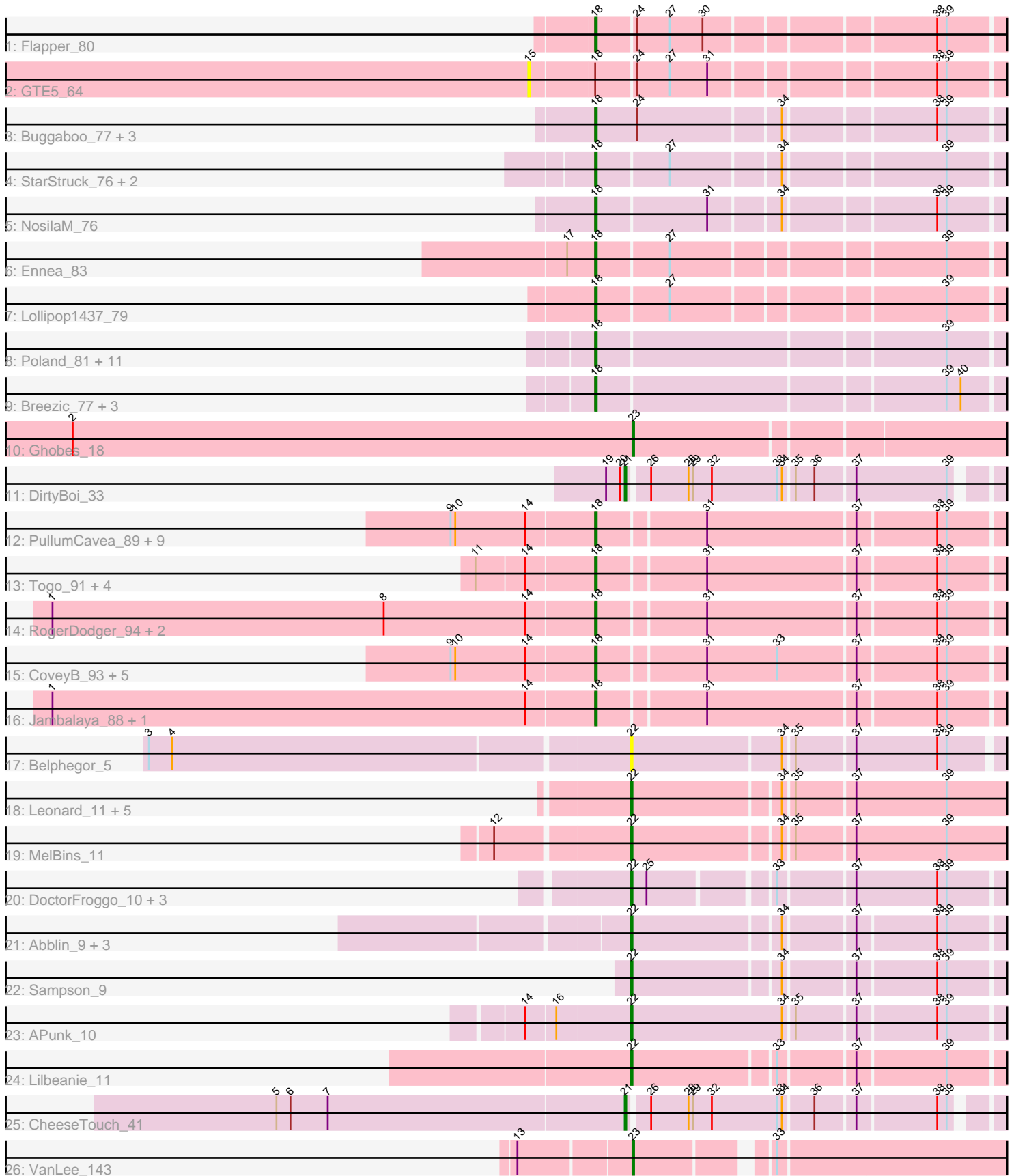


Pham 196487



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 196487 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196487 has 77 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Flapper_80
- Track 2 : GTE5_64
- Track 3 : Buggaboo_77, Kabluna_78, SuperSulley_77, Bonum_79
- Track 4 : StarStruck_76, MerCougar_78, Outis_76
- Track 5 : NosilaM_76
- Track 6 : Ennea_83
- Track 7 : Lollipop1437_79
- Track 8 : Poland_81, Boneham_80, Exiguo_76, Sam12_76, Jellybones_78, CinnamonToast_81, BirksAndSocks_81, Sombrero_78, Msay19_81, FelixAlejandro_81, RemRem_78, Butterball_79
- Track 9 : Breezic_77, John316_80, GourdThymes_77, Ekhein_77
- Track 10 : Ghobes_18
- Track 11 : DirtyBoi_33
- Track 12 : PullumCavea_89, Phlop_88, KimmyK_89, Portcullis_91, Fireball_94, Valary_92, Arri_91, Gezellig_90, Wizard_86, Shinji_90
- Track 13 : Togo_91, Evamon_91, Salvador_91, TillyBobJoe_90, SmokingBunny_92
- Track 14 : RogerDodger_94, VanDeWege_93, Twister6_90
- Track 15 : CoveyB_93, Barb_95, Mutzi_91, Danyall_92, Nubi_94, YungMoney_91
- Track 16 : Jambalaya_88, Savbucketdawg_86
- Track 17 : Belphegor_5
- Track 18 : Leonard_11, Phauci_4, Ali17_9, Inspectinfecti_12, Hans_13, Phinally_11
- Track 19 : MelBins_11
- Track 20 : DoctorFroggo_10, Delrey21_10, Zipp_10, Verity_10
- Track 21 : Abblin_9, Natkenzie_9, Scioto_9, ViaConlectus_9
- Track 22 : Sampson_9
- Track 23 : APunk_10
- Track 24 : Lilbeanie_11
- Track 25 : CheeseTouch_41
