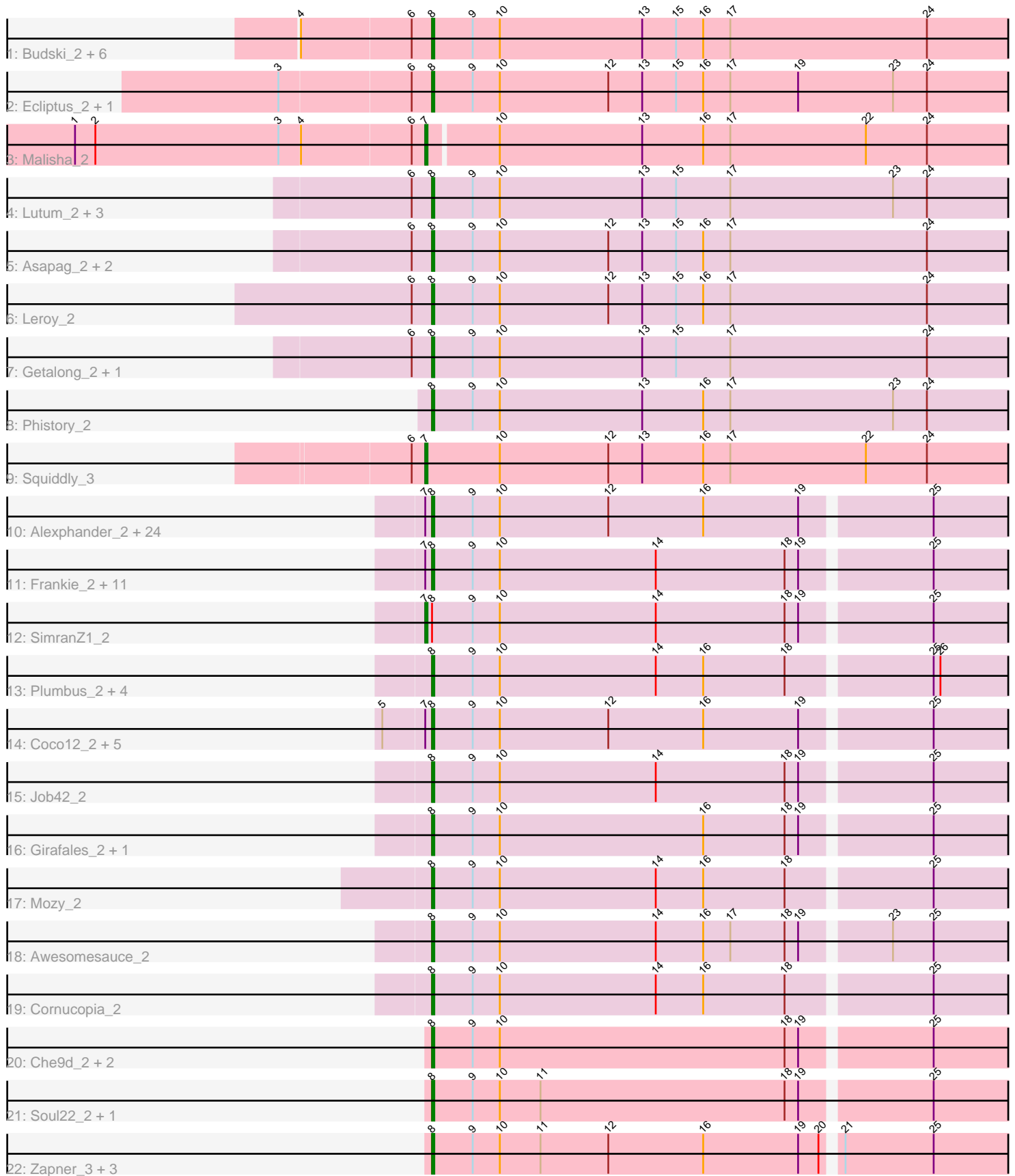


Pham 1242



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 1242 Report

This analysis was run 04/28/24 on database version 559.

