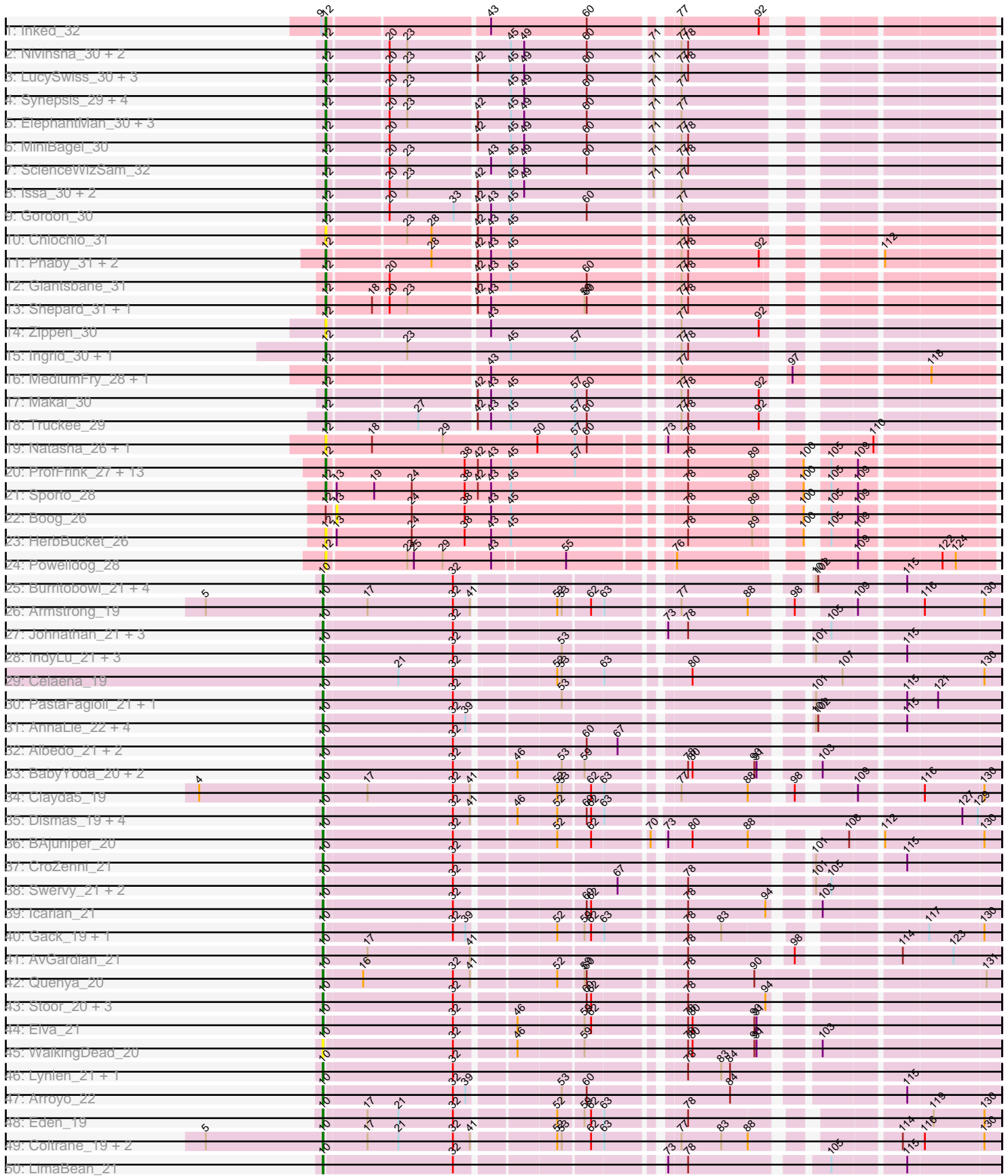
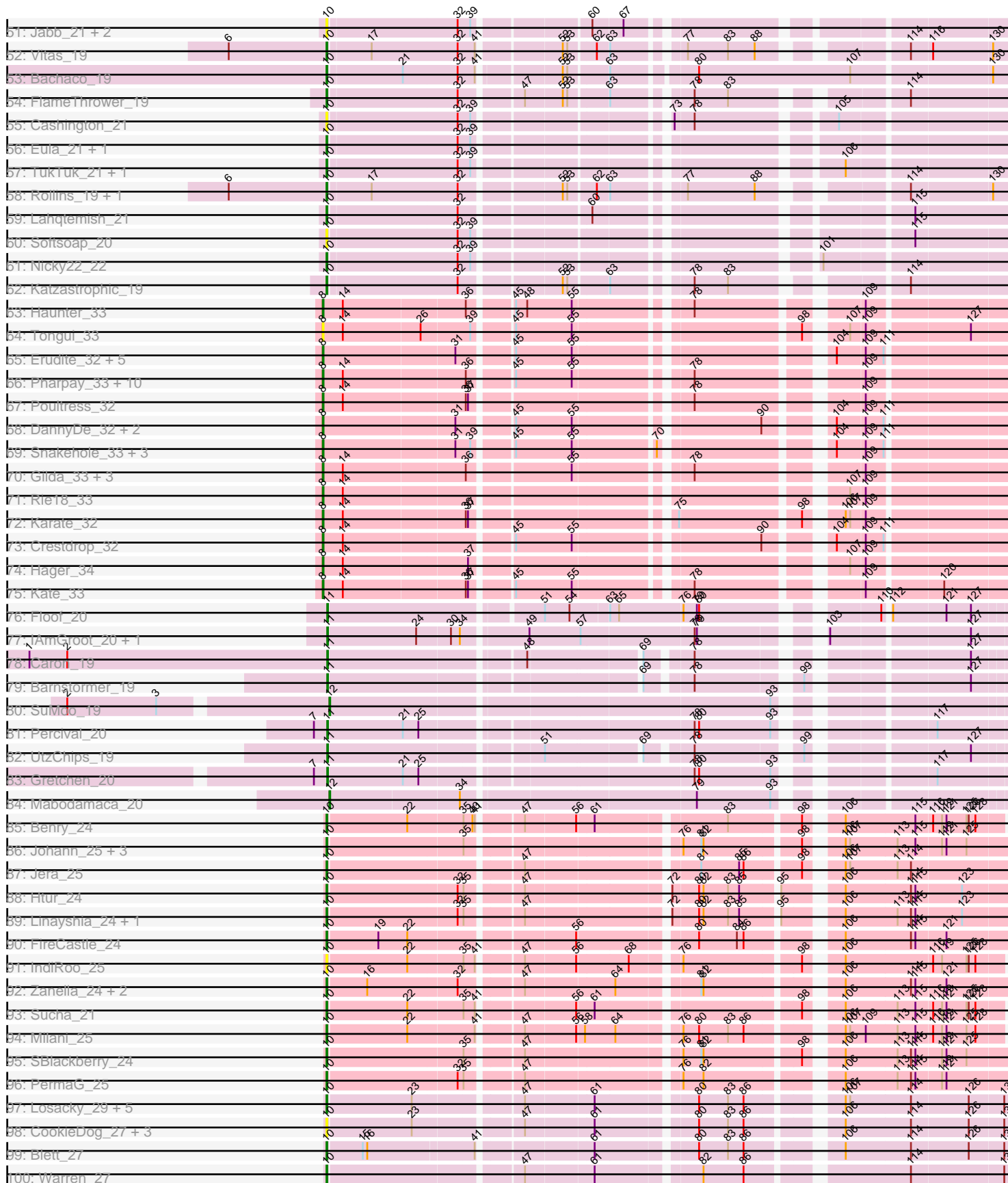


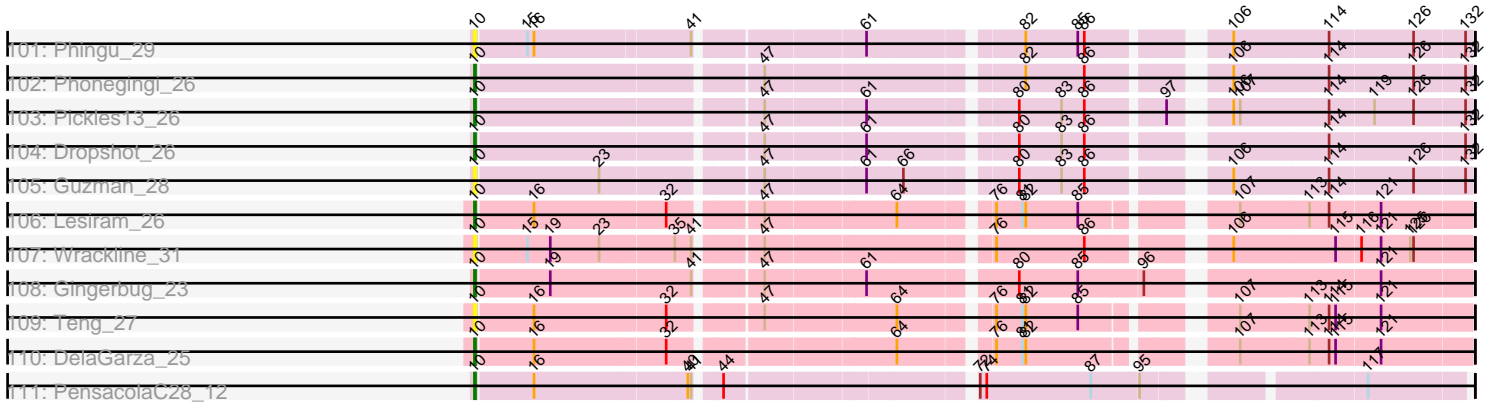
# Pham 212287



Pham 212287



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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 212287 Report

This analysis was run 02/22/25 on database version 588.

Pham number 212287 has 219 members, 46 are drafts.

Phages represented in each track:

- Track 1 : Inked\_32
- Track 2 : Nivinsha\_30, AreFloNak\_30, Tatanka\_30
- Track 3 : LucySwiss\_30, CapnMurica\_30, Acai\_30, Tenno\_31
- Track 4 : Synepsis\_29, Darby\_30, CastorTray\_32, Trustiboi\_31, Breylor17\_31
- Track 5 : ElephantMan\_30, Brunswick\_30, Niktson\_30, Teacup\_30
- Track 6 : MiniBagel\_30
- Track 7 : ScienceWizSam\_32
- Track 8 : Issa\_30, DevitoJr\_30, Nightmare\_31
- Track 9 : Gordon\_30
- Track 10 : Chlochlo\_31
- Track 11 : Phaby\_31, Tokki\_31, Bouchard\_31
- Track 12 : Giantsbane\_31
- Track 13 : Shepard\_31, LilHuddy\_31
- Track 14 : Zippen\_30
- Track 15 : Ingrid\_30, Loretta\_30
- Track 16 : MediumFry\_28, Caterpillar\_28
- Track 17 : Makai\_30
- Track 18 : Truckee\_29
- Track 19 : Natasha\_26, RustyBoy\_26
- Track 20 : ProfFrink\_27, Raunak\_27, Stayer\_27, StarLord\_27, Egad\_27, Djungelskog\_27, BronxBay\_27, Shiba\_27, MrAaronian\_27, Salk\_27, DoctorPepper\_27, Michelle\_27, Sloopyjoe\_27, Linda\_27
- Track 21 : Sporto\_28
- Track 22 : Boog\_26
- Track 23 : HerbBucket\_26
- Track 24 : PowellDog\_28
- Track 25 : Burritobowl\_21, DickRichards\_21, PhigPhack\_22, Bengal\_21, Abigail\_21
- Track 26 : Armstrong\_19
- Track 27 : Johnathan\_21, Avocadoman\_21, Albright\_21, Doobus\_21
- Track 28 : IndyLu\_21, Finalfrontier\_22, Kate33\_21, BabyDaisy\_22
- Track 29 : Celaena\_19
- Track 30 : PastaFagioli\_21, Didgeridoo\_22
- Track 31 : AnnaLie\_22, SansAfet\_21, BelmontSKP\_22, Milomuff\_23, Solea\_23
- Track 32 : Albedo\_21, Phisb\_21, BubbaBear\_21
- Track 33 : BabyYoda\_20, Stromboli\_20, DirtyBubble\_20
- Track 34 : Clayda5\_19
- Track 35 : Dismas\_19, Kieran\_19, Rona\_19, ChiliPepper\_19, Sharkboy\_19

