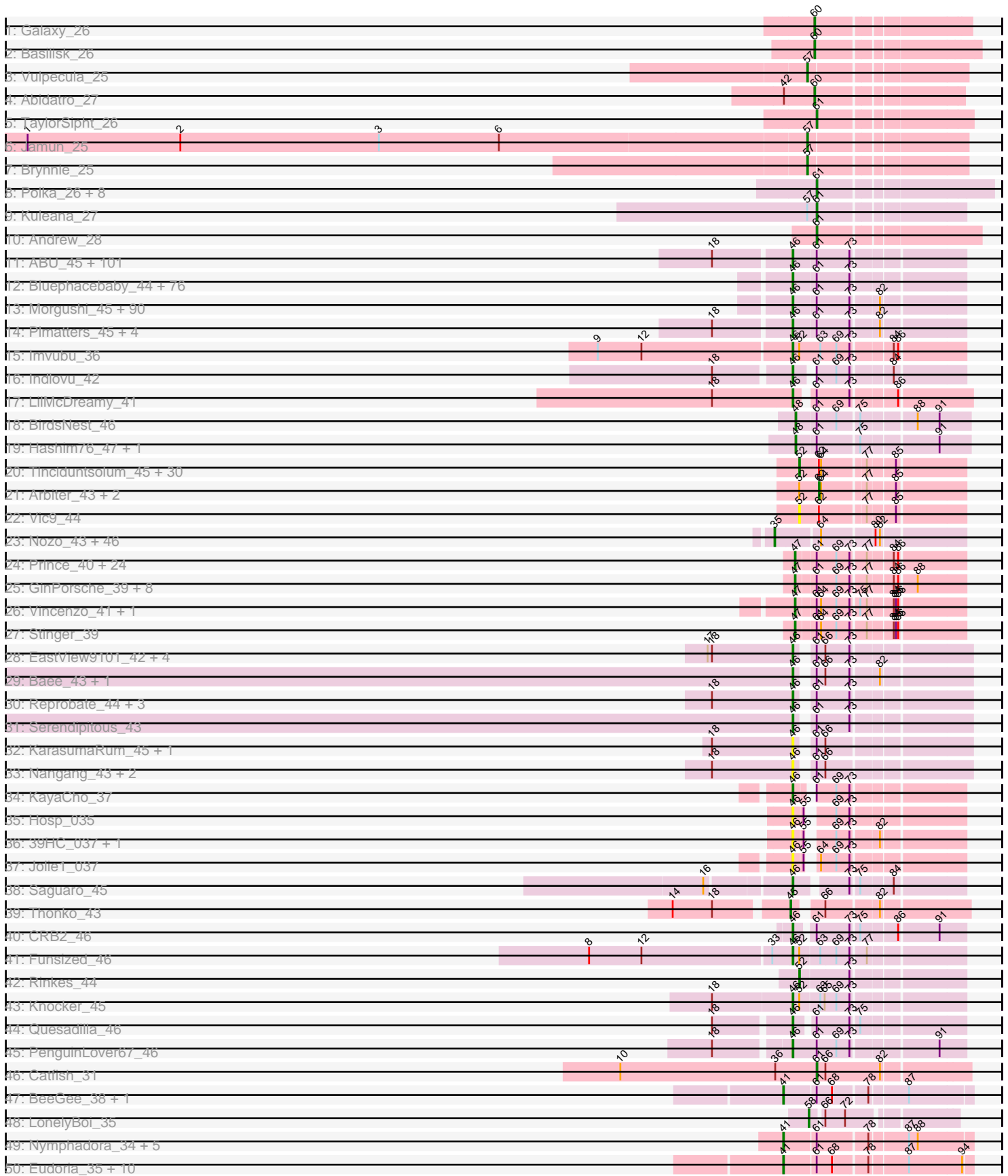


Pham 196179





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 196179 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196179 has 535 members, 49 are drafts.

Phages represented in each track:

- Track 1 : Galaxy\_26
- Track 2 : Basilisk\_26
- Track 3 : Vulpecula\_25
- Track 4 : Abidatro\_27
- Track 5 : TaylorSipht\_26
- Track 6 : Jamun\_25
- Track 7 : Brynnie\_25
- Track 8 : Polka\_26, Coral\_26, Lunar\_27, Orcanus\_26, HannahPhantana\_27, Cote\_27, Daob\_27, Amelia\_27, Melons\_27
- Track 9 : Kuleana\_27
- Track 10 : Andrew\_28
- Track 11 : ABU\_45, Spartan300\_45, PhrodoBaggins\_44, Badfish\_45, LasagnaCat\_45, DoesntMatter\_44, Horchata\_45, Scrick\_45, LostAndPhound\_44, Chute\_44, Katniss\_45, True\_44, Orion\_45, Keitherie\_45, Scoot17C\_45, Charles1\_45, SassyCat97\_44, Megatron\_45, Quisquilliae\_45, Omniscient\_45, PhatCats2014\_45, Lulwa\_45, Held\_45, HenryJackson\_44, Harvey\_45, Robyn\_44, Nyala\_44, DaddyDaniels\_45, Valjean\_45, AltPhacts\_45, DonSanchon\_44, Gophee\_45, Potter\_44, HighStump\_44, CampRoach\_45, LeiMonet\_46, Kimbrough\_45, Fang\_45, ShiVal\_45, Lumine\_44, TomBombadil\_45, Craff\_45, Jiraiya\_46, CharlieGBrown\_44, Anderson\_45, Struggle\_44, Fringe\_45, EmpTee\_45, Adriana\_45, Chaelin\_45, Mecca\_44, PG1\_45, Morty\_45, Roscoe\_46, Vivaldi\_45, Nacho\_0045, Chorkpop\_45, DelRivs\_44, Giraffe\_45, MitKao\_45, Numberten\_45, Boehler\_45, Aelin\_44, Inchworm\_45, Bishoperium\_44, Chah\_46, Olive\_45, SDcharge11\_45, Oline\_44, Tomlarah\_45, Manad\_44, Jiminy\_44, Mosaic\_44, Podrick\_45, Selr12\_45, ThreeOh3D2\_45, Windsor\_44, Skippy\_45, Squiggle\_45, Lopsy\_44, Coletti\_44, Schadenfreude\_44, CheetO\_45, Duggie\_44, Mutante\_44, Crownjwl\_45, IsaacEli\_45, Trypo\_45, ProfessorX\_45, Olak\_44, Cornobble\_44, LeeLot\_45, Kikipoo\_45, Doddsville\_45, Megamind20\_45, Thunderbird\_44, Lego3393\_44, Virgeve\_44, Durga\_45, LemonSlice\_45, Squid\_45, Antonia\_44
- Track 12 : Bluephacebaby\_44, Hamish\_45, PhenghisKhan\_44, JangoPhett\_45, Eremos\_45, AbsoluteMadLad\_44, PhrankReynolds\_43, Colbert\_45, UAch1\_45, Altwerkus\_44, Phipps\_45, Jillium\_44, Slatt\_45, FugateOSU\_44, Roliet\_45, Phamished\_45, Soto\_45, Mag7\_44, Lasso\_45, Hartsy\_45, BlueHusk\_45, Mesh1\_45, Kahve\_44, PhatLouie\_45, Daka\_46, Oosterbaan\_45, YouGoGlencoco\_45, Matalotodo\_45, Placalicious\_44, Zaider\_46, Cosmolli16\_44, BatteryCK\_44, FriarPreacher\_44, JDog\_44, Haimas\_45, DirtJuice\_45, Zelda\_45, Buckeye\_45, Thora\_45, Orwigg\_45, Hetaeria\_45, Tooj\_45, Phleuron\_44, Basato\_46, Swiphy\_47,

Usavi\_45, Pipsqueak\_45, Melc17\_45, Burr\_44, KingVeVeVe\_45, Veritas\_44, Mulan\_44, MichaelPhcott\_44, Prickles\_45, Iridoclysis\_45, Riggan\_45, Magic8\_45, Weher20\_45, Chunky\_45, Gwilliam\_46, SilverBell\_45, OliverWalter\_45, Waterdiva\_45, Nicole21\_45, JakeO\_44, Suffolk\_45, Dati\_45, Kailash\_45, Phergie\_44, Schueller\_45, Dingo\_45, Vista\_45, Etaye\_45, Sophia\_44, Surely\_45, Virapocalypse\_45, Hertubise\_45

- Track 13 : Morgushi\_45, MiniBoss\_45, Soile\_45, Beaglebox\_44, Haleema\_44, Solosis\_44, Lulumae\_44, Telesworld\_44, Emiris\_45, Brilliant\_45, Cobra\_45, Swish\_45, Phunky\_45, Kwadwo\_44, Wallhey\_44, Vaishali24\_44, Gyarad\_0045, JacAttac\_45, Orfeu\_44, Ricotta\_44, Vortex\_45, Mikota\_45, KingTut\_36, Vaticameos\_41, Piglet\_0044, Fozzie\_44, Apizium\_44, MRabcd\_44, Puhltonio\_45, MrPhizzler\_44, Timmi\_44, HSavage\_45, Maskar\_44, Rimu\_47, Dice\_44, Derpp\_44, Carthage\_43, TallGrassMM\_45, Labeouficaum\_44, Pherdinand\_45, Cannibal\_45, Dione\_44, Sheila\_45, Samaymay\_45, LuckyMarjie\_44, DuchessDung\_43, Pacifista\_44, Cher\_44, RedMaple\_44, Murdoc\_45, Serpentine\_0045, Grand2040\_44, FluffyNinja\_45, KLucky39\_45, Simielle\_44, Zonia\_45, Maru\_44, Pinkman\_44, Mcshane\_44, Yoshand\_45, BlackStallion\_45, Gareth\_44, Kwksand96\_44, Banjo\_44, Frankicide\_45, Freya\_44, KlimbOn\_45, Roy17\_45, Ashraf\_44, ImtiyazSitla\_44, Andre\_45, Serendipity\_45, CamL\_45, Mana\_44, QueenBeane\_45, GeneCoco\_45, PinheadLarry\_45, Xavier\_44, MelsMeow\_44, Longacauda\_44, Toni\_44, TyrionL\_44, Childish\_44, OSmaximus\_45, Newman\_45, Hocus\_44, Sigman\_45, Legolas\_44, Phareon\_45, Daffy\_45, Inverness\_45

- Track 14 : Plmatters\_45, Kloppinator\_45, UncleHowie\_45, Pops\_45, Eugenia\_45

- Track 15 : Imvubu\_36

- Track 16 : Indlovu\_42

- Track 17 : LilMcDreamy\_41

- Track 18 : BirdsNest\_46

- Track 19 : Hashim76\_47, Zenteno07\_48

- Track 20 : Tinciduntolum\_45, Hedgerow\_44, TA17A\_44, Brownie5\_44, Rhinoforte\_44, Boyle\_44, Eaglehorse\_44, Ares\_44, Lars\_44, ItsyBitsy1\_44, FrenchFry\_44, Bananafish\_44, Blocker23\_44, Tres\_44, Holeinone\_44, Sabella\_43, Allegro\_44, Glass\_44, Kheth\_44, Kaleb\_44, Phantasmagoria\_44, LizLemon\_44, Lephleur\_44, MasterPo\_44, Calamitous\_44, Faze9\_43, West99\_44, Coffee\_44, Godines\_44, Laurie\_43, Opia\_44

- Track 21 : Arbiter\_43, Qyrzula\_41, Rosebush\_43

- Track 22 : Vic9\_44

- Track 23 : Nozo\_43, Yahalom\_43, Daisy\_43, Rita1961\_43, Obutu\_43, Gervas\_43, Philly\_42, Corofin\_43, Heathcliff\_43, Neos5\_43, Morty007\_43, Halfpint\_42, Chandler\_43, Mortcellus\_42, Abinghost\_43, Gadjet\_44, Devonte\_43, Deenasa\_43, Casbah\_42, OrangeOswald\_43, Compostia\_44, LestyG\_43, SynergyX\_43, Baloo\_43, MmasiCarm\_43, Kamiyu\_43, Bernardo\_44, Athena\_44, Jackstina\_40, Phlyer\_43, Yinz\_43, ChaChing\_43, Ben11\_42, Pipefish\_45, Phayeta\_44, Briakila\_44, Phaedrus\_41, HarveySr\_43, RomaT\_43, Akoma\_43, Marley1013\_43, GlenHope\_44, Tydolla\_43, RagingRooster\_43, SlippinJimmy\_43, Kronus\_42, Audrey\_43

- Track 24 : Prince\_40, Zemanar\_41, JaguarMi\_40, Fortunato\_41, Apex\_41, Fanaw\_39, Nigel\_39, Heath\_39, Hydro\_40, JAMaL\_40, VioletZ\_41, BobbyK\_41, QueenPie\_39, Austelle\_41, Waleliano\_40, Lolalove\_40, BrownCNA\_42, Mudslide\_40, RawrgerThat\_41, Xincheng\_39, Magpie\_39, Hangman\_40, Mithril\_40, Frederick\_41, Cooper\_41

- Track 25 : GinPorsche\_39, ChrisnMich\_40, Antihero\_39, Ahwei\_39, Nanao\_39, Hally898\_39, Lambano\_39, Epah\_39, Poster\_39

