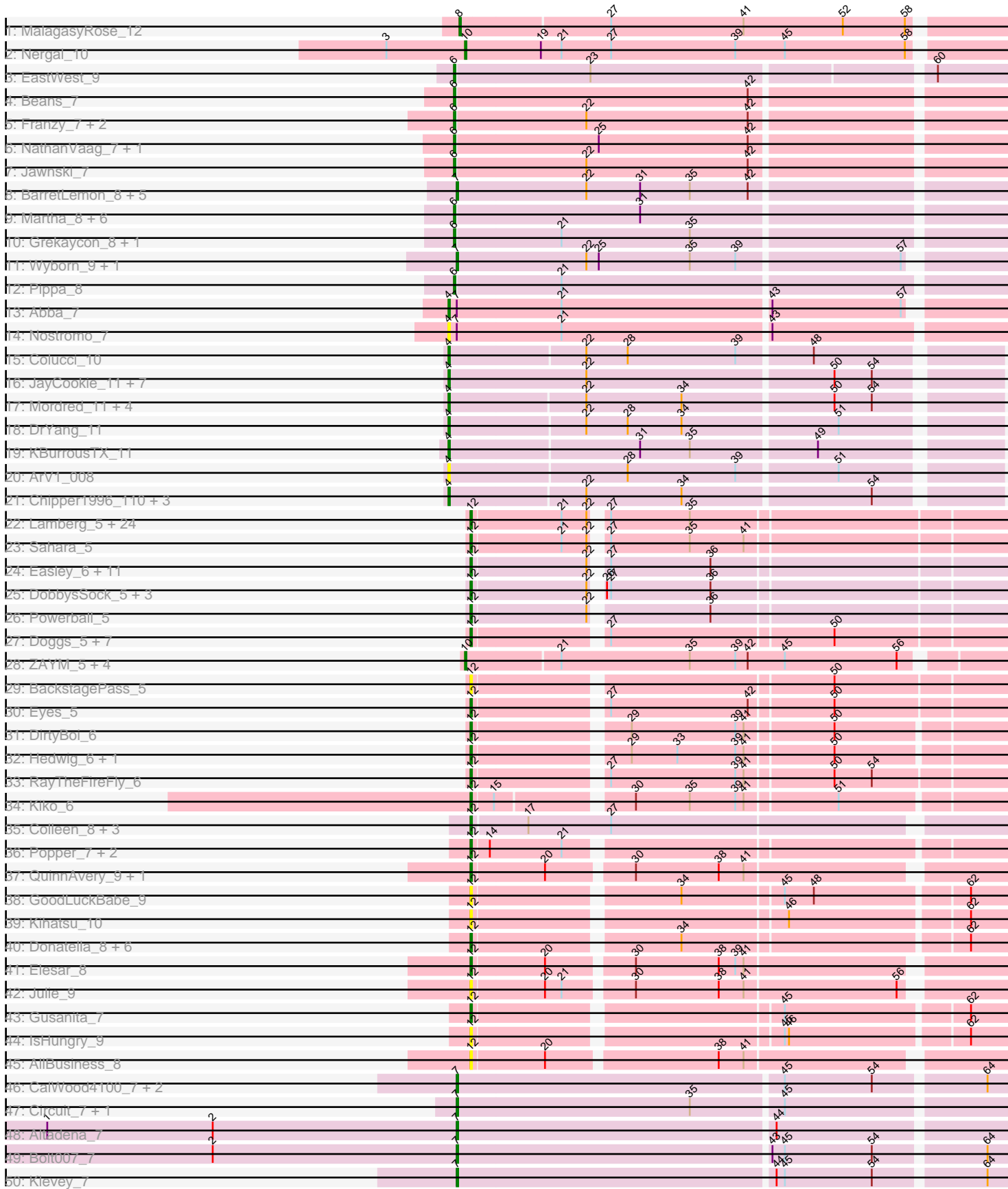
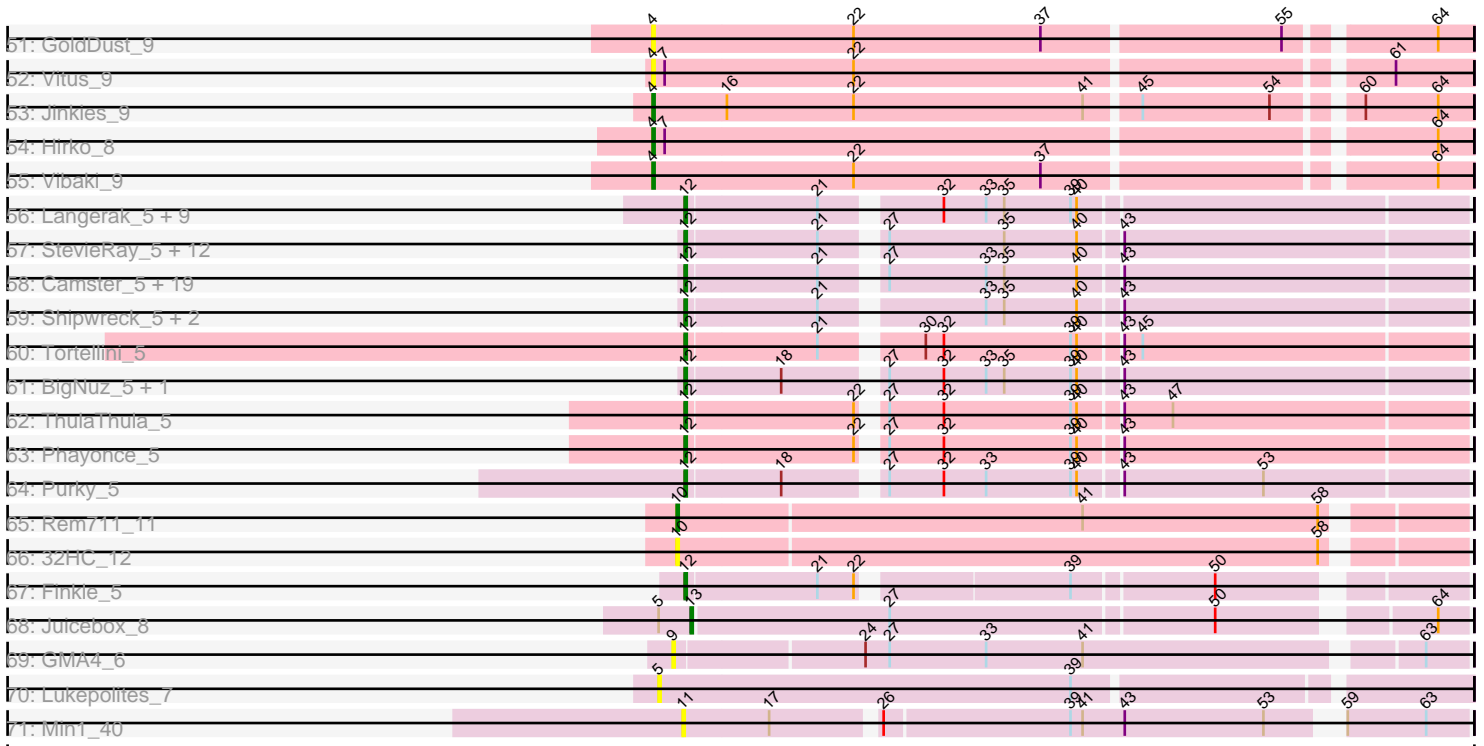


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 222887 Report

This analysis was run 03/28/25 on database version 593.

Pham number 222887 has 209 members, 37 are drafts.

Phages represented in each track:

- Track 1 : MalagasyRose\_12
- Track 2 : Nergal\_10
- Track 3 : EastWest\_9
- Track 4 : Beans\_7
- Track 5 : Franzy\_7, King2\_7, Brent\_7
- Track 6 : NathanVaag\_7, Piccoletto\_7
- Track 7 : Jawnski\_7
- Track 8 : BarretLemon\_8, GravityBall\_8, BigDome\_8, Timinator\_8, StevieBAY\_8, LeeroyJ\_8
- Track 9 : Martha\_8, JKerns\_8, TaeYoung\_8, Jordan\_8, Zartrosa\_8, Sonny\_8, Shade\_8
- Track 10 : Grekaycon\_8, BossLady\_8
- Track 11 : Wyborn\_9, Sicarius2\_9
- Track 12 : Pippa\_8
- Track 13 : Abba\_7
- Track 14 : Nostromo\_7
- Track 15 : Colucci\_10
- Track 16 : JayCookie\_11, Lymara\_11, Chocolat\_11, RosiePosie\_11, MoyaNatalis\_11, Chubster\_11, Linus\_11, PrincessTrina\_11
- Track 17 : Mordred\_11, HumptyDumpty\_11, Scavito\_11, JaNo\_11, Kabreeze\_11
- Track 18 : DrYang\_11
- Track 19 : KBurrousTX\_11
- Track 20 : ArV1\_008
- Track 21 : Chipper1996\_110, EdgarPoe\_11, Tophat\_11, Conboy\_11
- Track 22 : Lamberg\_5, EdnaMode\_5, LordFarquaad\_5, JCole\_5, Cynthia\_5, Clap\_5, GemG\_5, Denise\_5, Vasanti\_5, Attis\_5, Gizermo\_5, Sproutie\_5, FroggyToad\_5, SoilAssassin\_5, Nettuno\_5, TuertoX\_5, Ebert\_5, Matteo\_5, Savage\_5, Bjanes7\_5, Pickett\_5, Haley23\_5, Mocha12\_5, Yeet412\_5, Whiteclaw\_5
- Track 23 : Sahara\_5
- Track 24 : Easley\_6, Oregano\_6, Suerte\_5, MichaelScott\_6, Dolores\_6, Samman98\_6, Beenie\_6, Clark\_6, Sekhmet\_6, WinkNick\_6, Thimann\_6, Invectra\_6
- Track 25 : DobbysSock\_5, Dorito\_5, Annalisa\_6, PhriskyACE\_5
- Track 26 : Powerball\_5
- Track 27 : Doggs\_5, GEazy\_5, Moonflower\_6, Bunker\_5, BBQValindra\_5, Bowser\_5, HannahD\_5, Coriander\_6
- Track 28 : ZAYM\_5, Opie\_5, TaronosaurusRx\_5, MagicMan\_5, Schnabeltier\_5
- Track 29 : BackstagePass\_5

- Track 30 : Eyes\_5
- Track 31 : DirtyBoi\_6
- Track 32 : Hedwig\_6, Dmitri\_6
- Track 33 : RayTheFireFly\_6
- Track 34 : Kiko\_6
- Track 35 : Colleen\_8, TouchMeNot\_8, Arianna\_8, Poushou\_8
- Track 36 : Popper\_7, Zaheer\_9, Ryan\_9
- Track 37 : QuinnAvery\_9, Cole\_7
- Track 38 : GoodLuckBabe\_9
- Track 39 : Kihatsu\_10
- Track 40 : Donatella\_8, Halloweekend\_7, Nandita\_9, Guinevere\_9, Ichiang\_7, Schism\_9, Lenoxika\_9
- Track 41 : Elesar\_8
- Track 42 : Julie\_9
- Track 43 : Gusanita\_7
- Track 44 : IsHungry\_9
- Track 45 : AllBusiness\_8
- Track 46 : CalWood4100\_7, Lilmac1015\_7, Prairie\_7
- Track 47 : Circuit\_7, Bumble\_7
- Track 48 : Altadena\_7
- Track 49 : Bolt007\_7
- Track 50 : Klevey\_7
- Track 51 : GoldDust\_9
- Track 52 : Vitus\_9
- Track 53 : Jinkies\_9
- Track 54 : Hirko\_8
- Track 55 : Vibaki\_9
- Track 56 : Langerak\_5, Mangethe\_5, Majeke\_5, Donovan\_5, Sonah\_5, Phegasus\_5, Arib1\_5, Jebeks\_5, Juniormint\_5, Techage\_5
- Track 57 : StevieRay\_5, Bunnies\_5, Phalm\_5, Megiddo\_5, Polkaroo\_5, Glaske\_5, KilKor\_5, Gavriela\_5, StressBall\_5, Bhagsy\_5, Willsammy\_5, CactusJack\_5, Ksquared\_5
- Track 58 : Camster\_5, Thespis\_5, Malithi\_5, Venti\_5, Brusacoram\_5, Atcoo\_5, FirstPlacePfu\_5, Jung\_5, HUHilltop\_5, Necropolis\_5, Phineas\_5, Xavia\_5, Dynamo\_5, GreaseLightnin\_5, Etoile\_5, Zilizebeth\_5, Kari\_5, Bartholomew\_5, Fishburne\_5, Vidya\_5
- Track 59 : Shipwreck\_5, Pygmy\_5, Bogie\_5
- Track 60 : Tortellini\_5
- Track 61 : BigNuz\_5, Nazo\_5
- Track 62 : ThulaThula\_5
- Track 63 : Phayonce\_5
- Track 64 : Purky\_5
- Track 65 : Rem711\_11
- Track 66 : 32HC\_12
- Track 67 : Finkle\_5
- Track 68 : Juicebox\_8
- Track 69 : GMA4\_6
- Track 70 : Lukepolites\_7
- Track 71 : Min1\_40

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

The start number called the most often in the published annotations is 12, it was called in 111 of the 172 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AllBusiness\_8, Annalisa\_6, Arianna\_8, Arib1\_5, Atcoo\_5, Attis\_5, BBQValindra\_5, BackstagePass\_5, Bartholomew\_5, Beenie\_6, Bhagsy\_5, BigNuz\_5, Bjaner7\_5, Bogie\_5, Bowser\_5, Brusacoram\_5, Bunker\_5, Bunnies\_5, CactusJack\_5, Camster\_5, Clap\_5, Clark\_6, Cole\_7, Colleen\_8, Coriander\_6, Cynthia\_5, Denise\_5, DirtyBoi\_6, Dmitri\_6, DobbysSock\_5, Doggs\_5, Dolores\_6, Donatella\_8, Donovan\_5, Dorito\_5, Dynamo\_5, Easley\_6, Ebert\_5, EdnaMode\_5, Elesar\_8, Etoile\_5, Eyes\_5, Finkle\_5, FirstPlacePfu\_5, Fishburne\_5, FroggyToad\_5, GEazy\_5, Gavriela\_5, GemG\_5, Gizermo\_5, Glaske\_5, GoodLuckBabe\_9, GreaseLightnin\_5, Guinevere\_9, Gusanita\_7, HUHilltop\_5, Haley23\_5, Halloweekend\_7, HannahD\_5, Hedwig\_6, Ichiang\_7, Investra\_6, IsHungry\_9, JCole\_5, Jebeks\_5, Julie\_9, Jung\_5, Junormint\_5, Kari\_5, Kihatsu\_10, Kiko\_6, KilKor\_5, Ksquared\_5, Lamberg\_5, Langerak\_5, Lenoxika\_9, LordFarquaad\_5, Majeke\_5, Malithi\_5, Mangethe\_5, Matteo\_5, Megiddo\_5, MichaelScott\_6, Mocha12\_5, Moonflower\_6, Nandita\_9, Nazo\_5, Necropolis\_5, Nettuno\_5, Oregano\_6, Phalm\_5, Phayonce\_5, Phegasus\_5, Phineas\_5, PhirskyACE\_5, Pickett\_5, Polkaroo\_5, Popper\_7, Poushou\_8, Powerball\_5, Purky\_5, Pygmy\_5, QuinnAvery\_9, RayTheFireFly\_6, Ryan\_9, Sahara\_5, Samman98\_6, Savage\_5, Schism\_9, Sekhmet\_6, Shipwreck\_5, SoilAssassin\_5, Sonah\_5, Sproutie\_5, StevieRay\_5, StressBall\_5, Suerte\_5, Techage\_5, Thespiis\_5, Thimann\_6, ThulaThula\_5, Tortellini\_5, TouchMeNot\_8, TuertoX\_5, Vasanti\_5, Ventii\_5, Vidya\_5, Whiteclaw\_5, Willsammy\_5, WinkNick\_6, Xavia\_5, Yeet412\_5, Zaheer\_9, Zilizebeth\_5,

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

- 

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

- 32HC\_12, Abba\_7, Altadena\_7, ArV1\_008, BarretLemon\_8, Beans\_7, BigDome\_8, Bolt007\_7, BossLady\_8, Brent\_7, Bumble\_7, CalWood4100\_7, Chipper1996\_110, Chocolat\_11, Chubster\_11, Circuit\_7, Colucci\_10, Conboy\_11, DrYang\_11, EastWest\_9, EdgarPoe\_11, Franzy\_7, GMA4\_6, GoldDust\_9, GravityBall\_8, Grekaycon\_8, Hirko\_8, HumptyDumpty\_11, JKerns\_8, JaNo\_11, Jawnski\_7, JayCookie\_11, Jinkies\_9, Jordan\_8, Juicebox\_8, KBurrousTX\_11, Kabreeze\_11, King2\_7, Klevey\_7, LeeroyJ\_8, Lilmac1015\_7, Linus\_11, Lukepolites\_7, Lymara\_11, MagicMan\_5, MalagasyRose\_12, Martha\_8, Min1\_40, Mordred\_11, MoyaNatalis\_11, NathanVaag\_7, Nergal\_10, Nostromo\_7, Opie\_5, Piccoletto\_7, Pippa\_8, Prairie\_7, PrincessTrina\_11, Rem711\_11, RosiePosie\_11, Scavito\_11, Schnabeltier\_5, Shade\_8, Sicarius2\_9, Sonny\_8, StevieBAY\_8, TaeYoung\_8, TaronosaurusRx\_5, Timinator\_8, Tophat\_11, Vibaki\_9, Vitus\_9, Wyborn\_9, ZAYM\_5, Zartrosa\_8,