- Track 36 : BAjuniper\_20
- Track 37 : CroZenni\_21
- Track 38 : Swervy\_21, Slay\_21, SarBear\_21
- Track 39 : Icarian\_21
- Track 40 : Gack\_19, Franklin22\_20
- Track 41 : AvGardian\_21
- Track 42 : Quenya\_20
- Track 43 : Stoor\_20, Akino08\_37, Loviatar\_36, SanaSana\_21
- Track 44 : Elva\_21
- Track 45 : WalkingDead\_20
- Track 46 : Lynlen\_21, Kenzers\_21
- Track 47 : Arroyo\_22
- Track 48 : Eden\_19
- Track 49 : Coltrane\_19, Brahms\_19, Skylord\_19
- Track 50 : LimaBean\_21
- Track 51 : Jabb\_21, MsUbiquitous\_21, CupcakePrincess\_21
- Track 52 : Vitas\_19
- Track 53 : Bachaco\_19
- Track 54 : FlameThrower\_19
- Track 55 : Cashington\_21
- Track 56 : Eula\_21, QMacho\_22
- Track 57 : TukTuk\_21, Jovita\_21
- Track 58 : Rollins\_19, Bernstein\_19
- Track 59 : Lahqtemish\_21
- Track 60 : Softsoap\_20
- Track 61 : Nicky22\_22
- Track 62 : Katzastrophic\_19
- Track 63 : Haunter\_33
- Track 64 : Tongui\_33
- Track 65 : Erudite\_32, JingleBells\_32, Dauntless\_32, Aesir\_32, JDawG\_32, MortySmith\_31
- Track 66 : Pharpay\_33, OverHedge\_33, Artiphact\_33, CoolCookie\_33, Krampus\_33, AnnaSerena\_33, Rachella\_33, PhunaPhoke\_33, Potty\_33, Cybele\_33, Neptune\_33
- Track 67 : Poultriss\_32
- Track 68 : DannyDe\_32, SilentWarrior\_32, Annapurna\_33
- Track 69 : Snakehole\_33, Hiddenleaf\_32, FreddieHg\_32, Chivey\_32
- Track 70 : Gilda\_33, Anakin\_33, Tedro\_33, NarutoRun\_33
- Track 71 : Rie18\_33
- Track 72 : Karate\_32
- Track 73 : Crestdrop\_32
- Track 74 : Hager\_34
- Track 75 : Kate\_33
- Track 76 : Floof\_20
- Track 77 : IAmGroot\_20, GardenState\_20
- Track 78 : Caron\_19
- Track 79 : Barnstormer\_19
- Track 80 : SuMoo\_19
- Track 81 : Percival\_20
- Track 82 : UtzChips\_19
- Track 83 : Gretchen\_20
- Track 84 : Mabodamaca\_20
- Track 85 : Benry\_24

- Track 86 : Johann\_25, Cicada\_26, Goodman\_25, Olympi\_25
- Track 87 : Jera\_25
- Track 88 : Htur\_24
- Track 89 : Linayshia\_24, Rasovi\_24
- Track 90 : FireCastle\_24
- Track 91 : IndiRoo\_25
- Track 92 : Zanella\_24, TurboVicky\_24, Typher\_26
- Track 93 : Sucha\_21
- Track 94 : Milani\_25
- Track 95 : SBlackberry\_24
- Track 96 : PermaG\_25
- Track 97 : Losacky\_29, Bush\_27, Antuna\_27, Violeta\_28, MenE\_27, Appa\_26
- Track 98 : CookieDog\_27, Carrillo\_28, Jakelyne\_29, PhillyJawn\_27
- Track 99 : Blett\_27
- Track 100 : Warren\_27
- Track 101 : Phingu\_29
- Track 102 : Phonegingi\_26
- Track 103 : Pickles13\_26
- Track 104 : Dropshot\_26
- Track 105 : Guzman\_28
- Track 106 : Lesiram\_26
- Track 107 : Wrackline\_31
- Track 108 : Gingerbug\_23
- Track 109 : Teng\_27
- Track 110 : DelaGarza\_25
- Track 111 : PensacolaC28\_12

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

The start number called the most often in the published annotations is 10, it was called in 89 of the 173 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Abigail\_21, Akino08\_37, Albedo\_21, Albright\_21, AnnaLie\_22, Antuna\_27, Appa\_26, Armstrong\_19, Arroyo\_22, AvGardian\_21, Avocadoman\_21, BAjuniper\_20, BabyDaisy\_22, BabyYoda\_20, Bachaco\_19, BelmontSKP\_22, Bengal\_21, Benry\_24, Bernstein\_19, Blett\_27, Brahms\_19, BubbaBear\_21, Burritobowl\_21, Bush\_27, Carrillo\_28, Cashington\_21, Celaena\_19, ChiliPepper\_19, Cicada\_26, Clayda5\_19, Coltrane\_19, CookieDog\_27, CroZenni\_21, CupcakePrincess\_21, DelaGarza\_25, DickRichards\_21, Didgeridoo\_22, DirtyBubble\_20, Dismas\_19, Doobus\_21, Dropshot\_26, Eden\_19, Elva\_21, Eula\_21, Finalfrontier\_22, FireCastle\_24, FlameThrower\_19, Franklin22\_20, Gack\_19, Gingerbug\_23, Goodman\_25, Guzman\_28, Htur\_24, Icarian\_21, IndiRoo\_25, IndyLu\_21, Jabb\_21, Jakelyne\_29, Jera\_25, Johann\_25, Johnathan\_21, Jovita\_21, Kate33\_21, Katzastrophic\_19, Kenzers\_21, Kieran\_19, Lahqtemish\_21, Lesiram\_26, LimaBean\_21, Linayshia\_24, Losacky\_29, Loviatar\_36, Lynlen\_21, MenE\_27, Milani\_25, Milomuff\_23, MsUbiquitous\_21, Nicky22\_22, Olympi\_25, PastaFagioli\_21, PensacolaC28\_12, PermaG\_25, PhigPhack\_22, PhillyJawn\_27, Phingu\_29, Phisb\_21, Phonegingi\_26, Pickles13\_26, QMacho\_22, Quenya\_20, Rasovi\_24, Rollins\_19, Rona\_19, SBlackberry\_24, SanaSana\_21, SansAfet\_21, SarBear\_21, Sharkboy\_19,

Skylord\_19, Slay\_21, Softsoap\_20, Solea\_23, Stoor\_20, Stromboli\_20, Sucha\_21, Swervy\_21, Teng\_27, TukTuk\_21, TurboVicky\_24, Typher\_26, Violeta\_28, Vitas\_19, WalkingDead\_20, Warren\_27, Wrackline\_31, Zanella\_24,

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

- 

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

- Acai\_30, Aesir\_32, Anakin\_33, AnnaSerena\_33, Annapurna\_33, AreFloNak\_30, Artiphact\_33, Barnstormer\_19, Boog\_26, Bouchard\_31, Breylor17\_31, BronxBay\_27, Brunswick\_30, CapnMurica\_30, Caron\_19, CastorTray\_32, Caterpillar\_28, Chivey\_32, Chlochlo\_31, CoolCookie\_33, Crestdrop\_32, Cybele\_33, DannyDe\_32, Darby\_30, Dauntless\_32, DevitoJr\_30, Djungelskog\_27, DoctorPepper\_27, Egad\_27, ElephantMan\_30, Erudite\_32, Floof\_20, FreddieHg\_32, GardenState\_20, Giantsbane\_31, Gilda\_33, Gordon\_30, Gretchen\_20, Hager\_34, Haunter\_33, HerbBucket\_26, Hiddenleaf\_32, IAmGroot\_20, Ingrid\_30, Inked\_32, Issa\_30, JDawG\_32, JingleBells\_32, Karate\_32, Kate\_33, Krampus\_33, LilHuddy\_31, Linda\_27, Loretta\_30, LucySwiss\_30, Mabodamaca\_20, Makai\_30, MediumFry\_28, Michelle\_27, MiniBagel\_30, MortySmith\_31, MrAaronian\_27, NarutoRun\_33, Natasha\_26, Neptune\_33, Nightmare\_31, Niktson\_30, Nivinsha\_30, OverHedge\_33, Percival\_20, Phaby\_31, Pharpay\_33, PhunaPhoke\_33, Potty\_33, Poultruss\_32, PowellDog\_28, ProfFrink\_27, Rachella\_33, Raunak\_27, Rie18\_33, RustyBoy\_26, Salk\_27, ScienceWizSam\_32, Shepard\_31, Shiba\_27, SilentWarrior\_32, Sloopyjoe\_27, Snakehole\_33, Sporto\_28, StarLord\_27, Stayer\_27, SuMoo\_19, Synopsis\_29, Tatanka\_30, Teacup\_30, Tedro\_33, Tenno\_31, Tokki\_31, Tongui\_33, Truckee\_29, Trustiboi\_31, UtzChips\_19, Zippen\_30,

### Summary by start number:

Start 8:

- Found in 36 of 219 ( 16.4% ) of genes in pham
- Manual Annotations of this start: 31 of 173
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aesir\_32 (EF), Anakin\_33 (EF), AnnaSerena\_33 (EF), Annapurna\_33 (EF), Artiphact\_33 (EF), Chivey\_32 (EF), CoolCookie\_33 (EF), Crestdrop\_32 (EF), Cybele\_33 (EF), DannyDe\_32 (EF), Dauntless\_32 (EF), Erudite\_32 (EF), FreddieHg\_32 (EF), Gilda\_33 (EF), Hager\_34 (EF), Haunter\_33 (EF), Hiddenleaf\_32 (EF), JDawG\_32 (EF), JingleBells\_32 (EF), Karate\_32 (EF), Kate\_33 (EF), Krampus\_33 (EF), MortySmith\_31 (EF), NarutoRun\_33 (EF), Neptune\_33 (EF), OverHedge\_33 (EF), Pharpay\_33 (EF), PhunaPhoke\_33 (EF), Potty\_33 (EF), Poultruss\_32 (EF), Rachella\_33 (EF), Rie18\_33 (EF), SilentWarrior\_32 (EF), Snakehole\_33 (EF), Tedro\_33 (EF), Tongui\_33 (EF),

Start 10:

- Found in 116 of 219 ( 53.0% ) of genes in pham
- Manual Annotations of this start: 89 of 173
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abigail\_21 (EB), Akino08\_37 (EB), Albedo\_21 (EB), Albright\_21 (EB), AnnaLie\_22 (EB), Antuna\_27 (GA), Appa\_26 (GA), Armstrong\_19 (EB), Arroyo\_22 (EB), AvGardian\_21 (EB), Avocadoman\_21 (EB), BAjuniper\_20 (EB), BabyDaisy\_22 (EB), BabyYoda\_20 (EB), Bachaco\_19 (EB), BelmontSKP\_22 (EB), Bengal\_21 (EB), Benry\_24 (EJ), Bernstein\_19 (EB), Blett\_27