- Track 26 : Vincenzo\_41, AlanGrant\_42

- Track 27 : Stinger\_39

- Track 28 : EastView9101\_42, SirJeffery\_44, Acadian\_44, Donny\_44, Suigeneris\_44
- Track 29 : Bae\_43, Rich\_42
- Track 30 : Reprobate\_44, Nehemiah\_43, Phelemich\_43, Mysterious\_45
- Track 31 : Serendipitous\_43
- Track 32 : KarasumaRum\_45, StinkyVeggy\_45
- Track 33 : Nangang\_43, Shenyu\_43, DigitDog\_43
- Track 34 : KayaCho\_37
- Track 35 : Hosp\_035
- Track 36 : 39HC\_037, 40BC\_037
- Track 37 : Jolie1\_037
- Track 38 : Saguaro\_45
- Track 39 : Thonko\_43
- Track 40 : CRB2\_46
- Track 41 : Funsized\_46
- Track 42 : Rinkes\_44
- Track 43 : Knocker\_45
- Track 44 : Quesadilla\_46
- Track 45 : PenguinLover67\_46
- Track 46 : Catfish\_31
- Track 47 : BeeGee\_38, RavenCo17\_36
- Track 48 : LonelyBoi\_35
- Track 49 : Nymphadora\_34, Bosnia\_34, Herod\_34, BatStarr\_34, Eviarto\_34, TimTam\_34
- Track 50 : Eudoria\_35, Maridalia\_34, Suscepit\_35, Manasvini\_35, Zameen\_35, Neobush\_35, Tayonia\_35, Polly\_32, Kita\_36, Antonio\_35, Trumpet\_35
- Track 51 : Hugley\_32
- Track 52 : Clap\_30, Haley23\_30, Savage\_30, Sahara\_29, GemG\_30, Sproutie\_30, Mocha12\_30, Ebert\_31, Cynthia\_30, TuertoX\_30, Whiteclaw\_30, Gizermo\_30
- Track 53 : Vasanti\_31
- Track 54 : RayTheFireFly\_38
- Track 55 : Phistory\_39, Frickyeah\_39, Apricot\_38, BENtherdunthat\_38
- Track 56 : Horus\_39, BearBQ\_38, CheeseTouch\_37, Lutum\_39, Asapag\_39, Leroy\_39, Ecliptus\_40, Phabuloso\_36, ODay\_42, Budski\_39, Getalong\_40, Kenna\_38, Whitney\_42, Holliday\_38, Periwinkle\_42
- Track 57 : Spooky\_39, Squiddly\_40
- Track 58 : Crater\_36
- Track 59 : Mariokart\_38, CharlottesWeb\_38
- Track 60 : Coldpizza\_41
- Track 61 : Evaa\_38
- Track 62 : LittleMunchkin\_40
- Track 63 : Madiba\_23, ThetaBob\_24
- Track 64 : Avani\_28, ShroomBoi\_22
- Track 65 : Demsculpinboyz\_28, Che9d\_28, Bipolar\_22, Kenuha5\_22, Ogopogo\_25, Kersh\_23, Pollywog\_25, Yoshi\_28
- Track 66 : Sbash\_32
- Track 67 : Rubeelu\_32, Butters\_32
- Track 68 : Purky\_30
- Track 69 : Purky\_36
- Track 70 : Rem711\_6
- Track 71 : 32HC\_7
- Track 72 : Whack\_33
- Track 73 : Sleepyhead\_33
- Track 74 : StAugustine\_59

- Track 75 : Pine5\_39
- Track 76 : Shambre1\_30

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

The start number called the most often in the published annotations is 46, it was called in 282 of the 486 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 39HC\_037, 40BC\_037, ABU\_45, AbsoluteMadLad\_44, Acadian\_44, Adriana\_45, Aelin\_44, AltPhacts\_45, Altwerkus\_44, Anderson\_45, Andre\_45, Antonia\_44, Apizium\_44, Ashraf\_44, Badfish\_45, Bae\_43, Banjo\_44, Basato\_46, BatteryCK\_44, Beaglebox\_44, Bishoperium\_44, BlackStallion\_45, BlueHusk\_45, Bluephacebaby\_44, Boehler\_45, Brilliant\_45, Buckeye\_45, Burr\_44, CRB2\_46, CamL\_45, CampRoach\_45, Cannibal\_45, Carthage\_43, Chaelin\_45, Chah\_46, Charles1\_45, CharlieGBrown\_44, CheetO\_45, Cher\_44, Childish\_44, Chorkpop\_45, Chunky\_45, Chute\_44, Cobra\_45, Colbert\_45, Coletti\_44, Cornobble\_44, Cosmolli16\_44, Craff\_45, Crownjwl\_45, DaddyDaniels\_45, Daffy\_45, Daka\_46, Dati\_45, DelRivs\_44, Derpp\_44, Dice\_44, DigitDog\_43, Dingo\_45, Dione\_44, DirtJuice\_45, Doddsville\_45, DoesntMatter\_44, DonSanchon\_44, Donny\_44, DuchessDung\_43, Duggie\_44, Durga\_45, EastView9101\_42, Emiris\_45, EmpTee\_45, Eremos\_45, Etaye\_45, Eugenia\_45, Fang\_45, FluffyNinja\_45, Fozzie\_44, Frankicide\_45, Freya\_44, FriarPreacher\_44, Fringe\_45, FugateOSU\_44, Funsized\_46, Gareth\_44, GeneCoco\_45, Giraffe\_45, Gophee\_45, Grand2040\_44, Gwilliam\_46, Gyarad\_0045, HSavage\_45, Haimas\_45, Haleema\_44, Hamish\_45, Hartsy\_45, Harvey\_45, Held\_45, HenryJackson\_44, Hertubise\_45, Hetaeria\_45, HighStump\_44, Hocus\_44, Horchata\_45, Hosp\_035, ImtiyazSitla\_44, Imvubu\_36, Inchworm\_45, Indlovu\_42, Inverness\_45, Iridoclysis\_45, IsaacEli\_45, JDog\_44, JacAttac\_45, JakeO\_44, JangoPhett\_45, Jillium\_44, Jiminy\_44, Jiraiya\_46, Jolie1\_037, KLucky39\_45, Kahve\_44, Kailash\_45, KarasumaRum\_45, Katniss\_45, KayaCho\_37, Keitherie\_45, Kikipoo\_45, Kimbrough\_45, KingTut\_36, KingVeVeVe\_45, KlimbOn\_45, Kloppinator\_45, Knocker\_45, Kwadwo\_44, Kwksand96\_44, Labeouficaum\_44, LasagnaCat\_45, Lasso\_45, LeeLot\_45, Lego3393\_44, Legolas\_44, LeiMonet\_46, LemonSlice\_45, LilMcDreamy\_41, Longacauda\_44, Lopsy\_44, LostAndPhound\_44, LuckyMarjie\_44, Lulumae\_44, Lulwa\_45, Lumine\_44, MRabcd\_44, Mag7\_44, Magic8\_45, Mana\_44, Manad\_44, Maru\_44, Maskar\_44, Matalotodo\_45, Mcshane\_44, Mecca\_44, Megamind20\_45, Megatron\_45, Melc17\_45, MelsMeow\_44, Mesh1\_45, MichaelPhcott\_44, Mikota\_45, MiniBoss\_45, MitKao\_45, Morgushi\_45, Morty\_45, Mosaic\_44, MrPhizzler\_44, Mulan\_44, Murdoc\_45, Mutante\_44, Mysterious\_45, Nacho\_0045, Nangang\_43, Nehemiah\_43, Newman\_45, Nicole21\_45, Numberten\_45, Nyala\_44, OSmaximus\_45, Olak\_44, Oline\_44, Olive\_45, OliverWalter\_45, Omniscient\_45, Oosterbaan\_45, Orfeu\_44, Orion\_45, Orwigg\_45, PG1\_45, Pacifista\_44, PenguinLover67\_46, Phamished\_45, Phareon\_45, PhatCats2014\_45, PhatLouie\_45, Phelemich\_43, PhenghisKhan\_44, Pherdinand\_45, Phergie\_44, Phipps\_45, Phleuron\_44, PhrankReynolds\_43, PhrodoBaggins\_44, Phunky\_45, Piglet\_0044, PinheadLarry\_45, Pinkman\_44, Pipsqueak\_45, Placalicious\_44, Plmatters\_45, Podrick\_45, Pops\_45, Potter\_44, Prickles\_45, ProfessorX\_45, Puhltonio\_45, QueenBeane\_45, Quesadilla\_46, Quisquilliae\_45, RedMaple\_44, Reprobate\_44, Rich\_42, Ricotta\_44, Riggan\_45, Rimu\_47, Robyn\_44, Roliet\_45, Roscoe\_46,

Roy17\_45, SDcharge11\_45, Saguaro\_45, Samaymay\_45, SassyCat97\_44, Schadenfreude\_44, Schueller\_45, Scoot17C\_45, Scrick\_45, Selr12\_45, Serendipitous\_43, Serendipity\_45, Serpentine\_0045, Sheila\_45, Shenyu\_43, ShiVal\_45, Sigman\_45, SilverBell\_45, Simielle\_44, SirJeffery\_44, Skippy\_45, Slatt\_45, Soile\_45, Solosis\_44, Sophia\_44, Soto\_45, Spartan300\_45, Squid\_45, Squiggle\_45, StinkyVeggy\_45, Struggle\_44, Suffolk\_45, Suigeneris\_44, Surely\_45, Swiphy\_47, Swish\_45, TallGrassMM\_45, Telesworld\_44, Thora\_45, ThreeOh3D2\_45, Thunderbird\_44, Timmi\_44, TomBombadil\_45, Tomlarah\_45, Toni\_44, Tooj\_45, True\_44, Trypo\_45, TyrionL\_44, UAch1\_45, UncleHowie\_45, Usavi\_45, Vaishali24\_44, Valjean\_45, Vaticameos\_41, Veritas\_44, Virapocalypse\_45, Virgeve\_44, Vista\_45, Vivaldi\_45, Vortex\_45, Wallhey\_44, Waterdiva\_45, Weher20\_45, Windsor\_44, Xavier\_44, Yoshand\_45, YouGoGlencoco\_45, Zaider\_46, Zelda\_45, Zonia\_45,

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

- 

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

- 32HC\_7, Abidatro\_27, Abinghost\_43, Ahwei\_39, Akoma\_43, AlanGrant\_42, Allegro\_44, Amelia\_27, Andrew\_28, Antihero\_39, Antonio\_35, Apex\_41, Apricot\_38, Arbiter\_43, Ares\_44, Asapag\_39, Athena\_44, Audrey\_43, Austelle\_41, Avani\_28, BENtherdunthat\_38, Baloo\_43, Bananafish\_44, Basilisk\_26, BatStarr\_34, BearBQ\_38, BeeGee\_38, Ben11\_42, Bernardo\_44, Bipolar\_22, BirdsNest\_46, Blocker23\_44, BobbyK\_41, Bosnia\_34, Boyle\_44, Briakila\_44, BrownCNA\_42, Brownie5\_44, Brynnie\_25, Budski\_39, Butters\_32, Calamitous\_44, Casbah\_42, Catfish\_31, ChaChing\_43, Chandler\_43, CharlottesWeb\_38, Che9d\_28, CheeseTouch\_37, ChrisnMich\_40, Clap\_30, Coffee\_44, Coldpizza\_41, Compostia\_44, Cooper\_41, Coral\_26, Corofin\_43, Cote\_27, Crater\_36, Cynthia\_30, Daisy\_43, Daob\_27, Deenasa\_43, Demsculpinboyz\_28, Devonte\_43, Eaglehorse\_44, Ebert\_31, Ecliptus\_40, Epah\_39, Eudoria\_35, Evaa\_38, Eviarto\_34, Fanaw\_39, Faze9\_43, Fortunato\_41, Frederick\_41, FrenchFry\_44, Frickyeah\_39, Gadget\_44, Galaxy\_26, GemG\_30, Gervas\_43, Getalong\_40, GinPorsche\_39, Gizermo\_30, Glass\_44, GlenHope\_44, Godines\_44, Haley23\_30, Halfpint\_42, Hally898\_39, Hangman\_40, HannahPhantana\_27, HarveySr\_43, Hashim76\_47, Heath\_39, Heathcliff\_43, Hedgerow\_44, Herod\_34, Holeinone\_44, Holliday\_38, Horus\_39, Hugley\_32, Hydro\_40, ItsyBitsy1\_44, JAMaL\_40, Jackstina\_40, JaguarMi\_40, Jamun\_25, Kaleb\_44, Kamiyu\_43, Kenna\_38, Kenuha5\_22, Kersh\_23, Kheth\_44, Kita\_36, Kronus\_42, Kuleana\_27, Lambano\_39, Lars\_44, Laurie\_43, Lephleur\_44, Leroy\_39, LestyG\_43, LittleMunchkin\_40, LizLemon\_44, Lolalove\_40, LonelyBoi\_35, Lunar\_27, Lutum\_39, Madiba\_23, Magpie\_39, Manasvini\_35, Maridalia\_34, Mariokart\_38, Marley1013\_43, MasterPo\_44, Melons\_27, Mithril\_40, MmasiCarm\_43, Mocha12\_30, Mortcellus\_42, Morty007\_43, Mudslide\_40, Nanao\_39, Neobush\_35, Neos5\_43, Nigel\_39, Nozo\_43, Nymphadora\_34, ODay\_42, Obutu\_43, Ogopogo\_25, Opia\_44, OrangeOswald\_43, Orcanus\_26, Periwinkle\_42, Phabuloso\_36, Phaedrus\_41, Phantasmagoria\_44, Phayeta\_44, Philly\_42, Phistory\_39, Phlyer\_43, Pine5\_39, Pipefish\_45, Polka\_26, Polly\_32, Pollywog\_25, Poster\_39, Prince\_40, Purky\_30, Purky\_36, QueenPie\_39, Qyrzula\_41, RagingRooster\_43, RavenCo17\_36, RawrgerThat\_41, RayTheFireFly\_38, Rem711\_6, Rhinoforte\_44, Rinkes\_44, Rita1961\_43, RomaT\_43, Rosebush\_43, Rubeelu\_32, Sabella\_43, Sahara\_29, Savage\_30, Sbash\_32, Shambre1\_30, ShroomBoi\_22, Sleepyhead\_33, SlippinJimmy\_43, Spooky\_39, Sproutie\_30, Squiddly\_40, StAugustine\_59, Stinger\_39, Suscepit\_35, SynergyX\_43, TA17A\_44, TaylorSipht\_26, Tayonia\_35, ThetaBob\_24, Thonko\_43, TimTam\_34,

