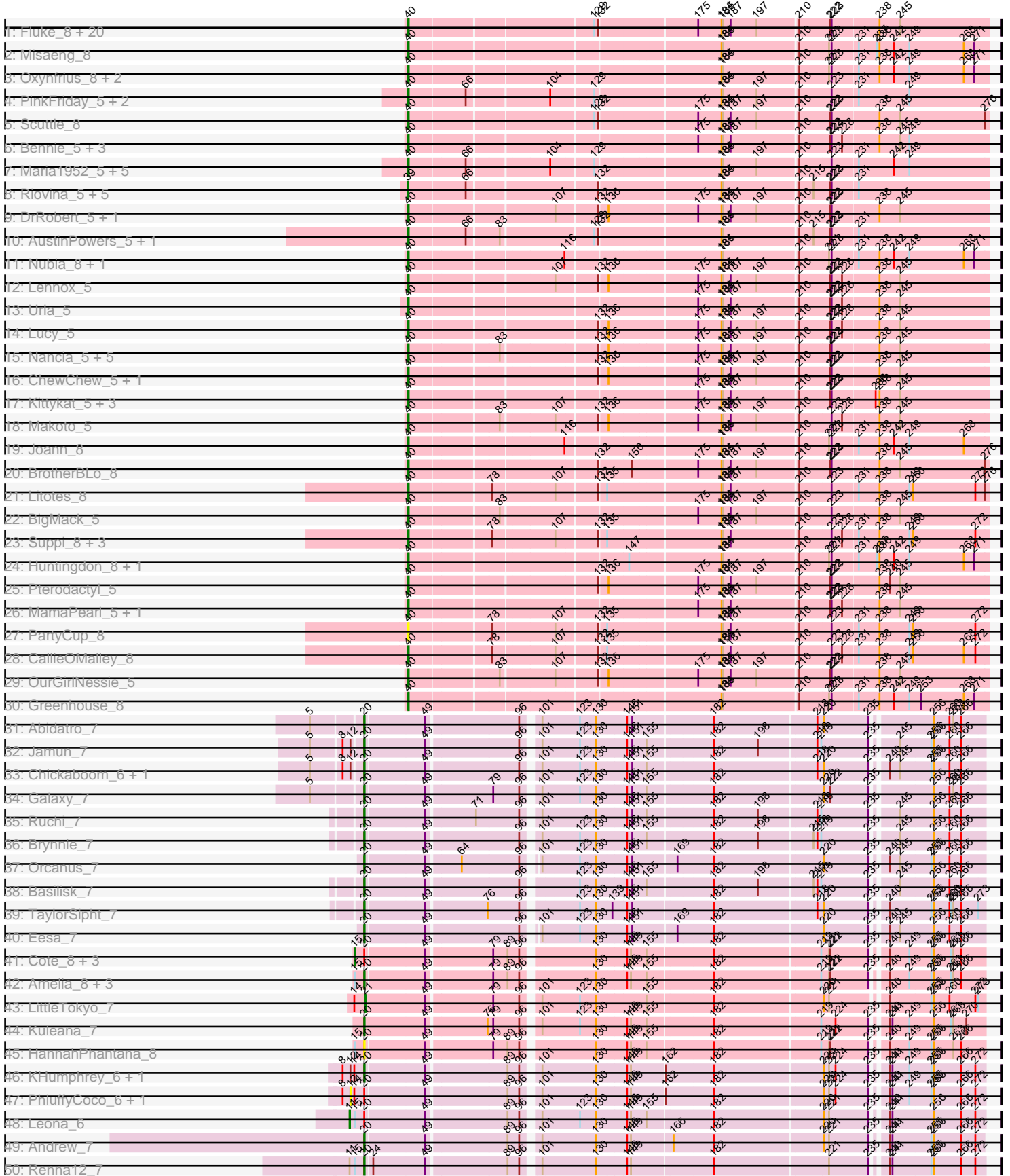
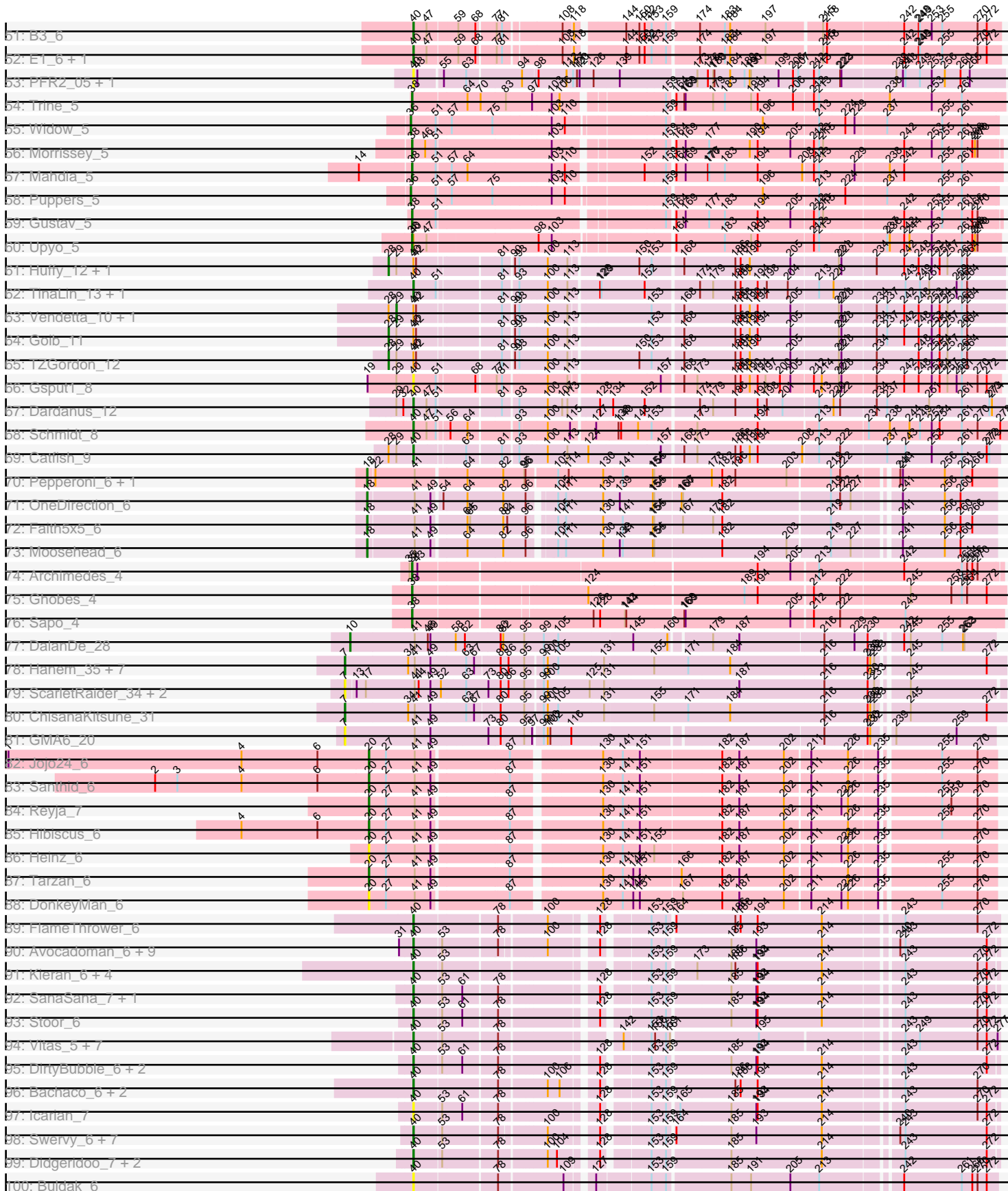


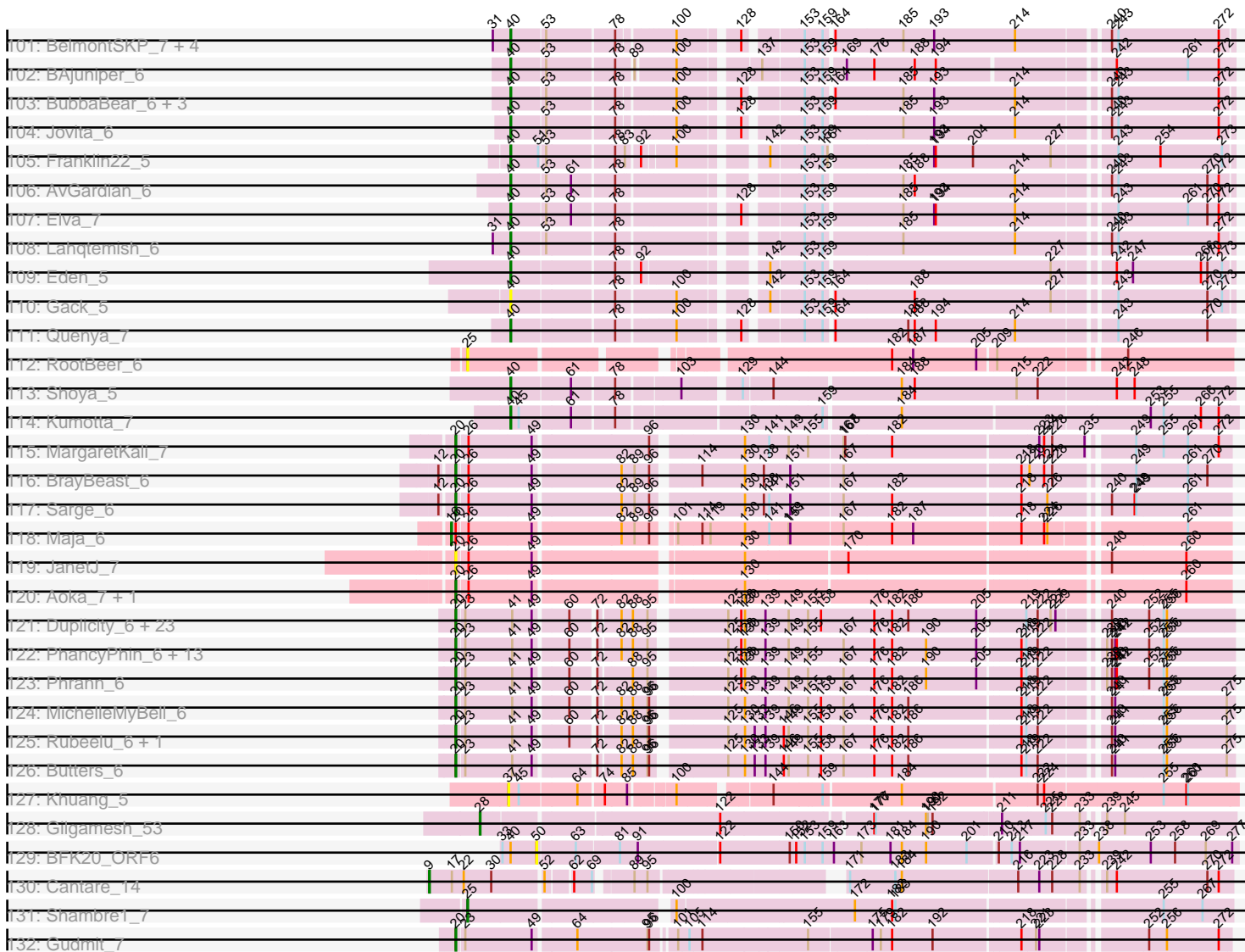
Pham 163299



Pham 163299



Pham 163299



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 163299 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163299 has 289 members, 39 are drafts.

Phages represented in each track:

- Track 1 : Fluke\_8, Vallejo\_8, Glenn\_8, MrGloopy\_8, Zorro\_8, Dino\_8, Cholula\_8, Potatoes\_8, RAP15\_8, Beethoven\_8, MeganNoll\_8, Korra\_8, TattModd\_8, Riverdale\_8, Jumboset\_8, Immaculata\_8, Kalizoi\_8, Wawa\_8, Carpal\_8, Savage2526\_8, Rozby\_8
- Track 2 : Misaeng\_8
- Track 3 : Oxynfrius\_8, Lakshmi\_8, Albanese\_8
- Track 4 : PinkFriday\_5, Pumancara\_5, Supakev\_5
- Track 5 : Scuttle\_8
- Track 6 : Bennie\_5, HeadNerd\_5, Huckleberry\_5, Moki\_5
- Track 7 : Maria1952\_5, KingBob\_5, Herb\_5, Sergei\_5, Daiboju\_5, Temper16\_5
- Track 8 : Riovina\_5, Vulture\_5, Eunoia\_5, HunterDalle\_5, OMalley\_5, Aledel\_5
- Track 9 : DrRobert\_5, Christian\_5
- Track 10 : AustinPowers\_5, Chridison\_5
- Track 11 : Nubia\_8, GreenHearts\_8
- Track 12 : Lennox\_5
- Track 13 : Urla\_5
- Track 14 : Lucy\_5
- Track 15 : Nancia\_5, Bodacious\_5, PitaDog\_5, CristinaYang\_5, LilStuart\_5, Lasagna\_5
- Track 16 : ChewChew\_5, WonderBoy\_5
- Track 17 : Kittykat\_5, Gisselle\_5, DreamTeam\_5, Preamble\_5
- Track 18 : Makoto\_5
- Track 19 : Joann\_8
- Track 20 : BrotherBLo\_8
- Track 21 : Litotes\_8
- Track 22 : BigMack\_5
- Track 23 : Suppi\_8, Canowicakte\_8, AppleCider\_8, Wayne\_8
- Track 24 : Huntingdon\_8, RcigaStruga\_8
- Track 25 : Pterodactyl\_5
- Track 26 : MamaPearl\_5, EstebanJulior\_5
- Track 27 : PartyCup\_8
- Track 28 : CallieOMalley\_8
- Track 29 : OurGirlNessie\_5
- Track 30 : Greenhouse\_8
- Track 31 : Abidatro\_7
- Track 32 : Jamun\_7
- Track 33 : Chickaboom\_6, Vulpecula\_7

- Track 34 : Galaxy\_7
- Track 35 : Ruchi\_7
- Track 36 : Brynnie\_7
- Track 37 : Orcanus\_7
- Track 38 : Basilisk\_7
- Track 39 : TaylorSipht\_7
- Track 40 : Eesa\_7
- Track 41 : Cote\_8, Daob\_8, Melons\_8, Coral\_7
- Track 42 : Amelia\_8, Polka\_7, Lunar\_8, Kepler\_7
- Track 43 : LittleTokyo\_7
- Track 44 : Kuleana\_7
- Track 45 : HannahPhantana\_8
- Track 46 : KHumphrey\_6, RedFox\_6
- Track 47 : PhluffyCoco\_6, Juno112\_6
- Track 48 : Leona\_6
- Track 49 : Andrew\_7
- Track 50 : Renna12\_7
- Track 51 : B3\_6
- Track 52 : E1\_6, Anatole\_6
- Track 53 : PFR2\_05, PFR1\_05
- Track 54 : Trine\_5
- Track 55 : Widow\_5
- Track 56 : Morrissey\_5
- Track 57 : Mahdia\_5
- Track 58 : Puppies\_5
- Track 59 : Gustav\_5
- Track 60 : Upyo\_5
- Track 61 : Huffy\_12, DinoDaryn\_12
- Track 62 : TinaLin\_13, Banquo\_14
- Track 63 : Vendetta\_10, Splinter\_10
- Track 64 : Goib\_11
- Track 65 : TZGordon\_12
- Track 66 : Gspu1\_8
- Track 67 : Dardanus\_12
- Track 68 : Schmidt\_8
- Track 69 : Catfish\_9
- Track 70 : Pepperoni\_6, Lton\_6
- Track 71 : OneDirection\_6
- Track 72 : Faith5x5\_6
- Track 73 : Moosehead\_6
- Track 74 : Archimedes\_4
- Track 75 : Ghobes\_4
- Track 76 : Sapo\_4
- Track 77 : DalanDe\_28
- Track 78 : Hanem\_35, Schomber\_34, Oogie\_35, Chidiebere\_35, Gray\_35, Kabocha\_36, Pakusa\_34, Alok\_34
- Track 79 : ScarletRaider\_34, FlyingTortilla\_34, UBSmoodge\_36
- Track 80 : ChisanaKitsune\_31
- Track 81 : GMA6\_20
- Track 82 : Jojo24\_6
- Track 83 : Santhid\_6
- Track 84 : Reyja\_7
- Track 85 : Hibiscus\_6

- Track 86 : Heinz\_6
- Track 87 : Tarzan\_6
- Track 88 : DonkeyMan\_6
- Track 89 : FlameThrower\_6
- Track 90 : Avocadoman\_6, Doobus\_6, Burritobowl\_6, Johnathan\_6, Arroyo\_7, Cashington\_6, LimaBean\_6, DickRichards\_6, Albright\_6, Abigail\_6
- Track 91 : Kieran\_6, Sharkboy\_6, Dismas\_6, Rona\_6, ChiliPepper\_6
- Track 92 : SanaSana\_7, Loviatar\_12
- Track 93 : Stoor\_6
- Track 94 : Vitas\_5, Rollins\_5, Clayda5\_5, Bernstein\_5, Brahms\_5, Armstrong\_5, Coltrane\_5, Skylord\_5
- Track 95 : DirtyBubble\_6, Stromboli\_6, BabyYoda\_6
- Track 96 : Bachaco\_6, Celaena\_6, Katzastrophic\_6
- Track 97 : Icarian\_7
- Track 98 : Swervy\_6, Finalfrontier\_7, Eula\_6, TukTuk\_6, SarBear\_6, Nicky22\_7, Slay\_6, QMacho\_7
- Track 99 : Didgeridoo\_7, IndyLu\_6, BabyDaisy\_7
- Track 100 : Buldak\_6
- Track 101 : BelmontSKP\_7, Kenzers\_6, CroZenni\_6, Lynlen\_6, AnnaLie\_7
- Track 102 : BAjuniper\_6
- Track 103 : BubbaBear\_6, SansAfet\_6, Phisb\_6, Albedo\_6
- Track 104 : Jovita\_6
- Track 105 : Franklin22\_5
- Track 106 : AvGardian\_6
- Track 107 : Elva\_7
- Track 108 : Lahqtemish\_6
- Track 109 : Eden\_5
- Track 110 : Gack\_5
- Track 111 : Quenya\_7
- Track 112 : RootBeer\_6
- Track 113 : Shoya\_5
- Track 114 : Kumotta\_7
- Track 115 : MargaretKali\_7
- Track 116 : BrayBeast\_6
- Track 117 : Sarge\_6
- Track 118 : Maja\_6
- Track 119 : JanetJ\_7
- Track 120 : Aoka\_7, EvenBluerMoon\_7
- Track 121 : Duplicity\_6, Melville\_6, Journey\_6, Carcharodon\_6, Xerxes\_6, Bosection6\_6, Philonius\_6, Andies\_6, Scitech\_6, Xeno\_6, Schnauzer\_6, Silvafighter\_6, Tapioca\_6, Fulbright\_6, Gex\_6, Magsby\_6, Parmesanjohn\_6, Pipsqueaks\_6, Aggie\_6, Charlie\_6, Silvy\_6, Smurph\_6, Chewbacca\_6, Phloss\_6
- Track 122 : PhancyPhin\_6, SkinnyPete\_6, Raymond7\_6, Shweta\_6, Redi\_6, SpongeBob\_6, Jamie19\_6, Nenae\_6, Snekmaggedon\_6, Rebel\_6, Panchino\_6, ShrimpFriedEgg\_6, BabeRuth\_6, Purgamenstris\_6
- Track 123 : Phrann\_6
- Track 124 : MichelleMyBell\_6
- Track 125 : Rubeelu\_6, Kevin1\_6
- Track 126 : Butters\_6
- Track 127 : Khuang\_5
- Track 128 : Gilgamesh\_53
- Track 129 : BFK20\_ORF6
- Track 130 : Cantare\_14

