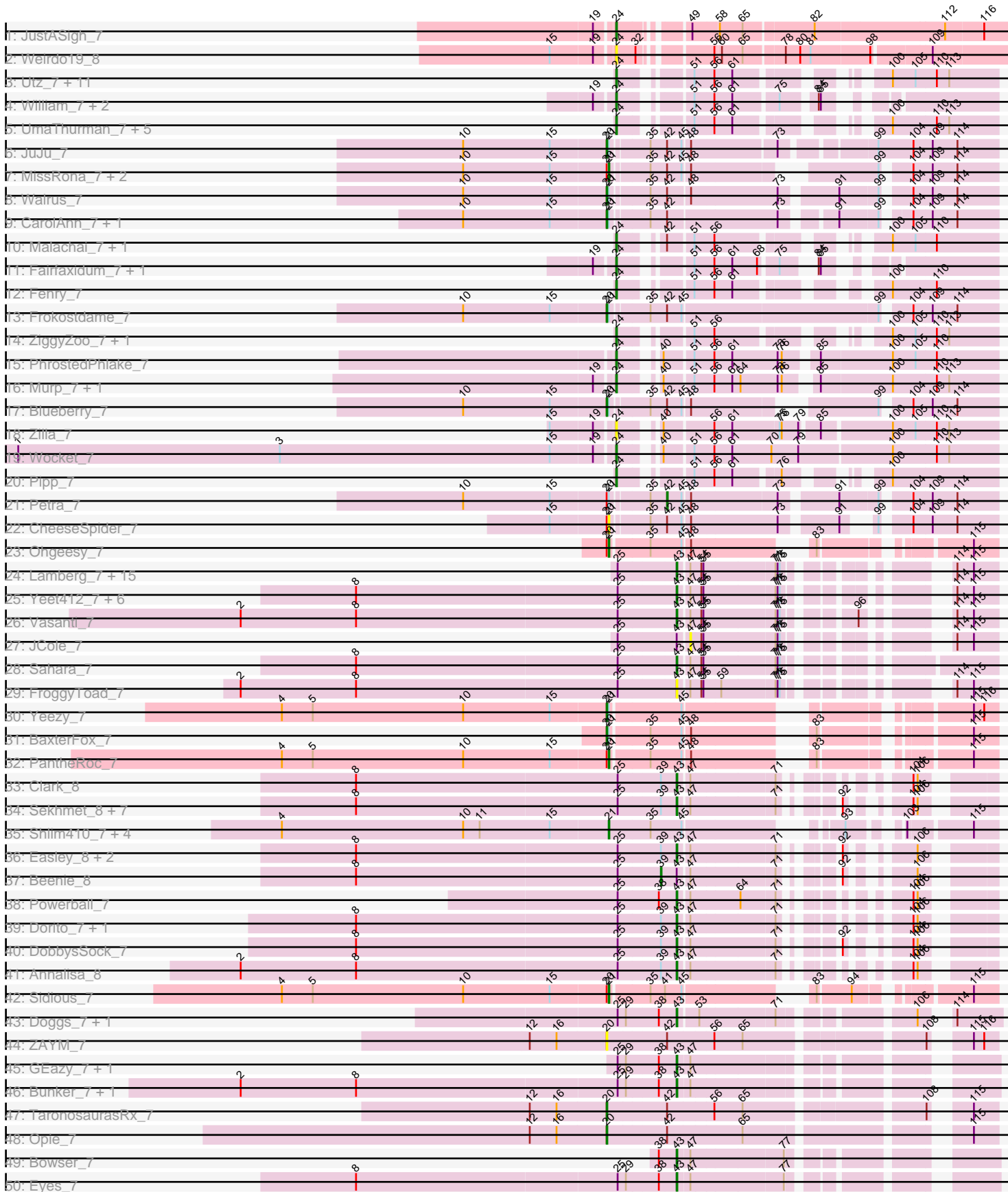
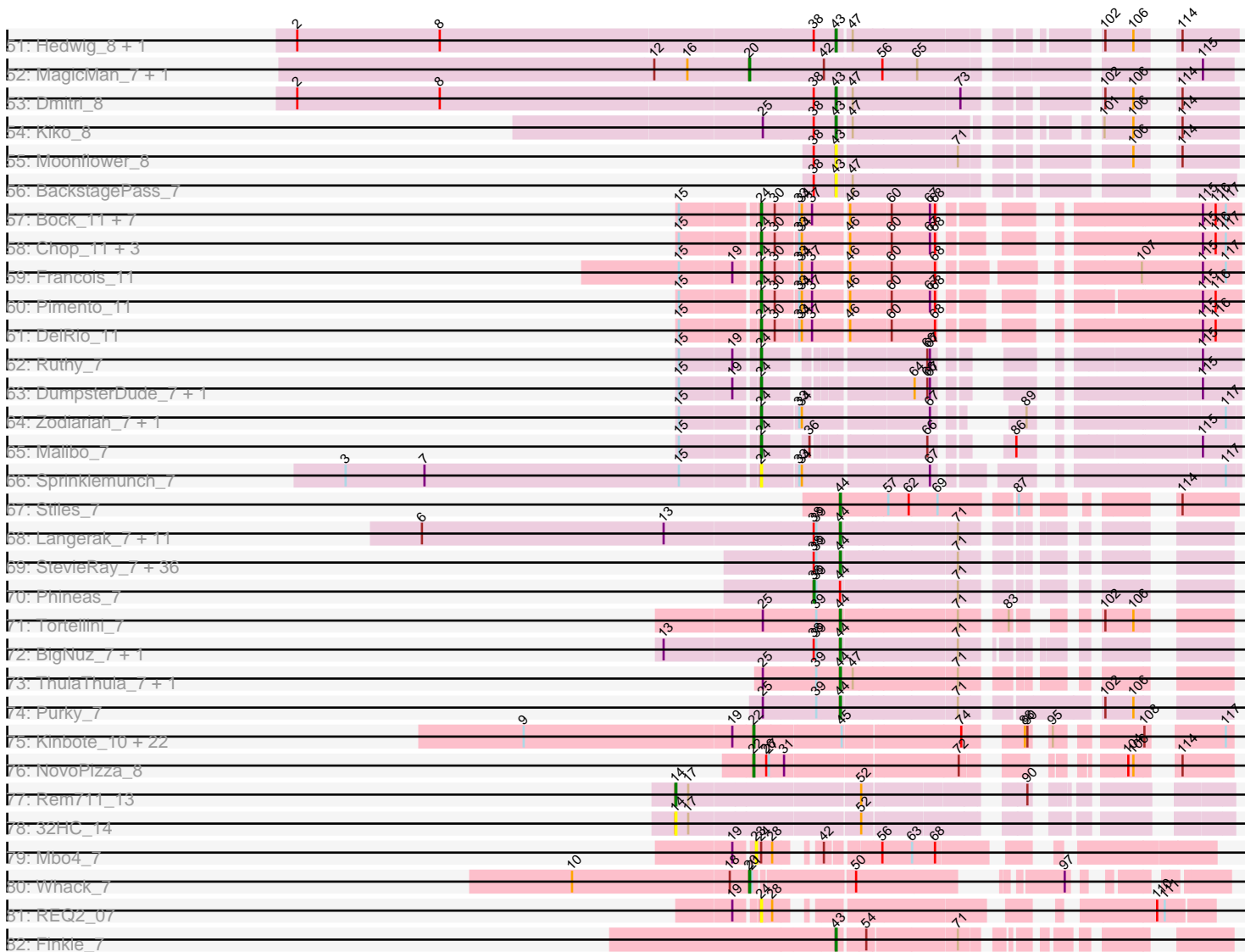


Pham 294414



Pham 294414



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 294414 Report

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

Pham number 294414 has 230 members, 24 are drafts.

Phages represented in each track:

- Track 1 : JustASigh\_7
- Track 2 : Weirido19\_8
- Track 3 : Utz\_7, Delian\_7, Zarbodnamra\_7, MintFen\_7, Guacamole\_7, CaptainKirk2\_7, Lysidious\_7, Melba\_7, Barco\_7, Wisp\_7, BlingBling\_7, JasperJr\_7
- Track 4 : William\_7, PCoral7\_7, Toast\_7
- Track 5 : UmaThurman\_7, Jalammah\_7, Mellie\_7, Samba\_7, Archis\_7, Hitter\_7
- Track 6 : JuJu\_7
- Track 7 : MissRona\_7, Azula\_7, Gambino\_7
- Track 8 : Walrus\_7
- Track 9 : CarolAnn\_7, Blino\_7
- Track 10 : Malachai\_7, Begonia\_7
- Track 11 : Fairfaxidum\_7, PrincePatrick\_7
- Track 12 : Fenry\_7
- Track 13 : Frokostdame\_7
- Track 14 : ZiggyZoo\_7, Obliviate\_7
- Track 15 : PhrostedPhlake\_7
- Track 16 : Murp\_7, KappaFarmDelta\_7
- Track 17 : Blueberry\_7
- Track 18 : Zilla\_7
- Track 19 : Wocket\_7
- Track 20 : Pipp\_7
- Track 21 : Petra\_7
- Track 22 : CheeseSpider\_7
- Track 23 : Ohgeesy\_7
- Track 24 : Lamberg\_7, TuertoX\_7, Jalleen\_7, Cynthia\_7, Clap\_7, GemG\_7, Denise\_7, Mocha12\_7, Gizermo\_7, Nettuno\_7, Ebert\_7, Savage\_7, Sproutie\_7, Haley23\_7, EdnaMode\_7, Whiteclaw\_7
- Track 25 : Yeet412\_7, Attis\_7, SoilAssassin\_7, Matteo\_7, Bjanes7\_7, Pickett\_7, LordFarquaad\_7
- Track 26 : Vasanti\_7
- Track 27 : JCole\_7
- Track 28 : Sahara\_7
- Track 29 : FroggyToad\_7
- Track 30 : Yeezy\_7
- Track 31 : BaxterFox\_7
- Track 32 : PantheRoc\_7
- Track 33 : Clark\_8

