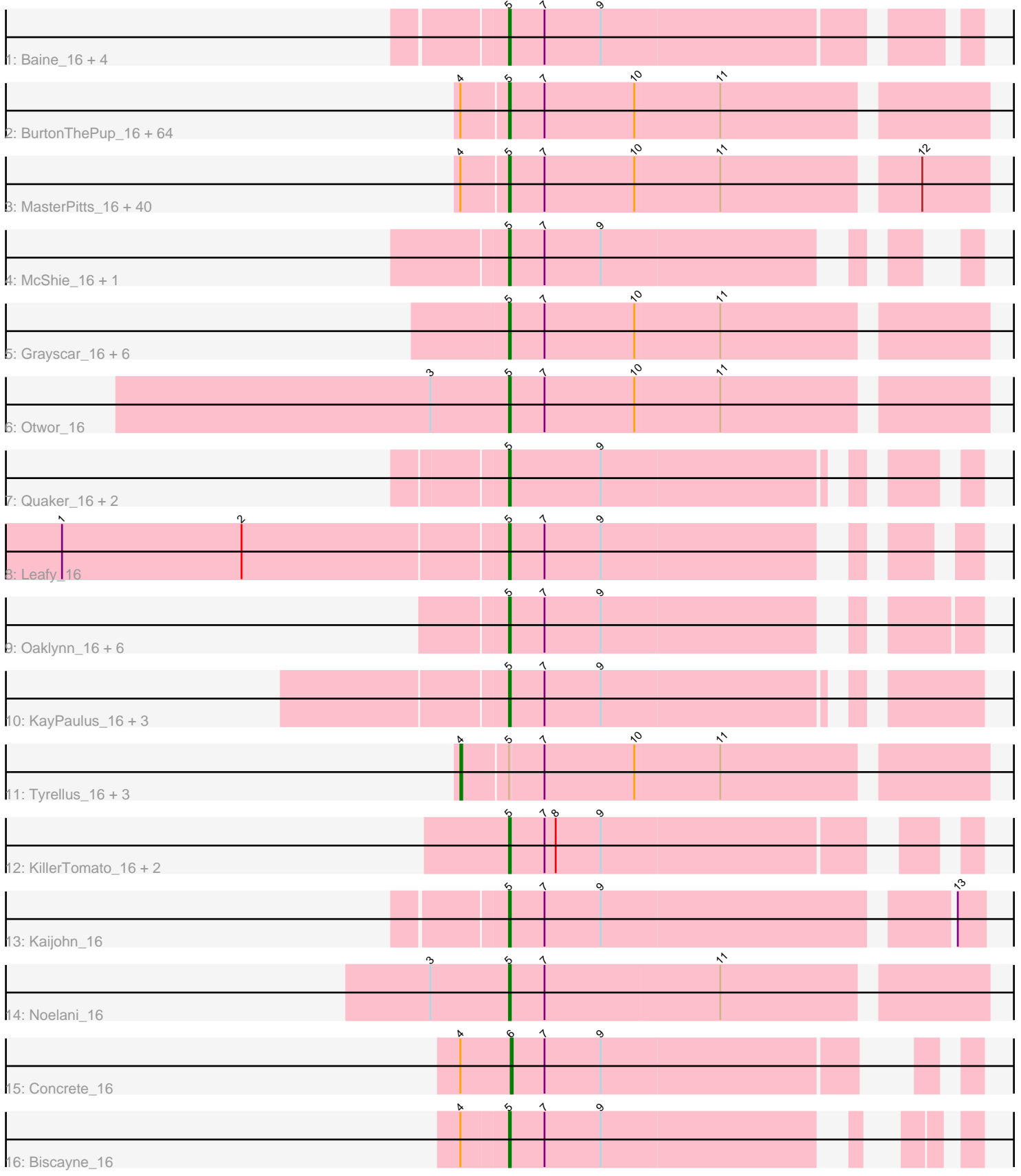


Pham 306230



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 306230 Report

This analysis was run 06/27/26 on database version 652.

Pham number 306230 has 147 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Baine\_16, Lola20\_16, Anseraureola\_16, Cayde6\_16, Loca\_16
- Track 2 : BurtonThePup\_16, Danno\_16, Miaurora\_16, Snuffles\_17, JaimeB\_16, Lunatic\_16, Goobery\_16, LionelHutz\_16, Nobel\_16, Gabbspett\_16, Publix\_16, MirimarMandM\_16, Rhogar\_16, Hernandez44\_16, Namsahir\_17, Stem\_16, PuffyCat\_16, Owens\_16, Rira\_16, Trackstar\_16, HeadMave\_16, TlaliMex\_17, Ciel\_16, JooneeDee\_16, NeumannU\_16, Mauilvory\_16, BinkBonk\_16, TimoTea\_16, Hulk\_16, SantasSleigh\_16, Bintii\_16, ELee24\_16, Ekko14\_16, Slentz\_16, Bullzi2019\_16, Godfather\_16, TinyTruffula\_16, Luxx\_16, HarperAnne\_16, Scrunchy\_16, Jella\_17, Eightball\_16, Clownery\_16, Cazares\_16, Aries55\_16, IzzyPants24\_16, Maneater\_16, Scamander\_16, Niffler\_16, Majesty\_16, Sage7\_16, BarBear\_16, Kojax4\_16, Trireme\_16, Astro16\_16, Yami\_16, VitulaEligans\_16, TeddyBoy\_16, Upsilon\_16, Avvas\_16, Elspeth\_16, Zahlia\_16, Burgy\_16, Slizam\_16, PoRanda\_16
- Track 3 : MasterPitts\_16, Octopus\_16, Madebyisha\_16, Alucard\_16, EdElric\_16, YertPhresh\_16, Puddles3\_16, Bradley2\_16, Horacetta\_16, SeaWolves\_16, Erin\_16, Jahseh\_16, PaoPu\_16, Aztec\_16, Danimal\_16, Chatham\_16, Picnic\_16, DirtPie\_16, Duggle\_17, Gardevoir\_16, Goulash\_16, GoldenBlanche\_16, Dooby\_16, Minima\_16, LemonPepper\_16, ManAs\_16, Jerky\_16, KyriosFaba\_16, Gillker\_16, Pondwater\_16, Sachet\_16, JoBros\_16, OdetoJoy\_16, Yasuo\_16, Marichuy\_17, Myram\_16, Dongwon\_16, DaftyDuck\_16, Sara\_16, Witch\_16, Yubaba\_16
- Track 4 : McShie\_16, Belthelas\_16
- Track 5 : Grayscar\_16, Jannah\_16, Rhysand\_16, Vanisius\_16, Josuke\_16, Cheesecake\_16, LaviMo\_16
- Track 6 : Otwor\_16
- Track 7 : Quaker\_16, Douggie\_16, Livingwater\_16
- Track 8 : Leafy\_16
- Track 9 : Oaklynn\_16, MelBee03\_16, JRok\_16, MrGreen\_16, Azizam\_16, BrokMonster\_16, Kevanna\_16
- Track 10 : KayPaulus\_16, Wolfpack\_16, Sippinontea\_16, Bodhi17\_16
- Track 11 : Tyrellus\_16, TomBrady12\_16, Picconator\_16, RoscoWindex\_16
- Track 12 : KillerTomato\_16, Bri160\_16, BoomRoasted\_16
- Track 13 : Kaijohn\_16
- Track 14 : Noelani\_16
- Track 15 : Concrete\_16
- Track 16 : Biscayne\_16

