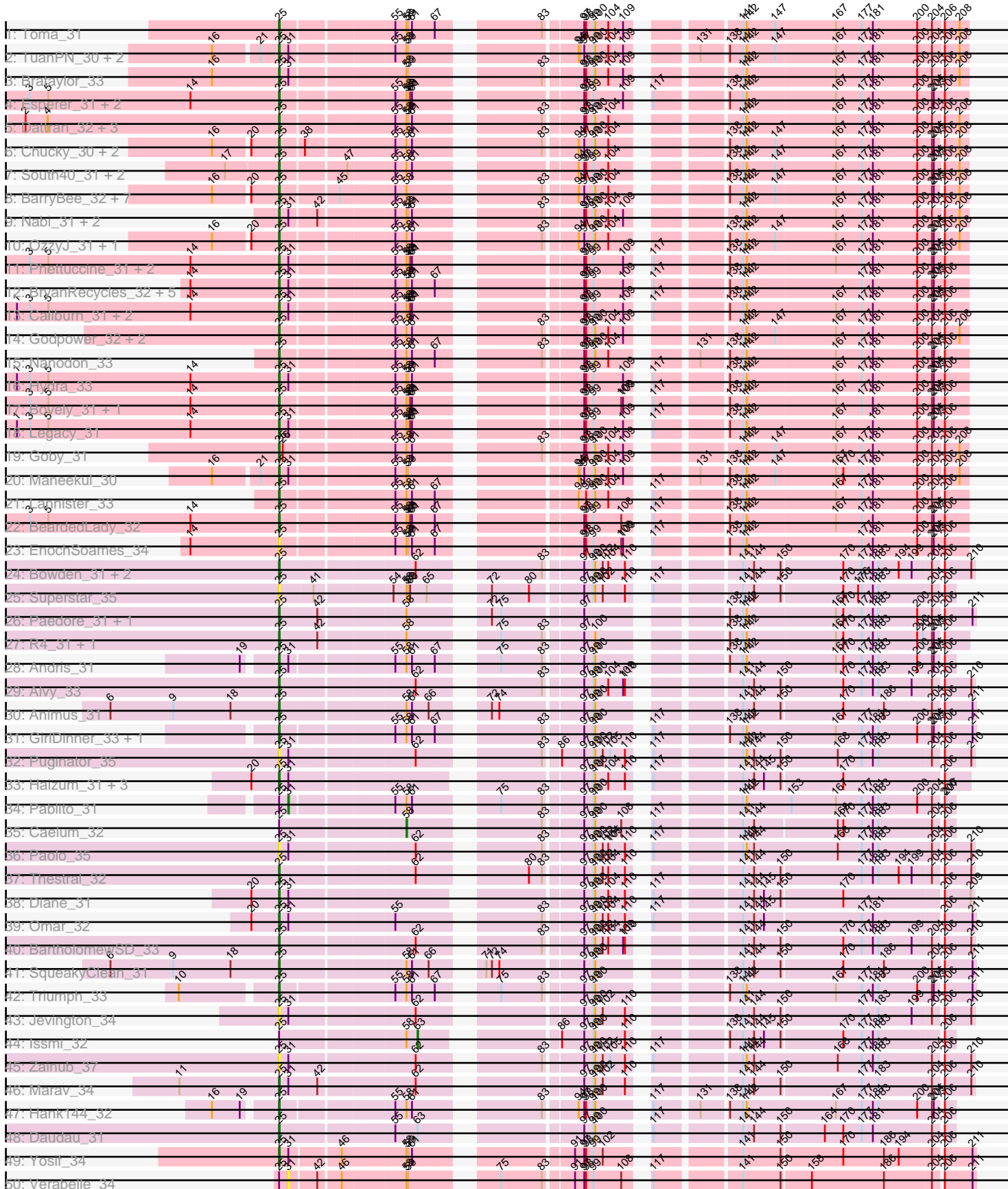
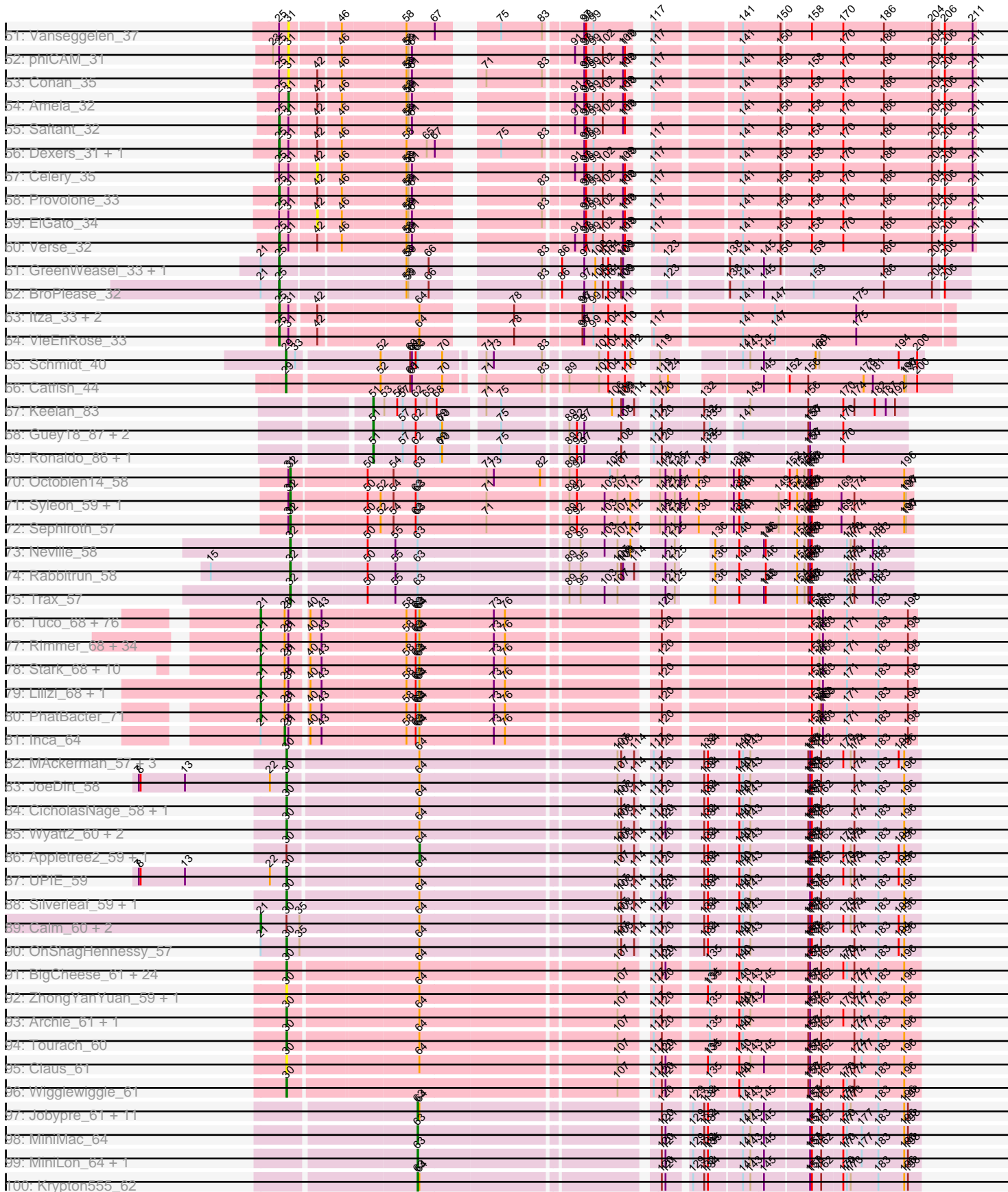


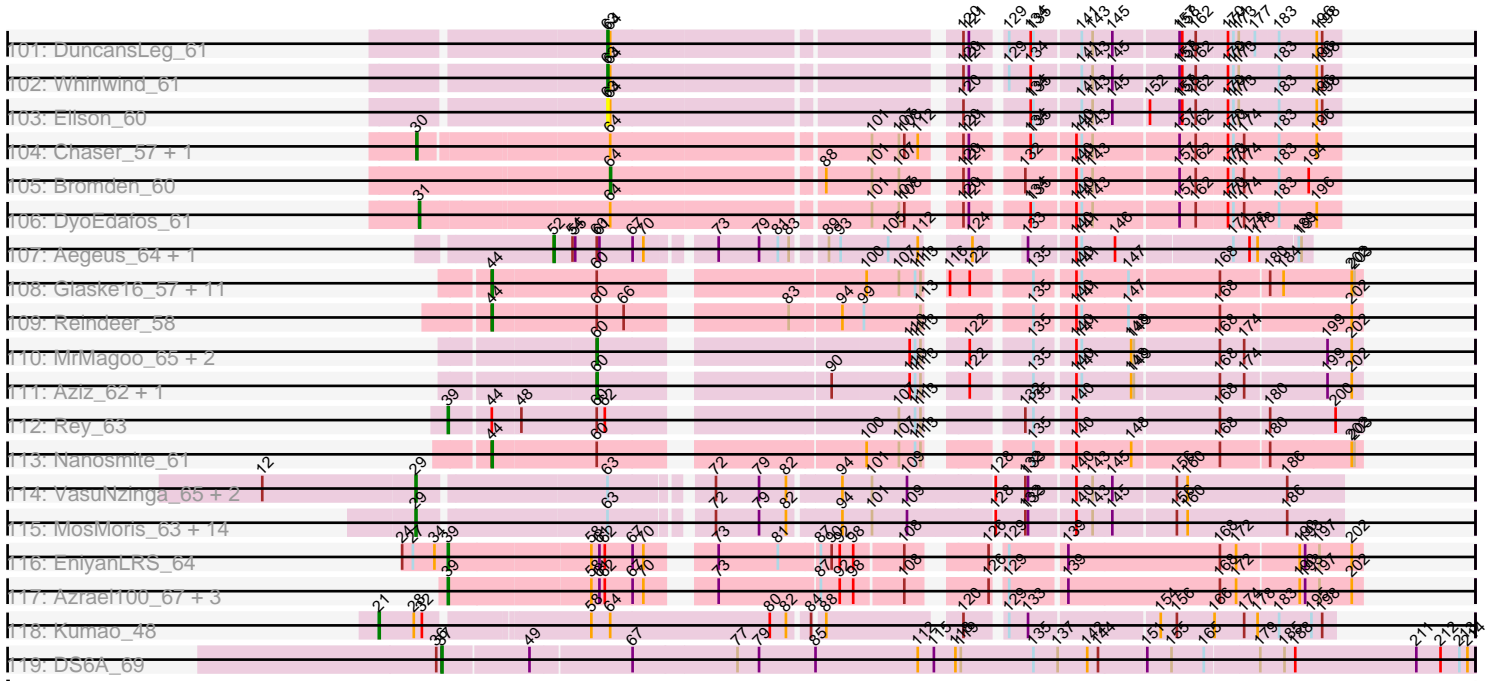
Pham 156018



Pham 156018



Pham 156018



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 156018 Report

This analysis was run 04/12/24 on database version 558.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 156018 has 372 members, 37 are drafts.

Phages represented in each track:

- Track 1 : Toma\_31
- Track 2 : TuanPN\_30, Ejemplo\_30, Yasdnil\_30
- Track 3 : Brataylor\_33
- Track 4 : Esperer\_31, Nerdos\_31, SunsetPointe\_31
- Track 5 : Dattran\_32, Danzina\_32, Celeste\_31, Zemlya\_32
- Track 6 : Chucky\_30, TagePghter\_31, Snorlax\_30
- Track 7 : South40\_31, RedBear\_32, Katalie\_31
- Track 8 : BarryBee\_32, Hippo\_30, Triste\_30, Dwayne\_30, SarahRose\_30, Werner\_30, Whatever\_30, Emaanora\_32
- Track 9 : Nabi\_31, Lorelei\_31, Rana\_31
- Track 10 : OzzyJ\_31, Asten\_30
- Track 11 : Phettuccine\_31, Leviticus\_31, Aaronocolus\_31
- Track 12 : BryanRecycles\_32, Eddasa\_32, Oliynyk\_32, Rusticus\_32, Izzy\_32, Jash\_32
- Track 13 : Caliburn\_31, Unstoppable\_31, Ozzie\_31
- Track 14 : Godpower\_32, Lika\_31, Sujidade\_32
- Track 15 : Nanodon\_33
- Track 16 : Hydra\_33
- Track 17 : Bovely\_31, Indigo\_30
- Track 18 : Legacy\_31
- Track 19 : Goby\_31
- Track 20 : Maneekul\_30
- Track 21 : Lannister\_33
- Track 22 : BeardedLady\_32
- Track 23 : EnochSoames\_34
- Track 24 : Bowden\_31, TinaBelcher\_31, TrvxScott\_30
- Track 25 : Superstar\_35
- Track 26 : Paedore\_31, Loofah\_32
- Track 27 : R4\_31, ELB20\_30
- Track 28 : Andris\_31
- Track 29 : Alvy\_33
- Track 30 : Animus\_31
- Track 31 : GirlDinner\_33, Janus\_32

- Track 32 : Puginator\_35
- Track 33 : Haizum\_31, Tefunt\_31, Amethyst\_31, Nishikigoi\_31
- Track 34 : Pablito\_31
- Track 35 : Caelum\_32
- Track 36 : Paolo\_35
- Track 37 : Thestral\_32
- Track 38 : Diane\_31
- Track 39 : Omar\_32
- Track 40 : BartholomewSD\_33
- Track 41 : SqueakyClean\_31
- Track 42 : Triumph\_33
- Track 43 : Jevington\_34
- Track 44 : Issmi\_32
- Track 45 : Zainub\_37
- Track 46 : Marav\_34
- Track 47 : Hank144\_32
- Track 48 : Daudau\_31
- Track 49 : Yosif\_34
- Track 50 : Verabelle\_34
- Track 51 : Vanseggelen\_37
- Track 52 : phiCAM\_31
- Track 53 : Conan\_35
- Track 54 : Amela\_32
- Track 55 : Saftant\_32
- Track 56 : Dexers\_31, Alsaber\_33
- Track 57 : Celery\_35
- Track 58 : Provolone\_33
- Track 59 : ElGato\_34
- Track 60 : Verse\_32
- Track 61 : GreenWeasel\_33, phiHau3\_33
- Track 62 : BroPlease\_32
- Track 63 : Itza\_33, Celia\_33, Urza\_33
- Track 64 : VieEnRose\_33
- Track 65 : Schmidt\_40
- Track 66 : Catfish\_44
- Track 67 : Keelan\_83
- Track 68 : Guey18\_87, Fryberger\_82, Ziko\_85
- Track 69 : Ronaldo\_86, Volt\_86
- Track 70 : Octobien14\_58
- Track 71 : Syleon\_59, Kudrefre\_58
- Track 72 : Sephiroth\_57
- Track 73 : Neville\_58
- Track 74 : Rabbitrun\_58
- Track 75 : Trax\_57
- Track 76 : Tuco\_68, Traaww1\_63, Miniwave\_62, SirDuracell\_66, Easy2Say\_68, IHOP\_65, Porky\_66, Murica\_70, Murphy\_67, BadStone\_64, Gator\_65, HuffyPuff\_70, Moldemort\_70, Bask21\_67, Tarkin\_66, Rakim\_68, ABCat\_64, Mosby\_63, Wiggin\_69, TBrady12\_70, BigBubba\_67, Teaspoon\_64, Goku\_65, Youngblood\_70, CrystalP\_66, Thresher\_69, BaboJay\_64, Asriel\_66, Henry\_65, MPhalcon\_68, Bruin\_64, Toto\_65, Contagion\_63, Barbarian\_66, Phrux\_64, MISSy\_68, Filch\_68, OrionPax\_66, ShamWow\_67, BilboSwaggins\_66, Czyszczonek\_68, StellaBean\_63, Manda\_67, RiverMonster\_67, Ukulele\_62, Adnama\_71, Elph10\_67, SophKB\_64, Kostya\_67, Cjw1\_67, Terminus\_70, Elite2014\_66, Maxxinista\_69, Misfit\_68, ChosenOne\_67,

Dusk\_64, DoctorDiddles\_66, Paperbeatsrock\_66, Simpliphy\_66, Saints25\_66,  
 Lilpickle\_66, Stank\_71, NoSleep\_68, Highbury\_66, MadamMonkfish\_67, Nala\_69,  
 Mindy\_66, TeardropMSU\_63, Dumbo\_67, Pumpkin\_70, xkcd\_70, Eureka\_65,  
 Pharsalus\_64, Phaja\_65, FireRed\_71, Xandras\_66, Emmina\_67  
 • Track 77 : Rimmer\_68, Icee\_68, Sassay\_62, Kanye\_64, Harella\_67, Gemini\_72,  
 Command613\_69, Qualification\_68, YassJohnny\_64, NelitzaMV\_65,  
 Marshmallow\_65, Pat3\_65, Buck\_68, Glexan\_66, Cookies\_64, Argent26\_71,  
 StolenFromERC\_70, Flypotenuse\_63, Hoonter\_70, Tomaszewski\_62, Sotrice96\_68,  
 Cactus\_70, Myrale\_67, GooberAzure\_70, Goldilocks\_70, Balomoji\_67, Kimchi\_71,  
 GoldenSpark\_71, ShereKhan\_66, AmericanBeauty\_74, 244\_68, Gage\_69,  
 Daikon\_69, Holt\_72, Willez\_62  
 • Track 78 : Stark\_68, Petra64142\_71, Phaux\_69, ChotaBhai\_67, Nimrod\_68,  
 Amao\_67, JeTaime\_67, DrDrey\_67, Lilac\_69, Hopey\_67, HanKaySha\_67  
 • Track 79 : Lilizi\_68, Bench\_70  
 • Track 80 : PhatBacter\_71  
 • Track 81 : Inca\_64  
 • Track 82 : MAckerman\_57, DirkDirk\_56, LeBron\_58, Halena\_57  
 • Track 83 : JoeDirt\_58  
 • Track 84 : CicholasNage\_58, Acquire49\_59  
 • Track 85 : Wyatt2\_60, Rose5\_59, Tyson\_59  
 • Track 86 : Appletree2\_59, Enceladus\_57  
 • Track 87 : UPIE\_59  
 • Track 88 : Silverleaf\_59, AvadaKedavra\_59  
 • Track 89 : Calm\_60, Zaria\_60, Wamburgrxpress\_59  
 • Track 90 : OhShagHennessy\_57  
 • Track 91 : BigCheese\_61, Faith1\_61, DrSeegs\_61, Finemlucis\_61, Gabriela\_58,  
 GuuelaD\_60, Crossroads\_61, Itos\_60, Rumpelstiltskin\_60, Vatrix\_61, Winky\_61,  
 Zakai\_62, BobsGarage\_61, Gardann\_62, Breezona\_61, LilDestine\_61, Netyap\_62,  
 Wilder\_62, Miley16\_61, Nicholasp3\_61, MkaliMitinis3\_62, Loadrie\_60, Lewan\_62,  
 Kahlid\_61, Hafay\_62  
 • Track 92 : ZhongYanYuan\_59, Baoshan\_59  
 • Track 93 : Archie\_61, Bazzle\_61  
 • Track 94 : Tourach\_60  
 • Track 95 : Claus\_61  
 • Track 96 : Wigglewiggles\_61  
 • Track 97 : Jobypre\_61, MsGreen\_61, Finnry\_61, Snenia\_60, Bellis\_60, Lumos\_62,  
 Jubie\_60, Samty\_61, Nicholas\_60, Clautastrophe\_60, Kingsolomon\_60,  
 Moostard\_60  
 • Track 98 : MiniMac\_64  
 • Track 99 : MiniLon\_64, Lolly9\_60  
 • Track 100 : Krypton555\_62  
 • Track 101 : DuncansLeg\_61  
 • Track 102 : Whirlwind\_61  
 • Track 103 : Ellson\_60  
 • Track 104 : Chaser\_57, Douge\_59  
 • Track 105 : Bromden\_60  
 • Track 106 : DyoEdafos\_61  
 • Track 107 : Aegeus\_64, Baudelaire\_64  
 • Track 108 : Glaske16\_57, Diminimus\_57, Bongo\_56, Bricole\_56, IPhane7\_56,  
 PegLeg\_56, LilhomieP\_55, TyDawg\_56, Skinny\_58, SlimJimmy\_55, Auspice\_56,  
 Dulcita\_57  
 • Track 109 : Reindeer\_58  
 • Track 110 : MrMagoo\_65, GardenSalsa\_64, Estes\_64

- Track 111 : Aziz\_62, GenevaB15\_63
- Track 112 : Rey\_63
- Track 113 : Nanosmite\_61
- Track 114 : VasuNzinga\_65, Beelzebub\_70, Pringar\_65
- Track 115 : MosMoris\_63, Huphlepuuff\_68, Tesla\_63, Poise\_66, Clarkson\_67, Gattaca\_64, Raela\_66, JoieB\_67, Caprice\_61, LittleLaf\_66, Corazon\_64, Marvin\_62, Blackbeetle\_66, RedRaider77\_65, Lilbit\_66
- Track 116 : EniyanLRS\_64
- Track 117 : Azrael100\_67, Wildcat\_67, MaryV\_67, Cosmo\_68
- Track 118 : Kumao\_48
- Track 119 : DS6A\_69

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

The start number called the most often in the published annotations is 21, it was called in 119 of the 335 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_68, ABCat\_64, Adnama\_71, Amao\_67, AmericanBeauty\_74, Argent26\_71, Asriel\_66, BaboJay\_64, BadStone\_64, Balomoji\_67, Barbarian\_66, Bask21\_67, Bench\_70, BigBubba\_67, BilboSwaggins\_66, Bruin\_64, Buck\_68, Cactus\_70, Calm\_60, ChosenOne\_67, ChotaBhai\_67, Cjw1\_67, Command613\_69, Contagion\_63, Cookies\_64, CrystalP\_66, Czyszczonek1\_68, Daikon\_69, DoctorDiddles\_66, DrDrey\_67, Dumbo\_67, Dusk\_64, Easy2Say\_68, Elite2014\_66, Elph10\_67, Emmina\_67, Eureka\_65, Filch\_68, FireRed\_71, Flypotenuse\_63, Gage\_69, Gator\_65, Gemini\_72, Glexan\_66, Goku\_65, GoldenSpark\_71, Goldilocks\_70, GooberAzure\_70, HanKaySha\_67, Harella\_67, Henry\_65, Highbury\_66, Holt\_72, Hoonter\_70, Hopey\_67, HufflyPuff\_70, IHOP\_65, Icee\_68, JeTaimie\_67, Kanye\_64, Kimchi\_71, Kostya\_67, Kumao\_48, Lilac\_69, Lilizi\_68, Lilpickle\_66, MISSy\_68, MPhalcon\_68, MadamMonkfish\_67, Manda\_67, Marshmallow\_65, Maxxinista\_69, Mindy\_66, Miniwave\_62, Misfit\_68, Moldemort\_70, Mosby\_63, Murica\_70, Murphy\_67, Myrale\_67, Nala\_69, NelitzaMV\_65, Nimrod\_68, NoSleep\_68, OrionPax\_66, Paperbeatsrock\_66, Pat3\_65, Petra64142\_71, Phaja\_65, Pharsalus\_64, PhatBacter\_71, Phaux\_69, Phrux\_64, Porky\_66, Pumpkin\_70, Quallification\_68, Rakim\_68, Rimmer\_68, RiverMonster\_67, Saints25\_66, Sassay\_62, ShamWow\_67, ShereKhan\_66, Simpliphy\_66, SirDuracell\_66, SophKB\_64, Sotrice96\_68, Stank\_71, Stark\_68, StellaBean\_63, StolenFromERC\_70, TBrady12\_70, Tarkin\_66, TeardropMSU\_63, Teaspoon\_64, Terminus\_70, Thresher\_69, Tomaszewski\_62, Toto\_65, Traaww1\_63, Tuco\_68, Ukulele\_62, Wamburgxpress\_59, Wiggin\_69, Willez\_62, Xandras\_66, YassJohnny\_64, Youngblood\_70, Zaria\_60, xkcd\_70,

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

- BroPlease\_32, Ejemplo\_30, GreenWeasel\_33, Inca\_64, Maneekul\_30, OhShagHennessy\_57, TuanPN\_30, Yasdnit\_30, phiHau3\_33,

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

- Aaronocolus\_31, Acquire49\_59, Aegeus\_64, Alsaber\_33, Alvy\_33, Amela\_32, Amethyst\_31, Andris\_31, Animus\_31, Appletree2\_59, Archie\_61, Asten\_30, Auspice\_56, AvadaKedavra\_59, Aziz\_62, Azrael100\_67, Baoshan\_59, BarryBee\_32,

BartholomewSD\_33, Baudelaire\_64, Bazzle\_61, BeardedLady\_32, Beelzebub\_70, Bellis\_60, BigCheese\_61, Blackbeetle\_66, BobsGarage\_61, Bongo\_56, Bovely\_31, Bowden\_31, Brataylor\_33, Breezona\_61, Bricole\_56, Bromden\_60, BryanRecycles\_32, Caelum\_32, Caliburn\_31, Caprice\_61, Catfish\_44, Celery\_35, Celeste\_31, Celia\_33, Chaser\_57, Chucky\_30, CicholasNage\_58, Clarkson\_67, Claus\_61, Clautastrophe\_60, Conan\_35, Corazon\_64, Cosmo\_68, Crossroads\_61, DS6A\_69, Danzina\_32, Dattran\_32, Daudau\_31, Dexers\_31, Diane\_31, Diminimus\_57, DirkDirk\_56, Douge\_59, DrSeegs\_61, Dulcita\_57, DuncansLeg\_61, Dwayne\_30, DyoEdafos\_61, ELB20\_30, Eddasa\_32, ElGato\_34, Ellson\_60, Emaanora\_32, Enceladus\_57, EniyanLRS\_64, EnochSoames\_34, Esperer\_31, Estes\_64, Faith1\_61, Finemlucis\_61, Finnry\_61, Fryberger\_82, Gabriela\_58, Gardann\_62, GardenSalsa\_64, Gattaca\_64, GenevaB15\_63, GirlDinner\_33, Glaske16\_57, Goby\_31, Godpower\_32, Guey18\_87, GuuelaD\_60, Hafay\_62, Haizum\_31, Halena\_57, Hank144\_32, Hippo\_30, Huphlepuuff\_68, Hydra\_33, IPhane7\_56, Indigo\_30, Issmi\_32, Itos\_60, Itza\_33, Izzy\_32, Janus\_32, Jash\_32, Jevington\_34, Jobypre\_61, JoeDirt\_58, JoieB\_67, Jubie\_60, Kahlid\_61, Katalie\_31, Keelan\_83, Kingsolomon\_60, Krypton555\_62, Kudrefre\_58, Lannister\_33, LeBron\_58, Legacy\_31, Leviticus\_31, Lewan\_62, Lika\_31, LilDestine\_61, Lilbit\_66, LilhomieP\_55, LittleLaf\_66, Loadrie\_60, Lolly9\_60, Loofah\_32, Lorelei\_31, Lumos\_62, MAckerman\_57, Marav\_34, Marvin\_62, MaryV\_67, Miley16\_61, MiniLon\_64, MiniMac\_64, MkaliMitinis3\_62, Moostard\_60, MosMoris\_63, MrMagoo\_65, MsGreen\_61, Nabi\_31, Nanodon\_33, Nanosmite\_61, Nerdos\_31, Netyap\_62, Neville\_58, Nicholas\_60, Nicholasp3\_61, Nishikigoi\_31, Octobien14\_58, Oliynyk\_32, Omar\_32, Ozzie\_31, OzzyJ\_31, Pablito\_31, Paedore\_31, Paolo\_35, PegLeg\_56, Phettuccine\_31, Poise\_66, Pringar\_65, Provolone\_33, Puginator\_35, R4\_31, Rabbitrun\_58, Raela\_66, Rana\_31, RedBear\_32, RedRaider77\_65, Reindeer\_58, Rey\_63, Ronaldo\_86, Rose5\_59, Rumpelstiltskin\_60, Rusticus\_32, Saftant\_32, Samty\_61, SarahRose\_30, Schmidt\_40, Sephiroth\_57, Silverleaf\_59, Skinny\_58, SlimJimmy\_55, Snenia\_60, Snorlax\_30, South40\_31, SqueakyClean\_31, Sujidade\_32, SunsetPointe\_31, Superstar\_35, Syleon\_59, TagePhighter\_31, Tefunt\_31, Tesla\_63, Thestral\_32, TinaBelcher\_31, Toma\_31, Tourach\_60, Trax\_57, Triste\_30, Triumph\_33, TrvxScott\_30, TyDawg\_56, Tyson\_59, UPIE\_59, Unstoppable\_31, Urza\_33, Vanseggelen\_37, VasuNzinga\_65, Verabelle\_34, Verse\_32, Vetrix\_61, VieEnRose\_33, Volt\_86, Werner\_30, Whatever\_30, Whirlwind\_61, Wigglewiggles\_61, Wildcat\_67, Wilder\_62, Winky\_61, Wyatt2\_60, Yosif\_34, Zainub\_37, Zakai\_62, Zemlya\_32, ZhongYanYuan\_59, Ziko\_85, phiCAM\_31,

### Summary by start number:

Start 21:

- Found in 139 of 372 ( 37.4% ) of genes in pham
- Manual Annotations of this start: 119 of 335
- Called 93.5% of time when present
- Phage (with cluster) where this start called: 244\_68 (E), ABCat\_64 (E), Adnama\_71 (E), Amao\_67 (E), AmericanBeauty\_74 (E), Argent26\_71 (E), Asriel\_66 (E), BaboJay\_64 (E), BadStone\_64 (E), Balomoji\_67 (E), Barbarian\_66 (E), Bask21\_67 (E), Bench\_70 (E), BigBubba\_67 (E), BilboSwaggins\_66 (E), Bruin\_64 (E), Buck\_68 (E), Cactus\_70 (E), Calm\_60 (L1), ChosenOne\_67 (E), ChotaBhai\_67 (E), Cjw1\_67 (E), Command613\_69 (E), Contagion\_63 (E), Cookies\_64 (E), CrystalP\_66 (E), Czyszczon1\_68 (E), Daikon\_69 (E), DoctorDiddles\_66 (E), DrDrey\_67 (E), Dumbo\_67 (E), Dusk\_64 (E), Easy2Say\_68 (E), Elite2014\_66 (E), Elph10\_67 (E), Emmina\_67 (E), Eureka\_65 (E), Filch\_68 (E), FireRed\_71 (E), Flypotenuse\_63 (E),



