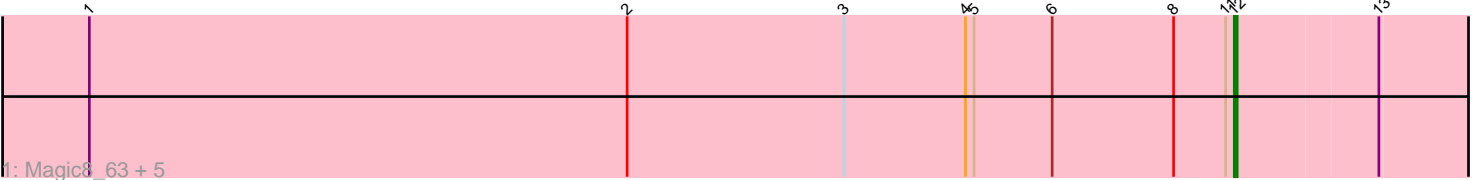
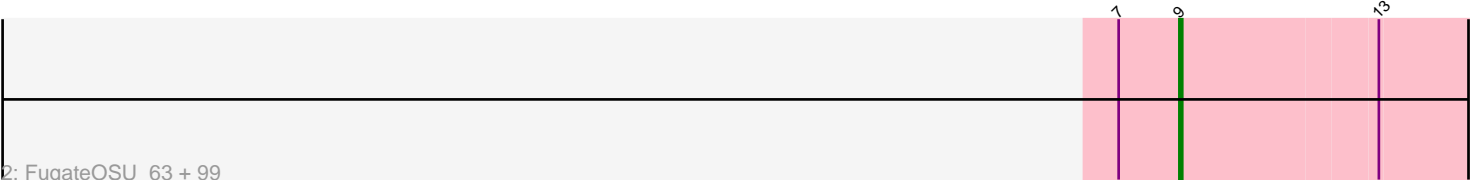


