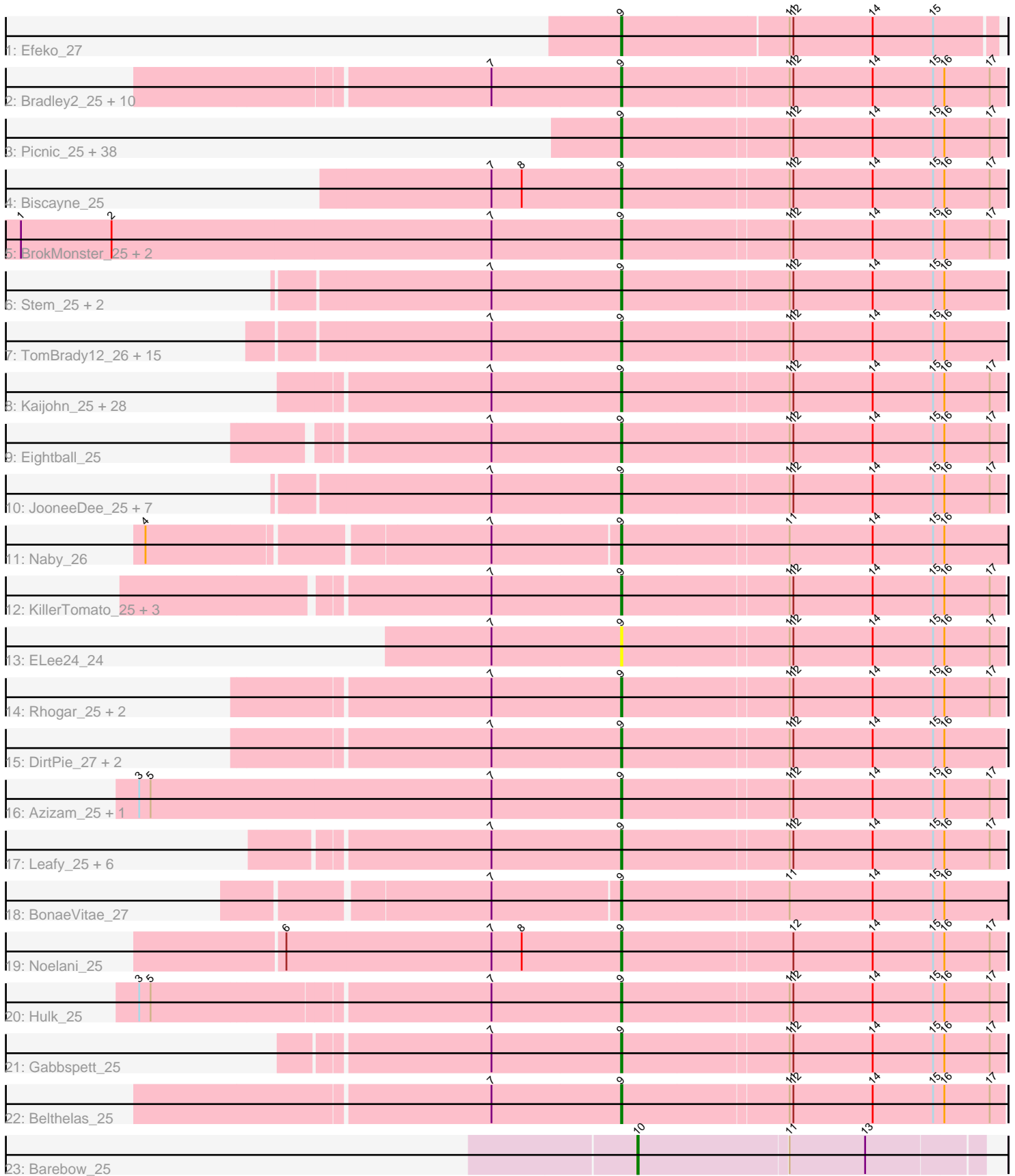


# Pham 197900



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 197900 Report

This analysis was run 01/18/25 on database version 583.

Pham number 197900 has 139 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Efeko\_27
- Track 2 : Bradley2\_25, Anseraureola\_25, KyriosFaba\_25, Lola20\_25, Jahseh\_25, Gillker\_25, EdElric\_25, Yasuo\_25, Danimal\_25, Cayde6\_26, Baine\_26
- Track 3 : Picnic\_25, Majesty\_25, Luxx\_25, Goobery\_25, JaimeB\_25, Ciel\_25, NeumannU\_25, GoldenBlanche\_26, Aztec\_25, Pondwater\_25, Jannah\_25, Witch\_25, Erin\_25, Yubaba\_25, Astro16\_25, Minima\_25, Chatham\_25, Myram\_26, Dongwon\_25, Horacetta\_25, Gardevoir\_25, SeaWolves\_25, Slentz\_25, BarBear\_25, PaoPu\_25, YertPhresh\_25, Hernandez44\_25, JoBros\_25, Alucard\_25, BurtonThePup\_25, ManAs\_25, Dooby\_25, Puddles3\_26, Sara\_25, Owens\_25, Scrunchy\_25, Octopus\_25, LemonPepper\_25, BinkBonk\_25
- Track 4 : Biscayne\_25
- Track 5 : BrokMonster\_25, JRok\_25, McShie\_25
- Track 6 : Stem\_25, Nobel\_25, Niffler\_25
- Track 7 : TomBrady12\_26, Snuffles\_27, TinyTruffula\_25, Publix\_26, IzzyPants24\_25, Clownery\_25, Trireme\_25, Trackstar\_25, Bullzi2019\_26, Yami\_25, Slizam\_25, Miaurora\_25, Lunatic\_25, Namsahir\_27, Cazares\_25, PuffyCat\_25
- Track 8 : Kaijohn\_25, MrGreen\_25, Avvas\_25, Scamander\_25, Kojax4\_25, Burgy\_25, Otwor\_25, Wolfpack\_25, Vanisius\_25, Madebyisha\_28, Jerky\_25, LaviMo\_25, Bodhi17\_25, SantasSleigh\_25, Maneater\_25, Zahlia\_26, Godfather\_25, KayPaulus\_25, Sage7\_25, Cheesecake\_25, Rhysand\_25, Danno\_25, TimoTea\_25, Sippinontea\_25, Charbie\_25, Aries55\_25, VitulaEligans\_25, RoscoWindex\_27, Josuke\_25
- Track 9 : Eightball\_25
- Track 10 : JooneeDee\_25, Bintii\_25, MirimarMandM\_25, Elspeth\_26, HarperAnne\_26, Ekko14\_26, PoRanda\_25, Upsilon\_25
- Track 11 : Naby\_26
- Track 12 : KillerTomato\_25, Concrete\_25, BoomRoasted\_25, Bri160\_25
- Track 13 : ELee24\_24
- Track 14 : Rhogar\_25, LionelHutz\_25, TeddyBoy\_25
- Track 15 : DirtPie\_27, MasterPitts\_25, DaftyDuck\_25
- Track 16 : Azizam\_25, Oaklynn\_25
- Track 17 : Leafy\_25, Kevanna\_25, Livingwater\_25, Loca\_25, Douggie\_25, MelBee03\_25, Quaker\_25
- Track 18 : BonaeVitae\_27
- Track 19 : Noelani\_25
- Track 20 : Hulk\_25
- Track 21 : Gabbspett\_25