- Track 26 : VanLee_143

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

The start number called the most often in the published annotations is 18, it was called in 49 of the 68 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arri_91, Barb_95, BirksAndSocks_81, Boneham_80, Bonum_79, Breezic_77, Buggaboo_77, Butterball_79, CinnamonToast_81, CoveyB_93, Danyall_92, Ekhein_77, Ennea_83, Evamon_91, Exiguo_76, FelixAlejandro_81, Fireball_94, Flapper_80, Gezellig_90, GourdThymes_77, Jambalaya_88, Jellybones_78, John316_80, Kabluna_78, KimmyK_89, Lollipop1437_79, MerCougar_78, Msay19_81, Mutzi_91, NosilaM_76, Nubi_94, Outis_76, Phlop_88, Poland_81, Portcullis_91, PullumCavea_89, RemRem_78, RogerDodger_94, Salvador_91, Sam12_76, Savbucketdawg_86, Shinji_90, SmokingBunny_92, Sombrero_78, StarStruck_76, SuperSulley_77, TillyBobJoe_90, Togo_91, Twister6_90, Valary_92, VanDeWege_93, Wizard_86, YungMoney_91,

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

- GTE5_64,

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

- APunk_10, Abblin_9, Ali17_9, Belphegor_5, CheeseTouch_41, Delrey21_10, DirtyBoi_33, DoctorFroggo_10, Ghobes_18, Hans_13, Inspectinfecti_12, Leonard_11, Lilbeanie_11, MelBins_11, Natkenzie_9, Phauci_4, Phinally_11, Sampson_9, Scioto_9, VanLee_143, Verity_10, ViaConlectus_9, Zipp_10,

Summary by start number:

Start 15:

- Found in 1 of 77 (1.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GTE5_64 (CR1),

Start 18:

- Found in 54 of 77 (70.1%) of genes in pham
- Manual Annotations of this start: 49 of 68
- Called 98.1% of time when present
- Phage (with cluster) where this start called: Arri_91 (DC1), Barb_95 (DC1), BirksAndSocks_81 (CS2), Boneham_80 (CS2), Bonum_79 (CR2), Breezic_77 (CS2), Buggaboo_77 (CR2), Butterball_79 (CS2), CinnamonToast_81 (CS2), CoveyB_93 (DC1), Danyall_92 (DC1), Ekhein_77 (CS2), Ennea_83 (CR3), Evamon_91 (DC1), Exiguo_76 (CS2), FelixAlejandro_81 (CS2), Fireball_94 (DC1), Flapper_80 (CR1), Gezellig_90 (DC1), GourdThymes_77 (CS2), Jambalaya_88 (DC1), Jellybones_78 (CS2), John316_80 (CS2), Kabluna_78 (CR2), KimmyK_89 (DC1), Lollipop1437_79 (CR3), MerCougar_78 (CR2), Msay19_81 (CS2), Mutzi_91 (DC1), NosilaM_76 (CR2), Nubi_94 (DC1), Outis_76 (CR2), Phlop_88 (DC1), Poland_81 (CS2), Portcullis_91 (DC1), PullumCavea_89 (DC1), RemRem_78 (CS2), RogerDodger_94 (DC1), Salvador_91 (DC1), Sam12_76 (CS2), Savbucketdawg_86 (DC1), Shinji_90 (DC1), SmokingBunny_92 (DC1), Sombrero_78 (CS2), StarStruck_76 (CR2), SuperSulley_77 (CR2), TillyBobJoe_90 (DC1), Togo_91 (DC1), Twister6_90 (DC1), Valary_92 (DC1), VanDeWege_93 (DC1), Wizard_86 (DC1), YungMoney_91 (DC1),

Start 21:

- Found in 2 of 77 (2.6%) of genes in pham
- Manual Annotations of this start: 2 of 68
- Called 100.0% of time when present

- Phage (with cluster) where this start called: CheeseTouch_41 (DN1), DirtyBoi_33 (DB),

Start 22:

- Found in 19 of 77 (24.7%) of genes in pham
- Manual Annotations of this start: 15 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: APunk_10 (DE4), Abblin_9 (DE4), Ali17_9 (DE2), Belphegor_5 (DE), Delrey21_10 (DE4), DoctorFroggo_10 (DE4), Hans_13 (DE2), Inspectinfecti_12 (DE2), Leonard_11 (DE2), Lilbeanie_11 (DE5), MelBins_11 (DE2), Natkenzie_9 (DE4), Phauci_4 (DE2), Phinally_11 (DE2), Sampson_9 (DE4), Scioto_9 (DE4), Verity_10 (DE4), ViaConlectus_9 (DE4), Zipp_10 (DE4),

Start 23:

- Found in 2 of 77 (2.6%) of genes in pham
- Manual Annotations of this start: 2 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ghobes_18 (DA), VanLee_143 (singleton),

Summary by clusters:

There are 13 clusters represented in this pham: CR2, CR3, singleton, CR1, DB, DE2, DE, DE4, DE5, DA, DN1, DC1, CS2,

Info for manual annotations of cluster CR1:

- Start number 18 was manually annotated 1 time for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 18 was manually annotated 8 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 18 was manually annotated 2 times for cluster CR3.

Info for manual annotations of cluster CS2:

- Start number 18 was manually annotated 15 times for cluster CS2.

Info for manual annotations of cluster DA:

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

Info for manual annotations of cluster DB:

- Start number 21 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 18 was manually annotated 23 times for cluster DC1.

Info for manual annotations of cluster DE2:

- Start number 22 was manually annotated 7 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 22 was manually annotated 7 times for cluster DE4.

Info for manual annotations of cluster DE5:

•Start number 22 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DN1:

•Start number 21 was manually annotated 1 time for cluster DN1.

