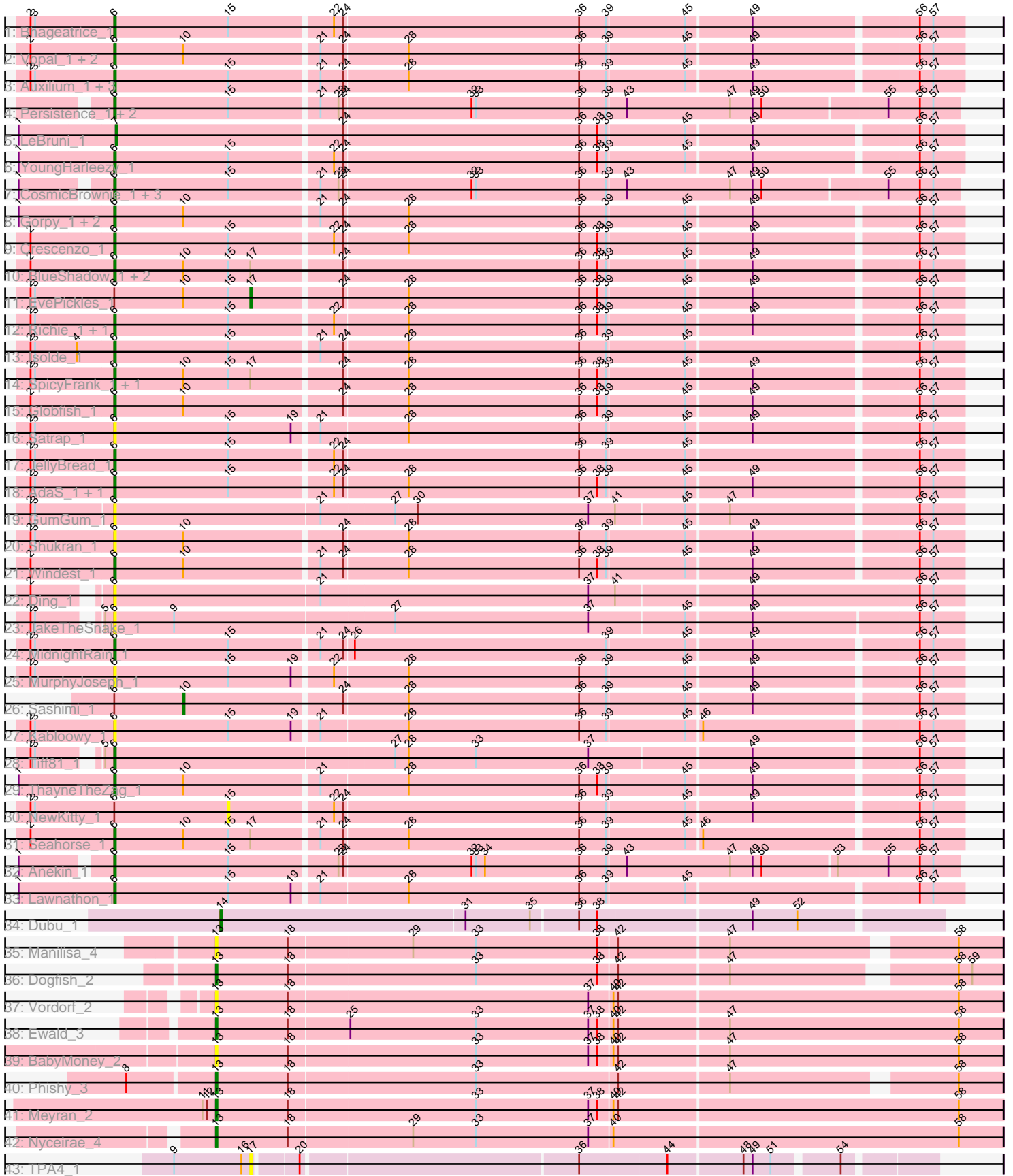


Pham 308637



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 308637 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308637 has 60 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Bhageatrice\_1
- Track 2 : Vopal\_1, RadFad\_1, Hillester\_1
- Track 3 : Auxilium\_1, BenchScraper\_1, Raphaella\_1, CookieBear\_1
- Track 4 : Persistence\_1, Nyilah\_1, Mapleville\_1
- Track 5 : LeBruni\_1
- Track 6 : YoungHarleezy\_1
- Track 7 : CosmicBrownie\_1, Hestia\_1, MUWow\_1, Phrank15\_1
- Track 8 : Gorpy\_1, BillyTP\_1, Sakai\_1
- Track 9 : Crescenzo\_1
- Track 10 : BlueShadow\_1, Aikyam\_1, MaterMagnus\_1
- Track 11 : EvePickles\_1
- Track 12 : Richie\_1, Faja\_1
- Track 13 : Isolde\_1
- Track 14 : SpicyFrank\_1, Lasker\_1
- Track 15 : Globfish\_1
- Track 16 : Satrap\_1
- Track 17 : JellyBread\_1
- Track 18 : AdaS\_1, DarwinJr\_1
- Track 19 : GumGum\_1
- Track 20 : Shukran\_1
- Track 21 : Windest\_1
- Track 22 : Ding\_1
- Track 23 : JakeTheSnake\_1
- Track 24 : MidnightRain\_1
- Track 25 : MurphyJoseph\_1
- Track 26 : Sashimi\_1
- Track 27 : Kabloowy\_1
- Track 28 : Tiff81\_1
- Track 29 : ThayneTheZag\_1
- Track 30 : NewKitty\_1
- Track 31 : Seahorse\_1
- Track 32 : Anekin\_1
- Track 33 : Lawnathon\_1
- Track 34 : Dubu\_1
- Track 35 : Manilisa\_4
