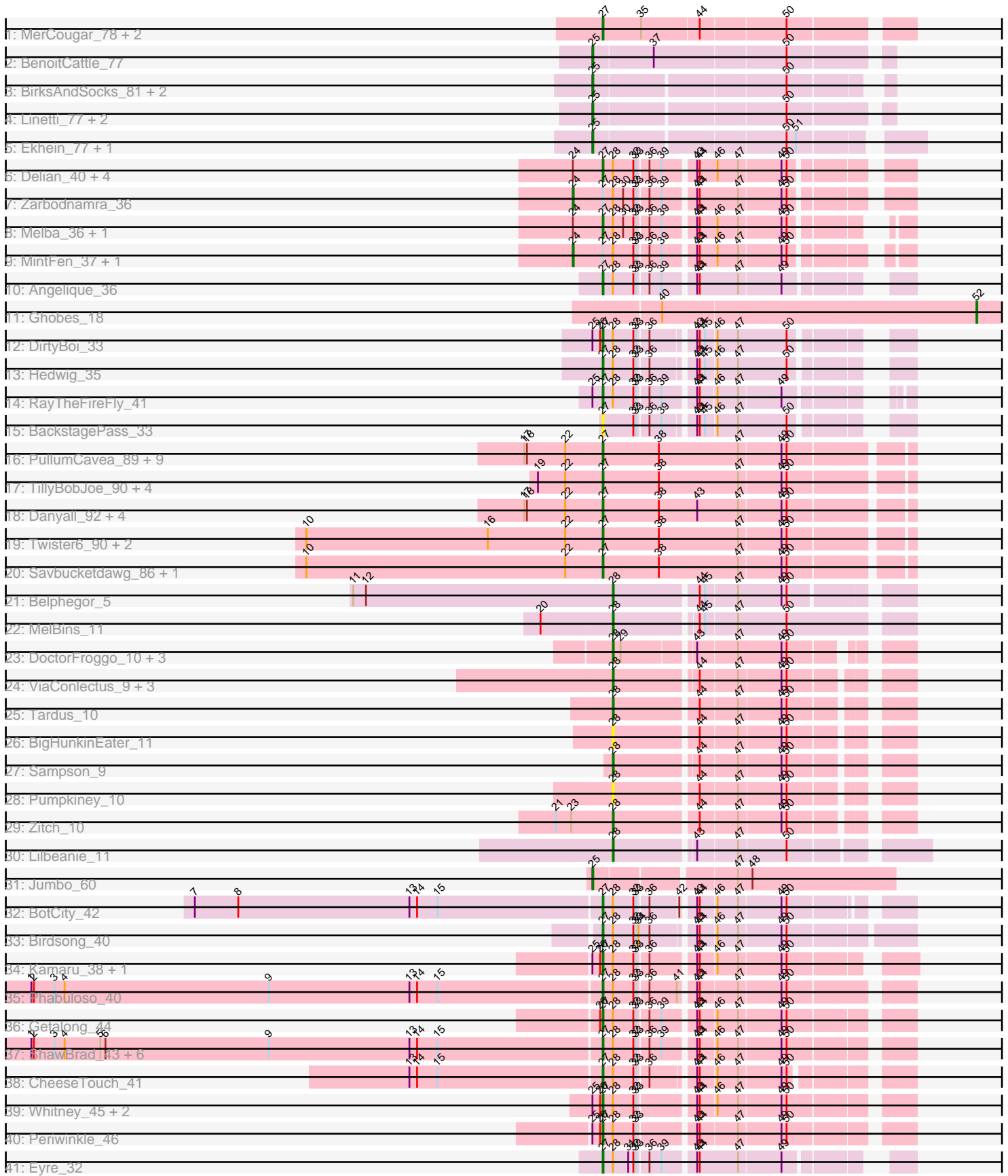


Pham 294625



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 294625 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294625 has 89 members, 9 are drafts.

Phages represented in each track:

- Track 1 : MerCougar_78, Outis_76, StarStruck_76
- Track 2 : BenoitCattle_77
- Track 3 : BirksAndSocks_81, Butterball_79, Boneham_80
- Track 4 : Linetti_77, Dakiti_78, PierreThree_76
- Track 5 : Ekhein_77, GourdThymes_77
- Track 6 : Delian_40, JasperJr_35, Obliviate_33, Mellie_34, PhrostedPhlake_40
- Track 7 : Zarbodnamra_36
- Track 8 : Melba_36, BlingBling_34
- Track 9 : MintFen_37, Guacamole_35
- Track 10 : Angelique_36
- Track 11 : Ghobes_18
- Track 12 : DirtyBoi_33
- Track 13 : Hedwig_35
- Track 14 : RayTheFireFly_41
- Track 15 : BackstagePass_33
- Track 16 : PullumCavea_89, Wizard_86, Fireball_94, Arri_91, Gezellig_87, Phlop_88, KimmyK_89, Valary_92, Portcullis_91, Shinji_90
- Track 17 : TillyBobJoe_90, SmokingBunny_92, Salvador_91, Evamon_91, Togo_91
- Track 18 : Danyall_92, YungMoney_91, Nubi_94, Mutzi_91, Barb_95
- Track 19 : Twister6_90, VanDeWege_93, RogerDodger_94
- Track 20 : Savbucketdawg_86, Jambalaya_88
- Track 21 : Belphegor_5
- Track 22 : MelBins_11
- Track 23 : DoctorFroggo_10, Verity_10, Zipp_10, Delrey21_10
- Track 24 : ViaConlectus_9, Scioto_9, Natkenzie_9, Abblin_9
- Track 25 : Tardus_10
- Track 26 : BigHunkinEater_11
- Track 27 : Sampson_9
- Track 28 : Pumpkiney_10
- Track 29 : Zitch_10
- Track 30 : Lilbeanie_11
- Track 31 : Jumbo_60
- Track 32 : BotCity_42
- Track 33 : Birdsong_40
- Track 34 : Kamaru_38, LitninMcQueen_37
- Track 35 : Phabuloso_40
- Track 36 : Getalong_44

