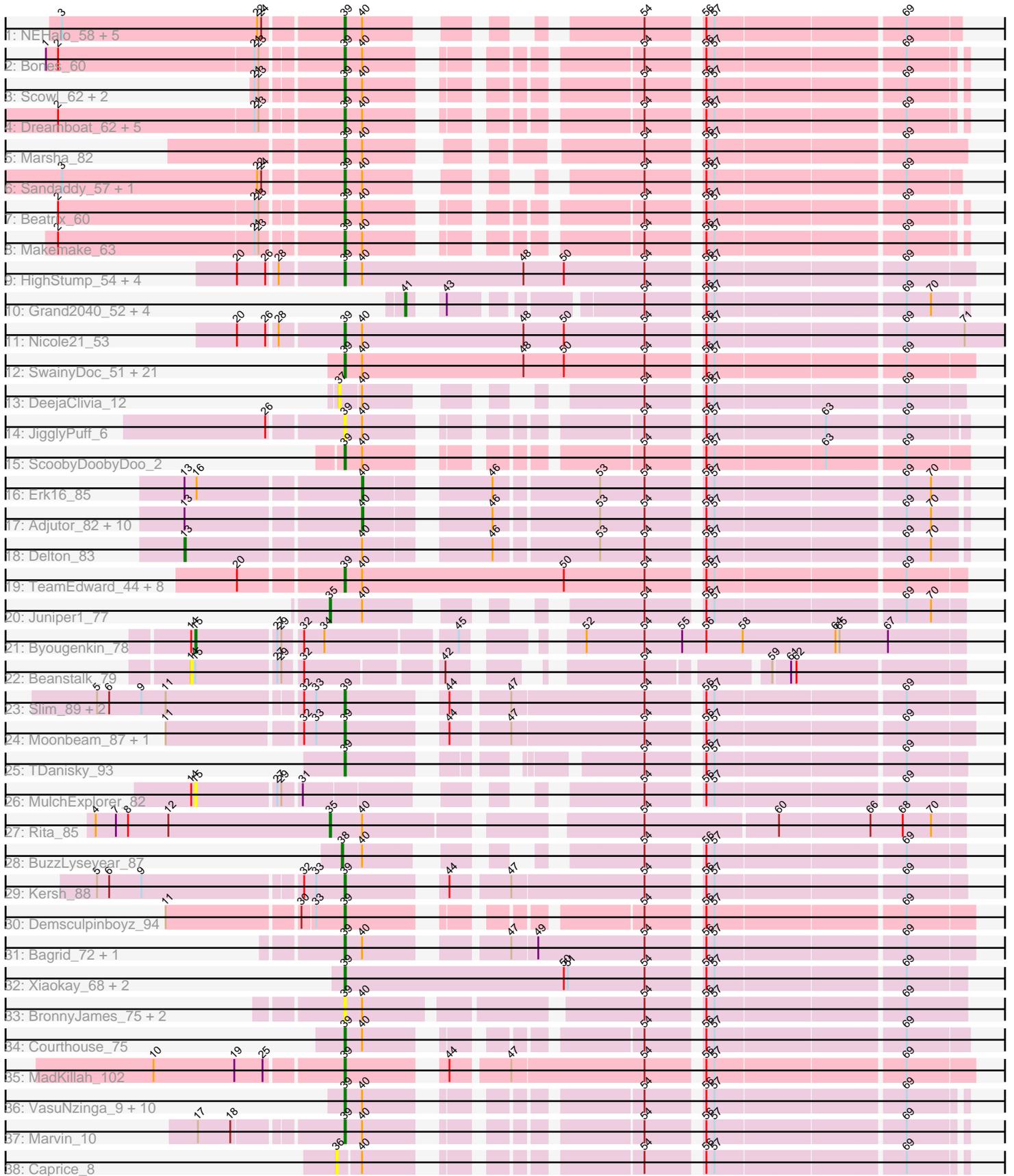


Pham 290987



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 290987 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290987 has 116 members, 23 are drafts.

Phages represented in each track:

- Track 1 : NEHalo_58, Blackflame_57, SpikeBT_59, GageAP_62, Pollywog_86, AFIS_57
- Track 2 : Bones_60
- Track 3 : Scowl_62, StrongArm_59, Bexan_58
- Track 4 : Dreamboat_62, Cueyllyss_61, Ohno789_61, Graduation_65, PherrisBueller_60, Jasper_61
- Track 5 : Marsha_82
- Track 6 : Sandaddy_57, Sorpresa_58
- Track 7 : Beatrix_60
- Track 8 : Makemake_63
- Track 9 : HighStump_54, Longacauda_53, Legolas_54, Iridessa_53, Orwigg_52
- Track 10 : Grand2040_52, LeiMonet_54, Maru_52, Cosmolli16_53, Giraffe_53
- Track 11 : Nicole21_53
- Track 12 : SwainyDoc_51, DaddyDaniels_54, Chentzyk_51, Rita1961_51, Kronus_50, Childish_52, MmasiCarm_51, Obutu_51, Soile_53, Phayeta_52, Mortcellus_50, Brilliant_54, Kahve_52, Casbah_50, Ben11_50, Gervas_51, HenryJackson_52, Marlia_51, Craff_55, Mulaychimus_51, TinyTerror_51, SlippinJimmy_52
- Track 13 : DeejaClivia_12
- Track 14 : JigglyPuff_6
- Track 15 : ScoobyDoobyDoo_2
- Track 16 : Erk16_85
- Track 17 : Adjutor_82, PLOT_85, Visconti_85, Thoth_84, WaldoWhy_85, Butterscotch_82, Mopey_86, Giuseppe_86, Chill_85, Prager_84, Penelope2018_84
- Track 18 : Delton_83
- Track 19 : TeamEdward_44, StormChicken_44, Nala_43, MPhalcon_42, MISSy_42, Becksu_43, Rimmer_43, Buck_43, Youngblood_44
- Track 20 : Juniper1_77
- Track 21 : Byougenkin_78
- Track 22 : Beanstalk_79
- Track 23 : Slim_89, Emmaloid_89, Sabbb_88
- Track 24 : Moonbeam_87, Rialto_90
- Track 25 : TDanisky_93
- Track 26 : MulchExplorer_82
- Track 27 : Rita_85
- Track 28 : BuzzLyseyear_87
- Track 29 : Kersh_88

- Track 30 : Demsculpinboyz_94
- Track 31 : Bagrid_72, EricMillard_72
- Track 32 : Xiaokay_68, Constella_64, Thibault_65
- Track 33 : BronnyJames_75, Nibley_68, Shaboozey_74
- Track 34 : Courthouse_75
- Track 35 : MadKillah_102
- Track 36 : VasuNzinga_9, Latretium_78, MrPhizzler_54, BoogieWoogie_53, RedRaider77_10, DolOn_56, Rimu_53, Fringe_56, Lumine_53, Khan1_53, Gwilliam_53
- Track 37 : Marvin_10
- Track 38 : Caprice_8

