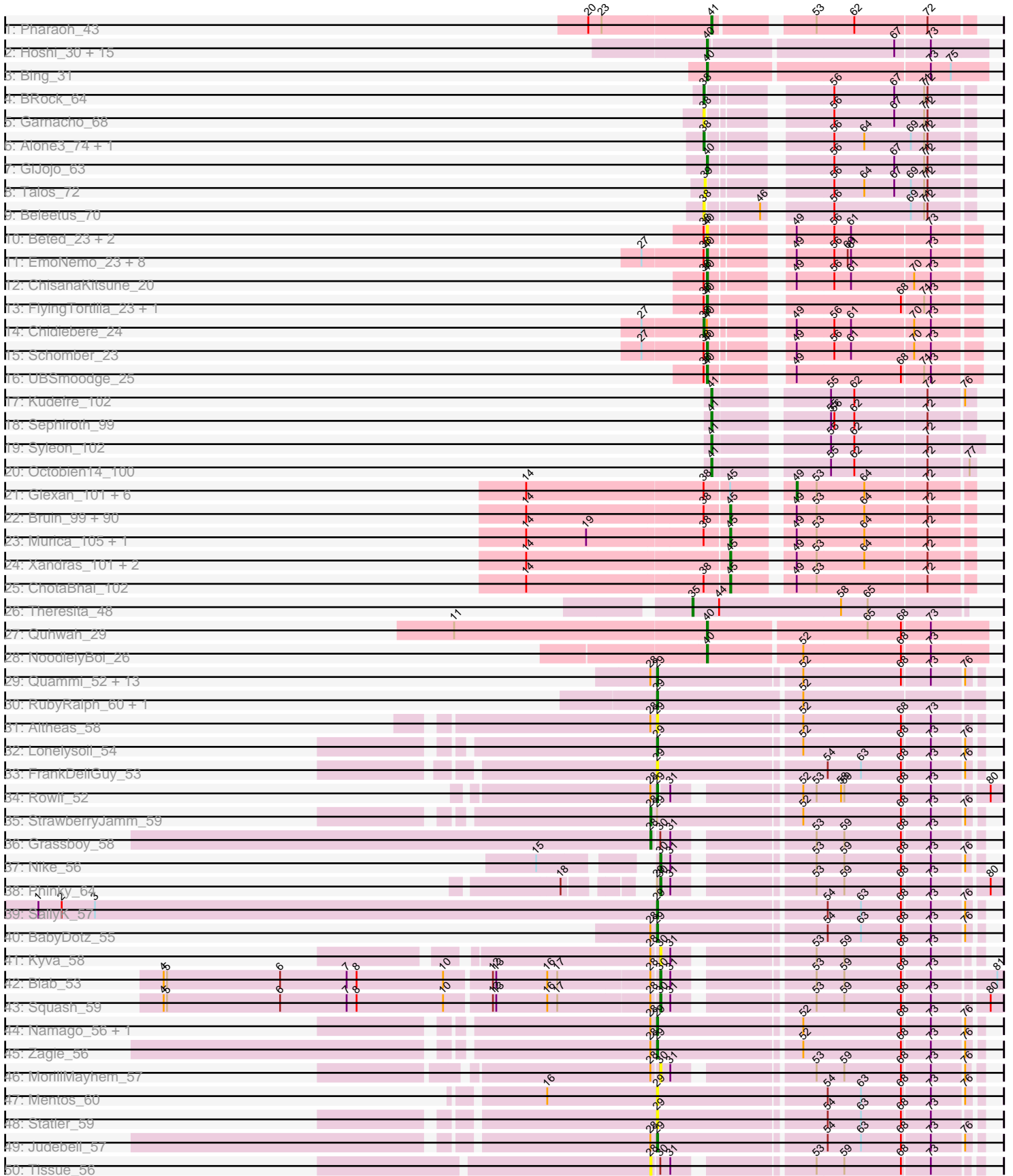
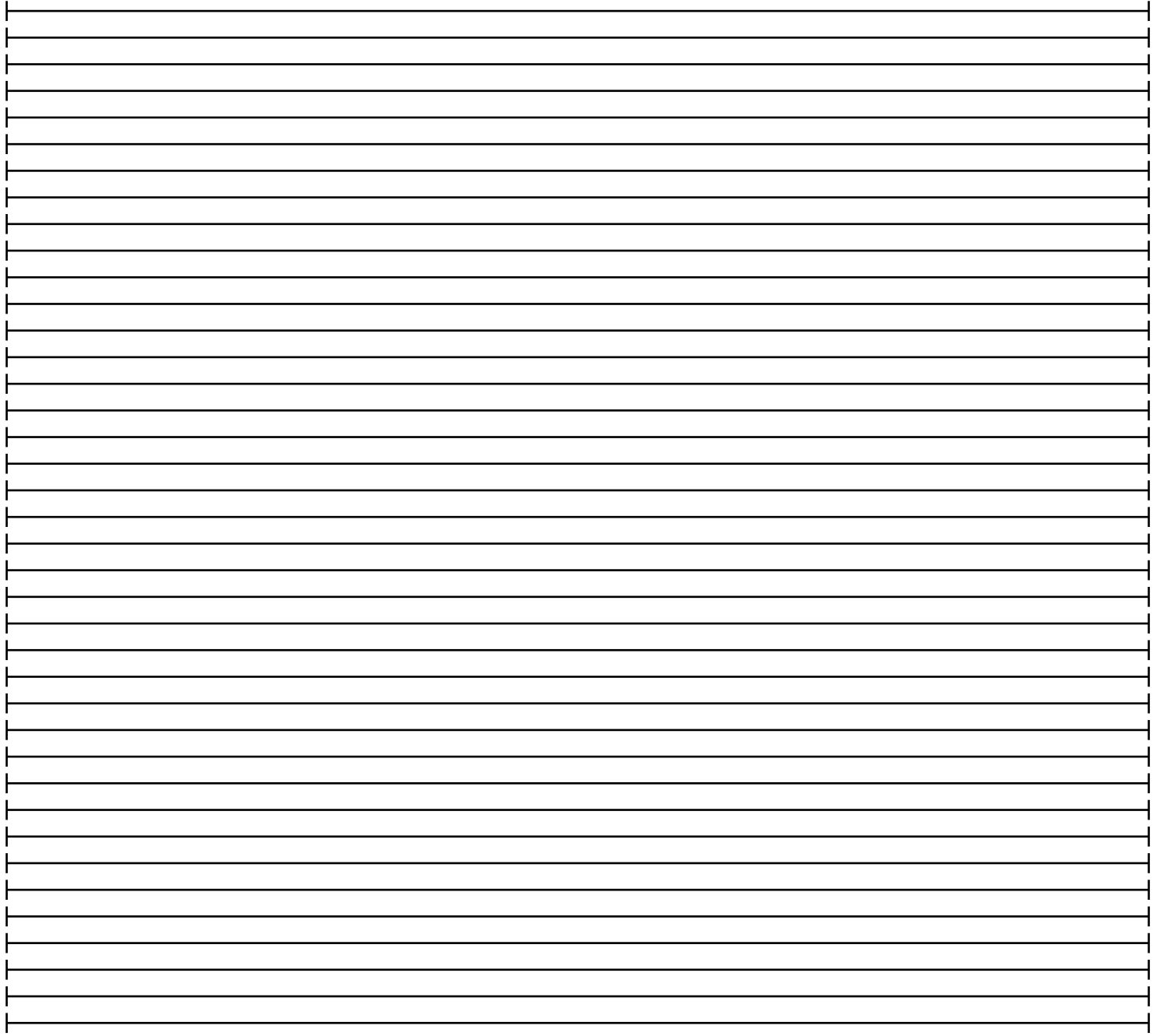
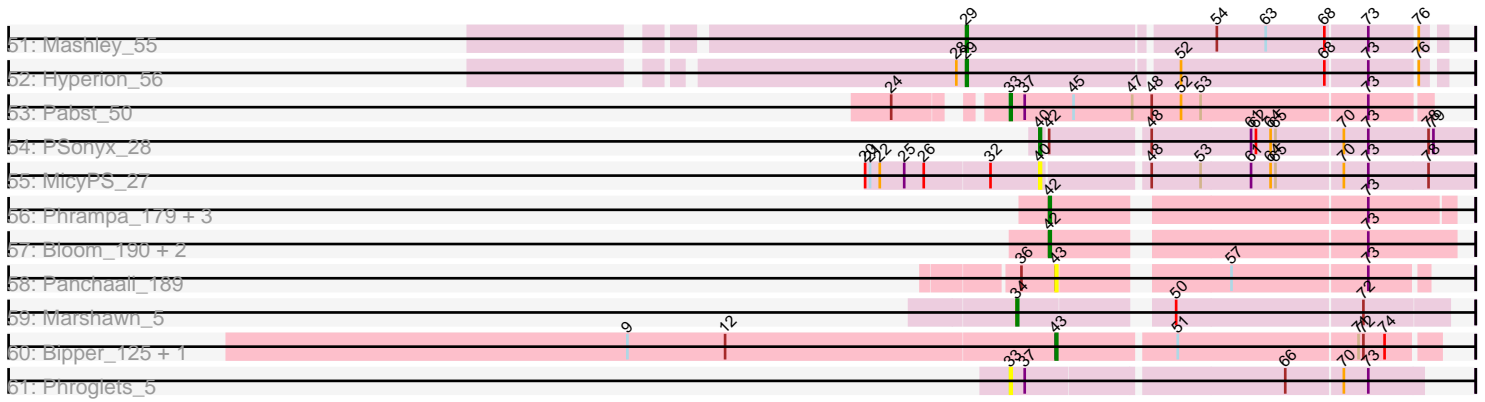


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start.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

## Pham 224296 Report

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

Pham number 224296 has 208 members, 41 are drafts.

Phages represented in each track:

- Track 1 : Pharaoh\_43
- Track 2 : Hoshi\_30, TaidaOne\_30, TonyStarch\_30, Maya\_30, Namo\_30, CherryBlossom\_30, FidgetOrca\_30, Esketit\_30, Spectropatronm\_30, Jaylociraptor\_30, IceWarrior\_30, TieDye\_29, Indigenous\_30, Rima\_30, OlympicHelado\_30, Meibysrarus\_30
- Track 3 : Bing\_31
- Track 4 : BRock\_64
- Track 5 : Garnacho\_68
- Track 6 : Alone3\_74, LuckySocke\_72
- Track 7 : GiJojo\_63
- Track 8 : Talos\_72
- Track 9 : Beleetus\_70
- Track 10 : Beted\_23, Lenoshki\_23, Oogie\_23
- Track 11 : EmoNemo\_23, Hanem\_24, Alok\_23, Twin\_23, Gray\_24, Kabocha\_25, Toneprano\_23, MintFritos\_23, Pakusa\_23
- Track 12 : ChisanaKitsune\_20
- Track 13 : FlyingTortilla\_23, ScarletRaider\_23
- Track 14 : Chidiebere\_24
- Track 15 : Schomber\_23
- Track 16 : UBSmoodge\_25
- Track 17 : Kudefre\_102
- Track 18 : Sephiroth\_99
- Track 19 : Syleon\_102
- Track 20 : Octobien14\_100
- Track 21 : Glexan\_101, FairyPath\_102, Becksu\_100, Thimble\_104, FoghornLeghorn\_95, BugsBunny\_101, Palpatine\_103
- Track 22 : Bruin\_99, Miniwave\_97, Lilpickle\_101, Nimrod\_102, Petra64142\_106, Paperbeatsrock\_101, DrDrey\_102, ShamWow\_102, Emmina\_102, MPhalcon\_103, BigBubba\_102, SirDuracell\_102, Pharsalus\_99, Dusk\_99, StormChicken\_103, TBrady12\_105, BilboSwaggins\_101, Stank\_104, Misfit\_103, Phaja\_100, Daikon\_102, PhatBacter\_105, Bask21\_102, Adnama\_106, Elite2014\_101, Manda\_103, Marshmallow\_99, Buck\_103, ChosenOne\_102, Harella\_102, Command613\_104, Kostya\_102, Phaux\_104, Mindy\_101, Tarkin\_101, Tomaszewski\_97, Mosby\_98, CrystalP\_101, Wigg\_104, NelitzaMV\_99, YassJohnny\_99, Quallification\_103, xkcd\_105, Cookies\_99, DoctorDiddles\_101, Gator\_100, Easy2Say\_102, Cactus\_106, Hoonter\_105, Gemini\_107, Barbarian\_101, Nala\_104, FireRed\_105, ABCat\_99, Henry\_99, Contagion\_98, Argent26\_106, Goldilocks\_105, TeardropMSU\_98,