- Track 131 : Shambre1\_7
- Track 132 : Gudmit\_7

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

The start number called the most often in the published annotations is 40, it was called in 141 of the 250 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abigail\_6, Albanese\_8, Albedo\_6, Albright\_6, Anatole\_6, AnnaLie\_7, AppleCider\_8, Armstrong\_5, Arroyo\_7, AustinPowers\_5, AvGardian\_6, Avocadoman\_6, B3\_6, BAjuniper\_6, BabyDaisy\_7, BabyYoda\_6, Bachaco\_6, Banquo\_14, Beethoven\_8, BelmontSKP\_7, Bennie\_5, Bernstein\_5, BigMack\_5, Bodacious\_5, Brahms\_5, BrotherBLo\_8, BubbaBear\_6, Buldak\_6, Burritobowl\_6, CallieOMalley\_8, Canowicakte\_8, Carpal\_8, Cashington\_6, Catfish\_9, Celaena\_6, ChewChew\_5, ChiliPepper\_6, Cholula\_8, Chridison\_5, Christian\_5, Clayda5\_5, Coltrane\_5, CristinaYang\_5, CroZenni\_6, Daiboju\_5, Dardanus\_12, DickRichards\_6, Didgeridoo\_7, Dino\_8, DirtyBubble\_6, Dismas\_6, Doobus\_6, DrRobert\_5, DreamTeam\_5, E1\_6, Eden\_5, Elva\_7, EstebanJulior\_5, Eula\_6, Finalfrontier\_7, FlameThrower\_6, Fluke\_8, Franklin22\_5, Gack\_5, Gisselle\_5, Glenn\_8, GreenHearts\_8, Greenhouse\_8, Gsput1\_8, HeadNerd\_5, Herb\_5, Huckleberry\_5, Huntingdon\_8, Icarian\_7, Immaculata\_8, IndyLu\_6, Joann\_8, Johnathan\_6, Jovita\_6, Jumboset\_8, Kalizoi\_8, Katzastrophic\_6, Kenzers\_6, Kieran\_6, KingBob\_5, Kittykat\_5, Korra\_8, Kumotta\_7, Lahqtemish\_6, Lakshmi\_8, Lasagna\_5, Lennox\_5, LilStuart\_5, LimaBean\_6, Litotes\_8, Loviatar\_12, Lucy\_5, Lynlen\_6, Makoto\_5, MamaPearl\_5, Maria1952\_5, MeganNoll\_8, Misaeng\_8, Moki\_5, MrGloopy\_8, Nancia\_5, Nicky22\_7, Nubia\_8, OurGirlNessie\_5, Oxynfrius\_8, PFR1\_05, PFR2\_05, PartyCup\_8, Phisb\_6, PinkFriday\_5, PitaDog\_5, Potatoes\_8, Preamble\_5, Pterodactyl\_5, Pumancara\_5, QMacho\_7, Quenya\_7, RAP15\_8, RcigaStruga\_8, Riverdale\_8, Rollins\_5, Rona\_6, Rozby\_8, SanaSana\_7, SansAfet\_6, SarBear\_6, Savage2526\_8, Schmidt\_8, Scuttle\_8, Sergei\_5, Sharkboy\_6, Shoya\_5, Skylord\_5, Slay\_6, Stoor\_6, Stromboli\_6, Supakev\_5, Suppi\_8, Swervy\_6, TattModd\_8, Temper16\_5, TinaLin\_13, TukTuk\_6, Urla\_5, Vallejo\_8, Vitas\_5, Wawa\_8, Wayne\_8, WonderBoy\_5, Zorro\_8,

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

- BFK20\_ORF6, DinoDaryn\_12, Goib\_11, Huffy\_12, Splinter\_10, TZGordon\_12, Upyo\_5, Vendetta\_10,

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

- Abidatro\_7, Aggie\_6, Aledel\_5, Aloki\_34, Amelia\_8, Andies\_6, Andrew\_7, Aoka\_7, Archimedes\_4, BabeRuth\_6, Basilisk\_7, Bosection6\_6, BrayBeast\_6, Brynnie\_7, Butters\_6, Cantare\_14, Carcharodon\_6, Charlie\_6, Chewbacca\_6, Chickaboom\_6, Chidiebere\_35, ChisanaKitsune\_31, Coral\_7, Cote\_8, DalanDe\_28, Daob\_8, DonkeyMan\_6, Duplicity\_6, Eesa\_7, Eunoia\_5, EvenBluerMoon\_7, Faith5x5\_6, FlyingTortilla\_34, Fulbright\_6, GMA6\_20, Galaxy\_7, Gex\_6, Ghobes\_4, Gilgamesh\_53, Gray\_35, Gudmit\_7, Gustav\_5, Hanem\_35, HannahPhantana\_8, Heinz\_6, Hibiscus\_6, HunterDalle\_5, Jamie19\_6, Jamun\_7, JanetJ\_7, Jojo24\_6, Journey\_6, Juno112\_6, KHumphrey\_6, Kabocha\_36, Kepler\_7, Kevin1\_6, Khuang\_5, Kuleana\_7, Leona\_6, LittleTokyo\_7, Lton\_6, Lunar\_8, Magsby\_6, Mahdia\_5, Maja\_6,

MargaretKali\_7, Melons\_8, Melville\_6, MichelleMyBell\_6, Moosehead\_6, Morrissey\_5, Nenae\_6, OMalley\_5, OneDirection\_6, Oogie\_35, Orcanus\_7, Pakusa\_34, Panchino\_6, Parmesanjohn\_6, Pepperoni\_6, PhancyPhin\_6, Philonius\_6, Phloss\_6, PhluffyCoco\_6, Phrann\_6, Pipsqueaks\_6, Polka\_7, Puppies\_5, Purgamenstris\_6, Raymond7\_6, Rebel\_6, RedFox\_6, Redi\_6, Renna12\_7, Reyja\_7, Riovina\_5, RootBeer\_6, Rubeelu\_6, Ruchi\_7, Santhid\_6, Sapo\_4, Sarge\_6, ScarletRaider\_34, Schnauzer\_6, Schomber\_34, Scitech\_6, Shambre1\_7, ShrimpFriedEgg\_6, Shweta\_6, Silvafighter\_6, Silvy\_6, SkinnyPete\_6, Smurph\_6, Snekmaggedon\_6, SpongeBob\_6, Tapioca\_6, Tarzan\_6, TaylorSipht\_7, Trine\_5, UBSmoodge\_36, Vulpecula\_7, Vulture\_5, Widow\_5, Xeno\_6, Xerxes\_6,

### Summary by start number:

#### Start 7:

- Found in 13 of 289 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 6 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aloki\_34 (DQ), Chidiebere\_35 (DQ), ChisanaKitsune\_31 (DQ), FlyingTortilla\_34 (DQ), GMA6\_20 (DQ), Gray\_35 (DQ), Hanem\_35 (DQ), Kabocha\_36 (DQ), Oogie\_35 (DQ), Pakusa\_34 (DQ), ScarletRaider\_34 (DQ), Schomber\_34 (DQ), UBSmoodge\_36 (DQ),

#### Start 9:

- Found in 1 of 289 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cantare\_14 (singleton),

#### Start 10:

- Found in 1 of 289 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DalanDe\_28 (DQ),

#### Start 11:

- Found in 2 of 289 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Leona\_6 (AS3),

#### Start 12:

- Found in 9 of 289 ( 3.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 22.2% of time when present
- Phage (with cluster) where this start called: Juno112\_6 (AS3), PhluffyCoco\_6 (AS3),

#### Start 15:

- Found in 11 of 289 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 4 of 250
- Called 36.4% of time when present
- Phage (with cluster) where this start called: Coral\_7 (AS2), Cote\_8 (AS2), Daob\_8 (AS2), Melons\_8 (AS2),



Start 16:

- Found in 1 of 289 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Maja\_6 (FO),

Start 18:

- Found in 5 of 289 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 4 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Faith5x5\_6 (CZ6), Lton\_6 (CZ), Moosehead\_6 (CZ6), OneDirection\_6 (CZ6), Pepperoni\_6 (CZ),

Start 20:

- Found in 86 of 289 ( 29.8% ) of genes in pham
- Manual Annotations of this start: 66 of 250
- Called 90.7% of time when present
- Phage (with cluster) where this start called: Abidatro\_7 (AS1), Aggie\_6 (N), Amelia\_8 (AS2), Andies\_6 (N), Andrew\_7 (AS3), Aoka\_7 (FO), BabeRuth\_6 (N), Basilisk\_7 (AS1), Bosection6\_6 (N), BrayBeast\_6 (FB), Brynnie\_7 (AS1), Butters\_6 (N), Carcharodon\_6 (N), Charlie\_6 (N), Chewbacca\_6 (N), Chickaboom\_6 (AS1), DonkeyMan\_6 (DY), Duplicity\_6 (N), Eesa\_7 (AS1), EvenBluerMoon\_7 (FO), Fulbright\_6 (N), Galaxy\_7 (AS1), Gex\_6 (N), Gudmit\_7 (singleton), HannahPhantana\_8 (AS2), Heinz\_6 (DY), Hibiscus\_6 (DY), Jamie19\_6 (N), Jamun\_7 (AS1), JanetJ\_7 (FO), Jojo24\_6 (DY), Journey\_6 (N), KHumphrey\_6 (AS3), Kepler\_7 (AS2), Kevin1\_6 (N), Kuleana\_7 (AS2), Lunar\_8 (AS2), Magsby\_6 (N), MargaretKali\_7 (FB), Melville\_6 (N), MichelleMyBell\_6 (N), Nenae\_6 (N), Orcanus\_7 (AS1), Panchino\_6 (N), ParmesanJohn\_6 (N), PhancyPhin\_6 (N), Philonius\_6 (N), Phloss\_6 (N), Phrann\_6 (N), Pipsqueaks\_6 (N), Polka\_7 (AS2), Purgamenstris\_6 (N), Raymond7\_6 (N), Rebel\_6 (N), RedFox\_6 (AS3), Redi\_6 (N), Renna12\_7 (AS3), Reyja\_7 (DY), Rubeelu\_6 (N), Ruchi\_7 (AS1), Santhid\_6 (DY), Sarge\_6 (FB), Schnauzer\_6 (N), Scitech\_6 (N), ShrimpFriedEgg\_6 (N), Shweta\_6 (N), Silvafighter\_6 (N), Silvy\_6 (N), SkinnyPete\_6 (N), Smurph\_6 (N), Snekmaggedon\_6 (N), SpongeBob\_6 (N), Tapioca\_6 (N), Tarzan\_6 (DY), TaylorSipht\_7 (AS1), Vulpecula\_7 (AS1), Xeno\_6 (N), Xerxes\_6 (N),

Start 21:

- Found in 1 of 289 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleTokyo\_7 (AS2),

Start 25:

- Found in 2 of 289 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RootBeer\_6 (FA), Shambre1\_7 (singleton),

Start 28:

- Found in 8 of 289 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 5 of 250
- Called 62.5% of time when present

- Phage (with cluster) where this start called: DinoDaryn\_12 (CU1), Gilgamesh\_53 (singleton), Goib\_11 (CU1), Huffy\_12 (CU1), TZGordon\_12 (CU1),

#### Start 29:

- Found in 9 of 289 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 2 of 250
- Called 22.2% of time when present
- Phage (with cluster) where this start called: Splinter\_10 (CU1), Vendetta\_10 (CU1),

#### Start 36:

- Found in 2 of 289 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Puppies\_5 (CD), Widow\_5 (CD),

#### Start 37:

- Found in 1 of 289 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Khuang\_5 (UNK),

#### Start 38:

- Found in 8 of 289 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 8 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archimedes\_4 (DA), Ghobes\_4 (DA), Gustav\_5 (CD), Mahdia\_5 (CD), Morrissey\_5 (CD), Sapo\_4 (DA), Trine\_5 (CD), Upyo\_5 (CD),

#### Start 39:

- Found in 6 of 289 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 6 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aledel\_5 (AK), Eunoia\_5 (AK), HunterDalle\_5 (AK), OMalley\_5 (AK), Riovina\_5 (AK), Vulture\_5 (AK),

#### Start 40:

- Found in 163 of 289 ( 56.4% ) of genes in pham
- Manual Annotations of this start: 141 of 250
- Called 95.1% of time when present
- Phage (with cluster) where this start called: Abigail\_6 (EB), Albanese\_8 (AK), Albedo\_6 (EB), Albright\_6 (EB), Anatole\_6 (BV), AnnaLie\_7 (EB), AppleCider\_8 (AK), Armstrong\_5 (EB), Arroyo\_7 (EB), AustinPowers\_5 (AK), AvGardian\_6 (EB), Avocadoman\_6 (EB), B3\_6 (BV), BAjuniper\_6 (EB), BabyDaisy\_7 (EB), BabyYoda\_6 (EB), Bachaco\_6 (EB), Banquo\_14 (CU1), Beethoven\_8 (AK), BelmontSKP\_7 (EB), Bennie\_5 (AK), Bernstein\_5 (EB), BigMack\_5 (AK), Bodacious\_5 (AK), Brahms\_5 (EB), BrotherBLo\_8 (AK), BubbaBear\_6 (EB), Buldak\_6 (EB), Burritobowl\_6 (EB), CallieOMalley\_8 (AK), Canowicakte\_8 (AK), Carpal\_8 (AK), Cashington\_6 (EB), Catfish\_9 (CU5), Celaena\_6 (EB), ChewChew\_5 (AK), ChiliPepper\_6 (EB), Cholula\_8 (AK), Chridison\_5 (AK), Christian\_5 (AK), Clayda5\_5 (EB), Coltrane\_5 (EB), CristinaYang\_5 (AK), CroZenni\_6 (EB), Daiboju\_5 (AK), Dardanus\_12 (CU3), DickRichards\_6 (EB), Didgeridoo\_7 (EB), Dino\_8 (AK), DirtyBubble\_6 (EB), Dismas\_6 (EB), Doobus\_6 (EB), DrRobert\_5 (AK), DreamTeam\_5 (AK), E1\_6 (BV),

Eden\_5 (EB), Elva\_7 (EB), EstebanJulior\_5 (AK), Eula\_6 (EB), Finalfrontier\_7 (EB), FlameThrower\_6 (EB), Fluke\_8 (AK), Franklin22\_5 (EB), Gack\_5 (EB), Gisselle\_5 (AK), Glenn\_8 (AK), GreenHearts\_8 (AK), Greenhouse\_8 (AK), Gspu1\_8 (CU2), HeadNerd\_5 (AK), Herb\_5 (AK), Huckleberry\_5 (AK), Huntingdon\_8 (AK), Icarian\_7 (EB), Immaculata\_8 (AK), IndyLu\_6 (EB), Joann\_8 (AK), Johnathan\_6 (EB), Jovita\_6 (EB), Jumboset\_8 (AK), Kalizoi\_8 (AK), Katzastrophic\_6 (EB), Kenzers\_6 (EB), Kieran\_6 (EB), KingBob\_5 (AK), Kittykat\_5 (AK), Korra\_8 (AK), Kumotta\_7 (FB), Lahqtemish\_6 (EB), Lakshmi\_8 (AK), Lasagna\_5 (AK), Lennox\_5 (AK), LilStuart\_5 (AK), LimaBean\_6 (EB), Litotes\_8 (AK), Loviatar\_12 (EB), Lucy\_5 (AK), Lynlen\_6 (EB), Makoto\_5 (AK), MamaPearl\_5 (AK), Maria1952\_5 (AK), MeganNoll\_8 (AK), Misaeng\_8 (AK), Moki\_5 (AK), MrGloopy\_8 (AK), Nancia\_5 (AK), Nicky22\_7 (EB), Nubia\_8 (AK), OurGirlNessie\_5 (AK), Oxynfrius\_8 (AK), PFR1\_05 (BX), PFR2\_05 (BX), PartyCup\_8 (AK), Phisb\_6 (EB), PinkFriday\_5 (AK), PitaDog\_5 (AK), Potatoes\_8 (AK), Preamble\_5 (AK), Pterodactyl\_5 (AK), Pumancara\_5 (AK), QMacho\_7 (EB), Quenya\_7 (EB), RAP15\_8 (AK), RcigaStruga\_8 (AK), Riverdale\_8 (AK), Rollins\_5 (EB), Rona\_6 (EB), Rozby\_8 (AK), SanaSana\_7 (EB), SansAfet\_6 (EB), SarBear\_6 (EB), Savage2526\_8 (AK), Schmidt\_8 (CU4), Scuttle\_8 (AK), Sergei\_5 (AK), Sharkboy\_6 (EB), Shoya\_5 (FB), Skylord\_5 (EB), Slay\_6 (EB), Stoor\_6 (EB), Stromboli\_6 (EB), Supakev\_5 (AK), Suppi\_8 (AK), Swervy\_6 (EB), TattModd\_8 (AK), Temper16\_5 (AK), TinaLin\_13 (CU1), TukTuk\_6 (EB), Urla\_5 (AK), Vallejo\_8 (AK), Vitas\_5 (EB), Wawa\_8 (AK), Wayne\_8 (AK), WonderBoy\_5 (AK), Zorro\_8 (AK),

Start 50:

- Found in 1 of 289 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BFK20\_ORF6 (singleton),

### Summary by clusters:

There are 24 clusters represented in this pham: singleton, UNK, CZ6, DA, FA, FB, DY, BX, FO, CU5, CU4, CU3, CU2, CU1, DQ, AS3, AS2, AS1, AK, N, CZ, EB, BV, CD,

Info for manual annotations of cluster AK:

- Start number 39 was manually annotated 6 times for cluster AK.
- Start number 40 was manually annotated 74 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 20 was manually annotated 10 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 15 was manually annotated 4 times for cluster AS2.
- Start number 20 was manually annotated 5 times for cluster AS2.
- Start number 21 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 11 was manually annotated 1 time for cluster AS3.
- Start number 20 was manually annotated 3 times for cluster AS3.

