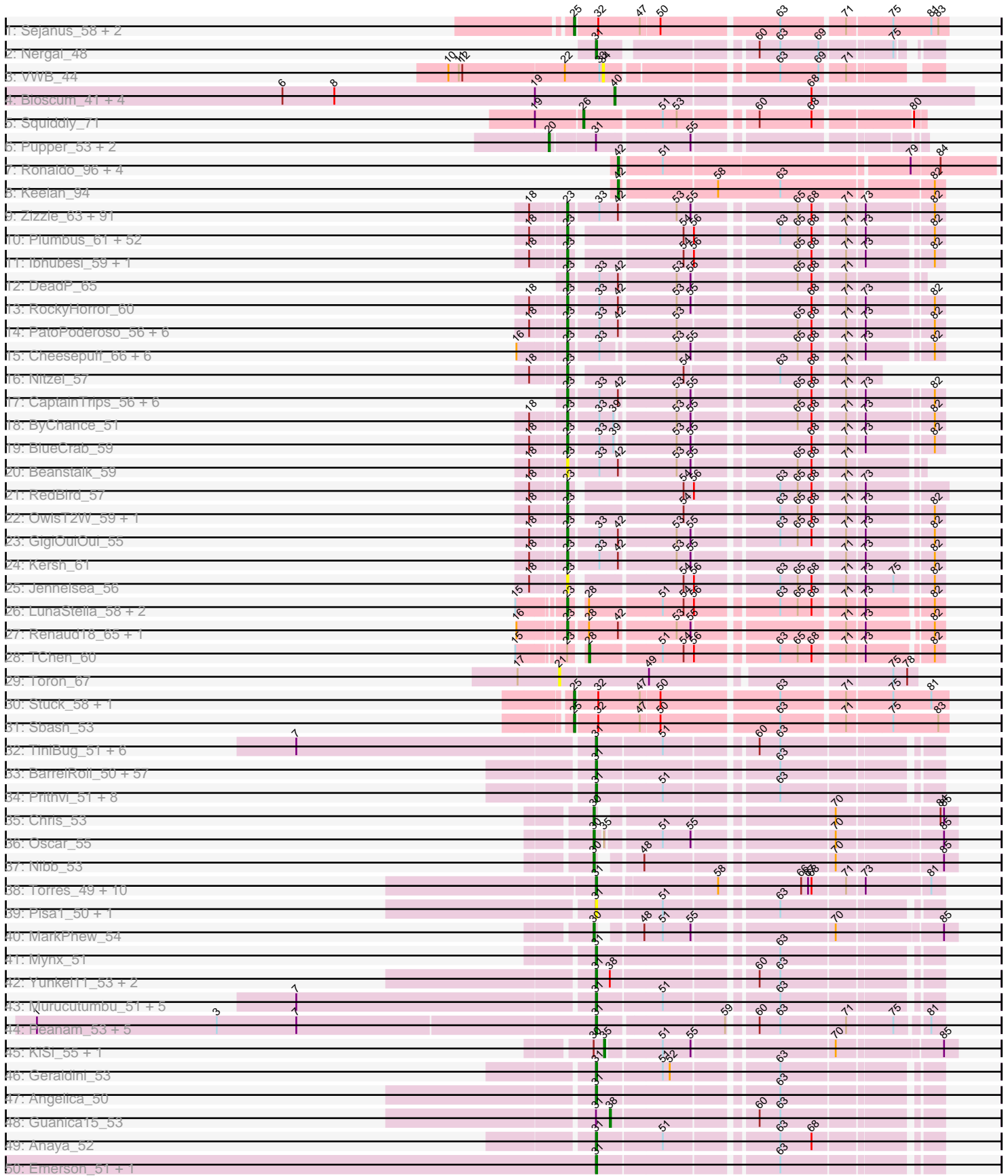
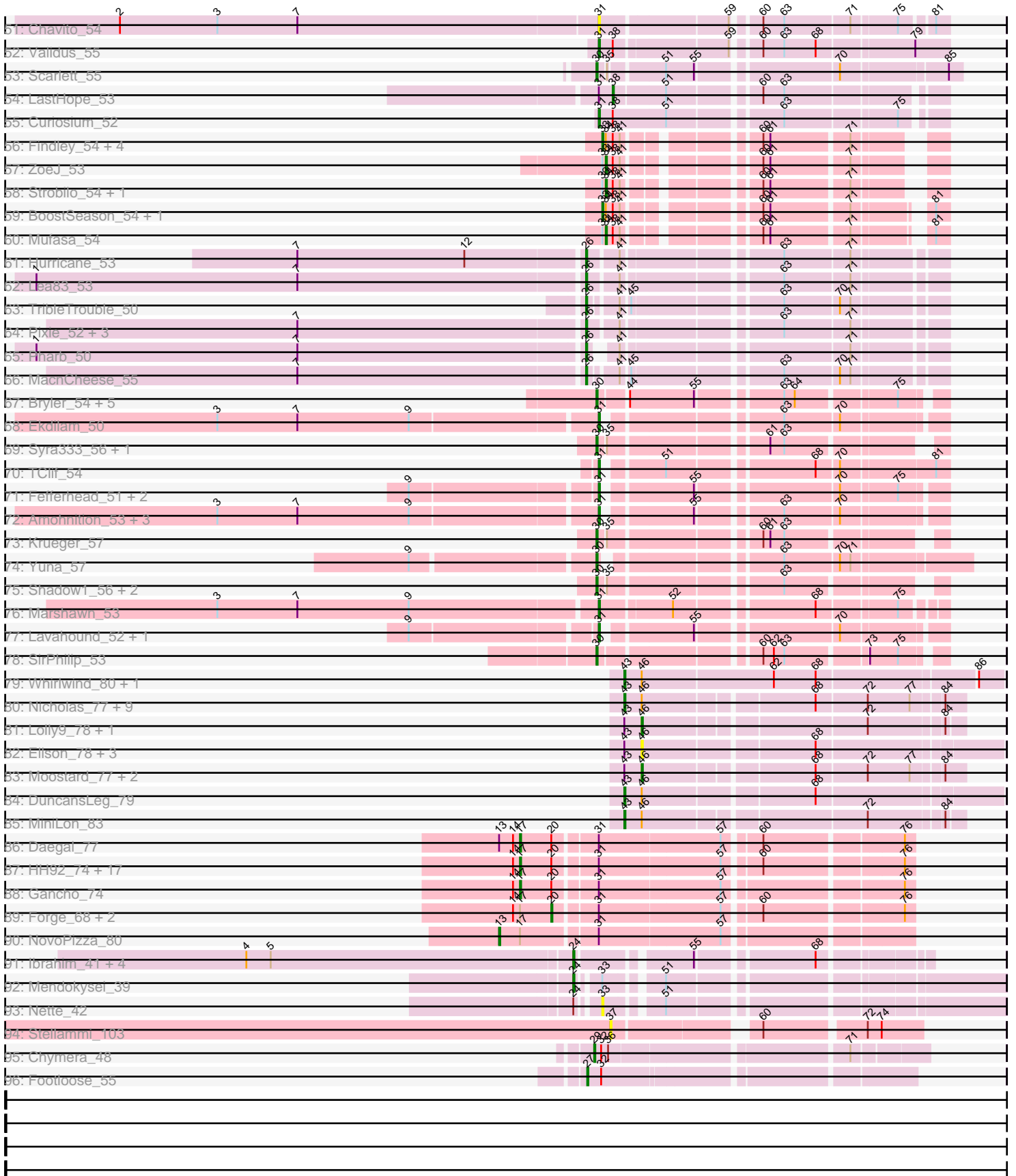


Pham 294334



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

## Pham 294334 Report

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

Pham number 294334 has 433 members, 44 are drafts.

Phages represented in each track:

- Track 1 : Sejanus\_58, Charlie\_44, Journey\_43
- Track 2 : Nergal\_48
- Track 3 : VWB\_44
- Track 4 : Bioscum\_41, Lishka\_37, PapayaSalad\_40, Ididsumtinwong\_41, Austintatious\_37
- Track 5 : Squiddly\_71
- Track 6 : Pupper\_53, SCentae\_53, CherryTomatoes\_55
- Track 7 : Ronaldo\_96, Ziko\_96, Guey18\_98, Volt\_97, Fryberger\_93
- Track 8 : Keelan\_94
- Track 9 : Zizzle\_63, Phatniss\_57, Llij\_55, Rita\_60, Scottish\_57, Soul22\_65, GUmbie\_57, EleanorGeorge\_60, Rockne\_60, Koella\_53, Mozy\_68, Peridot\_60, Zapner\_72, Maravista\_60, Radiance\_58, Totinger\_58, Zerg\_59, James\_63, Pippy\_57, UncleRicky\_58, VRedHorse\_59, LastJedi\_53, Lucia\_59, Crumble\_54, Fancypants\_61, Marker\_61, Drago\_57, Blexus\_57, Strokeseat\_55, Karhdo\_56, Sabbb\_63, Jabbawokkie\_73, Lizziana\_65, Whouxphf\_56, Dante\_60, Tootsieroll\_60, Yorick\_58, Byougenkin\_57, Chuckly\_62, PMC\_56, Hlubikazi\_55, Blarby\_71, Boomer\_64, Mattes\_63, Firehouse51\_60, Slim\_60, Mutaforma13\_63, Spikelee\_66, ShowerHandel\_62, Burwell21\_57, SiSi\_57, Mandlovu\_55, Vivum\_60, SwagPigglett\_64, Cabrinians\_60, Pollywog\_60, NormanBulbieJr\_59, IrishSherpFalk\_60, Priscilla\_59, Saal\_61, BuzzLyseyear\_65, Alexphander\_63, DaddyRickover\_58, Mahavrat\_57, Doug\_61, OlympiaSaint\_61, ShroomBoi\_61, Madiba\_57, DirtMcgirt\_58, Hades\_60, WillSterrel\_60, Jarcob\_59, Violac\_61, Latretium\_61, Eradicator\_52, Martik\_59, OldBen\_56, Mova\_60, KristaRAM\_62, Spartacus\_61, Gandalph\_62, Emmaloid\_60, BobaPhett\_63, Brocalys\_54, ShiLan\_58, Clifton\_54, MadMen\_57, Gorge\_63, FreddyB\_60, LittleShirley\_58, Rialto\_65, Lorde\_59
- Track 10 : Plumbus\_61, Cornucopia\_61, SimranZ1\_59, Daenerys\_53, AlpineSix\_64, Doomslug\_68, Job42\_61, Pacc40\_53, LunaBlu\_61, Nivrat\_55, Dorothy\_57, KingMidas\_58, Avani\_67, Sebastian\_64, Jinglebell\_64, Ochi17\_62, Leozinho\_58, DosHalletts\_61, SeaLumen\_63, Stap\_57, Nichirin\_66, Modragons\_63, Inventum\_54, Clank\_64, JoeyJr\_54, Phasih\_57, Leperchaun\_51, Girr\_57, PHappiness\_54, Ruby\_55, Mwanjiwa\_65, NewHope4\_60, Polo2Bam\_64, Doomphist\_59, Empress\_57, Fastidio\_59, Poenanya\_59, Estave1\_62, LilMoolah\_57, Sassafras\_57, DRBy19\_62, OfUltron\_64, Oksu\_63, Spoonbill\_56, Llama\_64, RitaG\_54, Polka14\_57, DillTech15\_56, MisterCuddles\_57, Galactic\_58, Enzomatic\_65, Philus\_62, BodEinwohner17\_59
- Track 11 : lbhubesi\_59, Veteran\_56

- Track 12 : DeadP\_65
- Track 13 : RockyHorror\_60
- Track 14 : PatoPoderoso\_56, Eish\_63, EmiMonkey\_57, KingJulian\_59, DaWorst\_60, PhilipPhlop\_59, Corium\_56
- Track 15 : Cheesepuff\_66, MulchExplorer\_62, QuickMath\_61, Starcevich\_59, Kimberlium\_62, Topiatin\_67, Cornie\_55
- Track 16 : Nitzel\_57
- Track 17 : CaptainTrips\_56, SG4\_56, Wee\_63, MinionDave\_58, IbOuu\_58, Hegedechwinu\_59, Enby\_60
- Track 18 : ByChance\_51
- Track 19 : BlueCrab\_59
- Track 20 : Beanstalk\_59
- Track 21 : RedBird\_57
- Track 22 : OwlsT2W\_59, Grimmer\_69
- Track 23 : GigiOuiOui\_55
- Track 24 : Kersh\_61
- Track 25 : Jennelsea\_56
- Track 26 : LunaStella\_58, Yoshi\_72, ThetaBob\_64
- Track 27 : Renaud18\_65, Demsculpinboyz\_70
- Track 28 : TChen\_60
- Track 29 : Toron\_67
- Track 30 : Stuck\_58, Shweta\_42
- Track 31 : Sbash\_53
- Track 32 : TiniBug\_51, SamuelLPlaqson\_51, DartGoblin\_53, DrHayes\_51, Bella96\_51, Anma\_52, Urkel\_51
- Track 33 : BarrelRoll\_50, MacKat\_45, AlishaPH\_50, BaghaKamala\_49, Bern\_51, Atiba\_51, Veliki\_51, Beezoo\_52, JAWS\_50, Ramen\_51, ActinUp\_50, Hyperbowlee\_50, CREW\_50, Slimphazie\_50, TruffulaTree\_50, Zavala\_52, Adonis\_50, Capricorn\_50, Spock\_50, QuincyRose\_49, Clipper\_53, Peel\_50, Durfee\_50, Sulley\_50, Tachez\_50, Jayhawk\_51, Rapunzel97\_51, CaseJules\_52, Topper\_50, Dalmuri\_50, Asayake\_50, Rosmarinus\_50, Apocalypse\_53, Joy99\_50, CheetoDust\_49, Blizzard\_50, Zabiza\_45, Belladonna\_50, Homura\_50, YoureAdopted\_49, Inky\_50, Lunahalos\_50, TaiwanKao\_52, HedwigODU\_50, MeaningOfLife\_51, Llorens\_50, Padfoot\_50, Adephagia\_50, Jeckyll\_50, Boiiii\_50, CallaLilly\_50, BGlluviae\_50, BEEST\_50, Ganymede\_51, Piatt\_50, ShiaSurprise\_51, Jarvi\_50, Twitch\_50
- Track 34 : Prithvi\_51, CrimD\_50, LaterM\_51, Megsy\_52, LindNT\_49, TreyKay\_51, Deby\_50, Pokerus\_49, Tiri\_51
- Track 35 : Chris\_53
- Track 36 : Oscar\_55
- Track 37 : Nibb\_53
- Track 38 : Torres\_49, SgtBeansprout\_46, Trice\_46, Enkosi\_48, Nutello\_46, Amelie\_46, Nikao\_49, Teejan\_48, Mdavu\_47, LilPharaoh\_46, Binglebops\_46
- Track 39 : Pisa1\_50, Pisa4\_44
- Track 40 : MarkPhew\_54
- Track 41 : Mynx\_51
- Track 42 : Yunkel11\_53, Efra2\_53, TingHuaYa\_51
- Track 43 : Murucutumbu\_51, Illumine\_53, Dole\_53, Ageofdapage\_52, Devera\_55, Stinson\_51
- Track 44 : Peanam\_53, Dartin\_53, Shaobing\_53, Richo\_53, McMater\_53, Niklas\_53
- Track 45 : KiSi\_55, LeMond\_55
- Track 46 : Geraldini\_53
- Track 47 : Angelica\_50

- Track 48 : Guanica15\_53
- Track 49 : Anaya\_52
- Track 50 : Emerson\_51, Padpat\_52
- Track 51 : Chavito\_54
- Track 52 : Validus\_55
- Track 53 : Scarlett\_55
- Track 54 : LastHope\_53
- Track 55 : Curiosium\_52
- Track 56 : Findley\_54, DismalFunk\_54, Milly\_54, Marcoliusprime\_54, DismalStressor\_54
- Track 57 : ZoeJ\_53
- Track 58 : Strobilo\_54, TM4\_49
- Track 59 : BoostSeason\_54, Doughnut\_54
- Track 60 : Mufasa\_54
- Track 61 : Hurricane\_53
- Track 62 : Lea83\_53
- Track 63 : TribbleTrouble\_50
- Track 64 : Pixie\_52, TBond007\_51, Keshu\_55, ShedlockHolmes\_54
- Track 65 : Pharb\_50
- Track 66 : MacnCheese\_55
- Track 67 : Bryler\_54, Cain\_54, Tierra\_54, PhelpsODU\_53, Phrank\_54, Unicorn\_53
- Track 68 : Ekdilam\_50
- Track 69 : Syra333\_56, Tigress9\_57
- Track 70 : TClif\_54
- Track 71 : Fefferhead\_51, Applecrisp\_50, Ellie\_49
- Track 72 : Amohnition\_53, DarthP\_53, Hammy\_53, November\_51
- Track 73 : Krueger\_57
- Track 74 : Yuna\_57
- Track 75 : Shadow1\_56, Sunflower1121\_57, Ximenita\_57
- Track 76 : Marshawn\_53
- Track 77 : Lavahound\_52, Amgine\_51
- Track 78 : SirPhilip\_53
- Track 79 : Whirlwind\_80, Krypton555\_80
- Track 80 : Nicholas\_77, Clautastrophe\_77, Kingsolomon\_77, Snenia\_78, Finnry\_79, TriFive\_80, Bellis\_79, Jobypre\_79, MsGreen\_79, Jubie\_78
- Track 81 : Lolly9\_78, MiniMac\_83
- Track 82 : Ellson\_78, KirDoubleO7\_77, BourbonZero\_80, LiyuLake\_78
- Track 83 : Moostard\_77, Red305\_80, Samty\_78
- Track 84 : DuncansLeg\_79
- Track 85 : MiniLon\_83
- Track 86 : Daegal\_77
- Track 87 : HH92\_74, Amymech\_75, Webster2\_75, OBUpride\_74, Giles\_68, Hadrien\_72, LilHazelNut\_75, Ubuntu\_75, DeepSoil15\_75, Luke\_72, Amochick\_76, Dewey\_68, Hail\_68, Gravailia\_69, Evanesce\_74, Ein37\_75, Luna22\_68, Kinbote\_73
- Track 88 : Gancho\_74
- Track 89 : Forge\_68, BloominB\_75, Wishmaker\_68
- Track 90 : NovoPizza\_80
- Track 91 : Ibrahim\_41, ZenTime222\_40, Bernal13\_41, RonRayGun\_41, Nairb\_40
- Track 92 : Mendokysei\_39
- Track 93 : Nette\_42
- Track 94 : Stellammi\_103
- Track 95 : Chymera\_48
- Track 96 : Footloose\_55

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

The start number called the most often in the published annotations is 23, it was called in 166 of the 389 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_63, AlpineSix\_64, Avani\_67, Beanstalk\_59, Blarby\_71, Blexus\_57, BlueCrab\_59, BobaPhett\_63, BodEinwohner17\_59, Boomer\_64, Brocalys\_54, Burwell21\_57, BuzzLyseyear\_65, ByChance\_51, Byougenkin\_57, Cabrinians\_60, CaptainTrips\_56, CheesePuff\_66, Chuckly\_62, Clank\_64, Clifton\_54, Corium\_56, Cornie\_55, Cornucopia\_61, Crumble\_54, DRBy19\_62, DaWorst\_60, DaddyRickover\_58, Daenerys\_53, Dante\_60, DeadP\_65, Demsculpinboyz\_70, DillTech15\_56, DirtMcgirt\_58, Doomphist\_59, Doomslug\_68, Dorothy\_57, DosHalletts\_61, Doug\_61, Drago\_57, Eish\_63, EleanorGeorge\_60, EmiMonkey\_57, Emmaloid\_60, Empress\_57, Enby\_60, Enzomatic\_65, Eradicator\_52, Estave1\_62, Fancypants\_61, Fastidio\_59, Firehouse51\_60, FreddyB\_60, GUmbe\_57, Galactic\_58, Gandolph\_62, GigiOuiOui\_55, Girr\_57, Gorge\_63, Grimmer\_69, Hades\_60, Hegedechwinu\_59, Hlubikazi\_55, IbOuu\_58, Ibhubesi\_59, Inventum\_54, IrishSherpFalk\_60, Jabbawokkie\_73, James\_63, Jarcob\_59, Jennelsea\_56, Jinglebell\_64, Job42\_61, JoeyJr\_54, Karhdo\_56, Kersh\_61, Kimberlium\_62, KingJulian\_59, KingMidas\_58, Koella\_53, KristaRAM\_62, LastJedi\_53, Latretium\_61, Leozinho\_58, Leperchaun\_51, LilMoolah\_57, LittleShirley\_58, Lizziana\_65, Llama\_64, Llij\_55, Lorde\_59, Lucia\_59, LunaBlu\_61, LunaStella\_58, MadMen\_57, Madiba\_57, Mahavrat\_57, Mandlovu\_55, Maravista\_60, Marker\_61, Martik\_59, Mattes\_63, MinionDave\_58, MisterCuddles\_57, Modragons\_63, Mova\_60, Mozy\_68, MulchExplorer\_62, Mutaforma13\_63, Mwanjiwa\_65, NewHope4\_60, Nichirin\_66, Nitzel\_57, Nivrat\_55, NormanBulbieJr\_59, Ochi17\_62, OfUltron\_64, Oksu\_63, OldBen\_56, OlympiaSaint\_61, OwlsT2W\_59, PHappiness\_54, PMC\_56, Pacc40\_53, PatoPoderoso\_56, Peridot\_60, Phasih\_57, Phatniss\_57, Philus\_62, PhilipPhlop\_59, Pippy\_57, Plumbus\_61, Poenanya\_59, Polka14\_57, Pollywog\_60, Polo2Bam\_64, Priscilla\_59, QuickMath\_61, Radiance\_58, RedBird\_57, Renaud18\_65, Rialto\_65, RitaG\_54, Rita\_60, Rockne\_60, RockyHorror\_60, Ruby\_55, SG4\_56, Saal\_61, Sabbb\_63, Sassafras\_57, Scottish\_57, SeaLumen\_63, Sebastian\_64, ShiLan\_58, ShowerHandel\_62, ShroomBoi\_61, SiSi\_57, SimranZ1\_59, Slim\_60, Soul22\_65, Spartacus\_61, Spikelee\_66, Spoonbill\_56, Stap\_57, Starceвич\_59, StrokeSeat\_55, SwagPigglett\_64, ThetaBob\_64, Tootsieroll\_60, Topiatin\_67, Totinger\_58, UncleRicky\_58, VRedHorse\_59, Veteran\_56, Violac\_61, Vivum\_60, Wee\_63, Whouxphf\_56, WillSterrel\_60, Yorick\_58, Yoshi\_72, Zapner\_72, Zerg\_59, Zizzle\_63,

