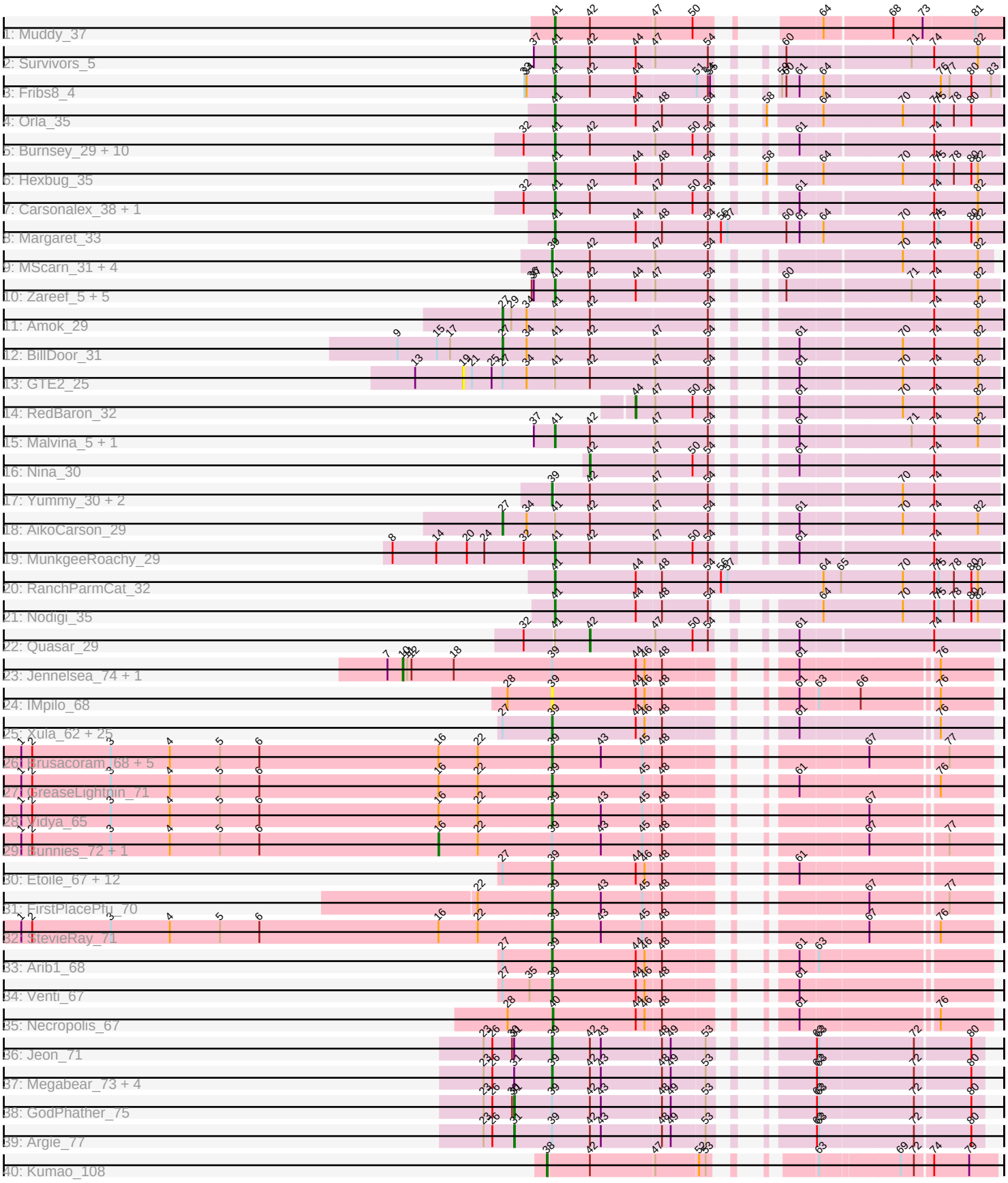
Pham 332654


1: Muddy_37
2: Survivors_5
3: Fribs8_4
4: Orla_35
5: Burnsey_29 + 10
6: Hexbug_35
7: Carsonalex_38 + 1
8: Margaret_33
9: MScarn_31 + 4
10: Zareef_5 + 5
11: Amok_29
12: BillDoor_31
13: GTE2_25
14: RedBaron_32
15: Malvina_5 + 1
16: Nina_30
17: Yummy_30 + 2
18: AikoCarson_29
19: MunkgeeRoachy_29
20: RanchParmCat_32
21: Nodigi_35
22: Quasar_29
23: Jennelsea_74 + 1
24: IMpilo_68
25: Xula_62 + 25
26: Brusacoram_68 + 5
27: GreaseLightnin_71
28: Vidya_65
29: Bunnies_72 + 1
30: Etoile_67 + 12
31: FirstPlacePfu_70
32: StevieRay_71
33: Arib1_68
34: Venti_67
35: Necropolis_67
36: Jeon_71
37: Megabear_73 + 4
38: GodPhather_75
39: Argie_77
40: Kumao_108

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 332654 Report

This analysis was run 11/14/26 on database version 672.

Pham number 332654 has 111 members, 14 are drafts.

Phages represented in each track:
• Track 1 : Muddy_37
• Track 2 : Survivors_5
• Track 3 : Fribs8_4
• Track 4 : Orla_35
• Track 5 : Burnsey_29, RSchmailzl_30, Sopespian_29, Axym_29, Starburst_30, RADical_30, Socotra_30, Agatha_29, GoldHunter_29, PsychoKiller_29, Eliott_29
• Track 6 : Hexbug_35
• Track 7 : Carsonalex_38, SweatNTears_31
• Track 8 : Margaret_33
• Track 9 : MScarn_31, Blondies_30, Biskit_30, Buttrmlkdreams_29, SketchMex_28
• Track 10 : Zareef_5, Wallaby_6, Azira_5, Wolfwood_5, MaVan_5, Nibbles_5
• Track 11 : Amok_29
• Track 12 : BillDoor_31
• Track 13 : GTE2_25
• Track 14 : RedBaron_32
• Track 15 : Malvina_5, HippoPololi_5
• Track 16 : Nina_30
• Track 17 : Yummy_30, Horseradish_30, Troje_29
• Track 18 : AikoCarson_29
• Track 19 : MunkgeeRoachy_29
• Track 20 : RanchParmCat_32
• Track 21 : Nodigi_35
• Track 22 : Quasar_29
• Track 23 : Jennelsea_74, Zizzle_80
• Track 24 : IMpilo_68
• Track 25 : Xula_62, HUHilltop_72, Pygmy_73, Jebeks_67, Techage_70, Fastidio_72, Donovan_69, Chubbello_68, Juniormint_66, Malithi_69, Bogie_72, Camster_70, Sonah_70, DillTech15_79, Zilizebeth_74, Phegasus_72, GaloreK_67, Fishburne_68, Polkaroo_70, Phineas_70, Dynamo_69, BronnyJr_63, Mangethe_72, Shipwreck_72, Majeke_72, Langerak_68
• Track 26 : Brusacoram_68, Thespis_68, Atcoo_68, Ksquared_70, PeanutPie_71, Jung_67
• Track 27 : GreaseLightnin_71
• Track 28 : Vidya_65
• Track 29 : Bunnies_72, Bhagsy_72
• Track 30 : Etoile_67, Gavriela_69, CactusJack_70, Totinger_74, StressBall_69, Glaske_69, Bartholomew_65, Megiddo_69, LittleShirley_78, Kari_69, KilKor_70,