Tincidunt\_solum\_45, Tres\_44, Trumpet\_35, TuertoX\_30, Tydolla\_43, Vasanti\_31, Vic9\_44, Vincenzo\_41, VioletZ\_41, Vulpecula\_25, Waleliano\_40, West99\_44, Whack\_33, Whiteclaw\_30, Whitney\_42, Xincheng\_39, Yahalom\_43, Yinz\_43, Yoshi\_28, Zameen\_35, Zemanar\_41, Zenteno07\_48,

### Summary by start number:

#### Start 25:

- Found in 1 of 535 ( 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: StAugustine\_59 (singleton),

#### Start 34:

- Found in 3 of 535 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 486
- Called 66.7% of time when present
- Phage (with cluster) where this start called: CharlottesWeb\_38 (DR), Mariokart\_38 (DR),

#### Start 35:

- Found in 49 of 535 ( 9.2% ) of genes in pham
- Manual Annotations of this start: 45 of 486
- Called 95.9% of time when present
- Phage (with cluster) where this start called: Abinghost\_43 (B3), Akoma\_43 (B3), Athena\_44 (B3), Audrey\_43 (B3), Baloo\_43 (B3), Ben11\_42 (B3), Bernardo\_44 (B3), Briakila\_44 (B3), Casbah\_42 (B3), ChaChing\_43 (B3), Chandler\_43 (B3), Compostia\_44 (B3), Corofin\_43 (B3), Daisy\_43 (B3), Deenasa\_43 (B3), Devonte\_43 (B3), Gadget\_44 (B3), Gervas\_43 (B3), GlenHope\_44 (B3), Halfpint\_42 (B3), HarveySr\_43 (B3), Heathcliff\_43 (B3), Jackstina\_40 (B3), Kamiyu\_43 (B3), Kronus\_42 (B3), LestyG\_43 (B3), Marley1013\_43 (B3), MmasiCarm\_43 (B3), Mortcellus\_42 (B3), Morty007\_43 (B3), Neos5\_43 (B3), Nozo\_43 (B3), Obutu\_43 (B3), OrangeOswald\_43 (B3), Phaedrus\_41 (B3), Phayeta\_44 (B3), Philly\_42 (B3), Phlyer\_43 (B3), Pipefish\_45 (B3), RagingRooster\_43 (B3), Rita1961\_43 (B3), RomaT\_43 (B3), SlippinJimmy\_43 (B3), SynergyX\_43 (B3), Tydolla\_43 (B3), Yahalom\_43 (B3), Yinz\_43 (B3),

#### Start 39:

- Found in 2 of 535 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC\_7 (Z), Rem711\_6 (Z),

#### Start 40:

- Found in 1 of 535 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleMunchkin\_40 (DR),

#### Start 41:

- Found in 43 of 535 ( 8.0% ) of genes in pham
- Manual Annotations of this start: 36 of 486
- Called 83.7% of time when present



- Phage (with cluster) where this start called: Antonio\_35 (CZ1), Asapag\_39 (DN1), BatStarr\_34 (CZ1), BearBQ\_38 (DN), BeeGee\_38 (CY), Bosnia\_34 (CZ1), Budski\_39 (DN), CheeseTouch\_37 (DN1), Ecliptus\_40 (DN), Eudoria\_35 (CZ1), Eviarto\_34 (CZ1), Getalong\_40 (DN1), Herod\_34 (CZ1), Holliday\_38 (DN1), Horus\_39 (DN1), Kenna\_38 (DN1), Kita\_36 (CZ1), Leroy\_39 (DN1), Lutum\_39 (DN1), Manasvini\_35 (CZ1), Maridalia\_34 (CZ1), Neobush\_35 (CZ1), Nymphadora\_34 (CZ1), ODay\_42 (DN), Periwinkle\_42 (DN1), Phabuloso\_36 (DN1), Polly\_32 (CZ1), RavenCo17\_36 (CZ8), Sleepyhead\_33 (singleton), Suscepit\_35 (CZ1), Tayonia\_35 (CZ1), TimTam\_34 (CZ1), Trumpet\_35 (CZ1), Whack\_33 (singleton), Whitney\_42 (DN1), Zameen\_35 (CZ1),

#### Start 43:

- Found in 4 of 535 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 4 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Butters\_32 (N), Purky\_30 (P6), Rubeelu\_32 (N), Sbash\_32 (I2),

#### Start 44:

- Found in 13 of 535 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 486
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Purky\_36 (P6),

#### Start 45:

- Found in 1 of 535 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Thonko\_43 (B8),

#### Start 46:

- Found in 306 of 535 ( 57.2% ) of genes in pham
- Manual Annotations of this start: 282 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC\_037 (B6), 40BC\_037 (B6), ABU\_45 (B1), AbsoluteMadLad\_44 (B1), Acadian\_44 (B5), Adriana\_45 (B1), Aelin\_44 (B1), AltPhacts\_45 (B1), Altwerkus\_44 (B1), Anderson\_45 (B1), Andre\_45 (B1), Antonia\_44 (B1), Apizium\_44 (B1), Ashraf\_44 (B1), Badfish\_45 (B1), Bae\_43 (B5), Banjo\_44 (B1), Basato\_46 (B1), BatteryCK\_44 (B1), Beaglebox\_44 (B1), Bishoperium\_44 (B1), BlackStallion\_45 (B1), BlueHusk\_45 (B1), Bluephacebaby\_44 (B1), Boehler\_45 (B1), Brilliant\_45 (B1), Buckeye\_45 (B1), Burr\_44 (B1), CRB2\_46 (B9), CamL\_45 (B1), CampRoach\_45 (B1), Cannibal\_45 (B1), Carthage\_43 (B1), Chaelin\_45 (B1), Chah\_46 (B1), Charles1\_45 (B1), CharlieGBrown\_44 (B1), CheetO\_45 (B1), Cher\_44 (B1), Childish\_44 (B1), Chorkpop\_45 (B1), Chunky\_45 (B1), Chute\_44 (B1), Cobra\_45 (B1), Colbert\_45 (B1), Coletti\_44 (B1), Cornobble\_44 (B1), Cosmolli16\_44 (B1), Craff\_45 (B1), Crownjwl\_45 (B1), DaddyDaniels\_45 (B1), Daffy\_45 (B1), Daka\_46 (B1), Dati\_45 (B1), DelRivs\_44 (B1), Derpp\_44 (B1), Dice\_44 (B1), DigitDog\_43 (B5), Dingo\_45 (B1), Dione\_44 (B1), DirtJuice\_45 (B1), Doddsville\_45 (B1), DoesntMatter\_44 (B1), DonSanchon\_44 (B1), Donny\_44 (B5), DuchessDung\_43 (B1), Duggie\_44 (B1), Durga\_45 (B1), EastView9101\_42 (B5), Emiris\_45 (B1), EmpTee\_45 (B1), Eremos\_45 (B1), Etaye\_45 (B1), Eugenia\_45 (B1), Fang\_45 (B1), FluffyNinja\_45 (B1), Fozzie\_44 (B1), Frankicide\_45 (B1), Freya\_44 (B1), FriarPreacher\_44 (B1), Fringe\_45 (B1), FugateOSU\_44 (B1), Funsized\_46

(B9), Gareth\_44 (B1), GeneCoco\_45 (B1), Giraffe\_45 (B1), Gophee\_45 (B1), Grand2040\_44 (B1), Gwilliam\_46 (B1), Gyarad\_0045 (B1), HSavage\_45 (B1), Haimas\_45 (B1), Haleema\_44 (B1), Hamish\_45 (B1), Hartsy\_45 (B1), Harvey\_45 (B1), Held\_45 (B1), HenryJackson\_44 (B1), Hertubise\_45 (B1), Hetaeria\_45 (B1), HighStump\_44 (B1), Hocus\_44 (B1), Horchata\_45 (B1), Hosp\_035 (B6), ImtiyazSitla\_44 (B1), Imvubu\_36 (B10), Inchworm\_45 (B1), Indlovu\_42 (B11), Inverness\_45 (B1), Iridoclysis\_45 (B1), IsaacEli\_45 (B1), JDog\_44 (B1), JacAttac\_45 (B1), JakeO\_44 (B1), JangoPhett\_45 (B1), Jillium\_44 (B1), Jiminy\_44 (B1), Jiraiya\_46 (B1), Jolie1\_037 (B6), KLucky39\_45 (B1), Kahve\_44 (B1), Kailash\_45 (B1), KarasumaRum\_45 (B5), Katniss\_45 (B1), KayaCho\_37 (B6), Keitherie\_45 (B1), Kikipoo\_45 (B1), Kimbrough\_45 (B1), KingTut\_36 (B1), KingVeVeVe\_45 (B1), KlimbOn\_45 (B1), Kloppinator\_45 (B1), Knocker\_45 (B9), Kwadwo\_44 (B1), Kwksand96\_44 (B1), Labeouficaum\_44 (B1), LasagnaCat\_45 (B1), Lasso\_45 (B1), LeeLot\_45 (B1), Lego3393\_44 (B1), Legolas\_44 (B1), LeiMonet\_46 (B1), LemonSlice\_45 (B1), LilMcDreamy\_41 (B12), Longacauda\_44 (B1), Lopsy\_44 (B1), LostAndPhound\_44 (B1), LuckyMarjie\_44 (B1), Lulumae\_44 (B1), Lulwa\_45 (B1), Lumine\_44 (B1), MRabcd\_44 (B1), Mag7\_44 (B1), Magic8\_45 (B1), Mana\_44 (B1), Manad\_44 (B1), Maru\_44 (B1), Maskar\_44 (B1), Matalotodo\_45 (B1), Mcshane\_44 (B1), Mecca\_44 (B1), Megamind20\_45 (B1), Megatron\_45 (B1), Melc17\_45 (B1), MelsMeow\_44 (B1), Mesh1\_45 (B1), MichaelPhcott\_44 (B1), Mikota\_45 (B1), MiniBoss\_45 (B1), MitKao\_45 (B1), Morgushi\_45 (B1), Morty\_45 (B1), Mosaic\_44 (B1), MrPhizzler\_44 (B1), Mulan\_44 (B1), Murdoc\_45 (B1), Mutante\_44 (B1), Mysterious\_45 (B5), Nacho\_0045 (B1), Nangang\_43 (B5), Nehemiah\_43 (B5), Newman\_45 (B1), Nicole21\_45 (B1), Numberten\_45 (B1), Nyala\_44 (B1), OSmaximus\_45 (B1), Olak\_44 (B1), Oline\_44 (B1), Olive\_45 (B1), OliverWalter\_45 (B1), Omniscient\_45 (B1), Oosterbaan\_45 (B1), Orfeu\_44 (B1), Orion\_45 (B1), Orwigg\_45 (B1), PG1\_45 (B1), Pacifista\_44 (B1), PenguinLover67\_46 (B9), Phamished\_45 (B1), Phareon\_45 (B1), PhatCats2014\_45 (B1), PhatLouie\_45 (B1), Phelemich\_43 (B5), PhenghisKhan\_44 (B1), Pherdinand\_45 (B1), Phergie\_44 (B1), Phipps\_45 (B1), Phleuron\_44 (B1), PhrankReynolds\_43 (B1), PhrodoBaggins\_44 (B1), Phunky\_45 (B1), Piglet\_0044 (B1), PinheadLarry\_45 (B1), Pinkman\_44 (B1), Pipsqueak\_45 (B1), Placalicious\_44 (B1), Plmatters\_45 (B1), Podrick\_45 (B1), Pops\_45 (B1), Potter\_44 (B1), Prickles\_45 (B1), ProfessorX\_45 (B1), Puhltonio\_45 (B1), QueenBeane\_45 (B1), Quesadilla\_46 (B9), Quisquilliae\_45 (B1), RedMaple\_44 (B1), Reprobate\_44 (B5), Rich\_42 (B5), Ricotta\_44 (B1), Riggan\_45 (B1), Rimu\_47 (B1), Robyn\_44 (B1), Roliet\_45 (B1), Roscoe\_46 (B1), Roy17\_45 (B1), SDcharge11\_45 (B1), Saguario\_45 (B7), Samaymay\_45 (B1), SassyCat97\_44 (B1), Schadenfreude\_44 (B1), Schueller\_45 (B1), Scoot17C\_45 (B1), Scrick\_45 (B1), Selr12\_45 (B1), Serendipitous\_43 (B5), Serendipity\_45 (B1), Serpentine\_0045 (B1), Sheila\_45 (B1), Shenyu\_43 (B5), ShiVal\_45 (B1), Sigman\_45 (B1), SilverBell\_45 (B1), Simielle\_44 (B1), SirJeffery\_44 (B5), Skippy\_45 (B1), Slatt\_45 (B1), Soile\_45 (B1), Solosis\_44 (B1), Sophia\_44 (B1), Soto\_45 (B1), Spartan300\_45 (B1), Squid\_45 (B1), Squiggle\_45 (B1), StinkyVeggy\_45 (B5), Struggle\_44 (B1), Suffolk\_45 (B1), Suigeneris\_44 (B5), Surely\_45 (B1), Swiphy\_47 (B1), Swish\_45 (B1), TallGrassMM\_45 (B1), Telesworld\_44 (B1), Thora\_45 (B1), ThreeOh3D2\_45 (B1), Thunderbird\_44 (B1), Timmi\_44 (B1), TomBombadil\_45 (B1), Tomlarah\_45 (B1), Toni\_44 (B1), Tooj\_45 (B1), True\_44 (B1), Trypo\_45 (B1), TyrionL\_44 (B1), UAch1\_45 (B1), UncleHowie\_45 (B1), Usavi\_45 (B1), Vaishali24\_44 (B1), Valjean\_45 (B1), Vaticameos\_41 (B1), Veritas\_44 (B1), Virapocalypse\_45 (B1), Virgeve\_44 (B1), Vista\_45 (B1), Vivaldi\_45 (B1), Vortex\_45 (B1), Wallhey\_44 (B1), Waterdiva\_45 (B1), Weher20\_45 (B1), Windsor\_44 (B1), Xavier\_44 (B1), Yoshand\_45 (B1), YouGoGlencoco\_45 (B1), Zaider\_46 (B1), Zelda\_45 (B1), Zonia\_45 (B1),