Info for manual annotations of cluster BV:

- Start number 40 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster CD:

- Start number 36 was manually annotated 2 times for cluster CD.
- Start number 38 was manually annotated 5 times for cluster CD.

Info for manual annotations of cluster CU1:

- Start number 28 was manually annotated 4 times for cluster CU1.
- Start number 29 was manually annotated 2 times for cluster CU1.
- Start number 40 was manually annotated 2 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 40 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 40 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 40 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CZ:

- Start number 18 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ6:

- Start number 18 was manually annotated 3 times for cluster CZ6.

Info for manual annotations of cluster DA:

- Start number 38 was manually annotated 3 times for cluster DA.

Info for manual annotations of cluster DQ:

- Start number 7 was manually annotated 6 times for cluster DQ.
- Start number 10 was manually annotated 1 time for cluster DQ.

Info for manual annotations of cluster DY:

- Start number 20 was manually annotated 5 times for cluster DY.

Info for manual annotations of cluster EB:

- Start number 40 was manually annotated 57 times for cluster EB.

Info for manual annotations of cluster FB:

- Start number 20 was manually annotated 3 times for cluster FB.
- Start number 40 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster FO:

- Start number 16 was manually annotated 1 time for cluster FO.
- Start number 20 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster N:

- Start number 20 was manually annotated 38 times for cluster N.

**Gene Information:**

Gene: Abidatro\_7 Start: 5488, Stop: 6792, Start Num: 20

Candidate Starts for Abidatro\_7:

(5, 5380), (Start: 20 @5488 has 66 MA's), (49, 5620), (96, 5824), (101, 5848), (123, 5929), (130, 5965), (146, 6031), (151, 6043), (182, 6214), (218, 6439), (220, 6451), (235, 6553), (256, 6676), (260, 6712), (263, 6721), (266, 6739),

Gene: Abigail\_6 Start: 5142, Stop: 6323, Start Num: 40

Candidate Starts for Abigail\_6:

(31, 5112), (Start: 40 @5142 has 141 MA's), (53, 5202), (78, 5319), (100, 5403), (128, 5496), (153, 5586), (159, 5613), (185, 5748), (193, 5805), (214, 5955), (240, 6102), (243, 6114), (272, 6300),

Gene: Aggie\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Aggie\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Albanese\_8 Start: 7534, Stop: 8784, Start Num: 40

Candidate Starts for Albanese\_8:

(Start: 40 @7534 has 141 MA's), (184, 8188), (185, 8191), (210, 8359), (221, 8425), (223, 8431), (231, 8488), (238, 8533), (242, 8566), (249, 8602), (268, 8728), (271, 8752),

Gene: Albedo\_6 Start: 5130, Stop: 6311, Start Num: 40

Candidate Starts for Albedo\_6:

(Start: 40 @5130 has 141 MA's), (53, 5190), (78, 5307), (100, 5391), (128, 5484), (153, 5574), (159, 5601), (164, 5613), (185, 5736), (193, 5793), (214, 5943), (240, 6090), (243, 6102), (272, 6288),

Gene: Albright\_6 Start: 5142, Stop: 6323, Start Num: 40

Candidate Starts for Albright\_6:

(31, 5112), (Start: 40 @5142 has 141 MA's), (53, 5202), (78, 5319), (100, 5403), (128, 5496), (153, 5586), (159, 5613), (185, 5748), (193, 5805), (214, 5955), (240, 6102), (243, 6114), (272, 6300),

Gene: Aledel\_5 Start: 4834, Stop: 6081, Start Num: 39

Candidate Starts for Aledel\_5:

(Start: 39 @4834 has 6 MA's), (66, 4960), (132, 5224), (184, 5485), (185, 5488), (210, 5656), (215, 5689), (222, 5725), (223, 5728), (231, 5785),

Gene: Aloki\_34 Start: 25287, Stop: 26714, Start Num: 7

Candidate Starts for Aloki\_34:

(Start: 7 @25287 has 6 MA's), (34, 25431), (41, 25443), (49, 25479), (63, 25557), (67, 25575), (80, 25626), (86, 25644), (95, 25680), (99, 25713), (100, 25722), (105, 25743), (131, 25842), (155, 25947), (171, 26025), (184, 26118), (216, 26331), (230, 26424), (232, 26430), (233, 26439), (245, 26496), (272, 26670),

Gene: Amelia\_8 Start: 5682, Stop: 6995, Start Num: 20

Candidate Starts for Amelia\_8:

(Start: 15 @5661 has 4 MA's), (Start: 20 @5682 has 66 MA's), (49, 5814), (79, 5958), (89, 5991), (96, 6018), (130, 6159), (146, 6225), (149, 6234), (155, 6270), (182, 6414), (219, 6648), (221, 6663), (222,

6666), (235, 6753), (240, 6777), (249, 6822), (255, 6870), (256, 6876), (261, 6915), (263, 6921), (266, 6939),

Gene: Anatole\_6 Start: 5027, Stop: 6253, Start Num: 40

Candidate Starts for Anatole\_6:

(Start: 40 @5027 has 141 MA's), (47, 5057), (59, 5120), (68, 5159), (77, 5198), (81, 5210), (108, 5324), (118, 5345), (144, 5441), (150, 5468), (152, 5480), (153, 5495), (159, 5522), (174, 5588), (183, 5645), (184, 5657), (197, 5738), (215, 5858), (218, 5867), (242, 6032), (248, 6065), (249, 6068), (255, 6119), (270, 6200), (272, 6221),

Gene: Andies\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Andies\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Andrew\_7 Start: 5504, Stop: 6814, Start Num: 20

Candidate Starts for Andrew\_7:

(Start: 20 @5504 has 66 MA's), (49, 5636), (89, 5813), (96, 5840), (101, 5864), (130, 5981), (146, 6047), (149, 6056), (166, 6146), (182, 6236), (220, 6473), (221, 6485), (235, 6575), (240, 6599), (241, 6605), (255, 6692), (256, 6698), (266, 6761), (272, 6794),

Gene: AnnaLie\_7 Start: 5488, Stop: 6669, Start Num: 40

Candidate Starts for AnnaLie\_7:

(31, 5458), (Start: 40 @5488 has 141 MA's), (53, 5548), (78, 5665), (100, 5749), (128, 5842), (153, 5932), (159, 5959), (164, 5971), (185, 6094), (193, 6151), (214, 6301), (240, 6448), (243, 6460), (272, 6646),

Gene: Aoka\_7 Start: 5916, Stop: 7220, Start Num: 20

Candidate Starts for Aoka\_7:

(Start: 20 @5916 has 66 MA's), (26, 5931), (49, 6045), (130, 6390), (260, 7137),

Gene: AppleCider\_8 Start: 7477, Stop: 8727, Start Num: 40

Candidate Starts for AppleCider\_8:

(Start: 40 @7477 has 141 MA's), (78, 7654), (107, 7786), (132, 7870), (135, 7885), (184, 8131), (185, 8134), (187, 8152), (210, 8302), (223, 8374), (228, 8398), (231, 8431), (238, 8476), (249, 8545), (250, 8554), (272, 8698),

Gene: Archimedes\_4 Start: 3855, Stop: 5147, Start Num: 38

Candidate Starts for Archimedes\_4:

(35, 3849), (Start: 38 @3855 has 8 MA's), (43, 3867), (194, 4608), (205, 4683), (213, 4740), (242, 4926), (261, 5058), (264, 5070), (266, 5082), (270, 5094),

Gene: Armstrong\_5 Start: 5000, Stop: 6190, Start Num: 40

Candidate Starts for Armstrong\_5:

(Start: 40 @5000 has 141 MA's), (53, 5060), (78, 5177), (142, 5399), (153, 5456), (156, 5462), (159, 5483), (161, 5492), (195, 5681), (243, 5975), (249, 6008), (270, 6140), (272, 6161), (277, 6185),

Gene: Arroyo\_7 Start: 5612, Stop: 6793, Start Num: 40

Candidate Starts for Arroyo\_7:

(31, 5582), (Start: 40 @5612 has 141 MA's), (53, 5672), (78, 5789), (100, 5873), (128, 5966), (153, 6056), (159, 6083), (185, 6218), (193, 6275), (214, 6425), (240, 6572), (243, 6584), (272, 6770),

Gene: AustinPowers\_5 Start: 4835, Stop: 6082, Start Num: 40

Candidate Starts for AustinPowers\_5:

(Start: 40 @4835 has 141 MA's), (66, 4961), (83, 5030), (129, 5216), (132, 5225), (184, 5486), (185, 5489), (210, 5657), (215, 5690), (222, 5726), (223, 5729), (231, 5786),

Gene: AvGardian\_6 Start: 5207, Stop: 6391, Start Num: 40

Candidate Starts for AvGardian\_6:

(Start: 40 @5207 has 141 MA's), (53, 5267), (61, 5312), (78, 5384), (153, 5654), (159, 5681), (185, 5816), (188, 5837), (214, 6023), (240, 6170), (243, 6182), (270, 6347), (272, 6368),

Gene: Avocadoman\_6 Start: 5200, Stop: 6381, Start Num: 40

Candidate Starts for Avocadoman\_6:

(31, 5170), (Start: 40 @5200 has 141 MA's), (53, 5260), (78, 5377), (100, 5461), (128, 5554), (153, 5644), (159, 5671), (185, 5806), (193, 5863), (214, 6013), (240, 6160), (243, 6172), (272, 6358),

Gene: B3\_6 Start: 5027, Stop: 6253, Start Num: 40

Candidate Starts for B3\_6:

(Start: 40 @5027 has 141 MA's), (47, 5057), (59, 5120), (68, 5159), (77, 5198), (81, 5210), (108, 5324), (118, 5345), (144, 5441), (150, 5468), (152, 5480), (153, 5495), (159, 5522), (174, 5588), (183, 5645), (184, 5657), (197, 5738), (215, 5858), (218, 5867), (242, 6032), (248, 6065), (249, 6068), (253, 6095), (255, 6119), (270, 6200), (272, 6221),

Gene: BAjuniper\_6 Start: 5180, Stop: 6382, Start Num: 40

Candidate Starts for BAjuniper\_6:

(Start: 40 @5180 has 141 MA's), (53, 5240), (78, 5357), (89, 5384), (100, 5450), (137, 5576), (153, 5648), (159, 5675), (169, 5708), (176, 5756), (188, 5831), (194, 5870), (242, 6164), (261, 6296), (272, 6353),

Gene: BFK20\_ORF6 Start: 4859, Stop: 6100, Start Num: 50

Candidate Starts for BFK20\_ORF6:

(33, 4799), (Start: 40 @4814 has 141 MA's), (50, 4859), (63, 4925), (81, 5000), (91, 5033), (122, 5174), (150, 5300), (152, 5312), (153, 5327), (159, 5354), (163, 5372), (173, 5423), (181, 5477), (184, 5498), (190, 5543), (201, 5618), (210, 5669), (213, 5693), (217, 5708), (233, 5810), (238, 5843), (253, 5939), (258, 5984), (269, 6041), (277, 6089),

Gene: BabeRuth\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for BabeRuth\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: BabyDaisy\_7 Start: 5391, Stop: 6572, Start Num: 40

Candidate Starts for BabyDaisy\_7:

(Start: 40 @5391 has 141 MA's), (53, 5451), (78, 5568), (100, 5652), (104, 5673), (128, 5745), (153, 5835), (159, 5862), (185, 5997), (214, 6204), (243, 6363), (272, 6549),

Gene: BabyYoda\_6 Start: 5401, Stop: 6585, Start Num: 40

Candidate Starts for BabyYoda\_6:

(Start: 40 @5401 has 141 MA's), (53, 5461), (61, 5506), (78, 5578), (128, 5758), (153, 5848), (159, 5875), (185, 6010), (193, 6067), (194, 6070), (214, 6217), (243, 6376), (272, 6562),

Gene: Bachaco\_6 Start: 5305, Stop: 6501, Start Num: 40

Candidate Starts for Bachaco\_6:

(Start: 40 @5305 has 141 MA's), (78, 5482), (100, 5575), (106, 5602), (128, 5668), (153, 5758), (159, 5785), (186, 5929), (188, 5941), (194, 5980), (214, 6127), (243, 6286), (270, 6451),

Gene: Banquo\_14 Start: 8387, Stop: 9637, Start Num: 40

Candidate Starts for Banquo\_14:

(Start: 40 @8387 has 141 MA's), (51, 8438), (81, 8567), (93, 8594), (100, 8654), (113, 8699), (128, 8756), (129, 8759), (152, 8855), (174, 8963), (179, 8993), (186, 9044), (188, 9056), (194, 9095), (198, 9116), (204, 9164), (213, 9227), (220, 9257), (243, 9413), (249, 9446), (251, 9467), (259, 9530), (261, 9542), (264, 9554),

Gene: Basilisk\_7 Start: 5750, Stop: 7054, Start Num: 20

Candidate Starts for Basilisk\_7:

(Start: 20 @5750 has 66 MA's), (49, 5882), (96, 6086), (123, 6191), (130, 6227), (146, 6293), (151, 6305), (155, 6338), (182, 6476), (198, 6578), (215, 6692), (218, 6701), (219, 6710), (235, 6815), (245, 6863), (256, 6938), (260, 6974), (266, 7001),

Gene: Beethoven\_8 Start: 7463, Stop: 8716, Start Num: 40

Candidate Starts for Beethoven\_8:

(Start: 40 @7463 has 141 MA's), (129, 7850), (132, 7859), (175, 8066), (184, 8120), (185, 8123), (187, 8141), (197, 8201), (210, 8291), (222, 8360), (223, 8363), (238, 8465), (245, 8513),

Gene: BelmontSKP\_7 Start: 5488, Stop: 6669, Start Num: 40

Candidate Starts for BelmontSKP\_7:

(31, 5458), (Start: 40 @5488 has 141 MA's), (53, 5548), (78, 5665), (100, 5749), (128, 5842), (153, 5932), (159, 5959), (164, 5971), (185, 6094), (193, 6151), (214, 6301), (240, 6448), (243, 6460), (272, 6646),

Gene: Bennie\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Bennie\_5:

(Start: 40 @4822 has 141 MA's), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (210, 5644), (222, 5713), (223, 5716), (228, 5740), (238, 5818), (245, 5866), (249, 5887),

Gene: Bernstein\_5 Start: 5060, Stop: 6250, Start Num: 40

Candidate Starts for Bernstein\_5:

(Start: 40 @5060 has 141 MA's), (53, 5120), (78, 5237), (142, 5459), (153, 5516), (156, 5522), (159, 5543), (161, 5552), (195, 5741), (243, 6035), (249, 6068), (270, 6200), (272, 6221), (277, 6245),

Gene: BigMack\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for BigMack\_5:

(Start: 40 @4822 has 141 MA's), (83, 5017), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (223, 5716), (238, 5818), (245, 5866),

Gene: Bodacious\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Bodacious\_5:

(Start: 40 @4822 has 141 MA's), (83, 5017), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: Bosection6\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Bosection6\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936),



(158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Brahms\_5 Start: 5000, Stop: 6190, Start Num: 40

Candidate Starts for Brahms\_5:

(Start: 40 @5000 has 141 MA's), (53, 5060), (78, 5177), (142, 5399), (153, 5456), (156, 5462), (159, 5483), (161, 5492), (195, 5681), (243, 5975), (249, 6008), (270, 6140), (272, 6161), (277, 6185),

Gene: BrayBeast\_6 Start: 4815, Stop: 6131, Start Num: 20

Candidate Starts for BrayBeast\_6:

(12, 4794), (Start: 20 @4815 has 66 MA's), (26, 4830), (49, 4944), (82, 5097), (89, 5121), (96, 5148), (114, 5217), (130, 5295), (138, 5328), (151, 5373), (167, 5463), (218, 5775), (220, 5787), (224, 5814), (228, 5829), (249, 5958), (261, 6051), (270, 6087),

Gene: BrotherBLo\_8 Start: 7469, Stop: 8722, Start Num: 40

Candidate Starts for BrotherBLo\_8:

(Start: 40 @7469 has 141 MA's), (132, 7865), (150, 7934), (175, 8072), (184, 8126), (185, 8129), (187, 8147), (197, 8207), (210, 8297), (222, 8366), (223, 8369), (238, 8471), (245, 8519), (276, 8714),

Gene: Brynnie\_7 Start: 5547, Stop: 6851, Start Num: 20

Candidate Starts for Brynnie\_7:

(Start: 20 @5547 has 66 MA's), (49, 5679), (96, 5883), (101, 5907), (123, 5988), (130, 6024), (146, 6090), (151, 6102), (155, 6135), (182, 6273), (198, 6375), (215, 6489), (218, 6498), (219, 6507), (235, 6612), (245, 6660), (256, 6735), (260, 6771), (266, 6798),

Gene: BubbaBear\_6 Start: 5130, Stop: 6311, Start Num: 40

Candidate Starts for BubbaBear\_6:

(Start: 40 @5130 has 141 MA's), (53, 5190), (78, 5307), (100, 5391), (128, 5484), (153, 5574), (159, 5601), (164, 5613), (185, 5736), (193, 5793), (214, 5943), (240, 6090), (243, 6102), (272, 6288),

