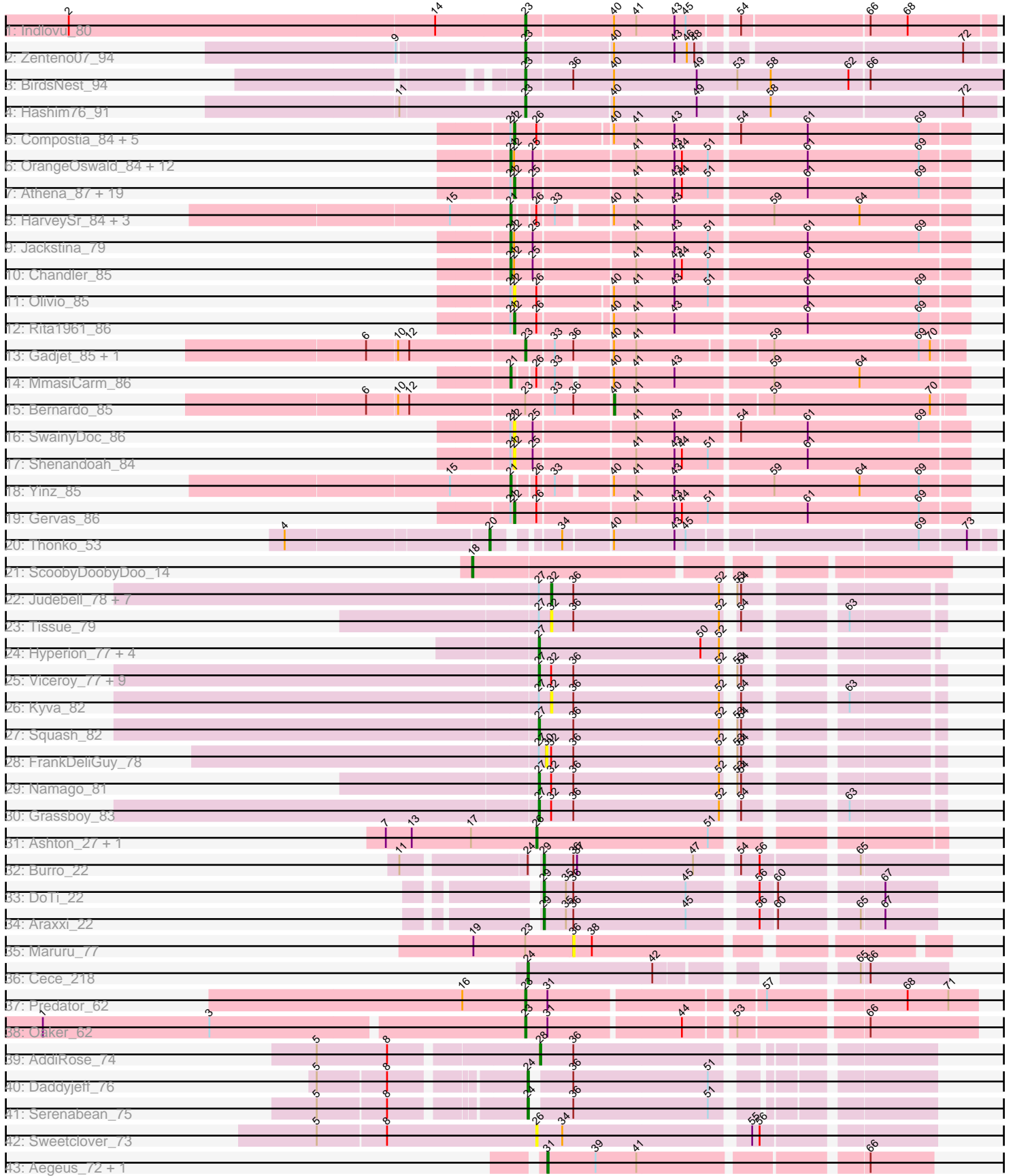


Pham 224446



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 224446 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224446 has 105 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Indlovu_80
- Track 2 : Zenteno07_94
- Track 3 : BirdsNest_94
- Track 4 : Hashim76_91
- Track 5 : Compostia_84, ChaChing_85, Philly_84, GlenHope_86, Halfpint_84, Marlia_86
- Track 6 : OrangeOswald_84, Ben11_85, TinyTerror_86, Kronus_85, Audrey_85, LestyG_83, Phayeta_88, Chentzyk_87, Mortcellus_85, Baloo_84, Glubnar_85, Corofin_85, RomaT_85
- Track 7 : Athena_87, Tydolla_81, RagingRooster_84, Phlyer_85, Heathcliff_85, SynergyX_85, Akoma_85, Abinghost_85, SlippinJimmy_88, Nozo_85, Briakila_85, Devonte_83, Deenasa_85, Daisy_84, Phaedrus_80, Kamiyu_85, Chalmers_84, Casbah_85, Yahalom_83, Obutu_87
- Track 8 : HarveySr_84, Marley1013_86, Morty007_84, Neos5_85
- Track 9 : Jackstina_79
- Track 10 : Chandler_85
- Track 11 : Olivio_85
- Track 12 : Rita1961_86
- Track 13 : Gadjet_85, Pipefish_86
- Track 14 : MmasiCarm_86
- Track 15 : Bernardo_85
- Track 16 : SwainyDoc_86
- Track 17 : Shenandoah_84
- Track 18 : Yinz_85
- Track 19 : Gervas_86
- Track 20 : Thonko_53
- Track 21 : ScoobyDoobyDoo_14
- Track 22 : Judebell_78, DonaldDuck_80, Mentos_82, Wayne3_80, Rudy_76, BabyDotz_77, Zagie_80, Sillytadpoles_81
- Track 23 : Tissue_79
- Track 24 : Hyperion_77, Blab_75, Mashley_79, AluminumJesus_75, Gazebo_79
- Track 25 : Viceroy_77, Teehee_79, Jehoshaphat_80, Casend_79, Phabia_78, StrawberryJamm_84, Lonelysoil_76, Llemily_80, Quammi_77, Wheelie_78
- Track 26 : Kyva_82
- Track 27 : Squash_82
- Track 28 : FrankDeliGuy_78
- Track 29 : Namago_81