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

The start number called the most often in the published annotations is 5, it was called in 136 of the 141 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alucard\_16, Anseraureola\_16, Aries55\_16, Astro16\_16, Avvas\_16, Azizam\_16, Aztec\_16, Baine\_16, BarBear\_16, Belthelas\_16, BinkBonk\_16, Bintii\_16, Biscayne\_16, Bodhi17\_16, BoomRoasted\_16, Bradley2\_16, Bri160\_16, BrokMonster\_16, Bullzi2019\_16, Burgy\_16, BurtonThePup\_16, Cayde6\_16, Cazares\_16, Chatham\_16, Cheesecake\_16, Ciel\_16, Clownery\_16, DaftyDuck\_16, Danimal\_16, Danno\_16, DirtPie\_16, Dongwon\_16, Dooby\_16, Duggie\_16, Duggle\_17, ELee24\_16, EdElric\_16, Eightball\_16, Ekko14\_16, Elspeth\_16, Erin\_16, Gabbspett\_16, Gardevoir\_16, Gillker\_16, Godfather\_16, GoldenBlanche\_16, Goobery\_16, Goulash\_16, Grayscar\_16, HarperAnne\_16, HeadMave\_16, Hernandez44\_16, Horacetta\_16, Hulk\_16, IzzyPants24\_16, JRok\_16, Jahseh\_16, JaimeB\_16, Jannah\_16, Jella\_17, Jerky\_16, JoBros\_16, JooneeDee\_16, Josuke\_16, Kaijohn\_16, KayPaulus\_16, Kevanna\_16, KillerTomato\_16, Kojax4\_16, KyriosFaba\_16, LaviMo\_16, Leafy\_16, LemonPepper\_16, LionelHutz\_16, Livingwater\_16, Loca\_16, Lola20\_16, Lunatic\_16, Luxx\_16, Madebyisha\_16, Majesty\_16, ManAs\_16, Maneater\_16, Marichuy\_17, MasterPitts\_16, Mauilvory\_16, McShie\_16, MelBee03\_16, Miaurora\_16, Minima\_16, MirimarMandM\_16, MrGreen\_16, Myram\_16, Namsahir\_17, NeumannU\_16, Niffler\_16, Nobel\_16, Noelani\_16, Oaklynn\_16, Octopus\_16, OdetoJoy\_16, Otwor\_16, Owens\_16, PaoPu\_16, Picnic\_16, PoRanda\_16, Pondwater\_16, Publix\_16, Puddles3\_16, PuffyCat\_16, Quaker\_16, Rhogar\_16, Rhysand\_16, Rira\_16, Sachet\_16, Sage7\_16, SantasSleigh\_16, Sara\_16, Scamander\_16, Scrunchy\_16, SeaWolves\_16, Sippinontea\_16, Slentz\_16, Slizam\_16, Snuffles\_17, Stem\_16, TeddyBoy\_16, TimoTea\_16, TinyTruffula\_16, TlaliMex\_17, Trackstar\_16, Trireme\_16, Upsilon\_16, Vanisius\_16, VitulaEligans\_16, Witch\_16, Wolfpack\_16, Yami\_16, Yasuo\_16, YertPhresh\_16, Yubaba\_16, Zahlia\_16,

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

- Picconator\_16, RoscoWindex\_16, TomBrady12\_16, Tyrellus\_16,

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

- Concrete\_16,

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

Start 4:

- Found in 112 of 147 ( 76.2% ) of genes in pham
- Manual Annotations of this start: 4 of 141
- Called 3.6% of time when present
- Phage (with cluster) where this start called: Picconator\_16 (EE), RoscoWindex\_16 (EE), TomBrady12\_16 (EE), Tyrellus\_16 (EE),

Start 5:

- Found in 146 of 147 ( 99.3% ) of genes in pham
- Manual Annotations of this start: 136 of 141
- Called 97.3% of time when present