Pham number 1242 has 86 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Budski_2, CheeseTouch_2, ODay_2, Kamaru_2, Holliday_2, Phabuloso_2, LitninMcQueen_2
- Track 2 : Ecliptus_2, Spooky_2
- Track 3 : Malisha_2
- Track 4 : Lutum_2, Horus_2, Periwinkle_2, Kenna_2
- Track 5 : Asapag_2, BENtherdunthat_2, Frickyeh_2
- Track 6 : Leroy_2
- Track 7 : Getalong_2, Whitney_2
- Track 8 : Phistory_2
- Track 9 : Squiddly_3
- Track 10 : Alexphander_2, Leozinho_2, Spikelee_2, Bobi_2, Beakin_2, Boomer_2, RockyHorror_2, Lorde_2, OwlsT2W_2, BuzzLyseyear_2, Enby_2, Rialto_2, Starcevich_2, JalFarm20_2, DirtMcgirt_2, Stap_2, Ramsey_2, LittleShirley_2, Madiba_2, DosHalletts_2, UncleRicky_2, DaWorst_2, Drago_2, Totinger_2, Tootsieroll_2
- Track 11 : Frankie_2, TootsiePop_2, Seagreen_2, ChickenDinner_2, Piper2020_2, DocMcStuffins_2, Marker_2, Pollywog_2, Oksu_2, Mova_2, Misha28_2, Squirty_2
- Track 12 : SimranZ1_2
- Track 13 : Plumbus_2, Flathead_2, Hegedechwinu_2, Kimberlium_2, Juice456_2
- Track 14 : Coco12_2, BigPhil_2, Kingsley_2, Cerasum_2, Sarma624_2, Velveteen_2
- Track 15 : Job42_2
- Track 16 : Girafales_2, Quico_2
- Track 17 : Mozy_2
- Track 18 : Awesomesauce_2
- Track 19 : Cornucopia_2
- Track 20 : Che9d_2, Yoshi_2, Demsculpinboyz_2
- Track 21 : Soul22_2, Avani_2
- Track 22 : Zapner_3, Ogopogo_3, Blarby_3, Jabbawokkie_3

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

The start number called the most often in the published annotations is 8, it was called in 73 of the 76 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander_2, Asapag_2, Avani_2, Awesomesauce_2, BENtherdunthat_2, Beakin_2, BigPhil_2, Blarby_3, Bobi_2, Boomer_2, Budski_2, BuzzLyseyear_2, Cerasum_2, Che9d_2, CheeseTouch_2, ChickenDinner_2, Coco12_2, Cornucopia_2, DaWorst_2, Demsculpinboyz_2, DirtMcgirt_2, DocMcStuffins_2, DosHalletts_2, Drago_2, Ecliptus_2, Enby_2, Flathead_2, Frankie_2, Frickyyeah_2, Getalong_2, Girafales_2, Hegedechwinu_2, Holliday_2, Horus_2, Jabbawokkie_3, JalFarm20_2, Job42_2, Juice456_2, Kamaru_2, Kenna_2, Kimberlium_2, Kingsley_2, Leozinho_2, Leroy_2, LitninMcQueen_2, LittleShirley_2, Lorde_2, Lutum_2, Madiba_2, Marker_2, Misha28_2, Mova_2, Mozy_2, ODay_2, Ogopogo_3, Oksu_2, OwlsT2W_2, Periwinkle_2, Phabuloso_2, Phistory_2, Piper2020_2, Plumbus_2, Pollywog_2, Quico_2, Ramsey_2, Rialto_2, RockyHorror_2, Sarma624_2, Seagreen_2, Soul22_2, Spikelee_2, Spooky_2, Squirty_2, Stap_2, Starceвич_2, TootsiePop_2, Tootsieroll_2, Totinger_2, UncleRicky_2, Velveteen_2, Whitney_2, Yoshi_2, Zapner_3,