### Summary by start number:

Start 4:

- Found in 28 of 209 ( 13.4% ) of genes in pham
- Manual Annotations of this start: 23 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba\_7 (AO3), ArV1\_008 (AR), Chipper1996\_110 (AR), Chocolat\_11 (AR), Chubster\_11 (AR), Colucci\_10 (AR), Conboy\_11 (AR), DrYang\_11 (AR), EdgarPoe\_11 (AR), GoldDust\_9 (FL), Hirko\_8

(FL), HumptyDumpty\_11 (AR), JaNo\_11 (AR), JayCookie\_11 (AR), Jinkies\_9 (FL), KBurrousTX\_11 (AR), Kabreeze\_11 (AR), Linus\_11 (AR), Lymara\_11 (AR), Mordred\_11 (AR), MoyaNatalis\_11 (AR), Nostromo\_7 (AO3), PrincessTrina\_11 (AR), RosiePosie\_11 (AR), Scavito\_11 (AR), Tophat\_11 (AR), Vibaki\_9 (FL), Vitus\_9 (FL),

Start 5:

- Found in 2 of 209 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Lukepolites\_7 (singleton),

Start 6:

- Found in 18 of 209 ( 8.6% ) of genes in pham
- Manual Annotations of this start: 18 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beans\_7 (AO1), BossLady\_8 (AO2), Brent\_7 (AO1), EastWest\_9 (AO), Franzy\_7 (AO1), Grekaycon\_8 (AO2), JKerns\_8 (AO2), Jawnski\_7 (AO1), Jordan\_8 (AO2), King2\_7 (AO1), Martha\_8 (AO2), NathanVaag\_7 (AO1), Piccoletto\_7 (AO1), Pippa\_8 (AO2), Shade\_8 (AO2), Sonny\_8 (AO2), TaeYoung\_8 (AO2), Zartrosa\_8 (AO2),

Start 7:

- Found in 20 of 209 ( 9.6% ) of genes in pham
- Manual Annotations of this start: 13 of 172
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Altadena\_7 (FH), BarretLemon\_8 (AO2), BigDome\_8 (AO2), Bolt007\_7 (FH), Bumble\_7 (FH), CalWood4100\_7 (FH), Circuit\_7 (FH), GravityBall\_8 (AO2), Klevey\_7 (FH), LeeroyJ\_8 (AO2), Lilmac1015\_7 (FH), Prairie\_7 (FH), Sicarius2\_9 (AO2), StevieBAY\_8 (AO2), Timinator\_8 (AO2), Wyborn\_9 (AO2),

Start 8:

- Found in 1 of 209 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_12 (AG),

Start 9:

- Found in 1 of 209 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA4\_6 (singleton),

Start 10:

- Found in 8 of 209 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 5 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC\_12 (Z), MagicMan\_5 (DB), Nergal\_10 (AG), Opie\_5 (DB), Rem711\_11 (Z), Schnabeltier\_5 (DB), TaronosaurusRx\_5 (DB), ZAYM\_5 (DB),

Start 11:

- Found in 1 of 209 ( 0.5% ) of genes in pham

- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Min1\_40 (singleton),

#### Start 12:

- Found in 134 of 209 ( 64.1% ) of genes in pham
- Manual Annotations of this start: 111 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AllBusiness\_8 (FF), Annalisa\_6 (CZ4), Arianna\_8 (EO), Arib1\_5 (P1), Atcoo\_5 (P1), Attis\_5 (CZ2), BBQValindra\_5 (DB), BackstagePass\_5 (DB), Bartholomew\_5 (P1), Beenie\_6 (CZ4), Bhagsy\_5 (P1), BigNuz\_5 (P4), Bjanest7\_5 (CZ2), Bogie\_5 (P1), Bowser\_5 (DB), Brusacoram\_5 (P1), Bunker\_5 (DB), Bunnies\_5 (P1), CactusJack\_5 (P1), Camster\_5 (P1), Clap\_5 (CZ2), Clark\_6 (CZ4), Cole\_7 (FF), Colleen\_8 (EO), Coriander\_6 (DB), Cynthia\_5 (CZ2), Denise\_5 (CZ5), DirtyBoi\_6 (DB), Dmitri\_6 (DB), DobbysSock\_5 (CZ4), Doggs\_5 (DB), Dolores\_6 (CZ4), Donatella\_8 (FF), Donovan\_5 (P1), Dorito\_5 (CZ4), Dynamo\_5 (P1), Easley\_6 (CZ4), Ebert\_5 (CZ2), EdnaMode\_5 (CZ2), Elesar\_8 (FF), Etoile\_5 (P1), Eyes\_5 (DB), Finkle\_5 (singleton), FirstPlacePfu\_5 (P1), Fishburne\_5 (P1), FroggyToad\_5 (CZ2), GEazy\_5 (DB), Gavriela\_5 (P1), GemG\_5 (CZ2), Gizermo\_5 (CZ2), Glaske\_5 (P1), GoodLuckBabe\_9 (FF), GreaseLightnin\_5 (P1), Guinevere\_9 (FF), Gusanita\_7 (FF), HUHilltop\_5 (P1), Haley23\_5 (CZ2), Halloweekend\_7 (FF), HannahD\_5 (DB), Hedwig\_6 (DB), Ichiang\_7 (FF), Invectra\_6 (CZ4), IsHungry\_9 (FF), JCole\_5 (CZ2), Jebeks\_5 (P1), Julie\_9 (FF), Jung\_5 (P1), Juniormint\_5 (P1), Kari\_5 (P1), Kihatsu\_10 (FF), Kiko\_6 (DB), KilKor\_5 (P1), Ksquared\_5 (P1), Lamberg\_5 (CZ2), Langerak\_5 (P1), Lenoxika\_9 (FF), LordFarquaad\_5 (CZ2), Majeke\_5 (P1), Malithi\_5 (P1), Mangethe\_5 (P1), Matteo\_5 (CZ2), Megiddo\_5 (P1), MichaelScott\_6 (CZ4), Mocha12\_5 (CZ2), Moonflower\_6 (DB), Nandita\_9 (FF), Nazo\_5 (P4), Necropolis\_5 (P1), Nettuno\_5 (CZ2), Oregano\_6 (CZ4), Phalm\_5 (P1), Phayonce\_5 (P5), Phegasus\_5 (P1), Phineas\_5 (P1), PhriskyACE\_5 (CZ4), Pickett\_5 (CZ2), Polkaroo\_5 (P1), Popper\_7 (FF), Poushou\_8 (EO), Powerball\_5 (CZ4), Purky\_5 (P6), Pygmy\_5 (P1), QuinnAvery\_9 (FF), RayTheFireFly\_6 (DB), Ryan\_9 (FF), Sahara\_5 (CZ2), Samman98\_6 (CZ4), Savage\_5 (CZ2), Schism\_9 (FF), Sekhmet\_6 (CZ4), Shipwreck\_5 (P1), SoilAssassin\_5 (CZ2), Sonah\_5 (P1), Sproutie\_5 (CZ2), StevieRay\_5 (P1), StressBall\_5 (P1), Suerte\_5 (CZ4), Techage\_5 (P1), Thespis\_5 (P1), Thimann\_6 (CZ4), ThulaThula\_5 (P5), Tortellini\_5 (P2), TouchMeNot\_8 (EO), TuertoX\_5 (CZ2), Vasanti\_5 (CZ2), Venti\_5 (P1), Vidya\_5 (P1), Whiteclaw\_5 (CZ2), Willsammy\_5 (P1), WinkNick\_6 (CZ4), Xavia\_5 (P3), Yeet412\_5 (CZ2), Zaheer\_9 (FF), Zilizebeth\_5 (P1),

#### Start 13:

- Found in 1 of 209 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 172
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Juicebox\_8 (singleton),

### Summary by clusters:

There are 22 clusters represented in this pham: singleton, CZ2, DB, CZ4, CZ5, FF, FH, FL, P4, P2, P3, EO, P1, P6, AG, P5, AO, AR, AO3, AO2, AO1, Z,

#### Info for manual annotations of cluster AG:

- Start number 8 was manually annotated 1 time for cluster AG.
- Start number 10 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster AO:

- Start number 6 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 6 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 6 was manually annotated 10 times for cluster AO2.
- Start number 7 was manually annotated 7 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 4 was manually annotated 1 time for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 4 was manually annotated 19 times for cluster AR.

Info for manual annotations of cluster CZ2:

- Start number 12 was manually annotated 23 times for cluster CZ2.

Info for manual annotations of cluster CZ4:

- Start number 12 was manually annotated 15 times for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 12 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster DB:

- Start number 10 was manually annotated 3 times for cluster DB.
- Start number 12 was manually annotated 12 times for cluster DB.

Info for manual annotations of cluster EO:

- Start number 12 was manually annotated 4 times for cluster EO.

Info for manual annotations of cluster FF:

- Start number 12 was manually annotated 8 times for cluster FF.