Phalm_70, Willsammy_71
• Track 31 : FirstPlacePfu_70
• Track 32 : StevieRay_71
• Track 33 : Arib1_68
• Track 34 : Venti_67
• Track 35 : Necropolis_67
• Track 36 : Jeon_71
• Track 37 : Megabear_73, D12_73, PR_74, Cepens_75, Taptic_76
• Track 38 : GodPhather_75
• Track 39 : Argie_77
• Track 40 : Kumao_108

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 60 of the 97 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Arib1_68, Atcoo_68, Bartholomew_65, Biskit_30, Blondies_30, Bogie_72, BronnyJr_63, Brusacoram_68, Buttrmlkdreams_29, CactusJack_70, Camster_70, Cepens_75, Chubbello_68, D12_73, DillTech15_79, Donovan_69, Dynamo_69, Etoile_67, Fastidio_72, FirstPlacePfu_70, Fishburne_68, GaloreK_67, Gavriela_69, Glaske_69, GreaseLightnin_71, HUHilltop_72, Horseradish_30, IMpilo_68, Jebeks_67, Jeon_71, Jung_67, Juniormint_66, Kari_69, KilKor_70, Ksquared_70, Langerak_68, LittleShirley_78, MScarn_31, Majeke_72, Malithi_69, Mangethe_72, Megabear_73, Megiddo_69, PR_74, PeanutPie_71, Phalm_70, Phegasus_72, Phineas_70, Polkaroo_70, Pygmy_73, Shipwreck_72, SketchMex_28, Sonah_70, StevieRay_71, StressBall_69, Taptic_76, Techage_70, Thespis_68, Totinger_74, Troje_29, Venti_67, Vidya_65, Willsammy_71, Xula_62, Yummy_30, Zilizebeth_74,

Genes that have the "Most Annotated" start but do not call it:
• Argie_77, Bhagsy_72, Bunnies_72, GodPhather_75, Jennelsea_74, Zizzle_80,

Genes that do not have the "Most Annotated" start:
• Agatha_29, AikoCarson_29, Amok_29, Axym_29, Azira_5, BillDoor_31, Burnsey_29, Carsonalex_38, Eliott_29, Fribs8_4, GTE2_25, GoldHunter_29, Hexbug_35, HippoPololi_5, Kumao_108, MaVan_5, Malvina_5, Margaret_33, Muddy_37, MunkgeeRoachy_29, Necropolis_67, Nibbles_5, Nina_30, Nodigi_35, Orla_35, PsychoKiller_29, Quasar_29, RADical_30, RSchmailzl_30, RanchParmCat_32, RedBaron_32, Socotra_30, Sopespian_29, Starburst_30, Survivors_5, SweatNTears_31, Wallaby_6, Wolfwood_5, Zareef_5,

Summary by start number:

Start 10:
• Found in 2 of 111 (1.8%) of genes in pham
• Manual Annotations of this start: 2 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jennelsea_74 (F1), Zizzle_80 (F1),

Start 16:
• Found in 11 of 111 (9.9%) of genes in pham
• Manual Annotations of this start: 2 of 97
• Called 18.2% of time when present
• Phage (with cluster) where this start called: Bhagsy_72 (P1), Bunnies_72 (P1),

Start 19:
• Found in 1 of 111 (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: GTE2_25 (CT),

Start 27:
• Found in 45 of 111 (40.5%) of genes in pham
• Manual Annotations of this start: 3 of 97
• Called 6.7% of time when present
• Phage (with cluster) where this start called: AikoCarson_29 (CT), Amok_29 (CT), BillDoor_31 (CT),

Start 31:
• Found in 8 of 111 (7.2%) of genes in pham
• Manual Annotations of this start: 2 of 97
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Argie_77 (W), GodPhather_75 (W),

Start 38:
• Found in 1 of 111 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Kumao_108 (singleton),

Start 39:
• Found in 72 of 111 (64.9%) of genes in pham
• Manual Annotations of this start: 60 of 97
• Called 91.7% of time when present
• Phage (with cluster) where this start called: Arib1_68 (P1), Atcoo_68 (P1), Bartholomew_65 (P1), Biskit_30 (CT), Blondies_30 (CT), Bogie_72 (P1), BronnyJr_63 (P1), Brusacoram_68 (P1), Buttrmlkdreams_29 (CT), CactusJack_70 (P1), Camster_70 (P1), Cepens_75 (W), Chubbello_68 (P1), D12_73 (W), DillTech15_79 (F1), Donovan_69 (P1), Dynamo_69 (P1), Etoile_67 (P1), Fastidio_72 (F1), FirstPlacePfu_70 (P1), Fishburne_68 (P1), GaloreK_67 (P1), Gavriela_69 (P1), Glaske_69 (P1), GreaseLightnin_71 (P1), HUHilltop_72 (P1), Horseradish_30 (CT), IMpilo_68 (F1), Jebeks_67 (P1), Jeon_71 (W), Jung_67 (P1), Juniormint_66 (P1), Kari_69 (P1), KilKor_70 (P1), Ksquared_70 (P1), Langerak_68 (P1), LittleShirley_78 (F1), MScarn_31 (CT), Majeke_72 (P1), Malithi_69 (P1), Mangethe_72 (P1), Megabear_73 (W), Megiddo_69 (P1), PR_74 (W), PeanutPie_71 (P1), Phalm_70 (P1), Phegasus_72 (P1), Phineas_70 (P1), Polkaroo_70 (P1), Pygmy_73 (P1), Shipwreck_72 (P1), SketchMex_28 (CT), Sonah_70 (P1), StevieRay_71 (P1), StressBall_69 (P1), Taptic_76 (W), Techage_70 (P1), Thespis_68 (P1), Totinger_74 (F1), Troje_29 (CT), Venti_67 (P1), Vidya_65 (P1), Willsammy_71 (P1), Xula_62 (I1), Yummy_30 (CT), Zilizebeth_74 (P1),

Start 40:

• Found in 1 of 111 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Necropolis_67 (P1),

Start 41:
• Found in 35 of 111 (31.5%) of genes in pham
• Manual Annotations of this start: 23 of 97
• Called 85.7% of time when present
• Phage (with cluster) where this start called: Agatha_29 (CT), Axym_29 (CT), Azira_5 (CT), Burnsey_29 (CT), Carsonalex_38 (CT), Eliott_29 (CT), Fribs8_4 (CT), GoldHunter_29 (CT), Hexbug_35 (CT), HippoPololi_5 (CT), MaVan_5 (CT), Malvina_5 (CT), Margaret_33 (CT), Muddy_37 (AB), MunkgeeRoachy_29 (CT), Nibbles_5 (CT), Nodigi_35 (CT), Orla_35 (CT), PsychoKiller_29 (CT), RADical_30 (CT), RSchmailzl_30 (CT), RanchParmCat_32 (CT), Socotra_30 (CT), Sopespian_29 (CT), Starburst_30 (CT), Survivors_5 (CT), SweatNTears_31 (CT), Wallaby_6 (CT), Wolfwood_5 (CT), Zareef_5 (CT),

