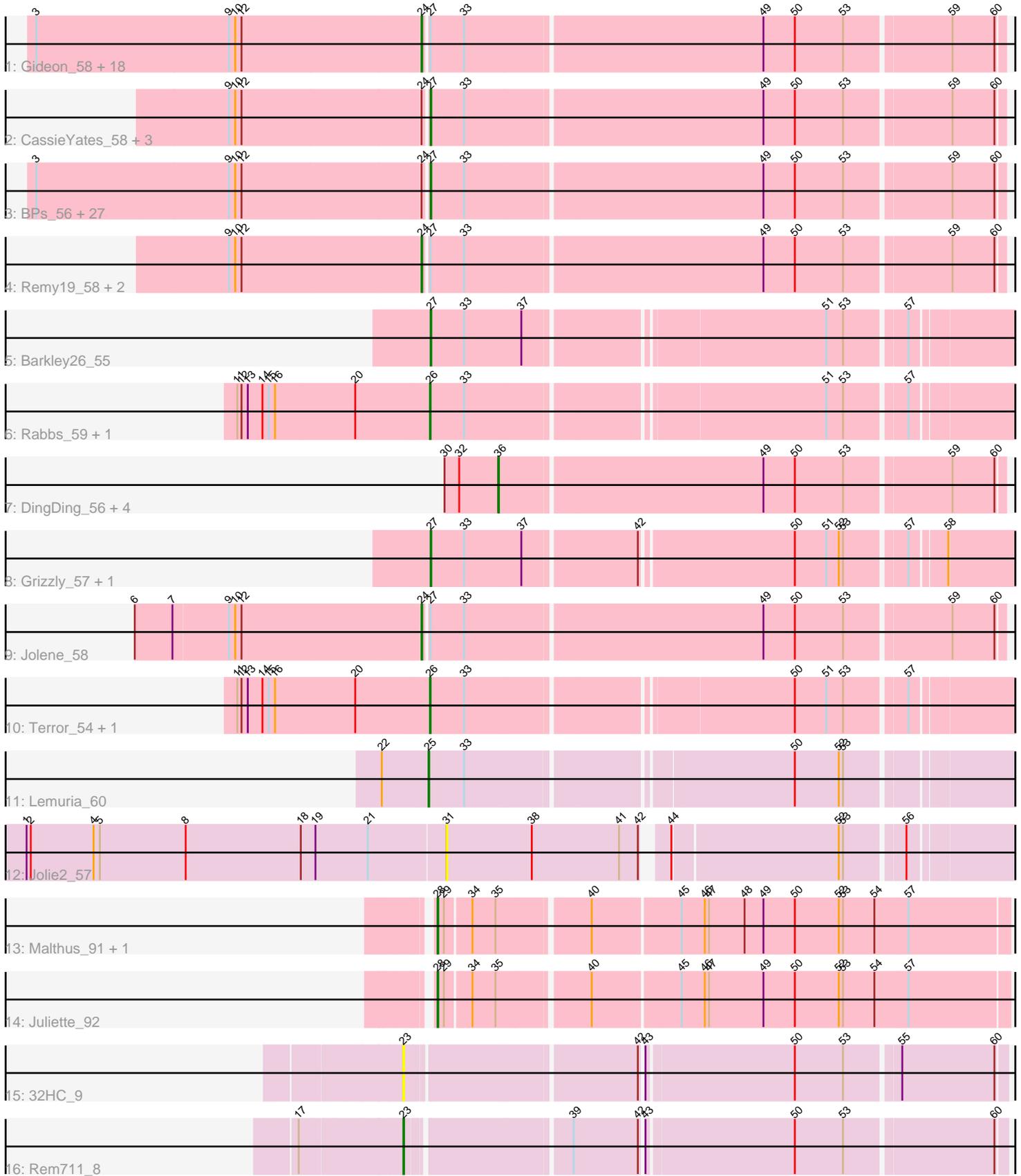


Pham 291116



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 291116 Report

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

Pham number 291116 has 74 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Gideon_58, Periodt_58, Kareem_57, CLED96_57, Coleslaw_57, Aroostook_58, Marmie_58, ZoMa_55, Plagueis_58, ECartman_56, Renaissance_57, GoldenAsh_56, Mowgli_58, Cherrybomb426_57, BQuat_57, Halo_59, LouisV14_59, Annihilator_56, Phreak_58
- Track 2 : CassieYates_58, Crespo_57, TomBrady_58, ShaboiShabazz_57
- Track 3 : BPs_56, MZKinsey_55, Frosty24_56, Chance64_58, Neoh_56, Darionha_58, BruceB_56, Jonghyun_56, Gomashi_56, Angel_56, OctaviousRex_56, Ruriko_55, Kasen3_57, Sizemore_57, DMoney_56, PinkYoshi_57, Wendigo_55, Olga_57, Schiebel_56, TinaBug_59, Rattrick_58, Jane_57, Liefie_55, Phloodle_56, Avrafan_56, Camri_57, Sweets_56, Hotshotbaby7_58
- Track 4 : Remy19_58, Cedasite_58, Phish_57
- Track 5 : Barkley26_55
- Track 6 : Rabbs_59, Sneeze_58
- Track 7 : DingDing_56, JorRay_59, Zombie_58, AzulaCat_59, Hope_58
- Track 8 : Grizzly_57, Peeb_57
- Track 9 : Jolene_58
- Track 10 : Terror_54, Taheera_54
- Track 11 : Lemuria_60
- Track 12 : Jolie2_57
- Track 13 : Malthus_91, Kraw_90
- Track 14 : Juliette_92
- Track 15 : 32HC_9
- Track 16 : Rem711_8

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

The start number called the most often in the published annotations is 27, it was called in 29 of the 65 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angel_56, Avrafan_56, BPs_56, Barkley26_55, BruceB_56, Camri_57, CassieYates_58, Chance64_58, Crespo_57, DMoney_56, Darionha_58, Frosty24_56, Gomashi_56, Grizzly_57, Hotshotbaby7_58, Jane_57, Jonghyun_56, Kasen3_57, Liefie_55, MZKinsey_55, Neoh_56, OctaviousRex_56, Olga_57,

