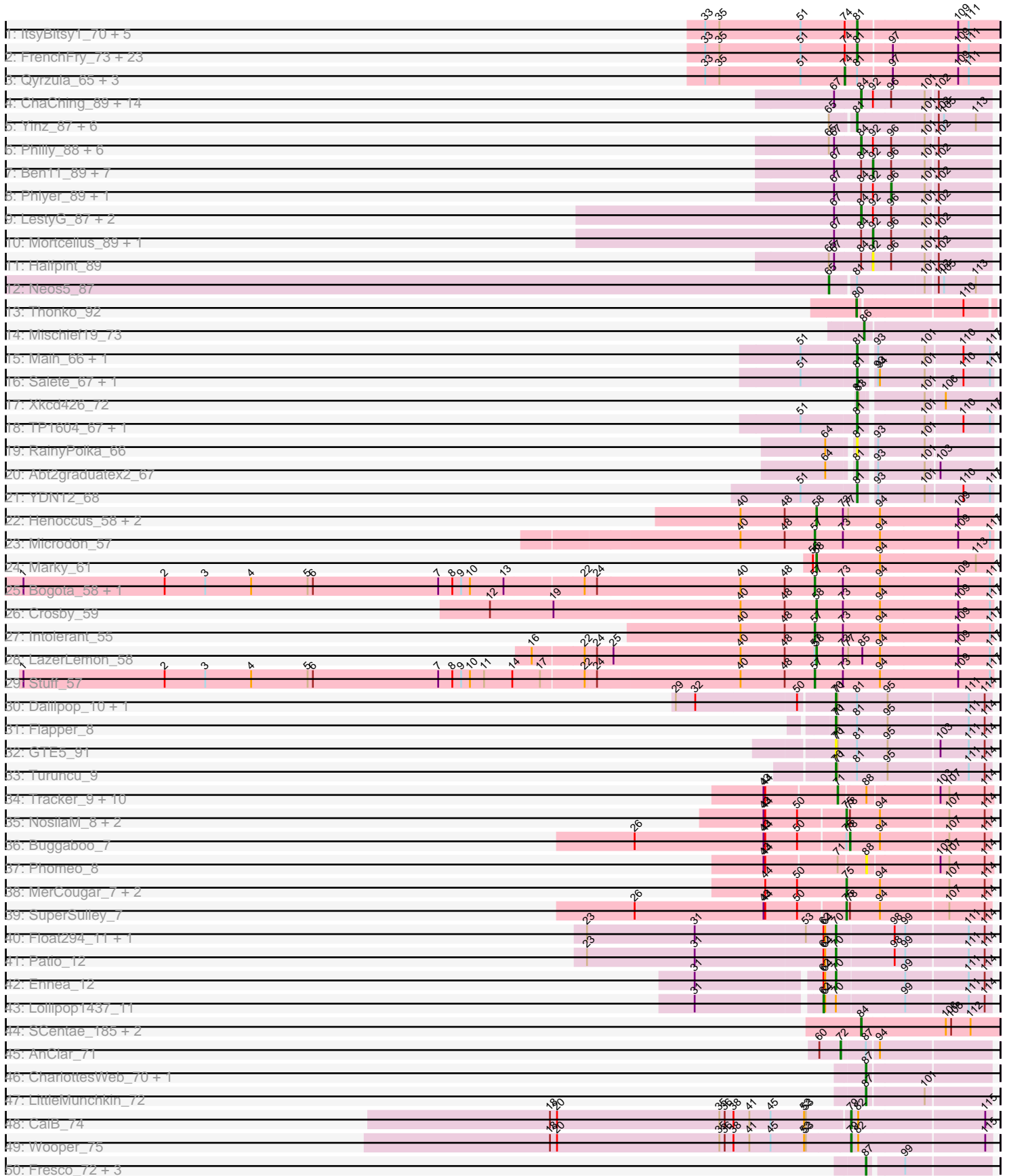
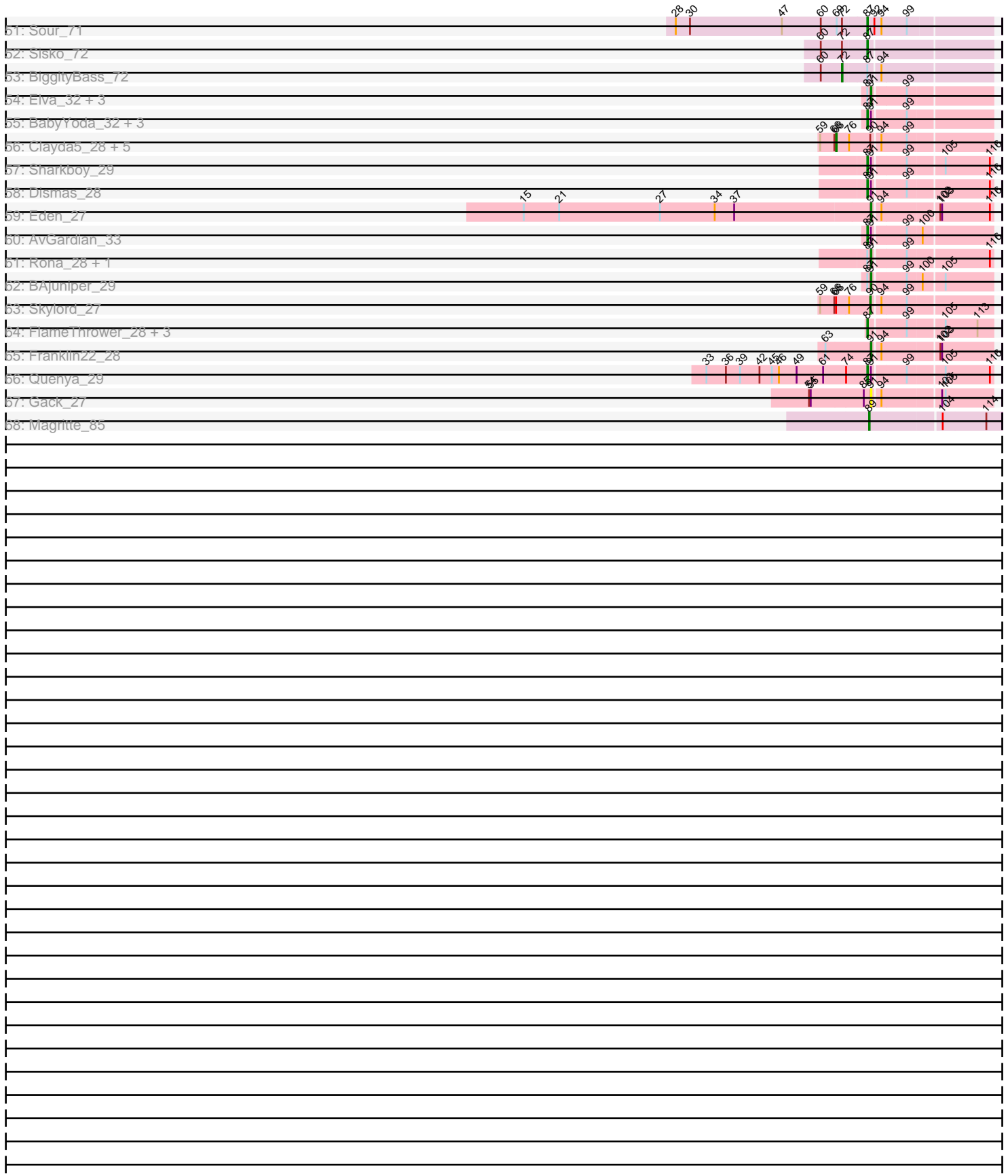


Pham 163375



Pham 163375



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 163375 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163375 has 179 members, 17 are drafts.

Phages represented in each track:

- Track 1 : ItsyBitsy1_70, Blocker23_72, Bananafish_73, Tres_72, Holeinone_72, West99_72
- Track 2 : FrenchFry_73, Rhinoforte_72, Ares_72, Tinciduntolum_73, TA17A_72, Lars_73, Allegro_72, Sabella_72, Kheth_72, MasterPo_73, Faze9_71, Lephleur_72, Godines_73, Glass_74, Eaglehorse_72, Brownie5_72, Boyle_72, Calamitous_73, LizLemon_72, Rosebush_70, Kaleb_73, Coffee_72, Laurie_73, Phantasmagoria_71
- Track 3 : Qyrzula_65, Opia_73, Arbiter_69, Hedgerow_72
- Track 4 : ChaChing_89, Gervas_90, RagingRooster_88, Corofin_89, Audrey_89, SynergyX_89, GlenHope_90, Briakila_89, Baloo_88, Devonte_87, Deenasa_89, Yahalom_87, OrangeOswald_88, MmasiCarm_90, RomaT_89
- Track 5 : Yinz_87, HarveySr_86, Marley1013_88, Phayeta_92, Gadget_87, Morty007_86, Bernardo_87
- Track 6 : Philly_88, Kronus_89, Rita1961_90, Nozo_89, Compostia_88, Casbah_89, Jackstina_83
- Track 7 : Ben11_89, Heathcliff_89, Akoma_89, SlippinJimmy_92, Chandler_89, Daisy_88, Phaedrus_84, Kamiyu_89
- Track 8 : Phlyer_89, Athena_91
- Track 9 : LestyG_87, Obutu_91, Abinghost_89
- Track 10 : Mortcellus_89, Tydolla_85
- Track 11 : Halfpint_89
- Track 12 : Neos5_87
- Track 13 : Thonko_92
- Track 14 : Mischief19_73
- Track 15 : Maih_66, Asis_68
- Track 16 : Salet_67, BayC_67
- Track 17 : Xkcd426_72
- Track 18 : TP1604_67, BabyGotBac_68
- Track 19 : RainyPolka_66
- Track 20 : Abt2graduatex2_67
- Track 21 : YDN12_68
- Track 22 : Henoccus_58, JackieB_58, Araceli_57
- Track 23 : Microdon_57
- Track 24 : Marky_61
- Track 25 : Bogota_58, UNTPL_59
- Track 26 : Crosby_59
- Track 27 : Intolerant_55
- Track 28 : LazerLemon_58

