 44077), (13, 44161), (14, 44233), (15, 44236), (Start: 17 @44266 has 2 MA's), (31, 44410),

Gene: Padfoot_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Padfoot_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Padpat_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Padpat_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Paito_66 Start: 41579, Stop: 41797, Start Num: 18

Candidate Starts for Paito_66:

(Start: 18 @41579 has 1 MA's), (25, 41660), (27, 41675), (31, 41717), (36, 41765), (39, 41777),

Gene: Paola_2 Start: 275, Stop: 520, Start Num: 19

Candidate Starts for Paola_2:

(Start: 19 @275 has 21 MA's), (24, 347), (25, 353), (26, 359), (29, 395), (31, 407), (33, 428), (34, 434), (35, 446), (42, 491),

Gene: Peel_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Peel_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Piatt_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Piatt_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Pokerus_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Pokerus_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Prithvi_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Prithvi_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Psycho_2 Start: 300, Stop: 545, Start Num: 19

Candidate Starts for Psycho_2:

(Start: 19 @300 has 21 MA's), (24, 372), (25, 378), (26, 384), (29, 420), (31, 432), (33, 453), (34, 459), (35, 471),

Gene: QuincyRose_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for QuincyRose_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),

Gene: Ramen_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Ramen_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Rando14_2 Start: 304, Stop: 549, Start Num: 19

Candidate Starts for Rando14_2:

(Start: 19 @304 has 21 MA's), (20, 316), (25, 382), (26, 388), (31, 436), (33, 457), (35, 475), (38, 490), (41, 505), (43, 529),

Gene: Rapunzel97_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Rapunzel97_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Rosmarinus_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Rosmarinus_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: SamuelLPlaqson_3 Start: 440, Stop: 694, Start Num: 16

Candidate Starts for SamuelLPlaqson_3:

(7, 215), (12, 314), (Start: 16 @440 has 90 MA's), (20, 461), (22, 500), (25, 527), (26, 533), (31, 581), (32, 599), (35, 620), (37, 632), (42, 665),

Gene: ShiaSurprise_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for ShiaSurprise_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Slimphazie_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Slimphazie_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: SoSeph_2 Start: 296, Stop: 541, Start Num: 19

Candidate Starts for SoSeph_2:

(Start: 19 @296 has 21 MA's), (24, 368), (25, 374), (26, 380), (29, 416), (31, 428), (33, 449), (34, 455), (35, 467), (42, 512),

Gene: Spock_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Spock_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Stinson_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Stinson_3:

(4, 197), (7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (22, 512), (25, 539), (31, 593), (33, 614), (35, 632), (41, 662), (42, 677),

Gene: Sulley_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Sulley_3:

(9, 278), (12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Tachez_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Tachez_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (28, 578), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),

Gene: Taheera_60 Start: 40724, Stop: 40945, Start Num: 17

Candidate Starts for Taheera_60:

(Start: 17 @40724 has 2 MA's), (25, 40808), (27, 40823), (31, 40865), (39, 40925),

Gene: TaiwanKao_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for TaiwanKao_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Terror_60 Start: 40724, Stop: 40945, Start Num: 17

Candidate Starts for Terror_60:

(Start: 17 @40724 has 2 MA's), (25, 40808), (27, 40823), (31, 40865), (39, 40925),

Gene: Thyatira_2 Start: 275, Stop: 520, Start Num: 19

Candidate Starts for Thyatira_2:

(Start: 19 @275 has 21 MA's), (24, 347), (25, 353), (26, 359), (29, 395), (31, 407), (33, 428), (34, 434), (35, 446), (42, 491),

Gene: TingHuaYa_3 Start: 447, Stop: 701, Start Num: 16

Candidate Starts for TingHuaYa_3:

(7, 225), (12, 321), (Start: 16 @447 has 90 MA's), (20, 468), (24, 528), (25, 534), (26, 540), (31, 588), (32, 606), (33, 609), (35, 627),

Gene: TiniBug_3 Start: 440, Stop: 694, Start Num: 16

Candidate Starts for TiniBug_3:

(7, 215), (12, 314), (Start: 16 @440 has 90 MA's), (20, 461), (22, 500), (25, 527), (26, 533), (31, 581), (32, 599), (35, 620), (37, 632), (42, 665),

Gene: Tiri_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Tiri_3:

(Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (28, 578), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),

Gene: Topper_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Topper_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: TreyKay_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for TreyKay_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: TruffulaTree_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for TruffulaTree_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Twitch_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Twitch_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (22, 536), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Urkel_3 Start: 440, Stop: 694, Start Num: 16

Candidate Starts for Urkel_3:

(7, 215), (12, 314), (Start: 16 @440 has 90 MA's), (20, 461), (22, 500), (25, 527), (26, 533), (31, 581), (32, 599), (35, 620), (37, 632), (42, 665),

Gene: Veliki_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Veliki_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (33, 638), (35, 656), (40, 680), (42, 701),

Gene: Waterfoul_2 Start: 296, Stop: 541, Start Num: 19

Candidate Starts for Waterfoul_2:

(Start: 19 @296 has 21 MA's), (24, 368), (25, 374), (26, 380), (29, 416), (31, 428), (33, 449), (34, 455), (35, 467), (42, 512),

Gene: YoureAdopted_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for YoureAdopted_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (40, 656), (42, 677),

Gene: Yunkel11_3 Start: 445, Stop: 702, Start Num: 16

Candidate Starts for Yunkel11_3:

(12, 325), (Start: 16 @445 has 90 MA's), (20, 466), (22, 505), (25, 532), (26, 538), (28, 571), (31, 586), (32, 604), (33, 607), (35, 625), (42, 673),

Gene: Zabiza_3 Start: 476, Stop: 730, Start Num: 16

Candidate Starts for Zabiza_3:

(12, 350), (Start: 16 @476 has 90 MA's), (20, 497), (23, 545), (25, 563), (26, 569), (31, 617), (32, 635), (33, 638), (35, 656), (37, 668), (40, 680), (42, 701),

Gene: Zavala_3 Start: 452, Stop: 706, Start Num: 16

Candidate Starts for Zavala_3:

(7, 227), (12, 326), (Start: 16 @452 has 90 MA's), (20, 473), (23, 521), (25, 539), (26, 545), (31, 593), (32, 611), (33, 614), (35, 632), (37, 644), (40, 656), (42, 677),