Gage\_69 (E), Gator\_65 (E), Gemini\_72 (E), Glexan\_66 (E), Goku\_65 (E), GoldenSpark\_71 (E), Goldilocks\_70 (E), GooberAzure\_70 (E), HanKaySha\_67 (E), Harella\_67 (E), Henry\_65 (E), Highbury\_66 (E), Holt\_72 (E), Hoonter\_70 (E), Hopey\_67 (E), HufflyPuff\_70 (E), IHOP\_65 (E), Icee\_68 (E), JeTaimé\_67 (E), Kanye\_64 (E), Kimchi\_71 (E), Kostya\_67 (E), Kumao\_48 (singleton), Lilac\_69 (E), Lilizi\_68 (E), Lilpickle\_66 (E), MISSy\_68 (E), MPhalcon\_68 (E), MadamMonkfish\_67 (E), Manda\_67 (E), Marshmallow\_65 (E), Maxxinista\_69 (E), Mindy\_66 (E), Miniwave\_62 (E), Misfit\_68 (E), Moldemort\_70 (E), Mosby\_63 (E), Murica\_70 (E), Murphy\_67 (E), Myrale\_67 (E), Nala\_69 (E), NelitzaMV\_65 (E), Nimrod\_68 (E), NoSleep\_68 (E), OrionPax\_66 (E), Paperbeatsrock\_66 (E), Pat3\_65 (E), Petra64142\_71 (E), Phaja\_65 (E), Pharsalus\_64 (E), PhatBacter\_71 (E), Phaux\_69 (E), Phrux\_64 (E), Porky\_66 (E), Pumpkin\_70 (E), Qualification\_68 (E), Rakim\_68 (E), Rimmer\_68 (E), RiverMonster\_67 (E), Saints25\_66 (E), Sassay\_62 (E), ShamWow\_67 (E), ShereKhan\_66 (E), Simpliphy\_66 (E), SirDuracell\_66 (E), SophKB\_64 (E), Sotrice96\_68 (E), Stank\_71 (E), Stark\_68 (E), StellaBean\_63 (E), StolenFromERC\_70 (E), TBrady12\_70 (E), Tarkin\_66 (E), TeardropMSU\_63 (E), Teaspoon\_64 (E), Terminus\_70 (E), Thresher\_69 (E), Tomaszewski\_62 (E), Toto\_65 (E), Traaww1\_63 (E), Tuco\_68 (E), Ukulele\_62 (E), Wamburggrxpress\_59 (L1), Wiggins\_69 (E), Willez\_62 (E), Xandras\_66 (E), YassJohnny\_64 (E), Youngblood\_70 (E), Zaria\_60 (L1), xkcd\_70 (E),

#### Start 25:

- Found in 109 of 372 ( 29.3% ) of genes in pham
- Manual Annotations of this start: 90 of 335
- Called 90.8% of time when present
- Phage (with cluster) where this start called: Aaronocolus\_31 (BD1), Alsaber\_33 (BD3), Alvy\_33 (BD2), Amethyst\_31 (BD2), Andris\_31 (BD2), Animus\_31 (BD2), Asten\_30 (BD1), BarryBee\_32 (BD1), BartholomewSD\_33 (BD2), BeardedLady\_32 (BD1), Bovely\_31 (BD1), Bowden\_31 (BD2), Brataylor\_33 (BD1), BroPlease\_32 (BD4), BryanRecycles\_32 (BD1), Caliburn\_31 (BD1), Celeste\_31 (BD1), Celia\_33 (BD6), Chucky\_30 (BD1), Danzina\_32 (BD1), Dattran\_32 (BD1), Daudau\_31 (BD2), Dexters\_31 (BD3), Diane\_31 (BD2), Dwayne\_30 (BD1), ELB20\_30 (BD2), Eddasa\_32 (BD1), Ejemplo\_30 (BD1), Emaanora\_32 (BD1), EnochSoames\_34 (BD1), Esperer\_31 (BD1), GirlDinner\_33 (BD2), Goby\_31 (BD1), Godpower\_32 (BD1), GreenWeasel\_33 (BD4), Haizum\_31 (BD2), Hank144\_32 (BD2), Hippo\_30 (BD1), Hydra\_33 (BD1), Indigo\_30 (BD1), Itza\_33 (BD6), Izzy\_32 (BD1), Janus\_32 (BD2), Jash\_32 (BD1), Jevington\_34 (BD2), Katalie\_31 (BD1), Lannister\_33 (BD1), Legacy\_31 (BD1), Leviticus\_31 (BD1), Lika\_31 (BD1), Loofah\_32 (BD2), Lorelei\_31 (BD1), Maneekul\_30 (BD1), Marav\_34 (BD2), Nabi\_31 (BD1), Nanodon\_33 (BD1), Nerdos\_31 (BD1), Nishikigoi\_31 (BD2), Oliynyk\_32 (BD1), Omar\_32 (BD2), Ozzie\_31 (BD1), OzzyJ\_31 (BD1), Paedore\_31 (BD2), Paolo\_35 (BD2), Phettuccine\_31 (BD1), Provolone\_33 (BD3), Puginator\_35 (BD2), R4\_31 (BD2), Rana\_31 (BD1), RedBear\_32 (BD1), Rusticus\_32 (BD1), Saftant\_32 (BD3), SarahRose\_30 (BD1), Snorlax\_30 (BD1), South40\_31 (BD1), SqueakyClean\_31 (BD2), Sujidade\_32 (BD1), SunsetPointe\_31 (BD1), Superstar\_35 (BD2), TAGEPhighter\_31 (BD1), Tefunt\_31 (BD2), Thestral\_32 (BD2), TinaBelcher\_31 (BD2), Toma\_31 (BD1), Triste\_30 (BD1), Triumph\_33 (BD2), TrvxScott\_30 (BD2), TuanPN\_30 (BD1), Unstoppable\_31 (BD1), Urza\_33 (BD6), Verse\_32 (BD3), VieEnRose\_33 (BD6), Werner\_30 (BD1), Whatever\_30 (BD1), Yasdnil\_30 (BD1), Yosif\_34 (BD3), Zainub\_37 (BD2), Zemlya\_32 (BD1), phiHau3\_33 (BD4),

#### Start 28:

- Found in 128 of 372 ( 34.4% ) of genes in pham

- Manual Annotations of this start: 1 of 335
- Called 0.8% of time when present
- Phage (with cluster) where this start called: Inca\_64 (E),

#### Start 29:

- Found in 20 of 372 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 18 of 335
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beelzebub\_70 (S), Blackbeetle\_66 (S), Caprice\_61 (S), Catfish\_44 (CU5), Clarkson\_67 (S), Corazon\_64 (S), Gattaca\_64 (S), Huphlepuuff\_68 (S), JoieB\_67 (S), Lilbit\_66 (S), LittleLaf\_66 (S), Marvin\_62 (S), MosMoris\_63 (S), Poise\_66 (S), Pringar\_65 (S), Raela\_66 (S), RedRaider77\_65 (S), Schmidt\_40 (CU4), Tesla\_63 (S), VasuNzinga\_65 (S),

#### Start 30:

- Found in 53 of 372 ( 14.2% ) of genes in pham
- Manual Annotations of this start: 42 of 335
- Called 90.6% of time when present
- Phage (with cluster) where this start called: Acquire49\_59 (L1), Archie\_61 (L2), AvadaKedavra\_59 (L1), Baoshan\_59 (L2), Bazzle\_61 (L2), BigCheese\_61 (L2), BobsGarage\_61 (L2), Breezona\_61 (L2), Chaser\_57 (L4), CicholasNage\_58 (L1), Claus\_61 (L2), Crossroads\_61 (L2), DirkDirk\_56 (L1), Douge\_59 (L4), DrSeegs\_61 (L2), Faith1\_61 (L2), Finemlucis\_61 (L2), Gabriela\_58 (L2), Gardann\_62 (L2), GuuelaD\_60 (L2), Hafay\_62 (L2), Halena\_57 (L1), Itos\_60 (L2), JoeDirt\_58 (L1), Kahlid\_61 (L2), LeBron\_58 (L1), Lewan\_62 (L2), LilDestine\_61 (L2), Loadrie\_60 (L2), MAckerman\_57 (L1), Miley16\_61 (L2), MkaliMitinis3\_62 (L2), Netyap\_62 (L2), Nicholasp3\_61 (L2), OhShagHennessy\_57 (L1), Rose5\_59 (L1), Rumpelstiltskin\_60 (L2), Silverleaf\_59 (L1), Tourach\_60 (L2), Tyson\_59 (L1), UPIE\_59 (L1), Vetrrix\_61 (L2), Wigglewiggles\_61 (L2), Wilder\_62 (L2), Winky\_61 (L2), Wyatt2\_60 (L1), Zakai\_62 (L2), ZhongYanYuan\_59 (L2),

#### Start 31:

- Found in 184 of 372 ( 49.5% ) of genes in pham
- Manual Annotations of this start: 3 of 335
- Called 3.8% of time when present
- Phage (with cluster) where this start called: Amela\_32 (BD3), Conan\_35 (BD3), DyoEdafos\_61 (L4), Pablito\_31 (BD2), Vanseggelen\_37 (BD3), Verabelle\_34 (BD3), phiCAM\_31 (BD3),

#### Start 32:

- Found in 8 of 372 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 7 of 335
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Kudrefre\_58 (DU1), Neville\_58 (DU2), Octobien14\_58 (DU1), Rabbitrun\_58 (DU2), Sephiroth\_57 (DU1), Syleon\_59 (DU1), Trax\_57 (DU2),

#### Start 37:

- Found in 1 of 372 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 335
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DS6A\_69 (singleton),

Start 39:

- Found in 6 of 372 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 6 of 335
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azrael100\_67 (V), Cosmo\_68 (V), EniyanLRS\_64 (V), MaryV\_67 (V), Rey\_63 (M2), Wildcat\_67 (V),

Start 42:

- Found in 22 of 372 ( 5.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Celery\_35 (BD3), ElGato\_34 (BD3),

Start 44:

- Found in 15 of 372 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 14 of 335
- Called 93.3% of time when present
- Phage (with cluster) where this start called: Auspice\_56 (M1), Bongo\_56 (M1), Bricole\_56 (M1), Diminimus\_57 (M1), Dulcita\_57 (M1), Glaske16\_57 (M1), IPhane7\_56 (M1), LilhomieP\_55 (M1), Nanosmite\_61 (M3), PegLeg\_56 (M1), Reindeer\_58 (M1), Skinny\_58 (M1), SlimJimmy\_55 (M1), TyDawg\_56 (M1),

Start 51:

- Found in 6 of 372 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 6 of 335
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_82 (DP), Guey18\_87 (DP), Keelan\_83 (DP), Ronaldo\_86 (DP), Volt\_86 (DP), Ziko\_85 (DP),

Start 52:

- Found in 7 of 372 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 2 of 335
- Called 28.6% of time when present
- Phage (with cluster) where this start called: Aegeus\_64 (L5), Baudelaire\_64 (L5),

Start 58:

- Found in 220 of 372 ( 59.1% ) of genes in pham
- Manual Annotations of this start: 1 of 335
- Called 0.5% of time when present
- Phage (with cluster) where this start called: Caelum\_32 (BD2),

Start 60:

- Found in 38 of 372 ( 10.2% ) of genes in pham
- Manual Annotations of this start: 5 of 335
- Called 13.2% of time when present
- Phage (with cluster) where this start called: Aziz\_62 (M2), Estes\_64 (M2), GardenSalsa\_64 (M2), GenevaB15\_63 (M2), MrMagoo\_65 (M2),

Start 63:

- Found in 174 of 372 ( 46.8% ) of genes in pham
- Manual Annotations of this start: 17 of 335
- Called 11.5% of time when present

- Phage (with cluster) where this start called: Bellis\_60 (L3), Clautastrophe\_60 (L3), DuncansLeg\_61 (L3), Ellson\_60 (L3), Finnry\_61 (L3), Issmi\_32 (BD2), Jobypre\_61 (L3), Jubie\_60 (L3), Kingsolomon\_60 (L3), Krypton555\_62 (L3), Lolly9\_60 (L3), Lumos\_62 (L3), MiniLon\_64 (L3), MiniMac\_64 (L3), Moostard\_60 (L3), MsGreen\_61 (L3), Nicholas\_60 (L3), Samty\_61 (L3), Snenia\_60 (L3), Whirlwind\_61 (L3),

Start 64:

- Found in 202 of 372 ( 54.3% ) of genes in pham
- Manual Annotations of this start: 3 of 335
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Appletree2\_59 (L1), Bromden\_60 (L4), Enceladus\_57 (L1),

### Summary by clusters:

There are 22 clusters represented in this pham: singleton, V, M1, M3, M2, DP, CU5, CU4, BD4, BD6, BD1, BD3, BD2, DU1, DU2, E, L4, L5, L2, L3, L1, S,

Info for manual annotations of cluster BD1:

- Start number 25 was manually annotated 54 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 25 was manually annotated 23 times for cluster BD2.
- Start number 31 was manually annotated 1 time for cluster BD2.
- Start number 58 was manually annotated 1 time for cluster BD2.
- Start number 63 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 25 was manually annotated 6 times for cluster BD3.
- Start number 31 was manually annotated 1 time for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 25 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 25 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster CU4:

- Start number 29 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 29 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster DP:

- Start number 51 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster DU1:

- Start number 32 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 32 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster E:

- Start number 21 was manually annotated 115 times for cluster E.
- Start number 28 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster L1:

- Start number 21 was manually annotated 3 times for cluster L1.
- Start number 30 was manually annotated 13 times for cluster L1.
- Start number 64 was manually annotated 2 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 30 was manually annotated 28 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 63 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 30 was manually annotated 1 time for cluster L4.
- Start number 31 was manually annotated 1 time for cluster L4.
- Start number 64 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster L5:

- Start number 52 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster M1:

- Start number 44 was manually annotated 13 times for cluster M1.

Info for manual annotations of cluster M2:

- Start number 39 was manually annotated 1 time for cluster M2.
- Start number 60 was manually annotated 5 times for cluster M2.

Info for manual annotations of cluster M3:

- Start number 44 was manually annotated 1 time for cluster M3.

Info for manual annotations of cluster S:

- Start number 29 was manually annotated 16 times for cluster S.

Info for manual annotations of cluster V:

- Start number 39 was manually annotated 5 times for cluster V.

### **Gene Information:**

Gene: 244\_68 Start: 44193, Stop: 45161, Start Num: 21

Candidate Starts for 244\_68:

(Start: 21 @44193 has 119 MA's), (Start: 28 @44232 has 1 MA's), (Start: 31 @44238 has 3 MA's), (40, 44262), (43, 44280), (Start: 58 @44412 has 1 MA's), (62, 44427), (Start: 63 @44430 has 17 MA's), (Start: 64 @44433 has 3 MA's), (73, 44550), (76, 44568), (120, 44781), (158, 44997), (161, 45009), (163, 45015), (171, 45051), (183, 45099), (198, 45147),

Gene: ABCat\_64 Start: 44540, Stop: 45508, Start Num: 21

Candidate Starts for ABCat\_64:

(Start: 21 @44540 has 119 MA's), (Start: 28 @44579 has 1 MA's), (Start: 31 @44585 has 3 MA's), (40, 44609), (43, 44627), (Start: 58 @44759 has 1 MA's), (62, 44774), (Start: 63 @44777 has 17

MA's), (Start: 64 @44780 has 3 MA's), (73, 44897), (76, 44915), (120, 45128), (158, 45344), (161, 45356), (163, 45362), (171, 45398), (183, 45446), (198, 45494),

Gene: Aaronocolus\_31 Start: 23527, Stop: 24504, Start Num: 25

Candidate Starts for Aaronocolus\_31:

(3, 23125), (5, 23155), (14, 23386), (Start: 25 @23527 has 90 MA's), (Start: 31 @23542 has 3 MA's), (55, 23695), (Start: 58 @23713 has 1 MA's), (59, 23716), (Start: 60 @23719 has 5 MA's), (61, 23722), (97, 23944), (98, 23947), (99, 23956), (109, 24004), (117, 24022), (138, 24121), (141, 24142), (142, 24148), (167, 24289), (177, 24331), (181, 24349), (200, 24421), (204, 24445), (205, 24448), (206, 24466),

Gene: Acquire49\_59 Start: 41447, Stop: 42379, Start Num: 30

Candidate Starts for Acquire49\_59:

(Start: 30 @41447 has 42 MA's), (Start: 64 @41645 has 3 MA's), (107, 41942), (108, 41948), (114, 41969), (117, 41981), (120, 41993), (132, 42047), (134, 42053), (140, 42098), (141, 42104), (143, 42116), (156, 42203), (157, 42206), (158, 42209), (162, 42224), (174, 42275), (183, 42311), (196, 42353),

Gene: Adnama\_71 Start: 44563, Stop: 45531, Start Num: 21

Candidate Starts for Adnama\_71:

(Start: 21 @44563 has 119 MA's), (Start: 28 @44602 has 1 MA's), (Start: 31 @44608 has 3 MA's), (40, 44632), (43, 44650), (Start: 58 @44782 has 1 MA's), (62, 44797), (Start: 63 @44800 has 17 MA's), (Start: 64 @44803 has 3 MA's), (73, 44920), (76, 44938), (120, 45151), (158, 45367), (161, 45379), (163, 45385), (171, 45421), (183, 45469), (198, 45517),

Gene: Aegeus\_64 Start: 43641, Stop: 44339, Start Num: 52

Candidate Starts for Aegeus\_64:

(Start: 52 @43641 has 2 MA's), (54, 43659), (55, 43662), (Start: 60 @43686 has 5 MA's), (61, 43689), (67, 43725), (70, 43737), (73, 43797), (79, 43842), (81, 43863), (83, 43875), (89, 43902), (93, 43914), (105, 43965), (112, 43998), (124, 44028), (133, 44052), (140, 44100), (141, 44106), (146, 44142), (171, 44259), (176, 44277), (178, 44286), (189, 44325), (191, 44328),

Gene: Alsaber\_33 Start: 25382, Stop: 26350, Start Num: 25

Candidate Starts for Alsaber\_33:

(Start: 25 @25382 has 90 MA's), (Start: 31 @25397 has 3 MA's), (42, 25433), (46, 25466), (Start: 58 @25565 has 1 MA's), (65, 25598), (67, 25610), (75, 25676), (83, 25742), (97, 25796), (98, 25799), (99, 25808), (117, 25874), (141, 25994), (150, 26054), (158, 26096), (170, 26147), (186, 26213), (204, 26288), (206, 26300), (211, 26345),

Gene: Alvy\_33 Start: 24823, Stop: 25797, Start Num: 25

Candidate Starts for Alvy\_33:

(Start: 25 @24823 has 90 MA's), (62, 25030), (83, 25192), (97, 25246), (99, 25258), (100, 25261), (104, 25282), (109, 25306), (110, 25309), (141, 25444), (144, 25462), (150, 25504), (170, 25597), (177, 25627), (181, 25645), (183, 25654), (199, 25708), (204, 25738), (206, 25750), (210, 25792),

Gene: Amao\_67 Start: 43948, Stop: 44916, Start Num: 21

Candidate Starts for Amao\_67:

(Start: 21 @43948 has 119 MA's), (Start: 28 @43987 has 1 MA's), (Start: 31 @43993 has 3 MA's), (40, 44017), (43, 44035), (Start: 58 @44167 has 1 MA's), (62, 44182), (Start: 63 @44185 has 17 MA's), (Start: 64 @44188 has 3 MA's), (73, 44305), (76, 44323), (120, 44536), (158, 44752), (161, 44764), (163, 44770), (171, 44806), (183, 44854), (198, 44902),

Gene: Amela\_32 Start: 26230, Stop: 27183, Start Num: 31

Candidate Starts for Amela\_32:

(Start: 25 @26215 has 90 MA's), (Start: 31 @26230 has 3 MA's), (42, 26266), (46, 26299), (Start: 58 @26398 has 1 MA's), (59, 26401), (61, 26407), (91, 26614), (97, 26629), (98, 26632), (99, 26641), (102, 26656), (109, 26689), (110, 26692), (117, 26707), (141, 26827), (150, 26887), (158, 26929), (170, 26980), (186, 27046), (204, 27121), (206, 27133), (211, 27178),

Gene: AmericanBeauty\_74 Start: 44706, Stop: 45674, Start Num: 21

Candidate Starts for AmericanBeauty\_74:

(Start: 21 @44706 has 119 MA's), (Start: 28 @44745 has 1 MA's), (Start: 31 @44751 has 3 MA's), (40, 44775), (43, 44793), (Start: 58 @44925 has 1 MA's), (62, 44940), (Start: 63 @44943 has 17 MA's), (Start: 64 @44946 has 3 MA's), (73, 45063), (76, 45081), (120, 45294), (158, 45510), (161, 45522), (163, 45528), (171, 45564), (183, 45612), (198, 45660),

Gene: Amethyst\_31 Start: 24241, Stop: 25203, Start Num: 25

Candidate Starts for Amethyst\_31:

(20, 24199), (Start: 25 @24241 has 90 MA's), (Start: 31 @24256 has 3 MA's), (97, 24658), (99, 24670), (100, 24673), (104, 24694), (110, 24721), (117, 24736), (141, 24856), (144, 24874), (145, 24889), (150, 24916), (170, 25009), (206, 25162),

Gene: Andris\_31 Start: 24271, Stop: 25218, Start Num: 25

Candidate Starts for Andris\_31:

(19, 24229), (Start: 25 @24271 has 90 MA's), (Start: 31 @24286 has 3 MA's), (55, 24439), (Start: 58 @24457 has 1 MA's), (61, 24466), (67, 24502), (75, 24568), (83, 24634), (97, 24688), (99, 24700), (100, 24703), (138, 24865), (141, 24886), (142, 24892), (167, 25033), (170, 25045), (177, 25075), (181, 25093), (183, 25102), (200, 25165), (204, 25189), (205, 25192), (206, 25201),

Gene: Animus\_31 Start: 24726, Stop: 25700, Start Num: 25

Candidate Starts for Animus\_31:

(6, 24453), (9, 24555), (18, 24648), (Start: 25 @24726 has 90 MA's), (Start: 58 @24915 has 1 MA's), (61, 24924), (66, 24951), (72, 25011), (74, 25023), (97, 25146), (99, 25158), (100, 25161), (141, 25344), (144, 25362), (150, 25404), (170, 25497), (186, 25563), (204, 25638), (206, 25650), (211, 25695),

Gene: Appletree2\_59 Start: 41937, Stop: 42671, Start Num: 64

Candidate Starts for Appletree2\_59:

(Start: 30 @41739 has 42 MA's), (Start: 64 @41937 has 3 MA's), (107, 42234), (108, 42240), (114, 42261), (117, 42273), (120, 42285), (132, 42339), (134, 42345), (140, 42390), (141, 42396), (143, 42408), (156, 42495), (157, 42498), (158, 42501), (162, 42516), (170, 42549), (173, 42561), (174, 42567), (183, 42603), (194, 42636), (196, 42645),

Gene: Archie\_61 Start: 43741, Stop: 44673, Start Num: 30

Candidate Starts for Archie\_61:

(Start: 30 @43741 has 42 MA's), (Start: 64 @43939 has 3 MA's), (107, 44236), (117, 44275), (120, 44287), (135, 44350), (140, 44392), (141, 44398), (143, 44410), (156, 44497), (157, 44500), (162, 44518), (170, 44551), (174, 44569), (177, 44581), (183, 44605), (196, 44647),

Gene: Argent26\_71 Start: 44344, Stop: 45312, Start Num: 21

Candidate Starts for Argent26\_71:

(Start: 21 @44344 has 119 MA's), (Start: 28 @44383 has 1 MA's), (Start: 31 @44389 has 3 MA's), (40, 44413), (43, 44431), (Start: 58 @44563 has 1 MA's), (62, 44578), (Start: 63 @44581 has 17 MA's), (Start: 64 @44584 has 3 MA's), (73, 44701), (76, 44719), (120, 44932), (158, 45148), (161, 45160), (163, 45166), (171, 45202), (183, 45250), (198, 45298),

Gene: Asriel\_66 Start: 42900, Stop: 43868, Start Num: 21

Candidate Starts for Asriel\_66:

(Start: 21 @42900 has 119 MA's), (Start: 28 @42939 has 1 MA's), (Start: 31 @42945 has 3 MA's), (40, 42969), (43, 42987), (Start: 58 @43119 has 1 MA's), (62, 43134), (Start: 63 @43137 has 17 MA's), (Start: 64 @43140 has 3 MA's), (73, 43257), (76, 43275), (120, 43488), (158, 43704), (161, 43716), (163, 43722), (171, 43758), (183, 43806), (198, 43854),

Gene: Asten\_30 Start: 23760, Stop: 24728, Start Num: 25

Candidate Starts for Asten\_30:

(16, 23664), (20, 23718), (Start: 25 @23760 has 90 MA's), (55, 23928), (Start: 58 @23946 has 1 MA's), (61, 23955), (83, 24123), (94, 24168), (97, 24177), (99, 24189), (100, 24192), (104, 24213), (138, 24354), (141, 24375), (142, 24381), (147, 24426), (167, 24522), (177, 24564), (181, 24582), (200, 24654), (204, 24678), (205, 24681), (206, 24690), (208, 24714),

Gene: Auspice\_56 Start: 39488, Stop: 40348, Start Num: 44

Candidate Starts for Auspice\_56:

(Start: 44 @39488 has 14 MA's), (Start: 60 @39602 has 5 MA's), (100, 39860), (107, 39896), (111, 39914), (113, 39920), (116, 39926), (122, 39947), (135, 40004), (140, 40043), (141, 40049), (147, 40100), (168, 40196), (180, 40247), (184, 40262), (202, 40337), (203, 40340),

Gene: AvadaKedavra\_59 Start: 41520, Stop: 42452, Start Num: 30

Candidate Starts for AvadaKedavra\_59:

(Start: 30 @41520 has 42 MA's), (Start: 64 @41718 has 3 MA's), (107, 42015), (108, 42021), (114, 42042), (117, 42054), (120, 42066), (121, 42072), (132, 42120), (134, 42126), (140, 42171), (141, 42177), (143, 42189), (157, 42279), (158, 42282), (162, 42297), (174, 42348), (183, 42384), (196, 42426),

Gene: Aziz\_62 Start: 41623, Stop: 42369, Start Num: 60

Candidate Starts for Aziz\_62:

(Start: 60 @41623 has 5 MA's), (90, 41845), (110, 41929), (111, 41935), (113, 41941), (122, 41968), (135, 42025), (140, 42064), (141, 42070), (148, 42124), (149, 42127), (168, 42217), (174, 42244), (199, 42331), (202, 42358),

Gene: Azrael100\_67 Start: 44691, Stop: 45596, Start Num: 39

Candidate Starts for Azrael100\_67:

(Start: 39 @44691 has 6 MA's), (Start: 58 @44844 has 1 MA's), (61, 44853), (62, 44859), (67, 44889), (70, 44901), (73, 44952), (87, 45060), (92, 45081), (98, 45096), (108, 45144), (126, 45210), (129, 45219), (139, 45276), (168, 45444), (172, 45462), (190, 45528), (193, 45534), (197, 45549), (202, 45585),

Gene: BaboJay\_64 Start: 43737, Stop: 44705, Start Num: 21

Candidate Starts for BaboJay\_64:

(Start: 21 @43737 has 119 MA's), (Start: 28 @43776 has 1 MA's), (Start: 31 @43782 has 3 MA's), (40, 43806), (43, 43824), (Start: 58 @43956 has 1 MA's), (62, 43971), (Start: 63 @43974 has 17 MA's), (Start: 64 @43977 has 3 MA's), (73, 44094), (76, 44112), (120, 44325), (158, 44541), (161, 44553), (163, 44559), (171, 44595), (183, 44643), (198, 44691),

Gene: BadStone\_64 Start: 44109, Stop: 45077, Start Num: 21

Candidate Starts for BadStone\_64:

(Start: 21 @44109 has 119 MA's), (Start: 28 @44148 has 1 MA's), (Start: 31 @44154 has 3 MA's), (40, 44178), (43, 44196), (Start: 58 @44328 has 1 MA's), (62, 44343), (Start: 63 @44346 has 17 MA's), (Start: 64 @44349 has 3 MA's), (73, 44466), (76, 44484), (120, 44697), (158, 44913), (161, 44925), (163, 44931), (171, 44967), (183, 45015), (198, 45063),



Gene: Balomoji\_67 Start: 44670, Stop: 45638, Start Num: 21

Candidate Starts for Balomoji\_67:

(Start: 21 @44670 has 119 MA's), (Start: 28 @44709 has 1 MA's), (Start: 31 @44715 has 3 MA's), (40, 44739), (43, 44757), (Start: 58 @44889 has 1 MA's), (62, 44904), (Start: 63 @44907 has 17 MA's), (Start: 64 @44910 has 3 MA's), (73, 45027), (76, 45045), (120, 45258), (158, 45474), (161, 45486), (163, 45492), (171, 45528), (183, 45576), (198, 45624),

Gene: Baoshan\_59 Start: 43439, Stop: 44371, Start Num: 30

Candidate Starts for Baoshan\_59:

(Start: 30 @43439 has 42 MA's), (Start: 64 @43637 has 3 MA's), (107, 43934), (117, 43973), (120, 43985), (134, 44045), (135, 44048), (140, 44090), (143, 44108), (145, 44129), (156, 44195), (157, 44198), (162, 44216), (174, 44267), (177, 44279), (183, 44303), (196, 44345),

Gene: Barbarian\_66 Start: 42900, Stop: 43868, Start Num: 21

Candidate Starts for Barbarian\_66:

(Start: 21 @42900 has 119 MA's), (Start: 28 @42939 has 1 MA's), (Start: 31 @42945 has 3 MA's), (40, 42969), (43, 42987), (Start: 58 @43119 has 1 MA's), (62, 43134), (Start: 63 @43137 has 17 MA's), (Start: 64 @43140 has 3 MA's), (73, 43257), (76, 43275), (120, 43488), (158, 43704), (161, 43716), (163, 43722), (171, 43758), (183, 43806), (198, 43854),

Gene: BarryBee\_32 Start: 23770, Stop: 24738, Start Num: 25

Candidate Starts for BarryBee\_32:

(16, 23674), (20, 23728), (Start: 25 @23770 has 90 MA's), (45, 23854), (55, 23938), (Start: 58 @23956 has 1 MA's), (83, 24133), (94, 24178), (97, 24187), (99, 24199), (100, 24202), (104, 24223), (138, 24364), (141, 24385), (142, 24391), (147, 24436), (167, 24532), (177, 24574), (181, 24592), (200, 24664), (204, 24688), (205, 24691), (206, 24700), (208, 24724),

Gene: BartholomewSD\_33 Start: 24823, Stop: 25797, Start Num: 25

Candidate Starts for BartholomewSD\_33:

(Start: 25 @24823 has 90 MA's), (62, 25030), (83, 25192), (97, 25246), (99, 25258), (100, 25261), (102, 25273), (104, 25282), (109, 25306), (110, 25309), (141, 25444), (144, 25462), (150, 25504), (170, 25597), (177, 25627), (181, 25645), (183, 25654), (199, 25708), (204, 25738), (206, 25750), (210, 25792),

Gene: Bask21\_67 Start: 43511, Stop: 44479, Start Num: 21

Candidate Starts for Bask21\_67:

(Start: 21 @43511 has 119 MA's), (Start: 28 @43550 has 1 MA's), (Start: 31 @43556 has 3 MA's), (40, 43580), (43, 43598), (Start: 58 @43730 has 1 MA's), (62, 43745), (Start: 63 @43748 has 17 MA's), (Start: 64 @43751 has 3 MA's), (73, 43868), (76, 43886), (120, 44099), (158, 44315), (161, 44327), (163, 44333), (171, 44369), (183, 44417), (198, 44465),

Gene: Baudelaire\_64 Start: 43641, Stop: 44339, Start Num: 52

Candidate Starts for Baudelaire\_64:

(Start: 52 @43641 has 2 MA's), (54, 43659), (55, 43662), (Start: 60 @43686 has 5 MA's), (61, 43689), (67, 43725), (70, 43737), (73, 43797), (79, 43842), (81, 43863), (83, 43875), (89, 43902), (93, 43914), (105, 43965), (112, 43998), (124, 44028), (133, 44052), (140, 44100), (141, 44106), (146, 44142), (171, 44259), (176, 44277), (178, 44286), (189, 44325), (191, 44328),

Gene: Bazzle\_61 Start: 43811, Stop: 44743, Start Num: 30

Candidate Starts for Bazzle\_61:

(Start: 30 @43811 has 42 MA's), (Start: 64 @44009 has 3 MA's), (107, 44306), (117, 44345), (120, 44357), (135, 44420), (140, 44462), (141, 44468), (143, 44480), (156, 44567), (157, 44570), (162,

44588), (170, 44621), (174, 44639), (177, 44651), (183, 44675), (196, 44717),

Gene: BeardedLady\_32 Start: 23780, Stop: 24757, Start Num: 25

Candidate Starts for BeardedLady\_32:

