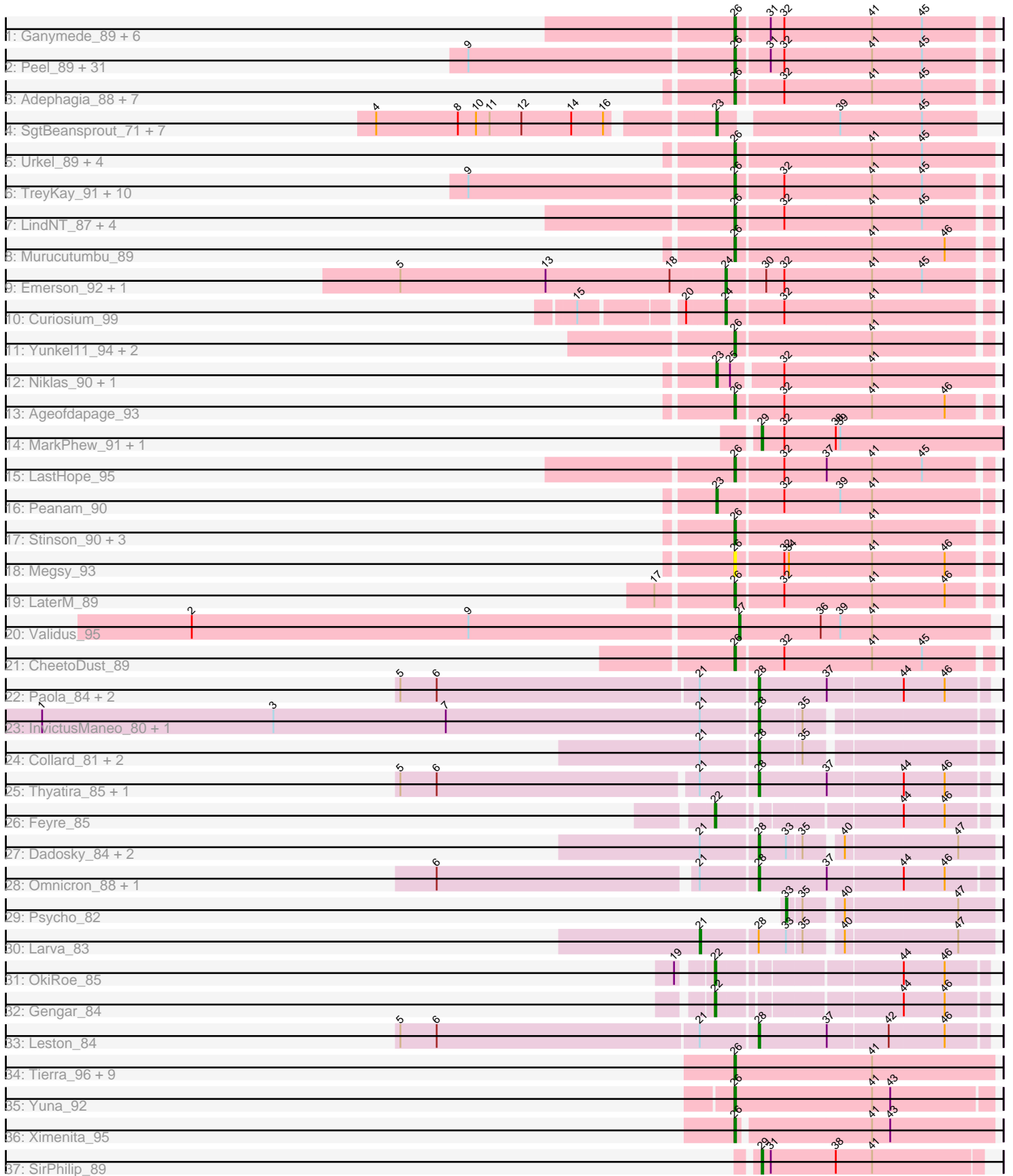


Pham 161693



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 161693 Report

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

Pham number 161693 has 132 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Ganymede_89, Beezoo_92, QuincyRose_87, Ramen_90, Apocalypse_91, YoureAdopted_88, Zavala_91
- Track 2 : Peel_89, Pokerus_89, BEEST_89, ShiaSurprise_90, Homura_88, Lunahalos_89, Spock_89, Llorens_88, Capricorn_89, MeaningOfLife_91, Tachez_89, Twitch_89, CaseJules_91, Piatt_88, Durfee_89, Rosmarinus_89, Topper_89, Dalmuri_89, Hyperbowlee_88, Jarvi_89, Jeckyll_89, Padfoot_89, CREW_88, BaghaKamala_88, Boiiii_89, Asayake_89, Joy99_90, Mynx_90, Inky_89, Atiba_90, Blizzard_89, Belladonna_89
- Track 3 : Adephegia_88, HedwigODU_89, TaiwanKao_90, JAWS_88, ActinUp_90, BGIlluvia_88, Zabiza_85, Veliki_90
- Track 4 : SgtBeansprout_71, Nikao_73, Nutello_70, LilPharaoh_71, Enkosi_72, Mdavu_71, Binglebops_70, Amelie_70
- Track 5 : Urkel_89, SamuelLPlaqson_89, DrHayes_89, Bella96_90, TiniBug_88
- Track 6 : TreyKay_91, Anaya_92, CrimD_89, Rapunzel97_91, AlishaPH_82, Jayhawk_90, TruffulaTree_91, BarrelRoll_89, Prithvi_91, Slimphazie_91, Adonis_89
- Track 7 : LindNT_87, Deby_89, Angelica_86, Sulley_86, Tiri_89
- Track 8 : Murucutumbu_89
- Track 9 : Emerson_92, Padpat_93
- Track 10 : Curiosium_99
- Track 11 : Yunkel11_94, Guanica15_95, Efra2_96
- Track 12 : Niklas_90, Shaobing_89
- Track 13 : Ageofdapage_93
- Track 14 : MarkPhew_91, Nibb_91
- Track 15 : LastHope_95
- Track 16 : Peanam_90
- Track 17 : Stinson_90, Illumine_93, Devera_95, Dole_92
- Track 18 : Megsy_93
- Track 19 : LaterM_89
- Track 20 : Validus_95
- Track 21 : CheetoDust_89
- Track 22 : Paola_84, Miryou_87, Guillsminger_85
- Track 23 : InvictusManeo_80, Agent47_80
- Track 24 : Collard_81, Heftyboy_83, SoSeph_83
- Track 25 : Thyatira_85, Waterfoul_84
- Track 26 : Feyre_85
- Track 27 : Dadosky_84, Kratio_84, AlleyCat_84
- Track 28 : Omnicron_88, Rando14_85