Sassay\_97, SophKB\_100, Icee\_103, Inca\_99, Sotrice96\_103, Asriel\_100, Pat3\_99, Youngblood\_105, Rimmer\_100, StellaBean\_101, Terminus\_105, Kanye\_99, HufflyPuff\_104, BadStone\_99, Policronamos\_104, Holt\_107, ShereKhan\_100, Tuco\_103, Goku\_101, GooberAzure\_105, Myrale\_102, GoldenSpark\_106, Amao\_102, Eureka\_101, Willez\_97, IHOP\_100, Toto\_100, Kimchi\_106, Rakim\_103, Traaww1\_98, Balomoji\_102, Flypotenuse\_98

- Track 23 : Murica\_105, MISSy\_103
- Track 24 : Xandras\_101, Gage\_104, StolenFromERC\_104
- Track 25 : ChotaBhai\_102
- Track 26 : Theresita\_48
- Track 27 : Quhwah\_29
- Track 28 : NoodlelyBoi\_26
- Track 29 : Quammi\_52, EverythinBagel\_54, Casend\_55, Llemily\_54, Sillytadpoles\_55, DonaldDuck\_54, Viceroy\_53, Zhafia\_57, Wheelie\_54, Jehoshaphat\_56, Rudy\_52, Wayne3\_56, Teehee\_55, Phabia\_54
- Track 30 : RubyRalph\_60, Fransoyer\_58
- Track 31 : Altheas\_58
- Track 32 : Lonelysoil\_54
- Track 33 : FrankDeliGuy\_53
- Track 34 : Rowlf\_52
- Track 35 : StrawberryJamm\_59
- Track 36 : Grassboy\_58
- Track 37 : Nike\_56
- Track 38 : Phinky\_64
- Track 39 : SallyK\_57
- Track 40 : BabyDotz\_55
- Track 41 : Kyva\_58
- Track 42 : Blab\_53
- Track 43 : Squash\_59
- Track 44 : Namago\_56, Gazebo\_55
- Track 45 : Zagie\_56
- Track 46 : MorillMayhem\_57
- Track 47 : Mentos\_60
- Track 48 : Statler\_59
- Track 49 : Judebell\_57
- Track 50 : Tissue\_56
- Track 51 : Mashley\_55
- Track 52 : Hyperion\_56
- Track 53 : Pabst\_50
- Track 54 : PSonyx\_28
- Track 55 : MicyPS\_27
- Track 56 : Phrampa\_179, Mimi\_186, GoldenEssence\_175, Patbob\_186
- Track 57 : Bloom\_190, Racecar\_187, Talia1610\_187
- Track 58 : Panchaali\_189
- Track 59 : Marshawn\_5
- Track 60 : Bipper\_125, Cracklewink\_126
- Track 61 : Phroglets\_5

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

The start number called the most often in the published annotations is 45, it was called in 92 of the 167 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABCat\_99, Adnama\_106, Amao\_102, Argent26\_106, Asriel\_100, BadStone\_99, Balomoji\_102, Barbarian\_101, Bask21\_102, BigBubba\_102, BilboSwaggins\_101, Bruin\_99, Buck\_103, Cactus\_106, ChosenOne\_102, ChotaBhai\_102, Command613\_104, Contagion\_98, Cookies\_99, CrystalP\_101, Daikon\_102, DoctorDiddles\_101, DrDrey\_102, Dusk\_99, Easy2Say\_102, Elite2014\_101, Emmina\_102, Eureka\_101, FireRed\_105, Flypotenuse\_98, Gage\_104, Gator\_100, Gemini\_107, Goku\_101, GoldenSpark\_106, Goldilocks\_105, GooberAzure\_105, Harella\_102, Henry\_99, Holt\_107, Hoonter\_105, HufflyPuff\_104, IHOP\_100, Icee\_103, Inca\_99, Kanye\_99, Kimchi\_106, Kostya\_102, Lilpickle\_101, MISSy\_103, MPhalcon\_103, Manda\_103, Marshmallow\_99, Mindy\_101, Miniwave\_97, Misfit\_103, Mosby\_98, Murica\_105, Myrale\_102, Nala\_104, NelitzaMV\_99, Nimrod\_102, Paperbeatsrock\_101, Pat3\_99, Petra64142\_106, Phaja\_100, Pharsalus\_99, PhatBacter\_105, Phaux\_104, Policronamos\_104, Quallification\_103, Rakim\_103, Rimmer\_100, Sassay\_97, ShamWow\_102, ShereKhan\_100, SirDuracell\_102, SophKB\_100, Sotrice96\_103, Stank\_104, StellaBean\_101, StolenFromERC\_104, StormChicken\_103, TBrady12\_105, Tarkin\_101, TeardropMSU\_98, Terminus\_105, Tomaszewski\_97, Toto\_100, Traaww1\_98, Tuco\_103, Wiggin\_104, Willez\_97, Xandras\_101, YassJohnny\_99, Youngblood\_105, xkcd\_105,

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

- Becksu\_100, BugsBunny\_101, FairyPath\_102, FoghornLeghorn\_95, Glexan\_101, Pabst\_50, Palpatine\_103, Thimble\_104,

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

- Aloki\_23, Alone3\_74, Altheas\_58, BRock\_64, BabyDotz\_55, Beleetus\_70, Beted\_23, Bing\_31, Bipper\_125, Blab\_53, Bloom\_190, Casend\_55, CherryBlossom\_30, Chidiebere\_24, ChisanaKitsune\_20, Cracklewink\_126, DonaldDuck\_54, EmoNemo\_23, Esketit\_30, EverythinBagel\_54, FidgetOrca\_30, FlyingTortilla\_23, FrankDeliGuy\_53, Fransoyer\_58, Garnacho\_68, Gazebo\_55, GiJojo\_63, GoldenEssence\_175, Grassboy\_58, Gray\_24, Hanem\_24, Hoshi\_30, Hyperion\_56, IceWarrior\_30, Indigenous\_30, Jaylociraptor\_30, Jehoshaphat\_56, Judebell\_57, Kabocha\_25, Kudetre\_102, Kyva\_58, Lenoshki\_23, Llemily\_54, Lonelysoil\_54, LuckySocke\_72, Marshawn\_5, Mashley\_55, Maya\_30, Meibysrarus\_30, Mentos\_60, MicyPS\_27, Mimi\_186, MintFritos\_23, MorillMayhem\_57, Namago\_56, Namu\_30, Nike\_56, NoodlelyBoi\_26, Octobien14\_100, OlympicHelado\_30, Oogie\_23, PSonyx\_28, Pakusa\_23, Panchaali\_189, Patbob\_186, Phabia\_54, Pharaoh\_43, Phinky\_64, Phrampa\_179, Phroglets\_5, Quammi\_52, Quhwah\_29, Racecar\_187, Rima\_30, Rowlf\_52, RubyRalph\_60, Rudy\_52, SallyK\_57, ScarletRaider\_23, Schomber\_23, Sephiroth\_99, Sillytadpoles\_55, Spectropatronm\_30, Squash\_59, Statler\_59, StrawberryJamm\_59, Syleon\_102, TaidaOne\_30, Talia1610\_187, Talos\_72, Teehee\_55, Theresita\_48, TieDye\_29, Tissue\_56, Toneprano\_23, TonyStarch\_30, Twin\_23, UBSmoodge\_25, Viceroy\_53, Wayne3\_56, Wheelie\_54, Zagie\_56, Zhafia\_57,

### Summary by start number:

Start 28:

- Found in 29 of 208 ( 13.9% ) of genes in pham

- Manual Annotations of this start: 2 of 167
- Called 10.3% of time when present
- Phage (with cluster) where this start called: Grassboy\_58 (EG), StrawberryJamm\_59 (EG), Tissue\_56 (EG),

#### Start 29:

- Found in 32 of 208 ( 15.4% ) of genes in pham
- Manual Annotations of this start: 21 of 167
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Altheas\_58 (EG), BabyDotz\_55 (EG), Casend\_55 (EG), DonaldDuck\_54 (EG), EverythinBagel\_54 (EG), FrankDeliGuy\_53 (EG), Fransoyer\_58 (EG), Gazebo\_55 (EG), Hyperion\_56 (EG), Jehoshaphat\_56 (EG), Judebell\_57 (EG), Llemily\_54 (EG), Lonelysoil\_54 (EG), Mashley\_55 (EG), Mentos\_60 (EG), Namago\_56 (EG), Phabia\_54 (EG), Quammi\_52 (EG), Rowlf\_52 (EG), RubyRalph\_60 (EG), Rudy\_52 (EG), SallyK\_57 (EG), Sillytadpoles\_55 (EG), Statler\_59 (EG), Teehee\_55 (EG), Viceroy\_53 (EG), Wayne3\_56 (EG), Wheelie\_54 (EG), Zagie\_56 (EG), Zhafia\_57 (EG),

#### Start 30:

- Found in 8 of 208 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 4 of 167
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Blab\_53 (EG), Kyva\_58 (EG), MorillMayhem\_57 (EG), Nike\_56 (EG), Phinky\_64 (EG), Squash\_59 (EG),

#### Start 33:

- Found in 2 of 208 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 167
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pabst\_50 (EK1), Phroglets\_5 (singleton),

#### Start 34:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 167
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Marshawn\_5 (K6),

#### Start 35:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 167
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Theresita\_48 (EA7),

#### Start 38:

- Found in 124 of 208 ( 59.6% ) of genes in pham
- Manual Annotations of this start: 4 of 167
- Called 4.8% of time when present
- Phage (with cluster) where this start called: Alone3\_74 (BS), BRock\_64 (BS), Beleetus\_70 (BS), Chidiebere\_24 (DQ), Garnacho\_68 (BS), LuckySocke\_72 (BS),

#### Start 39:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Talos\_72 (BS),

#### Start 40:

- Found in 40 of 208 ( 19.2% ) of genes in pham
- Manual Annotations of this start: 29 of 167
- Called 97.5% of time when present
- Phage (with cluster) where this start called: Aloki\_23 (DQ), Beted\_23 (DQ), Bing\_31 (BI5), CherryBlossom\_30 (BI1), ChisanaKitsune\_20 (DQ), EmoNemo\_23 (DQ), Esketit\_30 (BI1), FidgetOrca\_30 (BI1), FlyingTortilla\_23 (DQ), GiJojo\_63 (BS), Gray\_24 (DQ), Hanem\_24 (DQ), Hoshi\_30 (BI1), IceWarrior\_30 (BI1), Indigenous\_30 (BI1), Jaylociraptor\_30 (BI1), Kabocha\_25 (DQ), Lenoshki\_23 (DQ), Maya\_30 (BI1), Meibysrarus\_30 (BI1), MicyPS\_27 (EQ), MintFritos\_23 (DQ), Namu\_30 (BI1), NoodlelyBoi\_26 (EC), OlympicHelado\_30 (BI1), Oogie\_23 (DQ), PSonyx\_28 (EQ), Pakusa\_23 (DQ), Quhwah\_29 (EC), Rima\_30 (BI1), ScarletRaider\_23 (DQ), Schomber\_23 (DQ), Spectropatronm\_30 (BI1), TaidaOne\_30 (BI1), TieDye\_29 (BI1), Toneprano\_23 (DQ), TonyStarch\_30 (BI1), Twin\_23 (DQ), UBSmoodge\_25 (DQ),