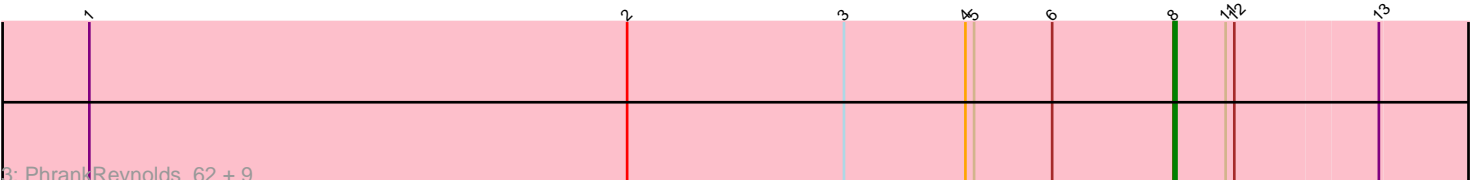
Pham 861



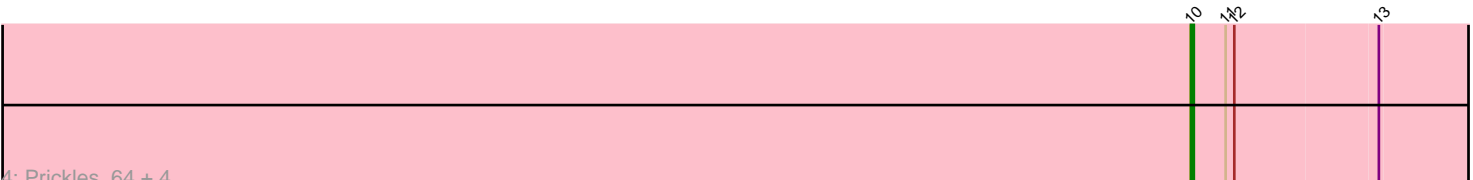
1: Magic8_63 + 5



2: FugateOSU_63 + 99



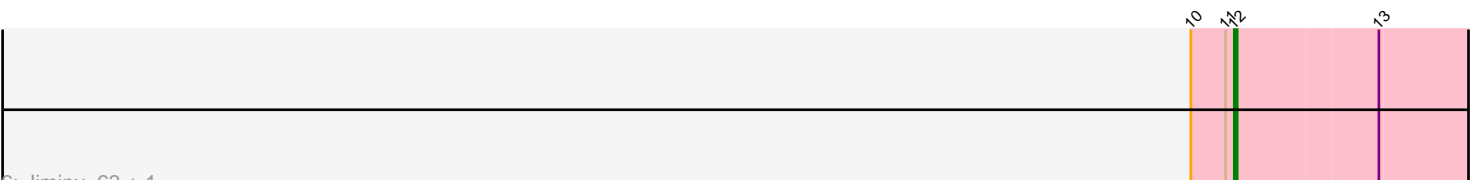
3: PhrankReynolds_62 + 9



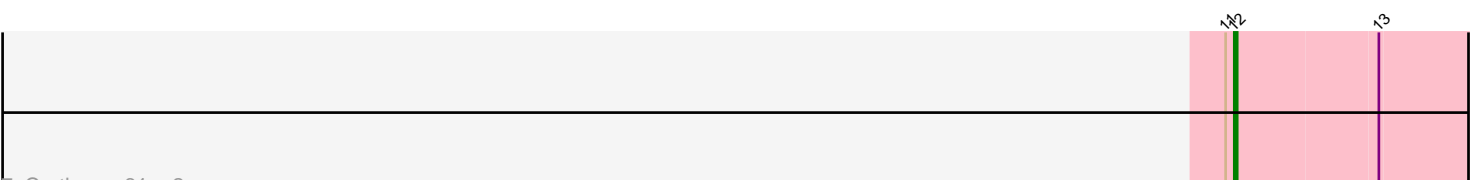
4: Prickles_64 + 4



5: Rimu_65 + 6



6: Jiminy_63 + 1



7: Carthage_61 + 2



8: Charles1_63

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 861 Report

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

Pham number 861 has 134 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Magic8_63, Inchworm_64, GeneCoco_63, Derpp_62, TyrionL_63, Labeouficaum_63
- Track 2 : FugateOSU_63, Eugenia_62, Vaishali24_61, Zelda_63, DirtJuice_63, Mecca_62, Keitherie_64, Podrick_61, BlueHusk_64, Mutante_62, Mulan_62, Durga_65, Orfeu_62, Robyn_62, Phamished_64, Legolas_64, LemonSlice_63, Xavier_61, Kahve_62, Inverness_61, LuckyMarjie_60, Fringe_66, Quisquilliae_63, Bluephacebaby_62, YouGoGlencoco_63, ShiVal_60, Chaelin_63, Spartan300_62, Altwerkus_60, Aelin_62, Cher_62, Nyala_61, Lulwa_60, Anderson_63, Tomlarah_63, Placalicious_63, Jillium_62, HighStump_64, Megamind20_63, Skippy_63, Cosmolli16_63, Pacifista_65, Vaticameos_59, Sophia_61, Gwilliam_64, JangoPhett_62, Surely_62, Plmatters_61, Katniss_63, Solosis_61, Timmi_61, True_61, Gareth_62, Banjo_61, Virapocalypse_63, Serpentine_0062, Roliet_60, MRabcd_62, Nacho_0064, Cannibal_62, DaddyDaniels_64, Dione_60, Telesworld_60, Riggan_63, Adriana_64, Nicole21_63, SassyCat97_61, Samaymay_62, Mana_61, Simielle_62, QueenBeane_62, Daka_65, Roscoe_63, Waterdiva_62, Olive_62, Usavi_62, MiniBoss_60, Lumine_63, CheetO_62, Omniscient_63, HenryJackson_62, Craff_65, Slatt_63, Boehler_62, Burr_62, Kwadwo_61, Kloppinator_63, Matalotodo_62, Zaider_63, Bishoperium_62, Windsor_62, Valjean_62, Morty_63, TomBombadil_62, Mcshane_61, Toni_62, Piglet_0062, Haleema_61, CamL_62, Olak_63
- Track 3 : PhrankReynolds_62, Phergie_103, LeiMonet_65, Thunderbird_63, Wallhey_63, Jiraiya_66, PhenghisKhan_63, LasagnaCat_63, Kwksand96_63, Longacauda_63
- Track 4 : Prickles_64, PhrodoBaggins_63, JakeO_63, Maru_62, Struggle_63
- Track 5 : Rimu_65, PhatLouie_64, Swiphy_66, KlimbOn_62, Coletti_65, Kimbrough_63, Selr12_64
- Track 6 : Jiminy_63, Schadenfreude_62
- Track 7 : Carthage_61, Brilliant_65, Soile_63
- Track 8 : Charles1_63

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

The start number called the most often in the published annotations is 9, it was called in 92 of the 118 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adriana_64, Aelin_62, Altwerkus_60, Anderson_63, Banjo_61, Bishoperium_62, BlueHusk_64, Bluephacebaby_62, Boehler_62, Burr_62, CamL_62, Cannibal_62, Chaelin_63, CheetO_62, Cher_62, Cosmolli16_63, Craff_65, DaddyDaniels_64, Daka_65, Dione_60, DirtJuice_63, Durga_65, Eugenia_62, Fringe_66, FugateOSU_63, Gareth_62, Gwilliam_64, Haleema_61, HenryJackson_62, HighStump_64, Inverness_61, JangoPhett_62, Jillium_62, Kahve_62, Katniss_63, Keitherie_64, Kloppinator_63, Kwadwo_61, Legolas_64, LemonSlice_63, LuckyMarjie_60, Lulwa_60, Lumine_63, MRabcd_62, Mana_61, Matalotodo_62, Mcshane_61, Mecca_62, Megamind20_63, MiniBoss_60, Morty_63, Mulan_62, Mutante_62, Nacho_0064, Nicole21_63, Nyala_61, Olak_63, Olive_62, Omniscient_63, Orfeu_62, Pacifista_65, Phamished_64, Piglet_0062, Placalicious_63, Plmatters_61, Podrick_61, QueenBeane_62, Quisquiliae_63, Riggan_63, Robyn_62, Roliet_60, Roscoe_63, Samaymay_62, SassyCat97_61, Serpentine_0062, ShiVal_60, Simielle_62, Skippy_63, Slatt_63, Solosis_61, Sophia_61, Spartan300_62, Surely_62, Telesworld_60, Timmi_61, TomBombadil_62, Tomlarah_63, Toni_62, True_61, Usavi_62, Vaishali24_61, Valjean_62, Vaticameos_59, Virapocalypse_63, Waterdiva_62, Windsor_62, Xavier_61, YouGoGlencoco_63, Zaider_63, Zelda_63,

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

- Coletti_65, Kimbrough_63, KlimbOn_62, PhatLouie_64, Rimu_65, Selr12_64, Swiphy_66,

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

- Brilliant_65, Carthage_61, Charles1_63, Derpp_62, GeneCoco_63, Inchworm_64, JakeO_63, Jiminy_63, Jiraiya_66, Kwksand96_63, Labeouficaum_63, LasagnaCat_63, LeiMonet_65, Longacauda_63, Magic8_63, Maru_62, PhenghisKhan_63, Phergie_103, PhrankReynolds_62, PhrodoBaggins_63, Prickles_64, Schadenfreude_62, Soile_63, Struggle_63, Thunderbird_63, TyrionL_63, Wallhey_63,

Summary by start number:

Start 7:

- Found in 107 of 134 (79.9%) of genes in pham
- Manual Annotations of this start: 3 of 118
- Called 6.5% of time when present
- Phage (with cluster) where this start called: Coletti_65 (B1), Kimbrough_63 (B1), KlimbOn_62 (B1), PhatLouie_64 (B1), Rimu_65 (B1), Selr12_64 (B1), Swiphy_66 (B1),

Start 8:

- Found in 16 of 134 (11.9%) of genes in pham
- Manual Annotations of this start: 6 of 118
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Jiraiya_66 (B1), Kwksand96_63 (B1), LasagnaCat_63 (B1), LeiMonet_65 (B1), Longacauda_63 (B1), PhenghisKhan_63 (B1), Phergie_103 (B1), PhrankReynolds_62 (B1), Thunderbird_63 (B1), Wallhey_63 (B1),

Start 9:

- Found in 107 of 134 (79.9%) of genes in pham
- Manual Annotations of this start: 92 of 118
- Called 93.5% of time when present
- Phage (with cluster) where this start called: Adriana_64 (B1), Aelin_62 (B1), Altwerkus_60 (B1), Anderson_63 (B1), Banjo_61 (B1), Bishoperium_62 (B1), BlueHusk_64 (B1), Bluephacebaby_62 (B1), Boehler_62 (B1), Burr_62 (B1), CamL_62 (B1), Cannibal_62 (B1), Chaelin_63 (B1), CheetO_62 (B1), Cher_62 (B1), Cosmolli16_63 (B1), Craff_65 (B1), DaddyDaniels_64 (B1), Daka_65 (B1), Dione_60 (B1), DirtJuice_63 (B1), Durga_65 (B1), Eugenia_62 (B1), Fringe_66 (B1), FugateOSU_63 (B1), Gareth_62 (B1), Gwilliam_64 (B1), Haleema_61 (B1), HenryJackson_62 (B1), HighStump_64 (B1), Inverness_61 (B1), JangoPhett_62 (B1), Jillium_62 (B1), Kahve_62 (B1), Katniss_63 (B1), Keitherie_64 (B1), Kloppinator_63 (B1), Kwadwo_61 (B1), Legolas_64 (B1), LemonSlice_63 (B1), LuckyMarjie_60 (B1), Lulwa_60 (B1), Lumine_63 (B1), MRabcd_62 (B1), Mana_61 (B1), Matalotodo_62 (B1), Mcshane_61 (B1), Mecca_62 (B1), Megamind20_63 (B1), MiniBoss_60 (B1), Morty_63 (B1), Mulan_62 (B1), Mutante_62 (B1), Nacho_0064 (B1), Nicole21_63 (B1), Nyala_61 (B1), Olak_63 (B1), Olive_62 (B1), Omniscient_63 (B1), Orfeu_62 (B1), Pacifista_65 (B1), Phamished_64 (B1), Piglet_0062 (B1), Placalicious_63 (B1), Plmatters_61 (B1), Podrick_61 (B1), QueenBeane_62 (B1), Quisquilliae_63 (B1), Riggan_63 (B1), Robyn_62 (B1), Roliet_60 (B1), Roscoe_63 (B1), Samaymay_62 (B1), SassyCat97_61 (B1), Serpentine_0062 (B1), ShiVal_60 (B1), Simielle_62 (B1), Skippy_63 (B1), Slatt_63 (B1), Solosis_61 (B1), Sophia_61 (B1), Spartan300_62 (B1), Surely_62 (B1), Telesworld_60 (B1), Timmi_61 (B1), TomBombadil_62 (B1), Tomlarah_63 (B1), Toni_62 (B1), True_61 (B1), Usavi_62 (B1), Vaishali24_61 (B1), Valjean_62 (B1), Vaticameos_59 (B1), Virapocalypse_63 (B1), Waterdiva_62 (B1), Windsor_62 (B1), Xavier_61 (B1), YouGoGlencoco_63 (B1), Zaider_63 (B1), Zelda_63 (B1),

Start 10:

- Found in 8 of 134 (6.0%) of genes in pham
- Manual Annotations of this start: 5 of 118
- Called 62.5% of time when present
- Phage (with cluster) where this start called: JakeO_63 (B1), Maru_62 (B1), PhrodoBaggins_63 (B1), Prickles_64 (B1), Struggle_63 (B1),

Start 12:

- Found in 27 of 134 (20.1%) of genes in pham
- Manual Annotations of this start: 12 of 118
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Brilliant_65 (B1), Carthage_61 (B1), Charles1_63 (B1), Derpp_62 (B1), GeneCoco_63 (B1), Inchworm_64 (B1), Jiminy_63 (B1), Labeouficaum_63 (B1), Magic8_63 (B1), Schadenfreude_62 (B1), Soile_63 (B1), TyrionL_63 (B1),

Summary by clusters:

There is one cluster represented in this pham: B1

Info for manual annotations of cluster B1:

- Start number 7 was manually annotated 3 times for cluster B1.
- Start number 8 was manually annotated 6 times for cluster B1.
- Start number 9 was manually annotated 92 times for cluster B1.
- Start number 10 was manually annotated 5 times for cluster B1.

- Start number 12 was manually annotated 12 times for cluster B1.

Gene Information:

Gene: Adriana_64 Start: 55683, Stop: 55561, Start Num: 9

Candidate Starts for Adriana_64:

(Start: 7 @55704 has 3 MA's), (Start: 9 @55683 has 92 MA's), (13, 55617),

Gene: Aelin_62 Start: 54620, Stop: 54498, Start Num: 9

Candidate Starts for Aelin_62:

(Start: 7 @54641 has 3 MA's), (Start: 9 @54620 has 92 MA's), (13, 54554),

Gene: Altwerkus_60 Start: 54266, Stop: 54144, Start Num: 9

Candidate Starts for Altwerkus_60:

(Start: 7 @54287 has 3 MA's), (Start: 9 @54266 has 92 MA's), (13, 54200),

Gene: Anderson_63 Start: 54838, Stop: 54716, Start Num: 9

Candidate Starts for Anderson_63:

(Start: 7 @54859 has 3 MA's), (Start: 9 @54838 has 92 MA's), (13, 54772),

Gene: Banjo_61 Start: 54613, Stop: 54491, Start Num: 9

Candidate Starts for Banjo_61:

(Start: 7 @54634 has 3 MA's), (Start: 9 @54613 has 92 MA's), (13, 54547),

Gene: Bishoperium_62 Start: 55152, Stop: 55030, Start Num: 9

Candidate Starts for Bishoperium_62:

(Start: 7 @55173 has 3 MA's), (Start: 9 @55152 has 92 MA's), (13, 55086),

Gene: BlueHusk_64 Start: 54636, Stop: 54514, Start Num: 9

Candidate Starts for BlueHusk_64:

(Start: 7 @54657 has 3 MA's), (Start: 9 @54636 has 92 MA's), (13, 54570),

Gene: Bluephacebaby_62 Start: 55155, Stop: 55033, Start Num: 9

Candidate Starts for Bluephacebaby_62:

(Start: 7 @55176 has 3 MA's), (Start: 9 @55155 has 92 MA's), (13, 55089),

Gene: Boehler_62 Start: 54799, Stop: 54677, Start Num: 9

Candidate Starts for Boehler_62:

(Start: 7 @54820 has 3 MA's), (Start: 9 @54799 has 92 MA's), (13, 54733),

Gene: Brilliant_65 Start: 55102, Stop: 54998, Start Num: 12

Candidate Starts for Brilliant_65:

(11, 55105), (Start: 12 @55102 has 12 MA's), (13, 55054),

Gene: Burr_62 Start: 54588, Stop: 54466, Start Num: 9

Candidate Starts for Burr_62:

(Start: 7 @54609 has 3 MA's), (Start: 9 @54588 has 92 MA's), (13, 54522),

Gene: CamL_62 Start: 54920, Stop: 54798, Start Num: 9

Candidate Starts for CamL_62:

(Start: 7 @54941 has 3 MA's), (Start: 9 @54920 has 92 MA's), (13, 54854),

Gene: Cannibal_62 Start: 54862, Stop: 54740, Start Num: 9
Candidate Starts for Cannibal_62:
(Start: 7 @54883 has 3 MA's), (Start: 9 @54862 has 92 MA's), (13, 54796),

Gene: Carthage_61 Start: 54081, Stop: 53977, Start Num: 12
Candidate Starts for Carthage_61:
(11, 54084), (Start: 12 @54081 has 12 MA's), (13, 54033),

Gene: Chaelin_63 Start: 55150, Stop: 55028, Start Num: 9
Candidate Starts for Chaelin_63:
(Start: 7 @55171 has 3 MA's), (Start: 9 @55150 has 92 MA's), (13, 55084),

Gene: Charles1_63 Start: 54856, Stop: 54752, Start Num: 12
Candidate Starts for Charles1_63:
(Start: 10 @54871 has 5 MA's), (11, 54859), (Start: 12 @54856 has 12 MA's), (14, 54808),

Gene: CheetO_62 Start: 54836, Stop: 54714, Start Num: 9
Candidate Starts for CheetO_62:
(Start: 7 @54857 has 3 MA's), (Start: 9 @54836 has 92 MA's), (13, 54770),

Gene: Cher_62 Start: 55130, Stop: 55008, Start Num: 9
Candidate Starts for Cher_62:
(Start: 7 @55151 has 3 MA's), (Start: 9 @55130 has 92 MA's), (13, 55064),

Gene: Coletti_65 Start: 55699, Stop: 55556, Start Num: 7
Candidate Starts for Coletti_65:
(Start: 7 @55699 has 3 MA's), (Start: 9 @55678 has 92 MA's), (13, 55612),

Gene: Cosmolli16_63 Start: 55320, Stop: 55198, Start Num: 9
Candidate Starts for Cosmolli16_63:
(Start: 7 @55341 has 3 MA's), (Start: 9 @55320 has 92 MA's), (13, 55254),

Gene: Craff_65 Start: 55565, Stop: 55443, Start Num: 9
Candidate Starts for Craff_65:
(Start: 7 @55586 has 3 MA's), (Start: 9 @55565 has 92 MA's), (13, 55499),

Gene: DaddyDaniels_64 Start: 55098, Stop: 54976, Start Num: 9
Candidate Starts for DaddyDaniels_64:
(Start: 7 @55119 has 3 MA's), (Start: 9 @55098 has 92 MA's), (13, 55032),

Gene: Daka_65 Start: 55119, Stop: 54997, Start Num: 9
Candidate Starts for Daka_65:
(Start: 7 @55140 has 3 MA's), (Start: 9 @55119 has 92 MA's), (13, 55053),

Gene: Derpp_62 Start: 54683, Stop: 54579, Start Num: 12
Candidate Starts for Derpp_62:
(1, 55079), (2, 54893), (3, 54818), (4, 54776), (5, 54773), (6, 54746), (Start: 8 @54704 has 6 MA's),
(11, 54686), (Start: 12 @54683 has 12 MA's), (13, 54635),

Gene: Dione_60 Start: 54317, Stop: 54195, Start Num: 9
Candidate Starts for Dione_60:
(Start: 7 @54338 has 3 MA's), (Start: 9 @54317 has 92 MA's), (13, 54251),

Gene: DirtJuice_63 Start: 54907, Stop: 54785, Start Num: 9
Candidate Starts for DirtJuice_63:
(Start: 7 @54928 has 3 MA's), (Start: 9 @54907 has 92 MA's), (13, 54841),

Gene: Durga_65 Start: 55350, Stop: 55228, Start Num: 9
Candidate Starts for Durga_65:
(Start: 7 @55371 has 3 MA's), (Start: 9 @55350 has 92 MA's), (13, 55284),

Gene: Eugenia_62 Start: 54969, Stop: 54847, Start Num: 9
Candidate Starts for Eugenia_62:
(Start: 7 @54990 has 3 MA's), (Start: 9 @54969 has 92 MA's), (13, 54903),

Gene: Fringe_66 Start: 55484, Stop: 55362, Start Num: 9
Candidate Starts for Fringe_66:
(Start: 7 @55505 has 3 MA's), (Start: 9 @55484 has 92 MA's), (13, 55418),

Gene: FugateOSU_63 Start: 55653, Stop: 55531, Start Num: 9
Candidate Starts for FugateOSU_63:
(Start: 7 @55674 has 3 MA's), (Start: 9 @55653 has 92 MA's), (13, 55587),

Gene: Gareth_62 Start: 55106, Stop: 54984, Start Num: 9
Candidate Starts for Gareth_62:
(Start: 7 @55127 has 3 MA's), (Start: 9 @55106 has 92 MA's), (13, 55040),

Gene: GeneCoco_63 Start: 55131, Stop: 55027, Start Num: 12
Candidate Starts for GeneCoco_63:
(1, 55527), (2, 55341), (3, 55266), (4, 55224), (5, 55221), (6, 55194), (Start: 8 @55152 has 6 MA's),
(11, 55134), (Start: 12 @55131 has 12 MA's), (13, 55083),

Gene: Gwilliam_64 Start: 55500, Stop: 55378, Start Num: 9
Candidate Starts for Gwilliam_64:
(Start: 7 @55521 has 3 MA's), (Start: 9 @55500 has 92 MA's), (13, 55434),

Gene: Haleema_61 Start: 54647, Stop: 54525, Start Num: 9
Candidate Starts for Haleema_61:
(Start: 7 @54668 has 3 MA's), (Start: 9 @54647 has 92 MA's), (13, 54581),

Gene: HenryJackson_62 Start: 55130, Stop: 55008, Start Num: 9
Candidate Starts for HenryJackson_62:
(Start: 7 @55151 has 3 MA's), (Start: 9 @55130 has 92 MA's), (13, 55064),

Gene: HighStump_64 Start: 55107, Stop: 54985, Start Num: 9
Candidate Starts for HighStump_64:
(Start: 7 @55128 has 3 MA's), (Start: 9 @55107 has 92 MA's), (13, 55041),