Gene: Buldak\_6 Start: 5460, Stop: 6674, Start Num: 40

Candidate Starts for Buldak\_6:

(Start: 40 @5460 has 141 MA's), (78, 5637), (109, 5772), (127, 5820), (153, 5934), (159, 5961), (185, 6096), (191, 6141), (205, 6231), (213, 6297), (242, 6462), (261, 6594), (266, 6618), (270, 6630), (272, 6651),

Gene: Burritobowl\_6 Start: 5140, Stop: 6321, Start Num: 40

Candidate Starts for Burritobowl\_6:

(31, 5110), (Start: 40 @5140 has 141 MA's), (53, 5200), (78, 5317), (100, 5401), (128, 5494), (153, 5584), (159, 5611), (185, 5746), (193, 5803), (214, 5953), (240, 6100), (243, 6112), (272, 6298),

Gene: Butters\_6 Start: 4369, Stop: 5661, Start Num: 20

Candidate Starts for Butters\_6:

(Start: 20 @4369 has 66 MA's), (23, 4381), (41, 4465), (49, 4501), (72, 4597), (82, 4630), (88, 4651), (95, 4678), (96, 4681), (125, 4792), (130, 4822), (133, 4840), (139, 4858), (146, 4888), (149, 4897), (155, 4933), (158, 4957), (167, 4996), (176, 5050), (182, 5083), (186, 5113), (218, 5308), (219, 5317), (222, 5335), (240, 5440), (241, 5446), (255, 5533), (256, 5539), (275, 5647),

Gene: CallieOMalley\_8 Start: 7477, Stop: 8727, Start Num: 40

Candidate Starts for CallieOMalley\_8:

(Start: 40 @7477 has 141 MA's), (78, 7654), (107, 7786), (132, 7870), (135, 7885), (184, 8131), (185, 8134), (187, 8152), (210, 8302), (223, 8374), (228, 8398), (231, 8431), (238, 8476), (249, 8545), (250, 8554), (268, 8671), (272, 8698),

Gene: Canowicakte\_8 Start: 7512, Stop: 8762, Start Num: 40

Candidate Starts for Canowicakte\_8:

(Start: 40 @7512 has 141 MA's), (78, 7689), (107, 7821), (132, 7905), (135, 7920), (184, 8166), (185, 8169), (187, 8187), (210, 8337), (223, 8409), (228, 8433), (231, 8466), (238, 8511), (249, 8580), (250, 8589), (272, 8733),

Gene: Cantare\_14 Start: 13513, Stop: 14820, Start Num: 9

Candidate Starts for Cantare\_14:

(Start: 9 @13513 has 1 MA's), (17, 13555), (22, 13576), (30, 13627), (52, 13711), (62, 13747), (69, 13780), (89, 13834), (95, 13858), (171, 14155), (183, 14236), (184, 14248), (216, 14455), (223, 14488), (228, 14512), (233, 14563), (239, 14587), (242, 14605), (270, 14773), (272, 14794),

Gene: Carcharodon\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Carcharodon\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Carpal\_8 Start: 7469, Stop: 8722, Start Num: 40

Candidate Starts for Carpal\_8:

(Start: 40 @7469 has 141 MA's), (129, 7856), (132, 7865), (175, 8072), (184, 8126), (185, 8129), (187, 8147), (197, 8207), (210, 8297), (222, 8366), (223, 8369), (238, 8471), (245, 8519),

Gene: Cashington\_6 Start: 5130, Stop: 6311, Start Num: 40

Candidate Starts for Cashington\_6:

(31, 5100), (Start: 40 @5130 has 141 MA's), (53, 5190), (78, 5307), (100, 5391), (128, 5484), (153, 5574), (159, 5601), (185, 5736), (193, 5793), (214, 5943), (240, 6090), (243, 6102), (272, 6288),

Gene: Catfish\_9 Start: 6326, Stop: 7576, Start Num: 40

Candidate Starts for Catfish\_9:

(Start: 28 @6269 has 5 MA's), (Start: 29 @6287 has 2 MA's), (Start: 40 @6326 has 141 MA's), (63, 6431), (81, 6503), (93, 6533), (100, 6593), (113, 6638), (124, 6680), (157, 6833), (168, 6875), (173, 6905), (186, 6992), (188, 7004), (190, 7025), (194, 7043), (208, 7142), (213, 7175), (222, 7220), (237, 7322), (243, 7361), (253, 7421), (261, 7490), (272, 7547), (273, 7553),

Gene: Celaena\_6 Start: 5242, Stop: 6438, Start Num: 40

Candidate Starts for Celaena\_6:

(Start: 40 @5242 has 141 MA's), (78, 5419), (100, 5512), (106, 5539), (128, 5605), (153, 5695), (159, 5722), (186, 5866), (188, 5878), (194, 5917), (214, 6064), (243, 6223), (270, 6388),

Gene: Charlie\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Charlie\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: ChewChew\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for ChewChew\_5:

(Start: 40 @4822 has 141 MA's), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: Chewbacca\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Chewbacca\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Chickaboom\_6 Start: 5194, Stop: 6498, Start Num: 20

Candidate Starts for Chickaboom\_6:

(5, 5089), (8, 5155), (12, 5173), (Start: 20 @5194 has 66 MA's), (49, 5326), (96, 5530), (101, 5554), (123, 5635), (130, 5671), (146, 5737), (151, 5749), (155, 5782), (182, 5920), (218, 6145), (220, 6157), (235, 6259), (240, 6283), (245, 6307), (255, 6376), (256, 6382), (260, 6418), (266, 6445),

Gene: Chidiebere\_35 Start: 25287, Stop: 26714, Start Num: 7

Candidate Starts for Chidiebere\_35:

(Start: 7 @25287 has 6 MA's), (34, 25431), (41, 25443), (49, 25479), (63, 25557), (67, 25575), (80, 25626), (86, 25644), (95, 25680), (99, 25713), (100, 25722), (105, 25743), (131, 25842), (155, 25947), (171, 26025), (184, 26118), (216, 26331), (230, 26424), (232, 26430), (233, 26439), (245, 26496), (272, 26670),

Gene: ChiliPepper\_6 Start: 5395, Stop: 6588, Start Num: 40

Candidate Starts for ChiliPepper\_6:

(Start: 40 @5395 has 141 MA's), (53, 5455), (153, 5851), (159, 5878), (173, 5938), (185, 6013), (186, 6022), (193, 6070), (194, 6073), (214, 6220), (243, 6379), (270, 6544), (272, 6565),

Gene: ChisanaKitsune\_31 Start: 24080, Stop: 25507, Start Num: 7

Candidate Starts for ChisanaKitsune\_31:

(Start: 7 @24080 has 6 MA's), (34, 24224), (41, 24236), (49, 24272), (63, 24350), (67, 24368), (80, 24419), (95, 24473), (99, 24506), (100, 24515), (105, 24536), (131, 24635), (155, 24740), (171, 24818), (184, 24911), (216, 25124), (230, 25217), (232, 25223), (233, 25232), (245, 25289), (272, 25463),

Gene: Cholula\_8 Start: 7514, Stop: 8767, Start Num: 40

Candidate Starts for Cholula\_8:

(Start: 40 @7514 has 141 MA's), (129, 7901), (132, 7910), (175, 8117), (184, 8171), (185, 8174), (187, 8192), (197, 8252), (210, 8342), (222, 8411), (223, 8414), (238, 8516), (245, 8564),

Gene: Chridison\_5 Start: 4835, Stop: 6082, Start Num: 40

Candidate Starts for Chridison\_5:

(Start: 40 @4835 has 141 MA's), (66, 4961), (83, 5030), (129, 5216), (132, 5225), (184, 5486), (185, 5489), (210, 5657), (215, 5690), (222, 5726), (223, 5729), (231, 5786),

Gene: Christian\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Christian\_5:

(Start: 40 @4822 has 141 MA's), (107, 5128), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: Clayda5\_5 Start: 5000, Stop: 6190, Start Num: 40

Candidate Starts for Clayda5\_5:

(Start: 40 @5000 has 141 MA's), (53, 5060), (78, 5177), (142, 5399), (153, 5456), (156, 5462), (159, 5483), (161, 5492), (195, 5681), (243, 5975), (249, 6008), (270, 6140), (272, 6161), (277, 6185),

Gene: Coltrane\_5 Start: 5000, Stop: 6190, Start Num: 40

Candidate Starts for Coltrane\_5:

(Start: 40 @5000 has 141 MA's), (53, 5060), (78, 5177), (142, 5399), (153, 5456), (156, 5462), (159, 5483), (161, 5492), (195, 5681), (243, 5975), (249, 6008), (270, 6140), (272, 6161), (277, 6185),

Gene: Coral\_7 Start: 5500, Stop: 6834, Start Num: 15

Candidate Starts for Coral\_7:

(Start: 15 @5500 has 4 MA's), (Start: 20 @5521 has 66 MA's), (49, 5653), (79, 5797), (89, 5830), (96, 5857), (130, 5998), (146, 6064), (149, 6073), (155, 6109), (182, 6253), (219, 6487), (221, 6502), (222, 6505), (235, 6592), (240, 6616), (249, 6661), (255, 6709), (256, 6715), (261, 6754), (263, 6760), (266, 6778),

Gene: Cote\_8 Start: 5661, Stop: 6995, Start Num: 15

Candidate Starts for Cote\_8:

(Start: 15 @5661 has 4 MA's), (Start: 20 @5682 has 66 MA's), (49, 5814), (79, 5958), (89, 5991), (96, 6018), (130, 6159), (146, 6225), (149, 6234), (155, 6270), (182, 6414), (219, 6648), (221, 6663), (222, 6666), (235, 6753), (240, 6777), (249, 6822), (255, 6870), (256, 6876), (261, 6915), (263, 6921), (266, 6939),

Gene: CristinaYang\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for CristinaYang\_5:

(Start: 40 @4822 has 141 MA's), (83, 5017), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: CroZenni\_6 Start: 5142, Stop: 6323, Start Num: 40

Candidate Starts for CroZenni\_6:

(31, 5112), (Start: 40 @5142 has 141 MA's), (53, 5202), (78, 5319), (100, 5403), (128, 5496), (153, 5586), (159, 5613), (164, 5625), (185, 5748), (193, 5805), (214, 5955), (240, 6102), (243, 6114), (272, 6300),

Gene: Daiboju\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for Daiboju\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (242, 5863), (249, 5899),

Gene: DalanDe\_28 Start: 27476, Stop: 28846, Start Num: 10

Candidate Starts for DalanDe\_28:

(Start: 10 @27476 has 1 MA's), (41, 27620), (48, 27650), (49, 27656), (58, 27710), (62, 27725), (80, 27803), (82, 27809), (95, 27857), (99, 27899), (105, 27929), (145, 28082), (160, 28160), (179, 28241), (187, 28301), (216, 28487), (229, 28550), (230, 28580), (242, 28637), (245, 28652), (255, 28724), (262, 28772), (263, 28775),

Gene: Daob\_8 Start: 5664, Stop: 6998, Start Num: 15

Candidate Starts for Daob\_8:

(Start: 15 @5664 has 4 MA's), (Start: 20 @5685 has 66 MA's), (49, 5817), (79, 5961), (89, 5994), (96, 6021), (130, 6162), (146, 6228), (149, 6237), (155, 6273), (182, 6417), (219, 6651), (221, 6666), (222, 6669), (235, 6756), (240, 6780), (249, 6825), (255, 6873), (256, 6879), (261, 6918), (263, 6924), (266, 6942),

Gene: Dardanus\_12 Start: 7394, Stop: 8644, Start Num: 40

Candidate Starts for Dardanus\_12:

(Start: 29 @7361 has 2 MA's), (32, 7376), (Start: 40 @7394 has 141 MA's), (47, 7424), (51, 7445), (81, 7580), (93, 7607), (100, 7664), (107, 7697), (113, 7709), (128, 7766), (134, 7793), (152, 7865),

(174, 7973), (179, 8003), (186, 8054), (194, 8105), (198, 8126), (201, 8162), (213, 8237), (220, 8267), (222, 8282), (234, 8360), (237, 8384), (251, 8477), (261, 8552), (273, 8615), (274, 8621),

Gene: DickRichards\_6 Start: 5607, Stop: 6788, Start Num: 40

Candidate Starts for DickRichards\_6:

(31, 5577), (Start: 40 @5607 has 141 MA's), (53, 5667), (78, 5784), (100, 5868), (128, 5961), (153, 6051), (159, 6078), (185, 6213), (193, 6270), (214, 6420), (240, 6567), (243, 6579), (272, 6765),

Gene: Didgeridoo\_7 Start: 5391, Stop: 6572, Start Num: 40

Candidate Starts for Didgeridoo\_7:

(Start: 40 @5391 has 141 MA's), (53, 5451), (78, 5568), (100, 5652), (104, 5673), (128, 5745), (153, 5835), (159, 5862), (185, 5997), (214, 6204), (243, 6363), (272, 6549),

Gene: Dino\_8 Start: 7469, Stop: 8722, Start Num: 40

Candidate Starts for Dino\_8:

(Start: 40 @7469 has 141 MA's), (129, 7856), (132, 7865), (175, 8072), (184, 8126), (185, 8129), (187, 8147), (197, 8207), (210, 8297), (222, 8366), (223, 8369), (238, 8471), (245, 8519),

Gene: DinoDaryn\_12 Start: 7418, Stop: 8725, Start Num: 28

Candidate Starts for DinoDaryn\_12:

(Start: 28 @7418 has 5 MA's), (Start: 29 @7436 has 2 MA's), (Start: 40 @7469 has 141 MA's), (42, 7475), (81, 7649), (90, 7670), (93, 7676), (100, 7739), (113, 7784), (150, 7928), (153, 7955), (168, 8012), (186, 8129), (188, 8141), (190, 8162), (205, 8255), (221, 8357), (223, 8363), (234, 8438), (242, 8498), (248, 8531), (253, 8561), (254, 8579), (257, 8597), (261, 8630), (264, 8642),

Gene: DirtyBubble\_6 Start: 5400, Stop: 6584, Start Num: 40

Candidate Starts for DirtyBubble\_6:

(Start: 40 @5400 has 141 MA's), (53, 5460), (61, 5505), (78, 5577), (128, 5757), (153, 5847), (159, 5874), (185, 6009), (193, 6066), (194, 6069), (214, 6216), (243, 6375), (272, 6561),

Gene: Dismas\_6 Start: 5395, Stop: 6588, Start Num: 40

Candidate Starts for Dismas\_6:

(Start: 40 @5395 has 141 MA's), (53, 5455), (153, 5851), (159, 5878), (173, 5938), (185, 6013), (186, 6022), (193, 6070), (194, 6073), (214, 6220), (243, 6379), (270, 6544), (272, 6565),

Gene: DonkeyMan\_6 Start: 4491, Stop: 5804, Start Num: 20

Candidate Starts for DonkeyMan\_6:

(Start: 20 @4491 has 66 MA's), (27, 4530), (41, 4593), (49, 4629), (87, 4794), (130, 4974), (141, 5016), (145, 5037), (151, 5052), (167, 5142), (182, 5229), (187, 5268), (202, 5370), (211, 5418), (223, 5484), (226, 5499), (235, 5562), (255, 5679), (270, 5760),

Gene: Doobus\_6 Start: 5364, Stop: 6545, Start Num: 40

Candidate Starts for Doobus\_6:

(31, 5334), (Start: 40 @5364 has 141 MA's), (53, 5424), (78, 5541), (100, 5625), (128, 5718), (153, 5808), (159, 5835), (185, 5970), (193, 6027), (214, 6177), (240, 6324), (243, 6336), (272, 6522),

Gene: DrRobert\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for DrRobert\_5:

(Start: 40 @4822 has 141 MA's), (107, 5128), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: DreamTeam\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for DreamTeam\_5:

(Start: 40 @4822 has 141 MA's), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (210, 5644), (222, 5713), (223, 5716), (236, 5812), (238, 5818), (245, 5866),

Gene: Duplicity\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Duplicity\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: E1\_6 Start: 5027, Stop: 6253, Start Num: 40

Candidate Starts for E1\_6:

(Start: 40 @5027 has 141 MA's), (47, 5057), (59, 5120), (68, 5159), (77, 5198), (81, 5210), (108, 5324), (118, 5345), (144, 5441), (150, 5468), (152, 5480), (153, 5495), (159, 5522), (174, 5588), (183, 5645), (184, 5657), (197, 5738), (215, 5858), (218, 5867), (242, 6032), (248, 6065), (249, 6068), (255, 6119), (270, 6200), (272, 6221),

Gene: Eden\_5 Start: 5055, Stop: 6242, Start Num: 40

Candidate Starts for Eden\_5:

(Start: 40 @5055 has 141 MA's), (78, 5232), (92, 5268), (142, 5448), (153, 5505), (159, 5532), (227, 5940), (242, 6030), (247, 6060), (266, 6186), (270, 6198), (273, 6225),

Gene: Eesa\_7 Start: 5714, Stop: 7018, Start Num: 20

Candidate Starts for Eesa\_7:

(Start: 20 @5714 has 66 MA's), (49, 5846), (96, 6050), (101, 6071), (123, 6152), (130, 6188), (146, 6254), (151, 6266), (169, 6359), (182, 6437), (220, 6674), (235, 6776), (240, 6800), (245, 6824), (256, 6899), (260, 6935), (266, 6962),

Gene: Elva\_7 Start: 5469, Stop: 6656, Start Num: 40

Candidate Starts for Elva\_7:

(Start: 40 @5469 has 141 MA's), (53, 5529), (61, 5574), (78, 5646), (128, 5829), (153, 5919), (159, 5946), (185, 6081), (193, 6138), (194, 6141), (214, 6288), (243, 6447), (261, 6576), (270, 6612), (272, 6633),

Gene: EstebanJulior\_5 Start: 4813, Stop: 6063, Start Num: 40

Candidate Starts for EstebanJulior\_5:

(Start: 40 @4813 has 141 MA's), (175, 5413), (184, 5467), (185, 5470), (187, 5488), (210, 5638), (222, 5707), (223, 5710), (228, 5734), (238, 5812), (245, 5860),

Gene: Eula\_6 Start: 5127, Stop: 6308, Start Num: 40

Candidate Starts for Eula\_6:

(Start: 40 @5127 has 141 MA's), (53, 5187), (78, 5304), (100, 5388), (128, 5481), (153, 5571), (159, 5598), (164, 5610), (185, 5733), (193, 5790), (214, 5940), (240, 6087), (243, 6099), (272, 6285),

