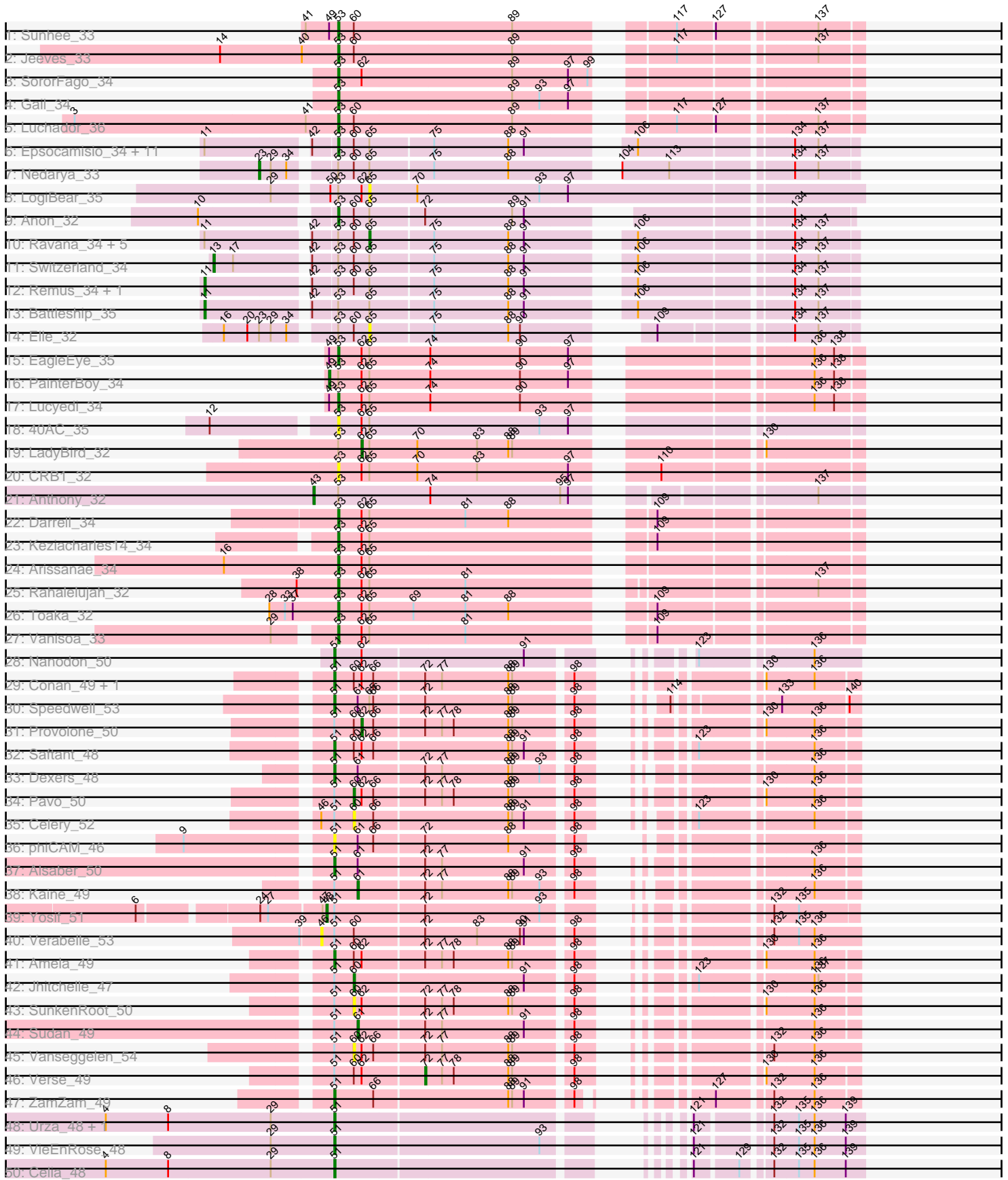
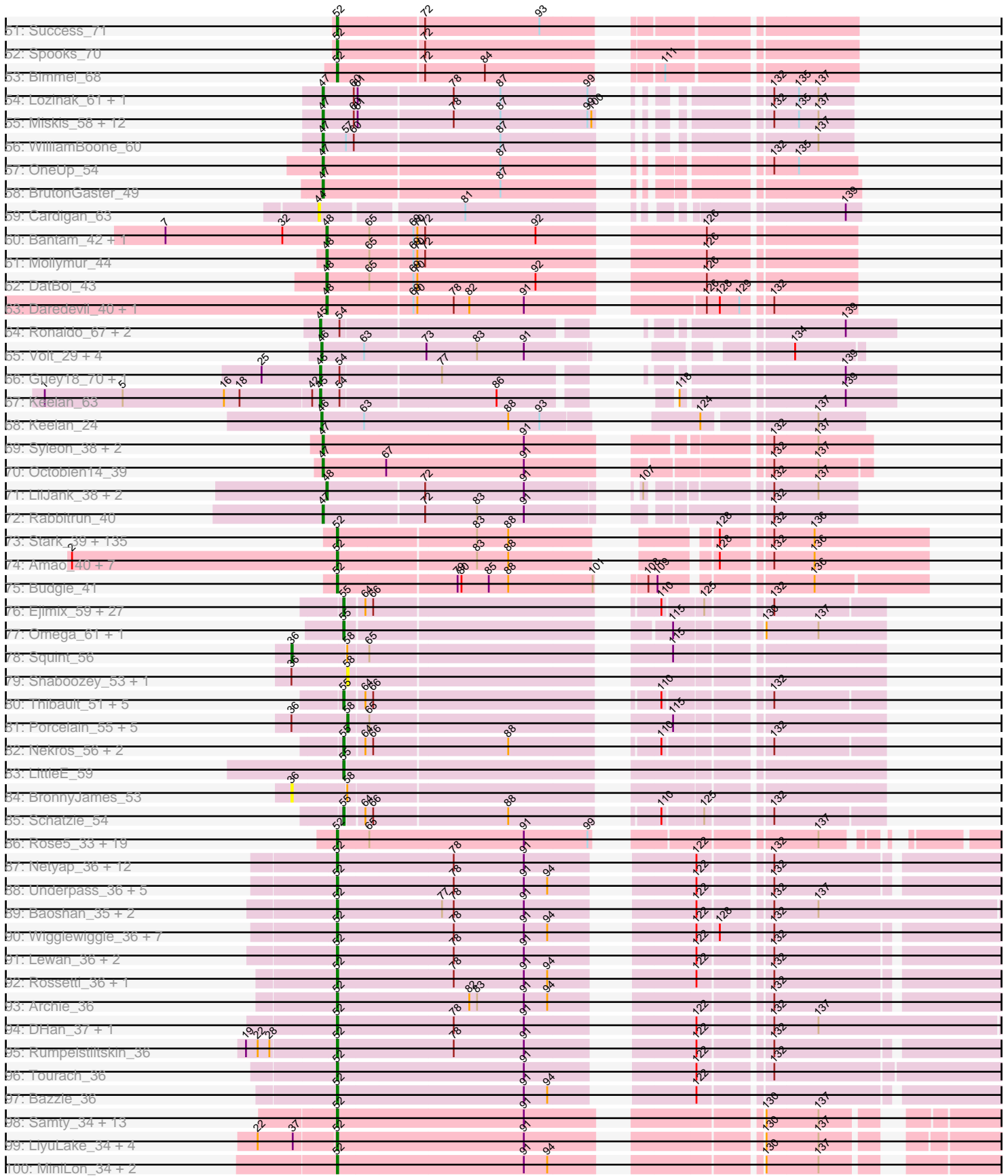


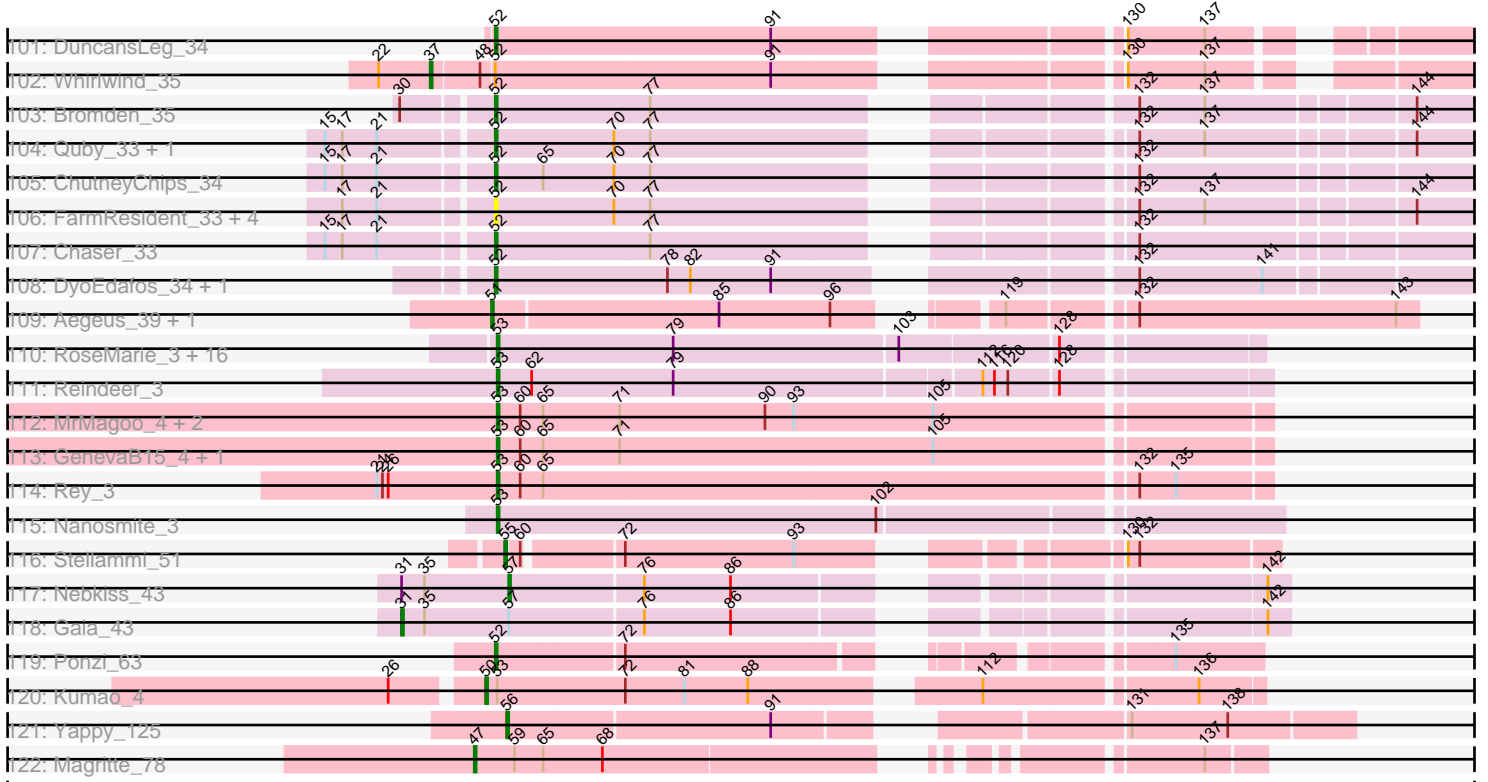
Pham 302975



Pham 302975



Pham 302975



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 302975 Report

This analysis was run 06/08/26 on database version 649.

Pham number 302975 has 444 members, 61 are drafts.

Phages represented in each track:

- Track 1 : Sunhee\_33
- Track 2 : Jeeves\_33
- Track 3 : SororFago\_34
- Track 4 : Gail\_34
- Track 5 : Luchador\_36
- Track 6 : Epsocamisio\_34, Anaysia\_34, Boohoo\_34, Strosahl\_34, MinecraftSteve\_35, LastResort\_34, Rosalind\_34, ShayRa\_35, Soups\_34, KatherineG\_34, Looper\_35, ReMo\_34
- Track 7 : Nedarya\_33
- Track 8 : LogiBear\_35
- Track 9 : Anon\_32
- Track 10 : Ravana\_34, JSwag\_34, Warrior24\_34, Waits\_34, DekHockey33\_34, Oofda\_34
- Track 11 : Switzerland\_34
- Track 12 : Remus\_34, Nebulosus\_34
- Track 13 : Battleship\_35
- Track 14 : Elle\_32
- Track 15 : EagleEye\_35
- Track 16 : PainterBoy\_34
- Track 17 : Lucyedi\_34
- Track 18 : 40AC\_35
- Track 19 : LadyBird\_32
- Track 20 : CRB1\_32
- Track 21 : Anthony\_32
- Track 22 : Darrell\_34
- Track 23 : Keziacharles14\_34
- Track 24 : Arissanae\_34
- Track 25 : Rahalelujah\_32
- Track 26 : Toaka\_32
- Track 27 : Vanisoa\_33
- Track 28 : Nanodon\_50
- Track 29 : Conan\_49, ElGato\_49
- Track 30 : Speedwell\_53
- Track 31 : Provolone\_50
- Track 32 : Saftant\_48
- Track 33 : Dexers\_48
- Track 34 : Pavo\_50

- Track 35 : Celery\_52
- Track 36 : phiCAM\_46
- Track 37 : Alsaber\_50
- Track 38 : Kaine\_49
- Track 39 : Yosif\_51
- Track 40 : Verabelle\_53
- Track 41 : Amela\_49
- Track 42 : Jhitchelle\_47
- Track 43 : SunkenRoot\_50
- Track 44 : Sudan\_49
- Track 45 : Vanseggelen\_54
- Track 46 : Verse\_49
- Track 47 : ZamZam\_49
- Track 48 : Urza\_48, Itza\_48
- Track 49 : VieEnRose\_48
- Track 50 : Celia\_48
- Track 51 : Success\_71
- Track 52 : Spooks\_70
- Track 53 : Bimmel\_68
- Track 54 : Lozinak\_61, Smoothie\_62
- Track 55 : Miskis\_58, PhinkBoden\_60, Cucurbita\_62, Geeche\_59, ClubL\_61, Toniann\_61, Engineer\_62, Dusty\_60, Aphelion\_60, Culver\_62, Bachita\_62, Norvs\_61, Abscondus\_60
- Track 56 : WilliamBoone\_60
- Track 57 : OneUp\_54
- Track 58 : BrutonGaster\_49
- Track 59 : Cardigan\_63
- Track 60 : Bantam\_42, SpeedDemon\_440
- Track 61 : Mollymur\_44
- Track 62 : DatBoi\_43
- Track 63 : Daredevil\_40, Towmatter\_39
- Track 64 : Ronaldo\_67, Ziko\_67, Volt\_67
- Track 65 : Volt\_29, Ziko\_30, Ronaldo\_30, Fryberger\_27, Guey18\_31
- Track 66 : Guey18\_70, Fryberger\_64
- Track 67 : Keelan\_63
- Track 68 : Keelan\_24
- Track 69 : Syleon\_38, Kudefre\_37, Sephiroth\_38
- Track 70 : Octobien14\_39
- Track 71 : LilJank\_38, Trax\_38, Neville\_38
- Track 72 : Rabbitrun\_40
- Track 73 : Stark\_39, Elph10\_39, Harella\_39, Maxxinista\_39, Emmina\_39, StormChicken\_38, HufflyPuff\_37, OrionPax\_40, FireRed\_38, ShereKhan\_40, Saints25\_40, MollyToe\_38, StellaBean\_38, JeTaime\_41, Tomaszewski\_38, AmericanBeauty\_40, Bogg\_39, Rimmer\_37, Kostya\_39, FoghornLeghorn\_38, Glexan\_37, TeardropMSU\_37, Highbury\_40, Moldemort\_39, Sassay\_37, Hoonter\_40, Paperbeatsrock\_40, Argent26\_40, PaddyBaddy\_40, Simpliphy\_40, GooberAzure\_40, DrDrey\_41, Lilpickle\_37, Phaja\_38, StolenFromERC\_40, Gage\_40, Nimrod\_38, Manda\_39, Rakim\_39, Lilac\_40, MadamMonkfish\_39, HanKaySha\_40, BilboSwaggins\_39, Bench\_41, Ukulele\_39, Dumbo\_39, Kimchi\_40, TeamEdward\_38, Becksu\_38, YassJohnny\_39, 244\_42, SophKB\_38, Myrale\_40, Hopey\_41, Cactus\_39, Easy2Say\_40, Porky\_38, Youngblood\_38, IHOP\_38, Kanye\_40, Gator\_37, Balomoji\_38, Dusk\_39, Miniwave\_38, PhatBacter\_38, FairyPath\_38, BugsBunny\_36, Icee\_37, MPhalcon\_37, BaboJay\_38, BadStone\_39, Xandras\_40,

Livelaughbron\_39, Asriel\_37, Bask21\_38, Stank\_41, Qualification\_39, Contagion\_39, NonchalantPear\_39, Cjw1\_39, Palpatine\_38, GoldenSpark\_40, Tuco\_41, Traaww1\_36, Tarkin\_40, Flypotenuse\_36, Mosby\_38, Barbarian\_37, Misfit\_38, Phaux\_37, Eureka\_39, Ptowny\_40, NelitzaMV\_38, RiverMonster\_38, Terminus\_38, Goldilocks\_39, Murphy\_39, Brewer\_38, Command613\_39, Phrux\_39, Teaspoon\_40, Elite2014\_37, Wiggin\_41, Goku\_39, ChosenOne\_38, Bruin\_39, ABCat\_38, Willez\_37, Adnama\_41, Gemini\_41, Policronamos\_38, Thimble\_39, Nala\_38, Daikon\_39, Marshmallow\_39, Cookies\_39, Petra64142\_40, CrystalP\_40, Pharsalus\_39, Lilizi\_40, Buck\_37, Thresher\_40, Filch\_41, NoSleep\_39, xkcd\_39, ShamWow\_40, Pumpkin\_42, Czystczon1\_40, Greep\_39, Toto\_39, Henry\_40, MISSy\_37, Murica\_37, Sotrice96\_38, TBrady12\_40, Inca\_37

- Track 74 : Amao\_40, SirDuracell\_38, Mindy\_40, ChotaBhai\_39, Pat3\_39, BigBubba\_39, DoctorDiddles\_39, Holt\_40
- Track 75 : Budgie\_41
- Track 76 : Ejimix\_59, Halley\_59, JuicyJay\_58, Bombitas\_56, EricMillard\_59, Hidrated\_57, Beem\_59, Klein\_59, Hughesyang\_57, NihilNomen\_58, Minerva\_65, HokkenD\_52, KashFlow\_52, Constella\_49, Bagrid\_58, ThreeRngTarjay\_57, Redno2\_56, BAKA\_63, Duke13\_62, Optimus\_64, Wanda\_65, Marleymoo\_58, Dove\_54, Hannaconda\_55, Dallas\_58, Odette\_57, Zelink\_57, Phoebus\_58
- Track 77 : Omega\_61, Gonephishing\_59
- Track 78 : Squint\_56
- Track 79 : Shaboozey\_53, Nibley\_51
- Track 80 : Thibault\_51, Xiaokay\_52, Rearden\_53, Pound\_59, Bobby\_58, Kalah2\_55
- Track 81 : Porcelain\_55, Superphikiman\_57, Ariel\_56, MiaZeal\_56, Courthouse\_56, Lucky2013\_57
- Track 82 : Nekros\_56, DmpstrDiver\_58, Yeet\_57
- Track 83 : LittleE\_59
- Track 84 : BronnyJames\_53
- Track 85 : Schatzie\_54
- Track 86 : Rose5\_33, Acquire49\_33, Enceladus\_33, DirkDirk\_33, OhShagHennessy\_33, Calm\_33, CicholasNage\_33, Poochiewood\_33, Zaria\_33, Wamburgrxpress\_33, JoeDirt\_33, LeBron\_33, Halena\_33, Wyatt2\_33, Appletree2\_33, Tyson\_33, MAckerman\_33, UPIE\_33, Silverleaf\_33, AvadaKedavra\_33
- Track 87 : Netyap\_36, Winky\_36, Vetrix\_36, Miley16\_36, BobsGarage\_36, Faith1\_36, Gabriela\_36, DrSeegs\_36, Finemlucis\_36, Itos\_36, SoJulia\_37, Breezona\_36, BigCheese\_36
- Track 88 : Underpass\_36, Gardann\_36, OverPar\_37, Loadrie\_36, Nicholasp3\_36, LilDestine\_36
- Track 89 : Baoshan\_35, ZhongYanYuan\_35, DanBing\_36
- Track 90 : Wigglewiggle\_36, Wilder\_36, Soap141\_36, Kahlid\_36, MkaliMitinis3\_36, Hafay\_36, Lynnae\_36, Sarshaun\_36
- Track 91 : Lewan\_36, Crossroads\_36, GuuelaD\_36
- Track 92 : Rossetti\_36, Zakai\_36
- Track 93 : Archie\_36
- Track 94 : DHan\_37, Claus\_36
- Track 95 : Rumpelstiltskin\_36
- Track 96 : Tourach\_36
- Track 97 : Bazzle\_36
- Track 98 : Samty\_34, Clautastrophe\_34, MsGreen\_34, Kingsolomon\_34, TriFive\_34, Jobypre\_34, Nicholas\_34, Lumos\_34, Moostard\_34, Snenia\_34, Finny\_34, Red305\_34, Jubie\_34, Bellis\_34

- Track 99 : LiyuLake\_34, Ellson\_34, KirDoubleO7\_32, BourbonZero\_33, Krypton555\_34
- Track 100 : MiniLon\_34, MiniMac\_34, Lolly9\_34
- Track 101 : DuncansLeg\_34
- Track 102 : Whirlwind\_35
- Track 103 : Bromden\_35
- Track 104 : Quby\_33, Douge\_33
- Track 105 : ChutneyChips\_34
- Track 106 : FarmResident\_33, PYPDinur\_33, BrainDrainer\_34, Sheng711\_33, Douzhi\_33
- Track 107 : Chaser\_33
- Track 108 : DyoEdafos\_34, Kropertea\_33
- Track 109 : Aegeus\_39, Baudelaire\_39
- Track 110 : RoseMarie\_3, TpudiCK\_3, TyDawg\_3, SlimJimmy\_3, Diminimus\_4, PegLeg\_3, Dulcita\_4, LilhomieP\_3, Auspice\_3, KleverKiS\_3, FreakyGoo\_4, Skinny\_4, Izel\_4, IPhane7\_3, Bricole\_3, Bongo\_3, Glaske16\_4
- Track 111 : Reindeer\_3
- Track 112 : MrMagoo\_4, Estes\_4, GardenSalsa\_4
- Track 113 : GenevaB15\_4, Aziz\_4
- Track 114 : Rey\_3
- Track 115 : Nanosmite\_3
- Track 116 : Stellammi\_51
- Track 117 : Nebkiss\_43
- Track 118 : Gaia\_43
- Track 119 : Ponzi\_63
- Track 120 : Kumao\_4
- Track 121 : Yappy\_125
- Track 122 : Magritte\_78

