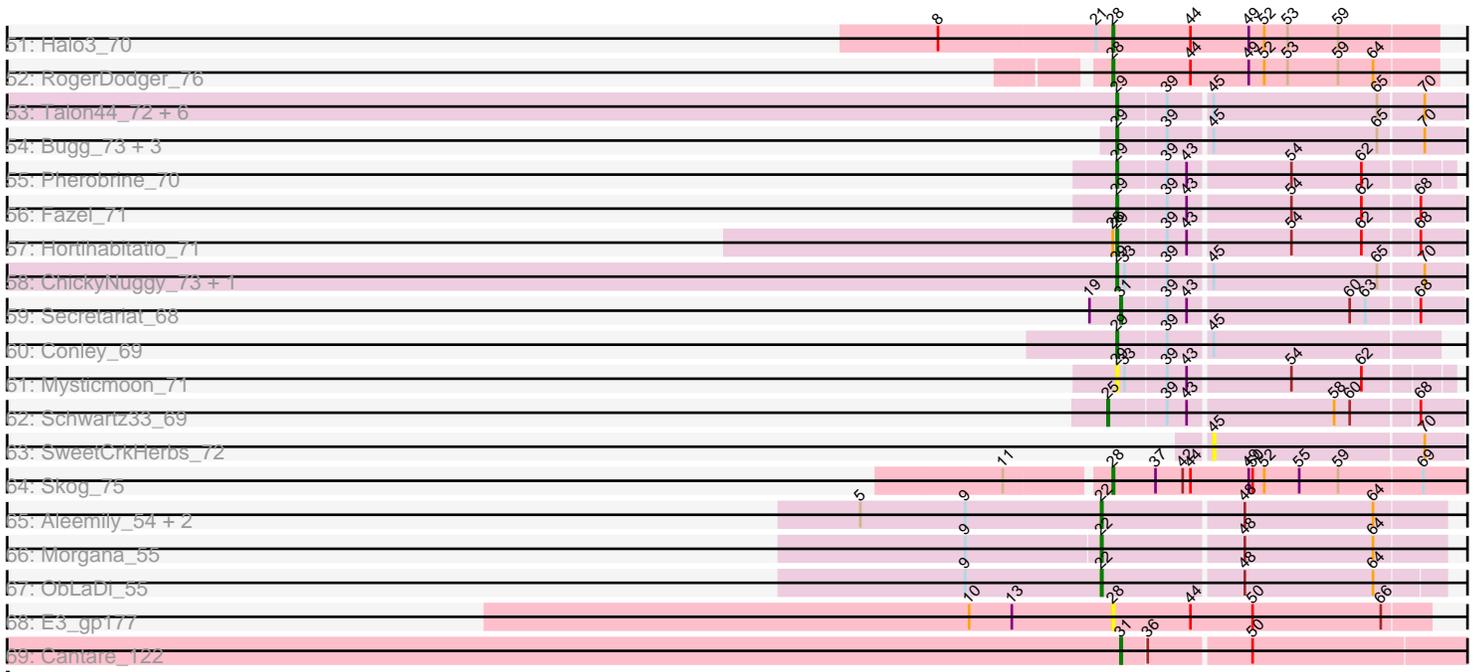


Pham 289130



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 289130 Report

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

Pham number 289130 has 166 members, 31 are drafts.

Phages represented in each track:

- Track 1 : GoCrazy\_88, Hankly\_93, Xenomorph\_88, Kardesai\_91, Dynamite\_92, Bowling\_94, Mooshroom\_93, KeaneyLin\_90, NapoleonB\_93, Benllo\_88
- Track 2 : Elsa\_90, Arcadia\_90, Nason\_90, Correa\_88, YoshiYama\_91
- Track 3 : Heisenberger\_91, BenitoAntonio\_90, Tribby\_94, Mudcat\_87, Cheesy\_93, JEGGS\_91
- Track 4 : Circum\_93
- Track 5 : Wilde\_14
- Track 6 : Tank\_14
- Track 7 : Rizwana\_13
- Track 8 : RIPWilbur\_17
- Track 9 : Renaldo\_80
- Track 10 : PoeMe\_73
- Track 11 : Mardi\_73
- Track 12 : Muglass\_74, Biscute\_72, Kinny\_75, BarbieDoll\_76
- Track 13 : GantcherGoblin\_70
- Track 14 : Leathea\_72
- Track 15 : Navi1117\_75
- Track 16 : Uzumaki\_69
- Track 17 : Tenney120\_73
- Track 18 : Lewando\_76
- Track 19 : TrixiePhattel\_73
- Track 20 : Altjira\_74, Argan\_69, KevinMinion\_70
- Track 21 : Barbonzobean\_79
- Track 22 : Zeina\_75
- Track 23 : Stardrop\_76
- Track 24 : Phaila\_74
- Track 25 : GalaxyEater\_10
- Track 26 : Jasmine\_8
- Track 27 : Westy\_68, Comrade\_67, Karp\_65, Stigma\_66, Belfort\_69
- Track 28 : DeluluLabubu\_67, Forrest\_69, Jada\_67, Maupel\_67, Emma1919\_69, Gilson\_68
- Track 29 : Phredrick\_67, Kenrey\_69
- Track 30 : Moab\_67, Patelgo\_67
- Track 31 : MeganTheeKilla\_66, Francob\_66
- Track 32 : SparkleGoddess\_67
- Track 33 : Sarkar\_12, Quantum\_11, Kradal\_11, EhyElimayoE\_11
- Track 34 : Satis\_11

- Track 35 : JustBecause\_9, Kela\_9
- Track 36 : Frankenweenie\_15
- Track 37 : Nirvana\_15
- Track 38 : Tainan\_244, InterFolia\_246, Mikro\_238, ScottMcG\_236, LinStu\_241, Breeniome\_244, LordLeafolot\_245, Spec\_238, Grungle\_226, PharkleMinkus\_246, LolaVinca\_240, Bigswole\_249, Lethe\_242, Nappy\_243, YoungMoneyMata\_244, FrayBell\_247, Patter\_246, Dandelion\_250, NuevoMundo\_246, Halldule\_236, Koguma\_243, Tyke\_241
- Track 39 : Colt\_234, Blubba\_231, Cane17\_233
- Track 40 : Sebata\_244, DeejaClivia\_231, JayJay\_244, Maturis\_238, DirtMonster\_233, Lunareta\_241, Montpel\_241
- Track 41 : Mangeria\_244
- Track 42 : l3\_254
- Track 43 : PinkCoffee\_74, Danyall\_73
- Track 44 : KimmyK\_72, Bakery\_77, Valary\_73, CherryCola\_73, Gezellig\_69, Wizard\_69
- Track 45 : Phlop\_70, PullumCavea\_71
- Track 46 : Barb\_74, ClamChowder\_74, Fugax\_75
- Track 47 : CoveyB\_73, Arri\_73, VanDeWege\_74, Portcullis\_73, Nubi\_72
- Track 48 : Salvador\_72, Evamon\_72, Mutzi\_71, YungMoney\_72
- Track 49 : Togo\_72, SmokingBunny\_73
- Track 50 : Twister6\_73
- Track 51 : Halo3\_70
- Track 52 : RogerDodger\_76
- Track 53 : Talon44\_72, Avazak\_71, Captrips\_69, NoPickles\_69, Petit\_72, Football\_72, Tairn4Wing\_72
- Track 54 : Bugg\_73, Artorias\_70, FortCran\_70, Dancer\_70
- Track 55 : Pherobrine\_70
- Track 56 : Fazel\_71
- Track 57 : Hortihabitatio\_71
- Track 58 : ChickyNuggy\_73, JulesRay\_70
- Track 59 : Secretariat\_68
- Track 60 : Conley\_69
- Track 61 : Mysticmoon\_71
- Track 62 : Schwartz33\_69
- Track 63 : SweetCrkHerbs\_72
- Track 64 : Skog\_75
- Track 65 : Aleemily\_54, ModicumRichard\_55, Cafasso\_55
- Track 66 : Morgana\_55
- Track 67 : ObLaDi\_55
- Track 68 : E3\_gp177
- Track 69 : Cantare\_122