- Track 29 : Psycho_82
- Track 30 : Larva_83
- Track 31 : OkiRoe_85
- Track 32 : Gengar_84
- Track 33 : Leston_84
- Track 34 : Tierra_96, PhelpsODU_86, Cain_96, Bryler_88, Shadow1_93, Unicorn_96, Sunflower1121_93, Phrank_96, Syra333_92, Krueger_93
- Track 35 : Yuna_92
- Track 36 : Ximenita_95
- Track 37 : SirPhilip_89

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

The start number called the most often in the published annotations is 26, it was called in 88 of the 125 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp_90, Adephegia_88, Adonis_89, Ageofdapage_93, AlishaPH_82, Anaya_92, Angelica_86, Apocalypse_91, Asayake_89, Atiba_90, BEEST_89, BGIlluviae_88, BaghaKamala_88, BarrelRoll_89, Beezoo_92, Bella96_90, Belladonna_89, Blizzard_89, Boiiii_89, Bryler_88, CREW_88, Cain_96, Capricorn_89, CaseJules_91, CheetoDust_89, CrimD_89, Dalmuri_89, Deby_89, Devera_95, Dole_92, DrHayes_89, Durfee_89, Efra2_96, Ganymede_89, Guanica15_95, HedwigODU_89, Homura_88, Hyperbowlee_88, Illumine_93, Inky_89, JAWS_88, Jarvi_89, Jayhawk_90, Jeckyll_89, Joy99_90, Krueger_93, LastHope_95, LaterM_89, LindNT_87, Llorens_88, Lunahalos_89, MeaningOfLife_91, Megsy_93, Murucutumbu_89, Mynx_90, Padfoot_89, Peel_89, PhelpsODU_86, Phrank_96, Piatt_88, Pokerus_89, Prithvi_91, QuincyRose_87, Ramen_90, Rapunzel97_91, Rosmarinus_89, SamuelLPlaqson_89, Shadow1_93, ShiaSurprise_90, Slimphazie_91, Spock_89, Stinson_90, Sulley_86, Sunflower1121_93, Syra333_92, Tachez_89, TaiwanKao_90, Tierra_96, TiniBug_88, Tiri_89, Topper_89, TreyKay_91, TruffulaTree_91, Twitch_89, Unicorn_96, Urkel_89, Veliki_90, Ximenita_95, YoureAdopted_88, Yuna_92, Yunkel11_94, Zabiza_85, Zavala_91,

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

-

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

- Agent47_80, AlleyCat_84, Amelie_70, Binglebops_70, Collard_81, Curiosium_99, Dadosky_84, Emerson_92, Enkosi_72, Feyre_85, Gengar_84, Guillsminger_85, Heftyboy_83, InvictusManeo_80, Kratio_84, Larva_83, Leston_84, LilPharaoh_71, MarkPhew_91, Mdavu_71, Miryou_87, Nibb_91, Nikao_73, Niklas_90, Nutello_70, OkiRoe_85, Omnicron_88, Padpat_93, Paola_84, Peanam_90, Psycho_82, Rando14_85, SgtBeansprout_71, Shaobing_89, SirPhilip_89, SoSeph_83, Thyatira_85, Validus_95, Waterfoul_84,

Summary by start number:

Start 21:

- Found in 17 of 132 (12.9%) of genes in pham

- Manual Annotations of this start: 1 of 125
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Larva_83 (K5),

Start 22:

- Found in 3 of 132 (2.3%) of genes in pham
- Manual Annotations of this start: 3 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Feyre_85 (K5), Gengar_84 (K5), OkiRoe_85 (K5),

Start 23:

- Found in 11 of 132 (8.3%) of genes in pham
- Manual Annotations of this start: 11 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amelie_70 (K1), Binglebops_70 (K1), Enkosi_72 (K1), LilPharaoh_71 (K1), Mdavu_71 (K1), Nikao_73 (K1), Niklas_90 (K1), Nutello_70 (K1), Peanam_90 (K1), SgtBeansprout_71 (K1), Shaobing_89 (K1),

Start 24:

- Found in 3 of 132 (2.3%) of genes in pham
- Manual Annotations of this start: 3 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Curiosium_99 (K1), Emerson_92 (K1), Padpat_93 (K1),

Start 26:

- Found in 93 of 132 (70.5%) of genes in pham
- Manual Annotations of this start: 88 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp_90 (K1), Adephegia_88 (K1), Adonis_89 (K1), Ageofdapage_93 (K1), AlishaPH_82 (K1), Anaya_92 (K1), Angelica_86 (K1), Apocalypse_91 (K1), Asayake_89 (K1), Atiba_90 (K1), BEEST_89 (K1), BGIluviae_88 (K1), BaghaKamala_88 (K1), BarrelRoll_89 (K1), Beezoo_92 (K1), Bella96_90 (K1), Belladonna_89 (K1), Blizzard_89 (K1), Boiiii_89 (K1), Bryler_88 (K6), CREW_88 (K1), Cain_96 (K6), Capricorn_89 (K1), CaseJules_91 (K1), CheetoDust_89 (K1), CrimD_89 (K1), Dalmuri_89 (K1), Deby_89 (K1), Devera_95 (K1), Dole_92 (K1), DrHayes_89 (K1), Durfee_89 (K1), Efra2_96 (K1), Ganymede_89 (K1), Guanica15_95 (K1), HedwigODU_89 (K1), Homura_88 (K1), Hyperbowlee_88 (K1), Illumine_93 (K1), Inky_89 (K1), JAWS_88 (K1), Jarvi_89 (K1), Jayhawk_90 (K1), Jeckyll_89 (K1), Joy99_90 (K1), Krueger_93 (K6), LastHope_95 (K1), LaterM_89 (K1), LindNT_87 (K1), Llorens_88 (K1), Lunahalos_89 (K1), MeaningOfLife_91 (K1), Megsy_93 (K1), Murucutumbu_89 (K1), Mynx_90 (K1), Padfoot_89 (K1), Peel_89 (K1), PhelpsODU_86 (K6), Phrank_96 (K6), Piatt_88 (K1), Pokerus_89 (K1), Prithvi_91 (K1), QuincyRose_87 (K1), Ramen_90 (K1), Rapunzel97_91 (K1), Rosmarinus_89 (K1), SamuelLPlaqson_89 (K1), Shadow1_93 (K6), ShiaSurprise_90 (K1), Slimphazie_91 (K1), Spock_89 (K1), Stinson_90 (K1), Sulley_86 (K1), Sunflower1121_93 (K6), Syra333_92 (K6), Tachez_89 (K1), TaiwanKao_90 (K1), Tierra_96 (K6), TiniBug_88 (K1), Tiri_89 (K1), Topper_89 (K1), TreyKay_91 (K1), TruffulaTree_91 (K1), Twitch_89 (K1), Unicorn_96 (K6), Urkel_89 (K1), Veliki_90 (K1), Ximenita_95 (K6), YoureAdopted_88 (K1), Yuna_92 (K6), Yunkel11_94 (K1), Zabiza_85 (K1), Zavala_91 (K1),

Start 27:

- Found in 1 of 132 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Validus_95 (K1),

Start 28:

- Found in 17 of 132 (12.9%) of genes in pham
- Manual Annotations of this start: 14 of 125
- Called 94.1% of time when present
- Phage (with cluster) where this start called: Agent47_80 (K5), AlleyCat_84 (K5), Collard_81 (K5), Dadosky_84 (K5), Guillsminger_85 (K5), Heftyboy_83 (K5), InvictusManeo_80 (K5), Kratio_84 (K5), Leston_84 (K5), Miryou_87 (K5), Omnicron_88 (K5), Paola_84 (K5), Rando14_85 (K5), SoSeph_83 (K5), Thyatira_85 (K5), Waterfoul_84 (K5),

Start 29:

- Found in 3 of 132 (2.3%) of genes in pham
- Manual Annotations of this start: 3 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MarkPhew_91 (K1), Nibb_91 (K1), SirPhilip_89 (K6),

Start 33:

- Found in 5 of 132 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 125
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Psycho_82 (K5),

Summary by clusters:

There are 3 clusters represented in this pham: K1, K6, K5,

Info for manual annotations of cluster K1:

- Start number 23 was manually annotated 11 times for cluster K1.
- Start number 24 was manually annotated 3 times for cluster K1.
- Start number 26 was manually annotated 76 times for cluster K1.
- Start number 27 was manually annotated 1 time for cluster K1.
- Start number 29 was manually annotated 2 times for cluster K1.

Info for manual annotations of cluster K5:

- Start number 21 was manually annotated 1 time for cluster K5.
- Start number 22 was manually annotated 3 times for cluster K5.
- Start number 28 was manually annotated 14 times for cluster K5.
- Start number 33 was manually annotated 1 time for cluster K5.

Info for manual annotations of cluster K6:

- Start number 26 was manually annotated 12 times for cluster K6.
- Start number 29 was manually annotated 1 time for cluster K6.

Gene Information:

Gene: ActinUp_90 Start: 56657, Stop: 56818, Start Num: 26
Candidate Starts for ActinUp_90:
(Start: 26 @56657 has 88 MA's), (32, 56687), (41, 56744), (45, 56777),

Gene: Adephagia_88 Start: 56500, Stop: 56661, Start Num: 26
Candidate Starts for Adephagia_88:
(Start: 26 @56500 has 88 MA's), (32, 56530), (41, 56587), (45, 56620),

Gene: Adonis_89 Start: 56698, Stop: 56859, Start Num: 26
Candidate Starts for Adonis_89:
(9, 56527), (Start: 26 @56698 has 88 MA's), (32, 56728), (41, 56785), (45, 56818),

Gene: Agent47_80 Start: 53328, Stop: 53468, Start Num: 28
Candidate Starts for Agent47_80:
(1, 52857), (3, 53010), (7, 53124), (Start: 21 @53292 has 1 MA's), (Start: 28 @53328 has 14 MA's),
(35, 53355),

Gene: Ageofdapage_93 Start: 57508, Stop: 57669, Start Num: 26
Candidate Starts for Ageofdapage_93:
(Start: 26 @57508 has 88 MA's), (32, 57538), (41, 57595), (46, 57643),

Gene: AlishaPH_82 Start: 53889, Stop: 54050, Start Num: 26
Candidate Starts for AlishaPH_82:
(9, 53718), (Start: 26 @53889 has 88 MA's), (32, 53919), (41, 53976), (45, 54009),

