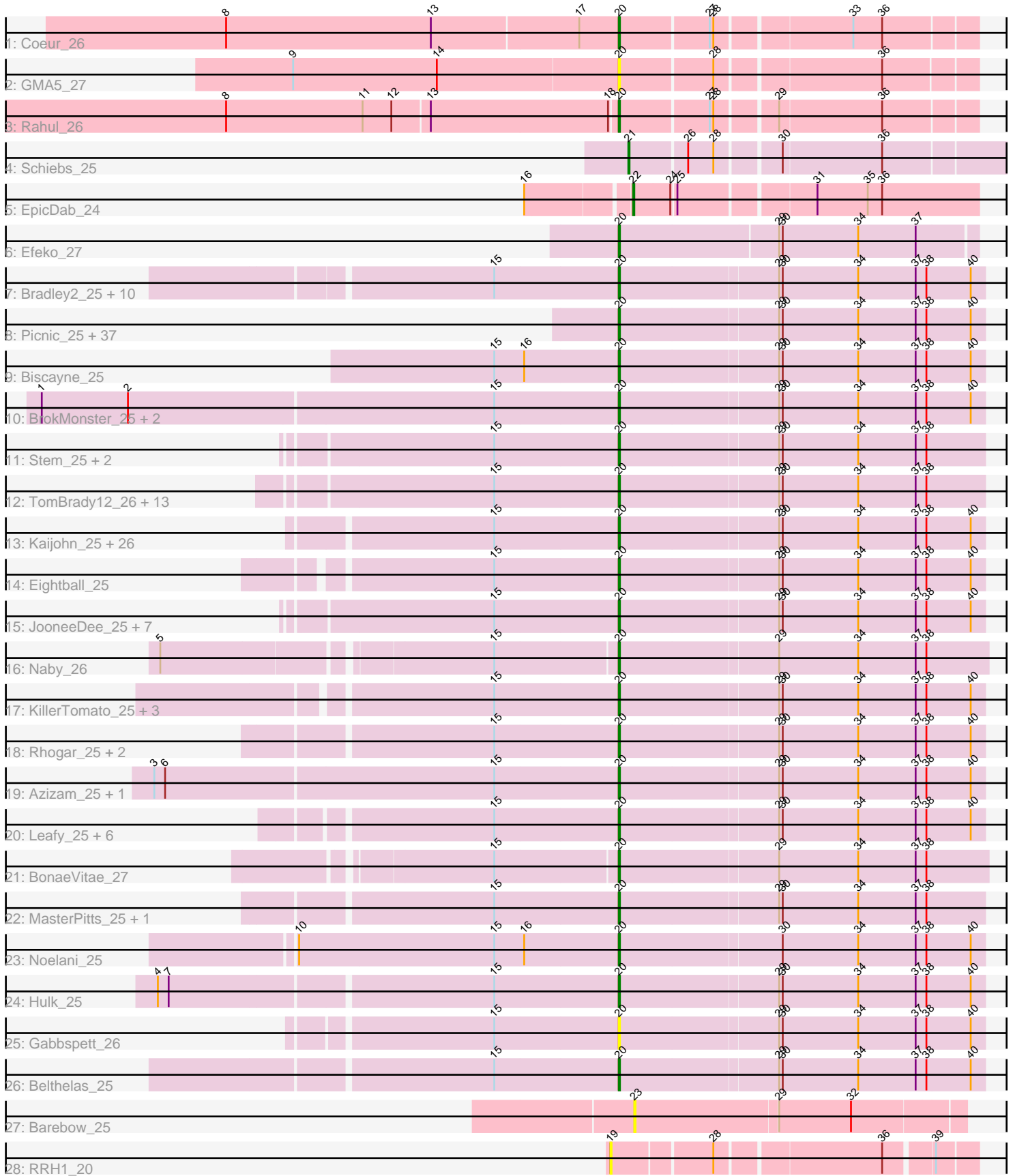


# Pham 193816



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 193816 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193816 has 138 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Coeur\_26
- Track 2 : GMA5\_27
- Track 3 : Rahul\_26
- Track 4 : Schiebs\_25
- Track 5 : EpicDab\_24
- Track 6 : Efeko\_27
- Track 7 : Bradley2\_25, Anseraureola\_25, KyriosFaba\_25, Lola20\_25, Jahseh\_25, Gillker\_25, EdElric\_25, Yasuo\_25, Danimal\_25, Cayde6\_26, Baine\_26
- Track 8 : 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, Dongwon\_25, Horacetta\_25, Gardevoir\_25, SeaWolves\_25, JoBros\_25, Slentz\_25, BarBear\_25, PaoPu\_25, YertPhresh\_25, Hernandez44\_25, Alucard\_25, BurtonThePup\_25, ManAs\_25, Dooby\_25, Puddles3\_26, Sara\_25, Owens\_25, Scrunchy\_25, Octopus\_25, LemonPepper\_25, BinkBonk\_25
- Track 9 : Biscayne\_25
- Track 10 : BrokMonster\_25, JRok\_25, McShie\_25
- Track 11 : Stem\_25, Nobel\_25, Niffler\_25
- Track 12 : TomBrady12\_26, Snuffles\_27, TinyTruffula\_25, Publix\_26, Clownery\_25, Trireme\_25, Yami\_25, Bullzi2019\_26, Slizam\_25, Miaurora\_25, Lunatic\_25, Namsahir\_27, Cazares\_25, PuffyCat\_25
- Track 13 : Kaijohn\_25, MrGreen\_25, Avvas\_25, Sage7\_25, Scamander\_25, Kojax4\_25, Burgy\_25, Otwor\_25, Wolfpack\_25, Vanisius\_25, Jerky\_25, LaviMo\_25, Bodhi17\_25, SantasSleigh\_25, Maneater\_25, Godfather\_25, KayPaulus\_25, Rhysand\_25, Danno\_25, Cheesecake\_25, TimoTea\_25, Sippinontea\_25, Charbie\_25, Aries55\_25, VitulaEligans\_25, RoscoWindex\_27, Josuke\_25
- Track 14 : Eightball\_25
- Track 15 : JooneeDee\_25, Bintii\_25, MirimarMandM\_25, Elspeth\_26, HarperAnne\_26, Ekko14\_26, PoRanda\_25, Upsilon\_25
- Track 16 : Naby\_26
- Track 17 : KillerTomato\_25, Concrete\_25, BoomRoasted\_25, Bri160\_25
- Track 18 : Rhogar\_25, LionelHutz\_25, TeddyBoy\_25
- Track 19 : Azizam\_25, Oaklynn\_25
- Track 20 : Leafy\_25, Kevanna\_25, Livingwater\_25, Loca\_25, Douggie\_25, MelBee03\_25, Quaker\_25
- Track 21 : BonaeVitae\_27
- Track 22 : MasterPitts\_25, DaftyDuck\_25