- Track 30 : Grassboy_83
- Track 31 : Ashton_27, ShyRosie_26
- Track 32 : Burro_22
- Track 33 : DoTi_22
- Track 34 : Araxxi_22
- Track 35 : Maruru_77
- Track 36 : Cece_218
- Track 37 : Predator_62
- Track 38 : Oaker_62
- Track 39 : AddiRose_74
- Track 40 : Daddyjeff_76
- Track 41 : Serenabean_75
- Track 42 : Sweetclover_73
- Track 43 : Aegeus_72, Baudelaire_72

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

The start number called the most often in the published annotations is 22, it was called in 25 of the 85 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost_85, Akoma_85, Athena_87, Briakila_85, Casbah_85, ChaChing_85, Chalmers_84, Compostia_84, Daisy_84, Deenasa_85, Devonte_83, Gervas_86, GlenHope_86, Halfpint_84, Heathcliff_85, Kamiyu_85, Marlia_86, Nozo_85, Obutu_87, Olivio_85, Phaedrus_80, Philly_84, Phlyer_85, RagingRooster_84, Rita1961_86, Shenandoah_84, SlippinJimmy_88, SwainyDoc_86, SynergyX_85, Tydolla_81, Yahalom_83,

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

- Audrey_85, Baloo_84, Ben11_85, Chandler_85, Chentzyk_87, Corofin_85, Glubnar_85, Jackstina_79, Kronus_85, LestyG_83, Mortcellus_85, OrangeOswald_84, Phayeta_88, RomaT_85, TinyTerror_86,

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

- AddiRose_74, Aegeus_72, AluminumJesus_75, Araxxi_22, Ashton_27, BabyDotz_77, Baudelaire_72, Bernardo_85, BirdsNest_94, Blab_75, Burro_22, Casend_79, Cece_218, Daddyjeff_76, DoTi_22, DonaldDuck_80, FrankDeliGuy_78, Gadget_85, Gazebo_79, Grassboy_83, HarveySr_84, Hashim76_91, Hyperion_77, Indlovu_80, Jehoshaphat_80, Judebell_78, Kyva_82, Llemily_80, Lonelysoil_76, Marley1013_86, Maruru_77, Mashley_79, Mentos_82, MmasiCarm_86, Morty007_84, Namago_81, Neos5_85, Oaker_62, Phabia_78, Pipefish_86, Predator_62, Quammi_77, Rudy_76, ScoobyDoobyDoo_14, Serenabean_75, ShyRosie_26, Sillytadpoles_81, Squash_82, StrawberryJamm_84, Sweetclover_73, Teehee_79, Thonko_53, Tissue_79, Viceroy_77, Wayne3_80, Wheelie_78, Yinz_85, Zagie_80, Zenteno07_94,

Summary by start number:

Start 18:

- Found in 1 of 105 (1.0%) of genes in pham

- Manual Annotations of this start: 1 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ScoobyDoobyDoo_14 (C2),

Start 20:

- Found in 1 of 105 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Thonko_53 (B8),

Start 21:

- Found in 52 of 105 (49.5%) of genes in pham
- Manual Annotations of this start: 17 of 85
- Called 40.4% of time when present
- Phage (with cluster) where this start called: Audrey_85 (B3), Baloo_84 (B3), Ben11_85 (B3), Chandler_85 (B3), Chentzyk_87 (B3), Corofin_85 (B3), Glubnar_85 (B3), HarveySr_84 (B3), Jackstina_79 (B3), Kronus_85 (B3), LestyG_83 (B3), Marley1013_86 (B3), MmasiCarm_86 (B3), Mortcellus_85 (B3), Morty007_84 (B3), Neos5_85 (B3), OrangeOswald_84 (B3), Phayeta_88 (B3), RomaT_85 (B3), TinyTerror_86 (B3), Yinz_85 (B3),

Start 22:

- Found in 46 of 105 (43.8%) of genes in pham
- Manual Annotations of this start: 25 of 85
- Called 67.4% of time when present
- Phage (with cluster) where this start called: Abinghost_85 (B3), Akoma_85 (B3), Athena_87 (B3), Briakila_85 (B3), Casbah_85 (B3), ChaChing_85 (B3), Chalmers_84 (B3), Compostia_84 (B3), Daisy_84 (B3), Deenasa_85 (B3), Devonte_83 (B3), Gervas_86 (B3), GlenHope_86 (B3), Halfpint_84 (B3), Heathcliff_85 (B3), Kamiyu_85 (B3), Marlia_86 (B3), Nozo_85 (B3), Obutu_87 (B3), Olivio_85 (B3), Phaedrus_80 (B3), Philly_84 (B3), Phlyer_85 (B3), RagingRooster_84 (B3), Rita1961_86 (B3), Shenandoah_84 (B3), SlippinJimmy_88 (B3), SwainyDoc_86 (B3), SynergyX_85 (B3), Tydolla_81 (B3), Yahalom_83 (B3),

Start 23:

- Found in 10 of 105 (9.5%) of genes in pham
- Manual Annotations of this start: 8 of 85
- Called 80.0% of time when present
- Phage (with cluster) where this start called: BirdsNest_94 (B13), Gadget_85 (B3), Hashim76_91 (B13), Indlovu_80 (B11), Oaker_62 (H1), Pipefish_86 (B3), Predator_62 (H1), Zenteno07_94 (B13),

Start 24:

- Found in 4 of 105 (3.8%) of genes in pham
- Manual Annotations of this start: 3 of 85
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Cece_218 (GD3), Daddyjeff_76 (JA), Serenabean_75 (JA),

Start 26:

- Found in 18 of 105 (17.1%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 16.7% of time when present

- Phage (with cluster) where this start called: Ashton_27 (EK2), ShyRosie_26 (EK2), Sweetclover_73 (JA),

Start 27:

- Found in 29 of 105 (27.6%) of genes in pham
- Manual Annotations of this start: 17 of 85
- Called 62.1% of time when present
- Phage (with cluster) where this start called: AluminumJesus_75 (EG), Blab_75 (EG), Casend_79 (EG), Gazebo_79 (EG), Grassboy_83 (EG), Hyperion_77 (EG), Jehoshaphat_80 (EG), Llemily_80 (EG), Lonelysoil_76 (EG), Mashley_79 (EG), Namago_81 (EG), Phabia_78 (EG), Quammi_77 (EG), Squash_82 (EG), StrawberryJamm_84 (EG), Teehee_79 (EG), Viceroy_77 (EG), Wheelie_78 (EG),

Start 28:

- Found in 1 of 105 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AddiRose_74 (JA),

Start 29:

- Found in 3 of 105 (2.9%) of genes in pham
- Manual Annotations of this start: 3 of 85
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Araxxi_22 (EM1), Burro_22 (EM1), DoTi_22 (EM1),

Start 30:

- Found in 1 of 105 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FrankDeliGuy_78 (EG),

Start 31:

- Found in 4 of 105 (3.8%) of genes in pham
- Manual Annotations of this start: 2 of 85
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Aegeus_72 (L5), Baudelaire_72 (L5),

Start 32:

- Found in 23 of 105 (21.9%) of genes in pham
- Manual Annotations of this start: 5 of 85
- Called 43.5% of time when present
- Phage (with cluster) where this start called: BabyDotz_77 (EG), DonaldDuck_80 (EG), Judebell_78 (EG), Kyva_82 (EG), Mentos_82 (EG), Rudy_76 (EG), Sillytadpoles_81 (EG), Tissue_79 (EG), Wayne3_80 (EG), Zagie_80 (EG),

Start 36:

- Found in 35 of 105 (33.3%) of genes in pham
- No Manual Annotations of this start.
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Maruru_77 (FG),

Start 40:

- Found in 22 of 105 (21.0%) of genes in pham
- Manual Annotations of this start: 1 of 85
- Called 4.5% of time when present
- Phage (with cluster) where this start called: Bernardo_85 (B3),

Summary by clusters:

There are 13 clusters represented in this pham: GD3, H1, EG, FG, JA, B11, L5, EM1, B13, B3, C2, B8, EK2,

Info for manual annotations of cluster B11:

- Start number 23 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B13:

- Start number 23 was manually annotated 3 times for cluster B13.

Info for manual annotations of cluster B3:

- Start number 21 was manually annotated 17 times for cluster B3.
- Start number 22 was manually annotated 25 times for cluster B3.
- Start number 23 was manually annotated 2 times for cluster B3.
- Start number 40 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster B8:

- Start number 20 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster C2:

- Start number 18 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster EG:

- Start number 27 was manually annotated 17 times for cluster EG.
- Start number 32 was manually annotated 5 times for cluster EG.

Info for manual annotations of cluster EK2:

- Start number 26 was manually annotated 1 time for cluster EK2.

Info for manual annotations of cluster EM1:

- Start number 29 was manually annotated 3 times for cluster EM1.

Info for manual annotations of cluster GD3:

- Start number 24 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster H1:

- Start number 23 was manually annotated 2 times for cluster H1.

Info for manual annotations of cluster JA:

- Start number 24 was manually annotated 2 times for cluster JA.
- Start number 28 was manually annotated 1 time for cluster JA.

Info for manual annotations of cluster L5:

- Start number 31 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: Abinghost_85 Start: 62155, Stop: 61802, Start Num: 22

Candidate Starts for Abinghost_85:

(Start: 21 @62158 has 17 MA's), (Start: 22 @62155 has 25 MA's), (25, 62140), (41, 62062), (43, 62032), (44, 62026), (51, 62005), (61, 61930), (69, 61840),

Gene: AddiRose_74 Start: 47344, Stop: 47628, Start Num: 28

Candidate Starts for AddiRose_74:

(5, 47176), (8, 47233), (Start: 28 @47344 has 1 MA's), (36, 47371),

Gene: Aegeus_72 Start: 46824, Stop: 47111, Start Num: 31

Candidate Starts for Aegeus_72:

(Start: 31 @46824 has 2 MA's), (39, 46863), (41, 46896), (66, 47061),

Gene: Akoma_85 Start: 62195, Stop: 61842, Start Num: 22

Candidate Starts for Akoma_85:

(Start: 21 @62198 has 17 MA's), (Start: 22 @62195 has 25 MA's), (25, 62180), (41, 62102), (43, 62072), (44, 62066), (51, 62045), (61, 61970), (69, 61880),

Gene: AluminumJesus_75 Start: 51316, Stop: 51035, Start Num: 27

Candidate Starts for AluminumJesus_75:

(Start: 27 @51316 has 17 MA's), (50, 51187), (52, 51172),

Gene: Araxxi_22 Start: 16801, Stop: 16511, Start Num: 29

Candidate Starts for Araxxi_22:

(Start: 29 @16801 has 3 MA's), (35, 16783), (36, 16777), (45, 16687), (56, 16639), (60, 16627), (65, 16570), (67, 16552),

Gene: Ashton_27 Start: 15701, Stop: 15408, Start Num: 26

Candidate Starts for Ashton_27:

(7, 15821), (13, 15800), (17, 15752), (Start: 26 @15701 has 1 MA's), (51, 15563),

Gene: Athena_87 Start: 62930, Stop: 62577, Start Num: 22

Candidate Starts for Athena_87:

(Start: 21 @62933 has 17 MA's), (Start: 22 @62930 has 25 MA's), (25, 62915), (41, 62837), (43, 62807), (44, 62801), (51, 62780), (61, 62705), (69, 62615),

Gene: Audrey_85 Start: 62187, Stop: 61831, Start Num: 21

Candidate Starts for Audrey_85:

(Start: 21 @62187 has 17 MA's), (Start: 22 @62184 has 25 MA's), (25, 62169), (41, 62091), (43, 62061), (44, 62055), (51, 62034), (61, 61959), (69, 61869),

Gene: BabyDotz_77 Start: 52957, Stop: 52679, Start Num: 32

Candidate Starts for BabyDotz_77:

(Start: 27 @52966 has 17 MA's), (Start: 32 @52957 has 5 MA's), (36, 52939), (52, 52822), (53, 52819), (54, 52816),

Gene: Baloo_84 Start: 62039, Stop: 61683, Start Num: 21

Candidate Starts for Baloo_84:

(Start: 21 @62039 has 17 MA's), (Start: 22 @62036 has 25 MA's), (25, 62021), (41, 61943), (43, 61913), (44, 61907), (51, 61886), (61, 61811), (69, 61721),

Gene: Baudelaire_72 Start: 46824, Stop: 47111, Start Num: 31
Candidate Starts for Baudelaire_72:
(Start: 31 @46824 has 2 MA's), (39, 46863), (41, 46896), (66, 47061),

Gene: Ben11_85 Start: 62414, Stop: 62058, Start Num: 21
Candidate Starts for Ben11_85:
(Start: 21 @62414 has 17 MA's), (Start: 22 @62411 has 25 MA's), (25, 62396), (41, 62318), (43, 62288), (44, 62282), (51, 62261), (61, 62186), (69, 62096),

Gene: Bernardo_85 Start: 62136, Stop: 61870, Start Num: 40
Candidate Starts for Bernardo_85:
(6, 62325), (10, 62301), (12, 62292), (Start: 23 @62202 has 8 MA's), (33, 62181), (36, 62166), (Start: 40 @62136 has 1 MA's), (41, 62118), (59, 62019), (70, 61893),

Gene: BirdsNest_94 Start: 66955, Stop: 66563, Start Num: 23
Candidate Starts for BirdsNest_94:
(Start: 23 @66955 has 8 MA's), (36, 66919), (Start: 40 @66886 has 1 MA's), (49, 66820), (53, 66787), (58, 66760), (62, 66697), (66, 66682),

Gene: Blab_75 Start: 51607, Stop: 51326, Start Num: 27
Candidate Starts for Blab_75:
(Start: 27 @51607 has 17 MA's), (50, 51478), (52, 51463),

Gene: Briakila_85 Start: 62382, Stop: 62029, Start Num: 22
Candidate Starts for Briakila_85:
(Start: 21 @62385 has 17 MA's), (Start: 22 @62382 has 25 MA's), (25, 62367), (41, 62289), (43, 62259), (44, 62253), (51, 62232), (61, 62157), (69, 62067),

Gene: Burro_22 Start: 15917, Stop: 15615, Start Num: 29
Candidate Starts for Burro_22:
(11, 16013), (Start: 24 @15920 has 3 MA's), (Start: 29 @15917 has 3 MA's), (36, 15893), (37, 15890), (47, 15797), (54, 15767), (56, 15752), (65, 15683),

Gene: Casbah_85 Start: 62495, Stop: 62142, Start Num: 22
Candidate Starts for Casbah_85:
(Start: 21 @62498 has 17 MA's), (Start: 22 @62495 has 25 MA's), (25, 62480), (41, 62402), (43, 62372), (44, 62366), (51, 62345), (61, 62270), (69, 62180),

Gene: Casend_79 Start: 52248, Stop: 51961, Start Num: 27
Candidate Starts for Casend_79:
(Start: 27 @52248 has 17 MA's), (Start: 32 @52239 has 5 MA's), (36, 52221), (52, 52104), (53, 52101), (54, 52098),

Gene: Cece_218 Start: 133451, Stop: 133741, Start Num: 24
Candidate Starts for Cece_218:
(Start: 24 @133451 has 3 MA's), (42, 133550), (65, 133673), (66, 133679),

Gene: ChaChing_85 Start: 62197, Stop: 61847, Start Num: 22
Candidate Starts for ChaChing_85:
(Start: 21 @62200 has 17 MA's), (Start: 22 @62197 has 25 MA's), (Start: 26 @62179 has 1 MA's), (Start: 40 @62125 has 1 MA's), (41, 62107), (43, 62077), (54, 62029), (61, 61975), (69, 61885),

Gene: Chalmers_84 Start: 62630, Stop: 62277, Start Num: 22

Candidate Starts for Chalmers_84:

(Start: 21 @62633 has 17 MA's), (Start: 22 @62630 has 25 MA's), (25, 62615), (41, 62537), (43, 62507), (44, 62501), (51, 62480), (61, 62405), (69, 62315),

Gene: Chandler_85 Start: 62974, Stop: 62618, Start Num: 21

Candidate Starts for Chandler_85:

(Start: 21 @62974 has 17 MA's), (Start: 22 @62971 has 25 MA's), (25, 62956), (41, 62878), (43, 62848), (44, 62842), (51, 62821), (61, 62746),

Gene: Chentzyk_87 Start: 63132, Stop: 62776, Start Num: 21

Candidate Starts for Chentzyk_87:

(Start: 21 @63132 has 17 MA's), (Start: 22 @63129 has 25 MA's), (25, 63114), (41, 63036), (43, 63006), (44, 63000), (51, 62979), (61, 62904), (69, 62814),

Gene: Compostia_84 Start: 62637, Stop: 62287, Start Num: 22

Candidate Starts for Compostia_84:

(Start: 21 @62640 has 17 MA's), (Start: 22 @62637 has 25 MA's), (Start: 26 @62619 has 1 MA's), (Start: 40 @62565 has 1 MA's), (41, 62547), (43, 62517), (54, 62469), (61, 62415), (69, 62325),

Gene: Corofin_85 Start: 62209, Stop: 61853, Start Num: 21

Candidate Starts for Corofin_85:

(Start: 21 @62209 has 17 MA's), (Start: 22 @62206 has 25 MA's), (25, 62191), (41, 62113), (43, 62083), (44, 62077), (51, 62056), (61, 61981), (69, 61891),

Gene: Daddyjeff_76 Start: 47745, Stop: 48029, Start Num: 24

Candidate Starts for Daddyjeff_76:

(5, 47595), (8, 47649), (Start: 24 @47745 has 3 MA's), (36, 47772), (51, 47880),

Gene: Daisy_84 Start: 61757, Stop: 61404, Start Num: 22

Candidate Starts for Daisy_84:

(Start: 21 @61760 has 17 MA's), (Start: 22 @61757 has 25 MA's), (25, 61742), (41, 61664), (43, 61634), (44, 61628), (51, 61607), (61, 61532), (69, 61442),

Gene: Deenasa_85 Start: 63106, Stop: 62753, Start Num: 22

Candidate Starts for Deenasa_85:

(Start: 21 @63109 has 17 MA's), (Start: 22 @63106 has 25 MA's), (25, 63091), (41, 63013), (43, 62983), (44, 62977), (51, 62956), (61, 62881), (69, 62791),

Gene: Devonte_83 Start: 61823, Stop: 61470, Start Num: 22

Candidate Starts for Devonte_83:

(Start: 21 @61826 has 17 MA's), (Start: 22 @61823 has 25 MA's), (25, 61808), (41, 61730), (43, 61700), (44, 61694), (51, 61673), (61, 61598), (69, 61508),

Gene: DoTi_22 Start: 16882, Stop: 16592, Start Num: 29

Candidate Starts for DoTi_22:

(Start: 29 @16882 has 3 MA's), (35, 16864), (36, 16858), (45, 16768), (56, 16720), (60, 16708), (67, 16633),

Gene: DonaldDuck_80 Start: 51591, Stop: 51313, Start Num: 32

Candidate Starts for DonaldDuck_80:

(Start: 27 @51600 has 17 MA's), (Start: 32 @51591 has 5 MA's), (36, 51573), (52, 51456), (53, 51453), (54, 51450),

Gene: FrankDeliGuy_78 Start: 51962, Stop: 51681, Start Num: 30

Candidate Starts for FrankDeliGuy_78:

(Start: 27 @51968 has 17 MA's), (30, 51962), (Start: 32 @51959 has 5 MA's), (36, 51941), (52, 51824), (53, 51821), (54, 51818),

Gene: Gadget_85 Start: 62385, Stop: 62053, Start Num: 23

Candidate Starts for Gadget_85:

(6, 62508), (10, 62484), (12, 62475), (Start: 23 @62385 has 8 MA's), (33, 62364), (36, 62349), (Start: 40 @62319 has 1 MA's), (41, 62301), (59, 62202), (69, 62085), (70, 62076),

Gene: Gazebo_79 Start: 52534, Stop: 52253, Start Num: 27

Candidate Starts for Gazebo_79:

(Start: 27 @52534 has 17 MA's), (50, 52405), (52, 52390),

Gene: Gervas_86 Start: 62651, Stop: 62298, Start Num: 22

Candidate Starts for Gervas_86:

(Start: 21 @62654 has 17 MA's), (Start: 22 @62651 has 25 MA's), (Start: 26 @62633 has 1 MA's), (41, 62558), (43, 62528), (44, 62522), (51, 62501), (61, 62426), (69, 62336),

Gene: GlenHope_86 Start: 62227, Stop: 61877, Start Num: 22

Candidate Starts for GlenHope_86:

(Start: 21 @62230 has 17 MA's), (Start: 22 @62227 has 25 MA's), (Start: 26 @62209 has 1 MA's), (Start: 40 @62155 has 1 MA's), (41, 62137), (43, 62107), (54, 62059), (61, 62005), (69, 61915),

Gene: Glubnar_85 Start: 62092, Stop: 61736, Start Num: 21

Candidate Starts for Glubnar_85:

(Start: 21 @62092 has 17 MA's), (Start: 22 @62089 has 25 MA's), (25, 62074), (41, 61996), (43, 61966), (44, 61960), (51, 61939), (61, 61864), (69, 61774),

Gene: Grassboy_83 Start: 52649, Stop: 52362, Start Num: 27

Candidate Starts for Grassboy_83:

(Start: 27 @52649 has 17 MA's), (Start: 32 @52640 has 5 MA's), (36, 52622), (52, 52505), (54, 52499), (63, 52433),

Gene: Halfpint_84 Start: 61969, Stop: 61619, Start Num: 22

Candidate Starts for Halfpint_84:

(Start: 21 @61972 has 17 MA's), (Start: 22 @61969 has 25 MA's), (Start: 26 @61951 has 1 MA's), (Start: 40 @61897 has 1 MA's), (41, 61879), (43, 61849), (54, 61801), (61, 61747), (69, 61657),

Gene: HarveySr_84 Start: 61732, Stop: 61388, Start Num: 21

Candidate Starts for HarveySr_84:

(15, 61780), (Start: 21 @61732 has 17 MA's), (Start: 26 @61717 has 1 MA's), (33, 61705), (Start: 40 @61666 has 1 MA's), (41, 61648), (43, 61618), (59, 61543), (64, 61474),

Gene: Hashim76_91 Start: 66420, Stop: 66052, Start Num: 23

Candidate Starts for Hashim76_91:

(11, 66519), (Start: 23 @66420 has 8 MA's), (Start: 40 @66351 has 1 MA's), (49, 66285), (58, 66231), (72, 66078),

Gene: Heathcliff_85 Start: 62151, Stop: 61798, Start Num: 22

Candidate Starts for Heathcliff_85:

(Start: 21 @62154 has 17 MA's), (Start: 22 @62151 has 25 MA's), (25, 62136), (41, 62058), (43, 62028), (44, 62022), (51, 62001), (61, 61926), (69, 61836),

Gene: Hyperion_77 Start: 51797, Stop: 51516, Start Num: 27

Candidate Starts for Hyperion_77:

(Start: 27 @51797 has 17 MA's), (50, 51668), (52, 51653),

Gene: Indlovu_80 Start: 64701, Stop: 64342, Start Num: 23

Candidate Starts for Indlovu_80:

(2, 65067), (14, 64773), (Start: 23 @64701 has 8 MA's), (Start: 40 @64632 has 1 MA's), (41, 64614), (43, 64584), (45, 64575), (54, 64539), (66, 64440), (68, 64410),

Gene: Jackstina_79 Start: 62068, Stop: 61712, Start Num: 21

Candidate Starts for Jackstina_79:

(Start: 21 @62068 has 17 MA's), (Start: 22 @62065 has 25 MA's), (25, 62050), (41, 61972), (43, 61942), (51, 61915), (61, 61840), (69, 61750),

Gene: Jehoshaphat_80 Start: 52516, Stop: 52229, Start Num: 27

Candidate Starts for Jehoshaphat_80:

(Start: 27 @52516 has 17 MA's), (Start: 32 @52507 has 5 MA's), (36, 52489), (52, 52372), (53, 52369), (54, 52366),