Gene: AlleyCat_84 Start: 54468, Stop: 54611, Start Num: 28
Candidate Starts for AlleyCat_84:
(Start: 21 @54432 has 1 MA's), (Start: 28 @54468 has 14 MA's), (Start: 33 @54486 has 1 MA's), (35,
54495), (40, 54516), (47, 54588),

Gene: Amelie_70 Start: 52418, Stop: 52576, Start Num: 23
Candidate Starts for Amelie_70:
(4, 52208), (8, 52262), (10, 52274), (11, 52283), (12, 52304), (14, 52337), (16, 52358), (Start: 23
@52418 has 11 MA's), (39, 52487), (45, 52541),

Gene: Anaya_92 Start: 57721, Stop: 57882, Start Num: 26
Candidate Starts for Anaya_92:
(9, 57550), (Start: 26 @57721 has 88 MA's), (32, 57751), (41, 57808), (45, 57841),

Gene: Angelica_86 Start: 55917, Stop: 56078, Start Num: 26
Candidate Starts for Angelica_86:
(Start: 26 @55917 has 88 MA's), (32, 55947), (41, 56004), (45, 56037),

Gene: Apocalypse_91 Start: 56863, Stop: 57024, Start Num: 26
Candidate Starts for Apocalypse_91:
(Start: 26 @56863 has 88 MA's), (31, 56884), (32, 56893), (41, 56950), (45, 56983),

Gene: Asayake_89 Start: 56818, Stop: 56979, Start Num: 26
Candidate Starts for Asayake_89:
(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: Atiba_90 Start: 56466, Stop: 56627, Start Num: 26
Candidate Starts for Atiba_90:

(9, 56295), (Start: 26 @56466 has 88 MA's), (31, 56487), (32, 56496), (41, 56553), (45, 56586),

Gene: BEEST_89 Start: 56818, Stop: 56979, Start Num: 26

Candidate Starts for BEEST_89:

(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: BGlluviae_88 Start: 56198, Stop: 56359, Start Num: 26

Candidate Starts for BGlluviae_88:

(Start: 26 @56198 has 88 MA's), (32, 56228), (41, 56285), (45, 56318),

Gene: BaghaKamala_88 Start: 56046, Stop: 56207, Start Num: 26

Candidate Starts for BaghaKamala_88:

(9, 55875), (Start: 26 @56046 has 88 MA's), (31, 56067), (32, 56076), (41, 56133), (45, 56166),

Gene: BarrelRoll_89 Start: 56574, Stop: 56735, Start Num: 26

Candidate Starts for BarrelRoll_89:

(9, 56403), (Start: 26 @56574 has 88 MA's), (32, 56604), (41, 56661), (45, 56694),

Gene: Beezoo_92 Start: 57404, Stop: 57565, Start Num: 26

Candidate Starts for Beezoo_92:

(Start: 26 @57404 has 88 MA's), (31, 57425), (32, 57434), (41, 57491), (45, 57524),

Gene: Bella96_90 Start: 57068, Stop: 57235, Start Num: 26

Candidate Starts for Bella96_90:

(Start: 26 @57068 has 88 MA's), (41, 57155), (45, 57188),

Gene: Belladonna_89 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Belladonna_89:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: Biglebops_70 Start: 52433, Stop: 52591, Start Num: 23

Candidate Starts for Biglebops_70:

(4, 52223), (8, 52277), (10, 52289), (11, 52298), (12, 52319), (14, 52352), (16, 52373), (Start: 23 @52433 has 11 MA's), (39, 52502), (45, 52556),

Gene: Blizzard_89 Start: 56818, Stop: 56979, Start Num: 26

Candidate Starts for Blizzard_89:

(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: Boiiii_89 Start: 56820, Stop: 56981, Start Num: 26

Candidate Starts for Boiiii_89:

(9, 56649), (Start: 26 @56820 has 88 MA's), (31, 56841), (32, 56850), (41, 56907), (45, 56940),

Gene: Bryler_88 Start: 54748, Stop: 54918, Start Num: 26

Candidate Starts for Bryler_88:

(Start: 26 @54748 has 88 MA's), (41, 54838),

Gene: CREW_88 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for CREW_88:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: Cain_96 Start: 57895, Stop: 58065, Start Num: 26

Candidate Starts for Cain_96:

(Start: 26 @57895 has 88 MA's), (41, 57985),

Gene: Capricorn_89 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Capricorn_89:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: CaseJules_91 Start: 56818, Stop: 56979, Start Num: 26

Candidate Starts for CaseJules_91:

(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: CheetoDust_89 Start: 56016, Stop: 56177, Start Num: 26

Candidate Starts for CheetoDust_89:

(Start: 26 @56016 has 88 MA's), (32, 56046), (41, 56103), (45, 56136),

Gene: Collard_81 Start: 53578, Stop: 53718, Start Num: 28

Candidate Starts for Collard_81:

(Start: 21 @53542 has 1 MA's), (Start: 28 @53578 has 14 MA's), (35, 53605),

Gene: CrimD_89 Start: 56666, Stop: 56827, Start Num: 26

Candidate Starts for CrimD_89:

(9, 56495), (Start: 26 @56666 has 88 MA's), (32, 56696), (41, 56753), (45, 56786),

Gene: Curiosium_99 Start: 58643, Stop: 58810, Start Num: 24

Candidate Starts for Curiosium_99:

(15, 58559), (20, 58619), (Start: 24 @58643 has 3 MA's), (32, 58679), (41, 58736),

Gene: Dadosky_84 Start: 54469, Stop: 54612, Start Num: 28

Candidate Starts for Dadosky_84:

(Start: 21 @54433 has 1 MA's), (Start: 28 @54469 has 14 MA's), (Start: 33 @54487 has 1 MA's), (35, 54496), (40, 54517), (47, 54589),