#### Start 41:

- Found in 5 of 208 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 5 of 167
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudrefre\_102 (DU1), Octobien14\_100 (DU1), Pharaoh\_43 (A12), Sephiroth\_99 (DU1), Syleon\_102 (DU1),

#### Start 42:

- Found in 8 of 208 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 3 of 167
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Bloom\_190 (FC), GoldenEssence\_175 (FC), Mimi\_186 (FC), Patbob\_186 (FC), Phrampa\_179 (FC), Racecar\_187 (FC), Talia1610\_187 (FC),

#### Start 43:

- Found in 3 of 208 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 167
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bipper\_125 (Y), Cracklewink\_126 (Y), Panchaali\_189 (FC),

#### Start 45:

- Found in 105 of 208 ( 50.5% ) of genes in pham
- Manual Annotations of this start: 92 of 167
- Called 92.4% of time when present
- Phage (with cluster) where this start called: ABCat\_99 (E), Adnama\_106 (E), Amao\_102 (E), Argent26\_106 (E), Asriel\_100 (E), BadStone\_99 (E), Balomoji\_102 (E), Barbarian\_101 (E), Bask21\_102 (E), BigBubba\_102 (E), BilboSwaggins\_101 (E), Bruin\_99 (E), Buck\_103 (E), Cactus\_106 (E), ChosenOne\_102 (E), ChotaBhai\_102 (E), Command613\_104 (E), Contagion\_98 (E), Cookies\_99 (E), CrystalP\_101 (E), Daikon\_102 (E), DoctorDiddles\_101 (E), DrDrey\_102 (E), Dusk\_99 (E), Easy2Say\_102 (E), Elite2014\_101 (E), Emmina\_102 (E), Eureka\_101 (E), FireRed\_105 (E), Flypotenuse\_98 (E), Gage\_104 (E), Gator\_100 (E), Gemini\_107 (E), Goku\_101 (E), GoldenSpark\_106 (E), Goldilocks\_105 (E), GooberAzure\_105 (E),

Harella\_102 (E), Henry\_99 (E), Holt\_107 (E), Hoonter\_105 (E), HufflyPuff\_104 (E), IHOP\_100 (E), lcee\_103 (E), Inca\_99 (E), Kanye\_99 (E), Kimchi\_106 (E), Kostya\_102 (E), Lilpickle\_101 (E), MISSy\_103 (E), MPhalcon\_103 (E), Manda\_103 (E), Marshmallow\_99 (E), Mindy\_101 (E), Miniwave\_97 (E), Misfit\_103 (E), Mosby\_98 (E), Murica\_105 (E), Myrale\_102 (E), Nala\_104 (E), NelitzaMV\_99 (E), Nimrod\_102 (E), Paperbeatsrock\_101 (E), Pat3\_99 (E), Petra64142\_106 (E), Phaja\_100 (E), Pharsalus\_99 (E), PhatBacter\_105 (E), Phaux\_104 (E), Policronamos\_104 (E), Quallification\_103 (E), Rakim\_103 (E), Rimmer\_100 (E), Sassay\_97 (E), ShamWow\_102 (E), ShereKhan\_100 (E), SirDuracell\_102 (E), SophKB\_100 (E), Sotrice96\_103 (E), Stank\_104 (E), StellaBean\_101 (E), StolenFromERC\_104 (E), StormChicken\_103 (E), TBrady12\_105 (E), Tarkin\_101 (E), TeardropMSU\_98 (E), Terminus\_105 (E), Tomaszewski\_97 (E), Toto\_100 (E), Traaww1\_98 (E), Tuco\_103 (E), Wiggin\_104 (E), Willez\_97 (E), Xandras\_101 (E), YassJohnny\_99 (E), Youngblood\_105 (E), xkcd\_105 (E),

Start 49:

- Found in 120 of 208 ( 57.7% ) of genes in pham
- Manual Annotations of this start: 2 of 167
- Called 5.8% of time when present
- Phage (with cluster) where this start called: Becksu\_100 (E), BugsBunny\_101 (E), FairyPath\_102 (E), FoghornLeghorn\_95 (E), Glexan\_101 (E), Palpatine\_103 (E), Thimble\_104 (E),

### Summary by clusters:

There are 16 clusters represented in this pham: singleton, BI5, E, A12, EA7, EG, EC, FC, K6, BS, Y, DU1, BI1, EQ, EK1, DQ,

Info for manual annotations of cluster A12:

- Start number 41 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster BI1:

- Start number 40 was manually annotated 16 times for cluster BI1.

Info for manual annotations of cluster BI5:

- Start number 40 was manually annotated 1 time for cluster BI5.

Info for manual annotations of cluster BS:

- Start number 38 was manually annotated 3 times for cluster BS.
- Start number 40 was manually annotated 1 time for cluster BS.

Info for manual annotations of cluster DQ:

- Start number 38 was manually annotated 1 time for cluster DQ.
- Start number 40 was manually annotated 8 times for cluster DQ.

Info for manual annotations of cluster DU1:

- Start number 41 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster E:

- Start number 45 was manually annotated 92 times for cluster E.
- Start number 49 was manually annotated 2 times for cluster E.

Info for manual annotations of cluster EA7:



- Start number 35 was manually annotated 1 time for cluster EA7.

Info for manual annotations of cluster EC:

- Start number 40 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EG:

- Start number 28 was manually annotated 2 times for cluster EG.
- Start number 29 was manually annotated 21 times for cluster EG.
- Start number 30 was manually annotated 4 times for cluster EG.

Info for manual annotations of cluster EK1:

- Start number 33 was manually annotated 1 time for cluster EK1.

Info for manual annotations of cluster EQ:

- Start number 40 was manually annotated 1 time for cluster EQ.

Info for manual annotations of cluster FC:

- Start number 42 was manually annotated 3 times for cluster FC.

Info for manual annotations of cluster K6:

- Start number 34 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster Y:

- Start number 43 was manually annotated 2 times for cluster Y.

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

Gene: ABCat\_99 Start: 61561, Stop: 61758, Start Num: 45

Candidate Starts for ABCat\_99:

(14, 61384), (Start: 38 @61540 has 4 MA's), (Start: 45 @61561 has 92 MA's), (Start: 49 @61606 has 2 MA's), (53, 61624), (64, 61666), (72, 61720),

Gene: Adnama\_106 Start: 60871, Stop: 61068, Start Num: 45

Candidate Starts for Adnama\_106:

(14, 60694), (Start: 38 @60850 has 4 MA's), (Start: 45 @60871 has 92 MA's), (Start: 49 @60916 has 2 MA's), (53, 60934), (64, 60976), (72, 61030),

Gene: Alok\_i\_23 Start: 11841, Stop: 12056, Start Num: 40

Candidate Starts for Alok\_i\_23:

(27, 11784), (Start: 38 @11838 has 4 MA's), (Start: 40 @11841 has 29 MA's), (Start: 49 @11898 has 2 MA's), (56, 11931), (60, 11943), (61, 11946), (73, 12015),

Gene: Alone3\_74 Start: 28535, Stop: 28747, Start Num: 38

Candidate Starts for Alone3\_74:

(Start: 38 @28535 has 4 MA's), (56, 28625), (64, 28652), (69, 28694), (71, 28706), (72, 28709),

Gene: Altheas\_58 Start: 42617, Stop: 42345, Start Num: 29

Candidate Starts for Altheas\_58:

(Start: 28 @42623 has 2 MA's), (Start: 29 @42617 has 21 MA's), (52, 42494), (68, 42407), (73, 42383),

Gene: Amao\_102 Start: 60985, Stop: 61182, Start Num: 45

Candidate Starts for Amao\_102:

(14, 60808), (Start: 38 @60964 has 4 MA's), (Start: 45 @60985 has 92 MA's), (Start: 49 @61030 has 2 MA's), (53, 61048), (64, 61090), (72, 61144),

Gene: Argent26\_106 Start: 60795, Stop: 60992, Start Num: 45

Candidate Starts for Argent26\_106:

(14, 60618), (Start: 38 @60774 has 4 MA's), (Start: 45 @60795 has 92 MA's), (Start: 49 @60840 has 2 MA's), (53, 60858), (64, 60900), (72, 60954),

Gene: Asriel\_100 Start: 59208, Stop: 59405, Start Num: 45

Candidate Starts for Asriel\_100:

(14, 59031), (Start: 38 @59187 has 4 MA's), (Start: 45 @59208 has 92 MA's), (Start: 49 @59253 has 2 MA's), (53, 59271), (64, 59313), (72, 59367),

Gene: BRock\_64 Start: 24495, Stop: 24707, Start Num: 38

Candidate Starts for BRock\_64:

(Start: 38 @24495 has 4 MA's), (56, 24585), (67, 24639), (71, 24666), (72, 24669),

Gene: BabyDotz\_55 Start: 42840, Stop: 42568, Start Num: 29

Candidate Starts for BabyDotz\_55:

(Start: 28 @42843 has 2 MA's), (Start: 29 @42840 has 21 MA's), (54, 42696), (63, 42666), (68, 42630), (73, 42606), (76, 42579),

Gene: BadStone\_99 Start: 61130, Stop: 61327, Start Num: 45

Candidate Starts for BadStone\_99:

(14, 60953), (Start: 38 @61109 has 4 MA's), (Start: 45 @61130 has 92 MA's), (Start: 49 @61175 has 2 MA's), (53, 61193), (64, 61235), (72, 61289),

Gene: Balomoji\_102 Start: 60991, Stop: 61188, Start Num: 45

Candidate Starts for Balomoji\_102:

(14, 60814), (Start: 38 @60970 has 4 MA's), (Start: 45 @60991 has 92 MA's), (Start: 49 @61036 has 2 MA's), (53, 61054), (64, 61096), (72, 61150),

Gene: Barbarian\_101 Start: 59208, Stop: 59405, Start Num: 45

Candidate Starts for Barbarian\_101:

(14, 59031), (Start: 38 @59187 has 4 MA's), (Start: 45 @59208 has 92 MA's), (Start: 49 @59253 has 2 MA's), (53, 59271), (64, 59313), (72, 59367),

Gene: Bask21\_102 Start: 59847, Stop: 60044, Start Num: 45

Candidate Starts for Bask21\_102:

(14, 59670), (Start: 38 @59826 has 4 MA's), (Start: 45 @59847 has 92 MA's), (Start: 49 @59892 has 2 MA's), (53, 59910), (64, 59952), (72, 60006),

Gene: Becksu\_100 Start: 61229, Stop: 61381, Start Num: 49

Candidate Starts for Becksu\_100:

(14, 61007), (Start: 38 @61163 has 4 MA's), (Start: 45 @61184 has 92 MA's), (Start: 49 @61229 has 2 MA's), (53, 61247), (64, 61289), (72, 61343),

Gene: Beleetus\_70 Start: 26659, Stop: 26871, Start Num: 38

Candidate Starts for Beleetus\_70:

(Start: 38 @26659 has 4 MA's), (46, 26701), (56, 26749), (69, 26818), (71, 26830), (72, 26833),

Gene: Beted\_23 Start: 11467, Stop: 11682, Start Num: 40

Candidate Starts for Beted\_23:

(Start: 38 @11464 has 4 MA's), (Start: 40 @11467 has 29 MA's), (Start: 49 @11524 has 2 MA's), (56, 11557), (61, 11572), (73, 11641),

Gene: BigBubba\_102 Start: 59904, Stop: 60101, Start Num: 45

Candidate Starts for BigBubba\_102:

(14, 59727), (Start: 38 @59883 has 4 MA's), (Start: 45 @59904 has 92 MA's), (Start: 49 @59949 has 2 MA's), (53, 59967), (64, 60009), (72, 60063),