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

- TChen\_60,

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

- ActinUp\_50, Adephegia\_50, Adonis\_50, Ageofdapage\_52, AlishaPH\_50, Amelie\_46, Amgine\_51, Amochick\_76, Amohnition\_53, Amymech\_75, Anaya\_52, Angelica\_50, Anma\_52, Apocalypse\_53, Applecrisp\_50, Asayake\_50, Atiba\_51, Austintatious\_37, BEEST\_50, BGlluviae\_50, BaghaKamala\_49, BarrelRoll\_50, Beezoo\_52, Bella96\_51, Belladonna\_50, Bellis\_79, Bern\_51, Bernal13\_41, Binglebops\_46, Bioscum\_41, Blizzard\_50, BloominB\_75, Boiiii\_50, BoostSeason\_54,

BourbonZero\_80, Bryler\_54, CREW\_50, Cain\_54, CallaLilly\_50, Capricorn\_50, CaseJules\_52, Charlie\_44, Chavito\_54, CheetoDust\_49, CherryTomatoes\_55, Chris\_53, Chymera\_48, Clautastrophe\_77, Clipper\_53, CrimD\_50, Curiosium\_52, Daegal\_77, Dalmuri\_50, DartGoblin\_53, DarthP\_53, Dartin\_53, Deby\_50, DeepSoil15\_75, Devera\_55, Dewey\_68, DismalFunk\_54, DismalStressor\_54, Dole\_53, Doughnut\_54, DrHayes\_51, DuncansLeg\_79, Durfee\_50, Efra2\_53, Ein37\_75, Ekdilam\_50, Ellie\_49, Ellson\_78, Emerson\_51, Enkosi\_48, Evanesce\_74, Fefferhead\_51, Findley\_54, Finnry\_79, Footloose\_55, Forge\_68, Fryberger\_93, Gancho\_74, Ganymede\_51, Geraldini\_53, Giles\_68, Gravaillia\_69, Guanica15\_53, Guey18\_98, HH92\_74, Hadrien\_72, Hail\_68, Hammy\_53, HedwigODU\_50, Homura\_50, Hurricane\_53, Hyperbowlee\_50, Ibrahim\_41, Ididsumtinwong\_41, Illumine\_53, Inky\_50, JAWS\_50, Jarvi\_50, Jayhawk\_51, Jeckyll\_50, Jobypre\_79, Journey\_43, Joy99\_50, Jubie\_78, Keelan\_94, Keshu\_55, KiSi\_55, Kinbote\_73, Kingsolomon\_77, KirDoubleO7\_77, Krueger\_57, Krypton555\_80, LastHope\_53, LaterM\_51, Lavahound\_52, LeMond\_55, Lea83\_53, LilHazelNut\_75, LilPharaoh\_46, LindNT\_49, Lishka\_37, LiyuLake\_78, Llorens\_50, Lolly9\_78, Luke\_72, Luna22\_68, Lunahalos\_50, MacKat\_45, MacnCheese\_55, Marcoliusprime\_54, MarkPhew\_54, Marshawn\_53, McMater\_53, Mdavu\_47, MeaningOfLife\_51, Megsy\_52, Mendokyse\_39, Milly\_54, MiniLon\_83, MiniMac\_83, Moostard\_77, MsGreen\_79, Mufasa\_54, Murucutumbu\_51, Mynx\_51, Nairb\_40, Nergal\_48, Nette\_42, Nibb\_53, Nicholas\_77, Nikao\_49, Niklas\_53, November\_51, NovoPizza\_80, Nutello\_46, OBUpride\_74, Oscar\_55, Padfoot\_50, Padpat\_52, PapayaSalad\_40, Peanam\_53, Peel\_50, Pharb\_50, PhelpsODU\_53, Phrank\_54, Piatt\_50, Pisa1\_50, Pisa4\_44, Pixie\_52, Pokerus\_49, Prithvi\_51, Pupper\_53, QuincyRose\_49, Ramen\_51, Rapunzel97\_51, Red305\_80, Richo\_53, RonRayGun\_41, Ronaldo\_96, Rosmarinus\_50, SCentae\_53, Samty\_78, SamuelLPlaqson\_51, Sbash\_53, Scarlett\_55, Sejanus\_58, SgtBeansprout\_46, Shadow1\_56, Shaobing\_53, ShedlockHolmes\_54, ShiaSurprise\_51, Shweta\_42, SirPhilip\_53, Slimphazie\_50, Snenia\_78, Spock\_50, Squiddly\_71, Stellammi\_103, Stinson\_51, Strobilo\_54, Stuck\_58, Sulley\_50, Sunflower1121\_57, Syra333\_56, TBond007\_51, TClif\_54, TM4\_49, Tachez\_50, TaiwanKao\_52, Teejan\_48, Tierra\_54, Tigress9\_57, TingHuaYa\_51, TiniBug\_51, Tiri\_51, Topper\_50, Toron\_67, Torres\_49, TreyKay\_51, TriFive\_80, TribbleTrouble\_50, Trice\_46, TruffulaTree\_50, Twitch\_50, Ubuntu\_75, Unicorn\_53, Urkel\_51, VWB\_44, Validus\_55, Veliki\_51, Volt\_97, Webster2\_75, Whirlwind\_80, Wishmaker\_68, Ximenita\_57, YoureAdopted\_49, Yuna\_57, Yunkel11\_53, Zabiza\_45, Zavala\_52, ZenTime222\_40, Ziko\_96, ZoeJ\_53,

### Summary by start number:

#### Start 13:

- Found in 2 of 433 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 389
- Called 50.0% of time when present
- Phage (with cluster) where this start called: NovoPizza\_80 (Q),

#### Start 17:

- Found in 25 of 433 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 20 of 389
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Amochick\_76 (Q), Amymech\_75 (Q), Daegal\_77 (Q), DeepSoil15\_75 (Q), Dewey\_68 (Q), Ein37\_75 (Q), Evanesce\_74 (Q), Gancho\_74 (Q), Giles\_68 (Q), Gravaillia\_69 (Q), HH92\_74 (Q), Hadrien\_72 (Q), Hail\_68 (Q), Kinbote\_73 (Q), LilHazelNut\_75 (Q), Luke\_72 (Q), Luna22\_68 (Q),

OBUpride\_74 (Q), Ubuntu\_75 (Q), Webster2\_75 (Q),

Start 20:

- Found in 26 of 433 ( 6.0% ) of genes in pham
- Manual Annotations of this start: 5 of 389
- Called 23.1% of time when present
- Phage (with cluster) where this start called: BloominB\_75 (Q), CherryTomatoes\_55 (DO), Forge\_68 (Q), Pupper\_53 (DO), SCentae\_53 (DO), Wishmaker\_68 (Q),

Start 21:

- Found in 1 of 433 ( 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: Toron\_67 (F6),

Start 23:

- Found in 186 of 433 ( 43.0% ) of genes in pham
- Manual Annotations of this start: 166 of 389
- Called 99.5% of time when present
- Phage (with cluster) where this start called: Alexphander\_63 (F1), AlpineSix\_64 (F1), Avani\_67 (F2), Beanstalk\_59 (F1), Blarby\_71 (F), Blexus\_57 (F1), BlueCrab\_59 (F1), BobaPhett\_63 (F1), BodEinwohner17\_59 (F1), Boomer\_64 (F1), Brocalys\_54 (F1), Burwell21\_57 (F1), BuzzLyseyear\_65 (F1), ByChance\_51 (F1), Byougenkin\_57 (F1), Cabrinians\_60 (F1), CaptainTrips\_56 (F1), CheesePuff\_66 (F1), Chuckly\_62 (F1), Clank\_64 (F), Clifton\_54 (F1), Corium\_56 (F1), Cornie\_55 (F5), Cornucopia\_61 (F1), Crumble\_54 (F1), DRBy19\_62 (F1), DaWorst\_60 (F1), DaddyRickover\_58 (F1), Daenerys\_53 (F1), Dante\_60 (F1), DeadP\_65 (F1), Demsculpinboyz\_70 (F2), DillTech15\_56 (F1), DirtMcgirt\_58 (F1), Doomphist\_59 (F1), Doomslug\_68 (F), Dorothy\_57 (F1), DosHalletts\_61 (F1), Doug\_61 (F1), Drago\_57 (F1), Eish\_63 (F1), EleanorGeorge\_60 (F1), EmiMonkey\_57 (F1), Emmaloid\_60 (F1), Empress\_57 (F1), Enby\_60 (F1), Enzomatic\_65 (F1), Eradicator\_52 (F1), Estave1\_62 (F1), Fancypants\_61 (F1), Fastidio\_59 (F1), Firehouse51\_60 (F1), FreddyB\_60 (F1), GUmbie\_57 (F1), Galactic\_58 (F1), Gandolph\_62 (F1), GigiOuiOui\_55 (F1), Girr\_57 (F1), Gorge\_63 (F1), Grimmer\_69 (F1), Hades\_60 (F1), Hegedechwinu\_59 (F1), Hlubikazi\_55 (F1), IbOuu\_58 (F1), Ibhubesi\_59 (F1), Inventum\_54 (F1), IrishSherpFalk\_60 (F1), Jabbawokkie\_73 (F2), James\_63 (F1), Jarcob\_59 (F1), Jennelsea\_56 (F1), Jinglebell\_64 (F1), Job42\_61 (F1), JoeyJr\_54 (F1), Karhdo\_56 (F1), Kersh\_61 (F1), Kimberlium\_62 (F1), KingJulian\_59 (F1), KingMidas\_58 (F1), Koella\_53 (F1), KristaRAM\_62 (F1), LastJedi\_53 (F1), Latretium\_61 (F1), Leozinho\_58 (F1), Leperchaun\_51 (F1), LilMoolah\_57 (F1), LittleShirley\_58 (F1), Lizziana\_65 (F1), Llama\_64 (F1), Llij\_55 (F1), Lorde\_59 (F1), Lucia\_59 (F1), LunaBlu\_61 (F1), LunaStella\_58 (F4), MadMen\_57 (F1), Madiba\_57 (F1), Mahavrat\_57 (F1), Mandlovu\_55 (F1), Maravista\_60 (F1), Marker\_61 (F1), Martik\_59 (F1), Mattes\_63 (F1), MinionDave\_58 (F1), MisterCuddles\_57 (F1), Modragons\_63 (F1), Mova\_60 (F1), Mozy\_68 (F1), MulchExplorer\_62 (F1), Mutaforma13\_63 (F1), Mwanjiwa\_65 (F1), NewHope4\_60 (F1), Nichirin\_66 (F1), Nitzel\_57 (F1), Nivrat\_55 (F1), NormanBulbieJr\_59 (F1), Ochi17\_62 (F1), OfUltron\_64 (F1), Oksu\_63 (F1), OldBen\_56 (F1), OlympiaSaint\_61 (F1), OwlsT2W\_59 (F1), PHappiness\_54 (F1), PMC\_56 (F1), Pacc40\_53 (F1), PatoPoderoso\_56 (F1), Peridot\_60 (F1), Phasih\_57 (F1), Phatniss\_57 (F1), Philus\_62 (F1), PhlipPhlop\_59 (F1), Pippy\_57 (F1), Plumbus\_61 (F1), Poenanya\_59 (F1), Polka14\_57 (F1), Pollywog\_60 (F1), Polo2Bam\_64 (F1), Priscilla\_59 (F1), QuickMath\_61 (F1), Radiance\_58 (F1), RedBird\_57 (F1), Renaud18\_65 (F4), Rialto\_65 (F1), RitaG\_54 (F1), Rita\_60 (F1),

Rockne\_60 (F1), RockyHorror\_60 (F1), Ruby\_55 (F1), SG4\_56 (F1), Saal\_61 (F1), Sabb\_63 (F1), Sassafras\_57 (F1), Scottish\_57 (F1), SeaLumen\_63 (F1), Seabastian\_64 (F1), ShiLan\_58 (F1), ShowerHandel\_62 (F1), ShroomBoi\_61 (F1), SiSi\_57 (F1), SimranZ1\_59 (F1), Slim\_60 (F1), Soul22\_65 (F2), Spartacus\_61 (F1), Spikelee\_66 (F1), Spoonbill\_56 (F1), Stap\_57 (F1), Starceovich\_59 (F1), Strokeseat\_55 (F1), SwagPigglett\_64 (F1), ThetaBob\_64 (F4), Tootsieroll\_60 (F1), Topiatin\_67 (F1), Totinger\_58 (F1), UncleRicky\_58 (F1), VRedHorse\_59 (F1), Veteran\_56 (F1), Violac\_61 (F1), Vivum\_60 (F1), Wee\_63 (F1), Whouxphf\_56 (F1), WillSterrel\_60 (F1), Yorick\_58 (F1), Yoshi\_72 (F2), Zapner\_72 (F2), Zerg\_59 (F1), Zizzle\_63 (F1),

#### Start 24:

- Found in 7 of 433 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 6 of 389
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Bernal13\_41 (T), Ibrahim\_41 (T), Mendokysej\_39 (T), Nairb\_40 (T), RonRayGun\_41 (T), ZenTime222\_40 (T),

#### Start 25:

- Found in 6 of 433 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 5 of 389
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Charlie\_44 (N), Journey\_43 (N), Sbash\_53 (I2), Sejanus\_58 (AD), Shweta\_42 (N), Stuck\_58 (I2),

#### Start 26:

- Found in 10 of 433 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 10 of 389
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hurricane\_53 (K3), Keshu\_55 (K3), Lea83\_53 (K3), MacnCheese\_55 (K3), Pharb\_50 (K3), Pixie\_52 (K3), ShedlockHolmes\_54 (K3), Squiddly\_71 (DN2), TBond007\_51 (K3), TripleTrouble\_50 (K3),

#### Start 27:

- Found in 1 of 433 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 389
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Footloose\_55 (singleton),

#### Start 28:

- Found in 6 of 433 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 389
- Called 16.7% of time when present
- Phage (with cluster) where this start called: TChen\_60 (F4),

#### Start 29:

- Found in 1 of 433 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 389
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chymera\_48 (singleton),

#### Start 30:

- Found in 21 of 433 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 18 of 389
- Called 90.5% of time when present
- Phage (with cluster) where this start called: Bryler\_54 (K6), Cain\_54 (K6), Chris\_53 (K1), Krueger\_57 (K6), MarkPhew\_54 (K1), Nibb\_53 (K1), Oscar\_55 (K1), PhelpsODU\_53 (K6), Phrank\_54 (K6), Scarlett\_55 (K1), Shadow1\_56 (K6), SirPhilip\_53 (K6), Sunflower1121\_57 (K6), Syra333\_56 (K6), Tierra\_54 (K6), Tigress9\_57 (K6), Unicorn\_53 (K6), Ximenita\_57 (K6), Yuna\_57 (K6),

#### Start 31:

- Found in 153 of 433 ( 35.3% ) of genes in pham
- Manual Annotations of this start: 111 of 389
- Called 81.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_50 (K1), Adephagia\_50 (K1), Adonis\_50 (K1), Ageofdapage\_52 (K1), AlishaPH\_50 (K1), Amelie\_46 (K1), Amgine\_51 (K6), Amohntion\_53 (K6), Anaya\_52 (K1), Angelica\_50 (K1), Anma\_52 (K1), Apocalypse\_53 (K1), Applecrisp\_50 (K6), Asayake\_50 (K1), Atiba\_51 (K1), BEEST\_50 (K1), BGlluviae\_50 (K1), BaghaKamala\_49 (K1), BarrelRoll\_50 (K1), Beezoo\_52 (K1), Bella96\_51 (K1), Belladonna\_50 (K1), Bern\_51 (K1), Biglebops\_46 (K1), Blizzard\_50 (K1), Boiiii\_50 (K1), CREW\_50 (K1), CallaLilly\_50 (K1), Capricorn\_50 (K1), CaseJules\_52 (K1), Chavito\_54 (K1), CheetoDust\_49 (K1), Clipper\_53 (K1), CrimD\_50 (K1), Curiosium\_52 (K1), Dalmuri\_50 (K1), DartGoblin\_53 (K1), DarthP\_53 (K6), Dartin\_53 (K1), Deby\_50 (K1), Devera\_55 (K1), Dole\_53 (K1), DrHayes\_51 (K1), Durfee\_50 (K1), Efra2\_53 (K1), Ekdilam\_50 (K6), Ellie\_49 (K6), Emerson\_51 (K1), Enkosi\_48 (K1), Fefferhead\_51 (K6), Ganymede\_51 (K1), Geraldini\_53 (K1), Hammy\_53 (K6), HedwigODU\_50 (K1), Homura\_50 (K1), Hyperbowlee\_50 (K1), Illumine\_53 (K1), Inky\_50 (K1), JAWS\_50 (K1), Jarvi\_50 (K1), Jayhawk\_51 (K1), Jeckyll\_50 (K1), Joy99\_50 (K1), LaterM\_51 (K1), Lavahound\_52 (K6), LilPharaoh\_46 (K1), LindNT\_49 (K1), Llorens\_50 (K1), Lunahalos\_50 (K1), MackKat\_45 (K1), Marshawn\_53 (K6), McMater\_53 (K1), Mdavu\_47 (K1), MeaningOfLife\_51 (K1), Megsy\_52 (K1), Murucutumbu\_51 (K1), Mynx\_51 (K1), Nergal\_48 (AG), Nikao\_49 (K1), Niklas\_53 (K1), November\_51 (K6), Nutello\_46 (K1), Padfoot\_50 (K1), Padpat\_52 (K1), Peanam\_53 (K1), Peel\_50 (K1), Piatt\_50 (K1), Pisa1\_50 (K1), Pisa4\_44 (K1), Pokerus\_49 (K1), Prithvi\_51 (K1), QuincyRose\_49 (K1), Ramen\_51 (K1), Rapunzel97\_51 (K1), Richo\_53 (K1), Rosmarinus\_50 (K1), SamuelLPlaqson\_51 (K1), SgtBeansprout\_46 (K1), Shaobing\_53 (K1), ShiaSurprise\_51 (K1), Slimphazie\_50 (K1), Spock\_50 (K1), Stinson\_51 (K1), Sulley\_50 (K1), TClif\_54 (K6), Tachez\_50 (K1), TaiwanKao\_52 (K1), Teejan\_48 (K1), TingHuaYa\_51 (K1), TiniBug\_51 (K1), Tiri\_51 (K1), Topper\_50 (K1), Torres\_49 (K1), TreyKay\_51 (K1), Trice\_46 (K1), TruffulaTree\_50 (K1), Twitch\_50 (K1), Urkel\_51 (K1), Validus\_55 (K1), Veliki\_51 (K1), YoureAdopted\_49 (K1), Yunkel11\_53 (K1), Zabiza\_45 (K1), Zavala\_52 (K1),

#### Start 33:

- Found in 134 of 433 ( 30.9% ) of genes in pham
- Manual Annotations of this start: 7 of 389
- Called 6.0% of time when present
- Phage (with cluster) where this start called: BoostSeason\_54 (K2), DismalFunk\_54 (K2), DismalStressor\_54 (K2), Doughnut\_54 (K2), Findley\_54 (K2), Marcoliusprime\_54 (K2), Milly\_54 (K2), Nette\_42 (T),

#### Start 34:

- Found in 12 of 433 ( 2.8% ) of genes in pham

- Manual Annotations of this start: 4 of 389
- Called 41.7% of time when present
- Phage (with cluster) where this start called: Mufasa\_54 (K2), Strobilo\_54 (K2), TM4\_49 (K2), VWB\_44 (BA), ZoeJ\_53 (K2),

#### Start 35:

- Found in 10 of 433 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 2 of 389
- Called 20.0% of time when present
- Phage (with cluster) where this start called: KiSi\_55 (K1), LeMond\_55 (K1),

#### Start 37:

- Found in 1 of 433 ( 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: Stellammi\_103 (UNK),

#### Start 38:

- Found in 18 of 433 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 2 of 389
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Guanica15\_53 (K1), LastHope\_53 (K1),

#### Start 40:

- Found in 5 of 433 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 5 of 389
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Austintatious\_37 (BC3), Bioscum\_41 (BC3), Ididsumtinwong\_41 (BC3), Lishka\_37 (BC3), PapayaSalad\_40 (BC3),

#### Start 42:

- Found in 119 of 433 ( 27.5% ) of genes in pham
- Manual Annotations of this start: 6 of 389
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_93 (DP), Guey18\_98 (DP), Keelan\_94 (DP), Ronaldo\_96 (DP), Volt\_97 (DP), Ziko\_96 (DP),

#### Start 43:

- Found in 23 of 433 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 14 of 389
- Called 60.9% of time when present
- Phage (with cluster) where this start called: Bellis\_79 (L3), Clautastrophe\_77 (L3), DuncansLeg\_79 (L3), Finnry\_79 (L3), Jobypre\_79 (L3), Jubie\_78 (L3), Kingsolomon\_77 (L3), Krypton555\_80 (L3), MiniLon\_83 (L3), MsGreen\_79 (L3), Nicholas\_77 (L3), Snenia\_78 (L3), TriFive\_80 (L3), Whirlwind\_80 (L3),

#### Start 46:

- Found in 23 of 433 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 4 of 389
- Called 39.1% of time when present
- Phage (with cluster) where this start called: BourbonZero\_80 (L3), Ellson\_78 (L3), KirDoubleO7\_77 (L3), LiyuLake\_78 (L3), Lolly9\_78 (L3), MiniMac\_83 (L3), Moostard\_77 (L3), Red305\_80 (L3), Samty\_78 (L3),

## Summary by clusters:

There are 24 clusters represented in this pham: DO, singleton, BA, K3, K2, K1, K6, DP, I2, DN2, AD, AG, F, N, Q, T, UNK, F1, F2, F4, F5, F6, BC3, L3,

Info for manual annotations of cluster AD:

- Start number 25 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster AG:

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

Info for manual annotations of cluster BC3:

- Start number 40 was manually annotated 5 times for cluster BC3.