- Phage (with cluster) where this start called: Alucard\_16 (EE), Anseraureola\_16 (EE), Aries55\_16 (EE), Astro16\_16 (EE), Avvas\_16 (EE), Azizam\_16 (EE), Aztec\_16 (EE), Baine\_16 (EE), BarBear\_16 (EE), Belthelas\_16 (EE), BinkBonk\_16 (EE), Bintii\_16 (EE), Biscayne\_16 (EE), Bodhi17\_16 (EE), BoomRoasted\_16 (EE), Bradley2\_16 (EE), Bri160\_16 (EE), BrokMonster\_16 (EE), Bullzi2019\_16 (EE), Burgy\_16 (EE), BurtonThePup\_16 (EE), Cayde6\_16 (EE), Cazares\_16 (EE), Chatham\_16 (EE), Cheesecake\_16 (EE), Ciel\_16 (EE), Clownery\_16 (EE), DaftyDuck\_16 (EE), Danimal\_16 (EE), Danno\_16 (EE), DirtPie\_16 (EE), Dongwon\_16 (EE), Dooby\_16 (EE), Douggie\_16 (EE), Duggle\_17 (EE), ELee24\_16 (EE), EdElric\_16 (EE), Eightball\_16 (EE), Ekko14\_16 (EE), Elspeth\_16 (EE), Erin\_16 (EE), Gabbspett\_16 (EE), Gardevoir\_16 (EE), Gillker\_16 (EE), Godfather\_16 (EE), GoldenBlanche\_16 (EE), Goobery\_16 (EE), Goulash\_16 (EE), Grayscar\_16 (EE), HarperAnne\_16 (EE), HeadMave\_16 (EE), Hernandez44\_16 (EE), Horacetta\_16 (EE), Hulk\_16 (EE), IzzyPants24\_16 (EE), JRok\_16 (EE), Jahseh\_16 (EE), JaimeB\_16 (EE), Jannah\_16 (EE), Jella\_17 (EE), Jerky\_16 (EE), JoBros\_16 (EE), JooneeDee\_16 (EE), Josuke\_16 (EE), Kaijohn\_16 (EE), KayPaulus\_16 (EE), Kevanna\_16 (EE), KillerTomato\_16 (EE), Kojax4\_16 (EE), KyriosFaba\_16 (EE), LaviMo\_16 (EE), Leafy\_16 (EE), LemonPepper\_16 (EE), LionelHutz\_16 (EE), Livingwater\_16 (EE), Loca\_16 (EE), Lola20\_16 (EE), Lunatic\_16 (EE), Luxx\_16 (EE), Madebyisha\_16 (EE), Majesty\_16 (EE), ManAs\_16 (EE), Maneater\_16 (EE), Marichuy\_17 (EE), MasterPitts\_16 (EE), Mauilvory\_16 (EE), McShie\_16 (EE), MelBee03\_16 (EE), Miaurora\_16 (EE), Minima\_16 (EE), MirimarMandM\_16 (EE), MrGreen\_16 (EE), Myram\_16 (EE), Namsahir\_17 (EE), NeumannU\_16 (EE), Niffler\_16 (EE), Nobel\_16 (EE), Noelani\_16 (EE), Oaklynn\_16 (EE), Octopus\_16 (EE), OdetoJoy\_16 (EE), Otwor\_16 (EE), Owens\_16 (EE), PaoPu\_16 (EE), Picnic\_16 (EE), PoRanda\_16 (EE), Pondwater\_16 (EE), Publix\_16 (EE), Puddles3\_16 (EE), PuffyCat\_16 (EE), Quaker\_16 (EE), Rhogar\_16 (EE), Rhysand\_16 (EE), Rira\_16 (EE), Sachet\_16 (EE), Sage7\_16 (EE), SantasSleigh\_16 (EE), Sara\_16 (EE), Scamander\_16 (EE), Scrunchy\_16 (EE), SeaWolves\_16 (EE), Sippinontea\_16 (EE), Slentz\_16 (EE), Slizam\_16 (EE), Snuffles\_17 (EE), Stem\_16 (EE), TeddyBoy\_16 (EE), TimoTea\_16 (EE), TinyTruffula\_16 (EE), TlaliMex\_17 (EE), Trackstar\_16 (EE), Trireme\_16 (EE), Upsilon\_16 (EE), Vanisius\_16 (EE), VitulaEligans\_16 (EE), Witch\_16 (EE), Wolfpack\_16 (EE), Yami\_16 (EE), Yasuo\_16 (EE), YertPhresh\_16 (EE), Yubaba\_16 (EE), Zahlia\_16 (EE),

Start 6:

- Found in 1 of 147 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 141
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Concrete\_16 (EE),

### Summary by clusters:

There is one cluster represented in this pham: EE

Info for manual annotations of cluster EE:

- Start number 4 was manually annotated 4 times for cluster EE.
- Start number 5 was manually annotated 136 times for cluster EE.
- Start number 6 was manually annotated 1 time for cluster EE.

### Gene Information:

Gene: Alucard\_16 Start: 13258, Stop: 13545, Start Num: 5  
Candidate Starts for Alucard\_16:  
(Start: 4 @13234 has 4 MA's), (Start: 5 @13258 has 136 MA's), (7, 13276), (10, 13324), (11, 13369),  
(12, 13465),

Gene: Anseraureola\_16 Start: 13311, Stop: 13595, Start Num: 5  
Candidate Starts for Anseraureola\_16:  
(Start: 5 @13311 has 136 MA's), (7, 13329), (9, 13359),

Gene: Aries55\_16 Start: 13335, Stop: 13622, Start Num: 5  
Candidate Starts for Aries55\_16:  
(Start: 4 @13311 has 4 MA's), (Start: 5 @13335 has 136 MA's), (7, 13353), (10, 13401), (11, 13446),

Gene: Astro16\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for Astro16\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Avvas\_16 Start: 13335, Stop: 13622, Start Num: 5  
Candidate Starts for Avvas\_16:  
(Start: 4 @13311 has 4 MA's), (Start: 5 @13335 has 136 MA's), (7, 13353), (10, 13401), (11, 13446),

Gene: Azizam\_16 Start: 13281, Stop: 13544, Start Num: 5  
Candidate Starts for Azizam\_16:  
(Start: 5 @13281 has 136 MA's), (7, 13299), (9, 13329),

Gene: Aztec\_16 Start: 13257, Stop: 13544, Start Num: 5  
Candidate Starts for Aztec\_16:  
(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368),  
(12, 13464),

Gene: Baine\_16 Start: 13286, Stop: 13558, Start Num: 5  
Candidate Starts for Baine\_16:  
(Start: 5 @13286 has 136 MA's), (7, 13304), (9, 13334),

