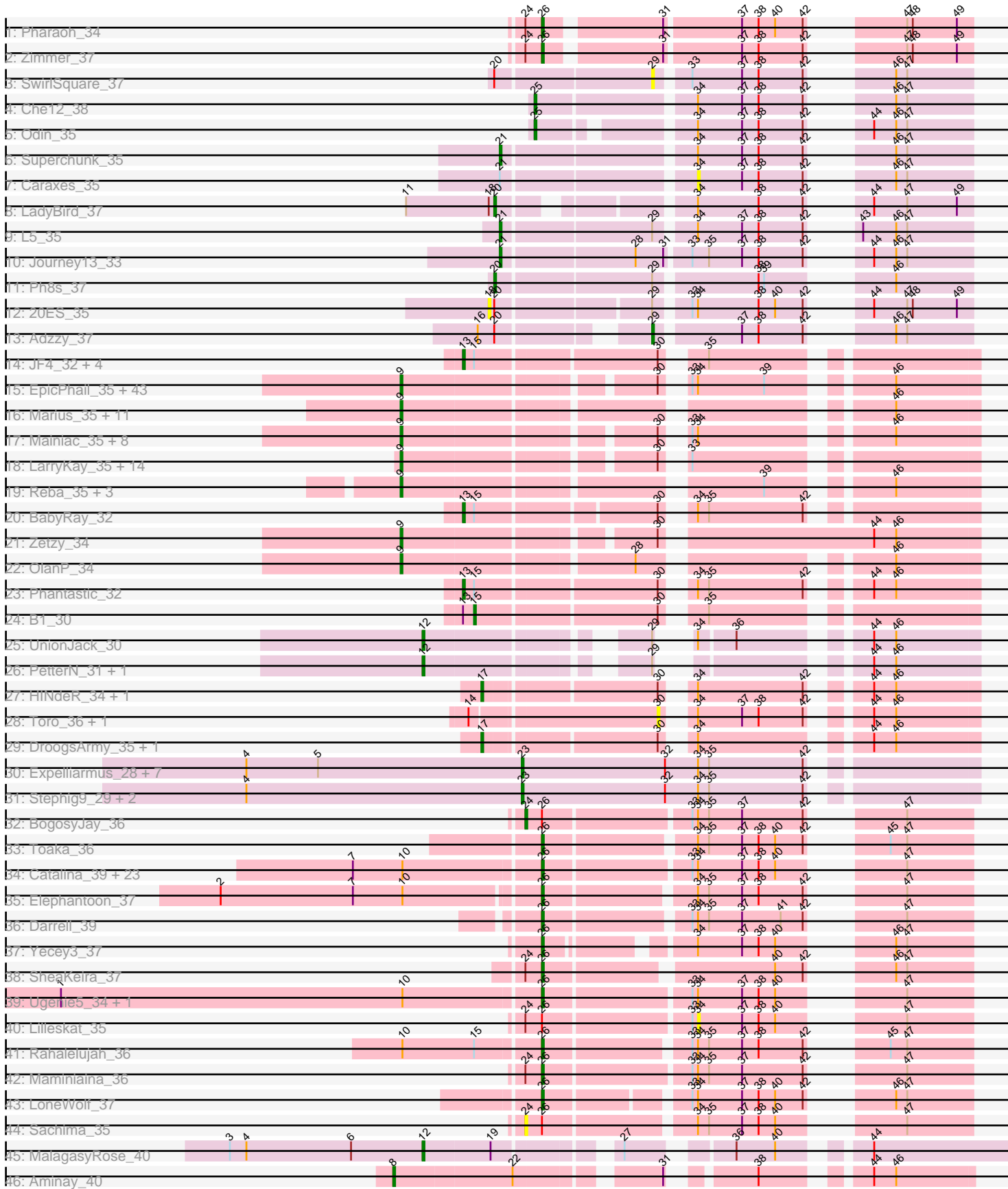


Pham 224334



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 224334 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224334 has 166 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Pharaoh_34
- Track 2 : Zimmer_37
- Track 3 : SwirlSquare_37
- Track 4 : Che12_38
- Track 5 : Odin_35
- Track 6 : Superchunk_35
- Track 7 : Caraxes_35
- Track 8 : LadyBird_37
- Track 9 : L5_35
- Track 10 : Journey13_33
- Track 11 : Ph8s_37
- Track 12 : 20ES_35
- Track 13 : Adzzy_37
- Track 14 : JF4_32, Isca_32, JF2_32, MK4_32, Rockstar_32
- Track 15 : EpicPhail_35, Marie_35, Vix_35, Taurus_35, Grub_35, Watson_35, Dieselweasel_35, LBerry_35, JenCasNa_35, Lowa_35, MuchMore_37, PotatoSplit_36, Bigflo_35, Malinsilva_37, Aglet_35, MarQuardt_35, DaHudson_35, Colbster_35, Anubis_37, Phoebe_35, P28Green_35, Grum1_35, AugsMagnumOpus_37, Jobu08_34, GingkoMaracino_35, SoYo_35, Ollie_35, Pembroke_35, Cullens_35, JHC117_35, Farber_35, SoilDragon_34, Beauxregard13_35, MoneyMay_35, GtownJaz_35, PGHhamlin_37, Wooldri_37, Sabinator_35, Microwolf_35, Fernando_35, Hercules11_35, LugYA_37, Lilith_35, Penny1_35
- Track 16 : Marius_35, Kalb97_35, Calvinny_35, Groupthink_35, Heliosoles_34, Manu_35, JeppNRM_35, Gemma_34, Pawn_34, Kalnoky_35, PurpleHaze_34, HaveUMetTed_35
- Track 17 : Mainiac_35, MadMarie_35, Tiffany_35, Snickers_35, Sabia_35, BreSam8_35, Grif_35, StepMih_35, Stagni_35
- Track 18 : LarryKay_35, TinyPebbles_35, Misomonster_37, KADY_36, BuzzBuzz_34, Phoxy_35, Rummer_35, Daishi_34, Methuselah_34, Soshari_37, HashRod_36, Louie6_35, AgronaGT15_35, Spike509_35, Bxz2_33
- Track 19 : Reba_35, Phranny_35, ACFishhook_34, PhishRPhriends_33
- Track 20 : BabyRay_32
- Track 21 : Zetzy_34
- Track 22 : OlanP_34
- Track 23 : Phantastic_32
- Track 24 : B1_30

- Track 25 : UnionJack_30
- Track 26 : PetterN_31, Chadwick_31
- Track 27 : HINdeR_34, Sheen_35
- Track 28 : Toro_36, FlyCatcher_37
- Track 29 : DroogsArmy_35, Timshel_35
- Track 30 : Expelliarmus_28, Smeadley_29, NearlyHeadless_29, Groundhog_28, Phillis_29, Astro_29, Danforth_28, Saintus_29
- Track 31 : Stephig9_29, Dixon_29, Roary_29
- Track 32 : BogosyJay_36
- Track 33 : Toaka_36
- Track 34 : Catalina_39, EdogawaKiddo_35, Jiawan_36, PackMan_37, Conquerage_38, Phaeder_38, Aliter_38, RyeScarlet_39, Onglai_36, EmyBug_37, Fayely_38, Myxus_38, Hanray_36, Phonnegut_38, Tubs_38, Pioneer_38, Horex_36, Spouty_38, Priya_38, Eidsmoe_38, Beemo_38, HortumSL17_38, Qobbit_38, ExplosioNervosa_38
- Track 35 : Elephantoan_37
- Track 36 : Darrell_39
- Track 37 : Yecey3_37
- Track 38 : SheaKeira_37
- Track 39 : Ugenie5_34, Scherzo_37
- Track 40 : Lilleskat_35
- Track 41 : Rahalelujah_36
- Track 42 : Maminiaina_36
- Track 43 : LoneWolf_37
- Track 44 : Sachima_35
- Track 45 : MalagasyRose_40
- Track 46 : Aminay_40