Info for manual annotations of cluster DN2:

- Start number 26 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DO:

- Start number 20 was manually annotated 3 times for cluster DO.

Info for manual annotations of cluster DP:

- Start number 42 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster F1:

- Start number 23 was manually annotated 156 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 23 was manually annotated 6 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 23 was manually annotated 3 times for cluster F4.
- Start number 28 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 23 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster I2:

- Start number 25 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster K1:

- Start number 30 was manually annotated 5 times for cluster K1.
- Start number 31 was manually annotated 99 times for cluster K1.
- Start number 35 was manually annotated 2 times for cluster K1.
- Start number 38 was manually annotated 2 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 33 was manually annotated 7 times for cluster K2.
- Start number 34 was manually annotated 4 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 26 was manually annotated 9 times for cluster K3.

Info for manual annotations of cluster K6:

- Start number 30 was manually annotated 13 times for cluster K6.
- Start number 31 was manually annotated 11 times for cluster K6.

Info for manual annotations of cluster L3:

- Start number 43 was manually annotated 14 times for cluster L3.
- Start number 46 was manually annotated 4 times for cluster L3.

Info for manual annotations of cluster N:

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

Info for manual annotations of cluster Q:

- Start number 13 was manually annotated 1 time for cluster Q.
- Start number 17 was manually annotated 20 times for cluster Q.
- Start number 20 was manually annotated 2 times for cluster Q.

Info for manual annotations of cluster T:

- Start number 24 was manually annotated 6 times for cluster T.

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

Gene: ActinUp\_50 Start: 37356, Stop: 37619, Start Num: 31

Candidate Starts for ActinUp\_50:

(Start: 31 @37356 has 111 MA's), (63, 37497),

Gene: Adephagia\_50 Start: 37353, Stop: 37616, Start Num: 31

Candidate Starts for Adephagia\_50:

(Start: 31 @37353 has 111 MA's), (63, 37494),

Gene: Adonis\_50 Start: 37651, Stop: 37914, Start Num: 31

Candidate Starts for Adonis\_50:

(Start: 31 @37651 has 111 MA's), (63, 37792),

Gene: Ageofdapage\_52 Start: 38336, Stop: 38599, Start Num: 31

Candidate Starts for Ageofdapage\_52:

(7, 38084), (Start: 31 @38336 has 111 MA's), (51, 38390), (63, 38477),

Gene: Alexphander\_63 Start: 40422, Stop: 40706, Start Num: 23

Candidate Starts for Alexphander\_63:

(18, 40395), (Start: 23 @40422 has 166 MA's), (Start: 33 @40446 has 7 MA's), (Start: 42 @40461 has 6 MA's), (53, 40506), (55, 40518), (65, 40596), (68, 40608), (71, 40632), (73, 40644), (82, 40698),

Gene: AlishaPH\_50 Start: 37626, Stop: 37889, Start Num: 31

Candidate Starts for AlishaPH\_50:

(Start: 31 @37626 has 111 MA's), (63, 37767),

Gene: AlpineSix\_64 Start: 42541, Stop: 42819, Start Num: 23

Candidate Starts for AlpineSix\_64:

(18, 42514), (Start: 23 @42541 has 166 MA's), (54, 42625), (56, 42634), (63, 42697), (65, 42712), (68, 42724), (71, 42748), (73, 42760), (82, 42811),

Gene: Amelie\_46 Start: 37040, Stop: 37309, Start Num: 31

Candidate Starts for Amelie\_46:

(Start: 31 @37040 has 111 MA's), (58, 37136), (66, 37196), (67, 37202), (68, 37205), (71, 37232), (73, 37244), (81, 37298),

Gene: Amgine\_51 Start: 38553, Stop: 38807, Start Num: 31

Candidate Starts for Amgine\_51:

(9, 38403), (Start: 31 @38553 has 111 MA's), (55, 38619), (70, 38727),

Gene: Amochick\_76 Start: 49396, Stop: 49704, Start Num: 17

Candidate Starts for Amochick\_76:

(14, 49390), (Start: 17 @49396 has 20 MA's), (Start: 20 @49423 has 5 MA's), (Start: 31 @49456 has 111 MA's), (57, 49558), (60, 49585), (76, 49696),

Gene: Amohnition\_53 Start: 38560, Stop: 38814, Start Num: 31

Candidate Starts for Amohnition\_53:

(3, 38242), (7, 38311), (9, 38407), (Start: 31 @38560 has 111 MA's), (55, 38626), (63, 38689), (70, 38734),

Gene: Amymech\_75 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Amymech\_75:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Anaya\_52 Start: 37953, Stop: 38216, Start Num: 31

Candidate Starts for Anaya\_52:

(Start: 31 @37953 has 111 MA's), (51, 38007), (63, 38094), (68, 38121),

Gene: Angelica\_50 Start: 37583, Stop: 37846, Start Num: 31

Candidate Starts for Angelica\_50:

(Start: 31 @37583 has 111 MA's), (63, 37724),

Gene: Anma\_52 Start: 38242, Stop: 38505, Start Num: 31

Candidate Starts for Anma\_52:

(7, 37990), (Start: 31 @38242 has 111 MA's), (51, 38296), (60, 38365), (63, 38383),

Gene: Apocalypse\_53 Start: 38362, Stop: 38625, Start Num: 31

Candidate Starts for Apocalypse\_53:

(Start: 31 @38362 has 111 MA's), (63, 38503),

Gene: Applecrisp\_50 Start: 38049, Stop: 38303, Start Num: 31

Candidate Starts for Applecrisp\_50:

(9, 37899), (Start: 31 @38049 has 111 MA's), (55, 38115), (70, 38223), (75, 38268),

Gene: Asayake\_50 Start: 37668, Stop: 37931, Start Num: 31

Candidate Starts for Asayake\_50:

(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: Atiba\_51 Start: 37316, Stop: 37579, Start Num: 31

Candidate Starts for Atiba\_51:  
(Start: 31 @37316 has 111 MA's), (63, 37457),

Gene: Austintatious\_37 Start: 25254, Stop: 25553, Start Num: 40  
Candidate Starts for Austintatious\_37:  
(6, 24966), (8, 25011), (19, 25185), (Start: 40 @25254 has 5 MA's), (68, 25416),

Gene: Avani\_67 Start: 40740, Stop: 41018, Start Num: 23  
Candidate Starts for Avani\_67:  
(18, 40713), (Start: 23 @40740 has 166 MA's), (54, 40824), (56, 40833), (63, 40896), (65, 40911), (68, 40923), (71, 40947), (73, 40959), (82, 41010),

Gene: BEEST\_50 Start: 37668, Stop: 37931, Start Num: 31  
Candidate Starts for BEEST\_50:  
(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: BGlluviae\_50 Start: 37471, Stop: 37734, Start Num: 31  
Candidate Starts for BGlluviae\_50:  
(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: BaghaKamala\_49 Start: 36791, Stop: 37054, Start Num: 31  
Candidate Starts for BaghaKamala\_49:  
(Start: 31 @36791 has 111 MA's), (63, 36932),

Gene: BarrelRoll\_50 Start: 37339, Stop: 37602, Start Num: 31  
Candidate Starts for BarrelRoll\_50:  
(Start: 31 @37339 has 111 MA's), (63, 37480),

Gene: Beanstalk\_59 Start: 38741, Stop: 39007, Start Num: 23  
Candidate Starts for Beanstalk\_59:  
(18, 38714), (Start: 23 @38741 has 166 MA's), (Start: 33 @38765 has 7 MA's), (Start: 42 @38780 has 6 MA's), (53, 38825), (55, 38837), (65, 38915), (68, 38927), (71, 38951),

Gene: Beezoo\_52 Start: 38314, Stop: 38577, Start Num: 31  
Candidate Starts for Beezoo\_52:  
(Start: 31 @38314 has 111 MA's), (63, 38455),

Gene: Bella96\_51 Start: 38180, Stop: 38443, Start Num: 31  
Candidate Starts for Bella96\_51:  
(7, 37928), (Start: 31 @38180 has 111 MA's), (51, 38234), (60, 38303), (63, 38321),

Gene: Belladonna\_50 Start: 37471, Stop: 37734, Start Num: 31  
Candidate Starts for Belladonna\_50:  
(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Bellis\_79 Start: 53796, Stop: 54065, Start Num: 43  
Candidate Starts for Bellis\_79:  
(Start: 43 @53796 has 14 MA's), (Start: 46 @53811 has 4 MA's), (68, 53946), (72, 53988), (77, 54024), (84, 54048),

Gene: Bern\_51 Start: 36386, Stop: 36649, Start Num: 31  
Candidate Starts for Bern\_51:  
(Start: 31 @36386 has 111 MA's), (63, 36527),

Gene: Bernal13\_41 Start: 31446, Stop: 31703, Start Num: 24

Candidate Starts for Bernal13\_41:

(4, 31170), (5, 31191), (Start: 24 @31446 has 6 MA's), (55, 31530), (68, 31620),

Gene: Biglebops\_46 Start: 37040, Stop: 37309, Start Num: 31

Candidate Starts for Biglebops\_46:

(Start: 31 @37040 has 111 MA's), (58, 37136), (66, 37196), (67, 37202), (68, 37205), (71, 37232), (73, 37244), (81, 37298),

Gene: Bioscum\_41 Start: 27555, Stop: 27854, Start Num: 40

Candidate Starts for Bioscum\_41:

(6, 27267), (8, 27312), (19, 27486), (Start: 40 @27555 has 5 MA's), (68, 27717),

Gene: Blarby\_71 Start: 41835, Stop: 42119, Start Num: 23

Candidate Starts for Blarby\_71:

(18, 41808), (Start: 23 @41835 has 166 MA's), (Start: 33 @41859 has 7 MA's), (Start: 42 @41874 has 6 MA's), (53, 41919), (55, 41931), (65, 42009), (68, 42021), (71, 42045), (73, 42057), (82, 42111),

Gene: Blexus\_57 Start: 40392, Stop: 40673, Start Num: 23

Candidate Starts for Blexus\_57:

(18, 40365), (Start: 23 @40392 has 166 MA's), (Start: 33 @40416 has 7 MA's), (Start: 42 @40431 has 6 MA's), (53, 40476), (55, 40488), (65, 40566), (68, 40578), (71, 40602), (73, 40614), (82, 40665),

Gene: Blizzard\_50 Start: 37668, Stop: 37931, Start Num: 31

Candidate Starts for Blizzard\_50:

(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: BloominB\_75 Start: 48876, Stop: 49157, Start Num: 20

Candidate Starts for BloominB\_75:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: BlueCrab\_59 Start: 40700, Stop: 40978, Start Num: 23

Candidate Starts for BlueCrab\_59:

(18, 40673), (Start: 23 @40700 has 166 MA's), (Start: 33 @40724 has 7 MA's), (39, 40736), (53, 40781), (55, 40793), (68, 40883), (71, 40907), (73, 40919), (82, 40970),

Gene: BobaPhett\_63 Start: 42651, Stop: 42935, Start Num: 23

Candidate Starts for BobaPhett\_63:

(18, 42624), (Start: 23 @42651 has 166 MA's), (Start: 33 @42675 has 7 MA's), (Start: 42 @42690 has 6 MA's), (53, 42735), (55, 42747), (65, 42825), (68, 42837), (71, 42861), (73, 42873), (82, 42927),

Gene: BodEinwohner17\_59 Start: 39462, Stop: 39740, Start Num: 23

Candidate Starts for BodEinwohner17\_59:

(18, 39435), (Start: 23 @39462 has 166 MA's), (54, 39546), (56, 39555), (63, 39618), (65, 39633), (68, 39645), (71, 39669), (73, 39681), (82, 39732),

Gene: Boiiii\_50 Start: 37670, Stop: 37933, Start Num: 31

Candidate Starts for Boiiii\_50:

(Start: 31 @37670 has 111 MA's), (63, 37811),

Gene: Boomer\_64 Start: 42326, Stop: 42610, Start Num: 23

Candidate Starts for Boomer\_64:

(18, 42299), (Start: 23 @42326 has 166 MA's), (Start: 33 @42350 has 7 MA's), (Start: 42 @42365 has 6 MA's), (53, 42410), (55, 42422), (65, 42500), (68, 42512), (71, 42536), (73, 42548), (82, 42602),

Gene: BoostSeason\_54 Start: 39128, Stop: 39364, Start Num: 33

Candidate Starts for BoostSeason\_54:

(Start: 33 @39128 has 7 MA's), (Start: 34 @39131 has 4 MA's), (Start: 38 @39137 has 2 MA's), (41, 39143), (60, 39233), (61, 39239), (71, 39302), (81, 39353),

Gene: BourbonZero\_80 Start: 53807, Stop: 54094, Start Num: 46

Candidate Starts for BourbonZero\_80:

(Start: 43 @53792 has 14 MA's), (Start: 46 @53807 has 4 MA's), (68, 53945),

Gene: Brocalys\_54 Start: 36836, Stop: 37117, Start Num: 23

Candidate Starts for Brocalys\_54:

(18, 36809), (Start: 23 @36836 has 166 MA's), (Start: 33 @36860 has 7 MA's), (Start: 42 @36875 has 6 MA's), (53, 36920), (55, 36932), (65, 37010), (68, 37022), (71, 37046), (73, 37058), (82, 37109),

Gene: Bryler\_54 Start: 37154, Stop: 37411, Start Num: 30

Candidate Starts for Bryler\_54:

(Start: 30 @37154 has 18 MA's), (44, 37175), (55, 37229), (63, 37292), (64, 37301), (75, 37379),

Gene: Burwell21\_57 Start: 39934, Stop: 40218, Start Num: 23

Candidate Starts for Burwell21\_57:

(18, 39907), (Start: 23 @39934 has 166 MA's), (Start: 33 @39958 has 7 MA's), (Start: 42 @39973 has 6 MA's), (53, 40018), (55, 40030), (65, 40108), (68, 40120), (71, 40144), (73, 40156), (82, 40210),

Gene: BuzzLyseyear\_65 Start: 41358, Stop: 41639, Start Num: 23

Candidate Starts for BuzzLyseyear\_65:

(18, 41331), (Start: 23 @41358 has 166 MA's), (Start: 33 @41382 has 7 MA's), (Start: 42 @41397 has 6 MA's), (53, 41442), (55, 41454), (65, 41532), (68, 41544), (71, 41568), (73, 41580), (82, 41631),

Gene: ByChance\_51 Start: 35625, Stop: 35906, Start Num: 23

Candidate Starts for ByChance\_51:

(18, 35598), (Start: 23 @35625 has 166 MA's), (Start: 33 @35649 has 7 MA's), (39, 35661), (53, 35706), (55, 35718), (65, 35796), (68, 35808), (71, 35832), (73, 35844), (82, 35898),

Gene: Byougenkin\_57 Start: 39701, Stop: 39982, Start Num: 23

Candidate Starts for Byougenkin\_57:

(18, 39674), (Start: 23 @39701 has 166 MA's), (Start: 33 @39725 has 7 MA's), (Start: 42 @39740 has 6 MA's), (53, 39785), (55, 39797), (65, 39875), (68, 39887), (71, 39911), (73, 39923), (82, 39974),

Gene: CREW\_50 Start: 37471, Stop: 37734, Start Num: 31

Candidate Starts for CREW\_50:

(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Cabrinians\_60 Start: 40012, Stop: 40296, Start Num: 23

Candidate Starts for Cabrinians\_60:

(18, 39985), (Start: 23 @40012 has 166 MA's), (Start: 33 @40036 has 7 MA's), (Start: 42 @40051 has 6 MA's), (53, 40096), (55, 40108), (65, 40186), (68, 40198), (71, 40222), (73, 40234), (82, 40288),

Gene: Cain\_54 Start: 37142, Stop: 37399, Start Num: 30

Candidate Starts for Cain\_54:

(Start: 30 @37142 has 18 MA's), (44, 37163), (55, 37217), (63, 37280), (64, 37289), (75, 37367),

Gene: CallaLilly\_50 Start: 37394, Stop: 37657, Start Num: 31

Candidate Starts for CallaLilly\_50:

(Start: 31 @37394 has 111 MA's), (63, 37535),

Gene: Capricorn\_50 Start: 37471, Stop: 37734, Start Num: 31

Candidate Starts for Capricorn\_50:

(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: CaptainTrips\_56 Start: 39508, Stop: 39792, Start Num: 23

Candidate Starts for CaptainTrips\_56:

(Start: 23 @39508 has 166 MA's), (Start: 33 @39532 has 7 MA's), (Start: 42 @39547 has 6 MA's), (53, 39592), (55, 39604), (65, 39682), (68, 39694), (71, 39718), (73, 39730), (82, 39784),

Gene: CaseJules\_52 Start: 37668, Stop: 37931, Start Num: 31

Candidate Starts for CaseJules\_52:

(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: Charlie\_44 Start: 30217, Stop: 30516, Start Num: 25

Candidate Starts for Charlie\_44:

(Start: 25 @30217 has 5 MA's), (32, 30235), (47, 30271), (50, 30286), (63, 30382), (71, 30433), (75, 30469), (81, 30502), (83, 30508),

Gene: Chavito\_54 Start: 38944, Stop: 39207, Start Num: 31

Candidate Starts for Chavito\_54:

(2, 38536), (3, 38620), (7, 38689), (Start: 31 @38944 has 111 MA's), (59, 39046), (60, 39064), (63, 39082), (71, 39136), (75, 39172), (81, 39196),

Gene: Cheesepuff\_66 Start: 41977, Stop: 42255, Start Num: 23

Candidate Starts for Cheesepuff\_66:

(16, 41941), (Start: 23 @41977 has 166 MA's), (Start: 33 @42001 has 7 MA's), (53, 42058), (55, 42070), (65, 42148), (68, 42160), (71, 42184), (73, 42196), (82, 42247),

Gene: CheetoDust\_49 Start: 36840, Stop: 37103, Start Num: 31

Candidate Starts for CheetoDust\_49:

(Start: 31 @36840 has 111 MA's), (63, 36981),

Gene: CherryTomatoes\_55 Start: 18497, Stop: 18778, Start Num: 20

Candidate Starts for CherryTomatoes\_55:

(Start: 20 @18497 has 5 MA's), (Start: 31 @18533 has 111 MA's), (55, 18608),

Gene: Chris\_53 Start: 38292, Stop: 38561, Start Num: 30

Candidate Starts for Chris\_53:

(Start: 30 @38292 has 18 MA's), (70, 38466), (84, 38547), (85, 38550),

Gene: Chuckly\_62 Start: 40654, Stop: 40938, Start Num: 23

Candidate Starts for Chuckly\_62:

(18, 40627), (Start: 23 @40654 has 166 MA's), (Start: 33 @40678 has 7 MA's), (Start: 42 @40693 has 6 MA's), (53, 40738), (55, 40750), (65, 40828), (68, 40840), (71, 40864), (73, 40876), (82, 40930),

Gene: Chymera\_48 Start: 30948, Stop: 31208, Start Num: 29

Candidate Starts for Chymera\_48:

(Start: 29 @30948 has 1 MA's), (32, 30954), (36, 30960), (71, 31149),

Gene: Clank\_64 Start: 40984, Stop: 41262, Start Num: 23

Candidate Starts for Clank\_64:

(18, 40957), (Start: 23 @40984 has 166 MA's), (54, 41068), (56, 41077), (63, 41140), (65, 41155), (68, 41167), (71, 41191), (73, 41203), (82, 41254),

Gene: Clautastrophe\_77 Start: 53794, Stop: 54063, Start Num: 43

Candidate Starts for Clautastrophe\_77:

(Start: 43 @53794 has 14 MA's), (Start: 46 @53809 has 4 MA's), (68, 53944), (72, 53986), (77, 54022), (84, 54046),

Gene: Clifton\_54 Start: 37187, Stop: 37468, Start Num: 23

Candidate Starts for Clifton\_54:

(18, 37160), (Start: 23 @37187 has 166 MA's), (Start: 33 @37211 has 7 MA's), (Start: 42 @37226 has 6 MA's), (53, 37271), (55, 37283), (65, 37361), (68, 37373), (71, 37397), (73, 37409), (82, 37460),

Gene: Clipper\_53 Start: 37987, Stop: 38250, Start Num: 31

Candidate Starts for Clipper\_53:

(Start: 31 @37987 has 111 MA's), (63, 38128),

Gene: Corium\_56 Start: 39051, Stop: 39335, Start Num: 23

Candidate Starts for Corium\_56:

(18, 39024), (Start: 23 @39051 has 166 MA's), (Start: 33 @39075 has 7 MA's), (Start: 42 @39090 has 6 MA's), (53, 39135), (65, 39225), (68, 39237), (71, 39261), (73, 39273), (82, 39327),

Gene: Cornie\_55 Start: 38439, Stop: 38717, Start Num: 23

Candidate Starts for Cornie\_55:

(16, 38403), (Start: 23 @38439 has 166 MA's), (Start: 33 @38463 has 7 MA's), (53, 38520), (55, 38532), (65, 38610), (68, 38622), (71, 38646), (73, 38658), (82, 38709),

