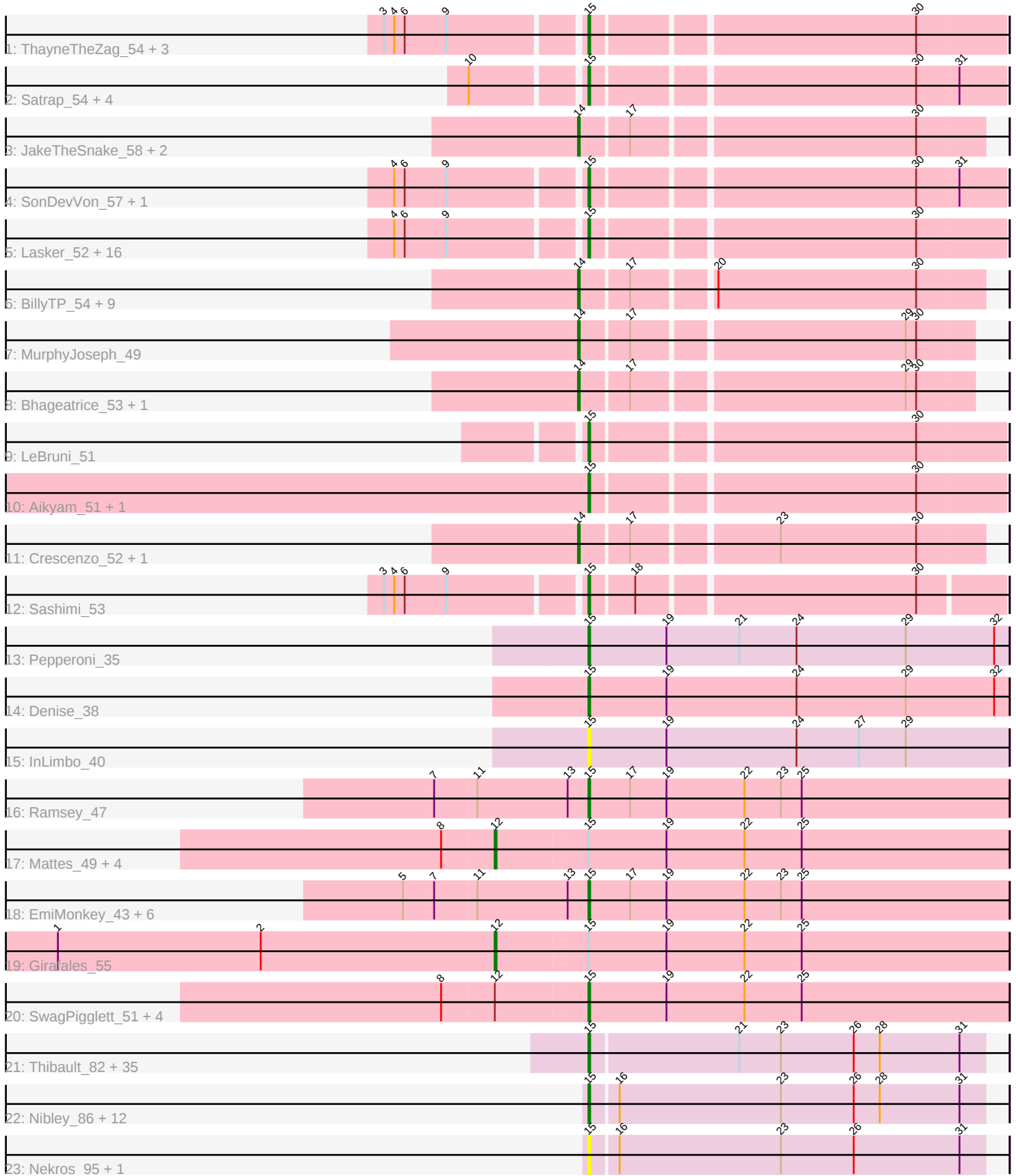


Pham 330625



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 330625 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330625 has 123 members, 21 are drafts.

Phages represented in each track:

- Track 1 : ThayneTheZag_54, Globfish_53, Cassini_47, SpicyFrank_56
- Track 2 : Satrap_54, Seahorse_56, Auxilium_49, AbbyDaisy_52, DarwinJr_55
- Track 3 : JakeTheSnake_58, Persistence_48, Phrank15_53
- Track 4 : SonDevVon_57, Lawnathon_54
- Track 5 : Lasker_52, Isolde_52, NewKitty_55, EvePickles_49, Tiff81_49, Raphaella_52, Sakai_52, Richie_55, CookieBear_53, Windest_54, Kabloowy_53, AdaS_49, YoungHarleezy_53, Mapleville_49, MUWow_52, JellyBread_50, Gorpy_53
- Track 6 : BillyTP_54, Faja_53, Raqqa_44, RadFad_56, BenchScraper_51, Vopal_55, Hillester_56, BasketStar_54, BlueShadow_52, MidnightRain_56
- Track 7 : MurphyJoseph_49
- Track 8 : Bhageatrice_53, Sporco_54
- Track 9 : LeBruni_51
- Track 10 : Aikyam_51, MaterMagnus_53
- Track 11 : Crescenzo_52, Anekin_49
- Track 12 : Sashimi_53
- Track 13 : Pepperoni_35
- Track 14 : Denise_38
- Track 15 : InLimbo_40
- Track 16 : Ramsey_47
- Track 17 : Mattes_49, James_49, Saal_48, BobaPhett_48, ByChance_36
- Track 18 : EmiMonkey_43, OldBen_44, Vivum_49, Tweety_46, Mantra_43, Radiance_45, DaddyRickover_45
- Track 19 : Girafales_55
- Track 20 : SwagPigglett_51, Philus_49, Gorge_50, DRBy19_48, DosHalletts_46
- Track 21 : Thibault_82, Bombitas_86, BAKA_99, Duke13_94, Bobby_89, EricMillard_91, Marleymoo_79, Minerva_97, Pound_89, Phoebus_99, Odette_97, Beem_98, Schatzie_92, KashFlow_88, DmpstrDiver_99, Ejimix_91, Hidrated_84, Klein_98, JuicyJay_94, Dove_83, Wanda_101, Dallas_99, Hughesyang_97, Constella_83, Yeet_90, Kalah2_91, Bagrid_97, ThreeRngTarjay_94, Hannaconda_84, Redno2_89, Halley_99, Xiaokay_87, Optimus_91, NihilNomen_99, HokkenD_86, Zelink_94
- Track 22 : Nibley_86, LittleE_96, Gonephishing_85, Ariel_92, BronnyJames_92, Courthouse_88, Omega_102, Squint_91, Porcelain_91, Lucky2013_90, Superphikiman_90, Shaboozey_91, MiaZeal_93
- Track 23 : Nekros_95, Rearden_87