- Track 37 : ShawBrad_43, Frickyeah_43, Holliday_42, Phistory_43, Lutum_43, Kenna_42, Crater_40
- Track 38 : CheeseTouch_41
- Track 39 : Whitney_45, Budski_42, BENtherdunthat_42
- Track 40 : Periwinkle_46
- Track 41 : Eyre_32

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 55 of the 80 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angelique_36, Arri_91, BENtherdunthat_42, BackstagePass_33, Barb_95, Birdsong_40, BlingBling_34, BotCity_42, Budski_42, CheeseTouch_41, Crater_40, Danyall_92, Delian_40, DirtyBoi_33, Evamon_91, Eyre_32, Fireball_94, Frickyeah_43, Getalong_44, Gezellig_87, Hedwig_35, Holliday_42, Jambalaya_88, JasperJr_35, Kamaru_38, Kenna_42, KimmyK_89, LitninMcQueen_37, Lutum_43, Melba_36, Mellie_34, MerCougar_78, Mutzi_91, Nubi_94, Obliviate_33, Outis_76, Periwinkle_46, Phabuloso_40, Phistory_43, Phlop_88, PhrostedPhlake_40, Portcullis_91, PullumCavea_89, RayTheFireFly_41, RogerDodger_94, Salvador_91, Savbucketdawg_86, ShawBrad_43, Shinji_90, SmokingBunny_92, StarStruck_76, TillyBobJoe_90, Togo_91, Twister6_90, Valary_92, VanDeWege_93, Whitney_45, Wizard_86, YungMoney_91,

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

- Guacamole_35, MintFen_37, Zarbodnamra_36,

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

- Abblin_9, Belphegor_5, BenoitCattle_77, BigHunkinEater_11, BirksAndSocks_81, Boneham_80, Butterball_79, Dakiti_78, Delrey21_10, DoctorFroggo_10, Ekhein_77, Ghobes_18, GourdThymes_77, Jumbo_60, Lilbeanie_11, Linetti_77, MelBins_11, Natkenzie_9, PierreThree_76, Pumpkiney_10, Sampson_9, Scioto_9, Tardus_10, Verity_10, ViaConlectus_9, Zipp_10, Zitch_10,

Summary by start number:

Start 24:

- Found in 10 of 89 (11.2%) of genes in pham
- Manual Annotations of this start: 3 of 80
- Called 30.0% of time when present
- Phage (with cluster) where this start called: Guacamole_35 (CV), MintFen_37 (CV), Zarbodnamra_36 (CV),

Start 25:

- Found in 18 of 89 (20.2%) of genes in pham
- Manual Annotations of this start: 10 of 80
- Called 55.6% of time when present
- Phage (with cluster) where this start called: BenoitCattle_77 (CS2), BirksAndSocks_81 (CS2), Boneham_80 (CS2), Butterball_79 (CS2), Dakiti_78 (CS2),

Ekhein_77 (CS2), GourdThymes_77 (CS2), Jumbo_60 (DF3), Linetti_77 (CS2), PierreThree_76 (CS2),

Start 27:

- Found in 62 of 89 (69.7%) of genes in pham
- Manual Annotations of this start: 55 of 80
- Called 95.2% of time when present
- Phage (with cluster) where this start called: Angelique_36 (CY1), Arri_91 (DC1), BENTherdunthat_42 (DN1), BackstagePass_33 (DB), Barb_95 (DC1), Birdsong_40 (DN), BlingBling_34 (CV), BotCity_42 (DN), Budski_42 (DN), CheeseTouch_41 (DN1), Crater_40 (DN3), Danyall_92 (DC1), Delian_40 (CV), DirtyBoi_33 (DB), Evamon_91 (DC1), Eyre_32 (singleton), Fireball_94 (DC1), Frickyeah_43 (DN1), Getalong_44 (DN1), Gezellig_87 (DC1), Hedwig_35 (DB), Holliday_42 (DN1), Jambalaya_88 (DC1), JasperJr_35 (CV), Kamaru_38 (DN1), Kenna_42 (DN1), KimmyK_89 (DC1), LitninMcQueen_37 (DN1), Lutum_43 (DN1), Melba_36 (CV), Mellie_34 (CV), MerCougar_78 (CR2), Mutzi_91 (DC1), Nubi_94 (DC1), Obliviate_33 (CV), Outis_76 (CR2), Periwinkle_46 (DN1), Phabuloso_40 (DN1), Phistory_43 (DN1), Phlop_88 (DC1), PhrostedPhlake_40 (CV), Portcullis_91 (DC1), PullumCavea_89 (DC1), RayTheFireFly_41 (DB), RogerDodger_94 (DC1), Salvador_91 (DC1), Savbucketdawg_86 (DC1), ShawBrad_43 (DN1), Shinji_90 (DC1), SmokingBunny_92 (DC1), StarStruck_76 (CR2), TillyBobJoe_90 (DC1), Togo_91 (DC1), Twister6_90 (DC1), Valary_92 (DC1), VanDeWege_93 (DC1), Whitney_45 (DN1), Wizard_86 (DC1), YungMoney_91 (DC1),