Gene: Dalmuri_89 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Dalmuri_89:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: Deby_89 Start: 57192, Stop: 57353, Start Num: 26

Candidate Starts for Deby_89:

(Start: 26 @57192 has 88 MA's), (32, 57222), (41, 57279), (45, 57312),

Gene: Devera_95 Start: 57498, Stop: 57659, Start Num: 26

Candidate Starts for Devera_95:

(Start: 26 @57498 has 88 MA's), (41, 57585),

Gene: Dole_92 Start: 57501, Stop: 57662, Start Num: 26

Candidate Starts for Dole_92:

(Start: 26 @57501 has 88 MA's), (41, 57588),

Gene: DrHayes_89 Start: 56880, Stop: 57047, Start Num: 26

Candidate Starts for DrHayes_89:

(Start: 26 @56880 has 88 MA's), (41, 56967), (45, 57000),

Gene: Durfee_89 Start: 56818, Stop: 56979, Start Num: 26

Candidate Starts for Durfee_89:

(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: Efra2_96 Start: 57967, Stop: 58128, Start Num: 26

Candidate Starts for Efra2_96:

(Start: 26 @57967 has 88 MA's), (41, 58054),

Gene: Emerson_92 Start: 57216, Stop: 57383, Start Num: 24

Candidate Starts for Emerson_92:

(5, 57003), (13, 57099), (18, 57180), (Start: 24 @57216 has 3 MA's), (30, 57240), (32, 57252), (41, 57309), (45, 57342),

Gene: Enkosi_72 Start: 55031, Stop: 55189, Start Num: 23

Candidate Starts for Enkosi_72:

(4, 54821), (8, 54875), (10, 54887), (11, 54896), (12, 54917), (14, 54950), (16, 54971), (Start: 23 @55031 has 11 MA's), (39, 55100), (45, 55154),

Gene: Feyre_85 Start: 56970, Stop: 57128, Start Num: 22

Candidate Starts for Feyre_85:

(Start: 22 @56970 has 3 MA's), (44, 57075), (46, 57102),

Gene: Ganymede_89 Start: 56630, Stop: 56791, Start Num: 26

Candidate Starts for Ganymede_89:

(Start: 26 @56630 has 88 MA's), (31, 56651), (32, 56660), (41, 56717), (45, 56750),

Gene: Gengar_84 Start: 55837, Stop: 55998, Start Num: 22

Candidate Starts for Gengar_84:

(Start: 22 @55837 has 3 MA's), (44, 55945), (46, 55972),

Gene: Guanica15_95 Start: 57656, Stop: 57817, Start Num: 26

Candidate Starts for Guanica15_95:

(Start: 26 @57656 has 88 MA's), (41, 57743),

Gene: Guillsminger_85 Start: 55691, Stop: 55837, Start Num: 28

Candidate Starts for Guillsminger_85:

(5, 55463), (6, 55487), (Start: 21 @55658 has 1 MA's), (Start: 28 @55691 has 14 MA's), (37, 55736), (44, 55784), (46, 55811),

Gene: HedwigODU_89 Start: 56657, Stop: 56818, Start Num: 26

Candidate Starts for HedwigODU_89:

(Start: 26 @56657 has 88 MA's), (32, 56687), (41, 56744), (45, 56777),

Gene: Heftyboy_83 Start: 55305, Stop: 55445, Start Num: 28

Candidate Starts for Heftyboy_83:

(Start: 21 @55269 has 1 MA's), (Start: 28 @55305 has 14 MA's), (35, 55332),

Gene: Homura_88 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Homura_88:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: Hyperbowlee_88 Start: 56818, Stop: 56979, Start Num: 26

Candidate Starts for Hyperbowlee_88:

(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: Illumine_93 Start: 57500, Stop: 57661, Start Num: 26

Candidate Starts for Illumine_93:

(Start: 26 @57500 has 88 MA's), (41, 57587),

Gene: Inky_89 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Inky_89:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: InvictusManeo_80 Start: 53332, Stop: 53472, Start Num: 28

Candidate Starts for InvictusManeo_80:

(1, 52861), (3, 53014), (7, 53128), (Start: 21 @53296 has 1 MA's), (Start: 28 @53332 has 14 MA's), (35, 53359),

Gene: JAWS_88 Start: 56604, Stop: 56765, Start Num: 26

Candidate Starts for JAWS_88:

(Start: 26 @56604 has 88 MA's), (32, 56634), (41, 56691), (45, 56724),

Gene: Jarvi_89 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Jarvi_89:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: Jayhawk_90 Start: 56634, Stop: 56795, Start Num: 26

Candidate Starts for Jayhawk_90:

(9, 56463), (Start: 26 @56634 has 88 MA's), (32, 56664), (41, 56721), (45, 56754),

Gene: Jeckyll_89 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Jeckyll_89:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: Joy99_90 Start: 56750, Stop: 56911, Start Num: 26

Candidate Starts for Joy99_90:

(9, 56579), (Start: 26 @56750 has 88 MA's), (31, 56771), (32, 56780), (41, 56837), (45, 56870),

Gene: Kratio_84 Start: 54363, Stop: 54506, Start Num: 28

Candidate Starts for Kratio_84:

(Start: 21 @54327 has 1 MA's), (Start: 28 @54363 has 14 MA's), (Start: 33 @54381 has 1 MA's), (35, 54390), (40, 54411), (47, 54483),

Gene: Krueger_93 Start: 57088, Stop: 57258, Start Num: 26

Candidate Starts for Krueger_93:

(Start: 26 @57088 has 88 MA's), (41, 57178),

Gene: Larva_83 Start: 55305, Stop: 55484, Start Num: 21

Candidate Starts for Larva_83:

(Start: 21 @55305 has 1 MA's), (Start: 28 @55341 has 14 MA's), (Start: 33 @55359 has 1 MA's), (35, 55368), (40, 55389), (47, 55461),

Gene: LastHope_95 Start: 57401, Stop: 57562, Start Num: 26

Candidate Starts for LastHope_95:

(Start: 26 @57401 has 88 MA's), (32, 57431), (37, 57458), (41, 57488), (45, 57521),

Gene: LaterM_89 Start: 57037, Stop: 57198, Start Num: 26

Candidate Starts for LaterM_89:

(17, 56989), (Start: 26 @57037 has 88 MA's), (32, 57067), (41, 57124), (46, 57172),

Gene: Leston_84 Start: 55808, Stop: 55954, Start Num: 28

Candidate Starts for Leston_84:

(5, 55580), (6, 55604), (Start: 21 @55775 has 1 MA's), (Start: 28 @55808 has 14 MA's), (37, 55853), (42, 55892), (46, 55928),

Gene: LilPharaoh_71 Start: 52146, Stop: 52304, Start Num: 23

Candidate Starts for LilPharaoh_71:

(4, 51936), (8, 51990), (10, 52002), (11, 52011), (12, 52032), (14, 52065), (16, 52086), (Start: 23 @52146 has 11 MA's), (39, 52215), (45, 52269),

Gene: LindNT_87 Start: 56732, Stop: 56893, Start Num: 26

Candidate Starts for LindNT_87:

(Start: 26 @56732 has 88 MA's), (32, 56762), (41, 56819), (45, 56852),

Gene: Llorens_88 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Llorens_88:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: Lunahalos_89 Start: 56621, Stop: 56782, Start Num: 26

Candidate Starts for Lunahalos_89:

(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: MarkPhew_91 Start: 56993, Stop: 57151, Start Num: 29

Candidate Starts for MarkPhew_91:

(Start: 29 @56993 has 3 MA's), (32, 57008), (38, 57041), (39, 57044),

Gene: Mdavu_71 Start: 52422, Stop: 52580, Start Num: 23

Candidate Starts for Mdavu_71:

(4, 52212), (8, 52266), (10, 52278), (11, 52287), (12, 52308), (14, 52341), (16, 52362), (Start: 23 @52422 has 11 MA's), (39, 52491), (45, 52545),

Gene: MeaningOfLife_91 Start: 57306, Stop: 57467, Start Num: 26

Candidate Starts for MeaningOfLife_91:

(9, 57135), (Start: 26 @57306 has 88 MA's), (31, 57327), (32, 57336), (41, 57393), (45, 57426),

Gene: Megsy_93 Start: 56961, Stop: 57122, Start Num: 26

Candidate Starts for Megsy_93:

(Start: 26 @56961 has 88 MA's), (32, 56991), (34, 56994), (41, 57048), (46, 57096),

Gene: Miryou_87 Start: 57666, Stop: 57812, Start Num: 28

Candidate Starts for Miryou_87:

(5, 57438), (6, 57462), (Start: 21 @57633 has 1 MA's), (Start: 28 @57666 has 14 MA's), (37, 57711), (44, 57759), (46, 57786),

Gene: Murucutumbu_89 Start: 57519, Stop: 57680, Start Num: 26

Candidate Starts for Murucutumbu_89:

(Start: 26 @57519 has 88 MA's), (41, 57606), (46, 57654),

Gene: Mynx_90 Start: 56929, Stop: 57090, Start Num: 26

Candidate Starts for Mynx_90:

(9, 56758), (Start: 26 @56929 has 88 MA's), (31, 56950), (32, 56959), (41, 57016), (45, 57049),

Gene: Nibb_91 Start: 56666, Stop: 56824, Start Num: 29
Candidate Starts for Nibb_91:
(Start: 29 @56666 has 3 MA's), (32, 56681), (38, 56714), (39, 56717),

Gene: Nikao_73 Start: 55031, Stop: 55189, Start Num: 23
Candidate Starts for Nikao_73:
(4, 54821), (8, 54875), (10, 54887), (11, 54896), (12, 54917), (14, 54950), (16, 54971), (Start: 23 @55031 has 11 MA's), (39, 55100), (45, 55154),

Gene: Niklas_90 Start: 57664, Stop: 57840, Start Num: 23
Candidate Starts for Niklas_90:
(Start: 23 @57664 has 11 MA's), (25, 57673), (32, 57703), (41, 57760),

Gene: Nutello_70 Start: 52418, Stop: 52576, Start Num: 23
Candidate Starts for Nutello_70:
(4, 52208), (8, 52262), (10, 52274), (11, 52283), (12, 52304), (14, 52337), (16, 52358), (Start: 23 @52418 has 11 MA's), (39, 52487), (45, 52541),

Gene: OkiRoe_85 Start: 56800, Stop: 56961, Start Num: 22
Candidate Starts for OkiRoe_85:
(19, 56782), (Start: 22 @56800 has 3 MA's), (44, 56908), (46, 56935),

Gene: Omnicron_88 Start: 57883, Stop: 58032, Start Num: 28
Candidate Starts for Omnicron_88:
(6, 57685), (Start: 21 @57850 has 1 MA's), (Start: 28 @57883 has 14 MA's), (37, 57928), (44, 57976), (46, 58003),

Gene: Padfoot_89 Start: 56818, Stop: 56979, Start Num: 26
Candidate Starts for Padfoot_89:
(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: Padpat_93 Start: 57216, Stop: 57383, Start Num: 24
Candidate Starts for Padpat_93:
(5, 57003), (13, 57099), (18, 57180), (Start: 24 @57216 has 3 MA's), (30, 57240), (32, 57252), (41, 57309), (45, 57342),

