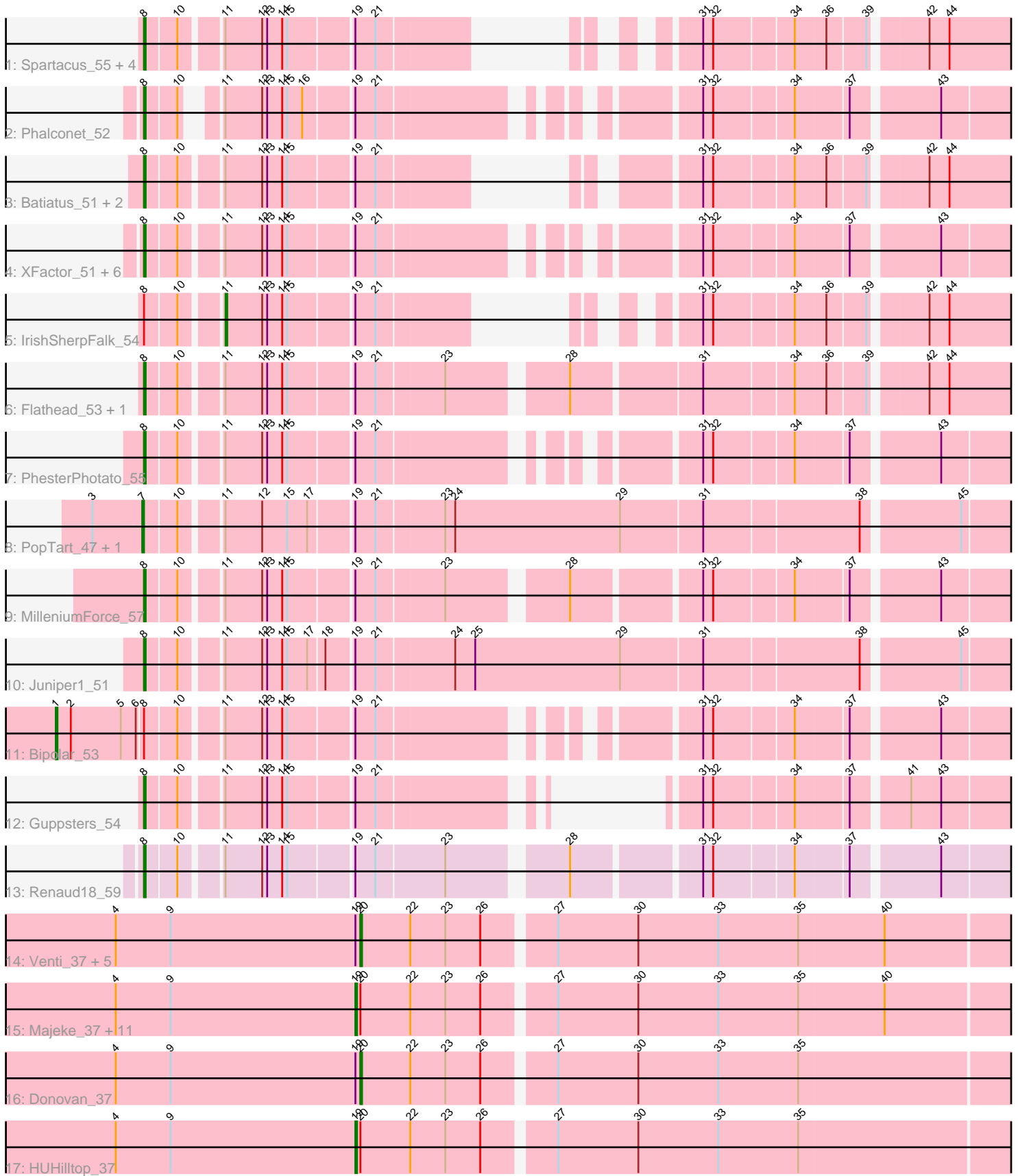


Pham 203044



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 203044 Report

This analysis was run 01/18/25 on database version 583.