Start 28:

- Found in 49 of 89 (55.1%) of genes in pham
- Manual Annotations of this start: 11 of 80
- Called 32.7% of time when present
- Phage (with cluster) where this start called: Abblin_9 (DE4), Belphegor_5 (DE2), BigHunkinEater_11 (DE4), Delrey21_10 (DE4), DoctorFroggo_10 (DE4), Lilbeanie_11 (DE5), MelBins_11 (DE2), Natkenzie_9 (DE4), Pumpkiney_10 (DE4), Sampson_9 (DE4), Scioto_9 (DE4), Tardus_10 (DE4), Verity_10 (DE4), ViaConlectus_9 (DE4), Zipp_10 (DE4), Zitch_10 (DE4),

Start 52:

- Found in 1 of 89 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 80
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ghobes_18 (DA),

Summary by clusters:

There are 15 clusters represented in this pham: CR2, DN, singleton, DE5, DE4, DE2, DB, CY1, DF3, DA, DN1, DN3, CS2, CV, DC1,

Info for manual annotations of cluster CR2:

- Start number 27 was manually annotated 3 times for cluster CR2.

Info for manual annotations of cluster CS2:

- Start number 25 was manually annotated 9 times for cluster CS2.

Info for manual annotations of cluster CV:

- Start number 24 was manually annotated 3 times for cluster CV.

- Start number 27 was manually annotated 7 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 27 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster DA:

- Start number 52 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DB:

- Start number 27 was manually annotated 3 times for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 27 was manually annotated 24 times for cluster DC1.

Info for manual annotations of cluster DE2:

- Start number 28 was manually annotated 2 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 28 was manually annotated 8 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 28 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DF3:

- Start number 25 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DN:

- Start number 27 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 27 was manually annotated 12 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 27 was manually annotated 1 time for cluster DN3.

Gene Information:

Gene: Abblin_9 Start: 5353, Stop: 5655, Start Num: 28

Candidate Starts for Abblin_9:

(Start: 28 @5353 has 11 MA's), (44, 5443), (47, 5485), (49, 5533), (50, 5539),

Gene: Angelique_36 Start: 29622, Stop: 29323, Start Num: 27

Candidate Starts for Angelique_36:

(Start: 27 @29622 has 55 MA's), (Start: 28 @29610 has 11 MA's), (32, 29586), (33, 29583), (36, 29571), (39, 29559), (43, 29526), (44, 29523), (47, 29478), (49, 29430),

Gene: Arri_91 Start: 57646, Stop: 57308, Start Num: 27

Candidate Starts for Arri_91:

(17, 57736), (18, 57733), (22, 57688), (Start: 27 @57646 has 55 MA's), (38, 57580), (47, 57487), (49, 57439), (50, 57433),

Gene: BENtherdunthat_42 Start: 29776, Stop: 29441, Start Num: 27

Candidate Starts for BENtherdunthat_42:

(Start: 25 @29788 has 10 MA's), (26, 29779), (Start: 27 @29776 has 55 MA's), (Start: 28 @29764 has 11 MA's), (32, 29740), (33, 29737), (43, 29680), (44, 29677), (46, 29659), (47, 29635), (49, 29587), (50, 29581),

Gene: BackstagePass_33 Start: 28562, Stop: 28269, Start Num: 27

Candidate Starts for BackstagePass_33:

(Start: 27 @28562 has 55 MA's), (32, 28526), (33, 28523), (36, 28511), (39, 28499), (43, 28469), (44, 28466), (45, 28460), (46, 28448), (47, 28424), (50, 28367),

Gene: Barb_95 Start: 58510, Stop: 58172, Start Num: 27

Candidate Starts for Barb_95:

(17, 58600), (18, 58597), (22, 58552), (Start: 27 @58510 has 55 MA's), (38, 58444), (43, 58399), (47, 58351), (49, 58303), (50, 58297),

Gene: Belphegor_5 Start: 2778, Stop: 3092, Start Num: 28

Candidate Starts for Belphegor_5:

(11, 2478), (12, 2493), (Start: 28 @2778 has 11 MA's), (44, 2871), (45, 2877), (47, 2913), (49, 2964), (50, 2970),

Gene: BenoitCattle_77 Start: 60565, Stop: 60242, Start Num: 25

Candidate Starts for BenoitCattle_77:

(Start: 25 @60565 has 10 MA's), (37, 60496), (50, 60346),

Gene: BigHunkinEater_11 Start: 5283, Stop: 5588, Start Num: 28

Candidate Starts for BigHunkinEater_11:

(Start: 28 @5283 has 11 MA's), (44, 5376), (47, 5418), (49, 5466), (50, 5472),

Gene: Birdsong_40 Start: 30587, Stop: 30261, Start Num: 27

Candidate Starts for Birdsong_40:

(Start: 27 @30587 has 55 MA's), (Start: 28 @30575 has 11 MA's), (32, 30551), (33, 30548), (34, 30545), (36, 30533), (43, 30491), (44, 30488), (46, 30470), (47, 30446), (49, 30398), (50, 30392),