Start 42:
• Found in 48 of 111 (43.2%) of genes in pham
• Manual Annotations of this start: 2 of 97
• Called 4.2% of time when present
• Phage (with cluster) where this start called: Nina_30 (CT), Quasar_29 (CT),

Start 44:
• Found in 59 of 111 (53.2%) of genes in pham
• Manual Annotations of this start: 1 of 97
• Called 1.7% of time when present
• Phage (with cluster) where this start called: RedBaron_32 (CT),

Summary by clusters:

There are 7 clusters represented in this pham: F1, singleton, P1, I1, AB, W, CT,

Info for manual annotations of cluster AB:
•Start number 41 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster CT:
•Start number 27 was manually annotated 3 times for cluster CT.
•Start number 39 was manually annotated 8 times for cluster CT.
•Start number 41 was manually annotated 22 times for cluster CT.
•Start number 42 was manually annotated 2 times for cluster CT.
•Start number 44 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster F1:
•Start number 10 was manually annotated 2 times for cluster F1.
•Start number 39 was manually annotated 4 times for cluster F1.

Info for manual annotations of cluster I1:
•Start number 39 was manually annotated 1 time for cluster I1.

Info for manual annotations of cluster P1:
•Start number 16 was manually annotated 2 times for cluster P1.

•Start number 39 was manually annotated 41 times for cluster P1.
•Start number 40 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster W:
•Start number 31 was manually annotated 2 times for cluster W.
•Start number 39 was manually annotated 6 times for cluster W.

Gene Information:

Gene: Agatha_29 Start: 24040, Stop: 23519, Start Num: 41
Candidate Starts for Agatha_29:
(32, 24079), (Start: 41 @24040 has 23 MA's), (Start: 42 @23992 has 2 MA's), (47, 23905), (50, 23854), (54, 23833), (61, 23782), (74, 23608),

Gene: AikoCarson_29 Start: 23776, Stop: 23186, Start Num: 27
Candidate Starts for AikoCarson_29:
(Start: 27 @23776 has 3 MA's), (34, 23743), (Start: 41 @23707 has 23 MA's), (Start: 42 @23659 has 2 MA's), (47, 23572), (54, 23500), (61, 23449), (70, 23317), (74, 23278), (82, 23218),

Gene: Amok_29 Start: 23735, Stop: 23145, Start Num: 27
Candidate Starts for Amok_29:
(Start: 27 @23735 has 3 MA's), (29, 23723), (34, 23702), (Start: 41 @23666 has 23 MA's), (Start: 42 @23618 has 2 MA's), (54, 23459), (74, 23237), (82, 23177),

Gene: Argie_77 Start: 54826, Stop: 55377, Start Num: 31
Candidate Starts for Argie_77:
(23, 54784), (26, 54796), (Start: 31 @54826 has 2 MA's), (Start: 39 @54877 has 60 MA's), (Start: 42 @54928 has 2 MA's), (43, 54943), (48, 55024), (49, 55036), (53, 55081), (62, 55159), (63, 55162), (72, 55288), (80, 55360),

Gene: Arib1_68 Start: 42771, Stop: 43271, Start Num: 39
Candidate Starts for Arib1_68:
(Start: 27 @42705 has 3 MA's), (Start: 39 @42771 has 60 MA's), (Start: 44 @42885 has 1 MA's), (46, 42897), (48, 42918), (61, 43026), (63, 43050),

Gene: Atcoo_68 Start: 45509, Stop: 46009, Start Num: 39
Candidate Starts for Atcoo_68:
(1, 44783), (2, 44798), (3, 44906), (4, 44987), (5, 45056), (6, 45110), (Start: 16 @45356 has 2 MA's), (22, 45410), (Start: 39 @45509 has 60 MA's), (43, 45575), (45, 45632), (48, 45656), (67, 45854), (77, 45950),

Gene: Axym_29 Start: 24040, Stop: 23522, Start Num: 41
Candidate Starts for Axym_29:
(32, 24079), (Start: 41 @24040 has 23 MA's), (Start: 42 @23992 has 2 MA's), (47, 23905), (50, 23854), (54, 23833), (61, 23782), (74, 23611),

Gene: Azira_5 Start: 1392, Stop: 1910, Start Num: 41
Candidate Starts for Azira_5:
(36, 1365), (37, 1368), (Start: 41 @1392 has 23 MA's), (Start: 42 @1440 has 2 MA's), (Start: 44 @1503 has 1 MA's), (47, 1527), (54, 1599), (60, 1632), (71, 1794), (74, 1821), (82, 1881),

Gene: Bartholomew_65 Start: 42051, Stop: 42551, Start Num: 39
Candidate Starts for Bartholomew_65:
(Start: 27 @41985 has 3 MA's), (Start: 39 @42051 has 60 MA's), (Start: 44 @42165 has 1 MA's), (46, 42177), (48, 42198), (61, 42306),

Gene: Bhagsy_72 Start: 44473, Stop: 45126, Start Num: 16
Candidate Starts for Bhagsy_72:
(1, 43900), (2, 43915), (3, 44023), (4, 44104), (5, 44173), (6, 44227), (Start: 16 @44473 has 2 MA's), (22, 44527), (Start: 39 @44626 has 60 MA's), (43, 44692), (45, 44749), (48, 44773), (67, 44971), (77, 45067),

Gene: BillDoor_31 Start: 23789, Stop: 23202, Start Num: 27
Candidate Starts for BillDoor_31:
(9, 23933), (15, 23879), (17, 23861), (Start: 27 @23789 has 3 MA's), (34, 23756), (Start: 41 @23720 has 23 MA's), (Start: 42 @23672 has 2 MA's), (47, 23585), (54, 23513), (61, 23462), (70, 23330), (74, 23291), (82, 23231),

Gene: Biskit_30 Start: 23670, Stop: 23161, Start Num: 39
Candidate Starts for Biskit_30:
(Start: 39 @23670 has 60 MA's), (Start: 42 @23622 has 2 MA's), (47, 23535), (54, 23463), (70, 23280), (74, 23241), (82, 23181),

Gene: Blondies_30 Start: 23653, Stop: 23144, Start Num: 39
Candidate Starts for Blondies_30:
(Start: 39 @23653 has 60 MA's), (Start: 42 @23605 has 2 MA's), (47, 23518), (54, 23446), (70, 23263), (74, 23224), (82, 23164),

Gene: Bogie_72 Start: 45121, Stop: 45621, Start Num: 39
Candidate Starts for Bogie_72:
(Start: 27 @45055 has 3 MA's), (Start: 39 @45121 has 60 MA's), (Start: 44 @45235 has 1 MA's), (46, 45247), (48, 45268), (61, 45376), (76, 45550),