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

The start number called the most often in the published annotations is 39, it was called in 72 of the 93 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AFIS_57, Bagrid_72, Beatrix_60, Becksu_43, Ben11_50, Bexan_58, Blackflame_57, Bones_60, BoogieWoogie_53, Brilliant_54, BronnyJames_75, Buck_43, Casbah_50, Chentzyk_51, Childish_52, Constella_64, Courthouse_75, Craff_55, Cueylyss_61, DaddyDaniels_54, Demsculpinboyz_94, DolOn_56, Dreamboat_62, Emmaloid_89, EricMillard_72, Fringe_56, GageAP_62, Gervas_51, Graduation_65, Gwilliam_53, HenryJackson_52, HighStump_54, Iridessa_53, Jasper_61, JigglyPuff_6, Kahve_52, Kersh_88, Khan1_53, Kronus_50, Latretium_78, Legolas_54, Longacauda_53, Lumine_53, MISSy_42, MPhalcon_42, MadKillah_102, Makemake_63, Marlia_51, Marsha_82, Marvin_10, MmasiCarm_51, Moonbeam_87, Mortcellus_50, MrPhizzler_54, Mulaychimus_51, NEHalo_58, Nala_43, Nibley_68, Nicole21_53, Obutu_51, Ohno789_61, Orwigg_52, Phayeta_52, PherrisBueller_60, Pollywog_86, RedRaider77_10, Rialto_90, Rimmer_43, Rimu_53, Rita1961_51, Sabbb_88, Sandaddy_57, ScoobyDoobyDoo_2, Scowl_62, Shaboozey_74, Slim_89, SlippinJimmy_52, Soile_53, Sorpresa_58, SpikeBT_59, StormChicken_44, StrongArm_59, SwainyDoc_51, TDanisky_93, TeamEdward_44, Thibault_65, TinyTerror_51, VasuNzinga_9, Xiaokay_68, Youngblood_44,

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

-

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

- Adjutor_82, Beanstalk_79, Butterscotch_82, BuzzLyseyear_87, Byougenkin_78, Caprice_8, Chill_85, Cosmolli16_53, DeejaClivia_12, Delton_83, Erk16_85, Giraffe_53, Giuseppe_86, Grand2040_52, Juniper1_77, LeiMonet_54, Maru_52, Mopey_86, MulchExplorer_82, PLOT_85, Penelope2018_84, Prager_84, Rita_85, Thoth_84, Visconti_85, WaldoWhy_85,

Summary by start number:

Start 13:

- Found in 13 of 116 (11.2%) of genes in pham
- Manual Annotations of this start: 1 of 93

- Called 7.7% of time when present
- Phage (with cluster) where this start called: Delton_83 (D1),

Start 14:

- Found in 3 of 116 (2.6%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Beanstalk_79 (F1),

Start 15:

- Found in 3 of 116 (2.6%) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Byougenkin_78 (F1), MulchExplorer_82 (F1),

Start 35:

- Found in 2 of 116 (1.7%) of genes in pham
- Manual Annotations of this start: 2 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Juniper1_77 (F1), Rita_85 (F1),

Start 36:

- Found in 1 of 116 (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: Caprice_8 (S),

Start 37:

- Found in 1 of 116 (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: DeejaClivia_12 (C1),

Start 38:

- Found in 1 of 116 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BuzzLyseyear_87 (F1),

Start 39:

- Found in 90 of 116 (77.6%) of genes in pham
- Manual Annotations of this start: 72 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AFIS_57 (A1), Bagrid_72 (J), Beatrix_60 (A1), Becksu_43 (E), Ben11_50 (B3), Bexan_58 (A1), Blackflame_57 (A1), Bones_60 (A1), BoogieWoogie_53 (B1), Brilliant_54 (B1), BronnyJames_75 (J), Buck_43 (E), Casbah_50 (B3), Chentzyk_51 (B3), Childish_52 (B1), Constella_64 (J), Courthouse_75 (J), Craff_55 (B1), Cueylyss_61 (A1), DaddyDaniels_54 (B1), Demsculpinboyz_94 (F2), DolOn_56 (B1), Dreamboat_62 (A1), Emmaloid_89 (F1), EricMillard_72 (J), Fringe_56 (B1), GageAP_62 (A1), Gervas_51 (B3), Graduation_65 (A1), Gwilliam_53 (B1), HenryJackson_52 (B1), HighStump_54 (B1), Iridessa_53 (B1), Jasper_61 (A1), JigglyPuff_6 (C1), Kahve_52 (B1), Kersh_88 (F1), Khan1_53

(B1), Kronus_50 (B3), Latretium_78 (F1), Legolas_54 (B1), Longacauda_53 (B1), Lumine_53 (B1), MISSy_42 (E), MPhalcon_42 (E), MadKillah_102 (O), Makemake_63 (A1), Marlia_51 (B3), Marsha_82 (A1), Marvin_10 (S), MmasiCarm_51 (B3), Moonbeam_87 (F1), Mortcellus_50 (B3), MrPhizzler_54 (B1), Mulaychimus_51 (B3), NEHalo_58 (A1), Nala_43 (E), Nibley_68 (J), Nicole21_53 (B1), Obutu_51 (B3), Ohno789_61 (A1), Orwigg_52 (B1), Phayeta_52 (B3), PherrisBueller_60 (A1), Pollywog_86 (F1), RedRaider77_10 (S), Rialto_90 (F1), Rimmer_43 (E), Rimu_53 (B1), Rita1961_51 (B3), Sabbb_88 (F1), Sandaddy_57 (A1), ScoobyDoobyDoo_2 (C2), Scowl_62 (A1), Shaboozey_74 (J), Slim_89 (F1), SlippinJimmy_52 (B3), Soile_53 (B1), Sorpresa_58 (A1), SpikeBT_59 (A1), StormChicken_44 (E), StrongArm_59 (A1), SwainyDoc_51 (B3), TDanisky_93 (F1), TeamEdward_44 (E), Thibault_65 (J), TinyTerror_51 (B3), VasuNzinga_9 (S), Xiaokay_68 (J), Youngblood_44 (E),

Start 40:

- Found in 96 of 116 (82.8%) of genes in pham
- Manual Annotations of this start: 12 of 93
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Adjutor_82 (D1), Butterscotch_82 (D1), Chill_85 (D1), Erk16_85 (D1), Giuseppe_86 (D1), Mopey_86 (D1), PLOT_85 (D1), Penelope2018_84 (D1), Prager_84 (D1), Thoth_84 (D1), Visconti_85 (D1), WaldoWhy_85 (D1),

Start 41:

- Found in 5 of 116 (4.3%) of genes in pham
- Manual Annotations of this start: 4 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cosmolli16_53 (B1), Giraffe_53 (B1), Grand2040_52 (B1), LeiMonet_54 (B1), Maru_52 (B1),

Summary by clusters:

There are 12 clusters represented in this pham: F1, F2, E, J, O, A1, S, B1, B3, C2, C1, D1,

Info for manual annotations of cluster A1:

- Start number 39 was manually annotated 18 times for cluster A1.