Gene: BirksAndSocks_81 Start: 62036, Stop: 61731, Start Num: 25

Candidate Starts for BirksAndSocks_81:

(Start: 25 @62036 has 10 MA's), (50, 61823),

Gene: BlingBling_34 Start: 30550, Stop: 30248, Start Num: 27

Candidate Starts for BlingBling_34:

(Start: 24 @30583 has 3 MA's), (Start: 27 @30550 has 55 MA's), (Start: 28 @30538 has 11 MA's), (30, 30526), (32, 30514), (33, 30511), (36, 30499), (39, 30487), (43, 30454), (44, 30451), (46, 30430), (47, 30406), (49, 30358), (50, 30352),

Gene: Boneham_80 Start: 61961, Stop: 61656, Start Num: 25

Candidate Starts for Boneham_80:

(Start: 25 @61961 has 10 MA's), (50, 61748),

Gene: BotCity_42 Start: 30361, Stop: 30053, Start Num: 27

Candidate Starts for BotCity_42:

(7, 30835), (8, 30784), (13, 30583), (14, 30574), (15, 30550), (Start: 27 @30361 has 55 MA's), (Start: 28 @30349 has 11 MA's), (32, 30325), (33, 30322), (36, 30310), (42, 30280), (43, 30268), (44, 30265), (46, 30247), (47, 30223), (49, 30175), (50, 30169),

Gene: Budski_42 Start: 31521, Stop: 31192, Start Num: 27

Candidate Starts for Budski_42:

(Start: 25 @31533 has 10 MA's), (26, 31524), (Start: 27 @31521 has 55 MA's), (Start: 28 @31509 has 11 MA's), (32, 31485), (33, 31482), (43, 31425), (44, 31422), (46, 31404), (47, 31380), (49, 31332), (50, 31326),

Gene: Butterball_79 Start: 61966, Stop: 61661, Start Num: 25

Candidate Starts for Butterball_79:

(Start: 25 @61966 has 10 MA's), (50, 61753),

Gene: CheeseTouch_41 Start: 28097, Stop: 27792, Start Num: 27

Candidate Starts for CheeseTouch_41:

(13, 28319), (14, 28310), (15, 28286), (Start: 27 @28097 has 55 MA's), (Start: 28 @28085 has 11 MA's), (32, 28061), (33, 28058), (36, 28046), (43, 28004), (44, 28001), (46, 27983), (47, 27959), (49, 27911), (50, 27905),

Gene: Crater_40 Start: 29695, Stop: 29378, Start Num: 27

Candidate Starts for Crater_40:

(1, 30361), (2, 30358), (3, 30334), (4, 30322), (5, 30280), (6, 30274), (9, 30082), (13, 29917), (14, 29908), (15, 29884), (Start: 27 @29695 has 55 MA's), (Start: 28 @29683 has 11 MA's), (32, 29659), (33, 29656), (36, 29644), (39, 29632), (43, 29599), (44, 29596), (46, 29578), (47, 29554), (49, 29506), (50, 29500),

Gene: Dakiti_78 Start: 61535, Stop: 61218, Start Num: 25

Candidate Starts for Dakiti_78:

(Start: 25 @61535 has 10 MA's), (50, 61322),

Gene: Danyall_92 Start: 57691, Stop: 57353, Start Num: 27

Candidate Starts for Danyall_92:

(17, 57781), (18, 57778), (22, 57733), (Start: 27 @57691 has 55 MA's), (38, 57625), (43, 57580), (47, 57532), (49, 57484), (50, 57478),

Gene: Delian_40 Start: 29833, Stop: 29525, Start Num: 27

Candidate Starts for Delian_40:

(Start: 24 @29866 has 3 MA's), (Start: 27 @29833 has 55 MA's), (Start: 28 @29821 has 11 MA's), (32, 29797), (33, 29794), (36, 29782), (39, 29770), (43, 29737), (44, 29734), (46, 29713), (47, 29689), (49, 29641), (50, 29635),

Gene: Delrey21_10 Start: 5803, Stop: 6096, Start Num: 28

Candidate Starts for Delrey21_10:

(Start: 28 @5803 has 11 MA's), (29, 5812), (43, 5884), (47, 5929), (49, 5980), (50, 5986),

Gene: DirtyBoi_33 Start: 28465, Stop: 28172, Start Num: 27

Candidate Starts for DirtyBoi_33:

(Start: 25 @28477 has 10 MA's), (26, 28468), (Start: 27 @28465 has 55 MA's), (Start: 28 @28453 has 11 MA's), (32, 28429), (33, 28426), (36, 28414), (43, 28372), (44, 28369), (45, 28363), (46, 28351), (47, 28327), (50, 28270),

Gene: DoctorFroggo_10 Start: 5803, Stop: 6096, Start Num: 28

Candidate Starts for DoctorFroggo_10:

(Start: 28 @5803 has 11 MA's), (29, 5812), (43, 5884), (47, 5929), (49, 5980), (50, 5986),

Gene: Ekhein_77 Start: 59871, Stop: 59527, Start Num: 25
Candidate Starts for Ekhein_77:
(Start: 25 @59871 has 10 MA's), (50, 59658), (51, 59649),

Gene: Evamon_91 Start: 57458, Stop: 57120, Start Num: 27
Candidate Starts for Evamon_91:
(19, 57530), (22, 57500), (Start: 27 @57458 has 55 MA's), (38, 57392), (47, 57299), (49, 57251), (50, 57245),