- Track 29 : Stuff_57
- Track 30 : Dalilpop_10, GRU1_92
- Track 31 : Flapper_8
- Track 32 : GTE5_91
- Track 33 : Turuncu_9
- Track 34 : Tracker_9, Arti_9, KidneyBean_9, NovumRegina_9, GrootJr_11, Wheezy_9, Kurt_9, NatB6_9, Foxboro_9, Emianna_9, Jifall16_8
- Track 35 : NosilaM_8, Kabluna_8, Bonum_8
- Track 36 : Buggaboo_7
- Track 37 : Phomeo_8
- Track 38 : MerCougar_7, Outis_7, StarStruck_7
- Track 39 : SuperSulley_7
- Track 40 : Float294_11, Skysand_11
- Track 41 : Patio_12
- Track 42 : Ennea_12
- Track 43 : Lollipop1437_11
- Track 44 : SCentae_185, CherryTomatoes_193, Pupper_186
- Track 45 : AnClar_71
- Track 46 : CharlottesWeb_70, Mariokart_70
- Track 47 : LittleMunchkin_72
- Track 48 : CaiB_74
- Track 49 : Wooper_75
- Track 50 : Fresco_72, Ligma_72, Axumite_72, Shatter_72
- Track 51 : Sour_71
- Track 52 : Sisko_72
- Track 53 : BiggityBass_72
- Track 54 : Elva_32, Icarian_36, Stoor_32, Stromboli_32
- Track 55 : BabyYoda_32, SanaSana_34, Loviatar_56, DirtyBubble_31
- Track 56 : Clayda5_28, Coltrane_27, Rollins_27, Bernstein_27, Brahms_27, Armstrong_27
- Track 57 : Sharkboy_29
- Track 58 : Dismas_28
- Track 59 : Eden_27
- Track 60 : AvGardian_33
- Track 61 : Rona_28, Kieran_28
- Track 62 : BAjuniper_29
- Track 63 : Skylord_27
- Track 64 : FlameThrower_28, Katzastrophic_28, Celaena_28, Bachaco_28
- Track 65 : Franklin22_28
- Track 66 : Quenya_29
- Track 67 : Gack_27
- Track 68 : Magritte_85

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

The start number called the most often in the published annotations is 81, it was called in 44 of the 162 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abt2graduatex2_67, Allegro_72, Ares_72, Asis_68, BabyGotBac_68, Bananafish_73, BayC_67, Bernardo_87, Blocker23_72, Boyle_72, Brownie5_72, Calamitous_73, Coffee_72, Eaglehorse_72, Faze9_71, FrenchFry_73, Gadget_87, Glass_74, Godines_73, HarveySr_86, Holeinone_72, ItsyBitsy1_70, Kaleb_73, Kheth_72, Lars_73, Laurie_73, Lephleur_72, LizLemon_72, Maih_66, Marley1013_88, MasterPo_73, Morty007_86, Phantasmagoria_71, Phayeta_92, RainyPolka_66, Rhinoforte_72, Rosebush_70, Sabella_72, Salete_67, TA17A_72, TP1604_67, Tinciduntolum_73, Tres_72, West99_72, Xkcd426_72, YDN12_68, Yinz_87,

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

- Arbiter_69, Dalilpop_10, Flapper_8, GRU1_92, GTE5_91, Hedgerow_72, Neos5_87, Opia_73, Qyrzula_65, Turuncu_9,

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

- Abinghost_89, Akoma_89, AnClar_71, Araceli_57, Armstrong_27, Arti_9, Athena_91, Audrey_89, AvGardian_33, Axumite_72, BAjuniper_29, BabyYoda_32, Bachaco_28, Baloo_88, Ben11_89, Bernstein_27, BiggityBass_72, Bogota_58, Bonum_8, Brahms_27, Briakila_89, Buggaboo_7, CaiB_74, Casbah_89, Celaena_28, ChaChing_89, Chandler_89, CharlottesWeb_70, CherryTomatoes_193, Clayda5_28, Coltrane_27, Compostia_88, Corofin_89, Crosby_59, Daisy_88, Deenasa_89, Devonte_87, DirtyBubble_31, Dismas_28, Eden_27, Elva_32, Emianna_9, Ennea_12, FlameThrower_28, Float294_11, Foxboro_9, Franklin22_28, Fresco_72, Gack_27, Gervas_90, GlenHope_90, GrootJr_11, Halfpint_89, Heathcliff_89, Henoccus_58, Icarian_36, Intolerant_55, JackieB_58, Jackstina_83, Jifall16_8, Kabluna_8, Kamiyu_89, Katzastrophic_28, KidneyBean_9, Kieran_28, Kronus_89, Kurt_9, LazerLemon_58, LestyG_87, Ligma_72, LittleMunchkin_72, Lollipop1437_11, Loviatar_56, Magritte_85, Mariokart_70, Marky_61, MerCougar_7, Microdon_57, Mischief19_73, MmasiCarm_90, Mortcellus_89, NatB6_9, NosilaM_8, NovumRegina_9, Nozo_89, Obutu_91, OrangeOswald_88, Outis_7, Patio_12, Phaedrus_84, Philly_88, Phlyer_89, Phomeo_8, Pupper_186, Quenya_29, RagingRooster_88, Rita1961_90, Rollins_27, RomaT_89, Rona_28, SCentae_185, SanaSana_34, Sharkboy_29, Shatter_72, Sisko_72, Skylord_27, Skysand_11, SlippinJimmy_92, Sour_71, StarStruck_7, Stoor_32, Stromboli_32, Stuff_57, SuperSulley_7, SynergyX_89, Thonko_92, Tracker_9, Tydolla_85, UNTPL_59, Wheezy_9, Wooper_75, Yahalom_87,

Summary by start number:

Start 57:

- Found in 6 of 179 (3.4%) of genes in pham
- Manual Annotations of this start: 5 of 162
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Bogota_58 (BH), Intolerant_55 (BH), Microdon_57 (BH), Stuff_57 (BH), UNTPL_59 (BH),

Start 58:

- Found in 6 of 179 (3.4%) of genes in pham
- Manual Annotations of this start: 6 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Araceli_57 (BH), Crosby_59 (BH), Henoccus_58 (BH), JackieB_58 (BH), LazerLemon_58 (BH), Marky_61 (BH),

Start 62:

- Found in 5 of 179 (2.8%) of genes in pham
- Manual Annotations of this start: 1 of 162
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Lollipop1437_11 (CR3),

Start 65:

- Found in 16 of 179 (8.9%) of genes in pham
- Manual Annotations of this start: 1 of 162
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Neos5_87 (B3),

Start 68:

- Found in 7 of 179 (3.9%) of genes in pham
- Manual Annotations of this start: 6 of 162
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Armstrong_27 (EB), Bernstein_27 (EB), Brahms_27 (EB), Clayda5_28 (EB), Coltrane_27 (EB), Rollins_27 (EB),

Start 70:

- Found in 10 of 179 (5.6%) of genes in pham
- Manual Annotations of this start: 7 of 162
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Dalilpop_10 (CR1), Ennea_12 (CR3), Flapper_8 (CR1), Float294_11 (CR3), GRU1_92 (CR1), GTE5_91 (CR1), Patio_12 (CR3), Skysand_11 (CR3), Turuncu_9 (CR1),

Start 71:

- Found in 17 of 179 (9.5%) of genes in pham
- Manual Annotations of this start: 11 of 162
- Called 64.7% of time when present
- Phage (with cluster) where this start called: Arti_9 (CR2), Emianna_9 (CR2), Foxboro_9 (CR2), GrootJr_11 (CR2), Jifall16_8 (CR2), KidneyBean_9 (CR2), Kurt_9 (CR2), NatB6_9 (CR2), NovumRegina_9 (CR2), Tracker_9 (CR2), Wheezy_9 (CR2),

Start 72:

- Found in 4 of 179 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 162
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AnClar_71 (DR), BiggityBass_72 (DR),

Start 74:

- Found in 35 of 179 (19.6%) of genes in pham
- Manual Annotations of this start: 4 of 162
- Called 11.4% of time when present
- Phage (with cluster) where this start called: Arbiter_69 (B2), Hedgerow_72 (B2), Opia_73 (B2), Qyrzula_65 (B2),

Start 75:

- Found in 8 of 179 (4.5%) of genes in pham
- Manual Annotations of this start: 7 of 162
- Called 87.5% of time when present

- Phage (with cluster) where this start called: Bonum_8 (CR2), Kabluna_8 (CR2), MerCougar_7 (CR2), NosilaM_8 (CR2), Outis_7 (CR2), StarStruck_7 (CR2), SuperSulley_7 (CR2),

Start 78:

- Found in 5 of 179 (2.8%) of genes in pham
- Manual Annotations of this start: 1 of 162
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Buggaboo_7 (CR2),

Start 79:

- Found in 2 of 179 (1.1%) of genes in pham
- Manual Annotations of this start: 2 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CaiB_74 (DR), Wooper_75 (DR),

Start 80:

- Found in 1 of 179 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Thonko_92 (B8),

Start 81:

- Found in 57 of 179 (31.8%) of genes in pham
- Manual Annotations of this start: 44 of 162
- Called 82.5% of time when present
- Phage (with cluster) where this start called: Abt2graduatex2_67 (BG), Allegro_72 (B2), Ares_72 (B2), Asis_68 (BG), BabyGotBac_68 (BG), Bananafish_73 (B2), BayC_67 (BG), Bernardo_87 (B3), Blocker23_72 (B2), Boyle_72 (B2), Brownie5_72 (B2), Calamitous_73 (B2), Coffee_72 (B2), Eaglehorse_72 (B2), Faze9_71 (B2), FrenchFry_73 (B2), Gadget_87 (B3), Glass_74 (B2), Godines_73 (B2), HarveySr_86 (B3), Holeinone_72 (B2), ItsyBitsy1_70 (B2), Kaleb_73 (B2), Kheth_72 (B2), Lars_73 (B2), Laurie_73 (B2), Lephleur_72 (B2), LizLemon_72 (B2), Maih_66 (BG), Marley1013_88 (B3), MasterPo_73 (B2), Morty007_86 (B3), Phantasmagoria_71 (B2), Phayeta_92 (B3), RainyPolka_66 (BG), Rhinoforte_72 (B2), Rosebush_70 (B2), Sabella_72 (B2), Salete_67 (BG), TA17A_72 (B2), TP1604_67 (BG), Tinciduntolum_73 (B2), Tres_72 (B2), West99_72 (B2), Xkcd426_72 (BG), YDN12_68 (BG), Yinz_87 (B3),