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

The start number called the most often in the published annotations is 52, it was called in 210 of the 383 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_42, ABCat\_38, Acquire49\_33, Adnama\_41, Amao\_40, AmericanBeauty\_40, Appletree2\_33, Archie\_36, Argent26\_40, Asriel\_37, AvadaKedavra\_33, BaboJay\_38, BadStone\_39, Balomoji\_38, Baoshan\_35, Barbarian\_37, Bask21\_38, Bazzle\_36, Becksu\_38, Bellis\_34, Bench\_41, BigBubba\_39, BigCheese\_36, BilboSwaggins\_39, Bimmel\_68, BobsGarage\_36, Bogg\_39, BourbonZero\_33, BrainDrainer\_34, Breezona\_36, Brewer\_38, Bromden\_35, Bruin\_39, Buck\_37, Budgie\_41, BugsBunny\_36, Cactus\_39, Calm\_33, Chaser\_33, ChosenOne\_38, ChotaBhai\_39, ChutneyChips\_34, CicholasNage\_33, Cjw1\_39, Claus\_36, Clautastrophe\_34, Command613\_39, Contagion\_39, Cookies\_39, Crossroads\_36, CrystalP\_40, Czyszczon1\_40, DHan\_37, Daikon\_39, DanBing\_36, DirkDirk\_33, DoctorDiddles\_39, Douge\_33, Douzhi\_33, DrDrey\_41, DrSeegs\_36, Dumbo\_39, DuncansLeg\_34, Dusk\_39, DyoEdafos\_34, Easy2Say\_40, Elite2014\_37, Ellson\_34, Elph10\_39, Emmina\_39, Enceladus\_33, Eureka\_39, FairyPath\_38, Faith1\_36, FarmResident\_33, Filch\_41, Finemlucis\_36, Finnry\_34, FireRed\_38, Flypotenuse\_36, FoghornLeghorn\_38, Gabriela\_36, Gage\_40, Gardann\_36, Gator\_37, Gemini\_41,

Glexan\_37, Goku\_39, GoldenSpark\_40, Goldilocks\_39, GooberAzure\_40, Greep\_39, GuuelaD\_36, Hafay\_36, Halena\_33, HanKaySha\_40, Harella\_39, Henry\_40, Highbury\_40, Holt\_40, Hoonter\_40, Hopey\_41, HufflyPuff\_37, IHOP\_38, Icee\_37, Inca\_37, Itos\_36, JeTaimie\_41, Jobypre\_34, JoeDirt\_33, Jubie\_34, Kahlid\_36, Kanye\_40, Kimchi\_40, Kingsolomon\_34, KirDoubleO7\_32, Kostya\_39, Kropertea\_33, Krypton555\_34, LeBron\_33, Lewan\_36, LilDestine\_36, Lilac\_40, Lilizi\_40, Lilpickle\_37, Liveloughbron\_39, LiyuLake\_34, Loadrie\_36, Lolly9\_34, Lumos\_34, Lynnae\_36, MAckerman\_33, MISSy\_37, MPhalcon\_37, MadamMonkfish\_39, Manda\_39, Marshmallow\_39, Maxxinista\_39, Miley16\_36, Mindy\_40, MiniLon\_34, MiniMac\_34, Miniwave\_38, Misfit\_38, MkaliMitinis3\_36, Moldemort\_39, MollyToe\_38, Moostard\_34, Mosby\_38, MsGreen\_34, Murica\_37, Murphy\_39, Myrale\_40, Nala\_38, NelitzaMV\_38, Netyap\_36, Nicholas\_34, Nicholasp3\_36, Nimrod\_38, NoSleep\_39, NonchalantPear\_39, OhShagHennessy\_33, OrionPax\_40, OverPar\_37, PYPDinur\_33, PaddyBaddy\_40, Palpatine\_38, Paperbeatsrock\_40, Pat3\_39, Petra64142\_40, Phaja\_38, Pharsalus\_39, PhatBacter\_38, Phaux\_37, Phrux\_39, Policronamos\_38, Ponzi\_63, Poochiewood\_33, Porky\_38, Ptowny\_40, Pumpkin\_42, Quallification\_39, Quby\_33, Rakim\_39, Red305\_34, Rimmer\_37, RiverMonster\_38, Rose5\_33, Rossetti\_36, Rumpelstiltskin\_36, Saints25\_40, Samty\_34, Sarshaun\_36, Sassay\_37, ShamWow\_40, Sheng711\_33, ShereKhan\_40, Silverleaf\_33, Simpliphy\_40, SirDuracell\_38, Snenia\_34, SoJulia\_37, Soap141\_36, SophKB\_38, Sotrice96\_38, Spooks\_70, Stank\_41, Stark\_39, StellaBean\_38, StolenFromERC\_40, StormChicken\_38, Success\_71, TBrady12\_40, Tarkin\_40, TeamEdward\_38, TeardropMSU\_37, Teaspoon\_40, Terminus\_38, Thimble\_39, Thresher\_40, Tomaszewski\_38, Toto\_39, Tourach\_36, Traaww1\_36, TriFive\_34, Tuco\_41, Tyson\_33, UPIE\_33, Ukulele\_39, Underpass\_36, Vetrix\_36, Wamburggrxpress\_33, Wigg\_41, Wigglewiggle\_36, Wilder\_36, Willez\_37, Winky\_36, Wyatt2\_33, Xandras\_40, YassJohnny\_39, Youngblood\_38, Zakai\_36, Zaria\_33, ZhongYanYuan\_35, xkcd\_39,

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

- Whirlwind\_35,

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

- 40AC\_35, Abscondus\_60, Aegeus\_39, Alsaber\_50, Amela\_49, Anaysia\_34, Anon\_32, Anthony\_32, Aphelion\_60, Ariel\_56, Arissanae\_34, Auspice\_3, Aziz\_4, BAKA\_63, Bachita\_62, Bagrid\_58, Bantam\_42, Battleship\_35, Baudelaire\_39, Beem\_59, Bobby\_58, Bombitas\_56, Bongo\_3, Boohoo\_34, Bricole\_3, BronnyJames\_53, BrutonGaster\_49, CRB1\_32, Cardigan\_63, Celery\_52, Celia\_48, ClubL\_61, Conan\_49, Constella\_49, Courthouse\_56, Cucurbita\_62, Culver\_62, Dallas\_58, Daredevil\_40, Darrell\_34, DatBoi\_43, DekHockey33\_34, Dexers\_48, Diminimus\_4, DmpstrDiver\_58, Dove\_54, Duke13\_62, Dulcita\_4, Dusty\_60, EagleEye\_35, Ejimix\_59, ElGato\_49, Elle\_32, Engineer\_62, Epsocamisio\_34, EricMillard\_59, Estes\_4, FreakyGoo\_4, Fryberger\_27, Fryberger\_64, Gaia\_43, Gail\_34, GardenSalsa\_4, Geeche\_59, GenevaB15\_4, Glaske16\_4, Gonephishing\_59, Guey18\_31, Guey18\_70, Halley\_59, Hannaconda\_55, Hidrated\_57, HokkenD\_52, Hughesyang\_57, IPhane7\_3, Itza\_48, Izel\_4, JSwag\_34, Jeeves\_33, Jhitchelle\_47, JuicyJay\_58, Kaine\_49, Kalah2\_55, KashFlow\_52, KatherineG\_34, Keelan\_24, Keelan\_63, Keziacharles14\_34, Klein\_59, KleverKiS\_3, Kudrefre\_37, Kumao\_4, LadyBird\_32, LastResort\_34, LilJank\_38, LilhomieP\_3, LittleE\_59, LogiBear\_35, Looper\_35, Lozinak\_61, Luchador\_36, Lucky2013\_57, Lucyedi\_34, Magritte\_78, Marleymoo\_58, MiaZeal\_56, MinecraftSteve\_35, Minerva\_65, Miskis\_58, Mollymur\_44, MrMagoo\_4, Nanodon\_50, Nanosmite\_3, Nebkiss\_43, Nebulosus\_34, Nedarya\_33, Nekros\_56, Neville\_38, Nibley\_51,

NihilNomen\_58, Norvs\_61, Octobien14\_39, Odette\_57, Omega\_61, OneUp\_54, Oofda\_34, Optimus\_64, PainterBoy\_34, Pavo\_50, PegLeg\_3, PhinkBoden\_60, Phoebus\_58, Porcelain\_55, Pound\_59, Provolone\_50, Rabbitrun\_40, Rahalelujah\_32, Ravana\_34, ReMo\_34, Rearden\_53, Redno2\_56, Reindeer\_3, Remus\_34, Rey\_3, Ronaldo\_30, Ronaldo\_67, Rosalind\_34, RoseMarie\_3, Saftant\_48, Schatzie\_54, Sephiroth\_38, Shaboozey\_53, ShayRa\_35, Skinny\_4, SlimJimmy\_3, Smoothie\_62, SororFago\_34, Soups\_34, SpeedDemon\_440, Speedwell\_53, Squint\_56, Stellammi\_51, Strosahl\_34, Sudan\_49, Sunhee\_33, SunkenRoot\_50, Superphikiman\_57, Switzerland\_34, Syleon\_38, Thibault\_51, ThreeRngTarjay\_57, Toaka\_32, Toniann\_61, Towmatter\_39, TpudiCK\_3, Trax\_38, TyDawg\_3, Urza\_48, Vanisoa\_33, Vanseggelen\_54, Verabelle\_53, Verse\_49, VieEnRose\_48, Volt\_29, Volt\_67, Waits\_34, Wanda\_65, Warrior24\_34, WilliamBoone\_60, Xiaokay\_52, Yappy\_125, Yeet\_57, Yosif\_51, ZamZam\_49, Zelink\_57, Ziko\_30, Ziko\_67, phiCAM\_46,

### Summary by start number:

#### Start 11:

- Found in 21 of 444 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 3 of 383
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Battleship\_35 (A15), Nebulosus\_34 (A15), Remus\_34 (A15),

#### Start 13:

- Found in 1 of 444 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Switzerland\_34 (A15),

#### Start 23:

- Found in 2 of 444 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Nedarya\_33 (A15),

#### Start 31:

- Found in 2 of 444 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Gaia\_43 (X),

#### Start 36:

- Found in 10 of 444 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 20.0% of time when present
- Phage (with cluster) where this start called: BronnyJames\_53 (J), Squint\_56 (J),

#### Start 37:

- Found in 7 of 444 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Whirlwind\_35 (L3),

Start 43:

- Found in 1 of 444 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony\_32 (A20),

Start 44:

- Found in 1 of 444 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cardigan\_63 (DD),

Start 45:

- Found in 6 of 444 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 6 of 383
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_64 (DP), Guey18\_70 (DP), Keelan\_63 (DP), Ronaldo\_67 (DP), Volt\_67 (DP), Ziko\_67 (DP),

Start 46:

- Found in 8 of 444 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 6 of 383
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Fryberger\_27 (DP), Guey18\_31 (DP), Keelan\_24 (DP), Ronaldo\_30 (DP), Verabelle\_53 (BD3), Volt\_29 (DP), Ziko\_30 (DP),

Start 47:

- Found in 25 of 444 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 23 of 383
- Called 96.0% of time when present
- Phage (with cluster) where this start called: Abscondus\_60 (CQ1), Aphelion\_60 (CQ1), Bachita\_62 (CQ1), BrutonGaster\_49 (CQ2), ClubL\_61 (CQ1), Cucurbita\_62 (CQ1), Culver\_62 (CQ1), Dusty\_60 (CQ1), Engineer\_62 (CQ1), Geeche\_59 (CQ1), Kudrefre\_37 (DU1), Lozinak\_61 (CQ1), Magritte\_78 (singleton), Miskis\_58 (CQ1), Norvs\_61 (CQ1), Octobien14\_39 (DU1), OneUp\_54 (CQ2), PhinkBoden\_60 (CQ1), Rabbitrun\_40 (DU2), Sephiroth\_38 (DU1), Smoothie\_62 (CQ1), Syleon\_38 (DU1), Toniann\_61 (CQ1), WilliamBoone\_60 (CQ1),

Start 48:

- Found in 11 of 444 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 9 of 383
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Bantam\_42 (DL), Daredevil\_40 (DL), DatBoi\_43 (DL), LilJank\_38 (DU2), Mollymur\_44 (DL), Neville\_38 (DU2), SpeedDemon\_440 (DL), Towmatter\_39 (DL), Trax\_38 (DU2), Yosif\_51 (BD3),

Start 49:

- Found in 4 of 444 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 25.0% of time when present
- Phage (with cluster) where this start called: PainterBoy\_34 (A16),

Start 50:

- Found in 2 of 444 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Kumao\_4 (singleton),

Start 51:

- Found in 27 of 444 ( 6.1% ) of genes in pham
- Manual Annotations of this start: 15 of 383
- Called 59.3% of time when present
- Phage (with cluster) where this start called: Aegeus\_39 (L5), Alsaber\_50 (BD3), Amela\_49 (BD3), Baudelaire\_39 (L5), Celia\_48 (BD6), Conan\_49 (BD3), Dexers\_48 (BD3), ElGato\_49 (BD3), Itza\_48 (BD6), Nanodon\_50 (BD1), Saftant\_48 (BD3), Speedwell\_53 (BD3), Urza\_48 (BD6), VieEnRose\_48 (BD6), ZamZam\_49 (BD3), phiCAM\_46 (BD3),

Start 52:

- Found in 246 of 444 ( 55.4% ) of genes in pham
- Manual Annotations of this start: 210 of 383
- Called 99.6% of time when present
- Phage (with cluster) where this start called: 244\_42 (E), ABCat\_38 (E), Acquire49\_33 (L1), Adnama\_41 (E), Amao\_40 (E), AmericanBeauty\_40 (E), Appletree2\_33 (L1), Archie\_36 (L2), Argent26\_40 (E), Asriel\_37 (E), AvadaKedavra\_33 (L1), BaboJay\_38 (E), BadStone\_39 (E), Balomoji\_38 (E), Baoshan\_35 (L2), Barbarian\_37 (E), Bask21\_38 (E), Bazzle\_36 (L2), Becksu\_38 (E), Bellis\_34 (L3), Bench\_41 (E), BigBubba\_39 (E), BigCheese\_36 (L2), BilboSwaggins\_39 (E), Bimmel\_68 (BT), BobsGarage\_36 (L2), Bogg\_39 (E), BourbonZero\_33 (L3), BrainDrainer\_34 (L4), Breezona\_36 (L2), Brewer\_38 (E), Bromden\_35 (L4), Bruin\_39 (E), Buck\_37 (E), Budgie\_41 (E), BugsBunny\_36 (E), Cactus\_39 (E), Calm\_33 (L1), Chaser\_33 (L4), ChosenOne\_38 (E), ChotaBhai\_39 (E), ChutneyChips\_34 (L4), CicholasNage\_33 (L1), Cjw1\_39 (E), Claus\_36 (L2), Clautastrophe\_34 (L3), Command613\_39 (E), Contagion\_39 (E), Cookies\_39 (E), Crossroads\_36 (L2), CrystalP\_40 (E), Czyszczonek\_40 (E), DHan\_37 (L2), Daikon\_39 (E), DanBing\_36 (L2), DirkDirk\_33 (L1), DoctorDiddles\_39 (E), Douge\_33 (L4), Douzhi\_33 (L4), DrDrey\_41 (E), DrSeegs\_36 (L2), Dumbo\_39 (E), DuncansLeg\_34 (L3), Dusk\_39 (E), DyoEdafos\_34 (L4), Easy2Say\_40 (E), Elite2014\_37 (E), Ellson\_34 (L3), Elph10\_39 (E), Emmina\_39 (E), Enceladus\_33 (L1), Eureka\_39 (E), FairyPath\_38 (E), Faith1\_36 (L2), FarmResident\_33 (L4), Filch\_41 (E), Finemlucis\_36 (L2), Finnry\_34 (L3), FireRed\_38 (E), Flypotenuse\_36 (E), FoghornLeghorn\_38 (E), Gabriela\_36 (L2), Gage\_40 (E), Gardann\_36 (L2), Gator\_37 (E), Gemini\_41 (E), Glexan\_37 (E), Goku\_39 (E), GoldenSpark\_40 (E), Goldilocks\_39 (E), GooberAzure\_40 (E), Greep\_39 (E), GuuelaD\_36 (L2), Hafay\_36 (L2), Halena\_33 (L1), HanKaySha\_40 (E), Harella\_39 (E), Henry\_40 (E), Highbury\_40 (E), Holt\_40 (E), Hoonter\_40 (E), Hopey\_41 (E), HufflyPuff\_37 (E), IHOP\_38 (E), Icee\_37 (E), Inca\_37 (E), Itos\_36 (L2), JeTaime\_41 (E), Jobypre\_34 (L3), JoeDirt\_33 (L1), Jubie\_34 (L3), Kahlid\_36 (L2), Kanye\_40 (E), Kimchi\_40 (E), Kingsolomon\_34 (L3), KirDoubleO7\_32 (L3), Kostya\_39 (E), Kropertea\_33 (L4), Krypton555\_34 (L3), LeBron\_33 (L1), Lewan\_36 (L2), LilDestine\_36 (L2), Lilac\_40 (E), Lilizi\_40 (E), Lilpickle\_37 (E), Liveloughbron\_39 (E), LiyuLake\_34 (L3), Loadrie\_36 (L2), Lolly9\_34 (L3), Lumos\_34 (L3), Lynnae\_36 (L2), MAckerman\_33 (L1), MISSy\_37 (E), MPhalcon\_37 (E), MadamMonkfish\_39 (E), Manda\_39 (E), Marshmallow\_39 (E), Maxxinista\_39 (E), Miley16\_36 (L2), Mindy\_40 (E), MiniLon\_34 (L3), MiniMac\_34 (L3), Miniwave\_38 (E), Misfit\_38 (E), MkaliMitinis3\_36 (L2), Moldemort\_39 (E),

MollyToe\_38 (E), Moostard\_34 (L3), Mosby\_38 (E), MsGreen\_34 (L3), Murica\_37 (E), Murphy\_39 (E), Myrale\_40 (E), Nala\_38 (E), NelitzaMV\_38 (E), Netyap\_36 (L2), Nicholas\_34 (L3), Nicholasp3\_36 (L2), Nimrod\_38 (E), NoSleep\_39 (E), NonchalantPear\_39 (E), OhShagHennessy\_33 (L1), OrionPax\_40 (E), OverPar\_37 (L2), PYPDinur\_33 (L4), PaddyBaddy\_40 (E), Palpatine\_38 (E), Paperbeatsrock\_40 (E), Pat3\_39 (E), Petra64142\_40 (E), Phaja\_38 (E), Pharsalus\_39 (E), PhatBacter\_38 (E), Phaux\_37 (E), Phrux\_39 (E), Policronamos\_38 (E), Ponzi\_63 (singleton), Poochiewood\_33 (L1), Porky\_38 (E), Ptowny\_40 (E), Pumpkin\_42 (E), Quallification\_39 (E), Quby\_33 (L4), Rakim\_39 (E), Red305\_34 (L3), Rimmer\_37 (E), RiverMonster\_38 (E), Rose5\_33 (L1), Rossetti\_36 (L2), Rumpelstiltskin\_36 (L2), Saints25\_40 (E), Samty\_34 (L3), Sarshaun\_36 (L2), Sassay\_37 (E), ShamWow\_40 (E), Sheng711\_33 (L4), ShereKhan\_40 (E), Silverleaf\_33 (L1), Simpliphy\_40 (E), SirDuracell\_38 (E), Snenia\_34 (L3), SoJulia\_37 (L2), Soap141\_36 (L2), SophKB\_38 (E), Sotrice96\_38 (E), Spooks\_70 (BT), Stank\_41 (E), Stark\_39 (E), StellaBean\_38 (E), StolenFromERC\_40 (E), StormChicken\_38 (E), Success\_71 (BT), TBrady12\_40 (E), Tarkin\_40 (E), TeamEdward\_38 (E), TeardropMSU\_37 (E), Teaspoon\_40 (E), Terminus\_38 (E), Thimble\_39 (E), Thresher\_40 (E), Tomaszewski\_38 (E), Toto\_39 (E), Tourach\_36 (L2), Traaww1\_36 (E), TriFive\_34 (L3), Tuco\_41 (E), Tyson\_33 (L1), UPIE\_33 (L1), Ukulele\_39 (E), Underpass\_36 (L2), Vetrrix\_36 (L2), Wamburgrxpress\_33 (L1), Wiggin\_41 (E), Wigglewobble\_36 (L2), Wilder\_36 (L2), Willez\_37 (E), Winky\_36 (L2), Wyatt2\_33 (L1), Xandras\_40 (E), YassJohnny\_39 (E), Youngblood\_38 (E), Zakai\_36 (L2), Zaria\_33 (L1), ZhongYanYuan\_35 (L2), xkcd\_39 (E),

