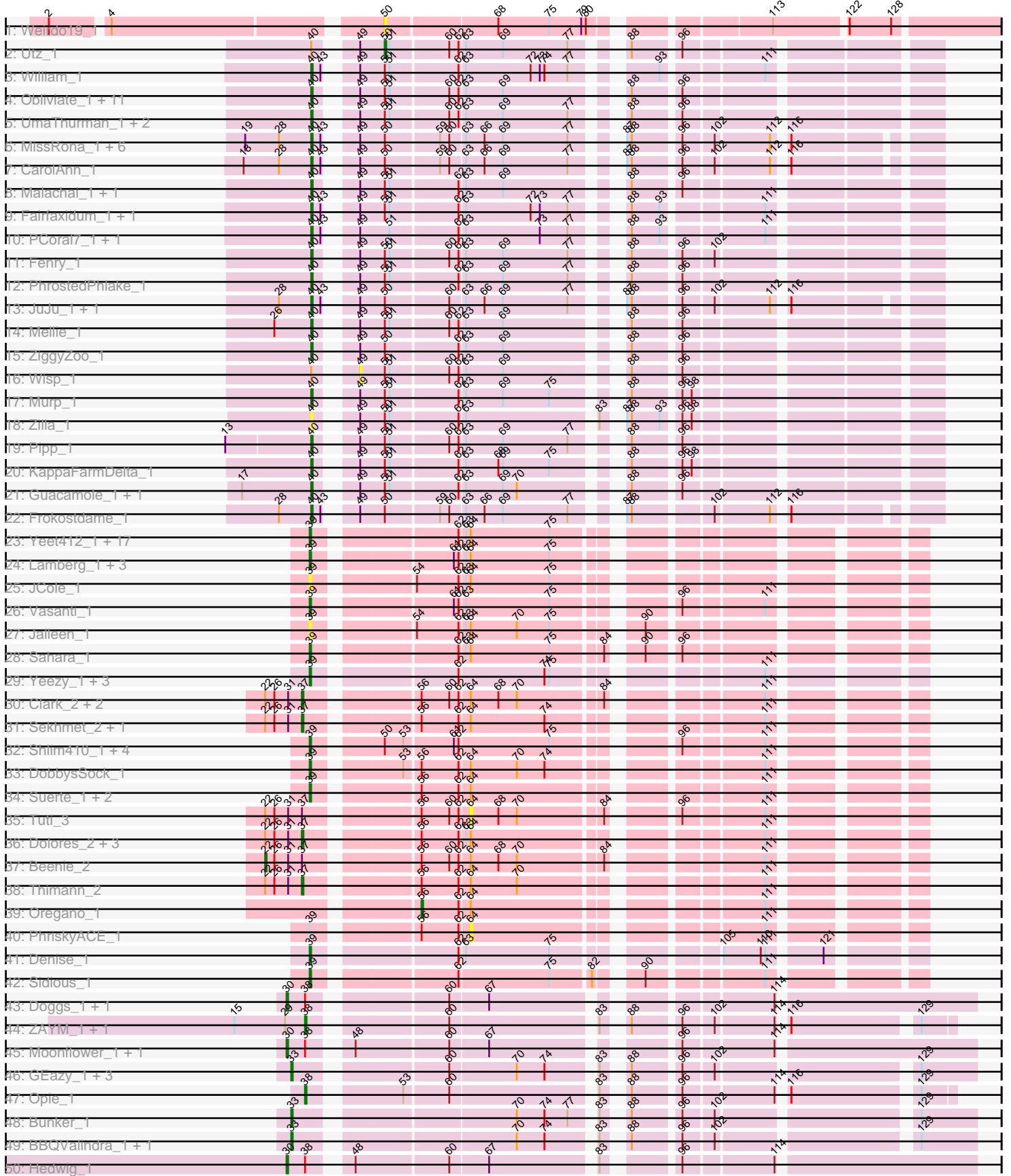
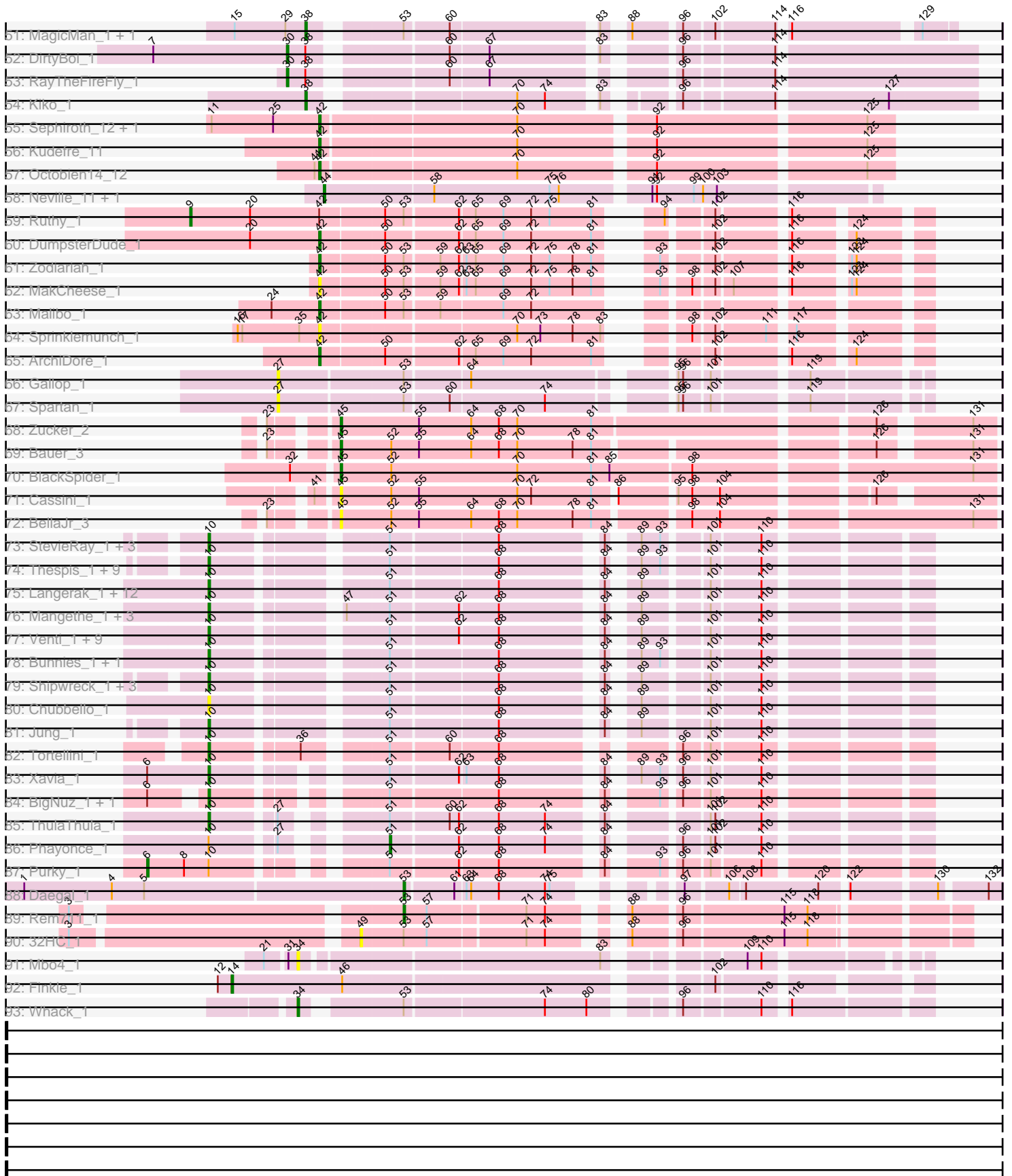


Pham 294437



Pham 294437



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 294437 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294437 has 203 members, 26 are drafts.

