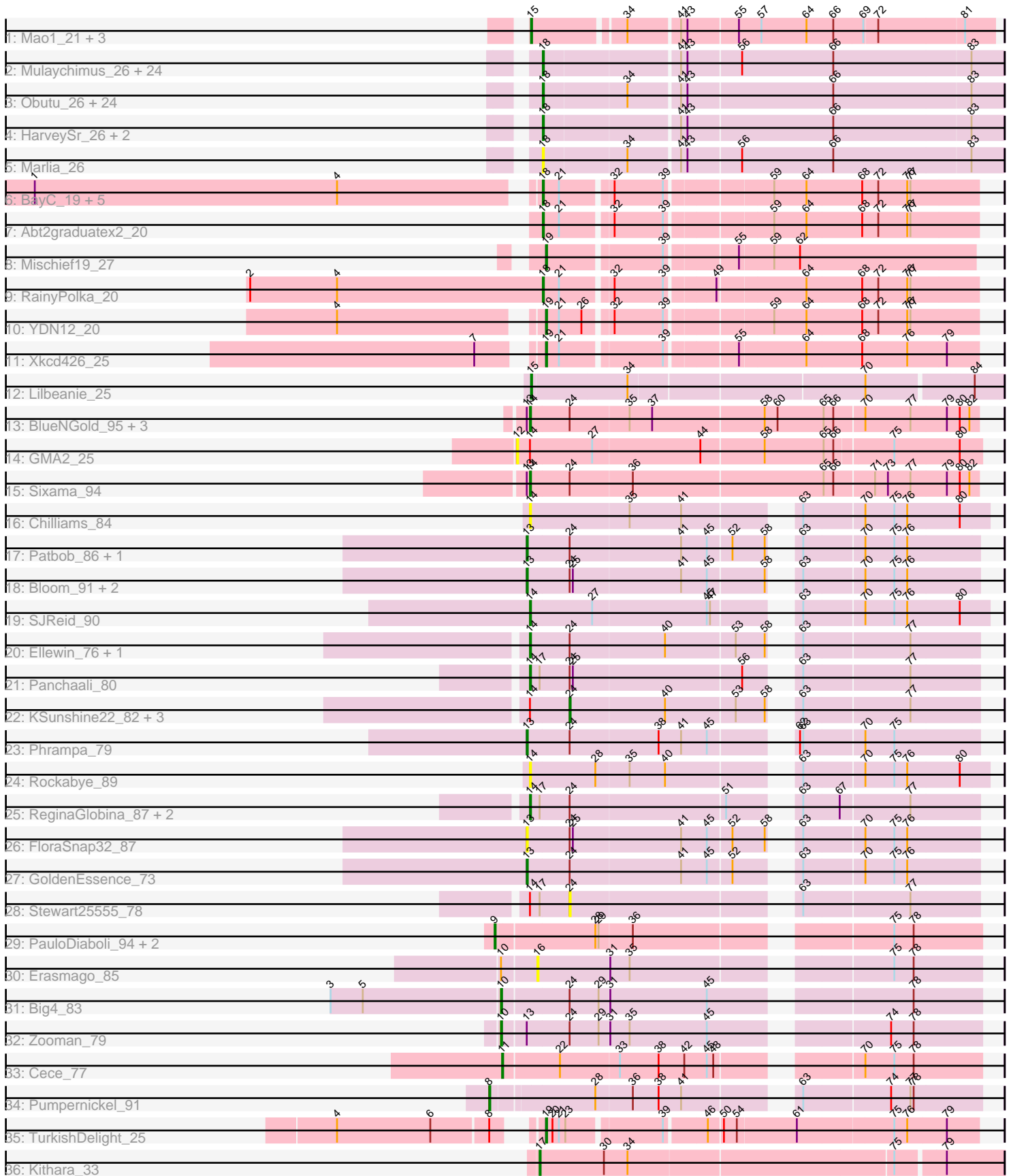


Pham 296410



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 296410 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296410 has 108 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Mao1_21, Mask_22, Dori_22, Sejanus_22
- Track 2 : Mulaychimus_26, Bernardo_26, GlenHope_27, Tydolla_26, Gervas_26, SlippinJimmy_26, Baloo_26, Briakila_26, Morty007_26, Chentzyk_25, Audrey_26, Phlyer_26, Pipefish_26, Mortcellus_25, Marley1013_26, Ben11_25, Gadget_27, TinyTerror_26, Heathcliff_26, Akoma_26, Kronus_25, Yahalom_26, Halfpint_25, MmasiCarm_26, Chalmers_26
- Track 3 : Obutu_26, RagingRooster_26, OrangeOswald_26, Athena_27, Shenandoah_26, ChaChing_26, Phayeta_26, SwainyDoc_26, Corofin_26, Glubnar_27, Neos5_26, Olivio_25, SynergyX_26, LestyG_26, Philly_25, Rita1961_26, Devonte_26, Yinz_26, Chandler_26, Compostia_27, Casbah_25, Abinghost_26, Deenasa_26, Nozo_26, Kamiyu_26
- Track 4 : HarveySr_26, RomaT_26, Daisy_26
- Track 5 : Marlia_26
- Track 6 : BayC_19, TP1604_19, BabyGotBac_19, Maih_19, Salete_19, Asis_19
- Track 7 : Abt2graduatex2_20
- Track 8 : Mischief19_27
- Track 9 : RainyPolka_20
- Track 10 : YDN12_20
- Track 11 : Xkcd426_25
- Track 12 : Lilbeanie_25
- Track 13 : BlueNGold_95, Forza_96, Boopy_96, Mareelih_94
- Track 14 : GMA2_25
- Track 15 : Sixama_94
- Track 16 : Chilliams_84
- Track 17 : Patbob_86, Talia1610_87
- Track 18 : Bloom_91, Racecar_88, Mimi_87
- Track 19 : SJReid_90
- Track 20 : Ellewin_76, DunneganBoMo_77
- Track 21 : Panchaali_80
- Track 22 : KSunshine22_82, WaddleDee_75, BooTeria_84, Artu_80
- Track 23 : Phrampa_79
- Track 24 : Rockabye_89
- Track 25 : ReginaGlobina_87, LeoJr_87, Atuin_82
- Track 26 : FloraSnap32_87
- Track 27 : GoldenEssence_73
- Track 28 : Stewart25555_78
- Track 29 : PauloDiaboli_94, A3Wally_94, Dodo_94

