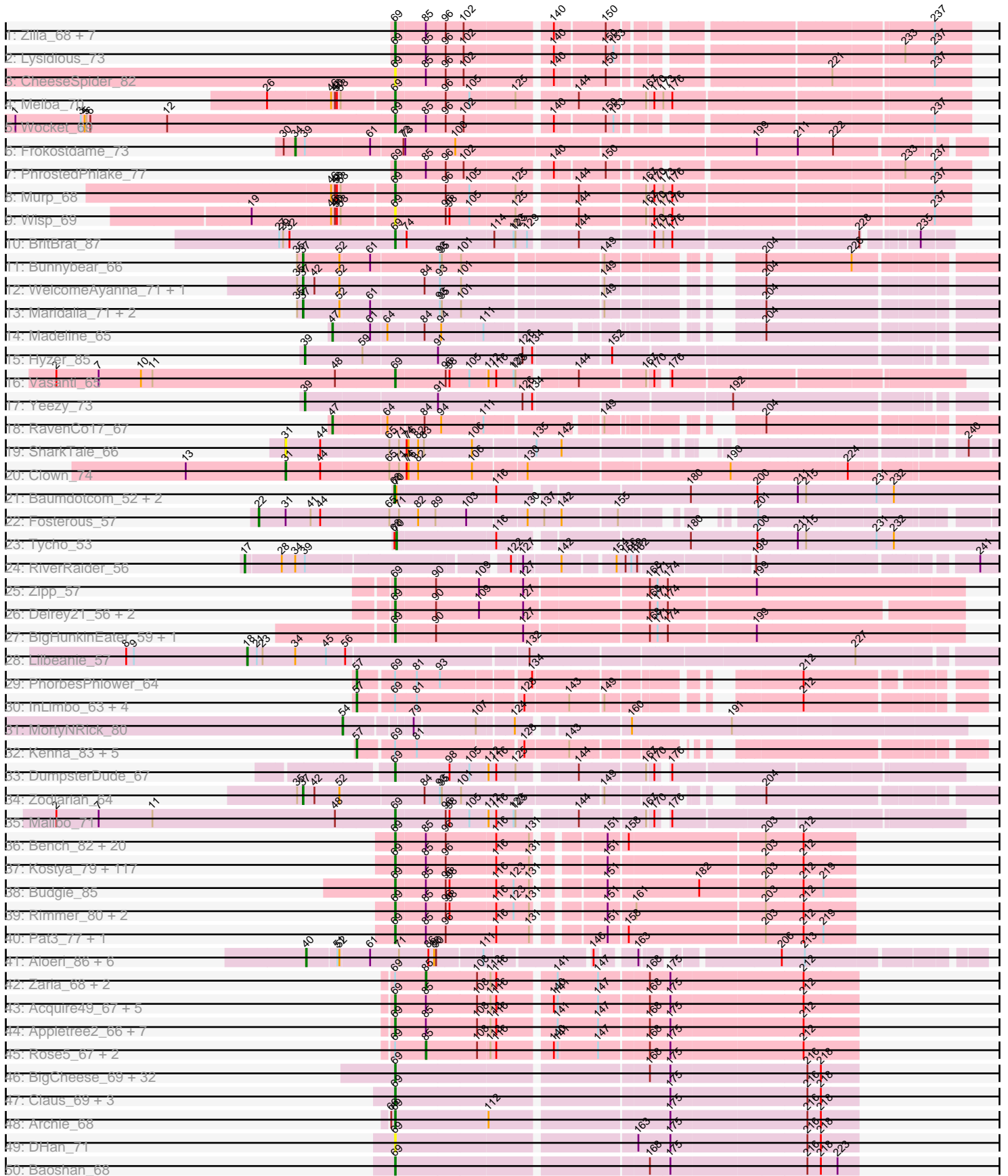
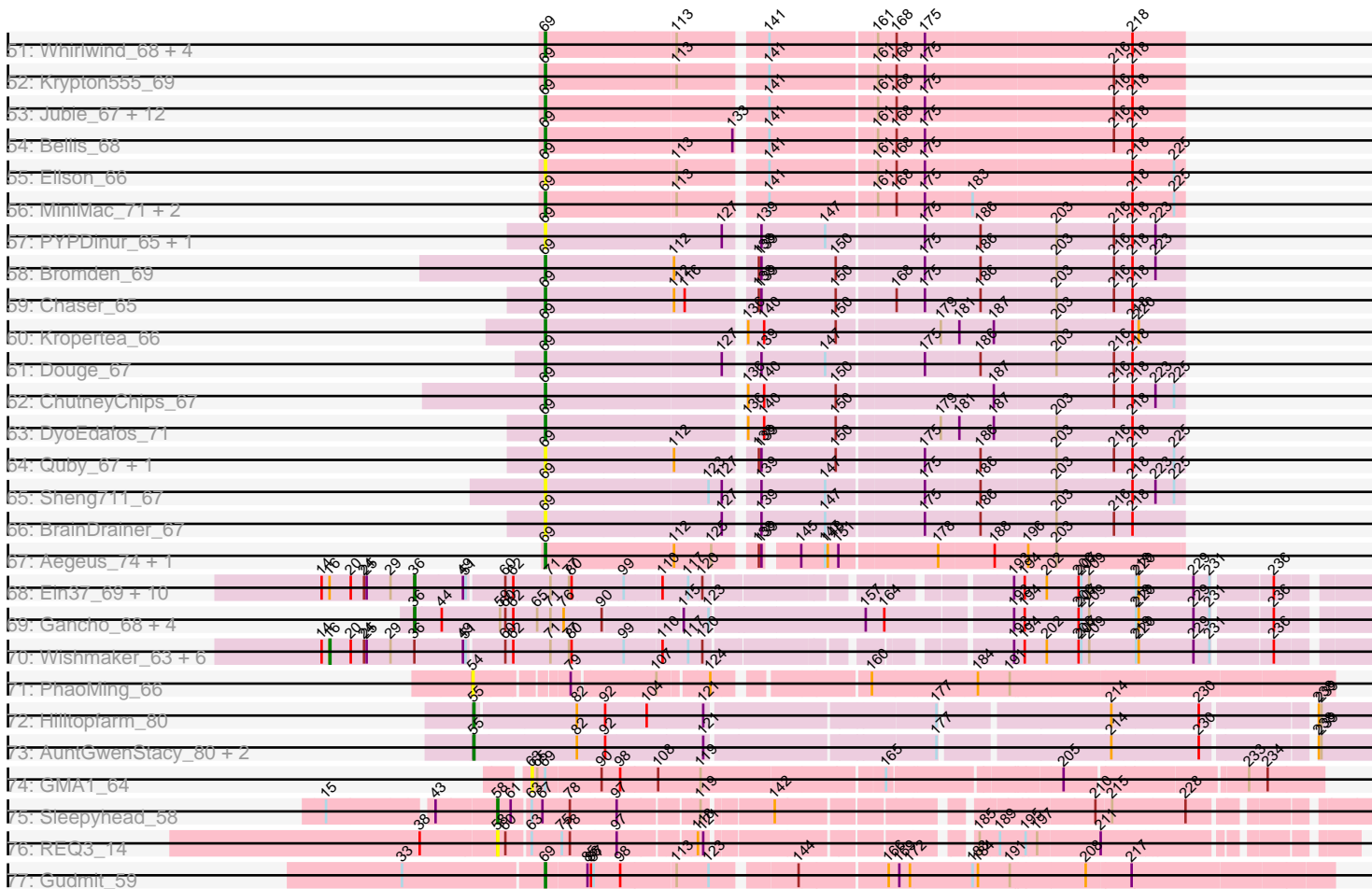


Pham 311126



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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 311126 Report

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

Pham number 311126 has 341 members, 44 are drafts.

Phages represented in each track:

- Track 1 : Zilla\_68, BlingBling\_67, Fenry\_70, Samba\_71, Barco\_68, UmaThurman\_71, Petra\_75, Zarbodnamra\_74
- Track 2 : Lysidious\_73
- Track 3 : CheeseSpider\_82
- Track 4 : Melba\_70
- Track 5 : Wocket\_69
- Track 6 : Frokostdame\_73
- Track 7 : PhrostedPhlake\_77
- Track 8 : Murp\_68
- Track 9 : Wisp\_69
- Track 10 : BritBrat\_87
- Track 11 : Bunnybear\_66
- Track 12 : WelcomeAyanna\_71, ThankyouJordi\_71
- Track 13 : Maridalia\_71, Madavieve\_67, SushiChef\_71
- Track 14 : Madeline\_65
- Track 15 : Hyzer\_85
- Track 16 : Vasanti\_65
- Track 17 : Yeezy\_73
- Track 18 : RavenCo17\_67
- Track 19 : SharkTale\_66
- Track 20 : Clown\_74
- Track 21 : Baumdotcom\_52, StorminNorm\_53, LilHam\_51
- Track 22 : Fosterous\_57
- Track 23 : Tycho\_53
- Track 24 : RiverRaider\_56
- Track 25 : Zipp\_57
- Track 26 : Delrey21\_56, DoctorFroggo\_56, Verity\_56
- Track 27 : BigHunkinEater\_59, Zitch\_59
- Track 28 : Lilbeanie\_57
- Track 29 : PhorbesPhlower\_64
- Track 30 : InLimbo\_63, OneDirection\_60, Kuwabara\_84, Morkie\_66, Lton\_63
- Track 31 : MortyNRick\_80
- Track 32 : Kenna\_83, Lutum\_89, BENtherdunthat\_88, Getalong\_91, Phabuloso\_95, BotCity\_90
- Track 33 : DumpsterDude\_67
- Track 34 : Zodiariah\_64
- Track 35 : Malibo\_71

- Track 36 : Bench\_82, Thimble\_80, Amao\_79, Miniwave\_74, Pumpkin\_82, TeardropMSU\_75, Cookies\_76, ChotaBhai\_79, Pharsalus\_76, SirDuracell\_78, JeTaime\_79, Tarkin\_78, Lilizi\_80, PhatBacter\_83, Phaja\_77, Bask21\_79, DoctorDiddles\_78, StormChicken\_81, Xandras\_78, Paperbeatsrock\_78, YassJohnny\_76
- Track 37 : Kostya\_79, Greep\_83, Marshmallow\_77, HufflyPuff\_82, Icee\_80, Barbarian\_78, Dumbo\_79, MiSSy\_80, Myrale\_79, AmericanBeauty\_83, Filch\_80, PaddyBaddy\_79, Kimchi\_83, ShereKhan\_77, Traaww1\_75, Bogg\_79, Ukulele\_74, FairyPath\_80, Czyszczonek\_80, 244\_80, Petra64142\_83, Maxxinista\_81, Porky\_78, SophKB\_76, Misfit\_80, Highbury\_78, NelitzaMV\_77, FoghornLeghorn\_73, FireRed\_83, Thresher\_81, Eureka\_77, Ptowny\_76, TBrady12\_82, Flypotenuse\_75, Mosby\_75, RiverMonster\_79, Quallification\_80, Hoonter\_82, BilboSwaggins\_77, Murica\_82, BigBubba\_79, IHOP\_77, Command613\_81, Sassay\_74, Elph10\_79, Policronamos\_82, Toto\_77, Murphy\_79, Youngblood\_82, Stark\_80, Harella\_79, Balomoji\_79, Inca\_76, Sotrice96\_80, Dusk\_76, NonchalantPear\_79, Glexan\_78, Manda\_80, Easy2Say\_80, Brewer\_75, Gator\_77, Kanye\_76, Teaspoon\_80, Nimrod\_80, Saints25\_78, Liveloughbron\_81, Phrux\_76, Cactus\_82, Elite2014\_78, Buck\_80, Cjw1\_79, BugsBunny\_79, Palpatine\_81, Emmina\_79, Daikon\_81, BaboJay\_76, NoSleep\_80, Wiggins\_81, Stank\_82, Nala\_81, Goku\_77, Henry\_77, Moldemort\_82, BadStone\_76, xkcd\_82, Argent26\_83, GooberAzure\_82, MadamMonkfish\_79, Contagion\_75, Terminus\_82, ABCat\_76, Lilpickle\_78, Phaux\_81, Bruin\_76, Holt\_84, Willez\_74, Gemini\_84, HanKaySha\_79, Mindy\_78, Gage\_81, Lilac\_81, Asriel\_78, OrionPax\_78, Becksu\_78, DrDrey\_79, ChosenOne\_79, Hopey\_79, Goldilocks\_82, Adnama\_83, Tuco\_80, StolenFromERC\_82, MPhalcon\_80, ShamWow\_79, StellaBean\_77, CrystalP\_78, Simpliphy\_78, GoldenSpark\_83, Rakim\_80
- Track 38 : Budgie\_85
- Track 39 : Rimmer\_80, MollyToe\_74, TeamEdward\_81
- Track 40 : Pat3\_77, Tomaszewski\_74
- Track 41 : Aloeri\_86, TootsiePop\_84, Awesomesauce\_85, Misha28\_84, LilSpotty\_80, ChickenDinner\_85, DocMcStuffins\_82
- Track 42 : Zaria\_68, Wyatt2\_68, DirkDirk\_64
- Track 43 : Acquire49\_67, JoeDirt\_67, Silverleaf\_67, Poochiewood\_66, Wamburgexpress\_67, CicholasNage\_65
- Track 44 : Appletree2\_66, OhShagHennessy\_65, UPIE\_66, Enceladus\_64, Halena\_65, LeBron\_66, Calm\_68, MAckerman\_65
- Track 45 : Rose5\_67, AvadaKedavra\_67, Tyson\_68
- Track 46 : BigCheese\_69, Faith1\_69, SoJulia\_70, Underpass\_60, Wigglewiggle\_69, Gabriela\_66, Soap141\_69, DrSeegs\_69, Zakai\_70, Finemlucis\_69, GuuelaD\_67, BobsGarage\_69, Gardann\_70, Nicholasp3\_69, Lewan\_70, Sarshaun\_70, Breezona\_69, Crossroads\_69, Rumpelstiltskin\_68, Netyap\_70, Itos\_68, LilDestine\_69, Vetrix\_69, Miley16\_69, Kahlid\_69, OverPar\_70, Loadrie\_68, Hafay\_71, MkaliMitinis3\_70, Lynnae\_71, Rossetti\_71, Wilder\_70, Winky\_69
- Track 47 : Claus\_69, ZhongYanYuan\_68, DanBing\_70, Tourach\_68
- Track 48 : Archie\_68
- Track 49 : DHan\_71
- Track 50 : Baoshan\_68
- Track 51 : Whirlwind\_68, DuncansLeg\_68, KirDoubleO7\_66, BourbonZero\_69, LiyuLake\_67
- Track 52 : Krypton555\_69
- Track 53 : Jubie\_67, Moostard\_66, Snenia\_67, Clautastrophe\_67, Jobypre\_68, Kingsolomon\_66, TriFive\_69, Lumos\_69, Red305\_69, MsGreen\_68, Nicholas\_66, Samty\_68, Finny\_68

- Track 54 : Bellis\_68
- Track 55 : Ellson\_66
- Track 56 : MiniMac\_71, Lolly9\_67, MiniLon\_71
- Track 57 : PYPDinur\_65, Douzhi\_67
- Track 58 : Bromden\_69
- Track 59 : Chaser\_65
- Track 60 : Kropertea\_66
- Track 61 : Douge\_67
- Track 62 : ChutneyChips\_67
- Track 63 : DyoEdafos\_71
- Track 64 : Quby\_67, FarmResident\_69
- Track 65 : Sheng711\_67
- Track 66 : BrainDrainer\_67
- Track 67 : Aegeus\_74, Baudelaire\_74
- Track 68 : Ein37\_69, HH92\_68, Ubuntu\_69, BloominB\_69, DeepSoil15\_69, Webster2\_69, LilHazelNut\_69, Amymech\_69, Luna22\_63, Evanesce\_68, Kinbote\_67
- Track 69 : Gancho\_68, OBUpride\_68, Daegal\_72, Gravaillia\_64, Amochick\_70
- Track 70 : Wishmaker\_63, Giles\_63, Luke\_67, Dewey\_63, Hail\_63, Hadrien\_67, Forge\_63
- Track 71 : PhaoMing\_66
- Track 72 : Hilltopfarm\_80
- Track 73 : AuntGwenStacy\_80, Faiyaz\_81, Typha\_79
- Track 74 : GMA1\_64
- Track 75 : Sleepyhead\_58
- Track 76 : REQ3\_14
- Track 77 : Gudmit\_59

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

The start number called the most often in the published annotations is 69, it was called in 227 of the 297 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_80, ABCat\_76, Acquire49\_67, Adnama\_83, Aegeus\_74, Amao\_79, AmericanBeauty\_83, Appletree2\_66, Archie\_68, Argent26\_83, Asriel\_78, BaboJay\_76, BadStone\_76, Balomoji\_79, Baoshan\_68, Barbarian\_78, Barco\_68, Bask21\_79, Baudelaire\_74, Becksu\_78, Bellis\_68, Bench\_82, BigBubba\_79, BigCheese\_69, BigHunkinEater\_59, BilboSwaggins\_77, BlingBling\_67, BobsGarage\_69, Bogg\_79, BourbonZero\_69, BrainDrainer\_67, Breezona\_69, Brewer\_75, BritBrat\_87, Bromden\_69, Bruin\_76, Buck\_80, Budgie\_85, BugsBunny\_79, Cactus\_82, Calm\_68, Chaser\_65, CheeseSpider\_82, ChosenOne\_79, ChotaBhai\_79, ChutneyChips\_67, CicholasNage\_65, Cjw1\_79, Claus\_69, Clautastrophe\_67, Command613\_81, Contagion\_75, Cookies\_76, Crossroads\_69, CrystalP\_78, Czyszczon1\_80, DHan\_71, Daikon\_81, DanBing\_70, Delrey21\_56, DoctorDiddles\_78, DoctorFroggo\_56, Douge\_67, Douzhi\_67, DrDrey\_79, DrSeegs\_69, Dumbo\_79, DumpsterDude\_67, DuncansLeg\_68, Dusk\_76, DyoEdafos\_71, Easy2Say\_80, Elite2014\_78, Ellson\_66, Elph10\_79, Emmina\_79, Enceladus\_64, Eureka\_77, FairyPath\_80, Faith1\_69, FarmResident\_69, Fenry\_70, Filch\_80, Finemlucis\_69, Finnry\_68, FireRed\_83, Flypotenuse\_75, FoghornLeghorn\_73, Gabriela\_66, Gage\_81, Gardann\_70, Gator\_77, Gemini\_84,