Gene: BarBear\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for BarBear\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Belthelas\_16 Start: 13404, Stop: 13670, Start Num: 5  
Candidate Starts for Belthelas\_16:  
(Start: 5 @13404 has 136 MA's), (7, 13422), (9, 13452),

Gene: BinkBonk\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for BinkBonk\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Bintii\_16 Start: 13343, Stop: 13630, Start Num: 5  
Candidate Starts for Bintii\_16:  
(Start: 4 @13319 has 4 MA's), (Start: 5 @13343 has 136 MA's), (7, 13361), (10, 13409), (11, 13454),

Gene: Biscayne\_16 Start: 13423, Stop: 13665, Start Num: 5  
Candidate Starts for Biscayne\_16:  
(Start: 4 @13399 has 4 MA's), (Start: 5 @13423 has 136 MA's), (7, 13441), (9, 13471),

Gene: Bodhi17\_16 Start: 13345, Stop: 13641, Start Num: 5

Candidate Starts for Bodhi17\_16:

(Start: 5 @13345 has 136 MA's), (7, 13363), (9, 13393),

Gene: BoomRoasted\_16 Start: 13334, Stop: 13609, Start Num: 5

Candidate Starts for BoomRoasted\_16:

(Start: 5 @13334 has 136 MA's), (7, 13352), (8, 13358), (9, 13382),

Gene: Bradley2\_16 Start: 13256, Stop: 13543, Start Num: 5

Candidate Starts for Bradley2\_16:

(Start: 4 @13232 has 4 MA's), (Start: 5 @13256 has 136 MA's), (7, 13274), (10, 13322), (11, 13367), (12, 13463),

Gene: Bri160\_16 Start: 13333, Stop: 13596, Start Num: 5

Candidate Starts for Bri160\_16:

(Start: 5 @13333 has 136 MA's), (7, 13351), (8, 13357), (9, 13381),

Gene: BrokMonster\_16 Start: 13348, Stop: 13593, Start Num: 5

Candidate Starts for BrokMonster\_16:

(Start: 5 @13348 has 136 MA's), (7, 13366), (9, 13396),

Gene: Bullzi2019\_16 Start: 12816, Stop: 13115, Start Num: 5

Candidate Starts for Bullzi2019\_16:

(Start: 4 @12792 has 4 MA's), (Start: 5 @12816 has 136 MA's), (7, 12834), (10, 12882), (11, 12927),

Gene: Burgy\_16 Start: 13335, Stop: 13622, Start Num: 5

Candidate Starts for Burgy\_16:

(Start: 4 @13311 has 4 MA's), (Start: 5 @13335 has 136 MA's), (7, 13353), (10, 13401), (11, 13446),

Gene: BurtonThePup\_16 Start: 13329, Stop: 13616, Start Num: 5

Candidate Starts for BurtonThePup\_16:

(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Cayde6\_16 Start: 13286, Stop: 13558, Start Num: 5

Candidate Starts for Cayde6\_16:

(Start: 5 @13286 has 136 MA's), (7, 13304), (9, 13334),

Gene: Cazares\_16 Start: 12786, Stop: 13085, Start Num: 5

Candidate Starts for Cazares\_16:

(Start: 4 @12762 has 4 MA's), (Start: 5 @12786 has 136 MA's), (7, 12804), (10, 12852), (11, 12897),

Gene: Chatham\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Chatham\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Cheesecake\_16 Start: 13336, Stop: 13623, Start Num: 5

Candidate Starts for Cheesecake\_16:

(Start: 5 @13336 has 136 MA's), (7, 13354), (10, 13402), (11, 13447),

Gene: Ciel\_16 Start: 13329, Stop: 13616, Start Num: 5

Candidate Starts for Ciel\_16:

(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Clownery\_16 Start: 12903, Stop: 13202, Start Num: 5

Candidate Starts for Clownery\_16:

(Start: 4 @12879 has 4 MA's), (Start: 5 @12903 has 136 MA's), (7, 12921), (10, 12969), (11, 13014),

Gene: Concrete\_16 Start: 13335, Stop: 13586, Start Num: 6

Candidate Starts for Concrete\_16:

(Start: 4 @13308 has 4 MA's), (Start: 6 @13335 has 1 MA's), (7, 13353), (9, 13383),

Gene: DaftyDuck\_16 Start: 13266, Stop: 13553, Start Num: 5

Candidate Starts for DaftyDuck\_16:

(Start: 4 @13242 has 4 MA's), (Start: 5 @13266 has 136 MA's), (7, 13284), (10, 13332), (11, 13377), (12, 13473),

Gene: Danimal\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Danimal\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Danno\_16 Start: 13335, Stop: 13622, Start Num: 5

Candidate Starts for Danno\_16:

(Start: 4 @13311 has 4 MA's), (Start: 5 @13335 has 136 MA's), (7, 13353), (10, 13401), (11, 13446),

Gene: DirtPie\_16 Start: 13359, Stop: 13646, Start Num: 5

Candidate Starts for DirtPie\_16:

(Start: 4 @13335 has 4 MA's), (Start: 5 @13359 has 136 MA's), (7, 13377), (10, 13425), (11, 13470), (12, 13566),

Gene: Dongwon\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Dongwon\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Dooby\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Dooby\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Douggie\_16 Start: 13344, Stop: 13601, Start Num: 5

Candidate Starts for Douggie\_16:

(Start: 5 @13344 has 136 MA's), (9, 13392),

Gene: Duggle\_17 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Duggle\_17:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: ELee24\_16 Start: 13294, Stop: 13575, Start Num: 5

Candidate Starts for ELee24\_16:

(Start: 4 @13270 has 4 MA's), (Start: 5 @13294 has 136 MA's), (7, 13312), (10, 13360), (11, 13405),

Gene: EdElric\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for EdElric\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Eightball\_16 Start: 13329, Stop: 13616, Start Num: 5

Candidate Starts for Eightball\_16:

(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Ekko14\_16 Start: 12784, Stop: 13083, Start Num: 5