- Track 30 : Erasmago_85
- Track 31 : Big4_83
- Track 32 : Zooman_79
- Track 33 : Cece_77
- Track 34 : Pumpernickel_91
- Track 35 : TurkishDelight_25
- Track 36 : Kithara_33

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

The start number called the most often in the published annotations is 18, it was called in 57 of the 90 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost_26, Abt2graduatex2_20, Akoma_26, Asis_19, Athena_27, Audrey_26, BabyGotBac_19, Baloo_26, BayC_19, Ben11_25, Bernardo_26, Briakila_26, Casbah_25, ChaChing_26, Chalmers_26, Chandler_26, Chentzyk_25, Compostia_27, Corofin_26, Daisy_26, Deenasa_26, Devonte_26, Gadget_27, Gervas_26, GlenHope_27, Glubnar_27, Halfpint_25, HarveySr_26, Heathcliff_26, Kamiyu_26, Kronus_25, LestyG_26, Maih_19, Marley1013_26, Marlia_26, MmasiCarm_26, Mortcellus_25, Morty007_26, Mulaychimus_26, Neos5_26, Nozo_26, Obutu_26, Olivio_25, OrangeOswald_26, Phayeta_26, Philly_25, Phlyer_26, Pipefish_26, RagingRooster_26, RainyPolka_20, Rita1961_26, RomaT_26, Salete_19, Shenandoah_26, SlippinJimmy_26, SwainyDoc_26, SynergyX_26, TP1604_19, TinyTerror_26, Tydolla_26, Yahalom_26, Yinz_26,

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

-

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

- A3Wally_94, Artu_80, Atuin_82, Big4_83, Bloom_91, BlueNGold_95, BooTeria_84, Boopy_96, Cece_77, Chilliams_84, Dodo_94, Dori_22, DunneganBoMo_77, Ellewin_76, Erasmago_85, FloraSnap32_87, Forza_96, GMA2_25, GoldenEssence_73, KSunshine22_82, Kithara_33, LeoJr_87, Lilbeanie_25, Mao1_21, Mareelih_94, Mask_22, Mimi_87, Mischief19_27, Panchaali_80, Patbob_86, PauloDiaboli_94, Phrampa_79, Pumpernickel_91, Racecar_88, ReginaGlobina_87, Rockabye_89, SJReid_90, Sejanus_22, Sixama_94, Stewart25555_78, Talia1610_87, TurkishDelight_25, WaddleDee_75, Xkcd426_25, YDN12_20, Zooman_79,

Summary by start number:

Start 8:

- Found in 2 of 108 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 90
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Pumpernickel_91 (GD4),

Start 9:

- Found in 3 of 108 (2.8%) of genes in pham

- Manual Annotations of this start: 2 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally_94 (GD1), Dodo_94 (GD1), PauloDiaboli_94 (GD1),

Start 10:

- Found in 3 of 108 (2.8%) of genes in pham
- Manual Annotations of this start: 2 of 90
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Big4_83 (GD2), Zooman_79 (GD2),

Start 11:

- Found in 1 of 108 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cece_77 (GD3),

Start 12:

- Found in 1 of 108 (0.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA2_25 (DS),

Start 13:

- Found in 14 of 108 (13.0%) of genes in pham
- Manual Annotations of this start: 6 of 90
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Bloom_91 (FC), FloraSnap32_87 (FC), GoldenEssence_73 (FC), Mimi_87 (FC), Patbob_86 (FC), Phrampa_79 (FC), Racecar_88 (FC), Talia1610_87 (FC),

Start 14:

- Found in 20 of 108 (18.5%) of genes in pham
- Manual Annotations of this start: 10 of 90
- Called 70.0% of time when present
- Phage (with cluster) where this start called: Atuin_82 (FC), BlueNGold_95 (DS), Boopy_96 (DS), Chilliams_84 (FC), DunneganBoMo_77 (FC), Ellewin_76 (FC), Forza_96 (DS), LeoJr_87 (FC), Mareelih_94 (DS), Panchaali_80 (FC), ReginaGlobina_87 (FC), Rockabye_89 (FC), SJReid_90 (FC), Sixama_94 (DS),

Start 15:

- Found in 5 of 108 (4.6%) of genes in pham
- Manual Annotations of this start: 5 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dori_22 (AD), Lilbeanie_25 (DE5), Mao1_21 (AD), Mask_22 (AD), Sejanus_22 (AD),

Start 16:

- Found in 1 of 108 (0.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Erasmago_85 (GD2),

Start 17:

- Found in 6 of 108 (5.6%) of genes in pham
- Manual Annotations of this start: 1 of 90
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Kithara_33 (singleton),

Start 18:

- Found in 62 of 108 (57.4%) of genes in pham
- Manual Annotations of this start: 57 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abinghost_26 (B3), Abt2graduatex2_20 (BG), Akoma_26 (B3), Asis_19 (BG), Athena_27 (B3), Audrey_26 (B3), BabyGotBac_19 (BG), Baloo_26 (B3), BayC_19 (BG), Ben11_25 (B3), Bernardo_26 (B3), Briakila_26 (B3), Casbah_25 (B3), ChaChing_26 (B3), Chalmers_26 (B3), Chandler_26 (B3), Chentzyk_25 (B3), Compostia_27 (B3), Corofin_26 (B3), Daisy_26 (B3), Deenasa_26 (B3), Devonte_26 (B3), Gadget_27 (B3), Gervas_26 (B3), GlenHope_27 (B3), Glubnar_27 (B3), Halfpint_25 (B3), HarveySr_26 (B3), Heathcliff_26 (B3), Kamiyu_26 (B3), Kronus_25 (B3), LestyG_26 (B3), Maih_19 (BG), Marley1013_26 (B3), Marlia_26 (B3), MmasiCarm_26 (B3), Mortcellus_25 (B3), Morty007_26 (B3), Mulaychimus_26 (B3), Neos5_26 (B3), Nozo_26 (B3), Obutu_26 (B3), Olivio_25 (B3), OrangeOswald_26 (B3), Phayeta_26 (B3), Philly_25 (B3), Phlyer_26 (B3), Pipefish_26 (B3), RagingRooster_26 (B3), RainyPolka_20 (BG), Rita1961_26 (B3), RomaT_26 (B3), Salete_19 (BG), Shenandoah_26 (B3), SlippinJimmy_26 (B3), SwainyDoc_26 (B3), SynergyX_26 (B3), TP1604_19 (BG), TinyTerror_26 (B3), Tydolla_26 (B3), Yahalom_26 (B3), Yinz_26 (B3),

Start 19:

- Found in 4 of 108 (3.7%) of genes in pham
- Manual Annotations of this start: 4 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mischief19_27 (BG), TurkishDelight_25 (singleton), Xkcd426_25 (BG), YDN12_20 (BG),

Start 24:

- Found in 26 of 108 (24.1%) of genes in pham
- Manual Annotations of this start: 1 of 90
- Called 19.2% of time when present
- Phage (with cluster) where this start called: Artu_80 (FC), BooTeria_84 (FC), KSunshine22_82 (FC), Stewart25555_78 (FC), WaddleDee_75 (FC),

Summary by clusters:

There are 11 clusters represented in this pham: GD1, GD2, BG, GD4, AD, DE5, FC, B3, GD3, singleton, DS,

Info for manual annotations of cluster AD:

- Start number 15 was manually annotated 4 times for cluster AD.

Info for manual annotations of cluster B3:

- Start number 18 was manually annotated 49 times for cluster B3.

Info for manual annotations of cluster BG:

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

- Start number 19 was manually annotated 3 times for cluster BG.

Info for manual annotations of cluster DE5:

- Start number 15 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DS:

- Start number 14 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster FC:

- Start number 13 was manually annotated 6 times for cluster FC.
- Start number 14 was manually annotated 5 times for cluster FC.
- Start number 24 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster GD1:

- Start number 9 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 10 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 11 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 8 was manually annotated 1 time for cluster GD4.

Gene Information:

Gene: A3Wally_94 Start: 50689, Stop: 51099, Start Num: 9

Candidate Starts for A3Wally_94:

(Start: 9 @50689 has 2 MA's), (28, 50776), (29, 50779), (36, 50809), (75, 51019), (78, 51037),

Gene: Abinghost_26 Start: 19363, Stop: 19776, Start Num: 18

Candidate Starts for Abinghost_26:

(Start: 18 @19363 has 57 MA's), (34, 19438), (41, 19483), (43, 19489), (66, 19621), (83, 19747),

Gene: Abt2graduatex2_20 Start: 19744, Stop: 20124, Start Num: 18

Candidate Starts for Abt2graduatex2_20:

(Start: 18 @19744 has 57 MA's), (21, 19759), (32, 19801), (39, 19846), (59, 19936), (64, 19966), (68, 20017), (72, 20032), (76, 20059), (77, 20062),

Gene: Akoma_26 Start: 19364, Stop: 19777, Start Num: 18

Candidate Starts for Akoma_26:

(Start: 18 @19364 has 57 MA's), (41, 19484), (43, 19490), (56, 19538), (66, 19622), (83, 19748),

Gene: Artu_80 Start: 49418, Stop: 49762, Start Num: 24

Candidate Starts for Artu_80:

(Start: 14 @49382 has 10 MA's), (Start: 24 @49418 has 1 MA's), (40, 49505), (53, 49568), (58, 49595), (63, 49604), (77, 49700),

Gene: Asis_19 Start: 19235, Stop: 19615, Start Num: 18

Candidate Starts for Asis_19:

(1, 18785), (4, 19067), (Start: 18 @19235 has 57 MA's), (21, 19250), (32, 19292), (39, 19337), (59, 19427), (64, 19457), (68, 19508), (72, 19523), (76, 19550), (77, 19553),

Gene: Athena_27 Start: 20126, Stop: 20539, Start Num: 18

Candidate Starts for Athena_27:

(Start: 18 @20126 has 57 MA's), (34, 20201), (41, 20246), (43, 20252), (66, 20384), (83, 20510),

Gene: Atuin_82 Start: 52030, Stop: 52410, Start Num: 14

Candidate Starts for Atuin_82:

(Start: 14 @52030 has 10 MA's), (Start: 17 @52039 has 1 MA's), (Start: 24 @52066 has 1 MA's), (51, 52207), (63, 52252), (67, 52285), (77, 52348),

Gene: Audrey_26 Start: 19363, Stop: 19776, Start Num: 18

Candidate Starts for Audrey_26:

(Start: 18 @19363 has 57 MA's), (41, 19483), (43, 19489), (56, 19537), (66, 19621), (83, 19747),

Gene: BabyGotBac_19 Start: 19235, Stop: 19615, Start Num: 18

Candidate Starts for BabyGotBac_19:

(1, 18785), (4, 19067), (Start: 18 @19235 has 57 MA's), (21, 19250), (32, 19292), (39, 19337), (59, 19427), (64, 19457), (68, 19508), (72, 19523), (76, 19550), (77, 19553),

Gene: Baloo_26 Start: 19363, Stop: 19776, Start Num: 18

Candidate Starts for Baloo_26:

(Start: 18 @19363 has 57 MA's), (41, 19483), (43, 19489), (56, 19537), (66, 19621), (83, 19747),