Gene: BilboSwaggins\_101 Start: 61530, Stop: 61727, Start Num: 45

Candidate Starts for BilboSwaggins\_101:

(14, 61353), (Start: 38 @61509 has 4 MA's), (Start: 45 @61530 has 92 MA's), (Start: 49 @61575 has 2 MA's), (53, 61593), (64, 61635), (72, 61689),

Gene: Bing\_31 Start: 25537, Stop: 25779, Start Num: 40

Candidate Starts for Bing\_31:

(Start: 40 @25537 has 29 MA's), (73, 25729), (75, 25747),

Gene: Bipper\_125 Start: 73005, Stop: 73226, Start Num: 43

Candidate Starts for Bipper\_125:

(9, 72744), (12, 72804), (Start: 43 @73005 has 2 MA's), (51, 73074), (71, 73182), (72, 73185), (74, 73197),

Gene: Blab\_53 Start: 41667, Stop: 41395, Start Num: 30

Candidate Starts for Blab\_53:

(4, 42102), (5, 42099), (6, 41997), (7, 41937), (8, 41928), (10, 41850), (12, 41811), (13, 41808), (16, 41763), (17, 41754), (Start: 28 @41673 has 2 MA's), (Start: 30 @41667 has 4 MA's), (31, 41658), (53, 41550), (59, 41526), (68, 41475), (73, 41451), (81, 41400),

Gene: Bloom\_190 Start: 124505, Stop: 124735, Start Num: 42

Candidate Starts for Bloom\_190:

(Start: 42 @124505 has 3 MA's), (73, 124682),

Gene: Bruin\_99 Start: 60236, Stop: 60433, Start Num: 45

Candidate Starts for Bruin\_99:

(14, 60059), (Start: 38 @60215 has 4 MA's), (Start: 45 @60236 has 92 MA's), (Start: 49 @60281 has 2 MA's), (53, 60299), (64, 60341), (72, 60395),

Gene: Buck\_103 Start: 62073, Stop: 62270, Start Num: 45

Candidate Starts for Buck\_103:

(14, 61896), (Start: 38 @62052 has 4 MA's), (Start: 45 @62073 has 92 MA's), (Start: 49 @62118 has 2 MA's), (53, 62136), (64, 62178), (72, 62232),

Gene: BugsBunny\_101 Start: 61595, Stop: 61747, Start Num: 49

Candidate Starts for BugsBunny\_101:

(14, 61373), (Start: 38 @61529 has 4 MA's), (Start: 45 @61550 has 92 MA's), (Start: 49 @61595 has 2 MA's), (53, 61613), (64, 61655), (72, 61709),

Gene: Cactus\_106 Start: 60490, Stop: 60687, Start Num: 45

Candidate Starts for Cactus\_106:

(14, 60313), (Start: 38 @60469 has 4 MA's), (Start: 45 @60490 has 92 MA's), (Start: 49 @60535 has 2 MA's), (53, 60553), (64, 60595), (72, 60649),

Gene: Casend\_55 Start: 42251, Stop: 41979, Start Num: 29

Candidate Starts for Casend\_55:

(Start: 28 @42254 has 2 MA's), (Start: 29 @42251 has 21 MA's), (52, 42128), (68, 42041), (73, 42017), (76, 41990),

Gene: CherryBlossom\_30 Start: 25644, Stop: 25883, Start Num: 40

Candidate Starts for CherryBlossom\_30:

(Start: 40 @25644 has 29 MA's), (67, 25803), (73, 25833),

Gene: Chidiebere\_24 Start: 11838, Stop: 12056, Start Num: 38

Candidate Starts for Chidiebere\_24:

(27, 11784), (Start: 38 @11838 has 4 MA's), (Start: 40 @11841 has 29 MA's), (Start: 49 @11898 has 2 MA's), (56, 11931), (61, 11946), (70, 12000), (73, 12015),

Gene: ChisanaKitsune\_20 Start: 10536, Stop: 10751, Start Num: 40

Candidate Starts for ChisanaKitsune\_20:

(Start: 38 @10533 has 4 MA's), (Start: 40 @10536 has 29 MA's), (Start: 49 @10593 has 2 MA's), (56, 10626), (61, 10641), (70, 10695), (73, 10710),

Gene: ChosenOne\_102 Start: 60439, Stop: 60636, Start Num: 45

Candidate Starts for ChosenOne\_102:

(14, 60262), (Start: 38 @60418 has 4 MA's), (Start: 45 @60439 has 92 MA's), (Start: 49 @60484 has 2 MA's), (53, 60502), (64, 60544), (72, 60598),

Gene: ChotaBhai\_102 Start: 60849, Stop: 61046, Start Num: 45

Candidate Starts for ChotaBhai\_102:

(14, 60672), (Start: 38 @60828 has 4 MA's), (Start: 45 @60849 has 92 MA's), (Start: 49 @60894 has 2 MA's), (53, 60912), (72, 61008),

Gene: Command613\_104 Start: 61005, Stop: 61202, Start Num: 45

Candidate Starts for Command613\_104:

(14, 60828), (Start: 38 @60984 has 4 MA's), (Start: 45 @61005 has 92 MA's), (Start: 49 @61050 has 2 MA's), (53, 61068), (64, 61110), (72, 61164),

Gene: Contagion\_98 Start: 60598, Stop: 60795, Start Num: 45

Candidate Starts for Contagion\_98:

(14, 60421), (Start: 38 @60577 has 4 MA's), (Start: 45 @60598 has 92 MA's), (Start: 49 @60643 has 2 MA's), (53, 60661), (64, 60703), (72, 60757),

Gene: Cookies\_99 Start: 60775, Stop: 60972, Start Num: 45

Candidate Starts for Cookies\_99:

(14, 60598), (Start: 38 @60754 has 4 MA's), (Start: 45 @60775 has 92 MA's), (Start: 49 @60820 has 2 MA's), (53, 60838), (64, 60880), (72, 60934),

Gene: Cracklewink\_126 Start: 72157, Stop: 72378, Start Num: 43

Candidate Starts for Cracklewink\_126:

(9, 71896), (12, 71956), (Start: 43 @72157 has 2 MA's), (51, 72226), (71, 72334), (72, 72337), (74, 72349),

Gene: CrystalP\_101 Start: 61530, Stop: 61727, Start Num: 45

Candidate Starts for CrystalP\_101:

(14, 61353), (Start: 38 @61509 has 4 MA's), (Start: 45 @61530 has 92 MA's), (Start: 49 @61575 has 2 MA's), (53, 61593), (64, 61635), (72, 61689),

Gene: Daikon\_102 Start: 60404, Stop: 60601, Start Num: 45

Candidate Starts for Daikon\_102:

(14, 60227), (Start: 38 @60383 has 4 MA's), (Start: 45 @60404 has 92 MA's), (Start: 49 @60449 has 2 MA's), (53, 60467), (64, 60509), (72, 60563),

Gene: DoctorDiddles\_101 Start: 60253, Stop: 60450, Start Num: 45

Candidate Starts for DoctorDiddles\_101:

(14, 60076), (Start: 38 @60232 has 4 MA's), (Start: 45 @60253 has 92 MA's), (Start: 49 @60298 has 2 MA's), (53, 60316), (64, 60358), (72, 60412),

Gene: DonaldDuck\_54 Start: 41600, Stop: 41328, Start Num: 29

Candidate Starts for DonaldDuck\_54:

(Start: 28 @41603 has 2 MA's), (Start: 29 @41600 has 21 MA's), (52, 41477), (68, 41390), (73, 41366), (76, 41339),

Gene: DrDrey\_102 Start: 62268, Stop: 62465, Start Num: 45

Candidate Starts for DrDrey\_102:

(14, 62091), (Start: 38 @62247 has 4 MA's), (Start: 45 @62268 has 92 MA's), (Start: 49 @62313 has 2 MA's), (53, 62331), (64, 62373), (72, 62427),

Gene: Dusk\_99 Start: 60790, Stop: 60987, Start Num: 45

Candidate Starts for Dusk\_99:

(14, 60613), (Start: 38 @60769 has 4 MA's), (Start: 45 @60790 has 92 MA's), (Start: 49 @60835 has 2 MA's), (53, 60853), (64, 60895), (72, 60949),

Gene: Easy2Say\_102 Start: 61262, Stop: 61459, Start Num: 45

Candidate Starts for Easy2Say\_102:

(14, 61085), (Start: 38 @61241 has 4 MA's), (Start: 45 @61262 has 92 MA's), (Start: 49 @61307 has 2 MA's), (53, 61325), (64, 61367), (72, 61421),

Gene: Elite2014\_101 Start: 60438, Stop: 60635, Start Num: 45

Candidate Starts for Elite2014\_101:

(14, 60261), (Start: 38 @60417 has 4 MA's), (Start: 45 @60438 has 92 MA's), (Start: 49 @60483 has 2 MA's), (53, 60501), (64, 60543), (72, 60597),

Gene: Emmina\_102 Start: 60213, Stop: 60410, Start Num: 45

Candidate Starts for Emmina\_102:

(14, 60036), (Start: 38 @60192 has 4 MA's), (Start: 45 @60213 has 92 MA's), (Start: 49 @60258 has 2 MA's), (53, 60276), (64, 60318), (72, 60372),

Gene: EmoNemo\_23 Start: 11841, Stop: 12056, Start Num: 40

Candidate Starts for EmoNemo\_23:

(27, 11784), (Start: 38 @11838 has 4 MA's), (Start: 40 @11841 has 29 MA's), (Start: 49 @11898 has 2 MA's), (56, 11931), (60, 11943), (61, 11946), (73, 12015),

Gene: Esketit\_30 Start: 25627, Stop: 25866, Start Num: 40

Candidate Starts for Esketit\_30:

(Start: 40 @25627 has 29 MA's), (67, 25786), (73, 25816),

Gene: Eureka\_101 Start: 61401, Stop: 61598, Start Num: 45

Candidate Starts for Eureka\_101:

(14, 61224), (Start: 38 @61380 has 4 MA's), (Start: 45 @61401 has 92 MA's), (Start: 49 @61446 has 2 MA's), (53, 61464), (64, 61506), (72, 61560),

Gene: EverythinBagel\_54 Start: 41961, Stop: 41689, Start Num: 29

Candidate Starts for EverythinBagel\_54:

(Start: 28 @41964 has 2 MA's), (Start: 29 @41961 has 21 MA's), (52, 41838), (68, 41751), (73, 41727), (76, 41700),

Gene: FairyPath\_102 Start: 61751, Stop: 61903, Start Num: 49

Candidate Starts for FairyPath\_102:

(14, 61529), (Start: 38 @61685 has 4 MA's), (Start: 45 @61706 has 92 MA's), (Start: 49 @61751 has 2 MA's), (53, 61769), (64, 61811), (72, 61865),

Gene: FidgetOrca\_30 Start: 25633, Stop: 25872, Start Num: 40

Candidate Starts for FidgetOrca\_30:

(Start: 40 @25633 has 29 MA's), (67, 25792), (73, 25822),

Gene: FireRed\_105 Start: 61677, Stop: 61874, Start Num: 45

Candidate Starts for FireRed\_105:

(14, 61500), (Start: 38 @61656 has 4 MA's), (Start: 45 @61677 has 92 MA's), (Start: 49 @61722 has 2 MA's), (53, 61740), (64, 61782), (72, 61836),

Gene: FlyingTortilla\_23 Start: 12855, Stop: 13073, Start Num: 40

Candidate Starts for FlyingTortilla\_23:

(Start: 38 @12852 has 4 MA's), (Start: 40 @12855 has 29 MA's), (68, 13008), (71, 13026), (73, 13032),

Gene: Flypotenuse\_98 Start: 59862, Stop: 60059, Start Num: 45

Candidate Starts for Flypotenuse\_98:

(14, 59685), (Start: 38 @59841 has 4 MA's), (Start: 45 @59862 has 92 MA's), (Start: 49 @59907 has 2 MA's), (53, 59925), (64, 59967), (72, 60021),

Gene: FoghornLeghorn\_95 Start: 58612, Stop: 58764, Start Num: 49

Candidate Starts for FoghornLeghorn\_95:

(14, 58390), (Start: 38 @58546 has 4 MA's), (Start: 45 @58567 has 92 MA's), (Start: 49 @58612 has 2 MA's), (53, 58630), (64, 58672), (72, 58726),

Gene: FrankDeliGuy\_53 Start: 41773, Stop: 41501, Start Num: 29

Candidate Starts for FrankDeliGuy\_53:

(Start: 29 @41773 has 21 MA's), (54, 41629), (63, 41599), (68, 41563), (73, 41539), (76, 41512),

Gene: Fransoyer\_58 Start: 44153, Stop: 43872, Start Num: 29

Candidate Starts for Fransoyer\_58:

(Start: 29 @44153 has 21 MA's), (52, 44027),

Gene: Gage\_104 Start: 60933, Stop: 61130, Start Num: 45

Candidate Starts for Gage\_104:

(14, 60756), (Start: 45 @60933 has 92 MA's), (Start: 49 @60978 has 2 MA's), (53, 60996), (64, 61038), (72, 61092),

Gene: Garnacho\_68 Start: 26235, Stop: 26447, Start Num: 38

Candidate Starts for Garnacho\_68:

(Start: 38 @26235 has 4 MA's), (56, 26325), (67, 26379), (71, 26406), (72, 26409),

Gene: Gator\_100 Start: 60718, Stop: 60915, Start Num: 45  
Candidate Starts for Gator\_100:  
(14, 60541), (Start: 38 @60697 has 4 MA's), (Start: 45 @60718 has 92 MA's), (Start: 49 @60763 has 2 MA's), (53, 60781), (64, 60823), (72, 60877),

Gene: Gazebo\_55 Start: 42275, Stop: 42003, Start Num: 29  
Candidate Starts for Gazebo\_55:  
(Start: 28 @42281 has 2 MA's), (Start: 29 @42275 has 21 MA's), (52, 42152), (68, 42065), (73, 42041), (76, 42014),

Gene: Gemini\_107 Start: 61312, Stop: 61509, Start Num: 45  
Candidate Starts for Gemini\_107:  
(14, 61135), (Start: 38 @61291 has 4 MA's), (Start: 45 @61312 has 92 MA's), (Start: 49 @61357 has 2 MA's), (53, 61375), (64, 61417), (72, 61471),

Gene: GiJojo\_63 Start: 26714, Stop: 26926, Start Num: 40  
Candidate Starts for GiJojo\_63:  
(Start: 40 @26714 has 29 MA's), (56, 26804), (67, 26858), (71, 26885), (72, 26888),

Gene: Glexan\_101 Start: 61037, Stop: 61189, Start Num: 49  
Candidate Starts for Glexan\_101:  
(14, 60815), (Start: 38 @60971 has 4 MA's), (Start: 45 @60992 has 92 MA's), (Start: 49 @61037 has 2 MA's), (53, 61055), (64, 61097), (72, 61151),

Gene: Goku\_101 Start: 61130, Stop: 61327, Start Num: 45  
Candidate Starts for Goku\_101:  
(14, 60953), (Start: 38 @61109 has 4 MA's), (Start: 45 @61130 has 92 MA's), (Start: 49 @61175 has 2 MA's), (53, 61193), (64, 61235), (72, 61289),

Gene: GoldenEssence\_175 Start: 118714, Stop: 118944, Start Num: 42  
Candidate Starts for GoldenEssence\_175:  
(Start: 42 @118714 has 3 MA's), (73, 118891),

Gene: GoldenSpark\_106 Start: 60795, Stop: 60992, Start Num: 45  
Candidate Starts for GoldenSpark\_106:  
(14, 60618), (Start: 38 @60774 has 4 MA's), (Start: 45 @60795 has 92 MA's), (Start: 49 @60840 has 2 MA's), (53, 60858), (64, 60900), (72, 60954),

Gene: Goldilocks\_105 Start: 60712, Stop: 60909, Start Num: 45  
Candidate Starts for Goldilocks\_105:  
(14, 60535), (Start: 38 @60691 has 4 MA's), (Start: 45 @60712 has 92 MA's), (Start: 49 @60757 has 2 MA's), (53, 60775), (64, 60817), (72, 60871),

Gene: GooberAzure\_105 Start: 60795, Stop: 60992, Start Num: 45  
Candidate Starts for GooberAzure\_105:  
(14, 60618), (Start: 38 @60774 has 4 MA's), (Start: 45 @60795 has 92 MA's), (Start: 49 @60840 has 2 MA's), (53, 60858), (64, 60900), (72, 60954),

Gene: Grassboy\_58 Start: 42646, Stop: 42386, Start Num: 28  
Candidate Starts for Grassboy\_58:  
(Start: 28 @42646 has 2 MA's), (Start: 30 @42640 has 4 MA's), (31, 42631), (53, 42523), (59, 42499), (68, 42448), (73, 42424),

Gene: Gray\_24 Start: 11841, Stop: 12056, Start Num: 40

Candidate Starts for Gray\_24:

(27, 11784), (Start: 38 @11838 has 4 MA's), (Start: 40 @11841 has 29 MA's), (Start: 49 @11898 has 2 MA's), (56, 11931), (60, 11943), (61, 11946), (73, 12015),

Gene: Hanem\_24 Start: 11841, Stop: 12056, Start Num: 40

Candidate Starts for Hanem\_24:

(27, 11784), (Start: 38 @11838 has 4 MA's), (Start: 40 @11841 has 29 MA's), (Start: 49 @11898 has 2 MA's), (56, 11931), (60, 11943), (61, 11946), (73, 12015),

Gene: Harella\_102 Start: 61508, Stop: 61705, Start Num: 45

Candidate Starts for Harella\_102:

(14, 61331), (Start: 38 @61487 has 4 MA's), (Start: 45 @61508 has 92 MA's), (Start: 49 @61553 has 2 MA's), (53, 61571), (64, 61613), (72, 61667),

Gene: Henry\_99 Start: 60835, Stop: 61032, Start Num: 45

Candidate Starts for Henry\_99:

(14, 60658), (Start: 38 @60814 has 4 MA's), (Start: 45 @60835 has 92 MA's), (Start: 49 @60880 has 2 MA's), (53, 60898), (64, 60940), (72, 60994),

Gene: Holt\_107 Start: 61209, Stop: 61406, Start Num: 45

Candidate Starts for Holt\_107:

(14, 61032), (Start: 38 @61188 has 4 MA's), (Start: 45 @61209 has 92 MA's), (Start: 49 @61254 has 2 MA's), (53, 61272), (64, 61314), (72, 61368),

Gene: Hoonter\_105 Start: 61288, Stop: 61485, Start Num: 45

Candidate Starts for Hoonter\_105:

(14, 61111), (Start: 38 @61267 has 4 MA's), (Start: 45 @61288 has 92 MA's), (Start: 49 @61333 has 2 MA's), (53, 61351), (64, 61393), (72, 61447),

Gene: Hoshi\_30 Start: 25627, Stop: 25866, Start Num: 40

Candidate Starts for Hoshi\_30:

(Start: 40 @25627 has 29 MA's), (67, 25786), (73, 25816),

Gene: HufflyPuff\_104 Start: 61903, Stop: 62100, Start Num: 45

Candidate Starts for HufflyPuff\_104:

(14, 61726), (Start: 38 @61882 has 4 MA's), (Start: 45 @61903 has 92 MA's), (Start: 49 @61948 has 2 MA's), (53, 61966), (64, 62008), (72, 62062),

Gene: Hyperion\_56 Start: 42456, Stop: 42184, Start Num: 29

Candidate Starts for Hyperion\_56:

(Start: 28 @42459 has 2 MA's), (Start: 29 @42456 has 21 MA's), (52, 42333), (68, 42246), (73, 42222), (76, 42195),

Gene: IHOP\_100 Start: 60511, Stop: 60708, Start Num: 45

Candidate Starts for IHOP\_100:

(14, 60334), (Start: 38 @60490 has 4 MA's), (Start: 45 @60511 has 92 MA's), (Start: 49 @60556 has 2 MA's), (53, 60574), (64, 60616), (72, 60670),

Gene: IceWarrior\_30 Start: 25627, Stop: 25866, Start Num: 40

Candidate Starts for IceWarrior\_30:

(Start: 40 @25627 has 29 MA's), (67, 25786), (73, 25816),



Gene: Icee\_103 Start: 60319, Stop: 60516, Start Num: 45

Candidate Starts for Icee\_103:

(14, 60142), (Start: 38 @60298 has 4 MA's), (Start: 45 @60319 has 92 MA's), (Start: 49 @60364 has 2 MA's), (53, 60382), (64, 60424), (72, 60478),

Gene: Inca\_99 Start: 59000, Stop: 59197, Start Num: 45

Candidate Starts for Inca\_99:

(14, 58823), (Start: 38 @58979 has 4 MA's), (Start: 45 @59000 has 92 MA's), (Start: 49 @59045 has 2 MA's), (53, 59063), (64, 59105), (72, 59159),

Gene: Indigenous\_30 Start: 25627, Stop: 25866, Start Num: 40

Candidate Starts for Indigenous\_30:

(Start: 40 @25627 has 29 MA's), (67, 25786), (73, 25816),

Gene: Jaylociraptor\_30 Start: 25627, Stop: 25866, Start Num: 40

Candidate Starts for Jaylociraptor\_30:

(Start: 40 @25627 has 29 MA's), (67, 25786), (73, 25816),

Gene: Jehoshaphat\_56 Start: 42519, Stop: 42247, Start Num: 29

Candidate Starts for Jehoshaphat\_56:

(Start: 28 @42522 has 2 MA's), (Start: 29 @42519 has 21 MA's), (52, 42396), (68, 42309), (73, 42285), (76, 42258),

Gene: Judebell\_57 Start: 42165, Stop: 41893, Start Num: 29

Candidate Starts for Judebell\_57:

(Start: 28 @42168 has 2 MA's), (Start: 29 @42165 has 21 MA's), (54, 42021), (63, 41991), (68, 41955), (73, 41931), (76, 41904),

Gene: Kabocha\_25 Start: 12654, Stop: 12869, Start Num: 40

Candidate Starts for Kabocha\_25:

(27, 12597), (Start: 38 @12651 has 4 MA's), (Start: 40 @12654 has 29 MA's), (Start: 49 @12711 has 2 MA's), (56, 12744), (60, 12756), (61, 12759), (73, 12828),

Gene: Kanye\_99 Start: 61044, Stop: 61241, Start Num: 45

Candidate Starts for Kanye\_99:

(14, 60867), (Start: 38 @61023 has 4 MA's), (Start: 45 @61044 has 92 MA's), (Start: 49 @61089 has 2 MA's), (53, 61107), (64, 61149), (72, 61203),

Gene: Kimchi\_106 Start: 60936, Stop: 61133, Start Num: 45

Candidate Starts for Kimchi\_106:

(14, 60759), (Start: 38 @60915 has 4 MA's), (Start: 45 @60936 has 92 MA's), (Start: 49 @60981 has 2 MA's), (53, 60999), (64, 61041), (72, 61095),

Gene: Kostya\_102 Start: 60613, Stop: 60810, Start Num: 45

Candidate Starts for Kostya\_102:

(14, 60436), (Start: 38 @60592 has 4 MA's), (Start: 45 @60613 has 92 MA's), (Start: 49 @60658 has 2 MA's), (53, 60676), (64, 60718), (72, 60772),

Gene: Kudfre\_102 Start: 58639, Stop: 58851, Start Num: 41

Candidate Starts for Kudfre\_102:

(Start: 41 @58639 has 5 MA's), (55, 58729), (62, 58750), (72, 58813), (76, 58843),

Gene: Kyva\_58 Start: 42697, Stop: 42443, Start Num: 30

Candidate Starts for Kyva\_58:

(Start: 28 @42703 has 2 MA's), (Start: 30 @42697 has 4 MA's), (31, 42688), (53, 42580), (59, 42556), (68, 42505), (73, 42481),

Gene: Lenoshki\_23 Start: 11467, Stop: 11682, Start Num: 40

Candidate Starts for Lenoshki\_23:

(Start: 38 @11464 has 4 MA's), (Start: 40 @11467 has 29 MA's), (Start: 49 @11524 has 2 MA's), (56, 11557), (61, 11572), (73, 11641),

Gene: Lilpickle\_101 Start: 60438, Stop: 60635, Start Num: 45

Candidate Starts for Lilpickle\_101:

(14, 60261), (Start: 38 @60417 has 4 MA's), (Start: 45 @60438 has 92 MA's), (Start: 49 @60483 has 2 MA's), (53, 60501), (64, 60543), (72, 60597),

Gene: Llemily\_54 Start: 41295, Stop: 41023, Start Num: 29

Candidate Starts for Llemily\_54:

(Start: 28 @41298 has 2 MA's), (Start: 29 @41295 has 21 MA's), (52, 41172), (68, 41085), (73, 41061), (76, 41034),

Gene: Lonelysoil\_54 Start: 41648, Stop: 41376, Start Num: 29

Candidate Starts for Lonelysoil\_54:

(Start: 29 @41648 has 21 MA's), (52, 41525), (68, 41438), (73, 41414), (76, 41387),

Gene: LuckySocke\_72 Start: 27277, Stop: 27489, Start Num: 38

Candidate Starts for LuckySocke\_72:

(Start: 38 @27277 has 4 MA's), (56, 27367), (64, 27394), (69, 27436), (71, 27448), (72, 27451),

Gene: MISSy\_103 Start: 61721, Stop: 61918, Start Num: 45

Candidate Starts for MISSy\_103:

(14, 61544), (19, 61598), (Start: 38 @61700 has 4 MA's), (Start: 45 @61721 has 92 MA's), (Start: 49 @61766 has 2 MA's), (53, 61784), (64, 61826), (72, 61880),

Gene: MPhalcon\_103 Start: 61138, Stop: 61335, Start Num: 45

Candidate Starts for MPhalcon\_103:

(14, 60961), (Start: 38 @61117 has 4 MA's), (Start: 45 @61138 has 92 MA's), (Start: 49 @61183 has 2 MA's), (53, 61201), (64, 61243), (72, 61297),

Gene: Manda\_103 Start: 61175, Stop: 61372, Start Num: 45

Candidate Starts for Manda\_103:

(14, 60998), (Start: 38 @61154 has 4 MA's), (Start: 45 @61175 has 92 MA's), (Start: 49 @61220 has 2 MA's), (53, 61238), (64, 61280), (72, 61334),

Gene: Marshawn\_5 Start: 936, Stop: 1178, Start Num: 34

Candidate Starts for Marshawn\_5:

(Start: 34 @936 has 1 MA's), (50, 1017), (72, 1128),

Gene: Marshmallow\_99 Start: 61133, Stop: 61330, Start Num: 45

Candidate Starts for Marshmallow\_99:

(14, 60956), (Start: 38 @61112 has 4 MA's), (Start: 45 @61133 has 92 MA's), (Start: 49 @61178 has 2 MA's), (53, 61196), (64, 61238), (72, 61292),

Gene: Mashley\_55 Start: 42232, Stop: 41960, Start Num: 29

Candidate Starts for Mashley\_55:

(Start: 29 @42232 has 21 MA's), (54, 42088), (63, 42058), (68, 42022), (73, 41998), (76, 41971),

Gene: Maya\_30 Start: 25641, Stop: 25880, Start Num: 40

Candidate Starts for Maya\_30:

(Start: 40 @25641 has 29 MA's), (67, 25800), (73, 25830),

Gene: Meibysrarus\_30 Start: 25627, Stop: 25866, Start Num: 40

Candidate Starts for Meibysrarus\_30:

(Start: 40 @25627 has 29 MA's), (67, 25786), (73, 25816),

Gene: Mentos\_60 Start: 43466, Stop: 43194, Start Num: 29

Candidate Starts for Mentos\_60:

(16, 43562), (Start: 29 @43466 has 21 MA's), (54, 43322), (63, 43292), (68, 43256), (73, 43232), (76, 43205),

Gene: MicyPS\_27 Start: 28079, Stop: 28330, Start Num: 40

Candidate Starts for MicyPS\_27:

(20, 27974), (21, 27977), (22, 27983), (25, 27998), (26, 28010), (32, 28049), (Start: 40 @28079 has 29 MA's), (48, 28139), (53, 28169), (61, 28199), (64, 28211), (65, 28214), (70, 28253), (73, 28268), (78, 28304),

Gene: Mimi\_186 Start: 124218, Stop: 124448, Start Num: 42

Candidate Starts for Mimi\_186:

(Start: 42 @124218 has 3 MA's), (73, 124395),

Gene: Mindy\_101 Start: 60454, Stop: 60651, Start Num: 45

Candidate Starts for Mindy\_101:

(14, 60277), (Start: 38 @60433 has 4 MA's), (Start: 45 @60454 has 92 MA's), (Start: 49 @60499 has 2 MA's), (53, 60517), (64, 60559), (72, 60613),

Gene: Miniwave\_97 Start: 60631, Stop: 60828, Start Num: 45

Candidate Starts for Miniwave\_97:

(14, 60454), (Start: 38 @60610 has 4 MA's), (Start: 45 @60631 has 92 MA's), (Start: 49 @60676 has 2 MA's), (53, 60694), (64, 60736), (72, 60790),

Gene: MintFritos\_23 Start: 11841, Stop: 12056, Start Num: 40

Candidate Starts for MintFritos\_23:

(27, 11784), (Start: 38 @11838 has 4 MA's), (Start: 40 @11841 has 29 MA's), (Start: 49 @11898 has 2 MA's), (56, 11931), (60, 11943), (61, 11946), (73, 12015),

Gene: Misfit\_103 Start: 62234, Stop: 62431, Start Num: 45

Candidate Starts for Misfit\_103:

(14, 62057), (Start: 38 @62213 has 4 MA's), (Start: 45 @62234 has 92 MA's), (Start: 49 @62279 has 2 MA's), (53, 62297), (64, 62339), (72, 62393),

Gene: MorillMayhem\_57 Start: 42562, Stop: 42308, Start Num: 30

Candidate Starts for MorillMayhem\_57:

(Start: 28 @42568 has 2 MA's), (Start: 30 @42562 has 4 MA's), (31, 42553), (53, 42445), (59, 42421), (68, 42370), (73, 42346), (76, 42319),

Gene: Mosby\_98 Start: 60598, Stop: 60795, Start Num: 45

Candidate Starts for Mosby\_98:

(14, 60421), (Start: 38 @60577 has 4 MA's), (Start: 45 @60598 has 92 MA's), (Start: 49 @60643 has 2 MA's), (53, 60661), (64, 60703), (72, 60757),

Gene: Murica\_105 Start: 62937, Stop: 63134, Start Num: 45

Candidate Starts for Murica\_105:

(14, 62760), (19, 62814), (Start: 38 @62916 has 4 MA's), (Start: 45 @62937 has 92 MA's), (Start: 49 @62982 has 2 MA's), (53, 63000), (64, 63042), (72, 63096),

Gene: Myrale\_102 Start: 61293, Stop: 61490, Start Num: 45

Candidate Starts for Myrale\_102:

(14, 61116), (Start: 38 @61272 has 4 MA's), (Start: 45 @61293 has 92 MA's), (Start: 49 @61338 has 2 MA's), (53, 61356), (64, 61398), (72, 61452),

Gene: Nala\_104 Start: 61647, Stop: 61844, Start Num: 45

Candidate Starts for Nala\_104:

(14, 61470), (Start: 38 @61626 has 4 MA's), (Start: 45 @61647 has 92 MA's), (Start: 49 @61692 has 2 MA's), (53, 61710), (64, 61752), (72, 61806),

Gene: Namago\_56 Start: 41635, Stop: 41363, Start Num: 29

Candidate Starts for Namago\_56:

(Start: 28 @41641 has 2 MA's), (Start: 29 @41635 has 21 MA's), (52, 41512), (68, 41425), (73, 41401), (76, 41374),

Gene: Namo\_30 Start: 25633, Stop: 25872, Start Num: 40

Candidate Starts for Namo\_30:

(Start: 40 @25633 has 29 MA's), (67, 25792), (73, 25822),

Gene: NelitzaMV\_99 Start: 59641, Stop: 59838, Start Num: 45

Candidate Starts for NelitzaMV\_99:

(14, 59464), (Start: 38 @59620 has 4 MA's), (Start: 45 @59641 has 92 MA's), (Start: 49 @59686 has 2 MA's), (53, 59704), (64, 59746), (72, 59800),

Gene: Nike\_56 Start: 42603, Stop: 42349, Start Num: 30

Candidate Starts for Nike\_56:

(15, 42684), (Start: 30 @42603 has 4 MA's), (31, 42594), (53, 42486), (59, 42462), (68, 42411), (73, 42387), (76, 42360),

Gene: Nimrod\_102 Start: 61260, Stop: 61457, Start Num: 45

Candidate Starts for Nimrod\_102:

(14, 61083), (Start: 38 @61239 has 4 MA's), (Start: 45 @61260 has 92 MA's), (Start: 49 @61305 has 2 MA's), (53, 61323), (64, 61365), (72, 61419),

Gene: NoodlelyBoi\_26 Start: 13691, Stop: 13933, Start Num: 40

Candidate Starts for NoodlelyBoi\_26:

(Start: 40 @13691 has 29 MA's), (52, 13772), (68, 13859), (73, 13883),

Gene: Octobien14\_100 Start: 58045, Stop: 58257, Start Num: 41

Candidate Starts for Octobien14\_100:

(Start: 41 @58045 has 5 MA's), (55, 58135), (62, 58156), (72, 58219), (77, 58252),

Gene: OlympicHelado\_30 Start: 25633, Stop: 25872, Start Num: 40

Candidate Starts for OlympicHelado\_30:

(Start: 40 @25633 has 29 MA's), (67, 25792), (73, 25822),

Gene: Oogie\_23 Start: 11493, Stop: 11708, Start Num: 40

Candidate Starts for Oogie\_23:

(Start: 38 @11490 has 4 MA's), (Start: 40 @11493 has 29 MA's), (Start: 49 @11550 has 2 MA's), (56, 11583), (61, 11598), (73, 11667),

Gene: PSonyx\_28 Start: 27311, Stop: 27562, Start Num: 40

Candidate Starts for PSonyx\_28:

(Start: 40 @27311 has 29 MA's), (Start: 42 @27314 has 3 MA's), (48, 27371), (61, 27431), (62, 27434), (64, 27443), (65, 27446), (70, 27485), (73, 27500), (78, 27536), (79, 27539),

Gene: Pabst\_50 Start: 50450, Stop: 50701, Start Num: 33

Candidate Starts for Pabst\_50:

(24, 50399), (Start: 33 @50450 has 1 MA's), (37, 50459), (Start: 45 @50489 has 92 MA's), (47, 50525), (48, 50537), (52, 50555), (53, 50567), (73, 50666),

Gene: Pakusa\_23 Start: 11583, Stop: 11798, Start Num: 40

Candidate Starts for Pakusa\_23:

(27, 11526), (Start: 38 @11580 has 4 MA's), (Start: 40 @11583 has 29 MA's), (Start: 49 @11640 has 2 MA's), (56, 11673), (60, 11685), (61, 11688), (73, 11757),