- Track 36 : Dogfish\_2
- Track 37 : Vordorf\_2

- Track 38 : Ewald\_3
- Track 39 : BabyMoney\_2
- Track 40 : Phishy\_3
- Track 41 : Meyran\_2
- Track 42 : Nyceirae\_4
- Track 43 : TPA4\_1

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

The start number called the most often in the published annotations is 6, it was called in 35 of the 44 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AdaS\_1, Aikyam\_1, Anekin\_1, Auxilium\_1, BenchScraper\_1, Bhageatrice\_1, BillyTP\_1, BlueShadow\_1, CookieBear\_1, CosmicBrownie\_1, Crescenzo\_1, DarwinJr\_1, Ding\_1, Faja\_1, Globfish\_1, Gorpy\_1, GumGum\_1, Hestia\_1, Hillester\_1, Isolde\_1, JakeTheSnake\_1, JellyBread\_1, Kabloowy\_1, Lasker\_1, Lawnathon\_1, MUWow\_1, Mapleville\_1, MaterMagnus\_1, MidnightRain\_1, MurphyJoseph\_1, Nyilah\_1, Persistence\_1, Phrank15\_1, RadFad\_1, Raphaella\_1, Richie\_1, Sakai\_1, Satrap\_1, Seahorse\_1, Shukran\_1, SpicyFrank\_1, ThayneTheZag\_1, Tiff81\_1, Vopal\_1, Windest\_1, YoungHarleezy\_1,

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

- EvePickles\_1, NewKitty\_1, Sashimi\_1,

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

- BabyMoney\_2, Dogfish\_2, Dubu\_1, Ewald\_3, LeBruni\_1, Manilisa\_4, Meyran\_2, Nyceirae\_4, Phishy\_3, TPA4\_1, Vordorf\_2,

### **Summary by start number:**

Start 6:

- Found in 49 of 60 ( 81.7% ) of genes in pham
- Manual Annotations of this start: 35 of 44
- Called 93.9% of time when present
- Phage (with cluster) where this start called: AdaS\_1 (AY), Aikyam\_1 (AY), Anekin\_1 (AY), Auxilium\_1 (AY), BenchScraper\_1 (AY), Bhageatrice\_1 (AY), BillyTP\_1 (AY), BlueShadow\_1 (AY), CookieBear\_1 (AY), CosmicBrownie\_1 (AY), Crescenzo\_1 (AY), DarwinJr\_1 (AY), Ding\_1 (AY), Faja\_1 (AY), Globfish\_1 (AY), Gorpy\_1 (AY), GumGum\_1 (AY), Hestia\_1 (AY), Hillester\_1 (AY), Isolde\_1 (AY), JakeTheSnake\_1 (AY), JellyBread\_1 (AY), Kabloowy\_1 (AY), Lasker\_1 (AY), Lawnathon\_1 (AY), MUWow\_1 (AY), Mapleville\_1 (AY), MaterMagnus\_1 (AY), MidnightRain\_1 (AY), MurphyJoseph\_1 (AY), Nyilah\_1 (AY), Persistence\_1 (AY), Phrank15\_1 (AY), RadFad\_1 (AY), Raphaella\_1 (AY), Richie\_1 (AY), Sakai\_1 (AY), Satrap\_1 (AY), Seahorse\_1 (AY), Shukran\_1 (AY), SpicyFrank\_1 (AY), ThayneTheZag\_1 (AY), Tiff81\_1 (AY), Vopal\_1 (AY), Windest\_1 (AY), YoungHarleezy\_1 (AY),

Start 7:

- Found in 1 of 60 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 1 of 44

- Called 100.0% of time when present
- Phage (with cluster) where this start called: LeBruni\_1 (AY),

Start 10:

- Found in 18 of 60 ( 30.0% ) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 5.6% of time when present
- Phage (with cluster) where this start called: Sashimi\_1 (AY),

Start 13:

- Found in 8 of 60 ( 13.3% ) of genes in pham
- Manual Annotations of this start: 5 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyMoney\_2 (DT), Dogfish\_2 (DT), Ewald\_3 (DT), Manilisa\_4 (DT), Meyran\_2 (DT), Nyceirae\_4 (DT), Phishy\_3 (DT), Vordorf\_2 (DT),

Start 14:

- Found in 1 of 60 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dubu\_1 (BJ),

Start 15:

- Found in 34 of 60 ( 56.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.9% of time when present
- Phage (with cluster) where this start called: NewKitty\_1 (AY),

Start 17:

- Found in 8 of 60 ( 13.3% ) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 25.0% of time when present
- Phage (with cluster) where this start called: EvePickles\_1 (AY), TPA4\_1 (singleton),

### **Summary by clusters:**

There are 4 clusters represented in this pham: AY, DT, singleton, BJ,

Info for manual annotations of cluster AY:

- Start number 6 was manually annotated 35 times for cluster AY.
- Start number 7 was manually annotated 1 time for cluster AY.
- Start number 10 was manually annotated 1 time for cluster AY.
- Start number 17 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster BJ:

- Start number 14 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster DT:

- Start number 13 was manually annotated 5 times for cluster DT.

### **Gene Information:**

Gene: AdaS\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for AdaS\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (22, 205), (24, 211), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Aikyam\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Aikyam\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (15, 139), (Start: 17 @154 has 1 MA's), (24, 211), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Anekin\_1 Start: 56, Stop: 607, Start Num: 6

Candidate Starts for Anekin\_1:

(1, 2), (Start: 6 @56 has 35 MA's), (15, 131), (23, 200), (24, 203), (32, 287), (33, 290), (34, 296), (36, 359), (39, 377), (43, 389), (47, 458), (49, 473), (50, 479), (53, 527), (55, 560), (56, 581), (57, 590),

Gene: Auxilium\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Auxilium\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: BabyMoney\_2 Start: 312, Stop: 830, Start Num: 13

Candidate Starts for BabyMoney\_2:

(Start: 13 @312 has 5 MA's), (18, 360), (33, 483), (37, 558), (38, 564), (40, 573), (42, 576), (47, 648), (58, 801),

Gene: BenchScraper\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for BenchScraper\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Bhageatrice\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Bhageatrice\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (22, 205), (24, 211), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: BillyTP\_1 Start: 65, Stop: 613, Start Num: 6