Gene: Eyre_32 Start: 25507, Stop: 25208, Start Num: 27
Candidate Starts for Eyre_32:
(Start: 27 @25507 has 55 MA's), (Start: 28 @25495 has 11 MA's), (31, 25477), (32, 25471), (33, 25468), (36, 25456), (39, 25444), (43, 25411), (44, 25408), (47, 25363), (49, 25315),

Gene: Fireball_94 Start: 57920, Stop: 57582, Start Num: 27
Candidate Starts for Fireball_94:
(17, 58010), (18, 58007), (22, 57962), (Start: 27 @57920 has 55 MA's), (38, 57854), (47, 57761), (49, 57713), (50, 57707),

Gene: Frickyeah_43 Start: 29647, Stop: 29330, Start Num: 27
Candidate Starts for Frickyeah_43:
(1, 30313), (2, 30310), (3, 30286), (4, 30274), (5, 30232), (6, 30226), (9, 30034), (13, 29869), (14, 29860), (15, 29836), (Start: 27 @29647 has 55 MA's), (Start: 28 @29635 has 11 MA's), (32, 29611), (33, 29608), (36, 29596), (39, 29584), (43, 29551), (44, 29548), (46, 29530), (47, 29506), (49, 29458), (50, 29452),

Gene: Getalong_44 Start: 32367, Stop: 32050, Start Num: 27
Candidate Starts for Getalong_44:
(26, 32370), (Start: 27 @32367 has 55 MA's), (Start: 28 @32355 has 11 MA's), (32, 32331), (33, 32328), (36, 32316), (39, 32304), (43, 32271), (44, 32268), (46, 32250), (47, 32226), (49, 32178), (50, 32172),

Gene: Gezellig_87 Start: 57304, Stop: 56966, Start Num: 27
Candidate Starts for Gezellig_87:
(17, 57394), (18, 57391), (22, 57346), (Start: 27 @57304 has 55 MA's), (38, 57238), (47, 57145), (49, 57097), (50, 57091),

Gene: Ghobes_18 Start: 16697, Stop: 16407, Start Num: 52
Candidate Starts for Ghobes_18:
(40, 17057), (Start: 52 @16697 has 1 MA's),

Gene: GourdThymes_77 Start: 60728, Stop: 60423, Start Num: 25
Candidate Starts for GourdThymes_77:
(Start: 25 @60728 has 10 MA's), (50, 60515), (51, 60506),

Gene: Guacamole_35 Start: 30431, Stop: 30090, Start Num: 24
Candidate Starts for Guacamole_35:
(Start: 24 @30431 has 3 MA's), (Start: 27 @30398 has 55 MA's), (Start: 28 @30386 has 11 MA's), (32, 30362), (33, 30359), (36, 30347), (39, 30335), (43, 30302), (44, 30299), (46, 30278), (47, 30254), (49, 30206), (50, 30200),

Gene: Hedwig_35 Start: 28932, Stop: 28639, Start Num: 27
Candidate Starts for Hedwig_35:

(Start: 27 @28932 has 55 MA's), (Start: 28 @28920 has 11 MA's), (32, 28896), (33, 28893), (36, 28881), (43, 28839), (44, 28836), (45, 28830), (46, 28818), (47, 28794), (50, 28737),

Gene: Holliday_42 Start: 30222, Stop: 29905, Start Num: 27

Candidate Starts for Holliday_42:

(1, 30888), (2, 30885), (3, 30861), (4, 30849), (5, 30807), (6, 30801), (9, 30609), (13, 30444), (14, 30435), (15, 30411), (Start: 27 @30222 has 55 MA's), (Start: 28 @30210 has 11 MA's), (32, 30186), (33, 30183), (36, 30171), (39, 30159), (43, 30126), (44, 30123), (46, 30105), (47, 30081), (49, 30033), (50, 30027),

Gene: Jambalaya_88 Start: 56761, Stop: 56423, Start Num: 27

Candidate Starts for Jambalaya_88:

(10, 57106), (22, 56803), (Start: 27 @56761 has 55 MA's), (38, 56695), (47, 56602), (49, 56554), (50, 56548),

Gene: JasperJr_35 Start: 30398, Stop: 30090, Start Num: 27

Candidate Starts for JasperJr_35:

(Start: 24 @30431 has 3 MA's), (Start: 27 @30398 has 55 MA's), (Start: 28 @30386 has 11 MA's), (32, 30362), (33, 30359), (36, 30347), (39, 30335), (43, 30302), (44, 30299), (46, 30278), (47, 30254), (49, 30206), (50, 30200),

Gene: Jumbo_60 Start: 54431, Stop: 54102, Start Num: 25

Candidate Starts for Jumbo_60:

(Start: 25 @54431 has 10 MA's), (47, 54281), (48, 54266),

Gene: Kamaru_38 Start: 29300, Stop: 28986, Start Num: 27

Candidate Starts for Kamaru_38:

(Start: 25 @29312 has 10 MA's), (26, 29303), (Start: 27 @29300 has 55 MA's), (Start: 28 @29288 has 11 MA's), (32, 29264), (33, 29261), (36, 29249), (43, 29204), (44, 29201), (46, 29183), (47, 29159), (49, 29111), (50, 29105),