- Track 23 : Noelani\_25
- Track 24 : Hulk\_25
- Track 25 : Gabbspett\_26
- Track 26 : Belthelas\_25
- Track 27 : Barebow\_25
- Track 28 : RRH1\_20

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

The start number called the most often in the published annotations is 20, it was called in 127 of the 129 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, Coeur\_26, Concrete\_25, DaftyDuck\_25, Danimal\_25, Danno\_25, Dongwon\_25, Dooby\_25, Douggie\_25, EdElric\_25, Efeko\_27, Eightball\_25, Ekko14\_26, Elspeth\_26, Erin\_25, GMA5\_27, Gabbspett\_26, Gardevoir\_25, Gillker\_25, Godfather\_25, GoldenBlanche\_26, Goobery\_25, HarperAnne\_26, Hernandez44\_25, Horacetta\_25, Hulk\_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, Majesty\_25, ManAs\_25, Maneater\_25, MasterPitts\_25, McShie\_25, MelBee03\_25, Miaurora\_25, Minima\_25, MirimarMandM\_25, MrGreen\_25, 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, Rahul\_26, 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, Trireme\_25, Upsilon\_25, Vanisius\_25, VitulaEligans\_25, Witch\_25, Wolfpack\_25, Yami\_25, Yasuo\_25, YertPhresh\_25, Yubaba\_25,

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

- 

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

- Barebow\_25, EpicDab\_24, RRH1\_20, Schiebs\_25,

**Summary by start number:**

Start 19:

- Found in 1 of 138 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present

- Phage (with cluster) where this start called: RRH1\_20 (singleton),

#### Start 20:

- Found in 134 of 138 ( 97.1% ) of genes in pham
- Manual Annotations of this start: 127 of 129
- 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), Coeur\_26 (CW2), Concrete\_25 (EE), DaftyDuck\_25 (EE), Danimal\_25 (EE), Danno\_25 (EE), Dongwon\_25 (EE), Dooby\_25 (EE), Duggie\_25 (EE), EdElric\_25 (EE), Efeko\_27 (EE), Eightball\_25 (EE), Ekko14\_26 (EE), Elspeth\_26 (EE), Erin\_25 (EE), GMA5\_27 (CW2), Gabbspett\_26 (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), JRok\_25 (EE), Jahseh\_25 (EE), JaimeB\_25 (EE), Jannah\_25 (EE), Jerky\_25 (EE), JoBros\_25 (EE), JooneeDee\_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), 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), 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), Rahul\_26 (CW2), 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), 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),

#### Start 21:

- Found in 1 of 138 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 129
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Schiebs\_25 (CW3),

#### Start 22:

- Found in 1 of 138 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 129
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EpicDab\_24 (DM),

#### Start 23:

- Found in 1 of 138 ( 0.7% ) of genes in pham

- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barebow\_25 (singleton),

### **Summary by clusters:**

There are 5 clusters represented in this pham: EE, singleton, DM, CW2, CW3,

Info for manual annotations of cluster CW2:

- Start number 20 was manually annotated 2 times for cluster CW2.

Info for manual annotations of cluster CW3:

- Start number 21 was manually annotated 1 time for cluster CW3.

Info for manual annotations of cluster DM:

- Start number 22 was manually annotated 1 time for cluster DM.

Info for manual annotations of cluster EE:

- Start number 20 was manually annotated 125 times for cluster EE.

### **Gene Information:**

Gene: Alucard\_25 Start: 16990, Stop: 17289, Start Num: 20

Candidate Starts for Alucard\_25:

(Start: 20 @16990 has 127 MA's), (29, 17119), (30, 17122), (34, 17185), (37, 17233), (38, 17242), (40, 17278),

Gene: Anseraureola\_25 Start: 17052, Stop: 17351, Start Num: 20

Candidate Starts for Anseraureola\_25:

(15, 16950), (Start: 20 @17052 has 127 MA's), (29, 17181), (30, 17184), (34, 17247), (37, 17295), (38, 17304), (40, 17340),

Gene: Aries55\_25 Start: 17079, Stop: 17378, Start Num: 20

Candidate Starts for Aries55\_25:

(15, 16977), (Start: 20 @17079 has 127 MA's), (29, 17208), (30, 17211), (34, 17274), (37, 17322), (38, 17331), (40, 17367),

Gene: Astro16\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for Astro16\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: Avvas\_25 Start: 17079, Stop: 17378, Start Num: 20