Info for manual annotations of cluster FH:

- Start number 7 was manually annotated 6 times for cluster FH.

Info for manual annotations of cluster FL:

- Start number 4 was manually annotated 3 times for cluster FL.

Info for manual annotations of cluster P1:

- Start number 12 was manually annotated 40 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 12 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 12 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 12 was manually annotated 2 times for cluster P4.



Info for manual annotations of cluster P5:

- Start number 12 was manually annotated 2 times for cluster P5.

Info for manual annotations of cluster P6:

- Start number 12 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster Z:

- Start number 10 was manually annotated 1 time for cluster Z.

### ***Gene Information:***

Gene: 32HC\_12 Start: 7864, Stop: 8238, Start Num: 10

Candidate Starts for 32HC\_12:

(Start: 10 @7864 has 5 MA's), (58, 8179),

Gene: Abba\_7 Start: 6995, Stop: 7381, Start Num: 4

Candidate Starts for Abba\_7:

(Start: 4 @6995 has 23 MA's), (Start: 7 @7001 has 13 MA's), (21, 7076), (43, 7223), (57, 7316),

Gene: AllBusiness\_8 Start: 6227, Stop: 6586, Start Num: 12

Candidate Starts for AllBusiness\_8:

(Start: 12 @6227 has 111 MA's), (20, 6278), (38, 6395), (41, 6413),

Gene: Altadena\_7 Start: 6762, Stop: 7148, Start Num: 7

Candidate Starts for Altadena\_7:

(1, 6465), (2, 6585), (Start: 7 @6762 has 13 MA's), (44, 6987),

Gene: Annalisa\_6 Start: 4955, Stop: 5317, Start Num: 12

Candidate Starts for Annalisa\_6:

(Start: 12 @4955 has 111 MA's), (22, 5036), (26, 5039), (27, 5042), (36, 5114),

Gene: ArV1\_008 Start: 7635, Stop: 8015, Start Num: 4

Candidate Starts for ArV1\_008:

(Start: 4 @7635 has 23 MA's), (28, 7761), (39, 7839), (51, 7908),

Gene: Arianna\_8 Start: 6945, Stop: 7313, Start Num: 12

Candidate Starts for Arianna\_8:

(Start: 12 @6945 has 111 MA's), (17, 6984), (27, 7044),

Gene: Arib1\_5 Start: 4896, Stop: 5261, Start Num: 12

Candidate Starts for Arib1\_5:

(Start: 12 @4896 has 111 MA's), (21, 4959), (32, 5010), (33, 5031), (35, 5040), (39, 5073), (40, 5076),

Gene: Atcoo\_5 Start: 4880, Stop: 5245, Start Num: 12

Candidate Starts for Atcoo\_5:

(Start: 12 @4880 has 111 MA's), (21, 4943), (27, 4967), (33, 5015), (35, 5024), (40, 5060), (43, 5078),

Gene: Attis\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Attis\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: BBQValindra\_5 Start: 4809, Stop: 5171, Start Num: 12

Candidate Starts for BBQValindra\_5:

(Start: 12 @4809 has 111 MA's), (27, 4896), (50, 5052),

Gene: BackstagePass\_5 Start: 4786, Stop: 5148, Start Num: 12

Candidate Starts for BackstagePass\_5:

(Start: 12 @4786 has 111 MA's), (50, 5029),

Gene: BarretLemon\_8 Start: 7142, Stop: 7528, Start Num: 7

Candidate Starts for BarretLemon\_8:

(Start: 7 @7142 has 13 MA's), (22, 7235), (31, 7274), (35, 7310), (42, 7352),

Gene: Bartholomew\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Bartholomew\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Beans\_7 Start: 6812, Stop: 7198, Start Num: 6

Candidate Starts for Beans\_7:

(Start: 6 @6812 has 18 MA's), (42, 7022),

Gene: Beenie\_6 Start: 4955, Stop: 5317, Start Num: 12

Candidate Starts for Beenie\_6:

(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: Bhagsy\_5 Start: 4883, Stop: 5248, Start Num: 12

Candidate Starts for Bhagsy\_5:

(Start: 12 @4883 has 111 MA's), (21, 4946), (27, 4970), (35, 5027), (40, 5063), (43, 5081),

Gene: BigDome\_8 Start: 7129, Stop: 7515, Start Num: 7

Candidate Starts for BigDome\_8:

(Start: 7 @7129 has 13 MA's), (22, 7222), (31, 7261), (35, 7297), (42, 7339),

Gene: BigNuz\_5 Start: 4865, Stop: 5230, Start Num: 12

Candidate Starts for BigNuz\_5:

(Start: 12 @4865 has 111 MA's), (18, 4910), (27, 4952), (32, 4979), (33, 5000), (35, 5009), (39, 5042), (40, 5045), (43, 5063),

Gene: Bjaner7\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Bjaner7\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Bogie\_5 Start: 4880, Stop: 5245, Start Num: 12

Candidate Starts for Bogie\_5:

(Start: 12 @4880 has 111 MA's), (21, 4943), (33, 5015), (35, 5024), (40, 5060), (43, 5078),

Gene: Bolt007\_7 Start: 6714, Stop: 7100, Start Num: 7

Candidate Starts for Bolt007\_7:

(2, 6537), (Start: 7 @6714 has 13 MA's), (43, 6936), (45, 6945), (54, 7008), (64, 7083),

Gene: BossLady\_8 Start: 7160, Stop: 7546, Start Num: 6

Candidate Starts for BossLady\_8:

(Start: 6 @7160 has 18 MA's), (21, 7235), (35, 7328),

Gene: Bowser\_5 Start: 4806, Stop: 5168, Start Num: 12

Candidate Starts for Bowser\_5:

(Start: 12 @4806 has 111 MA's), (27, 4893), (50, 5049),

Gene: Brent\_7 Start: 6810, Stop: 7196, Start Num: 6

Candidate Starts for Brent\_7:

(Start: 6 @6810 has 18 MA's), (22, 6903), (42, 7020),

Gene: Brusacoram\_5 Start: 4879, Stop: 5244, Start Num: 12

Candidate Starts for Brusacoram\_5:

(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (33, 5014), (35, 5023), (40, 5059), (43, 5077),

Gene: Bumble\_7 Start: 6769, Stop: 7155, Start Num: 7

Candidate Starts for Bumble\_7:

(Start: 7 @6769 has 13 MA's), (35, 6937), (45, 7000),

Gene: Bunker\_5 Start: 4809, Stop: 5171, Start Num: 12

Candidate Starts for Bunker\_5:

(Start: 12 @4809 has 111 MA's), (27, 4896), (50, 5052),

Gene: Bunnies\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Bunnies\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (35, 5036), (40, 5072), (43, 5090),

Gene: CactusJack\_5 Start: 4879, Stop: 5244, Start Num: 12

Candidate Starts for CactusJack\_5:

(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (35, 5023), (40, 5059), (43, 5077),

Gene: CalWood4100\_7 Start: 6693, Stop: 7079, Start Num: 7

Candidate Starts for CalWood4100\_7:

(Start: 7 @6693 has 13 MA's), (45, 6924), (54, 6987), (64, 7062),

Gene: Camster\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Camster\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Chipper1996\_110 Start: 9277, Stop: 9657, Start Num: 4

Candidate Starts for Chipper1996\_110:

(Start: 4 @9277 has 23 MA's), (22, 9373), (34, 9442), (54, 9574),

Gene: Chocolat\_11 Start: 9275, Stop: 9658, Start Num: 4

Candidate Starts for Chocolat\_11:

(Start: 4 @9275 has 23 MA's), (22, 9374), (50, 9548), (54, 9575),

Gene: Chubster\_11 Start: 9045, Stop: 9428, Start Num: 4

Candidate Starts for Chubster\_11:

(Start: 4 @9045 has 23 MA's), (22, 9144), (50, 9318), (54, 9345),

Gene: Circuit\_7 Start: 6760, Stop: 7146, Start Num: 7

Candidate Starts for Circuit\_7:

(Start: 7 @6760 has 13 MA's), (35, 6928), (45, 6991),

Gene: Clap\_5 Start: 4464, Stop: 4826, Start Num: 12  
Candidate Starts for Clap\_5:  
(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Clark\_6 Start: 4955, Stop: 5317, Start Num: 12  
Candidate Starts for Clark\_6:  
(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: Cole\_7 Start: 5835, Stop: 6194, Start Num: 12  
Candidate Starts for Cole\_7:  
(Start: 12 @5835 has 111 MA's), (20, 5886), (30, 5943), (38, 6003), (41, 6021),

Gene: Colleen\_8 Start: 6945, Stop: 7313, Start Num: 12  
Candidate Starts for Colleen\_8:  
(Start: 12 @6945 has 111 MA's), (17, 6984), (27, 7044),

Gene: Colucci\_10 Start: 8778, Stop: 9158, Start Num: 4  
Candidate Starts for Colucci\_10:  
(Start: 4 @8778 has 23 MA's), (22, 8874), (28, 8904), (39, 8982), (48, 9033),