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

The start number called the most often in the published annotations is 15, it was called in 82 of the 102 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbyDaisy_52, AdaS_49, Aikyam_51, Ariel_92, Auxilium_49, BAKA_99, Bagrid_97, Beem_98, Bobby_89, Bombitas_86, BronnyJames_92, Cassini_47, Constella_83, CookieBear_53, Courthouse_88, DRBy19_48, DaddyRickover_45, Dallas_99, DarwinJr_55, Denise_38, DmpstrDiver_99, DosHalletts_46, Dove_83, Duke13_94, Ejimix_91, EmiMonkey_43, EricMillard_91, EvePickles_49, Globfish_53, Gonephishing_85, Gorge_50, Gorpy_53, Halley_99, Hannaconda_84, Hidrated_84, HokkenD_86, Hughesyang_97, InLimbo_40, Isolde_52, JellyBread_50, JuicyJay_94, Kabloowy_53, Kalah2_91, KashFlow_88, Klein_98, Lasker_52, Lawnathon_54, LeBruni_51, LittleE_96, Lucky2013_90, MUWow_52, Mantra_43, Mapleville_49, Marleymoo_79, MaterMagnus_53, MiaZeal_93, Minerva_97, Nekros_95, NewKitty_55, Nibley_86, NihilNomen_99, Odette_97, OldBen_44, Omega_102, Optimus_91, Pepperoni_35, Philus_49, Phoebus_99, Porcelain_91, Pound_89, Radiance_45, Ramsey_47, Raphaella_52, Rearden_87, Redno2_89, Richie_55, Sakai_52, Sashimi_53, Satrap_54, Schatzie_92, Seahorse_56, Shaboozey_91, SonDevVon_57, SpicyFrank_56, Squint_91, Superphikiman_90, SwagPigglett_51, ThayneTheZag_54, Thibault_82, ThreeRngTarjay_94, Tiff81_49, Tweety_46, Vivum_49, Wanda_101, Windest_54, Xiaokay_87, Yeet_90, YoungHarleezy_53, Zelink_94,

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

- BobaPhett_48, ByChance_36, Girafales_55, James_49, Mattes_49, Saal_48,

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

- Anekin_49, BasketStar_54, BenchScraper_51, Bhageatrice_53, BillyTP_54, BlueShadow_52, Crescenzo_52, Faja_53, Hillester_56, JakeTheSnake_58, MidnightRain_56, MurphyJoseph_49, Persistence_48, Phrank15_53, RadFad_56, Raqqa_44, Sporco_54, Vopal_55,

Summary by start number:

Start 12:

- Found in 11 of 123 (8.9%) of genes in pham
- Manual Annotations of this start: 6 of 102
- Called 54.5% of time when present
- Phage (with cluster) where this start called: BobaPhett_48 (F1), ByChance_36 (F1), Girafales_55 (F1), James_49 (F1), Mattes_49 (F1), Saal_48 (F1),

Start 14:

- Found in 18 of 123 (14.6%) of genes in pham
- Manual Annotations of this start: 14 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anekin_49 (AY), BasketStar_54 (AY), BenchScraper_51 (AY), Bhageatrice_53 (AY), BillyTP_54 (AY), BlueShadow_52 (AY), Crescenzo_52 (AY), Faja_53 (AY), Hillester_56 (AY), JakeTheSnake_58 (AY), MidnightRain_56 (AY), MurphyJoseph_49 (AY), Persistence_48 (AY), Phrank15_53 (AY), RadFad_56 (AY), Raqqa_44 (AY), Sporco_54 (AY), Vopal_55 (AY),

Start 15:

- Found in 105 of 123 (85.4%) of genes in pham
- Manual Annotations of this start: 82 of 102
- Called 94.3% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_52 (AY), AdaS_49 (AY), Aikyam_51 (AY), Ariel_92 (J), Auxilium_49 (AY), BAKA_99 (J), Bagrid_97 (J), Beem_98 (J), Bobby_89 (J), Bombitas_86 (J), BronnyJames_92 (J), Cassini_47 (FN), Constella_83 (J), CookieBear_53 (AY), Courthouse_88 (J), DRBy19_48 (F1), DaddyRickover_45 (F1), Dallas_99 (J), DarwinJr_55 (AY), Denise_38 (CZ5), DmpstrDiver_99 (J), DosHalletts_46 (F1), Dove_83 (J), Duke13_94 (J), Ejimix_91 (J), EmiMonkey_43 (F1), EricMillard_91 (J), EvePickles_49 (AY), Globfish_53 (AY), Gonephishing_85 (J), Gorge_50 (F1), Gorpy_53 (AY), Halley_99 (J), Hannaconda_84 (J), Hidrated_84 (J), HokkenD_86 (J), Hughesyang_97 (J), InLimbo_40 (DH), Isolde_52 (AY), JellyBread_50 (AY), JuicyJay_94 (J), Kabloowy_53 (AY), Kalah2_91 (J), KashFlow_88 (J), Klein_98 (J), Lasker_52 (AY), Lawnathon_54 (AY), LeBruni_51 (AY), LittleE_96 (J), Lucky2013_90 (J), MUWow_52 (AY), Mantra_43 (F1), Mapleville_49 (AY), Marleymoo_79 (J), MaterMagnus_53 (AY), MiaZeal_93 (J), Minerva_97 (J), Nekros_95 (J), NewKitty_55 (AY), Nibley_86 (J), NihilNomen_99 (J), Odette_97 (J), OldBen_44 (F1), Omega_102 (J), Optimus_91 (J), Pepperoni_35 (CZ), Philus_49 (F1), Phoebus_99 (J), Porcelain_91 (J), Pound_89 (J), Radiance_45 (F1), Ramsey_47 (F1), Raphaella_52 (AY), Rearden_87 (J), Redno2_89 (J), Richie_55 (AY), Sakai_52 (AY), Sashimi_53 (AY), Satrap_54 (AY), Schatzie_92 (J), Seahorse_56 (AY), Shaboozey_91 (J), SonDevVon_57 (AY), SpicyFrank_56 (AY), Squint_91 (J), Superphikiman_90 (J), SwagPigglett_51 (F1), ThayneTheZag_54 (AY), Thibault_82 (J), ThreeRngTarjay_94 (J), Tiff81_49 (AY), Tweety_46 (F1), Vivum_49 (F1), Wanda_101 (J), Windest_54 (AY), Xiaokay_87 (J), Yeet_90 (J), YoungHarleezy_53 (AY), Zelink_94 (J),

Summary by clusters:

There are 7 clusters represented in this pham: F1, DH, J, CZ5, CZ, AY, FN,

Info for manual annotations of cluster AY:

- Start number 14 was manually annotated 14 times for cluster AY.
- Start number 15 was manually annotated 27 times for cluster AY.

Info for manual annotations of cluster CZ:

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

Info for manual annotations of cluster CZ5:

- Start number 15 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster F1:

- Start number 12 was manually annotated 6 times for cluster F1.
- Start number 15 was manually annotated 12 times for cluster F1.

Info for manual annotations of cluster J:

- Start number 15 was manually annotated 41 times for cluster J.

Gene Information:

Gene: AbbyDaisy_52 Start: 32609, Stop: 32836, Start Num: 15

Candidate Starts for AbbyDaisy_52:

(10, 32549), (Start: 15 @32609 has 82 MA's), (30, 32786), (31, 32810),

Gene: AdaS_49 Start: 30552, Stop: 30779, Start Num: 15

Candidate Starts for AdaS_49:

(4, 30450), (6, 30456), (9, 30480), (Start: 15 @30552 has 82 MA's), (30, 30729),

Gene: Aikyam_51 Start: 30322, Stop: 30549, Start Num: 15

Candidate Starts for Aikyam_51:

(Start: 15 @30322 has 82 MA's), (30, 30499),

Gene: Anekin_49 Start: 31709, Stop: 31930, Start Num: 14

Candidate Starts for Anekin_49:

(Start: 14 @31709 has 14 MA's), (17, 31736), (23, 31814), (30, 31892),

Gene: Ariel_92 Start: 54277, Stop: 54501, Start Num: 15

Candidate Starts for Ariel_92:

(Start: 15 @54277 has 82 MA's), (16, 54292), (23, 54385), (26, 54427), (28, 54442), (31, 54487),

Gene: Auxilium_49 Start: 29880, Stop: 30107, Start Num: 15

Candidate Starts for Auxilium_49:

(10, 29820), (Start: 15 @29880 has 82 MA's), (30, 30057), (31, 30081),

Gene: BAKA_99 Start: 60178, Stop: 60402, Start Num: 15

Candidate Starts for BAKA_99:

(Start: 15 @60178 has 82 MA's), (21, 60262), (23, 60286), (26, 60328), (28, 60343), (31, 60388),

Gene: Bagrid_97 Start: 59045, Stop: 59269, Start Num: 15

Candidate Starts for Bagrid_97:

(Start: 15 @59045 has 82 MA's), (21, 59129), (23, 59153), (26, 59195), (28, 59210), (31, 59255),

Gene: BasketStar_54 Start: 32770, Stop: 32991, Start Num: 14

Candidate Starts for BasketStar_54:

(Start: 14 @32770 has 14 MA's), (17, 32797), (20, 32839), (30, 32953),

Gene: Beem_98 Start: 59906, Stop: 60130, Start Num: 15

Candidate Starts for Beem_98:

(Start: 15 @59906 has 82 MA's), (21, 59990), (23, 60014), (26, 60056), (28, 60071), (31, 60116),

Gene: BenchScraper_51 Start: 31595, Stop: 31816, Start Num: 14

Candidate Starts for BenchScraper_51:

(Start: 14 @31595 has 14 MA's), (17, 31622), (20, 31664), (30, 31778),

Gene: Bhageatrice_53 Start: 33668, Stop: 33883, Start Num: 14

Candidate Starts for Bhageatrice_53:

(Start: 14 @33668 has 14 MA's), (17, 33695), (29, 33845), (30, 33851),

Gene: BillyTP_54 Start: 33466, Stop: 33687, Start Num: 14

Candidate Starts for BillyTP_54:

(Start: 14 @33466 has 14 MA's), (17, 33493), (20, 33535), (30, 33649),

Gene: BlueShadow_52 Start: 32256, Stop: 32477, Start Num: 14
Candidate Starts for BlueShadow_52:
(Start: 14 @32256 has 14 MA's), (17, 32283), (20, 32325), (30, 32439),