Start 47:

- Found in 37 of 535 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 25 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ahwei\_39 (B4), AlanGrant\_42 (B4), Antihero\_39 (B4), Apex\_41 (B4), Austelle\_41 (B4), BobbyK\_41 (B4), BrownCNA\_42 (B4), ChrisnMich\_40 (B4), Cooper\_41 (B4), Epah\_39 (B4), Fanaw\_39 (B4), Fortunato\_41 (B4), Frederick\_41 (B4), GinPorsche\_39 (B4), Hally898\_39 (B4), Hangman\_40 (B4), Heath\_39 (B4), Hydro\_40 (B4), JAMaL\_40 (B4), JaguarMi\_40 (B4), Lambano\_39 (B4), Lolalove\_40 (B4), Magpie\_39 (B4), Mithril\_40 (B4), Mudslide\_40 (B4), Nanao\_39 (B4), Nigel\_39 (B4), Poster\_39 (B4), Prince\_40 (B4), QueenPie\_39 (B4), RawrgerThat\_41 (B4), Stinger\_39 (B4), Vincenzo\_41 (B4), VioletZ\_41 (B4), Waleliano\_40 (B4), Xincheng\_39 (B4), Zemanar\_41 (B4),

Start 48:

- Found in 5 of 535 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 3 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdsNest\_46 (B13), Coldpizza\_41 (DR), Evaa\_38 (DR), Hashim76\_47 (B13), Zenteno07\_48 (B13),

Start 49:

- Found in 4 of 535 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 3 of 486
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Shambre1\_30 (singleton), Spooky\_39 (DN2), Squiddly\_40 (DN2),

Start 52:

- Found in 39 of 535 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 30 of 486
- Called 84.6% of time when present
- Phage (with cluster) where this start called: Allegro\_44 (B2), Ares\_44 (B2), Bananafish\_44 (B2), Blocker23\_44 (B2), Boyle\_44 (B2), Brownie5\_44 (B2), Calamitous\_44 (B2), Coffee\_44 (B2), Eaglehorse\_44 (B2), Faze9\_43 (B2), FrenchFry\_44 (B2), Glass\_44 (B2), Godines\_44 (B2), Hedgerow\_44 (B2), Holeinone\_44 (B2), ItsyBitsy1\_44 (B2), Kaleb\_44 (B2), Kheth\_44 (B2), Lars\_44 (B2), Laurie\_43 (B2), Lephleur\_44 (B2), LizLemon\_44 (B2), MasterPo\_44 (B2), Opia\_44 (B2), Phantasmagoria\_44 (B2), Rhinoforte\_44 (B2), Rinke\_44 (B9), Sabella\_43 (B2), TA17A\_44 (B2), Tinciduntolum\_45 (B2), Tres\_44 (B2), Vic9\_44 (B2), West99\_44 (B2),

Start 53:

- Found in 14 of 535 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 13 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clap\_30 (CZ2), Cynthia\_30 (CZ2), Ebert\_31 (CZ2), GemG\_30 (CZ2), Gizermo\_30 (CZ2), Haley23\_30 (CZ2), Mocha12\_30 (CZ2), Pine5\_39 (singleton), Sahara\_29 (CZ2), Savage\_30 (CZ2), Sproutie\_30 (CZ2), TuertoX\_30 (CZ2), Vasanti\_31 (CZ2), Whiteclaw\_30 (CZ2),

Start 56:

- Found in 12 of 535 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 10 of 486
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Avani\_28 (F2), Bipolar\_22 (F1), Che9d\_28 (F2), Demsculpinboyz\_28 (F2), Kenuha5\_22 (F1), Kersh\_23 (F1), Ogopogo\_25 (F1), Pollywog\_25 (F1), ShroomBoi\_22 (F1), Yoshi\_28 (F2),

Start 57:

- Found in 5 of 535 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 4 of 486
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Brynnie\_25 (AS1), Jamun\_25 (AS1), RayTheFireFly\_38 (DB), Vulpecula\_25 (AS1),

Start 58:

- Found in 1 of 535 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LonelyBoi\_35 (CY),

Start 60:

- Found in 3 of 535 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 3 of 486
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro\_27 (AS1), Basilisk\_26 (AS1), Galaxy\_26 (AS1),

Start 61:

- Found in 406 of 535 ( 75.9% ) of genes in pham
- Manual Annotations of this start: 19 of 486
- Called 5.2% of time when present
- Phage (with cluster) where this start called: Amelia\_27 (AS2), Andrew\_28 (AS3), Apricot\_38 (DN3), BENtherdunthat\_38 (DN1), Catfish\_31 (CU5), Coral\_26 (AS2), Cote\_27 (AS2), Crater\_36 (DN3), Daob\_27 (AS2), Frickyeah\_39 (DN1), HannahPhantana\_27 (AS2), Hugley\_32 (CZ1), Kuleana\_27 (AS2), Lunar\_27 (AS2), Madiba\_23 (F1), Melons\_27 (AS2), Orcanus\_26 (AS1), Phistory\_39 (DN1), Polka\_26 (AS2), TaylorSipht\_26 (AS1), ThetaBob\_24 (F4),

Start 62:

- Found in 35 of 535 ( 6.5% ) of genes in pham
- Manual Annotations of this start: 3 of 486
- Called 8.6% of time when present
- Phage (with cluster) where this start called: Arbiter\_43 (B2), Qyrzula\_41 (B2), Rosebush\_43 (B2),

### Summary by clusters:

There are 35 clusters represented in this pham: DN, singleton, CZ2, CZ1, DB, CZ8, B12, B13, B10, B11, DR, CU5, I2, DN1, DN3, DN2, AS3, AS2, AS1, P6, N, CY, Z, F1, F2, F4, B4, B5, B6, B7, B1, B2, B3, B8, B9,

Info for manual annotations of cluster AS1:

- Start number 57 was manually annotated 3 times for cluster AS1.

- Start number 60 was manually annotated 3 times for cluster AS1.
- Start number 61 was manually annotated 2 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 61 was manually annotated 9 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 61 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster B1:

- Start number 46 was manually annotated 263 times for cluster B1.

Info for manual annotations of cluster B10:

- Start number 46 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 46 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 46 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 48 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B2:

- Start number 52 was manually annotated 29 times for cluster B2.
- Start number 62 was manually annotated 3 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 35 was manually annotated 45 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 47 was manually annotated 25 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 46 was manually annotated 9 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 46 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B7:

- Start number 46 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 45 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 46 was manually annotated 5 times for cluster B9.
- Start number 52 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster CU5:

- Start number 61 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CY:

- Start number 41 was manually annotated 1 time for cluster CY.
- Start number 58 was manually annotated 1 time for cluster CY.

Info for manual annotations of cluster CZ1:

- Start number 41 was manually annotated 17 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 53 was manually annotated 13 times for cluster CZ2.

Info for manual annotations of cluster CZ8:

- Start number 41 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DB:

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

Info for manual annotations of cluster DN:

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

Info for manual annotations of cluster DN1:

- Start number 41 was manually annotated 11 times for cluster DN1.
- Start number 61 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 49 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 61 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DR:

- Start number 34 was manually annotated 1 time for cluster DR.
- Start number 40 was manually annotated 1 time for cluster DR.
- Start number 48 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster F1:

- Start number 56 was manually annotated 6 times for cluster F1.
- Start number 61 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 56 was manually annotated 4 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 61 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster I2:

- Start number 43 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster N:

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

Info for manual annotations of cluster P6:

- Start number 43 was manually annotated 1 time for cluster P6.
- Start number 44 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster Z:

•Start number 39 was manually annotated 1 time for cluster Z.

**Gene Information:**

Gene: 32HC\_7 Start: 3414, Stop: 3172, Start Num: 39

Candidate Starts for 32HC\_7:

(Start: 34 @3423 has 1 MA's), (Start: 39 @3414 has 1 MA's), (54, 3384), (83, 3291), (86, 3273),

Gene: 39HC\_037 Start: 36987, Stop: 36790, Start Num: 46

Candidate Starts for 39HC\_037:

(Start: 46 @36987 has 282 MA's), (55, 36975), (69, 36948), (73, 36930), (82, 36897),

Gene: 40BC\_037 Start: 36987, Stop: 36790, Start Num: 46

Candidate Starts for 40BC\_037:

(Start: 46 @36987 has 282 MA's), (55, 36975), (69, 36948), (73, 36930), (82, 36897),

Gene: ABU\_45 Start: 39190, Stop: 38975, Start Num: 46

Candidate Starts for ABU\_45:

(18, 39292), (Start: 46 @39190 has 282 MA's), (Start: 61 @39160 has 19 MA's), (73, 39115),

Gene: Abidatro\_27 Start: 19710, Stop: 19528, Start Num: 60

Candidate Starts for Abidatro\_27:

(42, 19749), (Start: 60 @19710 has 3 MA's),

Gene: Abinghost\_43 Start: 39027, Stop: 38791, Start Num: 35

Candidate Starts for Abinghost\_43:

(Start: 35 @39027 has 45 MA's), (64, 38970), (80, 38904), (82, 38898),

Gene: AbsoluteMadLad\_44 Start: 39199, Stop: 38984, Start Num: 46

Candidate Starts for AbsoluteMadLad\_44:

(Start: 46 @39199 has 282 MA's), (Start: 61 @39169 has 19 MA's), (73, 39124),

Gene: Acadian\_44 Start: 39648, Stop: 39439, Start Num: 46

Candidate Starts for Acadian\_44:

(17, 39762), (18, 39756), (Start: 46 @39648 has 282 MA's), (Start: 61 @39633 has 19 MA's), (66, 39621), (73, 39588),

Gene: Adriana\_45 Start: 39188, Stop: 38973, Start Num: 46

Candidate Starts for Adriana\_45:

(18, 39290), (Start: 46 @39188 has 282 MA's), (Start: 61 @39158 has 19 MA's), (73, 39113),

Gene: Aelin\_44 Start: 38754, Stop: 38539, Start Num: 46

Candidate Starts for Aelin\_44:

(18, 38856), (Start: 46 @38754 has 282 MA's), (Start: 61 @38724 has 19 MA's), (73, 38679),

Gene: Ahwei\_39 Start: 38171, Stop: 37965, Start Num: 47

Candidate Starts for Ahwei\_39:

(Start: 47 @38171 has 25 MA's), (Start: 61 @38150 has 19 MA's), (69, 38123), (73, 38105), (77, 38087), (84, 38057), (86, 38051), (88, 38030),

Gene: Akoma\_43 Start: 39031, Stop: 38795, Start Num: 35  
Candidate Starts for Akoma\_43:  
(Start: 35 @39031 has 45 MA's), (64, 38974), (80, 38908), (82, 38902),

Gene: AlanGrant\_42 Start: 39951, Stop: 39745, Start Num: 47  
Candidate Starts for AlanGrant\_42:  
(Start: 47 @39951 has 25 MA's), (Start: 61 @39930 has 19 MA's), (64, 39924), (69, 39903), (73, 39885), (75, 39876), (77, 39867), (84, 39837), (85, 39834), (86, 39831),

Gene: Allegro\_44 Start: 39432, Stop: 39226, Start Num: 52  
Candidate Starts for Allegro\_44:  
(Start: 52 @39432 has 30 MA's), (Start: 62 @39405 has 3 MA's), (64, 39402), (77, 39348), (85, 39315),

Gene: AltPhacts\_45 Start: 39177, Stop: 38962, Start Num: 46  
Candidate Starts for AltPhacts\_45:  
(18, 39279), (Start: 46 @39177 has 282 MA's), (Start: 61 @39147 has 19 MA's), (73, 39102),

Gene: Altwerkus\_44 Start: 38878, Stop: 38663, Start Num: 46  
Candidate Starts for Altwerkus\_44:  
(Start: 46 @38878 has 282 MA's), (Start: 61 @38848 has 19 MA's), (73, 38803),

Gene: Amelia\_27 Start: 19057, Stop: 18836, Start Num: 61  
Candidate Starts for Amelia\_27:  
(Start: 61 @19057 has 19 MA's),

Gene: Anderson\_45 Start: 39183, Stop: 38968, Start Num: 46  
Candidate Starts for Anderson\_45:  
(18, 39285), (Start: 46 @39183 has 282 MA's), (Start: 61 @39153 has 19 MA's), (73, 39108),