Glexan\_78, Goku\_77, GoldenSpark\_83, Goldilocks\_82, GooberAzure\_82, Greep\_83, Gudmit\_59, GuuelaD\_67, Hafay\_71, Halena\_65, HanKaySha\_79, Harella\_79, Henry\_77, Highbury\_78, Holt\_84, Hoonter\_82, Hopey\_79, HufflyPuff\_82, IHOP\_77, Icee\_80, Inca\_76, Itos\_68, JeTaime\_79, Jobypre\_68, JoeDirt\_67, Jubie\_67, Kahlid\_69, Kanye\_76, Kimchi\_83, Kingsolomon\_66, KirDoubleO7\_66, Kostya\_79, Kropertea\_66, Krypton555\_69, LeBron\_66, Lewan\_70, LilDestine\_69, Lilac\_81, Lilizi\_80, Lilpickle\_78, LiveLaughBron\_81, LiyuLake\_67, Loadrie\_68, Lolly9\_67, Lumos\_69, Lynnae\_71, Lysidious\_73, MAckerman\_65, MISSy\_80, MPhalcon\_80, MadamMonkfish\_79, Malibo\_71, Manda\_80, Marshmallow\_77, Maxxinista\_81, Melba\_70, Miley16\_69, Mindy\_78, MiniLon\_71, MiniMac\_71, Miniwave\_74, Misfit\_80, MkaliMinitis3\_70, Moldemort\_82, MollyToe\_74, Moostard\_66, Mosby\_75, MsGreen\_68, Murica\_82, Murp\_68, Murphy\_79, Myrale\_79, Nala\_81, NelitzaMV\_77, Netyap\_70, Nicholas\_66, Nicholasp3\_69, Nimrod\_80, NoSleep\_80, NonchalantPear\_79, OhShagHennessy\_65, OrionPax\_78, OverPar\_70, PYPDinur\_65, PaddyBaddy\_79, Palpatine\_81, Paperbeatsrock\_78, Pat3\_77, Petra64142\_83, Petra\_75, Phaja\_77, Pharsalus\_76, PhatBacter\_83, Phaux\_81, PhrostedPhlake\_77, Phrux\_76, Policronamos\_82, Poochiewood\_66, Porky\_78, Ptowny\_76, Pumpkin\_82, Qualification\_80, Quby\_67, Rakim\_80, Red305\_69, Rimmer\_80, RiverMonster\_79, Rossetti\_71, Rumpelstiltskin\_68, Saints25\_78, Samba\_71, Samty\_68, Sarshaun\_70, Sassay\_74, ShamWow\_79, Sheng711\_67, ShereKhan\_77, Silverleaf\_67, Simpliphy\_78, SirDuracell\_78, Snenia\_67, SoJulia\_70, Soap141\_69, SophKB\_76, Sotrice96\_80, Stank\_82, Stark\_80, StellaBean\_77, StolenFromERC\_82, StormChicken\_81, TBrady12\_82, Tarkin\_78, TeamEdward\_81, TeardropMSU\_75, Teaspoon\_80, Terminus\_82, Thimble\_80, Thresher\_81, Tomaszewski\_74, Toto\_77, Tourach\_68, Traaww1\_75, TriFive\_69, Tuco\_80, UPIE\_66, Ukulele\_74, UmaThurman\_71, Underpass\_60, Vasanti\_65, Verity\_56, Vetric\_69, Wamburggrxpress\_67, Whirlwind\_68, Wiggin\_81, Wigglewiggle\_69, Wilder\_70, Willez\_74, Winky\_69, Wisp\_69, Wocket\_69, Xandras\_78, YassJohnny\_76, Youngblood\_82, Zakai\_70, Zarbodnamra\_74, ZhongYanYuan\_68, Zilla\_68, Zipp\_57, Zitch\_59, xkcd\_82,

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

- AvadaKedavra\_67, BENtherdunthat\_88, BotCity\_90, DirkDirk\_64, GMA1\_64, Getalong\_91, InLimbo\_63, Kenna\_83, Kuwabara\_84, Lton\_63, Lutum\_89, Morkie\_66, OneDirection\_60, Phabuloso\_95, PhorbesPhlower\_64, Rose5\_67, Tyson\_68, Wyatt2\_68, Zaria\_68,

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

- Aleri\_86, Amochick\_70, Amymech\_69, AuntGwenStacy\_80, Awesomesauce\_85, Baumdotcom\_52, BloominB\_69, Bunnybear\_66, ChickenDinner\_85, Clown\_74, Daegal\_72, DeepSoil15\_69, Dewey\_63, DocMcStuffins\_82, Ein37\_69, Evanesce\_68, Faiyaz\_81, Forge\_63, Fosterous\_57, Frokostdame\_73, Gancho\_68, Giles\_63, Gravaiilia\_64, HH92\_68, Hadrien\_67, Hail\_63, Hilltopfarm\_80, Hyzer\_85, Kinbote\_67, LilHam\_51, LilHazelNut\_69, LilSpotty\_80, Lilbeanie\_57, Luke\_67, Luna22\_63, Madavieve\_67, Madeline\_65, Maridalia\_71, Misha28\_84, MortyNRick\_80, OBUpride\_68, PhaoMing\_66, REQ3\_14, RavenCo17\_67, RiverRaider\_56, SharkTale\_66, Sleepyhead\_58, StorminNorm\_53, SushiChef\_71, ThankyouJordi\_71, TootsiePop\_84, Tycho\_53, Typha\_79, Ubuntu\_69, Webster2\_69, WelcomeAyanna\_71, Wishmaker\_63, Yeezy\_73, Zodiariah\_64,

### Summary by start number:

Start 16:

- Found in 18 of 341 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 7 of 297
- Called 38.9% of time when present
- Phage (with cluster) where this start called: Dewey\_63 (Q), Forge\_63 (Q), Giles\_63 (Q), Hadrien\_67 (Q), Hail\_63 (Q), Luke\_67 (Q), Wishmaker\_63 (Q),

Start 17:

- Found in 1 of 341 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RiverRaider\_56 (DE1),

Start 18:

- Found in 1 of 341 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lilbeanie\_57 (DE5),

Start 22:

- Found in 1 of 341 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fosterous\_57 (DE1),

Start 31:

- Found in 3 of 341 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Clown\_74 (DC2), SharkTale\_66 (DC1),

Start 34:

- Found in 3 of 341 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Frokostdame\_73 (CV),

Start 36:

- Found in 23 of 341 ( 6.7% ) of genes in pham
- Manual Annotations of this start: 15 of 297
- Called 69.6% of time when present
- Phage (with cluster) where this start called: Amochick\_70 (Q), Amymech\_69 (Q), BloominB\_69 (Q), Daegal\_72 (Q), DeepSoil15\_69 (Q), Ein37\_69 (Q), Evanesce\_68 (Q), Gancho\_68 (Q), Gravallia\_64 (Q), HH92\_68 (Q), Kinbote\_67 (Q), LilHazelNut\_69 (Q), Luna22\_63 (Q), OBUpride\_68 (Q), Ubuntu\_69 (Q), Webster2\_69 (Q),

Start 37:

- Found in 7 of 341 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 5 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bunnybear\_66 (CZ), Madavieve\_67 (CZ1), Maridalia\_71 (CZ1), SushiChef\_71 (CZ), ThankyouJordi\_71 (CZ1), WelcomeAyanna\_71 (CZ1), Zodiariah\_64 (DW),

Start 39:

- Found in 4 of 341 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 2 of 297
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hyzer\_85 (CZ1), Yeezy\_73 (CZ3),

Start 40:

- Found in 7 of 341 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 7 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aloeri\_86 (F1), Awesomesauce\_85 (F1), ChickenDinner\_85 (F1), DocMcStuffins\_82 (F1), LilSpotty\_80 (singleton), Misha28\_84 (F1), TootsiePop\_84 (F1),

Start 47:

- Found in 2 of 341 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Madeline\_65 (CZ1), RavenCo17\_67 (CZ8),

Start 54:

- Found in 2 of 341 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MortyNRick\_80 (DN), PhaoMing\_66 (UNK),

Start 55:

- Found in 4 of 341 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 4 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy\_80 (Y), Faiyaz\_81 (Y), Hilltopfarm\_80 (Y), Typha\_79 (Y),

Start 57:

- Found in 12 of 341 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 11 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BENtherdunthat\_88 (DN1), BotCity\_90 (DN), Getalong\_91 (DN1), InLimbo\_63 (DH), Kenna\_83 (DN1), Kuwabara\_84 (DN4), Lton\_63 (CZ), Lutum\_89 (DN1), Morkie\_66 (DH), OneDirection\_60 (CZ6), Phabuloso\_95 (DN1), PhorbesPhlower\_64 (DH),

Start 58:

- Found in 2 of 341 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: REQ3\_14 (singleton), Sleepyhead\_58 (singleton),

Start 63:

- Found in 3 of 341 ( 0.9% ) of genes in pham

- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: GMA1\_64 (singleton),

Start 68:

- Found in 4 of 341 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 3 of 297
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Baumdotcom\_52 (DE1), LilHam\_51 (DE1), StorminNorm\_53 (DE1),

Start 69:

- Found in 282 of 341 ( 82.7% ) of genes in pham
- Manual Annotations of this start: 227 of 297
- Called 93.3% of time when present
- Phage (with cluster) where this start called: 244\_80 (E), ABCat\_76 (E), Acquire49\_67 (L1), Adnama\_83 (E), Aegeus\_74 (L5), Amao\_79 (E), AmericanBeauty\_83 (E), Appletree2\_66 (L1), Archie\_68 (L2), Argent26\_83 (E), Asriel\_78 (E), BaboJay\_76 (E), BadStone\_76 (E), Balomoji\_79 (E), Baoshan\_68 (L2), Barbarian\_78 (E), Barco\_68 (CV), Bask21\_79 (E), Baudelaire\_74 (L5), Becksu\_78 (E), Bellis\_68 (L3), Bench\_82 (E), BigBubba\_79 (E), BigCheese\_69 (L2), BigHunkinEater\_59 (DE4), BilboSwaggins\_77 (E), BlingBling\_67 (CV), BobsGarage\_69 (L2), Bogg\_79 (E), BourbonZero\_69 (L3), BrainDrainer\_67 (L4), Breezona\_69 (L2), Brewer\_75 (E), BritBrat\_87 (CY2), Bromden\_69 (L4), Bruin\_76 (E), Buck\_80 (E), Budgie\_85 (E), BugsBunny\_79 (E), Cactus\_82 (E), Calm\_68 (L1), Chaser\_65 (L4), CheeseSpider\_82 (CV), ChosenOne\_79 (E), ChotaBhai\_79 (E), ChutneyChips\_67 (L4), CicholasNage\_65 (L1), Cjw1\_79 (E), Claus\_69 (L2), Clautastrophe\_67 (L3), Command613\_81 (E), Contagion\_75 (E), Cookies\_76 (E), Crossroads\_69 (L2), CrystalP\_78 (E), Czystczon1\_80 (E), DHan\_71 (L2), Daikon\_81 (E), DanBing\_70 (L2), Delrey21\_56 (DE4), DoctorDiddles\_78 (E), DoctorFroggo\_56 (DE4), Douge\_67 (L4), Douzhi\_67 (L4), DrDrey\_79 (E), DrSeegs\_69 (L2), Dumbo\_79 (E), DumpsterDude\_67 (DW), DuncansLeg\_68 (L3), Dusk\_76 (E), DyoEdafos\_71 (L4), Easy2Say\_80 (E), Elite2014\_78 (E), Ellson\_66 (L3), Elph10\_79 (E), Emmina\_79 (E), Enceladus\_64 (L1), Eureka\_77 (E), FairyPath\_80 (E), Faith1\_69 (L2), FarmResident\_69 (L4), Fenry\_70 (CV), Filch\_80 (E), Finemlucis\_69 (L2), Finnry\_68 (L3), FireRed\_83 (E), Flypotenuse\_75 (E), FoghornLeghorn\_73 (E), Gabriela\_66 (L2), Gage\_81 (E), Gardann\_70 (L2), Gator\_77 (E), Gemini\_84 (E), Glexan\_78 (E), Goku\_77 (E), GoldenSpark\_83 (E), Goldilocks\_82 (E), GooberAzure\_82 (E), Greep\_83 (E), Gudmit\_59 (singleton), GuuelaD\_67 (L2), Hafay\_71 (L2), Halena\_65 (L1), HanKaySha\_79 (E), Harella\_79 (E), Henry\_77 (E), Highbury\_78 (E), Holt\_84 (E), Hoonter\_82 (E), Hopey\_79 (E), HufflyPuff\_82 (E), IHOP\_77 (E), Icee\_80 (E), Inca\_76 (E), Itos\_68 (L2), JeTaime\_79 (E), Jobypre\_68 (L3), JoeDirt\_67 (L1), Jubie\_67 (L3), Kahlid\_69 (L2), Kanye\_76 (E), Kimchi\_83 (E), Kingsolomon\_66 (L3), KirDoubleO7\_66 (L3), Kostya\_79 (E), Kropertea\_66 (L4), Krypton555\_69 (L3), LeBron\_66 (L1), Lewan\_70 (L2), LilDestine\_69 (L2), Lilac\_81 (E), Lilizi\_80 (E), Lilpickle\_78 (E), Liveloughbron\_81 (E), LiyuLake\_67 (L3), Loadrie\_68 (L2), Lolly9\_67 (L3), Lumos\_69 (L3), Lynnae\_71 (L2), Lysidious\_73 (CV), MAckerman\_65 (L1), MISSy\_80 (E), MPhalcon\_80 (E), MadamMonkfish\_79 (E), Malibo\_71 (DW), Manda\_80 (E), Marshmallow\_77 (E), Maxxinista\_81 (E), Melba\_70 (CV), Miley16\_69 (L2), Mindy\_78 (E), MiniLon\_71 (L3), MiniMac\_71 (L3), Miniwave\_74 (E), Misfit\_80 (E), MkaliMitinis3\_70 (L2), Moldemort\_82 (E), MollyToe\_74 (E), Moostard\_66 (L3), Mosby\_75 (E), MsGreen\_68 (L3), Murica\_82 (E), Murp\_68 (CV), Murphy\_79 (E), Myrale\_79 (E), Nala\_81 (E), NelitzaMV\_77 (E), Netyap\_70 (L2), Nicholas\_66 (L3),

Nicholasp3\_69 (L2), Nimrod\_80 (E), NoSleep\_80 (E), NonchalantPear\_79 (E), OhShagHennessy\_65 (L1), OrionPax\_78 (E), OverPar\_70 (L2), PYPDinur\_65 (L4), PaddyBaddy\_79 (E), Palpatine\_81 (E), Paperbeatsrock\_78 (E), Pat3\_77 (E), Petra64142\_83 (E), Petra\_75 (CV), Phaja\_77 (E), Pharsalus\_76 (E), PhatBacter\_83 (E), Phaux\_81 (E), PhrostedPhlake\_77 (CV), Phrux\_76 (E), Policronamos\_82 (E), Poochiewood\_66 (L1), Porky\_78 (E), Ptowny\_76 (E), Pumpkin\_82 (E), Quallification\_80 (E), Quby\_67 (L4), Rakim\_80 (E), Red305\_69 (L3), Rimmer\_80 (E), RiverMonster\_79 (E), Rossetti\_71 (L2), Rumpelstiltskin\_68 (L2), Saints25\_78 (E), Samba\_71 (CV), Samty\_68 (L3), Sarshaun\_70 (L2), Sassay\_74 (E), ShamWow\_79 (E), Sheng711\_67 (L4), ShereKhan\_77 (E), Silverleaf\_67 (L1), Simpliphy\_78 (E), SirDuracell\_78 (E), Snenia\_67 (L3), SoJulia\_70 (L2), Soap141\_69 (L2), SophKB\_76 (E), Sotrice96\_80 (E), Stank\_82 (E), Stark\_80 (E), StellaBean\_77 (E), StolenFromERC\_82 (E), StormChicken\_81 (E), TBrady12\_82 (E), Tarkin\_78 (E), TeamEdward\_81 (E), TeardropMSU\_75 (E), Teaspoon\_80 (E), Terminus\_82 (E), Thimble\_80 (E), Thresher\_81 (E), Tomaszewski\_74 (E), Toto\_77 (E), Tourach\_68 (L2), Traaww1\_75 (E), TriFive\_69 (L3), Tuco\_80 (E), UPIE\_66 (L1), Ukulele\_74 (E), UmaThurman\_71 (CV), Underpass\_60 (L2), Vasanti\_65 (CZ2), Verity\_56 (DE4), Vetric\_69 (L2), Wamburgxpress\_67 (L1), Whirlwind\_68 (L3), Wiggin\_81 (E), Wigglewobble\_69 (L2), Wilder\_70 (L2), Willez\_74 (E), Winky\_69 (L2), Wisp\_69 (CV), Wocket\_69 (CV), Xandras\_78 (E), YassJohnny\_76 (E), Youngblood\_82 (E), Zakai\_70 (L2), Zarbodnamra\_74 (CV), ZhongYanYuan\_68 (L2), Zilla\_68 (CV), Zipp\_57 (DE4), Zitch\_59 (DE4), xkcd\_82 (E),

Start 70:

- Found in 4 of 341 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Tycho\_53 (DE1),

Start 85:

- Found in 178 of 341 ( 52.2% ) of genes in pham
- Manual Annotations of this start: 6 of 297
- Called 3.4% of time when present
- Phage (with cluster) where this start called: AvadaKedavra\_67 (L1), DirkDirk\_64 (L1), Rose5\_67 (L1), Tyson\_68 (L1), Wyatt2\_68 (L1), Zaria\_68 (L1),

### Summary by clusters:

There are 29 clusters represented in this pham: DN, singleton, DH, CZ2, CZ3, CZ1, CZ6, CZ8, DW, DN4, DN1, CY2, E, Q, CZ, L4, L5, L2, L3, L1, Y, UNK, DC2, CV, DC1, F1, DE1, DE4, DE5,

Info for manual annotations of cluster CV:

- Start number 34 was manually annotated 1 time for cluster CV.
- Start number 69 was manually annotated 13 times for cluster CV.