Start 84:

- Found in 41 of 179 (22.9%) of genes in pham
- Manual Annotations of this start: 27 of 162
- Called 68.3% of time when present
- Phage (with cluster) where this start called: Abinghost_89 (B3), Audrey_89 (B3), Baloo_88 (B3), Briakila_89 (B3), Casbah_89 (B3), ChaChing_89 (B3), CherryTomatoes_193 (DO), Compostia_88 (B3), Corofin_89 (B3), Deenasa_89 (B3), Devonte_87 (B3), Gervas_90 (B3), GlenHope_90 (B3), Jackstina_83 (B3), Kronus_89 (B3), LestyG_87 (B3), MmasiCarm_90 (B3), Nozo_89 (B3), Obutu_91 (B3), OrangeOswald_88 (B3), Philly_88 (B3), Pupper_186 (DO), RagingRooster_88 (B3), Rita1961_90 (B3), RomaT_89 (B3), SCentae_185 (DO), SynergyX_89 (B3), Yahalom_87 (B3),

Start 86:

- Found in 1 of 179 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mischief19_73 (BG),

Start 87:

- Found in 30 of 179 (16.8%) of genes in pham
- Manual Annotations of this start: 16 of 162
- Called 70.0% of time when present
- Phage (with cluster) where this start called: AvGardian_33 (EB), Axumite_72 (DR), BabyYoda_32 (EB), Bachaco_28 (EB), Celaena_28 (EB), CharlottesWeb_70 (DR), DirtyBubble_31 (EB), Dismas_28 (EB), FlameThrower_28 (EB), Fresco_72 (DR), Katzastrophic_28 (EB), Ligma_72 (DR), LittleMunchkin_72 (DR), Loviatar_56 (EB), Mariokart_70 (DR), Quenya_29 (EB), SanaSana_34 (EB), Sharkboy_29 (EB), Shatter_72 (DR), Sisko_72 (DR), Sour_71 (DR),

Start 88:

- Found in 12 of 179 (6.7%) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Phomeo_8 (CR2),

Start 89:

- Found in 1 of 179 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Magritte_85 (singleton),

Start 90:

- Found in 7 of 179 (3.9%) of genes in pham
- Manual Annotations of this start: 1 of 162
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Skylord_27 (EB),

Start 91:

- Found in 18 of 179 (10.1%) of genes in pham
- Manual Annotations of this start: 8 of 162
- Called 55.6% of time when present
- Phage (with cluster) where this start called: BAjuniper_29 (EB), Eden_27 (EB), Elva_32 (EB), Franklin22_28 (EB), Gack_27 (EB), Icarian_36 (EB), Kieran_28 (EB), Rona_28 (EB), Stoor_32 (EB), Stromboli_32 (EB),

Start 92:

- Found in 39 of 179 (21.8%) of genes in pham
- Manual Annotations of this start: 8 of 162
- Called 28.2% of time when present
- Phage (with cluster) where this start called: Akoma_89 (B3), Ben11_89 (B3), Chandler_89 (B3), Daisy_88 (B3), Halfpint_89 (B3), Heathcliff_89 (B3), Kamiyu_89 (B3), Mortcellus_89 (B3), Phaedrus_84 (B3), SlippinJimmy_92 (B3), Tydolla_85 (B3),

Start 96:

- Found in 38 of 179 (21.2%) of genes in pham
- Manual Annotations of this start: 2 of 162

- Called 5.3% of time when present
- Phage (with cluster) where this start called: Athena_91 (B3), Phlyer_89 (B3),

Summary by clusters:

There are 12 clusters represented in this pham: CR2, DO, singleton, BG, CR3, B8, BH, EB, CR1, B2, B3, DR,

Info for manual annotations of cluster B2:

- Start number 74 was manually annotated 4 times for cluster B2.
- Start number 81 was manually annotated 28 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 65 was manually annotated 1 time for cluster B3.
- Start number 81 was manually annotated 7 times for cluster B3.
- Start number 84 was manually annotated 25 times for cluster B3.
- Start number 92 was manually annotated 8 times for cluster B3.
- Start number 96 was manually annotated 2 times for cluster B3.

Info for manual annotations of cluster B8:

- Start number 80 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster BG:

- Start number 81 was manually annotated 9 times for cluster BG.
- Start number 86 was manually annotated 1 time for cluster BG.

Info for manual annotations of cluster BH:

- Start number 57 was manually annotated 5 times for cluster BH.
- Start number 58 was manually annotated 6 times for cluster BH.

Info for manual annotations of cluster CR1:

- Start number 70 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 71 was manually annotated 11 times for cluster CR2.
- Start number 75 was manually annotated 7 times for cluster CR2.
- Start number 78 was manually annotated 1 time for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 62 was manually annotated 1 time for cluster CR3.
- Start number 70 was manually annotated 4 times for cluster CR3.

Info for manual annotations of cluster DO:

- Start number 84 was manually annotated 2 times for cluster DO.

Info for manual annotations of cluster DR:

- Start number 72 was manually annotated 2 times for cluster DR.
- Start number 79 was manually annotated 2 times for cluster DR.
- Start number 87 was manually annotated 6 times for cluster DR.

Info for manual annotations of cluster EB:

- Start number 68 was manually annotated 6 times for cluster EB.
- Start number 87 was manually annotated 10 times for cluster EB.

- Start number 90 was manually annotated 1 time for cluster EB.
- Start number 91 was manually annotated 8 times for cluster EB.

Gene Information:

Gene: Abinghost_89 Start: 63262, Stop: 63050, Start Num: 84

Candidate Starts for Abinghost_89:

(67, 63307), (Start: 84 @63262 has 27 MA's), (Start: 92 @63244 has 8 MA's), (Start: 96 @63214 has 2 MA's), (101, 63157), (102, 63139),

Gene: Abt2graduatex2_67 Start: 52651, Stop: 52863, Start Num: 81

Candidate Starts for Abt2graduatex2_67:

(64, 52615), (Start: 81 @52651 has 44 MA's), (93, 52675), (101, 52753), (103, 52774),

Gene: Akoma_89 Start: 63284, Stop: 63090, Start Num: 92

Candidate Starts for Akoma_89:

(67, 63347), (Start: 84 @63302 has 27 MA's), (Start: 92 @63284 has 8 MA's), (Start: 96 @63254 has 2 MA's), (101, 63197), (102, 63179),

Gene: Allegro_72 Start: 59331, Stop: 59107, Start Num: 81

Candidate Starts for Allegro_72:

(33, 59589), (35, 59565), (51, 59427), (Start: 74 @59352 has 4 MA's), (Start: 81 @59331 has 44 MA's), (97, 59277), (109, 59172), (111, 59157),

Gene: AnClar_71 Start: 57138, Stop: 56902, Start Num: 72

Candidate Starts for AnClar_71:

(60, 57174), (Start: 72 @57138 has 2 MA's), (Start: 87 @57102 has 16 MA's), (94, 57084),

Gene: Araceli_57 Start: 42438, Stop: 42737, Start Num: 58

Candidate Starts for Araceli_57:

(40, 42309), (48, 42384), (Start: 58 @42438 has 6 MA's), (73, 42483), (77, 42492), (94, 42546), (109, 42678),

Gene: Arbiter_69 Start: 59393, Stop: 59148, Start Num: 74

Candidate Starts for Arbiter_69:

(33, 59630), (35, 59606), (51, 59468), (Start: 74 @59393 has 4 MA's), (Start: 81 @59372 has 44 MA's), (97, 59318), (109, 59213), (111, 59198),

Gene: Ares_72 Start: 59337, Stop: 59113, Start Num: 81

Candidate Starts for Ares_72:

(33, 59595), (35, 59571), (51, 59433), (Start: 74 @59358 has 4 MA's), (Start: 81 @59337 has 44 MA's), (97, 59283), (109, 59178), (111, 59163),

Gene: Armstrong_27 Start: 20896, Stop: 20648, Start Num: 68

Candidate Starts for Armstrong_27:

(59, 20923), (66, 20899), (Start: 68 @20896 has 6 MA's), (76, 20875), (Start: 90 @20839 has 1 MA's), (94, 20827), (99, 20785),

Gene: Arti_9 Start: 5743, Stop: 5994, Start Num: 71

Candidate Starts for Arti_9:

(43, 5623), (44, 5626), (Start: 71 @5743 has 11 MA's), (88, 5791), (103, 5905), (107, 5920), (114, 5980),

Gene: Asis_68 Start: 52546, Stop: 52758, Start Num: 81

Candidate Starts for Asis_68:

(51, 52453), (Start: 81 @52546 has 44 MA's), (93, 52570), (101, 52648), (110, 52708), (117, 52753),

Gene: Athena_91 Start: 63989, Stop: 63825, Start Num: 96

Candidate Starts for Athena_91:

(67, 64082), (Start: 84 @64037 has 27 MA's), (Start: 92 @64019 has 8 MA's), (Start: 96 @63989 has 2 MA's), (101, 63932), (102, 63914),

Gene: Audrey_89 Start: 63291, Stop: 63079, Start Num: 84

Candidate Starts for Audrey_89:

(67, 63336), (Start: 84 @63291 has 27 MA's), (Start: 92 @63273 has 8 MA's), (Start: 96 @63243 has 2 MA's), (101, 63186), (102, 63168),

Gene: AvGardian_33 Start: 23504, Stop: 23307, Start Num: 87

Candidate Starts for AvGardian_33:

(Start: 87 @23504 has 16 MA's), (Start: 91 @23498 has 8 MA's), (99, 23444), (100, 23420),

Gene: Axumite_72 Start: 54547, Stop: 54353, Start Num: 87

Candidate Starts for Axumite_72:

(Start: 87 @54547 has 16 MA's), (99, 54493),

Gene: BAjuniper_29 Start: 23728, Stop: 23537, Start Num: 91

Candidate Starts for BAjuniper_29:

(Start: 87 @23734 has 16 MA's), (Start: 91 @23728 has 8 MA's), (99, 23674), (100, 23650), (105, 23617),

Gene: BabyGotBac_68 Start: 52472, Stop: 52684, Start Num: 81

Candidate Starts for BabyGotBac_68:

(51, 52379), (Start: 81 @52472 has 44 MA's), (101, 52574), (110, 52634), (117, 52679),

Gene: BabyYoda_32 Start: 24023, Stop: 23826, Start Num: 87

Candidate Starts for BabyYoda_32:

(Start: 87 @24023 has 16 MA's), (Start: 91 @24017 has 8 MA's), (99, 23963),

Gene: Bachaco_28 Start: 23946, Stop: 23749, Start Num: 87

Candidate Starts for Bachaco_28:

(Start: 87 @23946 has 16 MA's), (99, 23886), (105, 23829), (113, 23775),

Gene: Baloo_88 Start: 63143, Stop: 62931, Start Num: 84

Candidate Starts for Baloo_88:

(67, 63188), (Start: 84 @63143 has 27 MA's), (Start: 92 @63125 has 8 MA's), (Start: 96 @63095 has 2 MA's), (101, 63038), (102, 63020),

Gene: Bananafish_73 Start: 59267, Stop: 59043, Start Num: 81

Candidate Starts for Bananafish_73:

(33, 59525), (35, 59501), (51, 59363), (Start: 74 @59288 has 4 MA's), (Start: 81 @59267 has 44 MA's), (109, 59108), (111, 59093),

Gene: BayC_67 Start: 52550, Stop: 52762, Start Num: 81

Candidate Starts for BayC_67:

(51, 52457), (Start: 81 @52550 has 44 MA's), (93, 52574), (94, 52577), (101, 52652), (110, 52712), (117, 52757),

Gene: Ben11_89 Start: 63500, Stop: 63306, Start Num: 92

Candidate Starts for Ben11_89:

(67, 63563), (Start: 84 @63518 has 27 MA's), (Start: 92 @63500 has 8 MA's), (Start: 96 @63470 has 2 MA's), (101, 63413), (102, 63395),

Gene: Bernardo_87 Start: 62697, Stop: 62485, Start Num: 81

Candidate Starts for Bernardo_87:

(Start: 65 @62736 has 1 MA's), (Start: 81 @62697 has 44 MA's), (101, 62592), (102, 62574), (105, 62565), (113, 62511),

Gene: Bernstein_27 Start: 20951, Stop: 20703, Start Num: 68

Candidate Starts for Bernstein_27:

(59, 20978), (66, 20954), (Start: 68 @20951 has 6 MA's), (76, 20930), (Start: 90 @20894 has 1 MA's), (94, 20882), (99, 20840),

Gene: BiggityBass_72 Start: 56910, Stop: 56674, Start Num: 72

Candidate Starts for BiggityBass_72:

(60, 56946), (Start: 72 @56910 has 2 MA's), (Start: 87 @56874 has 16 MA's), (94, 56856),

Gene: Blocker23_72 Start: 59332, Stop: 59108, Start Num: 81

Candidate Starts for Blocker23_72:

(33, 59590), (35, 59566), (51, 59428), (Start: 74 @59353 has 4 MA's), (Start: 81 @59332 has 44 MA's), (109, 59173), (111, 59158),

Gene: Bogota_58 Start: 42749, Stop: 43051, Start Num: 57

Candidate Starts for Bogota_58:

(1, 41420), (2, 41660), (3, 41729), (4, 41807), (5, 41903), (6, 41912), (7, 42125), (8, 42149), (9, 42164), (10, 42179), (13, 42236), (22, 42365), (24, 42383), (40, 42623), (48, 42698), (Start: 57 @42749 has 5 MA's), (73, 42797), (94, 42860), (109, 42992), (117, 43046),

Gene: Bonum_8 Start: 5088, Stop: 5327, Start Num: 75

Candidate Starts for Bonum_8:

(43, 4953), (44, 4956), (50, 5010), (Start: 75 @5088 has 7 MA's), (Start: 78 @5094 has 1 MA's), (94, 5145), (107, 5256), (114, 5316),

Gene: Boyle_72 Start: 59376, Stop: 59152, Start Num: 81

Candidate Starts for Boyle_72:

(33, 59634), (35, 59610), (51, 59472), (Start: 74 @59397 has 4 MA's), (Start: 81 @59376 has 44 MA's), (97, 59322), (109, 59217), (111, 59202),

Gene: Brahms_27 Start: 20898, Stop: 20650, Start Num: 68

Candidate Starts for Brahms_27:

(59, 20925), (66, 20901), (Start: 68 @20898 has 6 MA's), (76, 20877), (Start: 90 @20841 has 1 MA's), (94, 20829), (99, 20787),

Gene: Briakila_89 Start: 63489, Stop: 63277, Start Num: 84

Candidate Starts for Briakila_89:

(67, 63534), (Start: 84 @63489 has 27 MA's), (Start: 92 @63471 has 8 MA's), (Start: 96 @63441 has 2 MA's), (101, 63384), (102, 63366),

Gene: Brownie5_72 Start: 59377, Stop: 59153, Start Num: 81

Candidate Starts for Brownie5_72:

(33, 59635), (35, 59611), (51, 59473), (Start: 74 @59398 has 4 MA's), (Start: 81 @59377 has 44 MA's), (97, 59323), (109, 59218), (111, 59203),

Gene: Buggaboo_7 Start: 4613, Stop: 4846, Start Num: 78

Candidate Starts for Buggaboo_7:

(26, 4253), (43, 4472), (44, 4475), (50, 4529), (Start: 75 @4607 has 7 MA's), (Start: 78 @4613 has 1 MA's), (94, 4664), (107, 4775), (114, 4835),

Gene: CaiB_74 Start: 56451, Stop: 56221, Start Num: 79

Candidate Starts for CaiB_74:

(18, 56955), (20, 56943), (35, 56667), (36, 56658), (38, 56643), (41, 56616), (45, 56580), (52, 56523), (53, 56520), (Start: 79 @56451 has 2 MA's), (82, 56439), (115, 56232),

Gene: Calamitous_73 Start: 59266, Stop: 59042, Start Num: 81

Candidate Starts for Calamitous_73:

(33, 59524), (35, 59500), (51, 59362), (Start: 74 @59287 has 4 MA's), (Start: 81 @59266 has 44 MA's), (97, 59212), (109, 59107), (111, 59092),

Gene: Casbah_89 Start: 63602, Stop: 63390, Start Num: 84

Candidate Starts for Casbah_89:

(Start: 65 @63656 has 1 MA's), (67, 63647), (Start: 84 @63602 has 27 MA's), (Start: 92 @63584 has 8 MA's), (Start: 96 @63554 has 2 MA's), (101, 63497), (102, 63479),

Gene: Celaena_28 Start: 23631, Stop: 23434, Start Num: 87

Candidate Starts for Celaena_28:

(Start: 87 @23631 has 16 MA's), (99, 23571), (105, 23514), (113, 23460),

Gene: ChaChing_89 Start: 63304, Stop: 63092, Start Num: 84

Candidate Starts for ChaChing_89:

(67, 63349), (Start: 84 @63304 has 27 MA's), (Start: 92 @63286 has 8 MA's), (Start: 96 @63256 has 2 MA's), (101, 63199), (102, 63181),

Gene: Chandler_89 Start: 64060, Stop: 63866, Start Num: 92

Candidate Starts for Chandler_89:

(67, 64123), (Start: 84 @64078 has 27 MA's), (Start: 92 @64060 has 8 MA's), (Start: 96 @64030 has 2 MA's), (101, 63973), (102, 63955),

Gene: CharlottesWeb_70 Start: 53821, Stop: 53621, Start Num: 87

Candidate Starts for CharlottesWeb_70:

(Start: 87 @53821 has 16 MA's),

Gene: CherryTomatoes_193 Start: 133666, Stop: 133899, Start Num: 84

Candidate Starts for CherryTomatoes_193:

(Start: 84 @133666 has 27 MA's), (106, 133807), (108, 133816), (112, 133849),

Gene: Clayda5_28 Start: 20885, Stop: 20637, Start Num: 68

Candidate Starts for Clayda5_28:

(59, 20912), (66, 20888), (Start: 68 @20885 has 6 MA's), (76, 20864), (Start: 90 @20828 has 1 MA's), (94, 20816), (99, 20774),

Gene: Coffee_72 Start: 59370, Stop: 59146, Start Num: 81
Candidate Starts for Coffee_72:
(33, 59628), (35, 59604), (51, 59466), (Start: 74 @59391 has 4 MA's), (Start: 81 @59370 has 44 MA's), (97, 59316), (109, 59211), (111, 59196),

Gene: Coltrane_27 Start: 20898, Stop: 20650, Start Num: 68
Candidate Starts for Coltrane_27:
(59, 20925), (66, 20901), (Start: 68 @20898 has 6 MA's), (76, 20877), (Start: 90 @20841 has 1 MA's), (94, 20829), (99, 20787),

Gene: Compostia_88 Start: 63744, Stop: 63532, Start Num: 84
Candidate Starts for Compostia_88:
(Start: 65 @63798 has 1 MA's), (67, 63789), (Start: 84 @63744 has 27 MA's), (Start: 92 @63726 has 8 MA's), (Start: 96 @63696 has 2 MA's), (101, 63639), (102, 63621),