Gene: Conboy\_11 Start: 9276, Stop: 9656, Start Num: 4  
Candidate Starts for Conboy\_11:  
(Start: 4 @9276 has 23 MA's), (22, 9372), (34, 9441), (54, 9573),

Gene: Coriander\_6 Start: 5185, Stop: 5547, Start Num: 12  
Candidate Starts for Coriander\_6:  
(Start: 12 @5185 has 111 MA's), (27, 5272), (50, 5428),

Gene: Cynthia\_5 Start: 4464, Stop: 4826, Start Num: 12  
Candidate Starts for Cynthia\_5:  
(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Denise\_5 Start: 4473, Stop: 4835, Start Num: 12  
Candidate Starts for Denise\_5:  
(Start: 12 @4473 has 111 MA's), (21, 4536), (22, 4554), (27, 4560), (35, 4617),

Gene: DirtyBoi\_6 Start: 5167, Stop: 5529, Start Num: 12  
Candidate Starts for DirtyBoi\_6:  
(Start: 12 @5167 has 111 MA's), (29, 5269), (39, 5344), (41, 5350), (50, 5410),

Gene: Dmitri\_6 Start: 5167, Stop: 5529, Start Num: 12  
Candidate Starts for Dmitri\_6:  
(Start: 12 @5167 has 111 MA's), (29, 5269), (33, 5302), (39, 5344), (41, 5350), (50, 5410),

Gene: DobbysSock\_5 Start: 4453, Stop: 4815, Start Num: 12  
Candidate Starts for DobbysSock\_5:  
(Start: 12 @4453 has 111 MA's), (22, 4534), (26, 4537), (27, 4540), (36, 4612),

Gene: Doggs\_5 Start: 4882, Stop: 5244, Start Num: 12  
Candidate Starts for Doggs\_5:  
(Start: 12 @4882 has 111 MA's), (27, 4969), (50, 5125),

Gene: Dolores\_6 Start: 4955, Stop: 5317, Start Num: 12

Candidate Starts for Dolores\_6:

(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: Donatella\_8 Start: 6360, Stop: 6722, Start Num: 12

Candidate Starts for Donatella\_8:

(Start: 12 @6360 has 111 MA's), (34, 6498), (62, 6693),

Gene: Donovan\_5 Start: 4896, Stop: 5261, Start Num: 12

Candidate Starts for Donovan\_5:

(Start: 12 @4896 has 111 MA's), (21, 4959), (32, 5010), (33, 5031), (35, 5040), (39, 5073), (40, 5076),

Gene: Dorito\_5 Start: 4453, Stop: 4815, Start Num: 12

Candidate Starts for Dorito\_5:

(Start: 12 @4453 has 111 MA's), (22, 4534), (26, 4537), (27, 4540), (36, 4612),

Gene: DrYang\_11 Start: 9210, Stop: 9590, Start Num: 4

Candidate Starts for DrYang\_11:

(Start: 4 @9210 has 23 MA's), (22, 9306), (28, 9336), (34, 9375), (51, 9483),

Gene: Dynamo\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Dynamo\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Easley\_6 Start: 4955, Stop: 5317, Start Num: 12

Candidate Starts for Easley\_6:

(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: EastWest\_9 Start: 7229, Stop: 7612, Start Num: 6

Candidate Starts for EastWest\_9:

(Start: 6 @7229 has 18 MA's), (23, 7325), (60, 7559),

Gene: Ebert\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Ebert\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: EdgarPoe\_11 Start: 9276, Stop: 9656, Start Num: 4

Candidate Starts for EdgarPoe\_11:

(Start: 4 @9276 has 23 MA's), (22, 9372), (34, 9441), (54, 9573),

Gene: EdnaMode\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for EdnaMode\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Elesar\_8 Start: 6224, Stop: 6583, Start Num: 12

Candidate Starts for Elesar\_8:

(Start: 12 @6224 has 111 MA's), (20, 6275), (30, 6332), (38, 6392), (39, 6404), (41, 6410),

Gene: Etoile\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Etoile\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Eyes\_5 Start: 4815, Stop: 5177, Start Num: 12

Candidate Starts for Eyes\_5:

(Start: 12 @4815 has 111 MA's), (27, 4902), (42, 5001), (50, 5058),

Gene: Finkle\_5 Start: 4607, Stop: 4954, Start Num: 12

Candidate Starts for Finkle\_5:

(Start: 12 @4607 has 111 MA's), (21, 4670), (22, 4688), (39, 4781), (50, 4847),

Gene: FirstPlacePfu\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for FirstPlacePfu\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Fishburne\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Fishburne\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Franzy\_7 Start: 6810, Stop: 7196, Start Num: 6

Candidate Starts for Franzy\_7:

(Start: 6 @6810 has 18 MA's), (22, 6903), (42, 7020),

Gene: FroggyToad\_5 Start: 4465, Stop: 4827, Start Num: 12

Candidate Starts for FroggyToad\_5:

(Start: 12 @4465 has 111 MA's), (21, 4528), (22, 4546), (27, 4552), (35, 4609),

Gene: GEazy\_5 Start: 4818, Stop: 5180, Start Num: 12

Candidate Starts for GEazy\_5:

(Start: 12 @4818 has 111 MA's), (27, 4905), (50, 5061),

Gene: GMA4\_6 Start: 5937, Stop: 6311, Start Num: 9

Candidate Starts for GMA4\_6:

(9, 5937), (24, 6027), (27, 6039), (33, 6087), (41, 6135), (63, 6291),

Gene: Gavriela\_5 Start: 4879, Stop: 5244, Start Num: 12

Candidate Starts for Gavriela\_5:

(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (35, 5023), (40, 5059), (43, 5077),

Gene: GemG\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for GemG\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Gizermo\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Gizermo\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Glaske\_5 Start: 4879, Stop: 5244, Start Num: 12

Candidate Starts for Glaske\_5:

(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (35, 5023), (40, 5059), (43, 5077),

Gene: GoldDust\_9 Start: 8890, Stop: 9276, Start Num: 4

Candidate Starts for GoldDust\_9:

(Start: 4 @8890 has 23 MA's), (22, 8989), (37, 9082), (55, 9196), (64, 9259),

Gene: GoodLuckBabe\_9 Start: 6188, Stop: 6550, Start Num: 12

Candidate Starts for GoodLuckBabe\_9:

(Start: 12 @6188 has 111 MA's), (34, 6326), (45, 6395), (48, 6416), (62, 6521),

Gene: GravityBall\_8 Start: 7142, Stop: 7528, Start Num: 7  
Candidate Starts for GravityBall\_8:  
(Start: 7 @7142 has 13 MA's), (22, 7235), (31, 7274), (35, 7310), (42, 7352),

Gene: GreaseLightnin\_5 Start: 4892, Stop: 5257, Start Num: 12  
Candidate Starts for GreaseLightnin\_5:  
(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Grekaycon\_8 Start: 7169, Stop: 7555, Start Num: 6  
Candidate Starts for Grekaycon\_8:  
(Start: 6 @7169 has 18 MA's), (21, 7244), (35, 7337),

Gene: Guinevere\_9 Start: 6219, Stop: 6581, Start Num: 12  
Candidate Starts for Guinevere\_9:  
(Start: 12 @6219 has 111 MA's), (34, 6357), (62, 6552),

Gene: Gusanita\_7 Start: 6107, Stop: 6469, Start Num: 12  
Candidate Starts for Gusanita\_7:  
(Start: 12 @6107 has 111 MA's), (45, 6314), (62, 6440),

Gene: HUHilltop\_5 Start: 4892, Stop: 5257, Start Num: 12  
Candidate Starts for HUHilltop\_5:  
(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Haley23\_5 Start: 4464, Stop: 4826, Start Num: 12  
Candidate Starts for Haley23\_5:  
(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Halloweekend\_7 Start: 5857, Stop: 6219, Start Num: 12  
Candidate Starts for Halloweekend\_7:  
(Start: 12 @5857 has 111 MA's), (34, 5995), (62, 6190),

Gene: HannahD\_5 Start: 4818, Stop: 5180, Start Num: 12  
Candidate Starts for HannahD\_5:  
(Start: 12 @4818 has 111 MA's), (27, 4905), (50, 5061),

Gene: Hedwig\_6 Start: 5167, Stop: 5529, Start Num: 12  
Candidate Starts for Hedwig\_6:  
(Start: 12 @5167 has 111 MA's), (29, 5269), (33, 5302), (39, 5344), (41, 5350), (50, 5410),

Gene: Hirko\_8 Start: 8319, Stop: 8705, Start Num: 4  
Candidate Starts for Hirko\_8:  
(Start: 4 @8319 has 23 MA's), (Start: 7 @8325 has 13 MA's), (64, 8688),