Pham number 203044 has 47 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Spartacus_55, Phanphagia_51, WillSterrel_54, Shauna1_52, SuperGrey_57
- Track 2 : Phalconet_52
- Track 3 : Batiatus_51, Filuzino_51, IMpilo_50
- Track 4 : XFactor_51, Sparkdehlily_61, Doug_56, DaWorst_55, Zerg_53, RockyHorror_54, TDanisky_61
- Track 5 : IrishSherpFalk_54
- Track 6 : Flathead_53, JalFarm20_65
- Track 7 : PhesterPhotato_55
- Track 8 : PopTart_47, SassyB_47
- Track 9 : MilleniumForce_57
- Track 10 : Juniper1_51
- Track 11 : Bipolar_53
- Track 12 : Guppsters_54
- Track 13 : Renaud18_59
- Track 14 : Venti_37, Dynamo_37, Langerak_37, Sonah_37, Phegasus_37, FirstPlacePfu_37
- Track 15 : Majeke_37, Necropolis_37, Jebeks_38, Fishburne_37, Arib1_37, Phineas_37, Zilizebeth_37, Techage_37, Kari_37, Vidya_37, Bartholomew_36, Mangethe_37
- Track 16 : Donovan_37
- Track 17 : HUHilltop_37

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 22 of the 44 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Batiatus_51, DaWorst_55, Doug_56, Filuzino_51, Flathead_53, Guppsters_54, IMpilo_50, JalFarm20_65, Juniper1_51, MilleniumForce_57, Phalconet_52, Phanphagia_51, PhesterPhotato_55, Renaud18_59, RockyHorror_54, Shauna1_52, Sparkdehlily_61, Spartacus_55, SuperGrey_57, TDanisky_61, WillSterrel_54, XFactor_51, Zerg_53,

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

- Bipolar_53, IrishSherpFalk_54,

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

- Arib1_37, Bartholomew_36, Donovan_37, Dynamo_37, FirstPlacePfu_37, Fishburne_37, HUHilltop_37, Jebeks_38, Kari_37, Langerak_37, Majeke_37, Mangethe_37, Necropolis_37, Phegasus_37, Phineas_37, PopTart_47, SassyB_47, Sonah_37, Techage_37, Venti_37, Vidya_37, Zilizebeth_37,

Summary by start number:

Start 1:

- Found in 1 of 47 (2.1%) 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: Bipolar_53 (F1),

Start 7:

- Found in 2 of 47 (4.3%) of genes in pham
- Manual Annotations of this start: 2 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PopTart_47 (F1), SassyB_47 (F1),

Start 8:

- Found in 25 of 47 (53.2%) of genes in pham
- Manual Annotations of this start: 22 of 44
- Called 92.0% of time when present
- Phage (with cluster) where this start called: Batiatus_51 (F1), DaWorst_55 (F1), Doug_56 (F1), Filuzino_51 (F1), Flathead_53 (F1), Guppsters_54 (F1), IMpilo_50 (F1), JalFarm20_65 (F1), Juniper1_51 (F1), MilleniumForce_57 (F1), Phalconet_52 (F1), Phanphagia_51 (F1), PhesterPhotato_55 (F1), Renaud18_59 (F4), RockyHorror_54 (F1), Shauna1_52 (F1), Sparkdehlily_61 (F1), Spartacus_55 (F1), SuperGrey_57 (F1), TDanisky_61 (F1), WillSterrel_54 (F1), XFactor_51 (F1), Zerg_53 (F1),

Start 11:

- Found in 27 of 47 (57.4%) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 3.7% of time when present
- Phage (with cluster) where this start called: IrishSherpFalk_54 (F1),

Start 19:

- Found in 47 of 47 (100.0%) of genes in pham
- Manual Annotations of this start: 11 of 44
- Called 27.7% of time when present
- Phage (with cluster) where this start called: Arib1_37 (P1), Bartholomew_36 (P1), Fishburne_37 (P1), HUHilltop_37 (P1), Jebeks_38 (P1), Kari_37 (P1), Majeke_37 (P1), Mangethe_37 (P1), Necropolis_37 (P1), Phineas_37 (P1), Techage_37 (P1), Vidya_37 (P1), Zilizebeth_37 (P1),

Start 20:

- Found in 20 of 47 (42.6%) of genes in pham

- Manual Annotations of this start: 7 of 44
- Called 35.0% of time when present
- Phage (with cluster) where this start called: Donovan_37 (P1), Dynamo_37 (P1), FirstPlacePfu_37 (P1), Langerak_37 (P1), Phegasus_37 (P1), Sonah_37 (P1), Venti_37 (P1),

Summary by clusters:

There are 3 clusters represented in this pham: F1, P1, F4,

Info for manual annotations of cluster F1:

- Start number 1 was manually annotated 1 time for cluster F1.
- Start number 7 was manually annotated 2 times for cluster F1.
- Start number 8 was manually annotated 21 times for cluster F1.
- Start number 11 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F4:

- Start number 8 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster P1:

- Start number 19 was manually annotated 11 times for cluster P1.
- Start number 20 was manually annotated 7 times for cluster P1.