Gene: Corofin_89 Start: 63313, Stop: 63101, Start Num: 84
Candidate Starts for Corofin_89:
(67, 63358), (Start: 84 @63313 has 27 MA's), (Start: 92 @63295 has 8 MA's), (Start: 96 @63265 has 2 MA's), (101, 63208), (102, 63190),

Gene: Crosby_59 Start: 42804, Stop: 43103, Start Num: 58
Candidate Starts for Crosby_59:
(12, 42252), (19, 42360), (40, 42675), (48, 42750), (Start: 58 @42804 has 6 MA's), (73, 42849), (94, 42912), (109, 43044), (117, 43098),

Gene: Daisy_88 Start: 62846, Stop: 62652, Start Num: 92
Candidate Starts for Daisy_88:
(67, 62909), (Start: 84 @62864 has 27 MA's), (Start: 92 @62846 has 8 MA's), (Start: 96 @62816 has 2 MA's), (101, 62759), (102, 62741),

Gene: Dalilpop_10 Start: 5833, Stop: 6087, Start Num: 70
Candidate Starts for Dalilpop_10:
(29, 5575), (32, 5608), (50, 5776), (Start: 70 @5833 has 7 MA's), (Start: 71 @5836 has 11 MA's), (Start: 81 @5869 has 44 MA's), (95, 5917), (111, 6049), (114, 6076),

Gene: Deenasa_89 Start: 64213, Stop: 64001, Start Num: 84
Candidate Starts for Deenasa_89:
(67, 64258), (Start: 84 @64213 has 27 MA's), (Start: 92 @64195 has 8 MA's), (Start: 96 @64165 has 2 MA's), (101, 64108), (102, 64090),

Gene: Devonte_87 Start: 62930, Stop: 62718, Start Num: 84
Candidate Starts for Devonte_87:
(67, 62975), (Start: 84 @62930 has 27 MA's), (Start: 92 @62912 has 8 MA's), (Start: 96 @62882 has 2 MA's), (101, 62825), (102, 62807),

Gene: DirtyBubble_31 Start: 23650, Stop: 23453, Start Num: 87
Candidate Starts for DirtyBubble_31:
(Start: 87 @23650 has 16 MA's), (Start: 91 @23644 has 8 MA's), (99, 23590),

Gene: Dismas_28 Start: 23310, Stop: 23113, Start Num: 87
Candidate Starts for Dismas_28:
(Start: 87 @23310 has 16 MA's), (Start: 91 @23304 has 8 MA's), (99, 23250), (116, 23118),

Gene: Eaglehorse_72 Start: 59256, Stop: 59032, Start Num: 81

Candidate Starts for Eaglehorse_72:

(33, 59514), (35, 59490), (51, 59352), (Start: 74 @59277 has 4 MA's), (Start: 81 @59256 has 44 MA's), (97, 59202), (109, 59097), (111, 59082),

Gene: Eden_27 Start: 21061, Stop: 20870, Start Num: 91

Candidate Starts for Eden_27:

(15, 21646), (21, 21586), (27, 21415), (34, 21322), (37, 21289), (Start: 91 @21061 has 8 MA's), (94, 21049), (102, 20959), (103, 20956), (116, 20875),

Gene: Elva_32 Start: 23679, Stop: 23488, Start Num: 91

Candidate Starts for Elva_32:

(Start: 87 @23685 has 16 MA's), (Start: 91 @23679 has 8 MA's), (99, 23625),

Gene: Emianna_9 Start: 5711, Stop: 5956, Start Num: 71

Candidate Starts for Emianna_9:

(43, 5591), (44, 5594), (Start: 71 @5711 has 11 MA's), (88, 5753), (103, 5867), (107, 5882), (114, 5942),

Gene: Ennea_12 Start: 6510, Stop: 6764, Start Num: 70

Candidate Starts for Ennea_12:

(31, 6291), (Start: 62 @6489 has 1 MA's), (64, 6492), (Start: 70 @6510 has 7 MA's), (99, 6624), (111, 6726), (114, 6753),

Gene: Faze9_71 Start: 59394, Stop: 59170, Start Num: 81

Candidate Starts for Faze9_71:

(33, 59652), (35, 59628), (51, 59490), (Start: 74 @59415 has 4 MA's), (Start: 81 @59394 has 44 MA's), (97, 59340), (109, 59235), (111, 59220),

Gene: FlameThrower_28 Start: 23117, Stop: 22920, Start Num: 87

Candidate Starts for FlameThrower_28:

(Start: 87 @23117 has 16 MA's), (99, 23057), (105, 23000), (113, 22946),

Gene: Flapper_8 Start: 4720, Stop: 4974, Start Num: 70

Candidate Starts for Flapper_8:

(Start: 70 @4720 has 7 MA's), (Start: 71 @4723 has 11 MA's), (Start: 81 @4756 has 44 MA's), (95, 4804), (111, 4936), (114, 4963),

Gene: Float294_11 Start: 6342, Stop: 6596, Start Num: 70

Candidate Starts for Float294_11:

(23, 5922), (31, 6105), (53, 6291), (Start: 62 @6321 has 1 MA's), (64, 6324), (Start: 70 @6342 has 7 MA's), (98, 6438), (99, 6456), (111, 6558), (114, 6585),

Gene: Foxboro_9 Start: 5722, Stop: 5967, Start Num: 71

Candidate Starts for Foxboro_9:

(43, 5602), (44, 5605), (Start: 71 @5722 has 11 MA's), (88, 5764), (103, 5878), (107, 5893), (114, 5953),

Gene: Franklin22_28 Start: 21221, Stop: 21030, Start Num: 91

Candidate Starts for Franklin22_28:

(63, 21296), (Start: 91 @21221 has 8 MA's), (94, 21209), (102, 21119), (103, 21116),

Gene: FrenchFry_73 Start: 59381, Stop: 59157, Start Num: 81

Candidate Starts for FrenchFry_73:

(33, 59639), (35, 59615), (51, 59477), (Start: 74 @59402 has 4 MA's), (Start: 81 @59381 has 44 MA's), (97, 59327), (109, 59222), (111, 59207),

Gene: Fresco_72 Start: 54553, Stop: 54359, Start Num: 87

Candidate Starts for Fresco_72:

(Start: 87 @54553 has 16 MA's), (99, 54499),

Gene: GRU1_92 Start: 64016, Stop: 64270, Start Num: 70

Candidate Starts for GRU1_92:

(29, 63758), (32, 63791), (50, 63959), (Start: 70 @64016 has 7 MA's), (Start: 71 @64019 has 11 MA's), (Start: 81 @64052 has 44 MA's), (95, 64100), (111, 64232), (114, 64259),

Gene: GTE5_91 Start: 64905, Stop: 65159, Start Num: 70

Candidate Starts for GTE5_91:

(Start: 70 @64905 has 7 MA's), (Start: 71 @64908 has 11 MA's), (Start: 81 @64941 has 44 MA's), (95, 64989), (103, 65073), (111, 65121), (114, 65148),

Gene: Gack_27 Start: 21104, Stop: 20913, Start Num: 91

Candidate Starts for Gack_27:

(54, 21206), (55, 21203), (85, 21116), (Start: 91 @21104 has 8 MA's), (94, 21092), (103, 20999), (105, 20993),

Gene: Gadget_87 Start: 62880, Stop: 62668, Start Num: 81

Candidate Starts for Gadget_87:

(Start: 65 @62919 has 1 MA's), (Start: 81 @62880 has 44 MA's), (101, 62775), (102, 62757), (105, 62748), (113, 62694),

Gene: Gervas_90 Start: 63758, Stop: 63546, Start Num: 84

Candidate Starts for Gervas_90:

(67, 63803), (Start: 84 @63758 has 27 MA's), (Start: 92 @63740 has 8 MA's), (Start: 96 @63710 has 2 MA's), (101, 63653), (102, 63635),

Gene: Glass_74 Start: 59382, Stop: 59158, Start Num: 81

Candidate Starts for Glass_74:

(33, 59640), (35, 59616), (51, 59478), (Start: 74 @59403 has 4 MA's), (Start: 81 @59382 has 44 MA's), (97, 59328), (109, 59223), (111, 59208),

Gene: GlenHope_90 Start: 63334, Stop: 63122, Start Num: 84

Candidate Starts for GlenHope_90:

(67, 63379), (Start: 84 @63334 has 27 MA's), (Start: 92 @63316 has 8 MA's), (Start: 96 @63286 has 2 MA's), (101, 63229), (102, 63211),

Gene: Godines_73 Start: 59635, Stop: 59411, Start Num: 81

Candidate Starts for Godines_73:

(33, 59893), (35, 59869), (51, 59731), (Start: 74 @59656 has 4 MA's), (Start: 81 @59635 has 44 MA's), (97, 59581), (109, 59476), (111, 59461),

Gene: GrootJr_11 Start: 6138, Stop: 6389, Start Num: 71

Candidate Starts for GrootJr_11:

(43, 6018), (44, 6021), (Start: 71 @6138 has 11 MA's), (88, 6186), (103, 6300), (107, 6315), (114, 6375),

Gene: Halfpint_89 Start: 63058, Stop: 62864, Start Num: 92
Candidate Starts for Halfpint_89:
(Start: 65 @63130 has 1 MA's), (67, 63121), (Start: 84 @63076 has 27 MA's), (Start: 92 @63058 has 8 MA's), (Start: 96 @63028 has 2 MA's), (101, 62971), (102, 62953),

Gene: HarveySr_86 Start: 62323, Stop: 62111, Start Num: 81
Candidate Starts for HarveySr_86:
(Start: 65 @62362 has 1 MA's), (Start: 81 @62323 has 44 MA's), (101, 62218), (102, 62200), (105, 62191), (113, 62137),

Gene: Heathcliff_89 Start: 63240, Stop: 63046, Start Num: 92
Candidate Starts for Heathcliff_89:
(67, 63303), (Start: 84 @63258 has 27 MA's), (Start: 92 @63240 has 8 MA's), (Start: 96 @63210 has 2 MA's), (101, 63153), (102, 63135),