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

The start number called the most often in the published annotations is 28, it was called in 27 of the 135 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arri\_73, Bakery\_77, Barb\_74, CherryCola\_73, ClamChowder\_74, CoveyB\_73, Danyall\_73, E3\_gp177, Evamon\_72, Fugax\_75, Gezellig\_69, Halo3\_70, KimmyK\_72, Mutzi\_71, Nubi\_72, Phlop\_70, PinkCoffee\_74, Portcullis\_73, PullumCavea\_71, RogerDodger\_76, Salvador\_72, Skog\_75, SmokingBunny\_73, Togo\_72, Twister6\_73, Valary\_73, VanDeWege\_74, Wizard\_69, YungMoney\_72,

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

- Hortihabitatio\_71,

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

- Aleemily\_54, Altjira\_74, Arcadia\_90, Argan\_69, Artorias\_70, Avazak\_71, BarbieDoll\_76, Barbonzobean\_79, Belfort\_69, BenitoAntonio\_90, Benllo\_88, Bigswole\_249, Biscute\_72, Blubba\_231, Bowling\_94, Breeniome\_244, Bugg\_73, Cafasso\_55, Cane17\_233, Cantare\_122, Captrips\_69, Cheesy\_93, ChickyNuggy\_73, Circum\_93, Colt\_234, Comrade\_67, Conley\_69, Correa\_88, Dancer\_70, Dandelion\_250, DeejaClivia\_231, DeluluLabubu\_67, DirtMonster\_233, Dynamite\_92, EhyElimayoE\_11, Elsa\_90, Emma1919\_69, Fazel\_71, Football\_72, Forrest\_69, FortCran\_70, Francob\_66, Frankenweenie\_15, FrayBell\_247, GalaxyEater\_10, GantcherGoblin\_70, Gilson\_68, GoCrazy\_88, Grungle\_226, Halldule\_236, Hankly\_93, Heisenberger\_91, I3\_254, InterFolia\_246, JEGGS\_91, Jada\_67, Jasmine\_8, JayJay\_244, JulesRay\_70, JustBecause\_9, Kardesai\_91, Karp\_65, KeaneyLin\_90, Kela\_9, Kenrey\_69, KevinMinion\_70, Kinny\_75, Koguma\_243, Kradal\_11, Leathea\_72, Lethe\_242, Lewando\_76, LinStu\_241, LolaVinca\_240, LordLeafolot\_245, Lunareta\_241, Mangeria\_244, Mardi\_73, Maturis\_238, Maupel\_67, MeganTheeKilla\_66, Mikro\_238, Moab\_67, ModicumRichard\_55, Montpel\_241, Mooshroom\_93, Morgana\_55, Mudcat\_87, Muglass\_74, Mysticmoon\_71, NapoleonB\_93, Nappy\_243, Nason\_90, Navi1117\_75, Nirvana\_15, NoPickles\_69, NuevoMundo\_246, ObLaDi\_55, Patelgo\_67, Patter\_246, Petite\_72, Phaila\_74, PharkleMinkus\_246, Pherobrine\_70, Phredrick\_67, PoeMe\_73, Quantum\_11, RIPWilbur\_17, Renaldo\_80, Rizwana\_13, Sarkar\_12, Satis\_11, Schwartz33\_69, ScottMcG\_236, Sebata\_244, Secretariat\_68, SparkleGoddess\_67, Spec\_238, Stardrop\_76, Stigma\_66, SweetCrkHerbs\_72, Tainan\_244, Tairn4Wing\_72, Talon44\_72, Tank\_14, Tenney120\_73, Tribby\_94, TrixiePhattel\_73, Tyke\_241, Uzumaki\_69, Westy\_68, Wilde\_14, Xenomorph\_88, YoshiYama\_91, YoungMoneyMata\_244, Zeina\_75,

### Summary by start number:

Start 18:

- Found in 3 of 166 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 3 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rizwana\_13 (AP1), Tank\_14 (AP1), Wilde\_14 (AP1),

Start 22:

- Found in 5 of 166 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 5 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily\_54 (DZ), Cafasso\_55 (DZ), ModicumRichard\_55 (DZ), Morgana\_55 (DZ), ObLaDi\_55 (DZ),

Start 23:

- Found in 22 of 166 ( 13.3% ) of genes in pham
- Manual Annotations of this start: 21 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arcadia\_90 (AM), BenitoAntonio\_90 (AM), Benllo\_88 (AM), Bowling\_94 (AM), Cheesy\_93 (AM), Circum\_93 (AM), Correa\_88 (AM), Dynamite\_92 (AM), Elsa\_90 (AM), GoCrazy\_88 (AM), Hankly\_93 (AM), Heisenberger\_91 (AM), JEGGS\_91 (AM), Kardesai\_91 (AM), KeaneyLin\_90 (AM), Mooshroom\_93 (AM), Mudcat\_87 (AM), NapoleonB\_93 (AM), Nason\_90 (AM), Tribby\_94 (AM), Xenomorph\_88 (AM), YoshiYama\_91 (AM),

#### Start 24:

- Found in 7 of 166 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 3 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DeejaClivia\_231 (C1), DirtMonster\_233 (C1), JayJay\_244 (C1), Lunareta\_241 (C1), Maturis\_238 (C1), Montpel\_241 (C1), Sebata\_244 (C1),

#### Start 25:

- Found in 4 of 166 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 135
- Called 50.0% of time when present
- Phage (with cluster) where this start called: RIPWilbur\_17 (AP2), Schwartz33\_69 (DJ),

#### Start 26:

- Found in 27 of 166 ( 16.3% ) of genes in pham
- Manual Annotations of this start: 23 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bigswole\_249 (C1), Blubba\_231 (C1), Breeniome\_244 (C1), Cane17\_233 (C1), Colt\_234 (C1), Dandelion\_250 (C1), FrayBell\_247 (C1), Grungle\_226 (C1), Halldule\_236 (C1), I3\_254 (C1), InterFolia\_246 (C1), Koguma\_243 (C1), Lethe\_242 (C1), LinStu\_241 (C1), LolaVinca\_240 (C1), LordLeafolot\_245 (C1), Mangeria\_244 (C1), Mikro\_238 (C1), Nappy\_243 (C1), NuevoMundo\_246 (C1), Patter\_246 (C1), PharkleMinkus\_246 (C1), ScottMcG\_236 (C1), Spec\_238 (C1), Tainan\_244 (C1), Tyke\_241 (C1), YoungMoneyMata\_244 (C1),

#### Start 27:

- Found in 21 of 166 ( 12.7% ) of genes in pham
- Manual Annotations of this start: 11 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altjira\_74 (AU6), Argan\_69 (AU6), BarbieDoll\_76 (AU6), Barbonzobean\_79 (AU6), Biscute\_72 (AU6), GantcherGoblin\_70 (AU6), KevinMinion\_70 (AU6), Kinny\_75 (AU6), Leathea\_72 (AU6), Lewando\_76 (AU6), Mardi\_73 (AU6), Muglass\_74 (AU6), Navi1117\_75 (AU6), Phaila\_74 (AU6), PoeMe\_73 (AU6), Renaldo\_80 (AU6), Stardrop\_76 (AU6), Tenney120\_73 (AU6), TrixiePhattel\_73 (AU6), Uzumaki\_69 (AU6), Zeina\_75 (AU6),

#### Start 28:

- Found in 30 of 166 ( 18.1% ) of genes in pham
- Manual Annotations of this start: 27 of 135
- Called 96.7% of time when present