#### Start 53:

- Found in 70 of 444 ( 15.8% ) of genes in pham
- Manual Annotations of this start: 48 of 383
- Called 75.7% of time when present
- Phage (with cluster) where this start called: 40AC\_35 (A17), Anaysia\_34 (A15), Anon\_32 (A15), Arissanae\_34 (A9), Auspice\_3 (M1), Aziz\_4 (M2), Bongo\_3 (M1), Boohoo\_34 (A15), Bricole\_3 (M1), CRB1\_32 (A2), Darrell\_34 (A9), Diminimus\_4 (M1), Dulcita\_4 (M1), EagleEye\_35 (A16), Epsocamisio\_34 (A15), Estes\_4 (M2), FreakyGoo\_4 (M1), Gail\_34 (A14), GardenSalsa\_4 (M2), GenevaB15\_4 (M2), Glaske16\_4 (M1), IPhane7\_3 (M1), Izel\_4 (M1), Jeeves\_33 (A14), KatherineG\_34 (A15), Keziacharles14\_34 (A9), KleverKiS\_3 (M1), LastResort\_34 (A15), LilhomieP\_3 (M1), Looper\_35 (A15), Luchador\_36 (A14), Lucyedi\_34 (A16), MinecraftSteve\_35 (A15), MrMagoo\_4 (M2), Nanosmite\_3 (M3), PegLeg\_3 (M1), Rahalelujah\_32 (A9), ReMo\_34 (A15), Reindeer\_3 (M1), Rey\_3 (M2), Rosalind\_34 (A15), RoseMarie\_3 (M1), ShayRa\_35 (A15), Skinny\_4 (M1), SlimJimmy\_3 (M1), SororFago\_34 (A14), Soups\_34 (A15), Strosahl\_34 (A15), Sunhee\_33 (A14), Toaka\_32 (A9), TpudiCK\_3 (M1), TyDawg\_3 (M1), Vanisoa\_33 (A9),

#### Start 55:

- Found in 42 of 444 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 34 of 383
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BAKA\_63 (J), Bagrid\_58 (J), Beem\_59 (J), Bobby\_58 (J), Bombitas\_56 (J), Constella\_49 (J), Dallas\_58 (J), DmpstrDiver\_58 (J), Dove\_54 (J), Duke13\_62 (J), Ejimix\_59 (J), EricMillard\_59 (J), Gonephishing\_59 (J), Halley\_59 (J), Hannaconda\_55 (J), Hidrated\_57 (J), HokkenD\_52 (J), Hughesyang\_57 (J), JuicyJay\_58 (J), Kalah2\_55 (J), KashFlow\_52 (J), Klein\_59 (J), LittleE\_59 (J), Marleymoo\_58 (J), Minerva\_65 (J), Nekros\_56 (J), NihilNomen\_58 (J), Odette\_57 (J), Omega\_61 (J), Optimus\_64 (J), Phoebus\_58 (J), Pound\_59 (J),

Rearden\_53 (J), Redno2\_56 (J), Schatzie\_54 (J), Stellammi\_51 (UNK), Thibault\_51 (J), ThreeRngTarjay\_57 (J), Wanda\_65 (J), Xiaokay\_52 (J), Yeet\_57 (J), Zelink\_57 (J),

Start 56:

- Found in 1 of 444 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yappy\_125 (singleton),

Start 57:

- Found in 3 of 444 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 383
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Nebkiss\_43 (X),

Start 58:

- Found in 10 of 444 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 6 of 383
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Ariel\_56 (J), Courthouse\_56 (J), Lucky2013\_57 (J), MiaZeal\_56 (J), Nibley\_51 (J), Porcelain\_55 (J), Shaboozey\_53 (J), Superphikiman\_57 (J),

Start 60:

- Found in 62 of 444 ( 14.0% ) of genes in pham
- Manual Annotations of this start: 2 of 383
- Called 8.1% of time when present
- Phage (with cluster) where this start called: Celery\_52 (BD3), Jhitchelle\_47 (BD3), Pavo\_50 (BD3), SunkenRoot\_50 (BD3), Vanseggelen\_54 (BD3),

Start 61:

- Found in 21 of 444 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 2 of 383
- Called 9.5% of time when present
- Phage (with cluster) where this start called: Kaine\_49 (BD3), Sudan\_49 (BD3),

Start 62:

- Found in 25 of 444 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 2 of 383
- Called 8.0% of time when present
- Phage (with cluster) where this start called: LadyBird\_32 (A2), Provolone\_50 (BD3),

Start 65:

- Found in 78 of 444 ( 17.6% ) of genes in pham
- Manual Annotations of this start: 6 of 383
- Called 10.3% of time when present
- Phage (with cluster) where this start called: DekHockey33\_34 (A15), Elle\_32 (A15), JSwag\_34 (A15), LogiBear\_35 (A15), Oofda\_34 (A15), Ravana\_34 (A15), Waits\_34 (A15), Warrior24\_34 (A15),

Start 72:

- Found in 30 of 444 ( 6.8% ) of genes in pham

- Manual Annotations of this start: 1 of 383
- Called 3.3% of time when present
- Phage (with cluster) where this start called: Verse\_49 (BD3),

### **Summary by clusters:**

There are 31 clusters represented in this pham: singleton, DD, L1, DL, BT, M1, M3, M2, DP, A15, A14, A17, A16, BD6, BD1, BD3, A9, CQ2, CQ1, A2, E, J, L4, L5, L2, L3, DU1, X, UNK, DU2, A20,

Info for manual annotations of cluster A14:

- Start number 53 was manually annotated 5 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 11 was manually annotated 3 times for cluster A15.
- Start number 13 was manually annotated 1 time for cluster A15.
- Start number 23 was manually annotated 1 time for cluster A15.
- Start number 53 was manually annotated 13 times for cluster A15.
- Start number 65 was manually annotated 6 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 49 was manually annotated 1 time for cluster A16.
- Start number 53 was manually annotated 2 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 62 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A20:

- Start number 43 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A9:

- Start number 53 was manually annotated 6 times for cluster A9.

Info for manual annotations of cluster BD1:

- Start number 51 was manually annotated 1 time for cluster BD1.

Info for manual annotations of cluster BD3:

- Start number 48 was manually annotated 1 time for cluster BD3.
- Start number 51 was manually annotated 8 times for cluster BD3.
- Start number 60 was manually annotated 2 times for cluster BD3.
- Start number 61 was manually annotated 2 times for cluster BD3.
- Start number 62 was manually annotated 1 time for cluster BD3.
- Start number 72 was manually annotated 1 time for cluster BD3.

Info for manual annotations of cluster BD6:

- Start number 51 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster BT:

- Start number 52 was manually annotated 3 times for cluster BT.

Info for manual annotations of cluster CQ1:

- Start number 47 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 47 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster DL:

- Start number 48 was manually annotated 6 times for cluster DL.

Info for manual annotations of cluster DP:

- Start number 45 was manually annotated 6 times for cluster DP.
- Start number 46 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster DU1:

- Start number 47 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 47 was manually annotated 1 time for cluster DU2.
- Start number 48 was manually annotated 2 times for cluster DU2.

Info for manual annotations of cluster E:

- Start number 52 was manually annotated 132 times for cluster E.

Info for manual annotations of cluster J:

- Start number 36 was manually annotated 1 time for cluster J.
- Start number 55 was manually annotated 33 times for cluster J.
- Start number 58 was manually annotated 6 times for cluster J.

Info for manual annotations of cluster L1:

- Start number 52 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 52 was manually annotated 31 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 37 was manually annotated 1 time for cluster L3.
- Start number 52 was manually annotated 18 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 52 was manually annotated 6 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 51 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster M1:

- Start number 53 was manually annotated 15 times for cluster M1.

Info for manual annotations of cluster M2:

- Start number 53 was manually annotated 6 times for cluster M2.

Info for manual annotations of cluster M3:

- Start number 53 was manually annotated 1 time for cluster M3.

Info for manual annotations of cluster UNK:

- Start number 55 was manually annotated 1 time for cluster UNK.

Info for manual annotations of cluster X:

- Start number 31 was manually annotated 1 time for cluster X.
- Start number 57 was manually annotated 1 time for cluster X.

### **Gene Information:**

Gene: 244\_42 Start: 34465, Stop: 34079, Start Num: 52

Candidate Starts for 244\_42:

(Start: 52 @34465 has 210 MA's), (83, 34363), (88, 34339), (128, 34228), (132, 34195), (136, 34165),

Gene: 40AC\_35 Start: 26822, Stop: 27181, Start Num: 53

Candidate Starts for 40AC\_35:

(12, 26735), (Start: 53 @26822 has 48 MA's), (Start: 62 @26840 has 2 MA's), (Start: 65 @26846 has 6 MA's), (93, 26975), (97, 26996),

Gene: ABCat\_38 Start: 34630, Stop: 34244, Start Num: 52

Candidate Starts for ABCat\_38:

(Start: 52 @34630 has 210 MA's), (83, 34528), (88, 34504), (128, 34393), (132, 34360), (136, 34330),

Gene: Abscondus\_60 Start: 40984, Stop: 40649, Start Num: 47

Candidate Starts for Abscondus\_60:

(Start: 47 @40984 has 23 MA's), (Start: 60 @40960 has 2 MA's), (Start: 61 @40957 has 2 MA's), (78, 40888), (87, 40852), (99, 40786), (100, 40783), (132, 40708), (135, 40690), (137, 40675),

Gene: Acquire49\_33 Start: 29496, Stop: 29068, Start Num: 52

Candidate Starts for Acquire49\_33:

(Start: 52 @29496 has 210 MA's), (Start: 65 @29472 has 6 MA's), (91, 29355), (99, 29307), (137, 29178),

Gene: Adnama\_41 Start: 34470, Stop: 34084, Start Num: 52

Candidate Starts for Adnama\_41:

(Start: 52 @34470 has 210 MA's), (83, 34368), (88, 34344), (128, 34233), (132, 34200), (136, 34170),

Gene: Aegeus\_39 Start: 33436, Stop: 33011, Start Num: 51

Candidate Starts for Aegeus\_39:

(Start: 51 @33436 has 15 MA's), (85, 33322), (96, 33265), (119, 33211), (132, 33154), (143, 33022),

Gene: Alsaber\_50 Start: 35678, Stop: 36004, Start Num: 51

Candidate Starts for Alsaber\_50:

(Start: 51 @35678 has 15 MA's), (Start: 61 @35696 has 2 MA's), (Start: 72 @35744 has 1 MA's), (77, 35756), (91, 35819), (98, 35849), (136, 35972),

Gene: Amao\_40 Start: 33851, Stop: 33465, Start Num: 52

Candidate Starts for Amao\_40:

(2, 34055), (Start: 52 @33851 has 210 MA's), (83, 33749), (88, 33725), (128, 33614), (132, 33581), (136, 33551),

Gene: Amela\_49 Start: 36527, Stop: 36853, Start Num: 51

Candidate Starts for Amela\_49:

(Start: 51 @36527 has 15 MA's), (Start: 60 @36542 has 2 MA's), (Start: 62 @36548 has 2 MA's), (Start: 72 @36593 has 1 MA's), (77, 36605), (78, 36614), (88, 36656), (89, 36659), (98, 36698), (130, 36785), (136, 36821),

Gene: AmericanBeauty\_40 Start: 33950, Stop: 33564, Start Num: 52

Candidate Starts for AmericanBeauty\_40:

(Start: 52 @33950 has 210 MA's), (83, 33848), (88, 33824), (128, 33713), (132, 33680), (136, 33650),

Gene: Anaysia\_34 Start: 23538, Stop: 23894, Start Num: 53

Candidate Starts for Anaysia\_34:

(Start: 11 @23448 has 3 MA's), (42, 23520), (Start: 53 @23538 has 48 MA's), (Start: 60 @23550 has 2 MA's), (Start: 65 @23562 has 6 MA's), (75, 23607), (88, 23664), (91, 23676), (106, 23739), (134, 23847), (137, 23865),

Gene: Anon\_32 Start: 23487, Stop: 23831, Start Num: 53

Candidate Starts for Anon\_32:

(10, 23394), (Start: 53 @23487 has 48 MA's), (Start: 60 @23499 has 2 MA's), (Start: 65 @23511 has 6 MA's), (Start: 72 @23550 has 1 MA's), (89, 23616), (91, 23625), (134, 23787),

Gene: Anthony\_32 Start: 23232, Stop: 23600, Start Num: 43

Candidate Starts for Anthony\_32:

(Start: 43 @23232 has 1 MA's), (Start: 53 @23250 has 48 MA's), (74, 23319), (95, 23418), (97, 23424), (137, 23568),

Gene: Aphelion\_60 Start: 41253, Stop: 40918, Start Num: 47

Candidate Starts for Aphelion\_60:

(Start: 47 @41253 has 23 MA's), (Start: 60 @41229 has 2 MA's), (Start: 61 @41226 has 2 MA's), (78, 41157), (87, 41121), (99, 41055), (100, 41052), (132, 40977), (135, 40959), (137, 40944),

Gene: Appletree2\_33 Start: 29439, Stop: 29011, Start Num: 52

Candidate Starts for Appletree2\_33:

(Start: 52 @29439 has 210 MA's), (Start: 65 @29415 has 6 MA's), (91, 29298), (99, 29250), (137, 29121),

Gene: Archie\_36 Start: 31163, Stop: 30699, Start Num: 52

Candidate Starts for Archie\_36:

(Start: 52 @31163 has 210 MA's), (82, 31064), (83, 31058), (91, 31022), (94, 31004), (132, 30878),

Gene: Argent26\_40 Start: 33953, Stop: 33567, Start Num: 52

Candidate Starts for Argent26\_40:

(Start: 52 @33953 has 210 MA's), (83, 33851), (88, 33827), (128, 33716), (132, 33683), (136, 33653),

Gene: Ariel\_56 Start: 42419, Stop: 42060, Start Num: 58

Candidate Starts for Ariel\_56:

(Start: 36 @42458 has 1 MA's), (Start: 58 @42419 has 6 MA's), (Start: 65 @42404 has 6 MA's), (115, 42206),

Gene: Arissanae\_34 Start: 26502, Stop: 26858, Start Num: 53

Candidate Starts for Arissanae\_34:

(16, 26415), (Start: 53 @26502 has 48 MA's), (Start: 62 @26520 has 2 MA's), (Start: 65 @26526 has 6 MA's),

Gene: Asriel\_37 Start: 32807, Stop: 32421, Start Num: 52

Candidate Starts for Asriel\_37:

(Start: 52 @32807 has 210 MA's), (83, 32705), (88, 32681), (128, 32570), (132, 32537), (136, 32507),

Gene: Auspice\_3 Start: 1873, Stop: 1496, Start Num: 53

Candidate Starts for Auspice\_3:

(Start: 53 @1873 has 48 MA's), (79, 1783), (103, 1669), (128, 1591),

Gene: AvadaKedavra\_33 Start: 29506, Stop: 29078, Start Num: 52

Candidate Starts for AvadaKedavra\_33:

(Start: 52 @29506 has 210 MA's), (Start: 65 @29482 has 6 MA's), (91, 29365), (99, 29317), (137, 29188),

Gene: Aziz\_4 Start: 1899, Stop: 1510, Start Num: 53

Candidate Starts for Aziz\_4:

(Start: 53 @1899 has 48 MA's), (Start: 60 @1887 has 2 MA's), (Start: 65 @1875 has 6 MA's), (71, 1836), (105, 1674),

Gene: BAKA\_63 Start: 46516, Stop: 46166, Start Num: 55

Candidate Starts for BAKA\_63:

(Start: 55 @46516 has 34 MA's), (64, 46504), (66, 46498), (110, 46315), (125, 46288), (132, 46246),

Gene: BaboJay\_38 Start: 34028, Stop: 33642, Start Num: 52

Candidate Starts for BaboJay\_38:

(Start: 52 @34028 has 210 MA's), (83, 33926), (88, 33902), (128, 33791), (132, 33758), (136, 33728),

Gene: Bachita\_62 Start: 41686, Stop: 41351, Start Num: 47

Candidate Starts for Bachita\_62:

(Start: 47 @41686 has 23 MA's), (Start: 60 @41662 has 2 MA's), (Start: 61 @41659 has 2 MA's), (78, 41590), (87, 41554), (99, 41488), (100, 41485), (132, 41410), (135, 41392), (137, 41377),

Gene: BadStone\_39 Start: 34768, Stop: 34382, Start Num: 52

Candidate Starts for BadStone\_39:

(Start: 52 @34768 has 210 MA's), (83, 34666), (88, 34642), (128, 34531), (132, 34498), (136, 34468),

Gene: Bagrid\_58 Start: 45849, Stop: 45499, Start Num: 55

Candidate Starts for Bagrid\_58:

(Start: 55 @45849 has 34 MA's), (64, 45837), (66, 45831), (110, 45648), (125, 45621), (132, 45579),

Gene: Balomoji\_38 Start: 34364, Stop: 33978, Start Num: 52

Candidate Starts for Balomoji\_38:

(Start: 52 @34364 has 210 MA's), (83, 34262), (88, 34238), (128, 34127), (132, 34094), (136, 34064),

Gene: Bantam\_42 Start: 39895, Stop: 39533, Start Num: 48

Candidate Starts for Bantam\_42:

(7, 40018), (32, 39928), (Start: 48 @39895 has 9 MA's), (Start: 65 @39862 has 6 MA's), (69, 39832), (70, 39829), (Start: 72 @39823 has 1 MA's), (92, 39739), (126, 39637),

Gene: Baoshan\_35 Start: 30506, Stop: 30036, Start Num: 52

Candidate Starts for Baoshan\_35:

(Start: 52 @30506 has 210 MA's), (77, 30428), (78, 30419), (91, 30365), (122, 30269), (132, 30221), (137, 30188),

Gene: Barbarian\_37 Start: 32807, Stop: 32421, Start Num: 52

Candidate Starts for Barbarian\_37:

(Start: 52 @32807 has 210 MA's), (83, 32705), (88, 32681), (128, 32570), (132, 32537), (136, 32507),

Gene: Bask21\_38 Start: 33141, Stop: 32755, Start Num: 52

Candidate Starts for Bask21\_38:

(Start: 52 @33141 has 210 MA's), (83, 33039), (88, 33015), (128, 32904), (132, 32871), (136, 32841),

Gene: Battleship\_35 Start: 23560, Stop: 24006, Start Num: 11

Candidate Starts for Battleship\_35:

(Start: 11 @23560 has 3 MA's), (42, 23632), (Start: 53 @23650 has 48 MA's), (Start: 65 @23674 has 6 MA's), (75, 23719), (88, 23776), (91, 23788), (106, 23851), (134, 23959), (137, 23977),

Gene: Baudelaire\_39 Start: 33436, Stop: 33011, Start Num: 51

Candidate Starts for Baudelaire\_39:

(Start: 51 @33436 has 15 MA's), (85, 33322), (96, 33265), (119, 33211), (132, 33154), (143, 33022),

Gene: Bazzle\_36 Start: 30912, Stop: 30448, Start Num: 52

Candidate Starts for Bazzle\_36:

(Start: 52 @30912 has 210 MA's), (91, 30771), (94, 30753), (122, 30675),

Gene: Becksu\_38 Start: 34129, Stop: 33743, Start Num: 52

Candidate Starts for Becksu\_38:

(Start: 52 @34129 has 210 MA's), (83, 34027), (88, 34003), (128, 33892), (132, 33859), (136, 33829),

Gene: Beem\_59 Start: 46415, Stop: 46065, Start Num: 55

Candidate Starts for Beem\_59:

(Start: 55 @46415 has 34 MA's), (64, 46403), (66, 46397), (110, 46214), (125, 46187), (132, 46145),

Gene: Bellis\_34 Start: 30922, Stop: 30485, Start Num: 52

Candidate Starts for Bellis\_34:

(Start: 52 @30922 has 210 MA's), (91, 30781), (130, 30637), (137, 30598),

Gene: Bench\_41 Start: 34046, Stop: 33660, Start Num: 52

Candidate Starts for Bench\_41:

(Start: 52 @34046 has 210 MA's), (83, 33944), (88, 33920), (128, 33809), (132, 33776), (136, 33746),

Gene: BigBubba\_39 Start: 33709, Stop: 33323, Start Num: 52

Candidate Starts for BigBubba\_39:

(2, 33913), (Start: 52 @33709 has 210 MA's), (83, 33607), (88, 33583), (128, 33472), (132, 33439), (136, 33409),

Gene: BigCheese\_36 Start: 30674, Stop: 30213, Start Num: 52

Candidate Starts for BigCheese\_36:

(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: BilboSwaggins\_39 Start: 34638, Stop: 34252, Start Num: 52

Candidate Starts for BilboSwaggins\_39:

(Start: 52 @34638 has 210 MA's), (83, 34536), (88, 34512), (128, 34401), (132, 34368), (136, 34338),

Gene: Bimmel\_68 Start: 45702, Stop: 45361, Start Num: 52

Candidate Starts for Bimmel\_68:

(Start: 52 @45702 has 210 MA's), (Start: 72 @45639 has 1 MA's), (84, 45594), (111, 45492),

Gene: Bobby\_58 Start: 45361, Stop: 45011, Start Num: 55

Candidate Starts for Bobby\_58:

(Start: 55 @45361 has 34 MA's), (64, 45349), (66, 45343), (110, 45160), (132, 45091),

Gene: BobsGarage\_36 Start: 30674, Stop: 30213, Start Num: 52

Candidate Starts for BobsGarage\_36:

(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: Bogg\_39 Start: 33378, Stop: 32992, Start Num: 52

Candidate Starts for Bogg\_39:

(Start: 52 @33378 has 210 MA's), (83, 33276), (88, 33252), (128, 33141), (132, 33108), (136, 33078),

Gene: Bombitas\_56 Start: 46010, Stop: 45660, Start Num: 55

Candidate Starts for Bombitas\_56:

(Start: 55 @46010 has 34 MA's), (64, 45998), (66, 45992), (110, 45809), (125, 45782), (132, 45740),

Gene: Bongo\_3 Start: 1873, Stop: 1496, Start Num: 53

Candidate Starts for Bongo\_3:

(Start: 53 @1873 has 48 MA's), (79, 1783), (103, 1669), (128, 1591),

Gene: Boohoo\_34 Start: 23538, Stop: 23894, Start Num: 53

Candidate Starts for Boohoo\_34:

(Start: 11 @23448 has 3 MA's), (42, 23520), (Start: 53 @23538 has 48 MA's), (Start: 60 @23550 has 2 MA's), (Start: 65 @23562 has 6 MA's), (75, 23607), (88, 23664), (91, 23676), (106, 23739), (134, 23847), (137, 23865),

Gene: BourbonZero\_33 Start: 30875, Stop: 30438, Start Num: 52

Candidate Starts for BourbonZero\_33:

(22, 30932), (Start: 37 @30905 has 1 MA's), (Start: 52 @30875 has 210 MA's), (91, 30734), (130, 30590), (137, 30551),