Gene: Inchworm_64 Start: 54966, Stop: 54862, Start Num: 12
Candidate Starts for Inchworm_64:
(1, 55362), (2, 55176), (3, 55101), (4, 55059), (5, 55056), (6, 55029), (Start: 8 @54987 has 6 MA's),
(11, 54969), (Start: 12 @54966 has 12 MA's), (13, 54918),

Gene: Inverness_61 Start: 54634, Stop: 54512, Start Num: 9
Candidate Starts for Inverness_61:

(Start: 7 @54655 has 3 MA's), (Start: 9 @54634 has 92 MA's), (13, 54568),

Gene: JakeO_63 Start: 54859, Stop: 54740, Start Num: 10

Candidate Starts for JakeO_63:

(Start: 10 @54859 has 5 MA's), (11, 54847), (Start: 12 @54844 has 12 MA's), (13, 54796),

Gene: JangoPhett_62 Start: 54921, Stop: 54799, Start Num: 9

Candidate Starts for JangoPhett_62:

(Start: 7 @54942 has 3 MA's), (Start: 9 @54921 has 92 MA's), (13, 54855),

Gene: Jillium_62 Start: 55125, Stop: 55003, Start Num: 9

Candidate Starts for Jillium_62:

(Start: 7 @55146 has 3 MA's), (Start: 9 @55125 has 92 MA's), (13, 55059),

Gene: Jiminy_63 Start: 54680, Stop: 54576, Start Num: 12

Candidate Starts for Jiminy_63:

(Start: 10 @54695 has 5 MA's), (11, 54683), (Start: 12 @54680 has 12 MA's), (13, 54632),

Gene: Jiraiya_66 Start: 54899, Stop: 54774, Start Num: 8

Candidate Starts for Jiraiya_66:

(1, 55274), (2, 55088), (3, 55013), (4, 54971), (5, 54968), (6, 54941), (Start: 8 @54899 has 6 MA's), (11, 54881), (Start: 12 @54878 has 12 MA's), (13, 54830),

Gene: Kahve_62 Start: 55127, Stop: 55005, Start Num: 9

Candidate Starts for Kahve_62:

(Start: 7 @55148 has 3 MA's), (Start: 9 @55127 has 92 MA's), (13, 55061),

Gene: Katniss_63 Start: 54565, Stop: 54443, Start Num: 9

Candidate Starts for Katniss_63:

(Start: 7 @54586 has 3 MA's), (Start: 9 @54565 has 92 MA's), (13, 54499),

Gene: Keitherie_64 Start: 55188, Stop: 55066, Start Num: 9

Candidate Starts for Keitherie_64:

(Start: 7 @55209 has 3 MA's), (Start: 9 @55188 has 92 MA's), (13, 55122),

Gene: Kimbrough_63 Start: 55189, Stop: 55046, Start Num: 7

Candidate Starts for Kimbrough_63:

(Start: 7 @55189 has 3 MA's), (Start: 9 @55168 has 92 MA's), (13, 55102),

Gene: KlimbOn_62 Start: 54647, Stop: 54504, Start Num: 7

Candidate Starts for KlimbOn_62:

(Start: 7 @54647 has 3 MA's), (Start: 9 @54626 has 92 MA's), (13, 54560),

Gene: Kloppinator_63 Start: 54777, Stop: 54655, Start Num: 9

Candidate Starts for Kloppinator_63:

(Start: 7 @54798 has 3 MA's), (Start: 9 @54777 has 92 MA's), (13, 54711),

Gene: Kwadwo_61 Start: 54578, Stop: 54456, Start Num: 9

Candidate Starts for Kwadwo_61:

(Start: 7 @54599 has 3 MA's), (Start: 9 @54578 has 92 MA's), (13, 54512),

Gene: Kwksand96_63 Start: 54716, Stop: 54591, Start Num: 8

Candidate Starts for Kwksand96_63:

(1, 55091), (2, 54905), (3, 54830), (4, 54788), (5, 54785), (6, 54758), (Start: 8 @54716 has 6 MA's), (11, 54698), (Start: 12 @54695 has 12 MA's), (13, 54647),

Gene: Labeouficaum_63 Start: 54683, Stop: 54579, Start Num: 12

Candidate Starts for Labeouficaum_63:

(1, 55079), (2, 54893), (3, 54818), (4, 54776), (5, 54773), (6, 54746), (Start: 8 @54704 has 6 MA's), (11, 54686), (Start: 12 @54683 has 12 MA's), (13, 54635),

Gene: LasagnaCat_63 Start: 54999, Stop: 54874, Start Num: 8

Candidate Starts for LasagnaCat_63:

(1, 55374), (2, 55188), (3, 55113), (4, 55071), (5, 55068), (6, 55041), (Start: 8 @54999 has 6 MA's), (11, 54981), (Start: 12 @54978 has 12 MA's), (13, 54930),

Gene: Legolas_64 Start: 54947, Stop: 54825, Start Num: 9

Candidate Starts for Legolas_64:

(Start: 7 @54968 has 3 MA's), (Start: 9 @54947 has 92 MA's), (13, 54881),

Gene: LeiMonet_65 Start: 55073, Stop: 54948, Start Num: 8

Candidate Starts for LeiMonet_65:

(1, 55448), (2, 55262), (3, 55187), (4, 55145), (5, 55142), (6, 55115), (Start: 8 @55073 has 6 MA's), (11, 55055), (Start: 12 @55052 has 12 MA's), (13, 55004),

Gene: LemonSlice_63 Start: 54538, Stop: 54416, Start Num: 9

Candidate Starts for LemonSlice_63:

(Start: 7 @54559 has 3 MA's), (Start: 9 @54538 has 92 MA's), (13, 54472),

Gene: Longacauda_63 Start: 54976, Stop: 54851, Start Num: 8

Candidate Starts for Longacauda_63:

(1, 55351), (2, 55165), (3, 55090), (4, 55048), (5, 55045), (6, 55018), (Start: 8 @54976 has 6 MA's), (11, 54958), (Start: 12 @54955 has 12 MA's), (13, 54907),

Gene: LuckyMarjie_60 Start: 54328, Stop: 54206, Start Num: 9

Candidate Starts for LuckyMarjie_60:

(Start: 7 @54349 has 3 MA's), (Start: 9 @54328 has 92 MA's), (13, 54262),

Gene: Lulwa_60 Start: 53910, Stop: 53788, Start Num: 9

Candidate Starts for Lulwa_60:

(Start: 7 @53931 has 3 MA's), (Start: 9 @53910 has 92 MA's), (13, 53844),

Gene: Lumine_63 Start: 54797, Stop: 54675, Start Num: 9

Candidate Starts for Lumine_63:

(Start: 7 @54818 has 3 MA's), (Start: 9 @54797 has 92 MA's), (13, 54731),

Gene: MRabcd_62 Start: 54921, Stop: 54799, Start Num: 9

Candidate Starts for MRabcd_62:

(Start: 7 @54942 has 3 MA's), (Start: 9 @54921 has 92 MA's), (13, 54855),

Gene: Magic8_63 Start: 54897, Stop: 54793, Start Num: 12

Candidate Starts for Magic8_63:

(1, 55293), (2, 55107), (3, 55032), (4, 54990), (5, 54987), (6, 54960), (Start: 8 @54918 has 6 MA's), (11, 54900), (Start: 12 @54897 has 12 MA's), (13, 54849),

Gene: Mana_61 Start: 54593, Stop: 54471, Start Num: 9

Candidate Starts for Mana_61:

(Start: 7 @54614 has 3 MA's), (Start: 9 @54593 has 92 MA's), (13, 54527),

Gene: Maru_62 Start: 55029, Stop: 54910, Start Num: 10

Candidate Starts for Maru_62:

(Start: 10 @55029 has 5 MA's), (11, 55017), (Start: 12 @55014 has 12 MA's), (13, 54966),

Gene: Matalotodo_62 Start: 55145, Stop: 55023, Start Num: 9

Candidate Starts for Matalotodo_62:

(Start: 7 @55166 has 3 MA's), (Start: 9 @55145 has 92 MA's), (13, 55079),

Gene: Mcshane_61 Start: 54591, Stop: 54469, Start Num: 9

Candidate Starts for Mcshane_61:

(Start: 7 @54612 has 3 MA's), (Start: 9 @54591 has 92 MA's), (13, 54525),

Gene: Mecca_62 Start: 55156, Stop: 55034, Start Num: 9

Candidate Starts for Mecca_62:

(Start: 7 @55177 has 3 MA's), (Start: 9 @55156 has 92 MA's), (13, 55090),

Gene: Megamind20_63 Start: 54579, Stop: 54457, Start Num: 9

Candidate Starts for Megamind20_63:

(Start: 7 @54600 has 3 MA's), (Start: 9 @54579 has 92 MA's), (13, 54513),

Gene: MiniBoss_60 Start: 53938, Stop: 53816, Start Num: 9

Candidate Starts for MiniBoss_60:

(Start: 7 @53959 has 3 MA's), (Start: 9 @53938 has 92 MA's), (13, 53872),

Gene: Morty_63 Start: 55120, Stop: 54998, Start Num: 9

Candidate Starts for Morty_63:

(Start: 7 @55141 has 3 MA's), (Start: 9 @55120 has 92 MA's), (13, 55054),

Gene: Mulan_62 Start: 54831, Stop: 54709, Start Num: 9

Candidate Starts for Mulan_62:

(Start: 7 @54852 has 3 MA's), (Start: 9 @54831 has 92 MA's), (13, 54765),

Gene: Mutante_62 Start: 54603, Stop: 54481, Start Num: 9

Candidate Starts for Mutante_62:

(Start: 7 @54624 has 3 MA's), (Start: 9 @54603 has 92 MA's), (13, 54537),

Gene: Nacho_0064 Start: 55351, Stop: 55229, Start Num: 9

Candidate Starts for Nacho_0064:

(Start: 7 @55372 has 3 MA's), (Start: 9 @55351 has 92 MA's), (13, 55285),

Gene: Nicole21_63 Start: 54882, Stop: 54760, Start Num: 9

Candidate Starts for Nicole21_63:

(Start: 7 @54903 has 3 MA's), (Start: 9 @54882 has 92 MA's), (13, 54816),

Gene: Nyala_61 Start: 54601, Stop: 54479, Start Num: 9

Candidate Starts for Nyala_61:

(Start: 7 @54622 has 3 MA's), (Start: 9 @54601 has 92 MA's), (13, 54535),

Gene: Olak_63 Start: 54604, Stop: 54482, Start Num: 9

Candidate Starts for Olak_63:

(Start: 7 @54625 has 3 MA's), (Start: 9 @54604 has 92 MA's), (13, 54538),

Gene: Olive_62 Start: 54817, Stop: 54695, Start Num: 9

Candidate Starts for Olive_62:

(Start: 7 @54838 has 3 MA's), (Start: 9 @54817 has 92 MA's), (13, 54751),

Gene: Omniscient_63 Start: 55464, Stop: 55342, Start Num: 9

Candidate Starts for Omniscient_63:

(Start: 7 @55485 has 3 MA's), (Start: 9 @55464 has 92 MA's), (13, 55398),

Gene: Orfeu_62 Start: 55140, Stop: 55018, Start Num: 9

Candidate Starts for Orfeu_62:

(Start: 7 @55161 has 3 MA's), (Start: 9 @55140 has 92 MA's), (13, 55074),

Gene: Pacifista_65 Start: 54600, Stop: 54478, Start Num: 9

Candidate Starts for Pacifista_65:

(Start: 7 @54621 has 3 MA's), (Start: 9 @54600 has 92 MA's), (13, 54534),

Gene: Phamished_64 Start: 54813, Stop: 54691, Start Num: 9

Candidate Starts for Phamished_64:

(Start: 7 @54834 has 3 MA's), (Start: 9 @54813 has 92 MA's), (13, 54747),

Gene: PhatLouie_64 Start: 55160, Stop: 55017, Start Num: 7

Candidate Starts for PhatLouie_64:

(Start: 7 @55160 has 3 MA's), (Start: 9 @55139 has 92 MA's), (13, 55073),

Gene: PhenghisKhan_63 Start: 54773, Stop: 54648, Start Num: 8

Candidate Starts for PhenghisKhan_63:

(1, 55148), (2, 54962), (3, 54887), (4, 54845), (5, 54842), (6, 54815), (Start: 8 @54773 has 6 MA's),
(11, 54755), (Start: 12 @54752 has 12 MA's), (13, 54704),

Gene: Phergie_103 Start: 54765, Stop: 54640, Start Num: 8

Candidate Starts for Phergie_103:

(1, 55140), (2, 54954), (3, 54879), (4, 54837), (5, 54834), (6, 54807), (Start: 8 @54765 has 6 MA's),
(11, 54747), (Start: 12 @54744 has 12 MA's), (13, 54696),