Gene: Andre\_45 Start: 39182, Stop: 38967, Start Num: 46  
Candidate Starts for Andre\_45:  
(Start: 46 @39182 has 282 MA's), (Start: 61 @39152 has 19 MA's), (73, 39107), (82, 39074),

Gene: Andrew\_28 Start: 19161, Stop: 18955, Start Num: 61  
Candidate Starts for Andrew\_28:  
(Start: 61 @19161 has 19 MA's),

Gene: Antihero\_39 Start: 38171, Stop: 37965, Start Num: 47  
Candidate Starts for Antihero\_39:  
(Start: 47 @38171 has 25 MA's), (Start: 61 @38150 has 19 MA's), (69, 38123), (73, 38105), (77, 38087), (84, 38057), (86, 38051), (88, 38030),

Gene: Antonia\_44 Start: 38754, Stop: 38539, Start Num: 46  
Candidate Starts for Antonia\_44:  
(18, 38856), (Start: 46 @38754 has 282 MA's), (Start: 61 @38724 has 19 MA's), (73, 38679),

Gene: Antonio\_35 Start: 29354, Stop: 29118, Start Num: 41  
Candidate Starts for Antonio\_35:  
(Start: 41 @29354 has 36 MA's), (Start: 61 @29312 has 19 MA's), (68, 29291), (78, 29249), (87, 29201), (94, 29129),



Gene: Apex\_41 Start: 39377, Stop: 39171, Start Num: 47

Candidate Starts for Apex\_41:

(Start: 47 @39377 has 25 MA's), (Start: 61 @39356 has 19 MA's), (69, 39329), (73, 39311), (77, 39293), (84, 39263), (86, 39257),

Gene: Apizium\_44 Start: 38943, Stop: 38728, Start Num: 46

Candidate Starts for Apizium\_44:

(Start: 46 @38943 has 282 MA's), (Start: 61 @38913 has 19 MA's), (73, 38868), (82, 38835),

Gene: Apricot\_38 Start: 28904, Stop: 28710, Start Num: 61

Candidate Starts for Apricot\_38:

(Start: 41 @28946 has 36 MA's), (Start: 61 @28904 has 19 MA's), (68, 28883), (78, 28841), (87, 28793),

Gene: Arbiter\_43 Start: 39491, Stop: 39312, Start Num: 62

Candidate Starts for Arbiter\_43:

(Start: 52 @39518 has 30 MA's), (Start: 62 @39491 has 3 MA's), (64, 39488), (77, 39434), (85, 39401),

Gene: Ares\_44 Start: 39502, Stop: 39296, Start Num: 52

Candidate Starts for Ares\_44:

(Start: 52 @39502 has 30 MA's), (Start: 62 @39475 has 3 MA's), (64, 39472), (77, 39418), (85, 39385),

Gene: Asapag\_39 Start: 30538, Stop: 30302, Start Num: 41

Candidate Starts for Asapag\_39:

(Start: 41 @30538 has 36 MA's), (Start: 61 @30496 has 19 MA's), (68, 30475), (78, 30433), (87, 30385),

Gene: Ashraf\_44 Start: 38747, Stop: 38532, Start Num: 46

Candidate Starts for Ashraf\_44:

(Start: 46 @38747 has 282 MA's), (Start: 61 @38717 has 19 MA's), (73, 38672), (82, 38639),

Gene: Athena\_44 Start: 39778, Stop: 39542, Start Num: 35

Candidate Starts for Athena\_44:

(Start: 35 @39778 has 45 MA's), (64, 39721), (80, 39655), (82, 39649),

Gene: Audrey\_43 Start: 39027, Stop: 38791, Start Num: 35

Candidate Starts for Audrey\_43:

(Start: 35 @39027 has 45 MA's), (64, 38970), (80, 38904), (82, 38898),

Gene: Austelle\_41 Start: 39833, Stop: 39627, Start Num: 47

Candidate Starts for Austelle\_41:

(Start: 47 @39833 has 25 MA's), (Start: 61 @39812 has 19 MA's), (69, 39785), (73, 39767), (77, 39749), (84, 39719), (86, 39713),

Gene: Avani\_28 Start: 24082, Stop: 23903, Start Num: 56

Candidate Starts for Avani\_28:

(Start: 44 @24106 has 1 MA's), (Start: 56 @24082 has 10 MA's), (Start: 61 @24076 has 19 MA's), (66, 24064), (69, 24049), (75, 24016), (90, 23920),

Gene: BENtherdunthat\_38 Start: 28707, Stop: 28513, Start Num: 61

Candidate Starts for BENtherdunthat\_38:

(Start: 41 @28749 has 36 MA's), (Start: 61 @28707 has 19 MA's), (68, 28686), (78, 28644), (87, 28596),

Gene: Badfish\_45 Start: 39213, Stop: 38998, Start Num: 46

Candidate Starts for Badfish\_45:

(18, 39315), (Start: 46 @39213 has 282 MA's), (Start: 61 @39183 has 19 MA's), (73, 39138),

Gene: Bae\_43 Start: 39550, Stop: 39341, Start Num: 46

Candidate Starts for Bae\_43:

(Start: 46 @39550 has 282 MA's), (Start: 61 @39535 has 19 MA's), (66, 39523), (73, 39490), (82, 39457),

Gene: Baloo\_43 Start: 39030, Stop: 38794, Start Num: 35

Candidate Starts for Baloo\_43:

(Start: 35 @39030 has 45 MA's), (64, 38973), (80, 38907), (82, 38901),

Gene: Bananafish\_44 Start: 39438, Stop: 39232, Start Num: 52

Candidate Starts for Bananafish\_44:

(Start: 52 @39438 has 30 MA's), (Start: 62 @39411 has 3 MA's), (64, 39408), (77, 39354), (85, 39321),

Gene: Banjo\_44 Start: 38888, Stop: 38673, Start Num: 46

Candidate Starts for Banjo\_44:

(Start: 46 @38888 has 282 MA's), (Start: 61 @38858 has 19 MA's), (73, 38813), (82, 38780),

Gene: Basato\_46 Start: 39467, Stop: 39252, Start Num: 46

Candidate Starts for Basato\_46:

(Start: 46 @39467 has 282 MA's), (Start: 61 @39437 has 19 MA's), (73, 39392),

Gene: Basilisk\_26 Start: 20189, Stop: 19986, Start Num: 60

Candidate Starts for Basilisk\_26:

(Start: 60 @20189 has 3 MA's),

Gene: BatStarr\_34 Start: 29521, Stop: 29285, Start Num: 41

Candidate Starts for BatStarr\_34:

(Start: 41 @29521 has 36 MA's), (Start: 61 @29479 has 19 MA's), (78, 29416), (87, 29368), (88, 29356),

Gene: BatteryCK\_44 Start: 38807, Stop: 38592, Start Num: 46

Candidate Starts for BatteryCK\_44:

(Start: 46 @38807 has 282 MA's), (Start: 61 @38777 has 19 MA's), (73, 38732),

Gene: Beaglebox\_44 Start: 38909, Stop: 38694, Start Num: 46

Candidate Starts for Beaglebox\_44:

(Start: 46 @38909 has 282 MA's), (Start: 61 @38879 has 19 MA's), (73, 38834), (82, 38801),

Gene: BearBQ\_38 Start: 30173, Stop: 29937, Start Num: 41

Candidate Starts for BearBQ\_38:

(Start: 41 @30173 has 36 MA's), (Start: 61 @30131 has 19 MA's), (68, 30110), (78, 30068), (87, 30020),

Gene: BeeGee\_38 Start: 30304, Stop: 30068, Start Num: 41

Candidate Starts for BeeGee\_38:

(Start: 41 @30304 has 36 MA's), (Start: 61 @30262 has 19 MA's), (68, 30241), (78, 30199), (87, 30151),

Gene: Ben11\_42 Start: 38849, Stop: 38613, Start Num: 35

Candidate Starts for Ben11\_42:

(Start: 35 @38849 has 45 MA's), (64, 38792), (80, 38726), (82, 38720),

Gene: Bernardo\_44 Start: 39575, Stop: 39339, Start Num: 35

Candidate Starts for Bernardo\_44:

(Start: 35 @39575 has 45 MA's), (64, 39518), (80, 39452), (82, 39446),

Gene: Bipolar\_22 Start: 24352, Stop: 24173, Start Num: 56

Candidate Starts for Bipolar\_22:

(Start: 44 @24376 has 1 MA's), (Start: 56 @24352 has 10 MA's), (Start: 61 @24346 has 19 MA's), (69, 24319), (75, 24286), (90, 24190),

Gene: BirdsNest\_46 Start: 37877, Stop: 37662, Start Num: 48

Candidate Starts for BirdsNest\_46:

(Start: 48 @37877 has 3 MA's), (Start: 61 @37853 has 19 MA's), (69, 37826), (75, 37799), (88, 37733), (91, 37703),

Gene: Bishoperium\_44 Start: 38897, Stop: 38682, Start Num: 46

Candidate Starts for Bishoperium\_44:

(18, 38999), (Start: 46 @38897 has 282 MA's), (Start: 61 @38867 has 19 MA's), (73, 38822),

Gene: BlackStallion\_45 Start: 39199, Stop: 38984, Start Num: 46

Candidate Starts for BlackStallion\_45:

(Start: 46 @39199 has 282 MA's), (Start: 61 @39169 has 19 MA's), (73, 39124), (82, 39091),

Gene: Blocker23\_44 Start: 39556, Stop: 39350, Start Num: 52

Candidate Starts for Blocker23\_44:

(Start: 52 @39556 has 30 MA's), (Start: 62 @39529 has 3 MA's), (64, 39526), (77, 39472), (85, 39439),

Gene: BlueHusk\_45 Start: 38696, Stop: 38481, Start Num: 46

Candidate Starts for BlueHusk\_45:

(Start: 46 @38696 has 282 MA's), (Start: 61 @38666 has 19 MA's), (73, 38621),

Gene: Bluephacebaby\_44 Start: 38894, Stop: 38679, Start Num: 46

Candidate Starts for Bluephacebaby\_44:

(Start: 46 @38894 has 282 MA's), (Start: 61 @38864 has 19 MA's), (73, 38819),

Gene: BobbyK\_41 Start: 39202, Stop: 38996, Start Num: 47

Candidate Starts for BobbyK\_41:

(Start: 47 @39202 has 25 MA's), (Start: 61 @39181 has 19 MA's), (69, 39154), (73, 39136), (77, 39118), (84, 39088), (86, 39082),

Gene: Boehler\_45 Start: 39200, Stop: 38985, Start Num: 46

Candidate Starts for Boehler\_45:

(18, 39302), (Start: 46 @39200 has 282 MA's), (Start: 61 @39170 has 19 MA's), (73, 39125),

Gene: Bosnia\_34 Start: 29521, Stop: 29285, Start Num: 41

Candidate Starts for Bosnia\_34:

(Start: 41 @29521 has 36 MA's), (Start: 61 @29479 has 19 MA's), (78, 29416), (87, 29368), (88, 29356),

Gene: Boyle\_44 Start: 39557, Stop: 39351, Start Num: 52

Candidate Starts for Boyle\_44:

(Start: 52 @39557 has 30 MA's), (Start: 62 @39530 has 3 MA's), (64, 39527), (77, 39473), (85, 39440),

Gene: Briakila\_44 Start: 39797, Stop: 39561, Start Num: 35

Candidate Starts for Briakila\_44:

(Start: 35 @39797 has 45 MA's), (64, 39740), (80, 39674), (82, 39668),

Gene: Brilliant\_45 Start: 38905, Stop: 38690, Start Num: 46

Candidate Starts for Brilliant\_45:

(Start: 46 @38905 has 282 MA's), (Start: 61 @38875 has 19 MA's), (73, 38830), (82, 38797),

Gene: BrownCNA\_42 Start: 39463, Stop: 39257, Start Num: 47

Candidate Starts for BrownCNA\_42:

(Start: 47 @39463 has 25 MA's), (Start: 61 @39442 has 19 MA's), (69, 39415), (73, 39397), (77, 39379), (84, 39349), (86, 39343),

Gene: Brownie5\_44 Start: 39563, Stop: 39357, Start Num: 52

Candidate Starts for Brownie5\_44:

(Start: 52 @39563 has 30 MA's), (Start: 62 @39536 has 3 MA's), (64, 39533), (77, 39479), (85, 39446),

Gene: Brynnie\_25 Start: 19788, Stop: 19591, Start Num: 57

Candidate Starts for Brynnie\_25:

(Start: 57 @19788 has 4 MA's),

Gene: Buckeye\_45 Start: 39217, Stop: 39002, Start Num: 46

Candidate Starts for Buckeye\_45:

(Start: 46 @39217 has 282 MA's), (Start: 61 @39187 has 19 MA's), (73, 39142),

Gene: Budski\_39 Start: 30500, Stop: 30264, Start Num: 41

Candidate Starts for Budski\_39:

(Start: 41 @30500 has 36 MA's), (Start: 61 @30458 has 19 MA's), (68, 30437), (78, 30395), (87, 30347),

Gene: Burr\_44 Start: 38894, Stop: 38679, Start Num: 46

Candidate Starts for Burr\_44:

(Start: 46 @38894 has 282 MA's), (Start: 61 @38864 has 19 MA's), (73, 38819),

Gene: Butters\_32 Start: 26751, Stop: 26518, Start Num: 43

Candidate Starts for Butters\_32:

(20, 26826), (22, 26823), (23, 26817), (38, 26760), (Start: 43 @26751 has 4 MA's), (54, 26727), (71, 26679), (87, 26601), (94, 26529),

Gene: CRB2\_46 Start: 41727, Stop: 41521, Start Num: 46

Candidate Starts for CRB2\_46:

(Start: 46 @41727 has 282 MA's), (Start: 61 @41706 has 19 MA's), (73, 41661), (75, 41652), (86, 41607), (91, 41556),

Gene: Calamitous\_44 Start: 39443, Stop: 39237, Start Num: 52  
Candidate Starts for Calamitous\_44:  
(Start: 52 @39443 has 30 MA's), (Start: 62 @39416 has 3 MA's), (64, 39413), (77, 39359), (85, 39326),

Gene: CamL\_45 Start: 39195, Stop: 38980, Start Num: 46  
Candidate Starts for CamL\_45:  
(Start: 46 @39195 has 282 MA's), (Start: 61 @39165 has 19 MA's), (73, 39120), (82, 39087),

Gene: CampRoach\_45 Start: 39185, Stop: 38970, Start Num: 46  
Candidate Starts for CampRoach\_45:  
(18, 39287), (Start: 46 @39185 has 282 MA's), (Start: 61 @39155 has 19 MA's), (73, 39110),

Gene: Cannibal\_45 Start: 39178, Stop: 38963, Start Num: 46  
Candidate Starts for Cannibal\_45:  
(Start: 46 @39178 has 282 MA's), (Start: 61 @39148 has 19 MA's), (73, 39103), (82, 39070),

Gene: Carthage\_43 Start: 38107, Stop: 37892, Start Num: 46  
Candidate Starts for Carthage\_43:  
(Start: 46 @38107 has 282 MA's), (Start: 61 @38077 has 19 MA's), (73, 38032), (82, 37999),

Gene: Casbah\_42 Start: 38879, Stop: 38643, Start Num: 35  
Candidate Starts for Casbah\_42:  
(Start: 35 @38879 has 45 MA's), (64, 38822), (80, 38756), (82, 38750),

Gene: Catfish\_31 Start: 25984, Stop: 25784, Start Num: 61  
Candidate Starts for Catfish\_31:  
(10, 26254), (36, 26041), (Start: 61 @25984 has 19 MA's), (66, 25972), (82, 25897),

Gene: ChaChing\_43 Start: 39042, Stop: 38806, Start Num: 35  
Candidate Starts for ChaChing\_43:  
(Start: 35 @39042 has 45 MA's), (64, 38985), (80, 38919), (82, 38913),

Gene: Chaelin\_45 Start: 38892, Stop: 38677, Start Num: 46  
Candidate Starts for Chaelin\_45:  
(18, 38994), (Start: 46 @38892 has 282 MA's), (Start: 61 @38862 has 19 MA's), (73, 38817),

Gene: Chah\_46 Start: 39212, Stop: 38997, Start Num: 46  
Candidate Starts for Chah\_46:  
(18, 39314), (Start: 46 @39212 has 282 MA's), (Start: 61 @39182 has 19 MA's), (73, 39137),

Gene: Chandler\_43 Start: 39810, Stop: 39574, Start Num: 35  
Candidate Starts for Chandler\_43:  
(Start: 35 @39810 has 45 MA's), (64, 39753), (80, 39687), (82, 39681),

Gene: Charles1\_45 Start: 39180, Stop: 38965, Start Num: 46  
Candidate Starts for Charles1\_45:  
(18, 39282), (Start: 46 @39180 has 282 MA's), (Start: 61 @39150 has 19 MA's), (73, 39105),

Gene: CharlieGBrown\_44 Start: 38770, Stop: 38555, Start Num: 46  
Candidate Starts for CharlieGBrown\_44:  
(18, 38872), (Start: 46 @38770 has 282 MA's), (Start: 61 @38740 has 19 MA's), (73, 38695),

Gene: CharlottesWeb\_38 Start: 32763, Stop: 32527, Start Num: 34  
Candidate Starts for CharlottesWeb\_38:  
(27, 32778), (31, 32766), (Start: 34 @32763 has 1 MA's), (Start: 61 @32712 has 19 MA's), (64, 32706), (85, 32616),

Gene: Che9d\_28 Start: 24090, Stop: 23911, Start Num: 56  
Candidate Starts for Che9d\_28:  
(Start: 44 @24114 has 1 MA's), (Start: 56 @24090 has 10 MA's), (Start: 61 @24084 has 19 MA's), (69, 24057), (75, 24024), (90, 23928),

Gene: CheeseTouch\_37 Start: 27100, Stop: 26864, Start Num: 41  
Candidate Starts for CheeseTouch\_37:  
(Start: 41 @27100 has 36 MA's), (Start: 61 @27058 has 19 MA's), (68, 27037), (78, 26995), (87, 26947),

Gene: CheetO\_45 Start: 39194, Stop: 38979, Start Num: 46  
Candidate Starts for CheetO\_45:  
(18, 39296), (Start: 46 @39194 has 282 MA's), (Start: 61 @39164 has 19 MA's), (73, 39119),

Gene: Cher\_44 Start: 38917, Stop: 38702, Start Num: 46  
Candidate Starts for Cher\_44:  
(Start: 46 @38917 has 282 MA's), (Start: 61 @38887 has 19 MA's), (73, 38842), (82, 38809),

Gene: Childish\_44 Start: 38920, Stop: 38705, Start Num: 46  
Candidate Starts for Childish\_44:  
(Start: 46 @38920 has 282 MA's), (Start: 61 @38890 has 19 MA's), (73, 38845), (82, 38812),

Gene: Chorkpop\_45 Start: 38916, Stop: 38701, Start Num: 46  
Candidate Starts for Chorkpop\_45:  
(18, 39018), (Start: 46 @38916 has 282 MA's), (Start: 61 @38886 has 19 MA's), (73, 38841),

Gene: ChrisnMich\_40 Start: 38163, Stop: 37957, Start Num: 47  
Candidate Starts for ChrisnMich\_40:  
(Start: 47 @38163 has 25 MA's), (Start: 61 @38142 has 19 MA's), (69, 38115), (73, 38097), (77, 38079), (84, 38049), (86, 38043), (88, 38022),

Gene: Chunky\_45 Start: 39203, Stop: 38988, Start Num: 46  
Candidate Starts for Chunky\_45:  
(Start: 46 @39203 has 282 MA's), (Start: 61 @39173 has 19 MA's), (73, 39128),

Gene: Chute\_44 Start: 39241, Stop: 39026, Start Num: 46  
Candidate Starts for Chute\_44:  
(18, 39343), (Start: 46 @39241 has 282 MA's), (Start: 61 @39211 has 19 MA's), (73, 39166),

Gene: Clap\_30 Start: 25663, Stop: 25463, Start Num: 53  
Candidate Starts for Clap\_30:  
(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: Cobra\_45 Start: 39201, Stop: 38986, Start Num: 46  
Candidate Starts for Cobra\_45:  
(Start: 46 @39201 has 282 MA's), (Start: 61 @39171 has 19 MA's), (73, 39126), (82, 39093),

Gene: Coffee\_44 Start: 39546, Stop: 39340, Start Num: 52

Candidate Starts for Coffee\_44:

(Start: 52 @39546 has 30 MA's), (Start: 62 @39519 has 3 MA's), (64, 39516), (77, 39462), (85, 39429),

Gene: Colbert\_45 Start: 39256, Stop: 39041, Start Num: 46

Candidate Starts for Colbert\_45:

(Start: 46 @39256 has 282 MA's), (Start: 61 @39226 has 19 MA's), (73, 39181),

Gene: Coldpizza\_41 Start: 37616, Stop: 37404, Start Num: 48

Candidate Starts for Coldpizza\_41:

(32, 37640), (37, 37634), (Start: 48 @37616 has 3 MA's), (72, 37550), (75, 37535), (79, 37517), (84, 37496), (90, 37445),

Gene: Coletti\_44 Start: 39241, Stop: 39026, Start Num: 46

Candidate Starts for Coletti\_44:

(18, 39343), (Start: 46 @39241 has 282 MA's), (Start: 61 @39211 has 19 MA's), (73, 39166),

Gene: Compostia\_44 Start: 39458, Stop: 39222, Start Num: 35

Candidate Starts for Compostia\_44:

(Start: 35 @39458 has 45 MA's), (64, 39401), (80, 39335), (82, 39329),

Gene: Cooper\_41 Start: 38382, Stop: 38176, Start Num: 47

Candidate Starts for Cooper\_41:

(Start: 47 @38382 has 25 MA's), (Start: 61 @38361 has 19 MA's), (69, 38334), (73, 38316), (77, 38298), (84, 38268), (86, 38262),

Gene: Coral\_26 Start: 18896, Stop: 18675, Start Num: 61

Candidate Starts for Coral\_26:

(Start: 61 @18896 has 19 MA's),

Gene: Cornobble\_44 Start: 38755, Stop: 38540, Start Num: 46

Candidate Starts for Cornobble\_44:

(18, 38857), (Start: 46 @38755 has 282 MA's), (Start: 61 @38725 has 19 MA's), (73, 38680),

Gene: Corofin\_43 Start: 39053, Stop: 38817, Start Num: 35

Candidate Starts for Corofin\_43:

(Start: 35 @39053 has 45 MA's), (64, 38996), (80, 38930), (82, 38924),

Gene: Cosmolli16\_44 Start: 38905, Stop: 38690, Start Num: 46

Candidate Starts for Cosmolli16\_44:

(Start: 46 @38905 has 282 MA's), (Start: 61 @38875 has 19 MA's), (73, 38830),

Gene: Cote\_27 Start: 19041, Stop: 18820, Start Num: 61

Candidate Starts for Cote\_27:

(Start: 61 @19041 has 19 MA's),

Gene: Craff\_45 Start: 39198, Stop: 38983, Start Num: 46

Candidate Starts for Craff\_45:

(18, 39300), (Start: 46 @39198 has 282 MA's), (Start: 61 @39168 has 19 MA's), (73, 39123),

Gene: Crater\_36 Start: 28423, Stop: 28229, Start Num: 61

Candidate Starts for Crater\_36:

(Start: 41 @28465 has 36 MA's), (Start: 61 @28423 has 19 MA's), (67, 28405), (68, 28402), (78, 28360), (87, 28312), (88, 28300), (94, 28240),

Gene: Crownjwl\_45 Start: 38971, Stop: 38756, Start Num: 46

Candidate Starts for Crownjwl\_45:

(18, 39073), (Start: 46 @38971 has 282 MA's), (Start: 61 @38941 has 19 MA's), (73, 38896),

Gene: Cynthia\_30 Start: 25663, Stop: 25463, Start Num: 53

Candidate Starts for Cynthia\_30:

(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: DaddyDaniels\_45 Start: 38889, Stop: 38674, Start Num: 46

Candidate Starts for DaddyDaniels\_45:

(18, 38991), (Start: 46 @38889 has 282 MA's), (Start: 61 @38859 has 19 MA's), (73, 38814),

Gene: Daffy\_45 Start: 38920, Stop: 38705, Start Num: 46

Candidate Starts for Daffy\_45:

(Start: 46 @38920 has 282 MA's), (Start: 61 @38890 has 19 MA's), (73, 38845), (82, 38812),

Gene: Daisy\_43 Start: 39054, Stop: 38818, Start Num: 35

Candidate Starts for Daisy\_43:

(Start: 35 @39054 has 45 MA's), (64, 38997), (80, 38931), (82, 38925),

Gene: Daka\_46 Start: 39193, Stop: 38978, Start Num: 46

Candidate Starts for Daka\_46:

(Start: 46 @39193 has 282 MA's), (Start: 61 @39163 has 19 MA's), (73, 39118),

Gene: Daob\_27 Start: 19046, Stop: 18825, Start Num: 61

Candidate Starts for Daob\_27:

(Start: 61 @19046 has 19 MA's),

Gene: Dati\_45 Start: 38914, Stop: 38699, Start Num: 46

Candidate Starts for Dati\_45:

(Start: 46 @38914 has 282 MA's), (Start: 61 @38884 has 19 MA's), (73, 38839),

Gene: Deenasa\_43 Start: 39789, Stop: 39553, Start Num: 35

Candidate Starts for Deenasa\_43:

(Start: 35 @39789 has 45 MA's), (64, 39732), (80, 39666), (82, 39660),

Gene: DelRivs\_44 Start: 38915, Stop: 38700, Start Num: 46

Candidate Starts for DelRivs\_44:

(18, 39017), (Start: 46 @38915 has 282 MA's), (Start: 61 @38885 has 19 MA's), (73, 38840),

Gene: Demsculpinboyz\_28 Start: 24075, Stop: 23896, Start Num: 56

Candidate Starts for Demsculpinboyz\_28:

(Start: 44 @24099 has 1 MA's), (Start: 56 @24075 has 10 MA's), (Start: 61 @24069 has 19 MA's), (69, 24042), (75, 24009), (90, 23913),

Gene: Derpp\_44 Start: 38759, Stop: 38544, Start Num: 46

Candidate Starts for Derpp\_44:

(Start: 46 @38759 has 282 MA's), (Start: 61 @38729 has 19 MA's), (73, 38684), (82, 38651),

Gene: Devonte\_43 Start: 39018, Stop: 38782, Start Num: 35



Candidate Starts for Devonte\_43:

(Start: 35 @39018 has 45 MA's), (64, 38961), (80, 38895), (82, 38889),

Gene: Dice\_44 Start: 38894, Stop: 38679, Start Num: 46

Candidate Starts for Dice\_44:

(Start: 46 @38894 has 282 MA's), (Start: 61 @38864 has 19 MA's), (73, 38819), (82, 38786),

Gene: DigitDog\_43 Start: 39348, Stop: 39139, Start Num: 46

Candidate Starts for DigitDog\_43:

(18, 39456), (Start: 46 @39348 has 282 MA's), (Start: 61 @39333 has 19 MA's), (66, 39321),

Gene: Dingo\_45 Start: 39177, Stop: 38962, Start Num: 46

Candidate Starts for Dingo\_45:

(Start: 46 @39177 has 282 MA's), (Start: 61 @39147 has 19 MA's), (73, 39102),

Gene: Dione\_44 Start: 38899, Stop: 38684, Start Num: 46

Candidate Starts for Dione\_44:

(Start: 46 @38899 has 282 MA's), (Start: 61 @38869 has 19 MA's), (73, 38824), (82, 38791),

Gene: DirtJuice\_45 Start: 39183, Stop: 38968, Start Num: 46

Candidate Starts for DirtJuice\_45:

(Start: 46 @39183 has 282 MA's), (Start: 61 @39153 has 19 MA's), (73, 39108),

Gene: Doddsville\_45 Start: 38913, Stop: 38698, Start Num: 46

Candidate Starts for Doddsville\_45:

(18, 39015), (Start: 46 @38913 has 282 MA's), (Start: 61 @38883 has 19 MA's), (73, 38838),

Gene: DoesntMatter\_44 Start: 39186, Stop: 38971, Start Num: 46

Candidate Starts for DoesntMatter\_44:

(18, 39288), (Start: 46 @39186 has 282 MA's), (Start: 61 @39156 has 19 MA's), (73, 39111),

Gene: DonSanchon\_44 Start: 38893, Stop: 38678, Start Num: 46

Candidate Starts for DonSanchon\_44:

(18, 38995), (Start: 46 @38893 has 282 MA's), (Start: 61 @38863 has 19 MA's), (73, 38818),

Gene: Donny\_44 Start: 39653, Stop: 39444, Start Num: 46

Candidate Starts for Donny\_44:

(17, 39767), (18, 39761), (Start: 46 @39653 has 282 MA's), (Start: 61 @39638 has 19 MA's), (66, 39626), (73, 39593),

Gene: DuchessDung\_43 Start: 38047, Stop: 37832, Start Num: 46

Candidate Starts for DuchessDung\_43:

(Start: 46 @38047 has 282 MA's), (Start: 61 @38017 has 19 MA's), (73, 37972), (82, 37939),

Gene: Duggie\_44 Start: 38915, Stop: 38700, Start Num: 46

Candidate Starts for Duggie\_44:

(18, 39017), (Start: 46 @38915 has 282 MA's), (Start: 61 @38885 has 19 MA's), (73, 38840),

Gene: Durga\_45 Start: 39213, Stop: 38998, Start Num: 46

Candidate Starts for Durga\_45:

(18, 39315), (Start: 46 @39213 has 282 MA's), (Start: 61 @39183 has 19 MA's), (73, 39138),

Gene: Eaglehorse\_44 Start: 39470, Stop: 39264, Start Num: 52

Candidate Starts for Eaglehorse\_44:

(Start: 52 @39470 has 30 MA's), (Start: 62 @39443 has 3 MA's), (64, 39440), (77, 39386), (85, 39353),

Gene: EastView9101\_42 Start: 39303, Stop: 39094, Start Num: 46

Candidate Starts for EastView9101\_42:

(17, 39417), (18, 39411), (Start: 46 @39303 has 282 MA's), (Start: 61 @39288 has 19 MA's), (66, 39276), (73, 39243),

Gene: Ebert\_31 Start: 25587, Stop: 25387, Start Num: 53

Candidate Starts for Ebert\_31:

(Start: 53 @25587 has 13 MA's), (66, 25566), (69, 25551), (72, 25539), (82, 25503),

Gene: Ecliptus\_40 Start: 31004, Stop: 30768, Start Num: 41

Candidate Starts for Ecliptus\_40:

(Start: 41 @31004 has 36 MA's), (Start: 61 @30962 has 19 MA's), (68, 30941), (78, 30899), (87, 30851),

Gene: Emiris\_45 Start: 39181, Stop: 38966, Start Num: 46

Candidate Starts for Emiris\_45:

(Start: 46 @39181 has 282 MA's), (Start: 61 @39151 has 19 MA's), (73, 39106), (82, 39073),

Gene: EmpTee\_45 Start: 39193, Stop: 38978, Start Num: 46

Candidate Starts for EmpTee\_45:

(18, 39295), (Start: 46 @39193 has 282 MA's), (Start: 61 @39163 has 19 MA's), (73, 39118),

Gene: Epah\_39 Start: 38171, Stop: 37965, Start Num: 47

Candidate Starts for Epah\_39:

(Start: 47 @38171 has 25 MA's), (Start: 61 @38150 has 19 MA's), (69, 38123), (73, 38105), (77, 38087), (84, 38057), (86, 38051), (88, 38030),

Gene: Eremos\_45 Start: 39192, Stop: 38977, Start Num: 46

Candidate Starts for Eremos\_45:

(Start: 46 @39192 has 282 MA's), (Start: 61 @39162 has 19 MA's), (73, 39117),

Gene: Etaye\_45 Start: 39183, Stop: 38968, Start Num: 46

Candidate Starts for Etaye\_45:

(Start: 46 @39183 has 282 MA's), (Start: 61 @39153 has 19 MA's), (73, 39108),

Gene: Eudoria\_35 Start: 29354, Stop: 29118, Start Num: 41

Candidate Starts for Eudoria\_35:

(Start: 41 @29354 has 36 MA's), (Start: 61 @29312 has 19 MA's), (68, 29291), (78, 29249), (87, 29201), (94, 29129),

Gene: Eugenia\_45 Start: 39202, Stop: 38987, Start Num: 46

Candidate Starts for Eugenia\_45:

(18, 39304), (Start: 46 @39202 has 282 MA's), (Start: 61 @39172 has 19 MA's), (73, 39127), (82, 39094),

Gene: Evaa\_38 Start: 33917, Stop: 33678, Start Num: 48

Candidate Starts for Evaa\_38:

(32, 33941), (37, 33935), (Start: 48 @33917 has 3 MA's), (72, 33851), (90, 33746),

Gene: Eviarto\_34 Start: 29497, Stop: 29261, Start Num: 41  
Candidate Starts for Eviarto\_34:  
(Start: 41 @29497 has 36 MA's), (Start: 61 @29455 has 19 MA's), (78, 29392), (87, 29344), (88, 29332),

Gene: Fanaw\_39 Start: 38868, Stop: 38662, Start Num: 47  
Candidate Starts for Fanaw\_39:  
(Start: 47 @38868 has 25 MA's), (Start: 61 @38847 has 19 MA's), (69, 38820), (73, 38802), (77, 38784), (84, 38754), (86, 38748),

Gene: Fang\_45 Start: 39206, Stop: 38991, Start Num: 46  
Candidate Starts for Fang\_45:  
(18, 39308), (Start: 46 @39206 has 282 MA's), (Start: 61 @39176 has 19 MA's), (73, 39131),

Gene: Faze9\_43 Start: 39566, Stop: 39360, Start Num: 52  
Candidate Starts for Faze9\_43:  
(Start: 52 @39566 has 30 MA's), (Start: 62 @39539 has 3 MA's), (64, 39536), (77, 39482), (85, 39449),

Gene: FluffyNinja\_45 Start: 39199, Stop: 38984, Start Num: 46  
Candidate Starts for FluffyNinja\_45:  
(Start: 46 @39199 has 282 MA's), (Start: 61 @39169 has 19 MA's), (73, 39124), (82, 39091),

Gene: Fortunato\_41 Start: 39196, Stop: 38990, Start Num: 47  
Candidate Starts for Fortunato\_41:  
(Start: 47 @39196 has 25 MA's), (Start: 61 @39175 has 19 MA's), (69, 39148), (73, 39130), (77, 39112), (84, 39082), (86, 39076),

Gene: Fozzie\_44 Start: 39215, Stop: 39000, Start Num: 46  
Candidate Starts for Fozzie\_44:  
(Start: 46 @39215 has 282 MA's), (Start: 61 @39185 has 19 MA's), (73, 39140), (82, 39107),

Gene: Frankicide\_45 Start: 39211, Stop: 38996, Start Num: 46  
Candidate Starts for Frankicide\_45:  
(Start: 46 @39211 has 282 MA's), (Start: 61 @39181 has 19 MA's), (73, 39136), (82, 39103),

Gene: Frederick\_41 Start: 39202, Stop: 38996, Start Num: 47  
Candidate Starts for Frederick\_41:  
(Start: 47 @39202 has 25 MA's), (Start: 61 @39181 has 19 MA's), (69, 39154), (73, 39136), (77, 39118), (84, 39088), (86, 39082),

Gene: FrenchFry\_44 Start: 39560, Stop: 39354, Start Num: 52  
Candidate Starts for FrenchFry\_44:  
(Start: 52 @39560 has 30 MA's), (Start: 62 @39533 has 3 MA's), (64, 39530), (77, 39476), (85, 39443),

Gene: Freya\_44 Start: 38890, Stop: 38675, Start Num: 46  
Candidate Starts for Freya\_44:  
(Start: 46 @38890 has 282 MA's), (Start: 61 @38860 has 19 MA's), (73, 38815), (82, 38782),

Gene: FriarPreacher\_44 Start: 39217, Stop: 39002, Start Num: 46  
Candidate Starts for FriarPreacher\_44:  
(Start: 46 @39217 has 282 MA's), (Start: 61 @39187 has 19 MA's), (73, 39142),

Gene: Frickyeah\_39 Start: 28597, Stop: 28403, Start Num: 61

Candidate Starts for Frickyeah\_39:

(Start: 41 @28639 has 36 MA's), (Start: 61 @28597 has 19 MA's), (68, 28576), (78, 28534), (87, 28486),

Gene: Fringe\_45 Start: 39182, Stop: 38967, Start Num: 46

Candidate Starts for Fringe\_45:

(18, 39284), (Start: 46 @39182 has 282 MA's), (Start: 61 @39152 has 19 MA's), (73, 39107),

Gene: FugateOSU\_44 Start: 38895, Stop: 38680, Start Num: 46

Candidate Starts for FugateOSU\_44:

(Start: 46 @38895 has 282 MA's), (Start: 61 @38865 has 19 MA's), (73, 38820),

Gene: Funsized\_46 Start: 41756, Stop: 41544, Start Num: 46

Candidate Starts for Funsized\_46:

(8, 42029), (12, 41957), (33, 41783), (Start: 46 @41756 has 282 MA's), (Start: 52 @41747 has 30 MA's), (63, 41723), (69, 41702), (73, 41684), (77, 41666),

Gene: Gadjet\_44 Start: 39041, Stop: 38805, Start Num: 35

Candidate Starts for Gadjet\_44:

(Start: 35 @39041 has 45 MA's), (64, 38984), (80, 38918), (82, 38912),

Gene: Galaxy\_26 Start: 19656, Stop: 19465, Start Num: 60

Candidate Starts for Galaxy\_26:

(Start: 60 @19656 has 3 MA's),

Gene: Gareth\_44 Start: 38898, Stop: 38683, Start Num: 46

Candidate Starts for Gareth\_44:

(Start: 46 @38898 has 282 MA's), (Start: 61 @38868 has 19 MA's), (73, 38823), (82, 38790),

Gene: GemG\_30 Start: 25663, Stop: 25463, Start Num: 53

Candidate Starts for GemG\_30:

(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: GeneCoco\_45 Start: 39207, Stop: 38992, Start Num: 46

Candidate Starts for GeneCoco\_45:

(Start: 46 @39207 has 282 MA's), (Start: 61 @39177 has 19 MA's), (73, 39132), (82, 39099),

Gene: Gervas\_43 Start: 39008, Stop: 38772, Start Num: 35

Candidate Starts for Gervas\_43:

(Start: 35 @39008 has 45 MA's), (64, 38951), (80, 38885), (82, 38879),

Gene: Getalong\_40 Start: 31359, Stop: 31123, Start Num: 41

Candidate Starts for Getalong\_40:

(Start: 41 @31359 has 36 MA's), (Start: 61 @31317 has 19 MA's), (68, 31296), (78, 31254), (87, 31206),

Gene: GinPorsche\_39 Start: 38171, Stop: 37965, Start Num: 47

Candidate Starts for GinPorsche\_39:

(Start: 47 @38171 has 25 MA's), (Start: 61 @38150 has 19 MA's), (69, 38123), (73, 38105), (77, 38087), (84, 38057), (86, 38051), (88, 38030),

Gene: Giraffe\_45 Start: 38901, Stop: 38686, Start Num: 46  
Candidate Starts for Giraffe\_45:  
(18, 39003), (Start: 46 @38901 has 282 MA's), (Start: 61 @38871 has 19 MA's), (73, 38826),

Gene: Gizermo\_30 Start: 25663, Stop: 25463, Start Num: 53  
Candidate Starts for Gizermo\_30:  
(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: Glass\_44 Start: 39560, Stop: 39354, Start Num: 52  
Candidate Starts for Glass\_44:  
(Start: 52 @39560 has 30 MA's), (Start: 62 @39533 has 3 MA's), (64, 39530), (77, 39476), (85, 39443),

Gene: GlenHope\_44 Start: 39021, Stop: 38785, Start Num: 35  
Candidate Starts for GlenHope\_44:  
(Start: 35 @39021 has 45 MA's), (64, 38964), (80, 38898), (82, 38892),

Gene: Godines\_44 Start: 39502, Stop: 39296, Start Num: 52  
Candidate Starts for Godines\_44:  
(Start: 52 @39502 has 30 MA's), (Start: 62 @39475 has 3 MA's), (64, 39472), (77, 39418), (85, 39385),