Gene: Hedgerow_72 Start: 59353, Stop: 59108, Start Num: 74
Candidate Starts for Hedgerow_72:
(33, 59590), (35, 59566), (51, 59428), (Start: 74 @59353 has 4 MA's), (Start: 81 @59332 has 44 MA's), (97, 59278), (109, 59173), (111, 59158),

Gene: Henoccus_58 Start: 42450, Stop: 42749, Start Num: 58
Candidate Starts for Henoccus_58:
(40, 42321), (48, 42396), (Start: 58 @42450 has 6 MA's), (73, 42495), (77, 42504), (94, 42558), (109, 42690),

Gene: Holeinone_72 Start: 59237, Stop: 59013, Start Num: 81
Candidate Starts for Holeinone_72:
(33, 59495), (35, 59471), (51, 59333), (Start: 74 @59258 has 4 MA's), (Start: 81 @59237 has 44 MA's), (109, 59078), (111, 59063),

Gene: Icarian_36 Start: 24278, Stop: 24087, Start Num: 91
Candidate Starts for Icarian_36:
(Start: 87 @24284 has 16 MA's), (Start: 91 @24278 has 8 MA's), (99, 24224),

Gene: Intolerant_55 Start: 42453, Stop: 42755, Start Num: 57
Candidate Starts for Intolerant_55:
(40, 42327), (48, 42402), (Start: 57 @42453 has 5 MA's), (73, 42501), (94, 42564), (109, 42696), (117, 42750),

Gene: ItsyBitsy1_70 Start: 59473, Stop: 59249, Start Num: 81
Candidate Starts for ItsyBitsy1_70:
(33, 59731), (35, 59707), (51, 59569), (Start: 74 @59494 has 4 MA's), (Start: 81 @59473 has 44 MA's), (109, 59314), (111, 59299),

Gene: JackieB_58 Start: 42282, Stop: 42581, Start Num: 58
Candidate Starts for JackieB_58:
(40, 42153), (48, 42228), (Start: 58 @42282 has 6 MA's), (73, 42327), (77, 42336), (94, 42390), (109, 42522),

Gene: Jackstina_83 Start: 63172, Stop: 62960, Start Num: 84
Candidate Starts for Jackstina_83:
(Start: 65 @63226 has 1 MA's), (67, 63217), (Start: 84 @63172 has 27 MA's), (Start: 92 @63154 has 8 MA's), (Start: 96 @63124 has 2 MA's), (101, 63067), (102, 63049),

Gene: Jifall16_8 Start: 5183, Stop: 5428, Start Num: 71

Candidate Starts for Jifall16_8:

(43, 5063), (44, 5066), (Start: 71 @5183 has 11 MA's), (88, 5225), (103, 5339), (107, 5354), (114, 5414),

Gene: Kabluna_8 Start: 4479, Stop: 4718, Start Num: 75

Candidate Starts for Kabluna_8:

(43, 4344), (44, 4347), (50, 4401), (Start: 75 @4479 has 7 MA's), (Start: 78 @4485 has 1 MA's), (94, 4536), (107, 4647), (114, 4707),

Gene: Kaleb_73 Start: 59388, Stop: 59164, Start Num: 81

Candidate Starts for Kaleb_73:

(33, 59646), (35, 59622), (51, 59484), (Start: 74 @59409 has 4 MA's), (Start: 81 @59388 has 44 MA's), (97, 59334), (109, 59229), (111, 59214),

Gene: Kamiyu_89 Start: 63243, Stop: 63049, Start Num: 92

Candidate Starts for Kamiyu_89:

(67, 63306), (Start: 84 @63261 has 27 MA's), (Start: 92 @63243 has 8 MA's), (Start: 96 @63213 has 2 MA's), (101, 63156), (102, 63138),

Gene: Katzastrophic_28 Start: 23235, Stop: 23038, Start Num: 87

Candidate Starts for Katzastrophic_28:

(Start: 87 @23235 has 16 MA's), (99, 23175), (105, 23118), (113, 23064),

Gene: Kheth_72 Start: 59299, Stop: 59075, Start Num: 81

Candidate Starts for Kheth_72:

(33, 59557), (35, 59533), (51, 59395), (Start: 74 @59320 has 4 MA's), (Start: 81 @59299 has 44 MA's), (97, 59245), (109, 59140), (111, 59125),

Gene: KidneyBean_9 Start: 5528, Stop: 5773, Start Num: 71

Candidate Starts for KidneyBean_9:

(43, 5408), (44, 5411), (Start: 71 @5528 has 11 MA's), (88, 5570), (103, 5684), (107, 5699), (114, 5759),

Gene: Kieran_28 Start: 23307, Stop: 23116, Start Num: 91

Candidate Starts for Kieran_28:

(Start: 87 @23313 has 16 MA's), (Start: 91 @23307 has 8 MA's), (99, 23253), (116, 23121),

Gene: Kronus_89 Start: 64345, Stop: 64133, Start Num: 84

Candidate Starts for Kronus_89:

(Start: 65 @64399 has 1 MA's), (67, 64390), (Start: 84 @64345 has 27 MA's), (Start: 92 @64327 has 8 MA's), (Start: 96 @64297 has 2 MA's), (101, 64240), (102, 64222),

Gene: Kurt_9 Start: 5711, Stop: 5956, Start Num: 71

Candidate Starts for Kurt_9:

(43, 5591), (44, 5594), (Start: 71 @5711 has 11 MA's), (88, 5753), (103, 5867), (107, 5882), (114, 5942),

Gene: Lars_73 Start: 59360, Stop: 59136, Start Num: 81

Candidate Starts for Lars_73:

(33, 59618), (35, 59594), (51, 59456), (Start: 74 @59381 has 4 MA's), (Start: 81 @59360 has 44 MA's), (97, 59306), (109, 59201), (111, 59186),

Gene: Laurie_73 Start: 59044, Stop: 58820, Start Num: 81

Candidate Starts for Laurie_73:

(33, 59302), (35, 59278), (51, 59140), (Start: 74 @59065 has 4 MA's), (Start: 81 @59044 has 44 MA's), (97, 58990), (109, 58885), (111, 58870),

Gene: LazerLemon_58 Start: 42972, Stop: 43271, Start Num: 58

Candidate Starts for LazerLemon_58:

(16, 42498), (22, 42582), (24, 42600), (25, 42627), (40, 42843), (48, 42918), (Start: 57 @42969 has 5 MA's), (Start: 58 @42972 has 6 MA's), (73, 43017), (77, 43026), (85, 43050), (94, 43080), (109, 43212), (117, 43266),

Gene: Lephleur_72 Start: 59222, Stop: 58998, Start Num: 81

Candidate Starts for Lephleur_72:

(33, 59480), (35, 59456), (51, 59318), (Start: 74 @59243 has 4 MA's), (Start: 81 @59222 has 44 MA's), (97, 59168), (109, 59063), (111, 59048),

Gene: LestyG_87 Start: 62831, Stop: 62619, Start Num: 84

Candidate Starts for LestyG_87:

(67, 62876), (Start: 84 @62831 has 27 MA's), (Start: 92 @62813 has 8 MA's), (Start: 96 @62783 has 2 MA's), (101, 62726), (102, 62708),

Gene: Ligma_72 Start: 54547, Stop: 54353, Start Num: 87

Candidate Starts for Ligma_72:

(Start: 87 @54547 has 16 MA's), (99, 54493),

Gene: LittleMunchkin_72 Start: 57116, Stop: 56916, Start Num: 87

Candidate Starts for LittleMunchkin_72:

(Start: 87 @57116 has 16 MA's), (101, 57023),

Gene: LizLemon_72 Start: 59387, Stop: 59163, Start Num: 81

Candidate Starts for LizLemon_72:

(33, 59645), (35, 59621), (51, 59483), (Start: 74 @59408 has 4 MA's), (Start: 81 @59387 has 44 MA's), (97, 59333), (109, 59228), (111, 59213),

Gene: Lollipop1437_11 Start: 6477, Stop: 6752, Start Num: 62

Candidate Starts for Lollipop1437_11:

(31, 6279), (Start: 62 @6477 has 1 MA's), (64, 6480), (Start: 70 @6498 has 7 MA's), (99, 6612), (111, 6714), (114, 6741),

Gene: Loviatar_56 Start: 24836, Stop: 24639, Start Num: 87

Candidate Starts for Loviatar_56:

(Start: 87 @24836 has 16 MA's), (Start: 91 @24830 has 8 MA's), (99, 24776),

Gene: Magritte_85 Start: 68142, Stop: 68354, Start Num: 89

Candidate Starts for Magritte_85:

(Start: 89 @68142 has 1 MA's), (104, 68256), (114, 68328),

Gene: Maih_66 Start: 52563, Stop: 52775, Start Num: 81

Candidate Starts for Maih_66:

(51, 52470), (Start: 81 @52563 has 44 MA's), (93, 52587), (101, 52665), (110, 52725), (117, 52770),

Gene: Mariokart_70 Start: 54105, Stop: 53905, Start Num: 87

Candidate Starts for Mariokart_70:
(Start: 87 @54105 has 16 MA's),

Gene: Marky_61 Start: 43378, Stop: 43677, Start Num: 58
Candidate Starts for Marky_61:
(56, 43372), (Start: 58 @43378 has 6 MA's), (94, 43486), (113, 43648),

Gene: Marley1013_88 Start: 63672, Stop: 63460, Start Num: 81
Candidate Starts for Marley1013_88:
(Start: 65 @63711 has 1 MA's), (Start: 81 @63672 has 44 MA's), (101, 63567), (102, 63549), (105, 63540), (113, 63486),

Gene: MasterPo_73 Start: 59254, Stop: 59030, Start Num: 81
Candidate Starts for MasterPo_73:
(33, 59512), (35, 59488), (51, 59350), (Start: 74 @59275 has 4 MA's), (Start: 81 @59254 has 44 MA's), (97, 59200), (109, 59095), (111, 59080),

Gene: MerCougar_7 Start: 4830, Stop: 5069, Start Num: 75
Candidate Starts for MerCougar_7:
(44, 4692), (50, 4746), (Start: 75 @4830 has 7 MA's), (94, 4887), (107, 4998), (114, 5058),