Gene: BronnyJr_63 Start: 43393, Stop: 43893, Start Num: 39
Candidate Starts for BronnyJr_63:
(Start: 27 @43327 has 3 MA's), (Start: 39 @43393 has 60 MA's), (Start: 44 @43507 has 1 MA's), (46, 43519), (48, 43540), (61, 43648), (76, 43822),

Gene: Brusacoram_68 Start: 44052, Stop: 44552, Start Num: 39
Candidate Starts for Brusacoram_68:
(1, 43326), (2, 43341), (3, 43449), (4, 43530), (5, 43599), (6, 43653), (Start: 16 @43899 has 2 MA's), (22, 43953), (Start: 39 @44052 has 60 MA's), (43, 44118), (45, 44175), (48, 44199), (67, 44397), (77, 44493),

Gene: Bunnies_72 Start: 45100, Stop: 45753, Start Num: 16
Candidate Starts for Bunnies_72:
(1, 44527), (2, 44542), (3, 44650), (4, 44731), (5, 44800), (6, 44854), (Start: 16 @45100 has 2 MA's), (22, 45154), (Start: 39 @45253 has 60 MA's), (43, 45319), (45, 45376), (48, 45400), (67, 45598), (77, 45694),

Gene: Burnsey_29 Start: 24032, Stop: 23514, Start Num: 41
Candidate Starts for Burnsey_29:
(32, 24071), (Start: 41 @24032 has 23 MA's), (Start: 42 @23984 has 2 MA's), (47, 23897), (50, 23846), (54, 23825), (61, 23774), (74, 23603),

Gene: Buttrmlkdreams_29 Start: 23652, Stop: 23143, Start Num: 39
Candidate Starts for Buttrmlkdreams_29:
(Start: 39 @23652 has 60 MA's), (Start: 42 @23604 has 2 MA's), (47, 23517), (54, 23445), (70, 23262), (74, 23223), (82, 23163),

Gene: CactusJack_70 Start: 44749, Stop: 45249, Start Num: 39
Candidate Starts for CactusJack_70:
(Start: 27 @44683 has 3 MA's), (Start: 39 @44749 has 60 MA's), (Start: 44 @44863 has 1 MA's), (46, 44875), (48, 44896), (61, 45004),

Gene: Camster_70 Start: 43582, Stop: 44082, Start Num: 39
Candidate Starts for Camster_70:
(Start: 27 @43516 has 3 MA's), (Start: 39 @43582 has 60 MA's), (Start: 44 @43696 has 1 MA's), (46, 43708), (48, 43729), (61, 43837), (76, 44011),

Gene: Carsonalex_38 Start: 25842, Stop: 26363, Start Num: 41
Candidate Starts for Carsonalex_38:
(32, 25803), (Start: 41 @25842 has 23 MA's), (Start: 42 @25890 has 2 MA's), (47, 25977), (50, 26028), (54, 26049), (61, 26100), (74, 26271), (82, 26331),

Gene: Cepens_75 Start: 53686, Stop: 54186, Start Num: 39
Candidate Starts for Cepens_75:
(23, 53593), (26, 53605), (Start: 31 @53635 has 2 MA's), (Start: 39 @53686 has 60 MA's), (Start: 42 @53737 has 2 MA's), (43, 53752), (48, 53833), (49, 53845), (53, 53890), (62, 53968), (63, 53971), (72, 54097), (80, 54169),

Gene: Chubbello_68 Start: 42771, Stop: 43271, Start Num: 39
Candidate Starts for Chubbello_68:
(Start: 27 @42705 has 3 MA's), (Start: 39 @42771 has 60 MA's), (Start: 44 @42885 has 1 MA's), (46, 42897), (48, 42918), (61, 43026), (76, 43200),

Gene: D12_73 Start: 54321, Stop: 54821, Start Num: 39
Candidate Starts for D12_73:
(23, 54228), (26, 54240), (Start: 31 @54270 has 2 MA's), (Start: 39 @54321 has 60 MA's), (Start: 42 @54372 has 2 MA's), (43, 54387), (48, 54468), (49, 54480), (53, 54525), (62, 54603), (63, 54606), (72, 54732), (80, 54804),

Gene: DillTech15_79 Start: 46743, Stop: 47243, Start Num: 39
Candidate Starts for DillTech15_79:
(Start: 27 @46677 has 3 MA's), (Start: 39 @46743 has 60 MA's), (Start: 44 @46857 has 1 MA's), (46, 46869), (48, 46890), (61, 46998), (76, 47172),

Gene: Donovan_69 Start: 43711, Stop: 44211, Start Num: 39
Candidate Starts for Donovan_69:
(Start: 27 @43645 has 3 MA's), (Start: 39 @43711 has 60 MA's), (Start: 44 @43825 has 1 MA's), (46, 43837), (48, 43858), (61, 43966), (76, 44140),

Gene: Dynamo_69 Start: 43155, Stop: 43655, Start Num: 39
Candidate Starts for Dynamo_69:
(Start: 27 @43089 has 3 MA's), (Start: 39 @43155 has 60 MA's), (Start: 44 @43269 has 1 MA's), (46, 43281), (48, 43302), (61, 43410), (76, 43584),

Gene: Eliott_29 Start: 24040, Stop: 23522, Start Num: 41
Candidate Starts for Eliott_29:
(32, 24079), (Start: 41 @24040 has 23 MA's), (Start: 42 @23992 has 2 MA's), (47, 23905), (50, 23854), (54, 23833), (61, 23782), (74, 23611),

Gene: Etoile_67 Start: 43538, Stop: 44038, Start Num: 39
Candidate Starts for Etoile_67:
(Start: 27 @43472 has 3 MA's), (Start: 39 @43538 has 60 MA's), (Start: 44 @43652 has 1 MA's), (46, 43664), (48, 43685), (61, 43793),

Gene: Fastidio_72 Start: 43551, Stop: 44051, Start Num: 39
Candidate Starts for Fastidio_72:
(Start: 27 @43485 has 3 MA's), (Start: 39 @43551 has 60 MA's), (Start: 44 @43665 has 1 MA's), (46, 43677), (48, 43698), (61, 43806), (76, 43980),

Gene: FirstPlacePfu_70 Start: 42114, Stop: 42614, Start Num: 39
Candidate Starts for FirstPlacePfu_70:
(22, 42015), (Start: 39 @42114 has 60 MA's), (43, 42180), (45, 42237), (48, 42261), (67, 42459), (77, 42555),

Gene: Fishburne_68 Start: 43537, Stop: 44037, Start Num: 39
Candidate Starts for Fishburne_68:
(Start: 27 @43471 has 3 MA's), (Start: 39 @43537 has 60 MA's), (Start: 44 @43651 has 1 MA's), (46, 43663), (48, 43684), (61, 43792), (76, 43966),