Info for manual annotations of cluster B1:

- Start number 39 was manually annotated 18 times for cluster B1.
- Start number 41 was manually annotated 4 times for cluster B1.

Info for manual annotations of cluster B3:

- Start number 39 was manually annotated 11 times for cluster B3.

Info for manual annotations of cluster C2:

- Start number 39 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster D1:

- Start number 13 was manually annotated 1 time for cluster D1.
- Start number 40 was manually annotated 12 times for cluster D1.

Info for manual annotations of cluster E:

- Start number 39 was manually annotated 6 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 15 was manually annotated 1 time for cluster F1.
- Start number 35 was manually annotated 2 times for cluster F1.
- Start number 38 was manually annotated 1 time for cluster F1.
- Start number 39 was manually annotated 9 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 39 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster J:

- Start number 39 was manually annotated 4 times for cluster J.

Info for manual annotations of cluster O:

- Start number 39 was manually annotated 1 time for cluster O.

Info for manual annotations of cluster S:

- Start number 39 was manually annotated 3 times for cluster S.

Gene Information:

Gene: AFIS_57 Start: 39716, Stop: 39357, Start Num: 39

Candidate Starts for AFIS_57:

(3, 39917), (22, 39773), (24, 39770), (Start: 39 @39716 has 72 MA's), (Start: 40 @39704 has 12 MA's), (54, 39569), (56, 39533), (57, 39527), (69, 39395),

Gene: Adjutor_82 Start: 59655, Stop: 60050, Start Num: 40

Candidate Starts for Adjutor_82:

(Start: 13 @59532 has 1 MA's), (Start: 40 @59655 has 12 MA's), (46, 59730), (53, 59802), (54, 59835), (56, 59871), (57, 59877), (69, 60009), (70, 60027),

Gene: Bagrid_72 Start: 50124, Stop: 49711, Start Num: 39

Candidate Starts for Bagrid_72:

(Start: 39 @50124 has 72 MA's), (Start: 40 @50112 has 12 MA's), (47, 50028), (49, 50010), (54, 49932), (56, 49896), (57, 49890), (69, 49758),

Gene: Beanstalk_79 Start: 47841, Stop: 48317, Start Num: 14

Candidate Starts for Beanstalk_79:

(14, 47841), (Start: 15 @47844 has 1 MA's), (27, 47901), (29, 47904), (32, 47916), (42, 48006), (54, 48108), (59, 48186), (61, 48198), (62, 48201),

Gene: Beatrix_60 Start: 41870, Stop: 41490, Start Num: 39

Candidate Starts for Beatrix_60:

(2, 42071), (21, 41927), (23, 41924), (Start: 39 @41870 has 72 MA's), (Start: 40 @41858 has 12 MA's), (54, 41702), (56, 41666), (57, 41660), (69, 41528),

Gene: Becksu_43 Start: 35704, Stop: 35261, Start Num: 39

Candidate Starts for Becksu_43:

(20, 35776), (Start: 39 @35704 has 72 MA's), (Start: 40 @35692 has 12 MA's), (50, 35542), (54, 35482), (56, 35446), (57, 35440), (69, 35308),

Gene: Ben11_50 Start: 45429, Stop: 44986, Start Num: 39

Candidate Starts for Ben11_50:

(Start: 39 @45429 has 72 MA's), (Start: 40 @45417 has 12 MA's), (48, 45297), (50, 45267), (54, 45207), (56, 45171), (57, 45165), (69, 45033),

Gene: Bexan_58 Start: 41649, Stop: 41269, Start Num: 39

Candidate Starts for Bexan_58:

(21, 41706), (23, 41703), (Start: 39 @41649 has 72 MA's), (Start: 40 @41637 has 12 MA's), (54, 41481), (56, 41445), (57, 41439), (69, 41307),

Gene: Blackflame_57 Start: 40484, Stop: 40125, Start Num: 39

Candidate Starts for Blackflame_57:

(3, 40685), (22, 40541), (24, 40538), (Start: 39 @40484 has 72 MA's), (Start: 40 @40472 has 12 MA's), (54, 40337), (56, 40301), (57, 40295), (69, 40163),

Gene: Bones_60 Start: 41965, Stop: 41585, Start Num: 39

Candidate Starts for Bones_60:

(1, 42175), (2, 42166), (21, 42022), (23, 42019), (Start: 39 @41965 has 72 MA's), (Start: 40 @41953 has 12 MA's), (54, 41797), (56, 41761), (57, 41755), (69, 41623),

Gene: BoogieWoogie_53 Start: 47371, Stop: 46982, Start Num: 39

Candidate Starts for BoogieWoogie_53:

(Start: 39 @47371 has 72 MA's), (Start: 40 @47359 has 12 MA's), (54, 47203), (56, 47167), (57, 47161), (69, 47029),

Gene: Brilliant_54 Start: 47338, Stop: 46895, Start Num: 39

Candidate Starts for Brilliant_54:

(Start: 39 @47338 has 72 MA's), (Start: 40 @47326 has 12 MA's), (48, 47206), (50, 47176), (54, 47116), (56, 47080), (57, 47074), (69, 46942),

Gene: BronnyJames_75 Start: 47278, Stop: 46868, Start Num: 39

Candidate Starts for BronnyJames_75:

(Start: 39 @47278 has 72 MA's), (Start: 40 @47266 has 12 MA's), (54, 47086), (56, 47050), (57, 47044), (69, 46912),

Gene: Buck_43 Start: 35755, Stop: 35318, Start Num: 39

Candidate Starts for Buck_43:

(20, 35827), (Start: 39 @35755 has 72 MA's), (Start: 40 @35743 has 12 MA's), (50, 35593), (54, 35533), (56, 35497), (57, 35491), (69, 35359),

Gene: Butterscotch_82 Start: 59706, Stop: 60101, Start Num: 40

Candidate Starts for Butterscotch_82:

(Start: 13 @59583 has 1 MA's), (Start: 40 @59706 has 12 MA's), (46, 59781), (53, 59853), (54, 59886), (56, 59922), (57, 59928), (69, 60060), (70, 60078),