Info for manual annotations of cluster CY2:

- Start number 69 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

- Start number 37 was manually annotated 1 time for cluster CZ.
- Start number 57 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 37 was manually annotated 3 times for cluster CZ1.
- Start number 39 was manually annotated 1 time for cluster CZ1.
- Start number 47 was manually annotated 1 time for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 69 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 39 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ6:

- Start number 57 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster CZ8:

- Start number 47 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DC2:

- Start number 31 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE1:

- Start number 17 was manually annotated 1 time for cluster DE1.
- Start number 22 was manually annotated 1 time for cluster DE1.
- Start number 68 was manually annotated 3 times for cluster DE1.
- Start number 70 was manually annotated 1 time for cluster DE1.

Info for manual annotations of cluster DE4:

- Start number 69 was manually annotated 6 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 18 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DH:

- Start number 57 was manually annotated 2 times for cluster DH.

Info for manual annotations of cluster DN:

- Start number 54 was manually annotated 1 time for cluster DN.
- Start number 57 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 57 was manually annotated 5 times for cluster DN1.

Info for manual annotations of cluster DN4:

- Start number 57 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DW:

- Start number 37 was manually annotated 1 time for cluster DW.
- Start number 69 was manually annotated 2 times for cluster DW.

Info for manual annotations of cluster E:

- Start number 69 was manually annotated 132 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 40 was manually annotated 6 times for cluster F1.

Info for manual annotations of cluster L1:

- Start number 69 was manually annotated 13 times for cluster L1.
- Start number 85 was manually annotated 6 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 69 was manually annotated 31 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 69 was manually annotated 19 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 69 was manually annotated 6 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 69 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster Q:

- Start number 16 was manually annotated 7 times for cluster Q.
- Start number 36 was manually annotated 15 times for cluster Q.

Info for manual annotations of cluster Y:

- Start number 55 was manually annotated 4 times for cluster Y.

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

Gene: 244\_80 Start: 49149, Stop: 49799, Start Num: 69

Candidate Starts for 244\_80:

(Start: 69 @49149 has 227 MA's), (Start: 85 @49194 has 6 MA's), (96, 49224), (116, 49299), (131, 49350), (151, 49437), (203, 49665), (212, 49722),

Gene: ABCat\_76 Start: 49502, Stop: 50152, Start Num: 69

Candidate Starts for ABCat\_76:

(Start: 69 @49502 has 227 MA's), (Start: 85 @49547 has 6 MA's), (96, 49577), (116, 49652), (131, 49703), (151, 49790), (203, 50018), (212, 50075),

Gene: Acquire49\_67 Start: 45384, Stop: 46061, Start Num: 69

Candidate Starts for Acquire49\_67:

(Start: 69 @45384 has 227 MA's), (Start: 85 @45432 has 6 MA's), (108, 45510), (113, 45528), (116, 45537), (140, 45612), (141, 45618), (147, 45678), (168, 45750), (175, 45780), (212, 45978),

Gene: Adnama\_83 Start: 49528, Stop: 50178, Start Num: 69

Candidate Starts for Adnama\_83:

(Start: 69 @49528 has 227 MA's), (Start: 85 @49573 has 6 MA's), (96, 49603), (116, 49678), (131, 49729), (151, 49816), (203, 50044), (212, 50101),

Gene: Aegeus\_74 Start: 47464, Stop: 48126, Start Num: 69

Candidate Starts for Aegeus\_74:

(Start: 69 @47464 has 227 MA's), (112, 47605), (125, 47647), (138, 47686), (139, 47689), (145, 47719), (147, 47746), (148, 47749), (151, 47761), (178, 47863), (188, 47923), (196, 47959), (203, 47989),

Gene: Aloeri\_86 Start: 50555, Stop: 51472, Start Num: 40

Candidate Starts for Aloeri\_86:

(Start: 40 @50555 has 7 MA's), (51, 50600), (52, 50603), (61, 50648), (71, 50693), (86, 50738), (88, 50747), (90, 50750), (111, 50813), (146, 50963), (163, 51011), (206, 51194), (213, 51230),

Gene: Amao\_79 Start: 48922, Stop: 49572, Start Num: 69

Candidate Starts for Amao\_79:

(Start: 69 @48922 has 227 MA's), (Start: 85 @48967 has 6 MA's), (96, 48997), (116, 49072), (131, 49123), (151, 49210), (158, 49237), (203, 49438), (212, 49495),

Gene: AmericanBeauty\_83 Start: 49671, Stop: 50321, Start Num: 69

Candidate Starts for AmericanBeauty\_83:

(Start: 69 @49671 has 227 MA's), (Start: 85 @49716 has 6 MA's), (96, 49746), (116, 49821), (131, 49872), (151, 49959), (203, 50187), (212, 50244),

Gene: Amochick\_70 Start: 46259, Stop: 47293, Start Num: 36

Candidate Starts for Amochick\_70:

(Start: 36 @46259 has 15 MA's), (44, 46289), (59, 46355), (60, 46361), (62, 46370), (65, 46397), (71, 46412), (76, 46427), (90, 46469), (115, 46550), (123, 46577), (157, 46745), (164, 46766), (193, 46898), (194, 46910), (206, 46970), (207, 46973), (209, 46982), (219, 47033), (220, 47036), (229, 47096), (231, 47114), (236, 47174),

Gene: Amymech\_69 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for Amymech\_69:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Appletree2\_66 Start: 44999, Stop: 45676, Start Num: 69

Candidate Starts for Appletree2\_66:

(Start: 69 @44999 has 227 MA's), (Start: 85 @45047 has 6 MA's), (108, 45125), (113, 45143), (116, 45152), (141, 45233), (147, 45293), (168, 45365), (175, 45395), (212, 45593),

Gene: Archie\_68 Start: 46864, Stop: 47544, Start Num: 69

Candidate Starts for Archie\_68:

(66, 46858), (Start: 69 @46864 has 227 MA's), (112, 47005), (175, 47263), (216, 47467), (218, 47488),

Gene: Argent26\_83 Start: 49309, Stop: 49959, Start Num: 69

Candidate Starts for Argent26\_83:

(Start: 69 @49309 has 227 MA's), (Start: 85 @49354 has 6 MA's), (96, 49384), (116, 49459), (131, 49510), (151, 49597), (203, 49825), (212, 49882),

Gene: Asriel\_78 Start: 47865, Stop: 48515, Start Num: 69

Candidate Starts for Asriel\_78:

(Start: 69 @47865 has 227 MA's), (Start: 85 @47910 has 6 MA's), (96, 47940), (116, 48015), (131, 48066), (151, 48153), (203, 48381), (212, 48438),

Gene: AuntGwenStacy\_80 Start: 52711, Stop: 53646, Start Num: 55  
Candidate Starts for AuntGwenStacy\_80:  
(Start: 55 @52711 has 4 MA's), (82, 52825), (92, 52855), (121, 52963), (177, 53206), (214, 53383),  
(230, 53476), (238, 53587), (239, 53590),

Gene: AvadaKedavra\_67 Start: 45505, Stop: 46134, Start Num: 85  
Candidate Starts for AvadaKedavra\_67:  
(Start: 69 @45457 has 227 MA's), (Start: 85 @45505 has 6 MA's), (108, 45583), (113, 45601), (116,  
45610), (140, 45685), (141, 45691), (147, 45751), (168, 45823), (175, 45853), (212, 46051),

Gene: Awesomesauce\_85 Start: 50791, Stop: 51708, Start Num: 40  
Candidate Starts for Awesomesauce\_85:  
(Start: 40 @50791 has 7 MA's), (51, 50836), (52, 50839), (61, 50884), (71, 50929), (86, 50974), (88,  
50983), (90, 50986), (111, 51049), (146, 51199), (163, 51247), (206, 51430), (213, 51466),

Gene: BENtherdunthat\_88 Start: 48114, Stop: 48911, Start Num: 57  
Candidate Starts for BENtherdunthat\_88:  
(Start: 57 @48114 has 11 MA's), (Start: 69 @48165 has 227 MA's), (81, 48198), (128, 48345), (143,  
48411),

Gene: BaboJay\_76 Start: 48702, Stop: 49352, Start Num: 69  
Candidate Starts for BaboJay\_76:  
(Start: 69 @48702 has 227 MA's), (Start: 85 @48747 has 6 MA's), (96, 48777), (116, 48852), (131,  
48903), (151, 48990), (203, 49218), (212, 49275),

Gene: BadStone\_76 Start: 49071, Stop: 49721, Start Num: 69  
Candidate Starts for BadStone\_76:  
(Start: 69 @49071 has 227 MA's), (Start: 85 @49116 has 6 MA's), (96, 49146), (116, 49221), (131,  
49272), (151, 49359), (203, 49587), (212, 49644),

Gene: Balomoji\_79 Start: 49632, Stop: 50282, Start Num: 69  
Candidate Starts for Balomoji\_79:  
(Start: 69 @49632 has 227 MA's), (Start: 85 @49677 has 6 MA's), (96, 49707), (116, 49782), (131,  
49833), (151, 49920), (203, 50148), (212, 50205),

Gene: Baoshan\_68 Start: 46846, Stop: 47526, Start Num: 69  
Candidate Starts for Baoshan\_68:  
(Start: 69 @46846 has 227 MA's), (168, 47215), (175, 47245), (216, 47449), (218, 47470), (223,  
47494),

Gene: Barbarian\_78 Start: 47865, Stop: 48515, Start Num: 69  
Candidate Starts for Barbarian\_78:  
(Start: 69 @47865 has 227 MA's), (Start: 85 @47910 has 6 MA's), (96, 47940), (116, 48015), (131,  
48066), (151, 48153), (203, 48381), (212, 48438),

Gene: Barco\_68 Start: 43101, Stop: 43886, Start Num: 69  
Candidate Starts for Barco\_68:  
(Start: 69 @43101 has 227 MA's), (Start: 85 @43146 has 6 MA's), (96, 43176), (102, 43203), (140,  
43326), (150, 43395), (237, 43830),

Gene: Bask21\_79 Start: 48485, Stop: 49135, Start Num: 69  
Candidate Starts for Bask21\_79:

(Start: 69 @48485 has 227 MA's), (Start: 85 @48530 has 6 MA's), (96, 48560), (116, 48635), (131, 48686), (151, 48773), (158, 48800), (203, 49001), (212, 49058),

Gene: Baudelaire\_74 Start: 47464, Stop: 48126, Start Num: 69

Candidate Starts for Baudelaire\_74:

(Start: 69 @47464 has 227 MA's), (112, 47605), (125, 47647), (138, 47686), (139, 47689), (145, 47719), (147, 47746), (148, 47749), (151, 47761), (178, 47863), (188, 47923), (196, 47959), (203, 47989),

Gene: Baumdotcom\_52 Start: 43883, Stop: 44890, Start Num: 68

Candidate Starts for Baumdotcom\_52:

(Start: 68 @43883 has 3 MA's), (Start: 70 @43886 has 1 MA's), (116, 44033), (180, 44306), (200, 44408), (211, 44471), (215, 44483), (231, 44591), (232, 44618),

Gene: Becksu\_78 Start: 49701, Stop: 50351, Start Num: 69

Candidate Starts for Becksu\_78:

(Start: 69 @49701 has 227 MA's), (Start: 85 @49746 has 6 MA's), (96, 49776), (116, 49851), (131, 49902), (151, 49989), (203, 50217), (212, 50274),

Gene: Bellis\_68 Start: 47237, Stop: 47917, Start Num: 69

Candidate Starts for Bellis\_68:

(Start: 69 @47237 has 227 MA's), (133, 47444), (141, 47471), (161, 47585), (168, 47606), (175, 47636), (216, 47840), (218, 47861),

Gene: Bench\_82 Start: 49169, Stop: 49819, Start Num: 69

Candidate Starts for Bench\_82:

(Start: 69 @49169 has 227 MA's), (Start: 85 @49214 has 6 MA's), (96, 49244), (116, 49319), (131, 49370), (151, 49457), (158, 49484), (203, 49685), (212, 49742),

Gene: BigBubba\_79 Start: 48881, Stop: 49531, Start Num: 69

Candidate Starts for BigBubba\_79:

(Start: 69 @48881 has 227 MA's), (Start: 85 @48926 has 6 MA's), (96, 48956), (116, 49031), (131, 49082), (151, 49169), (203, 49397), (212, 49454),

Gene: BigCheese\_69 Start: 46903, Stop: 47583, Start Num: 69

Candidate Starts for BigCheese\_69:

(Start: 69 @46903 has 227 MA's), (168, 47272), (175, 47302), (216, 47506), (218, 47527),

Gene: BigHunkinEater\_59 Start: 45066, Stop: 45911, Start Num: 69

Candidate Starts for BigHunkinEater\_59:

(Start: 69 @45066 has 227 MA's), (90, 45126), (127, 45261), (168, 45441), (171, 45453), (174, 45465), (199, 45597),

Gene: BilboSwaggins\_77 Start: 49510, Stop: 50160, Start Num: 69

Candidate Starts for BilboSwaggins\_77:

(Start: 69 @49510 has 227 MA's), (Start: 85 @49555 has 6 MA's), (96, 49585), (116, 49660), (131, 49711), (151, 49798), (203, 50026), (212, 50083),

Gene: BlingBling\_67 Start: 43983, Stop: 44768, Start Num: 69

Candidate Starts for BlingBling\_67:

(Start: 69 @43983 has 227 MA's), (Start: 85 @44028 has 6 MA's), (96, 44058), (102, 44085), (140, 44208), (150, 44277), (237, 44712),

Gene: BloominB\_69 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for BloominB\_69:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: BobsGarage\_69 Start: 46903, Stop: 47583, Start Num: 69

Candidate Starts for BobsGarage\_69:

(Start: 69 @46903 has 227 MA's), (168, 47272), (175, 47302), (216, 47506), (218, 47527),

Gene: Bogg\_79 Start: 48448, Stop: 49098, Start Num: 69

Candidate Starts for Bogg\_79:

(Start: 69 @48448 has 227 MA's), (Start: 85 @48493 has 6 MA's), (96, 48523), (116, 48598), (131, 48649), (151, 48736), (203, 48964), (212, 49021),

Gene: BotCity\_90 Start: 49643, Stop: 50440, Start Num: 57

Candidate Starts for BotCity\_90:

(Start: 57 @49643 has 11 MA's), (Start: 69 @49694 has 227 MA's), (81, 49727), (128, 49874), (143, 49940),

Gene: BourbonZero\_69 Start: 47282, Stop: 47962, Start Num: 69

Candidate Starts for BourbonZero\_69:

(Start: 69 @47282 has 227 MA's), (113, 47426), (141, 47516), (161, 47630), (168, 47651), (175, 47681), (218, 47906),

Gene: BrainDrainer\_67 Start: 45805, Stop: 46485, Start Num: 69

Candidate Starts for BrainDrainer\_67:

(Start: 69 @45805 has 227 MA's), (127, 46000), (139, 46030), (147, 46102), (175, 46204), (186, 46264), (203, 46345), (216, 46408), (218, 46429),

Gene: Breezona\_69 Start: 46903, Stop: 47583, Start Num: 69

Candidate Starts for Breezona\_69:

(Start: 69 @46903 has 227 MA's), (168, 47272), (175, 47302), (216, 47506), (218, 47527),

Gene: Brewer\_75 Start: 47971, Stop: 48621, Start Num: 69

Candidate Starts for Brewer\_75:

(Start: 69 @47971 has 227 MA's), (Start: 85 @48016 has 6 MA's), (96, 48046), (116, 48121), (131, 48172), (151, 48259), (203, 48487), (212, 48544),

Gene: BritBrat\_87 Start: 50794, Stop: 51558, Start Num: 69

Candidate Starts for BritBrat\_87:

(27, 50614), (29, 50620), (32, 50629), (Start: 69 @50794 has 227 MA's), (74, 50809), (114, 50941), (123, 50971), (125, 50974), (129, 50992), (144, 51055), (170, 51160), (173, 51172), (176, 51184), (228, 51445), (235, 51511),

Gene: Bromden\_69 Start: 46838, Stop: 47518, Start Num: 69

Candidate Starts for Bromden\_69:

(Start: 69 @46838 has 227 MA's), (112, 46979), (138, 47060), (139, 47063), (150, 47147), (175, 47237), (186, 47297), (203, 47378), (216, 47441), (218, 47462), (223, 47486),

Gene: Bruin\_76 Start: 48045, Stop: 48695, Start Num: 69

Candidate Starts for Bruin\_76:

(Start: 69 @48045 has 227 MA's), (Start: 85 @48090 has 6 MA's), (96, 48120), (116, 48195), (131, 48246), (151, 48333), (203, 48561), (212, 48618),

Gene: Buck\_80 Start: 49750, Stop: 50400, Start Num: 69

Candidate Starts for Buck\_80:

(Start: 69 @49750 has 227 MA's), (Start: 85 @49795 has 6 MA's), (96, 49825), (116, 49900), (131, 49951), (151, 50038), (203, 50266), (212, 50323),

Gene: Budgie\_85 Start: 49540, Stop: 50190, Start Num: 69

Candidate Starts for Budgie\_85:

(Start: 69 @49540 has 227 MA's), (Start: 85 @49585 has 6 MA's), (96, 49615), (98, 49621), (116, 49690), (123, 49717), (131, 49741), (151, 49828), (182, 49960), (203, 50056), (212, 50113), (219, 50143),

Gene: BugsBunny\_79 Start: 49577, Stop: 50227, Start Num: 69

Candidate Starts for BugsBunny\_79:

(Start: 69 @49577 has 227 MA's), (Start: 85 @49622 has 6 MA's), (96, 49652), (116, 49727), (131, 49778), (151, 49865), (203, 50093), (212, 50150),

Gene: Bunnybear\_66 Start: 46245, Stop: 47213, Start Num: 37

Candidate Starts for Bunnybear\_66:

(35, 46236), (Start: 37 @46245 has 5 MA's), (52, 46302), (61, 46347), (93, 46452), (95, 46455), (101, 46485), (149, 46683), (204, 46848), (226, 46974),

Gene: Cactus\_82 Start: 48526, Stop: 49176, Start Num: 69

Candidate Starts for Cactus\_82:

(Start: 69 @48526 has 227 MA's), (Start: 85 @48571 has 6 MA's), (96, 48601), (116, 48676), (131, 48727), (151, 48814), (203, 49042), (212, 49099),

Gene: Calm\_68 Start: 45175, Stop: 45852, Start Num: 69

Candidate Starts for Calm\_68:

(Start: 69 @45175 has 227 MA's), (Start: 85 @45223 has 6 MA's), (108, 45301), (113, 45319), (116, 45328), (141, 45409), (147, 45469), (168, 45541), (175, 45571), (212, 45769),