Gene: Fribs8_4 Start: 1183, Stop: 1704, Start Num: 41
Candidate Starts for Fribs8_4:
(33, 1144), (34, 1147), (Start: 41 @1183 has 23 MA's), (Start: 42 @1231 has 2 MA's), (Start: 44 @1294 has 1 MA's), (51, 1375), (54, 1390), (55, 1393), (59, 1417), (60, 1423), (61, 1441), (64, 1471), (76, 1624), (77, 1636), (80, 1666), (83, 1693),

Gene: GTE2_25 Start: 23569, Stop: 22928, Start Num: 19
Candidate Starts for GTE2_25:
(13, 23635), (19, 23569), (21, 23557), (25, 23530), (Start: 27 @23515 has 3 MA's), (34, 23482), (Start: 41 @23446 has 23 MA's), (Start: 42 @23398 has 2 MA's), (47, 23311), (54, 23239), (61, 23188), (70, 23056), (74, 23017), (82, 22957),

Gene: GaloreK_67 Start: 43562, Stop: 44062, Start Num: 39
Candidate Starts for GaloreK_67:
(Start: 27 @43496 has 3 MA's), (Start: 39 @43562 has 60 MA's), (Start: 44 @43676 has 1 MA's), (46, 43688), (48, 43709), (61, 43817), (76, 43991),

Gene: Gavriela_69 Start: 44442, Stop: 44942, Start Num: 39
Candidate Starts for Gavriela_69:
(Start: 27 @44376 has 3 MA's), (Start: 39 @44442 has 60 MA's), (Start: 44 @44556 has 1 MA's), (46, 44568), (48, 44589), (61, 44697),

Gene: Glaske_69 Start: 44749, Stop: 45249, Start Num: 39
Candidate Starts for Glaske_69:
(Start: 27 @44683 has 3 MA's), (Start: 39 @44749 has 60 MA's), (Start: 44 @44863 has 1 MA's), (46, 44875), (48, 44896), (61, 45004),

Gene: GodPhather_75 Start: 54280, Stop: 54831, Start Num: 31

Candidate Starts for GodPhather_75:
(23, 54238), (26, 54250), (30, 54277), (Start: 31 @54280 has 2 MA's), (Start: 39 @54331 has 60 MA's), (Start: 42 @54382 has 2 MA's), (43, 54397), (48, 54478), (49, 54490), (53, 54535), (62, 54613), (63, 54616), (72, 54742), (80, 54814),

Gene: GoldHunter_29 Start: 24041, Stop: 23523, Start Num: 41
Candidate Starts for GoldHunter_29:
(32, 24080), (Start: 41 @24041 has 23 MA's), (Start: 42 @23993 has 2 MA's), (47, 23906), (50, 23855), (54, 23834), (61, 23783), (74, 23612),

Gene: GreaseLightnin_71 Start: 44906, Stop: 45406, Start Num: 39
Candidate Starts for GreaseLightnin_71:
(1, 44180), (2, 44195), (3, 44303), (4, 44384), (5, 44453), (6, 44507), (Start: 16 @44753 has 2 MA's), (22, 44807), (Start: 39 @44906 has 60 MA's), (45, 45029), (48, 45053), (61, 45161), (76, 45335),

Gene: HUHilltop_72 Start: 43378, Stop: 43878, Start Num: 39
Candidate Starts for HUHilltop_72:
(Start: 27 @43312 has 3 MA's), (Start: 39 @43378 has 60 MA's), (Start: 44 @43492 has 1 MA's), (46, 43504), (48, 43525), (61, 43633), (76, 43807),

Gene: Hexbug_35 Start: 25804, Stop: 25274, Start Num: 41
Candidate Starts for Hexbug_35:
(Start: 41 @25804 has 23 MA's), (Start: 44 @25693 has 1 MA's), (48, 25660), (54, 25597), (58, 25576), (64, 25516), (70, 25408), (74, 25369), (75, 25363), (78, 25342), (80, 25318), (82, 25309),

Gene: HippoPololi_5 Start: 1270, Stop: 1788, Start Num: 41
Candidate Starts for HippoPololi_5:
(37, 1246), (Start: 41 @1270 has 23 MA's), (Start: 42 @1318 has 2 MA's), (47, 1405), (54, 1477), (61, 1528), (71, 1672), (74, 1699), (82, 1759),

Gene: Horseradish_30 Start: 23515, Stop: 22997, Start Num: 39
Candidate Starts for Horseradish_30:
(Start: 39 @23515 has 60 MA's), (Start: 42 @23467 has 2 MA's), (47, 23380), (54, 23308), (70, 23125), (74, 23086),

Gene: IMpilo_68 Start: 43866, Stop: 44366, Start Num: 39
Candidate Starts for IMpilo_68:
(28, 43806), (Start: 39 @43866 has 60 MA's), (Start: 44 @43980 has 1 MA's), (46, 43992), (48, 44013), (61, 44121), (63, 44145), (66, 44199), (76, 44295),

Gene: Jebeks_67 Start: 42009, Stop: 42509, Start Num: 39
Candidate Starts for Jebeks_67:
(Start: 27 @41943 has 3 MA's), (Start: 39 @42009 has 60 MA's), (Start: 44 @42123 has 1 MA's), (46, 42135), (48, 42156), (61, 42264), (76, 42438),

Gene: Jennelsea_74 Start: 46411, Stop: 47115, Start Num: 10
Candidate Starts for Jennelsea_74:
(7, 46390), (Start: 10 @46411 has 2 MA's), (11, 46417), (12, 46423), (18, 46480), (Start: 39 @46615 has 60 MA's), (Start: 44 @46729 has 1 MA's), (46, 46741), (48, 46762), (61, 46870), (76, 47044),

Gene: Jeon_71 Start: 53824, Stop: 54324, Start Num: 39
Candidate Starts for Jeon_71:

(23, 53731), (26, 53743), (30, 53770), (Start: 31 @53773 has 2 MA's), (Start: 39 @53824 has 60 MA's), (Start: 42 @53875 has 2 MA's), (43, 53890), (48, 53971), (49, 53983), (53, 54028), (62, 54106), (63, 54109), (72, 54235), (80, 54307),

Gene: Jung_67 Start: 43030, Stop: 43530, Start Num: 39
Candidate Starts for Jung_67:
(1, 42304), (2, 42319), (3, 42427), (4, 42508), (5, 42577), (6, 42631), (Start: 16 @42877 has 2 MA's), (22, 42931), (Start: 39 @43030 has 60 MA's), (43, 43096), (45, 43153), (48, 43177), (67, 43375), (77, 43471),

Gene: Juniormint_66 Start: 42124, Stop: 42624, Start Num: 39
Candidate Starts for Juniormint_66:
(Start: 27 @42058 has 3 MA's), (Start: 39 @42124 has 60 MA's), (Start: 44 @42238 has 1 MA's), (46, 42250), (48, 42271), (61, 42379), (76, 42553),

Gene: Kari_69 Start: 43534, Stop: 44034, Start Num: 39
Candidate Starts for Kari_69:
(Start: 27 @43468 has 3 MA's), (Start: 39 @43534 has 60 MA's), (Start: 44 @43648 has 1 MA's), (46, 43660), (48, 43681), (61, 43789),