Gene: Eunoia\_5 Start: 4834, Stop: 6081, Start Num: 39

Candidate Starts for Eunoia\_5:

(Start: 39 @4834 has 6 MA's), (66, 4960), (132, 5224), (184, 5485), (185, 5488), (210, 5656), (215, 5689), (222, 5725), (223, 5728), (231, 5785),

Gene: EvenBluerMoon\_7 Start: 5914, Stop: 7218, Start Num: 20

Candidate Starts for EvenBluerMoon\_7:

(Start: 20 @5914 has 66 MA's), (26, 5929), (49, 6043), (130, 6388), (260, 7135),

Gene: Faith5x5\_6 Start: 4347, Stop: 5654, Start Num: 18

Candidate Starts for Faith5x5\_6:

(Start: 18 @4347 has 4 MA's), (41, 4443), (49, 4479), (64, 4551), (65, 4557), (82, 4632), (84, 4641), (96, 4683), (105, 4725), (111, 4740), (130, 4824), (141, 4866), (154, 4932), (155, 4935), (167, 4992), (179, 5058), (182, 5079), (219, 5313), (241, 5442), (256, 5535), (260, 5571), (266, 5598),

Gene: Finalfrontier\_7 Start: 5633, Stop: 6814, Start Num: 40

Candidate Starts for Finalfrontier\_7:

(Start: 40 @5633 has 141 MA's), (53, 5693), (78, 5810), (100, 5894), (128, 5987), (153, 6077), (159, 6104), (164, 6116), (185, 6239), (193, 6296), (214, 6446), (240, 6593), (243, 6605), (272, 6791),

Gene: FlameThrower\_6 Start: 5238, Stop: 6434, Start Num: 40

Candidate Starts for FlameThrower\_6:

(Start: 40 @5238 has 141 MA's), (78, 5415), (100, 5508), (128, 5601), (153, 5691), (159, 5718), (164, 5730), (186, 5862), (188, 5874), (194, 5913), (214, 6060), (243, 6219), (270, 6384),

Gene: Fluke\_8 Start: 7510, Stop: 8763, Start Num: 40

Candidate Starts for Fluke\_8:

(Start: 40 @7510 has 141 MA's), (129, 7897), (132, 7906), (175, 8113), (184, 8167), (185, 8170), (187, 8188), (197, 8248), (210, 8338), (222, 8407), (223, 8410), (238, 8512), (245, 8560),

Gene: FlyingTortilla\_34 Start: 28161, Stop: 29570, Start Num: 7

Candidate Starts for FlyingTortilla\_34:

(Start: 7 @28161 has 6 MA's), (13, 28179), (17, 28200), (41, 28308), (44, 28317), (49, 28344), (52, 28368), (63, 28422), (73, 28467), (80, 28494), (86, 28512), (95, 28548), (99, 28581), (100, 28590), (125, 28683), (131, 28710), (187, 29007), (216, 29199), (230, 29292), (233, 29307), (245, 29364),

Gene: Franklin22\_5 Start: 5054, Stop: 6241, Start Num: 40

Candidate Starts for Franklin22\_5:

(Start: 40 @5054 has 141 MA's), (51, 5105), (53, 5114), (78, 5231), (83, 5249), (92, 5270), (100, 5321), (142, 5447), (153, 5504), (159, 5531), (161, 5540), (193, 5723), (194, 5726), (204, 5795), (227, 5939), (243, 6032), (254, 6110), (273, 6224),

Gene: Fulbright\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Fulbright\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: GMA6\_20 Start: 17179, Stop: 18546, Start Num: 7

Candidate Starts for GMA6\_20:

(Start: 7 @17179 has 6 MA's), (41, 17335), (49, 17371), (73, 17488), (80, 17515), (95, 17569), (97, 17587), (99, 17602), (100, 17611), (102, 17617), (116, 17659), (216, 18187), (230, 18280), (232, 18286), (239, 18319), (259, 18457),

Gene: Gack\_5 Start: 5108, Stop: 6304, Start Num: 40

Candidate Starts for Gack\_5:

(Start: 40 @5108 has 141 MA's), (78, 5285), (100, 5384), (142, 5510), (153, 5567), (159, 5594), (164, 5606), (188, 5750), (227, 6002), (243, 6095), (270, 6260), (273, 6287),

Gene: Galaxy\_7 Start: 5497, Stop: 6804, Start Num: 20

Candidate Starts for Galaxy\_7:

(5, 5389), (Start: 20 @5497 has 66 MA's), (49, 5629), (79, 5773), (96, 5833), (101, 5860), (123, 5941), (130, 5977), (146, 6043), (151, 6055), (155, 6088), (182, 6226), (220, 6463), (222, 6478), (235, 6565), (256, 6688), (260, 6724), (263, 6733), (266, 6751),

Gene: Gex\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Gex\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Ghobes\_4 Start: 3898, Stop: 5187, Start Num: 38

Candidate Starts for Ghobes\_4:

(Start: 38 @3898 has 8 MA's), (124, 4267), (189, 4609), (194, 4639), (212, 4759), (222, 4816), (245, 4972), (258, 5065), (261, 5089), (264, 5101), (272, 5146),

Gene: Gilgamesh\_53 Start: 49313, Stop: 50602, Start Num: 28

Candidate Starts for Gilgamesh\_53:

(Start: 28 @49313 has 5 MA's), (122, 49721), (176, 49976), (177, 49979), (190, 50072), (191, 50075), (192, 50084), (211, 50204), (225, 50279), (228, 50291), (233, 50339), (239, 50363), (245, 50396),

Gene: Gisselle\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Gisselle\_5:

(Start: 40 @4822 has 141 MA's), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (210, 5644), (222, 5713), (223, 5716), (236, 5812), (238, 5818), (245, 5866),

Gene: Glenn\_8 Start: 7520, Stop: 8773, Start Num: 40

Candidate Starts for Glenn\_8:

(Start: 40 @7520 has 141 MA's), (129, 7907), (132, 7916), (175, 8123), (184, 8177), (185, 8180), (187, 8198), (197, 8258), (210, 8348), (222, 8417), (223, 8420), (238, 8522), (245, 8570),

Gene: Goib\_11 Start: 7193, Stop: 8500, Start Num: 28

Candidate Starts for Goib\_11:

(Start: 28 @7193 has 5 MA's), (Start: 29 @7211 has 2 MA's), (Start: 40 @7244 has 141 MA's), (42, 7250), (81, 7424), (90, 7445), (93, 7451), (100, 7514), (113, 7559), (153, 7730), (168, 7787), (186, 7904), (188, 7916), (190, 7937), (194, 7955), (205, 8030), (221, 8132), (223, 8138), (234, 8213), (237, 8237), (242, 8273), (248, 8306), (253, 8336), (254, 8354), (257, 8372), (261, 8405), (264, 8417),

Gene: Gray\_35 Start: 25287, Stop: 26714, Start Num: 7

Candidate Starts for Gray\_35:

(Start: 7 @25287 has 6 MA's), (34, 25431), (41, 25443), (49, 25479), (63, 25557), (67, 25575), (80, 25626), (86, 25644), (95, 25680), (99, 25713), (100, 25722), (105, 25743), (131, 25842), (155, 25947), (171, 26025), (184, 26118), (216, 26331), (230, 26424), (232, 26430), (233, 26439), (245, 26496), (272, 26670),

Gene: GreenHearts\_8 Start: 7534, Stop: 8784, Start Num: 40

Candidate Starts for GreenHearts\_8:

(Start: 40 @7534 has 141 MA's), (116, 7864), (184, 8188), (185, 8191), (210, 8359), (221, 8425), (223, 8431), (231, 8488), (238, 8533), (242, 8566), (249, 8602), (268, 8728), (271, 8752),

Gene: Greenhouse\_8 Start: 7503, Stop: 8753, Start Num: 40

Candidate Starts for Greenhouse\_8:



(Start: 40 @7503 has 141 MA's), (184, 8157), (185, 8160), (210, 8328), (221, 8394), (223, 8400), (231, 8457), (238, 8502), (242, 8535), (249, 8571), (253, 8598), (268, 8697), (271, 8721),

Gene: Gspu1\_8 Start: 5827, Stop: 7071, Start Num: 40

Candidate Starts for Gspu1\_8:

(19, 5728), (Start: 29 @5794 has 2 MA's), (Start: 40 @5827 has 141 MA's), (51, 5878), (68, 5956), (77, 5995), (81, 6007), (100, 6094), (113, 6139), (157, 6325), (168, 6367), (173, 6397), (186, 6484), (188, 6496), (190, 6517), (194, 6535), (197, 6553), (200, 6586), (205, 6610), (212, 6658), (214, 6676), (221, 6712), (223, 6718), (234, 6793), (242, 6853), (248, 6886), (253, 6916), (254, 6934), (257, 6952), (259, 6973), (261, 6985), (270, 7021), (272, 7042),

Gene: Gudmit\_7 Start: 5118, Stop: 6437, Start Num: 20

Candidate Starts for Gudmit\_7:

(Start: 20 @5118 has 66 MA's), (23, 5130), (49, 5253), (64, 5325), (95, 5454), (96, 5457), (101, 5493), (105, 5511), (114, 5532), (155, 5721), (175, 5829), (179, 5844), (182, 5865), (192, 5940), (218, 6090), (221, 6114), (223, 6120), (252, 6288), (256, 6321), (272, 6417),

Gene: Gustav\_5 Start: 4544, Stop: 5788, Start Num: 38

Candidate Starts for Gustav\_5:

(Start: 38 @4544 has 8 MA's), (51, 4595), (159, 5054), (164, 5066), (169, 5087), (177, 5141), (183, 5177), (194, 5252), (205, 5327), (212, 5375), (213, 5387), (215, 5396), (242, 5570), (253, 5633), (255, 5657), (261, 5702), (266, 5726), (270, 5738),

Gene: Hanem\_35 Start: 25287, Stop: 26714, Start Num: 7

Candidate Starts for Hanem\_35:

(Start: 7 @25287 has 6 MA's), (34, 25431), (41, 25443), (49, 25479), (63, 25557), (67, 25575), (80, 25626), (86, 25644), (95, 25680), (99, 25713), (100, 25722), (105, 25743), (131, 25842), (155, 25947), (171, 26025), (184, 26118), (216, 26331), (230, 26424), (232, 26430), (233, 26439), (245, 26496), (272, 26670),

Gene: HannahPhantana\_8 Start: 5685, Stop: 6998, Start Num: 20

Candidate Starts for HannahPhantana\_8:

(Start: 15 @5664 has 4 MA's), (Start: 20 @5685 has 66 MA's), (49, 5817), (79, 5961), (89, 5994), (96, 6021), (130, 6162), (146, 6228), (149, 6237), (155, 6273), (182, 6417), (219, 6651), (221, 6666), (222, 6669), (235, 6756), (240, 6780), (249, 6825), (255, 6873), (256, 6879), (263, 6924), (266, 6942),

Gene: HeadNerd\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for HeadNerd\_5:

(Start: 40 @4822 has 141 MA's), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (210, 5644), (222, 5713), (223, 5716), (228, 5740), (238, 5818), (245, 5866), (249, 5887),

Gene: Heinz\_6 Start: 4491, Stop: 5804, Start Num: 20

Candidate Starts for Heinz\_6:

(Start: 20 @4491 has 66 MA's), (27, 4530), (41, 4593), (49, 4629), (87, 4794), (130, 4974), (141, 5016), (151, 5052), (155, 5085), (182, 5229), (187, 5268), (202, 5370), (211, 5418), (223, 5484), (226, 5499), (235, 5562), (270, 5760),

Gene: Herb\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for Herb\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (242, 5863), (249, 5899),

Gene: Hibiscus\_6 Start: 4495, Stop: 5808, Start Num: 20

Candidate Starts for Hibiscus\_6:

(4, 4204), (6, 4378), (Start: 20 @4495 has 66 MA's), (27, 4534), (41, 4597), (49, 4633), (87, 4798), (130, 4978), (141, 5020), (151, 5056), (182, 5233), (187, 5272), (202, 5374), (211, 5422), (226, 5503), (235, 5566), (255, 5683), (270, 5764),

Gene: Huckleberry\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Huckleberry\_5:

(Start: 40 @4822 has 141 MA's), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (210, 5644), (222, 5713), (223, 5716), (228, 5740), (238, 5818), (245, 5866), (249, 5887),

Gene: Huff\_12 Start: 7418, Stop: 8725, Start Num: 28

Candidate Starts for Huff\_12:

(Start: 28 @7418 has 5 MA's), (Start: 29 @7436 has 2 MA's), (Start: 40 @7469 has 141 MA's), (42, 7475), (81, 7649), (90, 7670), (93, 7676), (100, 7739), (113, 7784), (150, 7928), (153, 7955), (168, 8012), (186, 8129), (188, 8141), (190, 8162), (205, 8255), (221, 8357), (223, 8363), (234, 8438), (242, 8498), (248, 8531), (253, 8561), (254, 8579), (257, 8597), (261, 8630), (264, 8642),

Gene: HunterDalle\_5 Start: 4834, Stop: 6081, Start Num: 39

Candidate Starts for HunterDalle\_5:

(Start: 39 @4834 has 6 MA's), (66, 4960), (132, 5224), (184, 5485), (185, 5488), (210, 5656), (215, 5689), (222, 5725), (223, 5728), (231, 5785),

Gene: Huntingdon\_8 Start: 7482, Stop: 8732, Start Num: 40

Candidate Starts for Huntingdon\_8:

(Start: 40 @7482 has 141 MA's), (147, 7938), (184, 8136), (185, 8139), (210, 8307), (221, 8373), (223, 8379), (231, 8436), (237, 8478), (238, 8481), (242, 8514), (249, 8550), (268, 8676), (271, 8700),

Gene: Icarian\_7 Start: 5389, Stop: 6576, Start Num: 40

Candidate Starts for Icarian\_7:

(Start: 40 @5389 has 141 MA's), (53, 5449), (61, 5494), (78, 5566), (128, 5749), (153, 5839), (159, 5866), (165, 5887), (185, 6001), (193, 6058), (194, 6061), (214, 6208), (243, 6367), (270, 6532), (272, 6553),

Gene: Immaculata\_8 Start: 7514, Stop: 8767, Start Num: 40

Candidate Starts for Immaculata\_8:

(Start: 40 @7514 has 141 MA's), (129, 7901), (132, 7910), (175, 8117), (184, 8171), (185, 8174), (187, 8192), (197, 8252), (210, 8342), (222, 8411), (223, 8414), (238, 8516), (245, 8564),

Gene: IndyLu\_6 Start: 5215, Stop: 6396, Start Num: 40

Candidate Starts for IndyLu\_6:

(Start: 40 @5215 has 141 MA's), (53, 5275), (78, 5392), (100, 5476), (104, 5497), (128, 5569), (153, 5659), (159, 5686), (185, 5821), (214, 6028), (243, 6187), (272, 6373),

Gene: Jamie19\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Jamie19\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Jamun\_7 Start: 5765, Stop: 7069, Start Num: 20

Candidate Starts for Jamun\_7:

(5, 5660), (8, 5726), (12, 5744), (Start: 20 @5765 has 66 MA's), (49, 5897), (96, 6101), (101, 6125), (123, 6206), (130, 6242), (146, 6308), (151, 6320), (155, 6353), (182, 6491), (198, 6593), (218, 6716), (219, 6725), (235, 6830), (245, 6878), (255, 6947), (256, 6953), (260, 6989), (266, 7016),

Gene: JanetJ\_7 Start: 5692, Stop: 6999, Start Num: 20

Candidate Starts for JanetJ\_7:

(Start: 20 @5692 has 66 MA's), (26, 5710), (49, 5824), (130, 6169), (170, 6340), (240, 6781), (260, 6916),

Gene: Joann\_8 Start: 7474, Stop: 8724, Start Num: 40

Candidate Starts for Joann\_8:

(Start: 40 @7474 has 141 MA's), (116, 7804), (184, 8128), (185, 8131), (210, 8299), (221, 8365), (223, 8371), (231, 8428), (238, 8473), (242, 8506), (249, 8542), (268, 8668),

Gene: Johnathan\_6 Start: 5142, Stop: 6323, Start Num: 40

Candidate Starts for Johnathan\_6:

(31, 5112), (Start: 40 @5142 has 141 MA's), (53, 5202), (78, 5319), (100, 5403), (128, 5496), (153, 5586), (159, 5613), (185, 5748), (193, 5805), (214, 5955), (240, 6102), (243, 6114), (272, 6300),

Gene: Jojo24\_6 Start: 4490, Stop: 5803, Start Num: 20

Candidate Starts for Jojo24\_6:

(1, 3665), (4, 4199), (6, 4373), (Start: 20 @4490 has 66 MA's), (27, 4529), (41, 4592), (49, 4628), (87, 4793), (130, 4973), (141, 5015), (151, 5051), (182, 5228), (187, 5267), (202, 5369), (211, 5417), (226, 5498), (235, 5561), (255, 5678), (270, 5759),

Gene: Journey\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Journey\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Jovita\_6 Start: 5253, Stop: 6434, Start Num: 40

Candidate Starts for Jovita\_6:

(Start: 40 @5253 has 141 MA's), (53, 5313), (78, 5430), (100, 5514), (128, 5607), (153, 5697), (159, 5724), (185, 5859), (193, 5916), (214, 6066), (240, 6213), (243, 6225), (272, 6411),

Gene: Jumboset\_8 Start: 7463, Stop: 8716, Start Num: 40

Candidate Starts for Jumboset\_8:

(Start: 40 @7463 has 141 MA's), (129, 7850), (132, 7859), (175, 8066), (184, 8120), (185, 8123), (187, 8141), (197, 8201), (210, 8291), (222, 8360), (223, 8363), (238, 8465), (245, 8513),

Gene: Juno112\_6 Start: 5086, Stop: 6429, Start Num: 12

Candidate Starts for Juno112\_6:

(8, 5068), (12, 5086), (14, 5095), (Start: 20 @5116 has 66 MA's), (49, 5248), (89, 5425), (96, 5452), (101, 5476), (130, 5593), (146, 5659), (149, 5668), (162, 5743), (182, 5848), (220, 6085), (221, 6097), (224, 6112), (235, 6187), (240, 6211), (241, 6217), (249, 6256), (255, 6304), (256, 6310), (266, 6373), (272, 6406),