Gene: BrainDrainer\_34 Start: 29766, Stop: 29308, Start Num: 52

Candidate Starts for BrainDrainer\_34:

(17, 29835), (21, 29817), (Start: 52 @29766 has 210 MA's), (70, 29706), (77, 29688), (132, 29484), (137, 29451), (144, 29352),

Gene: Breezona\_36 Start: 30674, Stop: 30213, Start Num: 52

Candidate Starts for Breezona\_36:

(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: Brewer\_38 Start: 34211, Stop: 33825, Start Num: 52

Candidate Starts for Brewer\_38:

(Start: 52 @34211 has 210 MA's), (83, 34109), (88, 34085), (128, 33974), (132, 33941), (136, 33911),

Gene: Bricole\_3 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for Bricole\_3:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: Bromden\_35 Start: 30186, Stop: 29725, Start Num: 52

Candidate Starts for Bromden\_35:

(30, 30225), (Start: 52 @30186 has 210 MA's), (77, 30108), (132, 29901), (137, 29868), (144, 29769),

Gene: BronnyJames\_53 Start: 41173, Stop: 40775, Start Num: 36

Candidate Starts for BronnyJames\_53:  
(Start: 36 @41173 has 1 MA's), (Start: 58 @41134 has 6 MA's),

Gene: Bruin\_39 Start: 34205, Stop: 33819, Start Num: 52  
Candidate Starts for Bruin\_39:  
(Start: 52 @34205 has 210 MA's), (83, 34103), (88, 34079), (128, 33968), (132, 33935), (136, 33905),

Gene: BrutonGaster\_49 Start: 39010, Stop: 38663, Start Num: 47  
Candidate Starts for BrutonGaster\_49:  
(Start: 47 @39010 has 23 MA's), (87, 38878),

Gene: Buck\_37 Start: 33902, Stop: 33516, Start Num: 52  
Candidate Starts for Buck\_37:  
(Start: 52 @33902 has 210 MA's), (83, 33800), (88, 33776), (128, 33665), (132, 33632), (136, 33602),

Gene: Budgie\_41 Start: 33608, Stop: 33219, Start Num: 52  
Candidate Starts for Budgie\_41:  
(Start: 52 @33608 has 210 MA's), (79, 33521), (80, 33518), (85, 33497), (88, 33482), (101, 33419),  
(108, 33407), (109, 33401), (136, 33302),

Gene: BugsBunny\_36 Start: 33535, Stop: 33149, Start Num: 52  
Candidate Starts for BugsBunny\_36:  
(Start: 52 @33535 has 210 MA's), (83, 33433), (88, 33409), (128, 33298), (132, 33265), (136, 33235),

Gene: CRB1\_32 Start: 25014, Stop: 25373, Start Num: 53  
Candidate Starts for CRB1\_32:  
(Start: 53 @25014 has 48 MA's), (Start: 62 @25032 has 2 MA's), (Start: 65 @25038 has 6 MA's), (70, 25074), (83, 25119), (97, 25188), (110, 25233),

Gene: Cactus\_39 Start: 33174, Stop: 32788, Start Num: 52  
Candidate Starts for Cactus\_39:  
(Start: 52 @33174 has 210 MA's), (83, 33072), (88, 33048), (128, 32937), (132, 32904), (136, 32874),

Gene: Calm\_33 Start: 29511, Stop: 29083, Start Num: 52  
Candidate Starts for Calm\_33:  
(Start: 52 @29511 has 210 MA's), (Start: 65 @29487 has 6 MA's), (91, 29370), (99, 29322), (137, 29193),

Gene: Cardigan\_63 Start: 45029, Stop: 44694, Start Num: 44  
Candidate Starts for Cardigan\_63:  
(44, 45029), (81, 44930), (139, 44705),

Gene: Celery\_52 Start: 35658, Stop: 35966, Start Num: 60  
Candidate Starts for Celery\_52:  
(Start: 46 @35634 has 6 MA's), (Start: 51 @35643 has 15 MA's), (Start: 60 @35658 has 2 MA's), (66, 35673), (88, 35772), (89, 35775), (91, 35784), (98, 35814), (123, 35856), (136, 35934),

Gene: Celia\_48 Start: 32359, Stop: 32676, Start Num: 51  
Candidate Starts for Celia\_48:  
(4, 32185), (8, 32233), (29, 32311), (Start: 51 @32359 has 15 MA's), (121, 32560), (129, 32590), (132, 32608), (135, 32626), (136, 32638), (139, 32662),

Gene: Chaser\_33 Start: 29584, Stop: 29126, Start Num: 52

Candidate Starts for Chaser\_33:  
(15, 29662), (17, 29653), (21, 29635), (Start: 52 @29584 has 210 MA's), (77, 29506), (132, 29302),

Gene: ChosenOne\_38 Start: 33171, Stop: 32785, Start Num: 52  
Candidate Starts for ChosenOne\_38:  
(Start: 52 @33171 has 210 MA's), (83, 33069), (88, 33045), (128, 32934), (132, 32901), (136, 32871),

Gene: ChotaBhai\_39 Start: 33303, Stop: 32917, Start Num: 52  
Candidate Starts for ChotaBhai\_39:  
(2, 33507), (Start: 52 @33303 has 210 MA's), (83, 33201), (88, 33177), (128, 33066), (132, 33033),  
(136, 33003),

Gene: ChutneyChips\_34 Start: 29763, Stop: 29305, Start Num: 52  
Candidate Starts for ChutneyChips\_34:  
(15, 29841), (17, 29832), (21, 29814), (Start: 52 @29763 has 210 MA's), (Start: 65 @29739 has 6 MA's), (70, 29703), (77, 29685), (132, 29481),

Gene: CicholasNage\_33 Start: 29498, Stop: 29070, Start Num: 52  
Candidate Starts for CicholasNage\_33:  
(Start: 52 @29498 has 210 MA's), (Start: 65 @29474 has 6 MA's), (91, 29357), (99, 29309), (137, 29180),

Gene: Cjw1\_39 Start: 34945, Stop: 34559, Start Num: 52  
Candidate Starts for Cjw1\_39:  
(Start: 52 @34945 has 210 MA's), (83, 34843), (88, 34819), (128, 34708), (132, 34675), (136, 34645),

Gene: Claus\_36 Start: 30661, Stop: 30191, Start Num: 52  
Candidate Starts for Claus\_36:  
(Start: 52 @30661 has 210 MA's), (78, 30574), (91, 30520), (122, 30424), (132, 30376), (137, 30343),

Gene: Clautastrophe\_34 Start: 30921, Stop: 30484, Start Num: 52  
Candidate Starts for Clautastrophe\_34:  
(Start: 52 @30921 has 210 MA's), (91, 30780), (130, 30636), (137, 30597),

Gene: ClubL\_61 Start: 41176, Stop: 40841, Start Num: 47  
Candidate Starts for ClubL\_61:  
(Start: 47 @41176 has 23 MA's), (Start: 60 @41152 has 2 MA's), (Start: 61 @41149 has 2 MA's), (78, 41080), (87, 41044), (99, 40978), (100, 40975), (132, 40900), (135, 40882), (137, 40867),

Gene: Command613\_39 Start: 34213, Stop: 33827, Start Num: 52  
Candidate Starts for Command613\_39:  
(Start: 52 @34213 has 210 MA's), (83, 34111), (88, 34087), (128, 33976), (132, 33943), (136, 33913),

Gene: Conan\_49 Start: 35348, Stop: 35674, Start Num: 51  
Candidate Starts for Conan\_49:  
(Start: 51 @35348 has 15 MA's), (Start: 60 @35363 has 2 MA's), (Start: 62 @35369 has 2 MA's), (66, 35378), (Start: 72 @35414 has 1 MA's), (77, 35426), (88, 35477), (89, 35480), (98, 35519), (130, 35606), (136, 35642),

Gene: Constella\_49 Start: 42452, Stop: 42102, Start Num: 55  
Candidate Starts for Constella\_49:  
(Start: 55 @42452 has 34 MA's), (64, 42440), (66, 42434), (110, 42251), (125, 42224), (132, 42182),

Gene: Contagion\_39 Start: 33689, Stop: 33303, Start Num: 52

Candidate Starts for Contagion\_39:

(Start: 52 @33689 has 210 MA's), (83, 33587), (88, 33563), (128, 33452), (132, 33419), (136, 33389),

Gene: Cookies\_39 Start: 34054, Stop: 33668, Start Num: 52

Candidate Starts for Cookies\_39:

(Start: 52 @34054 has 210 MA's), (83, 33952), (88, 33928), (128, 33817), (132, 33784), (136, 33754),

Gene: Courthouse\_56 Start: 42823, Stop: 42464, Start Num: 58

Candidate Starts for Courthouse\_56:

(Start: 36 @42862 has 1 MA's), (Start: 58 @42823 has 6 MA's), (Start: 65 @42808 has 6 MA's), (115, 42610),

Gene: Crossroads\_36 Start: 30676, Stop: 30215, Start Num: 52

Candidate Starts for Crossroads\_36:

(Start: 52 @30676 has 210 MA's), (78, 30589), (91, 30535), (122, 30439), (132, 30391),

Gene: CrystalP\_40 Start: 34638, Stop: 34252, Start Num: 52

Candidate Starts for CrystalP\_40:

(Start: 52 @34638 has 210 MA's), (83, 34536), (88, 34512), (128, 34401), (132, 34368), (136, 34338),

Gene: Cucurbita\_62 Start: 42545, Stop: 42210, Start Num: 47

Candidate Starts for Cucurbita\_62:

(Start: 47 @42545 has 23 MA's), (Start: 60 @42521 has 2 MA's), (Start: 61 @42518 has 2 MA's), (78, 42449), (87, 42413), (99, 42347), (100, 42344), (132, 42269), (135, 42251), (137, 42236),

Gene: Culver\_62 Start: 40856, Stop: 40521, Start Num: 47

Candidate Starts for Culver\_62:

(Start: 47 @40856 has 23 MA's), (Start: 60 @40832 has 2 MA's), (Start: 61 @40829 has 2 MA's), (78, 40760), (87, 40724), (99, 40658), (100, 40655), (132, 40580), (135, 40562), (137, 40547),

Gene: Czyszczonek1\_40 Start: 33930, Stop: 33544, Start Num: 52

Candidate Starts for Czyszczonek1\_40:

(Start: 52 @33930 has 210 MA's), (83, 33828), (88, 33804), (128, 33693), (132, 33660), (136, 33630),

Gene: DHan\_37 Start: 30598, Stop: 30128, Start Num: 52

Candidate Starts for DHan\_37:

(Start: 52 @30598 has 210 MA's), (78, 30511), (91, 30457), (122, 30361), (132, 30313), (137, 30280),

Gene: Daikon\_39 Start: 34385, Stop: 33999, Start Num: 52

Candidate Starts for Daikon\_39:

(Start: 52 @34385 has 210 MA's), (83, 34283), (88, 34259), (128, 34148), (132, 34115), (136, 34085),

Gene: Dallas\_58 Start: 45336, Stop: 44986, Start Num: 55

Candidate Starts for Dallas\_58:

(Start: 55 @45336 has 34 MA's), (64, 45324), (66, 45318), (110, 45135), (125, 45108), (132, 45066),

Gene: DanBing\_36 Start: 30502, Stop: 30032, Start Num: 52

Candidate Starts for DanBing\_36:

(Start: 52 @30502 has 210 MA's), (77, 30424), (78, 30415), (91, 30361), (122, 30265), (132, 30217), (137, 30184),

Gene: Daredevil\_40 Start: 36674, Stop: 36315, Start Num: 48

Candidate Starts for Daredevil\_40:

(Start: 48 @36674 has 9 MA's), (69, 36611), (70, 36608), (78, 36581), (82, 36569), (91, 36527), (126, 36419), (128, 36410), (129, 36395), (132, 36377),

Gene: Darrell\_34 Start: 26216, Stop: 26572, Start Num: 53

Candidate Starts for Darrell\_34:

(Start: 53 @26216 has 48 MA's), (Start: 62 @26234 has 2 MA's), (Start: 65 @26240 has 6 MA's), (81, 26312), (88, 26345), (109, 26429),

Gene: DatBoi\_43 Start: 39944, Stop: 39582, Start Num: 48

Candidate Starts for DatBoi\_43:

(Start: 48 @39944 has 9 MA's), (Start: 65 @39911 has 6 MA's), (69, 39881), (70, 39878), (92, 39788), (126, 39686),

Gene: DekHockey33\_34 Start: 23681, Stop: 24013, Start Num: 65

Candidate Starts for DekHockey33\_34:

(Start: 11 @23567 has 3 MA's), (42, 23639), (Start: 53 @23657 has 48 MA's), (Start: 60 @23669 has 2 MA's), (Start: 65 @23681 has 6 MA's), (75, 23726), (88, 23783), (91, 23795), (106, 23858), (134, 23966), (137, 23984),

Gene: Dexers\_48 Start: 35583, Stop: 35906, Start Num: 51

Candidate Starts for Dexers\_48:

(Start: 51 @35583 has 15 MA's), (Start: 61 @35601 has 2 MA's), (Start: 72 @35649 has 1 MA's), (77, 35661), (88, 35712), (89, 35715), (93, 35736), (98, 35754), (136, 35874),

Gene: Diminimus\_4 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for Diminimus\_4:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: DirkDirk\_33 Start: 29496, Stop: 29068, Start Num: 52

Candidate Starts for DirkDirk\_33:

(Start: 52 @29496 has 210 MA's), (Start: 65 @29472 has 6 MA's), (91, 29355), (99, 29307), (137, 29178),

Gene: DmpstrDiver\_58 Start: 45763, Stop: 45413, Start Num: 55

Candidate Starts for DmpstrDiver\_58:

(Start: 55 @45763 has 34 MA's), (64, 45751), (66, 45745), (88, 45646), (110, 45562), (132, 45493),

Gene: DoctorDiddles\_39 Start: 33219, Stop: 32833, Start Num: 52

Candidate Starts for DoctorDiddles\_39:

(2, 33423), (Start: 52 @33219 has 210 MA's), (83, 33117), (88, 33093), (128, 32982), (132, 32949), (136, 32919),

Gene: Douge\_33 Start: 29522, Stop: 29064, Start Num: 52

Candidate Starts for Douge\_33:

(15, 29600), (17, 29591), (21, 29573), (Start: 52 @29522 has 210 MA's), (70, 29462), (77, 29444), (132, 29240), (137, 29207), (144, 29108),

Gene: Douzhi\_33 Start: 29627, Stop: 29169, Start Num: 52

Candidate Starts for Douzhi\_33:

(17, 29696), (21, 29678), (Start: 52 @29627 has 210 MA's), (70, 29567), (77, 29549), (132, 29345), (137, 29312), (144, 29213),

Gene: Dove\_54 Start: 45376, Stop: 45026, Start Num: 55  
Candidate Starts for Dove\_54:  
(Start: 55 @45376 has 34 MA's), (64, 45364), (66, 45358), (110, 45175), (125, 45148), (132, 45106),

Gene: DrDrey\_41 Start: 35267, Stop: 34881, Start Num: 52  
Candidate Starts for DrDrey\_41:  
(Start: 52 @35267 has 210 MA's), (83, 35165), (88, 35141), (128, 35030), (132, 34997), (136, 34967),

Gene: DrSeegs\_36 Start: 30674, Stop: 30213, Start Num: 52  
Candidate Starts for DrSeegs\_36:  
(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: Duke13\_62 Start: 46283, Stop: 45933, Start Num: 55  
Candidate Starts for Duke13\_62:  
(Start: 55 @46283 has 34 MA's), (64, 46271), (66, 46265), (110, 46082), (125, 46055), (132, 46013),

Gene: Dulcita\_4 Start: 1872, Stop: 1495, Start Num: 53  
Candidate Starts for Dulcita\_4:  
(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: Dumbo\_39 Start: 33652, Stop: 33266, Start Num: 52  
Candidate Starts for Dumbo\_39:  
(Start: 52 @33652 has 210 MA's), (83, 33550), (88, 33526), (128, 33415), (132, 33382), (136, 33352),

Gene: DuncansLeg\_34 Start: 30910, Stop: 30473, Start Num: 52  
Candidate Starts for DuncansLeg\_34:  
(Start: 52 @30910 has 210 MA's), (91, 30769), (130, 30625), (137, 30586),

Gene: Dusk\_39 Start: 34428, Stop: 34042, Start Num: 52  
Candidate Starts for Dusk\_39:  
(Start: 52 @34428 has 210 MA's), (83, 34326), (88, 34302), (128, 34191), (132, 34158), (136, 34128),

Gene: Dusty\_60 Start: 40991, Stop: 40656, Start Num: 47  
Candidate Starts for Dusty\_60:  
(Start: 47 @40991 has 23 MA's), (Start: 60 @40967 has 2 MA's), (Start: 61 @40964 has 2 MA's), (78, 40895), (87, 40859), (99, 40793), (100, 40790), (132, 40715), (135, 40697), (137, 40682),

Gene: DyoEdafos\_34 Start: 29729, Stop: 29259, Start Num: 52  
Candidate Starts for DyoEdafos\_34:  
(Start: 52 @29729 has 210 MA's), (78, 29642), (82, 29630), (91, 29588), (132, 29438), (141, 29375),

Gene: EagleEye\_35 Start: 25247, Stop: 25606, Start Num: 53  
Candidate Starts for EagleEye\_35:  
(Start: 49 @25241 has 1 MA's), (Start: 53 @25247 has 48 MA's), (Start: 62 @25265 has 2 MA's),  
(Start: 65 @25271 has 6 MA's), (74, 25316), (90, 25385), (97, 25421), (136, 25571), (138, 25586),

Gene: Easy2Say\_40 Start: 35196, Stop: 34810, Start Num: 52  
Candidate Starts for Easy2Say\_40:  
(Start: 52 @35196 has 210 MA's), (83, 35094), (88, 35070), (128, 34959), (132, 34926), (136, 34896),

Gene: Ejimix\_59 Start: 47200, Stop: 46850, Start Num: 55  
Candidate Starts for Ejimix\_59:  
(Start: 55 @47200 has 34 MA's), (64, 47188), (66, 47182), (110, 46999), (125, 46972), (132, 46930),

Gene: ElGato\_49 Start: 35012, Stop: 35338, Start Num: 51

Candidate Starts for ElGato\_49:

(Start: 51 @35012 has 15 MA's), (Start: 60 @35027 has 2 MA's), (Start: 62 @35033 has 2 MA's), (66, 35042), (Start: 72 @35078 has 1 MA's), (77, 35090), (88, 35141), (89, 35144), (98, 35183), (130, 35270), (136, 35306),

Gene: Elite2014\_37 Start: 33170, Stop: 32784, Start Num: 52

Candidate Starts for Elite2014\_37:

(Start: 52 @33170 has 210 MA's), (83, 33068), (88, 33044), (128, 32933), (132, 32900), (136, 32870),

Gene: Elle\_32 Start: 22846, Stop: 23160, Start Num: 65

Candidate Starts for Elle\_32:

(16, 22747), (20, 22765), (Start: 23 @22774 has 1 MA's), (29, 22783), (34, 22795), (Start: 53 @22822 has 48 MA's), (Start: 60 @22834 has 2 MA's), (Start: 65 @22846 has 6 MA's), (75, 22891), (88, 22948), (90, 22957), (109, 23023), (134, 23113), (137, 23131),

Gene: Ellson\_34 Start: 30887, Stop: 30450, Start Num: 52

Candidate Starts for Ellson\_34:

(22, 30944), (Start: 37 @30917 has 1 MA's), (Start: 52 @30887 has 210 MA's), (91, 30746), (130, 30602), (137, 30563),

Gene: Elph10\_39 Start: 33416, Stop: 33030, Start Num: 52

Candidate Starts for Elph10\_39:

(Start: 52 @33416 has 210 MA's), (83, 33314), (88, 33290), (128, 33179), (132, 33146), (136, 33116),

Gene: Emmina\_39 Start: 33873, Stop: 33487, Start Num: 52

Candidate Starts for Emmina\_39:

(Start: 52 @33873 has 210 MA's), (83, 33771), (88, 33747), (128, 33636), (132, 33603), (136, 33573),

Gene: Enceladus\_33 Start: 29480, Stop: 29052, Start Num: 52

Candidate Starts for Enceladus\_33:

(Start: 52 @29480 has 210 MA's), (Start: 65 @29456 has 6 MA's), (91, 29339), (99, 29291), (137, 29162),

Gene: Engineer\_62 Start: 41659, Stop: 41324, Start Num: 47

Candidate Starts for Engineer\_62:

(Start: 47 @41659 has 23 MA's), (Start: 60 @41635 has 2 MA's), (Start: 61 @41632 has 2 MA's), (78, 41563), (87, 41527), (99, 41461), (100, 41458), (132, 41383), (135, 41365), (137, 41350),

Gene: Epsocamisio\_34 Start: 23535, Stop: 23891, Start Num: 53

Candidate Starts for Epsocamisio\_34:

(Start: 11 @23445 has 3 MA's), (42, 23517), (Start: 53 @23535 has 48 MA's), (Start: 60 @23547 has 2 MA's), (Start: 65 @23559 has 6 MA's), (75, 23604), (88, 23661), (91, 23673), (106, 23736), (134, 23844), (137, 23862),

Gene: EricMillard\_59 Start: 46701, Stop: 46351, Start Num: 55

Candidate Starts for EricMillard\_59:

(Start: 55 @46701 has 34 MA's), (64, 46689), (66, 46683), (110, 46500), (125, 46473), (132, 46431),

Gene: Estes\_4 Start: 1910, Stop: 1521, Start Num: 53

Candidate Starts for Estes\_4:

(Start: 53 @1910 has 48 MA's), (Start: 60 @1898 has 2 MA's), (Start: 65 @1886 has 6 MA's), (71, 1847), (90, 1772), (93, 1757), (105, 1685),

Gene: Eureka\_39 Start: 34461, Stop: 34075, Start Num: 52

Candidate Starts for Eureka\_39:

(Start: 52 @34461 has 210 MA's), (83, 34359), (88, 34335), (128, 34224), (132, 34191), (136, 34161),