Gene: BobaPhett_48 Start: 36435, Stop: 36728, Start Num: 12
Candidate Starts for BobaPhett_48:
(8, 36405), (Start: 12 @36435 has 6 MA's), (Start: 15 @36486 has 82 MA's), (19, 36531), (22, 36576),
(25, 36609),

Gene: Bobby_89 Start: 58271, Stop: 58495, Start Num: 15
Candidate Starts for Bobby_89:
(Start: 15 @58271 has 82 MA's), (21, 58355), (23, 58379), (26, 58421), (28, 58436), (31, 58481),

Gene: Bombitas_86 Start: 57069, Stop: 57293, Start Num: 15
Candidate Starts for Bombitas_86:
(Start: 15 @57069 has 82 MA's), (21, 57153), (23, 57177), (26, 57219), (28, 57234), (31, 57279),

Gene: BronnyJames_92 Start: 54759, Stop: 54983, Start Num: 15
Candidate Starts for BronnyJames_92:
(Start: 15 @54759 has 82 MA's), (16, 54774), (23, 54867), (26, 54909), (28, 54924), (31, 54969),

Gene: ByChance_36 Start: 29519, Stop: 29812, Start Num: 12
Candidate Starts for ByChance_36:
(8, 29489), (Start: 12 @29519 has 6 MA's), (Start: 15 @29570 has 82 MA's), (19, 29615), (22, 29660),
(25, 29693),

Gene: Cassini_47 Start: 30981, Stop: 31208, Start Num: 15
Candidate Starts for Cassini_47:
(3, 30873), (4, 30879), (6, 30885), (9, 30909), (Start: 15 @30981 has 82 MA's), (30, 31158),

Gene: Constella_83 Start: 54075, Stop: 54299, Start Num: 15
Candidate Starts for Constella_83:
(Start: 15 @54075 has 82 MA's), (21, 54159), (23, 54183), (26, 54225), (28, 54240), (31, 54285),

Gene: CookieBear_53 Start: 32302, Stop: 32529, Start Num: 15
Candidate Starts for CookieBear_53:
(4, 32200), (6, 32206), (9, 32230), (Start: 15 @32302 has 82 MA's), (30, 32479),

Gene: Courthouse_88 Start: 53877, Stop: 54101, Start Num: 15
Candidate Starts for Courthouse_88:
(Start: 15 @53877 has 82 MA's), (16, 53892), (23, 53985), (26, 54027), (28, 54042), (31, 54087),

Gene: Crescenzo_52 Start: 32760, Stop: 32981, Start Num: 14
Candidate Starts for Crescenzo_52:
(Start: 14 @32760 has 14 MA's), (17, 32787), (23, 32865), (30, 32943),

Gene: DRBy19_48 Start: 35273, Stop: 35515, Start Num: 15
Candidate Starts for DRBy19_48:
(8, 35192), (Start: 12 @35222 has 6 MA's), (Start: 15 @35273 has 82 MA's), (19, 35318), (22, 35363),
(25, 35396),

Gene: DaddyRickover_45 Start: 34949, Stop: 35191, Start Num: 15

Candidate Starts for DaddyRickover_45:

(5, 34844), (7, 34862), (11, 34886), (13, 34937), (Start: 15 @34949 has 82 MA's), (17, 34973), (19, 34994), (22, 35039), (23, 35060), (25, 35072),

Gene: Dallas_99 Start: 59914, Stop: 60138, Start Num: 15

Candidate Starts for Dallas_99:

(Start: 15 @59914 has 82 MA's), (21, 59998), (23, 60022), (26, 60064), (28, 60079), (31, 60124),

Gene: DarwinJr_55 Start: 33282, Stop: 33509, Start Num: 15

Candidate Starts for DarwinJr_55:

(10, 33222), (Start: 15 @33282 has 82 MA's), (30, 33459), (31, 33483),

Gene: Denise_38 Start: 30015, Stop: 30257, Start Num: 15

Candidate Starts for Denise_38:

(Start: 15 @30015 has 82 MA's), (19, 30060), (24, 30135), (29, 30198), (32, 30249),

Gene: DmpstrDiver_99 Start: 59337, Stop: 59561, Start Num: 15

Candidate Starts for DmpstrDiver_99:

(Start: 15 @59337 has 82 MA's), (21, 59421), (23, 59445), (26, 59487), (28, 59502), (31, 59547),

Gene: DosHalletts_46 Start: 34544, Stop: 34786, Start Num: 15

Candidate Starts for DosHalletts_46:

(8, 34463), (Start: 12 @34493 has 6 MA's), (Start: 15 @34544 has 82 MA's), (19, 34589), (22, 34634), (25, 34667),

Gene: Dove_83 Start: 55335, Stop: 55559, Start Num: 15

Candidate Starts for Dove_83:

(Start: 15 @55335 has 82 MA's), (21, 55419), (23, 55443), (26, 55485), (28, 55500), (31, 55545),

Gene: Duke13_94 Start: 57846, Stop: 58070, Start Num: 15

Candidate Starts for Duke13_94:

(Start: 15 @57846 has 82 MA's), (21, 57930), (23, 57954), (26, 57996), (28, 58011), (31, 58056),

Gene: Ejimix_91 Start: 59633, Stop: 59857, Start Num: 15

Candidate Starts for Ejimix_91:

(Start: 15 @59633 has 82 MA's), (21, 59717), (23, 59741), (26, 59783), (28, 59798), (31, 59843),

Gene: EmiMonkey_43 Start: 35884, Stop: 36126, Start Num: 15

Candidate Starts for EmiMonkey_43:

(5, 35779), (7, 35797), (11, 35821), (13, 35872), (Start: 15 @35884 has 82 MA's), (17, 35908), (19, 35929), (22, 35974), (23, 35995), (25, 36007),