Gene: Cornucopia\_61 Start: 40668, Stop: 40946, Start Num: 23

Candidate Starts for Cornucopia\_61:

(18, 40641), (Start: 23 @40668 has 166 MA's), (54, 40752), (56, 40761), (63, 40824), (65, 40839), (68, 40851), (71, 40875), (73, 40887), (82, 40938),

Gene: CrimD\_50 Start: 37577, Stop: 37840, Start Num: 31

Candidate Starts for CrimD\_50:

(Start: 31 @37577 has 111 MA's), (51, 37631), (63, 37718),

Gene: Crumble\_54 Start: 35948, Stop: 36232, Start Num: 23

Candidate Starts for Crumble\_54:

(18, 35921), (Start: 23 @35948 has 166 MA's), (Start: 33 @35972 has 7 MA's), (Start: 42 @35987 has 6 MA's), (53, 36032), (55, 36044), (65, 36122), (68, 36134), (71, 36158), (73, 36170), (82, 36224),

Gene: Curiosium\_52 Start: 36255, Stop: 36521, Start Num: 31

Candidate Starts for Curiosium\_52:

(Start: 31 @36255 has 111 MA's), (Start: 38 @36267 has 2 MA's), (51, 36312), (63, 36399), (75, 36489),

Gene: DRBy19\_62 Start: 41112, Stop: 41393, Start Num: 23

Candidate Starts for DRBy19\_62:

(18, 41085), (Start: 23 @41112 has 166 MA's), (54, 41196), (56, 41205), (63, 41268), (65, 41283), (68, 41295), (71, 41319), (73, 41331), (82, 41385),

Gene: DaWorst\_60 Start: 40413, Stop: 40697, Start Num: 23

Candidate Starts for DaWorst\_60:

(18, 40386), (Start: 23 @40413 has 166 MA's), (Start: 33 @40437 has 7 MA's), (Start: 42 @40452 has 6 MA's), (53, 40497), (65, 40587), (68, 40599), (71, 40623), (73, 40635), (82, 40689),

Gene: DaddyRickover\_58 Start: 40151, Stop: 40435, Start Num: 23

Candidate Starts for DaddyRickover\_58:

(18, 40124), (Start: 23 @40151 has 166 MA's), (Start: 33 @40175 has 7 MA's), (Start: 42 @40190 has 6 MA's), (53, 40235), (55, 40247), (65, 40325), (68, 40337), (71, 40361), (73, 40373), (82, 40427),

Gene: Daegal\_77 Start: 49955, Stop: 50263, Start Num: 17

Candidate Starts for Daegal\_77:

(Start: 13 @49937 has 1 MA's), (14, 49949), (Start: 17 @49955 has 20 MA's), (Start: 20 @49982 has 5 MA's), (Start: 31 @50015 has 111 MA's), (57, 50117), (60, 50144), (76, 50255),

Gene: Daenerys\_53 Start: 38267, Stop: 38545, Start Num: 23

Candidate Starts for Daenerys\_53:

(18, 38240), (Start: 23 @38267 has 166 MA's), (54, 38351), (56, 38360), (63, 38423), (65, 38438), (68, 38450), (71, 38474), (73, 38486), (82, 38537),

Gene: Dalmuri\_50 Start: 37471, Stop: 37734, Start Num: 31

Candidate Starts for Dalmuri\_50:

(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Dante\_60 Start: 39936, Stop: 40220, Start Num: 23

Candidate Starts for Dante\_60:

(18, 39909), (Start: 23 @39936 has 166 MA's), (Start: 33 @39960 has 7 MA's), (Start: 42 @39975 has 6 MA's), (53, 40020), (55, 40032), (65, 40110), (68, 40122), (71, 40146), (73, 40158), (82, 40212),

Gene: DartGoblin\_53 Start: 38152, Stop: 38415, Start Num: 31

Candidate Starts for DartGoblin\_53:

(7, 37900), (Start: 31 @38152 has 111 MA's), (51, 38206), (60, 38275), (63, 38293),

Gene: DarthP\_53 Start: 38444, Stop: 38698, Start Num: 31

Candidate Starts for DarthP\_53:

(3, 38126), (7, 38195), (9, 38291), (Start: 31 @38444 has 111 MA's), (55, 38510), (63, 38573), (70, 38618),

Gene: Dartin\_53 Start: 38285, Stop: 38548, Start Num: 31

Candidate Starts for Dartin\_53:

(1, 37805), (3, 37961), (7, 38030), (Start: 31 @38285 has 111 MA's), (59, 38387), (60, 38405), (63, 38423), (71, 38477), (75, 38513), (81, 38537),

Gene: DeadP\_65 Start: 42582, Stop: 42848, Start Num: 23

Candidate Starts for DeadP\_65:

(Start: 23 @42582 has 166 MA's), (Start: 33 @42606 has 7 MA's), (Start: 42 @42621 has 6 MA's), (53, 42666), (55, 42678), (65, 42756), (68, 42768), (71, 42792),

Gene: Deby\_50 Start: 37599, Stop: 37862, Start Num: 31

Candidate Starts for Deby\_50:

(Start: 31 @37599 has 111 MA's), (51, 37653), (63, 37740),

Gene: DeepSoil15\_75 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for DeepSoil15\_75:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Demsculpinboyz\_70 Start: 39936, Stop: 40217, Start Num: 23

Candidate Starts for Demsculpinboyz\_70:

(16, 39900), (Start: 23 @39936 has 166 MA's), (Start: 28 @39951 has 1 MA's), (Start: 42 @39975 has 6 MA's), (53, 40020), (55, 40032), (71, 40146), (73, 40158), (82, 40209),

Gene: Devera\_55 Start: 38103, Stop: 38366, Start Num: 31

Candidate Starts for Devera\_55:

(7, 37851), (Start: 31 @38103 has 111 MA's), (51, 38157), (63, 38244),

Gene: Dewey\_68 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Dewey\_68:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: DillTech15\_56 Start: 38601, Stop: 38879, Start Num: 23

Candidate Starts for DillTech15\_56:

(18, 38574), (Start: 23 @38601 has 166 MA's), (54, 38685), (56, 38694), (63, 38757), (65, 38772), (68, 38784), (71, 38808), (73, 38820), (82, 38871),

Gene: DirtMcgirt\_58 Start: 38676, Stop: 38960, Start Num: 23

Candidate Starts for DirtMcgirt\_58:

(18, 38649), (Start: 23 @38676 has 166 MA's), (Start: 33 @38700 has 7 MA's), (Start: 42 @38715 has 6 MA's), (53, 38760), (55, 38772), (65, 38850), (68, 38862), (71, 38886), (73, 38898), (82, 38952),

Gene: DismalFunk\_54 Start: 39559, Stop: 39792, Start Num: 33

Candidate Starts for DismalFunk\_54:

(Start: 33 @39559 has 7 MA's), (Start: 34 @39562 has 4 MA's), (Start: 38 @39568 has 2 MA's), (41, 39574), (60, 39664), (61, 39670), (71, 39733),

Gene: DismalStressor\_54 Start: 39559, Stop: 39792, Start Num: 33

Candidate Starts for DismalStressor\_54:

(Start: 33 @39559 has 7 MA's), (Start: 34 @39562 has 4 MA's), (Start: 38 @39568 has 2 MA's), (41, 39574), (60, 39664), (61, 39670), (71, 39733),

Gene: Dole\_53 Start: 38105, Stop: 38368, Start Num: 31

Candidate Starts for Dole\_53:

(7, 37853), (Start: 31 @38105 has 111 MA's), (51, 38159), (63, 38246),

Gene: Doomphist\_59 Start: 41112, Stop: 41390, Start Num: 23

Candidate Starts for Doomphist\_59:

(18, 41085), (Start: 23 @41112 has 166 MA's), (54, 41196), (56, 41205), (63, 41268), (65, 41283), (68, 41295), (71, 41319), (73, 41331), (82, 41382),

Gene: Doomslug\_68 Start: 40532, Stop: 40810, Start Num: 23

Candidate Starts for Doomslug\_68:

(18, 40505), (Start: 23 @40532 has 166 MA's), (54, 40616), (56, 40625), (63, 40688), (65, 40703), (68, 40715), (71, 40739), (73, 40751), (82, 40802),

Gene: Dorothy\_57 Start: 39331, Stop: 39609, Start Num: 23

Candidate Starts for Dorothy\_57:

(18, 39304), (Start: 23 @39331 has 166 MA's), (54, 39415), (56, 39424), (63, 39487), (65, 39502), (68, 39514), (71, 39538), (73, 39550), (82, 39601),

Gene: DosHalletts\_61 Start: 41467, Stop: 41745, Start Num: 23

Candidate Starts for DosHalletts\_61:

(18, 41440), (Start: 23 @41467 has 166 MA's), (54, 41551), (56, 41560), (63, 41623), (65, 41638), (68, 41650), (71, 41674), (73, 41686), (82, 41737),

Gene: Doug\_61 Start: 40679, Stop: 40963, Start Num: 23

Candidate Starts for Doug\_61:

(18, 40652), (Start: 23 @40679 has 166 MA's), (Start: 33 @40703 has 7 MA's), (Start: 42 @40718 has 6 MA's), (53, 40763), (55, 40775), (65, 40853), (68, 40865), (71, 40889), (73, 40901), (82, 40955),

Gene: Doughnut\_54 Start: 39169, Stop: 39405, Start Num: 33

Candidate Starts for Doughnut\_54:

(Start: 33 @39169 has 7 MA's), (Start: 34 @39172 has 4 MA's), (Start: 38 @39178 has 2 MA's), (41, 39184), (60, 39274), (61, 39280), (71, 39343), (81, 39394),

Gene: DrHayes\_51 Start: 38242, Stop: 38505, Start Num: 31

Candidate Starts for DrHayes\_51:

(7, 37990), (Start: 31 @38242 has 111 MA's), (51, 38296), (60, 38365), (63, 38383),

Gene: Drago\_57 Start: 38679, Stop: 38963, Start Num: 23

Candidate Starts for Drago\_57:

(18, 38652), (Start: 23 @38679 has 166 MA's), (Start: 33 @38703 has 7 MA's), (Start: 42 @38718 has 6 MA's), (53, 38763), (55, 38775), (65, 38853), (68, 38865), (71, 38889), (73, 38901), (82, 38955),

Gene: DuncansLeg\_79 Start: 53780, Stop: 54082, Start Num: 43

Candidate Starts for DuncansLeg\_79:

(Start: 43 @53780 has 14 MA's), (Start: 46 @53795 has 4 MA's), (68, 53933),

Gene: Durfee\_50 Start: 37668, Stop: 37931, Start Num: 31

Candidate Starts for Durfee\_50:

(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: Efra2\_53 Start: 37187, Stop: 37450, Start Num: 31

Candidate Starts for Efra2\_53:

(Start: 31 @37187 has 111 MA's), (Start: 38 @37199 has 2 MA's), (60, 37310), (63, 37328),

Gene: Ein37\_75 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Ein37\_75:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Eish\_63 Start: 40928, Stop: 41212, Start Num: 23

Candidate Starts for Eish\_63:

(18, 40901), (Start: 23 @40928 has 166 MA's), (Start: 33 @40952 has 7 MA's), (Start: 42 @40967 has 6 MA's), (53, 41012), (65, 41102), (68, 41114), (71, 41138), (73, 41150), (82, 41204),

Gene: Ekdilam\_50 Start: 37991, Stop: 38245, Start Num: 31

Candidate Starts for Ekdilam\_50:

(3, 37673), (7, 37742), (9, 37838), (Start: 31 @37991 has 111 MA's), (63, 38120), (70, 38165),

Gene: EleanorGeorge\_60 Start: 40795, Stop: 41076, Start Num: 23

Candidate Starts for EleanorGeorge\_60:

(18, 40768), (Start: 23 @40795 has 166 MA's), (Start: 33 @40819 has 7 MA's), (Start: 42 @40834 has 6 MA's), (53, 40879), (55, 40891), (65, 40969), (68, 40981), (71, 41005), (73, 41017), (82, 41068),

Gene: Ellie\_49 Start: 37741, Stop: 37995, Start Num: 31

Candidate Starts for Ellie\_49:

(9, 37591), (Start: 31 @37741 has 111 MA's), (55, 37807), (70, 37915), (75, 37960),

Gene: Ellson\_78 Start: 54110, Stop: 54397, Start Num: 46

Candidate Starts for Ellson\_78:

(Start: 43 @54095 has 14 MA's), (Start: 46 @54110 has 4 MA's), (68, 54248),

Gene: Emerson\_51 Start: 37347, Stop: 37610, Start Num: 31

Candidate Starts for Emerson\_51:

(Start: 31 @37347 has 111 MA's), (63, 37488),

Gene: EmiMonkey\_57 Start: 41642, Stop: 41926, Start Num: 23

Candidate Starts for EmiMonkey\_57:

(18, 41615), (Start: 23 @41642 has 166 MA's), (Start: 33 @41666 has 7 MA's), (Start: 42 @41681 has 6 MA's), (53, 41726), (65, 41816), (68, 41828), (71, 41852), (73, 41864), (82, 41918),

Gene: Emmaloid\_60 Start: 40738, Stop: 41022, Start Num: 23

Candidate Starts for Emmaloid\_60:

(18, 40711), (Start: 23 @40738 has 166 MA's), (Start: 33 @40762 has 7 MA's), (Start: 42 @40777 has 6 MA's), (53, 40822), (55, 40834), (65, 40912), (68, 40924), (71, 40948), (73, 40960), (82, 41014),

Gene: Empress\_57 Start: 39681, Stop: 39959, Start Num: 23

Candidate Starts for Empress\_57:

(18, 39654), (Start: 23 @39681 has 166 MA's), (54, 39765), (56, 39774), (63, 39837), (65, 39852), (68, 39864), (71, 39888), (73, 39900), (82, 39951),

Gene: Enby\_60 Start: 38955, Stop: 39239, Start Num: 23

Candidate Starts for Enby\_60:

(Start: 23 @38955 has 166 MA's), (Start: 33 @38979 has 7 MA's), (Start: 42 @38994 has 6 MA's), (53, 39039), (55, 39051), (65, 39129), (68, 39141), (71, 39165), (73, 39177), (82, 39231),

Gene: Enkosi\_48 Start: 39653, Stop: 39922, Start Num: 31

Candidate Starts for Enkosi\_48:

(Start: 31 @39653 has 111 MA's), (58, 39749), (66, 39809), (67, 39815), (68, 39818), (71, 39845), (73, 39857), (81, 39911),

Gene: Enzomatic\_65 Start: 39785, Stop: 40063, Start Num: 23

Candidate Starts for Enzomatic\_65:

(18, 39758), (Start: 23 @39785 has 166 MA's), (54, 39869), (56, 39878), (63, 39941), (65, 39956), (68, 39968), (71, 39992), (73, 40004), (82, 40055),

Gene: Eradicator\_52 Start: 38208, Stop: 38489, Start Num: 23

Candidate Starts for Eradicator\_52:

(18, 38181), (Start: 23 @38208 has 166 MA's), (Start: 33 @38232 has 7 MA's), (Start: 42 @38247 has 6 MA's), (53, 38292), (55, 38304), (65, 38382), (68, 38394), (71, 38418), (73, 38430), (82, 38481),

Gene: Estave1\_62 Start: 41132, Stop: 41410, Start Num: 23

Candidate Starts for Estave1\_62:

(18, 41105), (Start: 23 @41132 has 166 MA's), (54, 41216), (56, 41225), (63, 41288), (65, 41303), (68, 41315), (71, 41339), (73, 41351), (82, 41402),

Gene: Evanesce\_74 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Evanesce\_74:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Fancypants\_61 Start: 40646, Stop: 40930, Start Num: 23

Candidate Starts for Fancypants\_61:

(18, 40619), (Start: 23 @40646 has 166 MA's), (Start: 33 @40670 has 7 MA's), (Start: 42 @40685 has 6 MA's), (53, 40730), (55, 40742), (65, 40820), (68, 40832), (71, 40856), (73, 40868), (82, 40922),

Gene: Fastidio\_59 Start: 38748, Stop: 39026, Start Num: 23

Candidate Starts for Fastidio\_59:

(18, 38721), (Start: 23 @38748 has 166 MA's), (54, 38832), (56, 38841), (63, 38904), (65, 38919), (68, 38931), (71, 38955), (73, 38967), (82, 39018),

Gene: Fefferhead\_51 Start: 37691, Stop: 37945, Start Num: 31

Candidate Starts for Fefferhead\_51:

(9, 37541), (Start: 31 @37691 has 111 MA's), (55, 37757), (70, 37865), (75, 37910),

Gene: Findley\_54 Start: 39552, Stop: 39785, Start Num: 33

Candidate Starts for Findley\_54:

(Start: 33 @39552 has 7 MA's), (Start: 34 @39555 has 4 MA's), (Start: 38 @39561 has 2 MA's), (41, 39567), (60, 39657), (61, 39663), (71, 39726),

Gene: Finnry\_79 Start: 54045, Stop: 54314, Start Num: 43

Candidate Starts for Finnry\_79:

(Start: 43 @54045 has 14 MA's), (Start: 46 @54060 has 4 MA's), (68, 54195), (72, 54237), (77, 54273), (84, 54297),

Gene: Firehouse51\_60 Start: 43530, Stop: 43814, Start Num: 23

Candidate Starts for Firehouse51\_60:

(18, 43503), (Start: 23 @43530 has 166 MA's), (Start: 33 @43554 has 7 MA's), (Start: 42 @43569 has 6 MA's), (53, 43614), (55, 43626), (65, 43704), (68, 43716), (71, 43740), (73, 43752), (82, 43806),

Gene: Footloose\_55 Start: 31826, Stop: 32083, Start Num: 27

Candidate Starts for Footloose\_55:

(Start: 27 @31826 has 1 MA's), (32, 31838),

Gene: Forge\_68 Start: 48876, Stop: 49157, Start Num: 20

Candidate Starts for Forge\_68:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: FreddyB\_60 Start: 38860, Stop: 39141, Start Num: 23

Candidate Starts for FreddyB\_60:

(18, 38833), (Start: 23 @38860 has 166 MA's), (Start: 33 @38884 has 7 MA's), (Start: 42 @38899 has 6 MA's), (53, 38944), (55, 38956), (65, 39034), (68, 39046), (71, 39070), (73, 39082), (82, 39133),

Gene: Fryberger\_93 Start: 47445, Stop: 47750, Start Num: 42

Candidate Starts for Fryberger\_93:

(Start: 42 @47445 has 6 MA's), (51, 47478), (79, 47679), (84, 47703),

Gene: GUmbie\_57 Start: 39435, Stop: 39716, Start Num: 23

Candidate Starts for GUmbie\_57:

(18, 39408), (Start: 23 @39435 has 166 MA's), (Start: 33 @39459 has 7 MA's), (Start: 42 @39474 has 6 MA's), (53, 39519), (55, 39531), (65, 39609), (68, 39621), (71, 39645), (73, 39657), (82, 39708),

Gene: Galactic\_58 Start: 39901, Stop: 40179, Start Num: 23

Candidate Starts for Galactic\_58:

(18, 39874), (Start: 23 @39901 has 166 MA's), (54, 39985), (56, 39994), (63, 40057), (65, 40072), (68, 40084), (71, 40108), (73, 40120), (82, 40171),

Gene: Gancho\_74 Start: 48624, Stop: 48932, Start Num: 17

Candidate Starts for Gancho\_74:

(14, 48618), (Start: 17 @48624 has 20 MA's), (Start: 20 @48651 has 5 MA's), (Start: 31 @48684 has 111 MA's), (57, 48786), (76, 48924),

Gene: Gandalph\_62 Start: 40257, Stop: 40538, Start Num: 23

Candidate Starts for Gandalph\_62:

(18, 40230), (Start: 23 @40257 has 166 MA's), (Start: 33 @40281 has 7 MA's), (Start: 42 @40296 has 6 MA's), (53, 40341), (55, 40353), (65, 40431), (68, 40443), (71, 40467), (73, 40479), (82, 40530),

Gene: Ganymede\_51 Start: 37786, Stop: 38049, Start Num: 31

Candidate Starts for Ganymede\_51:

(Start: 31 @37786 has 111 MA's), (63, 37927),

Gene: Geraldini\_53 Start: 38403, Stop: 38666, Start Num: 31

Candidate Starts for Geraldini\_53:

(Start: 31 @38403 has 111 MA's), (51, 38457), (52, 38463), (63, 38544),

Gene: GigiOuiOui\_55 Start: 38875, Stop: 39156, Start Num: 23

Candidate Starts for GigiOuiOui\_55:

(18, 38848), (Start: 23 @38875 has 166 MA's), (Start: 33 @38899 has 7 MA's), (Start: 42 @38914 has 6 MA's), (53, 38959), (55, 38971), (63, 39034), (65, 39049), (68, 39061), (71, 39085), (73, 39097), (82, 39148),

Gene: Giles\_68 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Giles\_68:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Girr\_57 Start: 39742, Stop: 40020, Start Num: 23

Candidate Starts for Girr\_57:

(18, 39715), (Start: 23 @39742 has 166 MA's), (54, 39826), (56, 39835), (63, 39898), (65, 39913), (68, 39925), (71, 39949), (73, 39961), (82, 40012),

Gene: Gorge\_63 Start: 41377, Stop: 41658, Start Num: 23

Candidate Starts for Gorge\_63:

(18, 41350), (Start: 23 @41377 has 166 MA's), (Start: 33 @41401 has 7 MA's), (Start: 42 @41416 has 6 MA's), (53, 41461), (55, 41473), (65, 41551), (68, 41563), (71, 41587), (73, 41599), (82, 41650),

Gene: Gravaillia\_69 Start: 48905, Stop: 49213, Start Num: 17

Candidate Starts for Gravaillia\_69:

(14, 48899), (Start: 17 @48905 has 20 MA's), (Start: 20 @48932 has 5 MA's), (Start: 31 @48965 has 111 MA's), (57, 49067), (60, 49094), (76, 49205),