Gene: FairyPath\_38 Start: 34158, Stop: 33772, Start Num: 52

Candidate Starts for FairyPath\_38:

(Start: 52 @34158 has 210 MA's), (83, 34056), (88, 34032), (128, 33921), (132, 33888), (136, 33858),

Gene: Faith1\_36 Start: 30674, Stop: 30213, Start Num: 52

Candidate Starts for Faith1\_36:

(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: FarmResident\_33 Start: 29566, Stop: 29108, Start Num: 52

Candidate Starts for FarmResident\_33:

(17, 29635), (21, 29617), (Start: 52 @29566 has 210 MA's), (70, 29506), (77, 29488), (132, 29284), (137, 29251), (144, 29152),

Gene: Filch\_41 Start: 33944, Stop: 33558, Start Num: 52

Candidate Starts for Filch\_41:

(Start: 52 @33944 has 210 MA's), (83, 33842), (88, 33818), (128, 33707), (132, 33674), (136, 33644),

Gene: Finemlucis\_36 Start: 30950, Stop: 30489, Start Num: 52

Candidate Starts for Finemlucis\_36:

(Start: 52 @30950 has 210 MA's), (78, 30863), (91, 30809), (122, 30713), (132, 30665),

Gene: Finnry\_34 Start: 30924, Stop: 30487, Start Num: 52

Candidate Starts for Finnry\_34:

(Start: 52 @30924 has 210 MA's), (91, 30783), (130, 30639), (137, 30600),

Gene: FireRed\_38 Start: 33974, Stop: 33588, Start Num: 52

Candidate Starts for FireRed\_38:

(Start: 52 @33974 has 210 MA's), (83, 33872), (88, 33848), (128, 33737), (132, 33704), (136, 33674),

Gene: Flypotenuse\_36 Start: 33542, Stop: 33156, Start Num: 52

Candidate Starts for Flypotenuse\_36:

(Start: 52 @33542 has 210 MA's), (83, 33440), (88, 33416), (128, 33305), (132, 33272), (136, 33242),

Gene: FoghornLeghorn\_38 Start: 33689, Stop: 33303, Start Num: 52

Candidate Starts for FoghornLeghorn\_38:

(Start: 52 @33689 has 210 MA's), (83, 33587), (88, 33563), (128, 33452), (132, 33419), (136, 33389),

Gene: FreakyGoo\_4 Start: 1873, Stop: 1496, Start Num: 53

Candidate Starts for FreakyGoo\_4:

(Start: 53 @1873 has 48 MA's), (79, 1783), (103, 1669), (128, 1591),

Gene: Fryberger\_27 Start: 7779, Stop: 7438, Start Num: 46

Candidate Starts for Fryberger\_27:

(Start: 46 @7779 has 6 MA's), (63, 7746), (73, 7698), (83, 7659), (91, 7623), (134, 7488),

Gene: Fryberger\_64 Start: 36269, Stop: 35913, Start Num: 45

Candidate Starts for Fryberger\_64:

(25, 36314), (Start: 45 @36269 has 6 MA's), (54, 36254), (77, 36182), (139, 35951),

Gene: Gabriela\_36 Start: 30936, Stop: 30475, Start Num: 52

Candidate Starts for Gabriela\_36:

(Start: 52 @30936 has 210 MA's), (78, 30849), (91, 30795), (122, 30699), (132, 30651),

Gene: Gage\_40 Start: 33953, Stop: 33567, Start Num: 52

Candidate Starts for Gage\_40:

(Start: 52 @33953 has 210 MA's), (83, 33851), (88, 33827), (128, 33716), (132, 33683), (136, 33653),

Gene: Gaia\_43 Start: 33889, Stop: 33491, Start Num: 31

Candidate Starts for Gaia\_43:

(Start: 31 @33889 has 1 MA's), (35, 33877), (Start: 57 @33835 has 1 MA's), (76, 33769), (86, 33724), (142, 33502),

Gene: Gail\_34 Start: 25909, Stop: 26265, Start Num: 53

Candidate Starts for Gail\_34:

(Start: 53 @25909 has 48 MA's), (89, 26041), (93, 26062), (97, 26083),

Gene: Gardann\_36 Start: 30676, Stop: 30215, Start Num: 52

Candidate Starts for Gardann\_36:

(Start: 52 @30676 has 210 MA's), (78, 30589), (91, 30535), (94, 30517), (122, 30439), (132, 30391),

Gene: GardenSalsa\_4 Start: 1910, Stop: 1521, Start Num: 53

Candidate Starts for GardenSalsa\_4:

(Start: 53 @1910 has 48 MA's), (Start: 60 @1898 has 2 MA's), (Start: 65 @1886 has 6 MA's), (71, 1847), (90, 1772), (93, 1757), (105, 1685),

Gene: Gator\_37 Start: 34255, Stop: 33869, Start Num: 52

Candidate Starts for Gator\_37:

(Start: 52 @34255 has 210 MA's), (83, 34153), (88, 34129), (128, 34018), (132, 33985), (136, 33955),

Gene: Geeche\_59 Start: 41075, Stop: 40740, Start Num: 47

Candidate Starts for Geeche\_59:

(Start: 47 @41075 has 23 MA's), (Start: 60 @41051 has 2 MA's), (Start: 61 @41048 has 2 MA's), (78, 40979), (87, 40943), (99, 40877), (100, 40874), (132, 40799), (135, 40781), (137, 40766),

Gene: Gemini\_41 Start: 34470, Stop: 34084, Start Num: 52

Candidate Starts for Gemini\_41:

(Start: 52 @34470 has 210 MA's), (83, 34368), (88, 34344), (128, 34233), (132, 34200), (136, 34170),

Gene: GenevaB15\_4 Start: 1899, Stop: 1510, Start Num: 53

Candidate Starts for GenevaB15\_4:

(Start: 53 @1899 has 48 MA's), (Start: 60 @1887 has 2 MA's), (Start: 65 @1875 has 6 MA's), (71, 1836), (105, 1674),

Gene: Glaske16\_4 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for Glaske16\_4:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: Glexan\_37 Start: 34243, Stop: 33857, Start Num: 52

Candidate Starts for Glexan\_37:

(Start: 52 @34243 has 210 MA's), (83, 34141), (88, 34117), (128, 34006), (132, 33973), (136, 33943),

Gene: Goku\_39 Start: 34190, Stop: 33804, Start Num: 52

Candidate Starts for Goku\_39:

(Start: 52 @34190 has 210 MA's), (83, 34088), (88, 34064), (128, 33953), (132, 33920), (136, 33890),

Gene: GoldenSpark\_40 Start: 33953, Stop: 33567, Start Num: 52

Candidate Starts for GoldenSpark\_40:

(Start: 52 @33953 has 210 MA's), (83, 33851), (88, 33827), (128, 33716), (132, 33683), (136, 33653),

Gene: Goldilocks\_39 Start: 33455, Stop: 33069, Start Num: 52

Candidate Starts for Goldilocks\_39:

(Start: 52 @33455 has 210 MA's), (83, 33353), (88, 33329), (128, 33218), (132, 33185), (136, 33155),

Gene: Gonephishing\_59 Start: 44098, Stop: 43742, Start Num: 55

Candidate Starts for Gonephishing\_59:

(Start: 55 @44098 has 34 MA's), (115, 43888), (130, 43831), (137, 43792),

Gene: GooberAzure\_40 Start: 33953, Stop: 33567, Start Num: 52

Candidate Starts for GooberAzure\_40:

(Start: 52 @33953 has 210 MA's), (83, 33851), (88, 33827), (128, 33716), (132, 33683), (136, 33653),

Gene: Greep\_39 Start: 34266, Stop: 33880, Start Num: 52

Candidate Starts for Greep\_39:

(Start: 52 @34266 has 210 MA's), (83, 34164), (88, 34140), (128, 34029), (132, 33996), (136, 33966),

Gene: Guey18\_70 Start: 37789, Stop: 37433, Start Num: 45

Candidate Starts for Guey18\_70:

(25, 37834), (Start: 45 @37789 has 6 MA's), (54, 37774), (77, 37702), (139, 37471),

Gene: Guey18\_31 Start: 8640, Stop: 8299, Start Num: 46

Candidate Starts for Guey18\_31:

(Start: 46 @8640 has 6 MA's), (63, 8607), (73, 8559), (83, 8520), (91, 8484), (134, 8349),

Gene: GuuelaD\_36 Start: 30713, Stop: 30252, Start Num: 52

Candidate Starts for GuuelaD\_36:

(Start: 52 @30713 has 210 MA's), (78, 30626), (91, 30572), (122, 30476), (132, 30428),

Gene: Hafay\_36 Start: 30708, Stop: 30244, Start Num: 52

Candidate Starts for Hafay\_36:

(Start: 52 @30708 has 210 MA's), (78, 30621), (91, 30567), (94, 30549), (122, 30471), (128, 30456), (132, 30423),

Gene: Halena\_33 Start: 29507, Stop: 29079, Start Num: 52

Candidate Starts for Halena\_33:

(Start: 52 @29507 has 210 MA's), (Start: 65 @29483 has 6 MA's), (91, 29366), (99, 29318), (137, 29189),

Gene: Halley\_59 Start: 46414, Stop: 46064, Start Num: 55

Candidate Starts for Halley\_59:

(Start: 55 @46414 has 34 MA's), (64, 46402), (66, 46396), (110, 46213), (125, 46186), (132, 46144),

Gene: HanKaySha\_40 Start: 33927, Stop: 33541, Start Num: 52

Candidate Starts for HanKaySha\_40:  
(Start: 52 @33927 has 210 MA's), (83, 33825), (88, 33801), (128, 33690), (132, 33657), (136, 33627),

Gene: Hannaconda\_55 Start: 40903, Stop: 40553, Start Num: 55  
Candidate Starts for Hannaconda\_55:  
(Start: 55 @40903 has 34 MA's), (64, 40891), (66, 40885), (110, 40702), (125, 40675), (132, 40633),

Gene: Harella\_39 Start: 34759, Stop: 34373, Start Num: 52  
Candidate Starts for Harella\_39:  
(Start: 52 @34759 has 210 MA's), (83, 34657), (88, 34633), (128, 34522), (132, 34489), (136, 34459),

Gene: Henry\_40 Start: 34647, Stop: 34261, Start Num: 52  
Candidate Starts for Henry\_40:  
(Start: 52 @34647 has 210 MA's), (83, 34545), (88, 34521), (128, 34410), (132, 34377), (136, 34347),

Gene: Hidrated\_57 Start: 46099, Stop: 45749, Start Num: 55  
Candidate Starts for Hidrated\_57:  
(Start: 55 @46099 has 34 MA's), (64, 46087), (66, 46081), (110, 45898), (125, 45871), (132, 45829),

Gene: Highbury\_40 Start: 33715, Stop: 33329, Start Num: 52  
Candidate Starts for Highbury\_40:  
(Start: 52 @33715 has 210 MA's), (83, 33613), (88, 33589), (128, 33478), (132, 33445), (136, 33415),

Gene: HokkenD\_52 Start: 44683, Stop: 44333, Start Num: 55  
Candidate Starts for HokkenD\_52:  
(Start: 55 @44683 has 34 MA's), (64, 44671), (66, 44665), (110, 44482), (125, 44455), (132, 44413),

Gene: Holt\_40 Start: 33334, Stop: 32948, Start Num: 52  
Candidate Starts for Holt\_40:  
(2, 33538), (Start: 52 @33334 has 210 MA's), (83, 33232), (88, 33208), (128, 33097), (132, 33064),  
(136, 33034),

Gene: Hoonter\_40 Start: 33953, Stop: 33567, Start Num: 52  
Candidate Starts for Hoonter\_40:  
(Start: 52 @33953 has 210 MA's), (83, 33851), (88, 33827), (128, 33716), (132, 33683), (136, 33653),

Gene: Hopey\_41 Start: 34462, Stop: 34076, Start Num: 52  
Candidate Starts for Hopey\_41:  
(Start: 52 @34462 has 210 MA's), (83, 34360), (88, 34336), (128, 34225), (132, 34192), (136, 34162),

Gene: HufflyPuff\_37 Start: 33930, Stop: 33544, Start Num: 52  
Candidate Starts for HufflyPuff\_37:  
(Start: 52 @33930 has 210 MA's), (83, 33828), (88, 33804), (128, 33693), (132, 33660), (136, 33630),

Gene: Hughesyang\_57 Start: 46343, Stop: 45993, Start Num: 55  
Candidate Starts for Hughesyang\_57:  
(Start: 55 @46343 has 34 MA's), (64, 46331), (66, 46325), (110, 46142), (125, 46115), (132, 46073),

Gene: IHOP\_38 Start: 34202, Stop: 33816, Start Num: 52  
Candidate Starts for IHOP\_38:  
(Start: 52 @34202 has 210 MA's), (83, 34100), (88, 34076), (128, 33965), (132, 33932), (136, 33902),

Gene: IPhone7\_3 Start: 1873, Stop: 1496, Start Num: 53

Candidate Starts for IPhone7\_3:

(Start: 53 @1873 has 48 MA's), (79, 1783), (103, 1669), (128, 1591),

Gene: Icee\_37 Start: 33621, Stop: 33235, Start Num: 52

Candidate Starts for Icee\_37:

(Start: 52 @33621 has 210 MA's), (83, 33519), (88, 33495), (128, 33384), (132, 33351), (136, 33321),

Gene: Inca\_37 Start: 32727, Stop: 32341, Start Num: 52

Candidate Starts for Inca\_37:

(Start: 52 @32727 has 210 MA's), (83, 32625), (88, 32601), (128, 32490), (132, 32457), (136, 32427),

Gene: Itos\_36 Start: 30674, Stop: 30213, Start Num: 52

Candidate Starts for Itos\_36:

(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: Itza\_48 Start: 32273, Stop: 32590, Start Num: 51

Candidate Starts for Itza\_48:

(4, 32099), (8, 32147), (29, 32225), (Start: 51 @32273 has 15 MA's), (121, 32474), (132, 32522), (135, 32540), (136, 32552), (139, 32576),

Gene: Izel\_4 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for Izel\_4:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: JSwag\_34 Start: 23545, Stop: 23877, Start Num: 65

Candidate Starts for JSwag\_34:

(Start: 11 @23431 has 3 MA's), (42, 23503), (Start: 53 @23521 has 48 MA's), (Start: 60 @23533 has 2 MA's), (Start: 65 @23545 has 6 MA's), (75, 23590), (88, 23647), (91, 23659), (106, 23722), (134, 23830), (137, 23848),

Gene: JeTaime\_41 Start: 34986, Stop: 34600, Start Num: 52

Candidate Starts for JeTaime\_41:

(Start: 52 @34986 has 210 MA's), (83, 34884), (88, 34860), (128, 34749), (132, 34716), (136, 34686),

Gene: Jeeves\_33 Start: 24601, Stop: 24957, Start Num: 53

Candidate Starts for Jeeves\_33:

(14, 24511), (40, 24574), (Start: 53 @24601 has 48 MA's), (Start: 60 @24613 has 2 MA's), (89, 24733), (117, 24829), (137, 24925),

Gene: Jhitchelle\_47 Start: 34899, Stop: 35210, Start Num: 60

Candidate Starts for Jhitchelle\_47:

(Start: 51 @34884 has 15 MA's), (Start: 60 @34899 has 2 MA's), (91, 35025), (98, 35055), (123, 35100), (136, 35178), (137, 35181),

Gene: Jobypre\_34 Start: 30921, Stop: 30484, Start Num: 52

Candidate Starts for Jobypre\_34:

(Start: 52 @30921 has 210 MA's), (91, 30780), (130, 30636), (137, 30597),

Gene: JoeDirt\_33 Start: 29478, Stop: 29050, Start Num: 52

Candidate Starts for JoeDirt\_33:

(Start: 52 @29478 has 210 MA's), (Start: 65 @29454 has 6 MA's), (91, 29337), (99, 29289), (137, 29160),

Gene: Jubie\_34 Start: 30922, Stop: 30485, Start Num: 52  
Candidate Starts for Jubie\_34:  
(Start: 52 @30922 has 210 MA's), (91, 30781), (130, 30637), (137, 30598),

Gene: JuicyJay\_58 Start: 47549, Stop: 47199, Start Num: 55  
Candidate Starts for JuicyJay\_58:  
(Start: 55 @47549 has 34 MA's), (64, 47537), (66, 47531), (110, 47348), (125, 47321), (132, 47279),

Gene: Kahlid\_36 Start: 30680, Stop: 30216, Start Num: 52  
Candidate Starts for Kahlid\_36:  
(Start: 52 @30680 has 210 MA's), (78, 30593), (91, 30539), (94, 30521), (122, 30443), (128, 30428),  
(132, 30395),

Gene: Kaine\_49 Start: 35407, Stop: 35712, Start Num: 61  
Candidate Starts for Kaine\_49:  
(Start: 51 @35389 has 15 MA's), (Start: 61 @35407 has 2 MA's), (Start: 72 @35455 has 1 MA's), (77, 35467), (88, 35518), (89, 35521), (93, 35542), (98, 35560), (136, 35680),

Gene: Kalah2\_55 Start: 45958, Stop: 45608, Start Num: 55  
Candidate Starts for Kalah2\_55:  
(Start: 55 @45958 has 34 MA's), (64, 45946), (66, 45940), (110, 45757), (132, 45688),

Gene: Kanye\_40 Start: 34949, Stop: 34563, Start Num: 52  
Candidate Starts for Kanye\_40:  
(Start: 52 @34949 has 210 MA's), (83, 34847), (88, 34823), (128, 34712), (132, 34679), (136, 34649),

Gene: KashFlow\_52 Start: 40524, Stop: 40174, Start Num: 55  
Candidate Starts for KashFlow\_52:  
(Start: 55 @40524 has 34 MA's), (64, 40512), (66, 40506), (110, 40323), (125, 40296), (132, 40254),

Gene: KatherineG\_34 Start: 23657, Stop: 24013, Start Num: 53  
Candidate Starts for KatherineG\_34:  
(Start: 11 @23567 has 3 MA's), (42, 23639), (Start: 53 @23657 has 48 MA's), (Start: 60 @23669 has 2 MA's), (Start: 65 @23681 has 6 MA's), (75, 23726), (88, 23783), (91, 23795), (106, 23858), (134, 23966), (137, 23984),

Gene: Keelan\_63 Start: 36695, Stop: 36342, Start Num: 45  
Candidate Starts for Keelan\_63:  
(1, 36905), (5, 36845), (16, 36767), (18, 36755), (42, 36701), (Start: 45 @36695 has 6 MA's), (54, 36680), (86, 36566), (118, 36491), (139, 36380),

Gene: Keelan\_24 Start: 7189, Stop: 6836, Start Num: 46  
Candidate Starts for Keelan\_24:  
(Start: 46 @7189 has 6 MA's), (63, 7156), (88, 7045), (93, 7021), (124, 6946), (137, 6871),

Gene: Keziacharles14\_34 Start: 26571, Stop: 26927, Start Num: 53  
Candidate Starts for Keziacharles14\_34:  
(Start: 53 @26571 has 48 MA's), (Start: 62 @26589 has 2 MA's), (Start: 65 @26595 has 6 MA's), (109, 26784),

Gene: Kimchi\_40 Start: 33956, Stop: 33570, Start Num: 52  
Candidate Starts for Kimchi\_40:  
(Start: 52 @33956 has 210 MA's), (83, 33854), (88, 33830), (128, 33719), (132, 33686), (136, 33656),

Gene: Kingsolomon\_34 Start: 30921, Stop: 30484, Start Num: 52  
Candidate Starts for Kingsolomon\_34:  
(Start: 52 @30921 has 210 MA's), (91, 30780), (130, 30636), (137, 30597),

Gene: KirDoubleO7\_32 Start: 30920, Stop: 30483, Start Num: 52  
Candidate Starts for KirDoubleO7\_32:  
(22, 30977), (Start: 37 @30950 has 1 MA's), (Start: 52 @30920 has 210 MA's), (91, 30779), (130, 30635), (137, 30596),

Gene: Klein\_59 Start: 45981, Stop: 45631, Start Num: 55  
Candidate Starts for Klein\_59:  
(Start: 55 @45981 has 34 MA's), (64, 45969), (66, 45963), (110, 45780), (125, 45753), (132, 45711),

Gene: KleverKiS\_3 Start: 1872, Stop: 1495, Start Num: 53  
Candidate Starts for KleverKiS\_3:  
(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: Kostya\_39 Start: 33964, Stop: 33578, Start Num: 52  
Candidate Starts for Kostya\_39:  
(Start: 52 @33964 has 210 MA's), (83, 33862), (88, 33838), (128, 33727), (132, 33694), (136, 33664),

Gene: Kropertea\_33 Start: 29537, Stop: 29067, Start Num: 52  
Candidate Starts for Kropertea\_33:  
(Start: 52 @29537 has 210 MA's), (78, 29450), (82, 29438), (91, 29396), (132, 29246), (141, 29183),

Gene: Krypton555\_34 Start: 30829, Stop: 30389, Start Num: 52  
Candidate Starts for Krypton555\_34:  
(22, 30886), (Start: 37 @30859 has 1 MA's), (Start: 52 @30829 has 210 MA's), (91, 30688), (130, 30544), (137, 30505),

Gene: Kudfre\_37 Start: 30852, Stop: 30484, Start Num: 47  
Candidate Starts for Kudfre\_37:  
(Start: 47 @30852 has 23 MA's), (91, 30699), (132, 30558), (137, 30525),

Gene: Kumao\_4 Start: 1202, Stop: 834, Start Num: 50  
Candidate Starts for Kumao\_4:  
(26, 1244), (Start: 50 @1202 has 1 MA's), (Start: 53 @1196 has 48 MA's), (Start: 72 @1130 has 1 MA's), (81, 1100), (88, 1067), (112, 968), (136, 866),

Gene: LadyBird\_32 Start: 25226, Stop: 25567, Start Num: 62  
Candidate Starts for LadyBird\_32:  
(Start: 53 @25208 has 48 MA's), (Start: 62 @25226 has 2 MA's), (Start: 65 @25232 has 6 MA's), (70, 25268), (83, 25313), (88, 25337), (89, 25340), (130, 25496),