Candidate Starts for Avvas\_25:

(15, 16977), (Start: 20 @17079 has 127 MA's), (29, 17208), (30, 17211), (34, 17274), (37, 17322), (38, 17331), (40, 17367),

Gene: Azizam\_25 Start: 17012, Stop: 17311, Start Num: 20

Candidate Starts for Azizam\_25:

(3, 16631), (6, 16640), (15, 16910), (Start: 20 @17012 has 127 MA's), (29, 17141), (30, 17144), (34, 17207), (37, 17255), (38, 17264), (40, 17300),

Gene: Aztec\_25 Start: 16995, Stop: 17294, Start Num: 20

Candidate Starts for Aztec\_25:

(Start: 20 @16995 has 127 MA's), (29, 17124), (30, 17127), (34, 17190), (37, 17238), (38, 17247), (40, 17283),

Gene: Baine\_26 Start: 17015, Stop: 17314, Start Num: 20

Candidate Starts for Baine\_26:

(15, 16913), (Start: 20 @17015 has 127 MA's), (29, 17144), (30, 17147), (34, 17210), (37, 17258), (38, 17267), (40, 17303),

Gene: BarBear\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for BarBear\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: Barebow\_25 Start: 17435, Stop: 17701, Start Num: 23

Candidate Starts for Barebow\_25:

(23, 17435), (29, 17552), (32, 17612),

Gene: Belthelas\_25 Start: 17128, Stop: 17427, Start Num: 20

Candidate Starts for Belthelas\_25:

(15, 17026), (Start: 20 @17128 has 127 MA's), (29, 17257), (30, 17260), (34, 17323), (37, 17371), (38, 17380), (40, 17416),

Gene: BinkBonk\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for BinkBonk\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: Bintii\_25 Start: 17094, Stop: 17393, Start Num: 20

Candidate Starts for Bintii\_25:

(15, 16992), (Start: 20 @17094 has 127 MA's), (29, 17223), (30, 17226), (34, 17289), (37, 17337), (38, 17346), (40, 17382),

Gene: Biscayne\_25 Start: 17155, Stop: 17454, Start Num: 20

Candidate Starts for Biscayne\_25:

(15, 17053), (16, 17077), (Start: 20 @17155 has 127 MA's), (29, 17284), (30, 17287), (34, 17350), (37, 17398), (38, 17407), (40, 17443),

Gene: Bodhi17\_25 Start: 17109, Stop: 17408, Start Num: 20

Candidate Starts for Bodhi17\_25:

(15, 17007), (Start: 20 @17109 has 127 MA's), (29, 17238), (30, 17241), (34, 17304), (37, 17352), (38, 17361), (40, 17397),

Gene: BonaeVitae\_27 Start: 17082, Stop: 17384, Start Num: 20

Candidate Starts for BonaeVitae\_27:

(15, 16983), (Start: 20 @17082 has 127 MA's), (29, 17211), (34, 17277), (37, 17325), (38, 17334),

Gene: BoomRoasted\_25 Start: 17082, Stop: 17381, Start Num: 20

Candidate Starts for BoomRoasted\_25:

(15, 16980), (Start: 20 @17082 has 127 MA's), (29, 17211), (30, 17214), (34, 17277), (37, 17325), (38, 17334), (40, 17370),

Gene: Bradley2\_25 Start: 16994, Stop: 17293, Start Num: 20

Candidate Starts for Bradley2\_25:

(15, 16892), (Start: 20 @16994 has 127 MA's), (29, 17123), (30, 17126), (34, 17189), (37, 17237), (38, 17246), (40, 17282),

Gene: Bri160\_25 Start: 17069, Stop: 17368, Start Num: 20

Candidate Starts for Bri160\_25:

(15, 16967), (Start: 20 @17069 has 127 MA's), (29, 17198), (30, 17201), (34, 17264), (37, 17312), (38, 17321), (40, 17357),

Gene: BrokMonster\_25 Start: 17060, Stop: 17359, Start Num: 20

Candidate Starts for BrokMonster\_25:

(1, 16586), (2, 16658), (15, 16958), (Start: 20 @17060 has 127 MA's), (29, 17189), (30, 17192), (34, 17255), (37, 17303), (38, 17312), (40, 17348),

Gene: Bullzi2019\_26 Start: 16770, Stop: 17069, Start Num: 20

Candidate Starts for Bullzi2019\_26:

(15, 16668), (Start: 20 @16770 has 127 MA's), (29, 16899), (30, 16902), (34, 16965), (37, 17013), (38, 17022),

Gene: Burgy\_25 Start: 17080, Stop: 17379, Start Num: 20

Candidate Starts for Burgy\_25:

(15, 16978), (Start: 20 @17080 has 127 MA's), (29, 17209), (30, 17212), (34, 17275), (37, 17323), (38, 17332), (40, 17368),

Gene: BurtonThePup\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for BurtonThePup\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: Cayde6\_26 Start: 17015, Stop: 17314, Start Num: 20

Candidate Starts for Cayde6\_26:

(15, 16913), (Start: 20 @17015 has 127 MA's), (29, 17144), (30, 17147), (34, 17210), (37, 17258), (38, 17267), (40, 17303),

Gene: Cazares\_25 Start: 16542, Stop: 16841, Start Num: 20

Candidate Starts for Cazares\_25:

(15, 16440), (Start: 20 @16542 has 127 MA's), (29, 16671), (30, 16674), (34, 16737), (37, 16785), (38, 16794),

Gene: Charbie\_25 Start: 17055, Stop: 17354, Start Num: 20

Candidate Starts for Charbie\_25:

(15, 16953), (Start: 20 @17055 has 127 MA's), (29, 17184), (30, 17187), (34, 17250), (37, 17298), (38, 17307), (40, 17343),

Gene: Chatham\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Chatham\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Cheesecake\_25 Start: 17080, Stop: 17379, Start Num: 20

Candidate Starts for Cheesecake\_25:

(15, 16978), (Start: 20 @17080 has 127 MA's), (29, 17209), (30, 17212), (34, 17275), (37, 17323), (38, 17332), (40, 17368),

Gene: Ciel\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for Ciel\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: Clownery\_25 Start: 16668, Stop: 16967, Start Num: 20

Candidate Starts for Clownery\_25:

(15, 16566), (Start: 20 @16668 has 127 MA's), (29, 16797), (30, 16800), (34, 16863), (37, 16911), (38, 16920),

Gene: Coeur\_26 Start: 15840, Stop: 16118, Start Num: 20

Candidate Starts for Coeur\_26:

(8, 15516), (13, 15687), (17, 15807), (Start: 20 @15840 has 127 MA's), (27, 15912), (28, 15915), (33, 16020), (36, 16044),

Gene: Concrete\_25 Start: 17059, Stop: 17358, Start Num: 20

Candidate Starts for Concrete\_25:

(15, 16957), (Start: 20 @17059 has 127 MA's), (29, 17188), (30, 17191), (34, 17254), (37, 17302), (38, 17311), (40, 17347),

Gene: DaftyDuck\_25 Start: 17012, Stop: 17311, Start Num: 20

Candidate Starts for DaftyDuck\_25:

(15, 16910), (Start: 20 @17012 has 127 MA's), (29, 17141), (30, 17144), (34, 17207), (37, 17255), (38, 17264),

Gene: Danimal\_25 Start: 16991, Stop: 17290, Start Num: 20

Candidate Starts for Danimal\_25:

(15, 16889), (Start: 20 @16991 has 127 MA's), (29, 17120), (30, 17123), (34, 17186), (37, 17234), (38, 17243), (40, 17279),

Gene: Danno\_25 Start: 17079, Stop: 17378, Start Num: 20

Candidate Starts for Danno\_25:

(15, 16977), (Start: 20 @17079 has 127 MA's), (29, 17208), (30, 17211), (34, 17274), (37, 17322), (38, 17331), (40, 17367),

Gene: Dongwon\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Dongwon\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Dooby\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Dooby\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Douggie\_25 Start: 17065, Stop: 17364, Start Num: 20

Candidate Starts for Douggie\_25:

(15, 16963), (Start: 20 @17065 has 127 MA's), (29, 17194), (30, 17197), (34, 17260), (37, 17308), (38, 17317), (40, 17353),



Gene: EdElric\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for EdElric\_25:

(15, 16887), (Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Efeko\_27 Start: 16867, Stop: 17157, Start Num: 20

Candidate Starts for Efeko\_27:

(Start: 20 @16867 has 127 MA's), (29, 16996), (30, 16999), (34, 17062), (37, 17110),

Gene: Eightball\_25 Start: 17066, Stop: 17365, Start Num: 20

Candidate Starts for Eightball\_25:

(15, 16964), (Start: 20 @17066 has 127 MA's), (29, 17195), (30, 17198), (34, 17261), (37, 17309), (38, 17318), (40, 17354),

Gene: Ekko14\_26 Start: 16744, Stop: 17043, Start Num: 20

Candidate Starts for Ekko14\_26:

(15, 16642), (Start: 20 @16744 has 127 MA's), (29, 16873), (30, 16876), (34, 16939), (37, 16987), (38, 16996), (40, 17032),

Gene: Elspeth\_26 Start: 16744, Stop: 17043, Start Num: 20

Candidate Starts for Elspeth\_26:

(15, 16642), (Start: 20 @16744 has 127 MA's), (29, 16873), (30, 16876), (34, 16939), (37, 16987), (38, 16996), (40, 17032),

Gene: EpicDab\_24 Start: 16340, Stop: 16612, Start Num: 22

Candidate Starts for EpicDab\_24:

(16, 16259), (Start: 22 @16340 has 1 MA's), (24, 16370), (25, 16373), (31, 16478), (35, 16520), (36, 16532),

Gene: Erin\_25 Start: 16987, Stop: 17286, Start Num: 20

Candidate Starts for Erin\_25:

(Start: 20 @16987 has 127 MA's), (29, 17116), (30, 17119), (34, 17182), (37, 17230), (38, 17239), (40, 17275),

Gene: GMA5\_27 Start: 17062, Stop: 17340, Start Num: 20

Candidate Starts for GMA5\_27:

(9, 16792), (14, 16912), (Start: 20 @17062 has 127 MA's), (28, 17137), (36, 17266),

Gene: Gabbspett\_26 Start: 17109, Stop: 17408, Start Num: 20

Candidate Starts for Gabbspett\_26:

(15, 17007), (Start: 20 @17109 has 127 MA's), (29, 17238), (30, 17241), (34, 17304), (37, 17352), (38, 17361), (40, 17397),

Gene: Gardevoir\_25 Start: 17023, Stop: 17322, Start Num: 20

Candidate Starts for Gardevoir\_25:

(Start: 20 @17023 has 127 MA's), (29, 17152), (30, 17155), (34, 17218), (37, 17266), (38, 17275), (40, 17311),

Gene: Gillker\_25 Start: 16988, Stop: 17287, Start Num: 20

Candidate Starts for Gillker\_25:

(15, 16886), (Start: 20 @16988 has 127 MA's), (29, 17117), (30, 17120), (34, 17183), (37, 17231), (38, 17240), (40, 17276),