Gene: HumptyDumpty\_11 Start: 9275, Stop: 9655, Start Num: 4  
Candidate Starts for HumptyDumpty\_11:  
(Start: 4 @9275 has 23 MA's), (22, 9371), (34, 9440), (50, 9545), (54, 9572),

Gene: Ichiang\_7 Start: 5875, Stop: 6237, Start Num: 12  
Candidate Starts for Ichiang\_7:  
(Start: 12 @5875 has 111 MA's), (34, 6013), (62, 6208),

Gene: Invecetra\_6 Start: 4955, Stop: 5317, Start Num: 12  
Candidate Starts for Invecetra\_6:  
(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: IsHungry\_9 Start: 6181, Stop: 6543, Start Num: 12  
Candidate Starts for IsHungry\_9:  
(Start: 12 @6181 has 111 MA's), (45, 6388), (46, 6391), (62, 6514),

Gene: JCole\_5 Start: 4464, Stop: 4826, Start Num: 12  
Candidate Starts for JCole\_5:  
(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: JKerns\_8 Start: 7199, Stop: 7585, Start Num: 6  
Candidate Starts for JKerns\_8:  
(Start: 6 @7199 has 18 MA's), (31, 7331),

Gene: JaNo\_11 Start: 9275, Stop: 9655, Start Num: 4  
Candidate Starts for JaNo\_11:  
(Start: 4 @9275 has 23 MA's), (22, 9371), (34, 9440), (50, 9545), (54, 9572),

Gene: Jawnski\_7 Start: 6807, Stop: 7193, Start Num: 6  
Candidate Starts for Jawnski\_7:  
(Start: 6 @6807 has 18 MA's), (22, 6900), (42, 7017),

Gene: JayCookie\_11 Start: 9275, Stop: 9658, Start Num: 4  
Candidate Starts for JayCookie\_11:  
(Start: 4 @9275 has 23 MA's), (22, 9374), (50, 9548), (54, 9575),

Gene: Jebeks\_5 Start: 4896, Stop: 5261, Start Num: 12  
Candidate Starts for Jebeks\_5:  
(Start: 12 @4896 has 111 MA's), (21, 4959), (32, 5010), (33, 5031), (35, 5040), (39, 5073), (40, 5076),

Gene: Jinkies\_9 Start: 7642, Stop: 8028, Start Num: 4  
Candidate Starts for Jinkies\_9:  
(Start: 4 @7642 has 23 MA's), (16, 7678), (22, 7741), (41, 7855), (45, 7879), (54, 7942), (60, 7975),  
(64, 8011),

Gene: Jordan\_8 Start: 7169, Stop: 7555, Start Num: 6  
Candidate Starts for Jordan\_8:  
(Start: 6 @7169 has 18 MA's), (31, 7301),

Gene: Juicebox\_8 Start: 6592, Stop: 6951, Start Num: 13  
Candidate Starts for Juicebox\_8:  
(5, 6577), (Start: 13 @6592 has 1 MA's), (27, 6688), (50, 6844), (64, 6937),

Gene: Julie\_9 Start: 6409, Stop: 6768, Start Num: 12  
Candidate Starts for Julie\_9:  
(Start: 12 @6409 has 111 MA's), (20, 6460), (21, 6472), (30, 6517), (38, 6577), (41, 6595), (56, 6703),

Gene: Jung\_5 Start: 4879, Stop: 5244, Start Num: 12  
Candidate Starts for Jung\_5:  
(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (33, 5014), (35, 5023), (40, 5059), (43, 5077),



Gene: Juniormint\_5 Start: 4899, Stop: 5264, Start Num: 12  
Candidate Starts for Juniormint\_5:  
(Start: 12 @4899 has 111 MA's), (21, 4962), (32, 5013), (33, 5034), (35, 5043), (39, 5076), (40, 5079),

Gene: KBurrousTX\_11 Start: 9054, Stop: 9434, Start Num: 4  
Candidate Starts for KBurrousTX\_11:  
(Start: 4 @9054 has 23 MA's), (31, 9189), (35, 9225), (49, 9312),

Gene: Kabreeze\_11 Start: 9275, Stop: 9655, Start Num: 4  
Candidate Starts for Kabreeze\_11:  
(Start: 4 @9275 has 23 MA's), (22, 9371), (34, 9440), (50, 9545), (54, 9572),

Gene: Kari\_5 Start: 4892, Stop: 5257, Start Num: 12  
Candidate Starts for Kari\_5:  
(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Kihatsu\_10 Start: 6541, Stop: 6903, Start Num: 12  
Candidate Starts for Kihatsu\_10:  
(Start: 12 @6541 has 111 MA's), (46, 6751), (62, 6874),

Gene: Kiko\_6 Start: 5029, Stop: 5388, Start Num: 12  
Candidate Starts for Kiko\_6:  
(Start: 12 @5029 has 111 MA's), (15, 5044), (30, 5131), (35, 5170), (39, 5203), (41, 5209), (51, 5272),

Gene: KilKor\_5 Start: 4879, Stop: 5244, Start Num: 12  
Candidate Starts for KilKor\_5:  
(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (35, 5023), (40, 5059), (43, 5077),

Gene: King2\_7 Start: 6812, Stop: 7198, Start Num: 6  
Candidate Starts for King2\_7:  
(Start: 6 @6812 has 18 MA's), (22, 6905), (42, 7022),

Gene: Klevey\_7 Start: 6702, Stop: 7088, Start Num: 7  
Candidate Starts for Klevey\_7:  
(Start: 7 @6702 has 13 MA's), (44, 6927), (45, 6933), (54, 6996), (64, 7071),

Gene: Ksquared\_5 Start: 4892, Stop: 5257, Start Num: 12  
Candidate Starts for Ksquared\_5:  
(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (35, 5036), (40, 5072), (43, 5090),

Gene: Lamberg\_5 Start: 4464, Stop: 4826, Start Num: 12  
Candidate Starts for Lamberg\_5:  
(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Langerak\_5 Start: 4896, Stop: 5261, Start Num: 12  
Candidate Starts for Langerak\_5:  
(Start: 12 @4896 has 111 MA's), (21, 4959), (32, 5010), (33, 5031), (35, 5040), (39, 5073), (40, 5076),

Gene: LeeroyJ\_8 Start: 7141, Stop: 7527, Start Num: 7  
Candidate Starts for LeeroyJ\_8:  
(Start: 7 @7141 has 13 MA's), (22, 7234), (31, 7273), (35, 7309), (42, 7351),

Gene: Lenoxika\_9 Start: 6218, Stop: 6580, Start Num: 12

Candidate Starts for Lenoxika\_9:  
(Start: 12 @6218 has 111 MA's), (34, 6356), (62, 6551),

Gene: Lilmac1015\_7 Start: 6693, Stop: 7079, Start Num: 7  
Candidate Starts for Lilmac1015\_7:  
(Start: 7 @6693 has 13 MA's), (45, 6924), (54, 6987), (64, 7062),

Gene: Linus\_11 Start: 9272, Stop: 9655, Start Num: 4  
Candidate Starts for Linus\_11:  
(Start: 4 @9272 has 23 MA's), (22, 9371), (50, 9545), (54, 9572),

Gene: LordFarquaad\_5 Start: 4464, Stop: 4826, Start Num: 12  
Candidate Starts for LordFarquaad\_5:  
(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Lukepolites\_7 Start: 6927, Stop: 7313, Start Num: 5  
Candidate Starts for Lukepolites\_7:  
(5, 6927), (39, 7131),

Gene: Lymara\_11 Start: 9262, Stop: 9645, Start Num: 4  
Candidate Starts for Lymara\_11:  
(Start: 4 @9262 has 23 MA's), (22, 9361), (50, 9535), (54, 9562),

Gene: MagicMan\_5 Start: 5039, Stop: 5413, Start Num: 10  
Candidate Starts for MagicMan\_5:  
(Start: 10 @5039 has 5 MA's), (21, 5105), (35, 5198), (39, 5231), (42, 5240), (45, 5267), (56, 5348),

Gene: Majeke\_5 Start: 4896, Stop: 5261, Start Num: 12  
Candidate Starts for Majeke\_5:  
(Start: 12 @4896 has 111 MA's), (21, 4959), (32, 5010), (33, 5031), (35, 5040), (39, 5073), (40, 5076),

Gene: MalagasyRose\_12 Start: 7571, Stop: 7951, Start Num: 8  
Candidate Starts for MalagasyRose\_12:  
(Start: 8 @7571 has 1 MA's), (27, 7676), (41, 7772), (52, 7844), (58, 7889),

Gene: Malithi\_5 Start: 4892, Stop: 5257, Start Num: 12  
Candidate Starts for Malithi\_5:  
(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Mangethe\_5 Start: 4896, Stop: 5261, Start Num: 12  
Candidate Starts for Mangethe\_5:  
(Start: 12 @4896 has 111 MA's), (21, 4959), (32, 5010), (33, 5031), (35, 5040), (39, 5073), (40, 5076),