Gene: EricMillard_91 Start: 58974, Stop: 59198, Start Num: 15

Candidate Starts for EricMillard_91:

(Start: 15 @58974 has 82 MA's), (21, 59058), (23, 59082), (26, 59124), (28, 59139), (31, 59184),

Gene: EvePickles_49 Start: 32502, Stop: 32729, Start Num: 15

Candidate Starts for EvePickles_49:

(4, 32400), (6, 32406), (9, 32430), (Start: 15 @32502 has 82 MA's), (30, 32679),

Gene: Faja_53 Start: 33434, Stop: 33655, Start Num: 14

Candidate Starts for Faja_53:

(Start: 14 @33434 has 14 MA's), (17, 33461), (20, 33503), (30, 33617),

Gene: Girafales_55 Start: 35606, Stop: 35899, Start Num: 12

Candidate Starts for Girafales_55:

(1, 35354), (2, 35471), (Start: 12 @35606 has 6 MA's), (Start: 15 @35657 has 82 MA's), (19, 35702), (22, 35747), (25, 35780),

Gene: Globfish_53 Start: 32401, Stop: 32628, Start Num: 15

Candidate Starts for Globfish_53:

(3, 32293), (4, 32299), (6, 32305), (9, 32329), (Start: 15 @32401 has 82 MA's), (30, 32578),

Gene: Gonephishing_85 Start: 53438, Stop: 53662, Start Num: 15

Candidate Starts for Gonephishing_85:

(Start: 15 @53438 has 82 MA's), (16, 53453), (23, 53546), (26, 53588), (28, 53603), (31, 53648),

Gene: Gorge_50 Start: 35407, Stop: 35649, Start Num: 15

Candidate Starts for Gorge_50:

(8, 35326), (Start: 12 @35356 has 6 MA's), (Start: 15 @35407 has 82 MA's), (19, 35452), (22, 35497), (25, 35530),

Gene: Gorpy_53 Start: 33294, Stop: 33521, Start Num: 15

Candidate Starts for Gorpy_53:

(4, 33192), (6, 33198), (9, 33222), (Start: 15 @33294 has 82 MA's), (30, 33471),

Gene: Halley_99 Start: 59907, Stop: 60131, Start Num: 15

Candidate Starts for Halley_99:

(Start: 15 @59907 has 82 MA's), (21, 59991), (23, 60015), (26, 60057), (28, 60072), (31, 60117),

Gene: Hannaconda_84 Start: 52847, Stop: 53071, Start Num: 15

Candidate Starts for Hannaconda_84:

(Start: 15 @52847 has 82 MA's), (21, 52931), (23, 52955), (26, 52997), (28, 53012), (31, 53057),

Gene: Hidrated_84 Start: 57796, Stop: 58020, Start Num: 15

Candidate Starts for Hidrated_84:

(Start: 15 @57796 has 82 MA's), (21, 57880), (23, 57904), (26, 57946), (28, 57961), (31, 58006),

Gene: Hillester_56 Start: 33192, Stop: 33413, Start Num: 14

Candidate Starts for Hillester_56:

(Start: 14 @33192 has 14 MA's), (17, 33219), (20, 33261), (30, 33375),

Gene: HokkenD_86 Start: 58176, Stop: 58400, Start Num: 15

Candidate Starts for HokkenD_86:

(Start: 15 @58176 has 82 MA's), (21, 58260), (23, 58284), (26, 58326), (28, 58341), (31, 58386),

Gene: Hughesyang_97 Start: 59865, Stop: 60089, Start Num: 15

Candidate Starts for Hughesyang_97:

(Start: 15 @59865 has 82 MA's), (21, 59949), (23, 59973), (26, 60015), (28, 60030), (31, 60075),

Gene: InLimbo_40 Start: 29422, Stop: 29664, Start Num: 15

Candidate Starts for InLimbo_40:

(Start: 15 @29422 has 82 MA's), (19, 29467), (24, 29542), (27, 29578), (29, 29605),

Gene: Isolde_52 Start: 31971, Stop: 32198, Start Num: 15

Candidate Starts for Isolde_52:

(4, 31869), (6, 31875), (9, 31899), (Start: 15 @31971 has 82 MA's), (30, 32148),

Gene: JakeTheSnake_58 Start: 34293, Stop: 34514, Start Num: 14

Candidate Starts for JakeTheSnake_58:

(Start: 14 @34293 has 14 MA's), (17, 34320), (30, 34476),

Gene: James_49 Start: 35313, Stop: 35606, Start Num: 12

Candidate Starts for James_49:

(8, 35283), (Start: 12 @35313 has 6 MA's), (Start: 15 @35364 has 82 MA's), (19, 35409), (22, 35454), (25, 35487),

Gene: JellyBread_50 Start: 31092, Stop: 31319, Start Num: 15

Candidate Starts for JellyBread_50:

(4, 30990), (6, 30996), (9, 31020), (Start: 15 @31092 has 82 MA's), (30, 31269),

Gene: JuicyJay_94 Start: 61041, Stop: 61265, Start Num: 15

Candidate Starts for JuicyJay_94:

(Start: 15 @61041 has 82 MA's), (21, 61125), (23, 61149), (26, 61191), (28, 61206), (31, 61251),

Gene: Kabloowy_53 Start: 32986, Stop: 33213, Start Num: 15

Candidate Starts for Kabloowy_53:

(4, 32884), (6, 32890), (9, 32914), (Start: 15 @32986 has 82 MA's), (30, 33163),

Gene: Kalah2_91 Start: 59200, Stop: 59424, Start Num: 15

Candidate Starts for Kalah2_91:

(Start: 15 @59200 has 82 MA's), (21, 59284), (23, 59308), (26, 59350), (28, 59365), (31, 59410),