- Track 22 : Belthelas\_25
- Track 23 : Barebow\_25

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

The start number called the most often in the published annotations is 9, it was called in 126 of the 127 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alucard\_25, Anseraureola\_25, Aries55\_25, Astro16\_25, Avvas\_25, Azizam\_25, Aztec\_25, Baine\_26, BarBear\_25, Belthelas\_25, BinkBonk\_25, Bintii\_25, Biscayne\_25, Bodhi17\_25, BonaeVitae\_27, BoomRoasted\_25, Bradley2\_25, Bri160\_25, BrokMonster\_25, Bullzi2019\_26, Burgy\_25, BurtonThePup\_25, Cayde6\_26, Cazares\_25, Charbie\_25, Chatham\_25, Cheesecake\_25, Ciel\_25, Clownery\_25, Concrete\_25, DaftyDuck\_25, Danimal\_25, Danno\_25, DirtPie\_27, Dongwon\_25, Dooby\_25, Douggie\_25, ELee24\_24, EdElric\_25, Efeko\_27, Eightball\_25, Ekko14\_26, Elspeth\_26, Erin\_25, Gabbspett\_25, Gardevoir\_25, Gillker\_25, Godfather\_25, GoldenBlanche\_26, Goobery\_25, HarperAnne\_26, Hernandez44\_25, Horacetta\_25, Hulk\_25, IzzyPants24\_25, JRok\_25, Jahseh\_25, JaimeB\_25, Jannah\_25, Jerky\_25, JoBros\_25, JooneeDee\_25, Josuke\_25, Kaijohn\_25, KayPaulus\_25, Kevanna\_25, KillerTomato\_25, Kojax4\_25, KyriosFaba\_25, LaviMo\_25, Leafy\_25, LemonPepper\_25, LionelHutz\_25, Livingwater\_25, Loca\_25, Lola20\_25, Lunatic\_25, Luxx\_25, Madebyisha\_28, Majesty\_25, ManAs\_25, Maneater\_25, MasterPitts\_25, McShie\_25, MelBee03\_25, Miaurora\_25, Minima\_25, MirimarMandM\_25, MrGreen\_25, Myram\_26, Naby\_26, Namsahir\_27, NeumannU\_25, Niffler\_25, Nobel\_25, Noelani\_25, Oaklynn\_25, Octopus\_25, Otwor\_25, Owens\_25, PaoPu\_25, Picnic\_25, PoRanda\_25, Pondwater\_25, Publix\_26, Puddles3\_26, PuffyCat\_25, Quaker\_25, Rhogar\_25, Rhysand\_25, RoscoWindex\_27, Sage7\_25, SantasSleigh\_25, Sara\_25, Scamander\_25, Scrunchy\_25, SeaWolves\_25, Sippinontea\_25, Slentz\_25, Slizam\_25, Snuffles\_27, Stem\_25, TeddyBoy\_25, TimoTea\_25, TinyTruffula\_25, TomBrady12\_26, Trackstar\_25, Trireme\_25, Upsilon\_25, Vanisius\_25, VitulaEligans\_25, Witch\_25, Wolfpack\_25, Yami\_25, Yasuo\_25, YertPhresh\_25, Yubaba\_25, Zahlia\_26,

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

- 

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

- Barebow\_25,

### **Summary by start number:**

Start 9:

- Found in 138 of 139 ( 99.3% ) of genes in pham
- Manual Annotations of this start: 126 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alucard\_25 (EE), Anseraureola\_25 (EE), Aries55\_25 (EE), Astro16\_25 (EE), Avvas\_25 (EE), Azizam\_25 (EE), Aztec\_25 (EE), Baine\_26 (EE), BarBear\_25 (EE), Belthelas\_25 (EE), BinkBonk\_25 (EE), Bintii\_25