Candidate Starts for BillyTP\_1:

(1, 2), (Start: 6 @65 has 35 MA's), (Start: 10 @110 has 1 MA's), (21, 197), (24, 212), (28, 254), (36, 368), (39, 386), (45, 437), (49, 479), (56, 584), (57, 593),

Gene: BlueShadow\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for BlueShadow\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (15, 139), (Start: 17 @154 has 1 MA's), (24, 211), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: CookieBear\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for CookieBear\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: CosmicBrownie\_1 Start: 56, Stop: 607, Start Num: 6

Candidate Starts for CosmicBrownie\_1:

(1, 2), (Start: 6 @56 has 35 MA's), (15, 131), (21, 188), (23, 200), (24, 203), (32, 287), (33, 290), (36, 359), (39, 377), (43, 389), (47, 458), (49, 473), (50, 479), (55, 560), (56, 581), (57, 590),

Gene: Crescenzo\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Crescenzo\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (15, 139), (22, 205), (24, 211), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: DarwinJr\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for DarwinJr\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (22, 205), (24, 211), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Ding\_1 Start: 52, Stop: 609, Start Num: 6

Candidate Starts for Ding\_1:

(2, 10), (Start: 6 @52 has 35 MA's), (21, 187), (37, 364), (41, 382), (49, 469), (56, 580), (57, 589),

Gene: Dogfish\_2 Start: 447, Stop: 947, Start Num: 13

Candidate Starts for Dogfish\_2:

(Start: 13 @447 has 5 MA's), (18, 495), (33, 618), (38, 699), (42, 711), (47, 783), (58, 918), (59, 927),

Gene: Dubu\_1 Start: 90, Stop: 557, Start Num: 14

Candidate Starts for Dubu\_1:

(Start: 14 @90 has 1 MA's), (31, 252), (35, 294), (36, 324), (38, 336), (49, 435), (52, 465),

Gene: EvePickles\_1 Start: 154, Stop: 612, Start Num: 17

Candidate Starts for EvePickles\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (15, 139), (Start: 17 @154 has 1 MA's), (24, 211), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Ewald\_3 Start: 702, Stop: 1220, Start Num: 13

Candidate Starts for Ewald\_3:

(Start: 13 @702 has 5 MA's), (18, 750), (25, 789), (33, 873), (37, 948), (38, 954), (40, 963), (42, 966), (47, 1038), (58, 1191),

Gene: Faja\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Faja\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (22, 205), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Globfish\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Globfish\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (24, 211), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Gorpy\_1 Start: 65, Stop: 613, Start Num: 6

Candidate Starts for Gorpy\_1:

(1, 2), (Start: 6 @65 has 35 MA's), (Start: 10 @110 has 1 MA's), (21, 197), (24, 212), (28, 254), (36, 368), (39, 386), (45, 437), (49, 479), (56, 584), (57, 593),

Gene: GumGum\_1 Start: 64, Stop: 615, Start Num: 6

Candidate Starts for GumGum\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (21, 199), (27, 247), (30, 262), (37, 376), (41, 394), (45, 439), (47, 466), (56, 586), (57, 595),

Gene: Hestia\_1 Start: 56, Stop: 607, Start Num: 6

Candidate Starts for Hestia\_1:

(1, 2), (Start: 6 @56 has 35 MA's), (15, 131), (21, 188), (23, 200), (24, 203), (32, 287), (33, 290), (36, 359), (39, 377), (43, 389), (47, 458), (49, 473), (50, 479), (55, 560), (56, 581), (57, 590),

Gene: Hillester\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Hillester\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Isolde\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Isolde\_1:

(2, 10), (3, 13), (4, 40), (Start: 6 @64 has 35 MA's), (15, 139), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (56, 583), (57, 592),

Gene: JakeTheSnake\_1 Start: 52, Stop: 606, Start Num: 6

Candidate Starts for JakeTheSnake\_1:

(2, 10), (3, 13), (5, 46), (Start: 6 @52 has 35 MA's), (9, 91), (27, 235), (37, 364), (45, 427), (49, 469), (56, 577), (57, 586),