- Phage (with cluster) where this start called: Arri\_73 (DC1), Bakery\_77 (DC1), Barb\_74 (DC1), CherryCola\_73 (DC1), ClamChowder\_74 (DC1), CoveyB\_73 (DC1), Danyall\_73 (DC1), E3\_gp177 (singleton), Evamon\_72 (DC1), Fugax\_75 (DC1), Gezellig\_69 (DC1), Halo3\_70 (DC1), KimmyK\_72 (DC1), Mutzi\_71 (DC1), Nubi\_72 (DC1), Phlop\_70 (DC1), PinkCoffee\_74 (DC1), Portcullis\_73 (DC1), PullumCavea\_71 (DC1), RogerDodger\_76 (DC1), Salvador\_72 (DC1), Skog\_75 (DO), SmokingBunny\_73 (DC1), Togo\_72 (DC1), Twister6\_73 (DC1), Valary\_73 (DC1), VanDeWege\_74 (DC1), Wizard\_69 (DC1), YungMoney\_72 (DC1),

#### Start 29:

- Found in 27 of 166 ( 16.3% ) of genes in pham
- Manual Annotations of this start: 19 of 135
- Called 92.6% of time when present
- Phage (with cluster) where this start called: Artorias\_70 (DJ), Avazak\_71 (DJ), Bugg\_73 (DJ), Captrips\_69 (DJ), ChickyNuggy\_73 (DJ), Conley\_69 (DJ), Dancer\_70 (DJ), EhyElimayoE\_11 (BM), Fazel\_71 (DJ), Football\_72 (DJ), FortCran\_70 (DJ), Hortihabitatio\_71 (DJ), JulesRay\_70 (DJ), JustBecause\_9 (BM), Kela\_9 (BM), Kradal\_11 (BM), Mysticmoon\_71 (DJ), NoPickles\_69 (DJ), Petito\_72 (DJ), Pherobrine\_70 (DJ), Quantum\_11 (BM), Sarkar\_12 (BM), Satis\_11 (BM), Tairn4Wing\_72 (DJ), Talon44\_72 (DJ),

#### Start 31:

- Found in 22 of 166 ( 13.3% ) of genes in pham
- Manual Annotations of this start: 19 of 135
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Belfort\_69 (BK1), Cantare\_122 (singleton), Comrade\_67 (BK1), DeluluLabubu\_67 (BK1), Emma1919\_69 (BK1), Forrest\_69 (BK1), Francob\_66 (BK1), GalaxyEater\_10 (AV), Gilson\_68 (BK1), Jada\_67 (BK1), Jasmine\_8 (AV), Karp\_65 (BK1), Kenrey\_69 (BK1), Maupel\_67 (BK1), MeganTheeKilla\_66 (BK1), Moab\_67 (BK1), Patelgo\_67 (BK1), Phredrick\_67 (BK1), Secretariat\_68 (DJ), Stigma\_66 (BK1), Westy\_68 (BK1),

#### Start 35:

- Found in 5 of 166 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 2 of 135
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Frankenweenie\_15 (BM), Nirvana\_15 (BM),

#### Start 36:

- Found in 20 of 166 ( 12.0% ) of genes in pham
- Manual Annotations of this start: 1 of 135
- Called 5.0% of time when present
- Phage (with cluster) where this start called: SparkleGoddess\_67 (BK1),

#### Start 45:

- Found in 15 of 166 ( 9.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 6.7% of time when present
- Phage (with cluster) where this start called: SweetCrkHerbs\_72 (DJ),

### Summary by clusters:

There are 13 clusters represented in this pham: DO, singleton, DJ, AP2, BM, AP1, AM, DZ, BK1, AV, AU6, C1, DC1,

Info for manual annotations of cluster AM:

- Start number 23 was manually annotated 21 times for cluster AM.

Info for manual annotations of cluster AP1:

- Start number 18 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AU6:

- Start number 27 was manually annotated 11 times for cluster AU6.

Info for manual annotations of cluster AV:

- Start number 31 was manually annotated 1 time for cluster AV.

Info for manual annotations of cluster BK1:

- Start number 31 was manually annotated 16 times for cluster BK1.
- Start number 36 was manually annotated 1 time for cluster BK1.

Info for manual annotations of cluster BM:

- Start number 29 was manually annotated 6 times for cluster BM.
- Start number 35 was manually annotated 2 times for cluster BM.

Info for manual annotations of cluster C1:

- Start number 24 was manually annotated 3 times for cluster C1.
- Start number 26 was manually annotated 23 times for cluster C1.

Info for manual annotations of cluster DC1:

- Start number 28 was manually annotated 26 times for cluster DC1.

Info for manual annotations of cluster DJ:

- Start number 25 was manually annotated 1 time for cluster DJ.
- Start number 29 was manually annotated 13 times for cluster DJ.
- Start number 31 was manually annotated 1 time for cluster DJ.

Info for manual annotations of cluster DO:

- Start number 28 was manually annotated 1 time for cluster DO.

Info for manual annotations of cluster DZ:

- Start number 22 was manually annotated 5 times for cluster DZ.

### ***Gene Information:***

Gene: Aleemily\_54 Start: 39648, Stop: 39905, Start Num: 22

Candidate Starts for Aleemily\_54:

(5, 39462), (9, 39543), (Start: 22 @39648 has 5 MA's), (48, 39753), (64, 39852),

Gene: Altjira\_74 Start: 45409, Stop: 45696, Start Num: 27

Candidate Starts for Altjira\_74:

(Start: 27 @45409 has 11 MA's), (52, 45517), (54, 45538), (70, 45640),

Gene: Arcadia\_90 Start: 52556, Stop: 52813, Start Num: 23

Candidate Starts for Arcadia\_90:

(Start: 23 @52556 has 21 MA's), (39, 52601),

Gene: Argan\_69 Start: 44132, Stop: 44419, Start Num: 27

Candidate Starts for Argan\_69:

(Start: 27 @44132 has 11 MA's), (52, 44240), (54, 44261), (70, 44363),

Gene: Arri\_73 Start: 50476, Stop: 50718, Start Num: 28

Candidate Starts for Arri\_73:

(13, 50419), (Start: 28 @50476 has 27 MA's), (44, 50536), (49, 50581), (52, 50593), (53, 50611), (59, 50650),

Gene: Artorias\_70 Start: 48379, Stop: 48633, Start Num: 29

Candidate Starts for Artorias\_70:

(Start: 29 @48379 has 19 MA's), (39, 48415), (45, 48445), (65, 48571), (70, 48604),

Gene: Avazak\_71 Start: 48706, Stop: 48960, Start Num: 29

Candidate Starts for Avazak\_71:

(Start: 29 @48706 has 19 MA's), (39, 48742), (45, 48772), (65, 48898), (70, 48931),

Gene: Bakery\_77 Start: 52745, Stop: 52987, Start Num: 28

Candidate Starts for Bakery\_77:

(8, 52613), (21, 52733), (Start: 28 @52745 has 27 MA's), (44, 52805), (49, 52850), (52, 52862), (59, 52919),

Gene: Barb\_74 Start: 50409, Stop: 50657, Start Num: 28

Candidate Starts for Barb\_74:

(1, 49578), (7, 50259), (20, 50394), (Start: 28 @50409 has 27 MA's), (44, 50469), (49, 50514), (52, 50526), (59, 50583),

Gene: BarbieDoll\_76 Start: 45845, Stop: 46132, Start Num: 27

Candidate Starts for BarbieDoll\_76:

(Start: 27 @45845 has 11 MA's), (52, 45953), (70, 46076),

Gene: Barbonzobean\_79 Start: 46241, Stop: 46528, Start Num: 27

Candidate Starts for Barbonzobean\_79:

(Start: 27 @46241 has 11 MA's), (47, 46328), (51, 46346), (52, 46349), (70, 46472),

Gene: Belfort\_69 Start: 55718, Stop: 55945, Start Num: 31

Candidate Starts for Belfort\_69:

(Start: 31 @55718 has 19 MA's), (Start: 36 @55736 has 1 MA's), (52, 55820), (61, 55889), (62, 55895),

Gene: BenitoAntonio\_90 Start: 52281, Stop: 52538, Start Num: 23

Candidate Starts for BenitoAntonio\_90:

(Start: 23 @52281 has 21 MA's),

Gene: Benllo\_88 Start: 53121, Stop: 53378, Start Num: 23

Candidate Starts for Benllo\_88:

(Start: 23 @53121 has 21 MA's),

Gene: Bigswole\_249 Start: 137037, Stop: 137270, Start Num: 26

Candidate Starts for Bigswole\_249:

(14, 136995), (Start: 26 @137037 has 23 MA's), (38, 137073), (39, 137079), (57, 137199), (61, 137217), (64, 137232),

Gene: Biscute\_72 Start: 45497, Stop: 45784, Start Num: 27

Candidate Starts for Biscute\_72:

(Start: 27 @45497 has 11 MA's), (52, 45605), (70, 45728),

Gene: Blubba\_231 Start: 137996, Stop: 138229, Start Num: 26

Candidate Starts for Blubba\_231:

(14, 137954), (Start: 26 @137996 has 23 MA's), (38, 138032), (39, 138038), (57, 138158), (61, 138176),

Gene: Bowling\_94 Start: 53654, Stop: 53911, Start Num: 23

Candidate Starts for Bowling\_94:

(Start: 23 @53654 has 21 MA's),

Gene: Breeniome\_244 Start: 134026, Stop: 134259, Start Num: 26

Candidate Starts for Breeniome\_244:

(14, 133984), (Start: 26 @134026 has 23 MA's), (38, 134062), (39, 134068), (57, 134188), (61, 134206), (64, 134221),

Gene: Bugg\_73 Start: 48424, Stop: 48678, Start Num: 29

Candidate Starts for Bugg\_73:

(Start: 29 @48424 has 19 MA's), (39, 48460), (45, 48490), (65, 48616), (70, 48649),

Gene: Cafasso\_55 Start: 40222, Stop: 40476, Start Num: 22

Candidate Starts for Cafasso\_55:

(5, 40036), (9, 40117), (Start: 22 @40222 has 5 MA's), (48, 40327), (64, 40426),

Gene: Cane17\_233 Start: 138405, Stop: 138638, Start Num: 26

Candidate Starts for Cane17\_233:

(14, 138363), (Start: 26 @138405 has 23 MA's), (38, 138441), (39, 138447), (57, 138567), (61, 138585),

Gene: Cantare\_122 Start: 85748, Stop: 86017, Start Num: 31

Candidate Starts for Cantare\_122:

(Start: 31 @85748 has 19 MA's), (Start: 36 @85766 has 1 MA's), (50, 85841),

Gene: Captrips\_69 Start: 47854, Stop: 48108, Start Num: 29

Candidate Starts for Captrips\_69:

(Start: 29 @47854 has 19 MA's), (39, 47890), (45, 47920), (65, 48046), (70, 48079),

Gene: Cheesy\_93 Start: 53026, Stop: 53283, Start Num: 23

Candidate Starts for Cheesy\_93:

(Start: 23 @53026 has 21 MA's),

Gene: CherryCola\_73 Start: 50799, Stop: 51047, Start Num: 28

Candidate Starts for CherryCola\_73:

(8, 50667), (21, 50787), (Start: 28 @50799 has 27 MA's), (44, 50859), (49, 50904), (52, 50916), (59, 50973),

Gene: ChickyNuggy\_73 Start: 48447, Stop: 48701, Start Num: 29

Candidate Starts for ChickyNuggy\_73:

(Start: 29 @48447 has 19 MA's), (33, 48453), (39, 48483), (45, 48513), (65, 48639), (70, 48672),

Gene: Circum\_93 Start: 53360, Stop: 53617, Start Num: 23

Candidate Starts for Circum\_93:

(Start: 23 @53360 has 21 MA's), (54, 53495),

Gene: ClamChowder\_74 Start: 50409, Stop: 50657, Start Num: 28

Candidate Starts for ClamChowder\_74:

(1, 49578), (7, 50259), (20, 50394), (Start: 28 @50409 has 27 MA's), (44, 50469), (49, 50514), (52, 50526), (59, 50583),

Gene: Colt\_234 Start: 137636, Stop: 137869, Start Num: 26

Candidate Starts for Colt\_234:

(14, 137594), (Start: 26 @137636 has 23 MA's), (38, 137672), (39, 137678), (57, 137798), (61, 137816),

Gene: Comrade\_67 Start: 55334, Stop: 55561, Start Num: 31

Candidate Starts for Comrade\_67:

(Start: 31 @55334 has 19 MA's), (Start: 36 @55352 has 1 MA's), (52, 55436), (61, 55505), (62, 55511),

Gene: Conley\_69 Start: 48997, Stop: 49233, Start Num: 29

Candidate Starts for Conley\_69:

(Start: 29 @48997 has 19 MA's), (39, 49033), (45, 49063),

Gene: Correa\_88 Start: 51905, Stop: 52162, Start Num: 23

Candidate Starts for Correa\_88:

(Start: 23 @51905 has 21 MA's), (39, 51950),

Gene: CoveyB\_73 Start: 50292, Stop: 50540, Start Num: 28

Candidate Starts for CoveyB\_73:

(13, 50235), (Start: 28 @50292 has 27 MA's), (44, 50352), (49, 50397), (52, 50409), (53, 50427), (59, 50466),

Gene: Dancer\_70 Start: 48116, Stop: 48370, Start Num: 29

Candidate Starts for Dancer\_70:

(Start: 29 @48116 has 19 MA's), (39, 48152), (45, 48182), (65, 48308), (70, 48341),

Gene: Dandelion\_250 Start: 138088, Stop: 138321, Start Num: 26

Candidate Starts for Dandelion\_250:

(14, 138046), (Start: 26 @138088 has 23 MA's), (38, 138124), (39, 138130), (57, 138250), (61, 138268), (64, 138283),

Gene: Danyall\_73 Start: 50390, Stop: 50638, Start Num: 28

Candidate Starts for Danyall\_73:

(7, 50240), (20, 50375), (Start: 28 @50390 has 27 MA's), (44, 50450), (49, 50495), (52, 50507), (59, 50564),

Gene: DeejaClivia\_231 Start: 132995, Stop: 133228, Start Num: 24

Candidate Starts for DeejaClivia\_231:

(14, 132956), (Start: 24 @132995 has 3 MA's), (38, 133031), (39, 133037), (57, 133157), (61, 133175),

Gene: DeluluLabubu\_67 Start: 53372, Stop: 53599, Start Num: 31

Candidate Starts for DeluluLabubu\_67:

(Start: 31 @53372 has 19 MA's), (Start: 36 @53390 has 1 MA's), (39, 53405), (52, 53474),

Gene: DirtMonster\_233 Start: 134501, Stop: 134734, Start Num: 24

Candidate Starts for DirtMonster\_233:

(14, 134462), (Start: 24 @134501 has 3 MA's), (38, 134537), (39, 134543), (57, 134663), (61, 134681),

Gene: Dynamite\_92 Start: 52622, Stop: 52879, Start Num: 23

Candidate Starts for Dynamite\_92:

(Start: 23 @52622 has 21 MA's),

Gene: E3\_gp177 Start: 119674, Stop: 119916, Start Num: 28

Candidate Starts for E3\_gp177:

(10, 119563), (13, 119596), (Start: 28 @119674 has 27 MA's), (44, 119734), (50, 119782), (66, 119881),

Gene: EhyElimayoE\_11 Start: 6341, Stop: 6610, Start Num: 29

Candidate Starts for EhyElimayoE\_11:

(3, 5894), (4, 6011), (6, 6146), (12, 6257), (17, 6299), (Start: 29 @6341 has 19 MA's), (61, 6515), (63, 6524), (70, 6566),

Gene: Elsa\_90 Start: 52556, Stop: 52813, Start Num: 23

Candidate Starts for Elsa\_90:

(Start: 23 @52556 has 21 MA's), (39, 52601),

Gene: Emma1919\_69 Start: 54046, Stop: 54273, Start Num: 31

Candidate Starts for Emma1919\_69:

(Start: 31 @54046 has 19 MA's), (Start: 36 @54064 has 1 MA's), (39, 54079), (52, 54148),

Gene: Evamon\_72 Start: 50173, Stop: 50421, Start Num: 28

Candidate Starts for Evamon\_72:

(7, 50023), (20, 50158), (Start: 28 @50173 has 27 MA's), (44, 50233), (49, 50278), (52, 50290), (53, 50308), (59, 50347),

Gene: Fazel\_71 Start: 48619, Stop: 48870, Start Num: 29

Candidate Starts for Fazel\_71:

(Start: 29 @48619 has 19 MA's), (39, 48655), (43, 48670), (54, 48745), (62, 48799), (68, 48838),

Gene: Football\_72 Start: 48005, Stop: 48259, Start Num: 29

Candidate Starts for Football\_72:

(Start: 29 @48005 has 19 MA's), (39, 48041), (45, 48071), (65, 48197), (70, 48230),

Gene: Forrest\_69 Start: 54752, Stop: 54979, Start Num: 31

Candidate Starts for Forrest\_69:

(Start: 31 @54752 has 19 MA's), (Start: 36 @54770 has 1 MA's), (39, 54785), (52, 54854),

Gene: FortCran\_70 Start: 48379, Stop: 48633, Start Num: 29

Candidate Starts for FortCran\_70:

(Start: 29 @48379 has 19 MA's), (39, 48415), (45, 48445), (65, 48571), (70, 48604),

Gene: Francob\_66 Start: 54109, Stop: 54336, Start Num: 31

Candidate Starts for Francob\_66:

(Start: 31 @54109 has 19 MA's), (Start: 36 @54127 has 1 MA's), (39, 54142), (52, 54211), (62, 54286),

Gene: Frankenweenie\_15 Start: 7328, Stop: 7591, Start Num: 35  
Candidate Starts for Frankenweenie\_15:  
(Start: 29 @7310 has 19 MA's), (Start: 35 @7328 has 2 MA's), (38, 7340), (47, 7394),

Gene: FrayBell\_247 Start: 134131, Stop: 134364, Start Num: 26  
Candidate Starts for FrayBell\_247:  
(14, 134089), (Start: 26 @134131 has 23 MA's), (38, 134167), (39, 134173), (57, 134293), (61, 134311), (64, 134326),

Gene: Fugax\_75 Start: 50401, Stop: 50649, Start Num: 28  
Candidate Starts for Fugax\_75:  
(1, 49570), (7, 50251), (20, 50386), (Start: 28 @50401 has 27 MA's), (44, 50461), (49, 50506), (52, 50518), (59, 50575),

Gene: GalaxyEater\_10 Start: 4962, Stop: 5189, Start Num: 31  
Candidate Starts for GalaxyEater\_10:  
(Start: 31 @4962 has 19 MA's),

Gene: GantcherGoblin\_70 Start: 44191, Stop: 44478, Start Num: 27  
Candidate Starts for GantcherGoblin\_70:  
(Start: 27 @44191 has 11 MA's), (52, 44299), (54, 44320), (67, 44413), (70, 44422),

Gene: Gezellig\_69 Start: 50045, Stop: 50293, Start Num: 28  
Candidate Starts for Gezellig\_69:  
(8, 49913), (21, 50033), (Start: 28 @50045 has 27 MA's), (44, 50105), (49, 50150), (52, 50162), (59, 50219),

Gene: Gilson\_68 Start: 54008, Stop: 54235, Start Num: 31  
Candidate Starts for Gilson\_68:  
(Start: 31 @54008 has 19 MA's), (Start: 36 @54026 has 1 MA's), (39, 54041), (52, 54110),

Gene: GoCrazy\_88 Start: 51547, Stop: 51804, Start Num: 23  
Candidate Starts for GoCrazy\_88:  
(Start: 23 @51547 has 21 MA's),

Gene: Grungle\_226 Start: 132405, Stop: 132638, Start Num: 26  
Candidate Starts for Grungle\_226:  
(14, 132363), (Start: 26 @132405 has 23 MA's), (38, 132441), (39, 132447), (57, 132567), (61, 132585), (64, 132600),

Gene: Halldule\_236 Start: 133587, Stop: 133820, Start Num: 26  
Candidate Starts for Halldule\_236:  
(14, 133545), (Start: 26 @133587 has 23 MA's), (38, 133623), (39, 133629), (57, 133749), (61, 133767), (64, 133782),

Gene: Halo3\_70 Start: 50630, Stop: 50878, Start Num: 28  
Candidate Starts for Halo3\_70:  
(8, 50498), (21, 50618), (Start: 28 @50630 has 27 MA's), (44, 50690), (49, 50735), (52, 50747), (53, 50765), (59, 50804),

Gene: Hankly\_93 Start: 52732, Stop: 52989, Start Num: 23  
Candidate Starts for Hankly\_93:

(Start: 23 @52732 has 21 MA's),

Gene: Heisenberger\_91 Start: 52491, Stop: 52748, Start Num: 23

Candidate Starts for Heisenberger\_91:

(Start: 23 @52491 has 21 MA's),

Gene: Hortihabitatio\_71 Start: 48995, Stop: 49246, Start Num: 29

Candidate Starts for Hortihabitatio\_71:

(Start: 28 @48992 has 27 MA's), (Start: 29 @48995 has 19 MA's), (39, 49031), (43, 49046), (54, 49121), (62, 49175), (68, 49214),

Gene: I3\_254 Start: 136279, Stop: 136512, Start Num: 26

Candidate Starts for I3\_254:

(14, 136237), (Start: 26 @136279 has 23 MA's), (Start: 36 @136306 has 1 MA's), (37, 136312), (48, 136375), (61, 136459), (64, 136474),

Gene: InterFolia\_246 Start: 135936, Stop: 136169, Start Num: 26

Candidate Starts for InterFolia\_246:

(14, 135894), (Start: 26 @135936 has 23 MA's), (38, 135972), (39, 135978), (57, 136098), (61, 136116), (64, 136131),

Gene: JEGGS\_91 Start: 52570, Stop: 52827, Start Num: 23

Candidate Starts for JEGGS\_91:

(Start: 23 @52570 has 21 MA's),

Gene: Jada\_67 Start: 53934, Stop: 54161, Start Num: 31

Candidate Starts for Jada\_67:

(Start: 31 @53934 has 19 MA's), (Start: 36 @53952 has 1 MA's), (39, 53967), (52, 54036),

Gene: Jasmine\_8 Start: 3920, Stop: 4156, Start Num: 31

Candidate Starts for Jasmine\_8:

(Start: 31 @3920 has 19 MA's), (62, 4097),

Gene: JayJay\_244 Start: 134700, Stop: 134933, Start Num: 24

Candidate Starts for JayJay\_244:

(14, 134661), (Start: 24 @134700 has 3 MA's), (38, 134736), (39, 134742), (57, 134862), (61, 134880),

Gene: JulesRay\_70 Start: 48372, Stop: 48626, Start Num: 29

Candidate Starts for JulesRay\_70:

(Start: 29 @48372 has 19 MA's), (33, 48378), (39, 48408), (45, 48438), (65, 48564), (70, 48597),

Gene: JustBecause\_9 Start: 5308, Stop: 5589, Start Num: 29

Candidate Starts for JustBecause\_9:

(Start: 29 @5308 has 19 MA's), (Start: 35 @5326 has 2 MA's), (47, 5392), (51, 5410), (61, 5482),

Gene: Kardesai\_91 Start: 52160, Stop: 52417, Start Num: 23

Candidate Starts for Kardesai\_91:

(Start: 23 @52160 has 21 MA's),

Gene: Karp\_65 Start: 54933, Stop: 55160, Start Num: 31

Candidate Starts for Karp\_65:

(Start: 31 @54933 has 19 MA's), (Start: 36 @54951 has 1 MA's), (52, 55035), (61, 55104), (62, 55110),

Gene: KeaneyLin\_90 Start: 52585, Stop: 52842, Start Num: 23  
Candidate Starts for KeaneyLin\_90:  
(Start: 23 @52585 has 21 MA's),

Gene: Kela\_9 Start: 5299, Stop: 5580, Start Num: 29  
Candidate Starts for Kela\_9:  
(Start: 29 @5299 has 19 MA's), (Start: 35 @5317 has 2 MA's), (47, 5383), (51, 5401), (61, 5473),