Gene: KilKor_70 Start: 45442, Stop: 45942, Start Num: 39
Candidate Starts for KilKor_70:
(Start: 27 @45376 has 3 MA's), (Start: 39 @45442 has 60 MA's), (Start: 44 @45556 has 1 MA's), (46, 45568), (48, 45589), (61, 45697),

Gene: Ksquared_70 Start: 45130, Stop: 45630, Start Num: 39
Candidate Starts for Ksquared_70:
(1, 44404), (2, 44419), (3, 44527), (4, 44608), (5, 44677), (6, 44731), (Start: 16 @44977 has 2 MA's), (22, 45031), (Start: 39 @45130 has 60 MA's), (43, 45196), (45, 45253), (48, 45277), (67, 45475), (77, 45571),

Gene: Kumao_108 Start: 65513, Stop: 65010, Start Num: 38
Candidate Starts for Kumao_108:
(Start: 38 @65513 has 1 MA's), (Start: 42 @65459 has 2 MA's), (47, 65372), (52, 65315), (53, 65306), (63, 65240), (69, 65135), (72, 65117), (74, 65096), (79, 65048),

Gene: Langerak_68 Start: 43515, Stop: 44015, Start Num: 39
Candidate Starts for Langerak_68:
(Start: 27 @43449 has 3 MA's), (Start: 39 @43515 has 60 MA's), (Start: 44 @43629 has 1 MA's), (46, 43641), (48, 43662), (61, 43770), (76, 43944),

Gene: LittleShirley_78 Start: 47224, Stop: 47724, Start Num: 39
Candidate Starts for LittleShirley_78:
(Start: 27 @47158 has 3 MA's), (Start: 39 @47224 has 60 MA's), (Start: 44 @47338 has 1 MA's), (46, 47350), (48, 47371), (61, 47479),

Gene: MScarn_31 Start: 23655, Stop: 23146, Start Num: 39
Candidate Starts for MScarn_31:
(Start: 39 @23655 has 60 MA's), (Start: 42 @23607 has 2 MA's), (47, 23520), (54, 23448), (70, 23265), (74, 23226), (82, 23166),

Gene: MaVan_5 Start: 1393, Stop: 1911, Start Num: 41
Candidate Starts for MaVan_5:

(36, 1366), (37, 1369), (Start: 41 @1393 has 23 MA's), (Start: 42 @1441 has 2 MA's), (Start: 44 @1504 has 1 MA's), (47, 1528), (54, 1600), (60, 1633), (71, 1795), (74, 1822), (82, 1882),

Gene: Majeke_72 Start: 44160, Stop: 44660, Start Num: 39
Candidate Starts for Majeke_72:
(Start: 27 @44094 has 3 MA's), (Start: 39 @44160 has 60 MA's), (Start: 44 @44274 has 1 MA's), (46, 44286), (48, 44307), (61, 44415), (76, 44589),

Gene: Malithi_69 Start: 43304, Stop: 43804, Start Num: 39
Candidate Starts for Malithi_69:
(Start: 27 @43238 has 3 MA's), (Start: 39 @43304 has 60 MA's), (Start: 44 @43418 has 1 MA's), (46, 43430), (48, 43451), (61, 43559), (76, 43733),

Gene: Malvina_5 Start: 1270, Stop: 1788, Start Num: 41
Candidate Starts for Malvina_5:
(37, 1246), (Start: 41 @1270 has 23 MA's), (Start: 42 @1318 has 2 MA's), (47, 1405), (54, 1477), (61, 1528), (71, 1672), (74, 1699), (82, 1759),

Gene: Mangethe_72 Start: 44160, Stop: 44660, Start Num: 39
Candidate Starts for Mangethe_72:
(Start: 27 @44094 has 3 MA's), (Start: 39 @44160 has 60 MA's), (Start: 44 @44274 has 1 MA's), (46, 44286), (48, 44307), (61, 44415), (76, 44589),

Gene: Margaret_33 Start: 24194, Stop: 23589, Start Num: 41
Candidate Starts for Margaret_33:
(Start: 41 @24194 has 23 MA's), (Start: 44 @24083 has 1 MA's), (48, 24050), (54, 23987), (56, 23969), (57, 23960), (60, 23879), (61, 23861), (64, 23831), (70, 23723), (74, 23684), (75, 23678), (80, 23633), (82, 23624),

Gene: Megabear_73 Start: 53607, Stop: 54107, Start Num: 39
Candidate Starts for Megabear_73:
(23, 53514), (26, 53526), (Start: 31 @53556 has 2 MA's), (Start: 39 @53607 has 60 MA's), (Start: 42 @53658 has 2 MA's), (43, 53673), (48, 53754), (49, 53766), (53, 53811), (62, 53889), (63, 53892), (72, 54018), (80, 54090),

Gene: Megiddo_69 Start: 45310, Stop: 45810, Start Num: 39
Candidate Starts for Megiddo_69:
(Start: 27 @45244 has 3 MA's), (Start: 39 @45310 has 60 MA's), (Start: 44 @45424 has 1 MA's), (46, 45436), (48, 45457), (61, 45565),

Gene: Muddy_37 Start: 28284, Stop: 28796, Start Num: 41
Candidate Starts for Muddy_37:
(Start: 41 @28284 has 23 MA's), (Start: 42 @28332 has 2 MA's), (47, 28419), (50, 28470), (64, 28560), (68, 28650), (73, 28689), (81, 28758),

Gene: MunkgeeRoachy_29 Start: 24118, Stop: 23600, Start Num: 41
Candidate Starts for MunkgeeRoachy_29:
(8, 24337), (14, 24277), (20, 24235), (24, 24211), (32, 24157), (Start: 41 @24118 has 23 MA's), (Start: 42 @24070 has 2 MA's), (47, 23983), (50, 23932), (54, 23911), (61, 23860), (74, 23689),

Gene: Necropolis_67 Start: 42745, Stop: 43245, Start Num: 40
Candidate Starts for Necropolis_67:

(28, 42685), (Start: 40 @42745 has 1 MA's), (Start: 44 @42859 has 1 MA's), (46, 42871), (48, 42892), (61, 43000), (76, 43174),

Gene: Nibbles_5 Start: 1393, Stop: 1911, Start Num: 41
Candidate Starts for Nibbles_5:
(36, 1366), (37, 1369), (Start: 41 @1393 has 23 MA's), (Start: 42 @1441 has 2 MA's), (Start: 44 @1504 has 1 MA's), (47, 1528), (54, 1600), (60, 1633), (71, 1795), (74, 1822), (82, 1882),

Gene: Nina_30 Start: 25032, Stop: 24562, Start Num: 42
Candidate Starts for Nina_30:
(Start: 42 @25032 has 2 MA's), (47, 24945), (50, 24894), (54, 24873), (61, 24822), (74, 24651),

Gene: Nodigi_35 Start: 25770, Stop: 25240, Start Num: 41
Candidate Starts for Nodigi_35:
(Start: 41 @25770 has 23 MA's), (Start: 44 @25659 has 1 MA's), (48, 25626), (54, 25563), (64, 25482), (70, 25374), (74, 25335), (75, 25329), (78, 25308), (80, 25284), (82, 25275),