Gene Information:

Gene: Arib1_37 Start: 29346, Stop: 29747, Start Num: 19

Candidate Starts for Arib1_37:

(4, 29202), (9, 29235), (Start: 19 @29346 has 11 MA's), (Start: 20 @29349 has 7 MA's), (22, 29379), (23, 29400), (26, 29421), (27, 29460), (30, 29508), (33, 29556), (35, 29604), (40, 29655),

Gene: Bartholomew_36 Start: 29343, Stop: 29744, Start Num: 19

Candidate Starts for Bartholomew_36:

(4, 29199), (9, 29232), (Start: 19 @29343 has 11 MA's), (Start: 20 @29346 has 7 MA's), (22, 29376), (23, 29397), (26, 29418), (27, 29457), (30, 29505), (33, 29553), (35, 29601), (40, 29652),

Gene: Batiatus_51 Start: 37273, Stop: 37695, Start Num: 8

Candidate Starts for Batiatus_51:

(Start: 8 @37273 has 22 MA's), (10, 37291), (Start: 11 @37312 has 1 MA's), (12, 37333), (13, 37336), (14, 37345), (15, 37348), (Start: 19 @37384 has 11 MA's), (21, 37396), (31, 37507), (32, 37513), (34, 37558), (36, 37576), (39, 37597), (42, 37627), (44, 37639),

Gene: Bipolar_53 Start: 37987, Stop: 38499, Start Num: 1

Candidate Starts for Bipolar_53:

(Start: 1 @37987 has 1 MA's), (2, 37996), (5, 38026), (6, 38035), (Start: 8 @38038 has 22 MA's), (10, 38056), (Start: 11 @38077 has 1 MA's), (12, 38098), (13, 38101), (14, 38110), (15, 38113), (Start: 19 @38149 has 11 MA's), (21, 38161), (31, 38311), (32, 38317), (34, 38362), (37, 38392), (43, 38440),

Gene: DaWorst_55 Start: 38273, Stop: 38734, Start Num: 8

Candidate Starts for DaWorst_55:

(Start: 8 @38273 has 22 MA's), (10, 38291), (Start: 11 @38312 has 1 MA's), (12, 38333), (13, 38336), (14, 38345), (15, 38348), (Start: 19 @38384 has 11 MA's), (21, 38396), (31, 38546), (32, 38552), (34,

38597), (37, 38627), (43, 38675),

Gene: Donovan_37 Start: 29365, Stop: 29763, Start Num: 20

Candidate Starts for Donovan_37:

(4, 29218), (9, 29251), (Start: 19 @29362 has 11 MA's), (Start: 20 @29365 has 7 MA's), (22, 29395), (23, 29416), (26, 29437), (27, 29476), (30, 29524), (33, 29572), (35, 29620),

Gene: Doug_56 Start: 38539, Stop: 39000, Start Num: 8

Candidate Starts for Doug_56:

(Start: 8 @38539 has 22 MA's), (10, 38557), (Start: 11 @38578 has 1 MA's), (12, 38599), (13, 38602), (14, 38611), (15, 38614), (Start: 19 @38650 has 11 MA's), (21, 38662), (31, 38812), (32, 38818), (34, 38863), (37, 38893), (43, 38941),

Gene: Dynamo_37 Start: 29754, Stop: 30152, Start Num: 20

Candidate Starts for Dynamo_37:

(4, 29607), (9, 29640), (Start: 19 @29751 has 11 MA's), (Start: 20 @29754 has 7 MA's), (22, 29784), (23, 29805), (26, 29826), (27, 29865), (30, 29913), (33, 29961), (35, 30009), (40, 30060),

Gene: Filuzino_51 Start: 36320, Stop: 36742, Start Num: 8

Candidate Starts for Filuzino_51:

(Start: 8 @36320 has 22 MA's), (10, 36338), (Start: 11 @36359 has 1 MA's), (12, 36380), (13, 36383), (14, 36392), (15, 36395), (Start: 19 @36431 has 11 MA's), (21, 36443), (31, 36554), (32, 36560), (34, 36605), (36, 36623), (39, 36644), (42, 36674), (44, 36686),