Gene: KHumphrey\_6 Start: 5115, Stop: 6428, Start Num: 20

Candidate Starts for KHumphrey\_6:

(8, 5067), (12, 5085), (14, 5094), (Start: 20 @5115 has 66 MA's), (49, 5247), (89, 5424), (96, 5451), (101, 5475), (130, 5592), (146, 5658), (149, 5667), (162, 5742), (182, 5847), (220, 6084), (221, 6096),

(224, 6111), (235, 6186), (240, 6210), (241, 6216), (249, 6255), (255, 6303), (256, 6309), (266, 6372), (272, 6405),

Gene: Kabocha\_36 Start: 26100, Stop: 27527, Start Num: 7

Candidate Starts for Kabocha\_36:

(Start: 7 @26100 has 6 MA's), (34, 26244), (41, 26256), (49, 26292), (63, 26370), (67, 26388), (80, 26439), (86, 26457), (95, 26493), (99, 26526), (100, 26535), (105, 26556), (131, 26655), (155, 26760), (171, 26838), (184, 26931), (216, 27144), (230, 27237), (232, 27243), (233, 27252), (245, 27309), (272, 27483),

Gene: Kalizoi\_8 Start: 7463, Stop: 8716, Start Num: 40

Candidate Starts for Kalizoi\_8:

(Start: 40 @7463 has 141 MA's), (129, 7850), (132, 7859), (175, 8066), (184, 8120), (185, 8123), (187, 8141), (197, 8201), (210, 8291), (222, 8360), (223, 8363), (238, 8465), (245, 8513),

Gene: Katzastrophic\_6 Start: 5305, Stop: 6501, Start Num: 40

Candidate Starts for Katzastrophic\_6:

(Start: 40 @5305 has 141 MA's), (78, 5482), (100, 5575), (106, 5602), (128, 5668), (153, 5758), (159, 5785), (186, 5929), (188, 5941), (194, 5980), (214, 6127), (243, 6286), (270, 6451),

Gene: Kenzers\_6 Start: 5130, Stop: 6311, Start Num: 40

Candidate Starts for Kenzers\_6:

(31, 5100), (Start: 40 @5130 has 141 MA's), (53, 5190), (78, 5307), (100, 5391), (128, 5484), (153, 5574), (159, 5601), (164, 5613), (185, 5736), (193, 5793), (214, 5943), (240, 6090), (243, 6102), (272, 6288),

Gene: Kepler\_7 Start: 5520, Stop: 6833, Start Num: 20

Candidate Starts for Kepler\_7:

(Start: 15 @5499 has 4 MA's), (Start: 20 @5520 has 66 MA's), (49, 5652), (79, 5796), (89, 5829), (96, 5856), (130, 5997), (146, 6063), (149, 6072), (155, 6108), (182, 6252), (219, 6486), (221, 6501), (222, 6504), (235, 6591), (240, 6615), (249, 6660), (255, 6708), (256, 6714), (261, 6753), (263, 6759), (266, 6777),

Gene: Kevin1\_6 Start: 4369, Stop: 5661, Start Num: 20

Candidate Starts for Kevin1\_6:

(Start: 20 @4369 has 66 MA's), (23, 4381), (41, 4465), (49, 4501), (60, 4558), (72, 4597), (82, 4630), (88, 4651), (95, 4678), (96, 4681), (125, 4792), (130, 4822), (133, 4840), (139, 4858), (146, 4888), (149, 4897), (155, 4933), (158, 4957), (167, 4996), (176, 5050), (182, 5083), (186, 5113), (218, 5308), (219, 5317), (222, 5335), (240, 5440), (241, 5446), (255, 5533), (256, 5539), (275, 5647),

Gene: Khuang\_5 Start: 4284, Stop: 5510, Start Num: 37

Candidate Starts for Khuang\_5:

(37, 4284), (45, 4302), (64, 4404), (74, 4446), (85, 4482), (100, 4545), (144, 4689), (159, 4770), (184, 4908), (222, 5148), (224, 5160), (255, 5373), (260, 5415), (261, 5418),

Gene: Kieran\_6 Start: 5395, Stop: 6588, Start Num: 40

Candidate Starts for Kieran\_6:

(Start: 40 @5395 has 141 MA's), (53, 5455), (153, 5851), (159, 5878), (173, 5938), (185, 6013), (186, 6022), (193, 6070), (194, 6073), (214, 6220), (243, 6379), (270, 6544), (272, 6565),

Gene: KingBob\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for KingBob\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (242, 5863), (249, 5899),

Gene: Kittykat\_5 Start: 4819, Stop: 6066, Start Num: 40

Candidate Starts for Kittykat\_5:

(Start: 40 @4819 has 141 MA's), (175, 5416), (184, 5470), (185, 5473), (187, 5491), (210, 5641), (222, 5710), (223, 5713), (236, 5809), (238, 5815), (245, 5863),

Gene: Korra\_8 Start: 7469, Stop: 8722, Start Num: 40

Candidate Starts for Korra\_8:

(Start: 40 @7469 has 141 MA's), (129, 7856), (132, 7865), (175, 8072), (184, 8126), (185, 8129), (187, 8147), (197, 8207), (210, 8297), (222, 8366), (223, 8369), (238, 8471), (245, 8519),

Gene: Kuleana\_7 Start: 5487, Stop: 6806, Start Num: 20

Candidate Starts for Kuleana\_7:

(Start: 20 @5487 has 66 MA's), (49, 5625), (76, 5757), (79, 5769), (96, 5829), (101, 5853), (123, 5934), (130, 5970), (146, 6036), (149, 6045), (155, 6081), (182, 6225), (219, 6459), (224, 6489), (235, 6564), (240, 6588), (241, 6594), (249, 6633), (256, 6687), (261, 6726), (263, 6732), (270, 6762),

Gene: Kumotta\_7 Start: 5906, Stop: 7153, Start Num: 40

Candidate Starts for Kumotta\_7:

(Start: 40 @5906 has 141 MA's), (45, 5921), (61, 6011), (78, 6083), (159, 6416), (184, 6551), (253, 6992), (255, 7016), (266, 7085), (272, 7118),

Gene: Lahqtemish\_6 Start: 5216, Stop: 6403, Start Num: 40

Candidate Starts for Lahqtemish\_6:

(31, 5186), (Start: 40 @5216 has 141 MA's), (53, 5276), (78, 5393), (153, 5666), (159, 5693), (185, 5828), (214, 6035), (240, 6182), (243, 6194), (272, 6380),

Gene: Lakshmi\_8 Start: 7510, Stop: 8760, Start Num: 40

Candidate Starts for Lakshmi\_8:

(Start: 40 @7510 has 141 MA's), (184, 8164), (185, 8167), (210, 8335), (221, 8401), (223, 8407), (231, 8464), (238, 8509), (242, 8542), (249, 8578), (268, 8704), (271, 8728),

Gene: Lasagna\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Lasagna\_5:

(Start: 40 @4822 has 141 MA's), (83, 5017), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: Lennox\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Lennox\_5:

(Start: 40 @4822 has 141 MA's), (107, 5128), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (228, 5740), (238, 5818), (245, 5866),

Gene: Leona\_6 Start: 5131, Stop: 6471, Start Num: 11

Candidate Starts for Leona\_6:

(Start: 11 @5131 has 1 MA's), (Start: 15 @5143 has 4 MA's), (Start: 20 @5164 has 66 MA's), (49, 5296), (89, 5473), (96, 5500), (101, 5524), (123, 5605), (130, 5641), (146, 5707), (149, 5716), (155, 5752), (182, 5890), (220, 6127), (221, 6139), (235, 6229), (240, 6253), (241, 6259), (256, 6352), (266, 6415), (272, 6448),

Gene: LilStuart\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for LilStuart\_5:

(Start: 40 @4822 has 141 MA's), (83, 5017), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: LimaBean\_6 Start: 5142, Stop: 6323, Start Num: 40

Candidate Starts for LimaBean\_6:

(31, 5112), (Start: 40 @5142 has 141 MA's), (53, 5202), (78, 5319), (100, 5403), (128, 5496), (153, 5586), (159, 5613), (185, 5748), (193, 5805), (214, 5955), (240, 6102), (243, 6114), (272, 6300),

Gene: Litotes\_8 Start: 7465, Stop: 8715, Start Num: 40

Candidate Starts for Litotes\_8:

(Start: 40 @7465 has 141 MA's), (78, 7642), (107, 7774), (132, 7858), (135, 7873), (184, 8119), (185, 8122), (187, 8140), (210, 8290), (223, 8362), (231, 8419), (238, 8464), (249, 8533), (250, 8542), (272, 8686), (276, 8707),

Gene: LittleTokyo\_7 Start: 5442, Stop: 6755, Start Num: 21

Candidate Starts for LittleTokyo\_7:

(14, 5418), (Start: 21 @5442 has 1 MA's), (49, 5574), (79, 5718), (96, 5778), (101, 5802), (123, 5883), (130, 5919), (155, 6030), (182, 6174), (220, 6411), (221, 6423), (240, 6537), (255, 6630), (256, 6636), (260, 6672), (272, 6732), (273, 6738),

Gene: Loviatar\_12 Start: 5403, Stop: 6587, Start Num: 40

Candidate Starts for Loviatar\_12:

(Start: 40 @5403 has 141 MA's), (53, 5463), (61, 5508), (78, 5580), (128, 5760), (153, 5850), (159, 5877), (185, 6012), (193, 6069), (194, 6072), (214, 6219), (243, 6378), (270, 6543), (272, 6564),

Gene: Lton\_6 Start: 4345, Stop: 5667, Start Num: 18

Candidate Starts for Lton\_6:

(Start: 18 @4345 has 4 MA's), (22, 4354), (41, 4438), (64, 4546), (82, 4627), (95, 4675), (96, 4678), (105, 4738), (114, 4759), (130, 4837), (141, 4879), (154, 4945), (155, 4948), (178, 5068), (182, 5092), (186, 5122), (203, 5239), (219, 5326), (222, 5344), (240, 5449), (241, 5455), (256, 5548), (261, 5587), (266, 5611),

Gene: Lucy\_5 Start: 4813, Stop: 6060, Start Num: 40

Candidate Starts for Lucy\_5:

(Start: 40 @4813 has 141 MA's), (132, 5203), (136, 5221), (175, 5410), (184, 5464), (185, 5467), (187, 5485), (197, 5545), (210, 5635), (222, 5704), (223, 5707), (228, 5731), (238, 5809), (245, 5857),

Gene: Lunar\_8 Start: 5682, Stop: 6995, Start Num: 20

Candidate Starts for Lunar\_8:

(Start: 15 @5661 has 4 MA's), (Start: 20 @5682 has 66 MA's), (49, 5814), (79, 5958), (89, 5991), (96, 6018), (130, 6159), (146, 6225), (149, 6234), (155, 6270), (182, 6414), (219, 6648), (221, 6663), (222, 6666), (235, 6753), (240, 6777), (249, 6822), (255, 6870), (256, 6876), (261, 6915), (263, 6921), (266, 6939),

Gene: Lynlen\_6 Start: 5130, Stop: 6311, Start Num: 40

Candidate Starts for Lynlen\_6:

(31, 5100), (Start: 40 @5130 has 141 MA's), (53, 5190), (78, 5307), (100, 5391), (128, 5484), (153, 5574), (159, 5601), (164, 5613), (185, 5736), (193, 5793), (214, 5943), (240, 6090), (243, 6102), (272, 6288),

Gene: Magsby\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Magsby\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Mahdia\_5 Start: 4537, Stop: 5790, Start Num: 38

Candidate Starts for Mahdia\_5:

(14, 4423), (Start: 38 @4537 has 8 MA's), (51, 4591), (57, 4621), (64, 4657), (103, 4837), (110, 4864), (152, 5008), (159, 5050), (164, 5062), (169, 5083), (176, 5134), (177, 5137), (183, 5173), (194, 5248), (208, 5350), (212, 5371), (213, 5383), (229, 5461), (238, 5533), (242, 5566), (255, 5653), (261, 5698),

Gene: Maja\_6 Start: 5234, Stop: 6544, Start Num: 16

Candidate Starts for Maja\_6:

(Start: 16 @5234 has 1 MA's), (Start: 20 @5240 has 66 MA's), (26, 5255), (49, 5369), (82, 5522), (89, 5546), (96, 5573), (101, 5597), (114, 5636), (119, 5651), (130, 5714), (141, 5756), (149, 5789), (151, 5792), (167, 5882), (182, 5969), (187, 6008), (218, 6194), (224, 6233), (226, 6239), (261, 6464),

Gene: Makoto\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Makoto\_5:

(Start: 40 @4822 has 141 MA's), (83, 5017), (107, 5128), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (223, 5716), (228, 5740), (238, 5818), (245, 5866),

Gene: MamaPearl\_5 Start: 4813, Stop: 6063, Start Num: 40

Candidate Starts for MamaPearl\_5:

(Start: 40 @4813 has 141 MA's), (175, 5413), (184, 5467), (185, 5470), (187, 5488), (210, 5638), (222, 5707), (223, 5710), (228, 5734), (238, 5812), (245, 5860),

Gene: MargaretKali\_7 Start: 5320, Stop: 6636, Start Num: 20

Candidate Starts for MargaretKali\_7:

(Start: 20 @5320 has 66 MA's), (26, 5335), (49, 5449), (96, 5653), (130, 5800), (141, 5842), (149, 5875), (155, 5911), (167, 5968), (168, 5971), (182, 6055), (223, 6310), (224, 6319), (228, 6334), (235, 6394), (249, 6463), (255, 6511), (261, 6556), (272, 6613),

Gene: Maria1952\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for Maria1952\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (242, 5863), (249, 5899),

Gene: MeganNoll\_8 Start: 7520, Stop: 8773, Start Num: 40

Candidate Starts for MeganNoll\_8:

(Start: 40 @7520 has 141 MA's), (129, 7907), (132, 7916), (175, 8123), (184, 8177), (185, 8180), (187, 8198), (197, 8258), (210, 8348), (222, 8417), (223, 8420), (238, 8522), (245, 8570),

Gene: Melons\_8 Start: 5661, Stop: 6995, Start Num: 15

Candidate Starts for Melons\_8:

(Start: 15 @5661 has 4 MA's), (Start: 20 @5682 has 66 MA's), (49, 5814), (79, 5958), (89, 5991), (96, 6018), (130, 6159), (146, 6225), (149, 6234), (155, 6270), (182, 6414), (219, 6648), (221, 6663), (222, 6666), (235, 6753), (240, 6777), (249, 6822), (255, 6870), (256, 6876), (261, 6915), (263, 6921), (266, 6939),

Gene: Melville\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Melville\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: MichelleMyBell\_6 Start: 4383, Stop: 5675, Start Num: 20

Candidate Starts for MichelleMyBell\_6:

(Start: 20 @4383 has 66 MA's), (23, 4395), (41, 4479), (49, 4515), (60, 4572), (72, 4611), (82, 4644), (88, 4665), (95, 4692), (96, 4695), (125, 4806), (130, 4836), (139, 4872), (149, 4911), (155, 4947), (158, 4971), (167, 5010), (176, 5064), (182, 5097), (186, 5127), (218, 5322), (219, 5331), (222, 5349), (240, 5454), (241, 5460), (255, 5547), (256, 5553), (275, 5661),

Gene: Misaeng\_8 Start: 7547, Stop: 8797, Start Num: 40

Candidate Starts for Misaeng\_8:

(Start: 40 @7547 has 141 MA's), (184, 8201), (185, 8204), (210, 8372), (221, 8438), (223, 8444), (231, 8501), (237, 8543), (238, 8546), (242, 8579), (249, 8615), (268, 8741), (271, 8765),

Gene: Moki\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Moki\_5:

(Start: 40 @4822 has 141 MA's), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (210, 5644), (222, 5713), (223, 5716), (228, 5740), (238, 5818), (245, 5866), (249, 5887),

Gene: Moosehead\_6 Start: 4338, Stop: 5645, Start Num: 18

Candidate Starts for Moosehead\_6:

(Start: 18 @4338 has 4 MA's), (41, 4434), (49, 4470), (64, 4542), (82, 4623), (96, 4674), (105, 4716), (111, 4731), (130, 4815), (139, 4851), (141, 4857), (154, 4923), (155, 4926), (182, 5070), (203, 5217), (219, 5304), (227, 5346), (241, 5433), (256, 5526), (260, 5562),

Gene: Morrissey\_5 Start: 4548, Stop: 5792, Start Num: 38

Candidate Starts for Morrissey\_5:

(Start: 38 @4548 has 8 MA's), (46, 4575), (51, 4599), (103, 4845), (159, 5058), (164, 5070), (169, 5091), (177, 5145), (190, 5238), (194, 5256), (205, 5331), (212, 5379), (213, 5391), (215, 5400), (242, 5574), (253, 5637), (255, 5661), (261, 5706), (266, 5730), (268, 5736), (270, 5742),

Gene: MrGloopy\_8 Start: 7453, Stop: 8706, Start Num: 40

Candidate Starts for MrGloopy\_8:

(Start: 40 @7453 has 141 MA's), (129, 7840), (132, 7849), (175, 8056), (184, 8110), (185, 8113), (187, 8131), (197, 8191), (210, 8281), (222, 8350), (223, 8353), (238, 8455), (245, 8503),

Gene: Nancia\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Nancia\_5:

(Start: 40 @4822 has 141 MA's), (83, 5017), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: Nenae\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Nenae\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Nicky22\_7 Start: 5602, Stop: 6783, Start Num: 40

Candidate Starts for Nicky22\_7:



(Start: 40 @5602 has 141 MA's), (53, 5662), (78, 5779), (100, 5863), (128, 5956), (153, 6046), (159, 6073), (164, 6085), (185, 6208), (193, 6265), (214, 6415), (240, 6562), (243, 6574), (272, 6760),

Gene: Nubia\_8 Start: 7470, Stop: 8720, Start Num: 40

Candidate Starts for Nubia\_8:

(Start: 40 @7470 has 141 MA's), (116, 7800), (184, 8124), (185, 8127), (210, 8295), (221, 8361), (223, 8367), (231, 8424), (238, 8469), (242, 8502), (249, 8538), (268, 8664), (271, 8688),