Gene Information:

Gene: APunk_10 Start: 5832, Stop: 6140, Start Num: 22

Candidate Starts for APunk_10:

(14, 5769), (16, 5787), (Start: 22 @5832 has 15 MA's), (34, 5928), (35, 5934), (37, 5970), (38, 6018), (39, 6024),

Gene: Abblin_9 Start: 5353, Stop: 5655, Start Num: 22

Candidate Starts for Abblin_9:

(Start: 22 @5353 has 15 MA's), (34, 5443), (37, 5485), (38, 5533), (39, 5539),

Gene: Ali17_9 Start: 5663, Stop: 5983, Start Num: 22

Candidate Starts for Ali17_9:

(Start: 22 @5663 has 15 MA's), (34, 5753), (35, 5759), (37, 5795), (39, 5852),

Gene: Arri_91 Start: 57646, Stop: 57308, Start Num: 18

Candidate Starts for Arri_91:

(9, 57736), (10, 57733), (14, 57688), (Start: 18 @57646 has 49 MA's), (31, 57580), (37, 57487), (38, 57439), (39, 57433),

Gene: Barb_95 Start: 58510, Stop: 58172, Start Num: 18

Candidate Starts for Barb_95:

(9, 58600), (10, 58597), (14, 58552), (Start: 18 @58510 has 49 MA's), (31, 58444), (33, 58399), (37, 58351), (38, 58303), (39, 58297),

Gene: Belphegor_5 Start: 2778, Stop: 3092, Start Num: 22

Candidate Starts for Belphegor_5:

(3, 2478), (4, 2493), (Start: 22 @2778 has 15 MA's), (34, 2871), (35, 2877), (37, 2913), (38, 2964), (39, 2970),

Gene: BirksAndSocks_81 Start: 62036, Stop: 61731, Start Num: 18

Candidate Starts for BirksAndSocks_81:

(Start: 18 @62036 has 49 MA's), (39, 61823),

Gene: Boneham_80 Start: 61961, Stop: 61656, Start Num: 18

Candidate Starts for Boneham_80:

(Start: 18 @61961 has 49 MA's), (39, 61748),

Gene: Bonum_79 Start: 57724, Stop: 57392, Start Num: 18

Candidate Starts for Bonum_79:

(Start: 18 @57724 has 49 MA's), (24, 57697), (34, 57610), (38, 57520), (39, 57514),

Gene: Breezic_77 Start: 60181, Stop: 59828, Start Num: 18

Candidate Starts for Breezic_77:

(Start: 18 @60181 has 49 MA's), (39, 59968), (40, 59959),

Gene: Buggaboo_77 Start: 58290, Stop: 57958, Start Num: 18

Candidate Starts for Buggaboo_77:

(Start: 18 @58290 has 49 MA's), (24, 58263), (34, 58176), (38, 58086), (39, 58080),

Gene: Butterball_79 Start: 61966, Stop: 61661, Start Num: 18

Candidate Starts for Butterball_79:

(Start: 18 @61966 has 49 MA's), (39, 61753),

Gene: CheeseTouch_41 Start: 28097, Stop: 27792, Start Num: 21

Candidate Starts for CheeseTouch_41:

(5, 28319), (6, 28310), (7, 28286), (Start: 21 @28097 has 2 MA's), (26, 28085), (28, 28061), (29, 28058), (32, 28046), (33, 28004), (34, 28001), (36, 27983), (37, 27959), (38, 27911), (39, 27905),

Gene: CinnamonToast_81 Start: 62041, Stop: 61709, Start Num: 18

Candidate Starts for CinnamonToast_81:

(Start: 18 @62041 has 49 MA's), (39, 61828),

Gene: CoveyB_93 Start: 57997, Stop: 57659, Start Num: 18

Candidate Starts for CoveyB_93:

(9, 58087), (10, 58084), (14, 58039), (Start: 18 @57997 has 49 MA's), (31, 57931), (33, 57886), (37, 57838), (38, 57790), (39, 57784),

Gene: Danyall_92 Start: 57691, Stop: 57353, Start Num: 18

Candidate Starts for Danyall_92:

(9, 57781), (10, 57778), (14, 57733), (Start: 18 @57691 has 49 MA's), (31, 57625), (33, 57580), (37, 57532), (38, 57484), (39, 57478),