Gene: FirstPlacePfu_37 Start: 29378, Stop: 29776, Start Num: 20

Candidate Starts for FirstPlacePfu_37:

(4, 29231), (9, 29264), (Start: 19 @29375 has 11 MA's), (Start: 20 @29378 has 7 MA's), (22, 29408), (23, 29429), (26, 29450), (27, 29489), (30, 29537), (33, 29585), (35, 29633), (40, 29684),

Gene: Fishburne_37 Start: 29343, Stop: 29744, Start Num: 19

Candidate Starts for Fishburne_37:

(4, 29199), (9, 29232), (Start: 19 @29343 has 11 MA's), (Start: 20 @29346 has 7 MA's), (22, 29376), (23, 29397), (26, 29418), (27, 29457), (30, 29505), (33, 29553), (35, 29601), (40, 29652),

Gene: Flathead_53 Start: 37749, Stop: 38234, Start Num: 8

Candidate Starts for Flathead_53:

(Start: 8 @37749 has 22 MA's), (10, 37767), (Start: 11 @37788 has 1 MA's), (12, 37809), (13, 37812), (14, 37821), (15, 37824), (Start: 19 @37860 has 11 MA's), (21, 37872), (23, 37911), (28, 37974), (31, 38046), (34, 38097), (36, 38115), (39, 38136), (42, 38166), (44, 38178),

Gene: Guppsters_54 Start: 36848, Stop: 37258, Start Num: 8

Candidate Starts for Guppsters_54:

(Start: 8 @36848 has 22 MA's), (10, 36866), (Start: 11 @36887 has 1 MA's), (12, 36908), (13, 36911), (14, 36920), (15, 36923), (Start: 19 @36959 has 11 MA's), (21, 36971), (31, 37070), (32, 37076), (34, 37121), (37, 37151), (41, 37181), (43, 37199),

Gene: HUHilltop_37 Start: 29373, Stop: 29774, Start Num: 19

Candidate Starts for HUHilltop_37:

(4, 29229), (9, 29262), (Start: 19 @29373 has 11 MA's), (Start: 20 @29376 has 7 MA's), (22, 29406), (23, 29427), (26, 29448), (27, 29487), (30, 29535), (33, 29583), (35, 29631),

Gene: IMPilo_50 Start: 35763, Stop: 36185, Start Num: 8

Candidate Starts for IMPilo_50:

(Start: 8 @35763 has 22 MA's), (10, 35781), (Start: 11 @35802 has 1 MA's), (12, 35823), (13, 35826), (14, 35835), (15, 35838), (Start: 19 @35874 has 11 MA's), (21, 35886), (31, 35997), (32, 36003), (34, 36048), (36, 36066), (39, 36087), (42, 36117), (44, 36129),

Gene: IrishSherpFalk_54 Start: 38745, Stop: 39116, Start Num: 11

Candidate Starts for IrishSherpFalk_54:

(Start: 8 @38706 has 22 MA's), (10, 38724), (Start: 11 @38745 has 1 MA's), (12, 38766), (13, 38769), (14, 38778), (15, 38781), (Start: 19 @38817 has 11 MA's), (21, 38829), (31, 38928), (32, 38934), (34, 38979), (36, 38997), (39, 39018), (42, 39048), (44, 39060),

Gene: JalFarm20_65 Start: 40779, Stop: 41264, Start Num: 8

Candidate Starts for JalFarm20_65:

(Start: 8 @40779 has 22 MA's), (10, 40797), (Start: 11 @40818 has 1 MA's), (12, 40839), (13, 40842), (14, 40851), (15, 40854), (Start: 19 @40890 has 11 MA's), (21, 40902), (23, 40941), (28, 41004), (31, 41076), (34, 41127), (36, 41145), (39, 41166), (42, 41196), (44, 41208),

Gene: Jebeks_38 Start: 29328, Stop: 29729, Start Num: 19

Candidate Starts for Jebeks_38:

(4, 29184), (9, 29217), (Start: 19 @29328 has 11 MA's), (Start: 20 @29331 has 7 MA's), (22, 29361), (23, 29382), (26, 29403), (27, 29442), (30, 29490), (33, 29538), (35, 29586), (40, 29637),