Gene: BayC_19 Start: 19235, Stop: 19615, Start Num: 18

Candidate Starts for BayC_19:

(1, 18785), (4, 19067), (Start: 18 @19235 has 57 MA's), (21, 19250), (32, 19292), (39, 19337), (59, 19427), (64, 19457), (68, 19508), (72, 19523), (76, 19550), (77, 19553),

Gene: Ben11_25 Start: 19185, Stop: 19598, Start Num: 18

Candidate Starts for Ben11_25:

(Start: 18 @19185 has 57 MA's), (41, 19305), (43, 19311), (56, 19359), (66, 19443), (83, 19569),

Gene: Bernardo_26 Start: 19363, Stop: 19776, Start Num: 18

Candidate Starts for Bernardo_26:

(Start: 18 @19363 has 57 MA's), (41, 19483), (43, 19489), (56, 19537), (66, 19621), (83, 19747),

Gene: Big4_83 Start: 49711, Stop: 50121, Start Num: 10

Candidate Starts for Big4_83:

(3, 49555), (5, 49585), (Start: 10 @49711 has 2 MA's), (Start: 24 @49771 has 1 MA's), (29, 49798), (31, 49807), (45, 49897), (78, 50059),

Gene: Bloom_91 Start: 53421, Stop: 53804, Start Num: 13

Candidate Starts for Bloom_91:

(Start: 13 @53421 has 6 MA's), (Start: 24 @53460 has 1 MA's), (25, 53463), (41, 53562), (45, 53586), (58, 53637), (63, 53646), (70, 53700), (75, 53727), (76, 53739),

Gene: BlueNGold_95 Start: 51971, Stop: 52378, Start Num: 14

Candidate Starts for BlueNGold_95:

(Start: 13 @51968 has 6 MA's), (Start: 14 @51971 has 10 MA's), (Start: 24 @52007 has 1 MA's), (35, 52061), (37, 52082), (58, 52184), (60, 52196), (65, 52238), (66, 52247), (70, 52274), (77, 52316), (79, 52349), (80, 52361), (82, 52370),

Gene: BooTeria_84 Start: 49486, Stop: 49830, Start Num: 24

Candidate Starts for BooTeria_84:

(Start: 14 @49450 has 10 MA's), (Start: 24 @49486 has 1 MA's), (40, 49573), (53, 49636), (58, 49663), (63, 49672), (77, 49768),

Gene: Boopy_96 Start: 51983, Stop: 52390, Start Num: 14

Candidate Starts for Boopy_96:

(Start: 13 @51980 has 6 MA's), (Start: 14 @51983 has 10 MA's), (Start: 24 @52019 has 1 MA's), (35, 52073), (37, 52094), (58, 52196), (60, 52208), (65, 52250), (66, 52259), (70, 52286), (77, 52328), (79, 52361), (80, 52373), (82, 52382),

Gene: Briakila_26 Start: 20128, Stop: 20541, Start Num: 18

Candidate Starts for Briakila_26:

(Start: 18 @20128 has 57 MA's), (41, 20248), (43, 20254), (56, 20302), (66, 20386), (83, 20512),

Gene: Casbah_25 Start: 19215, Stop: 19628, Start Num: 18

Candidate Starts for Casbah_25:

(Start: 18 @19215 has 57 MA's), (34, 19290), (41, 19335), (43, 19341), (66, 19473), (83, 19599),

Gene: Cece_77 Start: 45674, Stop: 46081, Start Num: 11

Candidate Starts for Cece_77:

(Start: 11 @45674 has 1 MA's), (22, 45725), (33, 45779), (38, 45815), (42, 45839), (45, 45860), (48, 45866), (70, 45974), (75, 46001), (78, 46019),

Gene: ChaChing_26 Start: 19378, Stop: 19791, Start Num: 18

Candidate Starts for ChaChing_26:

(Start: 18 @19378 has 57 MA's), (34, 19453), (41, 19498), (43, 19504), (66, 19636), (83, 19762),

Gene: Chalmers_26 Start: 20169, Stop: 20582, Start Num: 18

Candidate Starts for Chalmers_26:

(Start: 18 @20169 has 57 MA's), (41, 20289), (43, 20295), (56, 20343), (66, 20427), (83, 20553),

Gene: Chandler_26 Start: 20137, Stop: 20550, Start Num: 18

Candidate Starts for Chandler_26:

(Start: 18 @20137 has 57 MA's), (34, 20212), (41, 20257), (43, 20263), (66, 20395), (83, 20521),

Gene: Chentzyk_25 Start: 19233, Stop: 19646, Start Num: 18

Candidate Starts for Chentzyk_25:

(Start: 18 @19233 has 57 MA's), (41, 19353), (43, 19359), (56, 19407), (66, 19491), (83, 19617),

Gene: Chilliams_84 Start: 55298, Stop: 55687, Start Num: 14

Candidate Starts for Chilliams_84:

(Start: 14 @55298 has 10 MA's), (35, 55388), (41, 55436), (63, 55520), (70, 55574), (75, 55601), (76, 55613), (80, 55661),

Gene: Compostia_27 Start: 19796, Stop: 20209, Start Num: 18

Candidate Starts for Compostia_27:

(Start: 18 @19796 has 57 MA's), (34, 19871), (41, 19916), (43, 19922), (66, 20054), (83, 20180),

Gene: Corofin_26 Start: 19388, Stop: 19801, Start Num: 18

Candidate Starts for Corofin_26:

(Start: 18 @19388 has 57 MA's), (34, 19463), (41, 19508), (43, 19514), (66, 19646), (83, 19772),

Gene: Daisy_26 Start: 19384, Stop: 19797, Start Num: 18

Candidate Starts for Daisy_26:

(Start: 18 @19384 has 57 MA's), (41, 19504), (43, 19510), (66, 19642), (83, 19768),

Gene: Deenasa_26 Start: 20126, Stop: 20539, Start Num: 18

Candidate Starts for Deenasa_26:

(Start: 18 @20126 has 57 MA's), (34, 20201), (41, 20246), (43, 20252), (66, 20384), (83, 20510),

Gene: Devonte_26 Start: 19363, Stop: 19776, Start Num: 18

Candidate Starts for Devonte_26:

(Start: 18 @19363 has 57 MA's), (34, 19438), (41, 19483), (43, 19489), (66, 19621), (83, 19747),

Gene: Dodo_94 Start: 51011, Stop: 51421, Start Num: 9

Candidate Starts for Dodo_94:

(Start: 9 @51011 has 2 MA's), (28, 51098), (29, 51101), (36, 51131), (75, 51341), (78, 51359),

Gene: Dori_22 Start: 16225, Stop: 16629, Start Num: 15

Candidate Starts for Dori_22:

(Start: 15 @16225 has 5 MA's), (34, 16303), (41, 16348), (43, 16354), (55, 16399), (57, 16420), (64, 16462), (66, 16486), (69, 16513), (72, 16525), (81, 16603),

Gene: DunneganBoMo_77 Start: 48875, Stop: 49255, Start Num: 14

Candidate Starts for DunneganBoMo_77:

(Start: 14 @48875 has 10 MA's), (Start: 24 @48911 has 1 MA's), (40, 48998), (53, 49061), (58, 49088), (63, 49097), (77, 49193),

Gene: Ellewin_76 Start: 48470, Stop: 48850, Start Num: 14

Candidate Starts for Ellewin_76:

(Start: 14 @48470 has 10 MA's), (Start: 24 @48506 has 1 MA's), (40, 48593), (53, 48656), (58, 48683), (63, 48692), (77, 48788),

Gene: Erasmago_85 Start: 47346, Stop: 47723, Start Num: 16

Candidate Starts for Erasmago_85:

(Start: 10 @47316 has 2 MA's), (16, 47346), (31, 47412), (35, 47430), (75, 47643), (78, 47661),

Gene: FloraSnap32_87 Start: 52458, Stop: 52841, Start Num: 13

Candidate Starts for FloraSnap32_87:

(Start: 13 @52458 has 6 MA's), (Start: 24 @52497 has 1 MA's), (25, 52500), (41, 52599), (45, 52623), (52, 52644), (58, 52674), (63, 52683), (70, 52737), (75, 52764), (76, 52776),

Gene: Forza_96 Start: 51899, Stop: 52306, Start Num: 14

Candidate Starts for Forza_96:

(Start: 13 @51896 has 6 MA's), (Start: 14 @51899 has 10 MA's), (Start: 24 @51935 has 1 MA's), (35, 51989), (37, 52010), (58, 52112), (60, 52124), (65, 52166), (66, 52175), (70, 52202), (77, 52244), (79, 52277), (80, 52289), (82, 52298),

Gene: GMA2_25 Start: 22256, Stop: 22675, Start Num: 12

Candidate Starts for GMA2_25:

(12, 22256), (Start: 14 @22268 has 10 MA's), (27, 22325), (44, 22424), (58, 22481), (65, 22535), (66, 22544), (75, 22595), (80, 22655),

Gene: Gadjet_27 Start: 19373, Stop: 19786, Start Num: 18

Candidate Starts for Gadget_27:

(Start: 18 @19373 has 57 MA's), (41, 19493), (43, 19499), (56, 19547), (66, 19631), (83, 19757),

Gene: Gervas_26 Start: 19347, Stop: 19760, Start Num: 18

Candidate Starts for Gervas_26:

(Start: 18 @19347 has 57 MA's), (41, 19467), (43, 19473), (56, 19521), (66, 19605), (83, 19731),

Gene: GlenHope_27 Start: 19356, Stop: 19769, Start Num: 18

Candidate Starts for GlenHope_27:

(Start: 18 @19356 has 57 MA's), (41, 19476), (43, 19482), (56, 19530), (66, 19614), (83, 19740),

Gene: Glubnar_27 Start: 19368, Stop: 19781, Start Num: 18

Candidate Starts for Glubnar_27:

(Start: 18 @19368 has 57 MA's), (34, 19443), (41, 19488), (43, 19494), (66, 19626), (83, 19752),

Gene: GoldenEssence_73 Start: 47214, Stop: 47597, Start Num: 13

Candidate Starts for GoldenEssence_73:

(Start: 13 @47214 has 6 MA's), (Start: 24 @47253 has 1 MA's), (41, 47355), (45, 47379), (52, 47400), (63, 47439), (70, 47493), (75, 47520), (76, 47532),

Gene: Halfpint_25 Start: 19188, Stop: 19601, Start Num: 18

Candidate Starts for Halfpint_25:

(Start: 18 @19188 has 57 MA's), (41, 19308), (43, 19314), (56, 19362), (66, 19446), (83, 19572),

Gene: HarveySr_26 Start: 19343, Stop: 19756, Start Num: 18

Candidate Starts for HarveySr_26:

(Start: 18 @19343 has 57 MA's), (41, 19463), (43, 19469), (66, 19601), (83, 19727),

Gene: Heathcliff_26 Start: 19325, Stop: 19738, Start Num: 18

Candidate Starts for Heathcliff_26:

(Start: 18 @19325 has 57 MA's), (41, 19445), (43, 19451), (56, 19499), (66, 19583), (83, 19709),

Gene: KSunshine22_82 Start: 50145, Stop: 50489, Start Num: 24

Candidate Starts for KSunshine22_82:

(Start: 14 @50109 has 10 MA's), (Start: 24 @50145 has 1 MA's), (40, 50232), (53, 50295), (58, 50322), (63, 50331), (77, 50427),

Gene: Kamiyu_26 Start: 19332, Stop: 19745, Start Num: 18

Candidate Starts for Kamiyu_26:

(Start: 18 @19332 has 57 MA's), (34, 19407), (41, 19452), (43, 19458), (66, 19590), (83, 19716),

Gene: Kithara_33 Start: 23575, Stop: 23991, Start Num: 17

Candidate Starts for Kithara_33:

(Start: 17 @23575 has 1 MA's), (30, 23635), (34, 23656), (75, 23896), (79, 23938),

Gene: Kronus_25 Start: 19946, Stop: 20359, Start Num: 18

Candidate Starts for Kronus_25:

(Start: 18 @19946 has 57 MA's), (41, 20066), (43, 20072), (56, 20120), (66, 20204), (83, 20330),

Gene: LeoJr_87 Start: 52158, Stop: 52538, Start Num: 14

Candidate Starts for LeoJr_87:

(Start: 14 @52158 has 10 MA's), (Start: 17 @52167 has 1 MA's), (Start: 24 @52194 has 1 MA's), (51, 52335), (63, 52380), (67, 52413), (77, 52476),

Gene: LestyG_26 Start: 19367, Stop: 19780, Start Num: 18

Candidate Starts for LestyG_26:

(Start: 18 @19367 has 57 MA's), (34, 19442), (41, 19487), (43, 19493), (66, 19625), (83, 19751),

Gene: Lilbeanie_25 Start: 16498, Stop: 16914, Start Num: 15

Candidate Starts for Lilbeanie_25:

(Start: 15 @16498 has 5 MA's), (34, 16585), (70, 16795), (84, 16888),

Gene: Maih_19 Start: 19234, Stop: 19614, Start Num: 18

Candidate Starts for Maih_19:

(1, 18784), (4, 19066), (Start: 18 @19234 has 57 MA's), (21, 19249), (32, 19291), (39, 19336), (59, 19426), (64, 19456), (68, 19507), (72, 19522), (76, 19549), (77, 19552),

Gene: Mao1_21 Start: 16621, Stop: 17025, Start Num: 15

Candidate Starts for Mao1_21:

(Start: 15 @16621 has 5 MA's), (34, 16699), (41, 16744), (43, 16750), (55, 16795), (57, 16816), (64, 16858), (66, 16882), (69, 16909), (72, 16921), (81, 16999),

Gene: Mareelih_94 Start: 51401, Stop: 51808, Start Num: 14

Candidate Starts for Mareelih_94:

(Start: 13 @51398 has 6 MA's), (Start: 14 @51401 has 10 MA's), (Start: 24 @51437 has 1 MA's), (35, 51491), (37, 51512), (58, 51614), (60, 51626), (65, 51668), (66, 51677), (70, 51704), (77, 51746), (79, 51779), (80, 51791), (82, 51800),

Gene: Marley1013_26 Start: 20148, Stop: 20561, Start Num: 18

Candidate Starts for Marley1013_26:

(Start: 18 @20148 has 57 MA's), (41, 20268), (43, 20274), (56, 20322), (66, 20406), (83, 20532),

Gene: Marlia_26 Start: 19347, Stop: 19760, Start Num: 18

Candidate Starts for Marlia_26:

(Start: 18 @19347 has 57 MA's), (34, 19422), (41, 19467), (43, 19473), (56, 19521), (66, 19605), (83, 19731),

Gene: Mask_22 Start: 16622, Stop: 17026, Start Num: 15

Candidate Starts for Mask_22:

(Start: 15 @16622 has 5 MA's), (34, 16700), (41, 16745), (43, 16751), (55, 16796), (57, 16817), (64, 16859), (66, 16883), (69, 16910), (72, 16922), (81, 17000),

Gene: Mimi_87 Start: 52768, Stop: 53151, Start Num: 13

Candidate Starts for Mimi_87:

(Start: 13 @52768 has 6 MA's), (Start: 24 @52807 has 1 MA's), (25, 52810), (41, 52909), (45, 52933), (58, 52984), (63, 52993), (70, 53047), (75, 53074), (76, 53086),

Gene: Mischief19_27 Start: 29157, Stop: 29531, Start Num: 19

Candidate Starts for Mischief19_27:

(Start: 19 @29157 has 4 MA's), (39, 29256), (55, 29316), (59, 29346), (62, 29370),

Gene: MmasiCarm_26 Start: 19358, Stop: 19771, Start Num: 18

Candidate Starts for MmasiCarm_26:

(Start: 18 @19358 has 57 MA's), (41, 19478), (43, 19484), (56, 19532), (66, 19616), (83, 19742),

Gene: Mortcellus_25 Start: 20001, Stop: 20414, Start Num: 18

Candidate Starts for Mortcellus_25:

(Start: 18 @20001 has 57 MA's), (41, 20121), (43, 20127), (56, 20175), (66, 20259), (83, 20385),

Gene: Morty007_26 Start: 20148, Stop: 20561, Start Num: 18

Candidate Starts for Morty007_26:

(Start: 18 @20148 has 57 MA's), (41, 20268), (43, 20274), (56, 20322), (66, 20406), (83, 20532),

Gene: Mulaychimus_26 Start: 19340, Stop: 19753, Start Num: 18

Candidate Starts for Mulaychimus_26:

(Start: 18 @19340 has 57 MA's), (41, 19460), (43, 19466), (56, 19514), (66, 19598), (83, 19724),

Gene: Neos5_26 Start: 20155, Stop: 20568, Start Num: 18

Candidate Starts for Neos5_26:

(Start: 18 @20155 has 57 MA's), (34, 20230), (41, 20275), (43, 20281), (66, 20413), (83, 20539),

Gene: Nozo_26 Start: 20125, Stop: 20538, Start Num: 18

Candidate Starts for Nozo_26:

(Start: 18 @20125 has 57 MA's), (34, 20200), (41, 20245), (43, 20251), (66, 20383), (83, 20509),

Gene: Obutu_26 Start: 19358, Stop: 19771, Start Num: 18

Candidate Starts for Obutu_26:

(Start: 18 @19358 has 57 MA's), (34, 19433), (41, 19478), (43, 19484), (66, 19616), (83, 19742),

Gene: Olivio_25 Start: 19212, Stop: 19625, Start Num: 18

Candidate Starts for Olivio_25:

(Start: 18 @19212 has 57 MA's), (34, 19287), (41, 19332), (43, 19338), (66, 19470), (83, 19596),

Gene: OrangeOswald_26 Start: 19363, Stop: 19776, Start Num: 18

Candidate Starts for OrangeOswald_26:

(Start: 18 @19363 has 57 MA's), (34, 19438), (41, 19483), (43, 19489), (66, 19621), (83, 19747),

Gene: Panchaali_80 Start: 49870, Stop: 50250, Start Num: 14

Candidate Starts for Panchaali_80:

(Start: 14 @49870 has 10 MA's), (Start: 17 @49879 has 1 MA's), (Start: 24 @49906 has 1 MA's), (25, 49909), (56, 50062), (63, 50092), (77, 50188),

Gene: Patbob_86 Start: 53640, Stop: 54023, Start Num: 13

Candidate Starts for Patbob_86:

(Start: 13 @53640 has 6 MA's), (Start: 24 @53679 has 1 MA's), (41, 53781), (45, 53805), (52, 53826), (58, 53856), (63, 53865), (70, 53919), (75, 53946), (76, 53958),

Gene: PauloDiaboli_94 Start: 50046, Stop: 50456, Start Num: 9

Candidate Starts for PauloDiaboli_94:

(Start: 9 @50046 has 2 MA's), (28, 50133), (29, 50136), (36, 50166), (75, 50376), (78, 50394),

Gene: Phayeta_26 Start: 19239, Stop: 19652, Start Num: 18

Candidate Starts for Phayeta_26:

(Start: 18 @19239 has 57 MA's), (34, 19314), (41, 19359), (43, 19365), (66, 19497), (83, 19623),

Gene: Philly_25 Start: 19229, Stop: 19642, Start Num: 18

Candidate Starts for Philly_25:

(Start: 18 @19229 has 57 MA's), (34, 19304), (41, 19349), (43, 19355), (66, 19487), (83, 19613),

Gene: Phlyer_26 Start: 20098, Stop: 20511, Start Num: 18
Candidate Starts for Phlyer_26:
(Start: 18 @20098 has 57 MA's), (41, 20218), (43, 20224), (56, 20272), (66, 20356), (83, 20482),

Gene: Phrampa_79 Start: 50368, Stop: 50751, Start Num: 13
Candidate Starts for Phrampa_79:
(Start: 13 @50368 has 6 MA's), (Start: 24 @50407 has 1 MA's), (38, 50488), (41, 50509), (45, 50533),
(62, 50590), (63, 50593), (70, 50647), (75, 50674),

Gene: Pipefish_26 Start: 20248, Stop: 20661, Start Num: 18
Candidate Starts for Pipefish_26:
(Start: 18 @20248 has 57 MA's), (41, 20368), (43, 20374), (56, 20422), (66, 20506), (83, 20632),

Gene: Pumpernickel_91 Start: 51418, Stop: 51831, Start Num: 8
Candidate Starts for Pumpernickel_91:
(Start: 8 @51418 has 1 MA's), (28, 51508), (36, 51541), (38, 51565), (41, 51586), (63, 51670), (74,
51748), (77, 51766), (78, 51769),

Gene: Racecar_88 Start: 53421, Stop: 53804, Start Num: 13
Candidate Starts for Racecar_88:
(Start: 13 @53421 has 6 MA's), (Start: 24 @53460 has 1 MA's), (25, 53463), (41, 53562), (45, 53586),
(58, 53637), (63, 53646), (70, 53700), (75, 53727), (76, 53739),

Gene: RagingRooster_26 Start: 19364, Stop: 19777, Start Num: 18
Candidate Starts for RagingRooster_26:
(Start: 18 @19364 has 57 MA's), (34, 19439), (41, 19484), (43, 19490), (66, 19622), (83, 19748),

Gene: RainyPolka_20 Start: 19600, Stop: 19980, Start Num: 18
Candidate Starts for RainyPolka_20:
(2, 19327), (4, 19408), (Start: 18 @19600 has 57 MA's), (21, 19615), (32, 19657), (39, 19702), (49,
19744), (64, 19822), (68, 19873), (72, 19888), (76, 19915), (77, 19918),

Gene: ReginaGlobina_87 Start: 52911, Stop: 53291, Start Num: 14
Candidate Starts for ReginaGlobina_87:
(Start: 14 @52911 has 10 MA's), (Start: 17 @52920 has 1 MA's), (Start: 24 @52947 has 1 MA's), (51,
53088), (63, 53133), (67, 53166), (77, 53229),

Gene: Rita1961_26 Start: 19359, Stop: 19772, Start Num: 18
Candidate Starts for Rita1961_26:
(Start: 18 @19359 has 57 MA's), (34, 19434), (41, 19479), (43, 19485), (66, 19617), (83, 19743),

Gene: Rockabye_89 Start: 55651, Stop: 56040, Start Num: 14
Candidate Starts for Rockabye_89:
(Start: 14 @55651 has 10 MA's), (28, 55711), (35, 55741), (40, 55774), (63, 55873), (70, 55927), (75,
55954), (76, 55966), (80, 56014),

Gene: RomaT_26 Start: 20149, Stop: 20562, Start Num: 18
Candidate Starts for RomaT_26:
(Start: 18 @20149 has 57 MA's), (41, 20269), (43, 20275), (66, 20407), (83, 20533),

Gene: SJReid_90 Start: 54733, Stop: 55122, Start Num: 14
Candidate Starts for SJReid_90:

(Start: 14 @54733 has 10 MA's), (27, 54790), (45, 54895), (47, 54898), (63, 54955), (70, 55009), (75, 55036), (76, 55048), (80, 55096),

Gene: Salete_19 Start: 19235, Stop: 19615, Start Num: 18

Candidate Starts for Salete_19:

(1, 18785), (4, 19067), (Start: 18 @19235 has 57 MA's), (21, 19250), (32, 19292), (39, 19337), (59, 19427), (64, 19457), (68, 19508), (72, 19523), (76, 19550), (77, 19553),