Gene: KashFlow_88 Start: 54408, Stop: 54632, Start Num: 15

Candidate Starts for KashFlow_88:

(Start: 15 @54408 has 82 MA's), (21, 54492), (23, 54516), (26, 54558), (28, 54573), (31, 54618),

Gene: Klein_98 Start: 58907, Stop: 59131, Start Num: 15

Candidate Starts for Klein_98:

(Start: 15 @58907 has 82 MA's), (21, 58991), (23, 59015), (26, 59057), (28, 59072), (31, 59117),

Gene: Lasker_52 Start: 32746, Stop: 32973, Start Num: 15

Candidate Starts for Lasker_52:

(4, 32644), (6, 32650), (9, 32674), (Start: 15 @32746 has 82 MA's), (30, 32923),

Gene: Lawnathon_54 Start: 32459, Stop: 32686, Start Num: 15

Candidate Starts for Lawnathon_54:

(4, 32357), (6, 32363), (9, 32387), (Start: 15 @32459 has 82 MA's), (30, 32636), (31, 32660),

Gene: LeBruni_51 Start: 31268, Stop: 31495, Start Num: 15

Candidate Starts for LeBruni_51:

(Start: 15 @31268 has 82 MA's), (30, 31445),

Gene: LittleE_96 Start: 57973, Stop: 58197, Start Num: 15

Candidate Starts for LittleE_96:

(Start: 15 @57973 has 82 MA's), (16, 57988), (23, 58081), (26, 58123), (28, 58138), (31, 58183),

Gene: Lucky2013_90 Start: 54293, Stop: 54517, Start Num: 15

Candidate Starts for Lucky2013_90:

(Start: 15 @54293 has 82 MA's), (16, 54308), (23, 54401), (26, 54443), (28, 54458), (31, 54503),

Gene: MUWow_52 Start: 32236, Stop: 32463, Start Num: 15

Candidate Starts for MUWow_52:

(4, 32134), (6, 32140), (9, 32164), (Start: 15 @32236 has 82 MA's), (30, 32413),

Gene: Mantra_43 Start: 34338, Stop: 34580, Start Num: 15

Candidate Starts for Mantra_43:

(5, 34233), (7, 34251), (11, 34275), (13, 34326), (Start: 15 @34338 has 82 MA's), (17, 34362), (19, 34383), (22, 34428), (23, 34449), (25, 34461),

Gene: Mapleville_49 Start: 31795, Stop: 32022, Start Num: 15

Candidate Starts for Mapleville_49:

(4, 31693), (6, 31699), (9, 31723), (Start: 15 @31795 has 82 MA's), (30, 31972),

Gene: Marleymoo_79 Start: 56062, Stop: 56286, Start Num: 15

Candidate Starts for Marleymoo_79:

(Start: 15 @56062 has 82 MA's), (21, 56146), (23, 56170), (26, 56212), (28, 56227), (31, 56272),

Gene: MaterMagnus_53 Start: 32494, Stop: 32721, Start Num: 15

Candidate Starts for MaterMagnus_53:

(Start: 15 @32494 has 82 MA's), (30, 32671),

Gene: Mattes_49 Start: 35313, Stop: 35606, Start Num: 12

Candidate Starts for Mattes_49:

(8, 35283), (Start: 12 @35313 has 6 MA's), (Start: 15 @35364 has 82 MA's), (19, 35409), (22, 35454), (25, 35487),

Gene: MiaZeal_93 Start: 54949, Stop: 55173, Start Num: 15

Candidate Starts for MiaZeal_93:

(Start: 15 @54949 has 82 MA's), (16, 54964), (23, 55057), (26, 55099), (28, 55114), (31, 55159),

Gene: MidnightRain_56 Start: 33373, Stop: 33594, Start Num: 14

Candidate Starts for MidnightRain_56:

(Start: 14 @33373 has 14 MA's), (17, 33400), (20, 33442), (30, 33556),

Gene: Minerva_97 Start: 59852, Stop: 60076, Start Num: 15

Candidate Starts for Minerva_97:

(Start: 15 @59852 has 82 MA's), (21, 59936), (23, 59960), (26, 60002), (28, 60017), (31, 60062),

Gene: MurphyJoseph_49 Start: 30808, Stop: 31023, Start Num: 14

Candidate Starts for MurphyJoseph_49:

(Start: 14 @30808 has 14 MA's), (17, 30835), (29, 30985), (30, 30991),

Gene: Nekros_95 Start: 57908, Stop: 58132, Start Num: 15

Candidate Starts for Nekros_95:

(Start: 15 @57908 has 82 MA's), (16, 57923), (23, 58016), (26, 58058), (31, 58118),

Gene: NewKitty_55 Start: 32164, Stop: 32391, Start Num: 15

Candidate Starts for NewKitty_55:

(4, 32062), (6, 32068), (9, 32092), (Start: 15 @32164 has 82 MA's), (30, 32341),

Gene: Nibley_86 Start: 54336, Stop: 54560, Start Num: 15

Candidate Starts for Nibley_86:

(Start: 15 @54336 has 82 MA's), (16, 54351), (23, 54444), (26, 54486), (28, 54501), (31, 54546),

Gene: NihilNomen_99 Start: 59993, Stop: 60217, Start Num: 15

Candidate Starts for NihilNomen_99:

(Start: 15 @59993 has 82 MA's), (21, 60077), (23, 60101), (26, 60143), (28, 60158), (31, 60203),

Gene: Odette_97 Start: 59036, Stop: 59260, Start Num: 15

Candidate Starts for Odette_97:

(Start: 15 @59036 has 82 MA's), (21, 59120), (23, 59144), (26, 59186), (28, 59201), (31, 59246),

Gene: OldBen_44 Start: 34446, Stop: 34688, Start Num: 15

Candidate Starts for OldBen_44:

(5, 34341), (7, 34359), (11, 34383), (13, 34434), (Start: 15 @34446 has 82 MA's), (17, 34470), (19, 34491), (22, 34536), (23, 34557), (25, 34569),

Gene: Omega_102 Start: 59746, Stop: 59970, Start Num: 15

Candidate Starts for Omega_102:

(Start: 15 @59746 has 82 MA's), (16, 59761), (23, 59854), (26, 59896), (28, 59911), (31, 59956),

Gene: Optimus_91 Start: 58527, Stop: 58751, Start Num: 15

Candidate Starts for Optimus_91:

(Start: 15 @58527 has 82 MA's), (21, 58611), (23, 58635), (26, 58677), (28, 58692), (31, 58737),

Gene: Pepperoni_35 Start: 28741, Stop: 28983, Start Num: 15

Candidate Starts for Pepperoni_35:

(Start: 15 @28741 has 82 MA's), (19, 28786), (21, 28828), (24, 28861), (29, 28924), (32, 28975),

Gene: Persistence_48 Start: 30988, Stop: 31209, Start Num: 14

Candidate Starts for Persistence_48:

(Start: 14 @30988 has 14 MA's), (17, 31015), (30, 31171),

Gene: Philus_49 Start: 35249, Stop: 35491, Start Num: 15

Candidate Starts for Philus_49:

(8, 35168), (Start: 12 @35198 has 6 MA's), (Start: 15 @35249 has 82 MA's), (19, 35294), (22, 35339), (25, 35372),

Gene: Phoebus_99 Start: 61176, Stop: 61400, Start Num: 15

Candidate Starts for Phoebus_99:

(Start: 15 @61176 has 82 MA's), (21, 61260), (23, 61284), (26, 61326), (28, 61341), (31, 61386),

Gene: Phrank15_53 Start: 32217, Stop: 32432, Start Num: 14

Candidate Starts for Phrank15_53:

(Start: 14 @32217 has 14 MA's), (17, 32244), (30, 32400),

Gene: Porcelain_91 Start: 54949, Stop: 55173, Start Num: 15

Candidate Starts for Porcelain_91:

(Start: 15 @54949 has 82 MA's), (16, 54964), (23, 55057), (26, 55099), (28, 55114), (31, 55159),

Gene: Pound_89 Start: 59204, Stop: 59428, Start Num: 15

Candidate Starts for Pound_89:

(Start: 15 @59204 has 82 MA's), (21, 59288), (23, 59312), (26, 59354), (28, 59369), (31, 59414),

Gene: RadFad_56 Start: 33192, Stop: 33413, Start Num: 14
Candidate Starts for RadFad_56:
(Start: 14 @33192 has 14 MA's), (17, 33219), (20, 33261), (30, 33375),

Gene: Radiance_45 Start: 34616, Stop: 34858, Start Num: 15
Candidate Starts for Radiance_45:
(5, 34511), (7, 34529), (11, 34553), (13, 34604), (Start: 15 @34616 has 82 MA's), (17, 34640), (19, 34661), (22, 34706), (23, 34727), (25, 34739),

Gene: Ramsey_47 Start: 35242, Stop: 35484, Start Num: 15
Candidate Starts for Ramsey_47:
(7, 35155), (11, 35179), (13, 35230), (Start: 15 @35242 has 82 MA's), (17, 35266), (19, 35287), (22, 35332), (23, 35353), (25, 35365),

Gene: Raphaella_52 Start: 31903, Stop: 32130, Start Num: 15
Candidate Starts for Raphaella_52:
(4, 31801), (6, 31807), (9, 31831), (Start: 15 @31903 has 82 MA's), (30, 32080),

Gene: Raqqa_44 Start: 29057, Stop: 29278, Start Num: 14
Candidate Starts for Raqqa_44:
(Start: 14 @29057 has 14 MA's), (17, 29084), (20, 29126), (30, 29240),

Gene: Rearden_87 Start: 55132, Stop: 55356, Start Num: 15
Candidate Starts for Rearden_87:
(Start: 15 @55132 has 82 MA's), (16, 55147), (23, 55240), (26, 55282), (31, 55342),

Gene: Redno2_89 Start: 55727, Stop: 55951, Start Num: 15
Candidate Starts for Redno2_89:
(Start: 15 @55727 has 82 MA's), (21, 55811), (23, 55835), (26, 55877), (28, 55892), (31, 55937),

Gene: Richie_55 Start: 32972, Stop: 33199, Start Num: 15
Candidate Starts for Richie_55:
(4, 32870), (6, 32876), (9, 32900), (Start: 15 @32972 has 82 MA's), (30, 33149),

Gene: Saal_48 Start: 35176, Stop: 35469, Start Num: 12
Candidate Starts for Saal_48:
(8, 35146), (Start: 12 @35176 has 6 MA's), (Start: 15 @35227 has 82 MA's), (19, 35272), (22, 35317), (25, 35350),

Gene: Sakai_52 Start: 32005, Stop: 32232, Start Num: 15
Candidate Starts for Sakai_52:
(4, 31903), (6, 31909), (9, 31933), (Start: 15 @32005 has 82 MA's), (30, 32182),

Gene: Sashimi_53 Start: 33239, Stop: 33463, Start Num: 15
Candidate Starts for Sashimi_53:
(3, 33131), (4, 33137), (6, 33143), (9, 33167), (Start: 15 @33239 has 82 MA's), (18, 33263), (30, 33416),

Gene: Satrap_54 Start: 32434, Stop: 32661, Start Num: 15
Candidate Starts for Satrap_54:
(10, 32374), (Start: 15 @32434 has 82 MA's), (30, 32611), (31, 32635),

Gene: Schatzie_92 Start: 58783, Stop: 59007, Start Num: 15

Candidate Starts for Schatzie_92:

(Start: 15 @58783 has 82 MA's), (21, 58867), (23, 58891), (26, 58933), (28, 58948), (31, 58993),

Gene: Seahorse_56 Start: 34238, Stop: 34465, Start Num: 15

Candidate Starts for Seahorse_56:

(10, 34178), (Start: 15 @34238 has 82 MA's), (30, 34415), (31, 34439),

Gene: Shaboozey_91 Start: 54780, Stop: 55004, Start Num: 15

Candidate Starts for Shaboozey_91:

(Start: 15 @54780 has 82 MA's), (16, 54795), (23, 54888), (26, 54930), (28, 54945), (31, 54990),

Gene: SonDevVon_57 Start: 32608, Stop: 32835, Start Num: 15

Candidate Starts for SonDevVon_57:

(4, 32506), (6, 32512), (9, 32536), (Start: 15 @32608 has 82 MA's), (30, 32785), (31, 32809),

Gene: SpicyFrank_56 Start: 33084, Stop: 33311, Start Num: 15

Candidate Starts for SpicyFrank_56:

(3, 32976), (4, 32982), (6, 32988), (9, 33012), (Start: 15 @33084 has 82 MA's), (30, 33261),

Gene: Sporco_54 Start: 32041, Stop: 32256, Start Num: 14

Candidate Starts for Sporco_54:

(Start: 14 @32041 has 14 MA's), (17, 32068), (29, 32218), (30, 32224),

Gene: Squint_91 Start: 55068, Stop: 55292, Start Num: 15

Candidate Starts for Squint_91:

(Start: 15 @55068 has 82 MA's), (16, 55083), (23, 55176), (26, 55218), (28, 55233), (31, 55278),

Gene: Superphikiman_90 Start: 54159, Stop: 54383, Start Num: 15

Candidate Starts for Superphikiman_90:

(Start: 15 @54159 has 82 MA's), (16, 54174), (23, 54267), (26, 54309), (28, 54324), (31, 54369),

Gene: SwagPiggett_51 Start: 36282, Stop: 36524, Start Num: 15

Candidate Starts for SwagPiggett_51:

(8, 36201), (Start: 12 @36231 has 6 MA's), (Start: 15 @36282 has 82 MA's), (19, 36327), (22, 36372), (25, 36405),

Gene: ThayneTheZag_54 Start: 32079, Stop: 32306, Start Num: 15

Candidate Starts for ThayneTheZag_54:

(3, 31971), (4, 31977), (6, 31983), (9, 32007), (Start: 15 @32079 has 82 MA's), (30, 32256),

Gene: Thibault_82 Start: 54692, Stop: 54916, Start Num: 15

Candidate Starts for Thibault_82:

(Start: 15 @54692 has 82 MA's), (21, 54776), (23, 54800), (26, 54842), (28, 54857), (31, 54902),

Gene: ThreeRngTarjay_94 Start: 60068, Stop: 60292, Start Num: 15

Candidate Starts for ThreeRngTarjay_94:

(Start: 15 @60068 has 82 MA's), (21, 60152), (23, 60176), (26, 60218), (28, 60233), (31, 60278),

Gene: Tiff81_49 Start: 30416, Stop: 30643, Start Num: 15

Candidate Starts for Tiff81_49:

(4, 30314), (6, 30320), (9, 30344), (Start: 15 @30416 has 82 MA's), (30, 30593),

Gene: Tweety_46 Start: 35314, Stop: 35556, Start Num: 15

Candidate Starts for Tweety_46:

(5, 35209), (7, 35227), (11, 35251), (13, 35302), (Start: 15 @35314 has 82 MA's), (17, 35338), (19, 35359), (22, 35404), (23, 35425), (25, 35437),

Gene: Vivum_49 Start: 35564, Stop: 35806, Start Num: 15

Candidate Starts for Vivum_49:

(5, 35459), (7, 35477), (11, 35501), (13, 35552), (Start: 15 @35564 has 82 MA's), (17, 35588), (19, 35609), (22, 35654), (23, 35675), (25, 35687),

Gene: Vopal_55 Start: 35089, Stop: 35310, Start Num: 14

Candidate Starts for Vopal_55:

(Start: 14 @35089 has 14 MA's), (17, 35116), (20, 35158), (30, 35272),

Gene: Wanda_101 Start: 59184, Stop: 59408, Start Num: 15

Candidate Starts for Wanda_101:

(Start: 15 @59184 has 82 MA's), (21, 59268), (23, 59292), (26, 59334), (28, 59349), (31, 59394),

Gene: Windest_54 Start: 31164, Stop: 31391, Start Num: 15

Candidate Starts for Windest_54:

(4, 31062), (6, 31068), (9, 31092), (Start: 15 @31164 has 82 MA's), (30, 31341),

Gene: Xiaokay_87 Start: 55936, Stop: 56160, Start Num: 15

Candidate Starts for Xiaokay_87:

(Start: 15 @55936 has 82 MA's), (21, 56020), (23, 56044), (26, 56086), (28, 56101), (31, 56146),

Gene: Yeet_90 Start: 58285, Stop: 58509, Start Num: 15

Candidate Starts for Yeet_90:

(Start: 15 @58285 has 82 MA's), (21, 58369), (23, 58393), (26, 58435), (28, 58450), (31, 58495),

Gene: YoungHarleezy_53 Start: 32469, Stop: 32696, Start Num: 15

Candidate Starts for YoungHarleezy_53:

(4, 32367), (6, 32373), (9, 32397), (Start: 15 @32469 has 82 MA's), (30, 32646),

Gene: Zelink_94 Start: 60379, Stop: 60603, Start Num: 15

Candidate Starts for Zelink_94:

(Start: 15 @60379 has 82 MA's), (21, 60463), (23, 60487), (26, 60529), (28, 60544), (31, 60589),