Gene: Palpatine\_103 Start: 61977, Stop: 62129, Start Num: 49

Candidate Starts for Palpatine\_103:

(14, 61755), (Start: 38 @61911 has 4 MA's), (Start: 45 @61932 has 92 MA's), (Start: 49 @61977 has 2 MA's), (53, 61995), (64, 62037), (72, 62091),

Gene: Panchaali\_189 Start: 122700, Stop: 122903, Start Num: 43

Candidate Starts for Panchaali\_189:

(36, 122679), (Start: 43 @122700 has 2 MA's), (57, 122790), (73, 122871),

Gene: Paperbeatsrock\_101 Start: 61309, Stop: 61506, Start Num: 45

Candidate Starts for Paperbeatsrock\_101:

(14, 61132), (Start: 38 @61288 has 4 MA's), (Start: 45 @61309 has 92 MA's), (Start: 49 @61354 has 2 MA's), (53, 61372), (64, 61414), (72, 61468),

Gene: Pat3\_99 Start: 59826, Stop: 60023, Start Num: 45

Candidate Starts for Pat3\_99:

(14, 59649), (Start: 38 @59805 has 4 MA's), (Start: 45 @59826 has 92 MA's), (Start: 49 @59871 has 2 MA's), (53, 59889), (64, 59931), (72, 59985),

Gene: Patbob\_186 Start: 125330, Stop: 125560, Start Num: 42

Candidate Starts for Patbob\_186:

(Start: 42 @125330 has 3 MA's), (73, 125507),

Gene: Petra64142\_106 Start: 61798, Stop: 61995, Start Num: 45

Candidate Starts for Petra64142\_106:

(14, 61621), (Start: 38 @61777 has 4 MA's), (Start: 45 @61798 has 92 MA's), (Start: 49 @61843 has 2 MA's), (53, 61861), (64, 61903), (72, 61957),

Gene: Phabia\_54 Start: 41710, Stop: 41438, Start Num: 29

Candidate Starts for Phabia\_54:

(Start: 28 @41713 has 2 MA's), (Start: 29 @41710 has 21 MA's), (52, 41587), (68, 41500), (73, 41476), (76, 41449),

Gene: Phaja\_100 Start: 60513, Stop: 60710, Start Num: 45

Candidate Starts for Phaja\_100:

(14, 60336), (Start: 38 @60492 has 4 MA's), (Start: 45 @60513 has 92 MA's), (Start: 49 @60558 has 2 MA's), (53, 60576), (64, 60618), (72, 60672),

Gene: Pharaoh\_43 Start: 32085, Stop: 31876, Start Num: 41

Candidate Starts for Pharaoh\_43:

(20, 32193), (23, 32181), (Start: 41 @32085 has 5 MA's), (53, 32010), (62, 31977), (72, 31914),

Gene: Pharsalus\_99 Start: 61008, Stop: 61205, Start Num: 45

Candidate Starts for Pharsalus\_99:

(14, 60831), (Start: 38 @60987 has 4 MA's), (Start: 45 @61008 has 92 MA's), (Start: 49 @61053 has 2 MA's), (53, 61071), (64, 61113), (72, 61167),

Gene: PhatBacter\_105 Start: 61677, Stop: 61874, Start Num: 45

Candidate Starts for PhatBacter\_105:

(14, 61500), (Start: 38 @61656 has 4 MA's), (Start: 45 @61677 has 92 MA's), (Start: 49 @61722 has 2 MA's), (53, 61740), (64, 61782), (72, 61836),

Gene: Phaux\_104 Start: 62237, Stop: 62434, Start Num: 45

Candidate Starts for Phaux\_104:

(14, 62060), (Start: 38 @62216 has 4 MA's), (Start: 45 @62237 has 92 MA's), (Start: 49 @62282 has 2 MA's), (53, 62300), (64, 62342), (72, 62396),

Gene: Phinky\_64 Start: 44342, Stop: 44070, Start Num: 30

Candidate Starts for Phinky\_64:

(18, 44396), (Start: 29 @44345 has 21 MA's), (Start: 30 @44342 has 4 MA's), (31, 44333), (53, 44225), (59, 44201), (68, 44150), (73, 44126), (80, 44081),

Gene: Phrampa\_179 Start: 126373, Stop: 126600, Start Num: 42

Candidate Starts for Phrampa\_179:

(Start: 42 @126373 has 3 MA's), (73, 126550),

Gene: Phroglets\_5 Start: 3497, Stop: 3736, Start Num: 33

Candidate Starts for Phroglets\_5:

(Start: 33 @3497 has 1 MA's), (37, 3506), (66, 3656), (70, 3689), (73, 3704),

Gene: Policronamos\_104 Start: 61941, Stop: 62138, Start Num: 45

Candidate Starts for Policronamos\_104:

(14, 61764), (Start: 38 @61920 has 4 MA's), (Start: 45 @61941 has 92 MA's), (Start: 49 @61986 has 2 MA's), (53, 62004), (64, 62046), (72, 62100),

Gene: Quallification\_103 Start: 61723, Stop: 61920, Start Num: 45

Candidate Starts for Quallification\_103:

(14, 61546), (Start: 38 @61702 has 4 MA's), (Start: 45 @61723 has 92 MA's), (Start: 49 @61768 has 2 MA's), (53, 61786), (64, 61828), (72, 61882),

Gene: Quammi\_52 Start: 41410, Stop: 41138, Start Num: 29

Candidate Starts for Quammi\_52:

(Start: 28 @41413 has 2 MA's), (Start: 29 @41410 has 21 MA's), (52, 41287), (68, 41200), (73, 41176), (76, 41149),

Gene: Quhwah\_29 Start: 14012, Stop: 14254, Start Num: 40  
Candidate Starts for Quhwah\_29:  
(11, 13787), (Start: 40 @14012 has 29 MA's), (65, 14150), (68, 14180), (73, 14204),

Gene: Racecar\_187 Start: 125098, Stop: 125328, Start Num: 42  
Candidate Starts for Racecar\_187:  
(Start: 42 @125098 has 3 MA's), (73, 125275),

Gene: Rakim\_103 Start: 60745, Stop: 60942, Start Num: 45  
Candidate Starts for Rakim\_103:  
(14, 60568), (Start: 38 @60724 has 4 MA's), (Start: 45 @60745 has 92 MA's), (Start: 49 @60790 has 2 MA's), (53, 60808), (64, 60850), (72, 60904),

Gene: Rima\_30 Start: 25633, Stop: 25872, Start Num: 40  
Candidate Starts for Rima\_30:  
(Start: 40 @25633 has 29 MA's), (67, 25792), (73, 25822),

Gene: Rimmer\_100 Start: 61135, Stop: 61332, Start Num: 45  
Candidate Starts for Rimmer\_100:  
(14, 60958), (Start: 38 @61114 has 4 MA's), (Start: 45 @61135 has 92 MA's), (Start: 49 @61180 has 2 MA's), (53, 61198), (64, 61240), (72, 61294),

Gene: Rowlf\_52 Start: 41508, Stop: 41236, Start Num: 29  
Candidate Starts for Rowlf\_52:  
(Start: 28 @41511 has 2 MA's), (Start: 29 @41508 has 21 MA's), (31, 41499), (52, 41403), (53, 41391), (58, 41370), (59, 41367), (68, 41316), (73, 41292), (80, 41247),

Gene: RubyRalph\_60 Start: 44491, Stop: 44210, Start Num: 29  
Candidate Starts for RubyRalph\_60:  
(Start: 29 @44491 has 21 MA's), (52, 44365),

Gene: Rudy\_52 Start: 41446, Stop: 41174, Start Num: 29  
Candidate Starts for Rudy\_52:  
(Start: 28 @41449 has 2 MA's), (Start: 29 @41446 has 21 MA's), (52, 41323), (68, 41236), (73, 41212), (76, 41185),

Gene: SallyK\_57 Start: 42760, Stop: 42488, Start Num: 29  
Candidate Starts for SallyK\_57:  
(1, 43315), (2, 43294), (3, 43264), (Start: 29 @42760 has 21 MA's), (54, 42616), (63, 42586), (68, 42550), (73, 42526), (76, 42499),

Gene: Sassay\_97 Start: 59560, Stop: 59757, Start Num: 45  
Candidate Starts for Sassay\_97:  
(14, 59383), (Start: 38 @59539 has 4 MA's), (Start: 45 @59560 has 92 MA's), (Start: 49 @59605 has 2 MA's), (53, 59623), (64, 59665), (72, 59719),

Gene: ScarletRaider\_23 Start: 12882, Stop: 13100, Start Num: 40  
Candidate Starts for ScarletRaider\_23:  
(Start: 38 @12879 has 4 MA's), (Start: 40 @12882 has 29 MA's), (68, 13035), (71, 13053), (73, 13059),

Gene: Schomber\_23 Start: 11591, Stop: 11806, Start Num: 40  
Candidate Starts for Schomber\_23:

(27, 11534), (Start: 38 @11588 has 4 MA's), (Start: 40 @11591 has 29 MA's), (Start: 49 @11648 has 2 MA's), (56, 11681), (61, 11696), (70, 11750), (73, 11765),

Gene: Sephiroth\_99 Start: 58611, Stop: 58823, Start Num: 41

Candidate Starts for Sephiroth\_99:

(Start: 41 @58611 has 5 MA's), (55, 58701), (56, 58704), (62, 58722), (72, 58785),

Gene: ShamWow\_102 Start: 61530, Stop: 61727, Start Num: 45

Candidate Starts for ShamWow\_102:

(14, 61353), (Start: 38 @61509 has 4 MA's), (Start: 45 @61530 has 92 MA's), (Start: 49 @61575 has 2 MA's), (53, 61593), (64, 61635), (72, 61689),

Gene: ShereKhan\_100 Start: 61969, Stop: 62166, Start Num: 45

Candidate Starts for ShereKhan\_100:

(14, 61792), (Start: 38 @61948 has 4 MA's), (Start: 45 @61969 has 92 MA's), (Start: 49 @62014 has 2 MA's), (53, 62032), (64, 62074), (72, 62128),

Gene: Sillytadpoles\_55 Start: 41283, Stop: 41011, Start Num: 29

Candidate Starts for Sillytadpoles\_55:

(Start: 28 @41286 has 2 MA's), (Start: 29 @41283 has 21 MA's), (52, 41160), (68, 41073), (73, 41049), (76, 41022),

Gene: SirDuracell\_102 Start: 60347, Stop: 60544, Start Num: 45

Candidate Starts for SirDuracell\_102:

(14, 60170), (Start: 38 @60326 has 4 MA's), (Start: 45 @60347 has 92 MA's), (Start: 49 @60392 has 2 MA's), (53, 60410), (64, 60452), (72, 60506),

Gene: SophKB\_100 Start: 60770, Stop: 60967, Start Num: 45

Candidate Starts for SophKB\_100:

(14, 60593), (Start: 38 @60749 has 4 MA's), (Start: 45 @60770 has 92 MA's), (Start: 49 @60815 has 2 MA's), (53, 60833), (64, 60875), (72, 60929),

Gene: Sotrice96\_103 Start: 61234, Stop: 61431, Start Num: 45

Candidate Starts for Sotrice96\_103:

(14, 61057), (Start: 38 @61213 has 4 MA's), (Start: 45 @61234 has 92 MA's), (Start: 49 @61279 has 2 MA's), (53, 61297), (64, 61339), (72, 61393),

Gene: Spectropatronm\_30 Start: 25627, Stop: 25866, Start Num: 40

Candidate Starts for Spectropatronm\_30:

(Start: 40 @25627 has 29 MA's), (67, 25786), (73, 25816),

Gene: Squash\_59 Start: 42626, Stop: 42354, Start Num: 30

Candidate Starts for Squash\_59:

(4, 43061), (5, 43058), (6, 42956), (7, 42896), (8, 42887), (10, 42809), (12, 42770), (13, 42767), (16, 42722), (17, 42713), (Start: 28 @42632 has 2 MA's), (Start: 30 @42626 has 4 MA's), (31, 42617), (53, 42509), (59, 42485), (68, 42434), (73, 42410), (80, 42365),

Gene: Stank\_104 Start: 61008, Stop: 61205, Start Num: 45

Candidate Starts for Stank\_104:

(14, 60831), (Start: 38 @60987 has 4 MA's), (Start: 45 @61008 has 92 MA's), (Start: 49 @61053 has 2 MA's), (53, 61071), (64, 61113), (72, 61167),

Gene: Statler\_59 Start: 42227, Stop: 41955, Start Num: 29



Candidate Starts for Statler\_59:

(Start: 29 @42227 has 21 MA's), (54, 42083), (63, 42053), (68, 42017), (73, 41993),

Gene: StellaBean\_101 Start: 61370, Stop: 61567, Start Num: 45

Candidate Starts for StellaBean\_101:

(14, 61193), (Start: 38 @61349 has 4 MA's), (Start: 45 @61370 has 92 MA's), (Start: 49 @61415 has 2 MA's), (53, 61433), (64, 61475), (72, 61529),

Gene: StolenFromERC\_104 Start: 60933, Stop: 61130, Start Num: 45

Candidate Starts for StolenFromERC\_104:

(14, 60756), (Start: 45 @60933 has 92 MA's), (Start: 49 @60978 has 2 MA's), (53, 60996), (64, 61038), (72, 61092),

Gene: StormChicken\_103 Start: 61299, Stop: 61496, Start Num: 45

Candidate Starts for StormChicken\_103:

(14, 61122), (Start: 38 @61278 has 4 MA's), (Start: 45 @61299 has 92 MA's), (Start: 49 @61344 has 2 MA's), (53, 61362), (64, 61404), (72, 61458),

Gene: StrawberryJamm\_59 Start: 41944, Stop: 41666, Start Num: 28

Candidate Starts for StrawberryJamm\_59:

(Start: 28 @41944 has 2 MA's), (Start: 29 @41938 has 21 MA's), (52, 41815), (68, 41728), (73, 41704), (76, 41677),

Gene: Syleon\_102 Start: 58815, Stop: 59036, Start Num: 41

Candidate Starts for Syleon\_102:

(Start: 41 @58815 has 5 MA's), (55, 58905), (62, 58926), (72, 58989),

Gene: TBrady12\_105 Start: 60448, Stop: 60645, Start Num: 45

Candidate Starts for TBrady12\_105:

(14, 60271), (Start: 38 @60427 has 4 MA's), (Start: 45 @60448 has 92 MA's), (Start: 49 @60493 has 2 MA's), (53, 60511), (64, 60553), (72, 60607),

Gene: TaidaOne\_30 Start: 26275, Stop: 26514, Start Num: 40

Candidate Starts for TaidaOne\_30:

(Start: 40 @26275 has 29 MA's), (67, 26434), (73, 26464),

Gene: Talia1610\_187 Start: 124515, Stop: 124745, Start Num: 42

Candidate Starts for Talia1610\_187:

(Start: 42 @124515 has 3 MA's), (73, 124692),

Gene: Talos\_72 Start: 27089, Stop: 27301, Start Num: 39

Candidate Starts for Talos\_72:

(39, 27089), (56, 27179), (64, 27206), (67, 27233), (69, 27248), (71, 27260), (72, 27263),

Gene: Tarkin\_101 Start: 61834, Stop: 62031, Start Num: 45

Candidate Starts for Tarkin\_101:

(14, 61657), (Start: 38 @61813 has 4 MA's), (Start: 45 @61834 has 92 MA's), (Start: 49 @61879 has 2 MA's), (53, 61897), (64, 61939), (72, 61993),

Gene: TeardropMSU\_98 Start: 60315, Stop: 60512, Start Num: 45

Candidate Starts for TeardropMSU\_98:

(14, 60138), (Start: 38 @60294 has 4 MA's), (Start: 45 @60315 has 92 MA's), (Start: 49 @60360 has 2 MA's), (53, 60378), (64, 60420), (72, 60474),

Gene: Teehee\_55 Start: 42516, Stop: 42244, Start Num: 29

Candidate Starts for Teehee\_55:

(Start: 28 @42519 has 2 MA's), (Start: 29 @42516 has 21 MA's), (52, 42393), (68, 42306), (73, 42282), (76, 42255),

Gene: Terminus\_105 Start: 62234, Stop: 62431, Start Num: 45

Candidate Starts for Terminus\_105:

(14, 62057), (Start: 38 @62213 has 4 MA's), (Start: 45 @62234 has 92 MA's), (Start: 49 @62279 has 2 MA's), (53, 62297), (64, 62339), (72, 62393),

Gene: Theresita\_48 Start: 29943, Stop: 30182, Start Num: 35

Candidate Starts for Theresita\_48:

(Start: 35 @29943 has 1 MA's), (44, 29967), (58, 30075), (65, 30099),

Gene: Thimble\_104 Start: 60243, Stop: 60395, Start Num: 49

Candidate Starts for Thimble\_104:

(14, 60021), (Start: 38 @60177 has 4 MA's), (Start: 45 @60198 has 92 MA's), (Start: 49 @60243 has 2 MA's), (53, 60261), (64, 60303), (72, 60357),

Gene: TieDye\_29 Start: 25319, Stop: 25558, Start Num: 40

Candidate Starts for TieDye\_29:

(Start: 40 @25319 has 29 MA's), (67, 25478), (73, 25508),

Gene: Tissue\_56 Start: 42542, Stop: 42282, Start Num: 28

Candidate Starts for Tissue\_56:

(Start: 28 @42542 has 2 MA's), (Start: 30 @42536 has 4 MA's), (31, 42527), (53, 42419), (59, 42395), (68, 42344), (73, 42320),

Gene: Tomaszewski\_97 Start: 60772, Stop: 60969, Start Num: 45

Candidate Starts for Tomaszewski\_97:

(14, 60595), (Start: 38 @60751 has 4 MA's), (Start: 45 @60772 has 92 MA's), (Start: 49 @60817 has 2 MA's), (53, 60835), (64, 60877), (72, 60931),

Gene: Toneprano\_23 Start: 11841, Stop: 12056, Start Num: 40

Candidate Starts for Toneprano\_23:

(27, 11784), (Start: 38 @11838 has 4 MA's), (Start: 40 @11841 has 29 MA's), (Start: 49 @11898 has 2 MA's), (56, 11931), (60, 11943), (61, 11946), (73, 12015),

Gene: TonyStarch\_30 Start: 25633, Stop: 25872, Start Num: 40

Candidate Starts for TonyStarch\_30:

(Start: 40 @25633 has 29 MA's), (67, 25792), (73, 25822),

Gene: Toto\_100 Start: 61530, Stop: 61727, Start Num: 45

Candidate Starts for Toto\_100:

(14, 61353), (Start: 38 @61509 has 4 MA's), (Start: 45 @61530 has 92 MA's), (Start: 49 @61575 has 2 MA's), (53, 61593), (64, 61635), (72, 61689),

Gene: Traaww1\_98 Start: 60037, Stop: 60234, Start Num: 45

Candidate Starts for Traaww1\_98:

(14, 59860), (Start: 38 @60016 has 4 MA's), (Start: 45 @60037 has 92 MA's), (Start: 49 @60082 has 2 MA's), (53, 60100), (64, 60142), (72, 60196),

Gene: Tuco\_103 Start: 62395, Stop: 62592, Start Num: 45

Candidate Starts for Tuco\_103:

(14, 62218), (Start: 38 @62374 has 4 MA's), (Start: 45 @62395 has 92 MA's), (Start: 49 @62440 has 2 MA's), (53, 62458), (64, 62500), (72, 62554),

Gene: Twin\_23 Start: 11841, Stop: 12056, Start Num: 40

Candidate Starts for Twin\_23:

(27, 11784), (Start: 38 @11838 has 4 MA's), (Start: 40 @11841 has 29 MA's), (Start: 49 @11898 has 2 MA's), (56, 11931), (60, 11943), (61, 11946), (73, 12015),

Gene: UBSmoodge\_25 Start: 13351, Stop: 13569, Start Num: 40

Candidate Starts for UBSmoodge\_25:

(Start: 38 @13348 has 4 MA's), (Start: 40 @13351 has 29 MA's), (Start: 49 @13411 has 2 MA's), (68, 13504), (71, 13522), (73, 13528),

Gene: Viceroy\_53 Start: 41416, Stop: 41144, Start Num: 29

Candidate Starts for Viceroy\_53:

(Start: 28 @41419 has 2 MA's), (Start: 29 @41416 has 21 MA's), (52, 41293), (68, 41206), (73, 41182), (76, 41155),

Gene: Wayne3\_56 Start: 42279, Stop: 42007, Start Num: 29

Candidate Starts for Wayne3\_56:

(Start: 28 @42282 has 2 MA's), (Start: 29 @42279 has 21 MA's), (52, 42156), (68, 42069), (73, 42045), (76, 42018),

Gene: Wheelie\_54 Start: 41600, Stop: 41328, Start Num: 29

Candidate Starts for Wheelie\_54:

(Start: 28 @41603 has 2 MA's), (Start: 29 @41600 has 21 MA's), (52, 41477), (68, 41390), (73, 41366), (76, 41339),

Gene: Wiggin\_104 Start: 60438, Stop: 60635, Start Num: 45

Candidate Starts for Wiggin\_104:

(14, 60261), (Start: 38 @60417 has 4 MA's), (Start: 45 @60438 has 92 MA's), (Start: 49 @60483 has 2 MA's), (53, 60501), (64, 60543), (72, 60597),

Gene: Willez\_97 Start: 59560, Stop: 59757, Start Num: 45

Candidate Starts for Willez\_97:

(14, 59383), (Start: 38 @59539 has 4 MA's), (Start: 45 @59560 has 92 MA's), (Start: 49 @59605 has 2 MA's), (53, 59623), (64, 59665), (72, 59719),

Gene: Xandras\_101 Start: 60261, Stop: 60458, Start Num: 45

Candidate Starts for Xandras\_101:

(14, 60084), (Start: 45 @60261 has 92 MA's), (Start: 49 @60306 has 2 MA's), (53, 60324), (64, 60366), (72, 60420),

Gene: YassJohnny\_99 Start: 59581, Stop: 59778, Start Num: 45

Candidate Starts for YassJohnny\_99:

(14, 59404), (Start: 38 @59560 has 4 MA's), (Start: 45 @59581 has 92 MA's), (Start: 49 @59626 has 2 MA's), (53, 59644), (64, 59686), (72, 59740),

Gene: Youngblood\_105 Start: 61731, Stop: 61928, Start Num: 45

Candidate Starts for Youngblood\_105:

(14, 61554), (Start: 38 @61710 has 4 MA's), (Start: 45 @61731 has 92 MA's), (Start: 49 @61776 has 2 MA's), (53, 61794), (64, 61836), (72, 61890),

Gene: Zagie\_56 Start: 42135, Stop: 41863, Start Num: 29

Candidate Starts for Zagie\_56:

(Start: 28 @42141 has 2 MA's), (Start: 29 @42135 has 21 MA's), (52, 42012), (68, 41925), (73, 41901), (76, 41874),

Gene: Zhafia\_57 Start: 42080, Stop: 41808, Start Num: 29

Candidate Starts for Zhafia\_57:

(Start: 28 @42083 has 2 MA's), (Start: 29 @42080 has 21 MA's), (52, 41957), (68, 41870), (73, 41846), (76, 41819),

Gene: xkcd\_105 Start: 61915, Stop: 62112, Start Num: 45

Candidate Starts for xkcd\_105:

(14, 61738), (Start: 38 @61894 has 4 MA's), (Start: 45 @61915 has 92 MA's), (Start: 49 @61960 has 2 MA's), (53, 61978), (64, 62020), (72, 62074),