Candidate Starts for Ekko14\_16:

(Start: 4 @12760 has 4 MA's), (Start: 5 @12784 has 136 MA's), (7, 12802), (10, 12850), (11, 12895),

Gene: Elspeth\_16 Start: 12784, Stop: 13083, Start Num: 5

Candidate Starts for Elspeth\_16:

(Start: 4 @12760 has 4 MA's), (Start: 5 @12784 has 136 MA's), (7, 12802), (10, 12850), (11, 12895),

Gene: Erin\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Erin\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Gabbspett\_16 Start: 13361, Stop: 13648, Start Num: 5

Candidate Starts for Gabbspett\_16:

(Start: 4 @13337 has 4 MA's), (Start: 5 @13361 has 136 MA's), (7, 13379), (10, 13427), (11, 13472),

Gene: Gardevoir\_16 Start: 13291, Stop: 13578, Start Num: 5

Candidate Starts for Gardevoir\_16:

(Start: 4 @13267 has 4 MA's), (Start: 5 @13291 has 136 MA's), (7, 13309), (10, 13357), (11, 13402), (12, 13498),

Gene: Gillker\_16 Start: 13256, Stop: 13543, Start Num: 5

Candidate Starts for Gillker\_16:

(Start: 4 @13232 has 4 MA's), (Start: 5 @13256 has 136 MA's), (7, 13274), (10, 13322), (11, 13367), (12, 13463),

Gene: Godfather\_16 Start: 13335, Stop: 13622, Start Num: 5

Candidate Starts for Godfather\_16:

(Start: 4 @13311 has 4 MA's), (Start: 5 @13335 has 136 MA's), (7, 13353), (10, 13401), (11, 13446),

Gene: GoldenBlanche\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for GoldenBlanche\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Goobery\_16 Start: 13329, Stop: 13616, Start Num: 5

Candidate Starts for Goobery\_16:

(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Goulash\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Goulash\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Grayscar\_16 Start: 13336, Stop: 13623, Start Num: 5  
Candidate Starts for Grayscar\_16:  
(Start: 5 @13336 has 136 MA's), (7, 13354), (10, 13402), (11, 13447),

Gene: HarperAnne\_16 Start: 12783, Stop: 13082, Start Num: 5  
Candidate Starts for HarperAnne\_16:  
(Start: 4 @12759 has 4 MA's), (Start: 5 @12783 has 136 MA's), (7, 12801), (10, 12849), (11, 12894),

Gene: HeadMave\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for HeadMave\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Hernandez44\_16 Start: 13361, Stop: 13648, Start Num: 5  
Candidate Starts for Hernandez44\_16:  
(Start: 4 @13337 has 4 MA's), (Start: 5 @13361 has 136 MA's), (7, 13379), (10, 13427), (11, 13472),

Gene: Horacetta\_16 Start: 13257, Stop: 13544, Start Num: 5  
Candidate Starts for Horacetta\_16:  
(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368),  
(12, 13464),

Gene: Hulk\_16 Start: 13273, Stop: 13560, Start Num: 5  
Candidate Starts for Hulk\_16:  
(Start: 4 @13249 has 4 MA's), (Start: 5 @13273 has 136 MA's), (7, 13291), (10, 13339), (11, 13384),

Gene: IzzyPants24\_16 Start: 12834, Stop: 13133, Start Num: 5  
Candidate Starts for IzzyPants24\_16:  
(Start: 4 @12810 has 4 MA's), (Start: 5 @12834 has 136 MA's), (7, 12852), (10, 12900), (11, 12945),

Gene: JRok\_16 Start: 13278, Stop: 13541, Start Num: 5  
Candidate Starts for JRok\_16:  
(Start: 5 @13278 has 136 MA's), (7, 13296), (9, 13326),

Gene: Jahseh\_16 Start: 13257, Stop: 13544, Start Num: 5  
Candidate Starts for Jahseh\_16:  
(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368),  
(12, 13464),

Gene: JaimeB\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for JaimeB\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Jannah\_16 Start: 13324, Stop: 13611, Start Num: 5  
Candidate Starts for Jannah\_16:  
(Start: 5 @13324 has 136 MA's), (7, 13342), (10, 13390), (11, 13435),

Gene: Jella\_17 Start: 13347, Stop: 13634, Start Num: 5  
Candidate Starts for Jella\_17:  
(Start: 4 @13323 has 4 MA's), (Start: 5 @13347 has 136 MA's), (7, 13365), (10, 13413), (11, 13458),

Gene: Jerky\_16 Start: 13410, Stop: 13697, Start Num: 5  
Candidate Starts for Jerky\_16:

(Start: 4 @13386 has 4 MA's), (Start: 5 @13410 has 136 MA's), (7, 13428), (10, 13476), (11, 13521), (12, 13617),

Gene: JoBros\_16 Start: 13258, Stop: 13545, Start Num: 5

Candidate Starts for JoBros\_16:

(Start: 4 @13234 has 4 MA's), (Start: 5 @13258 has 136 MA's), (7, 13276), (10, 13324), (11, 13369), (12, 13465),

Gene: JooneeDee\_16 Start: 13343, Stop: 13630, Start Num: 5

Candidate Starts for JooneeDee\_16:

(Start: 4 @13319 has 4 MA's), (Start: 5 @13343 has 136 MA's), (7, 13361), (10, 13409), (11, 13454),

Gene: Josuke\_16 Start: 13336, Stop: 13623, Start Num: 5

Candidate Starts for Josuke\_16:

(Start: 5 @13336 has 136 MA's), (7, 13354), (10, 13402), (11, 13447),

Gene: Kaijohn\_16 Start: 13293, Stop: 13571, Start Num: 5

Candidate Starts for Kaijohn\_16:

(Start: 5 @13293 has 136 MA's), (7, 13311), (9, 13341), (13, 13515),

Gene: KayPaulus\_16 Start: 13345, Stop: 13614, Start Num: 5

Candidate Starts for KayPaulus\_16:

(Start: 5 @13345 has 136 MA's), (7, 13363), (9, 13393),

Gene: Kevanna\_16 Start: 13346, Stop: 13603, Start Num: 5

Candidate Starts for Kevanna\_16:

(Start: 5 @13346 has 136 MA's), (7, 13364), (9, 13394),

Gene: KillerTomato\_16 Start: 13333, Stop: 13596, Start Num: 5

Candidate Starts for KillerTomato\_16:

(Start: 5 @13333 has 136 MA's), (7, 13351), (8, 13357), (9, 13381),

Gene: Kojax4\_16 Start: 13335, Stop: 13622, Start Num: 5

Candidate Starts for Kojax4\_16:

(Start: 4 @13311 has 4 MA's), (Start: 5 @13335 has 136 MA's), (7, 13353), (10, 13401), (11, 13446),

Gene: KyriosFaba\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for KyriosFaba\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: LaviMo\_16 Start: 13336, Stop: 13623, Start Num: 5

Candidate Starts for LaviMo\_16:

(Start: 5 @13336 has 136 MA's), (7, 13354), (10, 13402), (11, 13447),

Gene: Leafy\_16 Start: 13302, Stop: 13556, Start Num: 5

Candidate Starts for Leafy\_16:

(1, 13068), (2, 13164), (Start: 5 @13302 has 136 MA's), (7, 13320), (9, 13350),

Gene: LemonPepper\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for LemonPepper\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: LionelHutz\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for LionelHutz\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Livingwater\_16 Start: 13344, Stop: 13601, Start Num: 5  
Candidate Starts for Livingwater\_16:  
(Start: 5 @13344 has 136 MA's), (9, 13392),

Gene: Loca\_16 Start: 13376, Stop: 13624, Start Num: 5  
Candidate Starts for Loca\_16:  
(Start: 5 @13376 has 136 MA's), (7, 13394), (9, 13424),

Gene: Lola20\_16 Start: 13286, Stop: 13558, Start Num: 5  
Candidate Starts for Lola20\_16:  
(Start: 5 @13286 has 136 MA's), (7, 13304), (9, 13334),

Gene: Lunatic\_16 Start: 12786, Stop: 13085, Start Num: 5  
Candidate Starts for Lunatic\_16:  
(Start: 4 @12762 has 4 MA's), (Start: 5 @12786 has 136 MA's), (7, 12804), (10, 12852), (11, 12897),

Gene: Luxx\_16 Start: 13347, Stop: 13634, Start Num: 5  
Candidate Starts for Luxx\_16:  
(Start: 4 @13323 has 4 MA's), (Start: 5 @13347 has 136 MA's), (7, 13365), (10, 13413), (11, 13458),

Gene: Madebyisha\_16 Start: 13410, Stop: 13697, Start Num: 5  
Candidate Starts for Madebyisha\_16:  
(Start: 4 @13386 has 4 MA's), (Start: 5 @13410 has 136 MA's), (7, 13428), (10, 13476), (11, 13521),  
(12, 13617),

Gene: Majesty\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for Majesty\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: ManAs\_16 Start: 13257, Stop: 13544, Start Num: 5  
Candidate Starts for ManAs\_16:  
(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368),  
(12, 13464),

Gene: Maneater\_16 Start: 13311, Stop: 13598, Start Num: 5  
Candidate Starts for Maneater\_16:  
(Start: 4 @13287 has 4 MA's), (Start: 5 @13311 has 136 MA's), (7, 13329), (10, 13377), (11, 13422),

Gene: Marichuy\_17 Start: 13359, Stop: 13646, Start Num: 5  
Candidate Starts for Marichuy\_17:  
(Start: 4 @13335 has 4 MA's), (Start: 5 @13359 has 136 MA's), (7, 13377), (10, 13425), (11, 13470),  
(12, 13566),

Gene: MasterPitts\_16 Start: 13266, Stop: 13553, Start Num: 5  
Candidate Starts for MasterPitts\_16:  
(Start: 4 @13242 has 4 MA's), (Start: 5 @13266 has 136 MA's), (7, 13284), (10, 13332), (11, 13377),  
(12, 13473),

Gene: Mauilvory\_16 Start: 12901, Stop: 13200, Start Num: 5  
Candidate Starts for Mauilvory\_16:  
(Start: 4 @12877 has 4 MA's), (Start: 5 @12901 has 136 MA's), (7, 12919), (10, 12967), (11, 13012),

Gene: McShie\_16 Start: 13349, Stop: 13594, Start Num: 5  
Candidate Starts for McShie\_16:  
(Start: 5 @13349 has 136 MA's), (7, 13367), (9, 13397),

Gene: MelBee03\_16 Start: 13346, Stop: 13603, Start Num: 5  
Candidate Starts for MelBee03\_16:  
(Start: 5 @13346 has 136 MA's), (7, 13364), (9, 13394),

Gene: Miaurora\_16 Start: 12903, Stop: 13202, Start Num: 5  
Candidate Starts for Miaurora\_16:  
(Start: 4 @12879 has 4 MA's), (Start: 5 @12903 has 136 MA's), (7, 12921), (10, 12969), (11, 13014),

Gene: Minima\_16 Start: 13257, Stop: 13544, Start Num: 5  
Candidate Starts for Minima\_16:  
(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368),  
(12, 13464),

Gene: MirimarMandM\_16 Start: 13386, Stop: 13673, Start Num: 5  
Candidate Starts for MirimarMandM\_16:  
(Start: 4 @13362 has 4 MA's), (Start: 5 @13386 has 136 MA's), (7, 13404), (10, 13452), (11, 13497),

Gene: MrGreen\_16 Start: 13300, Stop: 13566, Start Num: 5  
Candidate Starts for MrGreen\_16:  
(Start: 5 @13300 has 136 MA's), (7, 13318), (9, 13348),

Gene: Myram\_16 Start: 13257, Stop: 13544, Start Num: 5  
Candidate Starts for Myram\_16:  
(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368),  
(12, 13464),