Gene: Chaser\_65 Start: 45574, Stop: 46254, Start Num: 69

Candidate Starts for Chaser\_65:

(Start: 69 @45574 has 227 MA's), (112, 45715), (116, 45727), (138, 45796), (139, 45799), (150, 45883), (168, 45943), (175, 45973), (186, 46033), (203, 46114), (216, 46177), (218, 46198),

Gene: CheeseSpider\_82 Start: 47097, Stop: 47882, Start Num: 69

Candidate Starts for CheeseSpider\_82:

(Start: 69 @47097 has 227 MA's), (Start: 85 @47142 has 6 MA's), (96, 47172), (102, 47199), (140, 47322), (150, 47391), (221, 47679), (237, 47826),

Gene: ChickenDinner\_85 Start: 50555, Stop: 51472, Start Num: 40

Candidate Starts for ChickenDinner\_85:

(Start: 40 @50555 has 7 MA's), (51, 50600), (52, 50603), (61, 50648), (71, 50693), (86, 50738), (88, 50747), (90, 50750), (111, 50813), (146, 50963), (163, 51011), (206, 51194), (213, 51230),

Gene: ChosenOne\_79 Start: 48526, Stop: 49176, Start Num: 69

Candidate Starts for ChosenOne\_79:

(Start: 69 @48526 has 227 MA's), (Start: 85 @48571 has 6 MA's), (96, 48601), (116, 48676), (131, 48727), (151, 48814), (203, 49042), (212, 49099),

Gene: ChotaBhai\_79 Start: 48850, Stop: 49500, Start Num: 69

Candidate Starts for ChotaBhai\_79:

(Start: 69 @48850 has 227 MA's), (Start: 85 @48895 has 6 MA's), (96, 48925), (116, 49000), (131, 49051), (151, 49138), (158, 49165), (203, 49366), (212, 49423),

Gene: ChutneyChips\_67 Start: 45833, Stop: 46513, Start Num: 69

Candidate Starts for ChutneyChips\_67:

(Start: 69 @45833 has 227 MA's), (136, 46043), (140, 46061), (150, 46142), (187, 46307), (216, 46436), (218, 46457), (223, 46481), (225, 46502),

Gene: CicholasNage\_65 Start: 45214, Stop: 45891, Start Num: 69

Candidate Starts for CicholasNage\_65:

(Start: 69 @45214 has 227 MA's), (Start: 85 @45262 has 6 MA's), (108, 45340), (113, 45358), (116, 45367), (140, 45442), (141, 45448), (147, 45508), (168, 45580), (175, 45610), (212, 45808),

Gene: Cjw1\_79 Start: 50223, Stop: 50873, Start Num: 69

Candidate Starts for Cjw1\_79:

(Start: 69 @50223 has 227 MA's), (Start: 85 @50268 has 6 MA's), (96, 50298), (116, 50373), (131, 50424), (151, 50511), (203, 50739), (212, 50796),

Gene: Claus\_69 Start: 46984, Stop: 47664, Start Num: 69

Candidate Starts for Claus\_69:

(Start: 69 @46984 has 227 MA's), (175, 47383), (216, 47587), (218, 47608),

Gene: Clautastrophe\_67 Start: 47234, Stop: 47914, Start Num: 69

Candidate Starts for Clautastrophe\_67:

(Start: 69 @47234 has 227 MA's), (141, 47468), (161, 47582), (168, 47603), (175, 47633), (216, 47837), (218, 47858),

Gene: Clown\_74 Start: 49636, Stop: 50688, Start Num: 31

Candidate Starts for Clown\_74:

(13, 49480), (Start: 31 @49636 has 1 MA's), (44, 49687), (65, 49792), (71, 49807), (74, 49819), (76, 49822), (82, 49837), (106, 49918), (130, 49996), (190, 50293), (224, 50467),

Gene: Command613\_81 Start: 49565, Stop: 50215, Start Num: 69

Candidate Starts for Command613\_81:

(Start: 69 @49565 has 227 MA's), (Start: 85 @49610 has 6 MA's), (96, 49640), (116, 49715), (131, 49766), (151, 49853), (203, 50081), (212, 50138),

Gene: Contagion\_75 Start: 48326, Stop: 48976, Start Num: 69

Candidate Starts for Contagion\_75:

(Start: 69 @48326 has 227 MA's), (Start: 85 @48371 has 6 MA's), (96, 48401), (116, 48476), (131, 48527), (151, 48614), (203, 48842), (212, 48899),

Gene: Cookies\_76 Start: 48707, Stop: 49357, Start Num: 69

Candidate Starts for Cookies\_76:

(Start: 69 @48707 has 227 MA's), (Start: 85 @48752 has 6 MA's), (96, 48782), (116, 48857), (131, 48908), (151, 48995), (158, 49022), (203, 49223), (212, 49280),

Gene: Crossroads\_69 Start: 46978, Stop: 47658, Start Num: 69

Candidate Starts for Crossroads\_69:

(Start: 69 @46978 has 227 MA's), (168, 47347), (175, 47377), (216, 47581), (218, 47602),

Gene: CrystalP\_78 Start: 49510, Stop: 50160, Start Num: 69

Candidate Starts for CrystalP\_78:

(Start: 69 @49510 has 227 MA's), (Start: 85 @49555 has 6 MA's), (96, 49585), (116, 49660), (131, 49711), (151, 49798), (203, 50026), (212, 50083),

Gene: Czyszczone1\_80 Start: 49032, Stop: 49682, Start Num: 69

Candidate Starts for Czyszczone1\_80:

(Start: 69 @49032 has 227 MA's), (Start: 85 @49077 has 6 MA's), (96, 49107), (116, 49182), (131, 49233), (151, 49320), (203, 49548), (212, 49605),

Gene: DHan\_71 Start: 46884, Stop: 47564, Start Num: 69

Candidate Starts for DHan\_71:

(Start: 69 @46884 has 227 MA's), (163, 47235), (175, 47283), (216, 47487), (218, 47508),

Gene: Daegal\_72 Start: 46821, Stop: 47852, Start Num: 36

Candidate Starts for Daegal\_72:

(Start: 36 @46821 has 15 MA's), (44, 46851), (59, 46917), (60, 46923), (62, 46932), (65, 46959), (71, 46974), (76, 46989), (90, 47031), (115, 47112), (123, 47139), (157, 47307), (164, 47328), (193, 47460), (194, 47472), (206, 47532), (207, 47535), (209, 47544), (219, 47595), (220, 47598), (229, 47658), (231, 47676), (236, 47736),

Gene: Daikon\_81 Start: 49653, Stop: 50303, Start Num: 69

Candidate Starts for Daikon\_81:

(Start: 69 @49653 has 227 MA's), (Start: 85 @49698 has 6 MA's), (96, 49728), (116, 49803), (131, 49854), (151, 49941), (203, 50169), (212, 50226),

Gene: DanBing\_70 Start: 46853, Stop: 47533, Start Num: 69

Candidate Starts for DanBing\_70:

(Start: 69 @46853 has 227 MA's), (175, 47252), (216, 47456), (218, 47477),

Gene: DeepSoil15\_69 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for DeepSoil15\_69:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Delrey21\_56 Start: 46577, Stop: 47413, Start Num: 69

Candidate Starts for Delrey21\_56:

(Start: 69 @46577 has 227 MA's), (90, 46637), (109, 46703), (127, 46772), (168, 46952), (171, 46964), (174, 46976),

Gene: Dewey\_63 Start: 45667, Stop: 46746, Start Num: 16

Candidate Starts for Dewey\_63:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: DirkDirk\_64 Start: 44633, Stop: 45262, Start Num: 85

Candidate Starts for DirkDirk\_64:

(Start: 69 @44585 has 227 MA's), (Start: 85 @44633 has 6 MA's), (108, 44711), (113, 44729), (116, 44738), (141, 44819), (147, 44879), (168, 44951), (175, 44981), (212, 45179),

Gene: DocMcStuffins\_82 Start: 52185, Stop: 53102, Start Num: 40

Candidate Starts for DocMcStuffins\_82:

(Start: 40 @52185 has 7 MA's), (51, 52230), (52, 52233), (61, 52278), (71, 52323), (86, 52368), (88, 52377), (90, 52380), (111, 52443), (146, 52593), (163, 52641), (206, 52824), (213, 52860),

Gene: DoctorDiddles\_78 Start: 48894, Stop: 49544, Start Num: 69

Candidate Starts for DoctorDiddles\_78:

(Start: 69 @48894 has 227 MA's), (Start: 85 @48939 has 6 MA's), (96, 48969), (116, 49044), (131, 49095), (151, 49182), (158, 49209), (203, 49410), (212, 49467),

Gene: DoctorFroggo\_56 Start: 46577, Stop: 47413, Start Num: 69

Candidate Starts for DoctorFroggo\_56:

(Start: 69 @46577 has 227 MA's), (90, 46637), (109, 46703), (127, 46772), (168, 46952), (171, 46964), (174, 46976),

Gene: Douge\_67 Start: 45574, Stop: 46254, Start Num: 69

Candidate Starts for Douge\_67:

(Start: 69 @45574 has 227 MA's), (127, 45769), (139, 45799), (147, 45871), (175, 45973), (186, 46033), (203, 46114), (216, 46177), (218, 46198),

Gene: Douzhi\_67 Start: 45624, Stop: 46304, Start Num: 69

Candidate Starts for Douzhi\_67:

(Start: 69 @45624 has 227 MA's), (127, 45819), (139, 45849), (147, 45921), (175, 46023), (186, 46083), (203, 46164), (216, 46227), (218, 46248), (223, 46272),

Gene: DrDrey\_79 Start: 49951, Stop: 50601, Start Num: 69

Candidate Starts for DrDrey\_79:

(Start: 69 @49951 has 227 MA's), (Start: 85 @49996 has 6 MA's), (96, 50026), (116, 50101), (131, 50152), (151, 50239), (203, 50467), (212, 50524),

Gene: DrSeegs\_69 Start: 46903, Stop: 47583, Start Num: 69

Candidate Starts for DrSeegs\_69:

(Start: 69 @46903 has 227 MA's), (168, 47272), (175, 47302), (216, 47506), (218, 47527),

Gene: Dumbo\_79 Start: 48431, Stop: 49081, Start Num: 69

Candidate Starts for Dumbo\_79:

(Start: 69 @48431 has 227 MA's), (Start: 85 @48476 has 6 MA's), (96, 48506), (116, 48581), (131, 48632), (151, 48719), (203, 48947), (212, 49004),

Gene: DumpsterDude\_67 Start: 49217, Stop: 50014, Start Num: 69

Candidate Starts for DumpsterDude\_67:

(Start: 69 @49217 has 227 MA's), (98, 49298), (105, 49328), (112, 49355), (116, 49367), (125, 49397), (144, 49478), (167, 49574), (170, 49583), (176, 49595),

Gene: DuncansLeg\_68 Start: 47270, Stop: 47950, Start Num: 69

Candidate Starts for DuncansLeg\_68:

(Start: 69 @47270 has 227 MA's), (113, 47414), (141, 47504), (161, 47618), (168, 47639), (175, 47669), (218, 47894),

Gene: Dusk\_76 Start: 48731, Stop: 49381, Start Num: 69

Candidate Starts for Dusk\_76:

(Start: 69 @48731 has 227 MA's), (Start: 85 @48776 has 6 MA's), (96, 48806), (116, 48881), (131, 48932), (151, 49019), (203, 49247), (212, 49304),

Gene: DyoEdafos\_71 Start: 46066, Stop: 46746, Start Num: 69

Candidate Starts for DyoEdafos\_71:

(Start: 69 @46066 has 227 MA's), (136, 46276), (140, 46294), (150, 46375), (179, 46483), (181, 46501), (187, 46540), (203, 46606), (218, 46690),

Gene: Easy2Say\_80 Start: 49975, Stop: 50625, Start Num: 69

Candidate Starts for Easy2Say\_80:

(Start: 69 @49975 has 227 MA's), (Start: 85 @50020 has 6 MA's), (96, 50050), (116, 50125), (131, 50176), (151, 50263), (203, 50491), (212, 50548),

Gene: Ein37\_69 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for Ein37\_69:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Elite2014\_78 Start: 48525, Stop: 49175, Start Num: 69

Candidate Starts for Elite2014\_78:

(Start: 69 @48525 has 227 MA's), (Start: 85 @48570 has 6 MA's), (96, 48600), (116, 48675), (131, 48726), (151, 48813), (203, 49041), (212, 49098),

Gene: Ellson\_66 Start: 47298, Stop: 47978, Start Num: 69

Candidate Starts for Ellson\_66:

(Start: 69 @47298 has 227 MA's), (113, 47442), (141, 47532), (161, 47646), (168, 47667), (175, 47697), (218, 47922), (225, 47967),

Gene: Elph10\_79 Start: 48530, Stop: 49180, Start Num: 69

Candidate Starts for Elph10\_79:

(Start: 69 @48530 has 227 MA's), (Start: 85 @48575 has 6 MA's), (96, 48605), (116, 48680), (131, 48731), (151, 48818), (203, 49046), (212, 49103),

Gene: Emmina\_79 Start: 48432, Stop: 49082, Start Num: 69

Candidate Starts for Emmina\_79:

(Start: 69 @48432 has 227 MA's), (Start: 85 @48477 has 6 MA's), (96, 48507), (116, 48582), (131, 48633), (151, 48720), (203, 48948), (212, 49005),

Gene: Enceladus\_64 Start: 45342, Stop: 46019, Start Num: 69

Candidate Starts for Enceladus\_64:

(Start: 69 @45342 has 227 MA's), (Start: 85 @45390 has 6 MA's), (108, 45468), (113, 45486), (116, 45495), (141, 45576), (147, 45636), (168, 45708), (175, 45738), (212, 45936),

Gene: Eureka\_77 Start: 48996, Stop: 49646, Start Num: 69

Candidate Starts for Eureka\_77:

(Start: 69 @48996 has 227 MA's), (Start: 85 @49041 has 6 MA's), (96, 49071), (116, 49146), (131, 49197), (151, 49284), (203, 49512), (212, 49569),

Gene: Evanesce\_68 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for Evanesce\_68:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: FairyPath\_80 Start: 49644, Stop: 50294, Start Num: 69

Candidate Starts for FairyPath\_80:

(Start: 69 @49644 has 227 MA's), (Start: 85 @49689 has 6 MA's), (96, 49719), (116, 49794), (131, 49845), (151, 49932), (203, 50160), (212, 50217),

Gene: Faith1\_69 Start: 46903, Stop: 47583, Start Num: 69

Candidate Starts for Faith1\_69:

(Start: 69 @46903 has 227 MA's), (168, 47272), (175, 47302), (216, 47506), (218, 47527),

Gene: Faiyaz\_81 Start: 52717, Stop: 53652, Start Num: 55

Candidate Starts for Faiyaz\_81:

(Start: 55 @52717 has 4 MA's), (82, 52831), (92, 52861), (121, 52969), (177, 53212), (214, 53389), (230, 53482), (238, 53593), (239, 53596),

Gene: FarmResident\_69 Start: 45580, Stop: 46260, Start Num: 69

Candidate Starts for FarmResident\_69:

(Start: 69 @45580 has 227 MA's), (112, 45721), (138, 45802), (139, 45805), (150, 45889), (175, 45979), (186, 46039), (203, 46120), (216, 46183), (218, 46204), (225, 46249),

Gene: Fenry\_70 Start: 44774, Stop: 45559, Start Num: 69

Candidate Starts for Fenry\_70:

(Start: 69 @44774 has 227 MA's), (Start: 85 @44819 has 6 MA's), (96, 44849), (102, 44876), (140, 44999), (150, 45068), (237, 45503),

Gene: Filch\_80 Start: 48457, Stop: 49107, Start Num: 69

Candidate Starts for Filch\_80:

(Start: 69 @48457 has 227 MA's), (Start: 85 @48502 has 6 MA's), (96, 48532), (116, 48607), (131, 48658), (151, 48745), (203, 48973), (212, 49030),

Gene: Finemlucis\_69 Start: 47224, Stop: 47904, Start Num: 69

Candidate Starts for Finemlucis\_69:

(Start: 69 @47224 has 227 MA's), (168, 47593), (175, 47623), (216, 47827), (218, 47848),

Gene: Finnry\_68 Start: 47498, Stop: 48178, Start Num: 69

Candidate Starts for Finnry\_68:

(Start: 69 @47498 has 227 MA's), (141, 47732), (161, 47846), (168, 47867), (175, 47897), (216, 48101), (218, 48122),

Gene: FireRed\_83 Start: 50019, Stop: 50669, Start Num: 69

Candidate Starts for FireRed\_83:

(Start: 69 @50019 has 227 MA's), (Start: 85 @50064 has 6 MA's), (96, 50094), (116, 50169), (131, 50220), (151, 50307), (203, 50535), (212, 50592),

Gene: Flypotenuse\_75 Start: 48516, Stop: 49166, Start Num: 69

Candidate Starts for Flypotenuse\_75:

(Start: 69 @48516 has 227 MA's), (Start: 85 @48561 has 6 MA's), (96, 48591), (116, 48666), (131, 48717), (151, 48804), (203, 49032), (212, 49089),

Gene: FoghornLeghorn\_73 Start: 47529, Stop: 48179, Start Num: 69

Candidate Starts for FoghornLeghorn\_73:

(Start: 69 @47529 has 227 MA's), (Start: 85 @47574 has 6 MA's), (96, 47604), (116, 47679), (131, 47730), (151, 47817), (203, 48045), (212, 48102),

Gene: Forge\_63 Start: 45667, Stop: 46746, Start Num: 16

Candidate Starts for Forge\_63:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Fosterous\_57 Start: 45597, Stop: 46586, Start Num: 22

Candidate Starts for Fosterous\_57:

(Start: 22 @45597 has 1 MA's), (Start: 31 @45639 has 1 MA's), (41, 45675), (44, 45690), (65, 45795), (71, 45810), (82, 45840), (89, 45867), (103, 45912), (130, 45999), (137, 46023), (142, 46050), (155, 46131), (201, 46254),

Gene: Frokostdame\_73 Start: 46067, Stop: 47071, Start Num: 34

Candidate Starts for Frokostdame\_73:

(30, 46049), (Start: 34 @46067 has 1 MA's), (Start: 39 @46082 has 2 MA's), (61, 46181), (72, 46229), (73, 46232), (100, 46310), (199, 46760), (211, 46823), (222, 46874),