(3, 23378), (5, 23408), (14, 23639), (Start: 25 @23780 has 90 MA's), (55, 23948), (Start: 58 @23966 has 1 MA's), (59, 23969), (Start: 60 @23972 has 5 MA's), (61, 23975), (67, 24011), (97, 24197), (98, 24200), (99, 24209), (108, 24254), (117, 24275), (138, 24374), (141, 24395), (142, 24401), (167, 24542), (177, 24584), (181, 24602), (200, 24674), (204, 24698), (205, 24701), (206, 24719),

Gene: Beelzebub\_70 Start: 37655, Stop: 38608, Start Num: 29

Candidate Starts for Beelzebub\_70:

(12, 37487), (Start: 29 @37655 has 18 MA's), (Start: 63 @37853 has 17 MA's), (72, 37946), (79, 37994), (82, 38024), (94, 38075), (101, 38108), (109, 38147), (128, 38237), (132, 38270), (133, 38273), (140, 38321), (143, 38339), (145, 38360), (156, 38426), (160, 38438), (186, 38546),

Gene: Bellis\_60 Start: 44017, Stop: 44754, Start Num: 63

Candidate Starts for Bellis\_60:

(Start: 63 @44017 has 17 MA's), (Start: 64 @44020 has 3 MA's), (120, 44368), (129, 44404), (132, 44422), (134, 44428), (141, 44479), (143, 44491), (145, 44512), (157, 44581), (158, 44584), (162, 44599), (170, 44632), (171, 44638), (173, 44644), (183, 44686), (196, 44728), (198, 44734),

Gene: Bench\_70 Start: 44210, Stop: 45178, Start Num: 21

Candidate Starts for Bench\_70:

(Start: 21 @44210 has 119 MA's), (Start: 28 @44249 has 1 MA's), (Start: 31 @44255 has 3 MA's), (40, 44279), (43, 44297), (Start: 58 @44429 has 1 MA's), (62, 44444), (Start: 63 @44447 has 17 MA's), (Start: 64 @44450 has 3 MA's), (73, 44567), (76, 44585), (120, 44798), (158, 45014), (161, 45026), (163, 45032), (171, 45068), (183, 45116), (198, 45164),

Gene: BigBubba\_67 Start: 43919, Stop: 44887, Start Num: 21

Candidate Starts for BigBubba\_67:

(Start: 21 @43919 has 119 MA's), (Start: 28 @43958 has 1 MA's), (Start: 31 @43964 has 3 MA's), (40, 43988), (43, 44006), (Start: 58 @44138 has 1 MA's), (62, 44153), (Start: 63 @44156 has 17 MA's), (Start: 64 @44159 has 3 MA's), (73, 44276), (76, 44294), (120, 44507), (158, 44723), (161, 44735), (163, 44741), (171, 44777), (183, 44825), (198, 44873),

Gene: BigCheese\_61 Start: 43496, Stop: 44428, Start Num: 30

Candidate Starts for BigCheese\_61:

(Start: 30 @43496 has 42 MA's), (Start: 64 @43694 has 3 MA's), (107, 43991), (117, 44030), (120, 44042), (121, 44048), (135, 44105), (140, 44147), (141, 44153), (156, 44252), (157, 44255), (162, 44273), (170, 44306), (171, 44312), (174, 44324), (183, 44360), (196, 44402),

Gene: BilboSwaggins\_66 Start: 44548, Stop: 45516, Start Num: 21

Candidate Starts for BilboSwaggins\_66:

(Start: 21 @44548 has 119 MA's), (Start: 28 @44587 has 1 MA's), (Start: 31 @44593 has 3 MA's), (40, 44617), (43, 44635), (Start: 58 @44767 has 1 MA's), (62, 44782), (Start: 63 @44785 has 17 MA's), (Start: 64 @44788 has 3 MA's), (73, 44905), (76, 44923), (120, 45136), (158, 45352), (161, 45364), (163, 45370), (171, 45406), (183, 45454), (198, 45502),

Gene: Blackbeetle\_66 Start: 36700, Stop: 37653, Start Num: 29

Candidate Starts for Blackbeetle\_66:

(Start: 29 @36700 has 18 MA's), (Start: 63 @36898 has 17 MA's), (72, 36991), (79, 37039), (82, 37069), (94, 37120), (101, 37153), (109, 37192), (128, 37282), (132, 37315), (133, 37318), (140, 37366), (143, 37384), (145, 37405), (156, 37471), (160, 37483), (186, 37591),

Gene: BobsGarage\_61 Start: 43496, Stop: 44428, Start Num: 30

Candidate Starts for BobsGarage\_61:

(Start: 30 @43496 has 42 MA's), (Start: 64 @43694 has 3 MA's), (107, 43991), (117, 44030), (120, 44042), (121, 44048), (135, 44105), (140, 44147), (141, 44153), (156, 44252), (157, 44255), (162, 44273), (170, 44306), (171, 44312), (174, 44324), (183, 44360), (196, 44402),

Gene: Bongo\_56 Start: 39492, Stop: 40352, Start Num: 44

Candidate Starts for Bongo\_56:

(Start: 44 @39492 has 14 MA's), (Start: 60 @39606 has 5 MA's), (100, 39864), (107, 39900), (111, 39918), (113, 39924), (116, 39930), (122, 39951), (135, 40008), (140, 40047), (141, 40053), (147, 40104), (168, 40200), (180, 40251), (184, 40266), (202, 40341), (203, 40344),

Gene: Bovely\_31 Start: 23533, Stop: 24510, Start Num: 25

Candidate Starts for Bovely\_31:

(3, 23131), (5, 23161), (14, 23392), (Start: 25 @23533 has 90 MA's), (55, 23701), (Start: 58 @23719 has 1 MA's), (59, 23722), (Start: 60 @23725 has 5 MA's), (61, 23728), (97, 23950), (98, 23953), (99, 23962), (108, 24007), (109, 24010), (117, 24028), (138, 24127), (141, 24148), (142, 24154), (167, 24295), (177, 24337), (181, 24355), (200, 24427), (204, 24451), (205, 24454), (206, 24472),

Gene: Bowden\_31 Start: 24738, Stop: 25712, Start Num: 25

Candidate Starts for Bowden\_31:

(Start: 25 @24738 has 90 MA's), (62, 24945), (83, 25107), (97, 25161), (99, 25173), (100, 25176), (102, 25188), (104, 25197), (110, 25224), (141, 25359), (144, 25377), (150, 25419), (170, 25512), (177, 25542), (181, 25560), (183, 25569), (194, 25602), (199, 25623), (204, 25653), (206, 25665), (210, 25707),

Gene: Brataylor\_33 Start: 24724, Stop: 25695, Start Num: 25

Candidate Starts for Brataylor\_33:

(16, 24622), (Start: 25 @24724 has 90 MA's), (Start: 31 @24739 has 3 MA's), (Start: 58 @24910 has 1 MA's), (59, 24913), (83, 25087), (97, 25141), (98, 25144), (99, 25153), (100, 25156), (104, 25177), (109, 25201), (141, 25339), (142, 25345), (167, 25486), (177, 25528), (181, 25546), (200, 25618), (204, 25642), (206, 25657), (208, 25681),

Gene: Breezona\_61 Start: 43496, Stop: 44428, Start Num: 30

Candidate Starts for Breezona\_61:

(Start: 30 @43496 has 42 MA's), (Start: 64 @43694 has 3 MA's), (107, 43991), (117, 44030), (120, 44042), (121, 44048), (135, 44105), (140, 44147), (141, 44153), (156, 44252), (157, 44255), (162, 44273), (170, 44306), (171, 44312), (174, 44324), (183, 44360), (196, 44402),

Gene: Bricole\_56 Start: 39474, Stop: 40334, Start Num: 44

Candidate Starts for Bricole\_56:

(Start: 44 @39474 has 14 MA's), (Start: 60 @39588 has 5 MA's), (100, 39846), (107, 39882), (111, 39900), (113, 39906), (116, 39912), (122, 39933), (135, 39990), (140, 40029), (141, 40035), (147, 40086), (168, 40182), (180, 40233), (184, 40248), (202, 40323), (203, 40326),

Gene: BroPlease\_32 Start: 24157, Stop: 25122, Start Num: 25

Candidate Starts for BroPlease\_32:

(Start: 21 @24127 has 119 MA's), (Start: 25 @24157 has 90 MA's), (Start: 58 @24343 has 1 MA's), (59, 24346), (66, 24379), (83, 24520), (86, 24538), (97, 24574), (100, 24589), (102, 24601), (104, 24610), (108, 24631), (109, 24634), (123, 24673), (138, 24751), (141, 24772), (145, 24805), (159, 24877), (186, 24991), (204, 25069), (206, 25081),

Gene: Bromden\_60 Start: 43232, Stop: 43966, Start Num: 64

Candidate Starts for Bromden\_60:

(Start: 64 @43232 has 3 MA's), (88, 43451), (101, 43499), (107, 43529), (120, 43580), (121, 43586), (132, 43634), (140, 43685), (141, 43691), (143, 43703), (157, 43793), (162, 43811), (170, 43844), (171, 43850), (174, 43862), (183, 43898), (194, 43931),

Gene: Bruin\_64 Start: 43083, Stop: 44051, Start Num: 21

Candidate Starts for Bruin\_64:

(Start: 21 @43083 has 119 MA's), (Start: 28 @43122 has 1 MA's), (Start: 31 @43128 has 3 MA's), (40, 43152), (43, 43170), (Start: 58 @43302 has 1 MA's), (62, 43317), (Start: 63 @43320 has 17 MA's), (Start: 64 @43323 has 3 MA's), (73, 43440), (76, 43458), (120, 43671), (158, 43887), (161, 43899), (163, 43905), (171, 43941), (183, 43989), (198, 44037),

Gene: BryanRecycles\_32 Start: 23884, Stop: 24861, Start Num: 25

Candidate Starts for BryanRecycles\_32:

(14, 23743), (Start: 25 @23884 has 90 MA's), (Start: 31 @23899 has 3 MA's), (55, 24052), (Start: 58 @24070 has 1 MA's), (59, 24073), (61, 24079), (67, 24115), (97, 24301), (98, 24304), (99, 24313), (109, 24361), (117, 24379), (138, 24478), (141, 24499), (142, 24505), (177, 24688), (181, 24706), (200, 24778), (204, 24802), (205, 24805), (206, 24823),

Gene: Buck\_68 Start: 44791, Stop: 45759, Start Num: 21

Candidate Starts for Buck\_68:

(Start: 21 @44791 has 119 MA's), (Start: 28 @44830 has 1 MA's), (Start: 31 @44836 has 3 MA's), (40, 44860), (43, 44878), (Start: 58 @45010 has 1 MA's), (62, 45025), (Start: 63 @45028 has 17 MA's), (Start: 64 @45031 has 3 MA's), (73, 45148), (76, 45166), (120, 45379), (158, 45595), (161, 45607), (163, 45613), (171, 45649), (183, 45697), (198, 45745),

Gene: Cactus\_70 Start: 43564, Stop: 44532, Start Num: 21

Candidate Starts for Cactus\_70:

(Start: 21 @43564 has 119 MA's), (Start: 28 @43603 has 1 MA's), (Start: 31 @43609 has 3 MA's), (40, 43633), (43, 43651), (Start: 58 @43783 has 1 MA's), (62, 43798), (Start: 63 @43801 has 17 MA's), (Start: 64 @43804 has 3 MA's), (73, 43921), (76, 43939), (120, 44152), (158, 44368), (161, 44380), (163, 44386), (171, 44422), (183, 44470), (198, 44518),

Gene: Caelum\_32 Start: 24614, Stop: 25366, Start Num: 58

Candidate Starts for Caelum\_32:

(Start: 25 @24422 has 90 MA's), (Start: 58 @24614 has 1 MA's), (83, 24791), (97, 24845), (99, 24857), (100, 24860), (108, 24902), (117, 24923), (141, 25043), (144, 25061), (168, 25187), (170, 25196), (177, 25226), (181, 25244), (183, 25253), (204, 25337), (206, 25349),

Gene: Caliburn\_31 Start: 23510, Stop: 24487, Start Num: 25

Candidate Starts for Caliburn\_31:

(1, 23087), (3, 23108), (5, 23138), (14, 23369), (Start: 25 @23510 has 90 MA's), (Start: 31 @23525 has 3 MA's), (55, 23678), (Start: 58 @23696 has 1 MA's), (59, 23699), (Start: 60 @23702 has 5 MA's), (61, 23705), (97, 23927), (98, 23930), (99, 23939), (109, 23987), (117, 24005), (138, 24104), (141, 24125), (142, 24131), (167, 24272), (177, 24314), (181, 24332), (200, 24404), (204, 24428), (205, 24431), (206, 24449),

Gene: Calm\_60 Start: 41867, Stop: 42850, Start Num: 21

Candidate Starts for Calm\_60:

(Start: 21 @41867 has 119 MA's), (Start: 30 @41909 has 42 MA's), (35, 41930), (Start: 64 @42116 has 3 MA's), (107, 42413), (108, 42419), (114, 42440), (117, 42452), (120, 42464), (132, 42518), (134, 42524), (140, 42569), (141, 42575), (143, 42587), (156, 42674), (157, 42677), (158, 42680), (162,

42695), (170, 42728), (173, 42740), (174, 42746), (183, 42782), (194, 42815), (196, 42824),

Gene: Caprice\_61 Start: 37014, Stop: 37967, Start Num: 29

Candidate Starts for Caprice\_61:

(Start: 29 @37014 has 18 MA's), (Start: 63 @37212 has 17 MA's), (72, 37305), (79, 37353), (82, 37383), (94, 37434), (101, 37467), (109, 37506), (128, 37596), (132, 37629), (133, 37632), (140, 37680), (143, 37698), (145, 37719), (156, 37785), (160, 37797), (186, 37905),

Gene: Catfish\_44 Start: 31656, Stop: 32582, Start Num: 29

Candidate Starts for Catfish\_44:

(Start: 29 @31656 has 18 MA's), (Start: 52 @31797 has 2 MA's), (Start: 60 @31842 has 5 MA's), (61, 31845), (70, 31893), (71, 31935), (83, 32025), (89, 32052), (101, 32097), (104, 32112), (110, 32139), (119, 32166), (124, 32178), (145, 32289), (152, 32325), (156, 32355), (178, 32445), (181, 32457), (196, 32505), (197, 32508), (200, 32526),

Gene: Celery\_35 Start: 25368, Stop: 26285, Start Num: 42

Candidate Starts for Celery\_35:

(Start: 25 @25317 has 90 MA's), (Start: 31 @25332 has 3 MA's), (42, 25368), (46, 25401), (Start: 58 @25500 has 1 MA's), (59, 25503), (61, 25509), (91, 25716), (97, 25731), (98, 25734), (99, 25743), (102, 25758), (109, 25791), (110, 25794), (117, 25809), (141, 25929), (150, 25989), (158, 26031), (170, 26082), (186, 26148), (204, 26223), (206, 26235), (211, 26280),

Gene: Celeste\_31 Start: 24193, Stop: 25164, Start Num: 25

Candidate Starts for Celeste\_31:

(2, 23785), (4, 23821), (Start: 25 @24193 has 90 MA's), (55, 24361), (Start: 58 @24379 has 1 MA's), (59, 24382), (61, 24388), (83, 24556), (97, 24610), (98, 24613), (99, 24622), (100, 24625), (104, 24646), (141, 24808), (142, 24814), (167, 24955), (177, 24997), (181, 25015), (200, 25087), (204, 25111), (206, 25126), (208, 25150),

Gene: Celia\_33 Start: 24606, Stop: 25559, Start Num: 25

Candidate Starts for Celia\_33:

(Start: 25 @24606 has 90 MA's), (Start: 31 @24621 has 3 MA's), (42, 24657), (Start: 64 @24810 has 3 MA's), (78, 24921), (96, 25017), (97, 25020), (99, 25032), (104, 25056), (110, 25083), (141, 25227), (147, 25278), (175, 25407),

Gene: Chaser\_57 Start: 42134, Stop: 43066, Start Num: 30

Candidate Starts for Chaser\_57:

(Start: 30 @42134 has 42 MA's), (Start: 64 @42332 has 3 MA's), (101, 42599), (107, 42629), (108, 42635), (112, 42650), (120, 42680), (121, 42686), (134, 42740), (135, 42743), (140, 42785), (141, 42791), (143, 42803), (157, 42893), (162, 42911), (170, 42944), (171, 42950), (174, 42962), (183, 42998), (196, 43040),

Gene: ChosenOne\_67 Start: 43567, Stop: 44535, Start Num: 21

Candidate Starts for ChosenOne\_67:

(Start: 21 @43567 has 119 MA's), (Start: 28 @43606 has 1 MA's), (Start: 31 @43612 has 3 MA's), (40, 43636), (43, 43654), (Start: 58 @43786 has 1 MA's), (62, 43801), (Start: 63 @43804 has 17 MA's), (Start: 64 @43807 has 3 MA's), (73, 43924), (76, 43942), (120, 44155), (158, 44371), (161, 44383), (163, 44389), (171, 44425), (183, 44473), (198, 44521),

Gene: ChotaBhai\_67 Start: 43879, Stop: 44847, Start Num: 21

Candidate Starts for ChotaBhai\_67:

(Start: 21 @43879 has 119 MA's), (Start: 28 @43918 has 1 MA's), (Start: 31 @43924 has 3 MA's), (40, 43948), (43, 43966), (Start: 58 @44098 has 1 MA's), (62, 44113), (Start: 63 @44116 has 17

MA's), (Start: 64 @44119 has 3 MA's), (73, 44236), (76, 44254), (120, 44467), (158, 44683), (161, 44695), (163, 44701), (171, 44737), (183, 44785), (198, 44833),

Gene: Chucky\_30 Start: 23774, Stop: 24742, Start Num: 25

Candidate Starts for Chucky\_30:

(16, 23678), (20, 23732), (Start: 25 @23774 has 90 MA's), (38, 23810), (55, 23942), (Start: 58 @23960 has 1 MA's), (61, 23969), (83, 24137), (94, 24182), (97, 24191), (99, 24203), (100, 24206), (104, 24227), (138, 24368), (141, 24389), (142, 24395), (147, 24440), (167, 24536), (177, 24578), (181, 24596), (200, 24668), (204, 24692), (205, 24695), (206, 24704), (208, 24728),

Gene: CicholasNage\_58 Start: 41483, Stop: 42415, Start Num: 30

Candidate Starts for CicholasNage\_58:

(Start: 30 @41483 has 42 MA's), (Start: 64 @41681 has 3 MA's), (107, 41978), (108, 41984), (114, 42005), (117, 42017), (120, 42029), (132, 42083), (134, 42089), (140, 42134), (141, 42140), (143, 42152), (156, 42239), (157, 42242), (158, 42245), (162, 42260), (174, 42311), (183, 42347), (196, 42389),

Gene: Cjw1\_67 Start: 45264, Stop: 46232, Start Num: 21

Candidate Starts for Cjw1\_67:

(Start: 21 @45264 has 119 MA's), (Start: 28 @45303 has 1 MA's), (Start: 31 @45309 has 3 MA's), (40, 45333), (43, 45351), (Start: 58 @45483 has 1 MA's), (62, 45498), (Start: 63 @45501 has 17 MA's), (Start: 64 @45504 has 3 MA's), (73, 45621), (76, 45639), (120, 45852), (158, 46068), (161, 46080), (163, 46086), (171, 46122), (183, 46170), (198, 46218),

Gene: Clarkson\_67 Start: 37383, Stop: 38336, Start Num: 29

Candidate Starts for Clarkson\_67:

(Start: 29 @37383 has 18 MA's), (Start: 63 @37581 has 17 MA's), (72, 37674), (79, 37722), (82, 37752), (94, 37803), (101, 37836), (109, 37875), (128, 37965), (132, 37998), (133, 38001), (140, 38049), (143, 38067), (145, 38088), (156, 38154), (160, 38166), (186, 38274),

Gene: Claus\_61 Start: 43577, Stop: 44509, Start Num: 30

Candidate Starts for Claus\_61:

(Start: 30 @43577 has 42 MA's), (Start: 64 @43775 has 3 MA's), (107, 44072), (117, 44111), (120, 44123), (121, 44129), (134, 44183), (135, 44186), (140, 44228), (143, 44246), (145, 44267), (156, 44333), (157, 44336), (162, 44354), (174, 44405), (177, 44417), (183, 44441), (196, 44483),

Gene: Clautastrophe\_60 Start: 44014, Stop: 44751, Start Num: 63

Candidate Starts for Clautastrophe\_60:

(Start: 63 @44014 has 17 MA's), (Start: 64 @44017 has 3 MA's), (120, 44365), (129, 44401), (132, 44419), (134, 44425), (141, 44476), (143, 44488), (145, 44509), (157, 44578), (158, 44581), (162, 44596), (170, 44629), (171, 44635), (173, 44641), (183, 44683), (196, 44725), (198, 44731),

Gene: Command613\_69 Start: 44603, Stop: 45571, Start Num: 21

Candidate Starts for Command613\_69:

(Start: 21 @44603 has 119 MA's), (Start: 28 @44642 has 1 MA's), (Start: 31 @44648 has 3 MA's), (40, 44672), (43, 44690), (Start: 58 @44822 has 1 MA's), (62, 44837), (Start: 63 @44840 has 17 MA's), (Start: 64 @44843 has 3 MA's), (73, 44960), (76, 44978), (120, 45191), (158, 45407), (161, 45419), (163, 45425), (171, 45461), (183, 45509), (198, 45557),

Gene: Conan\_35 Start: 25293, Stop: 26246, Start Num: 31

Candidate Starts for Conan\_35:

(Start: 25 @25278 has 90 MA's), (Start: 31 @25293 has 3 MA's), (42, 25329), (46, 25362), (Start: 58 @25461 has 1 MA's), (59, 25464), (61, 25470), (71, 25548), (83, 25638), (97, 25692), (98, 25695),

(99, 25704), (102, 25719), (109, 25752), (110, 25755), (117, 25770), (141, 25890), (150, 25950), (158, 25992), (170, 26043), (186, 26109), (204, 26184), (206, 26196), (211, 26241),

Gene: Contagion\_63 Start: 43364, Stop: 44332, Start Num: 21

Candidate Starts for Contagion\_63:

(Start: 21 @43364 has 119 MA's), (Start: 28 @43403 has 1 MA's), (Start: 31 @43409 has 3 MA's), (40, 43433), (43, 43451), (Start: 58 @43583 has 1 MA's), (62, 43598), (Start: 63 @43601 has 17 MA's), (Start: 64 @43604 has 3 MA's), (73, 43721), (76, 43739), (120, 43952), (158, 44168), (161, 44180), (163, 44186), (171, 44222), (183, 44270), (198, 44318),

Gene: Cookies\_64 Start: 43733, Stop: 44701, Start Num: 21

Candidate Starts for Cookies\_64:

(Start: 21 @43733 has 119 MA's), (Start: 28 @43772 has 1 MA's), (Start: 31 @43778 has 3 MA's), (40, 43802), (43, 43820), (Start: 58 @43952 has 1 MA's), (62, 43967), (Start: 63 @43970 has 17 MA's), (Start: 64 @43973 has 3 MA's), (73, 44090), (76, 44108), (120, 44321), (158, 44537), (161, 44549), (163, 44555), (171, 44591), (183, 44639), (198, 44687),

Gene: Corazon\_64 Start: 37577, Stop: 38530, Start Num: 29

Candidate Starts for Corazon\_64:

(Start: 29 @37577 has 18 MA's), (Start: 63 @37775 has 17 MA's), (72, 37868), (79, 37916), (82, 37946), (94, 37997), (101, 38030), (109, 38069), (128, 38159), (132, 38192), (133, 38195), (140, 38243), (143, 38261), (145, 38282), (156, 38348), (160, 38360), (186, 38468),

Gene: Cosmo\_68 Start: 44692, Stop: 45597, Start Num: 39

Candidate Starts for Cosmo\_68:

(Start: 39 @44692 has 6 MA's), (Start: 58 @44845 has 1 MA's), (61, 44854), (62, 44860), (67, 44890), (70, 44902), (73, 44953), (87, 45061), (92, 45082), (98, 45097), (108, 45145), (126, 45211), (129, 45220), (139, 45277), (168, 45445), (172, 45463), (190, 45529), (193, 45535), (197, 45550), (202, 45586),

Gene: Crossroads\_61 Start: 43574, Stop: 44506, Start Num: 30

Candidate Starts for Crossroads\_61:

(Start: 30 @43574 has 42 MA's), (Start: 64 @43772 has 3 MA's), (107, 44069), (117, 44108), (120, 44120), (121, 44126), (135, 44183), (140, 44225), (141, 44231), (156, 44330), (157, 44333), (162, 44351), (170, 44384), (171, 44390), (174, 44402), (183, 44438), (196, 44480),

Gene: CrystalP\_66 Start: 44548, Stop: 45516, Start Num: 21

Candidate Starts for CrystalP\_66:

(Start: 21 @44548 has 119 MA's), (Start: 28 @44587 has 1 MA's), (Start: 31 @44593 has 3 MA's), (40, 44617), (43, 44635), (Start: 58 @44767 has 1 MA's), (62, 44782), (Start: 63 @44785 has 17 MA's), (Start: 64 @44788 has 3 MA's), (73, 44905), (76, 44923), (120, 45136), (158, 45352), (161, 45364), (163, 45370), (171, 45406), (183, 45454), (198, 45502),

Gene: Czyszczone1\_68 Start: 44073, Stop: 45041, Start Num: 21

Candidate Starts for Czyszczone1\_68:

(Start: 21 @44073 has 119 MA's), (Start: 28 @44112 has 1 MA's), (Start: 31 @44118 has 3 MA's), (40, 44142), (43, 44160), (Start: 58 @44292 has 1 MA's), (62, 44307), (Start: 63 @44310 has 17 MA's), (Start: 64 @44313 has 3 MA's), (73, 44430), (76, 44448), (120, 44661), (158, 44877), (161, 44889), (163, 44895), (171, 44931), (183, 44979), (198, 45027),

Gene: DS6A\_69 Start: 44787, Stop: 45914, Start Num: 37

Candidate Starts for DS6A\_69:

(36, 44781), (Start: 37 @44787 has 1 MA's), (49, 44880), (67, 44988), (77, 45102), (79, 45126), (85, 45189), (112, 45303), (115, 45321), (118, 45345), (119, 45351), (135, 45432), (137, 45459), (142, 45492), (144, 45504), (151, 45555), (155, 45582), (165, 45618), (179, 45675), (185, 45702), (188, 45714), (211, 45849), (212, 45876), (213, 45897), (214, 45906),

Gene: Daikon\_69 Start: 44691, Stop: 45659, Start Num: 21

Candidate Starts for Daikon\_69:

(Start: 21 @44691 has 119 MA's), (Start: 28 @44730 has 1 MA's), (Start: 31 @44736 has 3 MA's), (40, 44760), (43, 44778), (Start: 58 @44910 has 1 MA's), (62, 44925), (Start: 63 @44928 has 17 MA's), (Start: 64 @44931 has 3 MA's), (73, 45048), (76, 45066), (120, 45279), (158, 45495), (161, 45507), (163, 45513), (171, 45549), (183, 45597), (198, 45645),

Gene: Danzina\_32 Start: 24494, Stop: 25465, Start Num: 25

Candidate Starts for Danzina\_32:

(2, 24086), (4, 24122), (Start: 25 @24494 has 90 MA's), (55, 24662), (Start: 58 @24680 has 1 MA's), (59, 24683), (61, 24689), (83, 24857), (97, 24911), (98, 24914), (99, 24923), (100, 24926), (104, 24947), (141, 25109), (142, 25115), (167, 25256), (177, 25298), (181, 25316), (200, 25388), (204, 25412), (206, 25427), (208, 25451),

Gene: Dattran\_32 Start: 24300, Stop: 25271, Start Num: 25

Candidate Starts for Dattran\_32:

(2, 23892), (4, 23928), (Start: 25 @24300 has 90 MA's), (55, 24468), (Start: 58 @24486 has 1 MA's), (59, 24489), (61, 24495), (83, 24663), (97, 24717), (98, 24720), (99, 24729), (100, 24732), (104, 24753), (141, 24915), (142, 24921), (167, 25062), (177, 25104), (181, 25122), (200, 25194), (204, 25218), (206, 25233), (208, 25257),

Gene: Daudau\_31 Start: 24490, Stop: 25434, Start Num: 25

Candidate Starts for Daudau\_31:

(Start: 25 @24490 has 90 MA's), (55, 24664), (Start: 63 @24700 has 17 MA's), (97, 24913), (99, 24925), (100, 24928), (117, 24991), (141, 25111), (144, 25129), (150, 25171), (164, 25234), (170, 25264), (177, 25294), (181, 25312), (204, 25405), (206, 25417),

Gene: Dexers\_31 Start: 25304, Stop: 26272, Start Num: 25

Candidate Starts for Dexers\_31:

(Start: 25 @25304 has 90 MA's), (Start: 31 @25319 has 3 MA's), (42, 25355), (46, 25388), (Start: 58 @25487 has 1 MA's), (65, 25520), (67, 25532), (75, 25598), (83, 25664), (97, 25718), (98, 25721), (99, 25730), (117, 25796), (141, 25916), (150, 25976), (158, 26018), (170, 26069), (186, 26135), (204, 26210), (206, 26222), (211, 26267),

Gene: Diane\_31 Start: 24584, Stop: 25552, Start Num: 25

Candidate Starts for Diane\_31:

(20, 24542), (Start: 25 @24584 has 90 MA's), (Start: 31 @24599 has 3 MA's), (97, 25001), (99, 25013), (100, 25016), (104, 25037), (110, 25064), (117, 25079), (141, 25199), (144, 25217), (145, 25232), (150, 25259), (170, 25352), (206, 25505), (209, 25547),

Gene: Diminimus\_57 Start: 39487, Stop: 40347, Start Num: 44

Candidate Starts for Diminimus\_57:

(Start: 44 @39487 has 14 MA's), (Start: 60 @39601 has 5 MA's), (100, 39859), (107, 39895), (111, 39913), (113, 39919), (116, 39925), (122, 39946), (135, 40003), (140, 40042), (141, 40048), (147, 40099), (168, 40195), (180, 40246), (184, 40261), (202, 40336), (203, 40339),

Gene: DirkDirk\_56 Start: 41325, Stop: 42257, Start Num: 30

Candidate Starts for DirkDirk\_56:



(Start: 30 @41325 has 42 MA's), (Start: 64 @41523 has 3 MA's), (107, 41820), (108, 41826), (114, 41847), (117, 41859), (120, 41871), (132, 41925), (134, 41931), (140, 41976), (141, 41982), (143, 41994), (156, 42081), (157, 42084), (158, 42087), (162, 42102), (170, 42135), (173, 42147), (174, 42153), (183, 42189), (194, 42222), (196, 42231),

Gene: DoctorDiddles\_66 Start: 43923, Stop: 44891, Start Num: 21

Candidate Starts for DoctorDiddles\_66:

(Start: 21 @43923 has 119 MA's), (Start: 28 @43962 has 1 MA's), (Start: 31 @43968 has 3 MA's), (40, 43992), (43, 44010), (Start: 58 @44142 has 1 MA's), (62, 44157), (Start: 63 @44160 has 17 MA's), (Start: 64 @44163 has 3 MA's), (73, 44280), (76, 44298), (120, 44511), (158, 44727), (161, 44739), (163, 44745), (171, 44781), (183, 44829), (198, 44877),

Gene: Douge\_59 Start: 42140, Stop: 43072, Start Num: 30

Candidate Starts for Douge\_59:

(Start: 30 @42140 has 42 MA's), (Start: 64 @42338 has 3 MA's), (101, 42605), (107, 42635), (108, 42641), (112, 42656), (120, 42686), (121, 42692), (134, 42746), (135, 42749), (140, 42791), (141, 42797), (143, 42809), (157, 42899), (162, 42917), (170, 42950), (171, 42956), (174, 42968), (183, 43004), (196, 43046),