Gene: Juniper1_51 Start: 36864, Stop: 37370, Start Num: 8

Candidate Starts for Juniper1_51:

(Start: 8 @36864 has 22 MA's), (10, 36882), (Start: 11 @36903 has 1 MA's), (12, 36924), (13, 36927), (14, 36936), (15, 36939), (17, 36951), (18, 36960), (Start: 19 @36975 has 11 MA's), (21, 36987), (24, 37032), (25, 37044), (29, 37131), (31, 37179), (38, 37269), (45, 37323),

Gene: Kari_37 Start: 29340, Stop: 29741, Start Num: 19

Candidate Starts for Kari_37:

(4, 29196), (9, 29229), (Start: 19 @29340 has 11 MA's), (Start: 20 @29343 has 7 MA's), (22, 29373), (23, 29394), (26, 29415), (27, 29454), (30, 29502), (33, 29550), (35, 29598), (40, 29649),

Gene: Langerak_37 Start: 29359, Stop: 29757, Start Num: 20

Candidate Starts for Langerak_37:

(4, 29212), (9, 29245), (Start: 19 @29356 has 11 MA's), (Start: 20 @29359 has 7 MA's), (22, 29389), (23, 29410), (26, 29431), (27, 29470), (30, 29518), (33, 29566), (35, 29614), (40, 29665),

Gene: Majeke_37 Start: 29381, Stop: 29782, Start Num: 19

Candidate Starts for Majeke_37:

(4, 29237), (9, 29270), (Start: 19 @29381 has 11 MA's), (Start: 20 @29384 has 7 MA's), (22, 29414), (23, 29435), (26, 29456), (27, 29495), (30, 29543), (33, 29591), (35, 29639), (40, 29690),

Gene: Mangethe_37 Start: 29381, Stop: 29782, Start Num: 19

Candidate Starts for Mangethe_37:

(4, 29237), (9, 29270), (Start: 19 @29381 has 11 MA's), (Start: 20 @29384 has 7 MA's), (22, 29414), (23, 29435), (26, 29456), (27, 29495), (30, 29543), (33, 29591), (35, 29639), (40, 29690),

Gene: MilleniumForce_57 Start: 39630, Stop: 40112, Start Num: 8

Candidate Starts for MilleniumForce_57:

(Start: 8 @39630 has 22 MA's), (10, 39648), (Start: 11 @39669 has 1 MA's), (12, 39690), (13, 39693), (14, 39702), (15, 39705), (Start: 19 @39741 has 11 MA's), (21, 39753), (23, 39792), (28, 39855), (31, 39924), (32, 39930), (34, 39975), (37, 40005), (43, 40053),

Gene: Necropolis_37 Start: 29340, Stop: 29741, Start Num: 19

Candidate Starts for Necropolis_37:

(4, 29196), (9, 29229), (Start: 19 @29340 has 11 MA's), (Start: 20 @29343 has 7 MA's), (22, 29373), (23, 29394), (26, 29415), (27, 29454), (30, 29502), (33, 29550), (35, 29598), (40, 29649),

Gene: Phalconet_52 Start: 36835, Stop: 37287, Start Num: 8

Candidate Starts for Phalconet_52:

(Start: 8 @36835 has 22 MA's), (10, 36853), (Start: 11 @36865 has 1 MA's), (12, 36886), (13, 36889), (14, 36898), (15, 36901), (16, 36910), (Start: 19 @36937 has 11 MA's), (21, 36949), (31, 37099), (32, 37105), (34, 37150), (37, 37180), (43, 37228),

Gene: Phanphagia_51 Start: 37739, Stop: 38149, Start Num: 8

Candidate Starts for Phanphagia_51:

(Start: 8 @37739 has 22 MA's), (10, 37757), (Start: 11 @37778 has 1 MA's), (12, 37799), (13, 37802), (14, 37811), (15, 37814), (Start: 19 @37850 has 11 MA's), (21, 37862), (31, 37961), (32, 37967), (34, 38012), (36, 38030), (39, 38051), (42, 38081), (44, 38093),

Gene: Phegasus_37 Start: 29351, Stop: 29749, Start Num: 20

Candidate Starts for Phegasus_37:

(4, 29204), (9, 29237), (Start: 19 @29348 has 11 MA's), (Start: 20 @29351 has 7 MA's), (22, 29381), (23, 29402), (26, 29423), (27, 29462), (30, 29510), (33, 29558), (35, 29606), (40, 29657),