Phages represented in each track:

- Track 1 : Weirdo19\_1
- Track 2 : Utz\_1
- Track 3 : William\_1
- Track 4 : Obliviate\_1, CaptainKirk2\_1, Delian\_1, Barco\_1, Lysidious\_1, Archis\_1, Jalammah\_1, Samba\_1, MintFen\_1, BlingBling\_1, Melba\_1, Hitter\_1
- Track 5 : UmaThurman\_1, Zarbodnamra\_1, Wocket\_1
- Track 6 : MissRona\_1, Walrus\_1, Azula\_1, Blueberry\_1, Petra\_1, Gambino\_1, Blino\_1
- Track 7 : CarolAnn\_1
- Track 8 : Malachai\_1, Begonia\_1
- Track 9 : Fairfaxidum\_1, PrincePatrick\_1
- Track 10 : PCoral7\_1, Toast\_1
- Track 11 : Fenry\_1
- Track 12 : PhrostedPhlake\_1
- Track 13 : JuJu\_1, CheeseSpider\_1
- Track 14 : Mellie\_1
- Track 15 : ZiggyZoo\_1
- Track 16 : Wisp\_1
- Track 17 : Murp\_1
- Track 18 : Zilla\_1
- Track 19 : Pipp\_1
- Track 20 : KappaFarmDelta\_1
- Track 21 : Guacamole\_1, JasperJr\_1
- Track 22 : Frokostdame\_1
- Track 23 : Yeet412\_1, LordFarquaad\_1, Cynthia\_1, Clap\_1, GemG\_1, Whiteclaw\_1, Attis\_1, Gizermo\_1, SoilAssassin\_1, FroggyToad\_1, Ebert\_1, Savage\_1, Matteo\_1, Bjanes7\_1, Sproutie\_1, Haley23\_1, Mocha12\_1, TuertoX\_1
- Track 24 : Lamberg\_1, EdnaMode\_1, Nettuno\_1, Pickett\_1
- Track 25 : JCole\_1
- Track 26 : Vasanti\_1
- Track 27 : Jalleen\_1
- Track 28 : Sahara\_1
- Track 29 : Yeezy\_1, BaxterFox\_1, PantheRoc\_1, Ohgeesy\_1
- Track 30 : Clark\_2, MichaelScott\_2, Easley\_2
- Track 31 : Sekhmet\_2, Invectra\_2
- Track 32 : Shlim410\_1, Adora\_1, Hortense\_1, Howe\_1, Twinkle\_1
- Track 33 : DobbysSock\_1

- Track 34 : Suerte\_1, Powerball\_1, Dorito\_1
- Track 35 : Tuti\_3
- Track 36 : Dolores\_2, Samman98\_2, Annalisa\_2, WinkNick\_2
- Track 37 : Beenie\_2
- Track 38 : Thimann\_2
- Track 39 : Oregano\_1
- Track 40 : PhriskyACE\_1
- Track 41 : Denise\_1
- Track 42 : Sidious\_1
- Track 43 : Doggs\_1, Coriander\_1
- Track 44 : ZAYM\_1, TaronosaurusRx\_1
- Track 45 : Moonflower\_1, Dmitri\_1
- Track 46 : GEazy\_1, Bowser\_1, Eyes\_1, HannahD\_1
- Track 47 : Opie\_1
- Track 48 : Bunker\_1
- Track 49 : BBQValindra\_1, BackstagePass\_1
- Track 50 : Hedwig\_1
- Track 51 : MagicMan\_1, Schnabeltier\_1
- Track 52 : DirtyBoi\_1
- Track 53 : RayTheFireFly\_1
- Track 54 : Kiko\_1
- Track 55 : Sephiroth\_12, Syleon\_12
- Track 56 : Kudrefre\_11
- Track 57 : Octobien14\_12
- Track 58 : Neville\_11, Trax\_11
- Track 59 : Ruthy\_1
- Track 60 : DumpsterDude\_1
- Track 61 : Zodiariah\_1
- Track 62 : MakCheese\_1
- Track 63 : Malibo\_1
- Track 64 : Sprinklemunch\_1
- Track 65 : ArchiDore\_1
- Track 66 : Gallop\_1
- Track 67 : Spartan\_1
- Track 68 : Zucker\_2
- Track 69 : Bauer\_3
- Track 70 : BlackSpider\_1
- Track 71 : Cassini\_1
- Track 72 : BellaJr\_3
- Track 73 : StevieRay\_1, Bhagsy\_1, PeanutPie\_1, Atcoo\_1
- Track 74 : Thespis\_1, Brusacoram\_1, Megiddo\_1, Phalm\_1, Glaske\_1, KilKor\_1, StressBall\_1, Willsammy\_1, CactusJack\_1, Gavriela\_1
- Track 75 : Langerak\_1, Etoile\_1, Malithi\_1, Polkaroo\_1, FirstPlacePfu\_1, Necropolis\_1, Fishburne\_1, Dynamo\_1, GreaseLightnin\_1, Camster\_1, Zilizebeth\_1, Kari\_1, Vidya\_1
- Track 76 : Mangethe\_1, Majeke\_1, Arib1\_1, Phegasus\_1
- Track 77 : Venti\_1, Donovan\_1, HUHilltop\_1, GaloreK\_1, Bartholomew\_1, Sonah\_1, Techage\_1, Juniormint\_1, Jebeks\_1, BronnyJr\_1
- Track 78 : Bunnies\_1, Ksquared\_1
- Track 79 : Shipwreck\_1, Pygmy\_1, Phineas\_1, Bogie\_1
- Track 80 : Chubbello\_1
- Track 81 : Jung\_1
- Track 82 : Tortellini\_1

- Track 83 : Xavia\_1
- Track 84 : BigNuz\_1, Nazo\_1
- Track 85 : ThulaThula\_1
- Track 86 : Phayonce\_1
- Track 87 : Purky\_1
- Track 88 : Daegal\_1
- Track 89 : Rem711\_1
- Track 90 : 32HC\_1
- Track 91 : Mbo4\_1
- Track 92 : Finkle\_1
- Track 93 : Whack\_1

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

The start number called the most often in the published annotations is 10, it was called in 48 of the 177 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1\_1, Atcoo\_1, Bartholomew\_1, Bhagsy\_1, BigNuz\_1, Bogie\_1, BronnyJr\_1, Brusacoram\_1, Bunnies\_1, CactusJack\_1, Camster\_1, Chubbello\_1, Donovan\_1, Dynamo\_1, Etoile\_1, FirstPlacePfu\_1, Fishburne\_1, GaloreK\_1, Gavriela\_1, Glaske\_1, GreaseLightnin\_1, HUHilltop\_1, Jebeks\_1, Jung\_1, Juniormint\_1, Kari\_1, KilKor\_1, Ksquared\_1, Langerak\_1, Majeke\_1, Malithi\_1, Mangethe\_1, Megiddo\_1, Nazo\_1, Necropolis\_1, PeanutPie\_1, Phalm\_1, Phegasus\_1, Phineas\_1, Polkaroo\_1, Pygmy\_1, Shipwreck\_1, Sonah\_1, StevieRay\_1, StressBall\_1, Techage\_1, Thespis\_1, ThulaThula\_1, Tortellini\_1, Venti\_1, Vidya\_1, Willsammy\_1, Xavia\_1, Zilizebeth\_1,