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

The start number called the most often in the published annotations is 9, it was called in 81 of the 148 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ACFishhook_34, Aglet_35, AgronaGT15_35, Anubis_37, AugsMagnumOpus_37, Beauxregard13_35, Bigflo_35, BreSam8_35, BuzzBuzz_34, Bxz2_33, Calvinny_35, Colbster_35, Cullens_35, DaHudson_35, Daishi_34, Dieselweasel_35, EpicPhail_35, Farber_35, Fernando_35, Gemma_34, GingkoMaracino_35, Grif_35, Groupthink_35, Grub_35, Grum1_35, GtownJaz_35, HashRod_36, HaveUMetTed_35, Heliosoles_34, Hercules11_35, JHC117_35, JenCasNa_35, JeppNRM_35, Jobu08_34, KADY_36, Kalb97_35, Kalnoky_35, LBerry_35, LarryKay_35, Lilith_35, Louie6_35, Lowa_35, LugYA_37, MadMarie_35, Mainiac_35, Malinsilva_37, Manu_35, MarQuardt_35, Marie_35, Marius_35, Methuselah_34, Microwolf_35, Misomonster_37, MoneyMay_35, MuchMore_37, OlanP_34, Ollie_35, P28Green_35, PGHhamlin_37, Pawn_34, Pembroke_35, Penny1_35, PhishRPhriends_33, Phoebe_35, Phoxy_35, Phranny_35, PotatoSplit_36, PurpleHaze_34, Reba_35, Rummer_35, Sabia_35, Sabinator_35, Snickers_35, SoYo_35, SoilDragon_34, Soshari_37, Spike509_35, Stagni_35, StepMih_35, Taurus_35, Tiffany_35, TinyPebbles_35, Vix_35, Watson_35, Wooldri_37, Zetzy_34,

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

-

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

- 20ES_35, Adzzy_37, Aliter_38, Aminay_40, Astro_29, B1_30, BabyRay_32, Beemo_38, BogosyJay_36, Caraxes_35, Catalina_39, Chadwick_31, Che12_38, Conquerage_38, Danforth_28, Darrell_39, Dixon_29, DroogsArmy_35, EdogawaKiddo_35, Eidsmoe_38, Elephantoon_37, EmyBug_37, Expelliarmus_28, ExplosioNervosa_38, Fayely_38, FlyCatcher_37, Groundhog_28, HINdeR_34, Hanray_36, Halex_36, HortumSL17_38, Isca_32, JF2_32, JF4_32, Jiawan_36, Journey13_33, L5_35, LadyBird_37, Lilleskat_35, LoneWolf_37, MK4_32, MalagasyRose_40, Maminaiaina_36, Myxus_38, NearlyHeadless_29, Odin_35, Onglai_36, PackMan_37, PetterN_31, Ph8s_37, Phaeder_38, Phantastic_32, Pharaoh_34, Phillis_29, Phonnegut_38, Pioneer_38, Priya_38, Qobbit_38, Rahalelujah_36, Roary_29, Rockstar_32, RyeScarlet_39, Sachima_35, Saintus_29, Scherzo_37, SheaKeira_37, Sheen_35, Smeadley_29, Spouty_38, Stephig9_29, Superchunk_35, SwirlSquare_37, Timshel_35, Toaka_36, Toro_36, Tubs_38, Ugenie5_34, UnionJack_30, Yecey3_37, Zimmer_37,

Summary by start number:

Start 8:

- Found in 1 of 166 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 148
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aminay_40 (K7),

Start 9:

- Found in 86 of 166 (51.8%) of genes in pham
- Manual Annotations of this start: 81 of 148
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ACFishhook_34 (A3), Aglet_35 (A3), AgronaGT15_35 (A3), Anubis_37 (A3), AugsMagnumOpus_37 (A3), Beauxregard13_35 (A3), Bigflo_35 (A3), BreSam8_35 (A3), BuzzBuzz_34 (A3), Bxz2_33 (A3), Calvinny_35 (A3), Colbster_35 (A3), Cullens_35 (A3), DaHudson_35 (A3), Daishi_34 (A3), Dieselweasel_35 (A3), EpicPhail_35 (A3), Farber_35 (A3), Fernando_35 (A3), Gemma_34 (A3), GingkoMaracino_35 (A3), Grif_35 (A3), Groupthink_35 (A3), Grub_35 (A3), Grum1_35 (A3), GtownJaz_35 (A3), HashRod_36 (A3), HaveUMetTed_35 (A3), Heliosoles_34 (A3), Hercules11_35 (A3), JHC117_35 (A3), JenCasNa_35 (A3), JeppNRM_35 (A3), Jobu08_34 (A3), KADY_36 (A3), Kalb97_35 (A3), Kalnoky_35 (A3), LBerry_35 (A3), LarryKay_35 (A3), Lilith_35 (A3), Louie6_35 (A3), Lowa_35 (A3), LugYA_37 (A3), MadMarie_35 (A3), Mainiac_35 (A3), Malinsilva_37 (A3), Manu_35 (A3), MarQuardt_35 (A3), Marie_35 (A3), Marius_35 (A3), Methuselah_34 (A3), Microwolf_35 (A3), Misomonster_37 (A3), MoneyMay_35 (A3), MuchMore_37 (A3), OlanP_34 (A3), Ollie_35 (A3), P28Green_35 (A3), PGHhamlin_37 (A3), Pawn_34 (A3), Pembroke_35 (A3), Penny1_35 (A3), PhishRPhriends_33 (A3), Phoebe_35 (A3), Phoxy_35 (A3), Phranny_35 (A3), PotatoSplit_36 (A3), PurpleHaze_34 (A3), Reba_35 (A3), Rummer_35 (A3), Sabia_35 (A3), Sabinator_35 (A3), Snickers_35 (A3), SoYo_35 (A3), SoilDragon_34 (A3), Soshari_37 (A3), Spike509_35 (A3), Stagni_35 (A3), StepMih_35 (A3), Taurus_35 (A3), Tiffany_35 (A3), TinyPebbles_35 (A3), Vix_35 (A3), Watson_35 (A3), Wooldri_37 (A3), Zetzy_34 (A3),

Start 12:

- Found in 4 of 166 (2.4%) of genes in pham
- Manual Annotations of this start: 4 of 148
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chadwick_31 (A5), MalagasyRose_40 (AG), PetterN_31 (A5), UnionJack_30 (A5),

Start 13:

- Found in 8 of 166 (4.8%) of genes in pham
- Manual Annotations of this start: 7 of 148
- Called 87.5% of time when present
- Phage (with cluster) where this start called: BabyRay_32 (A3), Isca_32 (A3), JF2_32 (A3), JF4_32 (A3), MK4_32 (A3), Phantastic_32 (A3), Rockstar_32 (A3),

Start 15:

- Found in 9 of 166 (5.4%) of genes in pham
- Manual Annotations of this start: 1 of 148
- Called 11.1% of time when present
- Phage (with cluster) where this start called: B1_30 (A3),

Start 17:

- Found in 4 of 166 (2.4%) of genes in pham
- Manual Annotations of this start: 4 of 148
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DroogsArmy_35 (A7), HINdeR_34 (A7), Sheen_35 (A7), Timshel_35 (A7),

Start 18:

- Found in 2 of 166 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: 20ES_35 (A2),

Start 20:

- Found in 5 of 166 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 148
- Called 40.0% of time when present
- Phage (with cluster) where this start called: LadyBird_37 (A2), Ph8s_37 (A2),

Start 21:

- Found in 4 of 166 (2.4%) of genes in pham
- Manual Annotations of this start: 3 of 148
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Journey13_33 (A2), L5_35 (A2), Superchunk_35 (A2),

Start 23:

- Found in 11 of 166 (6.6%) of genes in pham
- Manual Annotations of this start: 11 of 148
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Astro_29 (A8), Danforth_28 (A8), Dixon_29 (A8), Expelliarmus_28 (A8), Groundhog_28 (A8), NearlyHeadless_29 (A8), Phillis_29 (A8), Roary_29 (A8), Saintus_29 (A8), Smeadley_29 (A8), Stephig9_29

(A8),

Start 24:

- Found in 7 of 166 (4.2%) of genes in pham
- Manual Annotations of this start: 1 of 148
- Called 28.6% of time when present
- Phage (with cluster) where this start called: BogosyJay_36 (A9), Sachima_35 (A9),

Start 25:

- Found in 2 of 166 (1.2%) of genes in pham
- Manual Annotations of this start: 2 of 148
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che12_38 (A2), Odin_35 (A2),

Start 26:

- Found in 39 of 166 (23.5%) of genes in pham
- Manual Annotations of this start: 30 of 148
- Called 92.3% of time when present
- Phage (with cluster) where this start called: Aliter_38 (A9), Beemo_38 (A9), Catalina_39 (A9), Conquerage_38 (A9), Darrell_39 (A9), EdogawaKiddo_35 (A9), Eidsmoe_38 (A9), Elephantoon_37 (A9), EmyBug_37 (A9), ExplosioNervosa_38 (A9), Fayely_38 (A9), Hanray_36 (A9), Halex_36 (A9), HortumSL17_38 (A9), Jiawan_36 (A9), LoneWolf_37 (A9), Maminina_36 (A9), Myxus_38 (A9), Onglai_36 (A9), PackMan_37 (A9), Phaeder_38 (A9), Pharaoh_34 (A12), Phonnegut_38 (A9), Pioneer_38 (A9), Priya_38 (A9), Qobbit_38 (A9), Rahalelujah_36 (A9), RyeScarlet_39 (A9), Scherzo_37 (A9), SheaKeira_37 (A9), Spouty_38 (A9), Toaka_36 (A9), Tubs_38 (A9), Ugenie5_34 (A9), Yecy3_37 (A9), Zimmer_37 (A12),

Start 29:

- Found in 8 of 166 (4.8%) of genes in pham
- Manual Annotations of this start: 1 of 148
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Adzzy_37 (A2), SwirlSquare_37 (A2),

Start 30:

- Found in 83 of 166 (50.0%) of genes in pham
- No Manual Annotations of this start.
- Called 2.4% of time when present
- Phage (with cluster) where this start called: FlyCatcher_37 (A7), Toro_36 (A7),

Start 34:

- Found in 116 of 166 (69.9%) of genes in pham
- No Manual Annotations of this start.
- Called 1.7% of time when present
- Phage (with cluster) where this start called: Caraxes_35 (A2), Lilleskat_35 (A9),

Summary by clusters:

There are 9 clusters represented in this pham: AG, A12, K7, A3, A2, A5, A7, A9, A8,

Info for manual annotations of cluster A12:

- Start number 26 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A2:

- Start number 20 was manually annotated 2 times for cluster A2.
- Start number 21 was manually annotated 3 times for cluster A2.
- Start number 25 was manually annotated 2 times for cluster A2.
- Start number 29 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 9 was manually annotated 81 times for cluster A3.
- Start number 13 was manually annotated 7 times for cluster A3.
- Start number 15 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A5:

- Start number 12 was manually annotated 3 times for cluster A5.

Info for manual annotations of cluster A7:

- Start number 17 was manually annotated 4 times for cluster A7.

Info for manual annotations of cluster A8:

- Start number 23 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 24 was manually annotated 1 time for cluster A9.
- Start number 26 was manually annotated 28 times for cluster A9.

Info for manual annotations of cluster AG:

- Start number 12 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster K7:

- Start number 8 was manually annotated 1 time for cluster K7.

Gene Information:

Gene: 20ES_35 Start: 26963, Stop: 27184, Start Num: 18

Candidate Starts for 20ES_35:

(18, 26963), (Start: 20 @26966 has 2 MA's), (Start: 29 @27044 has 1 MA's), (33, 27059), (34, 27062), (38, 27095), (40, 27104), (42, 27119), (44, 27131), (47, 27149), (48, 27152), (49, 27176),

Gene: ACFishhook_34 Start: 25582, Stop: 25310, Start Num: 9

Candidate Starts for ACFishhook_34:

(Start: 9 @25582 has 81 MA's), (39, 25408), (46, 25354),

Gene: Adzzy_37 Start: 26259, Stop: 26119, Start Num: 29

Candidate Starts for Adzzy_37:

(16, 26334), (Start: 20 @26325 has 2 MA's), (Start: 29 @26259 has 1 MA's), (37, 26217), (38, 26208), (42, 26184), (46, 26160), (47, 26154),

Gene: Aglet_35 Start: 25649, Stop: 25383, Start Num: 9

Candidate Starts for Aglet_35:

(Start: 9 @25649 has 81 MA's), (30, 25526), (33, 25520), (34, 25517), (39, 25481), (46, 25427),

Gene: AgronaGT15_35 Start: 25544, Stop: 25278, Start Num: 9

Candidate Starts for AgronaGT15_35:
(Start: 9 @25544 has 81 MA's), (30, 25421), (33, 25415),

Gene: Aliter_38 Start: 28128, Stop: 27928, Start Num: 26
Candidate Starts for Aliter_38:
(7, 28227), (10, 28200), (Start: 26 @28128 has 30 MA's), (33, 28053), (34, 28050), (37, 28026), (38, 28017), (40, 28008), (47, 27963),

Gene: Aminay_40 Start: 32095, Stop: 32355, Start Num: 8
Candidate Starts for Aminay_40:
(Start: 8 @32095 has 1 MA's), (22, 32158), (31, 32224), (38, 32257), (44, 32302), (46, 32314),

Gene: Anubis_37 Start: 25534, Stop: 25268, Start Num: 9
Candidate Starts for Anubis_37:
(Start: 9 @25534 has 81 MA's), (30, 25411), (33, 25405), (34, 25402), (39, 25366), (46, 25312),

Gene: Astro_29 Start: 23519, Stop: 23289, Start Num: 23
Candidate Starts for Astro_29:
(4, 23669), (5, 23630), (Start: 23 @23519 has 11 MA's), (32, 23441), (34, 23423), (35, 23417), (42, 23366),

Gene: AugsMagnumOpus_37 Start: 25640, Stop: 25374, Start Num: 9
Candidate Starts for AugsMagnumOpus_37:
(Start: 9 @25640 has 81 MA's), (30, 25517), (33, 25511), (34, 25508), (39, 25472), (46, 25418),

Gene: B1_30 Start: 24676, Stop: 24440, Start Num: 15
Candidate Starts for B1_30:
(Start: 13 @24682 has 7 MA's), (Start: 15 @24676 has 1 MA's), (30, 24583), (35, 24568),

Gene: BabyRay_32 Start: 25239, Stop: 25000, Start Num: 13
Candidate Starts for BabyRay_32:
(Start: 13 @25239 has 7 MA's), (Start: 15 @25233 has 1 MA's), (30, 25143), (34, 25134), (35, 25128), (42, 25077),

Gene: Beauxregard13_35 Start: 25648, Stop: 25382, Start Num: 9
Candidate Starts for Beauxregard13_35:
(Start: 9 @25648 has 81 MA's), (30, 25525), (33, 25519), (34, 25516), (39, 25480), (46, 25426),

Gene: Beemo_38 Start: 28256, Stop: 28056, Start Num: 26
Candidate Starts for Beemo_38:
(7, 28355), (10, 28328), (Start: 26 @28256 has 30 MA's), (33, 28181), (34, 28178), (37, 28154), (38, 28145), (40, 28136), (47, 28091),

Gene: Bigflo_35 Start: 25647, Stop: 25381, Start Num: 9
Candidate Starts for Bigflo_35:
(Start: 9 @25647 has 81 MA's), (30, 25524), (33, 25518), (34, 25515), (39, 25479), (46, 25425),

Gene: BogosyJay_36 Start: 27810, Stop: 27601, Start Num: 24
Candidate Starts for BogosyJay_36:
(Start: 24 @27810 has 1 MA's), (Start: 26 @27801 has 30 MA's), (33, 27726), (34, 27723), (35, 27717), (37, 27699), (42, 27666), (47, 27636),

Gene: BreSam8_35 Start: 25641, Stop: 25375, Start Num: 9

Candidate Starts for BreSam8_35:

(Start: 9 @25641 has 81 MA's), (30, 25518), (33, 25512), (34, 25509), (46, 25419),

Gene: BuzzBuzz_34 Start: 25723, Stop: 25457, Start Num: 9

Candidate Starts for BuzzBuzz_34:

(Start: 9 @25723 has 81 MA's), (30, 25600), (33, 25594),

Gene: Bxz2_33 Start: 25730, Stop: 25464, Start Num: 9

Candidate Starts for Bxz2_33:

(Start: 9 @25730 has 81 MA's), (30, 25607), (33, 25601),

Gene: Calvinny_35 Start: 25501, Stop: 25229, Start Num: 9

Candidate Starts for Calvinny_35:

(Start: 9 @25501 has 81 MA's), (46, 25273),

Gene: Caraxes_35 Start: 26112, Stop: 25990, Start Num: 34

Candidate Starts for Caraxes_35:

(Start: 21 @26208 has 3 MA's), (34, 26112), (37, 26088), (38, 26079), (42, 26055), (46, 26031), (47, 26025),

Gene: Catalina_39 Start: 28201, Stop: 28001, Start Num: 26

Candidate Starts for Catalina_39:

(7, 28300), (10, 28273), (Start: 26 @28201 has 30 MA's), (33, 28126), (34, 28123), (37, 28099), (38, 28090), (40, 28081), (47, 28036),

Gene: Chadwick_31 Start: 23833, Stop: 23600, Start Num: 12

Candidate Starts for Chadwick_31:

(Start: 12 @23833 has 4 MA's), (Start: 29 @23734 has 1 MA's), (44, 23656), (46, 23644),

Gene: Che12_38 Start: 26571, Stop: 26371, Start Num: 25

Candidate Starts for Che12_38:

(Start: 25 @26571 has 2 MA's), (34, 26493), (37, 26469), (38, 26460), (42, 26436), (46, 26412), (47, 26406),

Gene: Colbster_35 Start: 25648, Stop: 25382, Start Num: 9

Candidate Starts for Colbster_35:

(Start: 9 @25648 has 81 MA's), (30, 25525), (33, 25519), (34, 25516), (39, 25480), (46, 25426),

Gene: Conquerage_38 Start: 28230, Stop: 28030, Start Num: 26

Candidate Starts for Conquerage_38:

(7, 28329), (10, 28302), (Start: 26 @28230 has 30 MA's), (33, 28155), (34, 28152), (37, 28128), (38, 28119), (40, 28110), (47, 28065),

Gene: Cullens_35 Start: 25647, Stop: 25381, Start Num: 9

Candidate Starts for Cullens_35:

(Start: 9 @25647 has 81 MA's), (30, 25524), (33, 25518), (34, 25515), (39, 25479), (46, 25425),

Gene: DaHudson_35 Start: 25640, Stop: 25374, Start Num: 9

Candidate Starts for DaHudson_35:

(Start: 9 @25640 has 81 MA's), (30, 25517), (33, 25511), (34, 25508), (39, 25472), (46, 25418),

Gene: Daishi_34 Start: 24564, Stop: 24298, Start Num: 9

Candidate Starts for Daishi_34:

(Start: 9 @24564 has 81 MA's), (30, 24441), (33, 24435),

Gene: Danforth_28 Start: 23494, Stop: 23264, Start Num: 23

Candidate Starts for Danforth_28:

(4, 23644), (5, 23605), (Start: 23 @23494 has 11 MA's), (32, 23416), (34, 23398), (35, 23392), (42, 23341),

Gene: Darrell_39 Start: 28636, Stop: 28439, Start Num: 26

Candidate Starts for Darrell_39:

(Start: 26 @28636 has 30 MA's), (33, 28564), (34, 28561), (35, 28555), (37, 28537), (41, 28516), (42, 28504), (47, 28474),

Gene: Dieselweasel_35 Start: 25650, Stop: 25384, Start Num: 9

Candidate Starts for Dieselweasel_35:

(Start: 9 @25650 has 81 MA's), (30, 25527), (33, 25521), (34, 25518), (39, 25482), (46, 25428),

Gene: Dixon_29 Start: 23513, Stop: 23283, Start Num: 23

Candidate Starts for Dixon_29:

(4, 23663), (Start: 23 @23513 has 11 MA's), (32, 23435), (34, 23417), (35, 23411), (42, 23360),

Gene: DroogsArmy_35 Start: 29491, Stop: 29261, Start Num: 17

Candidate Starts for DroogsArmy_35:

(Start: 17 @29491 has 4 MA's), (30, 29404), (34, 29395), (44, 29317), (46, 29305),

Gene: EdogawaKiddo_35 Start: 28207, Stop: 28007, Start Num: 26

Candidate Starts for EdogawaKiddo_35:

(7, 28306), (10, 28279), (Start: 26 @28207 has 30 MA's), (33, 28132), (34, 28129), (37, 28105), (38, 28096), (40, 28087), (47, 28042),

Gene: Eidsmoe_38 Start: 28264, Stop: 28064, Start Num: 26

Candidate Starts for Eidsmoe_38:

(7, 28363), (10, 28336), (Start: 26 @28264 has 30 MA's), (33, 28189), (34, 28186), (37, 28162), (38, 28153), (40, 28144), (47, 28099),

Gene: Elephantoon_37 Start: 27631, Stop: 27434, Start Num: 26

Candidate Starts for Elephantoon_37:

(2, 27799), (7, 27727), (10, 27700), (Start: 26 @27631 has 30 MA's), (34, 27556), (35, 27550), (37, 27532), (38, 27523), (42, 27499), (47, 27469),

Gene: EmyBug_37 Start: 28266, Stop: 28066, Start Num: 26

Candidate Starts for EmyBug_37:

(7, 28365), (10, 28338), (Start: 26 @28266 has 30 MA's), (33, 28191), (34, 28188), (37, 28164), (38, 28155), (40, 28146), (47, 28101),

Gene: EpicPhail_35 Start: 25648, Stop: 25382, Start Num: 9

Candidate Starts for EpicPhail_35:

(Start: 9 @25648 has 81 MA's), (30, 25525), (33, 25519), (34, 25516), (39, 25480), (46, 25426),

Gene: Expelliarmus_28 Start: 23480, Stop: 23250, Start Num: 23

Candidate Starts for Expelliarmus_28:

(4, 23630), (5, 23591), (Start: 23 @23480 has 11 MA's), (32, 23402), (34, 23384), (35, 23378), (42, 23327),

Gene: ExplosioNervosa_38 Start: 28290, Stop: 28090, Start Num: 26
Candidate Starts for ExplosioNervosa_38:
(7, 28389), (10, 28362), (Start: 26 @28290 has 30 MA's), (33, 28215), (34, 28212), (37, 28188), (38, 28179), (40, 28170), (47, 28125),

Gene: Farber_35 Start: 25641, Stop: 25375, Start Num: 9
Candidate Starts for Farber_35:
(Start: 9 @25641 has 81 MA's), (30, 25518), (33, 25512), (34, 25509), (39, 25473), (46, 25419),

Gene: Fayely_38 Start: 28233, Stop: 28033, Start Num: 26
Candidate Starts for Fayely_38:
(7, 28332), (10, 28305), (Start: 26 @28233 has 30 MA's), (33, 28158), (34, 28155), (37, 28131), (38, 28122), (40, 28113), (47, 28068),

Gene: Fernando_35 Start: 25647, Stop: 25381, Start Num: 9
Candidate Starts for Fernando_35:
(Start: 9 @25647 has 81 MA's), (30, 25524), (33, 25518), (34, 25515), (39, 25479), (46, 25425),

Gene: FlyCatcher_37 Start: 29163, Stop: 29020, Start Num: 30
Candidate Starts for FlyCatcher_37:
(14, 29259), (30, 29163), (34, 29154), (37, 29130), (38, 29121), (42, 29097), (44, 29076), (46, 29064),

Gene: Gemma_34 Start: 25497, Stop: 25225, Start Num: 9
Candidate Starts for Gemma_34:
(Start: 9 @25497 has 81 MA's), (46, 25269),