Gene: OMalley\_5 Start: 4834, Stop: 6081, Start Num: 39

Candidate Starts for OMalley\_5:

(Start: 39 @4834 has 6 MA's), (66, 4960), (132, 5224), (184, 5485), (185, 5488), (210, 5656), (215, 5689), (222, 5725), (223, 5728), (231, 5785),

Gene: OneDirection\_6 Start: 4333, Stop: 5640, Start Num: 18

Candidate Starts for OneDirection\_6:

(Start: 18 @4333 has 4 MA's), (41, 4429), (49, 4465), (54, 4483), (64, 4537), (82, 4618), (96, 4669), (105, 4711), (111, 4726), (130, 4810), (139, 4846), (154, 4918), (155, 4921), (166, 4975), (167, 4978), (182, 5065), (219, 5299), (222, 5317), (227, 5341), (241, 5428), (256, 5521), (260, 5557),

Gene: Oogie\_35 Start: 26993, Stop: 28420, Start Num: 7

Candidate Starts for Oogie\_35:

(Start: 7 @26993 has 6 MA's), (34, 27137), (41, 27149), (49, 27185), (63, 27263), (67, 27281), (80, 27332), (86, 27350), (95, 27386), (99, 27419), (100, 27428), (105, 27449), (131, 27548), (155, 27653), (171, 27731), (184, 27824), (216, 28037), (230, 28130), (232, 28136), (233, 28145), (245, 28202), (272, 28376),

Gene: Orcanus\_7 Start: 5504, Stop: 6808, Start Num: 20

Candidate Starts for Orcanus\_7:

(Start: 20 @5504 has 66 MA's), (49, 5636), (64, 5708), (96, 5840), (101, 5861), (123, 5942), (130, 5978), (146, 6044), (151, 6056), (169, 6149), (182, 6227), (220, 6464), (235, 6566), (240, 6590), (245, 6614), (255, 6683), (256, 6689), (260, 6725), (266, 6752),

Gene: OurGirlNessie\_5 Start: 4813, Stop: 6060, Start Num: 40

Candidate Starts for OurGirlNessie\_5:

(Start: 40 @4813 has 141 MA's), (83, 5008), (107, 5119), (132, 5203), (136, 5221), (175, 5410), (184, 5464), (185, 5467), (187, 5485), (197, 5545), (210, 5635), (222, 5704), (223, 5707), (238, 5809), (245, 5857),

Gene: Oxynfrius\_8 Start: 7483, Stop: 8733, Start Num: 40

Candidate Starts for Oxynfrius\_8:

(Start: 40 @7483 has 141 MA's), (184, 8137), (185, 8140), (210, 8308), (221, 8374), (223, 8380), (231, 8437), (238, 8482), (242, 8515), (249, 8551), (268, 8677), (271, 8701),

Gene: PFR1\_05 Start: 4989, Stop: 6275, Start Num: 40

Candidate Starts for PFR1\_05:

(Start: 40 @4989 has 141 MA's), (43, 4998), (55, 5049), (63, 5100), (94, 5217), (98, 5250), (112, 5313), (117, 5328), (120, 5337), (121, 5343), (126, 5373), (139, 5430), (173, 5586), (176, 5607), (179, 5619), (180, 5622), (184, 5658), (189, 5691), (190, 5703), (191, 5706), (199, 5769), (206, 5802), (207, 5814), (212, 5850), (213, 5862), (222, 5907), (223, 5910), (239, 6027), (241, 6042), (243, 6048), (249, 6081), (253, 6108), (256, 6138), (260, 6174), (265, 6195),

Gene: PFR2\_05 Start: 4989, Stop: 6275, Start Num: 40

Candidate Starts for PFR2\_05:

(Start: 40 @4989 has 141 MA's), (43, 4998), (55, 5049), (63, 5100), (94, 5217), (98, 5250), (112, 5313), (117, 5328), (120, 5337), (121, 5343), (126, 5373), (139, 5430), (173, 5586), (176, 5607), (179, 5619), (180, 5622), (184, 5658), (189, 5691), (190, 5703), (191, 5706), (199, 5769), (206, 5802), (207, 5814), (212, 5850), (213, 5862), (222, 5907), (223, 5910), (239, 6027), (241, 6042), (243, 6048), (249, 6081), (253, 6108), (256, 6138), (260, 6174), (265, 6195),

Gene: Pakusa\_34 Start: 25029, Stop: 26456, Start Num: 7

Candidate Starts for Pakusa\_34:

(Start: 7 @25029 has 6 MA's), (34, 25173), (41, 25185), (49, 25221), (63, 25299), (67, 25317), (80, 25368), (86, 25386), (95, 25422), (99, 25455), (100, 25464), (105, 25485), (131, 25584), (155, 25689), (171, 25767), (184, 25860), (216, 26073), (230, 26166), (232, 26172), (233, 26181), (245, 26238), (272, 26412),

Gene: Panchino\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Panchino\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Parmesanjohn\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Parmesanjohn\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: PartyCup\_8 Start: 7512, Stop: 8762, Start Num: 40

Candidate Starts for PartyCup\_8:

(Start: 40 @7512 has 141 MA's), (78, 7689), (107, 7821), (132, 7905), (135, 7920), (184, 8166), (185, 8169), (187, 8187), (210, 8337), (223, 8409), (231, 8466), (238, 8511), (249, 8580), (250, 8589), (272, 8733),

Gene: Pepperoni\_6 Start: 4639, Stop: 5961, Start Num: 18

Candidate Starts for Pepperoni\_6:

(Start: 18 @4639 has 4 MA's), (22, 4648), (41, 4732), (64, 4840), (82, 4921), (95, 4969), (96, 4972), (105, 5032), (114, 5053), (130, 5131), (141, 5173), (154, 5239), (155, 5242), (178, 5362), (182, 5386), (186, 5416), (203, 5533), (219, 5620), (222, 5638), (240, 5743), (241, 5749), (256, 5842), (261, 5881), (266, 5905),

Gene: PhancyPhin\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for PhancyPhin\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Philonius\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Philonius\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Phisb\_6 Start: 5130, Stop: 6311, Start Num: 40

Candidate Starts for Phisb\_6:

(Start: 40 @5130 has 141 MA's), (53, 5190), (78, 5307), (100, 5391), (128, 5484), (153, 5574), (159, 5601), (164, 5613), (185, 5736), (193, 5793), (214, 5943), (240, 6090), (243, 6102), (272, 6288),

Gene: Phloss\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Phloss\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: PhluffyCoco\_6 Start: 5085, Stop: 6428, Start Num: 12

Candidate Starts for PhluffyCoco\_6:

(8, 5067), (12, 5085), (14, 5094), (Start: 20 @5115 has 66 MA's), (49, 5247), (89, 5424), (96, 5451), (101, 5475), (130, 5592), (146, 5658), (149, 5667), (162, 5742), (182, 5847), (220, 6084), (221, 6096), (224, 6111), (235, 6186), (240, 6210), (241, 6216), (249, 6255), (255, 6303), (256, 6309), (266, 6372), (272, 6405),

Gene: Phrann\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Phrann\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: PinkFriday\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for PinkFriday\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (249, 5899),

Gene: Pipsqueaks\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Pipsqueaks\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: PitaDog\_5 Start: 4813, Stop: 6060, Start Num: 40

Candidate Starts for PitaDog\_5:

(Start: 40 @4813 has 141 MA's), (83, 5008), (132, 5203), (136, 5221), (175, 5410), (184, 5464), (185, 5467), (187, 5485), (197, 5545), (210, 5635), (222, 5704), (223, 5707), (238, 5809), (245, 5857),

Gene: Polka\_7 Start: 5521, Stop: 6834, Start Num: 20

Candidate Starts for Polka\_7:

(Start: 15 @5500 has 4 MA's), (Start: 20 @5521 has 66 MA's), (49, 5653), (79, 5797), (89, 5830), (96, 5857), (130, 5998), (146, 6064), (149, 6073), (155, 6109), (182, 6253), (219, 6487), (221, 6502), (222, 6505), (235, 6592), (240, 6616), (249, 6661), (255, 6709), (256, 6715), (261, 6754), (263, 6760), (266, 6778),

Gene: Potatoes\_8 Start: 7514, Stop: 8767, Start Num: 40

Candidate Starts for Potatoes\_8:

(Start: 40 @7514 has 141 MA's), (129, 7901), (132, 7910), (175, 8117), (184, 8171), (185, 8174), (187, 8192), (197, 8252), (210, 8342), (222, 8411), (223, 8414), (238, 8516), (245, 8564),

Gene: Preamble\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for Preamble\_5:

(Start: 40 @4822 has 141 MA's), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (210, 5644), (222, 5713), (223, 5716), (236, 5812), (238, 5818), (245, 5866),

Gene: Pterodactyl\_5 Start: 4813, Stop: 6060, Start Num: 40

Candidate Starts for Pterodactyl\_5:

(Start: 40 @4813 has 141 MA's), (132, 5203), (136, 5221), (175, 5410), (184, 5464), (185, 5467), (187, 5485), (197, 5545), (210, 5635), (222, 5704), (223, 5707), (238, 5809), (240, 5833), (245, 5857),

Gene: Pumancara\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for Pumancara\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (249, 5899),

Gene: Puppies\_5 Start: 4440, Stop: 5696, Start Num: 36

Candidate Starts for Puppies\_5:

(Start: 36 @4440 has 2 MA's), (51, 4497), (57, 4527), (75, 4620), (103, 4743), (110, 4770), (159, 4965), (196, 5175), (213, 5298), (224, 5355), (237, 5445), (255, 5568), (261, 5613),

Gene: Purgamenstris\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Purgamenstris\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: QMacho\_7 Start: 5610, Stop: 6791, Start Num: 40

Candidate Starts for QMacho\_7:

(Start: 40 @5610 has 141 MA's), (53, 5670), (78, 5787), (100, 5871), (128, 5964), (153, 6054), (159, 6081), (164, 6093), (185, 6216), (193, 6273), (214, 6423), (240, 6570), (243, 6582), (272, 6768),

Gene: Quenya\_7 Start: 5311, Stop: 6507, Start Num: 40

Candidate Starts for Quenya\_7:

(Start: 40 @5311 has 141 MA's), (78, 5488), (100, 5581), (128, 5674), (153, 5764), (159, 5791), (164, 5803), (186, 5935), (188, 5947), (194, 5986), (214, 6133), (243, 6292), (270, 6457),

Gene: RAP15\_8 Start: 7520, Stop: 8773, Start Num: 40

Candidate Starts for RAP15\_8:

(Start: 40 @7520 has 141 MA's), (129, 7907), (132, 7916), (175, 8123), (184, 8177), (185, 8180), (187, 8198), (197, 8258), (210, 8348), (222, 8417), (223, 8420), (238, 8522), (245, 8570),

Gene: Raymond7\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Raymond7\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: RcigaStruga\_8 Start: 7482, Stop: 8732, Start Num: 40

Candidate Starts for RcigaStruga\_8:

(Start: 40 @7482 has 141 MA's), (147, 7938), (184, 8136), (185, 8139), (210, 8307), (221, 8373), (223, 8379), (231, 8436), (237, 8478), (238, 8481), (242, 8514), (249, 8550), (268, 8676), (271, 8700),

Gene: Rebel\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Rebel\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: RedFox\_6 Start: 5115, Stop: 6428, Start Num: 20

Candidate Starts for RedFox\_6:

(8, 5067), (12, 5085), (14, 5094), (Start: 20 @5115 has 66 MA's), (49, 5247), (89, 5424), (96, 5451), (101, 5475), (130, 5592), (146, 5658), (149, 5667), (162, 5742), (182, 5847), (220, 6084), (221, 6096), (224, 6111), (235, 6186), (240, 6210), (241, 6216), (249, 6255), (255, 6303), (256, 6309), (266, 6372), (272, 6405),

Gene: Redi\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Redi\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Renna12\_7 Start: 5310, Stop: 6623, Start Num: 20

Candidate Starts for Renna12\_7:

(Start: 11 @5277 has 1 MA's), (Start: 15 @5289 has 4 MA's), (Start: 20 @5310 has 66 MA's), (24, 5325), (49, 5442), (89, 5619), (96, 5646), (101, 5670), (130, 5787), (146, 5853), (149, 5862), (182, 6042), (221, 6291), (235, 6381), (240, 6405), (241, 6411), (255, 6498), (256, 6504), (266, 6567), (272, 6600),

Gene: Reyja\_7 Start: 4610, Stop: 5923, Start Num: 20

Candidate Starts for Reyja\_7:

(Start: 20 @4610 has 66 MA's), (27, 4649), (41, 4712), (49, 4748), (87, 4913), (130, 5093), (141, 5135), (151, 5171), (182, 5348), (187, 5387), (202, 5489), (211, 5537), (223, 5603), (226, 5618), (235, 5681), (255, 5798), (258, 5819), (270, 5879),

Gene: Riovina\_5 Start: 4834, Stop: 6081, Start Num: 39

Candidate Starts for Riovina\_5:

(Start: 39 @4834 has 6 MA's), (66, 4960), (132, 5224), (184, 5485), (185, 5488), (210, 5656), (215, 5689), (222, 5725), (223, 5728), (231, 5785),

Gene: Riverdale\_8 Start: 7451, Stop: 8704, Start Num: 40

Candidate Starts for Riverdale\_8:

(Start: 40 @7451 has 141 MA's), (129, 7838), (132, 7847), (175, 8054), (184, 8108), (185, 8111), (187, 8129), (197, 8189), (210, 8279), (222, 8348), (223, 8351), (238, 8453), (245, 8501),

Gene: Rollins\_5 Start: 5060, Stop: 6250, Start Num: 40

Candidate Starts for Rollins\_5:

(Start: 40 @5060 has 141 MA's), (53, 5120), (78, 5237), (142, 5459), (153, 5516), (156, 5522), (159, 5543), (161, 5552), (195, 5741), (243, 6035), (249, 6068), (270, 6200), (272, 6221), (277, 6245),

Gene: Rona\_6 Start: 5395, Stop: 6588, Start Num: 40

Candidate Starts for Rona\_6:

(Start: 40 @5395 has 141 MA's), (53, 5455), (153, 5851), (159, 5878), (173, 5938), (185, 6013), (186, 6022), (193, 6070), (194, 6073), (214, 6220), (243, 6379), (270, 6544), (272, 6565),

Gene: RootBeer\_6 Start: 4509, Stop: 5753, Start Num: 25

Candidate Starts for RootBeer\_6:

(Start: 25 @4509 has 1 MA's), (182, 5175), (187, 5214), (205, 5331), (209, 5358), (246, 5562),

Gene: Rozby\_8 Start: 7451, Stop: 8704, Start Num: 40

Candidate Starts for Rozby\_8:

(Start: 40 @7451 has 141 MA's), (129, 7838), (132, 7847), (175, 8054), (184, 8108), (185, 8111), (187, 8129), (197, 8189), (210, 8279), (222, 8348), (223, 8351), (238, 8453), (245, 8501),

Gene: Rubeelu\_6 Start: 4369, Stop: 5661, Start Num: 20

Candidate Starts for Rubeelu\_6:

(Start: 20 @4369 has 66 MA's), (23, 4381), (41, 4465), (49, 4501), (60, 4558), (72, 4597), (82, 4630), (88, 4651), (95, 4678), (96, 4681), (125, 4792), (130, 4822), (133, 4840), (139, 4858), (146, 4888), (149, 4897), (155, 4933), (158, 4957), (167, 4996), (176, 5050), (182, 5083), (186, 5113), (218, 5308), (219, 5317), (222, 5335), (240, 5440), (241, 5446), (255, 5533), (256, 5539), (275, 5647),

Gene: Ruchi\_7 Start: 5750, Stop: 7054, Start Num: 20

Candidate Starts for Ruchi\_7:

(Start: 20 @5750 has 66 MA's), (49, 5882), (71, 5987), (96, 6086), (101, 6110), (130, 6227), (146, 6293), (151, 6305), (155, 6338), (182, 6476), (198, 6578), (218, 6701), (219, 6710), (235, 6815), (245, 6863), (256, 6938), (260, 6974), (266, 7001),

Gene: SanaSana\_7 Start: 5403, Stop: 6587, Start Num: 40

Candidate Starts for SanaSana\_7:

(Start: 40 @5403 has 141 MA's), (53, 5463), (61, 5508), (78, 5580), (128, 5760), (153, 5850), (159, 5877), (185, 6012), (193, 6069), (194, 6072), (214, 6219), (243, 6378), (270, 6543), (272, 6564),

Gene: SansAfet\_6 Start: 5130, Stop: 6311, Start Num: 40

Candidate Starts for SansAfet\_6:

(Start: 40 @5130 has 141 MA's), (53, 5190), (78, 5307), (100, 5391), (128, 5484), (153, 5574), (159, 5601), (164, 5613), (185, 5736), (193, 5793), (214, 5943), (240, 6090), (243, 6102), (272, 6288),

Gene: Santhid\_6 Start: 4492, Stop: 5805, Start Num: 20

Candidate Starts for Santhid\_6:

(2, 4003), (3, 4054), (4, 4201), (6, 4375), (Start: 20 @4492 has 66 MA's), (27, 4531), (41, 4594), (49, 4630), (87, 4795), (130, 4975), (141, 5017), (151, 5053), (182, 5230), (187, 5269), (202, 5371), (211, 5419), (226, 5500), (235, 5563), (255, 5680), (270, 5761),

Gene: Sapo\_4 Start: 3892, Stop: 5178, Start Num: 38

Candidate Starts for Sapo\_4:

(Start: 38 @3892 has 8 MA's), (126, 4273), (128, 4285), (143, 4339), (144, 4342), (168, 4465), (169, 4468), (205, 4708), (212, 4753), (222, 4810), (243, 4954),

Gene: SarBear\_6 Start: 5127, Stop: 6308, Start Num: 40

Candidate Starts for SarBear\_6:

(Start: 40 @5127 has 141 MA's), (53, 5187), (78, 5304), (100, 5388), (128, 5481), (153, 5571), (159, 5598), (164, 5610), (185, 5733), (193, 5790), (214, 5940), (240, 6087), (243, 6099), (272, 6285),

Gene: Sarge\_6 Start: 4818, Stop: 6134, Start Num: 20

Candidate Starts for Sarge\_6:

(12, 4797), (Start: 20 @4818 has 66 MA's), (26, 4833), (49, 4947), (82, 5100), (89, 5124), (96, 5151), (130, 5298), (138, 5331), (141, 5340), (151, 5376), (167, 5466), (182, 5553), (218, 5778), (226, 5823), (240, 5916), (248, 5958), (249, 5961), (261, 6054),

Gene: Savage2526\_8 Start: 7514, Stop: 8767, Start Num: 40

Candidate Starts for Savage2526\_8:

(Start: 40 @7514 has 141 MA's), (129, 7901), (132, 7910), (175, 8117), (184, 8171), (185, 8174), (187, 8192), (197, 8252), (210, 8342), (222, 8411), (223, 8414), (238, 8516), (245, 8564),

Gene: ScarletRaider\_34 Start: 28188, Stop: 29597, Start Num: 7

Candidate Starts for ScarletRaider\_34:

(Start: 7 @28188 has 6 MA's), (13, 28206), (17, 28227), (41, 28335), (44, 28344), (49, 28371), (52, 28395), (63, 28449), (73, 28494), (80, 28521), (86, 28539), (95, 28575), (99, 28608), (100, 28617), (125, 28710), (131, 28737), (187, 29034), (216, 29226), (230, 29319), (233, 29334), (245, 29391),

Gene: Schmidt\_8 Start: 5736, Stop: 7001, Start Num: 40

Candidate Starts for Schmidt\_8:

(Start: 40 @5736 has 141 MA's), (47, 5766), (51, 5787), (56, 5808), (64, 5847), (93, 5943), (100, 6000), (115, 6051), (127, 6096), (138, 6138), (140, 6144), (148, 6183), (153, 6213), (173, 6300), (194, 6438), (213, 6570), (231, 6675), (238, 6720), (244, 6765), (249, 6789), (253, 6816), (254, 6834), (261, 6885), (270, 6921), (278, 6972),

Gene: Schnauzer\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Schnauzer\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Schomber\_34 Start: 25037, Stop: 26464, Start Num: 7

Candidate Starts for Schomber\_34:

(Start: 7 @25037 has 6 MA's), (34, 25181), (41, 25193), (49, 25229), (63, 25307), (67, 25325), (80, 25376), (86, 25394), (95, 25430), (99, 25463), (100, 25472), (105, 25493), (131, 25592), (155, 25697), (171, 25775), (184, 25868), (216, 26081), (230, 26174), (232, 26180), (233, 26189), (245, 26246), (272, 26420),

Gene: Scitech\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Scitech\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Scuttle\_8 Start: 7520, Stop: 8773, Start Num: 40

Candidate Starts for Scuttle\_8:

(Start: 40 @7520 has 141 MA's), (129, 7907), (132, 7916), (175, 8123), (184, 8177), (185, 8180), (187, 8198), (197, 8258), (210, 8348), (222, 8417), (223, 8420), (238, 8522), (245, 8570), (276, 8765),

Gene: Sergei\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for Sergei\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (242, 5863), (249, 5899),

Gene: Shambre1\_7 Start: 6059, Stop: 7345, Start Num: 25

Candidate Starts for Shambre1\_7:

(Start: 25 @6059 has 1 MA's), (100, 6398), (172, 6701), (182, 6767), (183, 6773), (255, 7217), (267, 7289),

Gene: Sharkboy\_6 Start: 5394, Stop: 6587, Start Num: 40

Candidate Starts for Sharkboy\_6:

(Start: 40 @5394 has 141 MA's), (53, 5454), (153, 5850), (159, 5877), (173, 5937), (185, 6012), (186, 6021), (193, 6069), (194, 6072), (214, 6219), (243, 6378), (270, 6543), (272, 6564),

Gene: Shoya\_5 Start: 4578, Stop: 5801, Start Num: 40

Candidate Starts for Shoya\_5:

(Start: 40 @4578 has 141 MA's), (61, 4683), (78, 4755), (103, 4854), (129, 4938), (144, 4986), (184, 5202), (188, 5226), (215, 5412), (222, 5448), (242, 5586), (248, 5619),

Gene: ShrimpFriedEgg\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for ShrimpFriedEgg\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Shweta\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Shweta\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Silvafighter\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Silvafighter\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Silvy\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Silvy\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: SkinnyPete\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for SkinnyPete\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),



Gene: Skylord\_5 Start: 5000, Stop: 6190, Start Num: 40

Candidate Starts for Skylord\_5:

(Start: 40 @5000 has 141 MA's), (53, 5060), (78, 5177), (142, 5399), (153, 5456), (156, 5462), (159, 5483), (161, 5492), (195, 5681), (243, 5975), (249, 6008), (270, 6140), (272, 6161), (277, 6185),

Gene: Slay\_6 Start: 5604, Stop: 6785, Start Num: 40

Candidate Starts for Slay\_6:

(Start: 40 @5604 has 141 MA's), (53, 5664), (78, 5781), (100, 5865), (128, 5958), (153, 6048), (159, 6075), (164, 6087), (185, 6210), (193, 6267), (214, 6417), (240, 6564), (243, 6576), (272, 6762),

Gene: Smurph\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Smurph\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Snekmaggedon\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for Snekmaggedon\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Splinter\_10 Start: 7211, Stop: 8500, Start Num: 29

Candidate Starts for Splinter\_10:

(Start: 28 @7193 has 5 MA's), (Start: 29 @7211 has 2 MA's), (Start: 40 @7244 has 141 MA's), (42, 7250), (81, 7424), (90, 7445), (93, 7451), (100, 7514), (113, 7559), (153, 7730), (168, 7787), (186, 7904), (188, 7916), (190, 7937), (194, 7955), (205, 8030), (221, 8132), (223, 8138), (234, 8213), (237, 8237), (242, 8273), (248, 8306), (253, 8336), (254, 8354), (257, 8372), (261, 8405), (264, 8417),

Gene: SpongeBob\_6 Start: 4389, Stop: 5684, Start Num: 20

Candidate Starts for SpongeBob\_6:

(Start: 20 @4389 has 66 MA's), (23, 4401), (41, 4485), (49, 4521), (60, 4578), (72, 4617), (82, 4650), (88, 4671), (95, 4698), (125, 4812), (128, 4836), (130, 4842), (139, 4878), (149, 4917), (155, 4953), (167, 5016), (176, 5070), (182, 5103), (190, 5166), (205, 5259), (218, 5328), (219, 5337), (222, 5355), (239, 5451), (240, 5460), (241, 5466), (242, 5469), (252, 5526), (255, 5553), (256, 5559),

Gene: Stoor\_6 Start: 5400, Stop: 6584, Start Num: 40

Candidate Starts for Stoor\_6:

(Start: 40 @5400 has 141 MA's), (53, 5460), (61, 5505), (78, 5577), (128, 5757), (153, 5847), (159, 5874), (185, 6009), (193, 6066), (194, 6069), (214, 6216), (243, 6375), (270, 6540), (272, 6561),

Gene: Stromboli\_6 Start: 5400, Stop: 6584, Start Num: 40

Candidate Starts for Stromboli\_6:

(Start: 40 @5400 has 141 MA's), (53, 5460), (61, 5505), (78, 5577), (128, 5757), (153, 5847), (159, 5874), (185, 6009), (193, 6066), (194, 6069), (214, 6216), (243, 6375), (272, 6561),

Gene: Supakev\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for Supakev\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (249, 5899),

Gene: Suppi\_8 Start: 7512, Stop: 8762, Start Num: 40

Candidate Starts for Suppi\_8:

(Start: 40 @7512 has 141 MA's), (78, 7689), (107, 7821), (132, 7905), (135, 7920), (184, 8166), (185, 8169), (187, 8187), (210, 8337), (223, 8409), (228, 8433), (231, 8466), (238, 8511), (249, 8580), (250, 8589), (272, 8733),

Gene: Swervy\_6 Start: 5127, Stop: 6308, Start Num: 40

Candidate Starts for Swervy\_6:

(Start: 40 @5127 has 141 MA's), (53, 5187), (78, 5304), (100, 5388), (128, 5481), (153, 5571), (159, 5598), (164, 5610), (185, 5733), (193, 5790), (214, 5940), (240, 6087), (243, 6099), (272, 6285),

Gene: TZGordon\_12 Start: 7336, Stop: 8643, Start Num: 28

Candidate Starts for TZGordon\_12:

(Start: 28 @7336 has 5 MA's), (Start: 29 @7354 has 2 MA's), (Start: 40 @7387 has 141 MA's), (42, 7393), (81, 7567), (90, 7588), (93, 7594), (100, 7657), (113, 7702), (150, 7846), (153, 7873), (168, 7930), (186, 8047), (188, 8059), (190, 8080), (205, 8173), (221, 8275), (223, 8281), (234, 8356), (248, 8449), (253, 8479), (254, 8497), (257, 8515), (261, 8548), (264, 8560),

Gene: Tapioca\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Tapioca\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Tarzan\_6 Start: 4496, Stop: 5809, Start Num: 20

Candidate Starts for Tarzan\_6:

(Start: 20 @4496 has 66 MA's), (27, 4535), (41, 4598), (49, 4634), (87, 4799), (130, 4979), (141, 5021), (145, 5042), (151, 5057), (166, 5144), (182, 5234), (187, 5273), (202, 5375), (211, 5423), (226, 5504), (235, 5567), (255, 5684), (270, 5765),

Gene: TattModd\_8 Start: 7514, Stop: 8767, Start Num: 40

Candidate Starts for TattModd\_8:

(Start: 40 @7514 has 141 MA's), (129, 7901), (132, 7910), (175, 8117), (184, 8171), (185, 8174), (187, 8192), (197, 8252), (210, 8342), (222, 8411), (223, 8414), (238, 8516), (245, 8564),

Gene: TaylorSipht\_7 Start: 5516, Stop: 6829, Start Num: 20

Candidate Starts for TaylorSipht\_7:

(Start: 20 @5516 has 66 MA's), (49, 5648), (76, 5780), (96, 5852), (123, 5957), (130, 5993), (139, 6029), (146, 6059), (151, 6071), (182, 6248), (218, 6473), (220, 6485), (235, 6587), (240, 6611), (255, 6704), (256, 6710), (260, 6746), (261, 6749), (263, 6755), (266, 6773), (273, 6812),

Gene: Temper16\_5 Start: 4834, Stop: 6081, Start Num: 40

Candidate Starts for Temper16\_5:

(Start: 40 @4834 has 141 MA's), (66, 4960), (104, 5128), (129, 5215), (184, 5485), (185, 5488), (197, 5566), (210, 5656), (223, 5728), (231, 5785), (242, 5863), (249, 5899),

Gene: TinaLin\_13 Start: 8010, Stop: 9260, Start Num: 40

Candidate Starts for TinaLin\_13:

(Start: 40 @8010 has 141 MA's), (51, 8061), (81, 8190), (93, 8217), (100, 8277), (113, 8322), (128, 8379), (129, 8382), (152, 8478), (174, 8586), (179, 8616), (186, 8667), (188, 8679), (194, 8718), (198, 8739), (204, 8787), (213, 8850), (220, 8880), (243, 9036), (249, 9069), (251, 9090), (259, 9153), (261, 9165), (264, 9177),

Gene: Trine\_5 Start: 4486, Stop: 5751, Start Num: 38

Candidate Starts for Trine\_5:

(Start: 38 @4486 has 8 MA's), (64, 4606), (70, 4636), (83, 4693), (97, 4750), (103, 4789), (106, 4807), (159, 5005), (164, 5017), (168, 5035), (169, 5038), (179, 5101), (183, 5128), (191, 5188), (194, 5203), (206, 5284), (212, 5326), (213, 5338), (238, 5488), (253, 5584), (261, 5653),

Gene: TukTuk\_6 Start: 5127, Stop: 6308, Start Num: 40

Candidate Starts for TukTuk\_6:

(Start: 40 @5127 has 141 MA's), (53, 5187), (78, 5304), (100, 5388), (128, 5481), (153, 5571), (159, 5598), (164, 5610), (185, 5733), (193, 5790), (214, 5940), (240, 6087), (243, 6099), (272, 6285),

Gene: UBSmoodge\_36 Start: 27923, Stop: 29332, Start Num: 7

Candidate Starts for UBSmoodge\_36:

(Start: 7 @27923 has 6 MA's), (13, 27941), (17, 27962), (41, 28070), (44, 28079), (49, 28106), (52, 28130), (63, 28184), (73, 28229), (80, 28256), (86, 28274), (95, 28310), (99, 28343), (100, 28352), (125, 28445), (131, 28472), (187, 28769), (216, 28961), (230, 29054), (233, 29069), (245, 29126),

Gene: Upyo\_5 Start: 4487, Stop: 5743, Start Num: 38

Candidate Starts for Upyo\_5:

(Start: 38 @4487 has 8 MA's), (Start: 40 @4490 has 141 MA's), (47, 4520), (98, 4760), (103, 4790), (164, 5021), (183, 5132), (191, 5192), (194, 5207), (212, 5330), (213, 5342), (237, 5489), (238, 5492), (242, 5525), (244, 5537), (253, 5588), (261, 5657), (266, 5681), (268, 5687), (270, 5693),

Gene: Urla\_5 Start: 4817, Stop: 6067, Start Num: 40

Candidate Starts for Urla\_5:

(Start: 40 @4817 has 141 MA's), (175, 5417), (184, 5471), (185, 5474), (187, 5492), (210, 5642), (222, 5711), (223, 5714), (228, 5738), (238, 5816), (245, 5864),

Gene: Vallejo\_8 Start: 7451, Stop: 8704, Start Num: 40

Candidate Starts for Vallejo\_8:

(Start: 40 @7451 has 141 MA's), (129, 7838), (132, 7847), (175, 8054), (184, 8108), (185, 8111), (187, 8129), (197, 8189), (210, 8279), (222, 8348), (223, 8351), (238, 8453), (245, 8501),

Gene: Vendetta\_10 Start: 7211, Stop: 8500, Start Num: 29

Candidate Starts for Vendetta\_10:

(Start: 28 @7193 has 5 MA's), (Start: 29 @7211 has 2 MA's), (Start: 40 @7244 has 141 MA's), (42, 7250), (81, 7424), (90, 7445), (93, 7451), (100, 7514), (113, 7559), (153, 7730), (168, 7787), (186, 7904), (188, 7916), (190, 7937), (194, 7955), (205, 8030), (221, 8132), (223, 8138), (234, 8213), (237, 8237), (242, 8273), (248, 8306), (253, 8336), (254, 8354), (257, 8372), (261, 8405), (264, 8417),

Gene: Vitas\_5 Start: 5000, Stop: 6190, Start Num: 40

Candidate Starts for Vitas\_5:

(Start: 40 @5000 has 141 MA's), (53, 5060), (78, 5177), (142, 5399), (153, 5456), (156, 5462), (159, 5483), (161, 5492), (195, 5681), (243, 5975), (249, 6008), (270, 6140), (272, 6161), (277, 6185),

Gene: Vulpecula\_7 Start: 5831, Stop: 7132, Start Num: 20

Candidate Starts for Vulpecula\_7:

(5, 5726), (8, 5792), (12, 5810), (Start: 20 @5831 has 66 MA's), (49, 5963), (96, 6167), (101, 6188), (123, 6269), (130, 6305), (146, 6371), (151, 6383), (155, 6416), (182, 6554), (218, 6779), (220, 6791), (235, 6893), (240, 6917), (245, 6941), (255, 7010), (256, 7016), (260, 7052), (266, 7079),

Gene: Vulture\_5 Start: 4834, Stop: 6081, Start Num: 39

Candidate Starts for Vulture\_5:

(Start: 39 @4834 has 6 MA's), (66, 4960), (132, 5224), (184, 5485), (185, 5488), (210, 5656), (215, 5689), (222, 5725), (223, 5728), (231, 5785),

Gene: Wawa\_8 Start: 7490, Stop: 8743, Start Num: 40

Candidate Starts for Wawa\_8:

(Start: 40 @7490 has 141 MA's), (129, 7877), (132, 7886), (175, 8093), (184, 8147), (185, 8150), (187, 8168), (197, 8228), (210, 8318), (222, 8387), (223, 8390), (238, 8492), (245, 8540),

Gene: Wayne\_8 Start: 7558, Stop: 8808, Start Num: 40

Candidate Starts for Wayne\_8:

(Start: 40 @7558 has 141 MA's), (78, 7735), (107, 7867), (132, 7951), (135, 7966), (184, 8212), (185, 8215), (187, 8233), (210, 8383), (223, 8455), (228, 8479), (231, 8512), (238, 8557), (249, 8626), (250, 8635), (272, 8779),

Gene: Widow\_5 Start: 4437, Stop: 5693, Start Num: 36

Candidate Starts for Widow\_5:

(Start: 36 @4437 has 2 MA's), (51, 4494), (57, 4524), (75, 4617), (103, 4740), (110, 4767), (159, 4962), (196, 5172), (213, 5295), (224, 5352), (229, 5373), (237, 5442), (255, 5565), (261, 5610),

Gene: WonderBoy\_5 Start: 4822, Stop: 6069, Start Num: 40

Candidate Starts for WonderBoy\_5:

(Start: 40 @4822 has 141 MA's), (132, 5212), (136, 5230), (175, 5419), (184, 5473), (185, 5476), (187, 5494), (197, 5554), (210, 5644), (222, 5713), (223, 5716), (238, 5818), (245, 5866),

Gene: Xeno\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Xeno\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Xerxes\_6 Start: 4372, Stop: 5664, Start Num: 20

Candidate Starts for Xerxes\_6:

(Start: 20 @4372 has 66 MA's), (23, 4384), (41, 4468), (49, 4504), (60, 4561), (72, 4600), (82, 4633), (88, 4654), (95, 4681), (125, 4795), (128, 4819), (130, 4825), (139, 4861), (149, 4900), (155, 4936), (158, 4960), (176, 5053), (182, 5086), (186, 5116), (205, 5242), (219, 5320), (222, 5338), (227, 5362), (229, 5371), (240, 5443), (252, 5509), (255, 5536), (256, 5542),

Gene: Zorro\_8 Start: 7469, Stop: 8722, Start Num: 40

Candidate Starts for Zorro\_8:

(Start: 40 @7469 has 141 MA's), (129, 7856), (132, 7865), (175, 8072), (184, 8126), (185, 8129), (187, 8147), (197, 8207), (210, 8297), (222, 8366), (223, 8369), (238, 8471), (245, 8519),