Gene: JellyBread\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for JellyBread\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (22, 205), (24, 211), (36, 367), (39, 385), (45, 436), (56, 583), (57, 592),

Gene: Kabloowy\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Kabloowy\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (19, 181), (21, 196), (28, 253), (36, 367), (39, 385), (45, 436), (46, 445), (56, 583), (57, 592),

Gene: Lasker\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Lasker\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (15, 139), (Start: 17 @154 has 1 MA's), (24, 211), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Lawnathon\_1 Start: 65, Stop: 613, Start Num: 6

Candidate Starts for Lawnathon\_1:

(1, 2), (Start: 6 @65 has 35 MA's), (15, 140), (19, 182), (21, 197), (28, 254), (36, 368), (39, 386), (45, 437), (56, 584), (57, 593),

Gene: LeBruni\_1 Start: 65, Stop: 613, Start Num: 7

Candidate Starts for LeBruni\_1:

(1, 2), (Start: 7 @65 has 1 MA's), (24, 212), (36, 368), (38, 380), (39, 386), (45, 437), (49, 479), (56, 584), (57, 593),

Gene: MUWow\_1 Start: 56, Stop: 607, Start Num: 6

Candidate Starts for MUWow\_1:

(1, 2), (Start: 6 @56 has 35 MA's), (15, 131), (21, 188), (23, 200), (24, 203), (32, 287), (33, 290), (36, 359), (39, 377), (43, 389), (47, 458), (49, 473), (50, 479), (55, 560), (56, 581), (57, 590),

Gene: Manilisa\_4 Start: 1002, Stop: 1505, Start Num: 13

Candidate Starts for Manilisa\_4:

(Start: 13 @1002 has 5 MA's), (18, 1050), (29, 1131), (33, 1173), (38, 1254), (42, 1266), (47, 1338), (58, 1476),

Gene: Mapleville\_1 Start: 55, Stop: 606, Start Num: 6

Candidate Starts for Mapleville\_1:

(Start: 6 @55 has 35 MA's), (15, 130), (21, 187), (23, 199), (24, 202), (32, 286), (33, 289), (36, 358), (39, 376), (43, 388), (47, 457), (49, 472), (50, 478), (55, 559), (56, 580), (57, 589),

Gene: MaterMagnus\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for MaterMagnus\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (15, 139), (Start: 17 @154 has 1 MA's), (24, 211), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Meyran\_2 Start: 851, Stop: 1369, Start Num: 13

Candidate Starts for Meyran\_2:

(11, 842), (12, 845), (Start: 13 @851 has 5 MA's), (18, 899), (33, 1022), (37, 1097), (38, 1103), (40, 1112), (42, 1115), (58, 1340),

Gene: MidnightRain\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for MidnightRain\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (21, 196), (24, 211), (26, 217), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: MurphyJoseph\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for MurphyJoseph\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (19, 181), (22, 205), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: NewKitty\_1 Start: 139, Stop: 612, Start Num: 15

Candidate Starts for NewKitty\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (22, 205), (24, 211), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Nyceirae\_4 Start: 828, Stop: 1346, Start Num: 13

Candidate Starts for Nyceirae\_4:

(Start: 13 @828 has 5 MA's), (18, 876), (29, 957), (33, 999), (37, 1074), (40, 1089), (58, 1317),

Gene: Nyilah\_1 Start: 55, Stop: 606, Start Num: 6

Candidate Starts for Nyilah\_1:

(Start: 6 @55 has 35 MA's), (15, 130), (21, 187), (23, 199), (24, 202), (32, 286), (33, 289), (36, 358), (39, 376), (43, 388), (47, 457), (49, 472), (50, 478), (55, 559), (56, 580), (57, 589),

Gene: Persistence\_1 Start: 55, Stop: 606, Start Num: 6

Candidate Starts for Persistence\_1:

(Start: 6 @55 has 35 MA's), (15, 130), (21, 187), (23, 199), (24, 202), (32, 286), (33, 289), (36, 358), (39, 376), (43, 388), (47, 457), (49, 472), (50, 478), (55, 559), (56, 580), (57, 589),

Gene: Phishy\_3 Start: 800, Stop: 1303, Start Num: 13

Candidate Starts for Phishy\_3:

(8, 746), (Start: 13 @800 has 5 MA's), (18, 848), (33, 971), (42, 1064), (47, 1136), (58, 1274),

Gene: Phrank15\_1 Start: 56, Stop: 607, Start Num: 6

Candidate Starts for Phrank15\_1:

(1, 2), (Start: 6 @56 has 35 MA's), (15, 131), (21, 188), (23, 200), (24, 203), (32, 287), (33, 290), (36, 359), (39, 377), (43, 389), (47, 458), (49, 473), (50, 479), (55, 560), (56, 581), (57, 590),

Gene: RadFad\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for RadFad\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Raphaella\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Raphaella\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Richie\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Richie\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (22, 205), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Sakai\_1 Start: 65, Stop: 613, Start Num: 6

Candidate Starts for Sakai\_1:

(1, 2), (Start: 6 @65 has 35 MA's), (Start: 10 @110 has 1 MA's), (21, 197), (24, 212), (28, 254), (36, 368), (39, 386), (45, 437), (49, 479), (56, 584), (57, 593),

Gene: Sashimi\_1 Start: 109, Stop: 612, Start Num: 10

Candidate Starts for Sashimi\_1:

(Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Satrap\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Satrap\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (15, 139), (19, 181), (21, 196), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Seahorse\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Seahorse\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (15, 139), (Start: 17 @154 has 1 MA's), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (46, 445), (56, 583), (57, 592),

Gene: Shukran\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Shukran\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: SpicyFrank\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for SpicyFrank\_1:

(2, 10), (3, 13), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (15, 139), (Start: 17 @154 has 1 MA's), (24, 211), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: TPA4\_1 Start: 75, Stop: 497, Start Num: 17

Candidate Starts for TPA4\_1:

(9, 24), (16, 69), (Start: 17 @75 has 1 MA's), (20, 102), (36, 279), (44, 336), (48, 384), (49, 390), (51, 402), (54, 441),

Gene: ThayneTheZag\_1 Start: 65, Stop: 613, Start Num: 6

Candidate Starts for ThayneTheZag\_1:

(1, 2), (Start: 6 @65 has 35 MA's), (Start: 10 @110 has 1 MA's), (21, 197), (28, 254), (36, 368), (38, 380), (39, 386), (45, 437), (49, 479), (56, 584), (57, 593),

Gene: Tiff81\_1 Start: 52, Stop: 603, Start Num: 6

Candidate Starts for Tiff81\_1:

(2, 10), (3, 13), (5, 46), (Start: 6 @52 has 35 MA's), (27, 235), (28, 244), (33, 289), (37, 364), (49, 469), (56, 574), (57, 583),

Gene: Vopal\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Vopal\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (21, 196), (24, 211), (28, 253), (36, 367), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: Vordorf\_2 Start: 594, Stop: 1112, Start Num: 13

Candidate Starts for Vordorf\_2:

(Start: 13 @594 has 5 MA's), (18, 642), (37, 840), (40, 855), (42, 858), (58, 1083),

Gene: Windest\_1 Start: 64, Stop: 612, Start Num: 6

Candidate Starts for Windest\_1:

(2, 10), (Start: 6 @64 has 35 MA's), (Start: 10 @109 has 1 MA's), (21, 196), (24, 211), (28, 253), (36, 367), (38, 379), (39, 385), (45, 436), (49, 478), (56, 583), (57, 592),

Gene: YoungHarleezy\_1 Start: 65, Stop: 613, Start Num: 6

Candidate Starts for YoungHarleezy\_1:

(1, 2), (Start: 6 @65 has 35 MA's), (15, 140), (22, 206), (24, 212), (36, 368), (38, 380), (39, 386), (45, 437), (49, 479), (56, 584), (57, 593),