Gene: Grimmer\_69 Start: 41537, Stop: 41815, Start Num: 23

Candidate Starts for Grimmer\_69:

(18, 41510), (Start: 23 @41537 has 166 MA's), (54, 41621), (63, 41693), (65, 41708), (68, 41720), (71, 41744), (73, 41756), (82, 41807),

Gene: Guanica15\_53 Start: 37156, Stop: 37407, Start Num: 38

Candidate Starts for Guanica15\_53:

(Start: 31 @37144 has 111 MA's), (Start: 38 @37156 has 2 MA's), (60, 37267), (63, 37285),

Gene: Guey18\_98 Start: 48765, Stop: 49070, Start Num: 42

Candidate Starts for Guey18\_98:

(Start: 42 @48765 has 6 MA's), (51, 48798), (79, 48999), (84, 49023),

Gene: HH92\_74 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for HH92\_74:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Hades\_60 Start: 40833, Stop: 41114, Start Num: 23

Candidate Starts for Hades\_60:

(18, 40806), (Start: 23 @40833 has 166 MA's), (Start: 33 @40857 has 7 MA's), (Start: 42 @40872 has 6 MA's), (53, 40917), (55, 40929), (65, 41007), (68, 41019), (71, 41043), (73, 41055), (82, 41106),

Gene: Hadrien\_72 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Hadrien\_72:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Hail\_68 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Hail\_68:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Hammy\_53 Start: 38432, Stop: 38686, Start Num: 31

Candidate Starts for Hammy\_53:

(3, 38114), (7, 38183), (9, 38279), (Start: 31 @38432 has 111 MA's), (55, 38498), (63, 38561), (70, 38606),

Gene: HedwigODU\_50 Start: 37356, Stop: 37619, Start Num: 31

Candidate Starts for HedwigODU\_50:

(Start: 31 @37356 has 111 MA's), (63, 37497),

Gene: Hegedechwinu\_59 Start: 39047, Stop: 39328, Start Num: 23

Candidate Starts for Hegedechwinu\_59:

(Start: 23 @39047 has 166 MA's), (Start: 33 @39071 has 7 MA's), (Start: 42 @39086 has 6 MA's), (53, 39131), (55, 39143), (65, 39221), (68, 39233), (71, 39257), (73, 39269), (82, 39320),

Gene: Hlubikazi\_55 Start: 38053, Stop: 38334, Start Num: 23

Candidate Starts for Hlubikazi\_55:

(18, 38026), (Start: 23 @38053 has 166 MA's), (Start: 33 @38077 has 7 MA's), (Start: 42 @38092 has 6 MA's), (53, 38137), (55, 38149), (65, 38227), (68, 38239), (71, 38263), (73, 38275), (82, 38326),

Gene: Homura\_50 Start: 37471, Stop: 37734, Start Num: 31

Candidate Starts for Homura\_50:

(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Hurricane\_53 Start: 37919, Stop: 38188, Start Num: 26

Candidate Starts for Hurricane\_53:

(7, 37679), (12, 37823), (Start: 26 @37919 has 10 MA's), (41, 37943), (63, 38063), (71, 38117),

Gene: Hyperbowlee\_50 Start: 37668, Stop: 37931, Start Num: 31

Candidate Starts for Hyperbowlee\_50:

(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: IbOuu\_58 Start: 40412, Stop: 40696, Start Num: 23

Candidate Starts for IbOuu\_58:

(Start: 23 @40412 has 166 MA's), (Start: 33 @40436 has 7 MA's), (Start: 42 @40451 has 6 MA's), (53, 40496), (55, 40508), (65, 40586), (68, 40598), (71, 40622), (73, 40634), (82, 40688),

Gene: Ibhubesi\_59 Start: 40025, Stop: 40303, Start Num: 23

Candidate Starts for Ibhubesi\_59:

(18, 39998), (Start: 23 @40025 has 166 MA's), (54, 40109), (56, 40118), (65, 40196), (68, 40208), (71, 40232), (73, 40244), (82, 40295),

Gene: Ibrahim\_41 Start: 31892, Stop: 32149, Start Num: 24

Candidate Starts for Ibrahim\_41:

(4, 31616), (5, 31637), (Start: 24 @31892 has 6 MA's), (55, 31976), (68, 32066),

Gene: Ididsumtinwong\_41 Start: 27555, Stop: 27854, Start Num: 40

Candidate Starts for Ididsumtinwong\_41:

(6, 27267), (8, 27312), (19, 27486), (Start: 40 @27555 has 5 MA's), (68, 27717),

Gene: Illumine\_53 Start: 38105, Stop: 38368, Start Num: 31

Candidate Starts for Illumine\_53:

(7, 37853), (Start: 31 @38105 has 111 MA's), (51, 38159), (63, 38246),

Gene: Inky\_50 Start: 37471, Stop: 37734, Start Num: 31

Candidate Starts for Inky\_50:

(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Inventum\_54 Start: 39529, Stop: 39807, Start Num: 23

Candidate Starts for Inventum\_54:

(18, 39502), (Start: 23 @39529 has 166 MA's), (54, 39613), (56, 39622), (63, 39685), (65, 39700), (68, 39712), (71, 39736), (73, 39748), (82, 39799),

Gene: IrishSherpFalk\_60 Start: 41690, Stop: 41971, Start Num: 23

Candidate Starts for IrishSherpFalk\_60:

(18, 41663), (Start: 23 @41690 has 166 MA's), (Start: 33 @41714 has 7 MA's), (Start: 42 @41729 has 6 MA's), (53, 41774), (55, 41786), (65, 41864), (68, 41876), (71, 41900), (73, 41912), (82, 41963),

Gene: JAWS\_50 Start: 37345, Stop: 37608, Start Num: 31

Candidate Starts for JAWS\_50:

(Start: 31 @37345 has 111 MA's), (63, 37486),

Gene: Jabbawokkie\_73 Start: 41755, Stop: 42039, Start Num: 23

Candidate Starts for Jabbawokkie\_73:

(18, 41728), (Start: 23 @41755 has 166 MA's), (Start: 33 @41779 has 7 MA's), (Start: 42 @41794 has 6 MA's), (53, 41839), (55, 41851), (65, 41929), (68, 41941), (71, 41965), (73, 41977), (82, 42031),

Gene: James\_63 Start: 41502, Stop: 41783, Start Num: 23

Candidate Starts for James\_63:

(18, 41475), (Start: 23 @41502 has 166 MA's), (Start: 33 @41526 has 7 MA's), (Start: 42 @41541 has 6 MA's), (53, 41586), (55, 41598), (65, 41676), (68, 41688), (71, 41712), (73, 41724), (82, 41775),

Gene: Jacob\_59 Start: 39980, Stop: 40264, Start Num: 23

Candidate Starts for Jacob\_59:

(18, 39953), (Start: 23 @39980 has 166 MA's), (Start: 33 @40004 has 7 MA's), (Start: 42 @40019 has 6 MA's), (53, 40064), (55, 40076), (65, 40154), (68, 40166), (71, 40190), (73, 40202), (82, 40256),

Gene: Jarvi\_50 Start: 37471, Stop: 37734, Start Num: 31

Candidate Starts for Jarvi\_50:

(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Jayhawk\_51 Start: 37354, Stop: 37617, Start Num: 31

Candidate Starts for Jayhawk\_51:

(Start: 31 @37354 has 111 MA's), (63, 37495),

Gene: Jeckyll\_50 Start: 37471, Stop: 37734, Start Num: 31

Candidate Starts for Jeckyll\_50:

(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Jennelsea\_56 Start: 38665, Stop: 38943, Start Num: 23

Candidate Starts for Jennelsea\_56:

(18, 38638), (Start: 23 @38665 has 166 MA's), (54, 38749), (56, 38758), (63, 38821), (65, 38836), (68, 38848), (71, 38872), (73, 38884), (75, 38908), (82, 38935),

Gene: Jinglebell\_64 Start: 42540, Stop: 42818, Start Num: 23

Candidate Starts for Jinglebell\_64:

(18, 42513), (Start: 23 @42540 has 166 MA's), (54, 42624), (56, 42633), (63, 42696), (65, 42711), (68, 42723), (71, 42747), (73, 42759), (82, 42810),

Gene: Job42\_61 Start: 41920, Stop: 42201, Start Num: 23

Candidate Starts for Job42\_61:

(18, 41893), (Start: 23 @41920 has 166 MA's), (54, 42004), (56, 42013), (63, 42076), (65, 42091), (68, 42103), (71, 42127), (73, 42139), (82, 42193),

Gene: Jobypre\_79 Start: 53794, Stop: 54063, Start Num: 43

Candidate Starts for Jobypre\_79:

(Start: 43 @53794 has 14 MA's), (Start: 46 @53809 has 4 MA's), (68, 53944), (72, 53986), (77, 54022), (84, 54046),

Gene: JoeyJr\_54 Start: 38435, Stop: 38713, Start Num: 23

Candidate Starts for JoeyJr\_54:

(18, 38408), (Start: 23 @38435 has 166 MA's), (54, 38519), (56, 38528), (63, 38591), (65, 38606), (68, 38618), (71, 38642), (73, 38654), (82, 38705),

Gene: Journey\_43 Start: 30217, Stop: 30516, Start Num: 25

Candidate Starts for Journey\_43:

(Start: 25 @30217 has 5 MA's), (32, 30235), (47, 30271), (50, 30286), (63, 30382), (71, 30433), (75, 30469), (81, 30502), (83, 30508),

Gene: Joy99\_50 Start: 37400, Stop: 37663, Start Num: 31

Candidate Starts for Joy99\_50:

(Start: 31 @37400 has 111 MA's), (63, 37541),

Gene: Jubie\_78 Start: 53929, Stop: 54198, Start Num: 43

Candidate Starts for Jubie\_78:

(Start: 43 @53929 has 14 MA's), (Start: 46 @53944 has 4 MA's), (68, 54079), (72, 54121), (77, 54157), (84, 54181),

Gene: Karhdo\_56 Start: 39525, Stop: 39809, Start Num: 23

Candidate Starts for Karhdo\_56:

(18, 39498), (Start: 23 @39525 has 166 MA's), (Start: 33 @39549 has 7 MA's), (Start: 42 @39564 has 6 MA's), (53, 39609), (55, 39621), (65, 39699), (68, 39711), (71, 39735), (73, 39747), (82, 39801),

Gene: Keelan\_94 Start: 48287, Stop: 48550, Start Num: 42

Candidate Starts for Keelan\_94:

(Start: 42 @48287 has 6 MA's), (58, 48365), (63, 48419), (82, 48542),

Gene: Kersh\_61 Start: 42278, Stop: 42559, Start Num: 23

Candidate Starts for Kersh\_61:

(18, 42251), (Start: 23 @42278 has 166 MA's), (Start: 33 @42302 has 7 MA's), (Start: 42 @42317 has 6 MA's), (53, 42362), (55, 42374), (71, 42488), (73, 42500), (82, 42551),

Gene: Keshu\_55 Start: 37986, Stop: 38255, Start Num: 26

Candidate Starts for Keshu\_55:

(7, 37746), (Start: 26 @37986 has 10 MA's), (41, 38010), (63, 38130), (71, 38184),

Gene: KiSi\_55 Start: 38687, Stop: 38956, Start Num: 35

Candidate Starts for KiSi\_55:

(Start: 30 @38681 has 18 MA's), (Start: 35 @38687 has 2 MA's), (51, 38729), (55, 38753), (70, 38861), (85, 38945),

Gene: Kimberlium\_62 Start: 41811, Stop: 42092, Start Num: 23

Candidate Starts for Kimberlium\_62:

(16, 41775), (Start: 23 @41811 has 166 MA's), (Start: 33 @41835 has 7 MA's), (53, 41892), (55, 41904), (65, 41982), (68, 41994), (71, 42018), (73, 42030), (82, 42084),

Gene: Kinbote\_73 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Kinbote\_73:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: KingJulian\_59 Start: 39051, Stop: 39335, Start Num: 23

Candidate Starts for KingJulian\_59:

(18, 39024), (Start: 23 @39051 has 166 MA's), (Start: 33 @39075 has 7 MA's), (Start: 42 @39090 has 6 MA's), (53, 39135), (65, 39225), (68, 39237), (71, 39261), (73, 39273), (82, 39327),

Gene: KingMidas\_58 Start: 40097, Stop: 40375, Start Num: 23

Candidate Starts for KingMidas\_58:

(18, 40070), (Start: 23 @40097 has 166 MA's), (54, 40181), (56, 40190), (63, 40253), (65, 40268), (68, 40280), (71, 40304), (73, 40316), (82, 40367),

Gene: Kingsolomon\_77 Start: 53801, Stop: 54070, Start Num: 43

Candidate Starts for Kingsolomon\_77:

(Start: 43 @53801 has 14 MA's), (Start: 46 @53816 has 4 MA's), (68, 53951), (72, 53993), (77, 54029), (84, 54053),

Gene: KirDoubleO7\_77 Start: 53797, Stop: 54084, Start Num: 46

Candidate Starts for KirDoubleO7\_77:

(Start: 43 @53782 has 14 MA's), (Start: 46 @53797 has 4 MA's), (68, 53935),

Gene: Koella\_53 Start: 35910, Stop: 36194, Start Num: 23

Candidate Starts for Koella\_53:

(18, 35883), (Start: 23 @35910 has 166 MA's), (Start: 33 @35934 has 7 MA's), (Start: 42 @35949 has 6 MA's), (53, 35994), (55, 36006), (65, 36084), (68, 36096), (71, 36120), (73, 36132), (82, 36186),

Gene: KristaRAM\_62 Start: 42482, Stop: 42763, Start Num: 23

Candidate Starts for KristaRAM\_62:

(18, 42455), (Start: 23 @42482 has 166 MA's), (Start: 33 @42506 has 7 MA's), (Start: 42 @42521 has 6 MA's), (53, 42566), (55, 42578), (65, 42656), (68, 42668), (71, 42692), (73, 42704), (82, 42755),

Gene: Krueger\_57 Start: 38145, Stop: 38396, Start Num: 30

Candidate Starts for Krueger\_57:

(Start: 30 @38145 has 18 MA's), (Start: 35 @38151 has 2 MA's), (60, 38265), (61, 38271), (63, 38283),

Gene: Krypton555\_80 Start: 54028, Stop: 54342, Start Num: 43

Candidate Starts for Krypton555\_80:

(Start: 43 @54028 has 14 MA's), (Start: 46 @54043 has 4 MA's), (62, 54154), (68, 54190), (86, 54322),

Gene: LastHope\_53 Start: 36640, Stop: 36891, Start Num: 38

Candidate Starts for LastHope\_53:

(Start: 31 @36628 has 111 MA's), (Start: 38 @36640 has 2 MA's), (51, 36682), (60, 36751), (63, 36769),

Gene: LastJedi\_53 Start: 37230, Stop: 37511, Start Num: 23

Candidate Starts for LastJedi\_53:

(18, 37203), (Start: 23 @37230 has 166 MA's), (Start: 33 @37254 has 7 MA's), (Start: 42 @37269 has 6 MA's), (53, 37314), (55, 37326), (65, 37404), (68, 37416), (71, 37440), (73, 37452), (82, 37503),

Gene: LaterM\_51 Start: 38233, Stop: 38496, Start Num: 31

Candidate Starts for LaterM\_51:

(Start: 31 @38233 has 111 MA's), (51, 38287), (63, 38374),

Gene: Latretium\_61 Start: 40556, Stop: 40837, Start Num: 23

Candidate Starts for Latretium\_61:

(18, 40529), (Start: 23 @40556 has 166 MA's), (Start: 33 @40580 has 7 MA's), (Start: 42 @40595 has 6 MA's), (53, 40640), (55, 40652), (65, 40730), (68, 40742), (71, 40766), (73, 40778), (82, 40829),

Gene: Lavahound\_52 Start: 38674, Stop: 38928, Start Num: 31

Candidate Starts for Lavahound\_52:

(9, 38524), (Start: 31 @38674 has 111 MA's), (55, 38740), (70, 38848),

Gene: LeMond\_55 Start: 38671, Stop: 38940, Start Num: 35

Candidate Starts for LeMond\_55:

(Start: 30 @38665 has 18 MA's), (Start: 35 @38671 has 2 MA's), (51, 38713), (55, 38737), (70, 38845), (85, 38929),

Gene: Lea83\_53 Start: 37972, Stop: 38241, Start Num: 26

Candidate Starts for Lea83\_53:

(1, 37507), (7, 37732), (Start: 26 @37972 has 10 MA's), (41, 37996), (63, 38116), (71, 38170),

Gene: Leozinho\_58 Start: 39315, Stop: 39593, Start Num: 23

Candidate Starts for Leozinho\_58:

(18, 39288), (Start: 23 @39315 has 166 MA's), (54, 39399), (56, 39408), (63, 39471), (65, 39486), (68, 39498), (71, 39522), (73, 39534), (82, 39585),

Gene: Leperchaun\_51 Start: 37665, Stop: 37943, Start Num: 23

Candidate Starts for Leperchaun\_51:

(18, 37638), (Start: 23 @37665 has 166 MA's), (54, 37749), (56, 37758), (63, 37821), (65, 37836), (68, 37848), (71, 37872), (73, 37884), (82, 37935),

Gene: LilHazelnut\_75 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for LilHazelnut\_75:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: LilMoolah\_57 Start: 39425, Stop: 39706, Start Num: 23

Candidate Starts for LilMoolah\_57:

(18, 39398), (Start: 23 @39425 has 166 MA's), (54, 39509), (56, 39518), (63, 39581), (65, 39596), (68, 39608), (71, 39632), (73, 39644), (82, 39698),

Gene: LilPharaoh\_46 Start: 36768, Stop: 37037, Start Num: 31

Candidate Starts for LilPharaoh\_46:

(Start: 31 @36768 has 111 MA's), (58, 36864), (66, 36924), (67, 36930), (68, 36933), (71, 36960), (73, 36972), (81, 37026),

Gene: LindNT\_49 Start: 37556, Stop: 37819, Start Num: 31

Candidate Starts for LindNT\_49:

(Start: 31 @37556 has 111 MA's), (51, 37610), (63, 37697),

Gene: Lishka\_37 Start: 25254, Stop: 25553, Start Num: 40

Candidate Starts for Lishka\_37:

(6, 24966), (8, 25011), (19, 25185), (Start: 40 @25254 has 5 MA's), (68, 25416),

Gene: LittleShirley\_58 Start: 40469, Stop: 40753, Start Num: 23

Candidate Starts for LittleShirley\_58:

(18, 40442), (Start: 23 @40469 has 166 MA's), (Start: 33 @40493 has 7 MA's), (Start: 42 @40508 has 6 MA's), (53, 40553), (55, 40565), (65, 40643), (68, 40655), (71, 40679), (73, 40691), (82, 40745),

Gene: LiyuLake\_78 Start: 53870, Stop: 54157, Start Num: 46  
Candidate Starts for LiyuLake\_78:  
(Start: 43 @53855 has 14 MA's), (Start: 46 @53870 has 4 MA's), (68, 54008),

Gene: Lizziana\_65 Start: 40983, Stop: 41264, Start Num: 23  
Candidate Starts for Lizziana\_65:  
(18, 40956), (Start: 23 @40983 has 166 MA's), (Start: 33 @41007 has 7 MA's), (Start: 42 @41022 has 6 MA's), (53, 41067), (55, 41079), (65, 41157), (68, 41169), (71, 41193), (73, 41205), (82, 41256),

Gene: Llama\_64 Start: 42394, Stop: 42672, Start Num: 23  
Candidate Starts for Llama\_64:  
(18, 42367), (Start: 23 @42394 has 166 MA's), (54, 42478), (56, 42487), (63, 42550), (65, 42565), (68, 42577), (71, 42601), (73, 42613), (82, 42664),

Gene: Llij\_55 Start: 38833, Stop: 39117, Start Num: 23  
Candidate Starts for Llij\_55:  
(18, 38806), (Start: 23 @38833 has 166 MA's), (Start: 33 @38857 has 7 MA's), (Start: 42 @38872 has 6 MA's), (53, 38917), (55, 38929), (65, 39007), (68, 39019), (71, 39043), (73, 39055), (82, 39109),

Gene: Llorens\_50 Start: 37471, Stop: 37734, Start Num: 31  
Candidate Starts for Llorens\_50:  
(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Lolly9\_78 Start: 53913, Stop: 54164, Start Num: 46  
Candidate Starts for Lolly9\_78:  
(Start: 43 @53898 has 14 MA's), (Start: 46 @53913 has 4 MA's), (72, 54090), (84, 54150),

Gene: Lorde\_59 Start: 38120, Stop: 38404, Start Num: 23  
Candidate Starts for Lorde\_59:  
(18, 38093), (Start: 23 @38120 has 166 MA's), (Start: 33 @38144 has 7 MA's), (Start: 42 @38159 has 6 MA's), (53, 38204), (55, 38216), (65, 38294), (68, 38306), (71, 38330), (73, 38342), (82, 38396),

Gene: Lucia\_59 Start: 38977, Stop: 39258, Start Num: 23  
Candidate Starts for Lucia\_59:  
(18, 38950), (Start: 23 @38977 has 166 MA's), (Start: 33 @39001 has 7 MA's), (Start: 42 @39016 has 6 MA's), (53, 39061), (55, 39073), (65, 39151), (68, 39163), (71, 39187), (73, 39199), (82, 39250),

Gene: Luke\_72 Start: 48804, Stop: 49112, Start Num: 17  
Candidate Starts for Luke\_72:  
(14, 48798), (Start: 17 @48804 has 20 MA's), (Start: 20 @48831 has 5 MA's), (Start: 31 @48864 has 111 MA's), (57, 48966), (60, 48993), (76, 49104),