(GA), Brahms\_19 (EB), BubbaBear\_21 (EB), Burritobowl\_21 (EB), Bush\_27 (GA), Carrillo\_28 (GA), Cashington\_21 (EB), Celaena\_19 (EB), ChiliPepper\_19 (EB), Cicada\_26 (EJ), Clayda5\_19 (EB), Coltrane\_19 (EB), CookieDog\_27 (GA), CroZenni\_21 (EB), CupcakePrincess\_21 (EB), DelaGarza\_25 (GF), DickRichards\_21 (EB), Didgeridoo\_22 (EB), DirtyBubble\_20 (EB), Dismas\_19 (EB), Doobus\_21 (EB), Dropshot\_26 (GA), Eden\_19 (EB), Elva\_21 (EB), Eula\_21 (EB), Finalfrontier\_22 (EB), FireCastle\_24 (EJ), FlameThrower\_19 (EB), Franklin22\_20 (EB), Gack\_19 (EB), Gingerbug\_23 (GF), Goodman\_25 (EJ), Guzman\_28 (GA), Htur\_24 (EJ), Icarian\_21 (EB), IndiRoo\_25 (EJ), IndyLu\_21 (EB), Jabb\_21 (EB), Jakelyne\_29 (GA), Jera\_25 (EJ), Johann\_25 (EJ), Johnathan\_21 (EB), Jovita\_21 (EB), Kate33\_21 (EB), Katzastrophic\_19 (EB), Kenzers\_21 (EB), Kieran\_19 (EB), Lahqtemish\_21 (EB), Lesiram\_26 (GF), LimaBean\_21 (EB), Linayshia\_24 (EJ), Losacky\_29 (GA), Loviatar\_36 (EB), Lynlen\_21 (EB), MenE\_27 (GA), Milani\_25 (EJ), Milomuff\_23 (EB), MsUbiquitous\_21 (EB), Nicky22\_22 (EB), Olympi\_25 (EJ), PastaFagioli\_21 (EB), PensacolaC28\_12 (singleton), PermaG\_25 (EJ), PhigPhack\_22 (EB), PhillyJawn\_27 (GA), Phingu\_29 (GA), Phisb\_21 (EB), Phonegingi\_26 (GA), Pickles13\_26 (GA), QMacho\_22 (EB), Quenya\_20 (EB), Rasovi\_24 (EJ), Rollins\_19 (EB), Rona\_19 (EB), SBlackberry\_24 (EJ), SanaSana\_21 (EB), SansAfet\_21 (EB), SarBear\_21 (EB), Sharkboy\_19 (EB), Skylord\_19 (EB), Slay\_21 (EB), Softsoap\_20 (EB), Solea\_23 (EB), Stoor\_20 (EB), Stromboli\_20 (EB), Sucha\_21 (EJ), Swervy\_21 (EB), Teng\_27 (GF), TukTuk\_21 (EB), TurboVicky\_24 (EJ), Typher\_26 (EJ), Violeta\_28 (GA), Vitas\_19 (EB), WalkingDead\_20 (EB), Warren\_27 (GA), Wrackline\_31 (GF), Zanella\_24 (EJ),

Start 11:

- Found in 8 of 219 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 8 of 173
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnstormer\_19 (EH), Caron\_19 (EH), Floop\_20 (EH), GardenState\_20 (EH), Gretchen\_20 (EH), IAmGroot\_20 (EH), Percival\_20 (EH), UtzChips\_19 (EH),

Start 12:

- Found in 59 of 219 ( 26.9% ) of genes in pham
- Manual Annotations of this start: 45 of 173
- Called 98.3% of time when present
- Phage (with cluster) where this start called: Acai\_30 (AU1), AreFloNak\_30 (AU1), Bouchard\_31 (AU2), Breylor17\_31 (AU1), BronxBay\_27 (AW), Brunswick\_30 (AU1), CapnMurica\_30 (AU1), CastorTray\_32 (AU1), Caterpillar\_28 (AU4), Chlochlo\_31 (AU2), Darby\_30 (AU1), DevitoJr\_30 (AU1), Djungelskog\_27 (AW), DoctorPepper\_27 (AW), Egad\_27 (AW), ElephantMan\_30 (AU1), Giantsbane\_31 (AU2), Gordon\_30 (AU1), HerbBucket\_26 (AW), Ingrid\_30 (AU3), Inked\_32 (AU), Issa\_30 (AU1), LilHuddy\_31 (AU2), Linda\_27 (AW), Loretta\_30 (AU3), LucySwiss\_30 (AU1), Mabodamaca\_20 (EH), Makai\_30 (AU5), MediumFry\_28 (AU4), Michelle\_27 (AW), MiniBagel\_30 (AU1), MrAaronian\_27 (AW), Natasha\_26 (AW), Nightmare\_31 (AU1), Niktson\_30 (AU1), Nivinsha\_30 (AU1), Phaby\_31 (AU2), Powelldog\_28 (AW), ProfFrink\_27 (AW), Raunak\_27 (AW), RustyBoy\_26 (AW), Salk\_27 (AW), ScienceWizSam\_32 (AU1), Shepard\_31 (AU2), Shiba\_27 (AW), Sloopyjoe\_27 (AW), Sporto\_28 (AW), StarLord\_27 (AW), Stayer\_27 (AW), SuMoo\_19 (EH), Synepsis\_29 (AU1), Tatanka\_30 (AU1), Teacup\_30 (AU1), Tenno\_31 (AU1), Tokki\_31 (AU2), Truckee\_29 (AU5), Trustiboi\_31 (AU1), Zippen\_30 (AU3),

Start 13:



- Found in 3 of 219 ( 1.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Boog\_26 (AW),

### **Summary by clusters:**

There are 14 clusters represented in this pham: singleton, EH, EJ, EF, EB, AU1, GF, AU3, AU2, AU5, AU4, GA, AW, AU,

Info for manual annotations of cluster AU:

- Start number 12 was manually annotated 1 time for cluster AU.

Info for manual annotations of cluster AU1:

- Start number 12 was manually annotated 17 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 12 was manually annotated 5 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 12 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 12 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 12 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AW:

- Start number 12 was manually annotated 14 times for cluster AW.

Info for manual annotations of cluster EB:

- Start number 10 was manually annotated 61 times for cluster EB.

Info for manual annotations of cluster EF:

- Start number 8 was manually annotated 31 times for cluster EF.

Info for manual annotations of cluster EH:

- Start number 11 was manually annotated 8 times for cluster EH.
- Start number 12 was manually annotated 2 times for cluster EH.

Info for manual annotations of cluster EJ:

- Start number 10 was manually annotated 15 times for cluster EJ.

Info for manual annotations of cluster GA:

- Start number 10 was manually annotated 9 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 10 was manually annotated 3 times for cluster GF.

### **Gene Information:**

Gene: Abigail\_21 Start: 17351, Stop: 18154, Start Num: 10  
Candidate Starts for Abigail\_21:  
(Start: 10 @17351 has 89 MA's), (32, 17519), (101, 17924), (102, 17927), (115, 18035),

Gene: Acai\_30 Start: 26931, Stop: 27719, Start Num: 12  
Candidate Starts for Acai\_30:  
(Start: 12 @26931 has 45 MA's), (20, 27006), (23, 27030), (42, 27117), (45, 27162), (49, 27180), (60, 27264), (71, 27345), (77, 27366), (78, 27375),

Gene: Aesir\_32 Start: 21196, Stop: 22008, Start Num: 8  
Candidate Starts for Aesir\_32:  
(Start: 8 @21196 has 31 MA's), (31, 21367), (45, 21430), (55, 21505), (104, 21796), (109, 21832), (111, 21856),

Gene: Akino08\_37 Start: 16890, Stop: 17693, Start Num: 10  
Candidate Starts for Akino08\_37:  
(Start: 10 @16890 has 89 MA's), (32, 17058), (60, 17211), (62, 17217), (78, 17319), (94, 17424),

Gene: Albedo\_21 Start: 17222, Stop: 18025, Start Num: 10  
Candidate Starts for Albedo\_21:  
(Start: 10 @17222 has 89 MA's), (32, 17390), (60, 17543), (67, 17582),

Gene: Albright\_21 Start: 17109, Stop: 17912, Start Num: 10  
Candidate Starts for Albright\_21:  
(Start: 10 @17109 has 89 MA's), (32, 17277), (73, 17514), (78, 17538), (105, 17703),

Gene: Anakin\_33 Start: 21454, Stop: 22266, Start Num: 8  
Candidate Starts for Anakin\_33:  
(Start: 8 @21454 has 31 MA's), (14, 21481), (36, 21637), (55, 21763), (78, 21898), (109, 22090),

Gene: AnnaLie\_22 Start: 17538, Stop: 18341, Start Num: 10  
Candidate Starts for AnnaLie\_22:  
(Start: 10 @17538 has 89 MA's), (32, 17706), (39, 17721), (101, 18111), (102, 18114), (115, 18222),

Gene: AnnaSerena\_33 Start: 21465, Stop: 22277, Start Num: 8  
Candidate Starts for AnnaSerena\_33:  
(Start: 8 @21465 has 31 MA's), (14, 21492), (36, 21648), (45, 21699), (55, 21774), (78, 21909), (109, 22101),

Gene: Annapurna\_33 Start: 20658, Stop: 21470, Start Num: 8  
Candidate Starts for Annapurna\_33:  
(Start: 8 @20658 has 31 MA's), (31, 20829), (45, 20892), (55, 20967), (90, 21192), (104, 21258), (109, 21294), (111, 21318),

Gene: Antuna\_27 Start: 17508, Stop: 18329, Start Num: 10  
Candidate Starts for Antuna\_27:  
(Start: 10 @17508 has 89 MA's), (23, 17619), (47, 17748), (61, 17835), (80, 17955), (83, 17994), (86, 18015), (106, 18117), (107, 18123), (114, 18204), (126, 18279), (132, 18324),

Gene: Appa\_26 Start: 17370, Stop: 18191, Start Num: 10  
Candidate Starts for Appa\_26:  
(Start: 10 @17370 has 89 MA's), (23, 17481), (47, 17610), (61, 17697), (80, 17817), (83, 17856), (86, 17877), (106, 17979), (107, 17985), (114, 18066), (126, 18141), (132, 18186),

Gene: AreFloNak\_30 Start: 26892, Stop: 27680, Start Num: 12

Candidate Starts for AreFloNak\_30:

(Start: 12 @26892 has 45 MA's), (20, 26967), (23, 26991), (45, 27123), (49, 27141), (60, 27225), (71, 27306), (77, 27327), (78, 27336),

Gene: Armstrong\_19 Start: 15059, Stop: 15847, Start Num: 10

Candidate Starts for Armstrong\_19:

(5, 14900), (Start: 10 @15059 has 89 MA's), (17, 15113), (32, 15227), (41, 15248), (52, 15347), (53, 15353), (62, 15386), (63, 15401), (77, 15479), (88, 15569), (98, 15611), (109, 15671), (116, 15749), (130, 15827),

Gene: Arroyo\_22 Start: 17739, Stop: 18542, Start Num: 10

Candidate Starts for Arroyo\_22:

(Start: 10 @17739 has 89 MA's), (32, 17907), (39, 17922), (53, 18033), (60, 18060), (84, 18225), (115, 18423),

Gene: Artiphact\_33 Start: 21455, Stop: 22267, Start Num: 8

Candidate Starts for Artiphact\_33:

(Start: 8 @21455 has 31 MA's), (14, 21482), (36, 21638), (45, 21689), (55, 21764), (78, 21899), (109, 22091),

Gene: AvGardian\_21 Start: 16503, Stop: 17306, Start Num: 10

Candidate Starts for AvGardian\_21:

(Start: 10 @16503 has 89 MA's), (17, 16560), (41, 16695), (78, 16947), (98, 17073), (114, 17184), (123, 17250),

Gene: Avocadoman\_21 Start: 17294, Stop: 18097, Start Num: 10

Candidate Starts for Avocadoman\_21:

(Start: 10 @17294 has 89 MA's), (32, 17462), (73, 17699), (78, 17723), (105, 17888),

Gene: BAjuniper\_20 Start: 16995, Stop: 17786, Start Num: 10

Candidate Starts for BAjuniper\_20:

(Start: 10 @16995 has 89 MA's), (32, 17163), (52, 17283), (62, 17322), (70, 17391), (73, 17400), (80, 17430), (88, 17505), (108, 17598), (112, 17634), (130, 17766),

Gene: BabyDaisy\_22 Start: 17351, Stop: 18157, Start Num: 10

Candidate Starts for BabyDaisy\_22:

(Start: 10 @17351 has 89 MA's), (32, 17519), (53, 17645), (101, 17924), (115, 18035),

Gene: BabyYoda\_20 Start: 16979, Stop: 17782, Start Num: 10

Candidate Starts for BabyYoda\_20:

(Start: 10 @16979 has 89 MA's), (32, 17147), (46, 17216), (53, 17273), (59, 17297), (78, 17408), (80, 17414), (90, 17498), (91, 17501), (103, 17561),

Gene: Bachaco\_19 Start: 16998, Stop: 17840, Start Num: 10

Candidate Starts for Bachaco\_19:

(Start: 10 @16998 has 89 MA's), (21, 17094), (32, 17166), (41, 17187), (52, 17283), (53, 17289), (63, 17337), (80, 17436), (107, 17640), (130, 17817),

Gene: Barnstormer\_19 Start: 16890, Stop: 17669, Start Num: 11

Candidate Starts for Barnstormer\_19:

(Start: 11 @16890 has 8 MA's), (69, 17268), (78, 17319), (99, 17442), (127, 17628),

Gene: BelmontSKP\_22 Start: 17538, Stop: 18341, Start Num: 10  
Candidate Starts for BelmontSKP\_22:  
(Start: 10 @17538 has 89 MA's), (32, 17706), (39, 17721), (101, 18111), (102, 18114), (115, 18222),

Gene: Bengal\_21 Start: 17126, Stop: 17929, Start Num: 10  
Candidate Starts for Bengal\_21:  
(Start: 10 @17126 has 89 MA's), (32, 17294), (101, 17699), (102, 17702), (115, 17810),

Gene: Benry\_24 Start: 17906, Stop: 18721, Start Num: 10  
Candidate Starts for Benry\_24:  
(Start: 10 @17906 has 89 MA's), (22, 18011), (35, 18080), (40, 18092), (41, 18095), (47, 18146), (56, 18212), (61, 18233), (83, 18392), (98, 18479), (106, 18515), (115, 18608), (116, 18629), (119, 18641), (121, 18647), (125, 18674), (126, 18677), (128, 18686),

Gene: Bernstein\_19 Start: 15090, Stop: 15878, Start Num: 10  
Candidate Starts for Bernstein\_19:  
(6, 14958), (Start: 10 @15090 has 89 MA's), (17, 15144), (32, 15258), (52, 15378), (53, 15384), (62, 15417), (63, 15432), (77, 15510), (88, 15600), (114, 15753), (130, 15858),

Gene: Blett\_27 Start: 17523, Stop: 18341, Start Num: 10  
Candidate Starts for Blett\_27:  
(Start: 10 @17523 has 89 MA's), (15, 17568), (16, 17574), (41, 17709), (61, 17847), (80, 17967), (83, 18006), (86, 18027), (106, 18129), (114, 18216), (126, 18291), (132, 18336),

Gene: Boog\_26 Start: 24039, Stop: 24830, Start Num: 13  
Candidate Starts for Boog\_26:  
(Start: 12 @24030 has 45 MA's), (13, 24039), (24, 24141), (38, 24213), (43, 24249), (45, 24276), (78, 24483), (89, 24570), (100, 24612), (105, 24627), (109, 24660),

Gene: Bouchard\_31 Start: 27071, Stop: 27862, Start Num: 12  
Candidate Starts for Bouchard\_31:  
(Start: 12 @27071 has 45 MA's), (28, 27203), (42, 27257), (43, 27275), (45, 27302), (77, 27506), (78, 27515), (92, 27611), (112, 27719),

Gene: Brahms\_19 Start: 15035, Stop: 15823, Start Num: 10  
Candidate Starts for Brahms\_19:  
(5, 14876), (Start: 10 @15035 has 89 MA's), (17, 15089), (21, 15131), (32, 15203), (41, 15224), (52, 15323), (53, 15329), (62, 15362), (63, 15377), (77, 15455), (83, 15509), (88, 15545), (114, 15698), (116, 15725), (130, 15803),

Gene: Breylor17\_31 Start: 27498, Stop: 28286, Start Num: 12  
Candidate Starts for Breylor17\_31:  
(Start: 12 @27498 has 45 MA's), (20, 27573), (23, 27597), (45, 27729), (49, 27747), (60, 27831), (71, 27912), (77, 27933),

Gene: BronxBay\_27 Start: 24029, Stop: 24829, Start Num: 12  
Candidate Starts for BronxBay\_27:  
(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: Brunswick\_30 Start: 26964, Stop: 27752, Start Num: 12  
Candidate Starts for Brunswick\_30:

(Start: 12 @26964 has 45 MA's), (20, 27039), (23, 27063), (42, 27150), (45, 27195), (49, 27213), (60, 27297), (71, 27378), (77, 27399),

Gene: BubbaBear\_21 Start: 17222, Stop: 18025, Start Num: 10

Candidate Starts for BubbaBear\_21:

(Start: 10 @17222 has 89 MA's), (32, 17390), (60, 17543), (67, 17582),

Gene: Burritobowl\_21 Start: 17294, Stop: 18097, Start Num: 10

Candidate Starts for Burritobowl\_21:

(Start: 10 @17294 has 89 MA's), (32, 17462), (101, 17867), (102, 17870), (115, 17978),

Gene: Bush\_27 Start: 17498, Stop: 18319, Start Num: 10

Candidate Starts for Bush\_27:

(Start: 10 @17498 has 89 MA's), (23, 17609), (47, 17738), (61, 17825), (80, 17945), (83, 17984), (86, 18005), (106, 18107), (107, 18113), (114, 18194), (126, 18269), (132, 18314),

Gene: CapnMurica\_30 Start: 28050, Stop: 28838, Start Num: 12

Candidate Starts for CapnMurica\_30:

(Start: 12 @28050 has 45 MA's), (20, 28125), (23, 28149), (42, 28236), (45, 28281), (49, 28299), (60, 28383), (71, 28464), (77, 28485), (78, 28494),

Gene: Caron\_19 Start: 16273, Stop: 17052, Start Num: 11

Candidate Starts for Caron\_19:

(1, 15871), (2, 15922), (Start: 11 @16273 has 8 MA's), (48, 16513), (69, 16651), (78, 16702), (127, 17011),

Gene: Carrillo\_28 Start: 17477, Stop: 18298, Start Num: 10

Candidate Starts for Carrillo\_28:

(Start: 10 @17477 has 89 MA's), (23, 17588), (47, 17717), (61, 17804), (80, 17924), (83, 17963), (86, 17984), (106, 18086), (114, 18173), (126, 18248), (132, 18293),

Gene: Cashington\_21 Start: 17143, Stop: 17946, Start Num: 10

Candidate Starts for Cashington\_21:

(Start: 10 @17143 has 89 MA's), (32, 17311), (39, 17326), (73, 17548), (78, 17572), (105, 17737),

Gene: CastorTray\_32 Start: 27356, Stop: 28144, Start Num: 12

Candidate Starts for CastorTray\_32:

(Start: 12 @27356 has 45 MA's), (20, 27431), (23, 27455), (45, 27587), (49, 27605), (60, 27689), (71, 27770), (77, 27791),

Gene: Caterpillar\_28 Start: 26130, Stop: 26918, Start Num: 12

Candidate Starts for Caterpillar\_28:

(Start: 12 @26130 has 45 MA's), (43, 26334), (77, 26565), (97, 26685), (118, 26835),

Gene: Celaena\_19 Start: 16946, Stop: 17788, Start Num: 10

Candidate Starts for Celaena\_19:

(Start: 10 @16946 has 89 MA's), (21, 17042), (32, 17114), (52, 17231), (53, 17237), (63, 17285), (80, 17384), (107, 17588), (130, 17765),

Gene: ChiliPepper\_19 Start: 16530, Stop: 17369, Start Num: 10

Candidate Starts for ChiliPepper\_19:

(Start: 10 @16530 has 89 MA's), (32, 16698), (41, 16719), (46, 16767), (52, 16818), (60, 16851), (62, 16857), (63, 16872), (127, 17322), (129, 17343),

Gene: Chivey\_32 Start: 20607, Stop: 21419, Start Num: 8

Candidate Starts for Chivey\_32:

(Start: 8 @20607 has 31 MA's), (31, 20778), (39, 20796), (45, 20841), (55, 20916), (70, 21018), (104, 21207), (109, 21243), (111, 21267),

Gene: Chlochlo\_31 Start: 27107, Stop: 27898, Start Num: 12

Candidate Starts for Chlochlo\_31:

(Start: 12 @27107 has 45 MA's), (23, 27206), (28, 27239), (42, 27293), (43, 27311), (45, 27338), (77, 27542), (78, 27551),

Gene: Cicada\_26 Start: 19415, Stop: 20236, Start Num: 10

Candidate Starts for Cicada\_26:

(Start: 10 @19415 has 89 MA's), (35, 19589), (76, 19841), (81, 19865), (82, 19868), (98, 19988), (106, 20024), (107, 20030), (113, 20093), (115, 20117), (119, 20150), (121, 20156), (125, 20183),

Gene: Clayda5\_19 Start: 15065, Stop: 15853, Start Num: 10

Candidate Starts for Clayda5\_19:

(4, 14897), (Start: 10 @15065 has 89 MA's), (17, 15119), (32, 15233), (41, 15254), (52, 15353), (53, 15359), (62, 15392), (63, 15407), (77, 15485), (88, 15575), (98, 15617), (109, 15677), (116, 15755), (130, 15833),

Gene: Coltrane\_19 Start: 15035, Stop: 15823, Start Num: 10

Candidate Starts for Coltrane\_19:

(5, 14876), (Start: 10 @15035 has 89 MA's), (17, 15089), (21, 15131), (32, 15203), (41, 15224), (52, 15323), (53, 15329), (62, 15362), (63, 15377), (77, 15455), (83, 15509), (88, 15545), (114, 15698), (116, 15725), (130, 15803),

Gene: CookieDog\_27 Start: 17498, Stop: 18319, Start Num: 10

Candidate Starts for CookieDog\_27:

(Start: 10 @17498 has 89 MA's), (23, 17609), (47, 17738), (61, 17825), (80, 17945), (83, 17984), (86, 18005), (106, 18107), (114, 18194), (126, 18269), (132, 18314),

Gene: CoolCookie\_33 Start: 21461, Stop: 22273, Start Num: 8

Candidate Starts for CoolCookie\_33:

(Start: 8 @21461 has 31 MA's), (14, 21488), (36, 21644), (45, 21695), (55, 21770), (78, 21905), (109, 22097),

Gene: Crestdrop\_32 Start: 20521, Stop: 21333, Start Num: 8

Candidate Starts for Crestdrop\_32:

(Start: 8 @20521 has 31 MA's), (14, 20548), (45, 20755), (55, 20830), (90, 21055), (104, 21121), (109, 21157), (111, 21181),

Gene: CroZenni\_21 Start: 17129, Stop: 17932, Start Num: 10

Candidate Starts for CroZenni\_21:

(Start: 10 @17129 has 89 MA's), (32, 17297), (101, 17702), (115, 17813),

Gene: CupcakePrincess\_21 Start: 17249, Stop: 18052, Start Num: 10

Candidate Starts for CupcakePrincess\_21:

(Start: 10 @17249 has 89 MA's), (32, 17417), (39, 17432), (60, 17570), (67, 17609),

Gene: Cybele\_33 Start: 21431, Stop: 22243, Start Num: 8

Candidate Starts for Cybele\_33:

(Start: 8 @21431 has 31 MA's), (14, 21458), (36, 21614), (45, 21665), (55, 21740), (78, 21875), (109, 22067),

Gene: DannyDe\_32 Start: 20604, Stop: 21416, Start Num: 8

Candidate Starts for DannyDe\_32:

(Start: 8 @20604 has 31 MA's), (31, 20775), (45, 20838), (55, 20913), (90, 21138), (104, 21204), (109, 21240), (111, 21264),

Gene: Darby\_30 Start: 26802, Stop: 27590, Start Num: 12

Candidate Starts for Darby\_30:

(Start: 12 @26802 has 45 MA's), (20, 26877), (23, 26901), (45, 27033), (49, 27051), (60, 27135), (71, 27216), (77, 27237),

Gene: Dauntless\_32 Start: 21164, Stop: 21976, Start Num: 8

Candidate Starts for Dauntless\_32:

(Start: 8 @21164 has 31 MA's), (31, 21335), (45, 21398), (55, 21473), (104, 21764), (109, 21800), (111, 21824),

Gene: DelaGarza\_25 Start: 17845, Stop: 18663, Start Num: 10

Candidate Starts for DelaGarza\_25:

(Start: 10 @17845 has 89 MA's), (16, 17896), (32, 18013), (64, 18199), (76, 18271), (81, 18295), (82, 18298), (107, 18457), (113, 18520), (114, 18538), (115, 18544), (121, 18583),

Gene: DevitoJr\_30 Start: 26973, Stop: 27761, Start Num: 12

Candidate Starts for DevitoJr\_30:

(Start: 12 @26973 has 45 MA's), (20, 27048), (23, 27072), (42, 27159), (45, 27204), (49, 27222), (71, 27387), (77, 27408),

Gene: DickRichards\_21 Start: 17624, Stop: 18427, Start Num: 10

Candidate Starts for DickRichards\_21:

(Start: 10 @17624 has 89 MA's), (32, 17792), (101, 18197), (102, 18200), (115, 18308),

Gene: Didgeridoo\_22 Start: 17353, Stop: 18159, Start Num: 10

Candidate Starts for Didgeridoo\_22:

(Start: 10 @17353 has 89 MA's), (32, 17521), (53, 17647), (101, 17926), (115, 18037), (121, 18076),

Gene: DirtyBubble\_20 Start: 16937, Stop: 17740, Start Num: 10

Candidate Starts for DirtyBubble\_20:

(Start: 10 @16937 has 89 MA's), (32, 17105), (46, 17174), (53, 17231), (59, 17255), (78, 17366), (80, 17372), (90, 17456), (91, 17459), (103, 17519),

Gene: Dismas\_19 Start: 16530, Stop: 17369, Start Num: 10

Candidate Starts for Dismas\_19:

(Start: 10 @16530 has 89 MA's), (32, 16698), (41, 16719), (46, 16767), (52, 16818), (60, 16851), (62, 16857), (63, 16872), (127, 17322), (129, 17343),

Gene: Djungelskog\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for Djungelskog\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: DoctorPepper\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for DoctorPepper\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: Doobus\_21 Start: 17460, Stop: 18263, Start Num: 10

Candidate Starts for Doobus\_21:

(Start: 10 @17460 has 89 MA's), (32, 17628), (73, 17865), (78, 17889), (105, 18054),

Gene: Dropshot\_26 Start: 17370, Stop: 18191, Start Num: 10

Candidate Starts for Dropshot\_26:

(Start: 10 @17370 has 89 MA's), (47, 17610), (61, 17697), (80, 17817), (83, 17856), (86, 17877), (114, 18066), (132, 18186),

Gene: Eden\_19 Start: 15433, Stop: 16218, Start Num: 10

Candidate Starts for Eden\_19:

(Start: 10 @15433 has 89 MA's), (17, 15487), (21, 15529), (32, 15601), (52, 15721), (59, 15751), (62, 15760), (63, 15775), (78, 15862), (119, 16132), (130, 16198),

Gene: Egad\_27 Start: 24030, Stop: 24830, Start Num: 12

Candidate Starts for Egad\_27:

(Start: 12 @24030 has 45 MA's), (38, 24213), (42, 24231), (43, 24249), (45, 24276), (57, 24363), (78, 24483), (89, 24570), (100, 24612), (105, 24627), (109, 24660),

Gene: ElephantMan\_30 Start: 27504, Stop: 28292, Start Num: 12

Candidate Starts for ElephantMan\_30:

(Start: 12 @27504 has 45 MA's), (20, 27579), (23, 27603), (42, 27690), (45, 27735), (49, 27753), (60, 27837), (71, 27918), (77, 27939),

Gene: Elva\_21 Start: 16898, Stop: 17701, Start Num: 10

Candidate Starts for Elva\_21:

(Start: 10 @16898 has 89 MA's), (32, 17066), (46, 17135), (59, 17216), (62, 17225), (78, 17327), (80, 17333), (90, 17417), (91, 17420),

Gene: Erudite\_32 Start: 21164, Stop: 21976, Start Num: 8

Candidate Starts for Erudite\_32:

(Start: 8 @21164 has 31 MA's), (31, 21335), (45, 21398), (55, 21473), (104, 21764), (109, 21800), (111, 21824),

Gene: Eula\_21 Start: 17210, Stop: 18013, Start Num: 10

Candidate Starts for Eula\_21:

(Start: 10 @17210 has 89 MA's), (32, 17378), (39, 17393),

Gene: Finalfrontier\_22 Start: 17720, Stop: 18526, Start Num: 10

Candidate Starts for Finalfrontier\_22:

(Start: 10 @17720 has 89 MA's), (32, 17888), (53, 18014), (101, 18293), (115, 18404),

Gene: FireCastle\_24 Start: 19486, Stop: 20307, Start Num: 10

Candidate Starts for FireCastle\_24:

(Start: 10 @19486 has 89 MA's), (19, 19552), (22, 19591), (56, 19792), (80, 19933), (84, 19984), (86, 19993), (106, 20095), (114, 20182), (115, 20188), (121, 20227),

Gene: FlameThrower\_19 Start: 16517, Stop: 17305, Start Num: 10

Candidate Starts for FlameThrower\_19:



(Start: 10 @16517 has 89 MA's), (32, 16685), (47, 16757), (52, 16805), (53, 16811), (63, 16859), (78, 16946), (83, 16991), (114, 17180),

Gene: Floof\_20 Start: 17012, Stop: 17818, Start Num: 11

Candidate Starts for Floof\_20:

(Start: 11 @17012 has 8 MA's), (51, 17276), (54, 17309), (63, 17354), (65, 17366), (76, 17450), (79, 17468), (80, 17471), (110, 17669), (112, 17675), (121, 17744), (127, 17777),

Gene: Franklin22\_20 Start: 15619, Stop: 16404, Start Num: 10

Candidate Starts for Franklin22\_20:

(Start: 10 @15619 has 89 MA's), (32, 15787), (39, 15802), (52, 15907), (59, 15937), (62, 15946), (63, 15961), (78, 16048), (83, 16093), (117, 16312), (130, 16384),

Gene: FreddieHg\_32 Start: 20623, Stop: 21435, Start Num: 8

Candidate Starts for FreddieHg\_32:

(Start: 8 @20623 has 31 MA's), (31, 20794), (39, 20812), (45, 20857), (55, 20932), (70, 21034), (104, 21223), (109, 21259), (111, 21283),

Gene: Gack\_19 Start: 15505, Stop: 16290, Start Num: 10

Candidate Starts for Gack\_19:

(Start: 10 @15505 has 89 MA's), (32, 15673), (39, 15688), (52, 15793), (59, 15823), (62, 15832), (63, 15847), (78, 15934), (83, 15979), (117, 16198), (130, 16270),

Gene: GardenState\_20 Start: 17271, Stop: 18089, Start Num: 11

Candidate Starts for GardenState\_20:

(Start: 11 @17271 has 8 MA's), (24, 17388), (30, 17430), (34, 17442), (49, 17520), (57, 17589), (78, 17736), (79, 17739), (103, 17871), (127, 18045),

Gene: Giantsbane\_31 Start: 25967, Stop: 26758, Start Num: 12

Candidate Starts for Giantsbane\_31:

(Start: 12 @25967 has 45 MA's), (20, 26042), (42, 26153), (43, 26171), (45, 26198), (60, 26300), (77, 26402), (78, 26411),

Gene: Gilda\_33 Start: 21455, Stop: 22267, Start Num: 8

Candidate Starts for Gilda\_33:

(Start: 8 @21455 has 31 MA's), (14, 21482), (36, 21638), (55, 21764), (78, 21899), (109, 22091),

Gene: Gingerbug\_23 Start: 17888, Stop: 18721, Start Num: 10

Candidate Starts for Gingerbug\_23:

(Start: 10 @17888 has 89 MA's), (19, 17954), (41, 18077), (47, 18128), (61, 18215), (80, 18338), (85, 18392), (96, 18449), (121, 18641),

Gene: Goodman\_25 Start: 19328, Stop: 20149, Start Num: 10

Candidate Starts for Goodman\_25:

(Start: 10 @19328 has 89 MA's), (35, 19502), (76, 19754), (81, 19778), (82, 19781), (98, 19901), (106, 19937), (107, 19943), (113, 20006), (115, 20030), (119, 20063), (121, 20069), (125, 20096),

Gene: Gordon\_30 Start: 28078, Stop: 28866, Start Num: 12

Candidate Starts for Gordon\_30:

(Start: 12 @28078 has 45 MA's), (20, 28153), (33, 28240), (42, 28264), (43, 28282), (45, 28309), (60, 28411), (77, 28513),

Gene: Gretchen\_20 Start: 18050, Stop: 18859, Start Num: 11

Candidate Starts for Gretchen\_20:

(7, 18032), (Start: 11 @18050 has 8 MA's), (21, 18149), (25, 18170), (78, 18503), (80, 18509), (93, 18605), (117, 18770),

Gene: Guzman\_28 Start: 17779, Stop: 18600, Start Num: 10

Candidate Starts for Guzman\_28:

(Start: 10 @17779 has 89 MA's), (23, 17890), (47, 18019), (61, 18106), (66, 18139), (80, 18226), (83, 18265), (86, 18286), (106, 18388), (114, 18475), (126, 18550), (132, 18595),

Gene: Hager\_34 Start: 21017, Stop: 21829, Start Num: 8

Candidate Starts for Hager\_34:

(Start: 8 @21017 has 31 MA's), (14, 21044), (37, 21203), (107, 21635), (109, 21653),

Gene: Haunter\_33 Start: 20868, Stop: 21680, Start Num: 8

Candidate Starts for Haunter\_33:

(Start: 8 @20868 has 31 MA's), (14, 20895), (36, 21051), (45, 21102), (48, 21117), (55, 21177), (78, 21312), (109, 21504),

Gene: HerbBucket\_26 Start: 24030, Stop: 24830, Start Num: 12

Candidate Starts for HerbBucket\_26:

(Start: 12 @24030 has 45 MA's), (13, 24039), (24, 24141), (38, 24213), (43, 24249), (45, 24276), (78, 24483), (89, 24570), (100, 24612), (105, 24627), (109, 24660),

Gene: Hiddenleaf\_32 Start: 20607, Stop: 21419, Start Num: 8

Candidate Starts for Hiddenleaf\_32:

(Start: 8 @20607 has 31 MA's), (31, 20778), (39, 20796), (45, 20841), (55, 20916), (70, 21018), (104, 21207), (109, 21243), (111, 21267),

Gene: Htur\_24 Start: 19383, Stop: 20204, Start Num: 10

Candidate Starts for Htur\_24:

(Start: 10 @19383 has 89 MA's), (32, 19551), (35, 19557), (47, 19623), (72, 19797), (80, 19830), (82, 19836), (83, 19869), (85, 19884), (95, 19929), (106, 19992), (114, 20079), (115, 20085), (123, 20145),

Gene: IAmGroot\_20 Start: 17933, Stop: 18751, Start Num: 11

Candidate Starts for IAmGroot\_20:

(Start: 11 @17933 has 8 MA's), (24, 18050), (30, 18092), (34, 18104), (49, 18182), (57, 18251), (78, 18398), (79, 18401), (103, 18533), (127, 18707),

Gene: Icarian\_21 Start: 16815, Stop: 17618, Start Num: 10

Candidate Starts for Icarian\_21:

(Start: 10 @16815 has 89 MA's), (32, 16983), (60, 17136), (62, 17142), (78, 17244), (94, 17349), (103, 17397),

Gene: IndiRoo\_25 Start: 17916, Stop: 18731, Start Num: 10

Candidate Starts for IndiRoo\_25:

(Start: 10 @17916 has 89 MA's), (22, 18021), (35, 18090), (41, 18105), (47, 18156), (56, 18222), (68, 18288), (76, 18342), (98, 18489), (106, 18525), (116, 18639), (119, 18651), (125, 18684), (126, 18687), (128, 18696),