Gene: Godfather\_25 Start: 17079, Stop: 17378, Start Num: 20

Candidate Starts for Godfather\_25:

(15, 16977), (Start: 20 @17079 has 127 MA's), (29, 17208), (30, 17211), (34, 17274), (37, 17322), (38, 17331), (40, 17367),

Gene: GoldenBlanche\_26 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for GoldenBlanche\_26:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Goobery\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for Goobery\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: HarperAnne\_26 Start: 16743, Stop: 17042, Start Num: 20

Candidate Starts for HarperAnne\_26:

(15, 16641), (Start: 20 @16743 has 127 MA's), (29, 16872), (30, 16875), (34, 16938), (37, 16986), (38, 16995), (40, 17031),

Gene: Hernandez44\_25 Start: 17104, Stop: 17403, Start Num: 20

Candidate Starts for Hernandez44\_25:

(Start: 20 @17104 has 127 MA's), (29, 17233), (30, 17236), (34, 17299), (37, 17347), (38, 17356), (40, 17392),

Gene: Horacetta\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Horacetta\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Hulk\_25 Start: 17022, Stop: 17321, Start Num: 20

Candidate Starts for Hulk\_25:

(4, 16653), (7, 16662), (15, 16920), (Start: 20 @17022 has 127 MA's), (29, 17151), (30, 17154), (34, 17217), (37, 17265), (38, 17274), (40, 17310),

Gene: JRok\_25 Start: 17009, Stop: 17308, Start Num: 20

Candidate Starts for JRok\_25:

(1, 16535), (2, 16607), (15, 16907), (Start: 20 @17009 has 127 MA's), (29, 17138), (30, 17141), (34, 17204), (37, 17252), (38, 17261), (40, 17297),

Gene: Jahseh\_25 Start: 16995, Stop: 17294, Start Num: 20

Candidate Starts for Jahseh\_25:

(15, 16893), (Start: 20 @16995 has 127 MA's), (29, 17124), (30, 17127), (34, 17190), (37, 17238), (38, 17247), (40, 17283),

Gene: JaimeB\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for JaimeB\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: Jannah\_25 Start: 17055, Stop: 17354, Start Num: 20

Candidate Starts for Jannah\_25:

(Start: 20 @17055 has 127 MA's), (29, 17184), (30, 17187), (34, 17250), (37, 17298), (38, 17307), (40, 17343),

Gene: Jerky\_25 Start: 17154, Stop: 17453, Start Num: 20

Candidate Starts for Jerky\_25:

(15, 17052), (Start: 20 @17154 has 127 MA's), (29, 17283), (30, 17286), (34, 17349), (37, 17397), (38, 17406), (40, 17442),

Gene: JoBros\_25 Start: 16990, Stop: 17289, Start Num: 20

Candidate Starts for JoBros\_25:

(Start: 20 @16990 has 127 MA's), (29, 17119), (30, 17122), (34, 17185), (37, 17233), (38, 17242), (40, 17278),

Gene: JooneeDee\_25 Start: 17094, Stop: 17393, Start Num: 20

Candidate Starts for JooneeDee\_25:

(15, 16992), (Start: 20 @17094 has 127 MA's), (29, 17223), (30, 17226), (34, 17289), (37, 17337), (38, 17346), (40, 17382),

Gene: Josuke\_25 Start: 17080, Stop: 17379, Start Num: 20

Candidate Starts for Josuke\_25:

(15, 16978), (Start: 20 @17080 has 127 MA's), (29, 17209), (30, 17212), (34, 17275), (37, 17323), (38, 17332), (40, 17368),

Gene: Kaijohn\_25 Start: 17052, Stop: 17351, Start Num: 20

Candidate Starts for Kaijohn\_25:

(15, 16950), (Start: 20 @17052 has 127 MA's), (29, 17181), (30, 17184), (34, 17247), (37, 17295), (38, 17304), (40, 17340),

Gene: KayPaulus\_25 Start: 17082, Stop: 17381, Start Num: 20

Candidate Starts for KayPaulus\_25:

(15, 16980), (Start: 20 @17082 has 127 MA's), (29, 17211), (30, 17214), (34, 17277), (37, 17325), (38, 17334), (40, 17370),

Gene: Kevanna\_25 Start: 17068, Stop: 17367, Start Num: 20

Candidate Starts for Kevanna\_25:

(15, 16966), (Start: 20 @17068 has 127 MA's), (29, 17197), (30, 17200), (34, 17263), (37, 17311), (38, 17320), (40, 17356),

Gene: KillerTomato\_25 Start: 17069, Stop: 17368, Start Num: 20

Candidate Starts for KillerTomato\_25:

(15, 16967), (Start: 20 @17069 has 127 MA's), (29, 17198), (30, 17201), (34, 17264), (37, 17312), (38, 17321), (40, 17357),

Gene: Kojax4\_25 Start: 17079, Stop: 17378, Start Num: 20

Candidate Starts for Kojax4\_25:

(15, 16977), (Start: 20 @17079 has 127 MA's), (29, 17208), (30, 17211), (34, 17274), (37, 17322), (38, 17331), (40, 17367),

Gene: KyriosFaba\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for KyriosFaba\_25:

(15, 16887), (Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: LaviMo\_25 Start: 17080, Stop: 17379, Start Num: 20

Candidate Starts for LaviMo\_25:

(15, 16978), (Start: 20 @17080 has 127 MA's), (29, 17209), (30, 17212), (34, 17275), (37, 17323), (38, 17332), (40, 17368),