Gene: Orla_35 Start: 25777, Stop: 25247, Start Num: 41
Candidate Starts for Orla_35:
(Start: 41 @25777 has 23 MA's), (Start: 44 @25666 has 1 MA's), (48, 25633), (54, 25570), (58, 25549), (64, 25489), (70, 25381), (74, 25342), (75, 25336), (78, 25315), (80, 25291),

Gene: PR_74 Start: 54298, Stop: 54798, Start Num: 39
Candidate Starts for PR_74:
(23, 54205), (26, 54217), (Start: 31 @54247 has 2 MA's), (Start: 39 @54298 has 60 MA's), (Start: 42 @54349 has 2 MA's), (43, 54364), (48, 54445), (49, 54457), (53, 54502), (62, 54580), (63, 54583), (72, 54709), (80, 54781),

Gene: PeanutPie_71 Start: 44629, Stop: 45129, Start Num: 39
Candidate Starts for PeanutPie_71:
(1, 43903), (2, 43918), (3, 44026), (4, 44107), (5, 44176), (6, 44230), (Start: 16 @44476 has 2 MA's), (22, 44530), (Start: 39 @44629 has 60 MA's), (43, 44695), (45, 44752), (48, 44776), (67, 44974), (77, 45070),

Gene: Phalm_70 Start: 44740, Stop: 45240, Start Num: 39
Candidate Starts for Phalm_70:
(Start: 27 @44674 has 3 MA's), (Start: 39 @44740 has 60 MA's), (Start: 44 @44854 has 1 MA's), (46, 44866), (48, 44887), (61, 44995),

Gene: Phegasus_72 Start: 44127, Stop: 44627, Start Num: 39
Candidate Starts for Phegasus_72:
(Start: 27 @44061 has 3 MA's), (Start: 39 @44127 has 60 MA's), (Start: 44 @44241 has 1 MA's), (46, 44253), (48, 44274), (61, 44382), (76, 44556),

Gene: Phineas_70 Start: 43712, Stop: 44212, Start Num: 39
Candidate Starts for Phineas_70:
(Start: 27 @43646 has 3 MA's), (Start: 39 @43712 has 60 MA's), (Start: 44 @43826 has 1 MA's), (46, 43838), (48, 43859), (61, 43967), (76, 44141),

Gene: Polkaroo_70 Start: 45452, Stop: 45952, Start Num: 39
Candidate Starts for Polkaroo_70:
(Start: 27 @45386 has 3 MA's), (Start: 39 @45452 has 60 MA's), (Start: 44 @45566 has 1 MA's), (46, 45578), (48, 45599), (61, 45707), (76, 45881),

Gene: PsychoKiller_29 Start: 24040, Stop: 23522, Start Num: 41
Candidate Starts for PsychoKiller_29:
(32, 24079), (Start: 41 @24040 has 23 MA's), (Start: 42 @23992 has 2 MA's), (47, 23905), (50, 23854), (54, 23833), (61, 23782), (74, 23611),

Gene: Pygmy_73 Start: 45094, Stop: 45594, Start Num: 39
Candidate Starts for Pygmy_73:
(Start: 27 @45028 has 3 MA's), (Start: 39 @45094 has 60 MA's), (Start: 44 @45208 has 1 MA's), (46, 45220), (48, 45241), (61, 45349), (76, 45523),

Gene: Quasar_29 Start: 24601, Stop: 24131, Start Num: 42
Candidate Starts for Quasar_29:
(32, 24688), (Start: 41 @24649 has 23 MA's), (Start: 42 @24601 has 2 MA's), (47, 24514), (50, 24463), (54, 24442), (61, 24391), (74, 24220),

Gene: RADical_30 Start: 24041, Stop: 23523, Start Num: 41
Candidate Starts for RADical_30:
(32, 24080), (Start: 41 @24041 has 23 MA's), (Start: 42 @23993 has 2 MA's), (47, 23906), (50, 23855), (54, 23834), (61, 23783), (74, 23612),

Gene: RSchmailzl_30 Start: 24184, Stop: 23666, Start Num: 41
Candidate Starts for RSchmailzl_30:
(32, 24223), (Start: 41 @24184 has 23 MA's), (Start: 42 @24136 has 2 MA's), (47, 24049), (50, 23998), (54, 23977), (61, 23926), (74, 23755),

Gene: RanchParmCat_32 Start: 24399, Stop: 23794, Start Num: 41
Candidate Starts for RanchParmCat_32:
(Start: 41 @24399 has 23 MA's), (Start: 44 @24288 has 1 MA's), (48, 24255), (54, 24192), (56, 24174), (57, 24165), (64, 24036), (65, 24012), (70, 23928), (74, 23889), (75, 23883), (78, 23862), (80, 23838), (82, 23829),

Gene: RedBaron_32 Start: 24315, Stop: 23902, Start Num: 44
Candidate Starts for RedBaron_32:
(Start: 44 @24315 has 1 MA's), (47, 24288), (50, 24237), (54, 24216), (61, 24165), (70, 24033), (74, 23994), (82, 23934),

Gene: Shipwreck_72 Start: 45152, Stop: 45652, Start Num: 39
Candidate Starts for Shipwreck_72:
(Start: 27 @45086 has 3 MA's), (Start: 39 @45152 has 60 MA's), (Start: 44 @45266 has 1 MA's), (46, 45278), (48, 45299), (61, 45407), (76, 45581),

Gene: SketchMex_28 Start: 23670, Stop: 23161, Start Num: 39
Candidate Starts for SketchMex_28:
(Start: 39 @23670 has 60 MA's), (Start: 42 @23622 has 2 MA's), (47, 23535), (54, 23463), (70, 23280), (74, 23241), (82, 23181),

Gene: Socotra_30 Start: 24040, Stop: 23522, Start Num: 41
Candidate Starts for Socotra_30:
(32, 24079), (Start: 41 @24040 has 23 MA's), (Start: 42 @23992 has 2 MA's), (47, 23905), (50, 23854), (54, 23833), (61, 23782), (74, 23611),

Gene: Sonah_70 Start: 42849, Stop: 43349, Start Num: 39

Candidate Starts for Sonah_70:
(Start: 27 @42783 has 3 MA's), (Start: 39 @42849 has 60 MA's), (Start: 44 @42963 has 1 MA's), (46, 42975), (48, 42996), (61, 43104), (76, 43278),

Gene: Sopespian_29 Start: 24041, Stop: 23523, Start Num: 41
Candidate Starts for Sopespian_29:
(32, 24080), (Start: 41 @24041 has 23 MA's), (Start: 42 @23993 has 2 MA's), (47, 23906), (50, 23855), (54, 23834), (61, 23783), (74, 23612),

Gene: Starburst_30 Start: 24041, Stop: 23523, Start Num: 41
Candidate Starts for Starburst_30:
(32, 24080), (Start: 41 @24041 has 23 MA's), (Start: 42 @23993 has 2 MA's), (47, 23906), (50, 23855), (54, 23834), (61, 23783), (74, 23612),