- Track 34 : Sekhmet\_8, Oregano\_8, Suerte\_7, Dolores\_8, Samman98\_8, Invecetra\_8, WinkNick\_8, Thimann\_8
- Track 35 : Shlim410\_7, Adora\_7, Hortense\_7, Howe\_7, Twinkle\_7
- Track 36 : Easley\_8, Tuti\_9, MichaelScott\_8
- Track 37 : Beenie\_8
- Track 38 : Powerball\_7
- Track 39 : Dorito\_7, PhriskyACE\_7
- Track 40 : DobbysSock\_7
- Track 41 : Annalisa\_8
- Track 42 : Sidious\_7
- Track 43 : Doggs\_7, Coriander\_8
- Track 44 : ZAYM\_7
- Track 45 : GEazy\_7, HannahD\_7
- Track 46 : Bunker\_7, BBQValindra\_7
- Track 47 : TaronosaurusRx\_7
- Track 48 : Opie\_7
- Track 49 : Bowser\_7
- Track 50 : Eyes\_7
- Track 51 : Hedwig\_8, DirtyBoi\_8
- Track 52 : MagicMan\_7, Schnabeltier\_7
- Track 53 : Dmitri\_8
- Track 54 : Kiko\_8
- Track 55 : Moonflower\_8
- Track 56 : BackstagePass\_7
- Track 57 : Bock\_11, Mulch\_11, WheatThin\_11, Nadeem\_11, BetterKatz\_11, Brylie\_11, Parada\_11, NancyRae\_11
- Track 58 : Chop\_11, Ayotoya\_11, GrandSlam\_11, Hamood\_11
- Track 59 : Francois\_11
- Track 60 : Pimento\_11
- Track 61 : DelRio\_11
- Track 62 : Ruthy\_7
- Track 63 : DumpsterDude\_7, ArchiDore\_7
- Track 64 : Zodiariah\_7, MakCheese\_7
- Track 65 : Malibo\_7
- Track 66 : Sprinklemunch\_7
- Track 67 : Stiles\_7
- Track 68 : Langerak\_7, Mangethe\_7, Majeke\_7, BronnyJr\_7, Donovan\_7, GaloreK\_7, Jebeks\_7, Sonah\_7, Arib1\_7, Phegasus\_7, Juniormint\_7, Techage\_7
- Track 69 : StevieRay\_7, Glaske\_7, Thespis\_7, Venti\_7, Dynamo\_7, Brusacoram\_7, Etoile\_7, Malithi\_7, Bunnies\_7, Atcoo\_7, Camster\_7, Chubbello\_7, Megiddo\_7, FirstPlacePfu\_7, Polkaroo\_7, Pygmy\_7, KilKor\_7, HUHilltop\_7, Necropolis\_7, StressBall\_7, Xavia\_7, Bhagsy\_7, Shipwreck\_7, Bartholomew\_7, Bogie\_7, CactusJack\_7, Zilizebeth\_7, PeanutPie\_7, Jung\_7, Willsammy\_7, Fishburne\_7, Phalm\_7, Kari\_7, Gavriela\_7, Ksquared\_7, Vidya\_7, GreaseLightnin\_7
- Track 70 : Phineas\_7
- Track 71 : Tortellini\_7
- Track 72 : BigNuz\_7, Nazo\_7
- Track 73 : ThulaThula\_7, Phayonce\_7
- Track 74 : Purky\_7
- Track 75 : Kinbote\_10, BloominB\_10, HH92\_10, Ein37\_10, OBUpride\_10, Daegal\_11, Amochick\_10, Luna22\_10, Ubuntu\_10, Evanesce\_10, DeepSoil15\_10, Gancho\_9, Dewey\_10, Amymech\_10, Gravaillia\_10, Forge\_10, Webster2\_10, Giles\_10, Wishmaker\_10, Luke\_10, Hail\_10, LilHazelNut\_10, Hadrien\_10

- Track 76 : NovoPizza\_8
- Track 77 : Rem711\_13
- Track 78 : 32HC\_14
- Track 79 : Mbo4\_7
- Track 80 : Whack\_7
- Track 81 : REQ2\_07
- Track 82 : Finkle\_7

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

The start number called the most often in the published annotations is 24, it was called in 53 of the 206 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ArchiDore\_7, Archis\_7, Ayotoya\_11, Barco\_7, Begonia\_7, BetterKatz\_11, BlingBling\_7, Bock\_11, Brylie\_11, CaptainKirk2\_7, Chop\_11, DelRio\_11, Delian\_7, DumpsterDude\_7, Fairfaxidum\_7, Fenry\_7, Francois\_11, GrandSlam\_11, Guacamole\_7, Hamood\_11, Hitter\_7, Jalammah\_7, JasperJr\_7, JustASigh\_7, KappaFarmDelta\_7, Lysidious\_7, MakCheese\_7, Malachai\_7, Malibo\_7, Melba\_7, Mellie\_7, MintFen\_7, Mulch\_11, Murp\_7, Nadeem\_11, NancyRae\_11, Obliviate\_7, PCoral7\_7, Parada\_11, PhrostedPhlake\_7, Pimento\_11, Pipp\_7, PrincePatrick\_7, REQ2\_07, Ruthy\_7, Samba\_7, Sprinklemunch\_7, Toast\_7, UmaThurman\_7, Utz\_7, Weirdo19\_8, WheatThin\_11, William\_7, Wisp\_7, Wocket\_7, Zarbodnamra\_7, ZiggyZoo\_7, Zilla\_7, Zodiariah\_7,

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

- Mbo4\_7,

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

- 32HC\_14, Adora\_7, Amochick\_10, Amymech\_10, Annalisa\_8, Arib1\_7, Atcoo\_7, Attis\_7, Azula\_7, BBQValindra\_7, BackstagePass\_7, Bartholomew\_7, BaxterFox\_7, Beenie\_8, Bhagsy\_7, BigNuz\_7, Bjaner7\_7, Blino\_7, BloominB\_10, Blueberry\_7, Bogie\_7, Bowser\_7, BronnyJr\_7, Brusacoram\_7, Bunker\_7, Bunnies\_7, CactusJack\_7, Camster\_7, CarolAnn\_7, CheeseSpider\_7, Chubbello\_7, Clap\_7, Clark\_8, Coriander\_8, Cynthia\_7, Daegal\_11, DeepSoil15\_10, Denise\_7, Dewey\_10, DirtyBoi\_8, Dmitri\_8, DobbysSock\_7, Doggs\_7, Dolores\_8, Donovan\_7, Dorito\_7, Dynamo\_7, Easley\_8, Ebert\_7, EdnaMode\_7, Ein37\_10, Etoile\_7, Evanesce\_10, Eyes\_7, Finkle\_7, FirstPlacePfu\_7, Fishburne\_7, Forge\_10, FroggyToad\_7, Frokostdame\_7, GEazy\_7, GaloreK\_7, Gambino\_7, Gancho\_9, Gavriela\_7, GemG\_7, Giles\_10, Gizermo\_7, Glaske\_7, Gravaillia\_10, GreaseLightnin\_7, HH92\_10, HUHilltop\_7, Hadrien\_10, Hail\_10, Haley23\_7, HannahD\_7, Hedwig\_8, Hortense\_7, Howe\_7, Invectra\_8, JCole\_7, Jalleen\_7, Jebeks\_7, JuJu\_7, Jung\_7, Juniormint\_7, Kari\_7, Kiko\_8, KilKor\_7, Kinbote\_10, Ksquared\_7, Lamberg\_7, Langerak\_7, LilHazelnut\_10, LordFarquaad\_7, Luke\_10, Luna22\_10, MagicMan\_7, Majeke\_7, Malithi\_7, Mangethe\_7, Matteo\_7, Megiddo\_7, MichaelScott\_8, MissRona\_7, Mocha12\_7, Moonflower\_8, Nazo\_7, Necropolis\_7, Nettuno\_7, NovoPizza\_8, OBUpride\_10, Ohgeesy\_7, Opie\_7, Oregano\_8, PantheRoc\_7, PeanutPie\_7, Petra\_7, Phalm\_7, Phayonce\_7, Phegasus\_7, Phineas\_7, PhriskyACE\_7, Pickett\_7, Polkaroo\_7, Powerball\_7, Purky\_7, Pygmy\_7, Rem711\_13, Sahara\_7, Samman98\_8, Savage\_7, Schnabeltier\_7, Sekhmet\_8, Shipwreck\_7,

Shlim410\_7, Sidious\_7, SoilAssassin\_7, Sonah\_7, Sproutie\_7, StevieRay\_7, Stiles\_7, StressBall\_7, Suerte\_7, TaronosaurusRx\_7, Techage\_7, Thespis\_7, Thimann\_8, ThulaThula\_7, Tortellini\_7, TuertoX\_7, Tuti\_9, Twinkle\_7, Ubuntu\_10, Vasanti\_7, Venti\_7, Vidya\_7, Walrus\_7, Webster2\_10, Whack\_7, Whiteclaw\_7, Willsammy\_7, WinkNick\_8, Wishmaker\_10, Xavia\_7, Yeet412\_7, Yeezy\_7, ZAYM\_7, Zilizebeth\_7,

### Summary by start number:

#### Start 14:

- Found in 2 of 230 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC\_14 (Z), Rem711\_13 (Z),

#### Start 20:

- Found in 22 of 230 ( 9.6% ) of genes in pham
- Manual Annotations of this start: 13 of 206
- Called 63.6% of time when present
- Phage (with cluster) where this start called: BaxterFox\_7 (CZ3), Blino\_7 (CV), Blueberry\_7 (CV), CarolAnn\_7 (CV), Frokostdame\_7 (CV), JuJu\_7 (CV), MagicMan\_7 (DB), Opie\_7 (DB), Schnabeltier\_7 (DB), TaronosaurusRx\_7 (DB), Walrus\_7 (CV), Whack\_7 (singleton), Yeezy\_7 (CZ3), ZAYM\_7 (DB),

#### Start 21:

- Found in 22 of 230 ( 9.6% ) of genes in pham
- Manual Annotations of this start: 11 of 206
- Called 54.5% of time when present
- Phage (with cluster) where this start called: Adora\_7 (CZ4), Azula\_7 (CV), CheeseSpider\_7 (CV), Gambino\_7 (CV), Hortense\_7 (CZ4), Howe\_7 (CZ4), MissRona\_7 (CV), Ohgeesy\_7 (CZ), PantheRoc\_7 (CZ3), Shlim410\_7 (CZ4), Sidious\_7 (CZ7), Twinkle\_7 (CZ4),