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

- SimranZ1_2,

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

- Malisha_2, Squiddly_3,

Summary by start number:

Start 7:

- Found in 46 of 86 (53.5%) of genes in pham
- Manual Annotations of this start: 3 of 76
- Called 6.5% of time when present
- Phage (with cluster) where this start called: Malisha_2 (DN), SimranZ1_2 (F1), Squiddly_3 (DN2),

Start 8:

- Found in 84 of 86 (97.7%) of genes in pham
- Manual Annotations of this start: 73 of 76
- Called 98.8% of time when present
- Phage (with cluster) where this start called: Alexphander_2 (F1), Asapag_2 (DN1), Avani_2 (F2), Awesomesauce_2 (F1), BENtherdunthat_2 (DN1), Beakin_2 (F1), BigPhil_2 (F1), Blarby_3 (F), Bobi_2 (F1), Boomer_2 (F1), Budski_2 (DN), BuzzLyseyear_2 (F1), Cerasum_2 (F1), Che9d_2 (F2), CheeseTouch_2 (DN1), ChickenDinner_2 (F1), Coco12_2 (F1), Cornucopia_2 (F1), DaWorst_2 (F1), Demsculpinboyz_2 (F2), DirtMcgirt_2 (F1), DocMcStuffins_2 (F1), DosHalletts_2 (F1), Drago_2 (F1), Ecliptus_2 (DN), Enby_2 (F1), Flathead_2 (F1), Frankie_2 (F1), Frickyyeah_2 (DN1), Getalong_2 (DN1), Girafales_2 (F1), Hegedechwinu_2 (F1), Holliday_2 (DN1), Horus_2 (DN1), Jabbawokkie_3 (F2), JalFarm20_2 (F1), Job42_2 (F1), Juice456_2 (F1), Kamaru_2 (DN1), Kenna_2 (DN1), Kimberlium_2 (F1), Kingsley_2 (F1), Leozinho_2 (F1), Leroy_2 (DN1), LitninMcQueen_2 (DN1), LittleShirley_2 (F1), Lorde_2 (F1), Lutum_2 (DN1), Madiba_2 (F1), Marker_2 (F1), Misha28_2 (F1), Mova_2 (F1), Mozy_2 (F1), ODay_2 (DN), Ogopogo_3 (F1), Oksu_2 (F1), OwlsT2W_2 (F1), Periwinkle_2 (DN1), Phabuloso_2 (DN1), Phistory_2 (DN1), Piper2020_2 (F1), Plumbus_2 (F1), Pollywog_2 (F1), Quico_2 (F1), Ramsey_2 (F1), Rialto_2 (F1), RockyHorror_2 (F1), Sarma624_2 (F1), Seagreen_2 (F1), Soul22_2 (F2), Spikelee_2 (F1), Spooky_2 (DN2), Squirty_2 (F3), Stap_2 (F1), Starceвич_2

(F1), TootsiePop_2 (F1), Tootsieroll_2 (F1), Totinger_2 (F1), UncleRicky_2 (F1), Velveteen_2 (F1), Whitney_2 (DN1), Yoshi_2 (F2), Zapner_3 (F2),

Summary by clusters:

There are 7 clusters represented in this pham: DN, F1, F2, F3, F, DN1, DN2,

Info for manual annotations of cluster DN:

- Start number 7 was manually annotated 1 time for cluster DN.
- Start number 8 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 8 was manually annotated 14 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 7 was manually annotated 1 time for cluster DN2.
- Start number 8 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster F1:

- Start number 7 was manually annotated 1 time for cluster F1.
- Start number 8 was manually annotated 47 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 8 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 8 was manually annotated 1 time for cluster F3.