Gene: Luna22\_68 Start: 48833, Stop: 49141, Start Num: 17  
Candidate Starts for Luna22\_68:  
(14, 48827), (Start: 17 @48833 has 20 MA's), (Start: 20 @48860 has 5 MA's), (Start: 31 @48893 has 111 MA's), (57, 48995), (60, 49022), (76, 49133),

Gene: LunaBlu\_61 Start: 40560, Stop: 40838, Start Num: 23  
Candidate Starts for LunaBlu\_61:  
(18, 40533), (Start: 23 @40560 has 166 MA's), (54, 40644), (56, 40653), (63, 40716), (65, 40731), (68, 40743), (71, 40767), (73, 40779), (82, 40830),

Gene: LunaStella\_58 Start: 39407, Stop: 39685, Start Num: 23

Candidate Starts for LunaStella\_58:

(15, 39371), (Start: 23 @39407 has 166 MA's), (Start: 28 @39416 has 1 MA's), (51, 39473), (54, 39491), (56, 39500), (63, 39563), (65, 39578), (68, 39590), (71, 39614), (73, 39626), (82, 39677),

Gene: Lunahalos\_50 Start: 37471, Stop: 37734, Start Num: 31

Candidate Starts for Lunahalos\_50:

(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: MacKat\_45 Start: 32871, Stop: 33134, Start Num: 31

Candidate Starts for MacKat\_45:

(Start: 31 @32871 has 111 MA's), (63, 33012),

Gene: MacnCheese\_55 Start: 38928, Stop: 39194, Start Num: 26

Candidate Starts for MacnCheese\_55:

(7, 38688), (Start: 26 @38928 has 10 MA's), (41, 38949), (45, 38955), (63, 39069), (70, 39114), (71, 39123),

Gene: MadMen\_57 Start: 39757, Stop: 40041, Start Num: 23

Candidate Starts for MadMen\_57:

(18, 39730), (Start: 23 @39757 has 166 MA's), (Start: 33 @39781 has 7 MA's), (Start: 42 @39796 has 6 MA's), (53, 39841), (55, 39853), (65, 39931), (68, 39943), (71, 39967), (73, 39979), (82, 40033),

Gene: Madiba\_57 Start: 39006, Stop: 39290, Start Num: 23

Candidate Starts for Madiba\_57:

(18, 38979), (Start: 23 @39006 has 166 MA's), (Start: 33 @39030 has 7 MA's), (Start: 42 @39045 has 6 MA's), (53, 39090), (55, 39102), (65, 39180), (68, 39192), (71, 39216), (73, 39228), (82, 39282),

Gene: Mahavrat\_57 Start: 39385, Stop: 39666, Start Num: 23

Candidate Starts for Mahavrat\_57:

(18, 39358), (Start: 23 @39385 has 166 MA's), (Start: 33 @39409 has 7 MA's), (Start: 42 @39424 has 6 MA's), (53, 39469), (55, 39481), (65, 39559), (68, 39571), (71, 39595), (73, 39607), (82, 39658),

Gene: Mandlovu\_55 Start: 37995, Stop: 38276, Start Num: 23

Candidate Starts for Mandlovu\_55:

(18, 37968), (Start: 23 @37995 has 166 MA's), (Start: 33 @38019 has 7 MA's), (Start: 42 @38034 has 6 MA's), (53, 38079), (55, 38091), (65, 38169), (68, 38181), (71, 38205), (73, 38217), (82, 38268),

Gene: Maravista\_60 Start: 41432, Stop: 41713, Start Num: 23

Candidate Starts for Maravista\_60:

(18, 41405), (Start: 23 @41432 has 166 MA's), (Start: 33 @41456 has 7 MA's), (Start: 42 @41471 has 6 MA's), (53, 41516), (55, 41528), (65, 41606), (68, 41618), (71, 41642), (73, 41654), (82, 41705),

Gene: Marcoliusprime\_54 Start: 39559, Stop: 39792, Start Num: 33

Candidate Starts for Marcoliusprime\_54:

(Start: 33 @39559 has 7 MA's), (Start: 34 @39562 has 4 MA's), (Start: 38 @39568 has 2 MA's), (41, 39574), (60, 39664), (61, 39670), (71, 39733),

Gene: MarkPhew\_54 Start: 38124, Stop: 38393, Start Num: 30

Candidate Starts for MarkPhew\_54:

(Start: 30 @38124 has 18 MA's), (48, 38151), (51, 38166), (55, 38190), (70, 38298), (85, 38382),

Gene: Marker\_61 Start: 40100, Stop: 40384, Start Num: 23

Candidate Starts for Marker\_61:

(18, 40073), (Start: 23 @40100 has 166 MA's), (Start: 33 @40124 has 7 MA's), (Start: 42 @40139 has 6 MA's), (53, 40184), (55, 40196), (65, 40274), (68, 40286), (71, 40310), (73, 40322), (82, 40376),

Gene: Marshawn\_53 Start: 38262, Stop: 38522, Start Num: 31

Candidate Starts for Marshawn\_53:

(3, 37941), (7, 38010), (9, 38106), (Start: 31 @38262 has 111 MA's), (52, 38319), (68, 38427), (75, 38490),

Gene: Martik\_59 Start: 39936, Stop: 40217, Start Num: 23

Candidate Starts for Martik\_59:

(18, 39909), (Start: 23 @39936 has 166 MA's), (Start: 33 @39960 has 7 MA's), (Start: 42 @39975 has 6 MA's), (53, 40020), (55, 40032), (65, 40110), (68, 40122), (71, 40146), (73, 40158), (82, 40209),

Gene: Mattes\_63 Start: 41502, Stop: 41783, Start Num: 23

Candidate Starts for Mattes\_63:

(18, 41475), (Start: 23 @41502 has 166 MA's), (Start: 33 @41526 has 7 MA's), (Start: 42 @41541 has 6 MA's), (53, 41586), (55, 41598), (65, 41676), (68, 41688), (71, 41712), (73, 41724), (82, 41775),

Gene: McMater\_53 Start: 38285, Stop: 38548, Start Num: 31

Candidate Starts for McMater\_53:

(1, 37805), (3, 37961), (7, 38030), (Start: 31 @38285 has 111 MA's), (59, 38387), (60, 38405), (63, 38423), (71, 38477), (75, 38513), (81, 38537),

Gene: Mdavu\_47 Start: 37029, Stop: 37298, Start Num: 31

Candidate Starts for Mdavu\_47:

(Start: 31 @37029 has 111 MA's), (58, 37125), (66, 37185), (67, 37191), (68, 37194), (71, 37221), (73, 37233), (81, 37287),

Gene: MeaningOfLife\_51 Start: 38280, Stop: 38543, Start Num: 31

Candidate Starts for MeaningOfLife\_51:

(Start: 31 @38280 has 111 MA's), (63, 38421),

Gene: Megsy\_52 Start: 37615, Stop: 37878, Start Num: 31

Candidate Starts for Megsy\_52:

(Start: 31 @37615 has 111 MA's), (51, 37669), (63, 37756),

Gene: Mendokysei\_39 Start: 30983, Stop: 31297, Start Num: 24

Candidate Starts for Mendokysei\_39:

(Start: 24 @30983 has 6 MA's), (Start: 33 @30998 has 7 MA's), (51, 31037),

Gene: Milly\_54 Start: 39532, Stop: 39765, Start Num: 33

Candidate Starts for Milly\_54:

(Start: 33 @39532 has 7 MA's), (Start: 34 @39535 has 4 MA's), (Start: 38 @39541 has 2 MA's), (41, 39547), (60, 39637), (61, 39643), (71, 39706),

Gene: MiniLon\_83 Start: 53899, Stop: 54165, Start Num: 43

Candidate Starts for MiniLon\_83:

(Start: 43 @53899 has 14 MA's), (Start: 46 @53914 has 4 MA's), (72, 54091), (84, 54151),

Gene: MiniMac\_83 Start: 53909, Stop: 54160, Start Num: 46

Candidate Starts for MiniMac\_83:

(Start: 43 @53894 has 14 MA's), (Start: 46 @53909 has 4 MA's), (72, 54086), (84, 54146),

Gene: MinionDave\_58 Start: 40283, Stop: 40564, Start Num: 23

Candidate Starts for MinionDave\_58:

(Start: 23 @40283 has 166 MA's), (Start: 33 @40307 has 7 MA's), (Start: 42 @40322 has 6 MA's), (53, 40367), (55, 40379), (65, 40457), (68, 40469), (71, 40493), (73, 40505), (82, 40556),

Gene: MisterCuddles\_57 Start: 39742, Stop: 40020, Start Num: 23

Candidate Starts for MisterCuddles\_57:

(18, 39715), (Start: 23 @39742 has 166 MA's), (54, 39826), (56, 39835), (63, 39898), (65, 39913), (68, 39925), (71, 39949), (73, 39961), (82, 40012),

Gene: Modragons\_63 Start: 42384, Stop: 42662, Start Num: 23

Candidate Starts for Modragons\_63:

(18, 42357), (Start: 23 @42384 has 166 MA's), (54, 42468), (56, 42477), (63, 42540), (65, 42555), (68, 42567), (71, 42591), (73, 42603), (82, 42654),

Gene: Moostard\_77 Start: 53811, Stop: 54065, Start Num: 46

Candidate Starts for Moostard\_77:

(Start: 43 @53796 has 14 MA's), (Start: 46 @53811 has 4 MA's), (68, 53946), (72, 53988), (77, 54024), (84, 54048),

Gene: Mova\_60 Start: 39510, Stop: 39794, Start Num: 23

Candidate Starts for Mova\_60:

(18, 39483), (Start: 23 @39510 has 166 MA's), (Start: 33 @39534 has 7 MA's), (Start: 42 @39549 has 6 MA's), (53, 39594), (55, 39606), (65, 39684), (68, 39696), (71, 39720), (73, 39732), (82, 39786),

Gene: Mozy\_68 Start: 42517, Stop: 42798, Start Num: 23

Candidate Starts for Mozy\_68:

(18, 42490), (Start: 23 @42517 has 166 MA's), (Start: 33 @42541 has 7 MA's), (Start: 42 @42556 has 6 MA's), (53, 42601), (55, 42613), (65, 42691), (68, 42703), (71, 42727), (73, 42739), (82, 42790),

Gene: MsGreen\_79 Start: 53793, Stop: 54062, Start Num: 43

Candidate Starts for MsGreen\_79:

(Start: 43 @53793 has 14 MA's), (Start: 46 @53808 has 4 MA's), (68, 53943), (72, 53985), (77, 54021), (84, 54045),

Gene: Mufasa\_54 Start: 39116, Stop: 39349, Start Num: 34

Candidate Starts for Mufasa\_54:

(Start: 33 @39113 has 7 MA's), (Start: 34 @39116 has 4 MA's), (Start: 38 @39122 has 2 MA's), (41, 39128), (60, 39218), (61, 39224), (71, 39287), (81, 39338),

Gene: MulchExplorer\_62 Start: 41810, Stop: 42091, Start Num: 23

Candidate Starts for MulchExplorer\_62:

(16, 41774), (Start: 23 @41810 has 166 MA's), (Start: 33 @41834 has 7 MA's), (53, 41891), (55, 41903), (65, 41981), (68, 41993), (71, 42017), (73, 42029), (82, 42083),

Gene: Murucutumbu\_51 Start: 38326, Stop: 38589, Start Num: 31

Candidate Starts for Murucutumbu\_51:

(7, 38074), (Start: 31 @38326 has 111 MA's), (51, 38380), (63, 38467),

Gene: Mutaforma13\_63 Start: 42840, Stop: 43124, Start Num: 23

Candidate Starts for Mutaforma13\_63:

(18, 42813), (Start: 23 @42840 has 166 MA's), (Start: 33 @42864 has 7 MA's), (Start: 42 @42879 has 6 MA's), (53, 42924), (55, 42936), (65, 43014), (68, 43026), (71, 43050), (73, 43062), (82, 43116),

Gene: Mwanjiwa\_65 Start: 40617, Stop: 40895, Start Num: 23

Candidate Starts for Mwanjiwa\_65:

(18, 40590), (Start: 23 @40617 has 166 MA's), (54, 40701), (56, 40710), (63, 40773), (65, 40788), (68, 40800), (71, 40824), (73, 40836), (82, 40887),

Gene: Mynx\_51 Start: 37672, Stop: 37935, Start Num: 31

Candidate Starts for Mynx\_51:

(Start: 31 @37672 has 111 MA's), (63, 37813),

Gene: Nairb\_40 Start: 31446, Stop: 31703, Start Num: 24

Candidate Starts for Nairb\_40:

(4, 31170), (5, 31191), (Start: 24 @31446 has 6 MA's), (55, 31530), (68, 31620),

Gene: Nergal\_48 Start: 36024, Stop: 36272, Start Num: 31

Candidate Starts for Nergal\_48:

(Start: 31 @36024 has 111 MA's), (60, 36138), (63, 36156), (69, 36189), (75, 36246),

Gene: Nette\_42 Start: 31007, Stop: 31306, Start Num: 33

Candidate Starts for Nette\_42:

(Start: 24 @30992 has 6 MA's), (Start: 33 @31007 has 7 MA's), (51, 31046),

Gene: NewHope4\_60 Start: 39931, Stop: 40209, Start Num: 23

Candidate Starts for NewHope4\_60:

(18, 39904), (Start: 23 @39931 has 166 MA's), (54, 40015), (56, 40024), (63, 40087), (65, 40102), (68, 40114), (71, 40138), (73, 40150), (82, 40201),

Gene: Nibb\_53 Start: 37813, Stop: 38082, Start Num: 30

Candidate Starts for Nibb\_53:

(Start: 30 @37813 has 18 MA's), (48, 37840), (70, 37987), (85, 38071),

Gene: Nichirin\_66 Start: 43925, Stop: 44203, Start Num: 23

Candidate Starts for Nichirin\_66:

(18, 43898), (Start: 23 @43925 has 166 MA's), (54, 44009), (56, 44018), (63, 44081), (65, 44096), (68, 44108), (71, 44132), (73, 44144), (82, 44195),

Gene: Nicholas\_77 Start: 53801, Stop: 54070, Start Num: 43

Candidate Starts for Nicholas\_77:

(Start: 43 @53801 has 14 MA's), (Start: 46 @53816 has 4 MA's), (68, 53951), (72, 53993), (77, 54029), (84, 54053),

Gene: Nikao\_49 Start: 39653, Stop: 39922, Start Num: 31

Candidate Starts for Nikao\_49:

(Start: 31 @39653 has 111 MA's), (58, 39749), (66, 39809), (67, 39815), (68, 39818), (71, 39845), (73, 39857), (81, 39911),

Gene: Niklas\_53 Start: 38346, Stop: 38609, Start Num: 31

Candidate Starts for Niklas\_53:

(1, 37866), (3, 38022), (7, 38091), (Start: 31 @38346 has 111 MA's), (59, 38448), (60, 38466), (63, 38484), (71, 38538), (75, 38574), (81, 38598),

Gene: Nitzel\_57 Start: 39291, Stop: 39521, Start Num: 23  
Candidate Starts for Nitzel\_57:  
(18, 39264), (Start: 23 @39291 has 166 MA's), (54, 39375), (63, 39444), (68, 39471), (71, 39495),

Gene: Nivrat\_55 Start: 39298, Stop: 39579, Start Num: 23  
Candidate Starts for Nivrat\_55:  
(18, 39271), (Start: 23 @39298 has 166 MA's), (54, 39382), (56, 39391), (63, 39454), (65, 39469), (68, 39481), (71, 39505), (73, 39517), (82, 39571),

Gene: NormanBulbieJr\_59 Start: 39923, Stop: 40207, Start Num: 23  
Candidate Starts for NormanBulbieJr\_59:  
(18, 39896), (Start: 23 @39923 has 166 MA's), (Start: 33 @39947 has 7 MA's), (Start: 42 @39962 has 6 MA's), (53, 40007), (55, 40019), (65, 40097), (68, 40109), (71, 40133), (73, 40145), (82, 40199),

Gene: November\_51 Start: 38195, Stop: 38449, Start Num: 31  
Candidate Starts for November\_51:  
(3, 37877), (7, 37946), (9, 38042), (Start: 31 @38195 has 111 MA's), (55, 38261), (63, 38324), (70, 38369),

Gene: NovoPizza\_80 Start: 50985, Stop: 51311, Start Num: 13  
Candidate Starts for NovoPizza\_80:  
(Start: 13 @50985 has 1 MA's), (Start: 17 @51003 has 20 MA's), (Start: 31 @51063 has 111 MA's), (57, 51165),

Gene: Nutello\_46 Start: 37040, Stop: 37309, Start Num: 31  
Candidate Starts for Nutello\_46:  
(Start: 31 @37040 has 111 MA's), (58, 37136), (66, 37196), (67, 37202), (68, 37205), (71, 37232), (73, 37244), (81, 37298),

Gene: OBUpride\_74 Start: 48893, Stop: 49201, Start Num: 17  
Candidate Starts for OBUpride\_74:  
(14, 48887), (Start: 17 @48893 has 20 MA's), (Start: 20 @48920 has 5 MA's), (Start: 31 @48953 has 111 MA's), (57, 49055), (60, 49082), (76, 49193),

Gene: Ochi17\_62 Start: 41991, Stop: 42269, Start Num: 23  
Candidate Starts for Ochi17\_62:  
(18, 41964), (Start: 23 @41991 has 166 MA's), (54, 42075), (56, 42084), (63, 42147), (65, 42162), (68, 42174), (71, 42198), (73, 42210), (82, 42261),

Gene: OfUltron\_64 Start: 42540, Stop: 42818, Start Num: 23  
Candidate Starts for OfUltron\_64:  
(18, 42513), (Start: 23 @42540 has 166 MA's), (54, 42624), (56, 42633), (63, 42696), (65, 42711), (68, 42723), (71, 42747), (73, 42759), (82, 42810),

Gene: Oksu\_63 Start: 42803, Stop: 43081, Start Num: 23  
Candidate Starts for Oksu\_63:  
(18, 42776), (Start: 23 @42803 has 166 MA's), (54, 42887), (56, 42896), (63, 42959), (65, 42974), (68, 42986), (71, 43010), (73, 43022), (82, 43073),

Gene: OldBen\_56 Start: 39848, Stop: 40132, Start Num: 23  
Candidate Starts for OldBen\_56:  
(18, 39821), (Start: 23 @39848 has 166 MA's), (Start: 33 @39872 has 7 MA's), (Start: 42 @39887 has 6 MA's), (53, 39932), (55, 39944), (65, 40022), (68, 40034), (71, 40058), (73, 40070), (82, 40124),

Gene: OlympiaSaint\_61 Start: 40444, Stop: 40725, Start Num: 23

Candidate Starts for OlympiaSaint\_61:

(18, 40417), (Start: 23 @40444 has 166 MA's), (Start: 33 @40468 has 7 MA's), (Start: 42 @40483 has 6 MA's), (53, 40528), (55, 40540), (65, 40618), (68, 40630), (71, 40654), (73, 40666), (82, 40717),

Gene: Oscar\_55 Start: 38567, Stop: 38842, Start Num: 30

Candidate Starts for Oscar\_55:

(Start: 30 @38567 has 18 MA's), (Start: 35 @38573 has 2 MA's), (51, 38615), (55, 38639), (70, 38747), (85, 38831),

Gene: OwlsT2W\_59 Start: 40166, Stop: 40444, Start Num: 23

Candidate Starts for OwlsT2W\_59:

(18, 40139), (Start: 23 @40166 has 166 MA's), (54, 40250), (63, 40322), (65, 40337), (68, 40349), (71, 40373), (73, 40385), (82, 40436),

Gene: PHappiness\_54 Start: 38211, Stop: 38489, Start Num: 23

Candidate Starts for PHappiness\_54:

(18, 38184), (Start: 23 @38211 has 166 MA's), (54, 38295), (56, 38304), (63, 38367), (65, 38382), (68, 38394), (71, 38418), (73, 38430), (82, 38481),

Gene: PMC\_56 Start: 40550, Stop: 40834, Start Num: 23

Candidate Starts for PMC\_56:

(18, 40523), (Start: 23 @40550 has 166 MA's), (Start: 33 @40574 has 7 MA's), (Start: 42 @40589 has 6 MA's), (53, 40634), (55, 40646), (65, 40724), (68, 40736), (71, 40760), (73, 40772), (82, 40826),

Gene: Pacc40\_53 Start: 38285, Stop: 38563, Start Num: 23

Candidate Starts for Pacc40\_53:

(18, 38258), (Start: 23 @38285 has 166 MA's), (54, 38369), (56, 38378), (63, 38441), (65, 38456), (68, 38468), (71, 38492), (73, 38504), (82, 38555),

Gene: Padfoot\_50 Start: 37668, Stop: 37931, Start Num: 31

Candidate Starts for Padfoot\_50:

(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: Padpat\_52 Start: 37347, Stop: 37610, Start Num: 31

Candidate Starts for Padpat\_52:

(Start: 31 @37347 has 111 MA's), (63, 37488),

Gene: PapayaSalad\_40 Start: 27840, Stop: 28139, Start Num: 40

Candidate Starts for PapayaSalad\_40:

(6, 27552), (8, 27597), (19, 27771), (Start: 40 @27840 has 5 MA's), (68, 28002),

Gene: PatoPoderoso\_56 Start: 39051, Stop: 39335, Start Num: 23

Candidate Starts for PatoPoderoso\_56:

(18, 39024), (Start: 23 @39051 has 166 MA's), (Start: 33 @39075 has 7 MA's), (Start: 42 @39090 has 6 MA's), (53, 39135), (65, 39225), (68, 39237), (71, 39261), (73, 39273), (82, 39327),

Gene: Peanam\_53 Start: 38304, Stop: 38567, Start Num: 31

Candidate Starts for Peanam\_53:

(1, 37824), (3, 37980), (7, 38049), (Start: 31 @38304 has 111 MA's), (59, 38406), (60, 38424), (63, 38442), (71, 38496), (75, 38532), (81, 38556),