#### Start 22:

- Found in 24 of 230 ( 10.4% ) of genes in pham
- Manual Annotations of this start: 23 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amochick\_10 (Q), Amymech\_10 (Q), BloominB\_10 (Q), Daegal\_11 (Q), DeepSoil15\_10 (Q), Dewey\_10 (Q), Ein37\_10 (Q), Evanesce\_10 (Q), Forge\_10 (Q), Gancho\_9 (Q), Giles\_10 (Q), Gravallia\_10 (Q), HH92\_10 (Q), Hadrien\_10 (Q), Hail\_10 (Q), Kinbote\_10 (Q), LilHazelNut\_10 (Q), Luke\_10 (Q), Luna22\_10 (Q), NovoPizza\_8 (Q), OBUpride\_10 (Q), Ubuntu\_10 (Q), Webster2\_10 (Q), Wishmaker\_10 (Q),

#### Start 23:

- Found in 1 of 230 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mbo4\_7 (singleton),

#### Start 24:

- Found in 60 of 230 ( 26.1% ) of genes in pham
- Manual Annotations of this start: 53 of 206

- Called 98.3% of time when present
- Phage (with cluster) where this start called: ArchiDore\_7 (DW), Archis\_7 (CV), Ayotoya\_11 (DI), Barco\_7 (CV), Begonia\_7 (CV), BetterKatz\_11 (DI), BlingBling\_7 (CV), Bock\_11 (DI), Brylie\_11 (DI), CaptainKirk2\_7 (CV), Chop\_11 (DI), DelRio\_11 (DI), Delian\_7 (CV), DumpsterDude\_7 (DW), Fairfaxidum\_7 (CV), Fenry\_7 (CV), Francois\_11 (DI), GrandSlam\_11 (DI), Guacamole\_7 (CV), Hamood\_11 (DI), Hitter\_7 (CV), Jalammah\_7 (CV), JasperJr\_7 (CV), JustASigh\_7 (AH), KappaFarmDelta\_7 (CV), Lysidious\_7 (CV), MakCheese\_7 (DW), Malachai\_7 (CV), Malibo\_7 (DW), Melba\_7 (CV), Mellie\_7 (CV), MintFen\_7 (CV), Mulch\_11 (DI), Murp\_7 (CV), Nadeem\_11 (DI), NancyRae\_11 (DI), Obliviate\_7 (CV), PCoral7\_7 (CV), Parada\_11 (DI), PhrostedPhlake\_7 (CV), Pimento\_11 (DI), Pipp\_7 (CV), PrincePatrick\_7 (CV), REQ2\_07 (singleton), Ruthy\_7 (DW), Samba\_7 (CV), Sprinklemunch\_7 (DW), Toast\_7 (CV), UmaThurman\_7 (CV), Utz\_7 (CV), Weirdo19\_8 (AH), WheatThin\_11 (DI), William\_7 (CV), Wisp\_7 (CV), Wocket\_7 (CV), Zarbodnamra\_7 (CV), ZiggyZoo\_7 (CV), Zilla\_7 (CV), Zodiariah\_7 (DW),

#### Start 38:

- Found in 67 of 230 ( 29.1% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Phineas\_7 (P1),

#### Start 39:

- Found in 73 of 230 ( 31.7% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 1.4% of time when present
- Phage (with cluster) where this start called: Beenie\_8 (CZ4),

#### Start 42:

- Found in 19 of 230 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Petra\_7 (CV),

#### Start 43:

- Found in 60 of 230 ( 26.1% ) of genes in pham
- Manual Annotations of this start: 52 of 206
- Called 96.7% of time when present
- Phage (with cluster) where this start called: Annalisa\_8 (CZ4), Attis\_7 (CZ2), BBQValindra\_7 (DB), BackstagePass\_7 (DB), Bjaner7\_7 (CZ2), Bowser\_7 (DB), Bunker\_7 (DB), Clap\_7 (CZ2), Clark\_8 (CZ4), Coriander\_8 (DB), Cynthia\_7 (CZ2), Denise\_7 (CZ5), DirtyBoi\_8 (DB), Dmitri\_8 (DB), DobbysSock\_7 (CZ4), Doggs\_7 (DB), Dolores\_8 (CZ4), Dorito\_7 (CZ4), Easley\_8 (CZ4), Ebert\_7 (CZ2), EdnaMode\_7 (CZ2), Eyes\_7 (DB), Finkle\_7 (singleton), FroggyToad\_7 (CZ2), GEazy\_7 (DB), GemG\_7 (CZ2), Gizermo\_7 (CZ2), Haley23\_7 (CZ2), HannahD\_7 (DB), Hedwig\_8 (DB), Invectra\_8 (CZ4), Jalleen\_7 (CZ2), Kiko\_8 (DB), Lamberg\_7 (CZ2), LordFarquaad\_7 (CZ2), Matteo\_7 (CZ2), MichaelScott\_8 (CZ4), Mocha12\_7 (CZ2), Moonflower\_8 (DB), Nettuno\_7 (CZ2), Oregano\_8 (CZ4), PhriskyACE\_7 (CZ4), Pickett\_7 (CZ2), Powerball\_7 (CZ4), Sahara\_7 (CZ2), Samman98\_8 (CZ4), Savage\_7 (CZ2), Sekhmet\_8 (CZ4), SoilAssassin\_7 (CZ2), Sproutie\_7 (CZ2), Suerte\_7 (CZ4), Thimann\_8 (CZ4), TuertoX\_7 (CZ2), Tuti\_9 (CZ4), Vasanti\_7 (CZ2), Whiteclaw\_7 (CZ2), WinkNick\_8 (CZ4), Yeet412\_7 (CZ2),

#### Start 44:

- Found in 57 of 230 ( 24.8% ) of genes in pham
- Manual Annotations of this start: 50 of 206
- Called 98.2% of time when present
- Phage (with cluster) where this start called: Arib1\_7 (P1), Atcoo\_7 (P1), Bartholomew\_7 (P1), Bhagsy\_7 (P1), BigNuz\_7 (P4), Bogie\_7 (P1), BronnyJr\_7 (P1), Brusacoram\_7 (P1), Bunnies\_7 (P1), CactusJack\_7 (P1), Camster\_7 (P1), Chubbello\_7 (P1), Donovan\_7 (P1), Dynamo\_7 (P1), Etoile\_7 (P1), FirstPlacePfu\_7 (P1), Fishburne\_7 (P1), GaloreK\_7 (P1), Gavriela\_7 (P1), Glaske\_7 (P1), GreaseLightnin\_7 (P1), HUHilltop\_7 (P1), Jebeks\_7 (P1), Jung\_7 (P1), Juniormint\_7 (P1), Kari\_7 (P1), KilKor\_7 (P1), Ksquared\_7 (P1), Langerak\_7 (P1), Majeke\_7 (P1), Malithi\_7 (P1), Mangethe\_7 (P1), Megiddo\_7 (P1), Nazo\_7 (P4), Necropolis\_7 (P1), PeanutPie\_7 (P1), Phalm\_7 (P1), Phayonce\_7 (P5), Pegasus\_7 (P1), Polkaroo\_7 (P1), Purky\_7 (P6), Pygmy\_7 (P1), Shipwreck\_7 (P1), Sonah\_7 (P1), StevieRay\_7 (P1), Stiles\_7 (EP), StressBall\_7 (P1), Techage\_7 (P1), Thespis\_7 (P1), ThulaThula\_7 (P5), Tortellini\_7 (P2), Venti\_7 (P1), Vidya\_7 (P1), Willsammy\_7 (P1), Xavia\_7 (P3), Zilizebeth\_7 (P1),

#### Start 47:

- Found in 58 of 230 ( 25.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.7% of time when present
- Phage (with cluster) where this start called: JCole\_7 (CZ2),

#### Summary by clusters:

There are 21 clusters represented in this pham: P2, P3, singleton, P1, P6, P4, DI, CZ2, CZ3, P5, DB, CZ7, CZ4, CZ5, Q, CZ, AH, DW, Z, CV, EP,

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

- Start number 24 was manually annotated 1 time for cluster AH.

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

- Start number 20 was manually annotated 6 times for cluster CV.
- Start number 21 was manually annotated 3 times for cluster CV.
- Start number 24 was manually annotated 32 times for cluster CV.
- Start number 42 was manually annotated 1 time for cluster CV.

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

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

#### Info for manual annotations of cluster CZ2:

- Start number 43 was manually annotated 23 times for cluster CZ2.

#### Info for manual annotations of cluster CZ3:

- Start number 20 was manually annotated 2 times for cluster CZ3.
- Start number 21 was manually annotated 1 time for cluster CZ3.

#### Info for manual annotations of cluster CZ4:

- Start number 21 was manually annotated 5 times for cluster CZ4.
- Start number 39 was manually annotated 1 time for cluster CZ4.
- Start number 43 was manually annotated 15 times for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 43 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ7:

- Start number 21 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster DB:

- Start number 20 was manually annotated 4 times for cluster DB.
- Start number 43 was manually annotated 12 times for cluster DB.

Info for manual annotations of cluster DI:

- Start number 24 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DW:

- Start number 24 was manually annotated 5 times for cluster DW.

Info for manual annotations of cluster EP:

- Start number 44 was manually annotated 1 time for cluster EP.

Info for manual annotations of cluster P1:

- Start number 38 was manually annotated 1 time for cluster P1.
- Start number 44 was manually annotated 42 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 44 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 44 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 44 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 44 was manually annotated 2 times for cluster P5.

Info for manual annotations of cluster P6:

- Start number 44 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster Q:

- Start number 22 was manually annotated 23 times for cluster Q.

Info for manual annotations of cluster Z:

- Start number 14 was manually annotated 1 time for cluster Z.