Gene: DrDrey\_67 Start: 44989, Stop: 45957, Start Num: 21

Candidate Starts for DrDrey\_67:

(Start: 21 @44989 has 119 MA's), (Start: 28 @45028 has 1 MA's), (Start: 31 @45034 has 3 MA's), (40, 45058), (43, 45076), (Start: 58 @45208 has 1 MA's), (62, 45223), (Start: 63 @45226 has 17 MA's), (Start: 64 @45229 has 3 MA's), (73, 45346), (76, 45364), (120, 45577), (158, 45793), (161, 45805), (163, 45811), (171, 45847), (183, 45895), (198, 45943),

Gene: DrSeegs\_61 Start: 43496, Stop: 44428, Start Num: 30

Candidate Starts for DrSeegs\_61:

(Start: 30 @43496 has 42 MA's), (Start: 64 @43694 has 3 MA's), (107, 43991), (117, 44030), (120, 44042), (121, 44048), (135, 44105), (140, 44147), (141, 44153), (156, 44252), (157, 44255), (162, 44273), (170, 44306), (171, 44312), (174, 44324), (183, 44360), (196, 44402),

Gene: Dulcita\_57 Start: 39488, Stop: 40348, Start Num: 44

Candidate Starts for Dulcita\_57:

(Start: 44 @39488 has 14 MA's), (Start: 60 @39602 has 5 MA's), (100, 39860), (107, 39896), (111, 39914), (113, 39920), (116, 39926), (122, 39947), (135, 40004), (140, 40043), (141, 40049), (147, 40100), (168, 40196), (180, 40247), (184, 40262), (202, 40337), (203, 40340),

Gene: Dumbo\_67 Start: 43472, Stop: 44440, Start Num: 21

Candidate Starts for Dumbo\_67:

(Start: 21 @43472 has 119 MA's), (Start: 28 @43511 has 1 MA's), (Start: 31 @43517 has 3 MA's), (40, 43541), (43, 43559), (Start: 58 @43691 has 1 MA's), (62, 43706), (Start: 63 @43709 has 17 MA's), (Start: 64 @43712 has 3 MA's), (73, 43829), (76, 43847), (120, 44060), (158, 44276), (161, 44288), (163, 44294), (171, 44330), (183, 44378), (198, 44426),

Gene: DuncansLeg\_61 Start: 44050, Stop: 44787, Start Num: 63

Candidate Starts for DuncansLeg\_61:

(Start: 63 @44050 has 17 MA's), (Start: 64 @44053 has 3 MA's), (120, 44401), (121, 44407), (129, 44437), (134, 44461), (135, 44464), (141, 44512), (143, 44524), (145, 44545), (157, 44614), (158, 44617), (162, 44632), (170, 44665), (171, 44671), (173, 44677), (177, 44695), (183, 44719), (196, 44761), (198, 44767),

Gene: Dusk\_64 Start: 43769, Stop: 44737, Start Num: 21

Candidate Starts for Dusk\_64:

(Start: 21 @43769 has 119 MA's), (Start: 28 @43808 has 1 MA's), (Start: 31 @43814 has 3 MA's), (40, 43838), (43, 43856), (Start: 58 @43988 has 1 MA's), (62, 44003), (Start: 63 @44006 has 17 MA's), (Start: 64 @44009 has 3 MA's), (73, 44126), (76, 44144), (120, 44357), (158, 44573), (161, 44585), (163, 44591), (171, 44627), (183, 44675), (198, 44723),

Gene: Dwayne\_30 Start: 23761, Stop: 24729, Start Num: 25

Candidate Starts for Dwayne\_30:

(16, 23665), (20, 23719), (Start: 25 @23761 has 90 MA's), (45, 23845), (55, 23929), (Start: 58 @23947 has 1 MA's), (83, 24124), (94, 24169), (97, 24178), (99, 24190), (100, 24193), (104, 24214), (138, 24355), (141, 24376), (142, 24382), (147, 24427), (167, 24523), (177, 24565), (181, 24583), (200, 24655), (204, 24679), (205, 24682), (206, 24691), (208, 24715),

Gene: DyoEdafos\_61 Start: 42419, Stop: 43351, Start Num: 31

Candidate Starts for DyoEdafos\_61:

(Start: 31 @42419 has 3 MA's), (Start: 64 @42617 has 3 MA's), (101, 42884), (107, 42914), (108, 42920), (120, 42965), (121, 42971), (134, 43025), (135, 43028), (140, 43070), (141, 43076), (143, 43088), (157, 43178), (162, 43196), (170, 43229), (171, 43235), (174, 43247), (183, 43283), (196, 43325),

Gene: ELB20\_30 Start: 24870, Stop: 25844, Start Num: 25

Candidate Starts for ELB20\_30:

(Start: 25 @24870 has 90 MA's), (42, 24930), (Start: 58 @25062 has 1 MA's), (75, 25173), (83, 25239), (97, 25293), (100, 25308), (138, 25470), (141, 25491), (142, 25497), (167, 25638), (170, 25650), (177, 25680), (181, 25698), (183, 25707), (200, 25770), (201, 25779), (204, 25794), (205, 25797), (206, 25806),

Gene: Easy2Say\_68 Start: 45010, Stop: 45978, Start Num: 21

Candidate Starts for Easy2Say\_68:

(Start: 21 @45010 has 119 MA's), (Start: 28 @45049 has 1 MA's), (Start: 31 @45055 has 3 MA's), (40, 45079), (43, 45097), (Start: 58 @45229 has 1 MA's), (62, 45244), (Start: 63 @45247 has 17 MA's), (Start: 64 @45250 has 3 MA's), (73, 45367), (76, 45385), (120, 45598), (158, 45814), (161, 45826), (163, 45832), (171, 45868), (183, 45916), (198, 45964),

Gene: Eddasa\_32 Start: 23884, Stop: 24861, Start Num: 25

Candidate Starts for Eddasa\_32:

(14, 23743), (Start: 25 @23884 has 90 MA's), (Start: 31 @23899 has 3 MA's), (55, 24052), (Start: 58 @24070 has 1 MA's), (59, 24073), (61, 24079), (67, 24115), (97, 24301), (98, 24304), (99, 24313), (109, 24361), (117, 24379), (138, 24478), (141, 24499), (142, 24505), (177, 24688), (181, 24706), (200, 24778), (204, 24802), (205, 24805), (206, 24823),

Gene: Ejemplo\_30 Start: 23814, Stop: 24785, Start Num: 25

Candidate Starts for Ejemplo\_30:

(16, 23718), (Start: 21 @23787 has 119 MA's), (Start: 25 @23814 has 90 MA's), (Start: 31 @23829 has 3 MA's), (55, 23982), (Start: 58 @24000 has 1 MA's), (59, 24003), (94, 24222), (95, 24225), (97, 24231), (99, 24243), (100, 24246), (104, 24267), (109, 24291), (131, 24369), (138, 24408), (141, 24429), (142, 24435), (147, 24480), (167, 24576), (177, 24618), (181, 24636), (200, 24708), (204, 24732), (206, 24747), (208, 24771),

Gene: ElGato\_34 Start: 24993, Stop: 25910, Start Num: 42

Candidate Starts for ElGato\_34:

(Start: 25 @24942 has 90 MA's), (Start: 31 @24957 has 3 MA's), (42, 24993), (46, 25026), (Start: 58 @25125 has 1 MA's), (59, 25128), (61, 25134), (83, 25302), (97, 25356), (98, 25359), (99, 25368),

(102, 25383), (109, 25416), (110, 25419), (117, 25434), (141, 25554), (150, 25614), (158, 25656), (170, 25707), (186, 25773), (204, 25848), (206, 25860), (211, 25905),

Gene: Elite2014\_66 Start: 43566, Stop: 44534, Start Num: 21

Candidate Starts for Elite2014\_66:

(Start: 21 @43566 has 119 MA's), (Start: 28 @43605 has 1 MA's), (Start: 31 @43611 has 3 MA's), (40, 43635), (43, 43653), (Start: 58 @43785 has 1 MA's), (62, 43800), (Start: 63 @43803 has 17 MA's), (Start: 64 @43806 has 3 MA's), (73, 43923), (76, 43941), (120, 44154), (158, 44370), (161, 44382), (163, 44388), (171, 44424), (183, 44472), (198, 44520),

Gene: Ellson\_60 Start: 44078, Stop: 44815, Start Num: 63

Candidate Starts for Ellson\_60:

(Start: 63 @44078 has 17 MA's), (Start: 64 @44081 has 3 MA's), (120, 44429), (134, 44489), (135, 44492), (141, 44540), (143, 44552), (145, 44573), (152, 44609), (157, 44642), (158, 44645), (162, 44660), (170, 44693), (171, 44699), (173, 44705), (183, 44747), (196, 44789), (198, 44795),

Gene: Elph10\_67 Start: 43571, Stop: 44539, Start Num: 21

Candidate Starts for Elph10\_67:

(Start: 21 @43571 has 119 MA's), (Start: 28 @43610 has 1 MA's), (Start: 31 @43616 has 3 MA's), (40, 43640), (43, 43658), (Start: 58 @43790 has 1 MA's), (62, 43805), (Start: 63 @43808 has 17 MA's), (Start: 64 @43811 has 3 MA's), (73, 43928), (76, 43946), (120, 44159), (158, 44375), (161, 44387), (163, 44393), (171, 44429), (183, 44477), (198, 44525),

Gene: Emaanora\_32 Start: 23719, Stop: 24687, Start Num: 25

Candidate Starts for Emaanora\_32:

(16, 23623), (20, 23677), (Start: 25 @23719 has 90 MA's), (45, 23803), (55, 23887), (Start: 58 @23905 has 1 MA's), (83, 24082), (94, 24127), (97, 24136), (99, 24148), (100, 24151), (104, 24172), (138, 24313), (141, 24334), (142, 24340), (147, 24385), (167, 24481), (177, 24523), (181, 24541), (200, 24613), (204, 24637), (205, 24640), (206, 24649), (208, 24673),

Gene: Emmina\_67 Start: 43473, Stop: 44441, Start Num: 21

Candidate Starts for Emmina\_67:

(Start: 21 @43473 has 119 MA's), (Start: 28 @43512 has 1 MA's), (Start: 31 @43518 has 3 MA's), (40, 43542), (43, 43560), (Start: 58 @43692 has 1 MA's), (62, 43707), (Start: 63 @43710 has 17 MA's), (Start: 64 @43713 has 3 MA's), (73, 43830), (76, 43848), (120, 44061), (158, 44277), (161, 44289), (163, 44295), (171, 44331), (183, 44379), (198, 44427),

Gene: Enceladus\_57 Start: 41518, Stop: 42252, Start Num: 64

Candidate Starts for Enceladus\_57:

(Start: 30 @41320 has 42 MA's), (Start: 64 @41518 has 3 MA's), (107, 41815), (108, 41821), (114, 41842), (117, 41854), (120, 41866), (132, 41920), (134, 41926), (140, 41971), (141, 41977), (143, 41989), (156, 42076), (157, 42079), (158, 42082), (162, 42097), (170, 42130), (173, 42142), (174, 42148), (183, 42184), (194, 42217), (196, 42226),

Gene: EniyanLRS\_64 Start: 44431, Stop: 45336, Start Num: 39

Candidate Starts for EniyanLRS\_64:

(24, 44380), (27, 44392), (34, 44416), (Start: 39 @44431 has 6 MA's), (Start: 58 @44584 has 1 MA's), (61, 44593), (62, 44599), (67, 44629), (70, 44641), (73, 44692), (81, 44758), (87, 44800), (90, 44812), (92, 44821), (98, 44836), (108, 44884), (126, 44950), (129, 44959), (139, 45016), (168, 45184), (172, 45202), (190, 45268), (193, 45274), (197, 45289), (202, 45325),

Gene: EnochSoames\_34 Start: 23879, Stop: 24856, Start Num: 25

Candidate Starts for EnochSoames\_34:

(14, 23738), (Start: 25 @23879 has 90 MA's), (55, 24047), (Start: 58 @24065 has 1 MA's), (59, 24068), (61, 24074), (67, 24110), (97, 24296), (98, 24299), (99, 24308), (108, 24353), (109, 24356), (117, 24374), (138, 24473), (141, 24494), (142, 24500), (177, 24683), (181, 24701), (200, 24773), (204, 24797), (205, 24800), (206, 24818),

Gene: Esperer\_31 Start: 23346, Stop: 24323, Start Num: 25

Candidate Starts for Esperer\_31:

(3, 22944), (5, 22974), (14, 23205), (Start: 25 @23346 has 90 MA's), (55, 23514), (Start: 58 @23532 has 1 MA's), (59, 23535), (Start: 60 @23538 has 5 MA's), (61, 23541), (97, 23763), (98, 23766), (99, 23775), (109, 23823), (117, 23841), (138, 23940), (141, 23961), (142, 23967), (167, 24108), (177, 24150), (181, 24168), (200, 24240), (204, 24264), (205, 24267), (206, 24285),

Gene: Estes\_64 Start: 41895, Stop: 42641, Start Num: 60

Candidate Starts for Estes\_64:

(Start: 60 @41895 has 5 MA's), (110, 42201), (111, 42207), (113, 42213), (122, 42240), (135, 42297), (140, 42336), (141, 42342), (148, 42396), (149, 42399), (168, 42489), (174, 42516), (199, 42603), (202, 42630),

Gene: Eureka\_65 Start: 44037, Stop: 45005, Start Num: 21

Candidate Starts for Eureka\_65:

(Start: 21 @44037 has 119 MA's), (Start: 28 @44076 has 1 MA's), (Start: 31 @44082 has 3 MA's), (40, 44106), (43, 44124), (Start: 58 @44256 has 1 MA's), (62, 44271), (Start: 63 @44274 has 17 MA's), (Start: 64 @44277 has 3 MA's), (73, 44394), (76, 44412), (120, 44625), (158, 44841), (161, 44853), (163, 44859), (171, 44895), (183, 44943), (198, 44991),

Gene: Faith1\_61 Start: 43496, Stop: 44428, Start Num: 30

Candidate Starts for Faith1\_61:

(Start: 30 @43496 has 42 MA's), (Start: 64 @43694 has 3 MA's), (107, 43991), (117, 44030), (120, 44042), (121, 44048), (135, 44105), (140, 44147), (141, 44153), (156, 44252), (157, 44255), (162, 44273), (170, 44306), (171, 44312), (174, 44324), (183, 44360), (196, 44402),

Gene: Filch\_68 Start: 43498, Stop: 44466, Start Num: 21

Candidate Starts for Filch\_68:

(Start: 21 @43498 has 119 MA's), (Start: 28 @43537 has 1 MA's), (Start: 31 @43543 has 3 MA's), (40, 43567), (43, 43585), (Start: 58 @43717 has 1 MA's), (62, 43732), (Start: 63 @43735 has 17 MA's), (Start: 64 @43738 has 3 MA's), (73, 43855), (76, 43873), (120, 44086), (158, 44302), (161, 44314), (163, 44320), (171, 44356), (183, 44404), (198, 44452),

Gene: Finemlucis\_61 Start: 43817, Stop: 44749, Start Num: 30

Candidate Starts for Finemlucis\_61:

(Start: 30 @43817 has 42 MA's), (Start: 64 @44015 has 3 MA's), (107, 44312), (117, 44351), (120, 44363), (121, 44369), (135, 44426), (140, 44468), (141, 44474), (156, 44573), (157, 44576), (162, 44594), (170, 44627), (171, 44633), (174, 44645), (183, 44681), (196, 44723),

Gene: Finnry\_61 Start: 44278, Stop: 45015, Start Num: 63

Candidate Starts for Finnry\_61:

(Start: 63 @44278 has 17 MA's), (Start: 64 @44281 has 3 MA's), (120, 44629), (129, 44665), (132, 44683), (134, 44689), (141, 44740), (143, 44752), (145, 44773), (157, 44842), (158, 44845), (162, 44860), (170, 44893), (171, 44899), (173, 44905), (183, 44947), (196, 44989), (198, 44995),

Gene: FireRed\_71 Start: 45060, Stop: 46028, Start Num: 21

Candidate Starts for FireRed\_71:

(Start: 21 @45060 has 119 MA's), (Start: 28 @45099 has 1 MA's), (Start: 31 @45105 has 3 MA's), (40, 45129), (43, 45147), (Start: 58 @45279 has 1 MA's), (62, 45294), (Start: 63 @45297 has 17 MA's), (Start: 64 @45300 has 3 MA's), (73, 45417), (76, 45435), (120, 45648), (158, 45864), (161, 45876), (163, 45882), (171, 45918), (183, 45966), (198, 46014),

Gene: Flypotenuse\_63 Start: 43554, Stop: 44522, Start Num: 21

Candidate Starts for Flypotenuse\_63:

(Start: 21 @43554 has 119 MA's), (Start: 28 @43593 has 1 MA's), (Start: 31 @43599 has 3 MA's), (40, 43623), (43, 43641), (Start: 58 @43773 has 1 MA's), (62, 43788), (Start: 63 @43791 has 17 MA's), (Start: 64 @43794 has 3 MA's), (73, 43911), (76, 43929), (120, 44142), (158, 44358), (161, 44370), (163, 44376), (171, 44412), (183, 44460), (198, 44508),

Gene: Fryberger\_82 Start: 43615, Stop: 44385, Start Num: 51

Candidate Starts for Fryberger\_82:

(Start: 51 @43615 has 6 MA's), (57, 43660), (62, 43681), (69, 43720), (70, 43723), (75, 43804), (89, 43894), (92, 43906), (97, 43915), (108, 43975), (117, 44008), (120, 44020), (132, 44086), (135, 44092), (141, 44131), (156, 44230), (157, 44233), (170, 44284),

Gene: Gabriela\_58 Start: 41946, Stop: 42878, Start Num: 30

Candidate Starts for Gabriela\_58:

(Start: 30 @41946 has 42 MA's), (Start: 64 @42144 has 3 MA's), (107, 42441), (117, 42480), (120, 42492), (121, 42498), (135, 42555), (140, 42597), (141, 42603), (156, 42702), (157, 42705), (162, 42723), (170, 42756), (171, 42762), (174, 42774), (183, 42810), (196, 42852),

Gene: Gage\_69 Start: 44344, Stop: 45312, Start Num: 21

Candidate Starts for Gage\_69:

(Start: 21 @44344 has 119 MA's), (Start: 28 @44383 has 1 MA's), (Start: 31 @44389 has 3 MA's), (40, 44413), (43, 44431), (Start: 58 @44563 has 1 MA's), (62, 44578), (Start: 63 @44581 has 17 MA's), (Start: 64 @44584 has 3 MA's), (73, 44701), (76, 44719), (120, 44932), (158, 45148), (161, 45160), (163, 45166), (171, 45202), (183, 45250), (198, 45298),

Gene: Gardann\_62 Start: 43532, Stop: 44464, Start Num: 30

Candidate Starts for Gardann\_62:

(Start: 30 @43532 has 42 MA's), (Start: 64 @43730 has 3 MA's), (107, 44027), (117, 44066), (120, 44078), (121, 44084), (135, 44141), (140, 44183), (141, 44189), (156, 44288), (157, 44291), (162, 44309), (170, 44342), (171, 44348), (174, 44360), (183, 44396), (196, 44438),

Gene: GardenSalsa\_64 Start: 42057, Stop: 42803, Start Num: 60

Candidate Starts for GardenSalsa\_64:

(Start: 60 @42057 has 5 MA's), (110, 42363), (111, 42369), (113, 42375), (122, 42402), (135, 42459), (140, 42498), (141, 42504), (148, 42558), (149, 42561), (168, 42651), (174, 42678), (199, 42765), (202, 42792),

Gene: Gator\_65 Start: 44400, Stop: 45368, Start Num: 21

Candidate Starts for Gator\_65:

(Start: 21 @44400 has 119 MA's), (Start: 28 @44439 has 1 MA's), (Start: 31 @44445 has 3 MA's), (40, 44469), (43, 44487), (Start: 58 @44619 has 1 MA's), (62, 44634), (Start: 63 @44637 has 17 MA's), (Start: 64 @44640 has 3 MA's), (73, 44757), (76, 44775), (120, 44988), (158, 45204), (161, 45216), (163, 45222), (171, 45258), (183, 45306), (198, 45354),

Gene: Gattaca\_64 Start: 36804, Stop: 37757, Start Num: 29

Candidate Starts for Gattaca\_64:

(Start: 29 @36804 has 18 MA's), (Start: 63 @37002 has 17 MA's), (72, 37095), (79, 37143), (82, 37173), (94, 37224), (101, 37257), (109, 37296), (128, 37386), (132, 37419), (133, 37422), (140, 37470), (143, 37488), (145, 37509), (156, 37575), (160, 37587), (186, 37695),

Gene: Gemini\_72 Start: 44861, Stop: 45829, Start Num: 21

Candidate Starts for Gemini\_72:

(Start: 21 @44861 has 119 MA's), (Start: 28 @44900 has 1 MA's), (Start: 31 @44906 has 3 MA's), (40, 44930), (43, 44948), (Start: 58 @45080 has 1 MA's), (62, 45095), (Start: 63 @45098 has 17 MA's), (Start: 64 @45101 has 3 MA's), (73, 45218), (76, 45236), (120, 45449), (158, 45665), (161, 45677), (163, 45683), (171, 45719), (183, 45767), (198, 45815),

Gene: GenevaB15\_63 Start: 41623, Stop: 42369, Start Num: 60

Candidate Starts for GenevaB15\_63:

(Start: 60 @41623 has 5 MA's), (90, 41845), (110, 41929), (111, 41935), (113, 41941), (122, 41968), (135, 42025), (140, 42064), (141, 42070), (148, 42124), (149, 42127), (168, 42217), (174, 42244), (199, 42331), (202, 42358),

Gene: GirlDinner\_33 Start: 24223, Stop: 25203, Start Num: 25

Candidate Starts for GirlDinner\_33:

(Start: 25 @24223 has 90 MA's), (55, 24391), (Start: 58 @24409 has 1 MA's), (61, 24418), (67, 24454), (83, 24586), (97, 24640), (99, 24652), (100, 24655), (117, 24718), (138, 24817), (141, 24838), (142, 24844), (167, 24985), (177, 25027), (181, 25045), (183, 25054), (200, 25117), (204, 25141), (205, 25144), (206, 25153), (211, 25198),

Gene: Glaske16\_57 Start: 39487, Stop: 40347, Start Num: 44

Candidate Starts for Glaske16\_57:

(Start: 44 @39487 has 14 MA's), (Start: 60 @39601 has 5 MA's), (100, 39859), (107, 39895), (111, 39913), (113, 39919), (116, 39925), (122, 39946), (135, 40003), (140, 40042), (141, 40048), (147, 40099), (168, 40195), (180, 40246), (184, 40261), (202, 40336), (203, 40339),

Gene: Glexan\_66 Start: 44681, Stop: 45649, Start Num: 21

Candidate Starts for Glexan\_66:

(Start: 21 @44681 has 119 MA's), (Start: 28 @44720 has 1 MA's), (Start: 31 @44726 has 3 MA's), (40, 44750), (43, 44768), (Start: 58 @44900 has 1 MA's), (62, 44915), (Start: 63 @44918 has 17 MA's), (Start: 64 @44921 has 3 MA's), (73, 45038), (76, 45056), (120, 45269), (158, 45485), (161, 45497), (163, 45503), (171, 45539), (183, 45587), (198, 45635),

Gene: Goby\_31 Start: 24321, Stop: 25292, Start Num: 25

Candidate Starts for Goby\_31:

(Start: 25 @24321 has 90 MA's), (26, 24327), (55, 24489), (Start: 58 @24507 has 1 MA's), (61, 24516), (83, 24684), (97, 24738), (98, 24741), (99, 24750), (100, 24753), (104, 24774), (109, 24798), (141, 24936), (142, 24942), (147, 24987), (167, 25083), (177, 25125), (181, 25143), (200, 25215), (204, 25239), (206, 25254), (208, 25278),

Gene: Godpower\_32 Start: 24315, Stop: 25286, Start Num: 25

Candidate Starts for Godpower\_32:

(Start: 25 @24315 has 90 MA's), (55, 24483), (Start: 58 @24501 has 1 MA's), (61, 24510), (83, 24678), (97, 24732), (98, 24735), (99, 24744), (100, 24747), (104, 24768), (109, 24792), (141, 24930), (142, 24936), (147, 24981), (167, 25077), (177, 25119), (181, 25137), (200, 25209), (204, 25233), (206, 25248), (208, 25272),

Gene: Goku\_65 Start: 43766, Stop: 44734, Start Num: 21

Candidate Starts for Goku\_65:

(Start: 21 @43766 has 119 MA's), (Start: 28 @43805 has 1 MA's), (Start: 31 @43811 has 3 MA's), (40, 43835), (43, 43853), (Start: 58 @43985 has 1 MA's), (62, 44000), (Start: 63 @44003 has 17 MA's), (Start: 64 @44006 has 3 MA's), (73, 44123), (76, 44141), (120, 44354), (158, 44570), (161, 44582), (163, 44588), (171, 44624), (183, 44672), (198, 44720),

Gene: GoldenSpark\_71 Start: 44344, Stop: 45312, Start Num: 21

Candidate Starts for GoldenSpark\_71:

(Start: 21 @44344 has 119 MA's), (Start: 28 @44383 has 1 MA's), (Start: 31 @44389 has 3 MA's), (40, 44413), (43, 44431), (Start: 58 @44563 has 1 MA's), (62, 44578), (Start: 63 @44581 has 17 MA's), (Start: 64 @44584 has 3 MA's), (73, 44701), (76, 44719), (120, 44932), (158, 45148), (161, 45160), (163, 45166), (171, 45202), (183, 45250), (198, 45298),

Gene: Goldilocks\_70 Start: 43845, Stop: 44813, Start Num: 21

Candidate Starts for Goldilocks\_70:

(Start: 21 @43845 has 119 MA's), (Start: 28 @43884 has 1 MA's), (Start: 31 @43890 has 3 MA's), (40, 43914), (43, 43932), (Start: 58 @44064 has 1 MA's), (62, 44079), (Start: 63 @44082 has 17 MA's), (Start: 64 @44085 has 3 MA's), (73, 44202), (76, 44220), (120, 44433), (158, 44649), (161, 44661), (163, 44667), (171, 44703), (183, 44751), (198, 44799),

Gene: GooberAzure\_70 Start: 44344, Stop: 45312, Start Num: 21

Candidate Starts for GooberAzure\_70:

(Start: 21 @44344 has 119 MA's), (Start: 28 @44383 has 1 MA's), (Start: 31 @44389 has 3 MA's), (40, 44413), (43, 44431), (Start: 58 @44563 has 1 MA's), (62, 44578), (Start: 63 @44581 has 17 MA's), (Start: 64 @44584 has 3 MA's), (73, 44701), (76, 44719), (120, 44932), (158, 45148), (161, 45160), (163, 45166), (171, 45202), (183, 45250), (198, 45298),

Gene: GreenWeasel\_33 Start: 24166, Stop: 25131, Start Num: 25

Candidate Starts for GreenWeasel\_33:

(Start: 21 @24136 has 119 MA's), (Start: 25 @24166 has 90 MA's), (Start: 58 @24352 has 1 MA's), (59, 24355), (66, 24388), (83, 24529), (86, 24547), (97, 24583), (100, 24598), (102, 24610), (104, 24619), (108, 24640), (109, 24643), (123, 24682), (138, 24760), (141, 24781), (145, 24814), (150, 24841), (159, 24886), (186, 25000), (204, 25078), (206, 25090),

Gene: Guey18\_87 Start: 44948, Stop: 45718, Start Num: 51

Candidate Starts for Guey18\_87:

(Start: 51 @44948 has 6 MA's), (57, 44993), (62, 45014), (69, 45053), (70, 45056), (75, 45137), (89, 45227), (92, 45239), (97, 45248), (108, 45308), (117, 45341), (120, 45353), (132, 45419), (135, 45425), (141, 45464), (156, 45563), (157, 45566), (170, 45617),

Gene: GuuelaD\_60 Start: 43611, Stop: 44543, Start Num: 30

Candidate Starts for GuuelaD\_60:

(Start: 30 @43611 has 42 MA's), (Start: 64 @43809 has 3 MA's), (107, 44106), (117, 44145), (120, 44157), (121, 44163), (135, 44220), (140, 44262), (141, 44268), (156, 44367), (157, 44370), (162, 44388), (170, 44421), (171, 44427), (174, 44439), (183, 44475), (196, 44517),

Gene: Hafay\_62 Start: 43600, Stop: 44532, Start Num: 30

Candidate Starts for Hafay\_62:

(Start: 30 @43600 has 42 MA's), (Start: 64 @43798 has 3 MA's), (107, 44095), (117, 44134), (120, 44146), (121, 44152), (135, 44209), (140, 44251), (141, 44257), (156, 44356), (157, 44359), (162, 44377), (170, 44410), (171, 44416), (174, 44428), (183, 44464), (196, 44506),

Gene: Haizum\_31 Start: 24258, Stop: 25220, Start Num: 25

Candidate Starts for Haizum\_31:

(20, 24216), (Start: 25 @24258 has 90 MA's), (Start: 31 @24273 has 3 MA's), (97, 24675), (99, 24687), (100, 24690), (104, 24711), (110, 24738), (117, 24753), (141, 24873), (144, 24891), (145, 24906), (150, 24933), (170, 25026), (206, 25179),

Gene: Halena\_57 Start: 41362, Stop: 42294, Start Num: 30

Candidate Starts for Halena\_57:

(Start: 30 @41362 has 42 MA's), (Start: 64 @41560 has 3 MA's), (107, 41857), (108, 41863), (114, 41884), (117, 41896), (120, 41908), (132, 41962), (134, 41968), (140, 42013), (141, 42019), (143, 42031), (156, 42118), (157, 42121), (158, 42124), (162, 42139), (170, 42172), (173, 42184), (174, 42190), (183, 42226), (194, 42259), (196, 42268),

Gene: HanKaySha\_67 Start: 43651, Stop: 44619, Start Num: 21

Candidate Starts for HanKaySha\_67:

(Start: 21 @43651 has 119 MA's), (Start: 28 @43690 has 1 MA's), (Start: 31 @43696 has 3 MA's), (40, 43720), (43, 43738), (Start: 58 @43870 has 1 MA's), (62, 43885), (Start: 63 @43888 has 17 MA's), (Start: 64 @43891 has 3 MA's), (73, 44008), (76, 44026), (120, 44239), (158, 44455), (161, 44467), (163, 44473), (171, 44509), (183, 44557), (198, 44605),

Gene: Hank144\_32 Start: 24639, Stop: 25586, Start Num: 25

Candidate Starts for Hank144\_32:

(16, 24549), (19, 24594), (Start: 25 @24639 has 90 MA's), (55, 24807), (Start: 58 @24825 has 1 MA's), (61, 24834), (83, 25002), (94, 25047), (97, 25056), (98, 25059), (99, 25068), (100, 25071), (117, 25134), (131, 25194), (138, 25233), (141, 25254), (142, 25260), (167, 25401), (177, 25443), (181, 25461), (183, 25470), (200, 25533), (204, 25557), (205, 25560), (206, 25569),

Gene: Harella\_67 Start: 45197, Stop: 46165, Start Num: 21

Candidate Starts for Harella\_67:

(Start: 21 @45197 has 119 MA's), (Start: 28 @45236 has 1 MA's), (Start: 31 @45242 has 3 MA's), (40, 45266), (43, 45284), (Start: 58 @45416 has 1 MA's), (62, 45431), (Start: 63 @45434 has 17 MA's), (Start: 64 @45437 has 3 MA's), (73, 45554), (76, 45572), (120, 45785), (158, 46001), (161, 46013), (163, 46019), (171, 46055), (183, 46103), (198, 46151),