Gene: Namsahir\_17 Start: 12858, Stop: 13157, Start Num: 5  
Candidate Starts for Namsahir\_17:  
(Start: 4 @12834 has 4 MA's), (Start: 5 @12858 has 136 MA's), (7, 12876), (10, 12924), (11, 12969),

Gene: NeumannU\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for NeumannU\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Niffler\_16 Start: 12876, Stop: 13175, Start Num: 5  
Candidate Starts for Niffler\_16:  
(Start: 4 @12852 has 4 MA's), (Start: 5 @12876 has 136 MA's), (7, 12894), (10, 12942), (11, 12987),

Gene: Nobel\_16 Start: 12903, Stop: 13202, Start Num: 5  
Candidate Starts for Nobel\_16:  
(Start: 4 @12879 has 4 MA's), (Start: 5 @12903 has 136 MA's), (7, 12921), (10, 12969), (11, 13014),

Gene: Noelani\_16 Start: 13221, Stop: 13499, Start Num: 5  
Candidate Starts for Noelani\_16:  
(3, 13179), (Start: 5 @13221 has 136 MA's), (7, 13239), (11, 13332),

Gene: Oaklynn\_16 Start: 13281, Stop: 13544, Start Num: 5

Candidate Starts for Oaklynn\_16:

(Start: 5 @13281 has 136 MA's), (7, 13299), (9, 13329),

Gene: Octopus\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Octopus\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: OdetoJoy\_16 Start: 13410, Stop: 13697, Start Num: 5

Candidate Starts for OdetoJoy\_16:

(Start: 4 @13386 has 4 MA's), (Start: 5 @13410 has 136 MA's), (7, 13428), (10, 13476), (11, 13521), (12, 13617),

Gene: Otwor\_16 Start: 13337, Stop: 13624, Start Num: 5

Candidate Starts for Otwor\_16:

(3, 13295), (Start: 5 @13337 has 136 MA's), (7, 13355), (10, 13403), (11, 13448),

Gene: Owens\_16 Start: 13329, Stop: 13616, Start Num: 5

Candidate Starts for Owens\_16:

(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: PaoPu\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for PaoPu\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Picconator\_16 Start: 13305, Stop: 13616, Start Num: 4

Candidate Starts for Picconator\_16:

(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Picnic\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Picnic\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: PoRanda\_16 Start: 13386, Stop: 13673, Start Num: 5

Candidate Starts for PoRanda\_16:

(Start: 4 @13362 has 4 MA's), (Start: 5 @13386 has 136 MA's), (7, 13404), (10, 13452), (11, 13497),

Gene: Pondwater\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Pondwater\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Publix\_16 Start: 12858, Stop: 13157, Start Num: 5

Candidate Starts for Publix\_16:

(Start: 4 @12834 has 4 MA's), (Start: 5 @12858 has 136 MA's), (7, 12876), (10, 12924), (11, 12969),

Gene: Puddles3\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Puddles3\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: PuffyCat\_16 Start: 12828, Stop: 13127, Start Num: 5

Candidate Starts for PuffyCat\_16:

(Start: 4 @12804 has 4 MA's), (Start: 5 @12828 has 136 MA's), (7, 12846), (10, 12894), (11, 12939),

Gene: Quaker\_16 Start: 13344, Stop: 13601, Start Num: 5

Candidate Starts for Quaker\_16:

(Start: 5 @13344 has 136 MA's), (9, 13392),

Gene: Rhogar\_16 Start: 13329, Stop: 13616, Start Num: 5

Candidate Starts for Rhogar\_16:

(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Rhysand\_16 Start: 13336, Stop: 13623, Start Num: 5

Candidate Starts for Rhysand\_16:

(Start: 5 @13336 has 136 MA's), (7, 13354), (10, 13402), (11, 13447),

Gene: Rira\_16 Start: 12834, Stop: 13133, Start Num: 5

Candidate Starts for Rira\_16:

(Start: 4 @12810 has 4 MA's), (Start: 5 @12834 has 136 MA's), (7, 12852), (10, 12900), (11, 12945),

Gene: RoscoWindex\_16 Start: 13312, Stop: 13623, Start Num: 4

Candidate Starts for RoscoWindex\_16:

(Start: 4 @13312 has 4 MA's), (Start: 5 @13336 has 136 MA's), (7, 13354), (10, 13402), (11, 13447),

Gene: Sachet\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Sachet\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Sage7\_16 Start: 13335, Stop: 13622, Start Num: 5

Candidate Starts for Sage7\_16:

(Start: 4 @13311 has 4 MA's), (Start: 5 @13335 has 136 MA's), (7, 13353), (10, 13401), (11, 13446),

Gene: SantasSleigh\_16 Start: 13359, Stop: 13646, Start Num: 5

Candidate Starts for SantasSleigh\_16:

(Start: 4 @13335 has 4 MA's), (Start: 5 @13359 has 136 MA's), (7, 13377), (10, 13425), (11, 13470),

Gene: Sara\_16 Start: 13257, Stop: 13544, Start Num: 5

Candidate Starts for Sara\_16:

(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368), (12, 13464),

Gene: Scamander\_16 Start: 13335, Stop: 13622, Start Num: 5

Candidate Starts for Scamander\_16:

(Start: 4 @13311 has 4 MA's), (Start: 5 @13335 has 136 MA's), (7, 13353), (10, 13401), (11, 13446),

Gene: Scrunchy\_16 Start: 13329, Stop: 13616, Start Num: 5

Candidate Starts for Scrunchy\_16:

(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: SeaWolves\_16 Start: 13257, Stop: 13544, Start Num: 5  
Candidate Starts for SeaWolves\_16:  
(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368),  
(12, 13464),

Gene: Sippinontea\_16 Start: 13345, Stop: 13632, Start Num: 5  
Candidate Starts for Sippinontea\_16:  
(Start: 5 @13345 has 136 MA's), (7, 13363), (9, 13393),