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

Gene: 32HC\_14 Start: 9194, Stop: 9727, Start Num: 14

Candidate Starts for 32HC\_14:

(Start: 14 @9194 has 1 MA's), (17, 9209), (52, 9401),

Gene: Adora\_7 Start: 5836, Stop: 6276, Start Num: 21

Candidate Starts for Adora\_7:

(4, 5365), (10, 5629), (11, 5653), (15, 5755), (Start: 21 @5836 has 11 MA's), (35, 5896), (45, 5941), (93, 6106), (103, 6157), (115, 6241),

Gene: Amochick\_10 Start: 7533, Stop: 7973, Start Num: 22

Candidate Starts for Amochick\_10:

(9, 7266), (19, 7509), (Start: 22 @7533 has 23 MA's), (45, 7629), (74, 7758), (88, 7806), (90, 7809), (95, 7818), (108, 7899), (117, 7965),

Gene: Amymech\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Amymech\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Annalisa\_8 Start: 6265, Stop: 6591, Start Num: 43

Candidate Starts for Annalisa\_8:

(2, 5638), (8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (104, 6502), (106, 6508),

Gene: ArchiDore\_7 Start: 6345, Stop: 6746, Start Num: 24

Candidate Starts for ArchiDore\_7:

(15, 6261), (19, 6321), (Start: 24 @6345 has 53 MA's), (64, 6480), (66, 6495), (67, 6498), (115, 6702),

Gene: Archis\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Archis\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (110, 6481), (113, 6499),

Gene: Arib1\_7 Start: 6243, Stop: 6590, Start Num: 44

Candidate Starts for Arib1\_7:

(6, 5760), (13, 6045), (Start: 38 @6216 has 1 MA's), (Start: 39 @6219 has 1 MA's), (Start: 44 @6243 has 50 MA's), (71, 6372),

Gene: Atcoo\_7 Start: 6226, Stop: 6576, Start Num: 44

Candidate Starts for Atcoo\_7:

(Start: 38 @6199 has 1 MA's), (Start: 39 @6202 has 1 MA's), (Start: 44 @6226 has 50 MA's), (71, 6355),

Gene: Attis\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Attis\_7:

(8, 5315), (25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Ayotoya\_11 Start: 8058, Stop: 8519, Start Num: 24

Candidate Starts for Ayotoya\_11:

(15, 7974), (Start: 24 @8058 has 53 MA's), (30, 8073), (33, 8097), (34, 8100), (46, 8148), (60, 8190), (67, 8235), (68, 8241), (115, 8475), (116, 8490), (117, 8502),

Gene: Azula\_7 Start: 5970, Stop: 6446, Start Num: 21

Candidate Starts for Azula\_7:

(10, 5763), (15, 5889), (Start: 20 @5967 has 13 MA's), (Start: 21 @5970 has 11 MA's), (35, 6021), (Start: 42 @6045 has 1 MA's), (45, 6066), (48, 6075), (99, 6291), (104, 6324), (109, 6351), (114, 6387),

Gene: BBQValindra\_7 Start: 6114, Stop: 6488, Start Num: 43  
Candidate Starts for BBQValindra\_7:  
(2, 5490), (8, 5658), (25, 6033), (29, 6045), (Start: 38 @6090 has 1 MA's), (Start: 43 @6114 has 52 MA's), (47, 6129),

Gene: BackstagePass\_7 Start: 6091, Stop: 6465, Start Num: 43  
Candidate Starts for BackstagePass\_7:  
(Start: 38 @6067 has 1 MA's), (Start: 43 @6091 has 52 MA's), (47, 6106),

Gene: Barco\_7 Start: 6142, Stop: 6570, Start Num: 24  
Candidate Starts for Barco\_7:  
(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: Bartholomew\_7 Start: 6238, Stop: 6588, Start Num: 44  
Candidate Starts for Bartholomew\_7:  
(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: BaxterFox\_7 Start: 5821, Stop: 6270, Start Num: 20  
Candidate Starts for BaxterFox\_7:  
(Start: 20 @5821 has 13 MA's), (Start: 21 @5824 has 11 MA's), (35, 5875), (45, 5920), (48, 5929), (83, 6058), (115, 6235),

Gene: Beenie\_8 Start: 6244, Stop: 6585, Start Num: 39  
Candidate Starts for Beenie\_8:  
(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (106, 6502),

Gene: Begonia\_7 Start: 6145, Stop: 6573, Start Num: 24  
Candidate Starts for Begonia\_7:  
(Start: 24 @6145 has 53 MA's), (Start: 42 @6187 has 1 MA's), (51, 6220), (56, 6247), (100, 6421), (105, 6454), (110, 6484),

Gene: BetterKatz\_11 Start: 8026, Stop: 8487, Start Num: 24  
Candidate Starts for BetterKatz\_11:  
(15, 7942), (Start: 24 @8026 has 53 MA's), (30, 8041), (33, 8065), (34, 8068), (37, 8080), (46, 8116), (60, 8158), (67, 8203), (68, 8209), (115, 8443), (116, 8458), (117, 8470),

Gene: Bhagsy\_7 Start: 6229, Stop: 6579, Start Num: 44  
Candidate Starts for Bhagsy\_7:  
(Start: 38 @6202 has 1 MA's), (Start: 39 @6205 has 1 MA's), (Start: 44 @6229 has 50 MA's), (71, 6358),

Gene: BigNuz\_7 Start: 6216, Stop: 6557, Start Num: 44  
Candidate Starts for BigNuz\_7:  
(13, 6018), (Start: 38 @6189 has 1 MA's), (Start: 39 @6192 has 1 MA's), (Start: 44 @6216 has 50 MA's), (71, 6345),

Gene: Bjaner7\_7 Start: 5774, Stop: 6121, Start Num: 43  
Candidate Starts for Bjaner7\_7:  
(8, 5315), (25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: BlingBling\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for BlingBling\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: Blino\_7 Start: 5970, Stop: 6470, Start Num: 20

Candidate Starts for Blino\_7:

(10, 5766), (15, 5892), (Start: 20 @5970 has 13 MA's), (Start: 21 @5973 has 11 MA's), (35, 6024), (Start: 42 @6048 has 1 MA's), (73, 6201), (91, 6264), (99, 6318), (104, 6348), (109, 6375), (114, 6411),

Gene: BloominB\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for BloominB\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Blueberry\_7 Start: 5967, Stop: 6446, Start Num: 20

Candidate Starts for Blueberry\_7:

(10, 5763), (15, 5889), (Start: 20 @5967 has 13 MA's), (Start: 21 @5970 has 11 MA's), (35, 6021), (Start: 42 @6045 has 1 MA's), (45, 6066), (48, 6075), (99, 6291), (104, 6324), (109, 6351), (114, 6387),

Gene: Bock\_11 Start: 7776, Stop: 8237, Start Num: 24

Candidate Starts for Bock\_11:

(15, 7692), (Start: 24 @7776 has 53 MA's), (30, 7791), (33, 7815), (34, 7818), (37, 7830), (46, 7866), (60, 7908), (67, 7953), (68, 7959), (115, 8193), (116, 8208), (117, 8220),

Gene: Bogie\_7 Start: 6226, Stop: 6576, Start Num: 44

Candidate Starts for Bogie\_7:

(Start: 38 @6199 has 1 MA's), (Start: 39 @6202 has 1 MA's), (Start: 44 @6226 has 50 MA's), (71, 6355),

Gene: Bowser\_7 Start: 6112, Stop: 6486, Start Num: 43

Candidate Starts for Bowser\_7:

(Start: 38 @6088 has 1 MA's), (Start: 43 @6112 has 52 MA's), (47, 6127), (77, 6256),

Gene: BronnyJr\_7 Start: 6246, Stop: 6593, Start Num: 44

Candidate Starts for BronnyJr\_7:

(6, 5763), (13, 6048), (Start: 38 @6219 has 1 MA's), (Start: 39 @6222 has 1 MA's), (Start: 44 @6246 has 50 MA's), (71, 6375),

Gene: Brusacoram\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for Brusacoram\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: Brylie\_11 Start: 7773, Stop: 8234, Start Num: 24

Candidate Starts for Brylie\_11:

(15, 7689), (Start: 24 @7773 has 53 MA's), (30, 7788), (33, 7812), (34, 7815), (37, 7827), (46, 7863), (60, 7905), (67, 7950), (68, 7956), (115, 8190), (116, 8205), (117, 8217),

Gene: Bunker\_7 Start: 6114, Stop: 6488, Start Num: 43

Candidate Starts for Bunker\_7:

(2, 5490), (8, 5658), (25, 6033), (29, 6045), (Start: 38 @6090 has 1 MA's), (Start: 43 @6114 has 52 MA's), (47, 6129),

Gene: Bunnies\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Bunnies\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: CactusJack\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for CactusJack\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: Camster\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Camster\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: CaptainKirk2\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for CaptainKirk2\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: CarolAnn\_7 Start: 5969, Stop: 6469, Start Num: 20

Candidate Starts for CarolAnn\_7:

(10, 5765), (15, 5891), (Start: 20 @5969 has 13 MA's), (Start: 21 @5972 has 11 MA's), (35, 6023), (Start: 42 @6047 has 1 MA's), (73, 6200), (91, 6263), (99, 6317), (104, 6347), (109, 6374), (114, 6410),

Gene: CheeseSpider\_7 Start: 5970, Stop: 6446, Start Num: 21

Candidate Starts for CheeseSpider\_7:

(15, 5889), (Start: 20 @5967 has 13 MA's), (Start: 21 @5970 has 11 MA's), (35, 6021), (Start: 42 @6045 has 1 MA's), (45, 6066), (48, 6075), (73, 6198), (91, 6270), (99, 6291), (104, 6324), (109, 6351), (114, 6387),

Gene: Chop\_11 Start: 7806, Stop: 8267, Start Num: 24

Candidate Starts for Chop\_11:

(15, 7722), (Start: 24 @7806 has 53 MA's), (30, 7821), (33, 7845), (34, 7848), (46, 7896), (60, 7938), (67, 7983), (68, 7989), (115, 8223), (116, 8238), (117, 8250),

Gene: Chubbello\_7 Start: 6237, Stop: 6587, Start Num: 44

Candidate Starts for Chubbello\_7:

(Start: 38 @6210 has 1 MA's), (Start: 39 @6213 has 1 MA's), (Start: 44 @6237 has 50 MA's), (71, 6366),

Gene: Clap\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Clap\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Clark\_8 Start: 6265, Stop: 6591, Start Num: 43

Candidate Starts for Clark\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (104, 6502), (106, 6508),

Gene: Coriander\_8 Start: 6499, Stop: 6873, Start Num: 43

Candidate Starts for Coriander\_8:

(25, 6418), (29, 6430), (Start: 38 @6475 has 1 MA's), (Start: 43 @6499 has 52 MA's), (53, 6523), (71, 6628), (106, 6784), (114, 6808),

Gene: Cynthia\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Cynthia\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Daegal\_11 Start: 7830, Stop: 8270, Start Num: 22

Candidate Starts for Daegal\_11:

(9, 7563), (19, 7806), (Start: 22 @7830 has 23 MA's), (45, 7926), (74, 8055), (88, 8103), (90, 8106), (95, 8115), (108, 8196), (117, 8262),