(EE), Biscayne\_25 (EE), Bodhi17\_25 (EE), BonaeVitae\_27 (EE), BoomRoasted\_25 (EE), Bradley2\_25 (EE), Bri160\_25 (EE), BrokMonster\_25 (EE), Bullzi2019\_26 (EE), Burgy\_25 (EE), BurtonThePup\_25 (EE), Cayde6\_26 (EE), Cazares\_25 (EE), Charbie\_25 (EE), Chatham\_25 (EE), Cheesecake\_25 (EE), Ciel\_25 (EE), Clownery\_25 (EE), Concrete\_25 (EE), DaftyDuck\_25 (EE), Danimal\_25 (EE), Danno\_25 (EE), DirtPie\_27 (EE), Dongwon\_25 (EE), Dooby\_25 (EE), Duggie\_25 (EE), ELee24\_24 (EE), EdElric\_25 (EE), Efeko\_27 (EE), Eightball\_25 (EE), Ekko14\_26 (EE), Elspeth\_26 (EE), Erin\_25 (EE), Gabbspett\_25 (EE), Gardevoir\_25 (EE), Gillker\_25 (EE), Godfather\_25 (EE), GoldenBlanche\_26 (EE), Goobery\_25 (EE), HarperAnne\_26 (EE), Hernandez44\_25 (EE), Horacetta\_25 (EE), Hulk\_25 (EE), IzzyPants24\_25 (EE), JRok\_25 (EE), Jahseh\_25 (EE), JaimeB\_25 (EE), Jannah\_25 (EE), Jerky\_25 (EE), JoBros\_25 (EE), JoonDee\_25 (EE), Josuke\_25 (EE), KaiJohn\_25 (EE), KayPaulus\_25 (EE), Kevanna\_25 (EE), KillerTomato\_25 (EE), Kojax4\_25 (EE), KyriosFaba\_25 (EE), LaviMo\_25 (EE), Leafy\_25 (EE), LemonPepper\_25 (EE), LionelHutz\_25 (EE), Livingwater\_25 (EE), Loca\_25 (EE), Lola20\_25 (EE), Lunatic\_25 (EE), Luxx\_25 (EE), Madebyisha\_28 (EE), Majesty\_25 (EE), ManAs\_25 (EE), Maneater\_25 (EE), MasterPitts\_25 (EE), McShie\_25 (EE), MelBee03\_25 (EE), Miaurora\_25 (EE), Minima\_25 (EE), MirimarMandM\_25 (EE), MrGreen\_25 (EE), Myram\_26 (EE), Naby\_26 (EE), Namsahir\_27 (EE), NeumannU\_25 (EE), Niffler\_25 (EE), Nobel\_25 (EE), Noelani\_25 (EE), Oaklynn\_25 (EE), Octopus\_25 (EE), Otwor\_25 (EE), Owens\_25 (EE), PaoPu\_25 (EE), Picnic\_25 (EE), PoRanda\_25 (EE), Pondwater\_25 (EE), Publix\_26 (EE), Puddles3\_26 (EE), PuffyCat\_25 (EE), Quaker\_25 (EE), Rhogar\_25 (EE), Rhysand\_25 (EE), RoscoWindex\_27 (EE), Sage7\_25 (EE), SantasSleigh\_25 (EE), Sara\_25 (EE), Scamander\_25 (EE), Scrunchy\_25 (EE), SeaWolves\_25 (EE), Sippinontea\_25 (EE), Slentz\_25 (EE), Slizam\_25 (EE), Snuffles\_27 (EE), Stem\_25 (EE), TeddyBoy\_25 (EE), TimoTea\_25 (EE), TinyTruffula\_25 (EE), TomBrady12\_26 (EE), Trackstar\_25 (EE), Trireme\_25 (EE), Upsilon\_25 (EE), Vanisius\_25 (EE), VitulaEligans\_25 (EE), Witch\_25 (EE), Wolfpack\_25 (EE), Yami\_25 (EE), Yasuo\_25 (EE), YertPhresh\_25 (EE), Yubaba\_25 (EE), Zahlia\_26 (EE),

Start 10:

- Found in 1 of 139 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barebow\_25 (singleton),

### Summary by clusters:

There are 2 clusters represented in this pham: EE, singleton,

Info for manual annotations of cluster EE:

- Start number 9 was manually annotated 126 times for cluster EE.

### Gene Information:

Gene: Alucard\_25 Start: 16990, Stop: 17289, Start Num: 9

Candidate Starts for Alucard\_25:

(Start: 9 @16990 has 126 MA's), (11, 17119), (12, 17122), (14, 17185), (15, 17233), (16, 17242), (17, 17278),

Gene: Anseraureola\_25 Start: 17052, Stop: 17351, Start Num: 9

Candidate Starts for Anseraureola\_25:

(7, 16950), (Start: 9 @17052 has 126 MA's), (11, 17181), (12, 17184), (14, 17247), (15, 17295), (16, 17304), (17, 17340),

Gene: Aries55\_25 Start: 17079, Stop: 17378, Start Num: 9

Candidate Starts for Aries55\_25:

(7, 16977), (Start: 9 @17079 has 126 MA's), (11, 17208), (12, 17211), (14, 17274), (15, 17322), (16, 17331), (17, 17367),

Gene: Astro16\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for Astro16\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: Avvas\_25 Start: 17079, Stop: 17378, Start Num: 9

Candidate Starts for Avvas\_25:

(7, 16977), (Start: 9 @17079 has 126 MA's), (11, 17208), (12, 17211), (14, 17274), (15, 17322), (16, 17331), (17, 17367),

Gene: Azizam\_25 Start: 17012, Stop: 17311, Start Num: 9

Candidate Starts for Azizam\_25:

(3, 16631), (5, 16640), (7, 16910), (Start: 9 @17012 has 126 MA's), (11, 17141), (12, 17144), (14, 17207), (15, 17255), (16, 17264), (17, 17300),

Gene: Aztec\_25 Start: 16995, Stop: 17294, Start Num: 9

Candidate Starts for Aztec\_25:

(Start: 9 @16995 has 126 MA's), (11, 17124), (12, 17127), (14, 17190), (15, 17238), (16, 17247), (17, 17283),

Gene: Baine\_26 Start: 17015, Stop: 17314, Start Num: 9

Candidate Starts for Baine\_26:

(7, 16913), (Start: 9 @17015 has 126 MA's), (11, 17144), (12, 17147), (14, 17210), (15, 17258), (16, 17267), (17, 17303),

Gene: BarBear\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for BarBear\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: Barebow\_25 Start: 17435, Stop: 17701, Start Num: 10

Candidate Starts for Barebow\_25:

(Start: 10 @17435 has 1 MA's), (11, 17552), (13, 17612),

Gene: Belthelas\_25 Start: 17128, Stop: 17427, Start Num: 9

Candidate Starts for Belthelas\_25:

(7, 17026), (Start: 9 @17128 has 126 MA's), (11, 17257), (12, 17260), (14, 17323), (15, 17371), (16, 17380), (17, 17416),

Gene: BinkBonk\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for BinkBonk\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: Bintii\_25 Start: 17094, Stop: 17393, Start Num: 9

Candidate Starts for Bintii\_25:

(7, 16992), (Start: 9 @17094 has 126 MA's), (11, 17223), (12, 17226), (14, 17289), (15, 17337), (16, 17346), (17, 17382),

Gene: Biscayne\_25 Start: 17155, Stop: 17454, Start Num: 9

Candidate Starts for Biscayne\_25:

(7, 17053), (8, 17077), (Start: 9 @17155 has 126 MA's), (11, 17284), (12, 17287), (14, 17350), (15, 17398), (16, 17407), (17, 17443),