Gene: Leafy\_25 Start: 17034, Stop: 17333, Start Num: 20

Candidate Starts for Leafy\_25:

(15, 16932), (Start: 20 @17034 has 127 MA's), (29, 17163), (30, 17166), (34, 17229), (37, 17277), (38, 17286), (40, 17322),

Gene: LemonPepper\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for LemonPepper\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: LionelHutz\_25 Start: 17075, Stop: 17374, Start Num: 20

Candidate Starts for LionelHutz\_25:

(15, 16973), (Start: 20 @17075 has 127 MA's), (29, 17204), (30, 17207), (34, 17270), (37, 17318), (38, 17327), (40, 17363),

Gene: Livingwater\_25 Start: 17077, Stop: 17376, Start Num: 20

Candidate Starts for Livingwater\_25:

(15, 16975), (Start: 20 @17077 has 127 MA's), (29, 17206), (30, 17209), (34, 17272), (37, 17320), (38, 17329), (40, 17365),

Gene: Loca\_25 Start: 17102, Stop: 17401, Start Num: 20

Candidate Starts for Loca\_25:

(15, 17000), (Start: 20 @17102 has 127 MA's), (29, 17231), (30, 17234), (34, 17297), (37, 17345), (38, 17354), (40, 17390),

Gene: Lola20\_25 Start: 17015, Stop: 17314, Start Num: 20

Candidate Starts for Lola20\_25:

(15, 16913), (Start: 20 @17015 has 127 MA's), (29, 17144), (30, 17147), (34, 17210), (37, 17258), (38, 17267), (40, 17303),

Gene: Lunatic\_25 Start: 16542, Stop: 16841, Start Num: 20

Candidate Starts for Lunatic\_25:

(15, 16440), (Start: 20 @16542 has 127 MA's), (29, 16671), (30, 16674), (34, 16737), (37, 16785), (38, 16794),

Gene: Luxx\_25 Start: 17090, Stop: 17389, Start Num: 20

Candidate Starts for Luxx\_25:

(Start: 20 @17090 has 127 MA's), (29, 17219), (30, 17222), (34, 17285), (37, 17333), (38, 17342), (40, 17378),

Gene: Majesty\_25 Start: 17071, Stop: 17370, Start Num: 20

Candidate Starts for Majesty\_25:

(Start: 20 @17071 has 127 MA's), (29, 17200), (30, 17203), (34, 17266), (37, 17314), (38, 17323), (40, 17359),

Gene: ManAs\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for ManAs\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Maneater\_25 Start: 17054, Stop: 17353, Start Num: 20

Candidate Starts for Maneater\_25:

(15, 16952), (Start: 20 @17054 has 127 MA's), (29, 17183), (30, 17186), (34, 17249), (37, 17297), (38, 17306), (40, 17342),

Gene: MasterPitts\_25 Start: 17012, Stop: 17311, Start Num: 20

Candidate Starts for MasterPitts\_25:

(15, 16910), (Start: 20 @17012 has 127 MA's), (29, 17141), (30, 17144), (34, 17207), (37, 17255), (38, 17264),

Gene: McShie\_25 Start: 17061, Stop: 17360, Start Num: 20

Candidate Starts for McShie\_25:

(1, 16587), (2, 16659), (15, 16959), (Start: 20 @17061 has 127 MA's), (29, 17190), (30, 17193), (34, 17256), (37, 17304), (38, 17313), (40, 17349),

Gene: MelBee03\_25 Start: 17068, Stop: 17367, Start Num: 20

Candidate Starts for MelBee03\_25:

(15, 16966), (Start: 20 @17068 has 127 MA's), (29, 17197), (30, 17200), (34, 17263), (37, 17311), (38, 17320), (40, 17356),

Gene: Miaurora\_25 Start: 16659, Stop: 16958, Start Num: 20

Candidate Starts for Miaurora\_25:

(15, 16557), (Start: 20 @16659 has 127 MA's), (29, 16788), (30, 16791), (34, 16854), (37, 16902), (38, 16911),

Gene: Minima\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Minima\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: MirimarMandM\_25 Start: 17137, Stop: 17436, Start Num: 20

Candidate Starts for MirimarMandM\_25:

(15, 17035), (Start: 20 @17137 has 127 MA's), (29, 17266), (30, 17269), (34, 17332), (37, 17380), (38, 17389), (40, 17425),

Gene: MrGreen\_25 Start: 17048, Stop: 17347, Start Num: 20

Candidate Starts for MrGreen\_25:

(15, 16946), (Start: 20 @17048 has 127 MA's), (29, 17177), (30, 17180), (34, 17243), (37, 17291), (38, 17300), (40, 17336),

Gene: Naby\_26 Start: 17079, Stop: 17381, Start Num: 20

Candidate Starts for Naby\_26:

(5, 16722), (15, 16980), (Start: 20 @17079 has 127 MA's), (29, 17208), (34, 17274), (37, 17322), (38, 17331),

Gene: Namsahir\_27 Start: 16803, Stop: 17102, Start Num: 20

Candidate Starts for Namsahir\_27:

(15, 16701), (Start: 20 @16803 has 127 MA's), (29, 16932), (30, 16935), (34, 16998), (37, 17046), (38, 17055),

Gene: NeumannU\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for NeumannU\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: Niffler\_25 Start: 16650, Stop: 16949, Start Num: 20

Candidate Starts for Niffler\_25:

(15, 16548), (Start: 20 @16650 has 127 MA's), (29, 16779), (30, 16782), (34, 16845), (37, 16893), (38, 16902),

Gene: Nobel\_25 Start: 16676, Stop: 16975, Start Num: 20

Candidate Starts for Nobel\_25:

(15, 16574), (Start: 20 @16676 has 127 MA's), (29, 16805), (30, 16808), (34, 16871), (37, 16919), (38, 16928),

Gene: Noelani\_25 Start: 16975, Stop: 17274, Start Num: 20

Candidate Starts for Noelani\_25:

(10, 16711), (15, 16873), (16, 16897), (Start: 20 @16975 has 127 MA's), (30, 17107), (34, 17170), (37, 17218), (38, 17227), (40, 17263),

Gene: Oaklynn\_25 Start: 17012, Stop: 17311, Start Num: 20

Candidate Starts for Oaklynn\_25:

(3, 16631), (6, 16640), (15, 16910), (Start: 20 @17012 has 127 MA's), (29, 17141), (30, 17144), (34, 17207), (37, 17255), (38, 17264), (40, 17300),

Gene: Octopus\_25 Start: 16995, Stop: 17294, Start Num: 20

Candidate Starts for Octopus\_25:

(Start: 20 @16995 has 127 MA's), (29, 17124), (30, 17127), (34, 17190), (37, 17238), (38, 17247), (40, 17283),

Gene: Otwor\_25 Start: 17081, Stop: 17380, Start Num: 20

Candidate Starts for Otwor\_25:

(15, 16979), (Start: 20 @17081 has 127 MA's), (29, 17210), (30, 17213), (34, 17276), (37, 17324), (38, 17333), (40, 17369),

Gene: Owens\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for Owens\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: PaoPu\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for PaoPu\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Picnic\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Picnic\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: PoRanda\_25 Start: 17137, Stop: 17436, Start Num: 20

Candidate Starts for PoRanda\_25:

(15, 17035), (Start: 20 @17137 has 127 MA's), (29, 17266), (30, 17269), (34, 17332), (37, 17380), (38, 17389), (40, 17425),

Gene: Pondwater\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Pondwater\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Publix\_26 Start: 16803, Stop: 17102, Start Num: 20

Candidate Starts for Publix\_26:

(15, 16701), (Start: 20 @16803 has 127 MA's), (29, 16932), (30, 16935), (34, 16998), (37, 17046), (38, 17055),

Gene: Puddles3\_26 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Puddles3\_26:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: PuffyCat\_25 Start: 16593, Stop: 16892, Start Num: 20

Candidate Starts for PuffyCat\_25:

(15, 16491), (Start: 20 @16593 has 127 MA's), (29, 16722), (30, 16725), (34, 16788), (37, 16836), (38, 16845),

Gene: Quaker\_25 Start: 17077, Stop: 17376, Start Num: 20

Candidate Starts for Quaker\_25:

(15, 16975), (Start: 20 @17077 has 127 MA's), (29, 17206), (30, 17209), (34, 17272), (37, 17320), (38, 17329), (40, 17365),

Gene: RRH1\_20 Start: 13909, Stop: 14184, Start Num: 19

Candidate Starts for RRH1\_20:

(19, 13909), (28, 13987), (36, 14116), (39, 14152),

Gene: Rahul\_26 Start: 15845, Stop: 16123, Start Num: 20

Candidate Starts for Rahul\_26:

(8, 15524), (11, 15638), (12, 15662), (13, 15692), (18, 15839), (Start: 20 @15845 has 127 MA's), (27, 15917), (28, 15920), (29, 15965), (36, 16049),

Gene: Rhogar\_25 Start: 17075, Stop: 17374, Start Num: 20

Candidate Starts for Rhogar\_25:

(15, 16973), (Start: 20 @17075 has 127 MA's), (29, 17204), (30, 17207), (34, 17270), (37, 17318), (38, 17327), (40, 17363),

Gene: Rhysand\_25 Start: 17080, Stop: 17379, Start Num: 20

Candidate Starts for Rhysand\_25:

(15, 16978), (Start: 20 @17080 has 127 MA's), (29, 17209), (30, 17212), (34, 17275), (37, 17323), (38, 17332), (40, 17368),

Gene: RoscoWindex\_27 Start: 17080, Stop: 17379, Start Num: 20

Candidate Starts for RoscoWindex\_27:

(15, 16978), (Start: 20 @17080 has 127 MA's), (29, 17209), (30, 17212), (34, 17275), (37, 17323), (38, 17332), (40, 17368),

Gene: Sage7\_25 Start: 17079, Stop: 17378, Start Num: 20

Candidate Starts for Sage7\_25:

(15, 16977), (Start: 20 @17079 has 127 MA's), (29, 17208), (30, 17211), (34, 17274), (37, 17322), (38, 17331), (40, 17367),

Gene: SantasSleigh\_25 Start: 17103, Stop: 17402, Start Num: 20

Candidate Starts for SantasSleigh\_25:

(15, 17001), (Start: 20 @17103 has 127 MA's), (29, 17232), (30, 17235), (34, 17298), (37, 17346), (38, 17355), (40, 17391),

Gene: Sara\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for Sara\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Scamander\_25 Start: 17079, Stop: 17378, Start Num: 20

Candidate Starts for Scamander\_25:

(15, 16977), (Start: 20 @17079 has 127 MA's), (29, 17208), (30, 17211), (34, 17274), (37, 17322), (38, 17331), (40, 17367),

Gene: Schiebs\_25 Start: 14310, Stop: 14615, Start Num: 21

Candidate Starts for Schiebs\_25:

(Start: 21 @14310 has 1 MA's), (26, 14355), (28, 14376), (30, 14424), (36, 14505),

Gene: Scrunchy\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for Scrunchy\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: SeaWolves\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for SeaWolves\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Sippinontea\_25 Start: 17100, Stop: 17399, Start Num: 20