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

- Phayonce\_1, Purky\_1,

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

- 32HC\_1, Adora\_1, Annalisa\_2, ArchiDore\_1, Archis\_1, Attis\_1, Azula\_1, BBQValindra\_1, BackstagePass\_1, Barco\_1, Bauer\_3, BaxterFox\_1, Beenie\_2, Begonia\_1, BellaJr\_3, Bjanes7\_1, BlackSpider\_1, BlingBling\_1, Blino\_1, Blueberry\_1, Bowser\_1, Bunker\_1, CaptainKirk2\_1, CarolAnn\_1, Cassini\_1, CheeseSpider\_1, Clap\_1, Clark\_2, Coriander\_1, Cynthia\_1, Daegal\_1, Delian\_1, Denise\_1, DirtyBoi\_1, Dmitri\_1, DobbysSock\_1, Doggs\_1, Dolores\_2, Dorito\_1, DumpsterDude\_1, Easley\_2, Ebert\_1, EdnaMode\_1, Eyes\_1, Fairfaxidum\_1, Fenry\_1, Finkle\_1, FroggyToad\_1, Frokostdame\_1, GEazy\_1, Gallop\_1, Gambino\_1, GemG\_1, Gizermo\_1, Guacamole\_1, Haley23\_1, HannahD\_1, Hedwig\_1, Hitter\_1, Hortense\_1, Howe\_1, Invectra\_2, JCole\_1, Jalammah\_1, Jalleen\_1, JasperJr\_1, JuJu\_1, KappaFarmDelta\_1, Kiko\_1, Kudrefre\_11, Lamberg\_1, LordFarquaad\_1, Lysidious\_1, MagicMan\_1, MakCheese\_1, Malachai\_1, Malibo\_1, Matteo\_1, Mbo4\_1, Melba\_1, Mellie\_1, MichaelScott\_2, MintFen\_1, MissRona\_1, Mocha12\_1, Moonflower\_1, Murp\_1, Nettuno\_1, Neville\_11, Obliviate\_1, Octobien14\_12, Ohgeesy\_1, Opie\_1, Oregano\_1, PCoral7\_1, PantheRoc\_1, Petra\_1, PhriskyACE\_1, PhrostedPhlake\_1, Pickett\_1, Pipp\_1, Powerball\_1, PrincePatrick\_1, RayTheFireFly\_1, Rem711\_1, Ruthy\_1, Sahara\_1, Samba\_1, Samman98\_2, Savage\_1, Schnabeltier\_1, Sekhmet\_2, Sephiroth\_12, Shlim410\_1, Sidious\_1, SoilAssassin\_1, Spartan\_1,

Sprinklemunch\_1, Sproutie\_1, Suerte\_1, Syleon\_12, TaronosaurusRx\_1, Thimann\_2, Toast\_1, Trax\_11, TuertoX\_1, Tuti\_3, Twinkle\_1, UmaThurman\_1, Utz\_1, Vasanti\_1, Walrus\_1, Weirido19\_1, Whack\_1, Whiteclaw\_1, William\_1, WinkNick\_2, Wisp\_1, Wocket\_1, Yeet412\_1, Yeezy\_1, ZAYM\_1, Zarbodnamra\_1, ZiggyZoo\_1, Zilla\_1, Zodiariah\_1, Zucker\_2,

### Summary by start number:

#### Start 6:

- Found in 4 of 203 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Purky\_1 (P6),

#### Start 9:

- Found in 1 of 203 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ruthy\_1 (DW),

#### Start 10:

- Found in 56 of 203 ( 27.6% ) of genes in pham
- Manual Annotations of this start: 48 of 177
- Called 96.4% of time when present
- Phage (with cluster) where this start called: Arib1\_1 (P1), Atcoo\_1 (P1), Bartholomew\_1 (P1), Bhagsy\_1 (P1), BigNuz\_1 (P4), Bogie\_1 (P1), BronnyJr\_1 (P1), Brusacoram\_1 (P1), Bunnies\_1 (P1), CactusJack\_1 (P1), Camster\_1 (P1), Chubbello\_1 (P1), Donovan\_1 (P1), Dynamo\_1 (P1), Etoile\_1 (P1), FirstPlacePfu\_1 (P1), Fishburne\_1 (P1), GaloreK\_1 (P1), Gavriela\_1 (P1), Glaske\_1 (P1), GreaseLightnin\_1 (P1), HUHilltop\_1 (P1), Jebeks\_1 (P1), Jung\_1 (P1), Juniormint\_1 (P1), Kari\_1 (P1), KilKor\_1 (P1), Ksquared\_1 (P1), Langerak\_1 (P1), Majeke\_1 (P1), Malithi\_1 (P1), Mangethe\_1 (P1), Megiddo\_1 (P1), Nazo\_1 (P4), Necropolis\_1 (P1), PeanutPie\_1 (P1), Phalm\_1 (P1), Phegasus\_1 (P1), Phineas\_1 (P1), Polkaroo\_1 (P1), Pygmy\_1 (P1), Shipwreck\_1 (P1), Sonah\_1 (P1), StevieRay\_1 (P1), StressBall\_1 (P1), Techage\_1 (P1), Thespis\_1 (P1), ThulaThula\_1 (P5), Tortellini\_1 (P2), Venti\_1 (P1), Vidya\_1 (P1), Willsammy\_1 (P1), Xavia\_1 (P3), Zilizebeth\_1 (P1),

#### Start 14:

- Found in 1 of 203 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finkle\_1 (singleton),

#### Start 22:

- Found in 12 of 203 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Beenie\_2 (CZ4),

#### Start 27:

- Found in 4 of 203 ( 2.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present

- Phage (with cluster) where this start called: Gallop\_1 (ES), Spartan\_1 (ES),

#### Start 30:

- Found in 7 of 203 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 6 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Coriander\_1 (DB), DirtyBoi\_1 (DB), Dmitri\_1 (DB), Doggs\_1 (DB), Hedwig\_1 (DB), Moonflower\_1 (DB), RayTheFireFly\_1 (DB),

#### Start 33:

- Found in 7 of 203 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 6 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BBQValindra\_1 (DB), BackstagePass\_1 (DB), Bowser\_1 (DB), Bunker\_1 (DB), Eyes\_1 (DB), GEazy\_1 (DB), HannahD\_1 (DB),

#### Start 34:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mbo4\_1 (singleton), Whack\_1 (singleton),

#### Start 37:

- Found in 12 of 203 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 10 of 177
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Annalisa\_2 (CZ4), Clark\_2 (CZ4), Dolores\_2 (CZ4), Easley\_2 (CZ4), Invectra\_2 (CZ4), MichaelScott\_2 (CZ4), Samman98\_2 (CZ4), Sekhmet\_2 (CZ4), Thimann\_2 (CZ4), WinkNick\_2 (CZ4),

#### Start 38:

- Found in 13 of 203 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 5 of 177
- Called 46.2% of time when present
- Phage (with cluster) where this start called: Kiko\_1 (DB), MagicMan\_1 (DB), Opie\_1 (DB), Schnabeltier\_1 (DB), TaronosaurusRx\_1 (DB), ZAYM\_1 (DB),

#### Start 39:

- Found in 42 of 203 ( 20.7% ) of genes in pham
- Manual Annotations of this start: 38 of 177
- Called 97.6% of time when present
- Phage (with cluster) where this start called: Adora\_1 (CZ4), Attis\_1 (CZ2), BaxterFox\_1 (CZ3), Bjanes7\_1 (CZ2), Clap\_1 (CZ2), Cynthia\_1 (CZ2), Denise\_1 (CZ5), DobbysSock\_1 (CZ4), Dorito\_1 (CZ4), Ebert\_1 (CZ2), EdnaMode\_1 (CZ2), FroggyToad\_1 (CZ2), GemG\_1 (CZ2), Gizermo\_1 (CZ2), Haley23\_1 (CZ2), Hortense\_1 (CZ4), Howe\_1 (CZ4), JCole\_1 (CZ2), Jalleen\_1 (CZ2), Lamberg\_1 (CZ2), LordFarquaad\_1 (CZ2), Matteo\_1 (CZ2), Mocha12\_1 (CZ2), Nettuno\_1 (CZ2), Ohgeesy\_1 (CZ), PantheRoc\_1 (CZ3), Pickett\_1 (CZ2), Powerball\_1 (CZ4), Sahara\_1 (CZ2), Savage\_1 (CZ2), Shlim410\_1 (CZ4), Sidious\_1 (CZ7), SoilAssassin\_1 (CZ2), Sproutie\_1 (CZ2), Suerte\_1 (CZ4), TuertoX\_1 (CZ2),

Twinkle\_1 (CZ4), Vasanti\_1 (CZ2), Whiteclaw\_1 (CZ2), Yeet412\_1 (CZ2), Yeezy\_1 (CZ3),

Start 40:

- Found in 45 of 203 ( 22.2% ) of genes in pham
- Manual Annotations of this start: 41 of 177
- Called 95.6% of time when present
- Phage (with cluster) where this start called: Archis\_1 (CV), Azula\_1 (CV), Barco\_1 (CV), Begonia\_1 (CV), BlingBling\_1 (CV), Blino\_1 (CV), Blueberry\_1 (CV), CaptainKirk2\_1 (CV), CarolAnn\_1 (CV), CheeseSpider\_1 (CV), Delian\_1 (CV), Fairfaxidum\_1 (CV), Fenry\_1 (CV), Frokostdame\_1 (CV), Gambino\_1 (CV), Guacamole\_1 (CV), Hitter\_1 (CV), Jalammah\_1 (CV), JasperJr\_1 (CV), JuJu\_1 (CV), KappaFarmDelta\_1 (CV), Lysidious\_1 (CV), Malachai\_1 (CV), Melba\_1 (CV), Mellie\_1 (CV), MintFen\_1 (CV), MissRona\_1 (CV), Murp\_1 (CV), Obliviate\_1 (CV), PCora17\_1 (CV), Petra\_1 (CV), PhrostedPhlake\_1 (CV), Pipp\_1 (CV), PrincePatrick\_1 (CV), Samba\_1 (CV), Toast\_1 (CV), UmaThurman\_1 (CV), Walrus\_1 (CV), William\_1 (CV), Wocket\_1 (CV), Zarbodnamra\_1 (CV), ZiggyZoo\_1 (CV), Zilla\_1 (CV),

Start 42:

- Found in 11 of 203 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 8 of 177
- Called 90.9% of time when present
- Phage (with cluster) where this start called: ArchiDore\_1 (DW), DumpsterDude\_1 (DW), Kudrefre\_11 (DU1), MakCheese\_1 (DW), Malibo\_1 (DW), Octobien14\_12 (DU1), Sephiroth\_12 (DU1), Sprinklemunch\_1 (DW), Syleon\_12 (DU1), Zodiariah\_1 (DW),

Start 44:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Neville\_11 (DU2), Trax\_11 (DU2),

Start 45:

- Found in 5 of 203 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 3 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bauer\_3 (FN), BellaJr\_3 (FN), BlackSpider\_1 (FN), Cassini\_1 (FN), Zucker\_2 (FN),

Start 49:

- Found in 46 of 203 ( 22.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.3% of time when present
- Phage (with cluster) where this start called: 32HC\_1 (Z), Wisp\_1 (CV),

Start 50:

- Found in 55 of 203 ( 27.1% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 3.6% of time when present
- Phage (with cluster) where this start called: Utz\_1 (CV), Weirido19\_1 (AH),

Start 51:

- Found in 89 of 203 ( 43.8% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 1.1% of time when present
- Phage (with cluster) where this start called: Phayonce\_1 (P5),

Start 53:

- Found in 19 of 203 ( 9.4% ) of genes in pham
- Manual Annotations of this start: 2 of 177
- Called 10.5% of time when present
- Phage (with cluster) where this start called: Daegal\_1 (Q), Rem711\_1 (Z),

Start 56:

- Found in 18 of 203 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 5.6% of time when present
- Phage (with cluster) where this start called: Oregano\_1 (CZ4),

Start 64:

- Found in 48 of 203 ( 23.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.2% of time when present
- Phage (with cluster) where this start called: PhriskyACE\_1 (CZ4), Tuti\_3 (CZ4),

### **Summary by clusters:**

There are 23 clusters represented in this pham: singleton, CZ2, CZ3, DB, CZ7, CZ4, CZ5, DW, FN, DU1, DU2, P2, P3, P1, P6, P4, P5, AH, Q, CZ, Z, CV, ES,

Info for manual annotations of cluster CV:

- Start number 40 was manually annotated 41 times for cluster CV.
- Start number 50 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CZ:

- Start number 39 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ2:

- Start number 39 was manually annotated 23 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 39 was manually annotated 3 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 22 was manually annotated 1 time for cluster CZ4.
- Start number 37 was manually annotated 10 times for cluster CZ4.
- Start number 39 was manually annotated 9 times for cluster CZ4.
- Start number 56 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 39 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ7:

- Start number 39 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster DB:

- Start number 30 was manually annotated 6 times for cluster DB.
- Start number 33 was manually annotated 6 times for cluster DB.
- Start number 38 was manually annotated 5 times for cluster DB.

Info for manual annotations of cluster DU1:

- Start number 42 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 44 was manually annotated 2 times for cluster DU2.

Info for manual annotations of cluster DW:

- Start number 9 was manually annotated 1 time for cluster DW.
- Start number 42 was manually annotated 4 times for cluster DW.

Info for manual annotations of cluster FN:

- Start number 45 was manually annotated 3 times for cluster FN.

Info for manual annotations of cluster P1:

- Start number 10 was manually annotated 43 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 10 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 10 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 10 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 10 was manually annotated 1 time for cluster P5.
- Start number 51 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 6 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster Q:

- Start number 53 was manually annotated 1 time for cluster Q.

Info for manual annotations of cluster Z:

- Start number 53 was manually annotated 1 time for cluster Z.

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

Gene: 32HC\_1 Start: 209, Stop: 550, Start Num: 49

Candidate Starts for 32HC\_1:

(3, 38), (49, 209), (Start: 53 @236 has 2 MA's), (57, 251), (71, 311), (74, 323), (88, 356), (96, 383), (115, 446), (118, 461),

Gene: Adora\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Adora\_1:

(Start: 39 @14 has 38 MA's), (Start: 50 @50 has 1 MA's), (Start: 53 @62 has 2 MA's), (61, 92), (62, 95), (75, 152), (96, 215), (111, 263),

Gene: Annalisa\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for Annalisa\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (62, 597), (63, 600), (64, 603), (111, 765),

Gene: ArchiDore\_1 Start: 127, Stop: 453, Start Num: 42

Candidate Starts for ArchiDore\_1:

(Start: 42 @127 has 8 MA's), (Start: 50 @166 has 1 MA's), (62, 211), (65, 220), (69, 238), (72, 256), (81, 295), (102, 340), (116, 379), (124, 412),

Gene: Archis\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Archis\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Arib1\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Arib1\_1:

(Start: 10 @55 has 48 MA's), (47, 124), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Atcoo\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for Atcoo\_1:

(Start: 10 @43 has 48 MA's), (Start: 51 @139 has 1 MA's), (68, 205), (84, 262), (89, 274), (93, 286), (101, 310), (110, 340),

Gene: Attis\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Attis\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Azula\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for Azula\_1:

(19, 15), (28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (59, 123), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: BBQValindra\_1 Start: 176, Stop: 550, Start Num: 33

Candidate Starts for BBQValindra\_1:

(Start: 33 @176 has 6 MA's), (70, 302), (74, 320), (83, 347), (88, 356), (96, 383), (102, 401), (129, 515),

Gene: BackstagePass\_1 Start: 149, Stop: 523, Start Num: 33

Candidate Starts for BackstagePass\_1:

(Start: 33 @149 has 6 MA's), (70, 275), (74, 293), (83, 320), (88, 329), (96, 356), (102, 374), (129, 488),

Gene: Barco\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Barco\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Bartholomew\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Bartholomew\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Bauer\_3 Start: 1082, Stop: 1468, Start Num: 45

Candidate Starts for Bauer\_3:

(23, 1049), (Start: 45 @1082 has 3 MA's), (52, 1115), (55, 1133), (64, 1166), (68, 1184), (70, 1196), (78, 1232), (81, 1244), (126, 1403), (131, 1454),

Gene: BaxterFox\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for BaxterFox\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (74, 149), (75, 152), (111, 263),

Gene: Beenie\_2 Start: 486, Stop: 848, Start Num: 22

Candidate Starts for Beenie\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (60, 591), (62, 597), (64, 603), (68, 621), (70, 633), (84, 684), (111, 765),

Gene: Begonia\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Begonia\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: BellaJr\_3 Start: 1081, Stop: 1479, Start Num: 45

Candidate Starts for BellaJr\_3:

(23, 1048), (Start: 45 @1081 has 3 MA's), (52, 1114), (55, 1132), (64, 1165), (68, 1183), (70, 1195), (78, 1231), (81, 1243), (98, 1297), (104, 1315), (131, 1465),

Gene: Bhagsy\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for Bhagsy\_1:

(Start: 10 @43 has 48 MA's), (Start: 51 @139 has 1 MA's), (68, 205), (84, 262), (89, 274), (93, 286), (101, 310), (110, 340),