Gene: LastResort\_34 Start: 23538, Stop: 23894, Start Num: 53  
Candidate Starts for LastResort\_34:  
(Start: 11 @23448 has 3 MA's), (42, 23520), (Start: 53 @23538 has 48 MA's), (Start: 60 @23550 has 2 MA's), (Start: 65 @23562 has 6 MA's), (75, 23607), (88, 23664), (91, 23676), (106, 23739), (134, 23847), (137, 23865),

Gene: LeBron\_33 Start: 29522, Stop: 29094, Start Num: 52  
Candidate Starts for LeBron\_33:

(Start: 52 @29522 has 210 MA's), (Start: 65 @29498 has 6 MA's), (91, 29381), (99, 29333), (137, 29204),

Gene: Lewan\_36 Start: 30674, Stop: 30213, Start Num: 52

Candidate Starts for Lewan\_36:

(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: LilDestine\_36 Start: 30673, Stop: 30212, Start Num: 52

Candidate Starts for LilDestine\_36:

(Start: 52 @30673 has 210 MA's), (78, 30586), (91, 30532), (94, 30514), (122, 30436), (132, 30388),

Gene: LilJank\_38 Start: 32476, Stop: 32138, Start Num: 48

Candidate Starts for LilJank\_38:

(Start: 48 @32476 has 9 MA's), (Start: 72 @32404 has 1 MA's), (91, 32329), (107, 32275), (132, 32200), (137, 32167),

Gene: Lilac\_40 Start: 33443, Stop: 33057, Start Num: 52

Candidate Starts for Lilac\_40:

(Start: 52 @33443 has 210 MA's), (83, 33341), (88, 33317), (128, 33206), (132, 33173), (136, 33143),

Gene: LilhomieP\_3 Start: 1873, Stop: 1496, Start Num: 53

Candidate Starts for LilhomieP\_3:

(Start: 53 @1873 has 48 MA's), (79, 1783), (103, 1669), (128, 1591),

Gene: Lilizi\_40 Start: 33651, Stop: 33265, Start Num: 52

Candidate Starts for Lilizi\_40:

(Start: 52 @33651 has 210 MA's), (83, 33549), (88, 33525), (128, 33414), (132, 33381), (136, 33351),

Gene: Lilpickle\_37 Start: 33170, Stop: 32784, Start Num: 52

Candidate Starts for Lilpickle\_37:

(Start: 52 @33170 has 210 MA's), (83, 33068), (88, 33044), (128, 32933), (132, 32900), (136, 32870),

Gene: LittleE\_59 Start: 45436, Stop: 45074, Start Num: 55

Candidate Starts for LittleE\_59:

(Start: 55 @45436 has 34 MA's),

Gene: Liveloughbron\_39 Start: 34060, Stop: 33674, Start Num: 52

Candidate Starts for Liveloughbron\_39:

(Start: 52 @34060 has 210 MA's), (83, 33958), (88, 33934), (128, 33823), (132, 33790), (136, 33760),

Gene: LiyuLake\_34 Start: 30878, Stop: 30441, Start Num: 52

Candidate Starts for LiyuLake\_34:

(22, 30935), (Start: 37 @30908 has 1 MA's), (Start: 52 @30878 has 210 MA's), (91, 30737), (130, 30593), (137, 30554),

Gene: Loadrie\_36 Start: 30706, Stop: 30245, Start Num: 52

Candidate Starts for Loadrie\_36:

(Start: 52 @30706 has 210 MA's), (78, 30619), (91, 30565), (94, 30547), (122, 30469), (132, 30421),

Gene: LogiBear\_35 Start: 24147, Stop: 24512, Start Num: 65

Candidate Starts for LogiBear\_35:

(29, 24081), (Start: 50 @24117 has 1 MA's), (Start: 53 @24123 has 48 MA's), (Start: 62 @24141 has 2 MA's), (Start: 65 @24147 has 6 MA's), (70, 24183), (93, 24276), (97, 24297),

Gene: Lolly9\_34 Start: 30693, Stop: 30253, Start Num: 52

Candidate Starts for Lolly9\_34:

(Start: 52 @30693 has 210 MA's), (91, 30552), (94, 30534), (130, 30408), (137, 30369),

Gene: Looper\_35 Start: 23535, Stop: 23891, Start Num: 53

Candidate Starts for Looper\_35:

(Start: 11 @23445 has 3 MA's), (42, 23517), (Start: 53 @23535 has 48 MA's), (Start: 60 @23547 has 2 MA's), (Start: 65 @23559 has 6 MA's), (75, 23604), (88, 23661), (91, 23673), (106, 23736), (134, 23844), (137, 23862),

Gene: Lozinak\_61 Start: 41485, Stop: 41150, Start Num: 47

Candidate Starts for Lozinak\_61:

(Start: 47 @41485 has 23 MA's), (Start: 60 @41461 has 2 MA's), (Start: 61 @41458 has 2 MA's), (78, 41389), (87, 41353), (99, 41287), (132, 41209), (135, 41191), (137, 41176),

Gene: Luchador\_36 Start: 27109, Stop: 27465, Start Num: 53

Candidate Starts for Luchador\_36:

(3, 26908), (41, 27085), (Start: 53 @27109 has 48 MA's), (Start: 60 @27121 has 2 MA's), (89, 27241), (117, 27337), (127, 27364), (137, 27433),

Gene: Lucky2013\_57 Start: 42959, Stop: 42600, Start Num: 58

Candidate Starts for Lucky2013\_57:

(Start: 36 @42998 has 1 MA's), (Start: 58 @42959 has 6 MA's), (Start: 65 @42944 has 6 MA's), (115, 42746),

Gene: Lucyedi\_34 Start: 25248, Stop: 25607, Start Num: 53

Candidate Starts for Lucyedi\_34:

(Start: 49 @25242 has 1 MA's), (Start: 53 @25248 has 48 MA's), (Start: 62 @25266 has 2 MA's), (Start: 65 @25272 has 6 MA's), (74, 25317), (90, 25386), (136, 25572), (138, 25587),

Gene: Lumos\_34 Start: 30918, Stop: 30481, Start Num: 52

Candidate Starts for Lumos\_34:

(Start: 52 @30918 has 210 MA's), (91, 30777), (130, 30633), (137, 30594),

Gene: Lynnae\_36 Start: 30663, Stop: 30199, Start Num: 52

Candidate Starts for Lynnae\_36:

(Start: 52 @30663 has 210 MA's), (78, 30576), (91, 30522), (94, 30504), (122, 30426), (128, 30411), (132, 30378),

Gene: MAckerman\_33 Start: 29502, Stop: 29074, Start Num: 52

Candidate Starts for MAckerman\_33:

(Start: 52 @29502 has 210 MA's), (Start: 65 @29478 has 6 MA's), (91, 29361), (99, 29313), (137, 29184),

Gene: MISSy\_37 Start: 33459, Stop: 33073, Start Num: 52

Candidate Starts for MISSy\_37:

(Start: 52 @33459 has 210 MA's), (83, 33357), (88, 33333), (128, 33222), (132, 33189), (136, 33159),

Gene: MPhalcon\_37 Start: 33452, Stop: 33066, Start Num: 52

Candidate Starts for MPhalcon\_37:

(Start: 52 @33452 has 210 MA's), (83, 33350), (88, 33326), (128, 33215), (132, 33182), (136, 33152),

Gene: MadamMonkfish\_39 Start: 33476, Stop: 33090, Start Num: 52  
Candidate Starts for MadamMonkfish\_39:  
(Start: 52 @33476 has 210 MA's), (83, 33374), (88, 33350), (128, 33239), (132, 33206), (136, 33176),

Gene: Magritte\_78 Start: 65825, Stop: 66166, Start Num: 47  
Candidate Starts for Magritte\_78:  
(Start: 47 @65825 has 23 MA's), (59, 65846), (Start: 65 @65861 has 6 MA's), (68, 65891), (137, 66137),

Gene: Manda\_39 Start: 34431, Stop: 34045, Start Num: 52  
Candidate Starts for Manda\_39:  
(Start: 52 @34431 has 210 MA's), (83, 34329), (88, 34305), (128, 34194), (132, 34161), (136, 34131),

Gene: Marleymoo\_58 Start: 45997, Stop: 45647, Start Num: 55  
Candidate Starts for Marleymoo\_58:  
(Start: 55 @45997 has 34 MA's), (64, 45985), (66, 45979), (110, 45796), (125, 45769), (132, 45727),

Gene: Marshmallow\_39 Start: 34636, Stop: 34250, Start Num: 52  
Candidate Starts for Marshmallow\_39:  
(Start: 52 @34636 has 210 MA's), (83, 34534), (88, 34510), (128, 34399), (132, 34366), (136, 34336),

Gene: Maxxinista\_39 Start: 33413, Stop: 33027, Start Num: 52  
Candidate Starts for Maxxinista\_39:  
(Start: 52 @33413 has 210 MA's), (83, 33311), (88, 33287), (128, 33176), (132, 33143), (136, 33113),

Gene: MiaZeal\_56 Start: 42634, Stop: 42275, Start Num: 58  
Candidate Starts for MiaZeal\_56:  
(Start: 36 @42673 has 1 MA's), (Start: 58 @42634 has 6 MA's), (Start: 65 @42619 has 6 MA's), (115, 42421),

Gene: Miley16\_36 Start: 30674, Stop: 30213, Start Num: 52  
Candidate Starts for Miley16\_36:  
(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: Mindy\_40 Start: 33835, Stop: 33449, Start Num: 52  
Candidate Starts for Mindy\_40:  
(2, 34039), (Start: 52 @33835 has 210 MA's), (83, 33733), (88, 33709), (128, 33598), (132, 33565), (136, 33535),

Gene: MinecraftSteve\_35 Start: 23657, Stop: 24013, Start Num: 53  
Candidate Starts for MinecraftSteve\_35:  
(Start: 11 @23567 has 3 MA's), (42, 23639), (Start: 53 @23657 has 48 MA's), (Start: 60 @23669 has 2 MA's), (Start: 65 @23681 has 6 MA's), (75, 23726), (88, 23783), (91, 23795), (106, 23858), (134, 23966), (137, 23984),

Gene: Minerva\_65 Start: 47831, Stop: 47481, Start Num: 55  
Candidate Starts for Minerva\_65:  
(Start: 55 @47831 has 34 MA's), (64, 47819), (66, 47813), (110, 47630), (125, 47603), (132, 47561),

Gene: MiniLon\_34 Start: 30694, Stop: 30254, Start Num: 52  
Candidate Starts for MiniLon\_34:  
(Start: 52 @30694 has 210 MA's), (91, 30553), (94, 30535), (130, 30409), (137, 30370),

Gene: MiniMac\_34 Start: 30691, Stop: 30251, Start Num: 52

Candidate Starts for MiniMac\_34:

(Start: 52 @30691 has 210 MA's), (91, 30550), (94, 30532), (130, 30406), (137, 30367),

Gene: Miniwave\_38 Start: 34160, Stop: 33774, Start Num: 52

Candidate Starts for Miniwave\_38:

(Start: 52 @34160 has 210 MA's), (83, 34058), (88, 34034), (128, 33923), (132, 33890), (136, 33860),

Gene: Misfit\_38 Start: 34033, Stop: 33647, Start Num: 52

Candidate Starts for Misfit\_38:

(Start: 52 @34033 has 210 MA's), (83, 33931), (88, 33907), (128, 33796), (132, 33763), (136, 33733),

Gene: Miskis\_58 Start: 41019, Stop: 40684, Start Num: 47

Candidate Starts for Miskis\_58:

(Start: 47 @41019 has 23 MA's), (Start: 60 @40995 has 2 MA's), (Start: 61 @40992 has 2 MA's), (78, 40923), (87, 40887), (99, 40821), (100, 40818), (132, 40743), (135, 40725), (137, 40710),

Gene: MkaliMitinis3\_36 Start: 30675, Stop: 30211, Start Num: 52

Candidate Starts for MkaliMitinis3\_36:

(Start: 52 @30675 has 210 MA's), (78, 30588), (91, 30534), (94, 30516), (122, 30438), (128, 30423), (132, 30390),

Gene: Moldemort\_39 Start: 33705, Stop: 33319, Start Num: 52

Candidate Starts for Moldemort\_39:

(Start: 52 @33705 has 210 MA's), (83, 33603), (88, 33579), (128, 33468), (132, 33435), (136, 33405),

Gene: MollyToe\_38 Start: 34117, Stop: 33731, Start Num: 52

Candidate Starts for MollyToe\_38:

(Start: 52 @34117 has 210 MA's), (83, 34015), (88, 33991), (128, 33880), (132, 33847), (136, 33817),

Gene: Mollymur\_44 Start: 40607, Stop: 40245, Start Num: 48

Candidate Starts for Mollymur\_44:

(Start: 48 @40607 has 9 MA's), (Start: 65 @40574 has 6 MA's), (69, 40544), (70, 40541), (Start: 72 @40535 has 1 MA's), (126, 40349),

Gene: Moostard\_34 Start: 30923, Stop: 30486, Start Num: 52

Candidate Starts for Moostard\_34:

(Start: 52 @30923 has 210 MA's), (91, 30782), (130, 30638), (137, 30599),

Gene: Mosby\_38 Start: 33689, Stop: 33303, Start Num: 52

Candidate Starts for Mosby\_38:

(Start: 52 @33689 has 210 MA's), (83, 33587), (88, 33563), (128, 33452), (132, 33419), (136, 33389),

Gene: MrMagoo\_4 Start: 1910, Stop: 1521, Start Num: 53

Candidate Starts for MrMagoo\_4:

(Start: 53 @1910 has 48 MA's), (Start: 60 @1898 has 2 MA's), (Start: 65 @1886 has 6 MA's), (71, 1847), (90, 1772), (93, 1757), (105, 1685),

Gene: MsGreen\_34 Start: 30921, Stop: 30484, Start Num: 52

Candidate Starts for MsGreen\_34:

(Start: 52 @30921 has 210 MA's), (91, 30780), (130, 30636), (137, 30597),

Gene: Murica\_37 Start: 33930, Stop: 33544, Start Num: 52

Candidate Starts for Murica\_37:

(Start: 52 @33930 has 210 MA's), (83, 33828), (88, 33804), (128, 33693), (132, 33660), (136, 33630),

Gene: Murphy\_39 Start: 33925, Stop: 33539, Start Num: 52

Candidate Starts for Murphy\_39:

(Start: 52 @33925 has 210 MA's), (83, 33823), (88, 33799), (128, 33688), (132, 33655), (136, 33625),

Gene: Myrale\_40 Start: 34501, Stop: 34115, Start Num: 52

Candidate Starts for Myrale\_40:

(Start: 52 @34501 has 210 MA's), (83, 34399), (88, 34375), (128, 34264), (132, 34231), (136, 34201),

Gene: Nala\_38 Start: 33964, Stop: 33578, Start Num: 52

Candidate Starts for Nala\_38:

(Start: 52 @33964 has 210 MA's), (83, 33862), (88, 33838), (128, 33727), (132, 33694), (136, 33664),

Gene: Nanodon\_50 Start: 34429, Stop: 34755, Start Num: 51

Candidate Starts for Nanodon\_50:

(Start: 51 @34429 has 15 MA's), (Start: 62 @34450 has 2 MA's), (91, 34570), (123, 34642), (136, 34720),

Gene: Nanosmite\_3 Start: 1842, Stop: 1450, Start Num: 53

Candidate Starts for Nanosmite\_3:

(Start: 53 @1842 has 48 MA's), (102, 1647),

Gene: Nebkiss\_43 Start: 33536, Stop: 33192, Start Num: 57

Candidate Starts for Nebkiss\_43:

(Start: 31 @33590 has 1 MA's), (35, 33578), (Start: 57 @33536 has 1 MA's), (76, 33470), (86, 33425), (142, 33203),

Gene: Nebulosus\_34 Start: 23445, Stop: 23891, Start Num: 11

Candidate Starts for Nebulosus\_34:

(Start: 11 @23445 has 3 MA's), (42, 23517), (Start: 53 @23535 has 48 MA's), (Start: 60 @23547 has 2 MA's), (Start: 65 @23559 has 6 MA's), (75, 23604), (88, 23661), (91, 23673), (106, 23736), (134, 23844), (137, 23862),

Gene: Nedarya\_33 Start: 24103, Stop: 24507, Start Num: 23

Candidate Starts for Nedarya\_33:

(Start: 23 @24103 has 1 MA's), (29, 24112), (34, 24124), (Start: 53 @24151 has 48 MA's), (Start: 60 @24163 has 2 MA's), (Start: 65 @24175 has 6 MA's), (75, 24220), (88, 24277), (104, 24340), (113, 24376), (134, 24460), (137, 24478),

Gene: Nekros\_56 Start: 45256, Stop: 44906, Start Num: 55

Candidate Starts for Nekros\_56:

(Start: 55 @45256 has 34 MA's), (64, 45244), (66, 45238), (88, 45139), (110, 45055), (132, 44986),

Gene: NelitzaMV\_38 Start: 34014, Stop: 33628, Start Num: 52

Candidate Starts for NelitzaMV\_38:

(Start: 52 @34014 has 210 MA's), (83, 33912), (88, 33888), (128, 33777), (132, 33744), (136, 33714),

Gene: Netyap\_36 Start: 30674, Stop: 30213, Start Num: 52

Candidate Starts for Netyap\_36:

(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: Neville\_38 Start: 32115, Stop: 31777, Start Num: 48  
Candidate Starts for Neville\_38:  
(Start: 48 @32115 has 9 MA's), (Start: 72 @32043 has 1 MA's), (91, 31968), (107, 31914), (132, 31839), (137, 31806),

Gene: Nibley\_51 Start: 40913, Stop: 40554, Start Num: 58  
Candidate Starts for Nibley\_51:  
(Start: 36 @40952 has 1 MA's), (Start: 58 @40913 has 6 MA's),

Gene: Nicholas\_34 Start: 30921, Stop: 30484, Start Num: 52  
Candidate Starts for Nicholas\_34:  
(Start: 52 @30921 has 210 MA's), (91, 30780), (130, 30636), (137, 30597),

Gene: Nicholasp3\_36 Start: 30676, Stop: 30215, Start Num: 52  
Candidate Starts for Nicholasp3\_36:  
(Start: 52 @30676 has 210 MA's), (78, 30589), (91, 30535), (94, 30517), (122, 30439), (132, 30391),

Gene: NihilNomen\_58 Start: 46501, Stop: 46151, Start Num: 55  
Candidate Starts for NihilNomen\_58:  
(Start: 55 @46501 has 34 MA's), (64, 46489), (66, 46483), (110, 46300), (125, 46273), (132, 46231),

Gene: Nimrod\_38 Start: 34188, Stop: 33802, Start Num: 52  
Candidate Starts for Nimrod\_38:  
(Start: 52 @34188 has 210 MA's), (83, 34086), (88, 34062), (128, 33951), (132, 33918), (136, 33888),

Gene: NoSleep\_39 Start: 33685, Stop: 33299, Start Num: 52  
Candidate Starts for NoSleep\_39:  
(Start: 52 @33685 has 210 MA's), (83, 33583), (88, 33559), (128, 33448), (132, 33415), (136, 33385),

Gene: NonchalantPear\_39 Start: 33877, Stop: 33491, Start Num: 52  
Candidate Starts for NonchalantPear\_39:  
(Start: 52 @33877 has 210 MA's), (83, 33775), (88, 33751), (128, 33640), (132, 33607), (136, 33577),

Gene: Norvs\_61 Start: 41258, Stop: 40923, Start Num: 47  
Candidate Starts for Norvs\_61:  
(Start: 47 @41258 has 23 MA's), (Start: 60 @41234 has 2 MA's), (Start: 61 @41231 has 2 MA's), (78, 41162), (87, 41126), (99, 41060), (100, 41057), (132, 40982), (135, 40964), (137, 40949),

Gene: Octobien14\_39 Start: 31533, Stop: 31165, Start Num: 47  
Candidate Starts for Octobien14\_39:  
(Start: 47 @31533 has 23 MA's), (67, 31485), (91, 31380), (132, 31236), (137, 31203),

Gene: Odette\_57 Start: 45544, Stop: 45194, Start Num: 55  
Candidate Starts for Odette\_57:  
(Start: 55 @45544 has 34 MA's), (64, 45532), (66, 45526), (110, 45343), (125, 45316), (132, 45274),

Gene: OhShagHennessy\_33 Start: 29467, Stop: 29039, Start Num: 52  
Candidate Starts for OhShagHennessy\_33:  
(Start: 52 @29467 has 210 MA's), (Start: 65 @29443 has 6 MA's), (91, 29326), (99, 29278), (137, 29149),

Gene: Omega\_61 Start: 47100, Stop: 46744, Start Num: 55  
Candidate Starts for Omega\_61:

(Start: 55 @47100 has 34 MA's), (115, 46890), (130, 46833), (137, 46794),

Gene: OneUp\_54 Start: 40717, Stop: 40373, Start Num: 47

Candidate Starts for OneUp\_54:

(Start: 47 @40717 has 23 MA's), (87, 40585), (132, 40435), (135, 40417),

Gene: Oofda\_34 Start: 23533, Stop: 23865, Start Num: 65

Candidate Starts for Oofda\_34:

(Start: 11 @23419 has 3 MA's), (42, 23491), (Start: 53 @23509 has 48 MA's), (Start: 60 @23521 has 2 MA's), (Start: 65 @23533 has 6 MA's), (75, 23578), (88, 23635), (91, 23647), (106, 23710), (134, 23818), (137, 23836),

Gene: Optimus\_64 Start: 47417, Stop: 47067, Start Num: 55

Candidate Starts for Optimus\_64:

(Start: 55 @47417 has 34 MA's), (64, 47405), (66, 47399), (110, 47216), (125, 47189), (132, 47147),

Gene: OrionPax\_40 Start: 33930, Stop: 33544, Start Num: 52

Candidate Starts for OrionPax\_40:

(Start: 52 @33930 has 210 MA's), (83, 33828), (88, 33804), (128, 33693), (132, 33660), (136, 33630),

Gene: OverPar\_37 Start: 30706, Stop: 30245, Start Num: 52

Candidate Starts for OverPar\_37:

(Start: 52 @30706 has 210 MA's), (78, 30619), (91, 30565), (94, 30547), (122, 30469), (132, 30421),