Gene: GMA1\_64 Start: 38118, Stop: 38942, Start Num: 63

Candidate Starts for GMA1\_64:

(63, 38118), (65, 38124), (Start: 69 @38133 has 227 MA's), (90, 38193), (98, 38214), (108, 38256), (119, 38304), (165, 38499), (205, 38673), (233, 38859), (234, 38880),

Gene: Gabriela\_66 Start: 45350, Stop: 46030, Start Num: 69

Candidate Starts for Gabriela\_66:

(Start: 69 @45350 has 227 MA's), (168, 45719), (175, 45749), (216, 45953), (218, 45974),

Gene: Gage\_81 Start: 49309, Stop: 49959, Start Num: 69

Candidate Starts for Gage\_81:

(Start: 69 @49309 has 227 MA's), (Start: 85 @49354 has 6 MA's), (96, 49384), (116, 49459), (131, 49510), (151, 49597), (203, 49825), (212, 49882),

Gene: Gancho\_68 Start: 45490, Stop: 46521, Start Num: 36

Candidate Starts for Gancho\_68:

(Start: 36 @45490 has 15 MA's), (44, 45520), (59, 45586), (60, 45592), (62, 45601), (65, 45628), (71, 45643), (76, 45658), (90, 45700), (115, 45781), (123, 45808), (157, 45976), (164, 45997), (193, 46129), (194, 46141), (206, 46201), (207, 46204), (209, 46213), (219, 46264), (220, 46267), (229, 46327), (231, 46345), (236, 46405),

Gene: Gardann\_70 Start: 46936, Stop: 47616, Start Num: 69

Candidate Starts for Gardann\_70:

(Start: 69 @46936 has 227 MA's), (168, 47305), (175, 47335), (216, 47539), (218, 47560),

Gene: Gator\_77 Start: 49362, Stop: 50012, Start Num: 69

Candidate Starts for Gator\_77:

(Start: 69 @49362 has 227 MA's), (Start: 85 @49407 has 6 MA's), (96, 49437), (116, 49512), (131, 49563), (151, 49650), (203, 49878), (212, 49935),

Gene: Gemini\_84 Start: 49826, Stop: 50476, Start Num: 69

Candidate Starts for Gemini\_84:

(Start: 69 @49826 has 227 MA's), (Start: 85 @49871 has 6 MA's), (96, 49901), (116, 49976), (131, 50027), (151, 50114), (203, 50342), (212, 50399),

Gene: Getalong\_91 Start: 50569, Stop: 51366, Start Num: 57

Candidate Starts for Getalong\_91:

(Start: 57 @50569 has 11 MA's), (Start: 69 @50620 has 227 MA's), (81, 50653), (128, 50800), (143, 50866),

Gene: Giles\_63 Start: 45667, Stop: 46746, Start Num: 16

Candidate Starts for Giles\_63:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Glexan\_78 Start: 49646, Stop: 50296, Start Num: 69

Candidate Starts for Glexan\_78:

(Start: 69 @49646 has 227 MA's), (Start: 85 @49691 has 6 MA's), (96, 49721), (116, 49796), (131, 49847), (151, 49934), (203, 50162), (212, 50219),

Gene: Goku\_77 Start: 48725, Stop: 49375, Start Num: 69

Candidate Starts for Goku\_77:

(Start: 69 @48725 has 227 MA's), (Start: 85 @48770 has 6 MA's), (96, 48800), (116, 48875), (131, 48926), (151, 49013), (203, 49241), (212, 49298),

Gene: GoldenSpark\_83 Start: 49309, Stop: 49959, Start Num: 69

Candidate Starts for GoldenSpark\_83:

(Start: 69 @49309 has 227 MA's), (Start: 85 @49354 has 6 MA's), (96, 49384), (116, 49459), (131, 49510), (151, 49597), (203, 49825), (212, 49882),

Gene: Goldilocks\_82 Start: 48807, Stop: 49457, Start Num: 69

Candidate Starts for Goldilocks\_82:

(Start: 69 @48807 has 227 MA's), (Start: 85 @48852 has 6 MA's), (96, 48882), (116, 48957), (131, 49008), (151, 49095), (203, 49323), (212, 49380),

Gene: GooberAzure\_82 Start: 49309, Stop: 49959, Start Num: 69

Candidate Starts for GooberAzure\_82:

(Start: 69 @49309 has 227 MA's), (Start: 85 @49354 has 6 MA's), (96, 49384), (116, 49459), (131, 49510), (151, 49597), (203, 49825), (212, 49882),

Gene: Gravaillia\_64 Start: 45771, Stop: 46802, Start Num: 36

Candidate Starts for Gravaillia\_64:

(Start: 36 @45771 has 15 MA's), (44, 45801), (59, 45867), (60, 45873), (62, 45882), (65, 45909), (71, 45924), (76, 45939), (90, 45981), (115, 46062), (123, 46089), (157, 46257), (164, 46278), (193, 46410), (194, 46422), (206, 46482), (207, 46485), (209, 46494), (219, 46545), (220, 46548), (229, 46608), (231, 46626), (236, 46686),

Gene: Greep\_83 Start: 50308, Stop: 50958, Start Num: 69

Candidate Starts for Greep\_83:

(Start: 69 @50308 has 227 MA's), (Start: 85 @50353 has 6 MA's), (96, 50383), (116, 50458), (131, 50509), (151, 50596), (203, 50824), (212, 50881),

Gene: Gudmit\_59 Start: 35917, Stop: 36753, Start Num: 69

Candidate Starts for Gudmit\_59:

(33, 35761), (Start: 69 @35917 has 227 MA's), (Start: 85 @35962 has 6 MA's), (86, 35965), (87, 35968), (98, 35998), (113, 36058), (123, 36094), (144, 36178), (166, 36271), (169, 36283), (172, 36295), (183, 36364), (184, 36370), (191, 36406), (208, 36487), (217, 36535),

Gene: GuuelaD\_67 Start: 47018, Stop: 47698, Start Num: 69

Candidate Starts for GuuelaD\_67:

(Start: 69 @47018 has 227 MA's), (168, 47387), (175, 47417), (216, 47621), (218, 47642),

Gene: HH92\_68 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for HH92\_68:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Hadrien\_67 Start: 45667, Stop: 46746, Start Num: 16

Candidate Starts for Hadrien\_67:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Hafay\_71 Start: 47007, Stop: 47687, Start Num: 69

Candidate Starts for Hafay\_71:

(Start: 69 @47007 has 227 MA's), (168, 47376), (175, 47406), (216, 47610), (218, 47631),

Gene: Hail\_63 Start: 45667, Stop: 46746, Start Num: 16

Candidate Starts for Hail\_63:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Halena\_65 Start: 44622, Stop: 45299, Start Num: 69

Candidate Starts for Halena\_65:

(Start: 69 @44622 has 227 MA's), (Start: 85 @44670 has 6 MA's), (108, 44748), (113, 44766), (116, 44775), (141, 44856), (147, 44916), (168, 44988), (175, 45018), (212, 45216),

Gene: HanKaySha\_79 Start: 48610, Stop: 49260, Start Num: 69

Candidate Starts for HanKaySha\_79:

(Start: 69 @48610 has 227 MA's), (Start: 85 @48655 has 6 MA's), (96, 48685), (116, 48760), (131, 48811), (151, 48898), (203, 49126), (212, 49183),

Gene: Harella\_79 Start: 50162, Stop: 50812, Start Num: 69

Candidate Starts for Harella\_79:

(Start: 69 @50162 has 227 MA's), (Start: 85 @50207 has 6 MA's), (96, 50237), (116, 50312), (131, 50363), (151, 50450), (203, 50678), (212, 50735),

Gene: Henry\_77 Start: 48950, Stop: 49600, Start Num: 69

Candidate Starts for Henry\_77:

(Start: 69 @48950 has 227 MA's), (Start: 85 @48995 has 6 MA's), (96, 49025), (116, 49100), (131, 49151), (151, 49238), (203, 49466), (212, 49523),

Gene: Highbury\_78 Start: 48598, Stop: 49248, Start Num: 69

Candidate Starts for Highbury\_78:

(Start: 69 @48598 has 227 MA's), (Start: 85 @48643 has 6 MA's), (96, 48673), (116, 48748), (131, 48799), (151, 48886), (203, 49114), (212, 49171),

Gene: Hilltopfarm\_80 Start: 52417, Stop: 53346, Start Num: 55

Candidate Starts for Hilltopfarm\_80:

(Start: 55 @52417 has 4 MA's), (82, 52525), (92, 52555), (104, 52600), (121, 52663), (177, 52906), (214, 53083), (230, 53176), (238, 53287), (239, 53290),

Gene: Holt\_84 Start: 49723, Stop: 50373, Start Num: 69

Candidate Starts for Holt\_84:

(Start: 69 @49723 has 227 MA's), (Start: 85 @49768 has 6 MA's), (96, 49798), (116, 49873), (131, 49924), (151, 50011), (203, 50239), (212, 50296),

Gene: Hoonter\_82 Start: 49309, Stop: 49959, Start Num: 69

Candidate Starts for Hoonter\_82:

(Start: 69 @49309 has 227 MA's), (Start: 85 @49354 has 6 MA's), (96, 49384), (116, 49459), (131, 49510), (151, 49597), (203, 49825), (212, 49882),

Gene: Hopey\_79 Start: 49142, Stop: 49792, Start Num: 69

Candidate Starts for Hopey\_79:

(Start: 69 @49142 has 227 MA's), (Start: 85 @49187 has 6 MA's), (96, 49217), (116, 49292), (131, 49343), (151, 49430), (203, 49658), (212, 49715),

Gene: HufflyPuff\_82 Start: 49975, Stop: 50625, Start Num: 69

Candidate Starts for HufflyPuff\_82:

(Start: 69 @49975 has 227 MA's), (Start: 85 @50020 has 6 MA's), (96, 50050), (116, 50125), (131, 50176), (151, 50263), (203, 50491), (212, 50548),

Gene: Hyzer\_85 Start: 54475, Stop: 55455, Start Num: 39

Candidate Starts for Hyzer\_85:

(Start: 39 @54475 has 2 MA's), (59, 54562), (91, 54676), (126, 54808), (134, 54823), (152, 54937),

Gene: IHOP\_77 Start: 49074, Stop: 49724, Start Num: 69

Candidate Starts for IHOP\_77:

(Start: 69 @49074 has 227 MA's), (Start: 85 @49119 has 6 MA's), (96, 49149), (116, 49224), (131, 49275), (151, 49362), (203, 49590), (212, 49647),

Gene: Icee\_80 Start: 48973, Stop: 49623, Start Num: 69

Candidate Starts for Icee\_80:

(Start: 69 @48973 has 227 MA's), (Start: 85 @49018 has 6 MA's), (96, 49048), (116, 49123), (131, 49174), (151, 49261), (203, 49489), (212, 49546),

Gene: InLimbo\_63 Start: 37783, Stop: 38589, Start Num: 57

Candidate Starts for InLimbo\_63:

(Start: 57 @37783 has 11 MA's), (Start: 69 @37834 has 227 MA's), (81, 37867), (128, 38014), (143, 38080), (149, 38125), (212, 38350),

Gene: Inca\_76 Start: 47599, Stop: 48249, Start Num: 69

Candidate Starts for Inca\_76:

(Start: 69 @47599 has 227 MA's), (Start: 85 @47644 has 6 MA's), (96, 47674), (116, 47749), (131, 47800), (151, 47887), (203, 48115), (212, 48172),

Gene: Itos\_68 Start: 45809, Stop: 46489, Start Num: 69

Candidate Starts for Itos\_68:

(Start: 69 @45809 has 227 MA's), (168, 46178), (175, 46208), (216, 46412), (218, 46433),

Gene: JeTaime\_79 Start: 49791, Stop: 50441, Start Num: 69

Candidate Starts for JeTaime\_79:

(Start: 69 @49791 has 227 MA's), (Start: 85 @49836 has 6 MA's), (96, 49866), (116, 49941), (131, 49992), (151, 50079), (158, 50106), (203, 50307), (212, 50364),

Gene: Jobypre\_68 Start: 47234, Stop: 47914, Start Num: 69

Candidate Starts for Jobypre\_68:

(Start: 69 @47234 has 227 MA's), (141, 47468), (161, 47582), (168, 47603), (175, 47633), (216, 47837), (218, 47858),

Gene: JoeDirt\_67 Start: 45775, Stop: 46452, Start Num: 69

Candidate Starts for JoeDirt\_67:

(Start: 69 @45775 has 227 MA's), (Start: 85 @45823 has 6 MA's), (108, 45901), (113, 45919), (116, 45928), (140, 46003), (141, 46009), (147, 46069), (168, 46141), (175, 46171), (212, 46369),

Gene: Jubie\_67 Start: 47369, Stop: 48049, Start Num: 69

Candidate Starts for Jubie\_67:

(Start: 69 @47369 has 227 MA's), (141, 47603), (161, 47717), (168, 47738), (175, 47768), (216, 47972), (218, 47993),

Gene: Kahlid\_69 Start: 46909, Stop: 47589, Start Num: 69

Candidate Starts for Kahlid\_69:

(Start: 69 @46909 has 227 MA's), (168, 47278), (175, 47308), (216, 47512), (218, 47533),

Gene: Kanye\_76 Start: 48655, Stop: 49305, Start Num: 69

Candidate Starts for Kanye\_76:

(Start: 69 @48655 has 227 MA's), (Start: 85 @48700 has 6 MA's), (96, 48730), (116, 48805), (131, 48856), (151, 48943), (203, 49171), (212, 49228),

Gene: Kenna\_83 Start: 47387, Stop: 48184, Start Num: 57

Candidate Starts for Kenna\_83:

(Start: 57 @47387 has 11 MA's), (Start: 69 @47438 has 227 MA's), (81, 47471), (128, 47618), (143, 47684),

Gene: Kimchi\_83 Start: 49312, Stop: 49962, Start Num: 69

Candidate Starts for Kimchi\_83:

(Start: 69 @49312 has 227 MA's), (Start: 85 @49357 has 6 MA's), (96, 49387), (116, 49462), (131, 49513), (151, 49600), (203, 49828), (212, 49885),

Gene: Kinbote\_67 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for Kinbote\_67:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Kingsolomon\_66 Start: 47241, Stop: 47921, Start Num: 69

Candidate Starts for Kingsolomon\_66:

(Start: 69 @47241 has 227 MA's), (141, 47475), (161, 47589), (168, 47610), (175, 47640), (216, 47844), (218, 47865),

Gene: KirDoubleO7\_66 Start: 47272, Stop: 47952, Start Num: 69

Candidate Starts for KirDoubleO7\_66:

(Start: 69 @47272 has 227 MA's), (113, 47416), (141, 47506), (161, 47620), (168, 47641), (175, 47671), (218, 47896),

Gene: Kostya\_79 Start: 49173, Stop: 49823, Start Num: 69

Candidate Starts for Kostya\_79:

(Start: 69 @49173 has 227 MA's), (Start: 85 @49218 has 6 MA's), (96, 49248), (116, 49323), (131, 49374), (151, 49461), (203, 49689), (212, 49746),

Gene: Kropertea\_66 Start: 45728, Stop: 46408, Start Num: 69

Candidate Starts for Kropertea\_66:

(Start: 69 @45728 has 227 MA's), (136, 45938), (140, 45956), (150, 46037), (179, 46145), (181, 46163), (187, 46202), (203, 46268), (218, 46352), (220, 46358),

Gene: Krypton555\_69 Start: 47460, Stop: 48140, Start Num: 69

Candidate Starts for Krypton555\_69:

(Start: 69 @47460 has 227 MA's), (113, 47604), (141, 47694), (161, 47808), (168, 47829), (175, 47859), (216, 48063), (218, 48084),

Gene: Kuwabara\_84 Start: 49956, Stop: 50762, Start Num: 57

Candidate Starts for Kuwabara\_84:

(Start: 57 @49956 has 11 MA's), (Start: 69 @50007 has 227 MA's), (81, 50040), (128, 50187), (143, 50253), (149, 50298), (212, 50523),

Gene: LeBron\_66 Start: 44626, Stop: 45303, Start Num: 69

Candidate Starts for LeBron\_66:

(Start: 69 @44626 has 227 MA's), (Start: 85 @44674 has 6 MA's), (108, 44752), (113, 44770), (116, 44779), (141, 44860), (147, 44920), (168, 44992), (175, 45022), (212, 45220),

Gene: Lewan\_70 Start: 46960, Stop: 47640, Start Num: 69

Candidate Starts for Lewan\_70:

(Start: 69 @46960 has 227 MA's), (168, 47329), (175, 47359), (216, 47563), (218, 47584),

Gene: LilDestine\_69 Start: 46936, Stop: 47616, Start Num: 69

Candidate Starts for LilDestine\_69:

(Start: 69 @46936 has 227 MA's), (168, 47305), (175, 47335), (216, 47539), (218, 47560),

Gene: LilHam\_51 Start: 43282, Stop: 44289, Start Num: 68

Candidate Starts for LilHam\_51:

(Start: 68 @43282 has 3 MA's), (Start: 70 @43285 has 1 MA's), (116, 43432), (180, 43705), (200, 43807), (211, 43870), (215, 43882), (231, 43990), (232, 44017),

Gene: LilHazelnut\_69 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for LilHazelnut\_69:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: LilSpotty\_80 Start: 46231, Stop: 47148, Start Num: 40

Candidate Starts for LilSpotty\_80:

(Start: 40 @46231 has 7 MA's), (51, 46276), (52, 46279), (61, 46324), (71, 46369), (86, 46414), (88, 46423), (90, 46426), (111, 46489), (146, 46639), (163, 46687), (206, 46870), (213, 46906),

Gene: Lilac\_81 Start: 48927, Stop: 49577, Start Num: 69

Candidate Starts for Lilac\_81:

(Start: 69 @48927 has 227 MA's), (Start: 85 @48972 has 6 MA's), (96, 49002), (116, 49077), (131, 49128), (151, 49215), (203, 49443), (212, 49500),

Gene: Lilbeanie\_57 Start: 41194, Stop: 42336, Start Num: 18

Candidate Starts for Lilbeanie\_57:

(8, 41005), (9, 41017), (Start: 18 @41194 has 1 MA's), (21, 41209), (23, 41218), (Start: 34 @41269 has 1 MA's), (45, 41317), (56, 41344), (132, 41614), (227, 42091),