Gene: Martha\_8 Start: 7106, Stop: 7492, Start Num: 6  
Candidate Starts for Martha\_8:  
(Start: 6 @7106 has 18 MA's), (31, 7238),

Gene: Matteo\_5 Start: 4464, Stop: 4826, Start Num: 12  
Candidate Starts for Matteo\_5:  
(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Megiddo\_5 Start: 4879, Stop: 5244, Start Num: 12  
Candidate Starts for Megiddo\_5:

(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (35, 5023), (40, 5059), (43, 5077),

Gene: MichaelScott\_6 Start: 4955, Stop: 5317, Start Num: 12

Candidate Starts for MichaelScott\_6:

(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: Min1\_40 Start: 21806, Stop: 22165, Start Num: 11

Candidate Starts for Min1\_40:

(11, 21806), (17, 21848), (26, 21896), (39, 21986), (41, 21992), (43, 22013), (53, 22082), (59, 22106), (63, 22145),

Gene: Mocha12\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Mocha12\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Moonflower\_6 Start: 5190, Stop: 5552, Start Num: 12

Candidate Starts for Moonflower\_6:

(Start: 12 @5190 has 111 MA's), (27, 5277), (50, 5433),

Gene: Mordred\_11 Start: 9275, Stop: 9655, Start Num: 4

Candidate Starts for Mordred\_11:

(Start: 4 @9275 has 23 MA's), (22, 9371), (34, 9440), (50, 9545), (54, 9572),

Gene: MoyaNatalis\_11 Start: 9275, Stop: 9658, Start Num: 4

Candidate Starts for MoyaNatalis\_11:

(Start: 4 @9275 has 23 MA's), (22, 9374), (50, 9548), (54, 9575),

Gene: Nandita\_9 Start: 6219, Stop: 6581, Start Num: 12

Candidate Starts for Nandita\_9:

(Start: 12 @6219 has 111 MA's), (34, 6357), (62, 6552),

Gene: NathanVaag\_7 Start: 6812, Stop: 7198, Start Num: 6

Candidate Starts for NathanVaag\_7:

(Start: 6 @6812 has 18 MA's), (25, 6914), (42, 7022),

Gene: Nazo\_5 Start: 4865, Stop: 5230, Start Num: 12

Candidate Starts for Nazo\_5:

(Start: 12 @4865 has 111 MA's), (18, 4910), (27, 4952), (32, 4979), (33, 5000), (35, 5009), (39, 5042), (40, 5045), (43, 5063),

Gene: Necropolis\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Necropolis\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Nergal\_10 Start: 8026, Stop: 8406, Start Num: 10

Candidate Starts for Nergal\_10:

(3, 7969), (Start: 10 @8026 has 5 MA's), (19, 8080), (21, 8095), (27, 8131), (39, 8221), (45, 8257), (58, 8344),

Gene: Nettuno\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Nettuno\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Nostromo\_7 Start: 7171, Stop: 7563, Start Num: 4  
Candidate Starts for Nostromo\_7:  
(Start: 4 @7171 has 23 MA's), (Start: 7 @7177 has 13 MA's), (21, 7252), (43, 7399),

Gene: Opie\_5 Start: 5048, Stop: 5422, Start Num: 10  
Candidate Starts for Opie\_5:  
(Start: 10 @5048 has 5 MA's), (21, 5114), (35, 5207), (39, 5240), (42, 5249), (45, 5276), (56, 5357),

Gene: Oregano\_6 Start: 4626, Stop: 4988, Start Num: 12  
Candidate Starts for Oregano\_6:  
(Start: 12 @4626 has 111 MA's), (22, 4707), (27, 4713), (36, 4785),

Gene: Phalm\_5 Start: 4879, Stop: 5244, Start Num: 12  
Candidate Starts for Phalm\_5:  
(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (35, 5023), (40, 5059), (43, 5077),

Gene: Phayonce\_5 Start: 4861, Stop: 5226, Start Num: 12  
Candidate Starts for Phayonce\_5:  
(Start: 12 @4861 has 111 MA's), (22, 4942), (27, 4948), (32, 4975), (39, 5038), (40, 5041), (43, 5059),

Gene: Phegasus\_5 Start: 4896, Stop: 5261, Start Num: 12  
Candidate Starts for Phegasus\_5:  
(Start: 12 @4896 has 111 MA's), (21, 4959), (32, 5010), (33, 5031), (35, 5040), (39, 5073), (40, 5076),

Gene: Phineas\_5 Start: 4880, Stop: 5245, Start Num: 12  
Candidate Starts for Phineas\_5:  
(Start: 12 @4880 has 111 MA's), (21, 4943), (27, 4967), (33, 5015), (35, 5024), (40, 5060), (43, 5078),

Gene: PhriskyACE\_5 Start: 4453, Stop: 4815, Start Num: 12  
Candidate Starts for PhriskyACE\_5:  
(Start: 12 @4453 has 111 MA's), (22, 4534), (26, 4537), (27, 4540), (36, 4612),

Gene: Piccoletto\_7 Start: 6813, Stop: 7199, Start Num: 6  
Candidate Starts for Piccoletto\_7:  
(Start: 6 @6813 has 18 MA's), (25, 6915), (42, 7023),

Gene: Pickett\_5 Start: 4464, Stop: 4826, Start Num: 12  
Candidate Starts for Pickett\_5:  
(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Pippa\_8 Start: 7199, Stop: 7585, Start Num: 6  
Candidate Starts for Pippa\_8:  
(Start: 6 @7199 has 18 MA's), (21, 7274),

Gene: Polkaroo\_5 Start: 4892, Stop: 5257, Start Num: 12  
Candidate Starts for Polkaroo\_5:  
(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (35, 5036), (40, 5072), (43, 5090),

Gene: Popper\_7 Start: 5711, Stop: 6073, Start Num: 12  
Candidate Starts for Popper\_7:  
(Start: 12 @5711 has 111 MA's), (14, 5723), (21, 5774),

Gene: Poushou\_8 Start: 6945, Stop: 7313, Start Num: 12

Candidate Starts for Poushou\_8:  
(Start: 12 @6945 has 111 MA's), (17, 6984), (27, 7044),

Gene: Powerball\_5 Start: 4453, Stop: 4815, Start Num: 12  
Candidate Starts for Powerball\_5:  
(Start: 12 @4453 has 111 MA's), (22, 4534), (36, 4612),

Gene: Prairie\_7 Start: 6702, Stop: 7088, Start Num: 7  
Candidate Starts for Prairie\_7:  
(Start: 7 @6702 has 13 MA's), (45, 6933), (54, 6996), (64, 7071),

Gene: PrincessTrina\_11 Start: 9275, Stop: 9658, Start Num: 4  
Candidate Starts for PrincessTrina\_11:  
(Start: 4 @9275 has 23 MA's), (22, 9374), (50, 9548), (54, 9575),

Gene: Purky\_5 Start: 4864, Stop: 5229, Start Num: 12  
Candidate Starts for Purky\_5:  
(Start: 12 @4864 has 111 MA's), (18, 4909), (27, 4951), (32, 4978), (33, 4999), (39, 5041), (40, 5044),  
(43, 5062), (53, 5131),

Gene: Pygmy\_5 Start: 4880, Stop: 5245, Start Num: 12  
Candidate Starts for Pygmy\_5:  
(Start: 12 @4880 has 111 MA's), (21, 4943), (33, 5015), (35, 5024), (40, 5060), (43, 5078),

Gene: QuinnAvery\_9 Start: 6175, Stop: 6534, Start Num: 12  
Candidate Starts for QuinnAvery\_9:  
(Start: 12 @6175 has 111 MA's), (20, 6226), (30, 6283), (38, 6343), (41, 6361),

Gene: RayTheFireFly\_6 Start: 5191, Stop: 5553, Start Num: 12  
Candidate Starts for RayTheFireFly\_6:  
(Start: 12 @5191 has 111 MA's), (27, 5278), (39, 5368), (41, 5374), (50, 5434), (54, 5461),

Gene: Rem711\_11 Start: 7918, Stop: 8292, Start Num: 10  
Candidate Starts for Rem711\_11:  
(Start: 10 @7918 has 5 MA's), (41, 8116), (58, 8233),

Gene: RosiePosie\_11 Start: 9275, Stop: 9658, Start Num: 4  
Candidate Starts for RosiePosie\_11:  
(Start: 4 @9275 has 23 MA's), (22, 9374), (50, 9548), (54, 9575),

Gene: Ryan\_9 Start: 6329, Stop: 6691, Start Num: 12  
Candidate Starts for Ryan\_9:  
(Start: 12 @6329 has 111 MA's), (14, 6341), (21, 6392),

Gene: Sahara\_5 Start: 4455, Stop: 4817, Start Num: 12  
Candidate Starts for Sahara\_5:  
(Start: 12 @4455 has 111 MA's), (21, 4518), (22, 4536), (27, 4542), (35, 4599), (41, 4638),