Gene: BuzzLyseyear_87 Start: 51492, Stop: 51857, Start Num: 38

Candidate Starts for BuzzLyseyear_87:

(Start: 38 @51492 has 1 MA's), (Start: 40 @51507 has 12 MA's), (54, 51642), (56, 51678), (57, 51684), (69, 51816),

Gene: Byougenkin_78 Start: 46058, Stop: 46567, Start Num: 15

Candidate Starts for Byougenkin_78:

(14, 46055), (Start: 15 @46058 has 1 MA's), (27, 46115), (29, 46118), (32, 46130), (34, 46145), (45, 46235), (52, 46292), (54, 46334), (55, 46361), (56, 46379), (58, 46406), (64, 46475), (65, 46478), (67, 46514),

Gene: Caprice_8 Start: 2539, Stop: 2922, Start Num: 36

Candidate Starts for Caprice_8:

(36, 2539), (Start: 40 @2554 has 12 MA's), (54, 2710), (56, 2746), (57, 2752), (69, 2884),

Gene: Casbah_50 Start: 45459, Stop: 45016, Start Num: 39

Candidate Starts for Casbah_50:

(Start: 39 @45459 has 72 MA's), (Start: 40 @45447 has 12 MA's), (48, 45327), (50, 45297), (54, 45237), (56, 45201), (57, 45195), (69, 45063),

Gene: Chentzyk_51 Start: 45971, Stop: 45528, Start Num: 39

Candidate Starts for Chentzyk_51:

(Start: 39 @45971 has 72 MA's), (Start: 40 @45959 has 12 MA's), (48, 45839), (50, 45809), (54, 45749), (56, 45713), (57, 45707), (69, 45575),

Gene: Childish_52 Start: 47365, Stop: 46922, Start Num: 39

Candidate Starts for Childish_52:

(Start: 39 @47365 has 72 MA's), (Start: 40 @47353 has 12 MA's), (48, 47233), (50, 47203), (54, 47143), (56, 47107), (57, 47101), (69, 46969),

Gene: Chill_85 Start: 59683, Stop: 60078, Start Num: 40

Candidate Starts for Chill_85:

(Start: 13 @59560 has 1 MA's), (Start: 40 @59683 has 12 MA's), (46, 59758), (53, 59830), (54, 59863), (56, 59899), (57, 59905), (69, 60037), (70, 60055),

Gene: Constella_64 Start: 46367, Stop: 45930, Start Num: 39

Candidate Starts for Constella_64:

(Start: 39 @46367 has 72 MA's), (50, 46205), (51, 46202), (54, 46145), (56, 46109), (57, 46103), (69, 45971),

Gene: Cosmolli16_53 Start: 47545, Stop: 47198, Start Num: 41

Candidate Starts for Cosmolli16_53:

(Start: 41 @47545 has 4 MA's), (43, 47533), (54, 47413), (56, 47377), (57, 47371), (69, 47239), (70, 47221),

Gene: Courthouse_75 Start: 48166, Stop: 47780, Start Num: 39

Candidate Starts for Courthouse_75:

(Start: 39 @48166 has 72 MA's), (Start: 40 @48154 has 12 MA's), (54, 47998), (56, 47962), (57, 47956), (69, 47824),

Gene: Craff_55 Start: 47790, Stop: 47347, Start Num: 39

Candidate Starts for Craff_55:

(Start: 39 @47790 has 72 MA's), (Start: 40 @47778 has 12 MA's), (48, 47658), (50, 47628), (54, 47568), (56, 47532), (57, 47526), (69, 47394),

Gene: Cueylyss_61 Start: 42165, Stop: 41785, Start Num: 39

Candidate Starts for Cueylyss_61:

(2, 42366), (21, 42222), (23, 42219), (Start: 39 @42165 has 72 MA's), (Start: 40 @42153 has 12 MA's), (54, 41997), (56, 41961), (57, 41955), (69, 41823),

Gene: DaddyDaniels_54 Start: 47322, Stop: 46879, Start Num: 39

Candidate Starts for DaddyDaniels_54:

(Start: 39 @47322 has 72 MA's), (Start: 40 @47310 has 12 MA's), (48, 47190), (50, 47160), (54, 47100), (56, 47064), (57, 47058), (69, 46926),

Gene: DeejaClivia_12 Start: 3961, Stop: 4326, Start Num: 37

Candidate Starts for DeejaClivia_12:

(37, 3961), (Start: 40 @3976 has 12 MA's), (54, 4111), (56, 4147), (57, 4153), (69, 4285),

Gene: Delton_83 Start: 59993, Stop: 60511, Start Num: 13

Candidate Starts for Delton_83:

(Start: 13 @59993 has 1 MA's), (Start: 40 @60116 has 12 MA's), (46, 60191), (53, 60263), (54, 60296), (56, 60332), (57, 60338), (69, 60470), (70, 60488),

Gene: Demsculpinboyz_94 Start: 48157, Stop: 48546, Start Num: 39

Candidate Starts for Demsculpinboyz_94:

(11, 48034), (30, 48127), (33, 48136), (Start: 39 @48157 has 72 MA's), (54, 48325), (56, 48361), (57, 48367), (69, 48499),

Gene: DolOn_56 Start: 48048, Stop: 47668, Start Num: 39

Candidate Starts for DolOn_56:

(Start: 39 @48048 has 72 MA's), (Start: 40 @48036 has 12 MA's), (54, 47880), (56, 47844), (57, 47838), (69, 47706),

Gene: Dreamboat_62 Start: 40065, Stop: 39685, Start Num: 39

Candidate Starts for Dreamboat_62:

(2, 40266), (21, 40122), (23, 40119), (Start: 39 @40065 has 72 MA's), (Start: 40 @40053 has 12 MA's), (54, 39897), (56, 39861), (57, 39855), (69, 39723),

Gene: Emmaloid_89 Start: 50002, Stop: 50415, Start Num: 39

Candidate Starts for Emmaloid_89:

(5, 49828), (6, 49837), (9, 49861), (11, 49879), (32, 49972), (33, 49981), (Start: 39 @50002 has 72 MA's), (44, 50059), (47, 50098), (54, 50194), (56, 50230), (57, 50236), (69, 50368),

Gene: EricMillard_72 Start: 50977, Stop: 50564, Start Num: 39

Candidate Starts for EricMillard_72:

(Start: 39 @50977 has 72 MA's), (Start: 40 @50965 has 12 MA's), (47, 50881), (49, 50863), (54, 50785), (56, 50749), (57, 50743), (69, 50611),

Gene: Erk16_85 Start: 60039, Stop: 60434, Start Num: 40

Candidate Starts for Erk16_85:

(Start: 13 @59916 has 1 MA's), (16, 59925), (Start: 40 @60039 has 12 MA's), (46, 60114), (53, 60186), (54, 60219), (56, 60255), (57, 60261), (69, 60393), (70, 60411),

Gene: Fringe_56 Start: 48267, Stop: 47878, Start Num: 39

Candidate Starts for Fringe_56:

(Start: 39 @48267 has 72 MA's), (Start: 40 @48255 has 12 MA's), (54, 48099), (56, 48063), (57, 48057), (69, 47925),

Gene: GageAP_62 Start: 41383, Stop: 41024, Start Num: 39

Candidate Starts for GageAP_62:

(3, 41584), (22, 41440), (24, 41437), (Start: 39 @41383 has 72 MA's), (Start: 40 @41371 has 12 MA's), (54, 41236), (56, 41200), (57, 41194), (69, 41062),

Gene: Gervas_51 Start: 45588, Stop: 45145, Start Num: 39

Candidate Starts for Gervas_51:

(Start: 39 @45588 has 72 MA's), (Start: 40 @45576 has 12 MA's), (48, 45456), (50, 45426), (54, 45366), (56, 45330), (57, 45324), (69, 45192),

Gene: Giraffe_53 Start: 47326, Stop: 46979, Start Num: 41

Candidate Starts for Giraffe_53:

(Start: 41 @47326 has 4 MA's), (43, 47314), (54, 47194), (56, 47158), (57, 47152), (69, 47020), (70, 47002),

Gene: Giuseppe_86 Start: 59752, Stop: 60147, Start Num: 40

Candidate Starts for Giuseppe_86:

(Start: 13 @59629 has 1 MA's), (Start: 40 @59752 has 12 MA's), (46, 59827), (53, 59899), (54, 59932), (56, 59968), (57, 59974), (69, 60106), (70, 60124),

Gene: Graduation_65 Start: 42237, Stop: 41857, Start Num: 39

Candidate Starts for Graduation_65:

(2, 42438), (21, 42294), (23, 42291), (Start: 39 @42237 has 72 MA's), (Start: 40 @42225 has 12 MA's), (54, 42069), (56, 42033), (57, 42027), (69, 41895),

Gene: Grand2040_52 Start: 47320, Stop: 46973, Start Num: 41

Candidate Starts for Grand2040_52:

(Start: 41 @47320 has 4 MA's), (43, 47308), (54, 47188), (56, 47152), (57, 47146), (69, 47014), (70, 46996),

Gene: Gwilliam_53 Start: 47683, Stop: 47303, Start Num: 39

Candidate Starts for Gwilliam_53:

(Start: 39 @47683 has 72 MA's), (Start: 40 @47671 has 12 MA's), (54, 47515), (56, 47479), (57, 47473), (69, 47341),

Gene: HenryJackson_52 Start: 47354, Stop: 46911, Start Num: 39

Candidate Starts for HenryJackson_52:

(Start: 39 @47354 has 72 MA's), (Start: 40 @47342 has 12 MA's), (48, 47222), (50, 47192), (54, 47132), (56, 47096), (57, 47090), (69, 46958),

Gene: HighStump_54 Start: 47890, Stop: 47447, Start Num: 39

Candidate Starts for HighStump_54:

(20, 47962), (26, 47941), (28, 47935), (Start: 39 @47890 has 72 MA's), (Start: 40 @47878 has 12 MA's), (48, 47758), (50, 47728), (54, 47668), (56, 47632), (57, 47626), (69, 47494),

Gene: Iridessa_53 Start: 47334, Stop: 46891, Start Num: 39

Candidate Starts for Iridessa_53:

(20, 47406), (26, 47385), (28, 47379), (Start: 39 @47334 has 72 MA's), (Start: 40 @47322 has 12 MA's), (48, 47202), (50, 47172), (54, 47112), (56, 47076), (57, 47070), (69, 46938),

Gene: Jasper_61 Start: 39951, Stop: 39571, Start Num: 39

Candidate Starts for Jasper_61:

(2, 40152), (21, 40008), (23, 40005), (Start: 39 @39951 has 72 MA's), (Start: 40 @39939 has 12 MA's), (54, 39783), (56, 39747), (57, 39741), (69, 39609),

Gene: JigglyPuff_6 Start: 1982, Stop: 2365, Start Num: 39

Candidate Starts for JigglyPuff_6:

(26, 1931), (Start: 39 @1982 has 72 MA's), (Start: 40 @1994 has 12 MA's), (54, 2150), (56, 2186), (57, 2192), (63, 2270), (69, 2324),

Gene: Juniper1_77 Start: 47775, Stop: 48149, Start Num: 35

Candidate Starts for Juniper1_77:

(Start: 35 @47775 has 2 MA's), (Start: 40 @47799 has 12 MA's), (54, 47934), (56, 47970), (57, 47976), (69, 48108), (70, 48126),

Gene: Kahve_52 Start: 47351, Stop: 46908, Start Num: 39

Candidate Starts for Kahve_52:

(Start: 39 @47351 has 72 MA's), (Start: 40 @47339 has 12 MA's), (48, 47219), (50, 47189), (54, 47129), (56, 47093), (57, 47087), (69, 46955),

Gene: Kersh_88 Start: 52115, Stop: 52522, Start Num: 39

Candidate Starts for Kersh_88:

(5, 51941), (6, 51950), (9, 51974), (32, 52085), (33, 52094), (Start: 39 @52115 has 72 MA's), (44, 52172), (47, 52211), (54, 52307), (56, 52343), (57, 52349), (69, 52481),

Gene: Khan1_53 Start: 47307, Stop: 46918, Start Num: 39

Candidate Starts for Khan1_53:

(Start: 39 @47307 has 72 MA's), (Start: 40 @47295 has 12 MA's), (54, 47139), (56, 47103), (57, 47097), (69, 46965),

Gene: Kronus_50 Start: 46191, Stop: 45748, Start Num: 39

Candidate Starts for Kronus_50:

(Start: 39 @46191 has 72 MA's), (Start: 40 @46179 has 12 MA's), (48, 46059), (50, 46029), (54, 45969), (56, 45933), (57, 45927), (69, 45795),

Gene: Latretium_78 Start: 47174, Stop: 47560, Start Num: 39

Candidate Starts for Latretium_78:

(Start: 39 @47174 has 72 MA's), (Start: 40 @47186 has 12 MA's), (54, 47342), (56, 47378), (57, 47384), (69, 47516),

Gene: Legolas_54 Start: 47787, Stop: 47344, Start Num: 39

Candidate Starts for Legolas_54:

(20, 47859), (26, 47838), (28, 47832), (Start: 39 @47787 has 72 MA's), (Start: 40 @47775 has 12 MA's), (48, 47655), (50, 47625), (54, 47565), (56, 47529), (57, 47523), (69, 47391),

Gene: LeiMonet_54 Start: 47306, Stop: 46959, Start Num: 41

Candidate Starts for LeiMonet_54:

(Start: 41 @47306 has 4 MA's), (43, 47294), (54, 47174), (56, 47138), (57, 47132), (69, 47000), (70, 46982),

Gene: Longacauda_53 Start: 47750, Stop: 47307, Start Num: 39

Candidate Starts for Longacauda_53:

(20, 47822), (26, 47801), (28, 47795), (Start: 39 @47750 has 72 MA's), (Start: 40 @47738 has 12 MA's), (48, 47618), (50, 47588), (54, 47528), (56, 47492), (57, 47486), (69, 47354),

Gene: Lumine_53 Start: 47538, Stop: 47155, Start Num: 39

Candidate Starts for Lumine_53:

(Start: 39 @47538 has 72 MA's), (Start: 40 @47526 has 12 MA's), (54, 47370), (56, 47334), (57, 47328), (69, 47196),

Gene: MISSy_42 Start: 35034, Stop: 34591, Start Num: 39

Candidate Starts for MISSy_42:

(20, 35106), (Start: 39 @35034 has 72 MA's), (Start: 40 @35022 has 12 MA's), (50, 34872), (54, 34812), (56, 34776), (57, 34770), (69, 34638),

Gene: MPhalcon_42 Start: 35027, Stop: 34584, Start Num: 39

Candidate Starts for MPhalcon_42:

(20, 35099), (Start: 39 @35027 has 72 MA's), (Start: 40 @35015 has 12 MA's), (50, 34865), (54, 34805), (56, 34769), (57, 34763), (69, 34631),

Gene: MadKillah_102 Start: 61818, Stop: 61405, Start Num: 39

Candidate Starts for MadKillah_102:

(10, 61950), (19, 61890), (25, 61869), (Start: 39 @61818 has 72 MA's), (44, 61761), (47, 61722), (54, 61626), (56, 61590), (57, 61584), (69, 61452),

Gene: Makemake_63 Start: 42339, Stop: 41959, Start Num: 39

Candidate Starts for Makemake_63:

(2, 42540), (21, 42396), (23, 42393), (Start: 39 @42339 has 72 MA's), (Start: 40 @42327 has 12 MA's), (54, 42171), (56, 42135), (57, 42129), (69, 41997),

Gene: Marlia_51 Start: 45592, Stop: 45149, Start Num: 39

Candidate Starts for Marlia_51:

(Start: 39 @45592 has 72 MA's), (Start: 40 @45580 has 12 MA's), (48, 45460), (50, 45430), (54, 45370), (56, 45334), (57, 45328), (69, 45196),

Gene: Marsha_82 Start: 50494, Stop: 50108, Start Num: 39

Candidate Starts for Marsha_82:

(Start: 39 @50494 has 72 MA's), (Start: 40 @50482 has 12 MA's), (54, 50326), (56, 50290), (57, 50284), (69, 50152),

Gene: Maru_52 Start: 47257, Stop: 46910, Start Num: 41

Candidate Starts for Maru_52:

(Start: 41 @47257 has 4 MA's), (43, 47245), (54, 47125), (56, 47089), (57, 47083), (69, 46951), (70, 46933),

Gene: Marvin_10 Start: 3597, Stop: 3977, Start Num: 39

Candidate Starts for Marvin_10:

(17, 3501), (18, 3525), (Start: 39 @3597 has 72 MA's), (Start: 40 @3609 has 12 MA's), (54, 3765), (56, 3801), (57, 3807), (69, 3939),

Gene: MmasiCarm_51 Start: 45638, Stop: 45195, Start Num: 39

Candidate Starts for MmasiCarm_51:

(Start: 39 @45638 has 72 MA's), (Start: 40 @45626 has 12 MA's), (48, 45506), (50, 45476), (54, 45416), (56, 45380), (57, 45374), (69, 45242),

Gene: Moonbeam_87 Start: 50558, Stop: 50971, Start Num: 39

Candidate Starts for Moonbeam_87:

(11, 50435), (32, 50528), (33, 50537), (Start: 39 @50558 has 72 MA's), (44, 50615), (47, 50654), (54, 50750), (56, 50786), (57, 50792), (69, 50924),

Gene: Mopey_86 Start: 59779, Stop: 60174, Start Num: 40

Candidate Starts for Mopey_86:

(Start: 13 @59656 has 1 MA's), (Start: 40 @59779 has 12 MA's), (46, 59854), (53, 59926), (54, 59959), (56, 59995), (57, 60001), (69, 60133), (70, 60151),

Gene: Mortcellus_50 Start: 46245, Stop: 45802, Start Num: 39

Candidate Starts for Mortcellus_50:

(Start: 39 @46245 has 72 MA's), (Start: 40 @46233 has 12 MA's), (48, 46113), (50, 46083), (54, 46023), (56, 45987), (57, 45981), (69, 45849),

Gene: MrPhizzler_54 Start: 47284, Stop: 46895, Start Num: 39

Candidate Starts for MrPhizzler_54:

(Start: 39 @47284 has 72 MA's), (Start: 40 @47272 has 12 MA's), (54, 47116), (56, 47080), (57, 47074), (69, 46942),

Gene: Mulaychimus_51 Start: 45574, Stop: 45131, Start Num: 39

Candidate Starts for Mulaychimus_51:

(Start: 39 @45574 has 72 MA's), (Start: 40 @45562 has 12 MA's), (48, 45442), (50, 45412), (54, 45352), (56, 45316), (57, 45310), (69, 45178),

Gene: MulchExplorer_82 Start: 47402, Stop: 47863, Start Num: 15

Candidate Starts for MulchExplorer_82:

(14, 47399), (Start: 15 @47402 has 1 MA's), (27, 47459), (29, 47462), (31, 47474), (54, 47648), (56, 47684), (57, 47690), (69, 47822),

Gene: NEHalo_58 Start: 40784, Stop: 40425, Start Num: 39

Candidate Starts for NEHalo_58:

(3, 40985), (22, 40841), (24, 40838), (Start: 39 @40784 has 72 MA's), (Start: 40 @40772 has 12 MA's), (54, 40637), (56, 40601), (57, 40595), (69, 40463),

Gene: Nala_43 Start: 35539, Stop: 35096, Start Num: 39

Candidate Starts for Nala_43:

(20, 35611), (Start: 39 @35539 has 72 MA's), (Start: 40 @35527 has 12 MA's), (50, 35377), (54, 35317), (56, 35281), (57, 35275), (69, 35143),