Gene: GingkoMaracino_35 Start: 25534, Stop: 25268, Start Num: 9
Candidate Starts for GingkoMaracino_35:
(Start: 9 @25534 has 81 MA's), (30, 25411), (33, 25405), (34, 25402), (39, 25366), (46, 25312),

Gene: Grif_35 Start: 25722, Stop: 25456, Start Num: 9
Candidate Starts for Grif_35:
(Start: 9 @25722 has 81 MA's), (30, 25599), (33, 25593), (34, 25590), (46, 25500),

Gene: Groundhog_28 Start: 23481, Stop: 23251, Start Num: 23
Candidate Starts for Groundhog_28:
(4, 23631), (5, 23592), (Start: 23 @23481 has 11 MA's), (32, 23403), (34, 23385), (35, 23379), (42, 23328),

Gene: Groupthink_35 Start: 25501, Stop: 25229, Start Num: 9
Candidate Starts for Groupthink_35:
(Start: 9 @25501 has 81 MA's), (46, 25273),

Gene: Grub_35 Start: 25640, Stop: 25374, Start Num: 9
Candidate Starts for Grub_35:
(Start: 9 @25640 has 81 MA's), (30, 25517), (33, 25511), (34, 25508), (39, 25472), (46, 25418),

Gene: Grum1_35 Start: 25647, Stop: 25381, Start Num: 9
Candidate Starts for Grum1_35:
(Start: 9 @25647 has 81 MA's), (30, 25524), (33, 25518), (34, 25515), (39, 25479), (46, 25425),

Gene: GtownJaz_35 Start: 25649, Stop: 25383, Start Num: 9
Candidate Starts for GtownJaz_35:

(Start: 9 @25649 has 81 MA's), (30, 25526), (33, 25520), (34, 25517), (39, 25481), (46, 25427),

Gene: HINdeR_34 Start: 29552, Stop: 29322, Start Num: 17

Candidate Starts for HINdeR_34:

(Start: 17 @29552 has 4 MA's), (30, 29465), (34, 29456), (42, 29399), (44, 29378), (46, 29366),

Gene: Hanray_36 Start: 28211, Stop: 28011, Start Num: 26

Candidate Starts for Hanray_36:

(7, 28310), (10, 28283), (Start: 26 @28211 has 30 MA's), (33, 28136), (34, 28133), (37, 28109), (38, 28100), (40, 28091), (47, 28046),

Gene: HashRod_36 Start: 25723, Stop: 25457, Start Num: 9

Candidate Starts for HashRod_36:

(Start: 9 @25723 has 81 MA's), (30, 25600), (33, 25594),

Gene: HaveUMetTed_35 Start: 25494, Stop: 25222, Start Num: 9

Candidate Starts for HaveUMetTed_35:

(Start: 9 @25494 has 81 MA's), (46, 25266),

Gene: Heliosoles_34 Start: 25501, Stop: 25229, Start Num: 9

Candidate Starts for Heliosoles_34:

(Start: 9 @25501 has 81 MA's), (46, 25273),

Gene: Hercules11_35 Start: 25656, Stop: 25390, Start Num: 9

Candidate Starts for Hercules11_35:

(Start: 9 @25656 has 81 MA's), (30, 25533), (33, 25527), (34, 25524), (39, 25488), (46, 25434),

Gene: Horex_36 Start: 28224, Stop: 28024, Start Num: 26

Candidate Starts for Horex_36:

(7, 28323), (10, 28296), (Start: 26 @28224 has 30 MA's), (33, 28149), (34, 28146), (37, 28122), (38, 28113), (40, 28104), (47, 28059),

Gene: HortumSL17_38 Start: 28200, Stop: 28000, Start Num: 26

Candidate Starts for HortumSL17_38:

(7, 28299), (10, 28272), (Start: 26 @28200 has 30 MA's), (33, 28125), (34, 28122), (37, 28098), (38, 28089), (40, 28080), (47, 28035),

Gene: Isca_32 Start: 24932, Stop: 24690, Start Num: 13

Candidate Starts for Isca_32:

(Start: 13 @24932 has 7 MA's), (Start: 15 @24926 has 1 MA's), (30, 24833), (35, 24818),

Gene: JF2_32 Start: 24682, Stop: 24440, Start Num: 13

Candidate Starts for JF2_32:

(Start: 13 @24682 has 7 MA's), (Start: 15 @24676 has 1 MA's), (30, 24583), (35, 24568),

Gene: JF4_32 Start: 24682, Stop: 24440, Start Num: 13

Candidate Starts for JF4_32:

(Start: 13 @24682 has 7 MA's), (Start: 15 @24676 has 1 MA's), (30, 24583), (35, 24568),

Gene: JHC117_35 Start: 25646, Stop: 25380, Start Num: 9

Candidate Starts for JHC117_35:

(Start: 9 @25646 has 81 MA's), (30, 25523), (33, 25517), (34, 25514), (39, 25478), (46, 25424),

Gene: JenCasNa_35 Start: 25647, Stop: 25381, Start Num: 9
Candidate Starts for JenCasNa_35:
(Start: 9 @25647 has 81 MA's), (30, 25524), (33, 25518), (34, 25515), (39, 25479), (46, 25425),

Gene: JeppNRM_35 Start: 25500, Stop: 25228, Start Num: 9
Candidate Starts for JeppNRM_35:
(Start: 9 @25500 has 81 MA's), (46, 25272),

Gene: Jiawan_36 Start: 28243, Stop: 28043, Start Num: 26
Candidate Starts for Jiawan_36:
(7, 28342), (10, 28315), (Start: 26 @28243 has 30 MA's), (33, 28168), (34, 28165), (37, 28141), (38, 28132), (40, 28123), (47, 28078),

Gene: Jobu08_34 Start: 25478, Stop: 25212, Start Num: 9
Candidate Starts for Jobu08_34:
(Start: 9 @25478 has 81 MA's), (30, 25355), (33, 25349), (34, 25346), (39, 25310), (46, 25256),

Gene: Journey13_33 Start: 26731, Stop: 26510, Start Num: 21
Candidate Starts for Journey13_33:
(Start: 21 @26731 has 3 MA's), (28, 26662), (31, 26647), (33, 26635), (35, 26626), (37, 26608), (38, 26599), (42, 26575), (44, 26563), (46, 26551), (47, 26545),

Gene: KADY_36 Start: 25723, Stop: 25457, Start Num: 9
Candidate Starts for KADY_36:
(Start: 9 @25723 has 81 MA's), (30, 25600), (33, 25594),

Gene: Kalb97_35 Start: 25500, Stop: 25228, Start Num: 9
Candidate Starts for Kalb97_35:
(Start: 9 @25500 has 81 MA's), (46, 25272),

Gene: Kalnoky_35 Start: 25501, Stop: 25229, Start Num: 9
Candidate Starts for Kalnoky_35:
(Start: 9 @25501 has 81 MA's), (46, 25273),

Gene: L5_35 Start: 26547, Stop: 26329, Start Num: 21
Candidate Starts for L5_35:
(Start: 21 @26547 has 3 MA's), (Start: 29 @26469 has 1 MA's), (34, 26451), (37, 26427), (38, 26418), (42, 26394), (43, 26388), (46, 26370), (47, 26364),

Gene: LBerry_35 Start: 25648, Stop: 25382, Start Num: 9
Candidate Starts for LBerry_35:
(Start: 9 @25648 has 81 MA's), (30, 25525), (33, 25519), (34, 25516), (39, 25480), (46, 25426),

Gene: LadyBird_37 Start: 27424, Stop: 27630, Start Num: 20
Candidate Starts for LadyBird_37:
(11, 27376), (18, 27421), (Start: 20 @27424 has 2 MA's), (34, 27508), (38, 27541), (42, 27565), (44, 27577), (47, 27595), (49, 27622),

Gene: LarryKay_35 Start: 25725, Stop: 25459, Start Num: 9
Candidate Starts for LarryKay_35:
(Start: 9 @25725 has 81 MA's), (30, 25602), (33, 25596),