Gene: BigNuz\_1 Start: 43, Stop: 423, Start Num: 10

Candidate Starts for BigNuz\_1:

(Start: 6 @16 has 1 MA's), (Start: 10 @43 has 48 MA's), (Start: 51 @130 has 1 MA's), (68, 196), (84, 253), (93, 277), (96, 286), (101, 301), (110, 331),

Gene: Bjaner7\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Bjaner7\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: BlackSpider\_1 Start: 71, Stop: 478, Start Num: 45

Candidate Starts for BlackSpider\_1:

(32, 44), (Start: 45 @71 has 3 MA's), (52, 104), (70, 185), (81, 233), (85, 245), (98, 296), (131, 464),

Gene: BlingBling\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for BlingBling\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Blino\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for Blino\_1:

(19, 15), (28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (59, 123), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: Blueberry\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for Blueberry\_1:

(19, 15), (28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (59, 123), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: Bogie\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for Bogie\_1:

(Start: 10 @43 has 48 MA's), (Start: 51 @139 has 1 MA's), (68, 205), (84, 262), (89, 274), (101, 310), (110, 340),

Gene: Bowser\_1 Start: 176, Stop: 550, Start Num: 33

Candidate Starts for Bowser\_1:

(Start: 33 @176 has 6 MA's), (60, 260), (70, 302), (74, 320), (83, 347), (88, 356), (96, 383), (102, 401), (129, 515),

Gene: BronnyJr\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for BronnyJr\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Brusacoram\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for Brusacoram\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: Bunker\_1 Start: 176, Stop: 550, Start Num: 33

Candidate Starts for Bunker\_1:

(Start: 33 @176 has 6 MA's), (70, 302), (74, 320), (77, 335), (83, 347), (88, 356), (96, 383), (102, 401), (129, 515),

Gene: Bunnies\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Bunnies\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (93, 298), (101, 322), (110, 352),

Gene: CactusJack\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for CactusJack\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: Camster\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Camster\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: CaptainKirk2\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for CaptainKirk2\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: CarolAnn\_1 Start: 56, Stop: 391, Start Num: 40

Candidate Starts for CarolAnn\_1:

(18, 14), (28, 35), (Start: 40 @56 has 41 MA's), (43, 62), (49, 74), (Start: 50 @89 has 1 MA's), (59, 122), (60, 128), (63, 137), (66, 149), (69, 161), (77, 203), (87, 221), (88, 224), (96, 251), (102, 269), (112, 302), (116, 308),

Gene: Cassini\_1 Start: 60, Stop: 443, Start Num: 45

Candidate Starts for Cassini\_1:

(41, 48), (Start: 45 @60 has 3 MA's), (52, 93), (55, 111), (70, 174), (72, 183), (81, 222), (86, 234), (95, 267), (98, 276), (104, 294), (126, 378),

Gene: CheeseSpider\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for CheeseSpider\_1:

(28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: Chubbello\_1 Start: 54, Stop: 443, Start Num: 10

Candidate Starts for Chubbello\_1:

(Start: 10 @54 has 48 MA's), (Start: 51 @150 has 1 MA's), (68, 216), (84, 273), (89, 285), (101, 321), (110, 351),

Gene: Clap\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Clap\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Clark\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for Clark\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (60, 591), (62, 597), (64, 603), (68, 621), (70, 633), (84, 684), (111, 765),

Gene: Coriander\_1 Start: 228, Stop: 614, Start Num: 30

Candidate Starts for Coriander\_1:

(Start: 30 @228 has 6 MA's), (Start: 38 @240 has 5 MA's), (60, 315), (67, 339), (114, 492),

Gene: Cynthia\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Cynthia\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Daegal\_1 Start: 257, Stop: 571, Start Num: 53

Candidate Starts for Daegal\_1:

(1, 14), (4, 71), (5, 92), (Start: 53 @257 has 2 MA's), (61, 287), (63, 293), (64, 296), (68, 314), (74, 344), (75, 347), (97, 392), (106, 416), (108, 425), (120, 470), (122, 485), (130, 536), (132, 563),

Gene: Delian\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Delian\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Denise\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Denise\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (75, 152), (105, 236), (110, 260), (111, 263), (121, 293),

Gene: DirtyBoi\_1 Start: 228, Stop: 614, Start Num: 30

Candidate Starts for DirtyBoi\_1:

(7, 141), (Start: 30 @228 has 6 MA's), (Start: 38 @240 has 5 MA's), (60, 315), (67, 339), (83, 402), (96, 438), (114, 492),

Gene: Dmitri\_1 Start: 228, Stop: 614, Start Num: 30

Candidate Starts for Dmitri\_1:

(Start: 30 @228 has 6 MA's), (Start: 38 @240 has 5 MA's), (48, 258), (60, 315), (67, 339), (96, 438), (114, 492),

Gene: DobbysSock\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for DobbysSock\_1:

(Start: 39 @14 has 38 MA's), (Start: 53 @62 has 2 MA's), (Start: 56 @71 has 1 MA's), (62, 95), (64, 101), (70, 131), (74, 149), (111, 263),

Gene: Doggs\_1 Start: 228, Stop: 614, Start Num: 30

Candidate Starts for Doggs\_1:

(Start: 30 @228 has 6 MA's), (Start: 38 @240 has 5 MA's), (60, 315), (67, 339), (114, 492),

Gene: Dolores\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for Dolores\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (62, 597), (63, 600), (64, 603), (111, 765),

Gene: Donovan\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Donovan\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Dorito\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Dorito\_1:

(Start: 39 @14 has 38 MA's), (Start: 56 @71 has 1 MA's), (62, 95), (64, 101), (111, 263),

Gene: DumpsterDude\_1 Start: 127, Stop: 453, Start Num: 42

Candidate Starts for DumpsterDude\_1:

(20, 82), (Start: 42 @127 has 8 MA's), (Start: 50 @166 has 1 MA's), (62, 211), (65, 220), (69, 238), (72, 256), (81, 295), (102, 340), (116, 379), (124, 412),

Gene: Dynamo\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Dynamo\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Easley\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for Easley\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (60, 591), (62, 597), (64, 603), (68, 621), (70, 633), (84, 684), (111, 765),

Gene: Ebert\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Ebert\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: EdnaMode\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for EdnaMode\_1:

(Start: 39 @14 has 38 MA's), (61, 92), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Etoile\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Etoile\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Eyes\_1 Start: 176, Stop: 550, Start Num: 33

Candidate Starts for Eyes\_1:

(Start: 33 @176 has 6 MA's), (60, 260), (70, 302), (74, 320), (83, 347), (88, 356), (96, 383), (102, 401), (129, 515),

Gene: Fairfaxidum\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Fairfaxidum\_1:

(Start: 40 @56 has 41 MA's), (43, 62), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (72, 179), (73, 185), (77, 203), (88, 224), (93, 242), (111, 299),

Gene: Fenry\_1 Start: 57, Stop: 398, Start Num: 40

Candidate Starts for Fenry\_1:

(Start: 40 @57 has 41 MA's), (49, 75), (Start: 50 @90 has 1 MA's), (Start: 51 @93 has 1 MA's), (60, 129), (62, 135), (63, 138), (69, 162), (77, 204), (88, 225), (96, 252), (102, 270),

Gene: Finkle\_1 Start: 10, Stop: 411, Start Num: 14

Candidate Starts for Finkle\_1:

(12, 1), (Start: 14 @10 has 1 MA's), (46, 82), (102, 298),

Gene: FirstPlacePfu\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for FirstPlacePfu\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Fishburne\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Fishburne\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: FroggyToad\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for FroggyToad\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Frokostdame\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for Frokostdame\_1:

(28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (59, 123), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (102, 270), (112, 303), (116, 309),

Gene: GEazy\_1 Start: 176, Stop: 550, Start Num: 33

Candidate Starts for GEazy\_1:

(Start: 33 @176 has 6 MA's), (60, 260), (70, 302), (74, 320), (83, 347), (88, 356), (96, 383), (102, 401), (129, 515),

Gene: Gallop\_1 Start: 64, Stop: 435, Start Num: 27

Candidate Starts for Gallop\_1:

(27, 64), (Start: 53 @142 has 2 MA's), (64, 181), (95, 295), (96, 298), (101, 313), (119, 367),

Gene: GaloreK\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for GaloreK\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Gambino\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for Gambino\_1:

(19, 15), (28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (59, 123), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: Gavriela\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for Gavriela\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: GemG\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for GemG\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Gizermo\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Gizermo\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Glaske\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for Glaske\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: GreaseLightnin\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for GreaseLightnin\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Guacamole\_1 Start: 57, Stop: 398, Start Num: 40

Candidate Starts for Guacamole\_1:

(17, 12), (Start: 40 @57 has 41 MA's), (49, 75), (Start: 50 @90 has 1 MA's), (Start: 51 @93 has 1 MA's), (62, 135), (63, 138), (69, 162), (70, 171), (88, 225), (96, 252),

Gene: HUHilltop\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for HUHilltop\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Haley23\_1 Start: 14, Stop: 346, Start Num: 39  
Candidate Starts for Haley23\_1:  
(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: HannahD\_1 Start: 176, Stop: 550, Start Num: 33  
Candidate Starts for HannahD\_1:  
(Start: 33 @176 has 6 MA's), (60, 260), (70, 302), (74, 320), (83, 347), (88, 356), (96, 383), (102, 401),  
(129, 515),

Gene: Hedwig\_1 Start: 228, Stop: 614, Start Num: 30  
Candidate Starts for Hedwig\_1:  
(Start: 30 @228 has 6 MA's), (Start: 38 @240 has 5 MA's), (48, 258), (60, 315), (67, 339), (83, 402),  
(96, 438), (114, 492),

Gene: Hitter\_1 Start: 56, Stop: 397, Start Num: 40  
Candidate Starts for Hitter\_1:  
(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60,  
128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Hortense\_1 Start: 14, Stop: 346, Start Num: 39  
Candidate Starts for Hortense\_1:  
(Start: 39 @14 has 38 MA's), (Start: 50 @50 has 1 MA's), (Start: 53 @62 has 2 MA's), (61, 92), (62,  
95), (75, 152), (96, 215), (111, 263),

Gene: Howe\_1 Start: 14, Stop: 346, Start Num: 39  
Candidate Starts for Howe\_1:  
(Start: 39 @14 has 38 MA's), (Start: 50 @50 has 1 MA's), (Start: 53 @62 has 2 MA's), (61, 92), (62,  
95), (75, 152), (96, 215), (111, 263),

Gene: Invectra\_2 Start: 510, Stop: 848, Start Num: 37  
Candidate Starts for Invectra\_2:  
(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1  
MA's), (62, 597), (64, 603), (74, 651), (111, 765),

Gene: JCole\_1 Start: 14, Stop: 346, Start Num: 39  
Candidate Starts for JCole\_1:  
(Start: 39 @14 has 38 MA's), (54, 68), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Jalammah\_1 Start: 56, Stop: 397, Start Num: 40  
Candidate Starts for Jalammah\_1:  
(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60,  
128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Jalleen\_1 Start: 14, Stop: 346, Start Num: 39  
Candidate Starts for Jalleen\_1:  
(Start: 39 @14 has 38 MA's), (54, 68), (62, 95), (63, 98), (64, 101), (70, 131), (75, 152), (90, 197),

Gene: JasperJr\_1 Start: 57, Stop: 398, Start Num: 40  
Candidate Starts for JasperJr\_1:  
(17, 12), (Start: 40 @57 has 41 MA's), (49, 75), (Start: 50 @90 has 1 MA's), (Start: 51 @93 has 1  
MA's), (62, 135), (63, 138), (69, 162), (70, 171), (88, 225), (96, 252),

Gene: Jebeks\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Jebeks\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: JuJu\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for JuJu\_1:

(28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: Jung\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for Jung\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (101, 309), (110, 339),

Gene: Juniormint\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Juniormint\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: KappaFarmDelta\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for KappaFarmDelta\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (68, 158), (69, 161), (75, 191), (88, 224), (96, 251), (98, 257),

Gene: Kari\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Kari\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Kiko\_1 Start: 64, Stop: 435, Start Num: 38

Candidate Starts for Kiko\_1:

(Start: 38 @64 has 5 MA's), (70, 181), (74, 199), (83, 226), (96, 259), (114, 313), (127, 379),

Gene: KilKor\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for KilKor\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: Ksquared\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Ksquared\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (93, 298), (101, 322), (110, 352),

Gene: Kudfre\_11 Start: 4593, Stop: 4943, Start Num: 42

Candidate Starts for Kudfre\_11:

(Start: 42 @4593 has 8 MA's), (70, 4716), (92, 4797), (125, 4926),

Gene: Lamberg\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Lamberg\_1:

(Start: 39 @14 has 38 MA's), (61, 92), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Langerak\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Langerak\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: LordFarquaad\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for LordFarquaad\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Lysidious\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Lysidious\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: MagicMan\_1 Start: 166, Stop: 516, Start Num: 38

Candidate Starts for MagicMan\_1:

(15, 121), (29, 154), (Start: 38 @166 has 5 MA's), (Start: 53 @214 has 2 MA's), (60, 241), (83, 328), (88, 337), (96, 364), (102, 382), (114, 418), (116, 421), (129, 496),

Gene: Majeke\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Majeke\_1:

(Start: 10 @55 has 48 MA's), (47, 124), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: MakCheese\_1 Start: 127, Stop: 453, Start Num: 42

Candidate Starts for MakCheese\_1:

(Start: 42 @127 has 8 MA's), (Start: 50 @166 has 1 MA's), (Start: 53 @178 has 2 MA's), (59, 199), (62, 211), (63, 214), (65, 220), (69, 238), (72, 256), (75, 268), (78, 283), (81, 295), (93, 313), (98, 328), (102, 340), (107, 349), (116, 379), (123, 409), (124, 412),

Gene: Malachai\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Malachai\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Malibo\_1 Start: 127, Stop: 453, Start Num: 42

Candidate Starts for Malibo\_1:

(24, 97), (Start: 42 @127 has 8 MA's), (Start: 50 @166 has 1 MA's), (Start: 53 @178 has 2 MA's), (59, 199), (69, 238), (72, 256),

Gene: Malithi\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Malithi\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Mangethe\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Mangethe\_1:

(Start: 10 @55 has 48 MA's), (47, 124), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Matteo\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Matteo\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Mbo4\_1 Start: 117, Stop: 464, Start Num: 34

Candidate Starts for Mbo4\_1:

(21, 99), (31, 111), (Start: 34 @117 has 1 MA's), (83, 300), (109, 369), (110, 378),

Gene: Megiddo\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for Megiddo\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: Melba\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Melba\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Mellie\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Mellie\_1:

(26, 32), (Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: MichaelScott\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for MichaelScott\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (60, 591), (62, 597), (64, 603), (68, 621), (70, 633), (84, 684), (111, 765),

Gene: MintFen\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for MintFen\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: MissRona\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for MissRona\_1:

(19, 15), (28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (59, 123), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: Mocha12\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Mocha12\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Moonflower\_1 Start: 227, Stop: 613, Start Num: 30

Candidate Starts for Moonflower\_1:

(Start: 30 @227 has 6 MA's), (Start: 38 @239 has 5 MA's), (48, 257), (60, 314), (67, 338), (96, 437), (114, 491),

Gene: Murp\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Murp\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (69, 161), (75, 191), (88, 224), (96, 251), (98, 257),

Gene: Nazo\_1 Start: 43, Stop: 423, Start Num: 10

Candidate Starts for Nazo\_1:

(Start: 6 @16 has 1 MA's), (Start: 10 @43 has 48 MA's), (Start: 51 @130 has 1 MA's), (68, 196), (84, 253), (93, 277), (96, 286), (101, 301), (110, 331),

Gene: Necropolis\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Necropolis\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Nettuno\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Nettuno\_1:

(Start: 39 @14 has 38 MA's), (61, 92), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Neville\_11 Start: 4473, Stop: 4811, Start Num: 44

Candidate Starts for Neville\_11:

(Start: 44 @4473 has 2 MA's), (58, 4542), (75, 4617), (76, 4623), (91, 4674), (92, 4677), (99, 4701), (100, 4707), (103, 4716),

Gene: Obliviate\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Obliviate\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Octobien14\_12 Start: 5664, Stop: 6014, Start Num: 42

Candidate Starts for Octobien14\_12:

(41, 5661), (Start: 42 @5664 has 8 MA's), (70, 5787), (92, 5868), (125, 5997),

Gene: Ohgeesy\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Ohgeesy\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (74, 149), (75, 152), (111, 263),

Gene: Opie\_1 Start: 166, Stop: 516, Start Num: 38

Candidate Starts for Opie\_1:

(Start: 38 @166 has 5 MA's), (Start: 53 @214 has 2 MA's), (60, 241), (83, 328), (88, 337), (96, 364), (114, 418), (116, 421), (129, 496),

Gene: Oregano\_1 Start: 101, Stop: 376, Start Num: 56

Candidate Starts for Oregano\_1:

(Start: 56 @101 has 1 MA's), (62, 125), (64, 131), (111, 293),

Gene: PCoral7\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for PCoral7\_1:

(Start: 40 @56 has 41 MA's), (43, 62), (49, 74), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (73, 185), (77, 203), (88, 224), (93, 242), (111, 299),

Gene: PantheRoc\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for PantheRoc\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (74, 149), (75, 152), (111, 263),

Gene: PeanutPie\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for PeanutPie\_1:

(Start: 10 @43 has 48 MA's), (Start: 51 @139 has 1 MA's), (68, 205), (84, 262), (89, 274), (93, 286), (101, 310), (110, 340),

Gene: Petra\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for Petra\_1:

(19, 15), (28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (59, 123), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: Phalm\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for Phalm\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: Phayonce\_1 Start: 139, Stop: 432, Start Num: 51

Candidate Starts for Phayonce\_1:

(Start: 10 @55 has 48 MA's), (27, 91), (Start: 51 @139 has 1 MA's), (62, 181), (68, 205), (74, 235), (84, 262), (96, 295), (101, 310), (102, 313), (110, 340),

Gene: Phegasus\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Phegasus\_1:

(Start: 10 @55 has 48 MA's), (47, 124), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Phineas\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for Phineas\_1:

(Start: 10 @43 has 48 MA's), (Start: 51 @139 has 1 MA's), (68, 205), (84, 262), (89, 274), (101, 310), (110, 340),

Gene: PhriskyACE\_1 Start: 101, Stop: 346, Start Num: 64

Candidate Starts for PhriskyACE\_1:

(Start: 39 @14 has 38 MA's), (Start: 56 @71 has 1 MA's), (62, 95), (64, 101), (111, 263),

Gene: PhrostedPhlake\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for PhrostedPhlake\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (69, 161), (77, 203), (88, 224), (96, 251),

Gene: Pickett\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Pickett\_1:

(Start: 39 @14 has 38 MA's), (61, 92), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Pipp\_1 Start: 55, Stop: 396, Start Num: 40

Candidate Starts for Pipp\_1:

(13, 1), (Start: 40 @55 has 41 MA's), (49, 73), (Start: 50 @88 has 1 MA's), (Start: 51 @91 has 1 MA's), (60, 127), (62, 133), (63, 136), (69, 160), (77, 202), (88, 223), (96, 250),

Gene: Polkaroo\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Polkaroo\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Powerball\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Powerball\_1:

(Start: 39 @14 has 38 MA's), (Start: 56 @71 has 1 MA's), (62, 95), (64, 101), (111, 263),

Gene: PrincePatrick\_1 Start: 57, Stop: 398, Start Num: 40

Candidate Starts for PrincePatrick\_1:

(Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (Start: 51 @93 has 1 MA's), (62, 135), (63, 138), (72, 180), (73, 186), (77, 204), (88, 225), (93, 243), (111, 300),

Gene: Purky\_1 Start: 16, Stop: 432, Start Num: 6

Candidate Starts for Purky\_1:

(Start: 6 @16 has 1 MA's), (8, 40), (Start: 10 @55 has 48 MA's), (Start: 51 @139 has 1 MA's), (62, 181), (68, 205), (84, 262), (93, 286), (96, 295), (101, 310), (110, 340),

Gene: Pygmy\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for Pygmy\_1:

(Start: 10 @43 has 48 MA's), (Start: 51 @139 has 1 MA's), (68, 205), (84, 262), (89, 274), (101, 310), (110, 340),

Gene: RayTheFireFly\_1 Start: 228, Stop: 614, Start Num: 30

Candidate Starts for RayTheFireFly\_1:

(Start: 30 @228 has 6 MA's), (Start: 38 @240 has 5 MA's), (60, 315), (67, 339), (96, 438), (114, 492),

Gene: Rem711\_1 Start: 226, Stop: 540, Start Num: 53

Candidate Starts for Rem711\_1:

(3, 37), (Start: 53 @226 has 2 MA's), (57, 241), (71, 301), (74, 313), (88, 346), (96, 373), (115, 436), (118, 451),

Gene: Ruthy\_1 Start: 43, Stop: 453, Start Num: 9

Candidate Starts for Ruthy\_1:

(Start: 9 @43 has 1 MA's), (20, 82), (Start: 42 @127 has 8 MA's), (Start: 50 @166 has 1 MA's), (Start: 53 @178 has 2 MA's), (62, 211), (65, 220), (69, 238), (72, 256), (75, 268), (81, 295), (94, 316), (102, 340), (116, 379),

Gene: Sahara\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Sahara\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152), (84, 182), (90, 197), (96, 215),

Gene: Samba\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Samba\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Samman98\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for Samman98\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (62, 597), (63, 600), (64, 603), (111, 765),

Gene: Savage\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Savage\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Schnabeltier\_1 Start: 167, Stop: 517, Start Num: 38

Candidate Starts for Schnabeltier\_1:

(15, 122), (29, 155), (Start: 38 @167 has 5 MA's), (Start: 53 @215 has 2 MA's), (60, 242), (83, 329), (88, 338), (96, 365), (102, 383), (114, 419), (116, 422), (129, 497),

Gene: Sekhmet\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for Sekhmet\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (62, 597), (64, 603), (74, 651), (111, 765),

Gene: Sephiroth\_12 Start: 4764, Stop: 5114, Start Num: 42

Candidate Starts for Sephiroth\_12:

(11, 4695), (25, 4734), (Start: 42 @4764 has 8 MA's), (70, 4887), (92, 4968), (125, 5097),

Gene: Shipwreck\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for Shipwreck\_1:

(Start: 10 @43 has 48 MA's), (Start: 51 @139 has 1 MA's), (68, 205), (84, 262), (89, 274), (101, 310), (110, 340),

Gene: Shlim410\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Shlim410\_1:

(Start: 39 @14 has 38 MA's), (Start: 50 @50 has 1 MA's), (Start: 53 @62 has 2 MA's), (61, 92), (62, 95), (75, 152), (96, 215), (111, 263),

Gene: Sidious\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Sidious\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (75, 152), (82, 176), (90, 197), (111, 263),

Gene: SoilAssassin\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for SoilAssassin\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Sonah\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Sonah\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Spartan\_1 Start: 64, Stop: 435, Start Num: 27

Candidate Starts for Spartan\_1:

(27, 64), (Start: 53 @142 has 2 MA's), (60, 169), (74, 229), (95, 295), (96, 298), (101, 313), (119, 367),

Gene: Sprinklemunch\_1 Start: 125, Stop: 451, Start Num: 42

Candidate Starts for Sprinklemunch\_1:

(16, 74), (17, 77), (35, 113), (Start: 42 @125 has 8 MA's), (70, 245), (73, 260), (78, 281), (83, 299), (98, 326), (102, 338), (111, 368), (117, 380),

Gene: Sproutie\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Sproutie\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: StevieRay\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for StevieRay\_1:

(Start: 10 @43 has 48 MA's), (Start: 51 @139 has 1 MA's), (68, 205), (84, 262), (89, 274), (93, 286), (101, 310), (110, 340),

Gene: StressBall\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for StressBall\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: Suerte\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Suerte\_1:

(Start: 39 @14 has 38 MA's), (Start: 56 @71 has 1 MA's), (62, 95), (64, 101), (111, 263),

Gene: Syleon\_12 Start: 4686, Stop: 5036, Start Num: 42

Candidate Starts for Syleon\_12:

(11, 4617), (25, 4656), (Start: 42 @4686 has 8 MA's), (70, 4809), (92, 4890), (125, 5019),

Gene: TaronosaurusRx\_1 Start: 167, Stop: 517, Start Num: 38

Candidate Starts for TaronosaurusRx\_1:

(15, 122), (29, 155), (Start: 38 @167 has 5 MA's), (60, 242), (83, 329), (88, 338), (96, 365), (102, 383), (114, 419), (116, 422), (129, 497),

Gene: Techage\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Techage\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Thespis\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for Thespis\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: Thimann\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for Thimann\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (62, 597), (64, 603), (70, 633), (111, 765),

Gene: ThulaThula\_1 Start: 55, Stop: 432, Start Num: 10

Candidate Starts for ThulaThula\_1:

(Start: 10 @55 has 48 MA's), (27, 91), (Start: 51 @139 has 1 MA's), (60, 175), (62, 181), (68, 205), (74, 235), (84, 262), (101, 310), (102, 313), (110, 340),

Gene: Toast\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Toast\_1:

(Start: 40 @56 has 41 MA's), (43, 62), (49, 74), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (73, 185), (77, 203), (88, 224), (93, 242), (111, 299),

Gene: Tortellini\_1 Start: 43, Stop: 432, Start Num: 10

Candidate Starts for Tortellini\_1:

(Start: 10 @43 has 48 MA's), (36, 94), (Start: 51 @139 has 1 MA's), (60, 175), (68, 205), (96, 295), (101, 310), (110, 340),

Gene: Trax\_11 Start: 4473, Stop: 4811, Start Num: 44

Candidate Starts for Trax\_11:

(Start: 44 @4473 has 2 MA's), (58, 4542), (75, 4617), (76, 4623), (91, 4674), (92, 4677), (99, 4701), (100, 4707), (103, 4716),

Gene: TuertoX\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for TuertoX\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Tuti\_3 Start: 603, Stop: 848, Start Num: 64

Candidate Starts for Tuti\_3:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (60, 591), (62, 597), (64, 603), (68, 621), (70, 633), (84, 684), (96, 717), (111, 765),

Gene: Twinkle\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Twinkle\_1:

(Start: 39 @14 has 38 MA's), (Start: 50 @50 has 1 MA's), (Start: 53 @62 has 2 MA's), (61, 92), (62, 95), (75, 152), (96, 215), (111, 263),

Gene: UmaThurman\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for UmaThurman\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (77, 203), (88, 224), (96, 251),

Gene: Utz\_1 Start: 89, Stop: 397, Start Num: 50

Candidate Starts for Utz\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (77, 203), (88, 224), (96, 251),

Gene: Vasanti\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Vasanti\_1:

(Start: 39 @14 has 38 MA's), (61, 92), (62, 95), (63, 98), (75, 152), (96, 215), (111, 263),

Gene: Venti\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Venti\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (62, 193), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Vidya\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Vidya\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Walrus\_1 Start: 57, Stop: 392, Start Num: 40

Candidate Starts for Walrus\_1:

(19, 15), (28, 36), (Start: 40 @57 has 41 MA's), (43, 63), (49, 75), (Start: 50 @90 has 1 MA's), (59, 123), (60, 129), (63, 138), (66, 150), (69, 162), (77, 204), (87, 222), (88, 225), (96, 252), (102, 270), (112, 303), (116, 309),

Gene: Weirdo19\_1 Start: 209, Stop: 565, Start Num: 50

Candidate Starts for Weirdo19\_1:

(2, 14), (4, 47), (Start: 50 @209 has 1 MA's), (68, 278), (75, 311), (79, 332), (80, 335), (113, 431), (122, 473), (128, 500),

Gene: Whack\_1 Start: 53, Stop: 403, Start Num: 34

Candidate Starts for Whack\_1:

(Start: 34 @53 has 1 MA's), (Start: 53 @107 has 2 MA's), (74, 194), (80, 221), (96, 263), (110, 308), (116, 320),

Gene: Whiteclaw\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Whiteclaw\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: William\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for William\_1:

(Start: 40 @56 has 41 MA's), (43, 62), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (72, 179), (73, 185), (74, 188), (77, 203), (93, 242), (111, 299),

Gene: Willsammy\_1 Start: 42, Stop: 431, Start Num: 10

Candidate Starts for Willsammy\_1:

(Start: 10 @42 has 48 MA's), (Start: 51 @138 has 1 MA's), (68, 204), (84, 261), (89, 273), (93, 285), (101, 309), (110, 339),

Gene: WinkNick\_2 Start: 510, Stop: 848, Start Num: 37

Candidate Starts for WinkNick\_2:

(Start: 22 @486 has 1 MA's), (26, 492), (31, 501), (Start: 37 @510 has 10 MA's), (Start: 56 @573 has 1 MA's), (62, 597), (63, 600), (64, 603), (111, 765),

Gene: Wisp\_1 Start: 74, Stop: 397, Start Num: 49

Candidate Starts for Wisp\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Wocket\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Wocket\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (77, 203), (88, 224), (96, 251),

Gene: Xavia\_1 Start: 55, Stop: 435, Start Num: 10

Candidate Starts for Xavia\_1:

(Start: 6 @16 has 1 MA's), (Start: 10 @55 has 48 MA's), (Start: 51 @142 has 1 MA's), (62, 184), (63, 187), (68, 208), (84, 265), (89, 277), (93, 289), (96, 298), (101, 313), (110, 343),

Gene: Yeet412\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Yeet412\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (63, 98), (64, 101), (75, 152),

Gene: Yeezy\_1 Start: 14, Stop: 346, Start Num: 39

Candidate Starts for Yeezy\_1:

(Start: 39 @14 has 38 MA's), (62, 95), (74, 149), (75, 152), (111, 263),

Gene: ZAYM\_1 Start: 166, Stop: 516, Start Num: 38

Candidate Starts for ZAYM\_1:

(15, 121), (29, 154), (Start: 38 @166 has 5 MA's), (60, 241), (83, 328), (88, 337), (96, 364), (102, 382), (114, 418), (116, 421), (129, 496),

Gene: Zarbodnamra\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Zarbodnamra\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (60, 128), (62, 134), (63, 137), (69, 161), (77, 203), (88, 224), (96, 251),

Gene: ZiggyZoo\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for ZiggyZoo\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (62, 134), (63, 137), (69, 161), (88, 224), (96, 251),

Gene: Zilizebeth\_1 Start: 55, Stop: 444, Start Num: 10

Candidate Starts for Zilizebeth\_1:

(Start: 10 @55 has 48 MA's), (Start: 51 @151 has 1 MA's), (68, 217), (84, 274), (89, 286), (101, 322), (110, 352),

Gene: Zilla\_1 Start: 56, Stop: 397, Start Num: 40

Candidate Starts for Zilla\_1:

(Start: 40 @56 has 41 MA's), (49, 74), (Start: 50 @89 has 1 MA's), (Start: 51 @92 has 1 MA's), (62, 134), (63, 137), (83, 215), (87, 221), (88, 224), (93, 242), (96, 251), (98, 257),

Gene: Zodiariah\_1 Start: 125, Stop: 451, Start Num: 42

Candidate Starts for Zodiariah\_1:

(Start: 42 @125 has 8 MA's), (Start: 50 @164 has 1 MA's), (Start: 53 @176 has 2 MA's), (59, 197), (62, 209), (63, 212), (65, 218), (69, 236), (72, 254), (75, 266), (78, 281), (81, 293), (93, 311), (102, 338), (116, 377), (123, 407), (124, 410),

Gene: Zucker\_2 Start: 385, Stop: 780, Start Num: 45

Candidate Starts for Zucker\_2:

(23, 352), (Start: 45 @385 has 3 MA's), (55, 436), (64, 469), (68, 487), (70, 499), (81, 547), (126, 715), (131, 766),