Gene: Judebell_78 Start: 51731, Stop: 51453, Start Num: 32

Candidate Starts for Judebell_78:

(Start: 27 @51740 has 17 MA's), (Start: 32 @51731 has 5 MA's), (36, 51713), (52, 51596), (53, 51593), (54, 51590),

Gene: Kamiyu_85 Start: 62154, Stop: 61801, Start Num: 22

Candidate Starts for Kamiyu_85:

(Start: 21 @62157 has 17 MA's), (Start: 22 @62154 has 25 MA's), (25, 62139), (41, 62061), (43, 62031), (44, 62025), (51, 62004), (61, 61929), (69, 61839),

Gene: Kronus_85 Start: 63241, Stop: 62885, Start Num: 21

Candidate Starts for Kronus_85:

(Start: 21 @63241 has 17 MA's), (Start: 22 @63238 has 25 MA's), (25, 63223), (41, 63145), (43, 63115), (44, 63109), (51, 63088), (61, 63013), (69, 62923),

Gene: Kyva_82 Start: 52664, Stop: 52386, Start Num: 32

Candidate Starts for Kyva_82:

(Start: 27 @52673 has 17 MA's), (Start: 32 @52664 has 5 MA's), (36, 52646), (52, 52529), (54, 52523), (63, 52457),

Gene: LestyG_83 Start: 61727, Stop: 61371, Start Num: 21

Candidate Starts for LestyG_83:

(Start: 21 @61727 has 17 MA's), (Start: 22 @61724 has 25 MA's), (25, 61709), (41, 61631), (43, 61601), (44, 61595), (51, 61574), (61, 61499), (69, 61409),

Gene: Llemily_80 Start: 51295, Stop: 51008, Start Num: 27

Candidate Starts for Llemily_80:

(Start: 27 @51295 has 17 MA's), (Start: 32 @51286 has 5 MA's), (36, 51268), (52, 51151), (53, 51148), (54, 51145),

Gene: Lonelysoil_76 Start: 51052, Stop: 50765, Start Num: 27

Candidate Starts for Lonelysoil_76:

(Start: 27 @51052 has 17 MA's), (Start: 32 @51043 has 5 MA's), (36, 51025), (52, 50908), (53, 50905), (54, 50902),

Gene: Marley1013_86 Start: 63081, Stop: 62737, Start Num: 21

Candidate Starts for Marley1013_86:

(15, 63129), (Start: 21 @63081 has 17 MA's), (Start: 26 @63066 has 1 MA's), (33, 63054), (Start: 40 @63015 has 1 MA's), (41, 62997), (43, 62967), (59, 62892), (64, 62823),

Gene: Marlia_86 Start: 62620, Stop: 62270, Start Num: 22

Candidate Starts for Marlia_86:

(Start: 21 @62623 has 17 MA's), (Start: 22 @62620 has 25 MA's), (Start: 26 @62602 has 1 MA's), (Start: 40 @62548 has 1 MA's), (41, 62530), (43, 62500), (54, 62452), (61, 62398), (69, 62308),

Gene: Maruru_77 Start: 48413, Stop: 48679, Start Num: 36

Candidate Starts for Maruru_77:

(19, 48335), (Start: 23 @48377 has 8 MA's), (36, 48413), (38, 48428),

Gene: Mashley_79 Start: 52319, Stop: 52038, Start Num: 27

Candidate Starts for Mashley_79:

(Start: 27 @52319 has 17 MA's), (50, 52190), (52, 52175),

Gene: Mentos_82 Start: 52962, Stop: 52684, Start Num: 32

Candidate Starts for Mentos_82:

(Start: 27 @52971 has 17 MA's), (Start: 32 @52962 has 5 MA's), (36, 52944), (52, 52827), (53, 52824), (54, 52821),

Gene: MmasiCarm_86 Start: 62584, Stop: 62240, Start Num: 21

Candidate Starts for MmasiCarm_86:

(Start: 21 @62584 has 17 MA's), (Start: 26 @62569 has 1 MA's), (33, 62557), (Start: 40 @62518 has 1 MA's), (41, 62500), (43, 62470), (59, 62395), (64, 62326),

Gene: Mortcellus_85 Start: 63322, Stop: 62966, Start Num: 21

Candidate Starts for Mortcellus_85:

(Start: 21 @63322 has 17 MA's), (Start: 22 @63319 has 25 MA's), (25, 63304), (41, 63226), (43, 63196), (44, 63190), (51, 63169), (61, 63094), (69, 63004),

Gene: Morty007_84 Start: 63081, Stop: 62737, Start Num: 21

Candidate Starts for Morty007_84:

(15, 63129), (Start: 21 @63081 has 17 MA's), (Start: 26 @63066 has 1 MA's), (33, 63054), (Start: 40 @63015 has 1 MA's), (41, 62997), (43, 62967), (59, 62892), (64, 62823),

Gene: Namago_81 Start: 52020, Stop: 51733, Start Num: 27

Candidate Starts for Namago_81:

(Start: 27 @52020 has 17 MA's), (Start: 32 @52011 has 5 MA's), (36, 51993), (52, 51876), (53, 51873), (54, 51870),

Gene: Neos5_85 Start: 62543, Stop: 62199, Start Num: 21

Candidate Starts for Neos5_85:

(15, 62591), (Start: 21 @62543 has 17 MA's), (Start: 26 @62528 has 1 MA's), (33, 62516), (Start: 40 @62477 has 1 MA's), (41, 62459), (43, 62429), (59, 62354), (64, 62285),

Gene: Nozo_85 Start: 62961, Stop: 62608, Start Num: 22

Candidate Starts for Nozo_85:

(Start: 21 @62964 has 17 MA's), (Start: 22 @62961 has 25 MA's), (25, 62946), (41, 62868), (43, 62838), (44, 62832), (51, 62811), (61, 62736), (69, 62646),

Gene: Oaker_62 Start: 48655, Stop: 48993, Start Num: 23

Candidate Starts for Oaker_62:

(1, 48274), (3, 48409), (Start: 23 @48655 has 8 MA's), (Start: 31 @48673 has 2 MA's), (44, 48775), (53, 48811), (66, 48907),