Gene: Kenrey\_69 Start: 54190, Stop: 54417, Start Num: 31  
Candidate Starts for Kenrey\_69:  
(Start: 31 @54190 has 19 MA's), (Start: 36 @54208 has 1 MA's), (39, 54223), (52, 54292), (62, 54367),  
(65, 54379),

Gene: KevinMinion\_70 Start: 45083, Stop: 45370, Start Num: 27  
Candidate Starts for KevinMinion\_70:  
(Start: 27 @45083 has 11 MA's), (52, 45191), (54, 45212), (70, 45314),

Gene: KimmyK\_72 Start: 50492, Stop: 50740, Start Num: 28  
Candidate Starts for KimmyK\_72:  
(8, 50360), (21, 50480), (Start: 28 @50492 has 27 MA's), (44, 50552), (49, 50597), (52, 50609), (59,  
50666),

Gene: Kinny\_75 Start: 46325, Stop: 46612, Start Num: 27  
Candidate Starts for Kinny\_75:  
(Start: 27 @46325 has 11 MA's), (52, 46433), (70, 46556),

Gene: Koguma\_243 Start: 134564, Stop: 134797, Start Num: 26  
Candidate Starts for Koguma\_243:  
(14, 134522), (Start: 26 @134564 has 23 MA's), (38, 134600), (39, 134606), (57, 134726), (61,  
134744), (64, 134759),

Gene: Kradal\_11 Start: 6341, Stop: 6610, Start Num: 29  
Candidate Starts for Kradal\_11:  
(3, 5894), (4, 6011), (6, 6146), (12, 6257), (17, 6299), (Start: 29 @6341 has 19 MA's), (61, 6515), (63,  
6524), (70, 6566),

Gene: Leathea\_72 Start: 44099, Stop: 44386, Start Num: 27  
Candidate Starts for Leathea\_72:  
(Start: 27 @44099 has 11 MA's), (56, 44252), (61, 44276), (71, 44333),

Gene: Lethe\_242 Start: 136348, Stop: 136581, Start Num: 26  
Candidate Starts for Lethe\_242:  
(14, 136306), (Start: 26 @136348 has 23 MA's), (38, 136384), (39, 136390), (57, 136510), (61,  
136528), (64, 136543),

Gene: Lewando\_76 Start: 46062, Stop: 46349, Start Num: 27  
Candidate Starts for Lewando\_76:  
(Start: 27 @46062 has 11 MA's), (51, 46167), (52, 46170), (70, 46293),

Gene: LinStu\_241 Start: 133863, Stop: 134096, Start Num: 26  
Candidate Starts for LinStu\_241:  
(14, 133821), (Start: 26 @133863 has 23 MA's), (38, 133899), (39, 133905), (57, 134025), (61,  
134043), (64, 134058),

Gene: LolaVinca\_240 Start: 135366, Stop: 135599, Start Num: 26  
Candidate Starts for LolaVinca\_240:  
(14, 135324), (Start: 26 @135366 has 23 MA's), (38, 135402), (39, 135408), (57, 135528), (61, 135546), (64, 135561),

Gene: LordLeafolot\_245 Start: 134979, Stop: 135212, Start Num: 26  
Candidate Starts for LordLeafolot\_245:  
(14, 134937), (Start: 26 @134979 has 23 MA's), (38, 135015), (39, 135021), (57, 135141), (61, 135159), (64, 135174),

Gene: Lunareta\_241 Start: 135720, Stop: 135953, Start Num: 24  
Candidate Starts for Lunareta\_241:  
(14, 135681), (Start: 24 @135720 has 3 MA's), (38, 135756), (39, 135762), (57, 135882), (61, 135900),

Gene: Mangeria\_244 Start: 135923, Stop: 136156, Start Num: 26  
Candidate Starts for Mangeria\_244:  
(14, 135881), (15, 135884), (Start: 26 @135923 has 23 MA's), (38, 135959), (39, 135965), (57, 136085), (61, 136103), (64, 136118),

Gene: Mardi\_73 Start: 44835, Stop: 45122, Start Num: 27  
Candidate Starts for Mardi\_73:  
(Start: 27 @44835 has 11 MA's), (52, 44943), (54, 44964), (60, 45009), (70, 45066),

Gene: Maturis\_238 Start: 134686, Stop: 134919, Start Num: 24  
Candidate Starts for Maturis\_238:  
(14, 134647), (Start: 24 @134686 has 3 MA's), (38, 134722), (39, 134728), (57, 134848), (61, 134866),

Gene: Maupel\_67 Start: 54008, Stop: 54235, Start Num: 31  
Candidate Starts for Maupel\_67:  
(Start: 31 @54008 has 19 MA's), (Start: 36 @54026 has 1 MA's), (39, 54041), (52, 54110),

Gene: MeganTheeKilla\_66 Start: 53369, Stop: 53596, Start Num: 31  
Candidate Starts for MeganTheeKilla\_66:  
(Start: 31 @53369 has 19 MA's), (Start: 36 @53387 has 1 MA's), (39, 53402), (52, 53471), (62, 53546),

Gene: Mikro\_238 Start: 136879, Stop: 137112, Start Num: 26  
Candidate Starts for Mikro\_238:  
(14, 136837), (Start: 26 @136879 has 23 MA's), (38, 136915), (39, 136921), (57, 137041), (61, 137059), (64, 137074),

Gene: Moab\_67 Start: 55209, Stop: 55436, Start Num: 31  
Candidate Starts for Moab\_67:  
(Start: 31 @55209 has 19 MA's), (Start: 36 @55227 has 1 MA's),

Gene: ModicumRichard\_55 Start: 40221, Stop: 40475, Start Num: 22  
Candidate Starts for ModicumRichard\_55:  
(5, 40035), (9, 40116), (Start: 22 @40221 has 5 MA's), (48, 40326), (64, 40425),

Gene: Montpel\_241 Start: 135718, Stop: 135951, Start Num: 24  
Candidate Starts for Montpel\_241:  
(14, 135679), (Start: 24 @135718 has 3 MA's), (38, 135754), (39, 135760), (57, 135880), (61, 135898),

Gene: Mooshroom\_93 Start: 52160, Stop: 52417, Start Num: 23  
Candidate Starts for Mooshroom\_93:  
(Start: 23 @52160 has 21 MA's),

Gene: Morgana\_55 Start: 40172, Stop: 40429, Start Num: 22  
Candidate Starts for Morgana\_55:  
(9, 40070), (Start: 22 @40172 has 5 MA's), (48, 40277), (64, 40376),

Gene: Mudcat\_87 Start: 53725, Stop: 53982, Start Num: 23  
Candidate Starts for Mudcat\_87:  
(Start: 23 @53725 has 21 MA's),

Gene: Muglass\_74 Start: 45401, Stop: 45688, Start Num: 27  
Candidate Starts for Muglass\_74:  
(Start: 27 @45401 has 11 MA's), (52, 45509), (70, 45632),

Gene: Mutzi\_71 Start: 51265, Stop: 51513, Start Num: 28  
Candidate Starts for Mutzi\_71:  
(7, 51115), (20, 51250), (Start: 28 @51265 has 27 MA's), (44, 51325), (49, 51370), (52, 51382), (53, 51400), (59, 51439),

Gene: Mysticmoon\_71 Start: 49282, Stop: 49524, Start Num: 29  
Candidate Starts for Mysticmoon\_71:  
(Start: 29 @49282 has 19 MA's), (33, 49288), (39, 49318), (43, 49333), (54, 49408), (62, 49462),

Gene: NapoleonB\_93 Start: 52622, Stop: 52879, Start Num: 23  
Candidate Starts for NapoleonB\_93:  
(Start: 23 @52622 has 21 MA's),

Gene: Nappy\_243 Start: 136335, Stop: 136568, Start Num: 26  
Candidate Starts for Nappy\_243:  
(14, 136293), (Start: 26 @136335 has 23 MA's), (38, 136371), (39, 136377), (57, 136497), (61, 136515), (64, 136530),