Gene: Peel\_50 Start: 37473, Stop: 37736, Start Num: 31

Candidate Starts for Peel\_50:

(Start: 31 @37473 has 111 MA's), (63, 37614),

Gene: Peridot\_60 Start: 39388, Stop: 39672, Start Num: 23

Candidate Starts for Peridot\_60:

(18, 39361), (Start: 23 @39388 has 166 MA's), (Start: 33 @39412 has 7 MA's), (Start: 42 @39427 has 6 MA's), (53, 39472), (55, 39484), (65, 39562), (68, 39574), (71, 39598), (73, 39610), (82, 39664),

Gene: Pharb\_50 Start: 36682, Stop: 36942, Start Num: 26

Candidate Starts for Pharb\_50:

(1, 36217), (7, 36442), (Start: 26 @36682 has 10 MA's), (41, 36697), (71, 36871),

Gene: Phasih\_57 Start: 40355, Stop: 40633, Start Num: 23

Candidate Starts for Phasih\_57:

(18, 40328), (Start: 23 @40355 has 166 MA's), (54, 40439), (56, 40448), (63, 40511), (65, 40526), (68, 40538), (71, 40562), (73, 40574), (82, 40625),

Gene: Phatniss\_57 Start: 39928, Stop: 40212, Start Num: 23

Candidate Starts for Phatniss\_57:

(18, 39901), (Start: 23 @39928 has 166 MA's), (Start: 33 @39952 has 7 MA's), (Start: 42 @39967 has 6 MA's), (53, 40012), (55, 40024), (65, 40102), (68, 40114), (71, 40138), (73, 40150), (82, 40204),

Gene: PhelpsODU\_53 Start: 37175, Stop: 37432, Start Num: 30

Candidate Starts for PhelpsODU\_53:

(Start: 30 @37175 has 18 MA's), (44, 37196), (55, 37250), (63, 37313), (64, 37322), (75, 37400),

Gene: Philus\_62 Start: 41088, Stop: 41369, Start Num: 23

Candidate Starts for Philus\_62:

(18, 41061), (Start: 23 @41088 has 166 MA's), (54, 41172), (56, 41181), (63, 41244), (65, 41259), (68, 41271), (71, 41295), (73, 41307), (82, 41361),

Gene: PhlipPhlop\_59 Start: 41642, Stop: 41926, Start Num: 23

Candidate Starts for PhlipPhlop\_59:

(18, 41615), (Start: 23 @41642 has 166 MA's), (Start: 33 @41666 has 7 MA's), (Start: 42 @41681 has 6 MA's), (53, 41726), (65, 41816), (68, 41828), (71, 41852), (73, 41864), (82, 41918),

Gene: Phrank\_54 Start: 37132, Stop: 37389, Start Num: 30

Candidate Starts for Phrank\_54:

(Start: 30 @37132 has 18 MA's), (44, 37153), (55, 37207), (63, 37270), (64, 37279), (75, 37357),

Gene: Piatt\_50 Start: 37668, Stop: 37931, Start Num: 31

Candidate Starts for Piatt\_50:

(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: Pippy\_57 Start: 38794, Stop: 39075, Start Num: 23

Candidate Starts for Pippy\_57:

(18, 38767), (Start: 23 @38794 has 166 MA's), (Start: 33 @38818 has 7 MA's), (Start: 42 @38833 has 6 MA's), (53, 38878), (55, 38890), (65, 38968), (68, 38980), (71, 39004), (73, 39016), (82, 39067),

Gene: Pisa1\_50 Start: 38627, Stop: 38890, Start Num: 31

Candidate Starts for Pisa1\_50:

(Start: 31 @38627 has 111 MA's), (51, 38681), (63, 38768),

Gene: Pisa4\_44 Start: 33996, Stop: 34259, Start Num: 31  
Candidate Starts for Pisa4\_44:  
(Start: 31 @33996 has 111 MA's), (51, 34050), (63, 34137),

Gene: Pixie\_52 Start: 37451, Stop: 37720, Start Num: 26  
Candidate Starts for Pixie\_52:  
(7, 37211), (Start: 26 @37451 has 10 MA's), (41, 37475), (63, 37595), (71, 37649),

Gene: Plumbus\_61 Start: 40255, Stop: 40533, Start Num: 23  
Candidate Starts for Plumbus\_61:  
(18, 40228), (Start: 23 @40255 has 166 MA's), (54, 40339), (56, 40348), (63, 40411), (65, 40426), (68, 40438), (71, 40462), (73, 40474), (82, 40525),

Gene: Poenanya\_59 Start: 41112, Stop: 41390, Start Num: 23  
Candidate Starts for Poenanya\_59:  
(18, 41085), (Start: 23 @41112 has 166 MA's), (54, 41196), (56, 41205), (63, 41268), (65, 41283), (68, 41295), (71, 41319), (73, 41331), (82, 41382),

Gene: Pokerus\_49 Start: 37394, Stop: 37657, Start Num: 31  
Candidate Starts for Pokerus\_49:  
(Start: 31 @37394 has 111 MA's), (51, 37448), (63, 37535),

Gene: Polka14\_57 Start: 39308, Stop: 39586, Start Num: 23  
Candidate Starts for Polka14\_57:  
(18, 39281), (Start: 23 @39308 has 166 MA's), (54, 39392), (56, 39401), (63, 39464), (65, 39479), (68, 39491), (71, 39515), (73, 39527), (82, 39578),

Gene: Pollywog\_60 Start: 40759, Stop: 41043, Start Num: 23  
Candidate Starts for Pollywog\_60:  
(18, 40732), (Start: 23 @40759 has 166 MA's), (Start: 33 @40783 has 7 MA's), (Start: 42 @40798 has 6 MA's), (53, 40843), (55, 40855), (65, 40933), (68, 40945), (71, 40969), (73, 40981), (82, 41035),

Gene: Polo2Bam\_64 Start: 39785, Stop: 40063, Start Num: 23  
Candidate Starts for Polo2Bam\_64:  
(18, 39758), (Start: 23 @39785 has 166 MA's), (54, 39869), (56, 39878), (63, 39941), (65, 39956), (68, 39968), (71, 39992), (73, 40004), (82, 40055),

Gene: Priscilla\_59 Start: 40022, Stop: 40306, Start Num: 23  
Candidate Starts for Priscilla\_59:  
(18, 39995), (Start: 23 @40022 has 166 MA's), (Start: 33 @40046 has 7 MA's), (Start: 42 @40061 has 6 MA's), (53, 40106), (55, 40118), (65, 40196), (68, 40208), (71, 40232), (73, 40244), (82, 40298),

Gene: Prithvi\_51 Start: 37556, Stop: 37819, Start Num: 31  
Candidate Starts for Prithvi\_51:  
(Start: 31 @37556 has 111 MA's), (51, 37610), (63, 37697),

Gene: Pupper\_53 Start: 18336, Stop: 18617, Start Num: 20  
Candidate Starts for Pupper\_53:  
(Start: 20 @18336 has 5 MA's), (Start: 31 @18372 has 111 MA's), (55, 18447),

Gene: QuickMath\_61 Start: 42034, Stop: 42315, Start Num: 23  
Candidate Starts for QuickMath\_61:

(16, 41998), (Start: 23 @42034 has 166 MA's), (Start: 33 @42058 has 7 MA's), (53, 42115), (55, 42127), (65, 42205), (68, 42217), (71, 42241), (73, 42253), (82, 42307),

Gene: QuincyRose\_49 Start: 37786, Stop: 38049, Start Num: 31  
Candidate Starts for QuincyRose\_49:  
(Start: 31 @37786 has 111 MA's), (63, 37927),

Gene: Radiance\_58 Start: 40047, Stop: 40328, Start Num: 23  
Candidate Starts for Radiance\_58:  
(18, 40020), (Start: 23 @40047 has 166 MA's), (Start: 33 @40071 has 7 MA's), (Start: 42 @40086 has 6 MA's), (53, 40131), (55, 40143), (65, 40221), (68, 40233), (71, 40257), (73, 40269), (82, 40320),

Gene: Ramen\_51 Start: 37358, Stop: 37621, Start Num: 31  
Candidate Starts for Ramen\_51:  
(Start: 31 @37358 has 111 MA's), (63, 37499),

Gene: Rapunzel97\_51 Start: 37354, Stop: 37617, Start Num: 31  
Candidate Starts for Rapunzel97\_51:  
(Start: 31 @37354 has 111 MA's), (63, 37495),

Gene: Red305\_80 Start: 53809, Stop: 54063, Start Num: 46  
Candidate Starts for Red305\_80:  
(Start: 43 @53794 has 14 MA's), (Start: 46 @53809 has 4 MA's), (68, 53944), (72, 53986), (77, 54022), (84, 54046),

Gene: RedBird\_57 Start: 39343, Stop: 39624, Start Num: 23  
Candidate Starts for RedBird\_57:  
(18, 39316), (Start: 23 @39343 has 166 MA's), (54, 39427), (56, 39436), (63, 39499), (65, 39514), (68, 39526), (71, 39550), (73, 39562),

Gene: Renaud18\_65 Start: 40812, Stop: 41093, Start Num: 23  
Candidate Starts for Renaud18\_65:  
(16, 40776), (Start: 23 @40812 has 166 MA's), (Start: 28 @40827 has 1 MA's), (Start: 42 @40851 has 6 MA's), (53, 40896), (55, 40908), (71, 41022), (73, 41034), (82, 41085),

Gene: Rialto\_65 Start: 42826, Stop: 43110, Start Num: 23  
Candidate Starts for Rialto\_65:  
(18, 42799), (Start: 23 @42826 has 166 MA's), (Start: 33 @42850 has 7 MA's), (Start: 42 @42865 has 6 MA's), (53, 42910), (55, 42922), (65, 43000), (68, 43012), (71, 43036), (73, 43048), (82, 43102),

Gene: Richo\_53 Start: 38285, Stop: 38548, Start Num: 31  
Candidate Starts for Richo\_53:  
(1, 37805), (3, 37961), (7, 38030), (Start: 31 @38285 has 111 MA's), (59, 38387), (60, 38405), (63, 38423), (71, 38477), (75, 38513), (81, 38537),

Gene: Rita\_60 Start: 38653, Stop: 38937, Start Num: 23  
Candidate Starts for Rita\_60:  
(18, 38626), (Start: 23 @38653 has 166 MA's), (Start: 33 @38677 has 7 MA's), (Start: 42 @38692 has 6 MA's), (53, 38737), (55, 38749), (65, 38827), (68, 38839), (71, 38863), (73, 38875), (82, 38929),

Gene: RitaG\_54 Start: 38556, Stop: 38834, Start Num: 23  
Candidate Starts for RitaG\_54:

(18, 38529), (Start: 23 @38556 has 166 MA's), (54, 38640), (56, 38649), (63, 38712), (65, 38727), (68, 38739), (71, 38763), (73, 38775), (82, 38826),

Gene: Rockne\_60 Start: 40562, Stop: 40846, Start Num: 23

Candidate Starts for Rockne\_60:

(18, 40535), (Start: 23 @40562 has 166 MA's), (Start: 33 @40586 has 7 MA's), (Start: 42 @40601 has 6 MA's), (53, 40646), (55, 40658), (65, 40736), (68, 40748), (71, 40772), (73, 40784), (82, 40838),

Gene: RockyHorror\_60 Start: 39611, Stop: 39892, Start Num: 23

Candidate Starts for RockyHorror\_60:

(18, 39584), (Start: 23 @39611 has 166 MA's), (Start: 33 @39635 has 7 MA's), (Start: 42 @39650 has 6 MA's), (53, 39695), (55, 39707), (68, 39797), (71, 39821), (73, 39833), (82, 39884),

Gene: RonRayGun\_41 Start: 31892, Stop: 32149, Start Num: 24

Candidate Starts for RonRayGun\_41:

(4, 31616), (5, 31637), (Start: 24 @31892 has 6 MA's), (55, 31976), (68, 32066),

Gene: Ronaldo\_96 Start: 48347, Stop: 48652, Start Num: 42

Candidate Starts for Ronaldo\_96:

(Start: 42 @48347 has 6 MA's), (51, 48380), (79, 48581), (84, 48605),

Gene: Rosmarinus\_50 Start: 37459, Stop: 37722, Start Num: 31

Candidate Starts for Rosmarinus\_50:

(Start: 31 @37459 has 111 MA's), (63, 37600),

Gene: Ruby\_55 Start: 39743, Stop: 40021, Start Num: 23

Candidate Starts for Ruby\_55:

(18, 39716), (Start: 23 @39743 has 166 MA's), (54, 39827), (56, 39836), (63, 39899), (65, 39914), (68, 39926), (71, 39950), (73, 39962), (82, 40013),

Gene: SCentae\_53 Start: 18353, Stop: 18634, Start Num: 20

Candidate Starts for SCentae\_53:

(Start: 20 @18353 has 5 MA's), (Start: 31 @18389 has 111 MA's), (55, 18464),

Gene: SG4\_56 Start: 39440, Stop: 39724, Start Num: 23

Candidate Starts for SG4\_56:

(Start: 23 @39440 has 166 MA's), (Start: 33 @39464 has 7 MA's), (Start: 42 @39479 has 6 MA's), (53, 39524), (55, 39536), (65, 39614), (68, 39626), (71, 39650), (73, 39662), (82, 39716),

Gene: Saal\_61 Start: 41196, Stop: 41477, Start Num: 23

Candidate Starts for Saal\_61:

(18, 41169), (Start: 23 @41196 has 166 MA's), (Start: 33 @41220 has 7 MA's), (Start: 42 @41235 has 6 MA's), (53, 41280), (55, 41292), (65, 41370), (68, 41382), (71, 41406), (73, 41418), (82, 41469),

Gene: Sabbb\_63 Start: 40884, Stop: 41165, Start Num: 23

Candidate Starts for Sabbb\_63:

(18, 40857), (Start: 23 @40884 has 166 MA's), (Start: 33 @40908 has 7 MA's), (Start: 42 @40923 has 6 MA's), (53, 40968), (55, 40980), (65, 41058), (68, 41070), (71, 41094), (73, 41106), (82, 41157),

Gene: Samty\_78 Start: 53804, Stop: 54058, Start Num: 46

Candidate Starts for Samty\_78:

(Start: 43 @53789 has 14 MA's), (Start: 46 @53804 has 4 MA's), (68, 53939), (72, 53981), (77, 54017), (84, 54041),

Gene: SamuelLPlaqson\_51 Start: 38242, Stop: 38505, Start Num: 31

Candidate Starts for SamuelLPlaqson\_51:

(7, 37990), (Start: 31 @38242 has 111 MA's), (51, 38296), (60, 38365), (63, 38383),

Gene: Sassafras\_57 Start: 39528, Stop: 39806, Start Num: 23

Candidate Starts for Sassafras\_57:

(18, 39501), (Start: 23 @39528 has 166 MA's), (54, 39612), (56, 39621), (63, 39684), (65, 39699), (68, 39711), (71, 39735), (73, 39747), (82, 39798),

Gene: Sbash\_53 Start: 39707, Stop: 40006, Start Num: 25

Candidate Starts for Sbash\_53:

(Start: 25 @39707 has 5 MA's), (32, 39725), (47, 39761), (50, 39776), (63, 39872), (71, 39923), (75, 39959), (83, 39998),

Gene: Scarlett\_55 Start: 38559, Stop: 38834, Start Num: 30

Candidate Starts for Scarlett\_55:

(Start: 30 @38559 has 18 MA's), (Start: 35 @38565 has 2 MA's), (51, 38607), (55, 38631), (70, 38739), (85, 38823),

Gene: Scottish\_57 Start: 39568, Stop: 39852, Start Num: 23

Candidate Starts for Scottish\_57:

(18, 39541), (Start: 23 @39568 has 166 MA's), (Start: 33 @39592 has 7 MA's), (Start: 42 @39607 has 6 MA's), (53, 39652), (55, 39664), (65, 39742), (68, 39754), (71, 39778), (73, 39790), (82, 39844),

Gene: SeaLumen\_63 Start: 39785, Stop: 40063, Start Num: 23

Candidate Starts for SeaLumen\_63:

(18, 39758), (Start: 23 @39785 has 166 MA's), (54, 39869), (56, 39878), (63, 39941), (65, 39956), (68, 39968), (71, 39992), (73, 40004), (82, 40055),

Gene: Seabastian\_64 Start: 42541, Stop: 42819, Start Num: 23

Candidate Starts for Seabastian\_64:

(18, 42514), (Start: 23 @42541 has 166 MA's), (54, 42625), (56, 42634), (63, 42697), (65, 42712), (68, 42724), (71, 42748), (73, 42760), (82, 42811),

Gene: Sejanus\_58 Start: 47696, Stop: 47995, Start Num: 25

Candidate Starts for Sejanus\_58:

(Start: 25 @47696 has 5 MA's), (32, 47714), (47, 47750), (50, 47765), (63, 47861), (71, 47912), (75, 47948), (81, 47981), (83, 47987),

Gene: SgtBeansprout\_46 Start: 37040, Stop: 37309, Start Num: 31

Candidate Starts for SgtBeansprout\_46:

(Start: 31 @37040 has 111 MA's), (58, 37136), (66, 37196), (67, 37202), (68, 37205), (71, 37232), (73, 37244), (81, 37298),

Gene: Shadow1\_56 Start: 38290, Stop: 38541, Start Num: 30

Candidate Starts for Shadow1\_56:

(Start: 30 @38290 has 18 MA's), (Start: 35 @38296 has 2 MA's), (63, 38428),

Gene: Shaobing\_53 Start: 38322, Stop: 38585, Start Num: 31

Candidate Starts for Shaobing\_53:

(1, 37842), (3, 37998), (7, 38067), (Start: 31 @38322 has 111 MA's), (59, 38424), (60, 38442), (63, 38460), (71, 38514), (75, 38550), (81, 38574),

Gene: ShedlockHolmes\_54 Start: 37976, Stop: 38245, Start Num: 26

Candidate Starts for ShedlockHolmes\_54:

(7, 37736), (Start: 26 @37976 has 10 MA's), (41, 38000), (63, 38120), (71, 38174),

Gene: ShiLan\_58 Start: 39969, Stop: 40253, Start Num: 23

Candidate Starts for ShiLan\_58:

(18, 39942), (Start: 23 @39969 has 166 MA's), (Start: 33 @39993 has 7 MA's), (Start: 42 @40008 has 6 MA's), (53, 40053), (55, 40065), (65, 40143), (68, 40155), (71, 40179), (73, 40191), (82, 40245),

Gene: ShiaSurprise\_51 Start: 37668, Stop: 37931, Start Num: 31

Candidate Starts for ShiaSurprise\_51:

(Start: 31 @37668 has 111 MA's), (63, 37809),

Gene: ShowerHandel\_62 Start: 39936, Stop: 40217, Start Num: 23

Candidate Starts for ShowerHandel\_62:

(18, 39909), (Start: 23 @39936 has 166 MA's), (Start: 33 @39960 has 7 MA's), (Start: 42 @39975 has 6 MA's), (53, 40020), (55, 40032), (65, 40110), (68, 40122), (71, 40146), (73, 40158), (82, 40209),

Gene: ShroomBoi\_61 Start: 40896, Stop: 41177, Start Num: 23

Candidate Starts for ShroomBoi\_61:

(18, 40869), (Start: 23 @40896 has 166 MA's), (Start: 33 @40920 has 7 MA's), (Start: 42 @40935 has 6 MA's), (53, 40980), (55, 40992), (65, 41070), (68, 41082), (71, 41106), (73, 41118), (82, 41169),

Gene: Shweta\_42 Start: 30626, Stop: 30925, Start Num: 25

Candidate Starts for Shweta\_42:

(Start: 25 @30626 has 5 MA's), (32, 30644), (47, 30680), (50, 30695), (63, 30791), (71, 30842), (75, 30878), (81, 30911),

Gene: SiSi\_57 Start: 39342, Stop: 39626, Start Num: 23

Candidate Starts for SiSi\_57:

(18, 39315), (Start: 23 @39342 has 166 MA's), (Start: 33 @39366 has 7 MA's), (Start: 42 @39381 has 6 MA's), (53, 39426), (55, 39438), (65, 39516), (68, 39528), (71, 39552), (73, 39564), (82, 39618),

Gene: SimranZ1\_59 Start: 40122, Stop: 40400, Start Num: 23

Candidate Starts for SimranZ1\_59:

(18, 40095), (Start: 23 @40122 has 166 MA's), (54, 40206), (56, 40215), (63, 40278), (65, 40293), (68, 40305), (71, 40329), (73, 40341), (82, 40392),

Gene: SirPhilip\_53 Start: 38679, Stop: 38936, Start Num: 30

Candidate Starts for SirPhilip\_53:

(Start: 30 @38679 has 18 MA's), (60, 38799), (62, 38808), (63, 38817), (73, 38880), (75, 38904),

Gene: Slim\_60 Start: 40729, Stop: 41013, Start Num: 23

Candidate Starts for Slim\_60:

(18, 40702), (Start: 23 @40729 has 166 MA's), (Start: 33 @40753 has 7 MA's), (Start: 42 @40768 has 6 MA's), (53, 40813), (55, 40825), (65, 40903), (68, 40915), (71, 40939), (73, 40951), (82, 41005),

Gene: Slimphazie\_50 Start: 37354, Stop: 37617, Start Num: 31

Candidate Starts for Slimphazie\_50:

(Start: 31 @37354 has 111 MA's), (63, 37495),

Gene: Snenia\_78 Start: 53795, Stop: 54064, Start Num: 43

Candidate Starts for Snenia\_78:

(Start: 43 @53795 has 14 MA's), (Start: 46 @53810 has 4 MA's), (68, 53945), (72, 53987), (77, 54023), (84, 54047),

Gene: Soul22\_65 Start: 41527, Stop: 41811, Start Num: 23

Candidate Starts for Soul22\_65:

(18, 41500), (Start: 23 @41527 has 166 MA's), (Start: 33 @41551 has 7 MA's), (Start: 42 @41566 has 6 MA's), (53, 41611), (55, 41623), (65, 41701), (68, 41713), (71, 41737), (73, 41749), (82, 41803),

Gene: Spartacus\_61 Start: 40606, Stop: 40887, Start Num: 23

Candidate Starts for Spartacus\_61:

(18, 40579), (Start: 23 @40606 has 166 MA's), (Start: 33 @40630 has 7 MA's), (Start: 42 @40645 has 6 MA's), (53, 40690), (55, 40702), (65, 40780), (68, 40792), (71, 40816), (73, 40828), (82, 40879),

Gene: Spikelee\_66 Start: 42226, Stop: 42507, Start Num: 23

Candidate Starts for Spikelee\_66:

(18, 42199), (Start: 23 @42226 has 166 MA's), (Start: 33 @42250 has 7 MA's), (Start: 42 @42265 has 6 MA's), (53, 42310), (55, 42322), (65, 42400), (68, 42412), (71, 42436), (73, 42448), (82, 42499),

Gene: Spock\_50 Start: 37472, Stop: 37735, Start Num: 31

Candidate Starts for Spock\_50:

(Start: 31 @37472 has 111 MA's), (63, 37613),

Gene: Spoonbill\_56 Start: 38516, Stop: 38794, Start Num: 23

Candidate Starts for Spoonbill\_56:

(18, 38489), (Start: 23 @38516 has 166 MA's), (54, 38600), (56, 38609), (63, 38672), (65, 38687), (68, 38699), (71, 38723), (73, 38735), (82, 38786),

Gene: Squiddly\_71 Start: 45719, Stop: 45979, Start Num: 26

Candidate Starts for Squiddly\_71:

(19, 45680), (Start: 26 @45719 has 10 MA's), (51, 45782), (53, 45794), (60, 45851), (68, 45896), (80, 45971),

Gene: Stap\_57 Start: 39317, Stop: 39595, Start Num: 23

Candidate Starts for Stap\_57:

(18, 39290), (Start: 23 @39317 has 166 MA's), (54, 39401), (56, 39410), (63, 39473), (65, 39488), (68, 39500), (71, 39524), (73, 39536), (82, 39587),

Gene: Starcevich\_59 Start: 40105, Stop: 40383, Start Num: 23

Candidate Starts for Starcevich\_59:

(16, 40069), (Start: 23 @40105 has 166 MA's), (Start: 33 @40129 has 7 MA's), (53, 40186), (55, 40198), (65, 40276), (68, 40288), (71, 40312), (73, 40324), (82, 40375),

Gene: Stellammi\_103 Start: 48442, Stop: 48678, Start Num: 37

Candidate Starts for Stellammi\_103:

(37, 48442), (60, 48550), (72, 48631), (74, 48643),

Gene: Stinson\_51 Start: 37846, Stop: 38109, Start Num: 31

Candidate Starts for Stinson\_51:

(7, 37594), (Start: 31 @37846 has 111 MA's), (51, 37900), (63, 37987),

Gene: Strobilo\_54 Start: 39537, Stop: 39767, Start Num: 34

Candidate Starts for Strobilo\_54:

(Start: 33 @39534 has 7 MA's), (Start: 34 @39537 has 4 MA's), (Start: 38 @39543 has 2 MA's), (41, 39549), (60, 39639), (61, 39645), (71, 39708),

Gene: Strokeseat\_55 Start: 38052, Stop: 38333, Start Num: 23

Candidate Starts for Strokeseat\_55:

(18, 38025), (Start: 23 @38052 has 166 MA's), (Start: 33 @38076 has 7 MA's), (Start: 42 @38091 has 6 MA's), (53, 38136), (55, 38148), (65, 38226), (68, 38238), (71, 38262), (73, 38274), (82, 38325),

Gene: Stuck\_58 Start: 41100, Stop: 41399, Start Num: 25

Candidate Starts for Stuck\_58:

(Start: 25 @41100 has 5 MA's), (32, 41118), (47, 41154), (50, 41169), (63, 41265), (71, 41316), (75, 41352), (81, 41385),

Gene: Sulley\_50 Start: 37598, Stop: 37861, Start Num: 31

Candidate Starts for Sulley\_50:

(Start: 31 @37598 has 111 MA's), (63, 37739),

Gene: Sunflower1121\_57 Start: 38391, Stop: 38642, Start Num: 30

Candidate Starts for Sunflower1121\_57:

(Start: 30 @38391 has 18 MA's), (Start: 35 @38397 has 2 MA's), (63, 38529),

Gene: SwagPiggett\_64 Start: 42244, Stop: 42525, Start Num: 23

Candidate Starts for SwagPiggett\_64:

(18, 42217), (Start: 23 @42244 has 166 MA's), (Start: 33 @42268 has 7 MA's), (Start: 42 @42283 has 6 MA's), (53, 42328), (55, 42340), (65, 42418), (68, 42430), (71, 42454), (73, 42466), (82, 42517),

Gene: Syra333\_56 Start: 38055, Stop: 38306, Start Num: 30

Candidate Starts for Syra333\_56:

(Start: 30 @38055 has 18 MA's), (Start: 35 @38061 has 2 MA's), (61, 38181), (63, 38193),

Gene: TBond007\_51 Start: 37450, Stop: 37719, Start Num: 26

Candidate Starts for TBond007\_51:

(7, 37210), (Start: 26 @37450 has 10 MA's), (41, 37474), (63, 37594), (71, 37648),

Gene: TChen\_60 Start: 41367, Stop: 41636, Start Num: 28

Candidate Starts for TChen\_60:

(15, 41322), (Start: 23 @41358 has 166 MA's), (Start: 28 @41367 has 1 MA's), (51, 41424), (54, 41442), (56, 41451), (63, 41514), (65, 41529), (68, 41541), (71, 41565), (73, 41577), (82, 41628),

Gene: TClif\_54 Start: 38425, Stop: 38685, Start Num: 31

Candidate Starts for TClif\_54:

(Start: 31 @38425 has 111 MA's), (51, 38467), (68, 38581), (70, 38599), (81, 38674),

Gene: TM4\_49 Start: 33917, Stop: 34147, Start Num: 34

Candidate Starts for TM4\_49:

(Start: 33 @33914 has 7 MA's), (Start: 34 @33917 has 4 MA's), (Start: 38 @33923 has 2 MA's), (41, 33929), (60, 34019), (61, 34025), (71, 34088),

Gene: Tachez\_50 Start: 37316, Stop: 37579, Start Num: 31

Candidate Starts for Tachez\_50:

(Start: 31 @37316 has 111 MA's), (63, 37457),

Gene: TaiwanKao\_52 Start: 37612, Stop: 37875, Start Num: 31

Candidate Starts for TaiwanKao\_52:  
(Start: 31 @37612 has 111 MA's), (63, 37753),

Gene: Teejan\_48 Start: 39653, Stop: 39922, Start Num: 31  
Candidate Starts for Teejan\_48:  
(Start: 31 @39653 has 111 MA's), (58, 39749), (66, 39809), (67, 39815), (68, 39818), (71, 39845), (73, 39857), (81, 39911),

Gene: ThetaBob\_64 Start: 41432, Stop: 41710, Start Num: 23  
Candidate Starts for ThetaBob\_64:  
(15, 41396), (Start: 23 @41432 has 166 MA's), (Start: 28 @41441 has 1 MA's), (51, 41498), (54, 41516), (56, 41525), (63, 41588), (65, 41603), (68, 41615), (71, 41639), (73, 41651), (82, 41702),

Gene: Tierra\_54 Start: 37943, Stop: 38200, Start Num: 30  
Candidate Starts for Tierra\_54:  
(Start: 30 @37943 has 18 MA's), (44, 37964), (55, 38018), (63, 38081), (64, 38090), (75, 38168),

Gene: Tigress9\_57 Start: 38145, Stop: 38396, Start Num: 30  
Candidate Starts for Tigress9\_57:  
(Start: 30 @38145 has 18 MA's), (Start: 35 @38151 has 2 MA's), (61, 38271), (63, 38283),

Gene: TingHuaYa\_51 Start: 36397, Stop: 36660, Start Num: 31  
Candidate Starts for TingHuaYa\_51:  
(Start: 31 @36397 has 111 MA's), (Start: 38 @36409 has 2 MA's), (60, 36520), (63, 36538),

Gene: TiniBug\_51 Start: 38238, Stop: 38501, Start Num: 31  
Candidate Starts for TiniBug\_51:  
(7, 37986), (Start: 31 @38238 has 111 MA's), (51, 38292), (60, 38361), (63, 38379),

Gene: Tiri\_51 Start: 37646, Stop: 37909, Start Num: 31  
Candidate Starts for Tiri\_51:  
(Start: 31 @37646 has 111 MA's), (51, 37700), (63, 37787),

Gene: Tootsieroll\_60 Start: 39265, Stop: 39549, Start Num: 23  
Candidate Starts for Tootsieroll\_60:  
(18, 39238), (Start: 23 @39265 has 166 MA's), (Start: 33 @39289 has 7 MA's), (Start: 42 @39304 has 6 MA's), (53, 39349), (55, 39361), (65, 39439), (68, 39451), (71, 39475), (73, 39487), (82, 39541),

Gene: Topiatin\_67 Start: 42597, Stop: 42878, Start Num: 23  
Candidate Starts for Topiatin\_67:  
(16, 42561), (Start: 23 @42597 has 166 MA's), (Start: 33 @42621 has 7 MA's), (53, 42678), (55, 42690), (65, 42768), (68, 42780), (71, 42804), (73, 42816), (82, 42870),

Gene: Topper\_50 Start: 37471, Stop: 37734, Start Num: 31  
Candidate Starts for Topper\_50:  
(Start: 31 @37471 has 111 MA's), (63, 37612),

Gene: Toron\_67 Start: 42166, Stop: 42447, Start Num: 21  
Candidate Starts for Toron\_67:  
(Start: 17 @42130 has 20 MA's), (21, 42166), (49, 42241), (75, 42427), (78, 42439),

Gene: Torres\_49 Start: 39654, Stop: 39923, Start Num: 31  
Candidate Starts for Torres\_49:

(Start: 31 @39654 has 111 MA's), (58, 39750), (66, 39810), (67, 39816), (68, 39819), (71, 39846), (73, 39858), (81, 39912),

Gene: Totinger\_58 Start: 39195, Stop: 39479, Start Num: 23

Candidate Starts for Totinger\_58:

(18, 39168), (Start: 23 @39195 has 166 MA's), (Start: 33 @39219 has 7 MA's), (Start: 42 @39234 has 6 MA's), (53, 39279), (55, 39291), (65, 39369), (68, 39381), (71, 39405), (73, 39417), (82, 39471),

Gene: TreyKay\_51 Start: 37556, Stop: 37819, Start Num: 31

Candidate Starts for TreyKay\_51:

(Start: 31 @37556 has 111 MA's), (51, 37610), (63, 37697),

Gene: TriFive\_80 Start: 53794, Stop: 54063, Start Num: 43

Candidate Starts for TriFive\_80:

(Start: 43 @53794 has 14 MA's), (Start: 46 @53809 has 4 MA's), (68, 53944), (72, 53986), (77, 54022), (84, 54046),

Gene: TribbleTrouble\_50 Start: 37335, Stop: 37601, Start Num: 26

Candidate Starts for TribbleTrouble\_50:

(Start: 26 @37335 has 10 MA's), (41, 37356), (45, 37362), (63, 37476), (70, 37521), (71, 37530),

Gene: Trice\_46 Start: 37041, Stop: 37310, Start Num: 31

Candidate Starts for Trice\_46:

(Start: 31 @37041 has 111 MA's), (58, 37137), (66, 37197), (67, 37203), (68, 37206), (71, 37233), (73, 37245), (81, 37299),

Gene: TruffulaTree\_50 Start: 37350, Stop: 37613, Start Num: 31

Candidate Starts for TruffulaTree\_50:

(Start: 31 @37350 has 111 MA's), (63, 37491),

Gene: Twitch\_50 Start: 37473, Stop: 37736, Start Num: 31

Candidate Starts for Twitch\_50:

(Start: 31 @37473 has 111 MA's), (63, 37614),

Gene: Ubuntu\_75 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Ubuntu\_75:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: UncleRicky\_58 Start: 40176, Stop: 40460, Start Num: 23

Candidate Starts for UncleRicky\_58:

(18, 40149), (Start: 23 @40176 has 166 MA's), (Start: 33 @40200 has 7 MA's), (Start: 42 @40215 has 6 MA's), (53, 40260), (55, 40272), (65, 40350), (68, 40362), (71, 40386), (73, 40398), (82, 40452),

Gene: Unicorn\_53 Start: 37175, Stop: 37432, Start Num: 30

Candidate Starts for Unicorn\_53:

(Start: 30 @37175 has 18 MA's), (44, 37196), (55, 37250), (63, 37313), (64, 37322), (75, 37400),

Gene: Urkel\_51 Start: 38242, Stop: 38505, Start Num: 31

Candidate Starts for Urkel\_51:

(7, 37990), (Start: 31 @38242 has 111 MA's), (51, 38296), (60, 38365), (63, 38383),

Gene: VRedHorse\_59 Start: 39252, Stop: 39533, Start Num: 23

Candidate Starts for VRedHorse\_59:

(18, 39225), (Start: 23 @39252 has 166 MA's), (Start: 33 @39276 has 7 MA's), (Start: 42 @39291 has 6 MA's), (53, 39336), (55, 39348), (65, 39426), (68, 39438), (71, 39462), (73, 39474), (82, 39525),

Gene: VWB\_44 Start: 35402, Stop: 35647, Start Num: 34

Candidate Starts for VWB\_44:

(10, 35270), (11, 35279), (12, 35282), (22, 35369), (Start: 33 @35399 has 7 MA's), (Start: 34 @35402 has 4 MA's), (63, 35531), (69, 35564), (71, 35582),

Gene: Validus\_55 Start: 38351, Stop: 38623, Start Num: 31

Candidate Starts for Validus\_55:

(Start: 31 @38351 has 111 MA's), (Start: 38 @38363 has 2 MA's), (59, 38453), (60, 38471), (63, 38489), (68, 38516), (79, 38594),

Gene: Veliki\_51 Start: 37390, Stop: 37653, Start Num: 31

Candidate Starts for Veliki\_51:

(Start: 31 @37390 has 111 MA's), (63, 37531),

Gene: Veteran\_56 Start: 38956, Stop: 39237, Start Num: 23

Candidate Starts for Veteran\_56:

(18, 38929), (Start: 23 @38956 has 166 MA's), (54, 39040), (56, 39049), (65, 39127), (68, 39139), (71, 39163), (73, 39175), (82, 39229),

Gene: Violac\_61 Start: 41322, Stop: 41603, Start Num: 23

Candidate Starts for Violac\_61:

(18, 41295), (Start: 23 @41322 has 166 MA's), (Start: 33 @41346 has 7 MA's), (Start: 42 @41361 has 6 MA's), (53, 41406), (55, 41418), (65, 41496), (68, 41508), (71, 41532), (73, 41544), (82, 41595),

Gene: Vivum\_60 Start: 40254, Stop: 40535, Start Num: 23

Candidate Starts for Vivum\_60:

(18, 40227), (Start: 23 @40254 has 166 MA's), (Start: 33 @40278 has 7 MA's), (Start: 42 @40293 has 6 MA's), (53, 40338), (55, 40350), (65, 40428), (68, 40440), (71, 40464), (73, 40476), (82, 40527),

Gene: Volt\_97 Start: 48511, Stop: 48816, Start Num: 42

Candidate Starts for Volt\_97:

(Start: 42 @48511 has 6 MA's), (51, 48544), (79, 48745), (84, 48769),

Gene: Webster2\_75 Start: 48849, Stop: 49157, Start Num: 17

Candidate Starts for Webster2\_75:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Wee\_63 Start: 41773, Stop: 42054, Start Num: 23

Candidate Starts for Wee\_63:

(Start: 23 @41773 has 166 MA's), (Start: 33 @41797 has 7 MA's), (Start: 42 @41812 has 6 MA's), (53, 41857), (55, 41869), (65, 41947), (68, 41959), (71, 41983), (73, 41995), (82, 42046),

Gene: Whirlwind\_80 Start: 53994, Stop: 54305, Start Num: 43

Candidate Starts for Whirlwind\_80:

(Start: 43 @53994 has 14 MA's), (Start: 46 @54009 has 4 MA's), (62, 54120), (68, 54156), (86, 54285),

Gene: Whouxphf\_56 Start: 39848, Stop: 40129, Start Num: 23

Candidate Starts for Whouxphf\_56:

(18, 39821), (Start: 23 @39848 has 166 MA's), (Start: 33 @39872 has 7 MA's), (Start: 42 @39887 has 6 MA's), (53, 39932), (55, 39944), (65, 40022), (68, 40034), (71, 40058), (73, 40070), (82, 40121),

Gene: WillSterrel\_60 Start: 41723, Stop: 42004, Start Num: 23

Candidate Starts for WillSterrel\_60:

(18, 41696), (Start: 23 @41723 has 166 MA's), (Start: 33 @41747 has 7 MA's), (Start: 42 @41762 has 6 MA's), (53, 41807), (55, 41819), (65, 41897), (68, 41909), (71, 41933), (73, 41945), (82, 41996),

Gene: Wishmaker\_68 Start: 48876, Stop: 49157, Start Num: 20

Candidate Starts for Wishmaker\_68:

(14, 48843), (Start: 17 @48849 has 20 MA's), (Start: 20 @48876 has 5 MA's), (Start: 31 @48909 has 111 MA's), (57, 49011), (60, 49038), (76, 49149),

Gene: Ximenita\_57 Start: 38244, Stop: 38495, Start Num: 30

Candidate Starts for Ximenita\_57:

(Start: 30 @38244 has 18 MA's), (Start: 35 @38250 has 2 MA's), (63, 38382),

Gene: Yorick\_58 Start: 40310, Stop: 40591, Start Num: 23

Candidate Starts for Yorick\_58:

(18, 40283), (Start: 23 @40310 has 166 MA's), (Start: 33 @40334 has 7 MA's), (Start: 42 @40349 has 6 MA's), (53, 40394), (55, 40406), (65, 40484), (68, 40496), (71, 40520), (73, 40532), (82, 40583),

Gene: Yoshi\_72 Start: 41696, Stop: 41974, Start Num: 23

Candidate Starts for Yoshi\_72:

(15, 41660), (Start: 23 @41696 has 166 MA's), (Start: 28 @41705 has 1 MA's), (51, 41762), (54, 41780), (56, 41789), (63, 41852), (65, 41867), (68, 41879), (71, 41903), (73, 41915), (82, 41966),

Gene: YoureAdopted\_49 Start: 37555, Stop: 37818, Start Num: 31

Candidate Starts for YoureAdopted\_49:

(Start: 31 @37555 has 111 MA's), (63, 37696),

Gene: Yuna\_57 Start: 39151, Stop: 39429, Start Num: 30

Candidate Starts for Yuna\_57:

(9, 39004), (Start: 30 @39151 has 18 MA's), (63, 39280), (70, 39325), (71, 39334),

Gene: Yunkel11\_53 Start: 37143, Stop: 37406, Start Num: 31

Candidate Starts for Yunkel11\_53:

(Start: 31 @37143 has 111 MA's), (Start: 38 @37155 has 2 MA's), (60, 37266), (63, 37284),

Gene: Zabiza\_45 Start: 33661, Stop: 33924, Start Num: 31

Candidate Starts for Zabiza\_45:

(Start: 31 @33661 has 111 MA's), (63, 33802),

Gene: Zapner\_72 Start: 41849, Stop: 42133, Start Num: 23

Candidate Starts for Zapner\_72:

(18, 41822), (Start: 23 @41849 has 166 MA's), (Start: 33 @41873 has 7 MA's), (Start: 42 @41888 has 6 MA's), (53, 41933), (55, 41945), (65, 42023), (68, 42035), (71, 42059), (73, 42071), (82, 42125),

Gene: Zavala\_52 Start: 37632, Stop: 37895, Start Num: 31

Candidate Starts for Zavala\_52:

(Start: 31 @37632 has 111 MA's), (63, 37773),

Gene: ZenTime222\_40 Start: 31446, Stop: 31703, Start Num: 24

Candidate Starts for ZenTime222\_40:

(4, 31170), (5, 31191), (Start: 24 @31446 has 6 MA's), (55, 31530), (68, 31620),

Gene: Zerg\_59 Start: 39720, Stop: 40004, Start Num: 23

Candidate Starts for Zerg\_59:

(18, 39693), (Start: 23 @39720 has 166 MA's), (Start: 33 @39744 has 7 MA's), (Start: 42 @39759 has 6 MA's), (53, 39804), (55, 39816), (65, 39894), (68, 39906), (71, 39930), (73, 39942), (82, 39996),

Gene: Ziko\_96 Start: 48332, Stop: 48637, Start Num: 42

Candidate Starts for Ziko\_96:

(Start: 42 @48332 has 6 MA's), (51, 48365), (79, 48566), (84, 48590),

Gene: Zizzle\_63 Start: 41563, Stop: 41847, Start Num: 23

Candidate Starts for Zizzle\_63:

(18, 41536), (Start: 23 @41563 has 166 MA's), (Start: 33 @41587 has 7 MA's), (Start: 42 @41602 has 6 MA's), (53, 41647), (55, 41659), (65, 41737), (68, 41749), (71, 41773), (73, 41785), (82, 41839),

Gene: ZoeJ\_53 Start: 39008, Stop: 39238, Start Num: 34

Candidate Starts for ZoeJ\_53:

(Start: 33 @39005 has 7 MA's), (Start: 34 @39008 has 4 MA's), (Start: 38 @39014 has 2 MA's), (41, 39020), (60, 39110), (61, 39116), (71, 39179),