Gene: Lilith_35 Start: 25641, Stop: 25375, Start Num: 9

Candidate Starts for Lilith_35:

(Start: 9 @25641 has 81 MA's), (30, 25518), (33, 25512), (34, 25509), (39, 25473), (46, 25419),

Gene: Lilleskat_35 Start: 28141, Stop: 28019, Start Num: 34

Candidate Starts for Lilleskat_35:

(Start: 24 @28228 has 1 MA's), (Start: 26 @28219 has 30 MA's), (33, 28144), (34, 28141), (37, 28117), (38, 28108), (40, 28099), (47, 28054),

Gene: LoneWolf_37 Start: 27789, Stop: 27595, Start Num: 26

Candidate Starts for LoneWolf_37:

(Start: 26 @27789 has 30 MA's), (33, 27720), (34, 27717), (37, 27693), (38, 27684), (40, 27675), (42, 27660), (46, 27636), (47, 27630),

Gene: Louie6_35 Start: 25724, Stop: 25458, Start Num: 9

Candidate Starts for Louie6_35:

(Start: 9 @25724 has 81 MA's), (30, 25601), (33, 25595),

Gene: Lowa_35 Start: 25640, Stop: 25374, Start Num: 9

Candidate Starts for Lowa_35:

(Start: 9 @25640 has 81 MA's), (30, 25517), (33, 25511), (34, 25508), (39, 25472), (46, 25418),

Gene: LugYA_37 Start: 25648, Stop: 25382, Start Num: 9

Candidate Starts for LugYA_37:

(Start: 9 @25648 has 81 MA's), (30, 25525), (33, 25519), (34, 25516), (39, 25480), (46, 25426),

Gene: MK4_32 Start: 24916, Stop: 24674, Start Num: 13

Candidate Starts for MK4_32:

(Start: 13 @24916 has 7 MA's), (Start: 15 @24910 has 1 MA's), (30, 24817), (35, 24802),

Gene: MadMarie_35 Start: 25650, Stop: 25384, Start Num: 9

Candidate Starts for MadMarie_35:

(Start: 9 @25650 has 81 MA's), (30, 25527), (33, 25521), (34, 25518), (46, 25428),

Gene: Mainiac_35 Start: 25641, Stop: 25375, Start Num: 9

Candidate Starts for Mainiac_35:

(Start: 9 @25641 has 81 MA's), (30, 25518), (33, 25512), (34, 25509), (46, 25419),

Gene: MalagasyRose_40 Start: 30812, Stop: 30543, Start Num: 12

Candidate Starts for MalagasyRose_40:

(3, 30917), (4, 30908), (6, 30851), (Start: 12 @30812 has 4 MA's), (19, 30776), (27, 30722), (36, 30677), (40, 30656), (44, 30620),

Gene: Malinsilva_37 Start: 25640, Stop: 25374, Start Num: 9

Candidate Starts for Malinsilva_37:

(Start: 9 @25640 has 81 MA's), (30, 25517), (33, 25511), (34, 25508), (39, 25472), (46, 25418),

Gene: Maminiaina_36 Start: 27783, Stop: 27583, Start Num: 26

Candidate Starts for Maminiaina_36:

(Start: 24 @27792 has 1 MA's), (Start: 26 @27783 has 30 MA's), (33, 27708), (34, 27705), (35, 27699), (37, 27681), (42, 27648), (47, 27618),

Gene: Manu_35 Start: 25501, Stop: 25229, Start Num: 9

Candidate Starts for Manu_35:

(Start: 9 @25501 has 81 MA's), (46, 25273),

Gene: MarQuardt_35 Start: 25649, Stop: 25383, Start Num: 9

Candidate Starts for MarQuardt_35:

(Start: 9 @25649 has 81 MA's), (30, 25526), (33, 25520), (34, 25517), (39, 25481), (46, 25427),

Gene: Marie_35 Start: 25647, Stop: 25381, Start Num: 9

Candidate Starts for Marie_35:

(Start: 9 @25647 has 81 MA's), (30, 25524), (33, 25518), (34, 25515), (39, 25479), (46, 25425),

Gene: Marius_35 Start: 25501, Stop: 25229, Start Num: 9

Candidate Starts for Marius_35:

(Start: 9 @25501 has 81 MA's), (46, 25273),

Gene: Methuselah_34 Start: 25719, Stop: 25453, Start Num: 9

Candidate Starts for Methuselah_34:

(Start: 9 @25719 has 81 MA's), (30, 25596), (33, 25590),

Gene: Microwolf_35 Start: 25649, Stop: 25383, Start Num: 9

Candidate Starts for Microwolf_35:

(Start: 9 @25649 has 81 MA's), (30, 25526), (33, 25520), (34, 25517), (39, 25481), (46, 25427),

Gene: Misomonster_37 Start: 25722, Stop: 25456, Start Num: 9

Candidate Starts for Misomonster_37:

(Start: 9 @25722 has 81 MA's), (30, 25599), (33, 25593),

Gene: MoneyMay_35 Start: 25647, Stop: 25381, Start Num: 9

Candidate Starts for MoneyMay_35:

(Start: 9 @25647 has 81 MA's), (30, 25524), (33, 25518), (34, 25515), (39, 25479), (46, 25425),

Gene: MuchMore_37 Start: 25640, Stop: 25374, Start Num: 9

Candidate Starts for MuchMore_37:

(Start: 9 @25640 has 81 MA's), (30, 25517), (33, 25511), (34, 25508), (39, 25472), (46, 25418),

Gene: Myxus_38 Start: 28200, Stop: 28000, Start Num: 26

Candidate Starts for Myxus_38:

(7, 28299), (10, 28272), (Start: 26 @28200 has 30 MA's), (33, 28125), (34, 28122), (37, 28098), (38, 28089), (40, 28080), (47, 28035),

Gene: NearlyHeadless_29 Start: 23533, Stop: 23303, Start Num: 23

Candidate Starts for NearlyHeadless_29:

(4, 23683), (5, 23644), (Start: 23 @23533 has 11 MA's), (32, 23455), (34, 23437), (35, 23431), (42, 23380),

Gene: Odin_35 Start: 26375, Stop: 26184, Start Num: 25

Candidate Starts for Odin_35:

(Start: 25 @26375 has 2 MA's), (34, 26306), (37, 26282), (38, 26273), (42, 26249), (44, 26237), (46, 26225), (47, 26219),

Gene: OlanP_34 Start: 25682, Stop: 25410, Start Num: 9

Candidate Starts for OlanP_34:

(Start: 9 @25682 has 81 MA's), (28, 25565), (46, 25454),

Gene: Ollie_35 Start: 25518, Stop: 25252, Start Num: 9
Candidate Starts for Ollie_35:
(Start: 9 @25518 has 81 MA's), (30, 25395), (33, 25389), (34, 25386), (39, 25350), (46, 25296),

Gene: Onglai_36 Start: 26541, Stop: 26341, Start Num: 26
Candidate Starts for Onglai_36:
(7, 26640), (10, 26613), (Start: 26 @26541 has 30 MA's), (33, 26466), (34, 26463), (37, 26439), (38, 26430), (40, 26421), (47, 26376),

Gene: P28Green_35 Start: 25650, Stop: 25384, Start Num: 9
Candidate Starts for P28Green_35:
(Start: 9 @25650 has 81 MA's), (30, 25527), (33, 25521), (34, 25518), (39, 25482), (46, 25428),

Gene: PGHhamlin_37 Start: 25640, Stop: 25374, Start Num: 9
Candidate Starts for PGHhamlin_37:
(Start: 9 @25640 has 81 MA's), (30, 25517), (33, 25511), (34, 25508), (39, 25472), (46, 25418),

Gene: PackMan_37 Start: 28200, Stop: 28000, Start Num: 26
Candidate Starts for PackMan_37:
(7, 28299), (10, 28272), (Start: 26 @28200 has 30 MA's), (33, 28125), (34, 28122), (37, 28098), (38, 28089), (40, 28080), (47, 28035),