Gene: Bodhi17\_25 Start: 17109, Stop: 17408, Start Num: 9

Candidate Starts for Bodhi17\_25:

(7, 17007), (Start: 9 @17109 has 126 MA's), (11, 17238), (12, 17241), (14, 17304), (15, 17352), (16, 17361), (17, 17397),

Gene: BonaeVitae\_27 Start: 17082, Stop: 17384, Start Num: 9

Candidate Starts for BonaeVitae\_27:

(7, 16983), (Start: 9 @17082 has 126 MA's), (11, 17211), (14, 17277), (15, 17325), (16, 17334),

Gene: BoomRoasted\_25 Start: 17082, Stop: 17381, Start Num: 9

Candidate Starts for BoomRoasted\_25:

(7, 16980), (Start: 9 @17082 has 126 MA's), (11, 17211), (12, 17214), (14, 17277), (15, 17325), (16, 17334), (17, 17370),

Gene: Bradley2\_25 Start: 16994, Stop: 17293, Start Num: 9

Candidate Starts for Bradley2\_25:

(7, 16892), (Start: 9 @16994 has 126 MA's), (11, 17123), (12, 17126), (14, 17189), (15, 17237), (16, 17246), (17, 17282),

Gene: Bri160\_25 Start: 17069, Stop: 17368, Start Num: 9

Candidate Starts for Bri160\_25:

(7, 16967), (Start: 9 @17069 has 126 MA's), (11, 17198), (12, 17201), (14, 17264), (15, 17312), (16, 17321), (17, 17357),

Gene: BrokMonster\_25 Start: 17060, Stop: 17359, Start Num: 9

Candidate Starts for BrokMonster\_25:

(1, 16586), (2, 16658), (7, 16958), (Start: 9 @17060 has 126 MA's), (11, 17189), (12, 17192), (14, 17255), (15, 17303), (16, 17312), (17, 17348),

Gene: Bullzi2019\_26 Start: 16770, Stop: 17069, Start Num: 9

Candidate Starts for Bullzi2019\_26:

(7, 16668), (Start: 9 @16770 has 126 MA's), (11, 16899), (12, 16902), (14, 16965), (15, 17013), (16, 17022),

Gene: Burgy\_25 Start: 17080, Stop: 17379, Start Num: 9

Candidate Starts for Burgy\_25:

(7, 16978), (Start: 9 @17080 has 126 MA's), (11, 17209), (12, 17212), (14, 17275), (15, 17323), (16, 17332), (17, 17368),

Gene: BurtonThePup\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for BurtonThePup\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: Cayde6\_26 Start: 17015, Stop: 17314, Start Num: 9

Candidate Starts for Cayde6\_26:

(7, 16913), (Start: 9 @17015 has 126 MA's), (11, 17144), (12, 17147), (14, 17210), (15, 17258), (16, 17267), (17, 17303),

Gene: Cazares\_25 Start: 16542, Stop: 16841, Start Num: 9

Candidate Starts for Cazares\_25:

(7, 16440), (Start: 9 @16542 has 126 MA's), (11, 16671), (12, 16674), (14, 16737), (15, 16785), (16, 16794),

Gene: Charbie\_25 Start: 17055, Stop: 17354, Start Num: 9

Candidate Starts for Charbie\_25:

(7, 16953), (Start: 9 @17055 has 126 MA's), (11, 17184), (12, 17187), (14, 17250), (15, 17298), (16, 17307), (17, 17343),

Gene: Chatham\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Chatham\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Cheesecake\_25 Start: 17080, Stop: 17379, Start Num: 9

Candidate Starts for Cheesecake\_25:

(7, 16978), (Start: 9 @17080 has 126 MA's), (11, 17209), (12, 17212), (14, 17275), (15, 17323), (16, 17332), (17, 17368),

Gene: Ciel\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for Ciel\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: Clownery\_25 Start: 16668, Stop: 16967, Start Num: 9

Candidate Starts for Clownery\_25:

(7, 16566), (Start: 9 @16668 has 126 MA's), (11, 16797), (12, 16800), (14, 16863), (15, 16911), (16, 16920),

Gene: Concrete\_25 Start: 17059, Stop: 17358, Start Num: 9

Candidate Starts for Concrete\_25:

(7, 16957), (Start: 9 @17059 has 126 MA's), (11, 17188), (12, 17191), (14, 17254), (15, 17302), (16, 17311), (17, 17347),

Gene: DaftyDuck\_25 Start: 17012, Stop: 17311, Start Num: 9

Candidate Starts for DaftyDuck\_25:

(7, 16910), (Start: 9 @17012 has 126 MA's), (11, 17141), (12, 17144), (14, 17207), (15, 17255), (16, 17264),

Gene: Danimal\_25 Start: 16991, Stop: 17290, Start Num: 9

Candidate Starts for Danimal\_25:

(7, 16889), (Start: 9 @16991 has 126 MA's), (11, 17120), (12, 17123), (14, 17186), (15, 17234), (16, 17243), (17, 17279),

Gene: Danno\_25 Start: 17079, Stop: 17378, Start Num: 9

Candidate Starts for Danno\_25:

(7, 16977), (Start: 9 @17079 has 126 MA's), (11, 17208), (12, 17211), (14, 17274), (15, 17322), (16, 17331), (17, 17367),

Gene: DirtPie\_27 Start: 17105, Stop: 17404, Start Num: 9

Candidate Starts for DirtPie\_27:

(7, 17003), (Start: 9 @17105 has 126 MA's), (11, 17234), (12, 17237), (14, 17300), (15, 17348), (16, 17357),

Gene: Dongwon\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Dongwon\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Dooby\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Dooby\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Douggie\_25 Start: 17065, Stop: 17364, Start Num: 9

Candidate Starts for Douggie\_25:

(7, 16963), (Start: 9 @17065 has 126 MA's), (11, 17194), (12, 17197), (14, 17260), (15, 17308), (16, 17317), (17, 17353),

Gene: ELee24\_24 Start: 16858, Stop: 17157, Start Num: 9

Candidate Starts for ELee24\_24:

(7, 16756), (Start: 9 @16858 has 126 MA's), (11, 16987), (12, 16990), (14, 17053), (15, 17101), (16, 17110), (17, 17146),

Gene: EdElric\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for EdElric\_25:

(7, 16887), (Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Efeko\_27 Start: 16867, Stop: 17157, Start Num: 9