Peeb_57, Phloodle_56, PinkYoshi_57, Rattrick_58, Ruriko_55, Schiebel_56, ShaboiShabazz_57, Sizemore_57, Sweets_56, TinaBug_59, TomBrady_58, Wendigo_55,

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

- Annihilator_56, Aroostook_58, BQuat_57, CLED96_57, Cedasite_58, Cherrybomb426_57, Coleslaw_57, ECartman_56, Gideon_58, GoldenAsh_56, Halo_59, Jolene_58, Kareem_57, LouisV14_59, Marmie_58, Mowgli_58, Periodt_58, Phish_57, Phreak_58, Plagueis_58, Remy19_58, Renaissance_57, ZoMa_55,

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

- 32HC_9, AzulaCat_59, DingDing_56, Hope_58, Jolie2_57, JorRay_59, Juliette_92, Kraw_90, Lemuria_60, Malthus_91, Rabbs_59, Rem711_8, Sneeze_58, Taheera_54, Terror_54, Zombie_58,

Summary by start number:

Start 23:

- Found in 2 of 74 (2.7%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC_9 (Z), Rem711_8 (Z),

Start 24:

- Found in 55 of 74 (74.3%) of genes in pham
- Manual Annotations of this start: 23 of 65
- Called 41.8% of time when present
- Phage (with cluster) where this start called: Annihilator_56 (G1), Aroostook_58 (G1), BQuat_57 (G1), CLED96_57 (G1), Cedasite_58 (G1), Cherrybomb426_57 (G1), Coleslaw_57 (G1), ECartman_56 (G1), Gideon_58 (G1), GoldenAsh_56 (G1), Halo_59 (G1), Jolene_58 (G1), Kareem_57 (G1), LouisV14_59 (G1), Marmie_58 (G1), Mowgli_58 (G1), Periodt_58 (G1), Phish_57 (G1), Phreak_58 (G1), Plagueis_58 (G1), Remy19_58 (G1), Renaissance_57 (G1), ZoMa_55 (G1),

Start 25:

- Found in 1 of 74 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lemuria_60 (G4),

Start 26:

- Found in 4 of 74 (5.4%) of genes in pham
- Manual Annotations of this start: 4 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rabbs_59 (G1), Sneeze_58 (G1), Taheera_54 (G1), Terror_54 (G1),

Start 27:

- Found in 58 of 74 (78.4%) of genes in pham
- Manual Annotations of this start: 29 of 65
- Called 60.3% of time when present
- Phage (with cluster) where this start called: Angel_56 (G1), Avrafan_56 (G1), BPs_56 (G1), Barkley26_55 (G1), BruceB_56 (G1), Camri_57 (G1), CassieYates_58

(G1), Chance64_58 (G1), Crespo_57 (G1), DMoney_56 (G1), Darionha_58 (G1), Frosty24_56 (G1), Gomashi_56 (G1), Grizzly_57 (G1), Hotshotbaby7_58 (G1), Jane_57 (G1), Jonghyun_56 (G1), Kasen3_57 (G1), Liefie_55 (G1), MZKinsey_55 (G1), Neoh_56 (G), OctaviousRex_56 (G1), Olga_57 (G1), Peeb_57 (G1), Phloodle_56 (G1), PinkYoshi_57 (G1), Rattrick_58 (G1), Ruriko_55 (G1), Schiebel_56 (G1), ShaboiShabazz_57 (G1), Sizemore_57 (G1), Sweets_56 (G1), TinaBug_59 (G1), TomBrady_58 (G1), Wendigo_55 (G1),

Start 28:

- Found in 3 of 74 (4.1%) of genes in pham
- Manual Annotations of this start: 3 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Juliette_92 (K4), Kraw_90 (K4), Malthus_91 (K4),

Start 31:

- Found in 1 of 74 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jolie2_57 (G4),

Start 36:

- Found in 5 of 74 (6.8%) of genes in pham
- Manual Annotations of this start: 4 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AzulaCat_59 (G1), DingDing_56 (G1), Hope_58 (G1), JorRay_59 (G1), Zombie_58 (G1),

Summary by clusters:

There are 5 clusters represented in this pham: Z, G4, G, G1, K4,

Info for manual annotations of cluster G1:

- Start number 24 was manually annotated 23 times for cluster G1.
- Start number 26 was manually annotated 4 times for cluster G1.
- Start number 27 was manually annotated 29 times for cluster G1.
- Start number 36 was manually annotated 4 times for cluster G1.

Info for manual annotations of cluster G4:

- Start number 25 was manually annotated 1 time for cluster G4.

Info for manual annotations of cluster K4:

- Start number 28 was manually annotated 3 times for cluster K4.

Info for manual annotations of cluster Z:

- Start number 23 was manually annotated 1 time for cluster Z.

Gene Information:

Gene: 32HC_9 Start: 4702, Stop: 3899, Start Num: 23

Candidate Starts for 32HC_9:

(Start: 23 @4702 has 1 MA's), (42, 4393), (43, 4390), (50, 4186), (53, 4117), (55, 4045), (60, 3913),

Gene: Angel_56 Start: 38960, Stop: 39751, Start Num: 27

Candidate Starts for Angel_56:

(3, 38411), (9, 38684), (10, 38693), (12, 38702), (Start: 24 @38954 has 23 MA's), (Start: 27 @38960 has 29 MA's), (33, 39008), (49, 39422), (50, 39467), (53, 39536), (59, 39680), (60, 39740),

Gene: Annihilator_56 Start: 38960, Stop: 39757, Start Num: 24

Candidate Starts for Annihilator_56:

(3, 38417), (9, 38690), (10, 38699), (12, 38708), (Start: 24 @38960 has 23 MA's), (Start: 27 @38966 has 29 MA's), (33, 39014), (49, 39428), (50, 39473), (53, 39542), (59, 39686), (60, 39746),

Gene: Aroostook_58 Start: 39416, Stop: 40213, Start Num: 24

Candidate Starts for Aroostook_58:

(3, 38873), (9, 39146), (10, 39155), (12, 39164), (Start: 24 @39416 has 23 MA's), (Start: 27 @39422 has 29 MA's), (33, 39470), (49, 39884), (50, 39929), (53, 39998), (59, 40142), (60, 40202),