Gene: DeepSoil15\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for DeepSoil15\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: DelRio\_11 Start: 8070, Stop: 8531, Start Num: 24

Candidate Starts for DelRio\_11:

(15, 7986), (Start: 24 @8070 has 53 MA's), (30, 8085), (33, 8109), (34, 8112), (37, 8124), (46, 8160), (60, 8202), (68, 8253), (115, 8487), (116, 8502),

Gene: Delian\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Delian\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: Denise\_7 Start: 5783, Stop: 6130, Start Num: 43

Candidate Starts for Denise\_7:

(25, 5702), (Start: 43 @5783 has 52 MA's), (47, 5795), (54, 5810), (55, 5813), (71, 5912), (73, 5915), (75, 5918), (114, 6071), (115, 6095),

Gene: Dewey\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Dewey\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: DirtyBoi\_8 Start: 6478, Stop: 6846, Start Num: 43

Candidate Starts for DirtyBoi\_8:

(2, 5854), (8, 6022), (Start: 38 @6454 has 1 MA's), (Start: 43 @6478 has 52 MA's), (47, 6490), (102, 6724), (106, 6757), (114, 6781),

Gene: Dmitri\_8 Start: 6478, Stop: 6855, Start Num: 43

Candidate Starts for Dmitri\_8:

(2, 5854), (8, 6022), (Start: 38 @6454 has 1 MA's), (Start: 43 @6478 has 52 MA's), (47, 6490), (73, 6610), (102, 6733), (106, 6766), (114, 6790),

Gene: DobbysSock\_7 Start: 5763, Stop: 6083, Start Num: 43

Candidate Starts for DobbysSock\_7:

(8, 5304), (25, 5682), (Start: 39 @5742 has 1 MA's), (Start: 43 @5763 has 52 MA's), (47, 5775), (71, 5892), (92, 5940), (104, 5994), (106, 6000),

Gene: Doggs\_7 Start: 6196, Stop: 6570, Start Num: 43

Candidate Starts for Doggs\_7:

(25, 6115), (29, 6127), (Start: 38 @6172 has 1 MA's), (Start: 43 @6196 has 52 MA's), (53, 6220), (71, 6325), (106, 6481), (114, 6505),

Gene: Dolores\_8 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for Dolores\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (104, 6496), (106, 6502),

Gene: Donovan\_7 Start: 6243, Stop: 6590, Start Num: 44

Candidate Starts for Donovan\_7:

(6, 5760), (13, 6045), (Start: 38 @6216 has 1 MA's), (Start: 39 @6219 has 1 MA's), (Start: 44 @6243 has 50 MA's), (71, 6372),

Gene: Dorito\_7 Start: 5763, Stop: 6089, Start Num: 43

Candidate Starts for Dorito\_7:

(8, 5304), (25, 5682), (Start: 39 @5742 has 1 MA's), (Start: 43 @5763 has 52 MA's), (47, 5775), (71, 5892), (104, 6000), (106, 6006),

Gene: DumpsterDude\_7 Start: 6346, Stop: 6756, Start Num: 24

Candidate Starts for DumpsterDude\_7:

(15, 6262), (19, 6322), (Start: 24 @6346 has 53 MA's), (64, 6481), (66, 6496), (67, 6499), (115, 6712),

Gene: Dynamo\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Dynamo\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Easley\_8 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for Easley\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (106, 6502),

Gene: Ebert\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Ebert\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: EdnaMode\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for EdnaMode\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Ein37\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Ein37\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Etoile\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Etoile\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Evanesce\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Evanesce\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Eyes\_7 Start: 6121, Stop: 6495, Start Num: 43

Candidate Starts for Eyes\_7:

(8, 5665), (25, 6040), (29, 6052), (Start: 38 @6097 has 1 MA's), (Start: 43 @6121 has 52 MA's), (47, 6136), (77, 6265),

Gene: Fairfaxidum\_7 Start: 6141, Stop: 6554, Start Num: 24

Candidate Starts for Fairfaxidum\_7:

(19, 6114), (Start: 24 @6141 has 53 MA's), (51, 6216), (56, 6243), (61, 6267), (68, 6303), (75, 6327), (84, 6354), (85, 6357),

Gene: Fenry\_7 Start: 6145, Stop: 6579, Start Num: 24

Candidate Starts for Fenry\_7:

(Start: 24 @6145 has 53 MA's), (51, 6220), (56, 6247), (61, 6271), (100, 6427), (110, 6490),

Gene: Finkle\_7 Start: 5910, Stop: 6254, Start Num: 43

Candidate Starts for Finkle\_7:

(Start: 43 @5910 has 52 MA's), (54, 5937), (71, 6036),

Gene: FirstPlacePfu\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for FirstPlacePfu\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Fishburne\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Fishburne\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Forge\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Forge\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Francois\_11 Start: 7775, Stop: 8248, Start Num: 24

Candidate Starts for Francois\_11:

(15, 7691), (19, 7751), (Start: 24 @7775 has 53 MA's), (30, 7790), (33, 7814), (34, 7817), (37, 7829), (46, 7865), (60, 7907), (68, 7958), (107, 8135), (115, 8204), (117, 8231),

Gene: FroggyToad\_7 Start: 5775, Stop: 6122, Start Num: 43

Candidate Starts for FroggyToad\_7:

(2, 5148), (8, 5316), (25, 5694), (Start: 43 @5775 has 52 MA's), (47, 5787), (54, 5802), (55, 5805), (59, 5829), (71, 5904), (73, 5907), (75, 5910), (114, 6063), (115, 6087),

Gene: Frokostdame\_7 Start: 6038, Stop: 6565, Start Num: 20

Candidate Starts for Frokostdame\_7:

(10, 5834), (15, 5960), (Start: 20 @6038 has 13 MA's), (Start: 21 @6041 has 11 MA's), (35, 6092), (Start: 42 @6116 has 1 MA's), (45, 6137), (99, 6410), (104, 6443), (109, 6470), (114, 6506),

Gene: GEazy\_7 Start: 6123, Stop: 6497, Start Num: 43

Candidate Starts for GEazy\_7:

(25, 6042), (29, 6054), (Start: 38 @6099 has 1 MA's), (Start: 43 @6123 has 52 MA's), (47, 6138),

Gene: GaloreK\_7 Start: 6244, Stop: 6591, Start Num: 44

Candidate Starts for GaloreK\_7:

(6, 5761), (13, 6046), (Start: 38 @6217 has 1 MA's), (Start: 39 @6220 has 1 MA's), (Start: 44 @6244 has 50 MA's), (71, 6373),

Gene: Gambino\_7 Start: 5970, Stop: 6446, Start Num: 21

Candidate Starts for Gambino\_7:

(10, 5763), (15, 5889), (Start: 20 @5967 has 13 MA's), (Start: 21 @5970 has 11 MA's), (35, 6021), (Start: 42 @6045 has 1 MA's), (45, 6066), (48, 6075), (99, 6291), (104, 6324), (109, 6351), (114, 6387),

Gene: Gancho\_9 Start: 7239, Stop: 7679, Start Num: 22

Candidate Starts for Gancho\_9:

(9, 6972), (19, 7215), (Start: 22 @7239 has 23 MA's), (45, 7335), (74, 7464), (88, 7512), (90, 7515), (95, 7524), (108, 7605), (117, 7671),

Gene: Gavriela\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for Gavriela\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: GemG\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for GemG\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Giles\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Giles\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Gizermo\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Gizermo\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Glaske\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for Glaske\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: GrandSlam\_11 Start: 7806, Stop: 8267, Start Num: 24

Candidate Starts for GrandSlam\_11:

(15, 7722), (Start: 24 @7806 has 53 MA's), (30, 7821), (33, 7845), (34, 7848), (46, 7896), (60, 7938), (67, 7983), (68, 7989), (115, 8223), (116, 8238), (117, 8250),

Gene: Gravaillia\_10 Start: 7272, Stop: 7712, Start Num: 22  
Candidate Starts for Gravaillia\_10:  
(9, 7005), (19, 7248), (Start: 22 @7272 has 23 MA's), (45, 7368), (74, 7497), (88, 7545), (90, 7548),  
(95, 7557), (108, 7638), (117, 7704),

Gene: GreaseLightnin\_7 Start: 6238, Stop: 6588, Start Num: 44  
Candidate Starts for GreaseLightnin\_7:  
(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71,  
6367),

Gene: Guacamole\_7 Start: 6146, Stop: 6574, Start Num: 24  
Candidate Starts for Guacamole\_7:  
(Start: 24 @6146 has 53 MA's), (51, 6221), (56, 6248), (61, 6272), (100, 6422), (105, 6455), (110,  
6485), (113, 6503),

Gene: HH92\_10 Start: 7539, Stop: 7979, Start Num: 22  
Candidate Starts for HH92\_10:  
(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815),  
(95, 7824), (108, 7905), (117, 7971),

Gene: HUHilltop\_7 Start: 6238, Stop: 6588, Start Num: 44  
Candidate Starts for HUHilltop\_7:  
(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71,  
6367),

Gene: Hadrien\_10 Start: 7539, Stop: 7979, Start Num: 22  
Candidate Starts for Hadrien\_10:  
(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815),  
(95, 7824), (108, 7905), (117, 7971),

Gene: Hail\_10 Start: 7539, Stop: 7979, Start Num: 22  
Candidate Starts for Hail\_10:  
(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815),  
(95, 7824), (108, 7905), (117, 7971),

Gene: Haley23\_7 Start: 5774, Stop: 6121, Start Num: 43  
Candidate Starts for Haley23\_7:  
(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906),  
(75, 5909), (114, 6062), (115, 6086),

Gene: Hamood\_11 Start: 7806, Stop: 8267, Start Num: 24  
Candidate Starts for Hamood\_11:  
(15, 7722), (Start: 24 @7806 has 53 MA's), (30, 7821), (33, 7845), (34, 7848), (46, 7896), (60, 7938),  
(67, 7983), (68, 7989), (115, 8223), (116, 8238), (117, 8250),

Gene: HannahD\_7 Start: 6123, Stop: 6497, Start Num: 43  
Candidate Starts for HannahD\_7:  
(25, 6042), (29, 6054), (Start: 38 @6099 has 1 MA's), (Start: 43 @6123 has 52 MA's), (47, 6138),