Gene: Samman98\_6 Start: 4955, Stop: 5317, Start Num: 12  
Candidate Starts for Samman98\_6:  
(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: Savage\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Savage\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Scavito\_11 Start: 9275, Stop: 9655, Start Num: 4

Candidate Starts for Scavito\_11:

(Start: 4 @9275 has 23 MA's), (22, 9371), (34, 9440), (50, 9545), (54, 9572),

Gene: Schism\_9 Start: 6219, Stop: 6581, Start Num: 12

Candidate Starts for Schism\_9:

(Start: 12 @6219 has 111 MA's), (34, 6357), (62, 6552),

Gene: Schnabeltier\_5 Start: 5040, Stop: 5414, Start Num: 10

Candidate Starts for Schnabeltier\_5:

(Start: 10 @5040 has 5 MA's), (21, 5106), (35, 5199), (39, 5232), (42, 5241), (45, 5268), (56, 5349),

Gene: Sekhmet\_6 Start: 4955, Stop: 5317, Start Num: 12

Candidate Starts for Sekhmet\_6:

(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: Shade\_8 Start: 7148, Stop: 7534, Start Num: 6

Candidate Starts for Shade\_8:

(Start: 6 @7148 has 18 MA's), (31, 7280),

Gene: Shipwreck\_5 Start: 4880, Stop: 5245, Start Num: 12

Candidate Starts for Shipwreck\_5:

(Start: 12 @4880 has 111 MA's), (21, 4943), (33, 5015), (35, 5024), (40, 5060), (43, 5078),

Gene: Sicarius2\_9 Start: 7705, Stop: 8085, Start Num: 7

Candidate Starts for Sicarius2\_9:

(Start: 7 @7705 has 13 MA's), (22, 7798), (25, 7807), (35, 7873), (39, 7906), (57, 8020),

Gene: SoilAssassin\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for SoilAssassin\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Sonah\_5 Start: 4896, Stop: 5261, Start Num: 12

Candidate Starts for Sonah\_5:

(Start: 12 @4896 has 111 MA's), (21, 4959), (32, 5010), (33, 5031), (35, 5040), (39, 5073), (40, 5076),

Gene: Sonny\_8 Start: 7169, Stop: 7555, Start Num: 6

Candidate Starts for Sonny\_8:

(Start: 6 @7169 has 18 MA's), (31, 7301),

Gene: Sproutie\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Sproutie\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: StevieBAY\_8 Start: 7142, Stop: 7528, Start Num: 7

Candidate Starts for StevieBAY\_8:

(Start: 7 @7142 has 13 MA's), (22, 7235), (31, 7274), (35, 7310), (42, 7352),

Gene: StevieRay\_5 Start: 4883, Stop: 5248, Start Num: 12

Candidate Starts for StevieRay\_5:

(Start: 12 @4883 has 111 MA's), (21, 4946), (27, 4970), (35, 5027), (40, 5063), (43, 5081),

Gene: StressBall\_5 Start: 4879, Stop: 5244, Start Num: 12

Candidate Starts for StressBall\_5:

(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (35, 5023), (40, 5059), (43, 5077),

Gene: Suerte\_5 Start: 4453, Stop: 4815, Start Num: 12

Candidate Starts for Suerte\_5:

(Start: 12 @4453 has 111 MA's), (22, 4534), (27, 4540), (36, 4612),

Gene: TaeYoung\_8 Start: 7169, Stop: 7555, Start Num: 6

Candidate Starts for TaeYoung\_8:

(Start: 6 @7169 has 18 MA's), (31, 7301),

Gene: TaronosaurusRx\_5 Start: 5047, Stop: 5421, Start Num: 10

Candidate Starts for TaronosaurusRx\_5:

(Start: 10 @5047 has 5 MA's), (21, 5113), (35, 5206), (39, 5239), (42, 5248), (45, 5275), (56, 5356),

Gene: Techage\_5 Start: 4899, Stop: 5264, Start Num: 12

Candidate Starts for Techage\_5:

(Start: 12 @4899 has 111 MA's), (21, 4962), (32, 5013), (33, 5034), (35, 5043), (39, 5076), (40, 5079),

Gene: Thespis\_5 Start: 4879, Stop: 5244, Start Num: 12

Candidate Starts for Thespis\_5:

(Start: 12 @4879 has 111 MA's), (21, 4942), (27, 4966), (33, 5014), (35, 5023), (40, 5059), (43, 5077),

Gene: Thimann\_6 Start: 4955, Stop: 5317, Start Num: 12

Candidate Starts for Thimann\_6:

(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: ThulaThula\_5 Start: 4906, Stop: 5271, Start Num: 12

Candidate Starts for ThulaThula\_5:

(Start: 12 @4906 has 111 MA's), (22, 4987), (27, 4993), (32, 5020), (39, 5083), (40, 5086), (43, 5104), (47, 5128),

Gene: Timinator\_8 Start: 7141, Stop: 7527, Start Num: 7

Candidate Starts for Timinator\_8:

(Start: 7 @7141 has 13 MA's), (22, 7234), (31, 7273), (35, 7309), (42, 7351),

Gene: Tophat\_11 Start: 9277, Stop: 9657, Start Num: 4

Candidate Starts for Tophat\_11:

(Start: 4 @9277 has 23 MA's), (22, 9373), (34, 9442), (54, 9574),

Gene: Tortellini\_5 Start: 4852, Stop: 5217, Start Num: 12

Candidate Starts for Tortellini\_5:

(Start: 12 @4852 has 111 MA's), (21, 4915), (30, 4957), (32, 4966), (39, 5029), (40, 5032), (43, 5050), (45, 5059),

Gene: TouchMeNot\_8 Start: 6945, Stop: 7313, Start Num: 12

Candidate Starts for TouchMeNot\_8:

(Start: 12 @6945 has 111 MA's), (17, 6984), (27, 7044),

Gene: TuertoX\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for TuertoX\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Vasanti\_5 Start: 4465, Stop: 4827, Start Num: 12

Candidate Starts for Vasanti\_5:

(Start: 12 @4465 has 111 MA's), (21, 4528), (22, 4546), (27, 4552), (35, 4609),

Gene: Venti\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Venti\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Vibaki\_9 Start: 8796, Stop: 9182, Start Num: 4

Candidate Starts for Vibaki\_9:

(Start: 4 @8796 has 23 MA's), (22, 8895), (37, 8988), (64, 9165),

Gene: Vidya\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Vidya\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),

Gene: Vitus\_9 Start: 8602, Stop: 8988, Start Num: 4

Candidate Starts for Vitus\_9:

(Start: 4 @8602 has 23 MA's), (Start: 7 @8608 has 13 MA's), (22, 8701), (61, 8950),

Gene: Whiteclaw\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Whiteclaw\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: Willsammy\_5 Start: 4882, Stop: 5247, Start Num: 12

Candidate Starts for Willsammy\_5:

(Start: 12 @4882 has 111 MA's), (21, 4945), (27, 4969), (35, 5026), (40, 5062), (43, 5080),

Gene: WinkNick\_6 Start: 4955, Stop: 5317, Start Num: 12

Candidate Starts for WinkNick\_6:

(Start: 12 @4955 has 111 MA's), (22, 5036), (27, 5042), (36, 5114),

Gene: Wyborn\_9 Start: 7566, Stop: 7946, Start Num: 7

Candidate Starts for Wyborn\_9:

(Start: 7 @7566 has 13 MA's), (22, 7659), (25, 7668), (35, 7734), (39, 7767), (57, 7881),

Gene: Xavia\_5 Start: 4893, Stop: 5258, Start Num: 12

Candidate Starts for Xavia\_5:

(Start: 12 @4893 has 111 MA's), (21, 4956), (27, 4980), (33, 5028), (35, 5037), (40, 5073), (43, 5091),

Gene: Yeet412\_5 Start: 4464, Stop: 4826, Start Num: 12

Candidate Starts for Yeet412\_5:

(Start: 12 @4464 has 111 MA's), (21, 4527), (22, 4545), (27, 4551), (35, 4608),

Gene: ZAYM\_5 Start: 5040, Stop: 5414, Start Num: 10

Candidate Starts for ZAYM\_5:

(Start: 10 @5040 has 5 MA's), (21, 5106), (35, 5199), (39, 5232), (42, 5241), (45, 5268), (56, 5349),

Gene: Zaheer\_9 Start: 6418, Stop: 6780, Start Num: 12

Candidate Starts for Zaheer\_9:



(Start: 12 @6418 has 111 MA's), (14, 6430), (21, 6481),

Gene: Zartrosa\_8 Start: 7169, Stop: 7555, Start Num: 6

Candidate Starts for Zartrosa\_8:

(Start: 6 @7169 has 18 MA's), (31, 7301),

Gene: Zilizebeth\_5 Start: 4892, Stop: 5257, Start Num: 12

Candidate Starts for Zilizebeth\_5:

(Start: 12 @4892 has 111 MA's), (21, 4955), (27, 4979), (33, 5027), (35, 5036), (40, 5072), (43, 5090),