Gene: Nason\_90 Start: 52556, Stop: 52813, Start Num: 23  
Candidate Starts for Nason\_90:  
(Start: 23 @52556 has 21 MA's), (39, 52601),

Gene: Navi1117\_75 Start: 45271, Stop: 45558, Start Num: 27  
Candidate Starts for Navi1117\_75:  
(Start: 27 @45271 has 11 MA's), (52, 45379), (54, 45400), (70, 45502),

Gene: Nirvana\_15 Start: 7592, Stop: 7855, Start Num: 35  
Candidate Starts for Nirvana\_15:  
(Start: 29 @7574 has 19 MA's), (Start: 35 @7592 has 2 MA's), (38, 7604), (61, 7748), (62, 7754),

Gene: NoPickles\_69 Start: 47540, Stop: 47794, Start Num: 29  
Candidate Starts for NoPickles\_69:  
(Start: 29 @47540 has 19 MA's), (39, 47576), (45, 47606), (65, 47732), (70, 47765),

Gene: Nubi\_72 Start: 50104, Stop: 50346, Start Num: 28  
Candidate Starts for Nubi\_72:

(13, 50047), (Start: 28 @50104 has 27 MA's), (44, 50164), (49, 50209), (52, 50221), (53, 50239), (59, 50278),

Gene: NuevoMundo\_246 Start: 136442, Stop: 136675, Start Num: 26

Candidate Starts for NuevoMundo\_246:

(14, 136400), (Start: 26 @136442 has 23 MA's), (38, 136478), (39, 136484), (57, 136604), (61, 136622), (64, 136637),

Gene: ObLaDi\_55 Start: 40212, Stop: 40466, Start Num: 22

Candidate Starts for ObLaDi\_55:

(9, 40107), (Start: 22 @40212 has 5 MA's), (48, 40317), (64, 40416),

Gene: Patelgo\_67 Start: 55396, Stop: 55623, Start Num: 31

Candidate Starts for Patelgo\_67:

(Start: 31 @55396 has 19 MA's), (Start: 36 @55414 has 1 MA's),

Gene: Patter\_246 Start: 135186, Stop: 135419, Start Num: 26

Candidate Starts for Patter\_246:

(14, 135144), (Start: 26 @135186 has 23 MA's), (38, 135222), (39, 135228), (57, 135348), (61, 135366), (64, 135381),

Gene: Petito\_72 Start: 49631, Stop: 49885, Start Num: 29

Candidate Starts for Petito\_72:

(Start: 29 @49631 has 19 MA's), (39, 49667), (45, 49697), (65, 49823), (70, 49856),

Gene: Phaila\_74 Start: 44315, Stop: 44602, Start Num: 27

Candidate Starts for Phaila\_74:

(Start: 27 @44315 has 11 MA's), (52, 44423), (54, 44444), (60, 44489), (70, 44546),

Gene: PharkleMinkus\_246 Start: 134130, Stop: 134363, Start Num: 26

Candidate Starts for PharkleMinkus\_246:

(14, 134088), (Start: 26 @134130 has 23 MA's), (38, 134166), (39, 134172), (57, 134292), (61, 134310), (64, 134325),

Gene: Pherobrine\_70 Start: 49341, Stop: 49583, Start Num: 29

Candidate Starts for Pherobrine\_70:

(Start: 29 @49341 has 19 MA's), (39, 49377), (43, 49392), (54, 49467), (62, 49521),

Gene: Phlop\_70 Start: 50135, Stop: 50383, Start Num: 28

Candidate Starts for Phlop\_70:

(8, 50003), (21, 50123), (Start: 28 @50135 has 27 MA's), (44, 50195), (49, 50240), (50, 50243), (52, 50252), (59, 50309),

Gene: Phredrick\_67 Start: 53261, Stop: 53488, Start Num: 31

Candidate Starts for Phredrick\_67:

(Start: 31 @53261 has 19 MA's), (Start: 36 @53279 has 1 MA's), (39, 53294), (52, 53363), (62, 53438), (65, 53450),

Gene: PinkCoffee\_74 Start: 50431, Stop: 50679, Start Num: 28

Candidate Starts for PinkCoffee\_74:

(7, 50281), (20, 50416), (Start: 28 @50431 has 27 MA's), (44, 50491), (49, 50536), (52, 50548), (59, 50605),

Gene: PoeMe\_73 Start: 44803, Stop: 45090, Start Num: 27  
Candidate Starts for PoeMe\_73:  
(Start: 27 @44803 has 11 MA's), (52, 44911), (54, 44932), (56, 44956), (67, 45025), (70, 45034),

Gene: Portcullis\_73 Start: 50182, Stop: 50424, Start Num: 28  
Candidate Starts for Portcullis\_73:  
(13, 50125), (Start: 28 @50182 has 27 MA's), (44, 50242), (49, 50287), (52, 50299), (53, 50317), (59, 50356),

Gene: PullumCavea\_71 Start: 50312, Stop: 50560, Start Num: 28  
Candidate Starts for PullumCavea\_71:  
(8, 50180), (21, 50300), (Start: 28 @50312 has 27 MA's), (44, 50372), (49, 50417), (50, 50420), (52, 50429), (59, 50486),

Gene: Quantum\_11 Start: 6341, Stop: 6610, Start Num: 29  
Candidate Starts for Quantum\_11:  
(3, 5894), (4, 6011), (6, 6146), (12, 6257), (17, 6299), (Start: 29 @6341 has 19 MA's), (61, 6515), (63, 6524), (70, 6566),

Gene: RIPWilbur\_17 Start: 6338, Stop: 6580, Start Num: 25  
Candidate Starts for RIPWilbur\_17:  
(Start: 25 @6338 has 1 MA's), (34, 6359), (38, 6374), (40, 6383), (41, 6389), (48, 6434),

Gene: Renaldo\_80 Start: 46283, Stop: 46570, Start Num: 27  
Candidate Starts for Renaldo\_80:  
(Start: 27 @46283 has 11 MA's), (51, 46388), (52, 46391),

Gene: Rizwana\_13 Start: 5984, Stop: 6241, Start Num: 18  
Candidate Starts for Rizwana\_13:  
(16, 5963), (Start: 18 @5984 has 3 MA's), (Start: 25 @5999 has 1 MA's), (52, 6110), (61, 6179),

Gene: RogerDodger\_76 Start: 51380, Stop: 51628, Start Num: 28  
Candidate Starts for RogerDodger\_76:  
(Start: 28 @51380 has 27 MA's), (44, 51440), (49, 51485), (52, 51497), (53, 51515), (59, 51554), (64, 51581),

Gene: Salvador\_72 Start: 50171, Stop: 50419, Start Num: 28  
Candidate Starts for Salvador\_72:  
(7, 50021), (20, 50156), (Start: 28 @50171 has 27 MA's), (44, 50231), (49, 50276), (52, 50288), (53, 50306), (59, 50345),

Gene: Sarkar\_12 Start: 6341, Stop: 6610, Start Num: 29  
Candidate Starts for Sarkar\_12:  
(3, 5894), (4, 6011), (6, 6146), (12, 6257), (17, 6299), (Start: 29 @6341 has 19 MA's), (61, 6515), (63, 6524), (70, 6566),

Gene: Satis\_11 Start: 6337, Stop: 6606, Start Num: 29  
Candidate Starts for Satis\_11:  
(2, 5710), (4, 6007), (6, 6142), (12, 6253), (17, 6295), (Start: 29 @6337 has 19 MA's), (38, 6367), (61, 6511), (63, 6520), (70, 6562),

Gene: Schwartz33\_69 Start: 48060, Stop: 48317, Start Num: 25  
Candidate Starts for Schwartz33\_69:

(Start: 25 @48060 has 1 MA's), (39, 48102), (43, 48117), (58, 48225), (60, 48237), (68, 48285),

Gene: ScottMcG\_236 Start: 134192, Stop: 134425, Start Num: 26

Candidate Starts for ScottMcG\_236:

(14, 134150), (Start: 26 @134192 has 23 MA's), (38, 134228), (39, 134234), (57, 134354), (61, 134372), (64, 134387),