Gene: Avrafan_56 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for Avrafan_56:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: AzulaCat_59 Start: 39516, Stop: 40211, Start Num: 36

Candidate Starts for AzulaCat_59:

(30, 39441), (32, 39462), (Start: 36 @39516 has 4 MA's), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: BPs_56 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for BPs_56:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: BQuat_57 Start: 39406, Stop: 40203, Start Num: 24

Candidate Starts for BQuat_57:

(3, 38863), (9, 39136), (10, 39145), (12, 39154), (Start: 24 @39406 has 23 MA's), (Start: 27 @39412 has 29 MA's), (33, 39460), (49, 39874), (50, 39919), (53, 39988), (59, 40132), (60, 40192),

Gene: Barkley26_55 Start: 38713, Stop: 39525, Start Num: 27

Candidate Starts for Barkley26_55:

(Start: 27 @38713 has 29 MA's), (33, 38761), (37, 38842), (51, 39244), (53, 39268), (57, 39349),

Gene: BruceB_56 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for BruceB_56:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: CLED96_57 Start: 38969, Stop: 39766, Start Num: 24

Candidate Starts for CLED96_57:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Camri_57 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for Camri_57:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: CassieYates_58 Start: 39420, Stop: 40211, Start Num: 27

Candidate Starts for CassieYates_58:

(9, 39144), (10, 39153), (12, 39162), (Start: 24 @39414 has 23 MA's), (Start: 27 @39420 has 29 MA's), (33, 39468), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: Cedasite_58 Start: 39414, Stop: 40211, Start Num: 24

Candidate Starts for Cedasite_58:

(9, 39144), (10, 39153), (12, 39162), (Start: 24 @39414 has 23 MA's), (Start: 27 @39420 has 29 MA's), (33, 39468), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: Chance64_58 Start: 39422, Stop: 40213, Start Num: 27

Candidate Starts for Chance64_58:

(3, 38873), (9, 39146), (10, 39155), (12, 39164), (Start: 24 @39416 has 23 MA's), (Start: 27 @39422 has 29 MA's), (33, 39470), (49, 39884), (50, 39929), (53, 39998), (59, 40142), (60, 40202),

Gene: Cherrybomb426_57 Start: 38969, Stop: 39766, Start Num: 24

Candidate Starts for Cherrybomb426_57:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Coleslaw_57 Start: 39406, Stop: 40203, Start Num: 24

Candidate Starts for Coleslaw_57:

(3, 38863), (9, 39136), (10, 39145), (12, 39154), (Start: 24 @39406 has 23 MA's), (Start: 27 @39412 has 29 MA's), (33, 39460), (49, 39874), (50, 39919), (53, 39988), (59, 40132), (60, 40192),

Gene: Crespo_57 Start: 39421, Stop: 40212, Start Num: 27

Candidate Starts for Crespo_57:

(9, 39145), (10, 39154), (12, 39163), (Start: 24 @39415 has 23 MA's), (Start: 27 @39421 has 29 MA's), (33, 39469), (49, 39883), (50, 39928), (53, 39997), (59, 40141), (60, 40201),

Gene: DMoney_56 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for DMoney_56:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Darionha_58 Start: 39420, Stop: 40211, Start Num: 27

Candidate Starts for Darionha_58:

(3, 38871), (9, 39144), (10, 39153), (12, 39162), (Start: 24 @39414 has 23 MA's), (Start: 27 @39420 has 29 MA's), (33, 39468), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: DingDing_56 Start: 39516, Stop: 40211, Start Num: 36

Candidate Starts for DingDing_56:

(30, 39441), (32, 39462), (Start: 36 @39516 has 4 MA's), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: ECartman_56 Start: 39414, Stop: 40211, Start Num: 24

Candidate Starts for ECartman_56:

(3, 38871), (9, 39144), (10, 39153), (12, 39162), (Start: 24 @39414 has 23 MA's), (Start: 27 @39420 has 29 MA's), (33, 39468), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: Frosty24_56 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for Frosty24_56:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Gideon_58 Start: 39416, Stop: 40213, Start Num: 24

Candidate Starts for Gideon_58:

(3, 38873), (9, 39146), (10, 39155), (12, 39164), (Start: 24 @39416 has 23 MA's), (Start: 27 @39422 has 29 MA's), (33, 39470), (49, 39884), (50, 39929), (53, 39998), (59, 40142), (60, 40202),

Gene: GoldenAsh_56 Start: 38954, Stop: 39751, Start Num: 24

Candidate Starts for GoldenAsh_56:

(3, 38411), (9, 38684), (10, 38693), (12, 38702), (Start: 24 @38954 has 23 MA's), (Start: 27 @38960 has 29 MA's), (33, 39008), (49, 39422), (50, 39467), (53, 39536), (59, 39680), (60, 39740),

Gene: Gomashi_56 Start: 38976, Stop: 39767, Start Num: 27

Candidate Starts for Gomashi_56:

(3, 38427), (9, 38700), (10, 38709), (12, 38718), (Start: 24 @38970 has 23 MA's), (Start: 27 @38976 has 29 MA's), (33, 39024), (49, 39438), (50, 39483), (53, 39552), (59, 39696), (60, 39756),

Gene: Grizzly_57 Start: 39236, Stop: 40054, Start Num: 27

Candidate Starts for Grizzly_57:

(Start: 27 @39236 has 29 MA's), (33, 39284), (37, 39365), (42, 39518), (50, 39728), (51, 39773), (52, 39791), (53, 39797), (57, 39878), (58, 39923),

Gene: Halo_59 Start: 39962, Stop: 40759, Start Num: 24

Candidate Starts for Halo_59:

(3, 39419), (9, 39692), (10, 39701), (12, 39710), (Start: 24 @39962 has 23 MA's), (Start: 27 @39968 has 29 MA's), (33, 40016), (49, 40430), (50, 40475), (53, 40544), (59, 40688), (60, 40748),

Gene: Hope_58 Start: 39516, Stop: 40211, Start Num: 36

Candidate Starts for Hope_58:

(30, 39441), (32, 39462), (Start: 36 @39516 has 4 MA's), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: Hotshotbaby7_58 Start: 39422, Stop: 40213, Start Num: 27

Candidate Starts for Hotshotbaby7_58:

(3, 38873), (9, 39146), (10, 39155), (12, 39164), (Start: 24 @39416 has 23 MA's), (Start: 27 @39422 has 29 MA's), (33, 39470), (49, 39884), (50, 39929), (53, 39998), (59, 40142), (60, 40202),

Gene: Jane_57 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for Jane_57:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Jolene_58 Start: 39818, Stop: 40615, Start Num: 24

Candidate Starts for Jolene_58:

(6, 39416), (7, 39470), (9, 39548), (10, 39557), (12, 39566), (Start: 24 @39818 has 23 MA's), (Start: 27 @39824 has 29 MA's), (33, 39872), (49, 40286), (50, 40331), (53, 40400), (59, 40544), (60, 40604),

Gene: Jolie2_57 Start: 40488, Stop: 41270, Start Num: 31

Candidate Starts for Jolie2_57:

(1, 39891), (2, 39897), (4, 39987), (5, 39996), (8, 40119), (18, 40284), (19, 40305), (21, 40380), (31, 40488), (38, 40605), (41, 40728), (42, 40755), (44, 40779), (52, 41007), (53, 41013), (56, 41091),

Gene: Jonghyun_56 Start: 39423, Stop: 40214, Start Num: 27

Candidate Starts for Jonghyun_56:

(3, 38874), (9, 39147), (10, 39156), (12, 39165), (Start: 24 @39417 has 23 MA's), (Start: 27 @39423 has 29 MA's), (33, 39471), (49, 39885), (50, 39930), (53, 39999), (59, 40143), (60, 40203),

Gene: JorRay_59 Start: 39516, Stop: 40211, Start Num: 36

Candidate Starts for JorRay_59:

(30, 39441), (32, 39462), (Start: 36 @39516 has 4 MA's), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: Juliette_92 Start: 54447, Stop: 55226, Start Num: 28

Candidate Starts for Juliette_92:

(Start: 28 @54447 has 3 MA's), (29, 54456), (34, 54489), (35, 54522), (40, 54645), (45, 54765), (46, 54798), (47, 54804), (49, 54882), (50, 54924), (52, 54987), (53, 54993), (54, 55038), (57, 55086),