Gene: Obutu_87 Start: 62764, Stop: 62411, Start Num: 22

Candidate Starts for Obutu_87:

(Start: 21 @62767 has 17 MA's), (Start: 22 @62764 has 25 MA's), (25, 62749), (41, 62671), (43, 62641), (44, 62635), (51, 62614), (61, 62539), (69, 62449),

Gene: Olivio_85 Start: 62402, Stop: 62052, Start Num: 22

Candidate Starts for Olivio_85:

(Start: 21 @62405 has 17 MA's), (Start: 22 @62402 has 25 MA's), (Start: 26 @62384 has 1 MA's), (Start: 40 @62330 has 1 MA's), (41, 62312), (43, 62282), (51, 62255), (61, 62180), (69, 62090),

Gene: OrangeOswald_84 Start: 62199, Stop: 61843, Start Num: 21

Candidate Starts for OrangeOswald_84:

(Start: 21 @62199 has 17 MA's), (Start: 22 @62196 has 25 MA's), (25, 62181), (41, 62103), (43, 62073), (44, 62067), (51, 62046), (61, 61971), (69, 61881),

Gene: Phabia_78 Start: 51707, Stop: 51420, Start Num: 27

Candidate Starts for Phabia_78:

(Start: 27 @51707 has 17 MA's), (Start: 32 @51698 has 5 MA's), (36, 51680), (52, 51563), (53, 51560), (54, 51557),

Gene: Phaedrus_80 Start: 61612, Stop: 61259, Start Num: 22

Candidate Starts for Phaedrus_80:

(Start: 21 @61615 has 17 MA's), (Start: 22 @61612 has 25 MA's), (25, 61597), (41, 61519), (43, 61489), (44, 61483), (51, 61462), (61, 61387), (69, 61297),

Gene: Phayeta_88 Start: 62684, Stop: 62328, Start Num: 21

Candidate Starts for Phayeta_88:

(Start: 21 @62684 has 17 MA's), (Start: 22 @62681 has 25 MA's), (25, 62666), (41, 62588), (43, 62558), (44, 62552), (51, 62531), (61, 62456), (69, 62366),

Gene: Philly_84 Start: 62041, Stop: 61691, Start Num: 22

Candidate Starts for Philly_84:

(Start: 21 @62044 has 17 MA's), (Start: 22 @62041 has 25 MA's), (Start: 26 @62023 has 1 MA's), (Start: 40 @61969 has 1 MA's), (41, 61951), (43, 61921), (54, 61873), (61, 61819), (69, 61729),

Gene: Phlyer_85 Start: 62907, Stop: 62554, Start Num: 22

Candidate Starts for Phlyer_85:

(Start: 21 @62910 has 17 MA's), (Start: 22 @62907 has 25 MA's), (25, 62892), (41, 62814), (43, 62784), (44, 62778), (51, 62757), (61, 62682), (69, 62592),

Gene: Pipefish_86 Start: 63131, Stop: 62799, Start Num: 23

Candidate Starts for Pipefish_86:

(6, 63254), (10, 63230), (12, 63221), (Start: 23 @63131 has 8 MA's), (33, 63110), (36, 63095), (Start: 40 @63065 has 1 MA's), (41, 63047), (59, 62948), (69, 62831), (70, 62822),

Gene: Predator_62 Start: 46573, Stop: 46911, Start Num: 23

Candidate Starts for Predator_62:

(16, 46528), (Start: 23 @46573 has 8 MA's), (Start: 31 @46591 has 2 MA's), (57, 46750), (68, 46855), (71, 46888),

Gene: Quammi_77 Start: 51407, Stop: 51120, Start Num: 27

Candidate Starts for Quammi_77:

(Start: 27 @51407 has 17 MA's), (Start: 32 @51398 has 5 MA's), (36, 51380), (52, 51263), (53, 51260), (54, 51257),

Gene: RagingRooster_84 Start: 61887, Stop: 61534, Start Num: 22

Candidate Starts for RagingRooster_84:

(Start: 21 @61890 has 17 MA's), (Start: 22 @61887 has 25 MA's), (25, 61872), (41, 61794), (43, 61764), (44, 61758), (51, 61737), (61, 61662), (69, 61572),

Gene: Rita1961_86 Start: 62538, Stop: 62188, Start Num: 22

Candidate Starts for Rita1961_86:

(Start: 21 @62541 has 17 MA's), (Start: 22 @62538 has 25 MA's), (Start: 26 @62520 has 1 MA's), (Start: 40 @62466 has 1 MA's), (41, 62448), (43, 62418), (61, 62316), (69, 62226),

Gene: RomaT_85 Start: 62764, Stop: 62408, Start Num: 21

Candidate Starts for RomaT_85:

(Start: 21 @62764 has 17 MA's), (Start: 22 @62761 has 25 MA's), (25, 62746), (41, 62668), (43, 62638), (44, 62632), (51, 62611), (61, 62536), (69, 62446),

Gene: Rudy_76 Start: 51434, Stop: 51156, Start Num: 32

Candidate Starts for Rudy_76:

(Start: 27 @51443 has 17 MA's), (Start: 32 @51434 has 5 MA's), (36, 51416), (52, 51299), (53, 51296), (54, 51293),

Gene: ScoobyDoobyDoo_14 Start: 4522, Stop: 4866, Start Num: 18

Candidate Starts for ScoobyDoobyDoo_14:

(Start: 18 @4522 has 1 MA's),

Gene: Serenabean_75 Start: 47658, Stop: 47942, Start Num: 24

Candidate Starts for Serenabean_75:

(5, 47508), (8, 47562), (Start: 24 @47658 has 3 MA's), (36, 47685), (51, 47793),

Gene: Shenandoah_84 Start: 61807, Stop: 61454, Start Num: 22

Candidate Starts for Shenandoah_84:

(Start: 21 @61810 has 17 MA's), (Start: 22 @61807 has 25 MA's), (25, 61792), (41, 61714), (43, 61684), (44, 61678), (51, 61657), (61, 61582),

Gene: ShyRosie_26 Start: 15707, Stop: 15414, Start Num: 26

Candidate Starts for ShyRosie_26:

(7, 15827), (13, 15806), (17, 15758), (Start: 26 @15707 has 1 MA's), (51, 15569),

Gene: Sillytadpoles_81 Start: 51274, Stop: 50996, Start Num: 32

Candidate Starts for Sillytadpoles_81:

(Start: 27 @51283 has 17 MA's), (Start: 32 @51274 has 5 MA's), (36, 51256), (52, 51139), (53, 51136), (54, 51133),

Gene: SlippinJimmy_88 Start: 63571, Stop: 63218, Start Num: 22

Candidate Starts for SlippinJimmy_88:

(Start: 21 @63574 has 17 MA's), (Start: 22 @63571 has 25 MA's), (25, 63556), (41, 63478), (43, 63448), (44, 63442), (51, 63421), (61, 63346), (69, 63256),

Gene: Squash_82 Start: 52656, Stop: 52369, Start Num: 27

Candidate Starts for Squash_82:

(Start: 27 @52656 has 17 MA's), (36, 52629), (52, 52512), (53, 52509), (54, 52506),

Gene: StrawberryJamm_84 Start: 51823, Stop: 51536, Start Num: 27

Candidate Starts for StrawberryJamm_84:

(Start: 27 @51823 has 17 MA's), (Start: 32 @51814 has 5 MA's), (36, 51796), (52, 51679), (53, 51676), (54, 51673),

Gene: SwainyDoc_86 Start: 62570, Stop: 62217, Start Num: 22

Candidate Starts for SwainyDoc_86:

(Start: 21 @62573 has 17 MA's), (Start: 22 @62570 has 25 MA's), (25, 62555), (41, 62477), (43, 62447), (54, 62399), (61, 62345), (69, 62255),

Gene: Sweetclover_73 Start: 46977, Stop: 47273, Start Num: 26

Candidate Starts for Sweetclover_73:

(5, 46803), (8, 46857), (Start: 26 @46977 has 1 MA's), (34, 46998), (55, 47139), (56, 47145),

Gene: SynergyX_85 Start: 62198, Stop: 61845, Start Num: 22

Candidate Starts for SynergyX_85:

(Start: 21 @62201 has 17 MA's), (Start: 22 @62198 has 25 MA's), (25, 62183), (41, 62105), (43, 62075), (44, 62069), (51, 62048), (61, 61973), (69, 61883),

Gene: Teehee_79 Start: 52513, Stop: 52226, Start Num: 27

Candidate Starts for Teehee_79:

(Start: 27 @52513 has 17 MA's), (Start: 32 @52504 has 5 MA's), (36, 52486), (52, 52369), (53, 52366), (54, 52363),

Gene: Thonko_53 Start: 44732, Stop: 44370, Start Num: 20

Candidate Starts for Thonko_53:

(4, 44885), (Start: 20 @44732 has 1 MA's), (34, 44693), (Start: 40 @44657 has 1 MA's), (43, 44609), (45, 44600), (69, 44426), (73, 44390),

Gene: TinyTerror_86 Start: 62624, Stop: 62268, Start Num: 21

Candidate Starts for TinyTerror_86:

(Start: 21 @62624 has 17 MA's), (Start: 22 @62621 has 25 MA's), (25, 62606), (41, 62528), (43, 62498), (44, 62492), (51, 62471), (61, 62396), (69, 62306),

Gene: Tissue_79 Start: 52271, Stop: 51993, Start Num: 32

Candidate Starts for Tissue_79:

(Start: 27 @52280 has 17 MA's), (Start: 32 @52271 has 5 MA's), (36, 52253), (52, 52136), (54, 52130), (63, 52064),

Gene: Tydolla_81 Start: 62177, Stop: 61824, Start Num: 22

Candidate Starts for Tydolla_81:

(Start: 21 @62180 has 17 MA's), (Start: 22 @62177 has 25 MA's), (25, 62162), (41, 62084), (43, 62054), (44, 62048), (51, 62027), (61, 61952), (69, 61862),

Gene: Viceroy_77 Start: 51416, Stop: 51129, Start Num: 27

Candidate Starts for Viceroy_77:

(Start: 27 @51416 has 17 MA's), (Start: 32 @51407 has 5 MA's), (36, 51389), (52, 51272), (53, 51269), (54, 51266),

Gene: Wayne3_80 Start: 52267, Stop: 51989, Start Num: 32

Candidate Starts for Wayne3_80:

(Start: 27 @52276 has 17 MA's), (Start: 32 @52267 has 5 MA's), (36, 52249), (52, 52132), (53, 52129), (54, 52126),

Gene: Wheelie_78 Start: 51597, Stop: 51310, Start Num: 27

Candidate Starts for Wheelie_78:

(Start: 27 @51597 has 17 MA's), (Start: 32 @51588 has 5 MA's), (36, 51570), (52, 51453), (53, 51450), (54, 51447),

Gene: Yahalom_83 Start: 62004, Stop: 61651, Start Num: 22

Candidate Starts for Yahalom_83:

(Start: 21 @62007 has 17 MA's), (Start: 22 @62004 has 25 MA's), (25, 61989), (41, 61911), (43, 61881), (44, 61875), (51, 61854), (61, 61779), (69, 61689),

Gene: Yinz_85 Start: 62060, Stop: 61716, Start Num: 21

Candidate Starts for Yinz_85:

(15, 62108), (Start: 21 @62060 has 17 MA's), (Start: 26 @62045 has 1 MA's), (33, 62033), (Start: 40 @61994 has 1 MA's), (41, 61976), (43, 61946), (59, 61871), (64, 61802), (69, 61754),

Gene: Zagie_80 Start: 52091, Stop: 51813, Start Num: 32

Candidate Starts for Zagie_80:

(Start: 27 @52100 has 17 MA's), (Start: 32 @52091 has 5 MA's), (36, 52073), (52, 51956), (53, 51953), (54, 51950),

Gene: Zenteno07_94 Start: 66543, Stop: 66193, Start Num: 23

Candidate Starts for Zenteno07_94:

(9, 66642), (Start: 23 @66543 has 8 MA's), (Start: 40 @66477 has 1 MA's), (43, 66429), (46, 66420), (48, 66414), (72, 66216),