Gene: Sejanus_22 Start: 17555, Stop: 17959, Start Num: 15

Candidate Starts for Sejanus_22:

(Start: 15 @17555 has 5 MA's), (34, 17633), (41, 17678), (43, 17684), (55, 17729), (57, 17750), (64, 17792), (66, 17816), (69, 17843), (72, 17855), (81, 17933),

Gene: Shenandoah_26 Start: 19342, Stop: 19755, Start Num: 18

Candidate Starts for Shenandoah_26:

(Start: 18 @19342 has 57 MA's), (34, 19417), (41, 19462), (43, 19468), (66, 19600), (83, 19726),

Gene: Sixama_94 Start: 51509, Stop: 51916, Start Num: 14

Candidate Starts for Sixama_94:

(Start: 13 @51506 has 6 MA's), (Start: 14 @51509 has 10 MA's), (Start: 24 @51545 has 1 MA's), (36, 51602), (65, 51776), (66, 51785), (71, 51821), (73, 51833), (77, 51854), (79, 51887), (80, 51899), (82, 51908),

Gene: SlippinJimmy_26 Start: 20128, Stop: 20541, Start Num: 18

Candidate Starts for SlippinJimmy_26:

(Start: 18 @20128 has 57 MA's), (41, 20248), (43, 20254), (56, 20302), (66, 20386), (83, 20512),

Gene: Stewart25555_78 Start: 49328, Stop: 49672, Start Num: 24

Candidate Starts for Stewart25555_78:

(Start: 14 @49292 has 10 MA's), (Start: 17 @49301 has 1 MA's), (Start: 24 @49328 has 1 MA's), (63, 49514), (77, 49610),

Gene: SwainyDoc_26 Start: 19361, Stop: 19774, Start Num: 18

Candidate Starts for SwainyDoc_26:

(Start: 18 @19361 has 57 MA's), (34, 19436), (41, 19481), (43, 19487), (66, 19619), (83, 19745),

Gene: SynergyX_26 Start: 19364, Stop: 19777, Start Num: 18

Candidate Starts for SynergyX_26:

(Start: 18 @19364 has 57 MA's), (34, 19439), (41, 19484), (43, 19490), (66, 19622), (83, 19748),

Gene: TP1604_19 Start: 19235, Stop: 19615, Start Num: 18

Candidate Starts for TP1604_19:

(1, 18785), (4, 19067), (Start: 18 @19235 has 57 MA's), (21, 19250), (32, 19292), (39, 19337), (59, 19427), (64, 19457), (68, 19508), (72, 19523), (76, 19550), (77, 19553),

Gene: Talia1610_87 Start: 52786, Stop: 53169, Start Num: 13

Candidate Starts for Talia1610_87:

(Start: 13 @52786 has 6 MA's), (Start: 24 @52825 has 1 MA's), (41, 52927), (45, 52951), (52, 52972), (58, 53002), (63, 53011), (70, 53065), (75, 53092), (76, 53104),

Gene: TinyTerror_26 Start: 19361, Stop: 19774, Start Num: 18

Candidate Starts for TinyTerror_26:

(Start: 18 @19361 has 57 MA's), (41, 19481), (43, 19487), (56, 19535), (66, 19619), (83, 19745),

Gene: TurkishDelight_25 Start: 21435, Stop: 21812, Start Num: 19

Candidate Starts for TurkishDelight_25:

(4, 21273), (6, 21360), (Start: 8 @21411 has 1 MA's), (Start: 19 @21435 has 4 MA's), (20, 21441), (21, 21447), (23, 21453), (39, 21534), (46, 21570), (50, 21582), (54, 21594), (61, 21648), (75, 21735), (76, 21747), (79, 21783),

Gene: Tydolla_26 Start: 20101, Stop: 20514, Start Num: 18

Candidate Starts for Tydolla_26:

(Start: 18 @20101 has 57 MA's), (41, 20221), (43, 20227), (56, 20275), (66, 20359), (83, 20485),

Gene: WaddleDee_75 Start: 48766, Stop: 49110, Start Num: 24

Candidate Starts for WaddleDee_75:

(Start: 14 @48730 has 10 MA's), (Start: 24 @48766 has 1 MA's), (40, 48853), (53, 48916), (58, 48943), (63, 48952), (77, 49048),

Gene: Xkcd426_25 Start: 26648, Stop: 27025, Start Num: 19

Candidate Starts for Xkcd426_25:

(7, 26606), (Start: 19 @26648 has 4 MA's), (21, 26660), (39, 26747), (55, 26807), (64, 26867), (68, 26918), (76, 26960), (79, 26996),

Gene: YDN12_20 Start: 19174, Stop: 19551, Start Num: 19

Candidate Starts for YDN12_20:

(4, 19003), (Start: 19 @19174 has 4 MA's), (21, 19186), (26, 19207), (32, 19228), (39, 19273), (59, 19363), (64, 19393), (68, 19444), (72, 19459), (76, 19486), (77, 19489),

Gene: Yahalom_26 Start: 19376, Stop: 19789, Start Num: 18

Candidate Starts for Yahalom_26:

(Start: 18 @19376 has 57 MA's), (41, 19496), (43, 19502), (56, 19550), (66, 19634), (83, 19760),

Gene: Yinz_26 Start: 19402, Stop: 19815, Start Num: 18

Candidate Starts for Yinz_26:

(Start: 18 @19402 has 57 MA's), (34, 19477), (41, 19522), (43, 19528), (66, 19660), (83, 19786),

Gene: Zooman_79 Start: 48365, Stop: 48775, Start Num: 10

Candidate Starts for Zooman_79:

(Start: 10 @48365 has 2 MA's), (Start: 13 @48386 has 6 MA's), (Start: 24 @48425 has 1 MA's), (29, 48452), (31, 48461), (35, 48479), (45, 48551), (74, 48692), (78, 48713),