Gene: Slentz\_16 Start: 13329, Stop: 13616, Start Num: 5  
Candidate Starts for Slentz\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Slizam\_16 Start: 12834, Stop: 13133, Start Num: 5  
Candidate Starts for Slizam\_16:  
(Start: 4 @12810 has 4 MA's), (Start: 5 @12834 has 136 MA's), (7, 12852), (10, 12900), (11, 12945),

Gene: Snuffles\_17 Start: 13006, Stop: 13305, Start Num: 5  
Candidate Starts for Snuffles\_17:  
(Start: 4 @12982 has 4 MA's), (Start: 5 @13006 has 136 MA's), (7, 13024), (10, 13072), (11, 13117),

Gene: Stem\_16 Start: 12834, Stop: 13133, Start Num: 5  
Candidate Starts for Stem\_16:  
(Start: 4 @12810 has 4 MA's), (Start: 5 @12834 has 136 MA's), (7, 12852), (10, 12900), (11, 12945),

Gene: TeddyBoy\_16 Start: 13330, Stop: 13617, Start Num: 5  
Candidate Starts for TeddyBoy\_16:  
(Start: 4 @13306 has 4 MA's), (Start: 5 @13330 has 136 MA's), (7, 13348), (10, 13396), (11, 13441),

Gene: TimoTea\_16 Start: 13311, Stop: 13598, Start Num: 5  
Candidate Starts for TimoTea\_16:  
(Start: 4 @13287 has 4 MA's), (Start: 5 @13311 has 136 MA's), (7, 13329), (10, 13377), (11, 13422),

Gene: TinyTruffula\_16 Start: 12903, Stop: 13202, Start Num: 5  
Candidate Starts for TinyTruffula\_16:  
(Start: 4 @12879 has 4 MA's), (Start: 5 @12903 has 136 MA's), (7, 12921), (10, 12969), (11, 13014),

Gene: TlaliMex\_17 Start: 13414, Stop: 13701, Start Num: 5  
Candidate Starts for TlaliMex\_17:  
(Start: 4 @13390 has 4 MA's), (Start: 5 @13414 has 136 MA's), (7, 13432), (10, 13480), (11, 13525),

Gene: TomBrady12\_16 Start: 12811, Stop: 13134, Start Num: 4  
Candidate Starts for TomBrady12\_16:  
(Start: 4 @12811 has 4 MA's), (Start: 5 @12835 has 136 MA's), (7, 12853), (10, 12901), (11, 12946),

Gene: Trackstar\_16 Start: 12903, Stop: 13202, Start Num: 5  
Candidate Starts for Trackstar\_16:  
(Start: 4 @12879 has 4 MA's), (Start: 5 @12903 has 136 MA's), (7, 12921), (10, 12969), (11, 13014),

Gene: Trireme\_16 Start: 12901, Stop: 13200, Start Num: 5  
Candidate Starts for Trireme\_16:  
(Start: 4 @12877 has 4 MA's), (Start: 5 @12901 has 136 MA's), (7, 12919), (10, 12967), (11, 13012),

Gene: Tyrellus\_16 Start: 13305, Stop: 13616, Start Num: 4  
Candidate Starts for Tyrellus\_16:  
(Start: 4 @13305 has 4 MA's), (Start: 5 @13329 has 136 MA's), (7, 13347), (10, 13395), (11, 13440),

Gene: Upsilon\_16 Start: 13386, Stop: 13673, Start Num: 5  
Candidate Starts for Upsilon\_16:  
(Start: 4 @13362 has 4 MA's), (Start: 5 @13386 has 136 MA's), (7, 13404), (10, 13452), (11, 13497),

Gene: Vanisius\_16 Start: 13336, Stop: 13623, Start Num: 5  
Candidate Starts for Vanisius\_16:  
(Start: 5 @13336 has 136 MA's), (7, 13354), (10, 13402), (11, 13447),

Gene: VitulaEligans\_16 Start: 13419, Stop: 13706, Start Num: 5  
Candidate Starts for VitulaEligans\_16:  
(Start: 4 @13395 has 4 MA's), (Start: 5 @13419 has 136 MA's), (7, 13437), (10, 13485), (11, 13530),

Gene: Witch\_16 Start: 13258, Stop: 13545, Start Num: 5  
Candidate Starts for Witch\_16:  
(Start: 4 @13234 has 4 MA's), (Start: 5 @13258 has 136 MA's), (7, 13276), (10, 13324), (11, 13369),  
(12, 13465),

Gene: Wolfpack\_16 Start: 13345, Stop: 13614, Start Num: 5  
Candidate Starts for Wolfpack\_16:  
(Start: 5 @13345 has 136 MA's), (7, 13363), (9, 13393),

Gene: Yami\_16 Start: 12786, Stop: 13085, Start Num: 5  
Candidate Starts for Yami\_16:  
(Start: 4 @12762 has 4 MA's), (Start: 5 @12786 has 136 MA's), (7, 12804), (10, 12852), (11, 12897),

Gene: Yasuo\_16 Start: 13320, Stop: 13607, Start Num: 5  
Candidate Starts for Yasuo\_16:  
(Start: 4 @13296 has 4 MA's), (Start: 5 @13320 has 136 MA's), (7, 13338), (10, 13386), (11, 13431),  
(12, 13527),

Gene: YertPhresh\_16 Start: 13257, Stop: 13544, Start Num: 5  
Candidate Starts for YertPhresh\_16:  
(Start: 4 @13233 has 4 MA's), (Start: 5 @13257 has 136 MA's), (7, 13275), (10, 13323), (11, 13368),  
(12, 13464),

Gene: Yubaba\_16 Start: 13291, Stop: 13578, Start Num: 5  
Candidate Starts for Yubaba\_16:  
(Start: 4 @13267 has 4 MA's), (Start: 5 @13291 has 136 MA's), (7, 13309), (10, 13357), (11, 13402),  
(12, 13498),

Gene: Zahlia\_16 Start: 13365, Stop: 13652, Start Num: 5  
Candidate Starts for Zahlia\_16:  
(Start: 4 @13341 has 4 MA's), (Start: 5 @13365 has 136 MA's), (7, 13383), (10, 13431), (11, 13476),