Gene: Delrey21_10 Start: 5803, Stop: 6096, Start Num: 22

Candidate Starts for Delrey21_10:

(Start: 22 @5803 has 15 MA's), (25, 5812), (33, 5884), (37, 5929), (38, 5980), (39, 5986),

Gene: DirtyBoi_33 Start: 28465, Stop: 28172, Start Num: 21

Candidate Starts for DirtyBoi_33:

(19, 28477), (20, 28468), (Start: 21 @28465 has 2 MA's), (26, 28453), (28, 28429), (29, 28426), (32, 28414), (33, 28372), (34, 28369), (35, 28363), (36, 28351), (37, 28327), (39, 28270),

Gene: DoctorFroggo_10 Start: 5803, Stop: 6096, Start Num: 22

Candidate Starts for DoctorFroggo_10:

(Start: 22 @5803 has 15 MA's), (25, 5812), (33, 5884), (37, 5929), (38, 5980), (39, 5986),

Gene: Ekhein_77 Start: 59871, Stop: 59527, Start Num: 18

Candidate Starts for Ekhein_77:

(Start: 18 @59871 has 49 MA's), (39, 59658), (40, 59649),

Gene: Ennea_83 Start: 59022, Stop: 58708, Start Num: 18

Candidate Starts for Ennea_83:

(17, 59040), (Start: 18 @59022 has 49 MA's), (27, 58977), (39, 58815),

Gene: Evamon_91 Start: 57458, Stop: 57120, Start Num: 18

Candidate Starts for Evamon_91:

(11, 57530), (14, 57500), (Start: 18 @57458 has 49 MA's), (31, 57392), (37, 57299), (38, 57251), (39, 57245),

Gene: Exiguo_76 Start: 59877, Stop: 59545, Start Num: 18
Candidate Starts for Exiguo_76:
(Start: 18 @59877 has 49 MA's), (39, 59664),

Gene: FelixAlejandro_81 Start: 62391, Stop: 62059, Start Num: 18
Candidate Starts for FelixAlejandro_81:
(Start: 18 @62391 has 49 MA's), (39, 62178),

Gene: Fireball_94 Start: 57920, Stop: 57582, Start Num: 18
Candidate Starts for Fireball_94:
(9, 58010), (10, 58007), (14, 57962), (Start: 18 @57920 has 49 MA's), (31, 57854), (37, 57761), (38, 57713), (39, 57707),

Gene: Flapper_80 Start: 58306, Stop: 57980, Start Num: 18
Candidate Starts for Flapper_80:
(Start: 18 @58306 has 49 MA's), (24, 58282), (27, 58261), (30, 58240), (38, 58105), (39, 58099),

Gene: GTE5_64 Start: 50838, Stop: 50473, Start Num: 15
Candidate Starts for GTE5_64:
(15, 50838), (Start: 18 @50799 has 49 MA's), (24, 50775), (27, 50754), (31, 50730), (38, 50598), (39, 50592),

Gene: Gezellig_90 Start: 57304, Stop: 56966, Start Num: 18
Candidate Starts for Gezellig_90:
(9, 57394), (10, 57391), (14, 57346), (Start: 18 @57304 has 49 MA's), (31, 57238), (37, 57145), (38, 57097), (39, 57091),

Gene: Ghobes_18 Start: 16697, Stop: 16407, Start Num: 23
Candidate Starts for Ghobes_18:
(2, 17057), (Start: 23 @16697 has 2 MA's),

Gene: GourdThymes_77 Start: 60728, Stop: 60423, Start Num: 18
Candidate Starts for GourdThymes_77:
(Start: 18 @60728 has 49 MA's), (39, 60515), (40, 60506),

Gene: Hans_13 Start: 6198, Stop: 6524, Start Num: 22
Candidate Starts for Hans_13:
(Start: 22 @6198 has 15 MA's), (34, 6291), (35, 6297), (37, 6333), (39, 6390),