Gene: Hedwig\_8 Start: 6478, Stop: 6846, Start Num: 43  
Candidate Starts for Hedwig\_8:  
(2, 5854), (8, 6022), (Start: 38 @6454 has 1 MA's), (Start: 43 @6478 has 52 MA's), (47, 6490), (102,  
6724), (106, 6757), (114, 6781),

Gene: Hitter\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Hitter\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (110, 6481), (113, 6499),

Gene: Hortense\_7 Start: 5836, Stop: 6276, Start Num: 21

Candidate Starts for Hortense\_7:

(4, 5365), (10, 5629), (11, 5653), (15, 5755), (Start: 21 @5836 has 11 MA's), (35, 5896), (45, 5941), (93, 6106), (103, 6157), (115, 6241),

Gene: Howe\_7 Start: 5836, Stop: 6276, Start Num: 21

Candidate Starts for Howe\_7:

(4, 5365), (10, 5629), (11, 5653), (15, 5755), (Start: 21 @5836 has 11 MA's), (35, 5896), (45, 5941), (93, 6106), (103, 6157), (115, 6241),

Gene: Invectra\_8 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for Invectra\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (104, 6496), (106, 6502),

Gene: JCole\_7 Start: 5786, Stop: 6121, Start Num: 47

Candidate Starts for JCole\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Jalammah\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Jalammah\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (110, 6481), (113, 6499),

Gene: Jalleen\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Jalleen\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: JasperJr\_7 Start: 6146, Stop: 6574, Start Num: 24

Candidate Starts for JasperJr\_7:

(Start: 24 @6146 has 53 MA's), (51, 6221), (56, 6248), (61, 6272), (100, 6422), (105, 6455), (110, 6485), (113, 6503),

Gene: Jebeks\_7 Start: 6243, Stop: 6590, Start Num: 44

Candidate Starts for Jebeks\_7:

(6, 5760), (13, 6045), (Start: 38 @6216 has 1 MA's), (Start: 39 @6219 has 1 MA's), (Start: 44 @6243 has 50 MA's), (71, 6372),

Gene: JuJu\_7 Start: 5980, Stop: 6495, Start Num: 20

Candidate Starts for JuJu\_7:

(10, 5776), (15, 5902), (Start: 20 @5980 has 13 MA's), (Start: 21 @5983 has 11 MA's), (35, 6034), (Start: 42 @6058 has 1 MA's), (45, 6079), (48, 6088), (73, 6205), (99, 6322), (104, 6373), (109, 6400), (114, 6436),

Gene: Jung\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for Jung\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: Juniormint\_7 Start: 6246, Stop: 6593, Start Num: 44

Candidate Starts for Juniormint\_7:

(6, 5763), (13, 6048), (Start: 38 @6219 has 1 MA's), (Start: 39 @6222 has 1 MA's), (Start: 44 @6246 has 50 MA's), (71, 6375),

Gene: JustASigh\_7 Start: 6534, Stop: 7046, Start Num: 24

Candidate Starts for JustASigh\_7:

(19, 6510), (Start: 24 @6534 has 53 MA's), (49, 6612), (58, 6645), (65, 6678), (82, 6774), (112, 6957), (116, 7011),

Gene: KappaFarmDelta\_7 Start: 6123, Stop: 6608, Start Num: 24

Candidate Starts for KappaFarmDelta\_7:

(19, 6099), (Start: 24 @6123 has 53 MA's), (40, 6162), (51, 6198), (56, 6225), (61, 6249), (64, 6261), (73, 6315), (76, 6321), (85, 6354), (100, 6456), (110, 6519), (113, 6537),

Gene: Kari\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Kari\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Kiko\_8 Start: 6339, Stop: 6689, Start Num: 43

Candidate Starts for Kiko\_8:

(25, 6258), (Start: 38 @6315 has 1 MA's), (Start: 43 @6339 has 52 MA's), (47, 6351), (101, 6567), (106, 6600), (114, 6624),

Gene: KilKor\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for KilKor\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: Kinbote\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Kinbote\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Ksquared\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Ksquared\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Lamberg\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Lamberg\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Langerak\_7 Start: 6243, Stop: 6590, Start Num: 44

Candidate Starts for Langerak\_7:

(6, 5760), (13, 6045), (Start: 38 @6216 has 1 MA's), (Start: 39 @6219 has 1 MA's), (Start: 44 @6243 has 50 MA's), (71, 6372),

Gene: LilHazelnut\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for LilHazelnut\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: LordFarquaad\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for LordFarquaad\_7:

(8, 5315), (25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Luke\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Luke\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Luna22\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Luna22\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Lysidious\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Lysidious\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: MagicMan\_7 Start: 6338, Stop: 6826, Start Num: 20

Candidate Starts for MagicMan\_7:

(12, 6227), (16, 6266), (Start: 20 @6338 has 13 MA's), (Start: 42 @6422 has 1 MA's), (56, 6488), (65, 6527), (115, 6791),

Gene: Majeke\_7 Start: 6243, Stop: 6590, Start Num: 44

Candidate Starts for Majeke\_7:

(6, 5760), (13, 6045), (Start: 38 @6216 has 1 MA's), (Start: 39 @6219 has 1 MA's), (Start: 44 @6243 has 50 MA's), (71, 6372),

Gene: MakCheese\_7 Start: 6342, Stop: 6779, Start Num: 24

Candidate Starts for MakCheese\_7:

(15, 6258), (Start: 24 @6342 has 53 MA's), (33, 6381), (34, 6384), (67, 6519), (89, 6579), (117, 6765),

Gene: Malachai\_7 Start: 6145, Stop: 6573, Start Num: 24

Candidate Starts for Malachai\_7:

(Start: 24 @6145 has 53 MA's), (Start: 42 @6187 has 1 MA's), (51, 6220), (56, 6247), (100, 6421), (105, 6454), (110, 6484),

Gene: Malibo\_7 Start: 6358, Stop: 6762, Start Num: 24

Candidate Starts for Malibo\_7:

(15, 6274), (Start: 24 @6358 has 53 MA's), (36, 6397), (66, 6508), (86, 6556), (115, 6721),

Gene: Malithi\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Malithi\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Mangethe\_7 Start: 6243, Stop: 6590, Start Num: 44

Candidate Starts for Mangethe\_7:

(6, 5760), (13, 6045), (Start: 38 @6216 has 1 MA's), (Start: 39 @6219 has 1 MA's), (Start: 44 @6243 has 50 MA's), (71, 6372),

Gene: Matteo\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Matteo\_7:

(8, 5315), (25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Mbo4\_7 Start: 6382, Stop: 6798, Start Num: 23

Candidate Starts for Mbo4\_7:

(19, 6361), (23, 6382), (Start: 24 @6388 has 53 MA's), (28, 6400), (Start: 42 @6430 has 1 MA's), (56, 6481), (63, 6514), (68, 6541),

Gene: Megiddo\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for Megiddo\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: Melba\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Melba\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: Mellie\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Mellie\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (110, 6481), (113, 6499),

Gene: MichaelScott\_8 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for MichaelScott\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (106, 6502),

Gene: MintFen\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for MintFen\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: MissRona\_7 Start: 5970, Stop: 6446, Start Num: 21

Candidate Starts for MissRona\_7:

(10, 5763), (15, 5889), (Start: 20 @5967 has 13 MA's), (Start: 21 @5970 has 11 MA's), (35, 6021), (Start: 42 @6045 has 1 MA's), (45, 6066), (48, 6075), (99, 6291), (104, 6324), (109, 6351), (114, 6387),

Gene: Mocha12\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Mocha12\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Moonflower\_8 Start: 6504, Stop: 6878, Start Num: 43

Candidate Starts for Moonflower\_8:

(Start: 38 @6480 has 1 MA's), (Start: 43 @6504 has 52 MA's), (71, 6633), (106, 6789), (114, 6813),

Gene: Mulch\_11 Start: 7773, Stop: 8234, Start Num: 24

Candidate Starts for Mulch\_11:

(15, 7689), (Start: 24 @7773 has 53 MA's), (30, 7788), (33, 7812), (34, 7815), (37, 7827), (46, 7863), (60, 7905), (67, 7950), (68, 7956), (115, 8190), (116, 8205), (117, 8217),

Gene: Murp\_7 Start: 6126, Stop: 6611, Start Num: 24

Candidate Starts for Murp\_7:

(19, 6102), (Start: 24 @6126 has 53 MA's), (40, 6165), (51, 6201), (56, 6228), (61, 6252), (64, 6264), (73, 6318), (76, 6324), (85, 6357), (100, 6459), (110, 6522), (113, 6540),

Gene: Nadeem\_11 Start: 7773, Stop: 8234, Start Num: 24

Candidate Starts for Nadeem\_11:

(15, 7689), (Start: 24 @7773 has 53 MA's), (30, 7788), (33, 7812), (34, 7815), (37, 7827), (46, 7863), (60, 7905), (67, 7950), (68, 7956), (115, 8190), (116, 8205), (117, 8217),

Gene: NancyRae\_11 Start: 7773, Stop: 8234, Start Num: 24

Candidate Starts for NancyRae\_11:

(15, 7689), (Start: 24 @7773 has 53 MA's), (30, 7788), (33, 7812), (34, 7815), (37, 7827), (46, 7863), (60, 7905), (67, 7950), (68, 7956), (115, 8190), (116, 8205), (117, 8217),

Gene: Nazo\_7 Start: 6216, Stop: 6557, Start Num: 44

Candidate Starts for Nazo\_7:

(13, 6018), (Start: 38 @6189 has 1 MA's), (Start: 39 @6192 has 1 MA's), (Start: 44 @6216 has 50 MA's), (71, 6345),

Gene: Necropolis\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Necropolis\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Nettuno\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Nettuno\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: NovoPizza\_8 Start: 7682, Stop: 8107, Start Num: 22

Candidate Starts for NovoPizza\_8:

(Start: 22 @7682 has 23 MA's), (26, 7697), (27, 7700), (31, 7715), (72, 7904), (104, 8015), (106, 8021), (114, 8048),

Gene: OBUpride\_10 Start: 7533, Stop: 7973, Start Num: 22

Candidate Starts for OBUpride\_10:

(9, 7266), (19, 7509), (Start: 22 @7533 has 23 MA's), (45, 7629), (74, 7758), (88, 7806), (90, 7809), (95, 7818), (108, 7899), (117, 7965),