Gene: Lilizi\_80 Start: 48640, Stop: 49290, Start Num: 69

Candidate Starts for Lilizi\_80:

(Start: 69 @48640 has 227 MA's), (Start: 85 @48685 has 6 MA's), (96, 48715), (116, 48790), (131, 48841), (151, 48928), (158, 48955), (203, 49156), (212, 49213),

Gene: Lilpickle\_78 Start: 48525, Stop: 49175, Start Num: 69

Candidate Starts for Lilpickle\_78:

(Start: 69 @48525 has 227 MA's), (Start: 85 @48570 has 6 MA's), (96, 48600), (116, 48675), (131, 48726), (151, 48813), (203, 49041), (212, 49098),

Gene: Livilaughbron\_81 Start: 50103, Stop: 50753, Start Num: 69

Candidate Starts for Livilaughbron\_81:

(Start: 69 @50103 has 227 MA's), (Start: 85 @50148 has 6 MA's), (96, 50178), (116, 50253), (131, 50304), (151, 50391), (203, 50619), (212, 50676),

Gene: LiyuLake\_67 Start: 47288, Stop: 47968, Start Num: 69

Candidate Starts for LiyuLake\_67:

(Start: 69 @47288 has 227 MA's), (113, 47432), (141, 47522), (161, 47636), (168, 47657), (175, 47687), (218, 47912),

Gene: Loadrie\_68 Start: 46988, Stop: 47668, Start Num: 69

Candidate Starts for Loadrie\_68:

(Start: 69 @46988 has 227 MA's), (168, 47357), (175, 47387), (216, 47591), (218, 47612),

Gene: Lolly9\_67 Start: 47057, Stop: 47737, Start Num: 69

Candidate Starts for Lolly9\_67:

(Start: 69 @47057 has 227 MA's), (113, 47201), (141, 47291), (161, 47405), (168, 47426), (175, 47456), (183, 47507), (218, 47681), (225, 47726),

Gene: Lton\_63 Start: 37109, Stop: 37915, Start Num: 57

Candidate Starts for Lton\_63:

(Start: 57 @37109 has 11 MA's), (Start: 69 @37160 has 227 MA's), (81, 37193), (128, 37340), (143, 37406), (149, 37451), (212, 37676),

Gene: Luke\_67 Start: 45622, Stop: 46701, Start Num: 16

Candidate Starts for Luke\_67:

(14, 45613), (Start: 16 @45622 has 7 MA's), (20, 45646), (24, 45661), (25, 45664), (29, 45691), (Start: 36 @45718 has 15 MA's), (49, 45772), (51, 45775), (60, 45814), (62, 45823), (71, 45865), (77, 45886), (80, 45889), (99, 45946), (110, 45985), (117, 46012), (120, 46027), (193, 46309), (194, 46321), (202, 46345), (206, 46381), (207, 46384), (209, 46393), (219, 46444), (220, 46447), (229, 46507), (231, 46525), (236, 46585),

Gene: Lumos\_69 Start: 47231, Stop: 47911, Start Num: 69

Candidate Starts for Lumos\_69:

(Start: 69 @47231 has 227 MA's), (141, 47465), (161, 47579), (168, 47600), (175, 47630), (216, 47834), (218, 47855),

Gene: Luna22\_63 Start: 45747, Stop: 46730, Start Num: 36

Candidate Starts for Luna22\_63:

(14, 45642), (Start: 16 @45651 has 7 MA's), (20, 45675), (24, 45690), (25, 45693), (29, 45720), (Start: 36 @45747 has 15 MA's), (49, 45801), (51, 45804), (60, 45843), (62, 45852), (71, 45894), (77, 45915), (80, 45918), (99, 45975), (110, 46014), (117, 46041), (120, 46056), (193, 46338), (194, 46350), (202, 46374), (206, 46410), (207, 46413), (209, 46422), (219, 46473), (220, 46476), (229, 46536), (231, 46554), (236, 46614),

Gene: Lutum\_89 Start: 48549, Stop: 49346, Start Num: 57

Candidate Starts for Lutum\_89:

(Start: 57 @48549 has 11 MA's), (Start: 69 @48600 has 227 MA's), (81, 48633), (128, 48780), (143, 48846),

Gene: Lynnae\_71 Start: 46934, Stop: 47614, Start Num: 69

Candidate Starts for Lynnae\_71:

(Start: 69 @46934 has 227 MA's), (168, 47303), (175, 47333), (216, 47537), (218, 47558),

Gene: Lysidious\_73 Start: 45614, Stop: 46399, Start Num: 69

Candidate Starts for Lysidious\_73:

(Start: 69 @45614 has 227 MA's), (Start: 85 @45659 has 6 MA's), (96, 45689), (102, 45716), (140, 45839), (150, 45908), (153, 45917), (233, 46298), (237, 46343),

Gene: MAckerman\_65 Start: 44615, Stop: 45292, Start Num: 69

Candidate Starts for MAckerman\_65:

(Start: 69 @44615 has 227 MA's), (Start: 85 @44663 has 6 MA's), (108, 44741), (113, 44759), (116, 44768), (141, 44849), (147, 44909), (168, 44981), (175, 45011), (212, 45209),

Gene: MISSy\_80 Start: 49031, Stop: 49681, Start Num: 69

Candidate Starts for MISSy\_80:

(Start: 69 @49031 has 227 MA's), (Start: 85 @49076 has 6 MA's), (96, 49106), (116, 49181), (131, 49232), (151, 49319), (203, 49547), (212, 49604),

Gene: MPhalcon\_80 Start: 49024, Stop: 49674, Start Num: 69

Candidate Starts for MPhalcon\_80:

(Start: 69 @49024 has 227 MA's), (Start: 85 @49069 has 6 MA's), (96, 49099), (116, 49174), (131, 49225), (151, 49312), (203, 49540), (212, 49597),

Gene: MadamMonkfish\_79 Start: 48249, Stop: 48899, Start Num: 69

Candidate Starts for MadamMonkfish\_79:

(Start: 69 @48249 has 227 MA's), (Start: 85 @48294 has 6 MA's), (96, 48324), (116, 48399), (131, 48450), (151, 48537), (203, 48765), (212, 48822),

Gene: Madavieve\_67 Start: 46377, Stop: 47345, Start Num: 37

Candidate Starts for Madavieve\_67:

(35, 46368), (Start: 37 @46377 has 5 MA's), (52, 46434), (61, 46479), (93, 46584), (95, 46587), (101, 46617), (149, 46815), (204, 46980),

Gene: Madeline\_65 Start: 47024, Stop: 47905, Start Num: 47

Candidate Starts for Madeline\_65:

(Start: 47 @47024 has 2 MA's), (61, 47078), (64, 47099), (84, 47150), (94, 47174), (111, 47234), (204, 47540),

Gene: Malibo\_71 Start: 46632, Stop: 47426, Start Num: 69

Candidate Starts for Malibo\_71:

(2, 46107), (7, 46173), (11, 46257), (48, 46542), (Start: 69 @46632 has 227 MA's), (96, 46707), (98, 46713), (105, 46743), (112, 46770), (116, 46782), (123, 46809), (125, 46812), (144, 46893), (167, 46989), (170, 46998), (176, 47010),

Gene: Manda\_80 Start: 50111, Stop: 50761, Start Num: 69

Candidate Starts for Manda\_80:

(Start: 69 @50111 has 227 MA's), (Start: 85 @50156 has 6 MA's), (96, 50186), (116, 50261), (131, 50312), (151, 50399), (203, 50627), (212, 50684),

Gene: Maridalia\_71 Start: 46257, Stop: 47225, Start Num: 37

Candidate Starts for Maridalia\_71:

(35, 46248), (Start: 37 @46257 has 5 MA's), (52, 46314), (61, 46359), (93, 46464), (95, 46467), (101, 46497), (149, 46695), (204, 46860),

Gene: Marshmallow\_77 Start: 49804, Stop: 50454, Start Num: 69

Candidate Starts for Marshmallow\_77:

(Start: 69 @49804 has 227 MA's), (Start: 85 @49849 has 6 MA's), (96, 49879), (116, 49954), (131, 50005), (151, 50092), (203, 50320), (212, 50377),

Gene: Maxxinista\_81 Start: 48900, Stop: 49550, Start Num: 69

Candidate Starts for Maxxinista\_81:

(Start: 69 @48900 has 227 MA's), (Start: 85 @48945 has 6 MA's), (96, 48975), (116, 49050), (131, 49101), (151, 49188), (203, 49416), (212, 49473),

Gene: Melba\_70 Start: 42725, Stop: 43543, Start Num: 69

Candidate Starts for Melba\_70:

(26, 42542), (46, 42635), (48, 42641), (50, 42644), (53, 42650), (Start: 69 @42725 has 227 MA's), (96, 42800), (105, 42836), (125, 42905), (144, 42986), (167, 43082), (170, 43091), (173, 43103), (176, 43115),

Gene: Miley16\_69 Start: 46903, Stop: 47583, Start Num: 69

Candidate Starts for Miley16\_69:

(Start: 69 @46903 has 227 MA's), (168, 47272), (175, 47302), (216, 47506), (218, 47527),

Gene: Mindy\_78 Start: 48116, Stop: 48766, Start Num: 69

Candidate Starts for Mindy\_78:

(Start: 69 @48116 has 227 MA's), (Start: 85 @48161 has 6 MA's), (96, 48191), (116, 48266), (131, 48317), (151, 48404), (203, 48632), (212, 48689),

Gene: MiniLon\_71 Start: 47058, Stop: 47738, Start Num: 69

Candidate Starts for MiniLon\_71:

(Start: 69 @47058 has 227 MA's), (113, 47202), (141, 47292), (161, 47406), (168, 47427), (175, 47457), (183, 47508), (218, 47682), (225, 47727),

Gene: MiniMac\_71 Start: 47056, Stop: 47736, Start Num: 69

Candidate Starts for MiniMac\_71:

(Start: 69 @47056 has 227 MA's), (113, 47200), (141, 47290), (161, 47404), (168, 47425), (175, 47455), (183, 47506), (218, 47680), (225, 47725),

Gene: Miniwave\_74 Start: 48569, Stop: 49219, Start Num: 69

Candidate Starts for Miniwave\_74:

(Start: 69 @48569 has 227 MA's), (Start: 85 @48614 has 6 MA's), (96, 48644), (116, 48719), (131, 48770), (151, 48857), (158, 48884), (203, 49085), (212, 49142),

Gene: Misfit\_80 Start: 50043, Stop: 50693, Start Num: 69

Candidate Starts for Misfit\_80:

(Start: 69 @50043 has 227 MA's), (Start: 85 @50088 has 6 MA's), (96, 50118), (116, 50193), (131, 50244), (151, 50331), (203, 50559), (212, 50616),

Gene: Misha28\_84 Start: 51490, Stop: 52407, Start Num: 40

Candidate Starts for Misha28\_84:

(Start: 40 @51490 has 7 MA's), (51, 51535), (52, 51538), (61, 51583), (71, 51628), (86, 51673), (88, 51682), (90, 51685), (111, 51748), (146, 51898), (163, 51946), (206, 52129), (213, 52165),

Gene: MkaliMitinis3\_70 Start: 46972, Stop: 47652, Start Num: 69

Candidate Starts for MkaliMitinis3\_70:

(Start: 69 @46972 has 227 MA's), (168, 47341), (175, 47371), (216, 47575), (218, 47596),

Gene: Moldemort\_82 Start: 49128, Stop: 49778, Start Num: 69

Candidate Starts for Moldemort\_82:

(Start: 69 @49128 has 227 MA's), (Start: 85 @49173 has 6 MA's), (96, 49203), (116, 49278), (131, 49329), (151, 49416), (203, 49644), (212, 49701),

Gene: MollyToe\_74 Start: 47870, Stop: 48520, Start Num: 69

Candidate Starts for MollyToe\_74:

(Start: 69 @47870 has 227 MA's), (Start: 85 @47915 has 6 MA's), (96, 47945), (98, 47951), (116, 48020), (123, 48047), (131, 48071), (151, 48158), (161, 48194), (203, 48386), (212, 48443),

Gene: Moostard\_66 Start: 47237, Stop: 47917, Start Num: 69

Candidate Starts for Moostard\_66:

(Start: 69 @47237 has 227 MA's), (141, 47471), (161, 47585), (168, 47606), (175, 47636), (216, 47840), (218, 47861),

Gene: Morkie\_66 Start: 38257, Stop: 39063, Start Num: 57

Candidate Starts for Morkie\_66:

(Start: 57 @38257 has 11 MA's), (Start: 69 @38308 has 227 MA's), (81, 38341), (128, 38488), (143, 38554), (149, 38599), (212, 38824),

Gene: MortyNRick\_80 Start: 47532, Stop: 48401, Start Num: 54

Candidate Starts for MortyNRick\_80:

(Start: 54 @47532 has 1 MA's), (79, 47622), (107, 47709), (124, 47760), (160, 47907), (191, 48054),

Gene: Mosby\_75 Start: 48326, Stop: 48976, Start Num: 69

Candidate Starts for Mosby\_75:

(Start: 69 @48326 has 227 MA's), (Start: 85 @48371 has 6 MA's), (96, 48401), (116, 48476), (131, 48527), (151, 48614), (203, 48842), (212, 48899),

Gene: MsGreen\_68 Start: 47234, Stop: 47914, Start Num: 69

Candidate Starts for MsGreen\_68:

(Start: 69 @47234 has 227 MA's), (141, 47468), (161, 47582), (168, 47603), (175, 47633), (216, 47837), (218, 47858),

Gene: Murica\_82 Start: 49975, Stop: 50625, Start Num: 69

Candidate Starts for Murica\_82:

(Start: 69 @49975 has 227 MA's), (Start: 85 @50020 has 6 MA's), (96, 50050), (116, 50125), (131, 50176), (151, 50263), (203, 50491), (212, 50548),

Gene: Murp\_68 Start: 45979, Stop: 46797, Start Num: 69

Candidate Starts for Murp\_68:

(46, 45889), (48, 45895), (50, 45898), (53, 45904), (Start: 69 @45979 has 227 MA's), (96, 46054), (105, 46090), (125, 46159), (144, 46240), (167, 46336), (170, 46345), (173, 46357), (176, 46369), (237, 46741),

Gene: Murphy\_79 Start: 49412, Stop: 50062, Start Num: 69

Candidate Starts for Murphy\_79:

(Start: 69 @49412 has 227 MA's), (Start: 85 @49457 has 6 MA's), (96, 49487), (116, 49562), (131, 49613), (151, 49700), (203, 49928), (212, 49985),

Gene: Myrale\_79 Start: 49669, Stop: 50319, Start Num: 69

Candidate Starts for Myrale\_79:

(Start: 69 @49669 has 227 MA's), (Start: 85 @49714 has 6 MA's), (96, 49744), (116, 49819), (131, 49870), (151, 49957), (203, 50185), (212, 50242),

Gene: Nala\_81 Start: 49533, Stop: 50183, Start Num: 69

Candidate Starts for Nala\_81:

(Start: 69 @49533 has 227 MA's), (Start: 85 @49578 has 6 MA's), (96, 49608), (116, 49683), (131, 49734), (151, 49821), (203, 50049), (212, 50106),

Gene: NelitzaMV\_77 Start: 48615, Stop: 49265, Start Num: 69

Candidate Starts for NelitzaMV\_77:

(Start: 69 @48615 has 227 MA's), (Start: 85 @48660 has 6 MA's), (96, 48690), (116, 48765), (131, 48816), (151, 48903), (203, 49131), (212, 49188),

Gene: Netyap\_70 Start: 46904, Stop: 47584, Start Num: 69

Candidate Starts for Netyap\_70:

(Start: 69 @46904 has 227 MA's), (168, 47273), (175, 47303), (216, 47507), (218, 47528),

Gene: Nicholas\_66 Start: 47241, Stop: 47921, Start Num: 69

Candidate Starts for Nicholas\_66:

(Start: 69 @47241 has 227 MA's), (141, 47475), (161, 47589), (168, 47610), (175, 47640), (216, 47844), (218, 47865),

Gene: Nicholasp3\_69 Start: 46936, Stop: 47616, Start Num: 69

Candidate Starts for Nicholasp3\_69:

(Start: 69 @46936 has 227 MA's), (168, 47305), (175, 47335), (216, 47539), (218, 47560),

Gene: Nimrod\_80 Start: 50236, Stop: 50886, Start Num: 69

Candidate Starts for Nimrod\_80:

(Start: 69 @50236 has 227 MA's), (Start: 85 @50281 has 6 MA's), (96, 50311), (116, 50386), (131, 50437), (151, 50524), (203, 50752), (212, 50809),

Gene: NoSleep\_80 Start: 48870, Stop: 49520, Start Num: 69

Candidate Starts for NoSleep\_80:

(Start: 69 @48870 has 227 MA's), (Start: 85 @48915 has 6 MA's), (96, 48945), (116, 49020), (131, 49071), (151, 49158), (203, 49386), (212, 49443),

Gene: NonchalantPear\_79 Start: 48723, Stop: 49373, Start Num: 69

Candidate Starts for NonchalantPear\_79:

(Start: 69 @48723 has 227 MA's), (Start: 85 @48768 has 6 MA's), (96, 48798), (116, 48873), (131, 48924), (151, 49011), (203, 49239), (212, 49296),

Gene: OBUpride\_68 Start: 45759, Stop: 46790, Start Num: 36

Candidate Starts for OBUpride\_68:

(Start: 36 @45759 has 15 MA's), (44, 45789), (59, 45855), (60, 45861), (62, 45870), (65, 45897), (71, 45912), (76, 45927), (90, 45969), (115, 46050), (123, 46077), (157, 46245), (164, 46266), (193, 46398), (194, 46410), (206, 46470), (207, 46473), (209, 46482), (219, 46533), (220, 46536), (229, 46596), (231, 46614), (236, 46674),

Gene: OhShagHennessy\_65 Start: 44491, Stop: 45168, Start Num: 69

Candidate Starts for OhShagHennessy\_65:

(Start: 69 @44491 has 227 MA's), (Start: 85 @44539 has 6 MA's), (108, 44617), (113, 44635), (116, 44644), (141, 44725), (147, 44785), (168, 44857), (175, 44887), (212, 45085),

Gene: OneDirection\_60 Start: 35671, Stop: 36477, Start Num: 57

Candidate Starts for OneDirection\_60:

(Start: 57 @35671 has 11 MA's), (Start: 69 @35722 has 227 MA's), (81, 35755), (128, 35902), (143, 35968), (149, 36013), (212, 36238),