Gene Information:

Gene: Alexphander_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Alexphander_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Asapag_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Asapag_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (12, 519), (13, 534), (15, 549), (16, 561), (17, 573), (24, 660),

Gene: Avani_2 Start: 437, Stop: 691, Start Num: 8

Candidate Starts for Avani_2:

(Start: 8 @437 has 73 MA's), (9, 455), (10, 467), (11, 485), (18, 593), (19, 599), (25, 653),

Gene: Awesomesauce_2 Start: 448, Stop: 702, Start Num: 8

Candidate Starts for Awesomesauce_2:

(Start: 8 @448 has 73 MA's), (9, 466), (10, 478), (14, 547), (16, 568), (17, 580), (18, 604), (19, 610), (23, 646), (25, 664),

Gene: BENtherdunthat_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for BENtherdunthat_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (12, 519), (13, 534), (15, 549), (16, 561), (17, 573), (24, 660),

Gene: Beakin_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Beakin_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: BigPhil_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for BigPhil_2:

(5, 424), (Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Blarby_3 Start: 962, Stop: 1216, Start Num: 8

Candidate Starts for Blarby_3:

(Start: 8 @962 has 73 MA's), (9, 980), (10, 992), (11, 1010), (12, 1040), (16, 1082), (19, 1124), (20, 1133), (21, 1139), (25, 1178),

Gene: Bobi_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Bobi_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Boomer_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Boomer_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Budski_2 Start: 439, Stop: 699, Start Num: 8

Candidate Starts for Budski_2:

(4, 382), (6, 430), (Start: 8 @439 has 73 MA's), (9, 457), (10, 469), (13, 532), (15, 547), (16, 559), (17, 571), (24, 658),

Gene: BuzzLyseyear_2 Start: 444, Stop: 698, Start Num: 8

Candidate Starts for BuzzLyseyear_2:

(Start: 7 @441 has 3 MA's), (Start: 8 @444 has 73 MA's), (9, 462), (10, 474), (12, 522), (16, 564), (19, 606), (25, 660),

Gene: Cerasum_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Cerasum_2:

(5, 424), (Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Che9d_2 Start: 447, Stop: 701, Start Num: 8

Candidate Starts for Che9d_2:

(Start: 8 @447 has 73 MA's), (9, 465), (10, 477), (18, 603), (19, 609), (25, 663),

Gene: CheeseTouch_2 Start: 439, Stop: 699, Start Num: 8

Candidate Starts for CheeseTouch_2:

(4, 382), (6, 430), (Start: 8 @439 has 73 MA's), (9, 457), (10, 469), (13, 532), (15, 547), (16, 559), (17, 571), (24, 658),

Gene: ChickenDinner_2 Start: 448, Stop: 702, Start Num: 8

Candidate Starts for ChickenDinner_2:

(Start: 7 @445 has 3 MA's), (Start: 8 @448 has 73 MA's), (9, 466), (10, 478), (14, 547), (18, 604), (19, 610), (25, 664),

Gene: Coco12_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Coco12_2:

(5, 424), (Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Cornucopia_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for Cornucopia_2:

(Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (14, 545), (16, 566), (18, 602), (25, 662),

Gene: DaWorst_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for DaWorst_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Demsculpinboyz_2 Start: 438, Stop: 692, Start Num: 8

Candidate Starts for Demsculpinboyz_2:

(Start: 8 @438 has 73 MA's), (9, 456), (10, 468), (18, 594), (19, 600), (25, 654),

Gene: DirtMcgirt_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for DirtMcgirt_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: DocMcStuffins_2 Start: 448, Stop: 702, Start Num: 8

Candidate Starts for DocMcStuffins_2:

(Start: 7 @445 has 3 MA's), (Start: 8 @448 has 73 MA's), (9, 466), (10, 478), (14, 547), (18, 604), (19, 610), (25, 664),

Gene: DosHalletts_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for DosHalletts_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Drago_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Drago_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Ecliptus_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Ecliptus_2:

(3, 375), (6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (12, 519), (13, 534), (15, 549), (16, 561), (17, 573), (19, 603), (23, 645), (24, 660),

Gene: Enby_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Enby_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Flathead_2 Start: 444, Stop: 698, Start Num: 8

Candidate Starts for Flathead_2:

(Start: 8 @444 has 73 MA's), (9, 462), (10, 474), (14, 543), (16, 564), (18, 600), (25, 660), (26, 663),

Gene: Frankie_2 Start: 444, Stop: 698, Start Num: 8

Candidate Starts for Frankie_2:

(Start: 7 @441 has 3 MA's), (Start: 8 @444 has 73 MA's), (9, 462), (10, 474), (14, 543), (18, 600), (19, 606), (25, 660),

Gene: Frickyeah_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Frickyeah_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (12, 519), (13, 534), (15, 549), (16, 561), (17, 573), (24, 660),

Gene: Getalong_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Getalong_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (13, 534), (15, 549), (17, 573), (24, 660),

Gene: Girafales_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for Girafales_2:

(Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (16, 566), (18, 602), (19, 608), (25, 662),

Gene: Hegedechwinu_2 Start: 444, Stop: 698, Start Num: 8

Candidate Starts for Hegedechwinu_2:

(Start: 8 @444 has 73 MA's), (9, 462), (10, 474), (14, 543), (16, 564), (18, 600), (25, 660), (26, 663),

Gene: Holliday_2 Start: 439, Stop: 699, Start Num: 8

Candidate Starts for Holliday_2:

(4, 382), (6, 430), (Start: 8 @439 has 73 MA's), (9, 457), (10, 469), (13, 532), (15, 547), (16, 559), (17, 571), (24, 658),

Gene: Horus_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Horus_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (13, 534), (15, 549), (17, 573), (23, 645), (24, 660),

Gene: Jabbawokkie_3 Start: 961, Stop: 1215, Start Num: 8

Candidate Starts for Jabbawokkie_3:

(Start: 8 @961 has 73 MA's), (9, 979), (10, 991), (11, 1009), (12, 1039), (16, 1081), (19, 1123), (20, 1132), (21, 1138), (25, 1177),

Gene: JalFarm20_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for JalFarm20_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Job42_2 Start: 444, Stop: 698, Start Num: 8

Candidate Starts for Job42_2:

(Start: 8 @444 has 73 MA's), (9, 462), (10, 474), (14, 543), (18, 600), (19, 606), (25, 660),

Gene: Juice456_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Juice456_2:

(Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (14, 544), (16, 565), (18, 601), (25, 661), (26, 664),

Gene: Kamaru_2 Start: 439, Stop: 699, Start Num: 8

Candidate Starts for Kamaru_2:

(4, 382), (6, 430), (Start: 8 @439 has 73 MA's), (9, 457), (10, 469), (13, 532), (15, 547), (16, 559), (17, 571), (24, 658),

Gene: Kenna_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Kenna_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (13, 534), (15, 549), (17, 573), (23, 645), (24, 660),

Gene: Kimberlium_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Kimberlium_2:

(Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (14, 544), (16, 565), (18, 601), (25, 661), (26, 664),

Gene: Kingsley_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Kingsley_2:

(5, 424), (Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Leozinho_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Leozinho_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Leroy_2 Start: 442, Stop: 702, Start Num: 8

Candidate Starts for Leroy_2:

(6, 433), (Start: 8 @442 has 73 MA's), (9, 460), (10, 472), (12, 520), (13, 535), (15, 550), (16, 562), (17, 574), (24, 661),

Gene: LitninMcQueen_2 Start: 439, Stop: 699, Start Num: 8

Candidate Starts for LitninMcQueen_2:

(4, 382), (6, 430), (Start: 8 @439 has 73 MA's), (9, 457), (10, 469), (13, 532), (15, 547), (16, 559), (17, 571), (24, 658),

Gene: LittleShirley_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for LittleShirley_2:

(Start: 7 @443 has 3 MA's), (Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (12, 524), (16, 566), (19, 608), (25, 662),

Gene: Lorde_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Lorde_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Lutum_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Lutum_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (13, 534), (15, 549), (17, 573), (23, 645), (24, 660),

Gene: Madiba_2 Start: 444, Stop: 698, Start Num: 8

Candidate Starts for Madiba_2:

(Start: 7 @441 has 3 MA's), (Start: 8 @444 has 73 MA's), (9, 462), (10, 474), (12, 522), (16, 564), (19, 606), (25, 660),

Gene: Malisha_2 Start: 437, Stop: 697, Start Num: 7

Candidate Starts for Malisha_2:

(1, 284), (2, 293), (3, 374), (4, 383), (6, 431), (Start: 7 @437 has 3 MA's), (10, 467), (13, 530), (16, 557), (17, 569), (22, 629), (24, 656),

Gene: Marker_2 Start: 444, Stop: 698, Start Num: 8

Candidate Starts for Marker_2:

(Start: 7 @441 has 3 MA's), (Start: 8 @444 has 73 MA's), (9, 462), (10, 474), (14, 543), (18, 600), (19, 606), (25, 660),

Gene: Misha28_2 Start: 448, Stop: 702, Start Num: 8

Candidate Starts for Misha28_2:

(Start: 7 @445 has 3 MA's), (Start: 8 @448 has 73 MA's), (9, 466), (10, 478), (14, 547), (18, 604), (19, 610), (25, 664),

Gene: Mova_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for Mova_2:

(Start: 7 @443 has 3 MA's), (Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (14, 545), (18, 602), (19, 608), (25, 662),

Gene: Mozy_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for Mozy_2:

(Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (14, 545), (16, 566), (18, 602), (25, 662),

Gene: ODay_2 Start: 439, Stop: 699, Start Num: 8

Candidate Starts for ODay_2:

(4, 382), (6, 430), (Start: 8 @439 has 73 MA's), (9, 457), (10, 469), (13, 532), (15, 547), (16, 559), (17, 571), (24, 658),

Gene: Ogopogo_3 Start: 699, Stop: 953, Start Num: 8

Candidate Starts for Ogopogo_3:

(Start: 8 @699 has 73 MA's), (9, 717), (10, 729), (11, 747), (12, 777), (16, 819), (19, 861), (20, 870), (21, 876), (25, 915),

Gene: Oksu_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for Oksu_2:

(Start: 7 @443 has 3 MA's), (Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (14, 545), (18, 602), (19, 608), (25, 662),

Gene: OwlsT2W_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for OwlsT2W_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Periwinkle_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Periwinkle_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (13, 534), (15, 549), (17, 573), (23, 645), (24, 660),

Gene: Phabuloso_2 Start: 439, Stop: 699, Start Num: 8

Candidate Starts for Phabuloso_2:

(4, 382), (6, 430), (Start: 8 @439 has 73 MA's), (9, 457), (10, 469), (13, 532), (15, 547), (16, 559), (17, 571), (24, 658),

Gene: Phistory_2 Start: 440, Stop: 700, Start Num: 8

Candidate Starts for Phistory_2:

(Start: 8 @440 has 73 MA's), (9, 458), (10, 470), (13, 533), (16, 560), (17, 572), (23, 644), (24, 659),

Gene: Piper2020_2 Start: 448, Stop: 702, Start Num: 8

Candidate Starts for Piper2020_2:

(Start: 7 @445 has 3 MA's), (Start: 8 @448 has 73 MA's), (9, 466), (10, 478), (14, 547), (18, 604), (19, 610), (25, 664),

Gene: Plumbus_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Plumbus_2:

(Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (14, 544), (16, 565), (18, 601), (25, 661), (26, 664),

Gene: Pollywog_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Pollywog_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (14, 544), (18, 601), (19, 607), (25, 661),

Gene: Quico_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for Quico_2:

(Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (16, 566), (18, 602), (19, 608), (25, 662),

Gene: Ramsey_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Ramsey_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Rialto_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for Rialto_2:

(Start: 7 @443 has 3 MA's), (Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (12, 524), (16, 566), (19, 608), (25, 662),

Gene: RockyHorror_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for RockyHorror_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Sarma624_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Sarma624_2:

(5, 424), (Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Seagreen_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Seagreen_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (14, 544), (18, 601), (19, 607), (25, 661),

Gene: SimranZ1_2 Start: 442, Stop: 699, Start Num: 7

Candidate Starts for SimranZ1_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (14, 544), (18, 601), (19, 607), (25, 661),

Gene: Soul22_2 Start: 437, Stop: 691, Start Num: 8

Candidate Starts for Soul22_2:

(Start: 8 @437 has 73 MA's), (9, 455), (10, 467), (11, 485), (18, 593), (19, 599), (25, 653),

Gene: Spikelee_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Spikelee_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Spooky_2 Start: 440, Stop: 700, Start Num: 8

Candidate Starts for Spooky_2:

(3, 374), (6, 431), (Start: 8 @440 has 73 MA's), (9, 458), (10, 470), (12, 518), (13, 533), (15, 548), (16, 560), (17, 572), (19, 602), (23, 644), (24, 659),

Gene: Squiddly_3 Start: 1127, Stop: 1390, Start Num: 7

Candidate Starts for Squiddly_3:

(6, 1121), (Start: 7 @1127 has 3 MA's), (10, 1160), (12, 1208), (13, 1223), (16, 1250), (17, 1262), (22, 1322), (24, 1349),

Gene: Squirty_2 Start: 444, Stop: 698, Start Num: 8

Candidate Starts for Squirty_2:

(Start: 7 @441 has 3 MA's), (Start: 8 @444 has 73 MA's), (9, 462), (10, 474), (14, 543), (18, 600), (19, 606), (25, 660),

Gene: Stap_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Stap_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Starcevich_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Starcevich_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: TootsiePop_2 Start: 448, Stop: 702, Start Num: 8

Candidate Starts for TootsiePop_2:

(Start: 7 @445 has 3 MA's), (Start: 8 @448 has 73 MA's), (9, 466), (10, 478), (14, 547), (18, 604), (19, 610), (25, 664),

Gene: Tootsieroll_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Tootsieroll_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Totinger_2 Start: 446, Stop: 700, Start Num: 8

Candidate Starts for Totinger_2:

(Start: 7 @443 has 3 MA's), (Start: 8 @446 has 73 MA's), (9, 464), (10, 476), (12, 524), (16, 566), (19, 608), (25, 662),

Gene: UncleRicky_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for UncleRicky_2:

(Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Velveteen_2 Start: 445, Stop: 699, Start Num: 8

Candidate Starts for Velveteen_2:

(5, 424), (Start: 7 @442 has 3 MA's), (Start: 8 @445 has 73 MA's), (9, 463), (10, 475), (12, 523), (16, 565), (19, 607), (25, 661),

Gene: Whitney_2 Start: 441, Stop: 701, Start Num: 8

Candidate Starts for Whitney_2:

(6, 432), (Start: 8 @441 has 73 MA's), (9, 459), (10, 471), (13, 534), (15, 549), (17, 573), (24, 660),

Gene: Yoshi_2 Start: 437, Stop: 691, Start Num: 8

Candidate Starts for Yoshi_2:

(Start: 8 @437 has 73 MA's), (9, 455), (10, 467), (18, 593), (19, 599), (25, 653),

Gene: Zapner_3 Start: 962, Stop: 1216, Start Num: 8

Candidate Starts for Zapner_3:

(Start: 8 @962 has 73 MA's), (9, 980), (10, 992), (11, 1010), (12, 1040), (16, 1082), (19, 1124), (20, 1133), (21, 1139), (25, 1178),