Gene: Kareem_57 Start: 38969, Stop: 39766, Start Num: 24

Candidate Starts for Kareem_57:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Kasen3_57 Start: 38961, Stop: 39755, Start Num: 27

Candidate Starts for Kasen3_57:

(3, 38412), (9, 38685), (10, 38694), (12, 38703), (Start: 24 @38955 has 23 MA's), (Start: 27 @38961 has 29 MA's), (33, 39009), (49, 39423), (50, 39468), (53, 39537), (59, 39684), (60, 39744),

Gene: Kraw_90 Start: 54162, Stop: 54941, Start Num: 28

Candidate Starts for Kraw_90:

(Start: 28 @54162 has 3 MA's), (29, 54171), (34, 54204), (35, 54237), (40, 54360), (45, 54480), (46, 54513), (47, 54519), (48, 54570), (49, 54597), (50, 54639), (52, 54702), (53, 54708), (54, 54753), (57, 54801),

Gene: Lemuria_60 Start: 42095, Stop: 42910, Start Num: 25

Candidate Starts for Lemuria_60:

(22, 42029), (Start: 25 @42095 has 1 MA's), (33, 42146), (50, 42584), (52, 42647), (53, 42653),

Gene: Liefie_55 Start: 39086, Stop: 39850, Start Num: 27

Candidate Starts for Liefie_55:

(3, 38537), (9, 38810), (10, 38819), (12, 38828), (Start: 24 @39080 has 23 MA's), (Start: 27 @39086 has 29 MA's), (33, 39134), (49, 39521), (50, 39566), (53, 39635), (59, 39779), (60, 39839),

Gene: LouisV14_59 Start: 41234, Stop: 42031, Start Num: 24

Candidate Starts for LouisV14_59:

(3, 40691), (9, 40964), (10, 40973), (12, 40982), (Start: 24 @41234 has 23 MA's), (Start: 27 @41240 has 29 MA's), (33, 41288), (49, 41702), (50, 41747), (53, 41816), (59, 41960), (60, 42020),

Gene: MZKinsey_55 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for MZKinsey_55:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Malthus_91 Start: 54156, Stop: 54935, Start Num: 28

Candidate Starts for Malthus_91:

(Start: 28 @54156 has 3 MA's), (29, 54165), (34, 54198), (35, 54231), (40, 54354), (45, 54474), (46, 54507), (47, 54513), (48, 54564), (49, 54591), (50, 54633), (52, 54696), (53, 54702), (54, 54747), (57, 54795),

Gene: Marmie_58 Start: 39415, Stop: 40212, Start Num: 24

Candidate Starts for Marmie_58:

(3, 38872), (9, 39145), (10, 39154), (12, 39163), (Start: 24 @39415 has 23 MA's), (Start: 27 @39421 has 29 MA's), (33, 39469), (49, 39883), (50, 39928), (53, 39997), (59, 40141), (60, 40201),

Gene: Mowgli_58 Start: 39415, Stop: 40212, Start Num: 24

Candidate Starts for Mowgli_58:

(3, 38872), (9, 39145), (10, 39154), (12, 39163), (Start: 24 @39415 has 23 MA's), (Start: 27 @39421 has 29 MA's), (33, 39469), (49, 39883), (50, 39928), (53, 39997), (59, 40141), (60, 40201),

Gene: Neoh_56 Start: 39413, Stop: 40204, Start Num: 27

Candidate Starts for Neoh_56:

(3, 38864), (9, 39137), (10, 39146), (12, 39155), (Start: 24 @39407 has 23 MA's), (Start: 27 @39413 has 29 MA's), (33, 39461), (49, 39875), (50, 39920), (53, 39989), (59, 40133), (60, 40193),

Gene: OctaviousRex_56 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for OctaviousRex_56:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Olga_57 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for Olga_57:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Peeb_57 Start: 39360, Stop: 40178, Start Num: 27

Candidate Starts for Peeb_57:

(Start: 27 @39360 has 29 MA's), (33, 39408), (37, 39489), (42, 39642), (50, 39852), (51, 39897), (52, 39915), (53, 39921), (57, 40002), (58, 40047),