Gene: StevieRay_71 Start: 45286, Stop: 45786, Start Num: 39
Candidate Starts for StevieRay_71:
(1, 44560), (2, 44575), (3, 44683), (4, 44764), (5, 44833), (6, 44887), (Start: 16 @45133 has 2 MA's), (22, 45187), (Start: 39 @45286 has 60 MA's), (43, 45352), (45, 45409), (48, 45433), (67, 45631), (76, 45715),

Gene: StressBall_69 Start: 44442, Stop: 44942, Start Num: 39
Candidate Starts for StressBall_69:
(Start: 27 @44376 has 3 MA's), (Start: 39 @44442 has 60 MA's), (Start: 44 @44556 has 1 MA's), (46, 44568), (48, 44589), (61, 44697),

Gene: Survivors_5 Start: 1247, Stop: 1765, Start Num: 41
Candidate Starts for Survivors_5:
(37, 1223), (Start: 41 @1247 has 23 MA's), (Start: 42 @1295 has 2 MA's), (Start: 44 @1358 has 1 MA's), (47, 1382), (54, 1454), (60, 1487), (71, 1649), (74, 1676), (82, 1736),

Gene: SweatNTears_31 Start: 23938, Stop: 23429, Start Num: 41
Candidate Starts for SweatNTears_31:
(32, 23977), (Start: 41 @23938 has 23 MA's), (Start: 42 @23890 has 2 MA's), (47, 23803), (50, 23752), (54, 23731), (61, 23680), (74, 23509), (82, 23449),

Gene: Taptic_76 Start: 54303, Stop: 54803, Start Num: 39
Candidate Starts for Taptic_76:
(23, 54210), (26, 54222), (Start: 31 @54252 has 2 MA's), (Start: 39 @54303 has 60 MA's), (Start: 42 @54354 has 2 MA's), (43, 54369), (48, 54450), (49, 54462), (53, 54507), (62, 54585), (63, 54588), (72, 54714), (80, 54786),

Gene: Techage_70 Start: 43643, Stop: 44143, Start Num: 39
Candidate Starts for Techage_70:
(Start: 27 @43577 has 3 MA's), (Start: 39 @43643 has 60 MA's), (Start: 44 @43757 has 1 MA's), (46, 43769), (48, 43790), (61, 43898), (76, 44072),

Gene: Thespis_68 Start: 44052, Stop: 44552, Start Num: 39
Candidate Starts for Thespis_68:
(1, 43326), (2, 43341), (3, 43449), (4, 43530), (5, 43599), (6, 43653), (Start: 16 @43899 has 2 MA's), (22, 43953), (Start: 39 @44052 has 60 MA's), (43, 44118), (45, 44175), (48, 44199), (67, 44397), (77, 44493),

Gene: Totinger_74 Start: 46301, Stop: 46801, Start Num: 39

Candidate Starts for Totinger_74:
(Start: 27 @46235 has 3 MA's), (Start: 39 @46301 has 60 MA's), (Start: 44 @46415 has 1 MA's), (46, 46427), (48, 46448), (61, 46556),

Gene: Troje_29 Start: 23676, Stop: 23158, Start Num: 39
Candidate Starts for Troje_29:
(Start: 39 @23676 has 60 MA's), (Start: 42 @23628 has 2 MA's), (47, 23541), (54, 23469), (70, 23286), (74, 23247),

Gene: Venti_67 Start: 42051, Stop: 42551, Start Num: 39
Candidate Starts for Venti_67:
(Start: 27 @41985 has 3 MA's), (35, 42021), (Start: 39 @42051 has 60 MA's), (Start: 44 @42165 has 1 MA's), (46, 42177), (48, 42198), (61, 42306),

Gene: Vidya_65 Start: 42340, Stop: 42840, Start Num: 39
Candidate Starts for Vidya_65:
(1, 41614), (2, 41629), (3, 41737), (4, 41818), (5, 41887), (6, 41941), (Start: 16 @42187 has 2 MA's), (22, 42241), (Start: 39 @42340 has 60 MA's), (43, 42406), (45, 42463), (48, 42487), (67, 42685),

Gene: Wallaby_6 Start: 1392, Stop: 1910, Start Num: 41
Candidate Starts for Wallaby_6:
(36, 1365), (37, 1368), (Start: 41 @1392 has 23 MA's), (Start: 42 @1440 has 2 MA's), (Start: 44 @1503 has 1 MA's), (47, 1527), (54, 1599), (60, 1632), (71, 1794), (74, 1821), (82, 1881),

Gene: Willsammy_71 Start: 44926, Stop: 45426, Start Num: 39
Candidate Starts for Willsammy_71:
(Start: 27 @44860 has 3 MA's), (Start: 39 @44926 has 60 MA's), (Start: 44 @45040 has 1 MA's), (46, 45052), (48, 45073), (61, 45181),

Gene: Wolfwood_5 Start: 1392, Stop: 1910, Start Num: 41
Candidate Starts for Wolfwood_5:
(36, 1365), (37, 1368), (Start: 41 @1392 has 23 MA's), (Start: 42 @1440 has 2 MA's), (Start: 44 @1503 has 1 MA's), (47, 1527), (54, 1599), (60, 1632), (71, 1794), (74, 1821), (82, 1881),

Gene: Xula_62 Start: 42299, Stop: 42799, Start Num: 39
Candidate Starts for Xula_62:
(Start: 27 @42233 has 3 MA's), (Start: 39 @42299 has 60 MA's), (Start: 44 @42413 has 1 MA's), (46, 42425), (48, 42446), (61, 42554), (76, 42728),

Gene: Yummy_30 Start: 23629, Stop: 23111, Start Num: 39
Candidate Starts for Yummy_30:
(Start: 39 @23629 has 60 MA's), (Start: 42 @23581 has 2 MA's), (47, 23494), (54, 23422), (70, 23239), (74, 23200),

Gene: Zareef_5 Start: 1393, Stop: 1911, Start Num: 41
Candidate Starts for Zareef_5:
(36, 1366), (37, 1369), (Start: 41 @1393 has 23 MA's), (Start: 42 @1441 has 2 MA's), (Start: 44 @1504 has 1 MA's), (47, 1528), (54, 1600), (60, 1633), (71, 1795), (74, 1822), (82, 1882),

Gene: Zilizebeth_74 Start: 44484, Stop: 44984, Start Num: 39
Candidate Starts for Zilizebeth_74:
(Start: 27 @44418 has 3 MA's), (Start: 39 @44484 has 60 MA's), (Start: 44 @44598 has 1 MA's), (46, 44610), (48, 44631), (61, 44739), (76, 44913),

Gene: Zizzle_80 Start: 49276, Stop: 49980, Start Num: 10
Candidate Starts for Zizzle_80:
(7, 49255), (Start: 10 @49276 has 2 MA's), (11, 49282), (12, 49288), (18, 49345), (Start: 39 @49480 has 60 MA's), (Start: 44 @49594 has 1 MA's), (46, 49606), (48, 49627), (61, 49735), (76, 49909),