Gene: Obliviate\_7 Start: 6166, Stop: 6594, Start Num: 24

Candidate Starts for Obliviate\_7:

(Start: 24 @6166 has 53 MA's), (51, 6241), (56, 6268), (100, 6442), (105, 6475), (110, 6505), (113, 6523),

Gene: Ohgeesy\_7 Start: 5824, Stop: 6270, Start Num: 21

Candidate Starts for Ohgeesy\_7:

(Start: 20 @5821 has 13 MA's), (Start: 21 @5824 has 11 MA's), (35, 5875), (45, 5920), (48, 5929), (83, 6058), (115, 6235),

Gene: Opie\_7 Start: 6347, Stop: 6841, Start Num: 20

Candidate Starts for Opie\_7:

(12, 6236), (16, 6275), (Start: 20 @6347 has 13 MA's), (Start: 42 @6431 has 1 MA's), (65, 6536), (115, 6806),

Gene: Oregano\_8 Start: 5936, Stop: 6256, Start Num: 43

Candidate Starts for Oregano\_8:

(8, 5477), (25, 5855), (Start: 39 @5915 has 1 MA's), (Start: 43 @5936 has 52 MA's), (47, 5948), (71, 6065), (92, 6113), (104, 6167), (106, 6173),

Gene: PCoral7\_7 Start: 6141, Stop: 6554, Start Num: 24

Candidate Starts for PCoral7\_7:

(19, 6114), (Start: 24 @6141 has 53 MA's), (51, 6216), (56, 6243), (61, 6267), (75, 6327), (84, 6354), (85, 6357),

Gene: PantheRoc\_7 Start: 5824, Stop: 6270, Start Num: 21

Candidate Starts for PantheRoc\_7:

(4, 5353), (5, 5398), (10, 5617), (15, 5743), (Start: 20 @5821 has 13 MA's), (Start: 21 @5824 has 11 MA's), (35, 5875), (45, 5920), (48, 5929), (83, 6058), (115, 6235),

Gene: Parada\_11 Start: 7773, Stop: 8234, Start Num: 24

Candidate Starts for Parada\_11:

(15, 7689), (Start: 24 @7773 has 53 MA's), (30, 7788), (33, 7812), (34, 7815), (37, 7827), (46, 7863), (60, 7905), (67, 7950), (68, 7956), (115, 8190), (116, 8205), (117, 8217),

Gene: PeanutPie\_7 Start: 6229, Stop: 6579, Start Num: 44

Candidate Starts for PeanutPie\_7:

(Start: 38 @6202 has 1 MA's), (Start: 39 @6205 has 1 MA's), (Start: 44 @6229 has 50 MA's), (71, 6358),

Gene: Petra\_7 Start: 6045, Stop: 6476, Start Num: 42

Candidate Starts for Petra\_7:

(10, 5763), (15, 5889), (Start: 20 @5967 has 13 MA's), (Start: 21 @5970 has 11 MA's), (35, 6021), (Start: 42 @6045 has 1 MA's), (45, 6066), (48, 6075), (73, 6195), (91, 6267), (99, 6321), (104, 6354), (109, 6381), (114, 6417),

Gene: Phalm\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for Phalm\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: Phayonce\_7 Start: 6224, Stop: 6577, Start Num: 44

Candidate Starts for Phayonce\_7:

(25, 6140), (Start: 39 @6200 has 1 MA's), (Start: 44 @6224 has 50 MA's), (47, 6239), (71, 6356),

Gene: Phegasus\_7 Start: 6243, Stop: 6590, Start Num: 44

Candidate Starts for Phegasus\_7:

(6, 5760), (13, 6045), (Start: 38 @6216 has 1 MA's), (Start: 39 @6219 has 1 MA's), (Start: 44 @6243 has 50 MA's), (71, 6372),

Gene: Phineas\_7 Start: 6199, Stop: 6576, Start Num: 38

Candidate Starts for Phineas\_7:

(Start: 38 @6199 has 1 MA's), (Start: 39 @6202 has 1 MA's), (Start: 44 @6226 has 50 MA's), (71, 6355),

Gene: PhriskyACE\_7 Start: 5763, Stop: 6089, Start Num: 43

Candidate Starts for PhriskyACE\_7:

(8, 5304), (25, 5682), (Start: 39 @5742 has 1 MA's), (Start: 43 @5763 has 52 MA's), (47, 5775), (71, 5892), (104, 6000), (106, 6006),

Gene: PhrostedPhlake\_7 Start: 6160, Stop: 6651, Start Num: 24

Candidate Starts for PhrostedPhlake\_7:

(Start: 24 @6160 has 53 MA's), (40, 6199), (51, 6235), (56, 6262), (61, 6286), (73, 6352), (76, 6358), (85, 6397), (100, 6499), (105, 6532), (110, 6562),

Gene: Pickett\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Pickett\_7:

(8, 5315), (25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Pimento\_11 Start: 7770, Stop: 8225, Start Num: 24

Candidate Starts for Pimento\_11:

(15, 7686), (Start: 24 @7770 has 53 MA's), (30, 7785), (33, 7809), (34, 7812), (37, 7824), (46, 7860), (60, 7902), (67, 7947), (68, 7953), (115, 8181), (116, 8196),

Gene: Pipp\_7 Start: 6166, Stop: 6594, Start Num: 24

Candidate Starts for Pipp\_7:

(Start: 24 @6166 has 53 MA's), (51, 6241), (56, 6268), (61, 6292), (76, 6349), (100, 6442),

Gene: Polkaroo\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Polkaroo\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Powerball\_7 Start: 5763, Stop: 6089, Start Num: 43

Candidate Starts for Powerball\_7:

(25, 5682), (Start: 38 @5739 has 1 MA's), (Start: 43 @5763 has 52 MA's), (47, 5775), (64, 5844), (71, 5892), (104, 6000), (106, 6006),

Gene: PrincePatrick\_7 Start: 6142, Stop: 6555, Start Num: 24

Candidate Starts for PrincePatrick\_7:

(19, 6115), (Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (68, 6304), (75, 6328), (84, 6355), (85, 6358),

Gene: Purky\_7 Start: 6215, Stop: 6592, Start Num: 44

Candidate Starts for Purky\_7:

(25, 6131), (Start: 39 @6191 has 1 MA's), (Start: 44 @6215 has 50 MA's), (71, 6344), (102, 6476), (106, 6509),

Gene: Pygmy\_7 Start: 6226, Stop: 6576, Start Num: 44

Candidate Starts for Pygmy\_7:

(Start: 38 @6199 has 1 MA's), (Start: 39 @6202 has 1 MA's), (Start: 44 @6226 has 50 MA's), (71, 6355),

Gene: REQ2\_07 Start: 5849, Stop: 6256, Start Num: 24

Candidate Starts for REQ2\_07:

(19, 5825), (Start: 24 @5849 has 53 MA's), (28, 5861), (110, 6194), (111, 6203),

Gene: Rem711\_13 Start: 9248, Stop: 9775, Start Num: 14

Candidate Starts for Rem711\_13:

(Start: 14 @9248 has 1 MA's), (17, 9263), (52, 9455), (90, 9608),

Gene: Ruthy\_7 Start: 6423, Stop: 6830, Start Num: 24

Candidate Starts for Ruthy\_7:

(15, 6339), (19, 6399), (Start: 24 @6423 has 53 MA's), (66, 6573), (67, 6576), (115, 6786),

Gene: Sahara\_7 Start: 5765, Stop: 6136, Start Num: 43

Candidate Starts for Sahara\_7:

(8, 5306), (25, 5684), (Start: 43 @5765 has 52 MA's), (47, 5777), (54, 5792), (55, 5795), (71, 5894), (73, 5897), (75, 5900),

Gene: Samba\_7 Start: 6143, Stop: 6571, Start Num: 24

Candidate Starts for Samba\_7:

(Start: 24 @6143 has 53 MA's), (51, 6218), (56, 6245), (61, 6269), (100, 6419), (110, 6482), (113, 6500),

Gene: Samman98\_8 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for Samman98\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (104, 6496), (106, 6502),

Gene: Savage\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Savage\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Schnabeltier\_7 Start: 6339, Stop: 6827, Start Num: 20

Candidate Starts for Schnabeltier\_7:

(12, 6228), (16, 6267), (Start: 20 @6339 has 13 MA's), (Start: 42 @6423 has 1 MA's), (56, 6489), (65, 6528), (115, 6792),

Gene: Sekhmet\_8 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for Sekhmet\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (104, 6496), (106, 6502),

Gene: Shipwreck\_7 Start: 6226, Stop: 6576, Start Num: 44

Candidate Starts for Shipwreck\_7:

(Start: 38 @6199 has 1 MA's), (Start: 39 @6202 has 1 MA's), (Start: 44 @6226 has 50 MA's), (71, 6355),

Gene: Shlim410\_7 Start: 5836, Stop: 6276, Start Num: 21

Candidate Starts for Shlim410\_7:

(4, 5365), (10, 5629), (11, 5653), (15, 5755), (Start: 21 @5836 has 11 MA's), (35, 5896), (45, 5941), (93, 6106), (103, 6157), (115, 6241),

Gene: Sidious\_7 Start: 5827, Stop: 6273, Start Num: 21

Candidate Starts for Sidious\_7:

(4, 5356), (5, 5401), (10, 5620), (15, 5746), (Start: 20 @5824 has 13 MA's), (Start: 21 @5827 has 11 MA's), (35, 5878), (41, 5899), (45, 5923), (83, 6061), (94, 6106), (115, 6238),

Gene: SoilAssassin\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for SoilAssassin\_7:

(8, 5315), (25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Sonah\_7 Start: 6243, Stop: 6590, Start Num: 44

Candidate Starts for Sonah\_7:

(6, 5760), (13, 6045), (Start: 38 @6216 has 1 MA's), (Start: 39 @6219 has 1 MA's), (Start: 44 @6243 has 50 MA's), (71, 6372),

Gene: Sprinklemunch\_7 Start: 6361, Stop: 6819, Start Num: 24

Candidate Starts for Sprinklemunch\_7:

(3, 5884), (7, 5977), (15, 6277), (Start: 24 @6361 has 53 MA's), (33, 6400), (34, 6403), (67, 6538), (117, 6805),

Gene: Sproutie\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Sproutie\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: StevieRay\_7 Start: 6229, Stop: 6579, Start Num: 44