Gene: Pawn_34 Start: 25502, Stop: 25230, Start Num: 9
Candidate Starts for Pawn_34:
(Start: 9 @25502 has 81 MA's), (46, 25274),

Gene: Pembroke_35 Start: 25649, Stop: 25383, Start Num: 9
Candidate Starts for Pembroke_35:
(Start: 9 @25649 has 81 MA's), (30, 25526), (33, 25520), (34, 25517), (39, 25481), (46, 25427),

Gene: Penny1_35 Start: 25648, Stop: 25382, Start Num: 9
Candidate Starts for Penny1_35:
(Start: 9 @25648 has 81 MA's), (30, 25525), (33, 25519), (34, 25516), (39, 25480), (46, 25426),

Gene: PetterN_31 Start: 23833, Stop: 23600, Start Num: 12
Candidate Starts for PetterN_31:
(Start: 12 @23833 has 4 MA's), (Start: 29 @23734 has 1 MA's), (44, 23656), (46, 23644),

Gene: Ph8s_37 Start: 26625, Stop: 26404, Start Num: 20
Candidate Starts for Ph8s_37:
(Start: 20 @26625 has 2 MA's), (Start: 29 @26544 has 1 MA's), (38, 26493), (39, 26490), (46, 26445),

Gene: Phaeder_38 Start: 28200, Stop: 28000, Start Num: 26
Candidate Starts for Phaeder_38:
(7, 28299), (10, 28272), (Start: 26 @28200 has 30 MA's), (33, 28125), (34, 28122), (37, 28098), (38, 28089), (40, 28080), (47, 28035),

Gene: Phantastic_32 Start: 24954, Stop: 24712, Start Num: 13
Candidate Starts for Phantastic_32:
(Start: 13 @24954 has 7 MA's), (Start: 15 @24948 has 1 MA's), (30, 24855), (34, 24846), (35, 24840), (42, 24789), (44, 24768), (46, 24756),

Gene: Pharaoh_34 Start: 28121, Stop: 27927, Start Num: 26

Candidate Starts for Pharaoh_34:

(Start: 24 @28130 has 1 MA's), (Start: 26 @28121 has 30 MA's), (31, 28064), (37, 28025), (38, 28016), (40, 28007), (42, 27992), (47, 27962), (48, 27959), (49, 27935),

Gene: Phillis_29 Start: 23579, Stop: 23349, Start Num: 23

Candidate Starts for Phillis_29:

(4, 23729), (5, 23690), (Start: 23 @23579 has 11 MA's), (32, 23501), (34, 23483), (35, 23477), (42, 23426),

Gene: PhishRPhriends_33 Start: 24685, Stop: 24413, Start Num: 9

Candidate Starts for PhishRPhriends_33:

(Start: 9 @24685 has 81 MA's), (39, 24511), (46, 24457),

Gene: Phoebe_35 Start: 25640, Stop: 25380, Start Num: 9

Candidate Starts for Phoebe_35:

(Start: 9 @25640 has 81 MA's), (30, 25523), (33, 25517), (34, 25514), (39, 25478), (46, 25424),

Gene: Phonnegut_38 Start: 28255, Stop: 28055, Start Num: 26

Candidate Starts for Phonnegut_38:

(7, 28354), (10, 28327), (Start: 26 @28255 has 30 MA's), (33, 28180), (34, 28177), (37, 28153), (38, 28144), (40, 28135), (47, 28090),

Gene: Phoxy_35 Start: 25720, Stop: 25454, Start Num: 9

Candidate Starts for Phoxy_35:

(Start: 9 @25720 has 81 MA's), (30, 25597), (33, 25591),

Gene: Phranny_35 Start: 25493, Stop: 25221, Start Num: 9

Candidate Starts for Phranny_35:

(Start: 9 @25493 has 81 MA's), (39, 25319), (46, 25265),

Gene: Pioneer_38 Start: 28255, Stop: 28055, Start Num: 26

Candidate Starts for Pioneer_38:

(7, 28354), (10, 28327), (Start: 26 @28255 has 30 MA's), (33, 28180), (34, 28177), (37, 28153), (38, 28144), (40, 28135), (47, 28090),

Gene: PotatoSplit_36 Start: 25648, Stop: 25382, Start Num: 9

Candidate Starts for PotatoSplit_36:

(Start: 9 @25648 has 81 MA's), (30, 25525), (33, 25519), (34, 25516), (39, 25480), (46, 25426),

Gene: Priya_38 Start: 28267, Stop: 28067, Start Num: 26

Candidate Starts for Priya_38:

(7, 28366), (10, 28339), (Start: 26 @28267 has 30 MA's), (33, 28192), (34, 28189), (37, 28165), (38, 28156), (40, 28147), (47, 28102),

Gene: PurpleHaze_34 Start: 25500, Stop: 25228, Start Num: 9

Candidate Starts for PurpleHaze_34:

(Start: 9 @25500 has 81 MA's), (46, 25272),

Gene: Qobbit_38 Start: 28229, Stop: 28029, Start Num: 26

Candidate Starts for Qobbit_38:

(7, 28328), (10, 28301), (Start: 26 @28229 has 30 MA's), (33, 28154), (34, 28151), (37, 28127), (38, 28118), (40, 28109), (47, 28064),

Gene: Rahalelujah_36 Start: 27292, Stop: 27095, Start Num: 26

Candidate Starts for Rahalelujah_36:

(10, 27364), (Start: 15 @27325 has 1 MA's), (Start: 26 @27292 has 30 MA's), (33, 27220), (34, 27217), (35, 27211), (37, 27193), (38, 27184), (42, 27160), (45, 27139), (47, 27130),

Gene: Reba_35 Start: 25166, Stop: 24894, Start Num: 9

Candidate Starts for Reba_35:

(Start: 9 @25166 has 81 MA's), (39, 24992), (46, 24938),

Gene: Roary_29 Start: 23479, Stop: 23249, Start Num: 23

Candidate Starts for Roary_29:

(4, 23629), (Start: 23 @23479 has 11 MA's), (32, 23401), (34, 23383), (35, 23377), (42, 23326),

Gene: Rockstar_32 Start: 24924, Stop: 24682, Start Num: 13

Candidate Starts for Rockstar_32:

(Start: 13 @24924 has 7 MA's), (Start: 15 @24918 has 1 MA's), (30, 24825), (35, 24810),

Gene: Rummer_35 Start: 25720, Stop: 25454, Start Num: 9

Candidate Starts for Rummer_35:

(Start: 9 @25720 has 81 MA's), (30, 25597), (33, 25591),

Gene: RyeScarlet_39 Start: 28224, Stop: 28024, Start Num: 26

Candidate Starts for RyeScarlet_39:

(7, 28323), (10, 28296), (Start: 26 @28224 has 30 MA's), (33, 28149), (34, 28146), (37, 28122), (38, 28113), (40, 28104), (47, 28059),

Gene: Sabia_35 Start: 25641, Stop: 25375, Start Num: 9

Candidate Starts for Sabia_35:

(Start: 9 @25641 has 81 MA's), (30, 25518), (33, 25512), (34, 25509), (46, 25419),

Gene: Sabinator_35 Start: 25646, Stop: 25380, Start Num: 9

Candidate Starts for Sabinator_35:

(Start: 9 @25646 has 81 MA's), (30, 25523), (33, 25517), (34, 25514), (39, 25478), (46, 25424),

Gene: Sachima_35 Start: 28205, Stop: 27999, Start Num: 24

Candidate Starts for Sachima_35:

(Start: 24 @28205 has 1 MA's), (Start: 26 @28196 has 30 MA's), (34, 28121), (35, 28115), (37, 28097), (38, 28088), (40, 28079), (47, 28034),

Gene: Saintus_29 Start: 23499, Stop: 23269, Start Num: 23

Candidate Starts for Saintus_29:

(4, 23649), (5, 23610), (Start: 23 @23499 has 11 MA's), (32, 23421), (34, 23403), (35, 23397), (42, 23346),

Gene: Scherzo_37 Start: 28212, Stop: 28012, Start Num: 26

Candidate Starts for Scherzo_37:

(1, 28470), (10, 28284), (Start: 26 @28212 has 30 MA's), (33, 28137), (34, 28134), (37, 28110), (38, 28101), (40, 28092), (47, 28047),

Gene: SheaKeira_37 Start: 27624, Stop: 27430, Start Num: 26

Candidate Starts for SheaKeira_37:

(Start: 24 @27633 has 1 MA's), (Start: 26 @27624 has 30 MA's), (40, 27510), (42, 27495), (46, 27471), (47, 27465),

Gene: Sheen_35 Start: 29301, Stop: 29071, Start Num: 17

Candidate Starts for Sheen_35:

(Start: 17 @29301 has 4 MA's), (30, 29214), (34, 29205), (42, 29148), (44, 29127), (46, 29115),

Gene: Smeadley_29 Start: 23512, Stop: 23282, Start Num: 23

Candidate Starts for Smeadley_29:

(4, 23662), (5, 23623), (Start: 23 @23512 has 11 MA's), (32, 23434), (34, 23416), (35, 23410), (42, 23359),

Gene: Snickers_35 Start: 25621, Stop: 25355, Start Num: 9

Candidate Starts for Snickers_35:

(Start: 9 @25621 has 81 MA's), (30, 25498), (33, 25492), (34, 25489), (46, 25399),

Gene: SoYo_35 Start: 25559, Stop: 25293, Start Num: 9

Candidate Starts for SoYo_35:

(Start: 9 @25559 has 81 MA's), (30, 25436), (33, 25430), (34, 25427), (39, 25391), (46, 25337),

Gene: SoilDragon_34 Start: 25094, Stop: 24828, Start Num: 9

Candidate Starts for SoilDragon_34:

(Start: 9 @25094 has 81 MA's), (30, 24971), (33, 24965), (34, 24962), (39, 24926), (46, 24872),

Gene: Soshari_37 Start: 25719, Stop: 25453, Start Num: 9

Candidate Starts for Soshari_37:

(Start: 9 @25719 has 81 MA's), (30, 25596), (33, 25590),

Gene: Spike509_35 Start: 25720, Stop: 25454, Start Num: 9

Candidate Starts for Spike509_35:

(Start: 9 @25720 has 81 MA's), (30, 25597), (33, 25591),

Gene: Spouty_38 Start: 28266, Stop: 28066, Start Num: 26

Candidate Starts for Spouty_38:

(7, 28365), (10, 28338), (Start: 26 @28266 has 30 MA's), (33, 28191), (34, 28188), (37, 28164), (38, 28155), (40, 28146), (47, 28101),

Gene: Stagni_35 Start: 25650, Stop: 25384, Start Num: 9

Candidate Starts for Stagni_35:

(Start: 9 @25650 has 81 MA's), (30, 25527), (33, 25521), (34, 25518), (46, 25428),

Gene: StepMih_35 Start: 25641, Stop: 25375, Start Num: 9

Candidate Starts for StepMih_35:

(Start: 9 @25641 has 81 MA's), (30, 25518), (33, 25512), (34, 25509), (46, 25419),

Gene: Stephig9_29 Start: 23494, Stop: 23264, Start Num: 23

Candidate Starts for Stephig9_29:

(4, 23644), (Start: 23 @23494 has 11 MA's), (32, 23416), (34, 23398), (35, 23392), (42, 23341),

Gene: Superchunk_35 Start: 26208, Stop: 25990, Start Num: 21

Candidate Starts for Superchunk_35:

(Start: 21 @26208 has 3 MA's), (34, 26112), (37, 26088), (38, 26079), (42, 26055), (46, 26031), (47, 26025),

Gene: SwirlSquare_37 Start: 26154, Stop: 26014, Start Num: 29

Candidate Starts for SwirlSquare_37:
(Start: 20 @26235 has 2 MA's), (Start: 29 @26154 has 1 MA's), (33, 26139), (37, 26112), (38, 26103),
(42, 26079), (46, 26055), (47, 26049),

Gene: Taurus_35 Start: 25647, Stop: 25381, Start Num: 9
Candidate Starts for Taurus_35:
(Start: 9 @25647 has 81 MA's), (30, 25524), (33, 25518), (34, 25515), (39, 25479), (46, 25425),

Gene: Tiffany_35 Start: 25533, Stop: 25267, Start Num: 9
Candidate Starts for Tiffany_35:
(Start: 9 @25533 has 81 MA's), (30, 25410), (33, 25404), (34, 25401), (46, 25311),

Gene: Timshel_35 Start: 29722, Stop: 29492, Start Num: 17
Candidate Starts for Timshel_35:
(Start: 17 @29722 has 4 MA's), (30, 29635), (34, 29626), (44, 29548), (46, 29536),

Gene: TinyPebbles_35 Start: 25725, Stop: 25459, Start Num: 9
Candidate Starts for TinyPebbles_35:
(Start: 9 @25725 has 81 MA's), (30, 25602), (33, 25596),

Gene: Toaka_36 Start: 27486, Stop: 27289, Start Num: 26
Candidate Starts for Toaka_36:
(Start: 26 @27486 has 30 MA's), (34, 27411), (35, 27405), (37, 27387), (38, 27378), (40, 27369), (42,
27354), (45, 27333), (47, 27324),

Gene: Toro_36 Start: 29163, Stop: 29020, Start Num: 30
Candidate Starts for Toro_36:
(14, 29259), (30, 29163), (34, 29154), (37, 29130), (38, 29121), (42, 29097), (44, 29076), (46, 29064),

Gene: Tubs_38 Start: 28200, Stop: 28000, Start Num: 26
Candidate Starts for Tubs_38:
(7, 28299), (10, 28272), (Start: 26 @28200 has 30 MA's), (33, 28125), (34, 28122), (37, 28098), (38,
28089), (40, 28080), (47, 28035),

Gene: Ugenie5_34 Start: 28211, Stop: 28011, Start Num: 26
Candidate Starts for Ugenie5_34:
(1, 28469), (10, 28283), (Start: 26 @28211 has 30 MA's), (33, 28136), (34, 28133), (37, 28109), (38,
28100), (40, 28091), (47, 28046),

Gene: UnionJack_30 Start: 23572, Stop: 23339, Start Num: 12
Candidate Starts for UnionJack_30:
(Start: 12 @23572 has 4 MA's), (Start: 29 @23473 has 1 MA's), (34, 23470), (36, 23452), (44, 23395),
(46, 23383),

Gene: Vix_35 Start: 25730, Stop: 25464, Start Num: 9
Candidate Starts for Vix_35:
(Start: 9 @25730 has 81 MA's), (30, 25607), (33, 25601), (34, 25598), (39, 25562), (46, 25508),

Gene: Watson_35 Start: 25640, Stop: 25374, Start Num: 9
Candidate Starts for Watson_35:
(Start: 9 @25640 has 81 MA's), (30, 25517), (33, 25511), (34, 25508), (39, 25472), (46, 25418),

Gene: Wooldri_37 Start: 25559, Stop: 25293, Start Num: 9

Candidate Starts for Wooldri_37:

(Start: 9 @25559 has 81 MA's), (30, 25436), (33, 25430), (34, 25427), (39, 25391), (46, 25337),

Gene: Yecey3_37 Start: 27443, Stop: 27255, Start Num: 26

Candidate Starts for Yecey3_37:

(Start: 26 @27443 has 30 MA's), (34, 27377), (37, 27353), (38, 27344), (40, 27335), (46, 27296), (47, 27290),

Gene: Zetzy_34 Start: 25205, Stop: 24921, Start Num: 9

Candidate Starts for Zetzy_34:

(Start: 9 @25205 has 81 MA's), (30, 25082), (44, 24977), (46, 24965),

Gene: Zimmer_37 Start: 29288, Stop: 29094, Start Num: 26

Candidate Starts for Zimmer_37:

(Start: 24 @29297 has 1 MA's), (Start: 26 @29288 has 30 MA's), (31, 29231), (37, 29192), (38, 29183), (42, 29159), (47, 29129), (48, 29126), (49, 29102),