Gene: Microdon_57 Start: 42516, Stop: 42818, Start Num: 57
Candidate Starts for Microdon_57:
(40, 42390), (48, 42465), (Start: 57 @42516 has 5 MA's), (73, 42564), (94, 42627), (109, 42759), (117, 42813),

Gene: Mischief19_73 Start: 61963, Stop: 62172, Start Num: 86
Candidate Starts for Mischief19_73:
(Start: 86 @61963 has 1 MA's),

Gene: MmasiCarm_90 Start: 63688, Stop: 63476, Start Num: 84
Candidate Starts for MmasiCarm_90:
(67, 63733), (Start: 84 @63688 has 27 MA's), (Start: 92 @63670 has 8 MA's), (Start: 96 @63640 has 2 MA's), (101, 63583), (102, 63565),

Gene: Mortcellus_89 Start: 64408, Stop: 64214, Start Num: 92
Candidate Starts for Mortcellus_89:
(67, 64471), (Start: 84 @64426 has 27 MA's), (Start: 92 @64408 has 8 MA's), (Start: 96 @64378 has 2 MA's), (101, 64321), (102, 64303),

Gene: Morty007_86 Start: 63672, Stop: 63460, Start Num: 81
Candidate Starts for Morty007_86:
(Start: 65 @63711 has 1 MA's), (Start: 81 @63672 has 44 MA's), (101, 63567), (102, 63549), (105, 63540), (113, 63486),

Gene: NatB6_9 Start: 5790, Stop: 6035, Start Num: 71
Candidate Starts for NatB6_9:
(43, 5670), (44, 5673), (Start: 71 @5790 has 11 MA's), (88, 5832), (103, 5946), (107, 5961), (114, 6021),

Gene: Neos5_87 Start: 63173, Stop: 62922, Start Num: 65
Candidate Starts for Neos5_87:

(Start: 65 @63173 has 1 MA's), (Start: 81 @63134 has 44 MA's), (101, 63029), (102, 63011), (105, 63002), (113, 62948),

Gene: NosilaM_8 Start: 5367, Stop: 5606, Start Num: 75

Candidate Starts for NosilaM_8:

(43, 5232), (44, 5235), (50, 5289), (Start: 75 @5367 has 7 MA's), (Start: 78 @5373 has 1 MA's), (94, 5424), (107, 5535), (114, 5595),

Gene: NovumRegina_9 Start: 6137, Stop: 6388, Start Num: 71

Candidate Starts for NovumRegina_9:

(43, 6017), (44, 6020), (Start: 71 @6137 has 11 MA's), (88, 6185), (103, 6299), (107, 6314), (114, 6374),

Gene: Nozo_89 Start: 64068, Stop: 63856, Start Num: 84

Candidate Starts for Nozo_89:

(Start: 65 @64122 has 1 MA's), (67, 64113), (Start: 84 @64068 has 27 MA's), (Start: 92 @64050 has 8 MA's), (Start: 96 @64020 has 2 MA's), (101, 63963), (102, 63945),

Gene: Obutu_91 Start: 63871, Stop: 63659, Start Num: 84

Candidate Starts for Obutu_91:

(67, 63916), (Start: 84 @63871 has 27 MA's), (Start: 92 @63853 has 8 MA's), (Start: 96 @63823 has 2 MA's), (101, 63766), (102, 63748),

Gene: Opia_73 Start: 59301, Stop: 59056, Start Num: 74

Candidate Starts for Opia_73:

(33, 59538), (35, 59514), (51, 59376), (Start: 74 @59301 has 4 MA's), (Start: 81 @59280 has 44 MA's), (97, 59226), (109, 59121), (111, 59106),

Gene: OrangeOswald_88 Start: 63303, Stop: 63091, Start Num: 84

Candidate Starts for OrangeOswald_88:

(67, 63348), (Start: 84 @63303 has 27 MA's), (Start: 92 @63285 has 8 MA's), (Start: 96 @63255 has 2 MA's), (101, 63198), (102, 63180),

Gene: Outis_7 Start: 4521, Stop: 4760, Start Num: 75

Candidate Starts for Outis_7:

(44, 4383), (50, 4437), (Start: 75 @4521 has 7 MA's), (94, 4578), (107, 4689), (114, 4749),

Gene: Patio_12 Start: 7018, Stop: 7272, Start Num: 70

Candidate Starts for Patio_12:

(23, 6598), (31, 6781), (Start: 62 @6997 has 1 MA's), (64, 7000), (Start: 70 @7018 has 7 MA's), (98, 7114), (99, 7132), (111, 7234), (114, 7261),

Gene: Phaedrus_84 Start: 62701, Stop: 62507, Start Num: 92

Candidate Starts for Phaedrus_84:

(67, 62764), (Start: 84 @62719 has 27 MA's), (Start: 92 @62701 has 8 MA's), (Start: 96 @62671 has 2 MA's), (101, 62614), (102, 62596),

Gene: Phantasmagoria_71 Start: 59269, Stop: 59045, Start Num: 81

Candidate Starts for Phantasmagoria_71:

(33, 59527), (35, 59503), (51, 59365), (Start: 74 @59290 has 4 MA's), (Start: 81 @59269 has 44 MA's), (97, 59215), (109, 59110), (111, 59095),

Gene: Phayeta_92 Start: 63775, Stop: 63563, Start Num: 81

Candidate Starts for Phayeta_92:

(Start: 65 @63814 has 1 MA's), (Start: 81 @63775 has 44 MA's), (101, 63670), (102, 63652), (105, 63643), (113, 63589),

Gene: Philly_88 Start: 63149, Stop: 62937, Start Num: 84

Candidate Starts for Philly_88:

(Start: 65 @63203 has 1 MA's), (67, 63194), (Start: 84 @63149 has 27 MA's), (Start: 92 @63131 has 8 MA's), (Start: 96 @63101 has 2 MA's), (101, 63044), (102, 63026),

Gene: Phlyer_89 Start: 63966, Stop: 63802, Start Num: 96

Candidate Starts for Phlyer_89:

(67, 64059), (Start: 84 @64014 has 27 MA's), (Start: 92 @63996 has 8 MA's), (Start: 96 @63966 has 2 MA's), (101, 63909), (102, 63891),

Gene: Phomeo_8 Start: 5406, Stop: 5609, Start Num: 88

Candidate Starts for Phomeo_8:

(43, 5244), (44, 5247), (Start: 71 @5364 has 11 MA's), (88, 5406), (103, 5520), (107, 5535), (114, 5595),

Gene: Pupper_186 Start: 133528, Stop: 133761, Start Num: 84

Candidate Starts for Pupper_186:

(Start: 84 @133528 has 27 MA's), (106, 133669), (108, 133678), (112, 133711),

Gene: Quenya_29 Start: 23125, Stop: 22928, Start Num: 87

Candidate Starts for Quenya_29:

(33, 23398), (36, 23365), (39, 23341), (42, 23308), (45, 23287), (46, 23275), (49, 23245), (61, 23200), (Start: 74 @23161 has 4 MA's), (Start: 87 @23125 has 16 MA's), (Start: 91 @23119 has 8 MA's), (99, 23065), (105, 23008), (116, 22933),

Gene: Qyrzula_65 Start: 59423, Stop: 59178, Start Num: 74

Candidate Starts for Qyrzula_65:

(33, 59660), (35, 59636), (51, 59498), (Start: 74 @59423 has 4 MA's), (Start: 81 @59402 has 44 MA's), (97, 59348), (109, 59243), (111, 59228),

Gene: RagingRooster_88 Start: 62994, Stop: 62782, Start Num: 84

Candidate Starts for RagingRooster_88:

(67, 63039), (Start: 84 @62994 has 27 MA's), (Start: 92 @62976 has 8 MA's), (Start: 96 @62946 has 2 MA's), (101, 62889), (102, 62871),

Gene: RainyPolka_66 Start: 52034, Stop: 52246, Start Num: 81

Candidate Starts for RainyPolka_66:

(64, 51998), (Start: 81 @52034 has 44 MA's), (93, 52058), (101, 52136),

Gene: Rhinoforte_72 Start: 59307, Stop: 59083, Start Num: 81

Candidate Starts for Rhinoforte_72:

(33, 59565), (35, 59541), (51, 59403), (Start: 74 @59328 has 4 MA's), (Start: 81 @59307 has 44 MA's), (97, 59253), (109, 59148), (111, 59133),

Gene: Rita1961_90 Start: 63645, Stop: 63433, Start Num: 84

Candidate Starts for Rita1961_90:

(Start: 65 @63699 has 1 MA's), (67, 63690), (Start: 84 @63645 has 27 MA's), (Start: 92 @63627 has 8 MA's), (Start: 96 @63597 has 2 MA's), (101, 63540), (102, 63522),

Gene: Rollins_27 Start: 20951, Stop: 20703, Start Num: 68
Candidate Starts for Rollins_27:
(59, 20978), (66, 20954), (Start: 68 @20951 has 6 MA's), (76, 20930), (Start: 90 @20894 has 1 MA's),
(94, 20882), (99, 20840),

Gene: RomaT_89 Start: 63868, Stop: 63656, Start Num: 84
Candidate Starts for RomaT_89:
(67, 63913), (Start: 84 @63868 has 27 MA's), (Start: 92 @63850 has 8 MA's), (Start: 96 @63820 has
2 MA's), (101, 63763), (102, 63745),

Gene: Rona_28 Start: 23304, Stop: 23113, Start Num: 91
Candidate Starts for Rona_28:
(Start: 87 @23310 has 16 MA's), (Start: 91 @23304 has 8 MA's), (99, 23250), (116, 23118),

Gene: Rosebush_70 Start: 59374, Stop: 59150, Start Num: 81
Candidate Starts for Rosebush_70:
(33, 59632), (35, 59608), (51, 59470), (Start: 74 @59395 has 4 MA's), (Start: 81 @59374 has 44
MA's), (97, 59320), (109, 59215), (111, 59200),