Gene: Periodt_58 Start: 39807, Stop: 40604, Start Num: 24

Candidate Starts for Periodt_58:

(3, 39264), (9, 39537), (10, 39546), (12, 39555), (Start: 24 @39807 has 23 MA's), (Start: 27 @39813 has 29 MA's), (33, 39861), (49, 40275), (50, 40320), (53, 40389), (59, 40533), (60, 40593),

Gene: Phish_57 Start: 39414, Stop: 40211, Start Num: 24

Candidate Starts for Phish_57:

(9, 39144), (10, 39153), (12, 39162), (Start: 24 @39414 has 23 MA's), (Start: 27 @39420 has 29 MA's), (33, 39468), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: Phloodle_56 Start: 39436, Stop: 40227, Start Num: 27

Candidate Starts for Phloodle_56:

(3, 38887), (9, 39160), (10, 39169), (12, 39178), (Start: 24 @39430 has 23 MA's), (Start: 27 @39436 has 29 MA's), (33, 39484), (49, 39898), (50, 39943), (53, 40012), (59, 40156), (60, 40216),

Gene: Phreak_58 Start: 39414, Stop: 40211, Start Num: 24

Candidate Starts for Phreak_58:

(3, 38871), (9, 39144), (10, 39153), (12, 39162), (Start: 24 @39414 has 23 MA's), (Start: 27 @39420 has 29 MA's), (33, 39468), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: PinkYoshi_57 Start: 38966, Stop: 39757, Start Num: 27

Candidate Starts for PinkYoshi_57:

(3, 38417), (9, 38690), (10, 38699), (12, 38708), (Start: 24 @38960 has 23 MA's), (Start: 27 @38966 has 29 MA's), (33, 39014), (49, 39428), (50, 39473), (53, 39542), (59, 39686), (60, 39746),

Gene: Plagueis_58 Start: 39235, Stop: 40032, Start Num: 24

Candidate Starts for Plagueis_58:

(3, 38692), (9, 38965), (10, 38974), (12, 38983), (Start: 24 @39235 has 23 MA's), (Start: 27 @39241 has 29 MA's), (33, 39289), (49, 39703), (50, 39748), (53, 39817), (59, 39961), (60, 40021),

Gene: Rabbs_59 Start: 39343, Stop: 40155, Start Num: 26

Candidate Starts for Rabbs_59:

(11, 39073), (12, 39079), (13, 39088), (14, 39109), (15, 39118), (16, 39127), (20, 39241), (Start: 26 @39343 has 4 MA's), (33, 39391), (51, 39874), (53, 39898), (57, 39979),

Gene: Rattrick_58 Start: 39813, Stop: 40604, Start Num: 27

Candidate Starts for Rattrick_58:

(3, 39264), (9, 39537), (10, 39546), (12, 39555), (Start: 24 @39807 has 23 MA's), (Start: 27 @39813 has 29 MA's), (33, 39861), (49, 40275), (50, 40320), (53, 40389), (59, 40533), (60, 40593),

Gene: Rem711_8 Start: 4757, Stop: 3960, Start Num: 23

Candidate Starts for Rem711_8:

(17, 4892), (Start: 23 @4757 has 1 MA's), (39, 4544), (42, 4454), (43, 4451), (50, 4247), (53, 4178), (60, 3974),

Gene: Remy19_58 Start: 39414, Stop: 40211, Start Num: 24

Candidate Starts for Remy19_58:

(9, 39144), (10, 39153), (12, 39162), (Start: 24 @39414 has 23 MA's), (Start: 27 @39420 has 29 MA's), (33, 39468), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: Renaissance_57 Start: 38969, Stop: 39766, Start Num: 24

Candidate Starts for Renaissance_57:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Ruriko_55 Start: 39422, Stop: 40213, Start Num: 27

Candidate Starts for Ruriko_55:

(3, 38873), (9, 39146), (10, 39155), (12, 39164), (Start: 24 @39416 has 23 MA's), (Start: 27 @39422 has 29 MA's), (33, 39470), (49, 39884), (50, 39929), (53, 39998), (59, 40142), (60, 40202),

Gene: Schiebel_56 Start: 38960, Stop: 39751, Start Num: 27

Candidate Starts for Schiebel_56:

(3, 38411), (9, 38684), (10, 38693), (12, 38702), (Start: 24 @38954 has 23 MA's), (Start: 27 @38960 has 29 MA's), (33, 39008), (49, 39422), (50, 39467), (53, 39536), (59, 39680), (60, 39740),

Gene: ShaboiShabazz_57 Start: 39420, Stop: 40211, Start Num: 27

Candidate Starts for ShaboiShabazz_57:

(9, 39144), (10, 39153), (12, 39162), (Start: 24 @39414 has 23 MA's), (Start: 27 @39420 has 29 MA's), (33, 39468), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),

Gene: Sizemore_57 Start: 38961, Stop: 39755, Start Num: 27

Candidate Starts for Sizemore_57:

(3, 38412), (9, 38685), (10, 38694), (12, 38703), (Start: 24 @38955 has 23 MA's), (Start: 27 @38961 has 29 MA's), (33, 39009), (49, 39423), (50, 39468), (53, 39537), (59, 39684), (60, 39744),

Gene: Sneeze_58 Start: 39342, Stop: 40154, Start Num: 26

Candidate Starts for Sneeze_58:

(11, 39072), (12, 39078), (13, 39087), (14, 39108), (15, 39117), (16, 39126), (20, 39240), (Start: 26 @39342 has 4 MA's), (33, 39390), (51, 39873), (53, 39897), (57, 39978),

Gene: Sweets_56 Start: 38970, Stop: 39761, Start Num: 27

Candidate Starts for Sweets_56:

(3, 38421), (9, 38694), (10, 38703), (12, 38712), (Start: 24 @38964 has 23 MA's), (Start: 27 @38970 has 29 MA's), (33, 39018), (49, 39432), (50, 39477), (53, 39546), (59, 39690), (60, 39750),

Gene: Taheera_54 Start: 38240, Stop: 39052, Start Num: 26

Candidate Starts for Taheera_54:

(11, 37970), (12, 37976), (13, 37985), (14, 38006), (15, 38015), (16, 38024), (20, 38138), (Start: 26 @38240 has 4 MA's), (33, 38288), (50, 38726), (51, 38771), (53, 38795), (57, 38876),

Gene: Terror_54 Start: 38240, Stop: 39052, Start Num: 26

Candidate Starts for Terror_54:

(11, 37970), (12, 37976), (13, 37985), (14, 38006), (15, 38015), (16, 38024), (20, 38138), (Start: 26 @38240 has 4 MA's), (33, 38288), (50, 38726), (51, 38771), (53, 38795), (57, 38876),

Gene: TinaBug_59 Start: 39968, Stop: 40759, Start Num: 27

Candidate Starts for TinaBug_59:

(3, 39419), (9, 39692), (10, 39701), (12, 39710), (Start: 24 @39962 has 23 MA's), (Start: 27 @39968 has 29 MA's), (33, 40016), (49, 40430), (50, 40475), (53, 40544), (59, 40688), (60, 40748),

Gene: TomBrady_58 Start: 39421, Stop: 40212, Start Num: 27

Candidate Starts for TomBrady_58:

(9, 39145), (10, 39154), (12, 39163), (Start: 24 @39415 has 23 MA's), (Start: 27 @39421 has 29 MA's), (33, 39469), (49, 39883), (50, 39928), (53, 39997), (59, 40141), (60, 40201),

Gene: Wendigo_55 Start: 38975, Stop: 39766, Start Num: 27

Candidate Starts for Wendigo_55:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: ZoMa_55 Start: 38969, Stop: 39766, Start Num: 24

Candidate Starts for ZoMa_55:

(3, 38426), (9, 38699), (10, 38708), (12, 38717), (Start: 24 @38969 has 23 MA's), (Start: 27 @38975 has 29 MA's), (33, 39023), (49, 39437), (50, 39482), (53, 39551), (59, 39695), (60, 39755),

Gene: Zombie_58 Start: 39516, Stop: 40211, Start Num: 36

Candidate Starts for Zombie_58:

(30, 39441), (32, 39462), (Start: 36 @39516 has 4 MA's), (49, 39882), (50, 39927), (53, 39996), (59, 40140), (60, 40200),