Candidate Starts for StevieRay\_7:

(Start: 38 @6202 has 1 MA's), (Start: 39 @6205 has 1 MA's), (Start: 44 @6229 has 50 MA's), (71, 6358),

Gene: Stiles\_7 Start: 6055, Stop: 6417, Start Num: 44

Candidate Starts for Stiles\_7:

(Start: 44 @6055 has 50 MA's), (57, 6109), (62, 6133), (69, 6166), (87, 6241), (114, 6352),

Gene: StressBall\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for StressBall\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: Suerte\_7 Start: 5763, Stop: 6083, Start Num: 43

Candidate Starts for Suerte\_7:

(8, 5304), (25, 5682), (Start: 39 @5742 has 1 MA's), (Start: 43 @5763 has 52 MA's), (47, 5775), (71, 5892), (92, 5940), (104, 5994), (106, 6000),

Gene: TaronosaurusRx\_7 Start: 6346, Stop: 6837, Start Num: 20

Candidate Starts for TaronosaurusRx\_7:

(12, 6235), (16, 6274), (Start: 20 @6346 has 13 MA's), (Start: 42 @6430 has 1 MA's), (56, 6496), (65, 6535), (108, 6766), (115, 6802),

Gene: Techage\_7 Start: 6246, Stop: 6593, Start Num: 44

Candidate Starts for Techage\_7:

(6, 5763), (13, 6048), (Start: 38 @6219 has 1 MA's), (Start: 39 @6222 has 1 MA's), (Start: 44 @6246 has 50 MA's), (71, 6375),

Gene: Thespis\_7 Start: 6225, Stop: 6575, Start Num: 44

Candidate Starts for Thespis\_7:

(Start: 38 @6198 has 1 MA's), (Start: 39 @6201 has 1 MA's), (Start: 44 @6225 has 50 MA's), (71, 6354),

Gene: Thimann\_8 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for Thimann\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (104, 6496), (106, 6502),

Gene: ThulaThula\_7 Start: 6269, Stop: 6622, Start Num: 44

Candidate Starts for ThulaThula\_7:

(25, 6185), (Start: 39 @6245 has 1 MA's), (Start: 44 @6269 has 50 MA's), (47, 6284), (71, 6401),

Gene: Toast\_7 Start: 6141, Stop: 6554, Start Num: 24

Candidate Starts for Toast\_7:

(19, 6114), (Start: 24 @6141 has 53 MA's), (51, 6216), (56, 6243), (61, 6267), (75, 6327), (84, 6354), (85, 6357),

Gene: Tortellini\_7 Start: 6196, Stop: 6534, Start Num: 44

Candidate Starts for Tortellini\_7:

(25, 6112), (Start: 39 @6172 has 1 MA's), (Start: 44 @6196 has 50 MA's), (71, 6325), (83, 6367), (102, 6418), (106, 6451),

Gene: TuertoX\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for TuertoX\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Tuti\_9 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for Tuti\_9:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (106, 6502),

Gene: Twinkle\_7 Start: 5836, Stop: 6276, Start Num: 21

Candidate Starts for Twinkle\_7:

(4, 5365), (10, 5629), (11, 5653), (15, 5755), (Start: 21 @5836 has 11 MA's), (35, 5896), (45, 5941), (93, 6106), (103, 6157), (115, 6241),

Gene: Ubuntu\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Ubuntu\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: UmaThurman\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for UmaThurman\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (110, 6481), (113, 6499),

Gene: Utz\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Utz\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: Vasanti\_7 Start: 5775, Stop: 6125, Start Num: 43

Candidate Starts for Vasanti\_7:

(2, 5148), (8, 5316), (25, 5694), (Start: 43 @5775 has 52 MA's), (47, 5787), (54, 5802), (55, 5805), (71, 5904), (73, 5907), (75, 5910), (96, 5985), (114, 6066), (115, 6090),

Gene: Venti\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Venti\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Vidya\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Vidya\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Walrus\_7 Start: 5970, Stop: 6482, Start Num: 20

Candidate Starts for Walrus\_7:

(10, 5766), (15, 5892), (Start: 20 @5970 has 13 MA's), (Start: 21 @5973 has 11 MA's), (35, 6024), (Start: 42 @6048 has 1 MA's), (48, 6078), (73, 6201), (91, 6273), (99, 6327), (104, 6360), (109, 6387), (114, 6423),

Gene: Webster2\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Webster2\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Weirdo19\_8 Start: 6377, Stop: 6886, Start Num: 24

Candidate Starts for Weirdo19\_8:

(15, 6293), (19, 6353), (Start: 24 @6377 has 53 MA's), (32, 6404), (56, 6485), (60, 6491), (65, 6521), (78, 6575), (80, 6596), (81, 6611), (98, 6695), (109, 6773),

Gene: Whack\_7 Start: 5839, Stop: 6255, Start Num: 20

Candidate Starts for Whack\_7:

(10, 5635), (18, 5818), (Start: 20 @5839 has 13 MA's), (Start: 21 @5842 has 11 MA's), (50, 5950), (97, 6127),

Gene: WheatThin\_11 Start: 7773, Stop: 8234, Start Num: 24

Candidate Starts for WheatThin\_11:

(15, 7689), (Start: 24 @7773 has 53 MA's), (30, 7788), (33, 7812), (34, 7815), (37, 7827), (46, 7863), (60, 7905), (67, 7950), (68, 7956), (115, 8190), (116, 8205), (117, 8217),

Gene: Whiteclaw\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Whiteclaw\_7:

(25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: William\_7 Start: 6141, Stop: 6569, Start Num: 24

Candidate Starts for William\_7:

(19, 6114), (Start: 24 @6141 has 53 MA's), (51, 6216), (56, 6243), (61, 6267), (75, 6327), (84, 6369), (85, 6372),

Gene: Willsammy\_7 Start: 6228, Stop: 6578, Start Num: 44

Candidate Starts for Willsammy\_7:

(Start: 38 @6201 has 1 MA's), (Start: 39 @6204 has 1 MA's), (Start: 44 @6228 has 50 MA's), (71, 6357),

Gene: WinkNick\_8 Start: 6265, Stop: 6585, Start Num: 43

Candidate Starts for WinkNick\_8:

(8, 5806), (25, 6184), (Start: 39 @6244 has 1 MA's), (Start: 43 @6265 has 52 MA's), (47, 6277), (71, 6394), (92, 6442), (104, 6496), (106, 6502),

Gene: Wishmaker\_10 Start: 7539, Stop: 7979, Start Num: 22

Candidate Starts for Wishmaker\_10:

(9, 7272), (19, 7515), (Start: 22 @7539 has 23 MA's), (45, 7635), (74, 7764), (88, 7812), (90, 7815), (95, 7824), (108, 7905), (117, 7971),

Gene: Wisp\_7 Start: 6142, Stop: 6570, Start Num: 24

Candidate Starts for Wisp\_7:

(Start: 24 @6142 has 53 MA's), (51, 6217), (56, 6244), (61, 6268), (100, 6418), (105, 6451), (110, 6481), (113, 6499),

Gene: Wocket\_7 Start: 6129, Stop: 6635, Start Num: 24

Candidate Starts for Wocket\_7:

(1, 5271), (3, 5652), (15, 6045), (19, 6105), (Start: 24 @6129 has 53 MA's), (40, 6168), (51, 6204), (56, 6231), (61, 6255), (70, 6312), (79, 6351), (100, 6483), (110, 6546), (113, 6564),

Gene: Xavia\_7 Start: 6240, Stop: 6590, Start Num: 44

Candidate Starts for Xavia\_7:

(Start: 38 @6213 has 1 MA's), (Start: 39 @6216 has 1 MA's), (Start: 44 @6240 has 50 MA's), (71, 6369),

Gene: Yeet412\_7 Start: 5774, Stop: 6121, Start Num: 43

Candidate Starts for Yeet412\_7:

(8, 5315), (25, 5693), (Start: 43 @5774 has 52 MA's), (47, 5786), (54, 5801), (55, 5804), (71, 5903), (73, 5906), (75, 5909), (114, 6062), (115, 6086),

Gene: Yeezy\_7 Start: 5821, Stop: 6270, Start Num: 20

Candidate Starts for Yeezy\_7:

(4, 5353), (5, 5398), (10, 5617), (15, 5743), (Start: 20 @5821 has 13 MA's), (Start: 21 @5824 has 11 MA's), (45, 5920), (115, 6235), (116, 6250),

Gene: ZAYM\_7 Start: 6339, Stop: 6830, Start Num: 20

Candidate Starts for ZAYM\_7:

(12, 6228), (16, 6267), (Start: 20 @6339 has 13 MA's), (Start: 42 @6423 has 1 MA's), (56, 6489), (65, 6528), (108, 6759), (115, 6795), (116, 6810),

Gene: Zarbodnamra\_7 Start: 6141, Stop: 6569, Start Num: 24

Candidate Starts for Zarbodnamra\_7:

(Start: 24 @6141 has 53 MA's), (51, 6216), (56, 6243), (61, 6267), (100, 6417), (105, 6450), (110, 6480), (113, 6498),

Gene: ZiggyZoo\_7 Start: 6166, Stop: 6594, Start Num: 24

Candidate Starts for ZiggyZoo\_7:

(Start: 24 @6166 has 53 MA's), (51, 6241), (56, 6268), (100, 6442), (105, 6475), (110, 6505), (113, 6523),

Gene: Zilizebeth\_7 Start: 6238, Stop: 6588, Start Num: 44

Candidate Starts for Zilizebeth\_7:

(Start: 38 @6211 has 1 MA's), (Start: 39 @6214 has 1 MA's), (Start: 44 @6238 has 50 MA's), (71, 6367),

Gene: Zilla\_7 Start: 6131, Stop: 6622, Start Num: 24

Candidate Starts for Zilla\_7:

(15, 6047), (19, 6107), (Start: 24 @6131 has 53 MA's), (40, 6170), (56, 6233), (61, 6257), (75, 6323), (76, 6326), (79, 6350), (85, 6374), (100, 6470), (105, 6503), (110, 6533), (113, 6551),

Gene: Zodiariah\_7 Start: 6347, Stop: 6769, Start Num: 24

Candidate Starts for Zodiariah\_7:

(15, 6263), (Start: 24 @6347 has 53 MA's), (33, 6386), (34, 6389), (67, 6524), (89, 6569), (117, 6755),