Gene: IndyLu\_21 Start: 17175, Stop: 17981, Start Num: 10

Candidate Starts for IndyLu\_21:

(Start: 10 @17175 has 89 MA's), (32, 17343), (53, 17469), (101, 17748), (115, 17859),

Gene: Ingrid\_30 Start: 26692, Stop: 27489, Start Num: 12  
Candidate Starts for Ingrid\_30:  
(Start: 12 @26692 has 45 MA's), (23, 26797), (45, 26929), (57, 27016), (77, 27133), (78, 27142),

Gene: Inked\_32 Start: 27706, Stop: 28497, Start Num: 12  
Candidate Starts for Inked\_32:  
(9, 27703), (Start: 12 @27706 has 45 MA's), (43, 27910), (60, 28039), (77, 28141), (92, 28243),

Gene: Issa\_30 Start: 26782, Stop: 27570, Start Num: 12  
Candidate Starts for Issa\_30:  
(Start: 12 @26782 has 45 MA's), (20, 26857), (23, 26881), (42, 26968), (45, 27013), (49, 27031), (71, 27196), (77, 27217),

Gene: JDawG\_32 Start: 21191, Stop: 22003, Start Num: 8  
Candidate Starts for JDawG\_32:  
(Start: 8 @21191 has 31 MA's), (31, 21362), (45, 21425), (55, 21500), (104, 21791), (109, 21827), (111, 21851),

Gene: Jabb\_21 Start: 17249, Stop: 18052, Start Num: 10  
Candidate Starts for Jabb\_21:  
(Start: 10 @17249 has 89 MA's), (32, 17417), (39, 17432), (60, 17570), (67, 17609),

Gene: Jakelyne\_29 Start: 17586, Stop: 18407, Start Num: 10  
Candidate Starts for Jakelyne\_29:  
(Start: 10 @17586 has 89 MA's), (23, 17697), (47, 17826), (61, 17913), (80, 18033), (83, 18072), (86, 18093), (106, 18195), (114, 18282), (126, 18357), (132, 18402),

Gene: Jera\_25 Start: 18440, Stop: 19261, Start Num: 10  
Candidate Starts for Jera\_25:  
(Start: 10 @18440 has 89 MA's), (47, 18680), (81, 18890), (85, 18941), (86, 18947), (98, 19013), (106, 19049), (107, 19055), (113, 19118), (114, 19136),

Gene: JingleBells\_32 Start: 20728, Stop: 21540, Start Num: 8  
Candidate Starts for JingleBells\_32:  
(Start: 8 @20728 has 31 MA's), (31, 20899), (45, 20962), (55, 21037), (104, 21328), (109, 21364), (111, 21388),

Gene: Johann\_25 Start: 19328, Stop: 20149, Start Num: 10  
Candidate Starts for Johann\_25:  
(Start: 10 @19328 has 89 MA's), (35, 19502), (76, 19754), (81, 19778), (82, 19781), (98, 19901), (106, 19937), (107, 19943), (113, 20006), (115, 20030), (119, 20063), (121, 20069), (125, 20096),

Gene: Johnathan\_21 Start: 17233, Stop: 18036, Start Num: 10  
Candidate Starts for Johnathan\_21:  
(Start: 10 @17233 has 89 MA's), (32, 17401), (73, 17638), (78, 17662), (105, 17827),

Gene: Jovita\_21 Start: 17314, Stop: 18117, Start Num: 10  
Candidate Starts for Jovita\_21:  
(Start: 10 @17314 has 89 MA's), (32, 17482), (39, 17497), (106, 17917),

Gene: Karate\_32 Start: 21484, Stop: 22296, Start Num: 8  
Candidate Starts for Karate\_32:

(Start: 8 @21484 has 31 MA's), (14, 21511), (36, 21667), (37, 21670), (75, 21910), (98, 22060), (106, 22096), (107, 22102), (109, 22120),

Gene: Kate\_33 Start: 21463, Stop: 22275, Start Num: 8

Candidate Starts for Kate\_33:

(Start: 8 @21463 has 31 MA's), (14, 21490), (36, 21646), (37, 21649), (45, 21697), (55, 21772), (78, 21907), (109, 22099), (120, 22192),

Gene: Kate33\_21 Start: 17177, Stop: 17983, Start Num: 10

Candidate Starts for Kate33\_21:

(Start: 10 @17177 has 89 MA's), (32, 17345), (53, 17471), (101, 17750), (115, 17861),

Gene: Katzastrophic\_19 Start: 16659, Stop: 17447, Start Num: 10

Candidate Starts for Katzastrophic\_19:

(Start: 10 @16659 has 89 MA's), (32, 16827), (52, 16947), (53, 16953), (63, 17001), (78, 17088), (83, 17133), (114, 17322),

Gene: Kenzers\_21 Start: 17197, Stop: 18000, Start Num: 10

Candidate Starts for Kenzers\_21:

(Start: 10 @17197 has 89 MA's), (32, 17365), (78, 17626), (83, 17671), (84, 17683),

Gene: Kieran\_19 Start: 16533, Stop: 17372, Start Num: 10

Candidate Starts for Kieran\_19:

(Start: 10 @16533 has 89 MA's), (32, 16701), (41, 16722), (46, 16770), (52, 16821), (60, 16854), (62, 16860), (63, 16875), (127, 17325), (129, 17346),

Gene: Krampus\_33 Start: 21463, Stop: 22275, Start Num: 8

Candidate Starts for Krampus\_33:

(Start: 8 @21463 has 31 MA's), (14, 21490), (36, 21646), (45, 21697), (55, 21772), (78, 21907), (109, 22099),

Gene: Lahqtemish\_21 Start: 17223, Stop: 18029, Start Num: 10

Candidate Starts for Lahqtemish\_21:

(Start: 10 @17223 has 89 MA's), (32, 17391), (60, 17544), (115, 17907),

Gene: Lesiram\_26 Start: 17814, Stop: 18632, Start Num: 10

Candidate Starts for Lesiram\_26:

(Start: 10 @17814 has 89 MA's), (16, 17865), (32, 17982), (47, 18054), (64, 18168), (76, 18240), (81, 18264), (82, 18267), (85, 18315), (107, 18426), (113, 18489), (114, 18507), (121, 18552),

Gene: LilHuddy\_31 Start: 27150, Stop: 27941, Start Num: 12

Candidate Starts for LilHuddy\_31:

(Start: 12 @27150 has 45 MA's), (18, 27207), (20, 27225), (23, 27249), (42, 27336), (43, 27354), (59, 27480), (60, 27483), (77, 27585), (78, 27594),

Gene: LimaBean\_21 Start: 17229, Stop: 18032, Start Num: 10

Candidate Starts for LimaBean\_21:

(Start: 10 @17229 has 89 MA's), (32, 17397), (73, 17634), (78, 17658), (105, 17823), (115, 17913),

Gene: Linayshia\_24 Start: 19375, Stop: 20196, Start Num: 10

Candidate Starts for Linayshia\_24:

(Start: 10 @19375 has 89 MA's), (32, 19543), (35, 19549), (47, 19615), (72, 19789), (80, 19822), (82, 19828), (83, 19861), (85, 19876), (95, 19921), (106, 19984), (113, 20053), (114, 20071), (115, 20077),

(123, 20137),

Gene: Linda\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for Linda\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: Loretta\_30 Start: 26692, Stop: 27489, Start Num: 12

Candidate Starts for Loretta\_30:

(Start: 12 @26692 has 45 MA's), (23, 26797), (45, 26929), (57, 27016), (77, 27133), (78, 27142),

Gene: Losacky\_29 Start: 17650, Stop: 18471, Start Num: 10

Candidate Starts for Losacky\_29:

(Start: 10 @17650 has 89 MA's), (23, 17761), (47, 17890), (61, 17977), (80, 18097), (83, 18136), (86, 18157), (106, 18259), (107, 18265), (114, 18346), (126, 18421), (132, 18466),

Gene: Loviatar\_36 Start: 16905, Stop: 17708, Start Num: 10

Candidate Starts for Loviatar\_36:

(Start: 10 @16905 has 89 MA's), (32, 17073), (60, 17226), (62, 17232), (78, 17334), (94, 17439),

Gene: LucySwiss\_30 Start: 26807, Stop: 27595, Start Num: 12

Candidate Starts for LucySwiss\_30:

(Start: 12 @26807 has 45 MA's), (20, 26882), (23, 26906), (42, 26993), (45, 27038), (49, 27056), (60, 27140), (71, 27221), (77, 27242), (78, 27251),

Gene: Lynlen\_21 Start: 17197, Stop: 18000, Start Num: 10

Candidate Starts for Lynlen\_21:

(Start: 10 @17197 has 89 MA's), (32, 17365), (78, 17626), (83, 17671), (84, 17683),

Gene: Mabodamaca\_20 Start: 17290, Stop: 18099, Start Num: 12

Candidate Starts for Mabodamaca\_20:

(Start: 12 @17290 has 45 MA's), (34, 17458), (79, 17749), (93, 17848),

Gene: Makai\_30 Start: 26936, Stop: 27727, Start Num: 12

Candidate Starts for Makai\_30:

(Start: 12 @26936 has 45 MA's), (42, 27122), (43, 27140), (45, 27167), (57, 27254), (60, 27269), (77, 27371), (78, 27380), (92, 27476),

Gene: MediumFry\_28 Start: 26132, Stop: 26920, Start Num: 12

Candidate Starts for MediumFry\_28:

(Start: 12 @26132 has 45 MA's), (43, 26336), (77, 26567), (97, 26687), (118, 26837),

Gene: MenE\_27 Start: 17638, Stop: 18459, Start Num: 10

Candidate Starts for MenE\_27:

(Start: 10 @17638 has 89 MA's), (23, 17749), (47, 17878), (61, 17965), (80, 18085), (83, 18124), (86, 18145), (106, 18247), (107, 18253), (114, 18334), (126, 18409), (132, 18454),

Gene: Michelle\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for Michelle\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: Milani\_25 Start: 18546, Stop: 19361, Start Num: 10

Candidate Starts for Milani\_25:

(Start: 10 @18546 has 89 MA's), (22, 18651), (41, 18735), (47, 18786), (56, 18852), (58, 18861), (64, 18900), (76, 18972), (80, 18993), (83, 19032), (86, 19053), (106, 19155), (107, 19161), (109, 19182), (113, 19224), (115, 19248), (116, 19269), (119, 19281), (121, 19287), (125, 19314), (128, 19326),

Gene: Milomuff\_23 Start: 17593, Stop: 18396, Start Num: 10

Candidate Starts for Milomuff\_23:

(Start: 10 @17593 has 89 MA's), (32, 17761), (39, 17776), (101, 18166), (102, 18169), (115, 18277),

Gene: MiniBagel\_30 Start: 28029, Stop: 28817, Start Num: 12

Candidate Starts for MiniBagel\_30:

(Start: 12 @28029 has 45 MA's), (20, 28104), (42, 28215), (45, 28260), (49, 28278), (60, 28362), (71, 28443), (77, 28464), (78, 28473),

Gene: MortySmith\_31 Start: 20579, Stop: 21391, Start Num: 8

Candidate Starts for MortySmith\_31:

(Start: 8 @20579 has 31 MA's), (31, 20750), (45, 20813), (55, 20888), (104, 21179), (109, 21215), (111, 21239),

Gene: MrAaronian\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for MrAaronian\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: MsUbiquitous\_21 Start: 17249, Stop: 18052, Start Num: 10

Candidate Starts for MsUbiquitous\_21:

(Start: 10 @17249 has 89 MA's), (32, 17417), (39, 17432), (60, 17570), (67, 17609),

Gene: NarutoRun\_33 Start: 21454, Stop: 22266, Start Num: 8

Candidate Starts for NarutoRun\_33:

(Start: 8 @21454 has 31 MA's), (14, 21481), (36, 21637), (55, 21763), (78, 21898), (109, 22090),