Gene: Henry\_65 Start: 43988, Stop: 44956, Start Num: 21

Candidate Starts for Henry\_65:

(Start: 21 @43988 has 119 MA's), (Start: 28 @44027 has 1 MA's), (Start: 31 @44033 has 3 MA's), (40, 44057), (43, 44075), (Start: 58 @44207 has 1 MA's), (62, 44222), (Start: 63 @44225 has 17 MA's), (Start: 64 @44228 has 3 MA's), (73, 44345), (76, 44363), (120, 44576), (158, 44792), (161, 44804), (163, 44810), (171, 44846), (183, 44894), (198, 44942),

Gene: Highbury\_66 Start: 43639, Stop: 44607, Start Num: 21

Candidate Starts for Highbury\_66:

(Start: 21 @43639 has 119 MA's), (Start: 28 @43678 has 1 MA's), (Start: 31 @43684 has 3 MA's), (40, 43708), (43, 43726), (Start: 58 @43858 has 1 MA's), (62, 43873), (Start: 63 @43876 has 17 MA's), (Start: 64 @43879 has 3 MA's), (73, 43996), (76, 44014), (120, 44227), (158, 44443), (161, 44455), (163, 44461), (171, 44497), (183, 44545), (198, 44593),

Gene: Hippo\_30 Start: 23770, Stop: 24738, Start Num: 25

Candidate Starts for Hippo\_30:

(16, 23674), (20, 23728), (Start: 25 @23770 has 90 MA's), (45, 23854), (55, 23938), (Start: 58 @23956 has 1 MA's), (83, 24133), (94, 24178), (97, 24187), (99, 24199), (100, 24202), (104, 24223), (138, 24364), (141, 24385), (142, 24391), (147, 24436), (167, 24532), (177, 24574), (181, 24592), (200, 24664), (204, 24688), (205, 24691), (206, 24700), (208, 24724),



Gene: Holt\_72 Start: 44758, Stop: 45726, Start Num: 21

Candidate Starts for Holt\_72:

(Start: 21 @44758 has 119 MA's), (Start: 28 @44797 has 1 MA's), (Start: 31 @44803 has 3 MA's), (40, 44827), (43, 44845), (Start: 58 @44977 has 1 MA's), (62, 44992), (Start: 63 @44995 has 17 MA's), (Start: 64 @44998 has 3 MA's), (73, 45115), (76, 45133), (120, 45346), (158, 45562), (161, 45574), (163, 45580), (171, 45616), (183, 45664), (198, 45712),

Gene: Hoonter\_70 Start: 44344, Stop: 45312, Start Num: 21

Candidate Starts for Hoonter\_70:

(Start: 21 @44344 has 119 MA's), (Start: 28 @44383 has 1 MA's), (Start: 31 @44389 has 3 MA's), (40, 44413), (43, 44431), (Start: 58 @44563 has 1 MA's), (62, 44578), (Start: 63 @44581 has 17 MA's), (Start: 64 @44584 has 3 MA's), (73, 44701), (76, 44719), (120, 44932), (158, 45148), (161, 45160), (163, 45166), (171, 45202), (183, 45250), (198, 45298),

Gene: Hokey\_67 Start: 44183, Stop: 45151, Start Num: 21

Candidate Starts for Hokey\_67:

(Start: 21 @44183 has 119 MA's), (Start: 28 @44222 has 1 MA's), (Start: 31 @44228 has 3 MA's), (40, 44252), (43, 44270), (Start: 58 @44402 has 1 MA's), (62, 44417), (Start: 63 @44420 has 17 MA's), (Start: 64 @44423 has 3 MA's), (73, 44540), (76, 44558), (120, 44771), (158, 44987), (161, 44999), (163, 45005), (171, 45041), (183, 45089), (198, 45137),

Gene: HufflyPuff\_70 Start: 45016, Stop: 45984, Start Num: 21

Candidate Starts for HufflyPuff\_70:

(Start: 21 @45016 has 119 MA's), (Start: 28 @45055 has 1 MA's), (Start: 31 @45061 has 3 MA's), (40, 45085), (43, 45103), (Start: 58 @45235 has 1 MA's), (62, 45250), (Start: 63 @45253 has 17 MA's), (Start: 64 @45256 has 3 MA's), (73, 45373), (76, 45391), (120, 45604), (158, 45820), (161, 45832), (163, 45838), (171, 45874), (183, 45922), (198, 45970),

Gene: Huphlepuuff\_68 Start: 37188, Stop: 38141, Start Num: 29

Candidate Starts for Huphlepuuff\_68:

(Start: 29 @37188 has 18 MA's), (Start: 63 @37386 has 17 MA's), (72, 37479), (79, 37527), (82, 37557), (94, 37608), (101, 37641), (109, 37680), (128, 37770), (132, 37803), (133, 37806), (140, 37854), (143, 37872), (145, 37893), (156, 37959), (160, 37971), (186, 38079),

Gene: Hydra\_33 Start: 24058, Stop: 25035, Start Num: 25

Candidate Starts for Hydra\_33:

(1, 23635), (3, 23656), (5, 23686), (14, 23917), (Start: 25 @24058 has 90 MA's), (Start: 31 @24073 has 3 MA's), (55, 24226), (Start: 58 @24244 has 1 MA's), (59, 24247), (61, 24253), (97, 24475), (98, 24478), (99, 24487), (109, 24535), (117, 24553), (138, 24652), (141, 24673), (142, 24679), (167, 24820), (177, 24862), (181, 24880), (200, 24952), (204, 24976), (205, 24979), (206, 24997),

Gene: IHOP\_65 Start: 44112, Stop: 45080, Start Num: 21

Candidate Starts for IHOP\_65:

(Start: 21 @44112 has 119 MA's), (Start: 28 @44151 has 1 MA's), (Start: 31 @44157 has 3 MA's), (40, 44181), (43, 44199), (Start: 58 @44331 has 1 MA's), (62, 44346), (Start: 63 @44349 has 17 MA's), (Start: 64 @44352 has 3 MA's), (73, 44469), (76, 44487), (120, 44700), (158, 44916), (161, 44928), (163, 44934), (171, 44970), (183, 45018), (198, 45066),

Gene: IPhone7\_56 Start: 39492, Stop: 40352, Start Num: 44

Candidate Starts for IPhone7\_56:

(Start: 44 @39492 has 14 MA's), (Start: 60 @39606 has 5 MA's), (100, 39864), (107, 39900), (111, 39918), (113, 39924), (116, 39930), (122, 39951), (135, 40008), (140, 40047), (141, 40053), (147, 40104), (168, 40200), (180, 40251), (184, 40266), (202, 40341), (203, 40344),

Gene: Icee\_68 Start: 44011, Stop: 44979, Start Num: 21

Candidate Starts for Icee\_68:

(Start: 21 @44011 has 119 MA's), (Start: 28 @44050 has 1 MA's), (Start: 31 @44056 has 3 MA's), (40, 44080), (43, 44098), (Start: 58 @44230 has 1 MA's), (62, 44245), (Start: 63 @44248 has 17 MA's), (Start: 64 @44251 has 3 MA's), (73, 44368), (76, 44386), (120, 44599), (158, 44815), (161, 44827), (163, 44833), (171, 44869), (183, 44917), (198, 44965),

Gene: Inca\_64 Start: 42676, Stop: 43605, Start Num: 28

Candidate Starts for Inca\_64:

(Start: 21 @42637 has 119 MA's), (Start: 28 @42676 has 1 MA's), (Start: 31 @42682 has 3 MA's), (40, 42706), (43, 42724), (Start: 58 @42856 has 1 MA's), (62, 42871), (Start: 63 @42874 has 17 MA's), (Start: 64 @42877 has 3 MA's), (73, 42994), (76, 43012), (120, 43225), (158, 43441), (161, 43453), (163, 43459), (171, 43495), (183, 43543), (198, 43591),

Gene: Indigo\_30 Start: 23526, Stop: 24503, Start Num: 25

Candidate Starts for Indigo\_30:

(3, 23124), (5, 23154), (14, 23385), (Start: 25 @23526 has 90 MA's), (55, 23694), (Start: 58 @23712 has 1 MA's), (59, 23715), (Start: 60 @23718 has 5 MA's), (61, 23721), (97, 23943), (98, 23946), (99, 23955), (108, 24000), (109, 24003), (117, 24021), (138, 24120), (141, 24141), (142, 24147), (167, 24288), (177, 24330), (181, 24348), (200, 24420), (204, 24444), (205, 24447), (206, 24465),

Gene: Issmi\_32 Start: 25370, Stop: 26098, Start Num: 63

Candidate Starts for Issmi\_32:

(Start: 25 @25163 has 90 MA's), (Start: 58 @25352 has 1 MA's), (Start: 63 @25370 has 17 MA's), (86, 25541), (97, 25577), (99, 25589), (100, 25592), (110, 25640), (138, 25754), (141, 25775), (144, 25793), (145, 25808), (150, 25835), (170, 25928), (177, 25958), (181, 25976), (183, 25985), (206, 26081),

Gene: Itos\_60 Start: 42402, Stop: 43334, Start Num: 30

Candidate Starts for Itos\_60:

(Start: 30 @42402 has 42 MA's), (Start: 64 @42600 has 3 MA's), (107, 42897), (117, 42936), (120, 42948), (121, 42954), (135, 43011), (140, 43053), (141, 43059), (156, 43158), (157, 43161), (162, 43179), (170, 43212), (171, 43218), (174, 43230), (183, 43266), (196, 43308),

Gene: Itza\_33 Start: 24520, Stop: 25473, Start Num: 25

Candidate Starts for Itza\_33:

(Start: 25 @24520 has 90 MA's), (Start: 31 @24535 has 3 MA's), (42, 24571), (Start: 64 @24724 has 3 MA's), (78, 24835), (96, 24931), (97, 24934), (99, 24946), (104, 24970), (110, 24997), (141, 25141), (147, 25192), (175, 25321),

Gene: Izzy\_32 Start: 23931, Stop: 24908, Start Num: 25

Candidate Starts for Izzy\_32:

(14, 23790), (Start: 25 @23931 has 90 MA's), (Start: 31 @23946 has 3 MA's), (55, 24099), (Start: 58 @24117 has 1 MA's), (59, 24120), (61, 24126), (67, 24162), (97, 24348), (98, 24351), (99, 24360), (109, 24408), (117, 24426), (138, 24525), (141, 24546), (142, 24552), (177, 24735), (181, 24753), (200, 24825), (204, 24849), (205, 24852), (206, 24870),

Gene: Janus\_32 Start: 24561, Stop: 25541, Start Num: 25

Candidate Starts for Janus\_32:

(Start: 25 @24561 has 90 MA's), (55, 24729), (Start: 58 @24747 has 1 MA's), (61, 24756), (67, 24792), (83, 24924), (97, 24978), (99, 24990), (100, 24993), (117, 25056), (138, 25155), (141, 25176), (142, 25182), (167, 25323), (177, 25365), (181, 25383), (183, 25392), (200, 25455), (204, 25479),

(205, 25482), (206, 25491), (211, 25536),

Gene: Jash\_32 Start: 23884, Stop: 24861, Start Num: 25

Candidate Starts for Jash\_32:

(14, 23743), (Start: 25 @23884 has 90 MA's), (Start: 31 @23899 has 3 MA's), (55, 24052), (Start: 58 @24070 has 1 MA's), (59, 24073), (61, 24079), (67, 24115), (97, 24301), (98, 24304), (99, 24313), (109, 24361), (117, 24379), (138, 24478), (141, 24499), (142, 24505), (177, 24688), (181, 24706), (200, 24778), (204, 24802), (205, 24805), (206, 24823),

Gene: JeTaime\_67 Start: 44835, Stop: 45803, Start Num: 21

Candidate Starts for JeTaime\_67:

(Start: 21 @44835 has 119 MA's), (Start: 28 @44874 has 1 MA's), (Start: 31 @44880 has 3 MA's), (40, 44904), (43, 44922), (Start: 58 @45054 has 1 MA's), (62, 45069), (Start: 63 @45072 has 17 MA's), (Start: 64 @45075 has 3 MA's), (73, 45192), (76, 45210), (120, 45423), (158, 45639), (161, 45651), (163, 45657), (171, 45693), (183, 45741), (198, 45789),

Gene: Jevington\_34 Start: 24924, Stop: 25898, Start Num: 25

Candidate Starts for Jevington\_34:

(Start: 25 @24924 has 90 MA's), (Start: 31 @24939 has 3 MA's), (62, 25131), (97, 25347), (99, 25359), (100, 25362), (102, 25374), (110, 25410), (141, 25545), (144, 25563), (150, 25605), (177, 25728), (183, 25755), (199, 25809), (204, 25839), (206, 25851), (210, 25893),

Gene: Jobypre\_61 Start: 44014, Stop: 44751, Start Num: 63

Candidate Starts for Jobypre\_61:

(Start: 63 @44014 has 17 MA's), (Start: 64 @44017 has 3 MA's), (120, 44365), (129, 44401), (132, 44419), (134, 44425), (141, 44476), (143, 44488), (145, 44509), (157, 44578), (158, 44581), (162, 44596), (170, 44629), (171, 44635), (173, 44641), (183, 44683), (196, 44725), (198, 44731),

Gene: JoeDirt\_58 Start: 41762, Stop: 42694, Start Num: 30

Candidate Starts for JoeDirt\_58:

(7, 41522), (8, 41525), (13, 41597), (22, 41735), (Start: 30 @41762 has 42 MA's), (Start: 64 @41960 has 3 MA's), (107, 42257), (114, 42284), (117, 42296), (120, 42308), (132, 42362), (134, 42368), (140, 42413), (141, 42419), (143, 42431), (156, 42518), (157, 42521), (158, 42524), (162, 42539), (174, 42590), (183, 42626), (196, 42668),

Gene: JoieB\_67 Start: 37621, Stop: 38574, Start Num: 29

Candidate Starts for JoieB\_67:

(Start: 29 @37621 has 18 MA's), (Start: 63 @37819 has 17 MA's), (72, 37912), (79, 37960), (82, 37990), (94, 38041), (101, 38074), (109, 38113), (128, 38203), (132, 38236), (133, 38239), (140, 38287), (143, 38305), (145, 38326), (156, 38392), (160, 38404), (186, 38512),

Gene: Jubie\_60 Start: 44149, Stop: 44886, Start Num: 63

Candidate Starts for Jubie\_60:

(Start: 63 @44149 has 17 MA's), (Start: 64 @44152 has 3 MA's), (120, 44500), (129, 44536), (132, 44554), (134, 44560), (141, 44611), (143, 44623), (145, 44644), (157, 44713), (158, 44716), (162, 44731), (170, 44764), (171, 44770), (173, 44776), (183, 44818), (196, 44860), (198, 44866),

Gene: Kahlid\_61 Start: 43502, Stop: 44434, Start Num: 30

Candidate Starts for Kahlid\_61:

(Start: 30 @43502 has 42 MA's), (Start: 64 @43700 has 3 MA's), (107, 43997), (117, 44036), (120, 44048), (121, 44054), (135, 44111), (140, 44153), (141, 44159), (156, 44258), (157, 44261), (162, 44279), (170, 44312), (171, 44318), (174, 44330), (183, 44366), (196, 44408),

Gene: Kanye\_64 Start: 43693, Stop: 44661, Start Num: 21

Candidate Starts for Kanye\_64:

(Start: 21 @43693 has 119 MA's), (Start: 28 @43732 has 1 MA's), (Start: 31 @43738 has 3 MA's), (40, 43762), (43, 43780), (Start: 58 @43912 has 1 MA's), (62, 43927), (Start: 63 @43930 has 17 MA's), (Start: 64 @43933 has 3 MA's), (73, 44050), (76, 44068), (120, 44281), (158, 44497), (161, 44509), (163, 44515), (171, 44551), (183, 44599), (198, 44647),

Gene: Katalie\_31 Start: 24057, Stop: 25028, Start Num: 25

Candidate Starts for Katalie\_31:

(17, 23976), (Start: 25 @24057 has 90 MA's), (47, 24153), (55, 24225), (Start: 58 @24243 has 1 MA's), (61, 24252), (94, 24465), (97, 24474), (98, 24477), (99, 24486), (104, 24510), (138, 24651), (141, 24672), (142, 24678), (147, 24723), (167, 24819), (177, 24861), (181, 24879), (200, 24951), (204, 24975), (205, 24978), (206, 24990), (208, 25014),

Gene: Keelan\_83 Start: 44373, Stop: 45143, Start Num: 51

Candidate Starts for Keelan\_83:

(Start: 51 @44373 has 6 MA's), (53, 44388), (56, 44409), (57, 44418), (62, 44439), (65, 44457), (68, 44472), (71, 44538), (75, 44562), (106, 44718), (108, 44733), (109, 44736), (114, 44754), (117, 44766), (120, 44778), (132, 44844), (143, 44901), (156, 44988), (170, 45042), (174, 45060), (182, 45090), (187, 45108), (192, 45123),

Gene: Kimchi\_71 Start: 44347, Stop: 45315, Start Num: 21

Candidate Starts for Kimchi\_71:

(Start: 21 @44347 has 119 MA's), (Start: 28 @44386 has 1 MA's), (Start: 31 @44392 has 3 MA's), (40, 44416), (43, 44434), (Start: 58 @44566 has 1 MA's), (62, 44581), (Start: 63 @44584 has 17 MA's), (Start: 64 @44587 has 3 MA's), (73, 44704), (76, 44722), (120, 44935), (158, 45151), (161, 45163), (163, 45169), (171, 45205), (183, 45253), (198, 45301),

Gene: Kingsolomon\_60 Start: 44021, Stop: 44758, Start Num: 63

Candidate Starts for Kingsolomon\_60:

(Start: 63 @44021 has 17 MA's), (Start: 64 @44024 has 3 MA's), (120, 44372), (129, 44408), (132, 44426), (134, 44432), (141, 44483), (143, 44495), (145, 44516), (157, 44585), (158, 44588), (162, 44603), (170, 44636), (171, 44642), (173, 44648), (183, 44690), (196, 44732), (198, 44738),

Gene: Kostya\_67 Start: 44211, Stop: 45179, Start Num: 21

Candidate Starts for Kostya\_67:

(Start: 21 @44211 has 119 MA's), (Start: 28 @44250 has 1 MA's), (Start: 31 @44256 has 3 MA's), (40, 44280), (43, 44298), (Start: 58 @44430 has 1 MA's), (62, 44445), (Start: 63 @44448 has 17 MA's), (Start: 64 @44451 has 3 MA's), (73, 44568), (76, 44586), (120, 44799), (158, 45015), (161, 45027), (163, 45033), (171, 45069), (183, 45117), (198, 45165),

Gene: Krypton555\_62 Start: 44246, Stop: 44983, Start Num: 63

Candidate Starts for Krypton555\_62:

(Start: 63 @44246 has 17 MA's), (Start: 64 @44249 has 3 MA's), (120, 44597), (121, 44603), (129, 44633), (132, 44651), (134, 44657), (141, 44708), (143, 44720), (145, 44741), (157, 44810), (158, 44813), (162, 44828), (170, 44861), (171, 44867), (173, 44873), (183, 44915), (196, 44957), (198, 44963),

Gene: Kudrefre\_58 Start: 39045, Stop: 39977, Start Num: 32

Candidate Starts for Kudrefre\_58:

(Start: 31 @39042 has 3 MA's), (Start: 32 @39045 has 7 MA's), (50, 39162), (Start: 52 @39183 has 2 MA's), (54, 39201), (62, 39237), (Start: 63 @39240 has 17 MA's), (71, 39348), (89, 39465), (92, 39477), (103, 39519), (107, 39540), (112, 39561), (119, 39588), (121, 39597), (125, 39612), (127,

39621), (130, 39648), (139, 39699), (140, 39708), (141, 39714), (149, 39771), (152, 39783), (154, 39795), (155, 39807), (156, 39813), (157, 39816), (158, 39819), (169, 39864), (174, 39885), (196, 39963), (197, 39966),

Gene: Kumao\_48 Start: 38609, Stop: 39574, Start Num: 21

Candidate Starts for Kumao\_48:

(Start: 21 @38609 has 119 MA's), (Start: 28 @38648 has 1 MA's), (Start: 32 @38657 has 7 MA's), (Start: 58 @38822 has 1 MA's), (Start: 64 @38843 has 3 MA's), (80, 39020), (82, 39038), (84, 39056), (88, 39065), (120, 39194), (129, 39230), (133, 39251), (154, 39386), (156, 39404), (166, 39443), (174, 39476), (178, 39491), (183, 39512), (195, 39548), (198, 39560),

Gene: Lannister\_33 Start: 24536, Stop: 25504, Start Num: 25

Candidate Starts for Lannister\_33:

(Start: 25 @24536 has 90 MA's), (55, 24704), (Start: 58 @24722 has 1 MA's), (61, 24731), (67, 24767), (94, 24944), (98, 24956), (99, 24965), (100, 24968), (104, 24989), (117, 25031), (138, 25130), (141, 25151), (142, 25157), (167, 25298), (177, 25340), (181, 25358), (200, 25430), (204, 25454), (206, 25466),

Gene: LeBron\_58 Start: 41365, Stop: 42297, Start Num: 30

Candidate Starts for LeBron\_58:

(Start: 30 @41365 has 42 MA's), (Start: 64 @41563 has 3 MA's), (107, 41860), (108, 41866), (114, 41887), (117, 41899), (120, 41911), (132, 41965), (134, 41971), (140, 42016), (141, 42022), (143, 42034), (156, 42121), (157, 42124), (158, 42127), (162, 42142), (170, 42175), (173, 42187), (174, 42193), (183, 42229), (194, 42262), (196, 42271),

Gene: Legacy\_31 Start: 23501, Stop: 24478, Start Num: 25

Candidate Starts for Legacy\_31:

(1, 23078), (3, 23099), (5, 23129), (14, 23360), (Start: 25 @23501 has 90 MA's), (Start: 31 @23516 has 3 MA's), (55, 23669), (Start: 58 @23687 has 1 MA's), (59, 23690), (Start: 60 @23693 has 5 MA's), (61, 23696), (97, 23918), (98, 23921), (99, 23930), (109, 23978), (117, 23996), (138, 24095), (141, 24116), (142, 24122), (167, 24263), (181, 24323), (200, 24395), (204, 24419), (205, 24422), (206, 24440),

Gene: Leviticus\_31 Start: 23530, Stop: 24507, Start Num: 25

Candidate Starts for Leviticus\_31:

(3, 23128), (5, 23158), (14, 23389), (Start: 25 @23530 has 90 MA's), (Start: 31 @23545 has 3 MA's), (55, 23698), (Start: 58 @23716 has 1 MA's), (59, 23719), (Start: 60 @23722 has 5 MA's), (61, 23725), (97, 23947), (98, 23950), (99, 23959), (109, 24007), (117, 24025), (138, 24124), (141, 24145), (142, 24151), (167, 24292), (177, 24334), (181, 24352), (200, 24424), (204, 24448), (205, 24451), (206, 24469),

Gene: Lewan\_62 Start: 43556, Stop: 44488, Start Num: 30

Candidate Starts for Lewan\_62:

(Start: 30 @43556 has 42 MA's), (Start: 64 @43754 has 3 MA's), (107, 44051), (117, 44090), (120, 44102), (121, 44108), (135, 44165), (140, 44207), (141, 44213), (156, 44312), (157, 44315), (162, 44333), (170, 44366), (171, 44372), (174, 44384), (183, 44420), (196, 44462),

Gene: Lika\_31 Start: 24319, Stop: 25290, Start Num: 25

Candidate Starts for Lika\_31:

(Start: 25 @24319 has 90 MA's), (55, 24487), (Start: 58 @24505 has 1 MA's), (61, 24514), (83, 24682), (97, 24736), (98, 24739), (99, 24748), (100, 24751), (104, 24772), (109, 24796), (141, 24934), (142, 24940), (147, 24985), (167, 25081), (177, 25123), (181, 25141), (200, 25213), (204, 25237), (206, 25252), (208, 25276),

Gene: LilDestine\_61 Start: 43529, Stop: 44461, Start Num: 30

Candidate Starts for LilDestine\_61:

(Start: 30 @43529 has 42 MA's), (Start: 64 @43727 has 3 MA's), (107, 44024), (117, 44063), (120, 44075), (121, 44081), (135, 44138), (140, 44180), (141, 44186), (156, 44285), (157, 44288), (162, 44306), (170, 44339), (171, 44345), (174, 44357), (183, 44393), (196, 44435),

Gene: Lilac\_69 Start: 43968, Stop: 44936, Start Num: 21

Candidate Starts for Lilac\_69:

(Start: 21 @43968 has 119 MA's), (Start: 28 @44007 has 1 MA's), (Start: 31 @44013 has 3 MA's), (40, 44037), (43, 44055), (Start: 58 @44187 has 1 MA's), (62, 44202), (Start: 63 @44205 has 17 MA's), (Start: 64 @44208 has 3 MA's), (73, 44325), (76, 44343), (120, 44556), (158, 44772), (161, 44784), (163, 44790), (171, 44826), (183, 44874), (198, 44922),

Gene: Lilbit\_66 Start: 37384, Stop: 38337, Start Num: 29

Candidate Starts for Lilbit\_66:

(Start: 29 @37384 has 18 MA's), (Start: 63 @37582 has 17 MA's), (72, 37675), (79, 37723), (82, 37753), (94, 37804), (101, 37837), (109, 37876), (128, 37966), (132, 37999), (133, 38002), (140, 38050), (143, 38068), (145, 38089), (156, 38155), (160, 38167), (186, 38275),

Gene: LilhomieP\_55 Start: 39492, Stop: 40352, Start Num: 44

Candidate Starts for LilhomieP\_55:

(Start: 44 @39492 has 14 MA's), (Start: 60 @39606 has 5 MA's), (100, 39864), (107, 39900), (111, 39918), (113, 39924), (116, 39930), (122, 39951), (135, 40008), (140, 40047), (141, 40053), (147, 40104), (168, 40200), (180, 40251), (184, 40266), (202, 40341), (203, 40344),

Gene: Lilizi\_68 Start: 43681, Stop: 44649, Start Num: 21

Candidate Starts for Lilizi\_68:

(Start: 21 @43681 has 119 MA's), (Start: 28 @43720 has 1 MA's), (Start: 31 @43726 has 3 MA's), (40, 43750), (43, 43768), (Start: 58 @43900 has 1 MA's), (62, 43915), (Start: 63 @43918 has 17 MA's), (Start: 64 @43921 has 3 MA's), (73, 44038), (76, 44056), (120, 44269), (158, 44485), (161, 44497), (163, 44503), (171, 44539), (183, 44587), (198, 44635),

Gene: Lilpickle\_66 Start: 43566, Stop: 44534, Start Num: 21

Candidate Starts for Lilpickle\_66:

(Start: 21 @43566 has 119 MA's), (Start: 28 @43605 has 1 MA's), (Start: 31 @43611 has 3 MA's), (40, 43635), (43, 43653), (Start: 58 @43785 has 1 MA's), (62, 43800), (Start: 63 @43803 has 17 MA's), (Start: 64 @43806 has 3 MA's), (73, 43923), (76, 43941), (120, 44154), (158, 44370), (161, 44382), (163, 44388), (171, 44424), (183, 44472), (198, 44520),

Gene: LittleLaf\_66 Start: 37113, Stop: 38066, Start Num: 29

Candidate Starts for LittleLaf\_66:

(Start: 29 @37113 has 18 MA's), (Start: 63 @37311 has 17 MA's), (72, 37404), (79, 37452), (82, 37482), (94, 37533), (101, 37566), (109, 37605), (128, 37695), (132, 37728), (133, 37731), (140, 37779), (143, 37797), (145, 37818), (156, 37884), (160, 37896), (186, 38004),

Gene: Loadrie\_60 Start: 43584, Stop: 44516, Start Num: 30

Candidate Starts for Loadrie\_60:

(Start: 30 @43584 has 42 MA's), (Start: 64 @43782 has 3 MA's), (107, 44079), (117, 44118), (120, 44130), (121, 44136), (135, 44193), (140, 44235), (141, 44241), (156, 44340), (157, 44343), (162, 44361), (170, 44394), (171, 44400), (174, 44412), (183, 44448), (196, 44490),

Gene: Lolly9\_60 Start: 43839, Stop: 44576, Start Num: 63

Candidate Starts for Lolly9\_60:

(Start: 63 @43839 has 17 MA's), (120, 44190), (121, 44196), (129, 44226), (132, 44244), (134, 44250), (135, 44253), (141, 44301), (143, 44313), (145, 44334), (157, 44403), (158, 44406), (162, 44421), (170, 44454), (171, 44460), (177, 44484), (183, 44508), (196, 44550), (198, 44556),

Gene: Loofah\_32 Start: 24761, Stop: 25747, Start Num: 25

Candidate Starts for Loofah\_32:

(Start: 25 @24761 has 90 MA's), (42, 24821), (Start: 58 @24953 has 1 MA's), (72, 25049), (75, 25064), (97, 25184), (138, 25361), (141, 25382), (142, 25388), (167, 25529), (170, 25541), (177, 25571), (181, 25589), (183, 25598), (200, 25661), (204, 25685), (206, 25697), (211, 25742),

Gene: Lorelei\_31 Start: 24259, Stop: 25230, Start Num: 25

Candidate Starts for Lorelei\_31:

(Start: 25 @24259 has 90 MA's), (Start: 31 @24274 has 3 MA's), (42, 24313), (55, 24427), (Start: 58 @24445 has 1 MA's), (59, 24448), (61, 24454), (83, 24622), (97, 24676), (98, 24679), (99, 24688), (100, 24691), (104, 24712), (109, 24736), (141, 24874), (142, 24880), (167, 25021), (177, 25063), (181, 25081), (200, 25153), (204, 25177), (206, 25192), (208, 25216),

Gene: Lumos\_62 Start: 44011, Stop: 44748, Start Num: 63

Candidate Starts for Lumos\_62:

(Start: 63 @44011 has 17 MA's), (Start: 64 @44014 has 3 MA's), (120, 44362), (129, 44398), (132, 44416), (134, 44422), (141, 44473), (143, 44485), (145, 44506), (157, 44575), (158, 44578), (162, 44593), (170, 44626), (171, 44632), (173, 44638), (183, 44680), (196, 44722), (198, 44728),

Gene: MAckerman\_57 Start: 41355, Stop: 42287, Start Num: 30

Candidate Starts for MAckerman\_57:

(Start: 30 @41355 has 42 MA's), (Start: 64 @41553 has 3 MA's), (107, 41850), (108, 41856), (114, 41877), (117, 41889), (120, 41901), (132, 41955), (134, 41961), (140, 42006), (141, 42012), (143, 42024), (156, 42111), (157, 42114), (158, 42117), (162, 42132), (170, 42165), (173, 42177), (174, 42183), (183, 42219), (194, 42252), (196, 42261),

Gene: MISSy\_68 Start: 44069, Stop: 45037, Start Num: 21

Candidate Starts for MISSy\_68:

(Start: 21 @44069 has 119 MA's), (Start: 28 @44108 has 1 MA's), (Start: 31 @44114 has 3 MA's), (40, 44138), (43, 44156), (Start: 58 @44288 has 1 MA's), (62, 44303), (Start: 63 @44306 has 17 MA's), (Start: 64 @44309 has 3 MA's), (73, 44426), (76, 44444), (120, 44657), (158, 44873), (161, 44885), (163, 44891), (171, 44927), (183, 44975), (198, 45023),

Gene: MPhalcon\_68 Start: 44062, Stop: 45030, Start Num: 21

Candidate Starts for MPhalcon\_68:

(Start: 21 @44062 has 119 MA's), (Start: 28 @44101 has 1 MA's), (Start: 31 @44107 has 3 MA's), (40, 44131), (43, 44149), (Start: 58 @44281 has 1 MA's), (62, 44296), (Start: 63 @44299 has 17 MA's), (Start: 64 @44302 has 3 MA's), (73, 44419), (76, 44437), (120, 44650), (158, 44866), (161, 44878), (163, 44884), (171, 44920), (183, 44968), (198, 45016),

Gene: MadamMonkfish\_67 Start: 43290, Stop: 44258, Start Num: 21

Candidate Starts for MadamMonkfish\_67:

(Start: 21 @43290 has 119 MA's), (Start: 28 @43329 has 1 MA's), (Start: 31 @43335 has 3 MA's), (40, 43359), (43, 43377), (Start: 58 @43509 has 1 MA's), (62, 43524), (Start: 63 @43527 has 17 MA's), (Start: 64 @43530 has 3 MA's), (73, 43647), (76, 43665), (120, 43878), (158, 44094), (161, 44106), (163, 44112), (171, 44148), (183, 44196), (198, 44244),

Gene: Manda\_67 Start: 44571, Stop: 45539, Start Num: 21

Candidate Starts for Manda\_67:

(Start: 21 @44571 has 119 MA's), (Start: 28 @44610 has 1 MA's), (Start: 31 @44616 has 3 MA's), (40, 44640), (43, 44658), (Start: 58 @44790 has 1 MA's), (62, 44805), (Start: 63 @44808 has 17 MA's), (Start: 64 @44811 has 3 MA's), (73, 44928), (76, 44946), (120, 45159), (158, 45375), (161, 45387), (163, 45393), (171, 45429), (183, 45477), (198, 45525),

Gene: Maneekul\_30 Start: 23785, Stop: 24756, Start Num: 25

Candidate Starts for Maneekul\_30:

(16, 23689), (Start: 21 @23758 has 119 MA's), (Start: 25 @23785 has 90 MA's), (Start: 31 @23800 has 3 MA's), (55, 23953), (Start: 58 @23971 has 1 MA's), (59, 23974), (94, 24193), (95, 24196), (97, 24202), (99, 24214), (100, 24217), (104, 24238), (109, 24262), (131, 24340), (138, 24379), (141, 24400), (142, 24406), (147, 24451), (167, 24547), (170, 24559), (177, 24589), (181, 24607), (200, 24679), (204, 24703), (206, 24718), (208, 24742),

Gene: Marav\_34 Start: 25254, Stop: 26228, Start Num: 25

Candidate Starts for Marav\_34:

(11, 25095), (Start: 25 @25254 has 90 MA's), (Start: 31 @25269 has 3 MA's), (42, 25314), (62, 25461), (97, 25677), (99, 25689), (100, 25692), (102, 25704), (110, 25740), (141, 25875), (144, 25893), (150, 25935), (177, 26058), (183, 26085), (204, 26169), (206, 26181), (210, 26223),

Gene: Marshmallow\_65 Start: 44839, Stop: 45807, Start Num: 21

Candidate Starts for Marshmallow\_65:

(Start: 21 @44839 has 119 MA's), (Start: 28 @44878 has 1 MA's), (Start: 31 @44884 has 3 MA's), (40, 44908), (43, 44926), (Start: 58 @45058 has 1 MA's), (62, 45073), (Start: 63 @45076 has 17 MA's), (Start: 64 @45079 has 3 MA's), (73, 45196), (76, 45214), (120, 45427), (158, 45643), (161, 45655), (163, 45661), (171, 45697), (183, 45745), (198, 45793),

Gene: Marvin\_62 Start: 36871, Stop: 37824, Start Num: 29

Candidate Starts for Marvin\_62:

(Start: 29 @36871 has 18 MA's), (Start: 63 @37069 has 17 MA's), (72, 37162), (79, 37210), (82, 37240), (94, 37291), (101, 37324), (109, 37363), (128, 37453), (132, 37486), (133, 37489), (140, 37537), (143, 37555), (145, 37576), (156, 37642), (160, 37654), (186, 37762),

Gene: MaryV\_67 Start: 44513, Stop: 45418, Start Num: 39

Candidate Starts for MaryV\_67:

(Start: 39 @44513 has 6 MA's), (Start: 58 @44666 has 1 MA's), (61, 44675), (62, 44681), (67, 44711), (70, 44723), (73, 44774), (87, 44882), (92, 44903), (98, 44918), (108, 44966), (126, 45032), (129, 45041), (139, 45098), (168, 45266), (172, 45284), (190, 45350), (193, 45356), (197, 45371), (202, 45407),

Gene: Maxxinista\_69 Start: 43941, Stop: 44909, Start Num: 21

Candidate Starts for Maxxinista\_69:

(Start: 21 @43941 has 119 MA's), (Start: 28 @43980 has 1 MA's), (Start: 31 @43986 has 3 MA's), (40, 44010), (43, 44028), (Start: 58 @44160 has 1 MA's), (62, 44175), (Start: 63 @44178 has 17 MA's), (Start: 64 @44181 has 3 MA's), (73, 44298), (76, 44316), (120, 44529), (158, 44745), (161, 44757), (163, 44763), (171, 44799), (183, 44847), (198, 44895),

Gene: Miley16\_61 Start: 43496, Stop: 44428, Start Num: 30

Candidate Starts for Miley16\_61:

(Start: 30 @43496 has 42 MA's), (Start: 64 @43694 has 3 MA's), (107, 43991), (117, 44030), (120, 44042), (121, 44048), (135, 44105), (140, 44147), (141, 44153), (156, 44252), (157, 44255), (162, 44273), (170, 44306), (171, 44312), (174, 44324), (183, 44360), (196, 44402),



Gene: Mindy\_66 Start: 43154, Stop: 44122, Start Num: 21

Candidate Starts for Mindy\_66:

(Start: 21 @43154 has 119 MA's), (Start: 28 @43193 has 1 MA's), (Start: 31 @43199 has 3 MA's), (40, 43223), (43, 43241), (Start: 58 @43373 has 1 MA's), (62, 43388), (Start: 63 @43391 has 17 MA's), (Start: 64 @43394 has 3 MA's), (73, 43511), (76, 43529), (120, 43742), (158, 43958), (161, 43970), (163, 43976), (171, 44012), (183, 44060), (198, 44108),

Gene: MiniLon\_64 Start: 43840, Stop: 44577, Start Num: 63

Candidate Starts for MiniLon\_64:

(Start: 63 @43840 has 17 MA's), (120, 44191), (121, 44197), (129, 44227), (132, 44245), (134, 44251), (135, 44254), (141, 44302), (143, 44314), (145, 44335), (157, 44404), (158, 44407), (162, 44422), (170, 44455), (171, 44461), (177, 44485), (183, 44509), (196, 44551), (198, 44557),

Gene: MiniMac\_64 Start: 43838, Stop: 44575, Start Num: 63

Candidate Starts for MiniMac\_64:

(Start: 63 @43838 has 17 MA's), (120, 44189), (121, 44195), (129, 44225), (132, 44243), (134, 44249), (141, 44300), (143, 44312), (145, 44333), (157, 44402), (158, 44405), (162, 44420), (170, 44453), (171, 44459), (177, 44483), (183, 44507), (196, 44549), (198, 44555),

Gene: Miniwave\_62 Start: 43607, Stop: 44575, Start Num: 21

Candidate Starts for Miniwave\_62:

(Start: 21 @43607 has 119 MA's), (Start: 28 @43646 has 1 MA's), (Start: 31 @43652 has 3 MA's), (40, 43676), (43, 43694), (Start: 58 @43826 has 1 MA's), (62, 43841), (Start: 63 @43844 has 17 MA's), (Start: 64 @43847 has 3 MA's), (73, 43964), (76, 43982), (120, 44195), (158, 44411), (161, 44423), (163, 44429), (171, 44465), (183, 44513), (198, 44561),

Gene: Misfit\_68 Start: 45081, Stop: 46049, Start Num: 21

Candidate Starts for Misfit\_68:

(Start: 21 @45081 has 119 MA's), (Start: 28 @45120 has 1 MA's), (Start: 31 @45126 has 3 MA's), (40, 45150), (43, 45168), (Start: 58 @45300 has 1 MA's), (62, 45315), (Start: 63 @45318 has 17 MA's), (Start: 64 @45321 has 3 MA's), (73, 45438), (76, 45456), (120, 45669), (158, 45885), (161, 45897), (163, 45903), (171, 45939), (183, 45987), (198, 46035),

Gene: MkaliMitinis3\_62 Start: 43568, Stop: 44500, Start Num: 30

Candidate Starts for MkaliMitinis3\_62:

(Start: 30 @43568 has 42 MA's), (Start: 64 @43766 has 3 MA's), (107, 44063), (117, 44102), (120, 44114), (121, 44120), (135, 44177), (140, 44219), (141, 44225), (156, 44324), (157, 44327), (162, 44345), (170, 44378), (171, 44384), (174, 44396), (183, 44432), (196, 44474),

Gene: Moldemort\_70 Start: 44163, Stop: 45131, Start Num: 21

Candidate Starts for Moldemort\_70:

(Start: 21 @44163 has 119 MA's), (Start: 28 @44202 has 1 MA's), (Start: 31 @44208 has 3 MA's), (40, 44232), (43, 44250), (Start: 58 @44382 has 1 MA's), (62, 44397), (Start: 63 @44400 has 17 MA's), (Start: 64 @44403 has 3 MA's), (73, 44520), (76, 44538), (120, 44751), (158, 44967), (161, 44979), (163, 44985), (171, 45021), (183, 45069), (198, 45117),

Gene: Moostard\_60 Start: 44017, Stop: 44754, Start Num: 63

Candidate Starts for Moostard\_60:

(Start: 63 @44017 has 17 MA's), (Start: 64 @44020 has 3 MA's), (120, 44368), (129, 44404), (132, 44422), (134, 44428), (141, 44479), (143, 44491), (145, 44512), (157, 44581), (158, 44584), (162, 44599), (170, 44632), (171, 44638), (173, 44644), (183, 44686), (196, 44728), (198, 44734),

Gene: MosMoris\_63 Start: 36804, Stop: 37757, Start Num: 29

Candidate Starts for MosMoris\_63:

(Start: 29 @36804 has 18 MA's), (Start: 63 @37002 has 17 MA's), (72, 37095), (79, 37143), (82, 37173), (94, 37224), (101, 37257), (109, 37296), (128, 37386), (132, 37419), (133, 37422), (140, 37470), (143, 37488), (145, 37509), (156, 37575), (160, 37587), (186, 37695),

Gene: Mosby\_63 Start: 43364, Stop: 44332, Start Num: 21

Candidate Starts for Mosby\_63:

(Start: 21 @43364 has 119 MA's), (Start: 28 @43403 has 1 MA's), (Start: 31 @43409 has 3 MA's), (40, 43433), (43, 43451), (Start: 58 @43583 has 1 MA's), (62, 43598), (Start: 63 @43601 has 17 MA's), (Start: 64 @43604 has 3 MA's), (73, 43721), (76, 43739), (120, 43952), (158, 44168), (161, 44180), (163, 44186), (171, 44222), (183, 44270), (198, 44318),

Gene: MrMagoo\_65 Start: 42057, Stop: 42803, Start Num: 60

Candidate Starts for MrMagoo\_65:

(Start: 60 @42057 has 5 MA's), (110, 42363), (111, 42369), (113, 42375), (122, 42402), (135, 42459), (140, 42498), (141, 42504), (148, 42558), (149, 42561), (168, 42651), (174, 42678), (199, 42765), (202, 42792),

Gene: MsGreen\_61 Start: 44014, Stop: 44751, Start Num: 63

Candidate Starts for MsGreen\_61:

(Start: 63 @44014 has 17 MA's), (Start: 64 @44017 has 3 MA's), (120, 44365), (129, 44401), (132, 44419), (134, 44425), (141, 44476), (143, 44488), (145, 44509), (157, 44578), (158, 44581), (162, 44596), (170, 44629), (171, 44635), (173, 44641), (183, 44683), (196, 44725), (198, 44731),

Gene: Murica\_70 Start: 45016, Stop: 45984, Start Num: 21

Candidate Starts for Murica\_70:

(Start: 21 @45016 has 119 MA's), (Start: 28 @45055 has 1 MA's), (Start: 31 @45061 has 3 MA's), (40, 45085), (43, 45103), (Start: 58 @45235 has 1 MA's), (62, 45250), (Start: 63 @45253 has 17 MA's), (Start: 64 @45256 has 3 MA's), (73, 45373), (76, 45391), (120, 45604), (158, 45820), (161, 45832), (163, 45838), (171, 45874), (183, 45922), (198, 45970),

Gene: Murphy\_67 Start: 44453, Stop: 45421, Start Num: 21

Candidate Starts for Murphy\_67:

(Start: 21 @44453 has 119 MA's), (Start: 28 @44492 has 1 MA's), (Start: 31 @44498 has 3 MA's), (40, 44522), (43, 44540), (Start: 58 @44672 has 1 MA's), (62, 44687), (Start: 63 @44690 has 17 MA's), (Start: 64 @44693 has 3 MA's), (73, 44810), (76, 44828), (120, 45041), (158, 45257), (161, 45269), (163, 45275), (171, 45311), (183, 45359), (198, 45407),

Gene: Myrale\_67 Start: 44704, Stop: 45672, Start Num: 21

Candidate Starts for Myrale\_67:

(Start: 21 @44704 has 119 MA's), (Start: 28 @44743 has 1 MA's), (Start: 31 @44749 has 3 MA's), (40, 44773), (43, 44791), (Start: 58 @44923 has 1 MA's), (62, 44938), (Start: 63 @44941 has 17 MA's), (Start: 64 @44944 has 3 MA's), (73, 45061), (76, 45079), (120, 45292), (158, 45508), (161, 45520), (163, 45526), (171, 45562), (183, 45610), (198, 45658),

Gene: Nabi\_31 Start: 24259, Stop: 25230, Start Num: 25

Candidate Starts for Nabi\_31:

(Start: 25 @24259 has 90 MA's), (Start: 31 @24274 has 3 MA's), (42, 24313), (55, 24427), (Start: 58 @24445 has 1 MA's), (59, 24448), (61, 24454), (83, 24622), (97, 24676), (98, 24679), (99, 24688), (100, 24691), (104, 24712), (109, 24736), (141, 24874), (142, 24880), (167, 25021), (177, 25063), (181, 25081), (200, 25153), (204, 25177), (206, 25192), (208, 25216),

Gene: Nala\_69 Start: 44574, Stop: 45542, Start Num: 21

Candidate Starts for Nala\_69:

(Start: 21 @44574 has 119 MA's), (Start: 28 @44613 has 1 MA's), (Start: 31 @44619 has 3 MA's), (40, 44643), (43, 44661), (Start: 58 @44793 has 1 MA's), (62, 44808), (Start: 63 @44811 has 17 MA's), (Start: 64 @44814 has 3 MA's), (73, 44931), (76, 44949), (120, 45162), (158, 45378), (161, 45390), (163, 45396), (171, 45432), (183, 45480), (198, 45528),

Gene: Nanodon\_33 Start: 24148, Stop: 25116, Start Num: 25

Candidate Starts for Nanodon\_33:

(Start: 25 @24148 has 90 MA's), (55, 24316), (Start: 58 @24334 has 1 MA's), (61, 24343), (67, 24379), (83, 24511), (97, 24565), (98, 24568), (99, 24577), (100, 24580), (104, 24601), (131, 24703), (138, 24742), (141, 24763), (142, 24769), (167, 24910), (177, 24952), (181, 24970), (200, 25042), (204, 25066), (205, 25069), (206, 25078),

Gene: Nanosmite\_61 Start: 41136, Stop: 41996, Start Num: 44

Candidate Starts for Nanosmite\_61:

(Start: 44 @41136 has 14 MA's), (Start: 60 @41250 has 5 MA's), (100, 41508), (107, 41544), (111, 41562), (113, 41568), (135, 41652), (140, 41691), (148, 41751), (168, 41844), (180, 41895), (202, 41985), (203, 41988),

Gene: NelitzaMV\_65 Start: 43653, Stop: 44621, Start Num: 21

Candidate Starts for NelitzaMV\_65:

(Start: 21 @43653 has 119 MA's), (Start: 28 @43692 has 1 MA's), (Start: 31 @43698 has 3 MA's), (40, 43722), (43, 43740), (Start: 58 @43872 has 1 MA's), (62, 43887), (Start: 63 @43890 has 17 MA's), (Start: 64 @43893 has 3 MA's), (73, 44010), (76, 44028), (120, 44241), (158, 44457), (161, 44469), (163, 44475), (171, 44511), (183, 44559), (198, 44607),

Gene: Nerdos\_31 Start: 23524, Stop: 24501, Start Num: 25

Candidate Starts for Nerdos\_31:

(3, 23122), (5, 23152), (14, 23383), (Start: 25 @23524 has 90 MA's), (55, 23692), (Start: 58 @23710 has 1 MA's), (59, 23713), (Start: 60 @23716 has 5 MA's), (61, 23719), (97, 23941), (98, 23944), (99, 23953), (109, 24001), (117, 24019), (138, 24118), (141, 24139), (142, 24145), (167, 24286), (177, 24328), (181, 24346), (200, 24418), (204, 24442), (205, 24445), (206, 24463),

Gene: Netyap\_62 Start: 43497, Stop: 44429, Start Num: 30

Candidate Starts for Netyap\_62:

(Start: 30 @43497 has 42 MA's), (Start: 64 @43695 has 3 MA's), (107, 43992), (117, 44031), (120, 44043), (121, 44049), (135, 44106), (140, 44148), (141, 44154), (156, 44253), (157, 44256), (162, 44274), (170, 44307), (171, 44313), (174, 44325), (183, 44361), (196, 44403),

Gene: Neville\_58 Start: 38801, Stop: 39676, Start Num: 32

Candidate Starts for Neville\_58:

(Start: 32 @38801 has 7 MA's), (50, 38909), (55, 38951), (Start: 63 @38987 has 17 MA's), (89, 39212), (95, 39227), (103, 39266), (107, 39287), (112, 39308), (121, 39344), (125, 39359), (136, 39374), (140, 39407), (145, 39446), (146, 39449), (154, 39494), (155, 39506), (156, 39512), (157, 39515), (158, 39518), (171, 39572), (173, 39578), (174, 39584), (181, 39611), (183, 39620),

Gene: Nicholas\_60 Start: 44021, Stop: 44758, Start Num: 63

Candidate Starts for Nicholas\_60:

(Start: 63 @44021 has 17 MA's), (Start: 64 @44024 has 3 MA's), (120, 44372), (129, 44408), (132, 44426), (134, 44432), (141, 44483), (143, 44495), (145, 44516), (157, 44585), (158, 44588), (162, 44603), (170, 44636), (171, 44642), (173, 44648), (183, 44690), (196, 44732), (198, 44738),

Gene: Nicholasp3\_61 Start: 43532, Stop: 44464, Start Num: 30

Candidate Starts for Nicholasp3\_61:

(Start: 30 @43532 has 42 MA's), (Start: 64 @43730 has 3 MA's), (107, 44027), (117, 44066), (120, 44078), (121, 44084), (135, 44141), (140, 44183), (141, 44189), (156, 44288), (157, 44291), (162, 44309), (170, 44342), (171, 44348), (174, 44360), (183, 44396), (196, 44438),

Gene: Nimrod\_68 Start: 45271, Stop: 46239, Start Num: 21

Candidate Starts for Nimrod\_68:

(Start: 21 @45271 has 119 MA's), (Start: 28 @45310 has 1 MA's), (Start: 31 @45316 has 3 MA's), (40, 45340), (43, 45358), (Start: 58 @45490 has 1 MA's), (62, 45505), (Start: 63 @45508 has 17 MA's), (Start: 64 @45511 has 3 MA's), (73, 45628), (76, 45646), (120, 45859), (158, 46075), (161, 46087), (163, 46093), (171, 46129), (183, 46177), (198, 46225),

Gene: Nishikigoi\_31 Start: 24258, Stop: 25220, Start Num: 25

Candidate Starts for Nishikigoi\_31:

(20, 24216), (Start: 25 @24258 has 90 MA's), (Start: 31 @24273 has 3 MA's), (97, 24675), (99, 24687), (100, 24690), (104, 24711), (110, 24738), (117, 24753), (141, 24873), (144, 24891), (145, 24906), (150, 24933), (170, 25026), (206, 25179),

Gene: NoSleep\_68 Start: 43911, Stop: 44879, Start Num: 21

Candidate Starts for NoSleep\_68:

(Start: 21 @43911 has 119 MA's), (Start: 28 @43950 has 1 MA's), (Start: 31 @43956 has 3 MA's), (40, 43980), (43, 43998), (Start: 58 @44130 has 1 MA's), (62, 44145), (Start: 63 @44148 has 17 MA's), (Start: 64 @44151 has 3 MA's), (73, 44268), (76, 44286), (120, 44499), (158, 44715), (161, 44727), (163, 44733), (171, 44769), (183, 44817), (198, 44865),

Gene: Octobien14\_58 Start: 39326, Stop: 40258, Start Num: 32

Candidate Starts for Octobien14\_58:

(Start: 31 @39323 has 3 MA's), (Start: 32 @39326 has 7 MA's), (50, 39443), (54, 39482), (Start: 63 @39521 has 17 MA's), (71, 39629), (73, 39641), (82, 39716), (89, 39746), (92, 39758), (105, 39809), (107, 39821), (119, 39869), (121, 39878), (125, 39893), (127, 39902), (130, 39929), (139, 39980), (140, 39989), (141, 39995), (152, 40064), (154, 40076), (155, 40088), (156, 40094), (157, 40097), (158, 40100), (196, 40244),

Gene: OhShagHennessy\_57 Start: 40797, Stop: 41738, Start Num: 30

Candidate Starts for OhShagHennessy\_57:

(Start: 21 @40755 has 119 MA's), (Start: 30 @40797 has 42 MA's), (35, 40818), (Start: 64 @41004 has 3 MA's), (107, 41301), (108, 41307), (114, 41328), (117, 41340), (120, 41352), (132, 41406), (134, 41412), (140, 41457), (141, 41463), (143, 41475), (156, 41562), (157, 41565), (158, 41568), (162, 41583), (174, 41634), (183, 41670), (194, 41703), (196, 41712),

Gene: Oliynyk\_32 Start: 23884, Stop: 24861, Start Num: 25

Candidate Starts for Oliynyk\_32:

(14, 23743), (Start: 25 @23884 has 90 MA's), (Start: 31 @23899 has 3 MA's), (55, 24052), (Start: 58 @24070 has 1 MA's), (59, 24073), (61, 24079), (67, 24115), (97, 24301), (98, 24304), (99, 24313), (109, 24361), (117, 24379), (138, 24478), (141, 24499), (142, 24505), (177, 24688), (181, 24706), (200, 24778), (204, 24802), (205, 24805), (206, 24823),

Gene: Omar\_32 Start: 24520, Stop: 25497, Start Num: 25

Candidate Starts for Omar\_32:

(20, 24478), (Start: 25 @24520 has 90 MA's), (Start: 31 @24535 has 3 MA's), (55, 24694), (83, 24889), (97, 24943), (99, 24955), (100, 24958), (102, 24970), (104, 24979), (110, 25006), (117, 25021), (141, 25141), (144, 25159), (145, 25174), (177, 25324), (181, 25342), (206, 25447), (211, 25492),

Gene: OrionPax\_66 Start: 43659, Stop: 44627, Start Num: 21

Candidate Starts for OrionPax\_66:

(Start: 21 @43659 has 119 MA's), (Start: 28 @43698 has 1 MA's), (Start: 31 @43704 has 3 MA's), (40, 43728), (43, 43746), (Start: 58 @43878 has 1 MA's), (62, 43893), (Start: 63 @43896 has 17 MA's), (Start: 64 @43899 has 3 MA's), (73, 44016), (76, 44034), (120, 44247), (158, 44463), (161, 44475), (163, 44481), (171, 44517), (183, 44565), (198, 44613),

Gene: Ozzie\_31 Start: 23510, Stop: 24487, Start Num: 25

Candidate Starts for Ozzie\_31:

(1, 23087), (3, 23108), (5, 23138), (14, 23369), (Start: 25 @23510 has 90 MA's), (Start: 31 @23525 has 3 MA's), (55, 23678), (Start: 58 @23696 has 1 MA's), (59, 23699), (Start: 60 @23702 has 5 MA's), (61, 23705), (97, 23927), (98, 23930), (99, 23939), (109, 23987), (117, 24005), (138, 24104), (141, 24125), (142, 24131), (167, 24272), (177, 24314), (181, 24332), (200, 24404), (204, 24428), (205, 24431), (206, 24449),

Gene: OzzyJ\_31 Start: 23761, Stop: 24729, Start Num: 25

Candidate Starts for OzzyJ\_31:

(16, 23665), (20, 23719), (Start: 25 @23761 has 90 MA's), (55, 23929), (Start: 58 @23947 has 1 MA's), (61, 23956), (83, 24124), (94, 24169), (97, 24178), (99, 24190), (100, 24193), (104, 24214), (138, 24355), (141, 24376), (142, 24382), (147, 24427), (167, 24523), (177, 24565), (181, 24583), (200, 24655), (204, 24679), (205, 24682), (206, 24691), (208, 24715),

Gene: Pablito\_31 Start: 24154, Stop: 25086, Start Num: 31

Candidate Starts for Pablito\_31:

(Start: 25 @24139 has 90 MA's), (Start: 31 @24154 has 3 MA's), (55, 24307), (Start: 58 @24325 has 1 MA's), (61, 24334), (75, 24436), (83, 24502), (97, 24556), (99, 24568), (100, 24571), (141, 24754), (142, 24760), (153, 24829), (167, 24901), (177, 24943), (181, 24961), (183, 24970), (200, 25033), (204, 25057), (206, 25069), (207, 25072),

Gene: Paedore\_31 Start: 24746, Stop: 25732, Start Num: 25

Candidate Starts for Paedore\_31:

(Start: 25 @24746 has 90 MA's), (42, 24806), (Start: 58 @24938 has 1 MA's), (72, 25034), (75, 25049), (97, 25169), (138, 25346), (141, 25367), (142, 25373), (167, 25514), (170, 25526), (177, 25556), (181, 25574), (183, 25583), (200, 25646), (204, 25670), (206, 25682), (211, 25727),

Gene: Paolo\_35 Start: 25087, Stop: 26064, Start Num: 25

Candidate Starts for Paolo\_35:

(Start: 25 @25087 has 90 MA's), (Start: 31 @25102 has 3 MA's), (62, 25294), (83, 25456), (97, 25510), (99, 25522), (100, 25525), (102, 25537), (104, 25546), (105, 25549), (110, 25573), (117, 25588), (141, 25708), (142, 25714), (144, 25726), (168, 25855), (177, 25894), (181, 25912), (183, 25921), (204, 26005), (206, 26017), (210, 26059),

Gene: Paperbeatsrock\_66 Start: 44285, Stop: 45253, Start Num: 21

Candidate Starts for Paperbeatsrock\_66:

(Start: 21 @44285 has 119 MA's), (Start: 28 @44324 has 1 MA's), (Start: 31 @44330 has 3 MA's), (40, 44354), (43, 44372), (Start: 58 @44504 has 1 MA's), (62, 44519), (Start: 63 @44522 has 17 MA's), (Start: 64 @44525 has 3 MA's), (73, 44642), (76, 44660), (120, 44873), (158, 45089), (161, 45101), (163, 45107), (171, 45143), (183, 45191), (198, 45239),

Gene: Pat3\_65 Start: 42808, Stop: 43776, Start Num: 21

Candidate Starts for Pat3\_65:

(Start: 21 @42808 has 119 MA's), (Start: 28 @42847 has 1 MA's), (Start: 31 @42853 has 3 MA's), (40, 42877), (43, 42895), (Start: 58 @43027 has 1 MA's), (62, 43042), (Start: 63 @43045 has 17 MA's), (Start: 64 @43048 has 3 MA's), (73, 43165), (76, 43183), (120, 43396), (158, 43612), (161, 43624), (163, 43630), (171, 43666), (183, 43714), (198, 43762),

Gene: PegLeg\_56 Start: 39491, Stop: 40351, Start Num: 44

Candidate Starts for PegLeg\_56:

(Start: 44 @39491 has 14 MA's), (Start: 60 @39605 has 5 MA's), (100, 39863), (107, 39899), (111, 39917), (113, 39923), (116, 39929), (122, 39950), (135, 40007), (140, 40046), (141, 40052), (147, 40103), (168, 40199), (180, 40250), (184, 40265), (202, 40340), (203, 40343),

Gene: Petra64142\_71 Start: 45507, Stop: 46475, Start Num: 21

Candidate Starts for Petra64142\_71:

(Start: 21 @45507 has 119 MA's), (Start: 28 @45546 has 1 MA's), (Start: 31 @45552 has 3 MA's), (40, 45576), (43, 45594), (Start: 58 @45726 has 1 MA's), (62, 45741), (Start: 63 @45744 has 17 MA's), (Start: 64 @45747 has 3 MA's), (73, 45864), (76, 45882), (120, 46095), (158, 46311), (161, 46323), (163, 46329), (171, 46365), (183, 46413), (198, 46461),

Gene: Phaja\_65 Start: 44111, Stop: 45079, Start Num: 21

Candidate Starts for Phaja\_65:

(Start: 21 @44111 has 119 MA's), (Start: 28 @44150 has 1 MA's), (Start: 31 @44156 has 3 MA's), (40, 44180), (43, 44198), (Start: 58 @44330 has 1 MA's), (62, 44345), (Start: 63 @44348 has 17 MA's), (Start: 64 @44351 has 3 MA's), (73, 44468), (76, 44486), (120, 44699), (158, 44915), (161, 44927), (163, 44933), (171, 44969), (183, 45017), (198, 45065),

Gene: Pharsalus\_64 Start: 44085, Stop: 45053, Start Num: 21

Candidate Starts for Pharsalus\_64:

(Start: 21 @44085 has 119 MA's), (Start: 28 @44124 has 1 MA's), (Start: 31 @44130 has 3 MA's), (40, 44154), (43, 44172), (Start: 58 @44304 has 1 MA's), (62, 44319), (Start: 63 @44322 has 17 MA's), (Start: 64 @44325 has 3 MA's), (73, 44442), (76, 44460), (120, 44673), (158, 44889), (161, 44901), (163, 44907), (171, 44943), (183, 44991), (198, 45039),

Gene: PhatBacter\_71 Start: 45060, Stop: 46028, Start Num: 21

Candidate Starts for PhatBacter\_71:

(Start: 21 @45060 has 119 MA's), (Start: 28 @45099 has 1 MA's), (Start: 31 @45105 has 3 MA's), (40, 45129), (43, 45147), (Start: 58 @45279 has 1 MA's), (62, 45294), (Start: 63 @45297 has 17 MA's), (Start: 64 @45300 has 3 MA's), (73, 45417), (76, 45435), (120, 45648), (158, 45864), (161, 45876), (162, 45879), (163, 45882), (171, 45918), (183, 45966), (198, 46014),

Gene: Phaux\_69 Start: 45055, Stop: 46023, Start Num: 21

Candidate Starts for Phaux\_69:

(Start: 21 @45055 has 119 MA's), (Start: 28 @45094 has 1 MA's), (Start: 31 @45100 has 3 MA's), (40, 45124), (43, 45142), (Start: 58 @45274 has 1 MA's), (62, 45289), (Start: 63 @45292 has 17 MA's), (Start: 64 @45295 has 3 MA's), (73, 45412), (76, 45430), (120, 45643), (158, 45859), (161, 45871), (163, 45877), (171, 45913), (183, 45961), (198, 46009),

Gene: Phettuccine\_31 Start: 23526, Stop: 24503, Start Num: 25

Candidate Starts for Phettuccine\_31:

(3, 23124), (5, 23154), (14, 23385), (Start: 25 @23526 has 90 MA's), (Start: 31 @23541 has 3 MA's), (55, 23694), (Start: 58 @23712 has 1 MA's), (59, 23715), (Start: 60 @23718 has 5 MA's), (61, 23721), (97, 23943), (98, 23946), (99, 23955), (109, 24003), (117, 24021), (138, 24120), (141, 24141), (142, 24147), (167, 24288), (177, 24330), (181, 24348), (200, 24420), (204, 24444), (205, 24447), (206, 24465),

Gene: Phrux\_64 Start: 43651, Stop: 44619, Start Num: 21

Candidate Starts for Phrux\_64:

(Start: 21 @43651 has 119 MA's), (Start: 28 @43690 has 1 MA's), (Start: 31 @43696 has 3 MA's), (40, 43720), (43, 43738), (Start: 58 @43870 has 1 MA's), (62, 43885), (Start: 63 @43888 has 17 MA's), (Start: 64 @43891 has 3 MA's), (73, 44008), (76, 44026), (120, 44239), (158, 44455), (161, 44467), (163, 44473), (171, 44509), (183, 44557), (198, 44605),

Gene: Poise\_66 Start: 36700, Stop: 37653, Start Num: 29

Candidate Starts for Poise\_66:

(Start: 29 @36700 has 18 MA's), (Start: 63 @36898 has 17 MA's), (72, 36991), (79, 37039), (82, 37069), (94, 37120), (101, 37153), (109, 37192), (128, 37282), (132, 37315), (133, 37318), (140, 37366), (143, 37384), (145, 37405), (156, 37471), (160, 37483), (186, 37591),

Gene: Porky\_66 Start: 43481, Stop: 44449, Start Num: 21

Candidate Starts for Porky\_66:

(Start: 21 @43481 has 119 MA's), (Start: 28 @43520 has 1 MA's), (Start: 31 @43526 has 3 MA's), (40, 43550), (43, 43568), (Start: 58 @43700 has 1 MA's), (62, 43715), (Start: 63 @43718 has 17 MA's), (Start: 64 @43721 has 3 MA's), (73, 43838), (76, 43856), (120, 44069), (158, 44285), (161, 44297), (163, 44303), (171, 44339), (183, 44387), (198, 44435),

Gene: Pringar\_65 Start: 36989, Stop: 37942, Start Num: 29

Candidate Starts for Pringar\_65:

(12, 36821), (Start: 29 @36989 has 18 MA's), (Start: 63 @37187 has 17 MA's), (72, 37280), (79, 37328), (82, 37358), (94, 37409), (101, 37442), (109, 37481), (128, 37571), (132, 37604), (133, 37607), (140, 37655), (143, 37673), (145, 37694), (156, 37760), (160, 37772), (186, 37880),

Gene: Provolone\_33 Start: 24933, Stop: 25901, Start Num: 25

Candidate Starts for Provolone\_33:

(Start: 25 @24933 has 90 MA's), (Start: 31 @24948 has 3 MA's), (42, 24984), (46, 25017), (Start: 58 @25116 has 1 MA's), (59, 25119), (61, 25125), (83, 25293), (97, 25347), (98, 25350), (99, 25359), (102, 25374), (109, 25407), (110, 25410), (117, 25425), (141, 25545), (150, 25605), (158, 25647), (170, 25698), (186, 25764), (204, 25839), (206, 25851), (211, 25896),

Gene: Puginator\_35 Start: 25108, Stop: 26082, Start Num: 25

Candidate Starts for Puginator\_35:

(Start: 25 @25108 has 90 MA's), (Start: 31 @25123 has 3 MA's), (62, 25315), (83, 25477), (86, 25495), (97, 25531), (99, 25543), (100, 25546), (102, 25558), (105, 25570), (110, 25594), (117, 25609), (141, 25729), (142, 25735), (144, 25747), (150, 25789), (168, 25873), (177, 25912), (181, 25930), (183, 25939), (204, 26023), (206, 26035), (210, 26077),

Gene: Pumpkin\_70 Start: 44709, Stop: 45677, Start Num: 21

Candidate Starts for Pumpkin\_70:

(Start: 21 @44709 has 119 MA's), (Start: 28 @44748 has 1 MA's), (Start: 31 @44754 has 3 MA's), (40, 44778), (43, 44796), (Start: 58 @44928 has 1 MA's), (62, 44943), (Start: 63 @44946 has 17 MA's), (Start: 64 @44949 has 3 MA's), (73, 45066), (76, 45084), (120, 45297), (158, 45513), (161, 45525), (163, 45531), (171, 45567), (183, 45615), (198, 45663),

Gene: Quallification\_68 Start: 44693, Stop: 45661, Start Num: 21

Candidate Starts for Quallification\_68:

(Start: 21 @44693 has 119 MA's), (Start: 28 @44732 has 1 MA's), (Start: 31 @44738 has 3 MA's), (40, 44762), (43, 44780), (Start: 58 @44912 has 1 MA's), (62, 44927), (Start: 63 @44930 has 17 MA's), (Start: 64 @44933 has 3 MA's), (73, 45050), (76, 45068), (120, 45281), (158, 45497), (161,

45509), (163, 45515), (171, 45551), (183, 45599), (198, 45647),

Gene: R4\_31 Start: 24880, Stop: 25854, Start Num: 25

Candidate Starts for R4\_31:

(Start: 25 @24880 has 90 MA's), (42, 24940), (Start: 58 @25072 has 1 MA's), (75, 25183), (83, 25249), (97, 25303), (100, 25318), (138, 25480), (141, 25501), (142, 25507), (167, 25648), (170, 25660), (177, 25690), (181, 25708), (183, 25717), (200, 25780), (201, 25789), (204, 25804), (205, 25807), (206, 25816),

Gene: Rabbitrun\_58 Start: 39022, Stop: 39897, Start Num: 32

Candidate Starts for Rabbitrun\_58:

(15, 38893), (Start: 32 @39022 has 7 MA's), (50, 39130), (55, 39172), (Start: 63 @39208 has 17 MA's), (89, 39433), (95, 39448), (107, 39508), (108, 39514), (109, 39517), (114, 39535), (121, 39565), (125, 39580), (136, 39595), (140, 39628), (146, 39670), (154, 39715), (155, 39727), (156, 39733), (157, 39736), (158, 39739), (171, 39793), (173, 39799), (174, 39805), (181, 39832), (183, 39841),

Gene: Raela\_66 Start: 37257, Stop: 38210, Start Num: 29

Candidate Starts for Raela\_66:

(Start: 29 @37257 has 18 MA's), (Start: 63 @37455 has 17 MA's), (72, 37548), (79, 37596), (82, 37626), (94, 37677), (101, 37710), (109, 37749), (128, 37839), (132, 37872), (133, 37875), (140, 37923), (143, 37941), (145, 37962), (156, 38028), (160, 38040), (186, 38148),

Gene: Rakim\_68 Start: 44162, Stop: 45130, Start Num: 21

Candidate Starts for Rakim\_68:

(Start: 21 @44162 has 119 MA's), (Start: 28 @44201 has 1 MA's), (Start: 31 @44207 has 3 MA's), (40, 44231), (43, 44249), (Start: 58 @44381 has 1 MA's), (62, 44396), (Start: 63 @44399 has 17 MA's), (Start: 64 @44402 has 3 MA's), (73, 44519), (76, 44537), (120, 44750), (158, 44966), (161, 44978), (163, 44984), (171, 45020), (183, 45068), (198, 45116),

Gene: Rana\_31 Start: 24259, Stop: 25230, Start Num: 25

Candidate Starts for Rana\_31:

(Start: 25 @24259 has 90 MA's), (Start: 31 @24274 has 3 MA's), (42, 24313), (55, 24427), (Start: 58 @24445 has 1 MA's), (59, 24448), (61, 24454), (83, 24622), (97, 24676), (98, 24679), (99, 24688), (100, 24691), (104, 24712), (109, 24736), (141, 24874), (142, 24880), (167, 25021), (177, 25063), (181, 25081), (200, 25153), (204, 25177), (206, 25192), (208, 25216),

Gene: RedBear\_32 Start: 24057, Stop: 25028, Start Num: 25

Candidate Starts for RedBear\_32:

(17, 23976), (Start: 25 @24057 has 90 MA's), (47, 24153), (55, 24225), (Start: 58 @24243 has 1 MA's), (61, 24252), (94, 24465), (97, 24474), (98, 24477), (99, 24486), (104, 24510), (138, 24651), (141, 24672), (142, 24678), (147, 24723), (167, 24819), (177, 24861), (181, 24879), (200, 24951), (204, 24975), (205, 24978), (206, 24990), (208, 25014),

Gene: RedRaider77\_65 Start: 36645, Stop: 37598, Start Num: 29

Candidate Starts for RedRaider77\_65:

(Start: 29 @36645 has 18 MA's), (Start: 63 @36843 has 17 MA's), (72, 36936), (79, 36984), (82, 37014), (94, 37065), (101, 37098), (109, 37137), (128, 37227), (132, 37260), (133, 37263), (140, 37311), (143, 37329), (145, 37350), (156, 37416), (160, 37428), (186, 37536),

Gene: Reindeer\_58 Start: 40686, Stop: 41546, Start Num: 44

Candidate Starts for Reindeer\_58:

(Start: 44 @40686 has 14 MA's), (Start: 60 @40800 has 5 MA's), (66, 40830), (83, 40980), (94, 41034), (99, 41055), (113, 41118), (135, 41202), (140, 41241), (141, 41247), (147, 41298), (168,



41394), (202, 41535),

Gene: Rey\_63 Start: 41702, Stop: 42604, Start Num: 39

Candidate Starts for Rey\_63:

(Start: 39 @41702 has 6 MA's), (Start: 44 @41744 has 14 MA's), (48, 41774), (Start: 60 @41858 has 5 MA's), (62, 41867), (107, 42152), (111, 42170), (113, 42176), (132, 42251), (135, 42260), (140, 42299), (168, 42452), (180, 42503), (200, 42575),

Gene: Rimmer\_68 Start: 44401, Stop: 45369, Start Num: 21

Candidate Starts for Rimmer\_68:

(Start: 21 @44401 has 119 MA's), (Start: 28 @44440 has 1 MA's), (Start: 31 @44446 has 3 MA's), (40, 44470), (43, 44488), (Start: 58 @44620 has 1 MA's), (62, 44635), (Start: 63 @44638 has 17 MA's), (Start: 64 @44641 has 3 MA's), (73, 44758), (76, 44776), (120, 44989), (158, 45205), (161, 45217), (163, 45223), (171, 45259), (183, 45307), (198, 45355),

Gene: RiverMonster\_67 Start: 44229, Stop: 45197, Start Num: 21

Candidate Starts for RiverMonster\_67:

(Start: 21 @44229 has 119 MA's), (Start: 28 @44268 has 1 MA's), (Start: 31 @44274 has 3 MA's), (40, 44298), (43, 44316), (Start: 58 @44448 has 1 MA's), (62, 44463), (Start: 63 @44466 has 17 MA's), (Start: 64 @44469 has 3 MA's), (73, 44586), (76, 44604), (120, 44817), (158, 45033), (161, 45045), (163, 45051), (171, 45087), (183, 45135), (198, 45183),

Gene: Ronaldo\_86 Start: 44517, Stop: 45287, Start Num: 51

Candidate Starts for Ronaldo\_86:

(Start: 51 @44517 has 6 MA's), (57, 44562), (62, 44583), (69, 44622), (70, 44625), (75, 44706), (89, 44796), (92, 44808), (97, 44817), (108, 44877), (117, 44910), (120, 44922), (132, 44988), (135, 44994), (156, 45132), (157, 45135), (170, 45186),

Gene: Rose5\_59 Start: 41782, Stop: 42714, Start Num: 30

Candidate Starts for Rose5\_59:

(Start: 30 @41782 has 42 MA's), (Start: 64 @41980 has 3 MA's), (107, 42277), (108, 42283), (114, 42304), (117, 42316), (120, 42328), (121, 42334), (132, 42382), (134, 42388), (140, 42433), (141, 42439), (143, 42451), (156, 42538), (157, 42541), (158, 42544), (162, 42559), (174, 42610), (183, 42646), (196, 42688),

Gene: Rumpelstiltskin\_60 Start: 42925, Stop: 43857, Start Num: 30

Candidate Starts for Rumpelstiltskin\_60:

(Start: 30 @42925 has 42 MA's), (Start: 64 @43123 has 3 MA's), (107, 43420), (117, 43459), (120, 43471), (121, 43477), (135, 43534), (140, 43576), (141, 43582), (156, 43681), (157, 43684), (162, 43702), (170, 43735), (171, 43741), (174, 43753), (183, 43789), (196, 43831),

Gene: Rusticus\_32 Start: 23884, Stop: 24861, Start Num: 25

Candidate Starts for Rusticus\_32:

(14, 23743), (Start: 25 @23884 has 90 MA's), (Start: 31 @23899 has 3 MA's), (55, 24052), (Start: 58 @24070 has 1 MA's), (59, 24073), (61, 24079), (67, 24115), (97, 24301), (98, 24304), (99, 24313), (109, 24361), (117, 24379), (138, 24478), (141, 24499), (142, 24505), (177, 24688), (181, 24706), (200, 24778), (204, 24802), (205, 24805), (206, 24823),

Gene: Saftant\_32 Start: 25497, Stop: 26465, Start Num: 25

Candidate Starts for Saftant\_32:

(Start: 25 @25497 has 90 MA's), (Start: 31 @25512 has 3 MA's), (42, 25548), (46, 25581), (Start: 58 @25680 has 1 MA's), (59, 25683), (61, 25689), (91, 25896), (97, 25911), (98, 25914), (99, 25923), (102, 25938), (109, 25971), (110, 25974), (141, 26109), (150, 26169), (158, 26211), (170, 26262),

(186, 26328), (204, 26403), (206, 26415), (211, 26460),

Gene: Saints25\_66 Start: 43639, Stop: 44607, Start Num: 21

Candidate Starts for Saints25\_66:

(Start: 21 @43639 has 119 MA's), (Start: 28 @43678 has 1 MA's), (Start: 31 @43684 has 3 MA's), (40, 43708), (43, 43726), (Start: 58 @43858 has 1 MA's), (62, 43873), (Start: 63 @43876 has 17 MA's), (Start: 64 @43879 has 3 MA's), (73, 43996), (76, 44014), (120, 44227), (158, 44443), (161, 44455), (163, 44461), (171, 44497), (183, 44545), (198, 44593),

Gene: Samty\_61 Start: 44022, Stop: 44759, Start Num: 63

Candidate Starts for Samty\_61:

(Start: 63 @44022 has 17 MA's), (Start: 64 @44025 has 3 MA's), (120, 44373), (129, 44409), (132, 44427), (134, 44433), (141, 44484), (143, 44496), (145, 44517), (157, 44586), (158, 44589), (162, 44604), (170, 44637), (171, 44643), (173, 44649), (183, 44691), (196, 44733), (198, 44739),

Gene: SarahRose\_30 Start: 23770, Stop: 24738, Start Num: 25

Candidate Starts for SarahRose\_30:

(16, 23674), (20, 23728), (Start: 25 @23770 has 90 MA's), (45, 23854), (55, 23938), (Start: 58 @23956 has 1 MA's), (83, 24133), (94, 24178), (97, 24187), (99, 24199), (100, 24202), (104, 24223), (138, 24364), (141, 24385), (142, 24391), (147, 24436), (167, 24532), (177, 24574), (181, 24592), (200, 24664), (204, 24688), (205, 24691), (206, 24700), (208, 24724),

Gene: Sassay\_62 Start: 42326, Stop: 43294, Start Num: 21

Candidate Starts for Sassay\_62:

(Start: 21 @42326 has 119 MA's), (Start: 28 @42365 has 1 MA's), (Start: 31 @42371 has 3 MA's), (40, 42395), (43, 42413), (Start: 58 @42545 has 1 MA's), (62, 42560), (Start: 63 @42563 has 17 MA's), (Start: 64 @42566 has 3 MA's), (73, 42683), (76, 42701), (120, 42914), (158, 43130), (161, 43142), (163, 43148), (171, 43184), (183, 43232), (198, 43280),

Gene: Schmidt\_40 Start: 28005, Stop: 28883, Start Num: 29

Candidate Starts for Schmidt\_40:

(Start: 29 @28005 has 18 MA's), (33, 28020), (Start: 52 @28146 has 2 MA's), (Start: 60 @28191 has 5 MA's), (61, 28194), (62, 28200), (Start: 63 @28203 has 17 MA's), (70, 28242), (71, 28284), (73, 28296), (83, 28374), (101, 28446), (104, 28461), (110, 28488), (112, 28497), (119, 28515), (141, 28605), (143, 28617), (145, 28638), (160, 28716), (161, 28722), (194, 28845), (200, 28875),

Gene: Sephiroth\_57 Start: 39214, Stop: 40146, Start Num: 32

Candidate Starts for Sephiroth\_57:

(Start: 31 @39211 has 3 MA's), (Start: 32 @39214 has 7 MA's), (50, 39331), (Start: 52 @39352 has 2 MA's), (54, 39370), (62, 39406), (Start: 63 @39409 has 17 MA's), (71, 39517), (89, 39634), (92, 39646), (103, 39688), (107, 39709), (112, 39730), (119, 39757), (121, 39766), (125, 39781), (127, 39790), (130, 39817), (139, 39868), (140, 39877), (141, 39883), (149, 39940), (154, 39964), (155, 39976), (156, 39982), (157, 39985), (158, 39988), (169, 40033), (174, 40054), (196, 40132), (197, 40135),

Gene: ShamWow\_67 Start: 44548, Stop: 45516, Start Num: 21

Candidate Starts for ShamWow\_67:

(Start: 21 @44548 has 119 MA's), (Start: 28 @44587 has 1 MA's), (Start: 31 @44593 has 3 MA's), (40, 44617), (43, 44635), (Start: 58 @44767 has 1 MA's), (62, 44782), (Start: 63 @44785 has 17 MA's), (Start: 64 @44788 has 3 MA's), (73, 44905), (76, 44923), (120, 45136), (158, 45352), (161, 45364), (163, 45370), (171, 45406), (183, 45454), (198, 45502),

Gene: ShereKhan\_66 Start: 44617, Stop: 45585, Start Num: 21

Candidate Starts for ShereKhan\_66:

(Start: 21 @44617 has 119 MA's), (Start: 28 @44656 has 1 MA's), (Start: 31 @44662 has 3 MA's), (40, 44686), (43, 44704), (Start: 58 @44836 has 1 MA's), (62, 44851), (Start: 63 @44854 has 17 MA's), (Start: 64 @44857 has 3 MA's), (73, 44974), (76, 44992), (120, 45205), (158, 45421), (161, 45433), (163, 45439), (171, 45475), (183, 45523), (198, 45571),

Gene: Silverleaf\_59 Start: 41517, Stop: 42449, Start Num: 30

Candidate Starts for Silverleaf\_59:

(Start: 30 @41517 has 42 MA's), (Start: 64 @41715 has 3 MA's), (107, 42012), (108, 42018), (114, 42039), (117, 42051), (120, 42063), (121, 42069), (132, 42117), (134, 42123), (140, 42168), (141, 42174), (143, 42186), (157, 42276), (158, 42279), (162, 42294), (174, 42345), (183, 42381), (196, 42423),

Gene: Simpliphy\_66 Start: 43629, Stop: 44597, Start Num: 21

Candidate Starts for Simpliphy\_66:

(Start: 21 @43629 has 119 MA's), (Start: 28 @43668 has 1 MA's), (Start: 31 @43674 has 3 MA's), (40, 43698), (43, 43716), (Start: 58 @43848 has 1 MA's), (62, 43863), (Start: 63 @43866 has 17 MA's), (Start: 64 @43869 has 3 MA's), (73, 43986), (76, 44004), (120, 44217), (158, 44433), (161, 44445), (163, 44451), (171, 44487), (183, 44535), (198, 44583),

Gene: SirDuracell\_66 Start: 42900, Stop: 43868, Start Num: 21

Candidate Starts for SirDuracell\_66:

(Start: 21 @42900 has 119 MA's), (Start: 28 @42939 has 1 MA's), (Start: 31 @42945 has 3 MA's), (40, 42969), (43, 42987), (Start: 58 @43119 has 1 MA's), (62, 43134), (Start: 63 @43137 has 17 MA's), (Start: 64 @43140 has 3 MA's), (73, 43257), (76, 43275), (120, 43488), (158, 43704), (161, 43716), (163, 43722), (171, 43758), (183, 43806), (198, 43854),

Gene: Skinny\_58 Start: 39921, Stop: 40781, Start Num: 44

Candidate Starts for Skinny\_58:

(Start: 44 @39921 has 14 MA's), (Start: 60 @40035 has 5 MA's), (100, 40293), (107, 40329), (111, 40347), (113, 40353), (116, 40359), (122, 40380), (135, 40437), (140, 40476), (141, 40482), (147, 40533), (168, 40629), (180, 40680), (184, 40695), (202, 40770), (203, 40773),

Gene: SlimJimmy\_55 Start: 39476, Stop: 40336, Start Num: 44

Candidate Starts for SlimJimmy\_55:

(Start: 44 @39476 has 14 MA's), (Start: 60 @39590 has 5 MA's), (100, 39848), (107, 39884), (111, 39902), (113, 39908), (116, 39914), (122, 39935), (135, 39992), (140, 40031), (141, 40037), (147, 40088), (168, 40184), (180, 40235), (184, 40250), (202, 40325), (203, 40328),

Gene: Snenia\_60 Start: 44015, Stop: 44752, Start Num: 63

Candidate Starts for Snenia\_60:

(Start: 63 @44015 has 17 MA's), (Start: 64 @44018 has 3 MA's), (120, 44366), (129, 44402), (132, 44420), (134, 44426), (141, 44477), (143, 44489), (145, 44510), (157, 44579), (158, 44582), (162, 44597), (170, 44630), (171, 44636), (173, 44642), (183, 44684), (196, 44726), (198, 44732),

Gene: Snorlax\_30 Start: 23773, Stop: 24741, Start Num: 25

Candidate Starts for Snorlax\_30:

(16, 23677), (20, 23731), (Start: 25 @23773 has 90 MA's), (38, 23809), (55, 23941), (Start: 58 @23959 has 1 MA's), (61, 23968), (83, 24136), (94, 24181), (97, 24190), (99, 24202), (100, 24205), (104, 24226), (138, 24367), (141, 24388), (142, 24394), (147, 24439), (167, 24535), (177, 24577), (181, 24595), (200, 24667), (204, 24691), (205, 24694), (206, 24703), (208, 24727),

Gene: SophKB\_64 Start: 43304, Stop: 44272, Start Num: 21

Candidate Starts for SophKB\_64:

(Start: 21 @43304 has 119 MA's), (Start: 28 @43343 has 1 MA's), (Start: 31 @43349 has 3 MA's), (40, 43373), (43, 43391), (Start: 58 @43523 has 1 MA's), (62, 43538), (Start: 63 @43541 has 17 MA's), (Start: 64 @43544 has 3 MA's), (73, 43661), (76, 43679), (120, 43892), (158, 44108), (161, 44120), (163, 44126), (171, 44162), (183, 44210), (198, 44258),

Gene: Sotrice96\_68 Start: 44307, Stop: 45275, Start Num: 21

Candidate Starts for Sotrice96\_68:

(Start: 21 @44307 has 119 MA's), (Start: 28 @44346 has 1 MA's), (Start: 31 @44352 has 3 MA's), (40, 44376), (43, 44394), (Start: 58 @44526 has 1 MA's), (62, 44541), (Start: 63 @44544 has 17 MA's), (Start: 64 @44547 has 3 MA's), (73, 44664), (76, 44682), (120, 44895), (158, 45111), (161, 45123), (163, 45129), (171, 45165), (183, 45213), (198, 45261),

Gene: South40\_31 Start: 24057, Stop: 25028, Start Num: 25

Candidate Starts for South40\_31:

(17, 23976), (Start: 25 @24057 has 90 MA's), (47, 24153), (55, 24225), (Start: 58 @24243 has 1 MA's), (61, 24252), (94, 24465), (97, 24474), (98, 24477), (99, 24486), (104, 24510), (138, 24651), (141, 24672), (142, 24678), (147, 24723), (167, 24819), (177, 24861), (181, 24879), (200, 24951), (204, 24975), (205, 24978), (206, 24990), (208, 25014),

Gene: SqueakyClean\_31 Start: 24658, Stop: 25632, Start Num: 25

Candidate Starts for SqueakyClean\_31:

(6, 24385), (9, 24487), (18, 24580), (Start: 25 @24658 has 90 MA's), (Start: 58 @24847 has 1 MA's), (61, 24856), (66, 24883), (71, 24934), (72, 24943), (74, 24955), (97, 25078), (99, 25090), (100, 25093), (141, 25276), (144, 25294), (150, 25336), (170, 25429), (186, 25495), (204, 25570), (206, 25582), (211, 25627),

Gene: Stank\_71 Start: 44562, Stop: 45530, Start Num: 21

Candidate Starts for Stank\_71:

(Start: 21 @44562 has 119 MA's), (Start: 28 @44601 has 1 MA's), (Start: 31 @44607 has 3 MA's), (40, 44631), (43, 44649), (Start: 58 @44781 has 1 MA's), (62, 44796), (Start: 63 @44799 has 17 MA's), (Start: 64 @44802 has 3 MA's), (73, 44919), (76, 44937), (120, 45150), (158, 45366), (161, 45378), (163, 45384), (171, 45420), (183, 45468), (198, 45516),

Gene: Stark\_68 Start: 44112, Stop: 45080, Start Num: 21

Candidate Starts for Stark\_68:

(Start: 21 @44112 has 119 MA's), (Start: 28 @44151 has 1 MA's), (Start: 31 @44157 has 3 MA's), (40, 44181), (43, 44199), (Start: 58 @44331 has 1 MA's), (62, 44346), (Start: 63 @44349 has 17 MA's), (Start: 64 @44352 has 3 MA's), (73, 44469), (76, 44487), (120, 44700), (158, 44916), (161, 44928), (163, 44934), (171, 44970), (183, 45018), (198, 45066),

Gene: StellaBean\_63 Start: 43872, Stop: 44840, Start Num: 21

Candidate Starts for StellaBean\_63:

(Start: 21 @43872 has 119 MA's), (Start: 28 @43911 has 1 MA's), (Start: 31 @43917 has 3 MA's), (40, 43941), (43, 43959), (Start: 58 @44091 has 1 MA's), (62, 44106), (Start: 63 @44109 has 17 MA's), (Start: 64 @44112 has 3 MA's), (73, 44229), (76, 44247), (120, 44460), (158, 44676), (161, 44688), (163, 44694), (171, 44730), (183, 44778), (198, 44826),

Gene: StolenFromERC\_70 Start: 44344, Stop: 45312, Start Num: 21

Candidate Starts for StolenFromERC\_70:

(Start: 21 @44344 has 119 MA's), (Start: 28 @44383 has 1 MA's), (Start: 31 @44389 has 3 MA's), (40, 44413), (43, 44431), (Start: 58 @44563 has 1 MA's), (62, 44578), (Start: 63 @44581 has 17 MA's), (Start: 64 @44584 has 3 MA's), (73, 44701), (76, 44719), (120, 44932), (158, 45148), (161,

45160), (163, 45166), (171, 45202), (183, 45250), (198, 45298),

Gene: Sujidade\_32 Start: 24604, Stop: 25575, Start Num: 25

Candidate Starts for Sujidade\_32:

(Start: 25 @24604 has 90 MA's), (55, 24772), (Start: 58 @24790 has 1 MA's), (61, 24799), (83, 24967), (97, 25021), (98, 25024), (99, 25033), (100, 25036), (104, 25057), (109, 25081), (141, 25219), (142, 25225), (147, 25270), (167, 25366), (177, 25408), (181, 25426), (200, 25498), (204, 25522), (206, 25537), (208, 25561),

Gene: SunsetPointe\_31 Start: 23517, Stop: 24494, Start Num: 25

Candidate Starts for SunsetPointe\_31:

(3, 23115), (5, 23145), (14, 23376), (Start: 25 @23517 has 90 MA's), (55, 23685), (Start: 58 @23703 has 1 MA's), (59, 23706), (Start: 60 @23709 has 5 MA's), (61, 23712), (97, 23934), (98, 23937), (99, 23946), (109, 23994), (117, 24012), (138, 24111), (141, 24132), (142, 24138), (167, 24279), (177, 24321), (181, 24339), (200, 24411), (204, 24435), (205, 24438), (206, 24456),

Gene: Superstar\_35 Start: 25700, Stop: 26641, Start Num: 25

Candidate Starts for Superstar\_35:

(Start: 25 @25700 has 90 MA's), (41, 25751), (54, 25868), (Start: 58 @25889 has 1 MA's), (59, 25892), (Start: 60 @25895 has 5 MA's), (65, 25922), (72, 25985), (80, 26045), (97, 26120), (99, 26132), (100, 26135), (102, 26147), (110, 26183), (117, 26198), (141, 26318), (144, 26336), (150, 26378), (170, 26471), (176, 26495), (177, 26501), (181, 26519), (183, 26528), (204, 26612), (206, 26624),

Gene: Syleon\_59 Start: 39155, Stop: 40087, Start Num: 32

Candidate Starts for Syleon\_59:

(Start: 31 @39152 has 3 MA's), (Start: 32 @39155 has 7 MA's), (50, 39272), (Start: 52 @39293 has 2 MA's), (54, 39311), (62, 39347), (Start: 63 @39350 has 17 MA's), (71, 39458), (89, 39575), (92, 39587), (103, 39629), (107, 39650), (112, 39671), (119, 39698), (121, 39707), (125, 39722), (127, 39731), (130, 39758), (139, 39809), (140, 39818), (141, 39824), (149, 39881), (152, 39893), (154, 39905), (155, 39917), (156, 39923), (157, 39926), (158, 39929), (169, 39974), (174, 39995), (196, 40073), (197, 40076),

Gene: TBrady12\_70 Start: 44046, Stop: 45014, Start Num: 21

Candidate Starts for TBrady12\_70:

(Start: 21 @44046 has 119 MA's), (Start: 28 @44085 has 1 MA's), (Start: 31 @44091 has 3 MA's), (40, 44115), (43, 44133), (Start: 58 @44265 has 1 MA's), (62, 44280), (Start: 63 @44283 has 17 MA's), (Start: 64 @44286 has 3 MA's), (73, 44403), (76, 44421), (120, 44634), (158, 44850), (161, 44862), (163, 44868), (171, 44904), (183, 44952), (198, 45000),

Gene: TagePighter\_31 Start: 23773, Stop: 24741, Start Num: 25

Candidate Starts for TagePighter\_31:

(16, 23677), (20, 23731), (Start: 25 @23773 has 90 MA's), (38, 23809), (55, 23941), (Start: 58 @23959 has 1 MA's), (61, 23968), (83, 24136), (94, 24181), (97, 24190), (99, 24202), (100, 24205), (104, 24226), (138, 24367), (141, 24388), (142, 24394), (147, 24439), (167, 24535), (177, 24577), (181, 24595), (200, 24667), (204, 24691), (205, 24694), (206, 24703), (208, 24727),

Gene: Tarkin\_66 Start: 44294, Stop: 45262, Start Num: 21

Candidate Starts for Tarkin\_66:

(Start: 21 @44294 has 119 MA's), (Start: 28 @44333 has 1 MA's), (Start: 31 @44339 has 3 MA's), (40, 44363), (43, 44381), (Start: 58 @44513 has 1 MA's), (62, 44528), (Start: 63 @44531 has 17 MA's), (Start: 64 @44534 has 3 MA's), (73, 44651), (76, 44669), (120, 44882), (158, 45098), (161, 45110), (163, 45116), (171, 45152), (183, 45200), (198, 45248),

Gene: TeardropMSU\_63 Start: 43294, Stop: 44262, Start Num: 21

Candidate Starts for TeardropMSU\_63:

(Start: 21 @43294 has 119 MA's), (Start: 28 @43333 has 1 MA's), (Start: 31 @43339 has 3 MA's), (40, 43363), (43, 43381), (Start: 58 @43513 has 1 MA's), (62, 43528), (Start: 63 @43531 has 17 MA's), (Start: 64 @43534 has 3 MA's), (73, 43651), (76, 43669), (120, 43882), (158, 44098), (161, 44110), (163, 44116), (171, 44152), (183, 44200), (198, 44248),

Gene: Teaspoon\_64 Start: 44188, Stop: 45156, Start Num: 21

Candidate Starts for Teaspoon\_64:

(Start: 21 @44188 has 119 MA's), (Start: 28 @44227 has 1 MA's), (Start: 31 @44233 has 3 MA's), (40, 44257), (43, 44275), (Start: 58 @44407 has 1 MA's), (62, 44422), (Start: 63 @44425 has 17 MA's), (Start: 64 @44428 has 3 MA's), (73, 44545), (76, 44563), (120, 44776), (158, 44992), (161, 45004), (163, 45010), (171, 45046), (183, 45094), (198, 45142),

Gene: Tefunt\_31 Start: 24261, Stop: 25223, Start Num: 25

Candidate Starts for Tefunt\_31:

(20, 24219), (Start: 25 @24261 has 90 MA's), (Start: 31 @24276 has 3 MA's), (97, 24678), (99, 24690), (100, 24693), (104, 24714), (110, 24741), (117, 24756), (141, 24876), (144, 24894), (145, 24909), (150, 24936), (170, 25029), (206, 25182),

Gene: Terminus\_70 Start: 45081, Stop: 46049, Start Num: 21

Candidate Starts for Terminus\_70:

(Start: 21 @45081 has 119 MA's), (Start: 28 @45120 has 1 MA's), (Start: 31 @45126 has 3 MA's), (40, 45150), (43, 45168), (Start: 58 @45300 has 1 MA's), (62, 45315), (Start: 63 @45318 has 17 MA's), (Start: 64 @45321 has 3 MA's), (73, 45438), (76, 45456), (120, 45669), (158, 45885), (161, 45897), (163, 45903), (171, 45939), (183, 45987), (198, 46035),

Gene: Tesla\_63 Start: 36494, Stop: 37447, Start Num: 29

Candidate Starts for Tesla\_63:

(Start: 29 @36494 has 18 MA's), (Start: 63 @36692 has 17 MA's), (72, 36785), (79, 36833), (82, 36863), (94, 36914), (101, 36947), (109, 36986), (128, 37076), (132, 37109), (133, 37112), (140, 37160), (143, 37178), (145, 37199), (156, 37265), (160, 37277), (186, 37385),

Gene: Thestral\_32 Start: 24724, Stop: 25698, Start Num: 25

Candidate Starts for Thestral\_32:

(Start: 25 @24724 has 90 MA's), (62, 24931), (80, 25072), (83, 25093), (97, 25147), (99, 25159), (100, 25162), (102, 25174), (104, 25183), (110, 25210), (141, 25345), (144, 25363), (150, 25405), (177, 25528), (181, 25546), (183, 25555), (194, 25588), (199, 25609), (204, 25639), (206, 25651), (210, 25693),

Gene: Thresher\_69 Start: 45171, Stop: 46139, Start Num: 21

Candidate Starts for Thresher\_69:

(Start: 21 @45171 has 119 MA's), (Start: 28 @45210 has 1 MA's), (Start: 31 @45216 has 3 MA's), (40, 45240), (43, 45258), (Start: 58 @45390 has 1 MA's), (62, 45405), (Start: 63 @45408 has 17 MA's), (Start: 64 @45411 has 3 MA's), (73, 45528), (76, 45546), (120, 45759), (158, 45975), (161, 45987), (163, 45993), (171, 46029), (183, 46077), (198, 46125),

Gene: TinaBelcher\_31 Start: 24671, Stop: 25645, Start Num: 25

Candidate Starts for TinaBelcher\_31:

(Start: 25 @24671 has 90 MA's), (62, 24878), (83, 25040), (97, 25094), (99, 25106), (100, 25109), (102, 25121), (104, 25130), (110, 25157), (141, 25292), (144, 25310), (150, 25352), (170, 25445), (177, 25475), (181, 25493), (183, 25502), (194, 25535), (199, 25556), (204, 25586), (206, 25598),

(210, 25640),

Gene: Toma\_31 Start: 24321, Stop: 25292, Start Num: 25

Candidate Starts for Toma\_31:

(Start: 25 @24321 has 90 MA's), (55, 24489), (Start: 58 @24507 has 1 MA's), (59, 24510), (61, 24516), (67, 24552), (83, 24684), (97, 24738), (98, 24741), (99, 24750), (100, 24753), (104, 24774), (109, 24798), (141, 24936), (142, 24942), (147, 24987), (167, 25083), (177, 25125), (181, 25143), (200, 25215), (204, 25239), (206, 25254), (208, 25278),

Gene: Tomaszewski\_62 Start: 43460, Stop: 44428, Start Num: 21

Candidate Starts for Tomaszewski\_62:

(Start: 21 @43460 has 119 MA's), (Start: 28 @43499 has 1 MA's), (Start: 31 @43505 has 3 MA's), (40, 43529), (43, 43547), (Start: 58 @43679 has 1 MA's), (62, 43694), (Start: 63 @43697 has 17 MA's), (Start: 64 @43700 has 3 MA's), (73, 43817), (76, 43835), (120, 44048), (158, 44264), (161, 44276), (163, 44282), (171, 44318), (183, 44366), (198, 44414),

Gene: Toto\_65 Start: 44548, Stop: 45516, Start Num: 21

Candidate Starts for Toto\_65:

(Start: 21 @44548 has 119 MA's), (Start: 28 @44587 has 1 MA's), (Start: 31 @44593 has 3 MA's), (40, 44617), (43, 44635), (Start: 58 @44767 has 1 MA's), (62, 44782), (Start: 63 @44785 has 17 MA's), (Start: 64 @44788 has 3 MA's), (73, 44905), (76, 44923), (120, 45136), (158, 45352), (161, 45364), (163, 45370), (171, 45406), (183, 45454), (198, 45502),

Gene: Tourach\_60 Start: 43581, Stop: 44513, Start Num: 30

Candidate Starts for Tourach\_60:

(Start: 30 @43581 has 42 MA's), (Start: 64 @43779 has 3 MA's), (107, 44076), (117, 44115), (120, 44127), (135, 44190), (140, 44232), (141, 44238), (156, 44337), (157, 44340), (162, 44358), (174, 44409), (177, 44421), (183, 44445), (196, 44487),

Gene: Traaww1\_63 Start: 43729, Stop: 44697, Start Num: 21

Candidate Starts for Traaww1\_63:

(Start: 21 @43729 has 119 MA's), (Start: 28 @43768 has 1 MA's), (Start: 31 @43774 has 3 MA's), (40, 43798), (43, 43816), (Start: 58 @43948 has 1 MA's), (62, 43963), (Start: 63 @43966 has 17 MA's), (Start: 64 @43969 has 3 MA's), (73, 44086), (76, 44104), (120, 44317), (158, 44533), (161, 44545), (163, 44551), (171, 44587), (183, 44635), (198, 44683),

Gene: Trax\_57 Start: 39086, Stop: 39961, Start Num: 32

Candidate Starts for Trax\_57:

(Start: 32 @39086 has 7 MA's), (50, 39194), (55, 39236), (Start: 63 @39272 has 17 MA's), (89, 39497), (95, 39512), (103, 39551), (107, 39572), (121, 39629), (125, 39644), (136, 39659), (140, 39692), (145, 39731), (146, 39734), (154, 39779), (155, 39791), (156, 39797), (157, 39800), (158, 39803), (171, 39857), (173, 39863), (174, 39869), (181, 39896), (183, 39905),

Gene: Triste\_30 Start: 23761, Stop: 24729, Start Num: 25

Candidate Starts for Triste\_30:

(16, 23665), (20, 23719), (Start: 25 @23761 has 90 MA's), (45, 23845), (55, 23929), (Start: 58 @23947 has 1 MA's), (83, 24124), (94, 24169), (97, 24178), (99, 24190), (100, 24193), (104, 24214), (138, 24355), (141, 24376), (142, 24382), (147, 24427), (167, 24523), (177, 24565), (181, 24583), (200, 24655), (204, 24679), (205, 24682), (206, 24691), (208, 24715),

Gene: Triumph\_33 Start: 24459, Stop: 25439, Start Num: 25

Candidate Starts for Triumph\_33:

(10, 24318), (Start: 25 @24459 has 90 MA's), (55, 24627), (Start: 58 @24645 has 1 MA's), (61, 24654), (67, 24690), (75, 24756), (83, 24822), (97, 24876), (99, 24888), (100, 24891), (138, 25053), (141, 25074), (142, 25080), (167, 25221), (177, 25263), (181, 25281), (183, 25290), (200, 25353), (204, 25377), (205, 25380), (206, 25389), (211, 25434),

Gene: TrvxScott\_30 Start: 24717, Stop: 25691, Start Num: 25

Candidate Starts for TrvxScott\_30:

(Start: 25 @24717 has 90 MA's), (62, 24924), (83, 25086), (97, 25140), (99, 25152), (100, 25155), (102, 25167), (104, 25176), (110, 25203), (141, 25338), (144, 25356), (150, 25398), (170, 25491), (177, 25521), (181, 25539), (183, 25548), (194, 25581), (199, 25602), (204, 25632), (206, 25644), (210, 25686),

Gene: TuanPN\_30 Start: 23814, Stop: 24785, Start Num: 25

Candidate Starts for TuanPN\_30:

(16, 23718), (Start: 21 @23787 has 119 MA's), (Start: 25 @23814 has 90 MA's), (Start: 31 @23829 has 3 MA's), (55, 23982), (Start: 58 @24000 has 1 MA's), (59, 24003), (94, 24222), (95, 24225), (97, 24231), (99, 24243), (100, 24246), (104, 24267), (109, 24291), (131, 24369), (138, 24408), (141, 24429), (142, 24435), (147, 24480), (167, 24576), (177, 24618), (181, 24636), (200, 24708), (204, 24732), (206, 24747), (208, 24771),

Gene: Tuco\_68 Start: 45056, Stop: 46024, Start Num: 21

Candidate Starts for Tuco\_68:

(Start: 21 @45056 has 119 MA's), (Start: 28 @45095 has 1 MA's), (Start: 31 @45101 has 3 MA's), (40, 45125), (43, 45143), (Start: 58 @45275 has 1 MA's), (62, 45290), (Start: 63 @45293 has 17 MA's), (Start: 64 @45296 has 3 MA's), (73, 45413), (76, 45431), (120, 45644), (158, 45860), (161, 45872), (163, 45878), (171, 45914), (183, 45962), (198, 46010),

Gene: TyDawg\_56 Start: 39492, Stop: 40352, Start Num: 44

Candidate Starts for TyDawg\_56:

(Start: 44 @39492 has 14 MA's), (Start: 60 @39606 has 5 MA's), (100, 39864), (107, 39900), (111, 39918), (113, 39924), (116, 39930), (122, 39951), (135, 40008), (140, 40047), (141, 40053), (147, 40104), (168, 40200), (180, 40251), (184, 40266), (202, 40341), (203, 40344),

Gene: Tyson\_59 Start: 41784, Stop: 42716, Start Num: 30

Candidate Starts for Tyson\_59:

(Start: 30 @41784 has 42 MA's), (Start: 64 @41982 has 3 MA's), (107, 42279), (108, 42285), (114, 42306), (117, 42318), (120, 42330), (121, 42336), (132, 42384), (134, 42390), (140, 42435), (141, 42441), (143, 42453), (156, 42540), (157, 42543), (158, 42546), (162, 42561), (174, 42612), (183, 42648), (196, 42690),

Gene: UPIE\_59 Start: 41776, Stop: 42708, Start Num: 30

Candidate Starts for UPIE\_59:

(7, 41536), (8, 41539), (13, 41611), (22, 41749), (Start: 30 @41776 has 42 MA's), (Start: 64 @41974 has 3 MA's), (107, 42271), (114, 42298), (117, 42310), (120, 42322), (132, 42376), (134, 42382), (140, 42427), (141, 42433), (143, 42445), (156, 42532), (157, 42535), (158, 42538), (162, 42553), (170, 42586), (173, 42598), (174, 42604), (183, 42640), (194, 42673), (196, 42682),

Gene: Ukulele\_62 Start: 43442, Stop: 44410, Start Num: 21

Candidate Starts for Ukulele\_62:

(Start: 21 @43442 has 119 MA's), (Start: 28 @43481 has 1 MA's), (Start: 31 @43487 has 3 MA's), (40, 43511), (43, 43529), (Start: 58 @43661 has 1 MA's), (62, 43676), (Start: 63 @43679 has 17 MA's), (Start: 64 @43682 has 3 MA's), (73, 43799), (76, 43817), (120, 44030), (158, 44246), (161, 44258), (163, 44264), (171, 44300), (183, 44348), (198, 44396),



Gene: Unstoppable\_31 Start: 23521, Stop: 24498, Start Num: 25

Candidate Starts for Unstoppable\_31:

(1, 23098), (3, 23119), (5, 23149), (14, 23380), (Start: 25 @23521 has 90 MA's), (Start: 31 @23536 has 3 MA's), (55, 23689), (Start: 58 @23707 has 1 MA's), (59, 23710), (Start: 60 @23713 has 5 MA's), (61, 23716), (97, 23938), (98, 23941), (99, 23950), (109, 23998), (117, 24016), (138, 24115), (141, 24136), (142, 24142), (167, 24283), (177, 24325), (181, 24343), (200, 24415), (204, 24439), (205, 24442), (206, 24460),

Gene: Urza\_33 Start: 24541, Stop: 25494, Start Num: 25

Candidate Starts for Urza\_33:

(Start: 25 @24541 has 90 MA's), (Start: 31 @24556 has 3 MA's), (42, 24592), (Start: 64 @24745 has 3 MA's), (78, 24856), (96, 24952), (97, 24955), (99, 24967), (104, 24991), (110, 25018), (141, 25162), (147, 25213), (175, 25342),

Gene: Vanseggelen\_37 Start: 25079, Stop: 26032, Start Num: 31

Candidate Starts for Vanseggelen\_37:

(Start: 25 @25064 has 90 MA's), (Start: 31 @25079 has 3 MA's), (46, 25148), (Start: 58 @25247 has 1 MA's), (67, 25292), (75, 25358), (83, 25424), (97, 25478), (98, 25481), (99, 25490), (117, 25556), (141, 25676), (150, 25736), (158, 25778), (170, 25829), (186, 25895), (204, 25970), (206, 25982), (211, 26027),

Gene: VasuNzinga\_65 Start: 36563, Stop: 37516, Start Num: 29

Candidate Starts for VasuNzinga\_65:

(12, 36395), (Start: 29 @36563 has 18 MA's), (Start: 63 @36761 has 17 MA's), (72, 36854), (79, 36902), (82, 36932), (94, 36983), (101, 37016), (109, 37055), (128, 37145), (132, 37178), (133, 37181), (140, 37229), (143, 37247), (145, 37268), (156, 37334), (160, 37346), (186, 37454),

Gene: Verabelle\_34 Start: 25483, Stop: 26436, Start Num: 31

Candidate Starts for Verabelle\_34:

(Start: 25 @25468 has 90 MA's), (Start: 31 @25483 has 3 MA's), (42, 25519), (46, 25552), (Start: 58 @25651 has 1 MA's), (59, 25654), (75, 25762), (83, 25828), (91, 25867), (97, 25882), (98, 25885), (99, 25894), (108, 25939), (117, 25960), (141, 26080), (150, 26140), (158, 26182), (186, 26299), (204, 26374), (206, 26386), (211, 26431),

Gene: Verse\_32 Start: 26209, Stop: 27177, Start Num: 25

Candidate Starts for Verse\_32:

(Start: 25 @26209 has 90 MA's), (Start: 31 @26224 has 3 MA's), (42, 26260), (46, 26293), (Start: 58 @26392 has 1 MA's), (59, 26395), (61, 26401), (91, 26608), (97, 26623), (98, 26626), (99, 26635), (102, 26650), (109, 26683), (110, 26686), (117, 26701), (141, 26821), (150, 26881), (158, 26923), (170, 26974), (186, 27040), (204, 27115), (206, 27127), (211, 27172),

Gene: Vetric\_61 Start: 43536, Stop: 44468, Start Num: 30

Candidate Starts for Vetric\_61:

(Start: 30 @43536 has 42 MA's), (Start: 64 @43734 has 3 MA's), (107, 44031), (117, 44070), (120, 44082), (121, 44088), (135, 44145), (140, 44187), (141, 44193), (156, 44292), (157, 44295), (162, 44313), (170, 44346), (171, 44352), (174, 44364), (183, 44400), (196, 44442),

Gene: VieEnRose\_33 Start: 24618, Stop: 25571, Start Num: 25

Candidate Starts for VieEnRose\_33:

(Start: 25 @24618 has 90 MA's), (Start: 31 @24633 has 3 MA's), (42, 24669), (Start: 64 @24822 has 3 MA's), (78, 24933), (96, 25029), (97, 25032), (99, 25044), (104, 25068), (110, 25095), (117, 25110), (141, 25239), (147, 25290), (175, 25419),

Gene: Volt\_86 Start: 44681, Stop: 45451, Start Num: 51

Candidate Starts for Volt\_86:

(Start: 51 @44681 has 6 MA's), (57, 44726), (62, 44747), (69, 44786), (70, 44789), (75, 44870), (89, 44960), (92, 44972), (97, 44981), (108, 45041), (117, 45074), (120, 45086), (132, 45152), (135, 45158), (156, 45296), (157, 45299), (170, 45350),

Gene: Wamburgexpress\_59 Start: 41755, Stop: 42738, Start Num: 21

Candidate Starts for Wamburgexpress\_59:

(Start: 21 @41755 has 119 MA's), (Start: 30 @41797 has 42 MA's), (35, 41818), (Start: 64 @42004 has 3 MA's), (107, 42301), (108, 42307), (114, 42328), (117, 42340), (120, 42352), (132, 42406), (134, 42412), (140, 42457), (141, 42463), (143, 42475), (156, 42562), (157, 42565), (158, 42568), (162, 42583), (170, 42616), (173, 42628), (174, 42634), (183, 42670), (194, 42703), (196, 42712),

Gene: Werner\_30 Start: 23771, Stop: 24739, Start Num: 25

Candidate Starts for Werner\_30:

(16, 23675), (20, 23729), (Start: 25 @23771 has 90 MA's), (45, 23855), (55, 23939), (Start: 58 @23957 has 1 MA's), (83, 24134), (94, 24179), (97, 24188), (99, 24200), (100, 24203), (104, 24224), (138, 24365), (141, 24386), (142, 24392), (147, 24437), (167, 24533), (177, 24575), (181, 24593), (200, 24665), (204, 24689), (205, 24692), (206, 24701), (208, 24725),

Gene: Whatever\_30 Start: 23771, Stop: 24739, Start Num: 25

Candidate Starts for Whatever\_30:

(16, 23675), (20, 23729), (Start: 25 @23771 has 90 MA's), (45, 23855), (55, 23939), (Start: 58 @23957 has 1 MA's), (83, 24134), (94, 24179), (97, 24188), (99, 24200), (100, 24203), (104, 24224), (138, 24365), (141, 24386), (142, 24392), (147, 24437), (167, 24533), (177, 24575), (181, 24593), (200, 24665), (204, 24689), (205, 24692), (206, 24701), (208, 24725),

Gene: Whirlwind\_61 Start: 43832, Stop: 44569, Start Num: 63

Candidate Starts for Whirlwind\_61:

(Start: 63 @43832 has 17 MA's), (Start: 64 @43835 has 3 MA's), (120, 44183), (121, 44189), (129, 44219), (134, 44243), (141, 44294), (143, 44306), (145, 44327), (157, 44396), (158, 44399), (162, 44414), (170, 44447), (171, 44453), (173, 44459), (183, 44501), (196, 44543), (198, 44549),

Gene: Wiggin\_69 Start: 44130, Stop: 45098, Start Num: 21

Candidate Starts for Wiggin\_69:

(Start: 21 @44130 has 119 MA's), (Start: 28 @44169 has 1 MA's), (Start: 31 @44175 has 3 MA's), (40, 44199), (43, 44217), (Start: 58 @44349 has 1 MA's), (62, 44364), (Start: 63 @44367 has 17 MA's), (Start: 64 @44370 has 3 MA's), (73, 44487), (76, 44505), (120, 44718), (158, 44934), (161, 44946), (163, 44952), (171, 44988), (183, 45036), (198, 45084),

Gene: Wigglewigggle\_61 Start: 43556, Stop: 44488, Start Num: 30

Candidate Starts for Wigglewigggle\_61:

(Start: 30 @43556 has 42 MA's), (107, 44051), (117, 44090), (120, 44102), (121, 44108), (135, 44165), (140, 44207), (141, 44213), (156, 44312), (157, 44315), (162, 44333), (170, 44366), (171, 44372), (174, 44384), (183, 44420), (196, 44462),

Gene: Wildcat\_67 Start: 44523, Stop: 45428, Start Num: 39

Candidate Starts for Wildcat\_67:

(Start: 39 @44523 has 6 MA's), (Start: 58 @44676 has 1 MA's), (61, 44685), (62, 44691), (67, 44721), (70, 44733), (73, 44784), (87, 44892), (92, 44913), (98, 44928), (108, 44976), (126, 45042), (129, 45051), (139, 45108), (168, 45276), (172, 45294), (190, 45360), (193, 45366), (197, 45381), (202, 45417),

Gene: Wilder\_62 Start: 43502, Stop: 44434, Start Num: 30

Candidate Starts for Wilder\_62:

(Start: 30 @43502 has 42 MA's), (Start: 64 @43700 has 3 MA's), (107, 43997), (117, 44036), (120, 44048), (121, 44054), (135, 44111), (140, 44153), (141, 44159), (156, 44258), (157, 44261), (162, 44279), (170, 44312), (171, 44318), (174, 44330), (183, 44366), (196, 44408),

Gene: Willez\_62 Start: 42326, Stop: 43294, Start Num: 21

Candidate Starts for Willez\_62:

(Start: 21 @42326 has 119 MA's), (Start: 28 @42365 has 1 MA's), (Start: 31 @42371 has 3 MA's), (40, 42395), (43, 42413), (Start: 58 @42545 has 1 MA's), (62, 42560), (Start: 63 @42563 has 17 MA's), (Start: 64 @42566 has 3 MA's), (73, 42683), (76, 42701), (120, 42914), (158, 43130), (161, 43142), (163, 43148), (171, 43184), (183, 43232), (198, 43280),

Gene: Winky\_61 Start: 43496, Stop: 44428, Start Num: 30

Candidate Starts for Winky\_61:

(Start: 30 @43496 has 42 MA's), (Start: 64 @43694 has 3 MA's), (107, 43991), (117, 44030), (120, 44042), (121, 44048), (135, 44105), (140, 44147), (141, 44153), (156, 44252), (157, 44255), (162, 44273), (170, 44306), (171, 44312), (174, 44324), (183, 44360), (196, 44402),

Gene: Wyatt2\_60 Start: 41782, Stop: 42714, Start Num: 30

Candidate Starts for Wyatt2\_60:

(Start: 30 @41782 has 42 MA's), (Start: 64 @41980 has 3 MA's), (107, 42277), (108, 42283), (114, 42304), (117, 42316), (120, 42328), (121, 42334), (132, 42382), (134, 42388), (140, 42433), (141, 42439), (143, 42451), (156, 42538), (157, 42541), (158, 42544), (162, 42559), (174, 42610), (183, 42646), (196, 42688),

Gene: Xandras\_66 Start: 43541, Stop: 44509, Start Num: 21

Candidate Starts for Xandras\_66:

(Start: 21 @43541 has 119 MA's), (Start: 28 @43580 has 1 MA's), (Start: 31 @43586 has 3 MA's), (40, 43610), (43, 43628), (Start: 58 @43760 has 1 MA's), (62, 43775), (Start: 63 @43778 has 17 MA's), (Start: 64 @43781 has 3 MA's), (73, 43898), (76, 43916), (120, 44129), (158, 44345), (161, 44357), (163, 44363), (171, 44399), (183, 44447), (198, 44495),

Gene: Yasdniil\_30 Start: 23813, Stop: 24784, Start Num: 25

Candidate Starts for Yasdniil\_30:

(16, 23717), (Start: 21 @23786 has 119 MA's), (Start: 25 @23813 has 90 MA's), (Start: 31 @23828 has 3 MA's), (55, 23981), (Start: 58 @23999 has 1 MA's), (59, 24002), (94, 24221), (95, 24224), (97, 24230), (99, 24242), (100, 24245), (104, 24266), (109, 24290), (131, 24368), (138, 24407), (141, 24428), (142, 24434), (147, 24479), (167, 24575), (177, 24617), (181, 24635), (200, 24707), (204, 24731), (206, 24746), (208, 24770),

Gene: YassJohnny\_64 Start: 43499, Stop: 44467, Start Num: 21

Candidate Starts for YassJohnny\_64:

(Start: 21 @43499 has 119 MA's), (Start: 28 @43538 has 1 MA's), (Start: 31 @43544 has 3 MA's), (40, 43568), (43, 43586), (Start: 58 @43718 has 1 MA's), (62, 43733), (Start: 63 @43736 has 17 MA's), (Start: 64 @43739 has 3 MA's), (73, 43856), (76, 43874), (120, 44087), (158, 44303), (161, 44315), (163, 44321), (171, 44357), (183, 44405), (198, 44453),

Gene: Yosif\_34 Start: 25959, Stop: 26927, Start Num: 25

Candidate Starts for Yosif\_34:

(Start: 25 @25959 has 90 MA's), (Start: 31 @25974 has 3 MA's), (46, 26043), (Start: 58 @26142 has 1 MA's), (59, 26145), (61, 26151), (91, 26358), (97, 26373), (98, 26376), (99, 26385), (102, 26400),

(141, 26571), (150, 26631), (170, 26724), (186, 26790), (194, 26814), (204, 26865), (206, 26877), (211, 26922),

Gene: Youngblood\_70 Start: 45011, Stop: 45979, Start Num: 21

Candidate Starts for Youngblood\_70:

(Start: 21 @45011 has 119 MA's), (Start: 28 @45050 has 1 MA's), (Start: 31 @45056 has 3 MA's), (40, 45080), (43, 45098), (Start: 58 @45230 has 1 MA's), (62, 45245), (Start: 63 @45248 has 17 MA's), (Start: 64 @45251 has 3 MA's), (73, 45368), (76, 45386), (120, 45599), (158, 45815), (161, 45827), (163, 45833), (171, 45869), (183, 45917), (198, 45965),

Gene: Zainub\_37 Start: 25048, Stop: 26025, Start Num: 25

Candidate Starts for Zainub\_37:

(Start: 25 @25048 has 90 MA's), (Start: 31 @25063 has 3 MA's), (62, 25255), (83, 25417), (97, 25471), (99, 25483), (100, 25486), (102, 25498), (105, 25510), (110, 25534), (117, 25549), (141, 25669), (142, 25675), (144, 25687), (168, 25816), (177, 25855), (181, 25873), (183, 25882), (204, 25966), (206, 25978), (210, 26020),

Gene: Zakai\_62 Start: 43822, Stop: 44754, Start Num: 30

Candidate Starts for Zakai\_62:

(Start: 30 @43822 has 42 MA's), (Start: 64 @44020 has 3 MA's), (107, 44317), (117, 44356), (120, 44368), (121, 44374), (135, 44431), (140, 44473), (141, 44479), (156, 44578), (157, 44581), (162, 44599), (170, 44632), (171, 44638), (174, 44650), (183, 44686), (196, 44728),

Gene: Zaria\_60 Start: 41867, Stop: 42850, Start Num: 21

Candidate Starts for Zaria\_60:

(Start: 21 @41867 has 119 MA's), (Start: 30 @41909 has 42 MA's), (35, 41930), (Start: 64 @42116 has 3 MA's), (107, 42413), (108, 42419), (114, 42440), (117, 42452), (120, 42464), (132, 42518), (134, 42524), (140, 42569), (141, 42575), (143, 42587), (156, 42674), (157, 42677), (158, 42680), (162, 42695), (170, 42728), (173, 42740), (174, 42746), (183, 42782), (194, 42815), (196, 42824),

Gene: Zemlya\_32 Start: 24300, Stop: 25271, Start Num: 25

Candidate Starts for Zemlya\_32:

(2, 23892), (4, 23928), (Start: 25 @24300 has 90 MA's), (55, 24468), (Start: 58 @24486 has 1 MA's), (59, 24489), (61, 24495), (83, 24663), (97, 24717), (98, 24720), (99, 24729), (100, 24732), (104, 24753), (141, 24915), (142, 24921), (167, 25062), (177, 25104), (181, 25122), (200, 25194), (204, 25218), (206, 25233), (208, 25257),

Gene: ZhongYanYuan\_59 Start: 43391, Stop: 44323, Start Num: 30

Candidate Starts for ZhongYanYuan\_59:

(Start: 30 @43391 has 42 MA's), (Start: 64 @43589 has 3 MA's), (107, 43886), (117, 43925), (120, 43937), (134, 43997), (135, 44000), (140, 44042), (143, 44060), (145, 44081), (156, 44147), (157, 44150), (162, 44168), (174, 44219), (177, 44231), (183, 44255), (196, 44297),

Gene: Ziko\_85 Start: 44502, Stop: 45272, Start Num: 51

Candidate Starts for Ziko\_85:

(Start: 51 @44502 has 6 MA's), (57, 44547), (62, 44568), (69, 44607), (70, 44610), (75, 44691), (89, 44781), (92, 44793), (97, 44802), (108, 44862), (117, 44895), (120, 44907), (132, 44973), (135, 44979), (141, 45018), (156, 45117), (157, 45120), (170, 45171),

Gene: phiCAM\_31 Start: 27359, Stop: 28312, Start Num: 31

Candidate Starts for phiCAM\_31:

(23, 27335), (Start: 25 @27344 has 90 MA's), (Start: 31 @27359 has 3 MA's), (46, 27428), (Start: 58 @27527 has 1 MA's), (59, 27530), (61, 27536), (91, 27743), (97, 27758), (98, 27761), (99, 27770),

(102, 27785), (109, 27818), (110, 27821), (117, 27836), (141, 27956), (150, 28016), (170, 28109), (186, 28175), (204, 28250), (206, 28262), (211, 28307),

Gene: phiHau3\_33 Start: 24132, Stop: 25097, Start Num: 25

Candidate Starts for phiHau3\_33:

(Start: 21 @24102 has 119 MA's), (Start: 25 @24132 has 90 MA's), (Start: 58 @24318 has 1 MA's), (59, 24321), (66, 24354), (83, 24495), (86, 24513), (97, 24549), (100, 24564), (102, 24576), (104, 24585), (108, 24606), (109, 24609), (123, 24648), (138, 24726), (141, 24747), (145, 24780), (150, 24807), (159, 24852), (186, 24966), (204, 25044), (206, 25056),

Gene: xkcd\_70 Start: 45201, Stop: 46169, Start Num: 21

Candidate Starts for xkcd\_70:

(Start: 21 @45201 has 119 MA's), (Start: 28 @45240 has 1 MA's), (Start: 31 @45246 has 3 MA's), (40, 45270), (43, 45288), (Start: 58 @45420 has 1 MA's), (62, 45435), (Start: 63 @45438 has 17 MA's), (Start: 64 @45441 has 3 MA's), (73, 45558), (76, 45576), (120, 45789), (158, 46005), (161, 46017), (163, 46023), (171, 46059), (183, 46107), (198, 46155),