Gene: Inspectinfecti_12 Start: 6720, Stop: 7040, Start Num: 22
Candidate Starts for Inspectinfecti_12:
(Start: 22 @6720 has 15 MA's), (34, 6810), (35, 6816), (37, 6852), (39, 6909),

Gene: Jambalaya_88 Start: 56761, Stop: 56423, Start Num: 18
Candidate Starts for Jambalaya_88:
(1, 57106), (14, 56803), (Start: 18 @56761 has 49 MA's), (31, 56695), (37, 56602), (38, 56554), (39, 56548),

Gene: Jellybones_78 Start: 61675, Stop: 61343, Start Num: 18
Candidate Starts for Jellybones_78:

(Start: 18 @61675 has 49 MA's), (39, 61462),

Gene: John316_80 Start: 61839, Stop: 61486, Start Num: 18

Candidate Starts for John316_80:

(Start: 18 @61839 has 49 MA's), (39, 61626), (40, 61617),

Gene: Kabluna_78 Start: 57062, Stop: 56721, Start Num: 18

Candidate Starts for Kabluna_78:

(Start: 18 @57062 has 49 MA's), (24, 57035), (34, 56948), (38, 56858), (39, 56852),

Gene: KimmyK_89 Start: 57751, Stop: 57413, Start Num: 18

Candidate Starts for KimmyK_89:

(9, 57841), (10, 57838), (14, 57793), (Start: 18 @57751 has 49 MA's), (31, 57685), (37, 57592), (38, 57544), (39, 57538),

Gene: Leonard_11 Start: 6315, Stop: 6635, Start Num: 22

Candidate Starts for Leonard_11:

(Start: 22 @6315 has 15 MA's), (34, 6405), (35, 6411), (37, 6447), (39, 6504),

Gene: Lilbeanie_11 Start: 4525, Stop: 4851, Start Num: 22

Candidate Starts for Lilbeanie_11:

(Start: 22 @4525 has 15 MA's), (33, 4612), (37, 4657), (39, 4711),

Gene: Lollipop1437_79 Start: 58702, Stop: 58388, Start Num: 18

Candidate Starts for Lollipop1437_79:

(Start: 18 @58702 has 49 MA's), (27, 58657), (39, 58495),

Gene: MelBins_11 Start: 6093, Stop: 6413, Start Num: 22

Candidate Starts for MelBins_11:

(12, 6012), (Start: 22 @6093 has 15 MA's), (34, 6183), (35, 6189), (37, 6225), (39, 6282),

Gene: MerCougar_78 Start: 58752, Stop: 58420, Start Num: 18

Candidate Starts for MerCougar_78:

(Start: 18 @58752 has 49 MA's), (27, 58707), (34, 58641), (39, 58545),

Gene: Msay19_81 Start: 62277, Stop: 61945, Start Num: 18

Candidate Starts for Msay19_81:

(Start: 18 @62277 has 49 MA's), (39, 62064),

Gene: Mutzi_91 Start: 58651, Stop: 58313, Start Num: 18

Candidate Starts for Mutzi_91:

(9, 58741), (10, 58738), (14, 58693), (Start: 18 @58651 has 49 MA's), (31, 58585), (33, 58540), (37, 58492), (38, 58444), (39, 58438),

Gene: Natkenzie_9 Start: 5353, Stop: 5655, Start Num: 22

Candidate Starts for Natkenzie_9:

(Start: 22 @5353 has 15 MA's), (34, 5443), (37, 5485), (38, 5533), (39, 5539),

Gene: NosilaM_76 Start: 57364, Stop: 57035, Start Num: 18

Candidate Starts for NosilaM_76:

(Start: 18 @57364 has 49 MA's), (31, 57295), (34, 57253), (38, 57163), (39, 57157),

Gene: Nubi_94 Start: 57714, Stop: 57376, Start Num: 18

Candidate Starts for Nubi_94:

(9, 57804), (10, 57801), (14, 57756), (Start: 18 @57714 has 49 MA's), (31, 57648), (33, 57603), (37, 57555), (38, 57507), (39, 57501),