Gene: Natasha\_26 Start: 23449, Stop: 24252, Start Num: 12

Candidate Starts for Natasha\_26:

(Start: 12 @23449 has 45 MA's), (18, 23509), (29, 23605), (50, 23734), (57, 23785), (60, 23800), (73, 23881), (78, 23905), (110, 24103),

Gene: Neptune\_33 Start: 21431, Stop: 22243, Start Num: 8

Candidate Starts for Neptune\_33:

(Start: 8 @21431 has 31 MA's), (14, 21458), (36, 21614), (45, 21665), (55, 21740), (78, 21875), (109, 22067),

Gene: Nicky22\_22 Start: 17657, Stop: 18460, Start Num: 10

Candidate Starts for Nicky22\_22:

(Start: 10 @17657 has 89 MA's), (32, 17825), (39, 17840), (101, 18230),

Gene: Nightmare\_31 Start: 27342, Stop: 28130, Start Num: 12

Candidate Starts for Nightmare\_31:

(Start: 12 @27342 has 45 MA's), (20, 27417), (23, 27441), (42, 27528), (45, 27573), (49, 27591), (71, 27756), (77, 27777),

Gene: Niktson\_30 Start: 27504, Stop: 28292, Start Num: 12

Candidate Starts for Niktson\_30:

(Start: 12 @27504 has 45 MA's), (20, 27579), (23, 27603), (42, 27690), (45, 27735), (49, 27753), (60, 27837), (71, 27918), (77, 27939),

Gene: Nivinsha\_30 Start: 26892, Stop: 27680, Start Num: 12

Candidate Starts for Nivinsha\_30:

(Start: 12 @26892 has 45 MA's), (20, 26967), (23, 26991), (45, 27123), (49, 27141), (60, 27225), (71, 27306), (77, 27327), (78, 27336),

Gene: Olympi\_25 Start: 19315, Stop: 20136, Start Num: 10

Candidate Starts for Olympi\_25:

(Start: 10 @19315 has 89 MA's), (35, 19489), (76, 19741), (81, 19765), (82, 19768), (98, 19888), (106, 19924), (107, 19930), (113, 19993), (115, 20017), (119, 20050), (121, 20056), (125, 20083),

Gene: OverHedge\_33 Start: 21421, Stop: 22233, Start Num: 8

Candidate Starts for OverHedge\_33:

(Start: 8 @21421 has 31 MA's), (14, 21448), (36, 21604), (45, 21655), (55, 21730), (78, 21865), (109, 22057),

Gene: PastaFagioli\_21 Start: 17211, Stop: 18017, Start Num: 10

Candidate Starts for PastaFagioli\_21:

(Start: 10 @17211 has 89 MA's), (32, 17379), (53, 17505), (101, 17784), (115, 17895), (121, 17934),

Gene: PensacolaC28\_12 Start: 10504, Stop: 11313, Start Num: 10

Candidate Starts for PensacolaC28\_12:

(Start: 10 @10504 has 89 MA's), (16, 10555), (40, 10690), (41, 10693), (44, 10711), (72, 10915), (74, 10921), (87, 11017), (95, 11059), (117, 11227),

Gene: Percival\_20 Start: 17884, Stop: 18693, Start Num: 11

Candidate Starts for Percival\_20:

(7, 17866), (Start: 11 @17884 has 8 MA's), (21, 17983), (25, 18004), (78, 18337), (80, 18343), (93, 18439), (117, 18604),

Gene: PermaG\_25 Start: 19393, Stop: 20214, Start Num: 10

Candidate Starts for PermaG\_25:

(Start: 10 @19393 has 89 MA's), (32, 19561), (35, 19567), (47, 19633), (76, 19819), (82, 19846), (106, 20002), (113, 20071), (114, 20089), (115, 20095), (119, 20128), (121, 20134),

Gene: Phaby\_31 Start: 27082, Stop: 27873, Start Num: 12

Candidate Starts for Phaby\_31:

(Start: 12 @27082 has 45 MA's), (28, 27214), (42, 27268), (43, 27286), (45, 27313), (77, 27517), (78, 27526), (92, 27622), (112, 27730),

Gene: Pharpay\_33 Start: 21476, Stop: 22288, Start Num: 8

Candidate Starts for Pharpay\_33:

(Start: 8 @21476 has 31 MA's), (14, 21503), (36, 21659), (45, 21710), (55, 21785), (78, 21920), (109, 22112),

Gene: PhigPhack\_22 Start: 17206, Stop: 18009, Start Num: 10

Candidate Starts for PhigPhack\_22:

(Start: 10 @17206 has 89 MA's), (32, 17374), (101, 17779), (102, 17782), (115, 17890),

Gene: PhillyJawn\_27 Start: 17370, Stop: 18191, Start Num: 10

Candidate Starts for PhillyJawn\_27:

(Start: 10 @17370 has 89 MA's), (23, 17481), (47, 17610), (61, 17697), (80, 17817), (83, 17856), (86, 17877), (106, 17979), (114, 18066), (126, 18141), (132, 18186),

Gene: Phingu\_29 Start: 17589, Stop: 18407, Start Num: 10

Candidate Starts for Phingu\_29:

(Start: 10 @17589 has 89 MA's), (15, 17634), (16, 17640), (41, 17775), (61, 17913), (82, 18039), (85, 18087), (86, 18093), (106, 18195), (114, 18282), (126, 18357), (132, 18402),

Gene: Phisb\_21 Start: 17223, Stop: 18026, Start Num: 10

Candidate Starts for Phisb\_21:

(Start: 10 @17223 has 89 MA's), (32, 17391), (60, 17544), (67, 17583),

Gene: Phonegingi\_26 Start: 17413, Stop: 18234, Start Num: 10

Candidate Starts for Phonegingi\_26:

(Start: 10 @17413 has 89 MA's), (47, 17653), (82, 17866), (86, 17920), (106, 18022), (114, 18109), (126, 18184), (132, 18229),

Gene: PhunaPhoke\_33 Start: 21449, Stop: 22261, Start Num: 8

Candidate Starts for PhunaPhoke\_33:

(Start: 8 @21449 has 31 MA's), (14, 21476), (36, 21632), (45, 21683), (55, 21758), (78, 21893), (109, 22085),

Gene: Pickles13\_26 Start: 17801, Stop: 18622, Start Num: 10

Candidate Starts for Pickles13\_26:

(Start: 10 @17801 has 89 MA's), (47, 18041), (61, 18128), (80, 18248), (83, 18287), (86, 18308), (97, 18371), (106, 18410), (107, 18416), (114, 18497), (119, 18536), (126, 18572), (132, 18617),

Gene: Potty\_33 Start: 21454, Stop: 22266, Start Num: 8

Candidate Starts for Potty\_33:

(Start: 8 @21454 has 31 MA's), (14, 21481), (36, 21637), (45, 21688), (55, 21763), (78, 21898), (109, 22090),

Gene: Poultruss\_32 Start: 21823, Stop: 22635, Start Num: 8

Candidate Starts for Poultruss\_32:

(Start: 8 @21823 has 31 MA's), (14, 21850), (36, 22006), (37, 22009), (78, 22267), (109, 22459),

Gene: Powelldog\_28 Start: 23735, Stop: 24526, Start Num: 12

Candidate Starts for Powelldog\_28:

(Start: 12 @23735 has 45 MA's), (23, 23840), (25, 23849), (29, 23888), (43, 23954), (55, 24047), (76, 24164), (109, 24356), (122, 24458), (124, 24476),

Gene: ProfFrink\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for ProfFrink\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: QMacho\_22 Start: 17693, Stop: 18496, Start Num: 10

Candidate Starts for QMacho\_22:

(Start: 10 @17693 has 89 MA's), (32, 17861), (39, 17876),

Gene: Quenya\_20 Start: 16489, Stop: 17313, Start Num: 10

Candidate Starts for Quenya\_20:



(Start: 10 @16489 has 89 MA's), (16, 16537), (32, 16657), (41, 16678), (52, 16777), (59, 16807), (60, 16810), (78, 16918), (90, 17008), (131, 17296),

Gene: Rachella\_33 Start: 21457, Stop: 22269, Start Num: 8

Candidate Starts for Rachella\_33:

(Start: 8 @21457 has 31 MA's), (14, 21484), (36, 21640), (45, 21691), (55, 21766), (78, 21901), (109, 22093),

Gene: Rasovi\_24 Start: 19383, Stop: 20204, Start Num: 10

Candidate Starts for Rasovi\_24:

(Start: 10 @19383 has 89 MA's), (32, 19551), (35, 19557), (47, 19623), (72, 19797), (80, 19830), (82, 19836), (83, 19869), (85, 19884), (95, 19929), (106, 19992), (113, 20061), (114, 20079), (115, 20085), (123, 20145),

Gene: Raunak\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for Raunak\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: Rie18\_33 Start: 20970, Stop: 21782, Start Num: 8

Candidate Starts for Rie18\_33:

(Start: 8 @20970 has 31 MA's), (14, 20997), (107, 21588), (109, 21606),

Gene: Rollins\_19 Start: 15090, Stop: 15878, Start Num: 10

Candidate Starts for Rollins\_19:

(6, 14958), (Start: 10 @15090 has 89 MA's), (17, 15144), (32, 15258), (52, 15378), (53, 15384), (62, 15417), (63, 15432), (77, 15510), (88, 15600), (114, 15753), (130, 15858),

Gene: Rona\_19 Start: 16530, Stop: 17369, Start Num: 10

Candidate Starts for Rona\_19:

(Start: 10 @16530 has 89 MA's), (32, 16698), (41, 16719), (46, 16767), (52, 16818), (60, 16851), (62, 16857), (63, 16872), (127, 17322), (129, 17343),

Gene: RustyBoy\_26 Start: 23431, Stop: 24234, Start Num: 12

Candidate Starts for RustyBoy\_26:

(Start: 12 @23431 has 45 MA's), (18, 23491), (29, 23587), (50, 23716), (57, 23767), (60, 23782), (73, 23863), (78, 23887), (110, 24085),

Gene: SBlackberry\_24 Start: 19193, Stop: 20014, Start Num: 10

Candidate Starts for SBlackberry\_24:

(Start: 10 @19193 has 89 MA's), (35, 19367), (47, 19433), (76, 19619), (81, 19643), (82, 19646), (98, 19766), (106, 19802), (113, 19871), (114, 19889), (115, 19895), (119, 19928), (121, 19934), (125, 19961),

Gene: Salk\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for Salk\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: SanaSana\_21 Start: 16844, Stop: 17647, Start Num: 10

Candidate Starts for SanaSana\_21:

(Start: 10 @16844 has 89 MA's), (32, 17012), (60, 17165), (62, 17171), (78, 17273), (94, 17378),

Gene: SansAfet\_21 Start: 17140, Stop: 17943, Start Num: 10

Candidate Starts for SansAfet\_21:

(Start: 10 @17140 has 89 MA's), (32, 17308), (39, 17323), (101, 17713), (102, 17716), (115, 17824),

Gene: SarBear\_21 Start: 17191, Stop: 17994, Start Num: 10

Candidate Starts for SarBear\_21:

(Start: 10 @17191 has 89 MA's), (32, 17359), (67, 17551), (78, 17620), (101, 17764), (105, 17785),

Gene: ScienceWizSam\_32 Start: 27293, Stop: 28081, Start Num: 12

Candidate Starts for ScienceWizSam\_32:

(Start: 12 @27293 has 45 MA's), (20, 27368), (23, 27392), (43, 27497), (45, 27524), (49, 27542), (60, 27626), (71, 27707), (77, 27728), (78, 27737),

Gene: Sharkboy\_19 Start: 16517, Stop: 17356, Start Num: 10

Candidate Starts for Sharkboy\_19:

(Start: 10 @16517 has 89 MA's), (32, 16685), (41, 16706), (46, 16754), (52, 16805), (60, 16838), (62, 16844), (63, 16859), (127, 17309), (129, 17330),

Gene: Shepard\_31 Start: 27147, Stop: 27938, Start Num: 12

Candidate Starts for Shepard\_31:

(Start: 12 @27147 has 45 MA's), (18, 27204), (20, 27222), (23, 27246), (42, 27333), (43, 27351), (59, 27477), (60, 27480), (77, 27582), (78, 27591),

Gene: Shiba\_27 Start: 24029, Stop: 24829, Start Num: 12

Candidate Starts for Shiba\_27:

(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: SilentWarrior\_32 Start: 20620, Stop: 21432, Start Num: 8

Candidate Starts for SilentWarrior\_32:

(Start: 8 @20620 has 31 MA's), (31, 20791), (45, 20854), (55, 20929), (90, 21154), (104, 21220), (109, 21256), (111, 21280),

Gene: Skylord\_19 Start: 15035, Stop: 15823, Start Num: 10

Candidate Starts for Skylord\_19:

(5, 14876), (Start: 10 @15035 has 89 MA's), (17, 15089), (21, 15131), (32, 15203), (41, 15224), (52, 15323), (53, 15329), (62, 15362), (63, 15377), (77, 15455), (83, 15509), (88, 15545), (114, 15698), (116, 15725), (130, 15803),

Gene: Slay\_21 Start: 17733, Stop: 18536, Start Num: 10

Candidate Starts for Slay\_21:

(Start: 10 @17733 has 89 MA's), (32, 17901), (67, 18093), (78, 18162), (101, 18306), (105, 18327),

Gene: Sloopyjoe\_27 Start: 24030, Stop: 24830, Start Num: 12

Candidate Starts for Sloopyjoe\_27:

(Start: 12 @24030 has 45 MA's), (38, 24213), (42, 24231), (43, 24249), (45, 24276), (57, 24363), (78, 24483), (89, 24570), (100, 24612), (105, 24627), (109, 24660),

Gene: Snakehole\_33 Start: 20704, Stop: 21516, Start Num: 8

Candidate Starts for Snakehole\_33:

(Start: 8 @20704 has 31 MA's), (31, 20875), (39, 20893), (45, 20938), (55, 21013), (70, 21115), (104, 21304), (109, 21340), (111, 21364),

Gene: Softsoap\_20 Start: 16964, Stop: 17767, Start Num: 10  
Candidate Starts for Softsoap\_20:  
(Start: 10 @16964 has 89 MA's), (32, 17132), (39, 17147), (115, 17648),

Gene: Solea\_23 Start: 17593, Stop: 18396, Start Num: 10  
Candidate Starts for Solea\_23:  
(Start: 10 @17593 has 89 MA's), (32, 17761), (39, 17776), (101, 18166), (102, 18169), (115, 18277),

Gene: Sporto\_28 Start: 25240, Stop: 26040, Start Num: 12  
Candidate Starts for Sporto\_28:  
(Start: 12 @25240 has 45 MA's), (13, 25249), (19, 25300), (24, 25351), (38, 25423), (42, 25441), (43, 25459), (45, 25486), (78, 25693), (89, 25780), (100, 25822), (105, 25837), (109, 25870),

Gene: StarLord\_27 Start: 24030, Stop: 24830, Start Num: 12  
Candidate Starts for StarLord\_27:  
(Start: 12 @24030 has 45 MA's), (38, 24213), (42, 24231), (43, 24249), (45, 24276), (57, 24363), (78, 24483), (89, 24570), (100, 24612), (105, 24627), (109, 24660),

Gene: Stayer\_27 Start: 24029, Stop: 24829, Start Num: 12  
Candidate Starts for Stayer\_27:  
(Start: 12 @24029 has 45 MA's), (38, 24212), (42, 24230), (43, 24248), (45, 24275), (57, 24362), (78, 24482), (89, 24569), (100, 24611), (105, 24626), (109, 24659),

Gene: Stoor\_20 Start: 16841, Stop: 17644, Start Num: 10  
Candidate Starts for Stoor\_20:  
(Start: 10 @16841 has 89 MA's), (32, 17009), (60, 17162), (62, 17168), (78, 17270), (94, 17375),

Gene: Stromboli\_20 Start: 16977, Stop: 17780, Start Num: 10  
Candidate Starts for Stromboli\_20:  
(Start: 10 @16977 has 89 MA's), (32, 17145), (46, 17214), (53, 17271), (59, 17295), (78, 17406), (80, 17412), (90, 17496), (91, 17499), (103, 17559),

Gene: SuMoo\_19 Start: 16242, Stop: 17054, Start Num: 12  
Candidate Starts for SuMoo\_19:  
(2, 15909), (3, 16029), (Start: 12 @16242 has 45 MA's), (93, 16803),

Gene: Sucha\_21 Start: 16903, Stop: 17718, Start Num: 10  
Candidate Starts for Sucha\_21:  
(Start: 10 @16903 has 89 MA's), (22, 17008), (35, 17077), (41, 17092), (56, 17209), (61, 17230), (98, 17476), (106, 17512), (113, 17581), (115, 17605), (116, 17626), (119, 17638), (121, 17644), (125, 17671), (126, 17674), (128, 17683),

Gene: Swervy\_21 Start: 17191, Stop: 17994, Start Num: 10  
Candidate Starts for Swervy\_21:  
(Start: 10 @17191 has 89 MA's), (32, 17359), (67, 17551), (78, 17620), (101, 17764), (105, 17785),

Gene: Synopsis\_29 Start: 26956, Stop: 27744, Start Num: 12  
Candidate Starts for Synopsis\_29:  
(Start: 12 @26956 has 45 MA's), (20, 27031), (23, 27055), (45, 27187), (49, 27205), (60, 27289), (71, 27370), (77, 27391),

Gene: Tatanka\_30 Start: 27440, Stop: 28228, Start Num: 12  
Candidate Starts for Tatanka\_30:

(Start: 12 @27440 has 45 MA's), (20, 27515), (23, 27539), (45, 27671), (49, 27689), (60, 27773), (71, 27854), (77, 27875), (78, 27884),

Gene: Teacup\_30 Start: 26812, Stop: 27600, Start Num: 12

Candidate Starts for Teacup\_30:

(Start: 12 @26812 has 45 MA's), (20, 26887), (23, 26911), (42, 26998), (45, 27043), (49, 27061), (60, 27145), (71, 27226), (77, 27247),

Gene: Tedro\_33 Start: 20927, Stop: 21739, Start Num: 8

Candidate Starts for Tedro\_33:

(Start: 8 @20927 has 31 MA's), (14, 20954), (36, 21110), (55, 21236), (78, 21371), (109, 21563),

Gene: Teng\_27 Start: 17864, Stop: 18682, Start Num: 10

Candidate Starts for Teng\_27:

(Start: 10 @17864 has 89 MA's), (16, 17915), (32, 18032), (47, 18104), (64, 18218), (76, 18290), (81, 18314), (82, 18317), (85, 18365), (107, 18476), (113, 18539), (114, 18557), (115, 18563), (121, 18602),

Gene: Tenno\_31 Start: 28038, Stop: 28826, Start Num: 12

Candidate Starts for Tenno\_31:

(Start: 12 @28038 has 45 MA's), (20, 28113), (23, 28137), (42, 28224), (45, 28269), (49, 28287), (60, 28371), (71, 28452), (77, 28473), (78, 28482),

Gene: Tokki\_31 Start: 27098, Stop: 27889, Start Num: 12

Candidate Starts for Tokki\_31:

(Start: 12 @27098 has 45 MA's), (28, 27230), (42, 27284), (43, 27302), (45, 27329), (77, 27533), (78, 27542), (92, 27638), (112, 27746),

Gene: Tongui\_33 Start: 20953, Stop: 21765, Start Num: 8

Candidate Starts for Tongui\_33:

(Start: 8 @20953 has 31 MA's), (14, 20980), (26, 21082), (39, 21142), (45, 21187), (55, 21262), (98, 21529), (107, 21571), (109, 21589), (127, 21718),

Gene: Truckee\_29 Start: 26981, Stop: 27772, Start Num: 12

Candidate Starts for Truckee\_29:

(Start: 12 @26981 has 45 MA's), (27, 27095), (42, 27167), (43, 27185), (45, 27212), (57, 27299), (60, 27314), (77, 27416), (78, 27425), (92, 27521),

Gene: Trustiboi\_31 Start: 27509, Stop: 28297, Start Num: 12

Candidate Starts for Trustiboi\_31:

(Start: 12 @27509 has 45 MA's), (20, 27584), (23, 27608), (45, 27740), (49, 27758), (60, 27842), (71, 27923), (77, 27944),

Gene: TukTuk\_21 Start: 17249, Stop: 18052, Start Num: 10

Candidate Starts for TukTuk\_21:

(Start: 10 @17249 has 89 MA's), (32, 17417), (39, 17432), (106, 17852),

Gene: TurboVicky\_24 Start: 19192, Stop: 20013, Start Num: 10

Candidate Starts for TurboVicky\_24:

(Start: 10 @19192 has 89 MA's), (16, 19243), (32, 19360), (47, 19432), (64, 19546), (81, 19642), (82, 19645), (106, 19801), (114, 19888), (115, 19894), (121, 19933),

Gene: Typher\_26 Start: 19321, Stop: 20142, Start Num: 10

Candidate Starts for Typher\_26:

(Start: 10 @19321 has 89 MA's), (16, 19372), (32, 19489), (47, 19561), (64, 19675), (81, 19771), (82, 19774), (106, 19930), (114, 20017), (115, 20023), (121, 20062),

Gene: UtzChips\_19 Start: 16878, Stop: 17657, Start Num: 11

Candidate Starts for UtzChips\_19:

(Start: 11 @16878 has 8 MA's), (51, 17139), (69, 17256), (78, 17307), (99, 17430), (127, 17616),

Gene: Violeta\_28 Start: 17468, Stop: 18289, Start Num: 10

Candidate Starts for Violeta\_28:

(Start: 10 @17468 has 89 MA's), (23, 17579), (47, 17708), (61, 17795), (80, 17915), (83, 17954), (86, 17975), (106, 18077), (107, 18083), (114, 18164), (126, 18239), (132, 18284),

Gene: Vitas\_19 Start: 15030, Stop: 15818, Start Num: 10

Candidate Starts for Vitas\_19:

(6, 14898), (Start: 10 @15030 has 89 MA's), (17, 15084), (32, 15198), (41, 15219), (52, 15318), (53, 15324), (62, 15357), (63, 15372), (77, 15450), (83, 15504), (88, 15540), (114, 15693), (116, 15720), (130, 15798),

Gene: WalkingDead\_20 Start: 16969, Stop: 17772, Start Num: 10

Candidate Starts for WalkingDead\_20:

(Start: 10 @16969 has 89 MA's), (32, 17137), (46, 17206), (59, 17287), (78, 17398), (80, 17404), (90, 17488), (91, 17491), (103, 17551),

Gene: Warren\_27 Start: 17574, Stop: 18395, Start Num: 10

Candidate Starts for Warren\_27:

(Start: 10 @17574 has 89 MA's), (47, 17814), (61, 17901), (82, 18027), (86, 18081), (114, 18270), (132, 18390),

Gene: Wrackline\_31 Start: 19179, Stop: 20000, Start Num: 10

Candidate Starts for Wrackline\_31:

(Start: 10 @19179 has 89 MA's), (15, 19224), (19, 19245), (23, 19290), (35, 19353), (41, 19368), (47, 19419), (76, 19605), (86, 19686), (106, 19788), (115, 19881), (116, 19902), (121, 19920), (125, 19947), (126, 19950),

Gene: Zanella\_24 Start: 19195, Stop: 20016, Start Num: 10

Candidate Starts for Zanella\_24:

(Start: 10 @19195 has 89 MA's), (16, 19246), (32, 19363), (47, 19435), (64, 19549), (81, 19645), (82, 19648), (106, 19804), (114, 19891), (115, 19897), (121, 19936),

Gene: Zippen\_30 Start: 27285, Stop: 28076, Start Num: 12

Candidate Starts for Zippen\_30:

(Start: 12 @27285 has 45 MA's), (43, 27489), (77, 27720), (92, 27822),