Candidate Starts for Sippinontea\_25:

(15, 16998), (Start: 20 @17100 has 127 MA's), (29, 17229), (30, 17232), (34, 17295), (37, 17343), (38, 17352), (40, 17388),

Gene: Slentz\_25 Start: 17072, Stop: 17371, Start Num: 20

Candidate Starts for Slentz\_25:

(Start: 20 @17072 has 127 MA's), (29, 17201), (30, 17204), (34, 17267), (37, 17315), (38, 17324), (40, 17360),

Gene: Slizam\_25 Start: 16598, Stop: 16897, Start Num: 20

Candidate Starts for Slizam\_25:

(15, 16496), (Start: 20 @16598 has 127 MA's), (29, 16727), (30, 16730), (34, 16793), (37, 16841), (38, 16850),

Gene: Snuffles\_27 Start: 16951, Stop: 17250, Start Num: 20

Candidate Starts for Snuffles\_27:

(15, 16849), (Start: 20 @16951 has 127 MA's), (29, 17080), (30, 17083), (34, 17146), (37, 17194), (38, 17203),



Gene: Stem\_25 Start: 16608, Stop: 16907, Start Num: 20

Candidate Starts for Stem\_25:

(15, 16506), (Start: 20 @16608 has 127 MA's), (29, 16737), (30, 16740), (34, 16803), (37, 16851), (38, 16860),

Gene: TeddyBoy\_25 Start: 17076, Stop: 17375, Start Num: 20

Candidate Starts for TeddyBoy\_25:

(15, 16974), (Start: 20 @17076 has 127 MA's), (29, 17205), (30, 17208), (34, 17271), (37, 17319), (38, 17328), (40, 17364),

Gene: TimoTea\_25 Start: 17054, Stop: 17353, Start Num: 20

Candidate Starts for TimoTea\_25:

(15, 16952), (Start: 20 @17054 has 127 MA's), (29, 17183), (30, 17186), (34, 17249), (37, 17297), (38, 17306), (40, 17342),

Gene: TinyTruffula\_25 Start: 16677, Stop: 16976, Start Num: 20

Candidate Starts for TinyTruffula\_25:

(15, 16575), (Start: 20 @16677 has 127 MA's), (29, 16806), (30, 16809), (34, 16872), (37, 16920), (38, 16929),

Gene: TomBrady12\_26 Start: 16780, Stop: 17079, Start Num: 20

Candidate Starts for TomBrady12\_26:

(15, 16678), (Start: 20 @16780 has 127 MA's), (29, 16909), (30, 16912), (34, 16975), (37, 17023), (38, 17032),

Gene: Trireme\_25 Start: 16657, Stop: 16956, Start Num: 20

Candidate Starts for Trireme\_25:

(15, 16555), (Start: 20 @16657 has 127 MA's), (29, 16786), (30, 16789), (34, 16852), (37, 16900), (38, 16909),

Gene: Upsilon\_25 Start: 17137, Stop: 17436, Start Num: 20

Candidate Starts for Upsilon\_25:

(15, 17035), (Start: 20 @17137 has 127 MA's), (29, 17266), (30, 17269), (34, 17332), (37, 17380), (38, 17389), (40, 17425),

Gene: Vanisius\_25 Start: 17080, Stop: 17379, Start Num: 20

Candidate Starts for Vanisius\_25:

(15, 16978), (Start: 20 @17080 has 127 MA's), (29, 17209), (30, 17212), (34, 17275), (37, 17323), (38, 17332), (40, 17368),

Gene: VitulaEligans\_25 Start: 17161, Stop: 17460, Start Num: 20

Candidate Starts for VitulaEligans\_25:

(15, 17059), (Start: 20 @17161 has 127 MA's), (29, 17290), (30, 17293), (34, 17356), (37, 17404), (38, 17413), (40, 17449),

Gene: Witch\_25 Start: 16990, Stop: 17289, Start Num: 20

Candidate Starts for Witch\_25:

(Start: 20 @16990 has 127 MA's), (29, 17119), (30, 17122), (34, 17185), (37, 17233), (38, 17242), (40, 17278),

Gene: Wolfpack\_25 Start: 17082, Stop: 17381, Start Num: 20

Candidate Starts for Wolfpack\_25:

(15, 16980), (Start: 20 @17082 has 127 MA's), (29, 17211), (30, 17214), (34, 17277), (37, 17325), (38, 17334), (40, 17370),

Gene: Yami\_25 Start: 16551, Stop: 16850, Start Num: 20

Candidate Starts for Yami\_25:

(15, 16449), (Start: 20 @16551 has 127 MA's), (29, 16680), (30, 16683), (34, 16746), (37, 16794), (38, 16803),

Gene: Yasuo\_25 Start: 17060, Stop: 17359, Start Num: 20

Candidate Starts for Yasuo\_25:

(15, 16958), (Start: 20 @17060 has 127 MA's), (29, 17189), (30, 17192), (34, 17255), (37, 17303), (38, 17312), (40, 17348),

Gene: YertPhresh\_25 Start: 16989, Stop: 17288, Start Num: 20

Candidate Starts for YertPhresh\_25:

(Start: 20 @16989 has 127 MA's), (29, 17118), (30, 17121), (34, 17184), (37, 17232), (38, 17241), (40, 17277),

Gene: Yubaba\_25 Start: 17023, Stop: 17322, Start Num: 20

Candidate Starts for Yubaba\_25:

(Start: 20 @17023 has 127 MA's), (29, 17152), (30, 17155), (34, 17218), (37, 17266), (38, 17275), (40, 17311),