Gene: OrionPax\_78 Start: 48621, Stop: 49271, Start Num: 69

Candidate Starts for OrionPax\_78:

(Start: 69 @48621 has 227 MA's), (Start: 85 @48666 has 6 MA's), (96, 48696), (116, 48771), (131, 48822), (151, 48909), (203, 49137), (212, 49194),

Gene: OverPar\_70 Start: 46988, Stop: 47668, Start Num: 69

Candidate Starts for OverPar\_70:

(Start: 69 @46988 has 227 MA's), (168, 47357), (175, 47387), (216, 47591), (218, 47612),

Gene: PYPDinur\_65 Start: 45654, Stop: 46334, Start Num: 69

Candidate Starts for PYPDinur\_65:

(Start: 69 @45654 has 227 MA's), (127, 45849), (139, 45879), (147, 45951), (175, 46053), (186, 46113), (203, 46194), (216, 46257), (218, 46278), (223, 46302),

Gene: PaddyBaddy\_79 Start: 48624, Stop: 49274, Start Num: 69

Candidate Starts for PaddyBaddy\_79:

(Start: 69 @48624 has 227 MA's), (Start: 85 @48669 has 6 MA's), (96, 48699), (116, 48774), (131, 48825), (151, 48912), (203, 49140), (212, 49197),

Gene: Palpatine\_81 Start: 50002, Stop: 50652, Start Num: 69

Candidate Starts for Palpatine\_81:

(Start: 69 @50002 has 227 MA's), (Start: 85 @50047 has 6 MA's), (96, 50077), (116, 50152), (131, 50203), (151, 50290), (203, 50518), (212, 50575),

Gene: Paperbeatsrock\_78 Start: 49247, Stop: 49897, Start Num: 69

Candidate Starts for Paperbeatsrock\_78:

(Start: 69 @49247 has 227 MA's), (Start: 85 @49292 has 6 MA's), (96, 49322), (116, 49397), (131, 49448), (151, 49535), (158, 49562), (203, 49763), (212, 49820),

Gene: Pat3\_77 Start: 47779, Stop: 48429, Start Num: 69

Candidate Starts for Pat3\_77:

(Start: 69 @47779 has 227 MA's), (Start: 85 @47824 has 6 MA's), (96, 47854), (116, 47929), (131, 47980), (151, 48067), (158, 48094), (203, 48295), (212, 48352), (219, 48382),

Gene: Petra\_75 Start: 45325, Stop: 46110, Start Num: 69

Candidate Starts for Petra\_75:

(Start: 69 @45325 has 227 MA's), (Start: 85 @45370 has 6 MA's), (96, 45400), (102, 45427), (140, 45550), (150, 45619), (237, 46057),

Gene: Petra64142\_83 Start: 50466, Stop: 51116, Start Num: 69

Candidate Starts for Petra64142\_83:

(Start: 69 @50466 has 227 MA's), (Start: 85 @50511 has 6 MA's), (96, 50541), (116, 50616), (131, 50667), (151, 50754), (203, 50982), (212, 51039),

Gene: Phabuloso\_95 Start: 50041, Stop: 50838, Start Num: 57

Candidate Starts for Phabuloso\_95:

(Start: 57 @50041 has 11 MA's), (Start: 69 @50092 has 227 MA's), (81, 50125), (128, 50272), (143, 50338),

Gene: Phaja\_77 Start: 49073, Stop: 49723, Start Num: 69

Candidate Starts for Phaja\_77:

(Start: 69 @49073 has 227 MA's), (Start: 85 @49118 has 6 MA's), (96, 49148), (116, 49223), (131, 49274), (151, 49361), (158, 49388), (203, 49589), (212, 49646),

Gene: PhaoMing\_66 Start: 42075, Stop: 42944, Start Num: 54

Candidate Starts for PhaoMing\_66:

(Start: 54 @42075 has 1 MA's), (79, 42165), (107, 42252), (124, 42303), (160, 42450), (184, 42561), (191, 42597),

Gene: Pharsalus\_76 Start: 49047, Stop: 49697, Start Num: 69

Candidate Starts for Pharsalus\_76:

(Start: 69 @49047 has 227 MA's), (Start: 85 @49092 has 6 MA's), (96, 49122), (116, 49197), (131, 49248), (151, 49335), (158, 49362), (203, 49563), (212, 49620),

Gene: PhatBacter\_83 Start: 50019, Stop: 50669, Start Num: 69

Candidate Starts for PhatBacter\_83:

(Start: 69 @50019 has 227 MA's), (Start: 85 @50064 has 6 MA's), (96, 50094), (116, 50169), (131, 50220), (151, 50307), (158, 50334), (203, 50535), (212, 50592),

Gene: Phaux\_81 Start: 50014, Stop: 50664, Start Num: 69

Candidate Starts for Phaux\_81:

(Start: 69 @50014 has 227 MA's), (Start: 85 @50059 has 6 MA's), (96, 50089), (116, 50164), (131, 50215), (151, 50302), (203, 50530), (212, 50587),

Gene: PhorbesPhlower\_64 Start: 37661, Stop: 38458, Start Num: 57

Candidate Starts for PhorbesPhlower\_64:

(Start: 57 @37661 has 11 MA's), (Start: 69 @37712 has 227 MA's), (81, 37745), (93, 37781), (134, 37904), (212, 38228),

Gene: PhrostedPhlake\_77 Start: 45573, Stop: 46358, Start Num: 69

Candidate Starts for PhrostedPhlake\_77:

(Start: 69 @45573 has 227 MA's), (Start: 85 @45618 has 6 MA's), (96, 45648), (102, 45675), (140, 45798), (150, 45867), (233, 46257), (237, 46302),

Gene: Phrux\_76 Start: 48610, Stop: 49260, Start Num: 69

Candidate Starts for Phrux\_76:

(Start: 69 @48610 has 227 MA's), (Start: 85 @48655 has 6 MA's), (96, 48685), (116, 48760), (131, 48811), (151, 48898), (203, 49126), (212, 49183),

Gene: Policronamos\_82 Start: 50014, Stop: 50664, Start Num: 69

Candidate Starts for Policronamos\_82:

(Start: 69 @50014 has 227 MA's), (Start: 85 @50059 has 6 MA's), (96, 50089), (116, 50164), (131, 50215), (151, 50302), (203, 50530), (212, 50587),

Gene: Pochiewood\_66 Start: 45783, Stop: 46460, Start Num: 69

Candidate Starts for Pochiewood\_66:

(Start: 69 @45783 has 227 MA's), (Start: 85 @45831 has 6 MA's), (108, 45909), (113, 45927), (116, 45936), (140, 46011), (141, 46017), (147, 46077), (168, 46149), (175, 46179), (212, 46377),

Gene: Porky\_78 Start: 48440, Stop: 49090, Start Num: 69

Candidate Starts for Porky\_78:

(Start: 69 @48440 has 227 MA's), (Start: 85 @48485 has 6 MA's), (96, 48515), (116, 48590), (131, 48641), (151, 48728), (203, 48956), (212, 49013),

Gene: Ptowny\_76 Start: 47909, Stop: 48559, Start Num: 69

Candidate Starts for Ptowny\_76:

(Start: 69 @47909 has 227 MA's), (Start: 85 @47954 has 6 MA's), (96, 47984), (116, 48059), (131, 48110), (151, 48197), (203, 48425), (212, 48482),

Gene: Pumpkin\_82 Start: 49668, Stop: 50318, Start Num: 69

Candidate Starts for Pumpkin\_82:

(Start: 69 @49668 has 227 MA's), (Start: 85 @49713 has 6 MA's), (96, 49743), (116, 49818), (131, 49869), (151, 49956), (158, 49983), (203, 50184), (212, 50241),

Gene: Quallification\_80 Start: 49655, Stop: 50305, Start Num: 69

Candidate Starts for Quallification\_80:

(Start: 69 @49655 has 227 MA's), (Start: 85 @49700 has 6 MA's), (96, 49730), (116, 49805), (131, 49856), (151, 49943), (203, 50171), (212, 50228),

Gene: Quby\_67 Start: 45546, Stop: 46226, Start Num: 69

Candidate Starts for Quby\_67:

(Start: 69 @45546 has 227 MA's), (112, 45687), (138, 45768), (139, 45771), (150, 45855), (175, 45945), (186, 46005), (203, 46086), (216, 46149), (218, 46170), (225, 46215),

Gene: REQ3\_14 Start: 6642, Stop: 7469, Start Num: 58

Candidate Starts for REQ3\_14:

(38, 6558), (Start: 58 @6642 has 1 MA's), (60, 6651), (63, 6675), (75, 6708), (78, 6717), (97, 6768), (118, 6846), (121, 6852), (185, 7104), (189, 7122), (195, 7149), (197, 7161), (211, 7230),

Gene: Rakim\_80 Start: 49124, Stop: 49774, Start Num: 69

Candidate Starts for Rakim\_80:

(Start: 69 @49124 has 227 MA's), (Start: 85 @49169 has 6 MA's), (96, 49199), (116, 49274), (131, 49325), (151, 49412), (203, 49640), (212, 49697),

Gene: RavenCo17\_67 Start: 46154, Stop: 47035, Start Num: 47

Candidate Starts for RavenCo17\_67:

(Start: 47 @46154 has 2 MA's), (64, 46229), (84, 46280), (94, 46304), (111, 46364), (149, 46514), (204, 46670),

Gene: Red305\_69 Start: 47234, Stop: 47914, Start Num: 69

Candidate Starts for Red305\_69:

(Start: 69 @47234 has 227 MA's), (141, 47468), (161, 47582), (168, 47603), (175, 47633), (216, 47837), (218, 47858),

Gene: Rimmer\_80 Start: 49360, Stop: 50010, Start Num: 69

Candidate Starts for Rimmer\_80:

(Start: 69 @49360 has 227 MA's), (Start: 85 @49405 has 6 MA's), (96, 49435), (98, 49441), (116, 49510), (123, 49537), (131, 49561), (151, 49648), (161, 49684), (203, 49876), (212, 49933),

Gene: RiverMonster\_79 Start: 49188, Stop: 49838, Start Num: 69

Candidate Starts for RiverMonster\_79:

(Start: 69 @49188 has 227 MA's), (Start: 85 @49233 has 6 MA's), (96, 49263), (116, 49338), (131, 49389), (151, 49476), (203, 49704), (212, 49761),

Gene: RiverRaider\_56 Start: 43791, Stop: 44822, Start Num: 17

Candidate Starts for RiverRaider\_56:

(Start: 17 @43791 has 1 MA's), (28, 43845), (Start: 34 @43866 has 1 MA's), (Start: 39 @43881 has 2 MA's), (122, 44163), (127, 44178), (142, 44232), (154, 44298), (156, 44310), (159, 44319), (162, 44328), (198, 44490), (241, 44787),

Gene: Rose5\_67 Start: 45843, Stop: 46472, Start Num: 85

Candidate Starts for Rose5\_67:

(Start: 69 @45795 has 227 MA's), (Start: 85 @45843 has 6 MA's), (108, 45921), (113, 45939), (116, 45948), (140, 46023), (141, 46029), (147, 46089), (168, 46161), (175, 46191), (212, 46389),

Gene: Rossetti\_71 Start: 47482, Stop: 48162, Start Num: 69

Candidate Starts for Rossetti\_71:  
(Start: 69 @47482 has 227 MA's), (168, 47851), (175, 47881), (216, 48085), (218, 48106),

Gene: Rumpelstiltskin\_68 Start: 46329, Stop: 47009, Start Num: 69  
Candidate Starts for Rumpelstiltskin\_68:  
(Start: 69 @46329 has 227 MA's), (168, 46698), (175, 46728), (216, 46932), (218, 46953),

Gene: Saints25\_78 Start: 48598, Stop: 49248, Start Num: 69  
Candidate Starts for Saints25\_78:  
(Start: 69 @48598 has 227 MA's), (Start: 85 @48643 has 6 MA's), (96, 48673), (116, 48748), (131, 48799), (151, 48886), (203, 49114), (212, 49171),

Gene: Samba\_71 Start: 46102, Stop: 46887, Start Num: 69  
Candidate Starts for Samba\_71:  
(Start: 69 @46102 has 227 MA's), (Start: 85 @46147 has 6 MA's), (96, 46177), (102, 46204), (140, 46327), (150, 46396), (237, 46831),

Gene: Samty\_68 Start: 47242, Stop: 47922, Start Num: 69  
Candidate Starts for Samty\_68:  
(Start: 69 @47242 has 227 MA's), (141, 47476), (161, 47590), (168, 47611), (175, 47641), (216, 47845), (218, 47866),

Gene: Sarshaun\_70 Start: 46996, Stop: 47676, Start Num: 69  
Candidate Starts for Sarshaun\_70:  
(Start: 69 @46996 has 227 MA's), (168, 47365), (175, 47395), (216, 47599), (218, 47620),

Gene: Sassay\_74 Start: 47288, Stop: 47938, Start Num: 69  
Candidate Starts for Sassay\_74:  
(Start: 69 @47288 has 227 MA's), (Start: 85 @47333 has 6 MA's), (96, 47363), (116, 47438), (131, 47489), (151, 47576), (203, 47804), (212, 47861),

Gene: ShamWow\_79 Start: 49510, Stop: 50160, Start Num: 69  
Candidate Starts for ShamWow\_79:  
(Start: 69 @49510 has 227 MA's), (Start: 85 @49555 has 6 MA's), (96, 49585), (116, 49660), (131, 49711), (151, 49798), (203, 50026), (212, 50083),

Gene: SharkTale\_66 Start: 48294, Stop: 49244, Start Num: 31  
Candidate Starts for SharkTale\_66:  
(Start: 31 @48294 has 1 MA's), (44, 48345), (65, 48450), (71, 48465), (74, 48477), (76, 48480), (82, 48495), (83, 48504), (106, 48576), (135, 48666), (142, 48705), (240, 49197),

Gene: Sheng711\_67 Start: 45638, Stop: 46318, Start Num: 69  
Candidate Starts for Sheng711\_67:  
(Start: 69 @45638 has 227 MA's), (123, 45818), (127, 45833), (139, 45863), (147, 45935), (175, 46037), (186, 46097), (203, 46178), (218, 46262), (223, 46286), (225, 46307),

Gene: ShereKhan\_77 Start: 49580, Stop: 50230, Start Num: 69  
Candidate Starts for ShereKhan\_77:  
(Start: 69 @49580 has 227 MA's), (Start: 85 @49625 has 6 MA's), (96, 49655), (116, 49730), (131, 49781), (151, 49868), (203, 50096), (212, 50153),

Gene: Silverleaf\_67 Start: 45245, Stop: 45922, Start Num: 69  
Candidate Starts for Silverleaf\_67:

(Start: 69 @45245 has 227 MA's), (Start: 85 @45293 has 6 MA's), (108, 45371), (113, 45389), (116, 45398), (140, 45473), (141, 45479), (147, 45539), (168, 45611), (175, 45641), (212, 45839),

Gene: Simpliphy\_78 Start: 48588, Stop: 49238, Start Num: 69

Candidate Starts for Simpliphy\_78:

(Start: 69 @48588 has 227 MA's), (Start: 85 @48633 has 6 MA's), (96, 48663), (116, 48738), (131, 48789), (151, 48876), (203, 49104), (212, 49161),

Gene: SirDuracell\_78 Start: 47874, Stop: 48524, Start Num: 69

Candidate Starts for SirDuracell\_78:

(Start: 69 @47874 has 227 MA's), (Start: 85 @47919 has 6 MA's), (96, 47949), (116, 48024), (131, 48075), (151, 48162), (158, 48189), (203, 48390), (212, 48447),

Gene: Sleepyhead\_58 Start: 38152, Stop: 39009, Start Num: 58

Candidate Starts for Sleepyhead\_58:

(15, 37978), (43, 38086), (Start: 58 @38152 has 1 MA's), (61, 38167), (63, 38185), (67, 38197), (78, 38227), (97, 38278), (119, 38359), (142, 38428), (210, 38734), (215, 38749), (228, 38830),

Gene: Snenia\_67 Start: 47235, Stop: 47915, Start Num: 69

Candidate Starts for Snenia\_67:

(Start: 69 @47235 has 227 MA's), (141, 47469), (161, 47583), (168, 47604), (175, 47634), (216, 47838), (218, 47859),

Gene: SoJulia\_70 Start: 47165, Stop: 47845, Start Num: 69

Candidate Starts for SoJulia\_70:

(Start: 69 @47165 has 227 MA's), (168, 47534), (175, 47564), (216, 47768), (218, 47789),

Gene: Soap141\_69 Start: 46996, Stop: 47676, Start Num: 69

Candidate Starts for Soap141\_69:

(Start: 69 @46996 has 227 MA's), (168, 47365), (175, 47395), (216, 47599), (218, 47620),

Gene: SophKB\_76 Start: 48266, Stop: 48916, Start Num: 69

Candidate Starts for SophKB\_76:

(Start: 69 @48266 has 227 MA's), (Start: 85 @48311 has 6 MA's), (96, 48341), (116, 48416), (131, 48467), (151, 48554), (203, 48782), (212, 48839),

Gene: Sotrice96\_80 Start: 49269, Stop: 49919, Start Num: 69

Candidate Starts for Sotrice96\_80:

(Start: 69 @49269 has 227 MA's), (Start: 85 @49314 has 6 MA's), (96, 49344), (116, 49419), (131, 49470), (151, 49557), (203, 49785), (212, 49842),

Gene: Stank\_82 Start: 49527, Stop: 50177, Start Num: 69

Candidate Starts for Stank\_82:

(Start: 69 @49527 has 227 MA's), (Start: 85 @49572 has 6 MA's), (96, 49602), (116, 49677), (131, 49728), (151, 49815), (203, 50043), (212, 50100),

Gene: Stark\_80 Start: 49071, Stop: 49721, Start Num: 69

Candidate Starts for Stark\_80:

(Start: 69 @49071 has 227 MA's), (Start: 85 @49116 has 6 MA's), (96, 49146), (116, 49221), (131, 49272), (151, 49359), (203, 49587), (212, 49644),

Gene: StellaBean\_77 Start: 48834, Stop: 49484, Start Num: 69

Candidate Starts for StellaBean\_77:

(Start: 69 @48834 has 227 MA's), (Start: 85 @48879 has 6 MA's), (96, 48909), (116, 48984), (131, 49035), (151, 49122), (203, 49350), (212, 49407),