Gene: Paola_84 Start: 55691, Stop: 55837, Start Num: 28
Candidate Starts for Paola_84:
(5, 55463), (6, 55487), (Start: 21 @55658 has 1 MA's), (Start: 28 @55691 has 14 MA's), (37, 55736), (44, 55784), (46, 55811),

Gene: Peanam_90 Start: 57643, Stop: 57819, Start Num: 23
Candidate Starts for Peanam_90:
(Start: 23 @57643 has 11 MA's), (32, 57685), (39, 57721), (41, 57742),

Gene: Peel_89 Start: 56623, Stop: 56784, Start Num: 26
Candidate Starts for Peel_89:
(9, 56452), (Start: 26 @56623 has 88 MA's), (31, 56644), (32, 56653), (41, 56710), (45, 56743),

Gene: PhelpsODU_86 Start: 53663, Stop: 53833, Start Num: 26
Candidate Starts for PhelpsODU_86:
(Start: 26 @53663 has 88 MA's), (41, 53753),

Gene: Phrank_96 Start: 57882, Stop: 58046, Start Num: 26

Candidate Starts for Phrank_96:

(Start: 26 @57882 has 88 MA's), (41, 57972),

Gene: Piatt_88 Start: 56818, Stop: 56979, Start Num: 26

Candidate Starts for Piatt_88:

(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: Pokerus_89 Start: 56627, Stop: 56788, Start Num: 26

Candidate Starts for Pokerus_89:

(9, 56456), (Start: 26 @56627 has 88 MA's), (31, 56648), (32, 56657), (41, 56714), (45, 56747),

Gene: Prithvi_91 Start: 57030, Stop: 57191, Start Num: 26

Candidate Starts for Prithvi_91:

(9, 56859), (Start: 26 @57030 has 88 MA's), (32, 57060), (41, 57117), (45, 57150),

Gene: Psycho_82 Start: 54484, Stop: 54609, Start Num: 33

Candidate Starts for Psycho_82:

(Start: 33 @54484 has 1 MA's), (35, 54493), (40, 54514), (47, 54586),

Gene: QuincyRose_87 Start: 56630, Stop: 56791, Start Num: 26

Candidate Starts for QuincyRose_87:

(Start: 26 @56630 has 88 MA's), (31, 56651), (32, 56660), (41, 56717), (45, 56750),

Gene: Ramen_90 Start: 56373, Stop: 56534, Start Num: 26

Candidate Starts for Ramen_90:

(Start: 26 @56373 has 88 MA's), (31, 56394), (32, 56403), (41, 56460), (45, 56493),

Gene: Rando14_85 Start: 56294, Stop: 56443, Start Num: 28

Candidate Starts for Rando14_85:

(6, 56096), (Start: 21 @56261 has 1 MA's), (Start: 28 @56294 has 14 MA's), (37, 56339), (44, 56387), (46, 56414),

Gene: Rapunzel97_91 Start: 56589, Stop: 56750, Start Num: 26

Candidate Starts for Rapunzel97_91:

(9, 56418), (Start: 26 @56589 has 88 MA's), (32, 56619), (41, 56676), (45, 56709),

Gene: Rosmarinus_89 Start: 56609, Stop: 56770, Start Num: 26

Candidate Starts for Rosmarinus_89:

(9, 56438), (Start: 26 @56609 has 88 MA's), (31, 56630), (32, 56639), (41, 56696), (45, 56729),

Gene: SamuelLPlaqson_89 Start: 56880, Stop: 57047, Start Num: 26

Candidate Starts for SamuelLPlaqson_89:

(Start: 26 @56880 has 88 MA's), (41, 56967), (45, 57000),

Gene: SgtBeansprout_71 Start: 52418, Stop: 52576, Start Num: 23

Candidate Starts for SgtBeansprout_71:

(4, 52208), (8, 52262), (10, 52274), (11, 52283), (12, 52304), (14, 52337), (16, 52358), (Start: 23 @52418 has 11 MA's), (39, 52487), (45, 52541),

Gene: Shadow1_93 Start: 57228, Stop: 57392, Start Num: 26

Candidate Starts for Shadow1_93:

(Start: 26 @57228 has 88 MA's), (41, 57318),

Gene: Shaobing_89 Start: 57705, Stop: 57881, Start Num: 23

Candidate Starts for Shaobing_89:

(Start: 23 @57705 has 11 MA's), (25, 57714), (32, 57744), (41, 57801),

Gene: ShiaSurprise_90 Start: 56818, Stop: 56979, Start Num: 26

Candidate Starts for ShiaSurprise_90:

(9, 56647), (Start: 26 @56818 has 88 MA's), (31, 56839), (32, 56848), (41, 56905), (45, 56938),

Gene: SirPhilip_89 Start: 56815, Stop: 56958, Start Num: 29

Candidate Starts for SirPhilip_89:

(Start: 29 @56815 has 3 MA's), (31, 56821), (38, 56863), (41, 56887),

Gene: Slimphazie_91 Start: 57045, Stop: 57206, Start Num: 26

Candidate Starts for Slimphazie_91:

(9, 56874), (Start: 26 @57045 has 88 MA's), (32, 57075), (41, 57132), (45, 57165),

Gene: SoSeph_83 Start: 55305, Stop: 55445, Start Num: 28

Candidate Starts for SoSeph_83:

(Start: 21 @55269 has 1 MA's), (Start: 28 @55305 has 14 MA's), (35, 55332),

Gene: Spock_89 Start: 56622, Stop: 56783, Start Num: 26

Candidate Starts for Spock_89:

(9, 56451), (Start: 26 @56622 has 88 MA's), (31, 56643), (32, 56652), (41, 56709), (45, 56742),

Gene: Stinson_90 Start: 56798, Stop: 56959, Start Num: 26

Candidate Starts for Stinson_90:

(Start: 26 @56798 has 88 MA's), (41, 56885),

Gene: Sulley_86 Start: 56193, Stop: 56354, Start Num: 26

Candidate Starts for Sulley_86:

(Start: 26 @56193 has 88 MA's), (32, 56223), (41, 56280), (45, 56313),

Gene: Sunflower1121_93 Start: 56987, Stop: 57151, Start Num: 26

Candidate Starts for Sunflower1121_93:

(Start: 26 @56987 has 88 MA's), (41, 57077),

Gene: Syra333_92 Start: 57044, Stop: 57214, Start Num: 26

Candidate Starts for Syra333_92:

(Start: 26 @57044 has 88 MA's), (41, 57134),

Gene: Tachez_89 Start: 56466, Stop: 56627, Start Num: 26

Candidate Starts for Tachez_89:

(9, 56295), (Start: 26 @56466 has 88 MA's), (31, 56487), (32, 56496), (41, 56553), (45, 56586),

Gene: TaiwanKao_90 Start: 56670, Stop: 56831, Start Num: 26

Candidate Starts for TaiwanKao_90:

(Start: 26 @56670 has 88 MA's), (32, 56700), (41, 56757), (45, 56790),

Gene: Thyatira_85 Start: 57400, Stop: 57546, Start Num: 28

Candidate Starts for Thyatira_85:

(5, 57175), (6, 57199), (Start: 21 @57367 has 1 MA's), (Start: 28 @57400 has 14 MA's), (37, 57445), (44, 57493), (46, 57520),

Gene: Tierra_96 Start: 58508, Stop: 58678, Start Num: 26
Candidate Starts for Tierra_96:
(Start: 26 @58508 has 88 MA's), (41, 58598),

Gene: TiniBug_88 Start: 56996, Stop: 57163, Start Num: 26
Candidate Starts for TiniBug_88:
(Start: 26 @56996 has 88 MA's), (41, 57083), (45, 57116),

Gene: Tiri_89 Start: 56360, Stop: 56521, Start Num: 26
Candidate Starts for Tiri_89:
(Start: 26 @56360 has 88 MA's), (32, 56390), (41, 56447), (45, 56480),

Gene: Topper_89 Start: 56621, Stop: 56782, Start Num: 26
Candidate Starts for Topper_89:
(9, 56450), (Start: 26 @56621 has 88 MA's), (31, 56642), (32, 56651), (41, 56708), (45, 56741),

Gene: TreyKay_91 Start: 57030, Stop: 57191, Start Num: 26
Candidate Starts for TreyKay_91:
(9, 56859), (Start: 26 @57030 has 88 MA's), (32, 57060), (41, 57117), (45, 57150),

Gene: TruffulaTree_91 Start: 57011, Stop: 57172, Start Num: 26
Candidate Starts for TruffulaTree_91:
(9, 56840), (Start: 26 @57011 has 88 MA's), (32, 57041), (41, 57098), (45, 57131),

Gene: Twitch_89 Start: 56623, Stop: 56784, Start Num: 26
Candidate Starts for Twitch_89:
(9, 56452), (Start: 26 @56623 has 88 MA's), (31, 56644), (32, 56653), (41, 56710), (45, 56743),

Gene: Unicorn_96 Start: 58291, Stop: 58461, Start Num: 26
Candidate Starts for Unicorn_96:
(Start: 26 @58291 has 88 MA's), (41, 58381),

Gene: Urkel_89 Start: 56880, Stop: 57047, Start Num: 26
Candidate Starts for Urkel_89:
(Start: 26 @56880 has 88 MA's), (41, 56967), (45, 57000),

Gene: Validus_95 Start: 58505, Stop: 58669, Start Num: 27
Candidate Starts for Validus_95:
(2, 58148), (9, 58331), (Start: 27 @58505 has 1 MA's), (36, 58559), (39, 58571), (41, 58592),

Gene: Veliki_90 Start: 56589, Stop: 56750, Start Num: 26
Candidate Starts for Veliki_90:
(Start: 26 @56589 has 88 MA's), (32, 56619), (41, 56676), (45, 56709),

Gene: Waterfoul_84 Start: 55470, Stop: 55616, Start Num: 28
Candidate Starts for Waterfoul_84:
(5, 55245), (6, 55269), (Start: 21 @55437 has 1 MA's), (Start: 28 @55470 has 14 MA's), (37, 55515), (44, 55563), (46, 55590),

Gene: Ximenita_95 Start: 57796, Stop: 57960, Start Num: 26

Candidate Starts for Ximenita_95:

(Start: 26 @57796 has 88 MA's), (41, 57880), (43, 57892),

Gene: YoureAdopted_88 Start: 56415, Stop: 56576, Start Num: 26

Candidate Starts for YoureAdopted_88:

(Start: 26 @56415 has 88 MA's), (31, 56436), (32, 56445), (41, 56502), (45, 56535),

Gene: Yuna_92 Start: 58580, Stop: 58747, Start Num: 26

Candidate Starts for Yuna_92:

(Start: 26 @58580 has 88 MA's), (41, 58670), (43, 58682),

Gene: Yunkel11_94 Start: 57232, Stop: 57393, Start Num: 26

Candidate Starts for Yunkel11_94:

(Start: 26 @57232 has 88 MA's), (41, 57319),

Gene: Zabiza_85 Start: 52962, Stop: 53123, Start Num: 26

Candidate Starts for Zabiza_85:

(Start: 26 @52962 has 88 MA's), (32, 52992), (41, 53049), (45, 53082),

Gene: Zavala_91 Start: 56880, Stop: 57041, Start Num: 26

Candidate Starts for Zavala_91:

(Start: 26 @56880 has 88 MA's), (31, 56901), (32, 56910), (41, 56967), (45, 57000),