Gene: Outis_76 Start: 57844, Stop: 57512, Start Num: 18

Candidate Starts for Outis_76:

(Start: 18 @57844 has 49 MA's), (27, 57799), (34, 57733), (39, 57637),

Gene: Phauci_4 Start: 2839, Stop: 3165, Start Num: 22

Candidate Starts for Phauci_4:

(Start: 22 @2839 has 15 MA's), (34, 2932), (35, 2938), (37, 2974), (39, 3031),

Gene: Phinally_11 Start: 6312, Stop: 6632, Start Num: 22

Candidate Starts for Phinally_11:

(Start: 22 @6312 has 15 MA's), (34, 6402), (35, 6408), (37, 6444), (39, 6501),

Gene: Phlop_88 Start: 57354, Stop: 57016, Start Num: 18

Candidate Starts for Phlop_88:

(9, 57444), (10, 57441), (14, 57396), (Start: 18 @57354 has 49 MA's), (31, 57288), (37, 57195), (38, 57147), (39, 57141),

Gene: Poland_81 Start: 62256, Stop: 61924, Start Num: 18

Candidate Starts for Poland_81:

(Start: 18 @62256 has 49 MA's), (39, 62043),

Gene: Portcullis_91 Start: 57360, Stop: 57022, Start Num: 18

Candidate Starts for Portcullis_91:

(9, 57450), (10, 57447), (14, 57402), (Start: 18 @57360 has 49 MA's), (31, 57294), (37, 57201), (38, 57153), (39, 57147),

Gene: PullumCavea_89 Start: 57531, Stop: 57193, Start Num: 18

Candidate Starts for PullumCavea_89:

(9, 57621), (10, 57618), (14, 57573), (Start: 18 @57531 has 49 MA's), (31, 57465), (37, 57372), (38, 57324), (39, 57318),

Gene: RemRem_78 Start: 59853, Stop: 59521, Start Num: 18

Candidate Starts for RemRem_78:

(Start: 18 @59853 has 49 MA's), (39, 59640),

Gene: RogerDodger_94 Start: 58119, Stop: 57781, Start Num: 18

Candidate Starts for RogerDodger_94:

(1, 58464), (8, 58251), (14, 58161), (Start: 18 @58119 has 49 MA's), (31, 58053), (37, 57960), (38, 57912), (39, 57906),

Gene: Salvador_91 Start: 57456, Stop: 57118, Start Num: 18

Candidate Starts for Salvador_91:

(11, 57528), (14, 57498), (Start: 18 @57456 has 49 MA's), (31, 57390), (37, 57297), (38, 57249), (39, 57243),

Gene: Sam12_76 Start: 59877, Stop: 59545, Start Num: 18

Candidate Starts for Sam12_76:

(Start: 18 @59877 has 49 MA's), (39, 59664),

Gene: Sampson_9 Start: 5298, Stop: 5600, Start Num: 22
Candidate Starts for Sampson_9:
(Start: 22 @5298 has 15 MA's), (34, 5388), (37, 5430), (38, 5478), (39, 5484),

Gene: Savbucketdawg_86 Start: 56798, Stop: 56460, Start Num: 18
Candidate Starts for Savbucketdawg_86:
(1, 57143), (14, 56840), (Start: 18 @56798 has 49 MA's), (31, 56732), (37, 56639), (38, 56591), (39, 56585),

Gene: Scioto_9 Start: 5353, Stop: 5655, Start Num: 22
Candidate Starts for Scioto_9:
(Start: 22 @5353 has 15 MA's), (34, 5443), (37, 5485), (38, 5533), (39, 5539),

Gene: Shinji_90 Start: 57537, Stop: 57199, Start Num: 18
Candidate Starts for Shinji_90:
(9, 57627), (10, 57624), (14, 57579), (Start: 18 @57537 has 49 MA's), (31, 57471), (37, 57378), (38, 57330), (39, 57324),