Gene: StolenFromERC\_82 Start: 49309, Stop: 49959, Start Num: 69

Candidate Starts for StolenFromERC\_82:

(Start: 69 @49309 has 227 MA's), (Start: 85 @49354 has 6 MA's), (96, 49384), (116, 49459), (131, 49510), (151, 49597), (203, 49825), (212, 49882),

Gene: StormChicken\_81 Start: 49967, Stop: 50617, Start Num: 69

Candidate Starts for StormChicken\_81:

(Start: 69 @49967 has 227 MA's), (Start: 85 @50012 has 6 MA's), (96, 50042), (116, 50117), (131, 50168), (151, 50255), (158, 50282), (203, 50483), (212, 50540),

Gene: StorminNorm\_53 Start: 44022, Stop: 45029, Start Num: 68

Candidate Starts for StorminNorm\_53:

(Start: 68 @44022 has 3 MA's), (Start: 70 @44025 has 1 MA's), (116, 44172), (180, 44445), (200, 44547), (211, 44610), (215, 44622), (231, 44730), (232, 44757),

Gene: SushiChef\_71 Start: 48144, Stop: 49112, Start Num: 37

Candidate Starts for SushiChef\_71:

(35, 48135), (Start: 37 @48144 has 5 MA's), (52, 48201), (61, 48246), (93, 48351), (95, 48354), (101, 48384), (149, 48582), (204, 48747),

Gene: TBrady12\_82 Start: 49008, Stop: 49658, Start Num: 69

Candidate Starts for TBrady12\_82:

(Start: 69 @49008 has 227 MA's), (Start: 85 @49053 has 6 MA's), (96, 49083), (116, 49158), (131, 49209), (151, 49296), (203, 49524), (212, 49581),

Gene: Tarkin\_78 Start: 49256, Stop: 49906, Start Num: 69

Candidate Starts for Tarkin\_78:

(Start: 69 @49256 has 227 MA's), (Start: 85 @49301 has 6 MA's), (96, 49331), (116, 49406), (131, 49457), (151, 49544), (158, 49571), (203, 49772), (212, 49829),

Gene: TeamEdward\_81 Start: 49961, Stop: 50611, Start Num: 69

Candidate Starts for TeamEdward\_81:

(Start: 69 @49961 has 227 MA's), (Start: 85 @50006 has 6 MA's), (96, 50036), (98, 50042), (116, 50111), (123, 50138), (131, 50162), (151, 50249), (161, 50285), (203, 50477), (212, 50534),

Gene: TeardropMSU\_75 Start: 48256, Stop: 48906, Start Num: 69

Candidate Starts for TeardropMSU\_75:

(Start: 69 @48256 has 227 MA's), (Start: 85 @48301 has 6 MA's), (96, 48331), (116, 48406), (131, 48457), (151, 48544), (158, 48571), (203, 48772), (212, 48829),

Gene: Teaspoon\_80 Start: 49150, Stop: 49800, Start Num: 69

Candidate Starts for Teaspoon\_80:

(Start: 69 @49150 has 227 MA's), (Start: 85 @49195 has 6 MA's), (96, 49225), (116, 49300), (131, 49351), (151, 49438), (203, 49666), (212, 49723),

Gene: Terminus\_82 Start: 50043, Stop: 50693, Start Num: 69

Candidate Starts for Terminus\_82:

(Start: 69 @50043 has 227 MA's), (Start: 85 @50088 has 6 MA's), (96, 50118), (116, 50193), (131, 50244), (151, 50331), (203, 50559), (212, 50616),

Gene: ThankyouJordi\_71 Start: 48385, Stop: 49353, Start Num: 37

Candidate Starts for ThankyouJordi\_71:

(35, 48376), (Start: 37 @48385 has 5 MA's), (42, 48403), (52, 48442), (84, 48568), (93, 48592), (101, 48625), (149, 48823), (204, 48988),

Gene: Thimble\_80 Start: 48491, Stop: 49141, Start Num: 69

Candidate Starts for Thimble\_80:

(Start: 69 @48491 has 227 MA's), (Start: 85 @48536 has 6 MA's), (96, 48566), (116, 48641), (131, 48692), (151, 48779), (158, 48806), (203, 49007), (212, 49064),

Gene: Thresher\_81 Start: 50130, Stop: 50780, Start Num: 69

Candidate Starts for Thresher\_81:

(Start: 69 @50130 has 227 MA's), (Start: 85 @50175 has 6 MA's), (96, 50205), (116, 50280), (131, 50331), (151, 50418), (203, 50646), (212, 50703),

Gene: Tomaszewski\_74 Start: 48419, Stop: 49069, Start Num: 69

Candidate Starts for Tomaszewski\_74:

(Start: 69 @48419 has 227 MA's), (Start: 85 @48464 has 6 MA's), (96, 48494), (116, 48569), (131, 48620), (151, 48707), (158, 48734), (203, 48935), (212, 48992), (219, 49022),

Gene: TootsiePop\_84 Start: 51490, Stop: 52407, Start Num: 40

Candidate Starts for TootsiePop\_84:

(Start: 40 @51490 has 7 MA's), (51, 51535), (52, 51538), (61, 51583), (71, 51628), (86, 51673), (88, 51682), (90, 51685), (111, 51748), (146, 51898), (163, 51946), (206, 52129), (213, 52165),

Gene: Toto\_77 Start: 49510, Stop: 50160, Start Num: 69

Candidate Starts for Toto\_77:

(Start: 69 @49510 has 227 MA's), (Start: 85 @49555 has 6 MA's), (96, 49585), (116, 49660), (131, 49711), (151, 49798), (203, 50026), (212, 50083),

Gene: Tourach\_68 Start: 46985, Stop: 47665, Start Num: 69

Candidate Starts for Tourach\_68:

(Start: 69 @46985 has 227 MA's), (175, 47384), (216, 47588), (218, 47609),

Gene: Traaww1\_75 Start: 48694, Stop: 49344, Start Num: 69

Candidate Starts for Traaww1\_75:

(Start: 69 @48694 has 227 MA's), (Start: 85 @48739 has 6 MA's), (96, 48769), (116, 48844), (131, 48895), (151, 48982), (203, 49210), (212, 49267),

Gene: TriFive\_69 Start: 47234, Stop: 47914, Start Num: 69

Candidate Starts for TriFive\_69:

(Start: 69 @47234 has 227 MA's), (141, 47468), (161, 47582), (168, 47603), (175, 47633), (216, 47837), (218, 47858),

Gene: Tuco\_80 Start: 50018, Stop: 50668, Start Num: 69

Candidate Starts for Tuco\_80:

(Start: 69 @50018 has 227 MA's), (Start: 85 @50063 has 6 MA's), (96, 50093), (116, 50168), (131, 50219), (151, 50306), (203, 50534), (212, 50591),

Gene: Tycho\_53 Start: 43893, Stop: 44897, Start Num: 70

Candidate Starts for Tycho\_53:

(Start: 68 @43890 has 3 MA's), (Start: 70 @43893 has 1 MA's), (116, 44040), (180, 44313), (200, 44415), (211, 44478), (215, 44490), (231, 44598), (232, 44625),

Gene: Typha\_79 Start: 52711, Stop: 53646, Start Num: 55

Candidate Starts for Typha\_79:

(Start: 55 @52711 has 4 MA's), (82, 52825), (92, 52855), (121, 52963), (177, 53206), (214, 53383), (230, 53476), (238, 53587), (239, 53590),

Gene: Tyson\_68 Start: 45769, Stop: 46398, Start Num: 85

Candidate Starts for Tyson\_68:

(Start: 69 @45721 has 227 MA's), (Start: 85 @45769 has 6 MA's), (108, 45847), (113, 45865), (116, 45874), (140, 45949), (141, 45955), (147, 46015), (168, 46087), (175, 46117), (212, 46315),

Gene: UPIE\_66 Start: 45321, Stop: 45998, Start Num: 69

Candidate Starts for UPIE\_66:

(Start: 69 @45321 has 227 MA's), (Start: 85 @45369 has 6 MA's), (108, 45447), (113, 45465), (116, 45474), (141, 45555), (147, 45615), (168, 45687), (175, 45717), (212, 45915),

Gene: Ubuntu\_69 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for Ubuntu\_69:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Ukulele\_74 Start: 48401, Stop: 49051, Start Num: 69

Candidate Starts for Ukulele\_74:

(Start: 69 @48401 has 227 MA's), (Start: 85 @48446 has 6 MA's), (96, 48476), (116, 48551), (131, 48602), (151, 48689), (203, 48917), (212, 48974),

Gene: UmaThurman\_71 Start: 44454, Stop: 45239, Start Num: 69

Candidate Starts for UmaThurman\_71:

(Start: 69 @44454 has 227 MA's), (Start: 85 @44499 has 6 MA's), (96, 44529), (102, 44556), (140, 44679), (150, 44748), (237, 45183),

Gene: Underpass\_60 Start: 41972, Stop: 42652, Start Num: 69

Candidate Starts for Underpass\_60:

(Start: 69 @41972 has 227 MA's), (168, 42341), (175, 42371), (216, 42575), (218, 42596),

Gene: Vasanti\_65 Start: 43214, Stop: 44008, Start Num: 69

Candidate Starts for Vasanti\_65:

(2, 42689), (7, 42755), (10, 42821), (11, 42839), (48, 43124), (Start: 69 @43214 has 227 MA's), (96, 43289), (98, 43295), (105, 43325), (112, 43352), (116, 43364), (123, 43391), (125, 43394), (144, 43475), (167, 43571), (170, 43580), (176, 43592),

Gene: Verity\_56 Start: 46577, Stop: 47413, Start Num: 69

Candidate Starts for Verity\_56:

(Start: 69 @46577 has 227 MA's), (90, 46637), (109, 46703), (127, 46772), (168, 46952), (171, 46964), (174, 46976),

Gene: Vetrrix\_69 Start: 46943, Stop: 47623, Start Num: 69

Candidate Starts for Vetrrix\_69:

(Start: 69 @46943 has 227 MA's), (168, 47312), (175, 47342), (216, 47546), (218, 47567),

Gene: Wamburgexpress\_67 Start: 45351, Stop: 46028, Start Num: 69

Candidate Starts for Wamburgexpress\_67:

(Start: 69 @45351 has 227 MA's), (Start: 85 @45399 has 6 MA's), (108, 45477), (113, 45495), (116, 45504), (140, 45579), (141, 45585), (147, 45645), (168, 45717), (175, 45747), (212, 45945),

Gene: Webster2\_69 Start: 45763, Stop: 46746, Start Num: 36

Candidate Starts for Webster2\_69:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: WelcomeAyanna\_71 Start: 48532, Stop: 49500, Start Num: 37

Candidate Starts for WelcomeAyanna\_71:

(35, 48523), (Start: 37 @48532 has 5 MA's), (42, 48550), (52, 48589), (84, 48715), (93, 48739), (101, 48772), (149, 48970), (204, 49135),

Gene: Whirlwind\_68 Start: 47050, Stop: 47730, Start Num: 69

Candidate Starts for Whirlwind\_68:

(Start: 69 @47050 has 227 MA's), (113, 47194), (141, 47284), (161, 47398), (168, 47419), (175, 47449), (218, 47674),

Gene: Wiggin\_81 Start: 49095, Stop: 49745, Start Num: 69

Candidate Starts for Wiggin\_81:

(Start: 69 @49095 has 227 MA's), (Start: 85 @49140 has 6 MA's), (96, 49170), (116, 49245), (131, 49296), (151, 49383), (203, 49611), (212, 49668),

Gene: Wigglewigggle\_69 Start: 46960, Stop: 47640, Start Num: 69

Candidate Starts for Wigglewigggle\_69:

(Start: 69 @46960 has 227 MA's), (168, 47329), (175, 47359), (216, 47563), (218, 47584),

Gene: Wilder\_70 Start: 46909, Stop: 47589, Start Num: 69

Candidate Starts for Wilder\_70:

(Start: 69 @46909 has 227 MA's), (168, 47278), (175, 47308), (216, 47512), (218, 47533),

Gene: Willez\_74 Start: 47288, Stop: 47938, Start Num: 69

Candidate Starts for Willez\_74:

(Start: 69 @47288 has 227 MA's), (Start: 85 @47333 has 6 MA's), (96, 47363), (116, 47438), (131, 47489), (151, 47576), (203, 47804), (212, 47861),

Gene: Winky\_69 Start: 46903, Stop: 47583, Start Num: 69

Candidate Starts for Winky\_69:

(Start: 69 @46903 has 227 MA's), (168, 47272), (175, 47302), (216, 47506), (218, 47527),

Gene: Wishmaker\_63 Start: 45667, Stop: 46746, Start Num: 16

Candidate Starts for Wishmaker\_63:

(14, 45658), (Start: 16 @45667 has 7 MA's), (20, 45691), (24, 45706), (25, 45709), (29, 45736), (Start: 36 @45763 has 15 MA's), (49, 45817), (51, 45820), (60, 45859), (62, 45868), (71, 45910), (77, 45931), (80, 45934), (99, 45991), (110, 46030), (117, 46057), (120, 46072), (193, 46354), (194, 46366), (202, 46390), (206, 46426), (207, 46429), (209, 46438), (219, 46489), (220, 46492), (229, 46552), (231, 46570), (236, 46630),

Gene: Wisp\_69 Start: 43753, Stop: 44571, Start Num: 69

Candidate Starts for Wisp\_69:

(19, 43546), (46, 43663), (48, 43669), (50, 43672), (53, 43678), (Start: 69 @43753 has 227 MA's), (96, 43828), (98, 43834), (105, 43864), (125, 43933), (144, 44014), (167, 44110), (170, 44119), (173, 44131), (176, 44143), (237, 44515),

Gene: Wocket\_69 Start: 44140, Stop: 44925, Start Num: 69

Candidate Starts for Wocket\_69:

(1, 43552), (3, 43654), (4, 43660), (5, 43663), (6, 43669), (12, 43789), (Start: 69 @44140 has 227 MA's), (Start: 85 @44185 has 6 MA's), (96, 44215), (102, 44242), (140, 44365), (150, 44434), (153, 44443), (237, 44869),

Gene: Wyatt2\_68 Start: 45767, Stop: 46396, Start Num: 85

Candidate Starts for Wyatt2\_68:

(Start: 69 @45719 has 227 MA's), (Start: 85 @45767 has 6 MA's), (108, 45845), (113, 45863), (116, 45872), (141, 45953), (147, 46013), (168, 46085), (175, 46115), (212, 46313),

Gene: Xandras\_78 Start: 48503, Stop: 49153, Start Num: 69

Candidate Starts for Xandras\_78:

(Start: 69 @48503 has 227 MA's), (Start: 85 @48548 has 6 MA's), (96, 48578), (116, 48653), (131, 48704), (151, 48791), (158, 48818), (203, 49019), (212, 49076),

Gene: YassJohnny\_76 Start: 48458, Stop: 49108, Start Num: 69

Candidate Starts for YassJohnny\_76:

(Start: 69 @48458 has 227 MA's), (Start: 85 @48503 has 6 MA's), (96, 48533), (116, 48608), (131, 48659), (151, 48746), (158, 48773), (203, 48974), (212, 49031),

Gene: Yeezy\_73 Start: 45740, Stop: 46720, Start Num: 39

Candidate Starts for Yeezy\_73:

(Start: 39 @45740 has 2 MA's), (91, 45941), (126, 46073), (134, 46088), (192, 46373),

Gene: Youngblood\_82 Start: 49970, Stop: 50620, Start Num: 69

Candidate Starts for Youngblood\_82:

(Start: 69 @49970 has 227 MA's), (Start: 85 @50015 has 6 MA's), (96, 50045), (116, 50120), (131, 50171), (151, 50258), (203, 50486), (212, 50543),

Gene: Zakai\_70 Start: 47229, Stop: 47909, Start Num: 69

Candidate Starts for Zakai\_70:

(Start: 69 @47229 has 227 MA's), (168, 47598), (175, 47628), (216, 47832), (218, 47853),

Gene: Zarbodnamra\_74 Start: 44266, Stop: 45051, Start Num: 69

Candidate Starts for Zarbodnamra\_74:

(Start: 69 @44266 has 227 MA's), (Start: 85 @44311 has 6 MA's), (96, 44341), (102, 44368), (140, 44491), (150, 44560), (237, 44995),

Gene: Zaria\_68 Start: 45223, Stop: 45852, Start Num: 85

Candidate Starts for Zaria\_68:

(Start: 69 @45175 has 227 MA's), (Start: 85 @45223 has 6 MA's), (108, 45301), (113, 45319), (116, 45328), (141, 45409), (147, 45469), (168, 45541), (175, 45571), (212, 45769),

Gene: ZhongYanYuan\_68 Start: 46798, Stop: 47478, Start Num: 69

Candidate Starts for ZhongYanYuan\_68:

(Start: 69 @46798 has 227 MA's), (175, 47197), (216, 47401), (218, 47422),

Gene: Zilla\_68 Start: 43118, Stop: 43903, Start Num: 69

Candidate Starts for Zilla\_68:

(Start: 69 @43118 has 227 MA's), (Start: 85 @43163 has 6 MA's), (96, 43193), (102, 43220), (140, 43343), (150, 43412), (237, 43847),

Gene: Zipp\_57 Start: 46492, Stop: 47337, Start Num: 69

Candidate Starts for Zipp\_57:

(Start: 69 @46492 has 227 MA's), (90, 46552), (109, 46618), (127, 46687), (168, 46867), (171, 46879), (174, 46891), (199, 47023),

Gene: Zitch\_59 Start: 44615, Stop: 45460, Start Num: 69

Candidate Starts for Zitch\_59:

(Start: 69 @44615 has 227 MA's), (90, 44675), (127, 44810), (168, 44990), (171, 45002), (174, 45014), (199, 45146),

Gene: Zodiariah\_64 Start: 47543, Stop: 48511, Start Num: 37

Candidate Starts for Zodiariah\_64:

(35, 47534), (Start: 37 @47543 has 5 MA's), (42, 47561), (52, 47600), (84, 47726), (93, 47750), (95, 47753), (101, 47783), (149, 47981), (204, 48146),

Gene: xkcd\_82 Start: 50160, Stop: 50810, Start Num: 69

Candidate Starts for xkcd\_82:

(Start: 69 @50160 has 227 MA's), (Start: 85 @50205 has 6 MA's), (96, 50235), (116, 50310), (131, 50361), (151, 50448), (203, 50676), (212, 50733),