Gene: Sebata\_244 Start: 135891, Stop: 136124, Start Num: 24

Candidate Starts for Sebata\_244:

(14, 135852), (Start: 24 @135891 has 3 MA's), (38, 135927), (39, 135933), (57, 136053), (61, 136071),

Gene: Secretariat\_68 Start: 47409, Stop: 47657, Start Num: 31

Candidate Starts for Secretariat\_68:

(19, 47385), (Start: 31 @47409 has 19 MA's), (39, 47442), (43, 47457), (60, 47577), (63, 47589), (68, 47625),

Gene: Skog\_75 Start: 30969, Stop: 31244, Start Num: 28

Candidate Starts for Skog\_75:

(11, 30897), (Start: 28 @30969 has 27 MA's), (37, 31002), (42, 31023), (44, 31029), (49, 31074), (50, 31077), (52, 31086), (55, 31113), (59, 31143), (69, 31206),

Gene: SmokingBunny\_73 Start: 51218, Stop: 51466, Start Num: 28

Candidate Starts for SmokingBunny\_73:

(Start: 28 @51218 has 27 MA's), (37, 51251), (44, 51278), (49, 51323), (52, 51335), (53, 51353), (59, 51392), (64, 51419),

Gene: SparkleGoddess\_67 Start: 55353, Stop: 55562, Start Num: 36

Candidate Starts for SparkleGoddess\_67:

(Start: 31 @55335 has 19 MA's), (Start: 36 @55353 has 1 MA's), (52, 55437), (61, 55506), (62, 55512),

Gene: Spec\_238 Start: 135155, Stop: 135388, Start Num: 26

Candidate Starts for Spec\_238:

(14, 135113), (Start: 26 @135155 has 23 MA's), (38, 135191), (39, 135197), (57, 135317), (61, 135335), (64, 135350),

Gene: Stardrop\_76 Start: 44905, Stop: 45192, Start Num: 27

Candidate Starts for Stardrop\_76:

(Start: 27 @44905 has 11 MA's), (52, 45013), (54, 45034), (56, 45058), (70, 45136),

Gene: Stigma\_66 Start: 55349, Stop: 55576, Start Num: 31

Candidate Starts for Stigma\_66:

(Start: 31 @55349 has 19 MA's), (Start: 36 @55367 has 1 MA's), (52, 55451), (61, 55520), (62, 55526),

Gene: SweetCrkHerbs\_72 Start: 48189, Stop: 48377, Start Num: 45

Candidate Starts for SweetCrkHerbs\_72:

(45, 48189), (70, 48348),

Gene: Tainan\_244 Start: 134706, Stop: 134939, Start Num: 26

Candidate Starts for Tainan\_244:

(14, 134664), (Start: 26 @134706 has 23 MA's), (38, 134742), (39, 134748), (57, 134868), (61, 134886), (64, 134901),

Gene: Tairn4Wing\_72 Start: 48216, Stop: 48470, Start Num: 29

Candidate Starts for Tairn4Wing\_72:

(Start: 29 @48216 has 19 MA's), (39, 48252), (45, 48282), (65, 48408), (70, 48441),

Gene: Talon44\_72 Start: 48492, Stop: 48746, Start Num: 29

Candidate Starts for Talon44\_72:

(Start: 29 @48492 has 19 MA's), (39, 48528), (45, 48558), (65, 48684), (70, 48717),

Gene: Tank\_14 Start: 5999, Stop: 6256, Start Num: 18

Candidate Starts for Tank\_14:

(Start: 18 @5999 has 3 MA's), (30, 6023), (46, 6092), (61, 6194),

Gene: Tenney120\_73 Start: 44851, Stop: 45138, Start Num: 27

Candidate Starts for Tenney120\_73:

(Start: 27 @44851 has 11 MA's), (52, 44959), (54, 44980), (70, 45082),

Gene: Togo\_72 Start: 51218, Stop: 51466, Start Num: 28

Candidate Starts for Togo\_72:

(Start: 28 @51218 has 27 MA's), (37, 51251), (44, 51278), (49, 51323), (52, 51335), (53, 51353), (59, 51392), (64, 51419),

Gene: Tribby\_94 Start: 53361, Stop: 53618, Start Num: 23

Candidate Starts for Tribby\_94:

(Start: 23 @53361 has 21 MA's),

Gene: TrixiePhattel\_73 Start: 44473, Stop: 44778, Start Num: 27

Candidate Starts for TrixiePhattel\_73:

(Start: 25 @44470 has 1 MA's), (Start: 27 @44473 has 11 MA's), (Start: 35 @44494 has 2 MA's), (52, 44581), (54, 44602), (60, 44647), (70, 44704),

Gene: Twister6\_73 Start: 49567, Stop: 49815, Start Num: 28

Candidate Starts for Twister6\_73:

(21, 49555), (Start: 28 @49567 has 27 MA's), (44, 49627), (49, 49672), (52, 49684), (59, 49741),

Gene: Tyke\_241 Start: 137198, Stop: 137431, Start Num: 26

Candidate Starts for Tyke\_241:

(14, 137156), (Start: 26 @137198 has 23 MA's), (38, 137234), (39, 137240), (57, 137360), (61, 137378), (64, 137393),

Gene: Uzumaki\_69 Start: 44292, Stop: 44579, Start Num: 27

Candidate Starts for Uzumaki\_69:

(Start: 27 @44292 has 11 MA's), (52, 44400), (54, 44421), (60, 44466), (70, 44523),

Gene: Valary\_73 Start: 50867, Stop: 51115, Start Num: 28

Candidate Starts for Valary\_73:

(8, 50735), (21, 50855), (Start: 28 @50867 has 27 MA's), (44, 50927), (49, 50972), (52, 50984), (59, 51041),

Gene: VanDeWege\_74 Start: 50539, Stop: 50781, Start Num: 28

Candidate Starts for VanDeWege\_74:

(13, 50482), (Start: 28 @50539 has 27 MA's), (44, 50599), (49, 50644), (52, 50656), (53, 50674), (59, 50713),

Gene: Westy\_68 Start: 55335, Stop: 55562, Start Num: 31

Candidate Starts for Westy\_68:

(Start: 31 @55335 has 19 MA's), (Start: 36 @55353 has 1 MA's), (52, 55437), (61, 55506), (62, 55512),

Gene: Wilde\_14 Start: 5927, Stop: 6184, Start Num: 18

Candidate Starts for Wilde\_14:

(Start: 18 @5927 has 3 MA's), (30, 5951), (32, 5954), (46, 6020), (61, 6122),

Gene: Wizard\_69 Start: 50045, Stop: 50293, Start Num: 28

Candidate Starts for Wizard\_69:

(8, 49913), (21, 50033), (Start: 28 @50045 has 27 MA's), (44, 50105), (49, 50150), (52, 50162), (59, 50219),

Gene: Xenomorph\_88 Start: 53193, Stop: 53450, Start Num: 23

Candidate Starts for Xenomorph\_88:

(Start: 23 @53193 has 21 MA's),

Gene: YoshiYama\_91 Start: 53268, Stop: 53525, Start Num: 23

Candidate Starts for YoshiYama\_91:

(Start: 23 @53268 has 21 MA's), (39, 53313),

Gene: YoungMoneyMata\_244 Start: 135641, Stop: 135874, Start Num: 26

Candidate Starts for YoungMoneyMata\_244:

(14, 135599), (Start: 26 @135641 has 23 MA's), (38, 135677), (39, 135683), (57, 135803), (61, 135821), (64, 135836),

Gene: YungMoney\_72 Start: 52105, Stop: 52353, Start Num: 28

Candidate Starts for YungMoney\_72:

(7, 51955), (20, 52090), (Start: 28 @52105 has 27 MA's), (44, 52165), (49, 52210), (52, 52222), (53, 52240), (59, 52279),

Gene: Zeina\_75 Start: 45147, Stop: 45434, Start Num: 27

Candidate Starts for Zeina\_75:

(Start: 27 @45147 has 11 MA's), (52, 45255), (54, 45276), (60, 45321), (70, 45378),