Gene: Kenna_42 Start: 30558, Stop: 30241, Start Num: 27

Candidate Starts for Kenna_42:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (9, 30945), (13, 30780), (14, 30771), (15, 30747), (Start: 27 @30558 has 55 MA's), (Start: 28 @30546 has 11 MA's), (32, 30522), (33, 30519), (36, 30507), (39, 30495), (43, 30462), (44, 30459), (46, 30441), (47, 30417), (49, 30369), (50, 30363),

Gene: KimmyK_89 Start: 57751, Stop: 57413, Start Num: 27

Candidate Starts for KimmyK_89:

(17, 57841), (18, 57838), (22, 57793), (Start: 27 @57751 has 55 MA's), (38, 57685), (47, 57592), (49, 57544), (50, 57538),

Gene: Lilbeanie_11 Start: 4525, Stop: 4851, Start Num: 28

Candidate Starts for Lilbeanie_11:

(Start: 28 @4525 has 11 MA's), (43, 4612), (47, 4657), (50, 4711),

Gene: Linetti_77 Start: 61689, Stop: 61372, Start Num: 25

Candidate Starts for Linetti_77:

(Start: 25 @61689 has 10 MA's), (50, 61476),

Gene: LitninMcQueen_37 Start: 29049, Stop: 28729, Start Num: 27

Candidate Starts for LitninMcQueen_37:

(Start: 25 @29061 has 10 MA's), (26, 29052), (Start: 27 @29049 has 55 MA's), (Start: 28 @29037 has 11 MA's), (32, 29013), (33, 29010), (36, 28998), (43, 28953), (44, 28950), (46, 28932), (47, 28908), (49, 28860), (50, 28854),

Gene: Lutum_43 Start: 30558, Stop: 30241, Start Num: 27

Candidate Starts for Lutum_43:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (9, 30945), (13, 30780), (14, 30771), (15, 30747), (Start: 27 @30558 has 55 MA's), (Start: 28 @30546 has 11 MA's), (32, 30522), (33, 30519), (36, 30507), (39, 30495), (43, 30462), (44, 30459), (46, 30441), (47, 30417), (49, 30369), (50, 30363),

Gene: MelBins_11 Start: 6093, Stop: 6413, Start Num: 28

Candidate Starts for MelBins_11:

(20, 6012), (Start: 28 @6093 has 11 MA's), (44, 6183), (45, 6189), (47, 6225), (50, 6282),

Gene: Melba_36 Start: 30375, Stop: 30085, Start Num: 27

Candidate Starts for Melba_36:

(Start: 24 @30408 has 3 MA's), (Start: 27 @30375 has 55 MA's), (Start: 28 @30363 has 11 MA's), (30, 30351), (32, 30339), (33, 30336), (36, 30324), (39, 30312), (43, 30279), (44, 30276), (46, 30255), (47, 30231), (49, 30183), (50, 30177),

Gene: Mellie_34 Start: 28646, Stop: 28332, Start Num: 27

Candidate Starts for Mellie_34:

(Start: 24 @28679 has 3 MA's), (Start: 27 @28646 has 55 MA's), (Start: 28 @28634 has 11 MA's), (32, 28610), (33, 28607), (36, 28595), (39, 28583), (43, 28550), (44, 28547), (46, 28529), (47, 28505), (49, 28457), (50, 28451),

Gene: MerCougar_78 Start: 58752, Stop: 58420, Start Num: 27

Candidate Starts for MerCougar_78:

(Start: 27 @58752 has 55 MA's), (35, 58707), (44, 58641), (50, 58545),

Gene: MintFen_37 Start: 30482, Stop: 30147, Start Num: 24

Candidate Starts for MintFen_37:

(Start: 24 @30482 has 3 MA's), (Start: 27 @30449 has 55 MA's), (Start: 28 @30437 has 11 MA's), (32, 30413), (33, 30410), (36, 30398), (39, 30386), (43, 30353), (44, 30350), (46, 30329), (47, 30305), (49, 30257), (50, 30251),

Gene: Mutzi_91 Start: 58651, Stop: 58313, Start Num: 27

Candidate Starts for Mutzi_91:

(17, 58741), (18, 58738), (22, 58693), (Start: 27 @58651 has 55 MA's), (38, 58585), (43, 58540), (47, 58492), (49, 58444), (50, 58438),

Gene: Natkenzie_9 Start: 5353, Stop: 5655, Start Num: 28

Candidate Starts for Natkenzie_9:

(Start: 28 @5353 has 11 MA's), (44, 5443), (47, 5485), (49, 5533), (50, 5539),

Gene: Nubi_94 Start: 57714, Stop: 57376, Start Num: 27

Candidate Starts for Nubi_94:

(17, 57804), (18, 57801), (22, 57756), (Start: 27 @57714 has 55 MA's), (38, 57648), (43, 57603), (47, 57555), (49, 57507), (50, 57501),

Gene: Obliviate_33 Start: 28822, Stop: 28514, Start Num: 27

Candidate Starts for Obliviate_33:

(Start: 24 @28855 has 3 MA's), (Start: 27 @28822 has 55 MA's), (Start: 28 @28810 has 11 MA's), (32, 28786), (33, 28783), (36, 28771), (39, 28759), (43, 28726), (44, 28723), (46, 28702), (47, 28678), (49, 28630), (50, 28624),

Gene: Outis_76 Start: 57844, Stop: 57512, Start Num: 27

Candidate Starts for Outis_76:

(Start: 27 @57844 has 55 MA's), (35, 57799), (44, 57733), (50, 57637),

Gene: Periwinkle_46 Start: 32013, Stop: 31696, Start Num: 27

Candidate Starts for Periwinkle_46:

(Start: 25 @32025 has 10 MA's), (26, 32016), (Start: 27 @32013 has 55 MA's), (Start: 28 @32001 has 11 MA's), (32, 31977), (33, 31974), (43, 31917), (44, 31914), (47, 31872), (49, 31824), (50, 31818),

Gene: Phabuloso_40 Start: 30274, Stop: 29954, Start Num: 27

Candidate Starts for Phabuloso_40:

(1, 30940), (2, 30937), (3, 30913), (4, 30901), (9, 30661), (13, 30496), (14, 30487), (15, 30463), (Start: 27 @30274 has 55 MA's), (Start: 28 @30262 has 11 MA's), (32, 30238), (33, 30235), (36, 30223), (41, 30193), (43, 30178), (44, 30175), (47, 30133), (49, 30085), (50, 30079),

Gene: Phistory_43 Start: 30909, Stop: 30592, Start Num: 27

Candidate Starts for Phistory_43:

(1, 31575), (2, 31572), (3, 31548), (4, 31536), (5, 31494), (6, 31488), (9, 31296), (13, 31131), (14, 31122), (15, 31098), (Start: 27 @30909 has 55 MA's), (Start: 28 @30897 has 11 MA's), (32, 30873), (33, 30870), (36, 30858), (39, 30846), (43, 30813), (44, 30810), (46, 30792), (47, 30768), (49, 30720), (50, 30714),

Gene: Phlop_88 Start: 57354, Stop: 57016, Start Num: 27

Candidate Starts for Phlop_88:

(17, 57444), (18, 57441), (22, 57396), (Start: 27 @57354 has 55 MA's), (38, 57288), (47, 57195), (49, 57147), (50, 57141),

Gene: PhrostedPhlake_40 Start: 30630, Stop: 30334, Start Num: 27

Candidate Starts for PhrostedPhlake_40:

(Start: 24 @30663 has 3 MA's), (Start: 27 @30630 has 55 MA's), (Start: 28 @30618 has 11 MA's), (32, 30594), (33, 30591), (36, 30579), (39, 30567), (43, 30534), (44, 30531), (46, 30510), (47, 30486), (49, 30438), (50, 30432),

Gene: PierreThree_76 Start: 61166, Stop: 60849, Start Num: 25

Candidate Starts for PierreThree_76:

(Start: 25 @61166 has 10 MA's), (50, 60953),

Gene: Portcullis_91 Start: 57360, Stop: 57022, Start Num: 27

Candidate Starts for Portcullis_91:

(17, 57450), (18, 57447), (22, 57402), (Start: 27 @57360 has 55 MA's), (38, 57294), (47, 57201), (49, 57153), (50, 57147),

Gene: PullumCavea_89 Start: 57531, Stop: 57193, Start Num: 27

Candidate Starts for PullumCavea_89:

(17, 57621), (18, 57618), (22, 57573), (Start: 27 @57531 has 55 MA's), (38, 57465), (47, 57372), (49, 57324), (50, 57318),

Gene: Pumpkiney_10 Start: 4586, Stop: 4891, Start Num: 28

Candidate Starts for Pumpkiney_10:

(Start: 28 @4586 has 11 MA's), (44, 4679), (47, 4721), (49, 4769), (50, 4775),

Gene: RayTheFireFly_41 Start: 30859, Stop: 30572, Start Num: 27

Candidate Starts for RayTheFireFly_41:

(Start: 25 @30871 has 10 MA's), (Start: 27 @30859 has 55 MA's), (Start: 28 @30847 has 11 MA's), (32, 30823), (33, 30820), (36, 30808), (39, 30796), (43, 30763), (44, 30760), (46, 30742), (47, 30718), (49, 30670),

Gene: RogerDodger_94 Start: 58119, Stop: 57781, Start Num: 27

Candidate Starts for RogerDodger_94:

(10, 58464), (16, 58251), (22, 58161), (Start: 27 @58119 has 55 MA's), (38, 58053), (47, 57960), (49, 57912), (50, 57906),

Gene: Salvador_91 Start: 57456, Stop: 57118, Start Num: 27

Candidate Starts for Salvador_91:

(19, 57528), (22, 57498), (Start: 27 @57456 has 55 MA's), (38, 57390), (47, 57297), (49, 57249), (50, 57243),

Gene: Sampson_9 Start: 5298, Stop: 5600, Start Num: 28

Candidate Starts for Sampson_9:

(Start: 28 @5298 has 11 MA's), (44, 5388), (47, 5430), (49, 5478), (50, 5484),

Gene: Savbucketdawg_86 Start: 56798, Stop: 56460, Start Num: 27

Candidate Starts for Savbucketdawg_86:

(10, 57143), (22, 56840), (Start: 27 @56798 has 55 MA's), (38, 56732), (47, 56639), (49, 56591), (50, 56585),

Gene: Scioto_9 Start: 5353, Stop: 5655, Start Num: 28

Candidate Starts for Scioto_9:

(Start: 28 @5353 has 11 MA's), (44, 5443), (47, 5485), (49, 5533), (50, 5539),

Gene: ShawBrad_43 Start: 30132, Stop: 29815, Start Num: 27

Candidate Starts for ShawBrad_43:

(1, 30798), (2, 30795), (3, 30771), (4, 30759), (5, 30717), (6, 30711), (9, 30519), (13, 30354), (14, 30345), (15, 30321), (Start: 27 @30132 has 55 MA's), (Start: 28 @30120 has 11 MA's), (32, 30096), (33, 30093), (36, 30081), (39, 30069), (43, 30036), (44, 30033), (46, 30015), (47, 29991), (49, 29943), (50, 29937),

Gene: Shinji_90 Start: 57537, Stop: 57199, Start Num: 27

Candidate Starts for Shinji_90:

(17, 57627), (18, 57624), (22, 57579), (Start: 27 @57537 has 55 MA's), (38, 57471), (47, 57378), (49, 57330), (50, 57324),

Gene: SmokingBunny_92 Start: 58452, Stop: 58114, Start Num: 27

Candidate Starts for SmokingBunny_92:

(19, 58524), (22, 58494), (Start: 27 @58452 has 55 MA's), (38, 58386), (47, 58293), (49, 58245), (50, 58239),

Gene: StarStruck_76 Start: 57844, Stop: 57512, Start Num: 27

Candidate Starts for StarStruck_76:

(Start: 27 @57844 has 55 MA's), (35, 57799), (44, 57733), (50, 57637),

Gene: Tardus_10 Start: 4552, Stop: 4857, Start Num: 28

Candidate Starts for Tardus_10:

(Start: 28 @4552 has 11 MA's), (44, 4645), (47, 4687), (49, 4735), (50, 4741),

Gene: TillyBobJoe_90 Start: 57675, Stop: 57337, Start Num: 27

Candidate Starts for TillyBobJoe_90:

(19, 57747), (22, 57717), (Start: 27 @57675 has 55 MA's), (38, 57609), (47, 57516), (49, 57468), (50, 57462),

Gene: Togo_91 Start: 58452, Stop: 58114, Start Num: 27

Candidate Starts for Togo_91:

(19, 58524), (22, 58494), (Start: 27 @58452 has 55 MA's), (38, 58386), (47, 58293), (49, 58245), (50, 58239),

Gene: Twister6_90 Start: 56801, Stop: 56463, Start Num: 27

Candidate Starts for Twister6_90:

(10, 57146), (16, 56933), (22, 56843), (Start: 27 @56801 has 55 MA's), (38, 56735), (47, 56642), (49, 56594), (50, 56588),

Gene: Valary_92 Start: 58444, Stop: 58106, Start Num: 27

Candidate Starts for Valary_92:

(17, 58534), (18, 58531), (22, 58486), (Start: 27 @58444 has 55 MA's), (38, 58378), (47, 58285), (49, 58237), (50, 58231),

Gene: VanDeWege_93 Start: 57969, Stop: 57631, Start Num: 27

Candidate Starts for VanDeWege_93:

(10, 58314), (16, 58101), (22, 58011), (Start: 27 @57969 has 55 MA's), (38, 57903), (47, 57810), (49, 57762), (50, 57756),

Gene: Verity_10 Start: 5803, Stop: 6096, Start Num: 28

Candidate Starts for Verity_10:

(Start: 28 @5803 has 11 MA's), (29, 5812), (43, 5884), (47, 5929), (49, 5980), (50, 5986),

Gene: ViaConlectus_9 Start: 5353, Stop: 5655, Start Num: 28

Candidate Starts for ViaConlectus_9:

(Start: 28 @5353 has 11 MA's), (44, 5443), (47, 5485), (49, 5533), (50, 5539),

Gene: Whitney_45 Start: 33551, Stop: 33234, Start Num: 27

Candidate Starts for Whitney_45:

(Start: 25 @33563 has 10 MA's), (26, 33554), (Start: 27 @33551 has 55 MA's), (Start: 28 @33539 has 11 MA's), (32, 33515), (33, 33512), (43, 33455), (44, 33452), (46, 33434), (47, 33410), (49, 33362), (50, 33356),

Gene: Wizard_86 Start: 57304, Stop: 56966, Start Num: 27

Candidate Starts for Wizard_86:

(17, 57394), (18, 57391), (22, 57346), (Start: 27 @57304 has 55 MA's), (38, 57238), (47, 57145), (49, 57097), (50, 57091),

Gene: YungMoney_91 Start: 59491, Stop: 59153, Start Num: 27

Candidate Starts for YungMoney_91:

(17, 59581), (18, 59578), (22, 59533), (Start: 27 @59491 has 55 MA's), (38, 59425), (43, 59380), (47, 59332), (49, 59284), (50, 59278),

Gene: Zarbodnamra_36 Start: 29888, Stop: 29547, Start Num: 24

Candidate Starts for Zarbodnamra_36:

(Start: 24 @29888 has 3 MA's), (Start: 27 @29855 has 55 MA's), (Start: 28 @29843 has 11 MA's), (30, 29831), (32, 29819), (33, 29816), (36, 29804), (39, 29792), (43, 29759), (44, 29756), (47, 29711), (49, 29663), (50, 29657),

Gene: Zipp_10 Start: 5948, Stop: 6241, Start Num: 28

Candidate Starts for Zipp_10:

(Start: 28 @5948 has 11 MA's), (29, 5957), (43, 6029), (47, 6074), (49, 6125), (50, 6131),

Gene: Zitch_10 Start: 5089, Stop: 5394, Start Num: 28

Candidate Starts for Zitch_10:

(21, 5026), (23, 5044), (Start: 28 @5089 has 11 MA's), (44, 5182), (47, 5224), (49, 5272), (50, 5278),