Gene: SmokingBunny_92 Start: 58452, Stop: 58114, Start Num: 18
Candidate Starts for SmokingBunny_92:
(11, 58524), (14, 58494), (Start: 18 @58452 has 49 MA's), (31, 58386), (37, 58293), (38, 58245), (39, 58239),

Gene: Sombrero_78 Start: 60468, Stop: 60136, Start Num: 18
Candidate Starts for Sombrero_78:
(Start: 18 @60468 has 49 MA's), (39, 60255),

Gene: StarStruck_76 Start: 57844, Stop: 57512, Start Num: 18
Candidate Starts for StarStruck_76:
(Start: 18 @57844 has 49 MA's), (27, 57799), (34, 57733), (39, 57637),

Gene: SuperSulley_77 Start: 58290, Stop: 57958, Start Num: 18
Candidate Starts for SuperSulley_77:
(Start: 18 @58290 has 49 MA's), (24, 58263), (34, 58176), (38, 58086), (39, 58080),

Gene: TillyBobJoe_90 Start: 57675, Stop: 57337, Start Num: 18
Candidate Starts for TillyBobJoe_90:
(11, 57747), (14, 57717), (Start: 18 @57675 has 49 MA's), (31, 57609), (37, 57516), (38, 57468), (39, 57462),

Gene: Togo_91 Start: 58452, Stop: 58114, Start Num: 18
Candidate Starts for Togo_91:
(11, 58524), (14, 58494), (Start: 18 @58452 has 49 MA's), (31, 58386), (37, 58293), (38, 58245), (39, 58239),

Gene: Twister6_90 Start: 56801, Stop: 56463, Start Num: 18
Candidate Starts for Twister6_90:
(1, 57146), (8, 56933), (14, 56843), (Start: 18 @56801 has 49 MA's), (31, 56735), (37, 56642), (38, 56594), (39, 56588),

Gene: Valary_92 Start: 58444, Stop: 58106, Start Num: 18
Candidate Starts for Valary_92:

(9, 58534), (10, 58531), (14, 58486), (Start: 18 @58444 has 49 MA's), (31, 58378), (37, 58285), (38, 58237), (39, 58231),

Gene: VanDeWege_93 Start: 57969, Stop: 57631, Start Num: 18

Candidate Starts for VanDeWege_93:

(1, 58314), (8, 58101), (14, 58011), (Start: 18 @57969 has 49 MA's), (31, 57903), (37, 57810), (38, 57762), (39, 57756),

Gene: VanLee_143 Start: 75581, Stop: 75288, Start Num: 23

Candidate Starts for VanLee_143:

(13, 75650), (Start: 23 @75581 has 2 MA's), (33, 75506),

Gene: Verity_10 Start: 5803, Stop: 6096, Start Num: 22

Candidate Starts for Verity_10:

(Start: 22 @5803 has 15 MA's), (25, 5812), (33, 5884), (37, 5929), (38, 5980), (39, 5986),

Gene: ViaConlectus_9 Start: 5353, Stop: 5655, Start Num: 22

Candidate Starts for ViaConlectus_9:

(Start: 22 @5353 has 15 MA's), (34, 5443), (37, 5485), (38, 5533), (39, 5539),

Gene: Wizard_86 Start: 57304, Stop: 56966, Start Num: 18

Candidate Starts for Wizard_86:

(9, 57394), (10, 57391), (14, 57346), (Start: 18 @57304 has 49 MA's), (31, 57238), (37, 57145), (38, 57097), (39, 57091),

Gene: YungMoney_91 Start: 59491, Stop: 59153, Start Num: 18

Candidate Starts for YungMoney_91:

(9, 59581), (10, 59578), (14, 59533), (Start: 18 @59491 has 49 MA's), (31, 59425), (33, 59380), (37, 59332), (38, 59284), (39, 59278),

Gene: Zipp_10 Start: 5948, Stop: 6241, Start Num: 22

Candidate Starts for Zipp_10:

(Start: 22 @5948 has 15 MA's), (25, 5957), (33, 6029), (37, 6074), (38, 6125), (39, 6131),