Gene: PYPDinur\_33 Start: 29627, Stop: 29169, Start Num: 52

Candidate Starts for PYPDinur\_33:

(17, 29696), (21, 29678), (Start: 52 @29627 has 210 MA's), (70, 29567), (77, 29549), (132, 29345), (137, 29312), (144, 29213),

Gene: PaddyBaddy\_40 Start: 33940, Stop: 33554, Start Num: 52

Candidate Starts for PaddyBaddy\_40:

(Start: 52 @33940 has 210 MA's), (83, 33838), (88, 33814), (128, 33703), (132, 33670), (136, 33640),

Gene: PainterBoy\_34 Start: 25178, Stop: 25543, Start Num: 49

Candidate Starts for PainterBoy\_34:

(Start: 49 @25178 has 1 MA's), (Start: 53 @25184 has 48 MA's), (Start: 62 @25202 has 2 MA's), (Start: 65 @25208 has 6 MA's), (74, 25253), (90, 25322), (97, 25358), (136, 25508), (138, 25523),

Gene: Palpatine\_38 Start: 33960, Stop: 33574, Start Num: 52

Candidate Starts for Palpatine\_38:

(Start: 52 @33960 has 210 MA's), (83, 33858), (88, 33834), (128, 33723), (132, 33690), (136, 33660),

Gene: Paperbeatsrock\_40 Start: 34943, Stop: 34557, Start Num: 52

Candidate Starts for Paperbeatsrock\_40:

(Start: 52 @34943 has 210 MA's), (83, 34841), (88, 34817), (128, 34706), (132, 34673), (136, 34643),

Gene: Pat3\_39 Start: 32980, Stop: 32594, Start Num: 52

Candidate Starts for Pat3\_39:

(2, 33184), (Start: 52 @32980 has 210 MA's), (83, 32878), (88, 32854), (128, 32743), (132, 32710), (136, 32680),

Gene: Pavo\_50 Start: 35838, Stop: 36149, Start Num: 60

Candidate Starts for Pavo\_50:

(Start: 51 @35823 has 15 MA's), (Start: 60 @35838 has 2 MA's), (Start: 62 @35844 has 2 MA's), (66, 35853), (Start: 72 @35889 has 1 MA's), (77, 35901), (78, 35910), (88, 35952), (89, 35955), (98, 35994), (130, 36081), (136, 36117),

Gene: PegLeg\_3 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for PegLeg\_3:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: Petra64142\_40 Start: 34423, Stop: 34037, Start Num: 52

Candidate Starts for Petra64142\_40:

(Start: 52 @34423 has 210 MA's), (83, 34321), (88, 34297), (128, 34186), (132, 34153), (136, 34123),

Gene: Phaja\_38 Start: 34201, Stop: 33815, Start Num: 52

Candidate Starts for Phaja\_38:

(Start: 52 @34201 has 210 MA's), (83, 34099), (88, 34075), (128, 33964), (132, 33931), (136, 33901),

Gene: Pharsalus\_39 Start: 34743, Stop: 34357, Start Num: 52

Candidate Starts for Pharsalus\_39:

(Start: 52 @34743 has 210 MA's), (83, 34641), (88, 34617), (128, 34506), (132, 34473), (136, 34443),

Gene: PhatBacter\_38 Start: 33974, Stop: 33588, Start Num: 52

Candidate Starts for PhatBacter\_38:

(Start: 52 @33974 has 210 MA's), (83, 33872), (88, 33848), (128, 33737), (132, 33704), (136, 33674),

Gene: Phaux\_37 Start: 33972, Stop: 33586, Start Num: 52

Candidate Starts for Phaux\_37:

(Start: 52 @33972 has 210 MA's), (83, 33870), (88, 33846), (128, 33735), (132, 33702), (136, 33672),

Gene: PhinkBoden\_60 Start: 41639, Stop: 41304, Start Num: 47

Candidate Starts for PhinkBoden\_60:

(Start: 47 @41639 has 23 MA's), (Start: 60 @41615 has 2 MA's), (Start: 61 @41612 has 2 MA's), (78, 41543), (87, 41507), (99, 41441), (100, 41438), (132, 41363), (135, 41345), (137, 41330),

Gene: Phoebus\_58 Start: 46702, Stop: 46352, Start Num: 55

Candidate Starts for Phoebus\_58:

(Start: 55 @46702 has 34 MA's), (64, 46690), (66, 46684), (110, 46501), (125, 46474), (132, 46432),

Gene: Phrux\_39 Start: 33926, Stop: 33540, Start Num: 52

Candidate Starts for Phrux\_39:

(Start: 52 @33926 has 210 MA's), (83, 33824), (88, 33800), (128, 33689), (132, 33656), (136, 33626),

Gene: Policronamos\_38 Start: 33972, Stop: 33586, Start Num: 52

Candidate Starts for Policronamos\_38:

(Start: 52 @33972 has 210 MA's), (83, 33870), (88, 33846), (128, 33735), (132, 33702), (136, 33672),

Gene: Ponzi\_63 Start: 44647, Stop: 44312, Start Num: 52

Candidate Starts for Ponzi\_63:

(Start: 52 @44647 has 210 MA's), (Start: 72 @44584 has 1 MA's), (135, 44356),

Gene: Poochiewood\_33 Start: 29497, Stop: 29069, Start Num: 52

Candidate Starts for Poochiewood\_33:

(Start: 52 @29497 has 210 MA's), (Start: 65 @29473 has 6 MA's), (91, 29356), (99, 29308), (137, 29179),

Gene: Porcelain\_55 Start: 42634, Stop: 42275, Start Num: 58

Candidate Starts for Porcelain\_55:

(Start: 36 @42673 has 1 MA's), (Start: 58 @42634 has 6 MA's), (Start: 65 @42619 has 6 MA's), (115, 42421),

Gene: Porky\_38 Start: 33882, Stop: 33496, Start Num: 52

Candidate Starts for Porky\_38:

(Start: 52 @33882 has 210 MA's), (83, 33780), (88, 33756), (128, 33645), (132, 33612), (136, 33582),

Gene: Pound\_59 Start: 47836, Stop: 47486, Start Num: 55

Candidate Starts for Pound\_59:

(Start: 55 @47836 has 34 MA's), (64, 47824), (66, 47818), (110, 47635), (132, 47566),

Gene: Provolone\_50 Start: 35226, Stop: 35531, Start Num: 62

Candidate Starts for Provolone\_50:

(Start: 51 @35205 has 15 MA's), (Start: 60 @35220 has 2 MA's), (Start: 62 @35226 has 2 MA's), (66, 35235), (Start: 72 @35271 has 1 MA's), (77, 35283), (78, 35292), (88, 35334), (89, 35337), (98, 35376), (130, 35463), (136, 35499),

Gene: Ptowny\_40 Start: 33568, Stop: 33182, Start Num: 52

Candidate Starts for Ptowny\_40:

(Start: 52 @33568 has 210 MA's), (83, 33466), (88, 33442), (128, 33331), (132, 33298), (136, 33268),

Gene: Pumpkin\_42 Start: 34852, Stop: 34466, Start Num: 52

Candidate Starts for Pumpkin\_42:

(Start: 52 @34852 has 210 MA's), (83, 34750), (88, 34726), (128, 34615), (132, 34582), (136, 34552),

Gene: Quallification\_39 Start: 34169, Stop: 33783, Start Num: 52

Candidate Starts for Quallification\_39:

(Start: 52 @34169 has 210 MA's), (83, 34067), (88, 34043), (128, 33932), (132, 33899), (136, 33869),

Gene: Quby\_33 Start: 29521, Stop: 29063, Start Num: 52

Candidate Starts for Quby\_33:

(15, 29599), (17, 29590), (21, 29572), (Start: 52 @29521 has 210 MA's), (70, 29461), (77, 29443), (132, 29239), (137, 29206), (144, 29107),

Gene: Rabbitrun\_40 Start: 32577, Stop: 32227, Start Num: 47

Candidate Starts for Rabbitrun\_40:

(Start: 47 @32577 has 23 MA's), (Start: 72 @32502 has 1 MA's), (83, 32463), (91, 32427), (132, 32289),

Gene: Rahalelujah\_32 Start: 24692, Stop: 25045, Start Num: 53

Candidate Starts for Rahalelujah\_32:

(38, 24662), (Start: 53 @24692 has 48 MA's), (Start: 62 @24710 has 2 MA's), (Start: 65 @24716 has 6 MA's), (81, 24788), (137, 25013),

Gene: Rakim\_39 Start: 34069, Stop: 33683, Start Num: 52

Candidate Starts for Rakim\_39:

(Start: 52 @34069 has 210 MA's), (83, 33967), (88, 33943), (128, 33832), (132, 33799), (136, 33769),

Gene: Ravana\_34 Start: 23523, Stop: 23855, Start Num: 65

Candidate Starts for Ravana\_34:

(Start: 11 @23409 has 3 MA's), (42, 23481), (Start: 53 @23499 has 48 MA's), (Start: 60 @23511 has 2 MA's), (Start: 65 @23523 has 6 MA's), (75, 23568), (88, 23625), (91, 23637), (106, 23700), (134, 23808), (137, 23826),

Gene: ReMo\_34 Start: 23535, Stop: 23891, Start Num: 53

Candidate Starts for ReMo\_34:

(Start: 11 @23445 has 3 MA's), (42, 23517), (Start: 53 @23535 has 48 MA's), (Start: 60 @23547 has 2 MA's), (Start: 65 @23559 has 6 MA's), (75, 23604), (88, 23661), (91, 23673), (106, 23736), (134, 23844), (137, 23862),

Gene: Rearden\_53 Start: 42761, Stop: 42411, Start Num: 55

Candidate Starts for Rearden\_53:

(Start: 55 @42761 has 34 MA's), (64, 42749), (66, 42743), (110, 42560), (132, 42491),

Gene: Red305\_34 Start: 30921, Stop: 30484, Start Num: 52

Candidate Starts for Red305\_34:

(Start: 52 @30921 has 210 MA's), (91, 30780), (130, 30636), (137, 30597),

Gene: Redno2\_56 Start: 43297, Stop: 42947, Start Num: 55

Candidate Starts for Redno2\_56:

(Start: 55 @43297 has 34 MA's), (64, 43285), (66, 43279), (110, 43096), (125, 43069), (132, 43027),

Gene: Reindeer\_3 Start: 1876, Stop: 1499, Start Num: 53

Candidate Starts for Reindeer\_3:

(Start: 53 @1876 has 48 MA's), (Start: 62 @1858 has 2 MA's), (79, 1786), (112, 1633), (116, 1627), (120, 1621), (128, 1597),

Gene: Remus\_34 Start: 23409, Stop: 23855, Start Num: 11

Candidate Starts for Remus\_34:

(Start: 11 @23409 has 3 MA's), (42, 23481), (Start: 53 @23499 has 48 MA's), (Start: 60 @23511 has 2 MA's), (Start: 65 @23523 has 6 MA's), (75, 23568), (88, 23625), (91, 23637), (106, 23700), (134, 23808), (137, 23826),

Gene: Rey\_3 Start: 1915, Stop: 1526, Start Num: 53

Candidate Starts for Rey\_3:

(21, 1978), (24, 1975), (26, 1972), (Start: 53 @1915 has 48 MA's), (Start: 60 @1903 has 2 MA's), (Start: 65 @1891 has 6 MA's), (132, 1591), (135, 1573),

Gene: Rimmer\_37 Start: 33512, Stop: 33126, Start Num: 52

Candidate Starts for Rimmer\_37:

(Start: 52 @33512 has 210 MA's), (83, 33410), (88, 33386), (128, 33275), (132, 33242), (136, 33212),

Gene: RiverMonster\_38 Start: 33701, Stop: 33315, Start Num: 52

Candidate Starts for RiverMonster\_38:

(Start: 52 @33701 has 210 MA's), (83, 33599), (88, 33575), (128, 33464), (132, 33431), (136, 33401),

Gene: Ronaldo\_67 Start: 37168, Stop: 36812, Start Num: 45

Candidate Starts for Ronaldo\_67:

(Start: 45 @37168 has 6 MA's), (54, 37153), (139, 36850),

Gene: Ronaldo\_30 Start: 8708, Stop: 8367, Start Num: 46

Candidate Starts for Ronaldo\_30:

(Start: 46 @8708 has 6 MA's), (63, 8675), (73, 8627), (83, 8588), (91, 8552), (134, 8417),

Gene: Rosalind\_34 Start: 23657, Stop: 24013, Start Num: 53

Candidate Starts for Rosalind\_34:

(Start: 11 @23567 has 3 MA's), (42, 23639), (Start: 53 @23657 has 48 MA's), (Start: 60 @23669 has 2 MA's), (Start: 65 @23681 has 6 MA's), (75, 23726), (88, 23783), (91, 23795), (106, 23858), (134, 23966), (137, 23984),

Gene: Rose5\_33 Start: 29496, Stop: 29068, Start Num: 52

Candidate Starts for Rose5\_33:

(Start: 52 @29496 has 210 MA's), (Start: 65 @29472 has 6 MA's), (91, 29355), (99, 29307), (137, 29178),

Gene: RoseMarie\_3 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for RoseMarie\_3:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: Rossetti\_36 Start: 30948, Stop: 30484, Start Num: 52

Candidate Starts for Rossetti\_36:

(Start: 52 @30948 has 210 MA's), (78, 30861), (91, 30807), (94, 30789), (122, 30711), (132, 30663),

Gene: Rumpelstiltskin\_36 Start: 30942, Stop: 30481, Start Num: 52

Candidate Starts for Rumpelstiltskin\_36:

(19, 31005), (22, 30996), (28, 30987), (Start: 52 @30942 has 210 MA's), (78, 30855), (91, 30801), (122, 30705), (132, 30657),

Gene: Saftant\_48 Start: 35531, Stop: 35857, Start Num: 51

Candidate Starts for Saftant\_48:

(Start: 51 @35531 has 15 MA's), (Start: 60 @35546 has 2 MA's), (Start: 62 @35552 has 2 MA's), (66, 35561), (88, 35660), (89, 35663), (91, 35672), (98, 35702), (123, 35747), (136, 35825),

Gene: Saints25\_40 Start: 33715, Stop: 33329, Start Num: 52

Candidate Starts for Saints25\_40:

(Start: 52 @33715 has 210 MA's), (83, 33613), (88, 33589), (128, 33478), (132, 33445), (136, 33415),

Gene: Samty\_34 Start: 30922, Stop: 30485, Start Num: 52

Candidate Starts for Samty\_34:

(Start: 52 @30922 has 210 MA's), (91, 30781), (130, 30637), (137, 30598),

Gene: Sarshaun\_36 Start: 30708, Stop: 30244, Start Num: 52

Candidate Starts for Sarshaun\_36:

(Start: 52 @30708 has 210 MA's), (78, 30621), (91, 30567), (94, 30549), (122, 30471), (128, 30456), (132, 30423),

Gene: Sassay\_37 Start: 33450, Stop: 33064, Start Num: 52

Candidate Starts for Sassay\_37:

(Start: 52 @33450 has 210 MA's), (83, 33348), (88, 33324), (128, 33213), (132, 33180), (136, 33150),

Gene: Schatzie\_54 Start: 45292, Stop: 44942, Start Num: 55

Candidate Starts for Schatzie\_54:

(Start: 55 @45292 has 34 MA's), (64, 45280), (66, 45274), (88, 45175), (110, 45091), (125, 45064), (132, 45022),

Gene: Sephiroth\_38 Start: 31023, Stop: 30655, Start Num: 47

Candidate Starts for Sephiroth\_38:

(Start: 47 @31023 has 23 MA's), (91, 30870), (132, 30729), (137, 30696),

Gene: Shaboozey\_53 Start: 41155, Stop: 40796, Start Num: 58

Candidate Starts for Shaboozey\_53:

(Start: 36 @41194 has 1 MA's), (Start: 58 @41155 has 6 MA's),

Gene: ShamWow\_40 Start: 34638, Stop: 34252, Start Num: 52

Candidate Starts for ShamWow\_40:

(Start: 52 @34638 has 210 MA's), (83, 34536), (88, 34512), (128, 34401), (132, 34368), (136, 34338),

Gene: ShayRa\_35 Start: 23657, Stop: 24013, Start Num: 53

Candidate Starts for ShayRa\_35:

(Start: 11 @23567 has 3 MA's), (42, 23639), (Start: 53 @23657 has 48 MA's), (Start: 60 @23669 has 2 MA's), (Start: 65 @23681 has 6 MA's), (75, 23726), (88, 23783), (91, 23795), (106, 23858), (134, 23966), (137, 23984),

Gene: Sheng711\_33 Start: 29627, Stop: 29169, Start Num: 52

Candidate Starts for Sheng711\_33:

(17, 29696), (21, 29678), (Start: 52 @29627 has 210 MA's), (70, 29567), (77, 29549), (132, 29345), (137, 29312), (144, 29213),

Gene: ShereKhan\_40 Start: 34946, Stop: 34560, Start Num: 52

Candidate Starts for ShereKhan\_40:

(Start: 52 @34946 has 210 MA's), (83, 34844), (88, 34820), (128, 34709), (132, 34676), (136, 34646),

Gene: Silverleaf\_33 Start: 29496, Stop: 29068, Start Num: 52

Candidate Starts for Silverleaf\_33:

(Start: 52 @29496 has 210 MA's), (Start: 65 @29472 has 6 MA's), (91, 29355), (99, 29307), (137, 29178),

Gene: Simpliphy\_40 Start: 33790, Stop: 33404, Start Num: 52

Candidate Starts for Simpliphy\_40:

(Start: 52 @33790 has 210 MA's), (83, 33688), (88, 33664), (128, 33553), (132, 33520), (136, 33490),

Gene: SirDuracell\_38 Start: 32722, Stop: 32336, Start Num: 52

Candidate Starts for SirDuracell\_38:

(2, 32926), (Start: 52 @32722 has 210 MA's), (83, 32620), (88, 32596), (128, 32485), (132, 32452), (136, 32422),

Gene: Skinny\_4 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for Skinny\_4:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: SlimJimmy\_3 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for SlimJimmy\_3:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: Smoothie\_62 Start: 41485, Stop: 41150, Start Num: 47

Candidate Starts for Smoothie\_62:

(Start: 47 @41485 has 23 MA's), (Start: 60 @41461 has 2 MA's), (Start: 61 @41458 has 2 MA's), (78, 41389), (87, 41353), (99, 41287), (132, 41209), (135, 41191), (137, 41176),

Gene: Snenia\_34 Start: 30922, Stop: 30485, Start Num: 52  
Candidate Starts for Snenia\_34:  
(Start: 52 @30922 has 210 MA's), (91, 30781), (130, 30637), (137, 30598),

Gene: SoJulia\_37 Start: 30935, Stop: 30474, Start Num: 52  
Candidate Starts for SoJulia\_37:  
(Start: 52 @30935 has 210 MA's), (78, 30848), (91, 30794), (122, 30698), (132, 30650),

Gene: Soap141\_36 Start: 30708, Stop: 30244, Start Num: 52  
Candidate Starts for Soap141\_36:  
(Start: 52 @30708 has 210 MA's), (78, 30621), (91, 30567), (94, 30549), (122, 30471), (128, 30456),  
(132, 30423),

Gene: SophKB\_38 Start: 33962, Stop: 33576, Start Num: 52  
Candidate Starts for SophKB\_38:  
(Start: 52 @33962 has 210 MA's), (83, 33860), (88, 33836), (128, 33725), (132, 33692), (136, 33662),

Gene: SororFago\_34 Start: 25881, Stop: 26237, Start Num: 53  
Candidate Starts for SororFago\_34:  
(Start: 53 @25881 has 48 MA's), (Start: 62 @25899 has 2 MA's), (89, 26013), (97, 26055), (99, 26070),

Gene: Sotrice96\_38 Start: 33917, Stop: 33531, Start Num: 52  
Candidate Starts for Sotrice96\_38:  
(Start: 52 @33917 has 210 MA's), (83, 33815), (88, 33791), (128, 33680), (132, 33647), (136, 33617),

Gene: Soups\_34 Start: 23657, Stop: 24013, Start Num: 53  
Candidate Starts for Soups\_34:  
(Start: 11 @23567 has 3 MA's), (42, 23639), (Start: 53 @23657 has 48 MA's), (Start: 60 @23669 has 2 MA's), (Start: 65 @23681 has 6 MA's), (75, 23726), (88, 23783), (91, 23795), (106, 23858), (134, 23966), (137, 23984),

Gene: SpeedDemon\_440 Start: 41598, Stop: 41236, Start Num: 48  
Candidate Starts for SpeedDemon\_440:  
(7, 41721), (32, 41631), (Start: 48 @41598 has 9 MA's), (Start: 65 @41565 has 6 MA's), (69, 41535),  
(70, 41532), (Start: 72 @41526 has 1 MA's), (92, 41442), (126, 41340),

Gene: Speedwell\_53 Start: 36882, Stop: 37202, Start Num: 51  
Candidate Starts for Speedwell\_53:  
(Start: 51 @36882 has 15 MA's), (Start: 61 @36900 has 2 MA's), (Start: 65 @36909 has 6 MA's), (66, 36912), (Start: 72 @36948 has 1 MA's), (88, 37011), (89, 37014), (98, 37053), (114, 37083), (133, 37146), (140, 37194),

Gene: Spooks\_70 Start: 47151, Stop: 46807, Start Num: 52  
Candidate Starts for Spooks\_70:  
(Start: 52 @47151 has 210 MA's), (Start: 72 @47088 has 1 MA's),

Gene: Squint\_56 Start: 42792, Stop: 42394, Start Num: 36  
Candidate Starts for Squint\_56:  
(Start: 36 @42792 has 1 MA's), (Start: 58 @42753 has 6 MA's), (Start: 65 @42738 has 6 MA's), (115, 42540),

Gene: Stank\_41 Start: 34469, Stop: 34083, Start Num: 52  
Candidate Starts for Stank\_41:

(Start: 52 @34469 has 210 MA's), (83, 34367), (88, 34343), (128, 34232), (132, 34199), (136, 34169),

Gene: Stark\_39 Start: 33704, Stop: 33318, Start Num: 52

Candidate Starts for Stark\_39:

(Start: 52 @33704 has 210 MA's), (83, 33602), (88, 33578), (128, 33467), (132, 33434), (136, 33404),

Gene: StellaBean\_38 Start: 33962, Stop: 33576, Start Num: 52

Candidate Starts for StellaBean\_38:

(Start: 52 @33962 has 210 MA's), (83, 33860), (88, 33836), (128, 33725), (132, 33692), (136, 33662),

Gene: Stellammi\_51 Start: 33236, Stop: 32898, Start Num: 55

Candidate Starts for Stellammi\_51:

(Start: 55 @33236 has 34 MA's), (Start: 60 @33230 has 2 MA's), (Start: 72 @33185 has 1 MA's), (93, 33098), (130, 32972), (132, 32966),

Gene: StolenFromERC\_40 Start: 33953, Stop: 33567, Start Num: 52

Candidate Starts for StolenFromERC\_40:

(Start: 52 @33953 has 210 MA's), (83, 33851), (88, 33827), (128, 33716), (132, 33683), (136, 33653),

Gene: StormChicken\_38 Start: 34120, Stop: 33734, Start Num: 52

Candidate Starts for StormChicken\_38:

(Start: 52 @34120 has 210 MA's), (83, 34018), (88, 33994), (128, 33883), (132, 33850), (136, 33820),

Gene: Strosahl\_34 Start: 23499, Stop: 23855, Start Num: 53

Candidate Starts for Strosahl\_34:

(Start: 11 @23409 has 3 MA's), (42, 23481), (Start: 53 @23499 has 48 MA's), (Start: 60 @23511 has 2 MA's), (Start: 65 @23523 has 6 MA's), (75, 23568), (88, 23625), (91, 23637), (106, 23700), (134, 23808), (137, 23826),

Gene: Success\_71 Start: 46275, Stop: 45934, Start Num: 52

Candidate Starts for Success\_71:

(Start: 52 @46275 has 210 MA's), (Start: 72 @46212 has 1 MA's), (93, 46125),

Gene: Sudan\_49 Start: 35694, Stop: 36002, Start Num: 61

Candidate Starts for Sudan\_49:

(Start: 51 @35676 has 15 MA's), (Start: 61 @35694 has 2 MA's), (Start: 72 @35742 has 1 MA's), (77, 35754), (91, 35817), (98, 35847), (136, 35970),

Gene: Sunhee\_33 Start: 24708, Stop: 25064, Start Num: 53

Candidate Starts for Sunhee\_33:

(41, 24684), (Start: 49 @24702 has 1 MA's), (Start: 53 @24708 has 48 MA's), (Start: 60 @24720 has 2 MA's), (89, 24840), (117, 24936), (127, 24963), (137, 25032),

Gene: SunkenRoot\_50 Start: 36364, Stop: 36675, Start Num: 60

Candidate Starts for SunkenRoot\_50:

(Start: 51 @36349 has 15 MA's), (Start: 60 @36364 has 2 MA's), (Start: 62 @36370 has 2 MA's), (Start: 72 @36415 has 1 MA's), (77, 36427), (78, 36436), (88, 36478), (89, 36481), (98, 36520), (130, 36607), (136, 36643),

Gene: Superphikiman\_57 Start: 42825, Stop: 42466, Start Num: 58

Candidate Starts for Superphikiman\_57:

(Start: 36 @42864 has 1 MA's), (Start: 58 @42825 has 6 MA's), (Start: 65 @42810 has 6 MA's), (115, 42612),

Gene: Switzerland\_34 Start: 23567, Stop: 24007, Start Num: 13

Candidate Starts for Switzerland\_34:

(Start: 13 @23567 has 1 MA's), (17, 23582), (42, 23633), (Start: 53 @23651 has 48 MA's), (Start: 60 @23663 has 2 MA's), (Start: 65 @23675 has 6 MA's), (75, 23720), (88, 23777), (91, 23789), (106, 23852), (134, 23960), (137, 23978),

Gene: Syleon\_38 Start: 30945, Stop: 30577, Start Num: 47

Candidate Starts for Syleon\_38:

(Start: 47 @30945 has 23 MA's), (91, 30792), (132, 30651), (137, 30618),

Gene: TBrady12\_40 Start: 33953, Stop: 33567, Start Num: 52

Candidate Starts for TBrady12\_40:

(Start: 52 @33953 has 210 MA's), (83, 33851), (88, 33827), (128, 33716), (132, 33683), (136, 33653),

Gene: Tarkin\_40 Start: 34952, Stop: 34566, Start Num: 52

Candidate Starts for Tarkin\_40:

(Start: 52 @34952 has 210 MA's), (83, 34850), (88, 34826), (128, 34715), (132, 34682), (136, 34652),

Gene: TeamEdward\_38 Start: 34117, Stop: 33731, Start Num: 52

Candidate Starts for TeamEdward\_38:

(Start: 52 @34117 has 210 MA's), (83, 34015), (88, 33991), (128, 33880), (132, 33847), (136, 33817),

Gene: TeardropMSU\_37 Start: 33862, Stop: 33476, Start Num: 52

Candidate Starts for TeardropMSU\_37:

(Start: 52 @33862 has 210 MA's), (83, 33760), (88, 33736), (128, 33625), (132, 33592), (136, 33562),

Gene: Teaspoon\_40 Start: 34588, Stop: 34202, Start Num: 52

Candidate Starts for Teaspoon\_40:

(Start: 52 @34588 has 210 MA's), (83, 34486), (88, 34462), (128, 34351), (132, 34318), (136, 34288),

Gene: Terminus\_38 Start: 34033, Stop: 33647, Start Num: 52

Candidate Starts for Terminus\_38:

(Start: 52 @34033 has 210 MA's), (83, 33931), (88, 33907), (128, 33796), (132, 33763), (136, 33733),

Gene: Thibault\_51 Start: 43608, Stop: 43258, Start Num: 55

Candidate Starts for Thibault\_51:

(Start: 55 @43608 has 34 MA's), (64, 43596), (66, 43590), (110, 43407), (132, 43338),

Gene: Thimble\_39 Start: 33135, Stop: 32749, Start Num: 52

Candidate Starts for Thimble\_39:

(Start: 52 @33135 has 210 MA's), (83, 33033), (88, 33009), (128, 32898), (132, 32865), (136, 32835),

Gene: ThreeRngTarjay\_57 Start: 46578, Stop: 46228, Start Num: 55

Candidate Starts for ThreeRngTarjay\_57:

(Start: 55 @46578 has 34 MA's), (64, 46566), (66, 46560), (110, 46377), (125, 46350), (132, 46308),

Gene: Thresher\_40 Start: 34939, Stop: 34553, Start Num: 52

Candidate Starts for Thresher\_40:

(Start: 52 @34939 has 210 MA's), (83, 34837), (88, 34813), (128, 34702), (132, 34669), (136, 34639),

Gene: Toaka\_32 Start: 25087, Stop: 25443, Start Num: 53

Candidate Starts for Toaka\_32:

(28, 25036), (33, 25048), (Start: 37 @25054 has 1 MA's), (Start: 53 @25087 has 48 MA's), (Start: 62 @25105 has 2 MA's), (Start: 65 @25111 has 6 MA's), (69, 25144), (81, 25183), (88, 25216), (109, 25300),

Gene: Tomaszewski\_38 Start: 33782, Stop: 33396, Start Num: 52

Candidate Starts for Tomaszewski\_38:

(Start: 52 @33782 has 210 MA's), (83, 33680), (88, 33656), (128, 33545), (132, 33512), (136, 33482),

Gene: Toniann\_61 Start: 41201, Stop: 40866, Start Num: 47

Candidate Starts for Toniann\_61:

(Start: 47 @41201 has 23 MA's), (Start: 60 @41177 has 2 MA's), (Start: 61 @41174 has 2 MA's), (78, 41105), (87, 41069), (99, 41003), (100, 41000), (132, 40925), (135, 40907), (137, 40892),

Gene: Toto\_39 Start: 34638, Stop: 34252, Start Num: 52

Candidate Starts for Toto\_39:

(Start: 52 @34638 has 210 MA's), (83, 34536), (88, 34512), (128, 34401), (132, 34368), (136, 34338),

Gene: Tourach\_36 Start: 30674, Stop: 30207, Start Num: 52

Candidate Starts for Tourach\_36:

(Start: 52 @30674 has 210 MA's), (91, 30533), (122, 30437), (132, 30389),

Gene: Towmatter\_39 Start: 36511, Stop: 36152, Start Num: 48

Candidate Starts for Towmatter\_39:

(Start: 48 @36511 has 9 MA's), (69, 36448), (70, 36445), (78, 36418), (82, 36406), (91, 36364), (126, 36256), (128, 36247), (129, 36232), (132, 36214),

Gene: TpudiCK\_3 Start: 1872, Stop: 1495, Start Num: 53

Candidate Starts for TpudiCK\_3:

(Start: 53 @1872 has 48 MA's), (79, 1782), (103, 1668), (128, 1590),

Gene: Traaww1\_36 Start: 33584, Stop: 33198, Start Num: 52

Candidate Starts for Traaww1\_36:

(Start: 52 @33584 has 210 MA's), (83, 33482), (88, 33458), (128, 33347), (132, 33314), (136, 33284),

Gene: Trax\_38 Start: 32421, Stop: 32083, Start Num: 48

Candidate Starts for Trax\_38:

(Start: 48 @32421 has 9 MA's), (Start: 72 @32349 has 1 MA's), (91, 32274), (107, 32220), (132, 32145), (137, 32112),

Gene: TriFive\_34 Start: 30921, Stop: 30484, Start Num: 52

Candidate Starts for TriFive\_34:

(Start: 52 @30921 has 210 MA's), (91, 30780), (130, 30636), (137, 30597),

Gene: Tuco\_41 Start: 35146, Stop: 34760, Start Num: 52

Candidate Starts for Tuco\_41:

(Start: 52 @35146 has 210 MA's), (83, 35044), (88, 35020), (128, 34909), (132, 34876), (136, 34846),

Gene: TyDawg\_3 Start: 1873, Stop: 1496, Start Num: 53

Candidate Starts for TyDawg\_3:

(Start: 53 @1873 has 48 MA's), (79, 1783), (103, 1669), (128, 1591),

Gene: Tyson\_33 Start: 29497, Stop: 29069, Start Num: 52

Candidate Starts for Tyson\_33:

(Start: 52 @29497 has 210 MA's), (Start: 65 @29473 has 6 MA's), (91, 29356), (99, 29308), (137, 29179),

Gene: UPIE\_33 Start: 29494, Stop: 29066, Start Num: 52

Candidate Starts for UPIE\_33:

(Start: 52 @29494 has 210 MA's), (Start: 65 @29470 has 6 MA's), (91, 29353), (99, 29305), (137, 29176),

Gene: Ukulele\_39 Start: 33943, Stop: 33557, Start Num: 52

Candidate Starts for Ukulele\_39:

(Start: 52 @33943 has 210 MA's), (83, 33841), (88, 33817), (128, 33706), (132, 33673), (136, 33643),

Gene: Underpass\_36 Start: 30676, Stop: 30215, Start Num: 52

Candidate Starts for Underpass\_36:

(Start: 52 @30676 has 210 MA's), (78, 30589), (91, 30535), (94, 30517), (122, 30439), (132, 30391),

Gene: Urza\_48 Start: 32294, Stop: 32611, Start Num: 51

Candidate Starts for Urza\_48:

(4, 32120), (8, 32168), (29, 32246), (Start: 51 @32294 has 15 MA's), (121, 32495), (132, 32543), (135, 32561), (136, 32573), (139, 32597),

Gene: Vanisoa\_33 Start: 26326, Stop: 26682, Start Num: 53

Candidate Starts for Vanisoa\_33:

(29, 26287), (Start: 53 @26326 has 48 MA's), (Start: 62 @26344 has 2 MA's), (Start: 65 @26350 has 6 MA's), (81, 26422), (109, 26539),

Gene: Vanseggelen\_54 Start: 35360, Stop: 35674, Start Num: 60

Candidate Starts for Vanseggelen\_54:

(Start: 51 @35345 has 15 MA's), (Start: 60 @35360 has 2 MA's), (Start: 62 @35366 has 2 MA's), (66, 35375), (Start: 72 @35411 has 1 MA's), (77, 35423), (88, 35474), (89, 35477), (98, 35516), (132, 35609), (136, 35639),

Gene: Verabelle\_53 Start: 35861, Stop: 36199, Start Num: 46

Candidate Starts for Verabelle\_53:

(39, 35846), (Start: 46 @35861 has 6 MA's), (Start: 51 @35870 has 15 MA's), (Start: 60 @35885 has 2 MA's), (Start: 72 @35936 has 1 MA's), (83, 35975), (90, 36008), (91, 36011), (98, 36041), (132, 36134), (135, 36152), (136, 36164),

Gene: Verse\_49 Start: 36587, Stop: 36847, Start Num: 72

Candidate Starts for Verse\_49:

(Start: 51 @36521 has 15 MA's), (Start: 60 @36536 has 2 MA's), (Start: 62 @36542 has 2 MA's), (Start: 72 @36587 has 1 MA's), (77, 36599), (78, 36608), (88, 36650), (89, 36653), (98, 36692), (130, 36779), (136, 36815),

Gene: Vetric\_36 Start: 30680, Stop: 30219, Start Num: 52

Candidate Starts for Vetric\_36:

(Start: 52 @30680 has 210 MA's), (78, 30593), (91, 30539), (122, 30443), (132, 30395),

Gene: VieEnRose\_48 Start: 32357, Stop: 32674, Start Num: 51

Candidate Starts for VieEnRose\_48:

(29, 32309), (Start: 51 @32357 has 15 MA's), (93, 32510), (121, 32558), (132, 32606), (135, 32624), (136, 32636), (139, 32660),

Gene: Volt\_29 Start: 8708, Stop: 8367, Start Num: 46

Candidate Starts for Volt\_29:

(Start: 46 @8708 has 6 MA's), (63, 8675), (73, 8627), (83, 8588), (91, 8552), (134, 8417),

Gene: Volt\_67 Start: 37332, Stop: 36976, Start Num: 45

Candidate Starts for Volt\_67:

(Start: 45 @37332 has 6 MA's), (54, 37317), (139, 37014),

Gene: Waits\_34 Start: 23529, Stop: 23861, Start Num: 65

Candidate Starts for Waits\_34:

(Start: 11 @23415 has 3 MA's), (42, 23487), (Start: 53 @23505 has 48 MA's), (Start: 60 @23517 has 2 MA's), (Start: 65 @23529 has 6 MA's), (75, 23574), (88, 23631), (91, 23643), (106, 23706), (134, 23814), (137, 23832),

Gene: Wamburgexpress\_33 Start: 29509, Stop: 29081, Start Num: 52

Candidate Starts for Wamburgexpress\_33:

(Start: 52 @29509 has 210 MA's), (Start: 65 @29485 has 6 MA's), (91, 29368), (99, 29320), (137, 29191),

Gene: Wanda\_65 Start: 46290, Stop: 45940, Start Num: 55

Candidate Starts for Wanda\_65:

(Start: 55 @46290 has 34 MA's), (64, 46278), (66, 46272), (110, 46089), (125, 46062), (132, 46020),

Gene: Warrior24\_34 Start: 23533, Stop: 23865, Start Num: 65

Candidate Starts for Warrior24\_34:

(Start: 11 @23419 has 3 MA's), (42, 23491), (Start: 53 @23509 has 48 MA's), (Start: 60 @23521 has 2 MA's), (Start: 65 @23533 has 6 MA's), (75, 23578), (88, 23635), (91, 23647), (106, 23710), (134, 23818), (137, 23836),

Gene: Whirlwind\_35 Start: 30700, Stop: 30230, Start Num: 37

Candidate Starts for Whirlwind\_35:

(22, 30727), (Start: 37 @30700 has 1 MA's), (Start: 48 @30676 has 9 MA's), (Start: 52 @30670 has 210 MA's), (91, 30529), (130, 30385), (137, 30346),

Gene: Wiggin\_41 Start: 34467, Stop: 34081, Start Num: 52

Candidate Starts for Wiggin\_41:

(Start: 52 @34467 has 210 MA's), (83, 34365), (88, 34341), (128, 34230), (132, 34197), (136, 34167),

Gene: Wigglewobble\_36 Start: 30707, Stop: 30243, Start Num: 52

Candidate Starts for Wigglewobble\_36:

(Start: 52 @30707 has 210 MA's), (78, 30620), (91, 30566), (94, 30548), (122, 30470), (128, 30455), (132, 30422),

Gene: Wilder\_36 Start: 30680, Stop: 30216, Start Num: 52

Candidate Starts for Wilder\_36:

(Start: 52 @30680 has 210 MA's), (78, 30593), (91, 30539), (94, 30521), (122, 30443), (128, 30428), (132, 30395),

Gene: Willez\_37 Start: 33450, Stop: 33064, Start Num: 52

Candidate Starts for Willez\_37:

(Start: 52 @33450 has 210 MA's), (83, 33348), (88, 33324), (128, 33213), (132, 33180), (136, 33150),

Gene: WilliamBoone\_60 Start: 40153, Stop: 39818, Start Num: 47

Candidate Starts for WilliamBoone\_60:

(Start: 47 @40153 has 23 MA's), (Start: 57 @40135 has 1 MA's), (Start: 60 @40129 has 2 MA's), (87, 40021), (137, 39844),

Gene: Winky\_36 Start: 30674, Stop: 30213, Start Num: 52

Candidate Starts for Winky\_36:

(Start: 52 @30674 has 210 MA's), (78, 30587), (91, 30533), (122, 30437), (132, 30389),

Gene: Wyatt2\_33 Start: 29496, Stop: 29068, Start Num: 52

Candidate Starts for Wyatt2\_33:

(Start: 52 @29496 has 210 MA's), (Start: 65 @29472 has 6 MA's), (91, 29355), (99, 29307), (137, 29178),

Gene: Xandras\_40 Start: 33936, Stop: 33550, Start Num: 52

Candidate Starts for Xandras\_40:

(Start: 52 @33936 has 210 MA's), (83, 33834), (88, 33810), (128, 33699), (132, 33666), (136, 33636),

Gene: Xiaokay\_52 Start: 43214, Stop: 42864, Start Num: 55

Candidate Starts for Xiaokay\_52:

(Start: 55 @43214 has 34 MA's), (64, 43202), (66, 43196), (110, 43013), (132, 42944),

Gene: Yappy\_125 Start: 60796, Stop: 60413, Start Num: 56

Candidate Starts for Yappy\_125:

(Start: 56 @60796 has 1 MA's), (91, 60664), (131, 60523), (138, 60475),

Gene: YassJohnny\_39 Start: 34478, Stop: 34092, Start Num: 52

Candidate Starts for YassJohnny\_39:

(Start: 52 @34478 has 210 MA's), (83, 34376), (88, 34352), (128, 34241), (132, 34208), (136, 34178),

Gene: Yeet\_57 Start: 45711, Stop: 45361, Start Num: 55

Candidate Starts for Yeet\_57:

(Start: 55 @45711 has 34 MA's), (64, 45699), (66, 45693), (88, 45594), (110, 45510), (132, 45441),

Gene: Yosif\_51 Start: 36318, Stop: 36647, Start Num: 48

Candidate Starts for Yosif\_51:

(6, 36186), (24, 36270), (27, 36276), (Start: 47 @36315 has 23 MA's), (Start: 48 @36318 has 9 MA's), (Start: 51 @36324 has 15 MA's), (Start: 72 @36390 has 1 MA's), (93, 36477), (132, 36585), (135, 36603),

Gene: Youngblood\_38 Start: 34123, Stop: 33737, Start Num: 52

Candidate Starts for Youngblood\_38:

(Start: 52 @34123 has 210 MA's), (83, 34021), (88, 33997), (128, 33886), (132, 33853), (136, 33823),

Gene: Zakai\_36 Start: 30931, Stop: 30467, Start Num: 52

Candidate Starts for Zakai\_36:

(Start: 52 @30931 has 210 MA's), (78, 30844), (91, 30790), (94, 30772), (122, 30694), (132, 30646),

Gene: ZamZam\_49 Start: 35721, Stop: 36038, Start Num: 51

Candidate Starts for ZamZam\_49:

(Start: 51 @35721 has 15 MA's), (66, 35751), (88, 35850), (89, 35853), (91, 35862), (98, 35892), (127, 35940), (132, 35976), (136, 36006),

Gene: Zaria\_33 Start: 29511, Stop: 29083, Start Num: 52

Candidate Starts for Zaria\_33:

(Start: 52 @29511 has 210 MA's), (Start: 65 @29487 has 6 MA's), (91, 29370), (99, 29322), (137, 29193),

Gene: Zelink\_57 Start: 46891, Stop: 46541, Start Num: 55

Candidate Starts for Zelink\_57:

(Start: 55 @46891 has 34 MA's), (64, 46879), (66, 46873), (110, 46690), (125, 46663), (132, 46621),

Gene: ZhongYanYuan\_35 Start: 30506, Stop: 30036, Start Num: 52

Candidate Starts for ZhongYanYuan\_35:

(Start: 52 @30506 has 210 MA's), (77, 30428), (78, 30419), (91, 30365), (122, 30269), (132, 30221), (137, 30188),

Gene: Ziko\_30 Start: 8648, Stop: 8307, Start Num: 46

Candidate Starts for Ziko\_30:

(Start: 46 @8648 has 6 MA's), (63, 8615), (73, 8567), (83, 8528), (91, 8492), (134, 8357),

Gene: Ziko\_67 Start: 37154, Stop: 36798, Start Num: 45

Candidate Starts for Ziko\_67:

(Start: 45 @37154 has 6 MA's), (54, 37139), (139, 36836),

Gene: phiCAM\_46 Start: 37446, Stop: 37760, Start Num: 51

Candidate Starts for phiCAM\_46:

(9, 37344), (Start: 51 @37446 has 15 MA's), (Start: 61 @37464 has 2 MA's), (66, 37476), (Start: 72 @37512 has 1 MA's), (88, 37575), (98, 37617),

Gene: xkcd\_39 Start: 34115, Stop: 33729, Start Num: 52

Candidate Starts for xkcd\_39:

(Start: 52 @34115 has 210 MA's), (83, 34013), (88, 33989), (128, 33878), (132, 33845), (136, 33815),