Gene: PhesterPhotato_55 Start: 37823, Stop: 38284, Start Num: 8

Candidate Starts for PhesterPhotato_55:

(Start: 8 @37823 has 22 MA's), (10, 37841), (Start: 11 @37862 has 1 MA's), (12, 37883), (13, 37886), (14, 37895), (15, 37898), (Start: 19 @37934 has 11 MA's), (21, 37946), (31, 38096), (32, 38102), (34, 38147), (37, 38177), (43, 38225),

Gene: Phineas_37 Start: 29711, Stop: 30112, Start Num: 19

Candidate Starts for Phineas_37:

(4, 29567), (9, 29600), (Start: 19 @29711 has 11 MA's), (Start: 20 @29714 has 7 MA's), (22, 29744), (23, 29765), (26, 29786), (27, 29825), (30, 29873), (33, 29921), (35, 29969), (40, 30020),

Gene: PopTart_47 Start: 36238, Stop: 36744, Start Num: 7

Candidate Starts for PopTart_47:

(3, 36208), (Start: 7 @36238 has 2 MA's), (10, 36256), (Start: 11 @36277 has 1 MA's), (12, 36298), (15, 36313), (17, 36325), (Start: 19 @36349 has 11 MA's), (21, 36361), (23, 36400), (24, 36406), (29, 36505), (31, 36553), (38, 36643), (45, 36697),

Gene: Renaud18_59 Start: 38442, Stop: 38924, Start Num: 8

Candidate Starts for Renaud18_59:

(Start: 8 @38442 has 22 MA's), (10, 38460), (Start: 11 @38481 has 1 MA's), (12, 38502), (13, 38505), (14, 38514), (15, 38517), (Start: 19 @38553 has 11 MA's), (21, 38565), (23, 38604), (28, 38667), (31, 38736), (32, 38742), (34, 38787), (37, 38817), (43, 38865),

Gene: RockyHorror_54 Start: 37296, Stop: 37757, Start Num: 8

Candidate Starts for RockyHorror_54:

(Start: 8 @37296 has 22 MA's), (10, 37314), (Start: 11 @37335 has 1 MA's), (12, 37356), (13, 37359), (14, 37368), (15, 37371), (Start: 19 @37407 has 11 MA's), (21, 37419), (31, 37569), (32, 37575), (34, 37620), (37, 37650), (43, 37698),

Gene: SassyB_47 Start: 36238, Stop: 36744, Start Num: 7

Candidate Starts for SassyB_47:

(3, 36208), (Start: 7 @36238 has 2 MA's), (10, 36256), (Start: 11 @36277 has 1 MA's), (12, 36298), (15, 36313), (17, 36325), (Start: 19 @36349 has 11 MA's), (21, 36361), (23, 36400), (24, 36406), (29, 36505), (31, 36553), (38, 36643), (45, 36697),

Gene: Shauna1_52 Start: 37720, Stop: 38130, Start Num: 8

Candidate Starts for Shauna1_52:

(Start: 8 @37720 has 22 MA's), (10, 37738), (Start: 11 @37759 has 1 MA's), (12, 37780), (13, 37783), (14, 37792), (15, 37795), (Start: 19 @37831 has 11 MA's), (21, 37843), (31, 37942), (32, 37948), (34, 37993), (36, 38011), (39, 38032), (42, 38062), (44, 38074),

Gene: Sonah_37 Start: 29332, Stop: 29730, Start Num: 20

Candidate Starts for Sonah_37:

(4, 29185), (9, 29218), (Start: 19 @29329 has 11 MA's), (Start: 20 @29332 has 7 MA's), (22, 29362), (23, 29383), (26, 29404), (27, 29443), (30, 29491), (33, 29539), (35, 29587), (40, 29638),

Gene: Sparkdehlily_61 Start: 39036, Stop: 39497, Start Num: 8

Candidate Starts for Sparkdehlily_61:

(Start: 8 @39036 has 22 MA's), (10, 39054), (Start: 11 @39075 has 1 MA's), (12, 39096), (13, 39099), (14, 39108), (15, 39111), (Start: 19 @39147 has 11 MA's), (21, 39159), (31, 39309), (32, 39315), (34, 39360), (37, 39390), (43, 39438),

Gene: Spartacus_55 Start: 37623, Stop: 38033, Start Num: 8

Candidate Starts for Spartacus_55:

(Start: 8 @37623 has 22 MA's), (10, 37641), (Start: 11 @37662 has 1 MA's), (12, 37683), (13, 37686), (14, 37695), (15, 37698), (Start: 19 @37734 has 11 MA's), (21, 37746), (31, 37845), (32, 37851), (34, 37896), (36, 37914), (39, 37935), (42, 37965), (44, 37977),

Gene: SuperGrey_57 Start: 39146, Stop: 39556, Start Num: 8

Candidate Starts for SuperGrey_57:

(Start: 8 @39146 has 22 MA's), (10, 39164), (Start: 11 @39185 has 1 MA's), (12, 39206), (13, 39209), (14, 39218), (15, 39221), (Start: 19 @39257 has 11 MA's), (21, 39269), (31, 39368), (32, 39374), (34, 39419), (36, 39437), (39, 39458), (42, 39488), (44, 39500),

Gene: TDanisky_61 Start: 39036, Stop: 39497, Start Num: 8

Candidate Starts for TDanisky_61:

(Start: 8 @39036 has 22 MA's), (10, 39054), (Start: 11 @39075 has 1 MA's), (12, 39096), (13, 39099), (14, 39108), (15, 39111), (Start: 19 @39147 has 11 MA's), (21, 39159), (31, 39309), (32, 39315), (34, 39360), (37, 39390), (43, 39438),

Gene: Techage_37 Start: 29366, Stop: 29767, Start Num: 19

Candidate Starts for Techage_37:

(4, 29222), (9, 29255), (Start: 19 @29366 has 11 MA's), (Start: 20 @29369 has 7 MA's), (22, 29399), (23, 29420), (26, 29441), (27, 29480), (30, 29528), (33, 29576), (35, 29624), (40, 29675),

Gene: Venti_37 Start: 29346, Stop: 29744, Start Num: 20

Candidate Starts for Venti_37:

(4, 29199), (9, 29232), (Start: 19 @29343 has 11 MA's), (Start: 20 @29346 has 7 MA's), (22, 29376), (23, 29397), (26, 29418), (27, 29457), (30, 29505), (33, 29553), (35, 29601), (40, 29652),

Gene: Vidya_37 Start: 29376, Stop: 29777, Start Num: 19

Candidate Starts for Vidya_37:

(4, 29232), (9, 29265), (Start: 19 @29376 has 11 MA's), (Start: 20 @29379 has 7 MA's), (22, 29409), (23, 29430), (26, 29451), (27, 29490), (30, 29538), (33, 29586), (35, 29634), (40, 29685),

Gene: WillSterrel_54 Start: 38739, Stop: 39149, Start Num: 8

Candidate Starts for WillSterrel_54:

(Start: 8 @38739 has 22 MA's), (10, 38757), (Start: 11 @38778 has 1 MA's), (12, 38799), (13, 38802), (14, 38811), (15, 38814), (Start: 19 @38850 has 11 MA's), (21, 38862), (31, 38961), (32, 38967), (34, 39012), (36, 39030), (39, 39051), (42, 39081), (44, 39093),

Gene: XFactor_51 Start: 36239, Stop: 36700, Start Num: 8

Candidate Starts for XFactor_51:

(Start: 8 @36239 has 22 MA's), (10, 36257), (Start: 11 @36278 has 1 MA's), (12, 36299), (13, 36302), (14, 36311), (15, 36314), (Start: 19 @36350 has 11 MA's), (21, 36362), (31, 36512), (32, 36518), (34, 36563), (37, 36593), (43, 36641),

Gene: Zerg_53 Start: 37405, Stop: 37866, Start Num: 8

Candidate Starts for Zerg_53:

(Start: 8 @37405 has 22 MA's), (10, 37423), (Start: 11 @37444 has 1 MA's), (12, 37465), (13, 37468), (14, 37477), (15, 37480), (Start: 19 @37516 has 11 MA's), (21, 37528), (31, 37678), (32, 37684), (34, 37729), (37, 37759), (43, 37807),

Gene: Zilizebeth_37 Start: 29375, Stop: 29776, Start Num: 19

Candidate Starts for Zilizebeth_37:

(4, 29231), (9, 29264), (Start: 19 @29375 has 11 MA's), (Start: 20 @29378 has 7 MA's), (22, 29408), (23, 29429), (26, 29450), (27, 29489), (30, 29537), (33, 29585), (35, 29633), (40, 29684),