Gene: Nibley_68 Start: 46367, Stop: 45957, Start Num: 39

Candidate Starts for Nibley_68:

(Start: 39 @46367 has 72 MA's), (Start: 40 @46355 has 12 MA's), (54, 46175), (56, 46139), (57, 46133), (69, 46001),

Gene: Nicole21_53 Start: 47623, Stop: 47051, Start Num: 39

Candidate Starts for Nicole21_53:

(20, 47695), (26, 47674), (28, 47668), (Start: 39 @47623 has 72 MA's), (Start: 40 @47611 has 12 MA's), (48, 47491), (50, 47461), (54, 47401), (56, 47365), (57, 47359), (69, 47227), (71, 47185),

Gene: Obutu_51 Start: 45593, Stop: 45150, Start Num: 39

Candidate Starts for Obutu_51:

(Start: 39 @45593 has 72 MA's), (Start: 40 @45581 has 12 MA's), (48, 45461), (50, 45431), (54, 45371), (56, 45335), (57, 45329), (69, 45197),

Gene: Ohno789_61 Start: 41528, Stop: 41148, Start Num: 39

Candidate Starts for Ohno789_61:

(2, 41729), (21, 41585), (23, 41582), (Start: 39 @41528 has 72 MA's), (Start: 40 @41516 has 12 MA's), (54, 41360), (56, 41324), (57, 41318), (69, 41186),

Gene: Orwigg_52 Start: 47308, Stop: 46766, Start Num: 39

Candidate Starts for Orwigg_52:

(20, 47380), (26, 47359), (28, 47353), (Start: 39 @47308 has 72 MA's), (Start: 40 @47296 has 12 MA's), (48, 47176), (50, 47146), (54, 47086), (56, 47050), (57, 47044), (69, 46912),

Gene: PLOT_85 Start: 59930, Stop: 60325, Start Num: 40

Candidate Starts for PLOT_85:

(Start: 13 @59807 has 1 MA's), (Start: 40 @59930 has 12 MA's), (46, 60005), (53, 60077), (54, 60110), (56, 60146), (57, 60152), (69, 60284), (70, 60302),

Gene: Penelope2018_84 Start: 59705, Stop: 60100, Start Num: 40

Candidate Starts for Penelope2018_84:

(Start: 13 @59582 has 1 MA's), (Start: 40 @59705 has 12 MA's), (46, 59780), (53, 59852), (54, 59885), (56, 59921), (57, 59927), (69, 60059), (70, 60077),

Gene: Phayeta_52 Start: 45475, Stop: 45032, Start Num: 39

Candidate Starts for Phayeta_52:

(Start: 39 @45475 has 72 MA's), (Start: 40 @45463 has 12 MA's), (48, 45343), (50, 45313), (54, 45253), (56, 45217), (57, 45211), (69, 45079),

Gene: PherrisBueller_60 Start: 39602, Stop: 39222, Start Num: 39

Candidate Starts for PherrisBueller_60:

(2, 39803), (21, 39659), (23, 39656), (Start: 39 @39602 has 72 MA's), (Start: 40 @39590 has 12 MA's), (54, 39434), (56, 39398), (57, 39392), (69, 39260),

Gene: Pollywog_86 Start: 51074, Stop: 51427, Start Num: 39

Candidate Starts for Pollywog_86:

(3, 50873), (22, 51017), (24, 51020), (Start: 39 @51074 has 72 MA's), (Start: 40 @51086 has 12 MA's), (54, 51206), (56, 51242), (57, 51248), (69, 51380),

Gene: Prager_84 Start: 59610, Stop: 60005, Start Num: 40

Candidate Starts for Prager_84:

(Start: 13 @59487 has 1 MA's), (Start: 40 @59610 has 12 MA's), (46, 59685), (53, 59757), (54, 59790), (56, 59826), (57, 59832), (69, 59964), (70, 59982),

Gene: RedRaider77_10 Start: 3149, Stop: 3538, Start Num: 39

Candidate Starts for RedRaider77_10:

(Start: 39 @3149 has 72 MA's), (Start: 40 @3161 has 12 MA's), (54, 3317), (56, 3353), (57, 3359), (69, 3491),

Gene: Rialto_90 Start: 50654, Stop: 51067, Start Num: 39

Candidate Starts for Rialto_90:

(11, 50531), (32, 50624), (33, 50633), (Start: 39 @50654 has 72 MA's), (44, 50711), (47, 50750), (54, 50846), (56, 50882), (57, 50888), (69, 51020),

Gene: Rimmer_43 Start: 35365, Stop: 34928, Start Num: 39

Candidate Starts for Rimmer_43:

(20, 35437), (Start: 39 @35365 has 72 MA's), (Start: 40 @35353 has 12 MA's), (50, 35203), (54, 35143), (56, 35107), (57, 35101), (69, 34969),

Gene: Rimu_53 Start: 47304, Stop: 46915, Start Num: 39

Candidate Starts for Rimu_53:

(Start: 39 @47304 has 72 MA's), (Start: 40 @47292 has 12 MA's), (54, 47136), (56, 47100), (57, 47094), (69, 46962),

Gene: Rita_85 Start: 50514, Stop: 50948, Start Num: 35

Candidate Starts for Rita_85:

(4, 50340), (7, 50355), (8, 50364), (12, 50394), (Start: 35 @50514 has 2 MA's), (Start: 40 @50538 has 12 MA's), (54, 50718), (60, 50814), (66, 50880), (68, 50904), (70, 50925),

Gene: Rita1961_51 Start: 45594, Stop: 45151, Start Num: 39

Candidate Starts for Rita1961_51:

(Start: 39 @45594 has 72 MA's), (Start: 40 @45582 has 12 MA's), (48, 45462), (50, 45432), (54, 45372), (56, 45336), (57, 45330), (69, 45198),

Gene: Sabbb_88 Start: 48209, Stop: 48622, Start Num: 39

Candidate Starts for Sabbb_88:

(5, 48035), (6, 48044), (9, 48068), (11, 48086), (32, 48179), (33, 48188), (Start: 39 @48209 has 72 MA's), (44, 48266), (47, 48305), (54, 48401), (56, 48437), (57, 48443), (69, 48575),

Gene: Sandaddy_57 Start: 40445, Stop: 40086, Start Num: 39

Candidate Starts for Sandaddy_57:

(3, 40646), (22, 40502), (24, 40499), (Start: 39 @40445 has 72 MA's), (Start: 40 @40433 has 12 MA's), (54, 40298), (56, 40262), (57, 40256), (69, 40124),

Gene: ScoobyDoobyDoo_2 Start: 227, Stop: 613, Start Num: 39

Candidate Starts for ScoobyDoobyDoo_2:

(Start: 39 @227 has 72 MA's), (Start: 40 @239 has 12 MA's), (54, 395), (56, 431), (57, 437), (63, 515), (69, 569),

Gene: Scowl_62 Start: 40833, Stop: 40453, Start Num: 39

Candidate Starts for Scowl_62:

(21, 40890), (23, 40887), (Start: 39 @40833 has 72 MA's), (Start: 40 @40821 has 12 MA's), (54, 40665), (56, 40629), (57, 40623), (69, 40491),

Gene: Shaboozey_74 Start: 47299, Stop: 46889, Start Num: 39

Candidate Starts for Shaboozey_74:

(Start: 39 @47299 has 72 MA's), (Start: 40 @47287 has 12 MA's), (54, 47107), (56, 47071), (57, 47065), (69, 46933),

Gene: Slim_89 Start: 49993, Stop: 50406, Start Num: 39

Candidate Starts for Slim_89:

(5, 49819), (6, 49828), (9, 49852), (11, 49870), (32, 49963), (33, 49972), (Start: 39 @49993 has 72 MA's), (44, 50050), (47, 50089), (54, 50185), (56, 50221), (57, 50227), (69, 50359),

Gene: SlippinJimmy_52 Start: 46376, Stop: 45933, Start Num: 39

Candidate Starts for SlippinJimmy_52:

(Start: 39 @46376 has 72 MA's), (Start: 40 @46364 has 12 MA's), (48, 46244), (50, 46214), (54, 46154), (56, 46118), (57, 46112), (69, 45980),

Gene: Soile_53 Start: 47351, Stop: 46908, Start Num: 39

Candidate Starts for Soile_53:

(Start: 39 @47351 has 72 MA's), (Start: 40 @47339 has 12 MA's), (48, 47219), (50, 47189), (54, 47129), (56, 47093), (57, 47087), (69, 46955),

Gene: Sorpresa_58 Start: 40447, Stop: 40088, Start Num: 39

Candidate Starts for Sorpresa_58:

(3, 40648), (22, 40504), (24, 40501), (Start: 39 @40447 has 72 MA's), (Start: 40 @40435 has 12 MA's), (54, 40300), (56, 40264), (57, 40258), (69, 40126),

Gene: SpikeBT_59 Start: 40641, Stop: 40282, Start Num: 39

Candidate Starts for SpikeBT_59:

(3, 40842), (22, 40698), (24, 40695), (Start: 39 @40641 has 72 MA's), (Start: 40 @40629 has 12 MA's), (54, 40494), (56, 40458), (57, 40452), (69, 40320),

Gene: StormChicken_44 Start: 35973, Stop: 35536, Start Num: 39

Candidate Starts for StormChicken_44:

(20, 36045), (Start: 39 @35973 has 72 MA's), (Start: 40 @35961 has 12 MA's), (50, 35811), (54, 35751), (56, 35715), (57, 35709), (69, 35577),

Gene: StrongArm_59 Start: 41777, Stop: 41397, Start Num: 39

Candidate Starts for StrongArm_59:

(21, 41834), (23, 41831), (Start: 39 @41777 has 72 MA's), (Start: 40 @41765 has 12 MA's), (54, 41609), (56, 41573), (57, 41567), (69, 41435),

Gene: SwainyDoc_51 Start: 45606, Stop: 45163, Start Num: 39

Candidate Starts for SwainyDoc_51:

(Start: 39 @45606 has 72 MA's), (Start: 40 @45594 has 12 MA's), (48, 45474), (50, 45444), (54, 45384), (56, 45348), (57, 45342), (69, 45210),

Gene: TDanisky_93 Start: 48927, Stop: 49307, Start Num: 39

Candidate Starts for TDanisky_93:

(Start: 39 @48927 has 72 MA's), (54, 49092), (56, 49128), (57, 49134), (69, 49266),

Gene: TeamEdward_44 Start: 35970, Stop: 35533, Start Num: 39

Candidate Starts for TeamEdward_44:

(20, 36042), (Start: 39 @35970 has 72 MA's), (Start: 40 @35958 has 12 MA's), (50, 35808), (54, 35748), (56, 35712), (57, 35706), (69, 35574),

Gene: Thibault_65 Start: 47312, Stop: 46869, Start Num: 39

Candidate Starts for Thibault_65:

(Start: 39 @47312 has 72 MA's), (50, 47150), (51, 47147), (54, 47090), (56, 47054), (57, 47048), (69, 46916),

Gene: Thoth_84 Start: 59759, Stop: 60154, Start Num: 40

Candidate Starts for Thoth_84:

(Start: 13 @59636 has 1 MA's), (Start: 40 @59759 has 12 MA's), (46, 59834), (53, 59906), (54, 59939), (56, 59975), (57, 59981), (69, 60113), (70, 60131),

Gene: TinyTerror_51 Start: 45641, Stop: 45198, Start Num: 39

Candidate Starts for TinyTerror_51:

(Start: 39 @45641 has 72 MA's), (Start: 40 @45629 has 12 MA's), (48, 45509), (50, 45479), (54, 45419), (56, 45383), (57, 45377), (69, 45245),

Gene: VasuNzinga_9 Start: 2804, Stop: 3184, Start Num: 39

Candidate Starts for VasuNzinga_9:

(Start: 39 @2804 has 72 MA's), (Start: 40 @2816 has 12 MA's), (54, 2972), (56, 3008), (57, 3014), (69, 3146),

Gene: Visconti_85 Start: 59720, Stop: 60115, Start Num: 40

Candidate Starts for Visconti_85:

(Start: 13 @59597 has 1 MA's), (Start: 40 @59720 has 12 MA's), (46, 59795), (53, 59867), (54, 59900), (56, 59936), (57, 59942), (69, 60074), (70, 60092),

Gene: WaldoWhy_85 Start: 59683, Stop: 60078, Start Num: 40

Candidate Starts for WaldoWhy_85:

(Start: 13 @59560 has 1 MA's), (Start: 40 @59683 has 12 MA's), (46, 59758), (53, 59830), (54, 59863), (56, 59899), (57, 59905), (69, 60037), (70, 60055),

Gene: Xiaokay_68 Start: 48228, Stop: 47791, Start Num: 39

Candidate Starts for Xiaokay_68:

(Start: 39 @48228 has 72 MA's), (50, 48066), (51, 48063), (54, 48006), (56, 47970), (57, 47964), (69, 47832),

Gene: Youngblood_44 Start: 35976, Stop: 35539, Start Num: 39

Candidate Starts for Youngblood_44:

(20, 36048), (Start: 39 @35976 has 72 MA's), (Start: 40 @35964 has 12 MA's), (50, 35814), (54, 35754), (56, 35718), (57, 35712), (69, 35580),