Gene: PhrankReynolds_62 Start: 54770, Stop: 54645, Start Num: 8

Candidate Starts for PhrankReynolds_62:

(1, 55145), (2, 54959), (3, 54884), (4, 54842), (5, 54839), (6, 54812), (Start: 8 @54770 has 6 MA's),
(11, 54752), (Start: 12 @54749 has 12 MA's), (13, 54701),

Gene: PhrodoBaggins_63 Start: 54984, Stop: 54865, Start Num: 10

Candidate Starts for PhrodoBaggins_63:

(Start: 10 @54984 has 5 MA's), (11, 54972), (Start: 12 @54969 has 12 MA's), (13, 54921),

Gene: Piglet_0062 Start: 55093, Stop: 54971, Start Num: 9

Candidate Starts for Piglet_0062:

(Start: 7 @55114 has 3 MA's), (Start: 9 @55093 has 92 MA's), (13, 55027),

Gene: Placalicious_63 Start: 55650, Stop: 55528, Start Num: 9

Candidate Starts for Placalicious_63:

(Start: 7 @55671 has 3 MA's), (Start: 9 @55650 has 92 MA's), (13, 55584),

Gene: Plmatters_61 Start: 54623, Stop: 54501, Start Num: 9
Candidate Starts for Plmatters_61:
(Start: 7 @54644 has 3 MA's), (Start: 9 @54623 has 92 MA's), (13, 54557),

Gene: Podrick_61 Start: 54402, Stop: 54280, Start Num: 9
Candidate Starts for Podrick_61:
(Start: 7 @54423 has 3 MA's), (Start: 9 @54402 has 92 MA's), (13, 54336),

Gene: Prickles_64 Start: 55111, Stop: 54992, Start Num: 10
Candidate Starts for Prickles_64:
(Start: 10 @55111 has 5 MA's), (11, 55099), (Start: 12 @55096 has 12 MA's), (13, 55048),

Gene: QueenBeane_62 Start: 54920, Stop: 54798, Start Num: 9
Candidate Starts for QueenBeane_62:
(Start: 7 @54941 has 3 MA's), (Start: 9 @54920 has 92 MA's), (13, 54854),

Gene: Quisquilliae_63 Start: 54881, Stop: 54759, Start Num: 9
Candidate Starts for Quisquilliae_63:
(Start: 7 @54902 has 3 MA's), (Start: 9 @54881 has 92 MA's), (13, 54815),

Gene: Riggan_63 Start: 54913, Stop: 54791, Start Num: 9
Candidate Starts for Riggan_63:
(Start: 7 @54934 has 3 MA's), (Start: 9 @54913 has 92 MA's), (13, 54847),

Gene: Rimu_65 Start: 55102, Stop: 54959, Start Num: 7
Candidate Starts for Rimu_65:
(Start: 7 @55102 has 3 MA's), (Start: 9 @55081 has 92 MA's), (13, 55015),

Gene: Robyn_62 Start: 54760, Stop: 54638, Start Num: 9
Candidate Starts for Robyn_62:
(Start: 7 @54781 has 3 MA's), (Start: 9 @54760 has 92 MA's), (13, 54694),

Gene: Roliet_60 Start: 53955, Stop: 53833, Start Num: 9
Candidate Starts for Roliet_60:
(Start: 7 @53976 has 3 MA's), (Start: 9 @53955 has 92 MA's), (13, 53889),

Gene: Roscoe_63 Start: 55059, Stop: 54937, Start Num: 9
Candidate Starts for Roscoe_63:
(Start: 7 @55080 has 3 MA's), (Start: 9 @55059 has 92 MA's), (13, 54993),

Gene: Samaymay_62 Start: 54920, Stop: 54798, Start Num: 9
Candidate Starts for Samaymay_62:
(Start: 7 @54941 has 3 MA's), (Start: 9 @54920 has 92 MA's), (13, 54854),

Gene: SassyCat97_61 Start: 54605, Stop: 54483, Start Num: 9
Candidate Starts for SassyCat97_61:
(Start: 7 @54626 has 3 MA's), (Start: 9 @54605 has 92 MA's), (13, 54539),

Gene: Schadenfreude_62 Start: 54467, Stop: 54363, Start Num: 12
Candidate Starts for Schadenfreude_62:
(Start: 10 @54482 has 5 MA's), (11, 54470), (Start: 12 @54467 has 12 MA's), (13, 54419),

Gene: Selr12_64 Start: 54650, Stop: 54507, Start Num: 7

Candidate Starts for Selr12_64:

(Start: 7 @54650 has 3 MA's), (Start: 9 @54629 has 92 MA's), (13, 54563),

Gene: Serpentine_0062 Start: 54985, Stop: 54863, Start Num: 9

Candidate Starts for Serpentine_0062:

(Start: 7 @55006 has 3 MA's), (Start: 9 @54985 has 92 MA's), (13, 54919),

Gene: ShiVal_60 Start: 54624, Stop: 54502, Start Num: 9

Candidate Starts for ShiVal_60:

(Start: 7 @54645 has 3 MA's), (Start: 9 @54624 has 92 MA's), (13, 54558),

Gene: Simielle_62 Start: 54584, Stop: 54462, Start Num: 9

Candidate Starts for Simielle_62:

(Start: 7 @54605 has 3 MA's), (Start: 9 @54584 has 92 MA's), (13, 54518),

Gene: Skippy_63 Start: 54838, Stop: 54716, Start Num: 9

Candidate Starts for Skippy_63:

(Start: 7 @54859 has 3 MA's), (Start: 9 @54838 has 92 MA's), (13, 54772),

Gene: Slatt_63 Start: 54903, Stop: 54781, Start Num: 9

Candidate Starts for Slatt_63:

(Start: 7 @54924 has 3 MA's), (Start: 9 @54903 has 92 MA's), (13, 54837),

Gene: Soile_63 Start: 55115, Stop: 55011, Start Num: 12

Candidate Starts for Soile_63:

(11, 55118), (Start: 12 @55115 has 12 MA's), (13, 55067),

Gene: Solosis_61 Start: 54599, Stop: 54477, Start Num: 9

Candidate Starts for Solosis_61:

(Start: 7 @54620 has 3 MA's), (Start: 9 @54599 has 92 MA's), (13, 54533),

Gene: Sophia_61 Start: 54593, Stop: 54471, Start Num: 9

Candidate Starts for Sophia_61:

(Start: 7 @54614 has 3 MA's), (Start: 9 @54593 has 92 MA's), (13, 54527),

Gene: Spartan300_62 Start: 54821, Stop: 54699, Start Num: 9

Candidate Starts for Spartan300_62:

(Start: 7 @54842 has 3 MA's), (Start: 9 @54821 has 92 MA's), (13, 54755),

Gene: Struggle_63 Start: 54693, Stop: 54574, Start Num: 10

Candidate Starts for Struggle_63:

(Start: 10 @54693 has 5 MA's), (11, 54681), (Start: 12 @54678 has 12 MA's), (13, 54630),

Gene: Surely_62 Start: 54895, Stop: 54773, Start Num: 9

Candidate Starts for Surely_62:

(Start: 7 @54916 has 3 MA's), (Start: 9 @54895 has 92 MA's), (13, 54829),

Gene: Swiphy_66 Start: 55160, Stop: 55017, Start Num: 7

Candidate Starts for Swiphy_66:

(Start: 7 @55160 has 3 MA's), (Start: 9 @55139 has 92 MA's), (13, 55073),

Gene: Telesworld_60 Start: 54714, Stop: 54592, Start Num: 9

Candidate Starts for Telesworld_60:

(Start: 7 @54735 has 3 MA's), (Start: 9 @54714 has 92 MA's), (13, 54648),

Gene: Thunderbird_63 Start: 54854, Stop: 54729, Start Num: 8

Candidate Starts for Thunderbird_63:

(1, 55229), (2, 55043), (3, 54968), (4, 54926), (5, 54923), (6, 54896), (Start: 8 @54854 has 6 MA's), (11, 54836), (Start: 12 @54833 has 12 MA's), (13, 54785),

Gene: Timmi_61 Start: 54594, Stop: 54472, Start Num: 9

Candidate Starts for Timmi_61:

(Start: 7 @54615 has 3 MA's), (Start: 9 @54594 has 92 MA's), (13, 54528),

Gene: TomBombadil_62 Start: 54879, Stop: 54757, Start Num: 9

Candidate Starts for TomBombadil_62:

(Start: 7 @54900 has 3 MA's), (Start: 9 @54879 has 92 MA's), (13, 54813),

Gene: Tomlarah_63 Start: 55448, Stop: 55326, Start Num: 9

Candidate Starts for Tomlarah_63:

(Start: 7 @55469 has 3 MA's), (Start: 9 @55448 has 92 MA's), (13, 55382),

Gene: Toni_62 Start: 55041, Stop: 54919, Start Num: 9

Candidate Starts for Toni_62:

(Start: 7 @55062 has 3 MA's), (Start: 9 @55041 has 92 MA's), (13, 54975),

Gene: True_61 Start: 54604, Stop: 54482, Start Num: 9

Candidate Starts for True_61:

(Start: 7 @54625 has 3 MA's), (Start: 9 @54604 has 92 MA's), (13, 54538),

Gene: TyrionL_63 Start: 54683, Stop: 54579, Start Num: 12

Candidate Starts for TyrionL_63:

(1, 55079), (2, 54893), (3, 54818), (4, 54776), (5, 54773), (6, 54746), (Start: 8 @54704 has 6 MA's), (11, 54686), (Start: 12 @54683 has 12 MA's), (13, 54635),

Gene: Usavi_62 Start: 54974, Stop: 54852, Start Num: 9

Candidate Starts for Usavi_62:

(Start: 7 @54995 has 3 MA's), (Start: 9 @54974 has 92 MA's), (13, 54908),

Gene: Vaishali24_61 Start: 54509, Stop: 54387, Start Num: 9

Candidate Starts for Vaishali24_61:

(Start: 7 @54530 has 3 MA's), (Start: 9 @54509 has 92 MA's), (13, 54443),

Gene: Valjean_62 Start: 54831, Stop: 54709, Start Num: 9

Candidate Starts for Valjean_62:

(Start: 7 @54852 has 3 MA's), (Start: 9 @54831 has 92 MA's), (13, 54765),

Gene: Vaticameos_59 Start: 53139, Stop: 53017, Start Num: 9

Candidate Starts for Vaticameos_59:

(Start: 7 @53160 has 3 MA's), (Start: 9 @53139 has 92 MA's), (13, 53073),

Gene: Virapocalypse_63 Start: 54930, Stop: 54808, Start Num: 9

Candidate Starts for Virapocalypse_63:

(Start: 7 @54951 has 3 MA's), (Start: 9 @54930 has 92 MA's), (13, 54864),

Gene: Wallhey_63 Start: 54714, Stop: 54589, Start Num: 8

Candidate Starts for Wallhey_63:

(1, 55089), (2, 54903), (3, 54828), (4, 54786), (5, 54783), (6, 54756), (Start: 8 @54714 has 6 MA's), (11, 54696), (Start: 12 @54693 has 12 MA's), (13, 54645),

Gene: Waterdiva_62 Start: 54968, Stop: 54846, Start Num: 9

Candidate Starts for Waterdiva_62:

(Start: 7 @54989 has 3 MA's), (Start: 9 @54968 has 92 MA's), (13, 54902),

Gene: Windsor_62 Start: 55154, Stop: 55032, Start Num: 9

Candidate Starts for Windsor_62:

(Start: 7 @55175 has 3 MA's), (Start: 9 @55154 has 92 MA's), (13, 55088),

Gene: Xavier_61 Start: 54596, Stop: 54474, Start Num: 9

Candidate Starts for Xavier_61:

(Start: 7 @54617 has 3 MA's), (Start: 9 @54596 has 92 MA's), (13, 54530),

Gene: YouGoGlencoco_63 Start: 54834, Stop: 54712, Start Num: 9

Candidate Starts for YouGoGlencoco_63:

(Start: 7 @54855 has 3 MA's), (Start: 9 @54834 has 92 MA's), (13, 54768),

Gene: Zaider_63 Start: 55075, Stop: 54953, Start Num: 9

Candidate Starts for Zaider_63:

(Start: 7 @55096 has 3 MA's), (Start: 9 @55075 has 92 MA's), (13, 55009),

Gene: Zelda_63 Start: 55236, Stop: 55114, Start Num: 9

Candidate Starts for Zelda_63:

(Start: 7 @55257 has 3 MA's), (Start: 9 @55236 has 92 MA's), (13, 55170),