Gene: SCentae_185 Start: 133720, Stop: 133953, Start Num: 84
Candidate Starts for SCentae_185:
(Start: 84 @133720 has 27 MA's), (106, 133861), (108, 133870), (112, 133903),

Gene: Sabella_72 Start: 59209, Stop: 58985, Start Num: 81
Candidate Starts for Sabella_72:
(33, 59467), (35, 59443), (51, 59305), (Start: 74 @59230 has 4 MA's), (Start: 81 @59209 has 44
MA's), (97, 59155), (109, 59050), (111, 59035),

Gene: Salete_67 Start: 52550, Stop: 52762, Start Num: 81
Candidate Starts for Salete_67:
(51, 52457), (Start: 81 @52550 has 44 MA's), (93, 52574), (94, 52577), (101, 52652), (110, 52712),
(117, 52757),

Gene: SanaSana_34 Start: 24486, Stop: 24289, Start Num: 87
Candidate Starts for SanaSana_34:
(Start: 87 @24486 has 16 MA's), (Start: 91 @24480 has 8 MA's), (99, 24426),

Gene: Sharkboy_29 Start: 23394, Stop: 23197, Start Num: 87
Candidate Starts for Sharkboy_29:
(Start: 87 @23394 has 16 MA's), (Start: 91 @23388 has 8 MA's), (99, 23334), (105, 23277), (116,
23202),

Gene: Shatter_72 Start: 54547, Stop: 54353, Start Num: 87
Candidate Starts for Shatter_72:
(Start: 87 @54547 has 16 MA's), (99, 54493),

Gene: Sisko_72 Start: 55626, Stop: 55426, Start Num: 87
Candidate Starts for Sisko_72:
(60, 55698), (Start: 72 @55662 has 2 MA's), (Start: 87 @55626 has 16 MA's),

Gene: Skylord_27 Start: 20825, Stop: 20634, Start Num: 90
Candidate Starts for Skylord_27:

(59, 20909), (66, 20885), (Start: 68 @20882 has 6 MA's), (76, 20861), (Start: 90 @20825 has 1 MA's), (94, 20813), (99, 20771),

Gene: Skysand_11 Start: 6344, Stop: 6598, Start Num: 70

Candidate Starts for Skysand_11:

(23, 5924), (31, 6107), (53, 6293), (Start: 62 @6323 has 1 MA's), (64, 6326), (Start: 70 @6344 has 7 MA's), (98, 6440), (99, 6458), (111, 6560), (114, 6587),

Gene: SlippinJimmy_92 Start: 64660, Stop: 64466, Start Num: 92

Candidate Starts for SlippinJimmy_92:

(67, 64723), (Start: 84 @64678 has 27 MA's), (Start: 92 @64660 has 8 MA's), (Start: 96 @64630 has 2 MA's), (101, 64573), (102, 64555),

Gene: Sour_71 Start: 56576, Stop: 56373, Start Num: 87

Candidate Starts for Sour_71:

(28, 56897), (30, 56873), (47, 56717), (60, 56651), (69, 56624), (Start: 72 @56615 has 2 MA's), (Start: 87 @56576 has 16 MA's), (Start: 92 @56564 has 8 MA's), (94, 56552), (99, 56510),

Gene: StarStruck_7 Start: 4521, Stop: 4760, Start Num: 75

Candidate Starts for StarStruck_7:

(44, 4383), (50, 4437), (Start: 75 @4521 has 7 MA's), (94, 4578), (107, 4689), (114, 4749),

Gene: Stoor_32 Start: 24148, Stop: 23957, Start Num: 91

Candidate Starts for Stoor_32:

(Start: 87 @24154 has 16 MA's), (Start: 91 @24148 has 8 MA's), (99, 24094),

Gene: Stromboli_32 Start: 24014, Stop: 23823, Start Num: 91

Candidate Starts for Stromboli_32:

(Start: 87 @24020 has 16 MA's), (Start: 91 @24014 has 8 MA's), (99, 23960),

Gene: Stuff_57 Start: 42753, Stop: 43055, Start Num: 57

Candidate Starts for Stuff_57:

(1, 41424), (2, 41664), (3, 41733), (4, 41811), (5, 41907), (6, 41916), (7, 42129), (8, 42153), (9, 42168), (10, 42183), (11, 42207), (14, 42255), (17, 42300), (22, 42369), (24, 42387), (40, 42627), (48, 42702), (Start: 57 @42753 has 5 MA's), (73, 42801), (94, 42864), (109, 42996), (117, 43050),

Gene: SuperSulley_7 Start: 4607, Stop: 4846, Start Num: 75

Candidate Starts for SuperSulley_7:

(26, 4253), (43, 4472), (44, 4475), (50, 4529), (Start: 75 @4607 has 7 MA's), (Start: 78 @4613 has 1 MA's), (94, 4664), (107, 4775), (114, 4835),

Gene: SynergyX_89 Start: 63305, Stop: 63093, Start Num: 84

Candidate Starts for SynergyX_89:

(67, 63350), (Start: 84 @63305 has 27 MA's), (Start: 92 @63287 has 8 MA's), (Start: 96 @63257 has 2 MA's), (101, 63200), (102, 63182),

Gene: TA17A_72 Start: 59217, Stop: 58993, Start Num: 81

Candidate Starts for TA17A_72:

(33, 59475), (35, 59451), (51, 59313), (Start: 74 @59238 has 4 MA's), (Start: 81 @59217 has 44 MA's), (97, 59163), (109, 59058), (111, 59043),

Gene: TP1604_67 Start: 52475, Stop: 52687, Start Num: 81

Candidate Starts for TP1604_67:

(51, 52382), (Start: 81 @52475 has 44 MA's), (101, 52577), (110, 52637), (117, 52682),

Gene: Thonko_92 Start: 64640, Stop: 64431, Start Num: 80

Candidate Starts for Thonko_92:

(Start: 80 @64640 has 1 MA's), (110, 64478),

Gene: Tinciduntolum_73 Start: 59376, Stop: 59152, Start Num: 81

Candidate Starts for Tinciduntolum_73:

(33, 59634), (35, 59610), (51, 59472), (Start: 74 @59397 has 4 MA's), (Start: 81 @59376 has 44 MA's), (97, 59322), (109, 59217), (111, 59202),

Gene: Tracker_9 Start: 5503, Stop: 5748, Start Num: 71

Candidate Starts for Tracker_9:

(43, 5383), (44, 5386), (Start: 71 @5503 has 11 MA's), (88, 5545), (103, 5659), (107, 5674), (114, 5734),

Gene: Tres_72 Start: 59230, Stop: 59006, Start Num: 81

Candidate Starts for Tres_72:

(33, 59488), (35, 59464), (51, 59326), (Start: 74 @59251 has 4 MA's), (Start: 81 @59230 has 44 MA's), (109, 59071), (111, 59056),

Gene: Turuncu_9 Start: 4891, Stop: 5145, Start Num: 70

Candidate Starts for Turuncu_9:

(Start: 70 @4891 has 7 MA's), (Start: 71 @4894 has 11 MA's), (Start: 81 @4927 has 44 MA's), (95, 4975), (111, 5107), (114, 5134),

Gene: Tydolla_85 Start: 63266, Stop: 63072, Start Num: 92

Candidate Starts for Tydolla_85:

(67, 63329), (Start: 84 @63284 has 27 MA's), (Start: 92 @63266 has 8 MA's), (Start: 96 @63236 has 2 MA's), (101, 63179), (102, 63161),

Gene: UNTPL_59 Start: 42784, Stop: 43086, Start Num: 57

Candidate Starts for UNTPL_59:

(1, 41455), (2, 41695), (3, 41764), (4, 41842), (5, 41938), (6, 41947), (7, 42160), (8, 42184), (9, 42199), (10, 42214), (13, 42271), (22, 42400), (24, 42418), (40, 42658), (48, 42733), (Start: 57 @42784 has 5 MA's), (73, 42832), (94, 42895), (109, 43027), (117, 43081),

Gene: West99_72 Start: 59407, Stop: 59183, Start Num: 81

Candidate Starts for West99_72:

(33, 59665), (35, 59641), (51, 59503), (Start: 74 @59428 has 4 MA's), (Start: 81 @59407 has 44 MA's), (109, 59248), (111, 59233),

Gene: Wheezy_9 Start: 5755, Stop: 6006, Start Num: 71

Candidate Starts for Wheezy_9:

(43, 5635), (44, 5638), (Start: 71 @5755 has 11 MA's), (88, 5803), (103, 5917), (107, 5932), (114, 5992),

Gene: Wooper_75 Start: 55974, Stop: 55744, Start Num: 79

Candidate Starts for Wooper_75:

(18, 56484), (20, 56472), (35, 56196), (36, 56187), (38, 56172), (41, 56145), (45, 56109), (52, 56052), (53, 56049), (Start: 79 @55974 has 2 MA's), (82, 55962), (115, 55755),

Gene: Xkcd426_72 Start: 59054, Stop: 59275, Start Num: 81

Candidate Starts for Xkcd426_72:

(Start: 81 @59054 has 44 MA's), (83, 59057), (101, 59153), (106, 59183),

Gene: YDN12_68 Start: 52246, Stop: 52458, Start Num: 81

Candidate Starts for YDN12_68:

(51, 52153), (Start: 81 @52246 has 44 MA's), (93, 52270), (101, 52348), (110, 52408), (117, 52453),

Gene: Yahalom_87 Start: 63111, Stop: 62899, Start Num: 84

Candidate Starts for Yahalom_87:

(67, 63156), (Start: 84 @63111 has 27 MA's), (Start: 92 @63093 has 8 MA's), (Start: 96 @63063 has 2 MA's), (101, 63006), (102, 62988),

Gene: Yinz_87 Start: 62651, Stop: 62439, Start Num: 81

Candidate Starts for Yinz_87:

(Start: 65 @62690 has 1 MA's), (Start: 81 @62651 has 44 MA's), (101, 62546), (102, 62528), (105, 62519), (113, 62465),