Candidate Starts for Efeko\_27:

(Start: 9 @16867 has 126 MA's), (11, 16996), (12, 16999), (14, 17062), (15, 17110),

Gene: Eightball\_25 Start: 17066, Stop: 17365, Start Num: 9

Candidate Starts for Eightball\_25:

(7, 16964), (Start: 9 @17066 has 126 MA's), (11, 17195), (12, 17198), (14, 17261), (15, 17309), (16, 17318), (17, 17354),

Gene: Ekko14\_26 Start: 16744, Stop: 17043, Start Num: 9

Candidate Starts for Ekko14\_26:

(7, 16642), (Start: 9 @16744 has 126 MA's), (11, 16873), (12, 16876), (14, 16939), (15, 16987), (16, 16996), (17, 17032),

Gene: Elspeth\_26 Start: 16744, Stop: 17043, Start Num: 9

Candidate Starts for Elspeth\_26:

(7, 16642), (Start: 9 @16744 has 126 MA's), (11, 16873), (12, 16876), (14, 16939), (15, 16987), (16, 16996), (17, 17032),



Gene: Erin\_25 Start: 16987, Stop: 17286, Start Num: 9

Candidate Starts for Erin\_25:

(Start: 9 @16987 has 126 MA's), (11, 17116), (12, 17119), (14, 17182), (15, 17230), (16, 17239), (17, 17275),

Gene: Gabbspett\_25 Start: 17109, Stop: 17408, Start Num: 9

Candidate Starts for Gabbspett\_25:

(7, 17007), (Start: 9 @17109 has 126 MA's), (11, 17238), (12, 17241), (14, 17304), (15, 17352), (16, 17361), (17, 17397),

Gene: Gardevoir\_25 Start: 17023, Stop: 17322, Start Num: 9

Candidate Starts for Gardevoir\_25:

(Start: 9 @17023 has 126 MA's), (11, 17152), (12, 17155), (14, 17218), (15, 17266), (16, 17275), (17, 17311),

Gene: Gillker\_25 Start: 16988, Stop: 17287, Start Num: 9

Candidate Starts for Gillker\_25:

(7, 16886), (Start: 9 @16988 has 126 MA's), (11, 17117), (12, 17120), (14, 17183), (15, 17231), (16, 17240), (17, 17276),

Gene: Godfather\_25 Start: 17079, Stop: 17378, Start Num: 9

Candidate Starts for Godfather\_25:

(7, 16977), (Start: 9 @17079 has 126 MA's), (11, 17208), (12, 17211), (14, 17274), (15, 17322), (16, 17331), (17, 17367),

Gene: GoldenBlanche\_26 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for GoldenBlanche\_26:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Goobery\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for Goobery\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: HarperAnne\_26 Start: 16743, Stop: 17042, Start Num: 9

Candidate Starts for HarperAnne\_26:

(7, 16641), (Start: 9 @16743 has 126 MA's), (11, 16872), (12, 16875), (14, 16938), (15, 16986), (16, 16995), (17, 17031),

Gene: Hernandez44\_25 Start: 17104, Stop: 17403, Start Num: 9

Candidate Starts for Hernandez44\_25:

(Start: 9 @17104 has 126 MA's), (11, 17233), (12, 17236), (14, 17299), (15, 17347), (16, 17356), (17, 17392),

Gene: Horacetta\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Horacetta\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Hulk\_25 Start: 17022, Stop: 17321, Start Num: 9

Candidate Starts for Hulk\_25:

(3, 16653), (5, 16662), (7, 16920), (Start: 9 @17022 has 126 MA's), (11, 17151), (12, 17154), (14, 17217), (15, 17265), (16, 17274), (17, 17310),

Gene: IzzyPants24\_25 Start: 16598, Stop: 16897, Start Num: 9

Candidate Starts for IzzyPants24\_25:

(7, 16496), (Start: 9 @16598 has 126 MA's), (11, 16727), (12, 16730), (14, 16793), (15, 16841), (16, 16850),

Gene: JRok\_25 Start: 17009, Stop: 17308, Start Num: 9

Candidate Starts for JRok\_25:

(1, 16535), (2, 16607), (7, 16907), (Start: 9 @17009 has 126 MA's), (11, 17138), (12, 17141), (14, 17204), (15, 17252), (16, 17261), (17, 17297),

Gene: Jahseh\_25 Start: 16995, Stop: 17294, Start Num: 9

Candidate Starts for Jahseh\_25:

(7, 16893), (Start: 9 @16995 has 126 MA's), (11, 17124), (12, 17127), (14, 17190), (15, 17238), (16, 17247), (17, 17283),

Gene: JaimeB\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for JaimeB\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: Jannah\_25 Start: 17055, Stop: 17354, Start Num: 9

Candidate Starts for Jannah\_25:

(Start: 9 @17055 has 126 MA's), (11, 17184), (12, 17187), (14, 17250), (15, 17298), (16, 17307), (17, 17343),

Gene: Jerky\_25 Start: 17154, Stop: 17453, Start Num: 9

Candidate Starts for Jerky\_25:

(7, 17052), (Start: 9 @17154 has 126 MA's), (11, 17283), (12, 17286), (14, 17349), (15, 17397), (16, 17406), (17, 17442),

Gene: JoBros\_25 Start: 16990, Stop: 17289, Start Num: 9

Candidate Starts for JoBros\_25:

(Start: 9 @16990 has 126 MA's), (11, 17119), (12, 17122), (14, 17185), (15, 17233), (16, 17242), (17, 17278),

Gene: JooneeDee\_25 Start: 17094, Stop: 17393, Start Num: 9

Candidate Starts for JooneeDee\_25:

(7, 16992), (Start: 9 @17094 has 126 MA's), (11, 17223), (12, 17226), (14, 17289), (15, 17337), (16, 17346), (17, 17382),

Gene: Josuke\_25 Start: 17080, Stop: 17379, Start Num: 9

Candidate Starts for Josuke\_25:

(7, 16978), (Start: 9 @17080 has 126 MA's), (11, 17209), (12, 17212), (14, 17275), (15, 17323), (16, 17332), (17, 17368),

Gene: Kaijohn\_25 Start: 17052, Stop: 17351, Start Num: 9

Candidate Starts for Kaijohn\_25:

(7, 16950), (Start: 9 @17052 has 126 MA's), (11, 17181), (12, 17184), (14, 17247), (15, 17295), (16, 17304), (17, 17340),

Gene: KayPaulus\_25 Start: 17082, Stop: 17381, Start Num: 9

Candidate Starts for KayPaulus\_25:

(7, 16980), (Start: 9 @17082 has 126 MA's), (11, 17211), (12, 17214), (14, 17277), (15, 17325), (16, 17334), (17, 17370),

Gene: Kevanna\_25 Start: 17068, Stop: 17367, Start Num: 9

Candidate Starts for Kevanna\_25:

(7, 16966), (Start: 9 @17068 has 126 MA's), (11, 17197), (12, 17200), (14, 17263), (15, 17311), (16, 17320), (17, 17356),

Gene: KillerTomato\_25 Start: 17069, Stop: 17368, Start Num: 9

Candidate Starts for KillerTomato\_25:

(7, 16967), (Start: 9 @17069 has 126 MA's), (11, 17198), (12, 17201), (14, 17264), (15, 17312), (16, 17321), (17, 17357),

Gene: Kojax4\_25 Start: 17079, Stop: 17378, Start Num: 9

Candidate Starts for Kojax4\_25:

(7, 16977), (Start: 9 @17079 has 126 MA's), (11, 17208), (12, 17211), (14, 17274), (15, 17322), (16, 17331), (17, 17367),

Gene: KyriosFaba\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for KyriosFaba\_25:

(7, 16887), (Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: LaviMo\_25 Start: 17080, Stop: 17379, Start Num: 9

Candidate Starts for LaviMo\_25:

(7, 16978), (Start: 9 @17080 has 126 MA's), (11, 17209), (12, 17212), (14, 17275), (15, 17323), (16, 17332), (17, 17368),

Gene: Leafy\_25 Start: 17034, Stop: 17333, Start Num: 9

Candidate Starts for Leafy\_25:

(7, 16932), (Start: 9 @17034 has 126 MA's), (11, 17163), (12, 17166), (14, 17229), (15, 17277), (16, 17286), (17, 17322),

Gene: LemonPepper\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for LemonPepper\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: LionelHutz\_25 Start: 17075, Stop: 17374, Start Num: 9

Candidate Starts for LionelHutz\_25:

(7, 16973), (Start: 9 @17075 has 126 MA's), (11, 17204), (12, 17207), (14, 17270), (15, 17318), (16, 17327), (17, 17363),

Gene: Livingwater\_25 Start: 17077, Stop: 17376, Start Num: 9

Candidate Starts for Livingwater\_25:

(7, 16975), (Start: 9 @17077 has 126 MA's), (11, 17206), (12, 17209), (14, 17272), (15, 17320), (16, 17329), (17, 17365),

Gene: Loca\_25 Start: 17102, Stop: 17401, Start Num: 9

Candidate Starts for Loca\_25:

(7, 17000), (Start: 9 @17102 has 126 MA's), (11, 17231), (12, 17234), (14, 17297), (15, 17345), (16, 17354), (17, 17390),

Gene: Lola20\_25 Start: 17015, Stop: 17314, Start Num: 9

Candidate Starts for Lola20\_25:

(7, 16913), (Start: 9 @17015 has 126 MA's), (11, 17144), (12, 17147), (14, 17210), (15, 17258), (16, 17267), (17, 17303),

Gene: Lunatic\_25 Start: 16542, Stop: 16841, Start Num: 9

Candidate Starts for Lunatic\_25:

(7, 16440), (Start: 9 @16542 has 126 MA's), (11, 16671), (12, 16674), (14, 16737), (15, 16785), (16, 16794),

Gene: Luxx\_25 Start: 17090, Stop: 17389, Start Num: 9

Candidate Starts for Luxx\_25:

(Start: 9 @17090 has 126 MA's), (11, 17219), (12, 17222), (14, 17285), (15, 17333), (16, 17342), (17, 17378),

Gene: Madebyisha\_28 Start: 17154, Stop: 17453, Start Num: 9

Candidate Starts for Madebyisha\_28:

(7, 17052), (Start: 9 @17154 has 126 MA's), (11, 17283), (12, 17286), (14, 17349), (15, 17397), (16, 17406), (17, 17442),

Gene: Majesty\_25 Start: 17071, Stop: 17370, Start Num: 9

Candidate Starts for Majesty\_25:

(Start: 9 @17071 has 126 MA's), (11, 17200), (12, 17203), (14, 17266), (15, 17314), (16, 17323), (17, 17359),

Gene: ManAs\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for ManAs\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Maneater\_25 Start: 17054, Stop: 17353, Start Num: 9

Candidate Starts for Maneater\_25:

(7, 16952), (Start: 9 @17054 has 126 MA's), (11, 17183), (12, 17186), (14, 17249), (15, 17297), (16, 17306), (17, 17342),

Gene: MasterPitts\_25 Start: 17012, Stop: 17311, Start Num: 9

Candidate Starts for MasterPitts\_25:

(7, 16910), (Start: 9 @17012 has 126 MA's), (11, 17141), (12, 17144), (14, 17207), (15, 17255), (16, 17264),

Gene: McShie\_25 Start: 17061, Stop: 17360, Start Num: 9

Candidate Starts for McShie\_25:

(1, 16587), (2, 16659), (7, 16959), (Start: 9 @17061 has 126 MA's), (11, 17190), (12, 17193), (14, 17256), (15, 17304), (16, 17313), (17, 17349),

Gene: MelBee03\_25 Start: 17068, Stop: 17367, Start Num: 9

Candidate Starts for MelBee03\_25:

(7, 16966), (Start: 9 @17068 has 126 MA's), (11, 17197), (12, 17200), (14, 17263), (15, 17311), (16, 17320), (17, 17356),

Gene: Miaurora\_25 Start: 16659, Stop: 16958, Start Num: 9

Candidate Starts for Miaurora\_25:

(7, 16557), (Start: 9 @16659 has 126 MA's), (11, 16788), (12, 16791), (14, 16854), (15, 16902), (16, 16911),

Gene: Minima\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Minima\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: MirimarMandM\_25 Start: 17137, Stop: 17436, Start Num: 9

Candidate Starts for MirimarMandM\_25:

(7, 17035), (Start: 9 @17137 has 126 MA's), (11, 17266), (12, 17269), (14, 17332), (15, 17380), (16, 17389), (17, 17425),

Gene: MrGreen\_25 Start: 17048, Stop: 17347, Start Num: 9

Candidate Starts for MrGreen\_25:

(7, 16946), (Start: 9 @17048 has 126 MA's), (11, 17177), (12, 17180), (14, 17243), (15, 17291), (16, 17300), (17, 17336),

Gene: Myram\_26 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Myram\_26:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Naby\_26 Start: 17079, Stop: 17381, Start Num: 9

Candidate Starts for Naby\_26:

(4, 16722), (7, 16980), (Start: 9 @17079 has 126 MA's), (11, 17208), (14, 17274), (15, 17322), (16, 17331),

Gene: Namsahir\_27 Start: 16803, Stop: 17102, Start Num: 9

Candidate Starts for Namsahir\_27:

(7, 16701), (Start: 9 @16803 has 126 MA's), (11, 16932), (12, 16935), (14, 16998), (15, 17046), (16, 17055),

Gene: NeumannU\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for NeumannU\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: Niffler\_25 Start: 16650, Stop: 16949, Start Num: 9

Candidate Starts for Niffler\_25:

(7, 16548), (Start: 9 @16650 has 126 MA's), (11, 16779), (12, 16782), (14, 16845), (15, 16893), (16, 16902),

Gene: Nobel\_25 Start: 16676, Stop: 16975, Start Num: 9

Candidate Starts for Nobel\_25:

(7, 16574), (Start: 9 @16676 has 126 MA's), (11, 16805), (12, 16808), (14, 16871), (15, 16919), (16, 16928),

Gene: Noelani\_25 Start: 16975, Stop: 17274, Start Num: 9

Candidate Starts for Noelani\_25:

(6, 16711), (7, 16873), (8, 16897), (Start: 9 @16975 has 126 MA's), (12, 17107), (14, 17170), (15, 17218), (16, 17227), (17, 17263),

Gene: Oaklynn\_25 Start: 17012, Stop: 17311, Start Num: 9

Candidate Starts for Oaklynn\_25:

(3, 16631), (5, 16640), (7, 16910), (Start: 9 @17012 has 126 MA's), (11, 17141), (12, 17144), (14, 17207), (15, 17255), (16, 17264), (17, 17300),

Gene: Octopus\_25 Start: 16995, Stop: 17294, Start Num: 9

Candidate Starts for Octopus\_25:

(Start: 9 @16995 has 126 MA's), (11, 17124), (12, 17127), (14, 17190), (15, 17238), (16, 17247), (17, 17283),

Gene: Otwor\_25 Start: 17081, Stop: 17380, Start Num: 9

Candidate Starts for Otwor\_25:

(7, 16979), (Start: 9 @17081 has 126 MA's), (11, 17210), (12, 17213), (14, 17276), (15, 17324), (16, 17333), (17, 17369),

Gene: Owens\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for Owens\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: PaoPu\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for PaoPu\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Picnic\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Picnic\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: PoRanda\_25 Start: 17137, Stop: 17436, Start Num: 9

Candidate Starts for PoRanda\_25:

(7, 17035), (Start: 9 @17137 has 126 MA's), (11, 17266), (12, 17269), (14, 17332), (15, 17380), (16, 17389), (17, 17425),

Gene: Pondwater\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Pondwater\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Publix\_26 Start: 16803, Stop: 17102, Start Num: 9

Candidate Starts for Publix\_26:

(7, 16701), (Start: 9 @16803 has 126 MA's), (11, 16932), (12, 16935), (14, 16998), (15, 17046), (16, 17055),

Gene: Puddles3\_26 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Puddles3\_26:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: PuffyCat\_25 Start: 16593, Stop: 16892, Start Num: 9

Candidate Starts for PuffyCat\_25:

(7, 16491), (Start: 9 @16593 has 126 MA's), (11, 16722), (12, 16725), (14, 16788), (15, 16836), (16, 16845),

Gene: Quaker\_25 Start: 17077, Stop: 17376, Start Num: 9

Candidate Starts for Quaker\_25:

(7, 16975), (Start: 9 @17077 has 126 MA's), (11, 17206), (12, 17209), (14, 17272), (15, 17320), (16, 17329), (17, 17365),

Gene: Rhogar\_25 Start: 17075, Stop: 17374, Start Num: 9

Candidate Starts for Rhogar\_25:

(7, 16973), (Start: 9 @17075 has 126 MA's), (11, 17204), (12, 17207), (14, 17270), (15, 17318), (16, 17327), (17, 17363),

Gene: Rhysand\_25 Start: 17080, Stop: 17379, Start Num: 9

Candidate Starts for Rhysand\_25:

(7, 16978), (Start: 9 @17080 has 126 MA's), (11, 17209), (12, 17212), (14, 17275), (15, 17323), (16, 17332), (17, 17368),

Gene: RoscoWindex\_27 Start: 17080, Stop: 17379, Start Num: 9

Candidate Starts for RoscoWindex\_27:

(7, 16978), (Start: 9 @17080 has 126 MA's), (11, 17209), (12, 17212), (14, 17275), (15, 17323), (16, 17332), (17, 17368),

Gene: Sage7\_25 Start: 17079, Stop: 17378, Start Num: 9

Candidate Starts for Sage7\_25:

(7, 16977), (Start: 9 @17079 has 126 MA's), (11, 17208), (12, 17211), (14, 17274), (15, 17322), (16, 17331), (17, 17367),

Gene: SantasSleigh\_25 Start: 17103, Stop: 17402, Start Num: 9

Candidate Starts for SantasSleigh\_25:

(7, 17001), (Start: 9 @17103 has 126 MA's), (11, 17232), (12, 17235), (14, 17298), (15, 17346), (16, 17355), (17, 17391),

Gene: Sara\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for Sara\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Scamander\_25 Start: 17079, Stop: 17378, Start Num: 9

Candidate Starts for Scamander\_25:

(7, 16977), (Start: 9 @17079 has 126 MA's), (11, 17208), (12, 17211), (14, 17274), (15, 17322), (16, 17331), (17, 17367),

Gene: Scrunchy\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for Scrunchy\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: SeaWolves\_25 Start: 16989, Stop: 17288, Start Num: 9

Candidate Starts for SeaWolves\_25:

(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Sippinontea\_25 Start: 17100, Stop: 17399, Start Num: 9

Candidate Starts for Sippinontea\_25:

(7, 16998), (Start: 9 @17100 has 126 MA's), (11, 17229), (12, 17232), (14, 17295), (15, 17343), (16, 17352), (17, 17388),

Gene: Slentz\_25 Start: 17072, Stop: 17371, Start Num: 9

Candidate Starts for Slentz\_25:

(Start: 9 @17072 has 126 MA's), (11, 17201), (12, 17204), (14, 17267), (15, 17315), (16, 17324), (17, 17360),

Gene: Slizam\_25 Start: 16598, Stop: 16897, Start Num: 9

Candidate Starts for Slizam\_25:

(7, 16496), (Start: 9 @16598 has 126 MA's), (11, 16727), (12, 16730), (14, 16793), (15, 16841), (16, 16850),

Gene: Snuffles\_27 Start: 16951, Stop: 17250, Start Num: 9

Candidate Starts for Snuffles\_27:

(7, 16849), (Start: 9 @16951 has 126 MA's), (11, 17080), (12, 17083), (14, 17146), (15, 17194), (16, 17203),

Gene: Stem\_25 Start: 16608, Stop: 16907, Start Num: 9

Candidate Starts for Stem\_25:

(7, 16506), (Start: 9 @16608 has 126 MA's), (11, 16737), (12, 16740), (14, 16803), (15, 16851), (16, 16860),

Gene: TeddyBoy\_25 Start: 17076, Stop: 17375, Start Num: 9

Candidate Starts for TeddyBoy\_25:

(7, 16974), (Start: 9 @17076 has 126 MA's), (11, 17205), (12, 17208), (14, 17271), (15, 17319), (16, 17328), (17, 17364),

Gene: TimoTea\_25 Start: 17054, Stop: 17353, Start Num: 9

Candidate Starts for TimoTea\_25:

(7, 16952), (Start: 9 @17054 has 126 MA's), (11, 17183), (12, 17186), (14, 17249), (15, 17297), (16, 17306), (17, 17342),

Gene: TinyTruffula\_25 Start: 16677, Stop: 16976, Start Num: 9

Candidate Starts for TinyTruffula\_25:

(7, 16575), (Start: 9 @16677 has 126 MA's), (11, 16806), (12, 16809), (14, 16872), (15, 16920), (16, 16929),

Gene: TomBrady12\_26 Start: 16780, Stop: 17079, Start Num: 9

Candidate Starts for TomBrady12\_26:

(7, 16678), (Start: 9 @16780 has 126 MA's), (11, 16909), (12, 16912), (14, 16975), (15, 17023), (16, 17032),

Gene: Trackstar\_25 Start: 16660, Stop: 16959, Start Num: 9

Candidate Starts for Trackstar\_25:

(7, 16558), (Start: 9 @16660 has 126 MA's), (11, 16789), (12, 16792), (14, 16855), (15, 16903), (16, 16912),



Gene: Trireme\_25 Start: 16657, Stop: 16956, Start Num: 9  
Candidate Starts for Trireme\_25:  
(7, 16555), (Start: 9 @16657 has 126 MA's), (11, 16786), (12, 16789), (14, 16852), (15, 16900), (16, 16909),

Gene: Upsilon\_25 Start: 17137, Stop: 17436, Start Num: 9  
Candidate Starts for Upsilon\_25:  
(7, 17035), (Start: 9 @17137 has 126 MA's), (11, 17266), (12, 17269), (14, 17332), (15, 17380), (16, 17389), (17, 17425),

Gene: Vanisius\_25 Start: 17080, Stop: 17379, Start Num: 9  
Candidate Starts for Vanisius\_25:  
(7, 16978), (Start: 9 @17080 has 126 MA's), (11, 17209), (12, 17212), (14, 17275), (15, 17323), (16, 17332), (17, 17368),

Gene: VitulaEligans\_25 Start: 17161, Stop: 17460, Start Num: 9  
Candidate Starts for VitulaEligans\_25:  
(7, 17059), (Start: 9 @17161 has 126 MA's), (11, 17290), (12, 17293), (14, 17356), (15, 17404), (16, 17413), (17, 17449),

Gene: Witch\_25 Start: 16990, Stop: 17289, Start Num: 9  
Candidate Starts for Witch\_25:  
(Start: 9 @16990 has 126 MA's), (11, 17119), (12, 17122), (14, 17185), (15, 17233), (16, 17242), (17, 17278),

Gene: Wolfpack\_25 Start: 17082, Stop: 17381, Start Num: 9  
Candidate Starts for Wolfpack\_25:  
(7, 16980), (Start: 9 @17082 has 126 MA's), (11, 17211), (12, 17214), (14, 17277), (15, 17325), (16, 17334), (17, 17370),

Gene: Yami\_25 Start: 16551, Stop: 16850, Start Num: 9  
Candidate Starts for Yami\_25:  
(7, 16449), (Start: 9 @16551 has 126 MA's), (11, 16680), (12, 16683), (14, 16746), (15, 16794), (16, 16803),

Gene: Yasuo\_25 Start: 17060, Stop: 17359, Start Num: 9  
Candidate Starts for Yasuo\_25:  
(7, 16958), (Start: 9 @17060 has 126 MA's), (11, 17189), (12, 17192), (14, 17255), (15, 17303), (16, 17312), (17, 17348),

Gene: YertPhresh\_25 Start: 16989, Stop: 17288, Start Num: 9  
Candidate Starts for YertPhresh\_25:  
(Start: 9 @16989 has 126 MA's), (11, 17118), (12, 17121), (14, 17184), (15, 17232), (16, 17241), (17, 17277),

Gene: Yubaba\_25 Start: 17023, Stop: 17322, Start Num: 9  
Candidate Starts for Yubaba\_25:  
(Start: 9 @17023 has 126 MA's), (11, 17152), (12, 17155), (14, 17218), (15, 17266), (16, 17275), (17, 17311),

Gene: Zahlia\_26 Start: 17108, Stop: 17407, Start Num: 9  
Candidate Starts for Zahlia\_26:

(7, 17006), (Start: 9 @17108 has 126 MA's), (11, 17237), (12, 17240), (14, 17303), (15, 17351), (16, 17360), (17, 17396),