Gene: Gophee\_45 Start: 39184, Stop: 38969, Start Num: 46  
Candidate Starts for Gophee\_45:  
(18, 39286), (Start: 46 @39184 has 282 MA's), (Start: 61 @39154 has 19 MA's), (73, 39109),

Gene: Grand2040\_44 Start: 38916, Stop: 38701, Start Num: 46  
Candidate Starts for Grand2040\_44:  
(Start: 46 @38916 has 282 MA's), (Start: 61 @38886 has 19 MA's), (73, 38841), (82, 38808),

Gene: Gwilliam\_46 Start: 39196, Stop: 38981, Start Num: 46  
Candidate Starts for Gwilliam\_46:  
(Start: 46 @39196 has 282 MA's), (Start: 61 @39166 has 19 MA's), (73, 39121),

Gene: Gyarad\_0045 Start: 39198, Stop: 38983, Start Num: 46  
Candidate Starts for Gyarad\_0045:  
(Start: 46 @39198 has 282 MA's), (Start: 61 @39168 has 19 MA's), (73, 39123), (82, 39090),

Gene: HSavage\_45 Start: 39202, Stop: 38987, Start Num: 46  
Candidate Starts for HSavage\_45:  
(Start: 46 @39202 has 282 MA's), (Start: 61 @39172 has 19 MA's), (73, 39127), (82, 39094),

Gene: Haimas\_45 Start: 39193, Stop: 38978, Start Num: 46  
Candidate Starts for Haimas\_45:  
(Start: 46 @39193 has 282 MA's), (Start: 61 @39163 has 19 MA's), (73, 39118),

Gene: Haleema\_44 Start: 38916, Stop: 38701, Start Num: 46  
Candidate Starts for Haleema\_44:  
(Start: 46 @38916 has 282 MA's), (Start: 61 @38886 has 19 MA's), (73, 38841), (82, 38808),

Gene: Haley23\_30 Start: 25663, Stop: 25463, Start Num: 53  
Candidate Starts for Haley23\_30:  
(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: Halfpint\_42 Start: 38847, Stop: 38611, Start Num: 35  
Candidate Starts for Halfpint\_42:  
(Start: 35 @38847 has 45 MA's), (64, 38790), (80, 38724), (82, 38718),

Gene: Hally898\_39 Start: 38183, Stop: 37977, Start Num: 47  
Candidate Starts for Hally898\_39:  
(Start: 47 @38183 has 25 MA's), (Start: 61 @38162 has 19 MA's), (69, 38135), (73, 38117), (77, 38099), (84, 38069), (86, 38063), (88, 38042),

Gene: Hamish\_45 Start: 39185, Stop: 38970, Start Num: 46  
Candidate Starts for Hamish\_45:  
(Start: 46 @39185 has 282 MA's), (Start: 61 @39155 has 19 MA's), (73, 39110),

Gene: Hangman\_40 Start: 39194, Stop: 38988, Start Num: 47  
Candidate Starts for Hangman\_40:  
(Start: 47 @39194 has 25 MA's), (Start: 61 @39173 has 19 MA's), (69, 39146), (73, 39128), (77, 39110), (84, 39080), (86, 39074),

Gene: HannahPhantana\_27 Start: 19053, Stop: 18832, Start Num: 61  
Candidate Starts for HannahPhantana\_27:  
(Start: 61 @19053 has 19 MA's),

Gene: Hartsy\_45 Start: 39236, Stop: 39021, Start Num: 46  
Candidate Starts for Hartsy\_45:  
(Start: 46 @39236 has 282 MA's), (Start: 61 @39206 has 19 MA's), (73, 39161),

Gene: Harvey\_45 Start: 39211, Stop: 38996, Start Num: 46  
Candidate Starts for Harvey\_45:  
(18, 39313), (Start: 46 @39211 has 282 MA's), (Start: 61 @39181 has 19 MA's), (73, 39136),

Gene: HarveySr\_43 Start: 39014, Stop: 38778, Start Num: 35  
Candidate Starts for HarveySr\_43:  
(Start: 35 @39014 has 45 MA's), (64, 38957), (80, 38891), (82, 38885),

Gene: Hashim76\_47 Start: 38349, Stop: 38134, Start Num: 48  
Candidate Starts for Hashim76\_47:  
(Start: 48 @38349 has 3 MA's), (Start: 61 @38325 has 19 MA's), (75, 38271), (91, 38175),

Gene: Heath\_39 Start: 38801, Stop: 38595, Start Num: 47  
Candidate Starts for Heath\_39:  
(Start: 47 @38801 has 25 MA's), (Start: 61 @38780 has 19 MA's), (69, 38753), (73, 38735), (77, 38717), (84, 38687), (86, 38681),

Gene: Heathcliff\_43 Start: 38992, Stop: 38756, Start Num: 35  
Candidate Starts for Heathcliff\_43:  
(Start: 35 @38992 has 45 MA's), (64, 38935), (80, 38869), (82, 38863),

Gene: Hedgerow\_44 Start: 39542, Stop: 39336, Start Num: 52  
Candidate Starts for Hedgerow\_44:  
(Start: 52 @39542 has 30 MA's), (Start: 62 @39515 has 3 MA's), (64, 39512), (77, 39458), (85, 39425),

Gene: Held\_45 Start: 38900, Stop: 38685, Start Num: 46  
Candidate Starts for Held\_45:  
(18, 39002), (Start: 46 @38900 has 282 MA's), (Start: 61 @38870 has 19 MA's), (73, 38825),

Gene: HenryJackson\_44 Start: 38916, Stop: 38701, Start Num: 46  
Candidate Starts for HenryJackson\_44:  
(18, 39018), (Start: 46 @38916 has 282 MA's), (Start: 61 @38886 has 19 MA's), (73, 38841),

Gene: Herod\_34 Start: 29521, Stop: 29285, Start Num: 41  
Candidate Starts for Herod\_34:  
(Start: 41 @29521 has 36 MA's), (Start: 61 @29479 has 19 MA's), (78, 29416), (87, 29368), (88, 29356),

Gene: Hertubise\_45 Start: 39207, Stop: 38992, Start Num: 46  
Candidate Starts for Hertubise\_45:  
(Start: 46 @39207 has 282 MA's), (Start: 61 @39177 has 19 MA's), (73, 39132),

Gene: Hetaeria\_45 Start: 39209, Stop: 38994, Start Num: 46  
Candidate Starts for Hetaeria\_45:  
(Start: 46 @39209 has 282 MA's), (Start: 61 @39179 has 19 MA's), (73, 39134),

Gene: HighStump\_44 Start: 38899, Stop: 38684, Start Num: 46  
Candidate Starts for HighStump\_44:  
(18, 39001), (Start: 46 @38899 has 282 MA's), (Start: 61 @38869 has 19 MA's), (73, 38824),

Gene: Hocus\_44 Start: 38905, Stop: 38690, Start Num: 46  
Candidate Starts for Hocus\_44:  
(Start: 46 @38905 has 282 MA's), (Start: 61 @38875 has 19 MA's), (73, 38830), (82, 38797),

Gene: Holeinone\_44 Start: 39422, Stop: 39216, Start Num: 52  
Candidate Starts for Holeinone\_44:  
(Start: 52 @39422 has 30 MA's), (Start: 62 @39395 has 3 MA's), (64, 39392), (77, 39338), (85, 39305),

Gene: Holliday\_38 Start: 29214, Stop: 28978, Start Num: 41  
Candidate Starts for Holliday\_38:  
(Start: 41 @29214 has 36 MA's), (Start: 61 @29172 has 19 MA's), (68, 29151), (78, 29109), (87, 29061),

Gene: Horchata\_45 Start: 39187, Stop: 38972, Start Num: 46  
Candidate Starts for Horchata\_45:  
(18, 39289), (Start: 46 @39187 has 282 MA's), (Start: 61 @39157 has 19 MA's), (73, 39112),

Gene: Horus\_39 Start: 30560, Stop: 30324, Start Num: 41  
Candidate Starts for Horus\_39:  
(Start: 41 @30560 has 36 MA's), (Start: 61 @30518 has 19 MA's), (68, 30497), (78, 30455), (87, 30407),

Gene: Hosp\_035 Start: 35180, Stop: 34983, Start Num: 46  
Candidate Starts for Hosp\_035:  
(Start: 46 @35180 has 282 MA's), (55, 35168), (69, 35141), (73, 35123),

Gene: Hugley\_32 Start: 29478, Stop: 29284, Start Num: 61

Candidate Starts for Hugley\_32:

(Start: 41 @29520 has 36 MA's), (Start: 61 @29478 has 19 MA's), (78, 29415), (87, 29367), (88, 29355),

Gene: Hydro\_40 Start: 39211, Stop: 39005, Start Num: 47

Candidate Starts for Hydro\_40:

(Start: 47 @39211 has 25 MA's), (Start: 61 @39190 has 19 MA's), (69, 39163), (73, 39145), (77, 39127), (84, 39097), (86, 39091),

Gene: ImtiyazSitla\_44 Start: 38747, Stop: 38532, Start Num: 46

Candidate Starts for ImtiyazSitla\_44:

(Start: 46 @38747 has 282 MA's), (Start: 61 @38717 has 19 MA's), (73, 38672), (82, 38639),

Gene: Imvubu\_36 Start: 35895, Stop: 35680, Start Num: 46

Candidate Starts for Imvubu\_36:

(9, 36156), (12, 36096), (Start: 46 @35895 has 282 MA's), (Start: 52 @35886 has 30 MA's), (63, 35859), (69, 35838), (73, 35820), (84, 35772), (86, 35766),

Gene: Inchworm\_45 Start: 39185, Stop: 38970, Start Num: 46

Candidate Starts for Inchworm\_45:

(18, 39287), (Start: 46 @39185 has 282 MA's), (Start: 61 @39155 has 19 MA's), (73, 39110),

Gene: Indlovu\_42 Start: 38503, Stop: 38300, Start Num: 46

Candidate Starts for Indlovu\_42:

(18, 38602), (Start: 46 @38503 has 282 MA's), (Start: 61 @38485 has 19 MA's), (69, 38458), (73, 38440), (84, 38392),

Gene: Inverness\_45 Start: 39199, Stop: 38984, Start Num: 46

Candidate Starts for Inverness\_45:

(Start: 46 @39199 has 282 MA's), (Start: 61 @39169 has 19 MA's), (73, 39124), (82, 39091),

Gene: Iridoclysis\_45 Start: 39179, Stop: 38964, Start Num: 46

Candidate Starts for Iridoclysis\_45:

(Start: 46 @39179 has 282 MA's), (Start: 61 @39149 has 19 MA's), (73, 39104),

Gene: IsaacEli\_45 Start: 39203, Stop: 38988, Start Num: 46

Candidate Starts for IsaacEli\_45:

(18, 39305), (Start: 46 @39203 has 282 MA's), (Start: 61 @39173 has 19 MA's), (73, 39128),

Gene: ItsyBitsy1\_44 Start: 39424, Stop: 39218, Start Num: 52

Candidate Starts for ItsyBitsy1\_44:

(Start: 52 @39424 has 30 MA's), (Start: 62 @39397 has 3 MA's), (64, 39394), (77, 39340), (85, 39307),

Gene: JAMaL\_40 Start: 39382, Stop: 39176, Start Num: 47

Candidate Starts for JAMaL\_40:

(Start: 47 @39382 has 25 MA's), (Start: 61 @39361 has 19 MA's), (69, 39334), (73, 39316), (77, 39298), (84, 39268), (86, 39262),

Gene: JDog\_44 Start: 38916, Stop: 38701, Start Num: 46

Candidate Starts for JDog\_44:

(Start: 46 @38916 has 282 MA's), (Start: 61 @38886 has 19 MA's), (73, 38841),



Gene: JacAttac\_45 Start: 39185, Stop: 38970, Start Num: 46  
Candidate Starts for JacAttac\_45:  
(Start: 46 @39185 has 282 MA's), (Start: 61 @39155 has 19 MA's), (73, 39110), (82, 39077),

Gene: Jackstina\_40 Start: 38951, Stop: 38715, Start Num: 35  
Candidate Starts for Jackstina\_40:  
(Start: 35 @38951 has 45 MA's), (64, 38894), (80, 38828), (82, 38822),

Gene: JaguarMi\_40 Start: 38677, Stop: 38471, Start Num: 47  
Candidate Starts for JaguarMi\_40:  
(Start: 47 @38677 has 25 MA's), (Start: 61 @38656 has 19 MA's), (69, 38629), (73, 38611), (77, 38593), (84, 38563), (86, 38557),

Gene: JakeO\_44 Start: 38918, Stop: 38703, Start Num: 46  
Candidate Starts for JakeO\_44:  
(Start: 46 @38918 has 282 MA's), (Start: 61 @38888 has 19 MA's), (73, 38843),

Gene: Jamun\_25 Start: 19385, Stop: 19188, Start Num: 57  
Candidate Starts for Jamun\_25:  
(1, 20447), (2, 20237), (3, 19964), (6, 19799), (Start: 57 @19385 has 4 MA's),

Gene: JangoPhett\_45 Start: 39187, Stop: 38972, Start Num: 46  
Candidate Starts for JangoPhett\_45:  
(Start: 46 @39187 has 282 MA's), (Start: 61 @39157 has 19 MA's), (73, 39112),

Gene: Jillium\_44 Start: 38909, Stop: 38694, Start Num: 46  
Candidate Starts for Jillium\_44:  
(Start: 46 @38909 has 282 MA's), (Start: 61 @38879 has 19 MA's), (73, 38834),

Gene: Jiminy\_44 Start: 38753, Stop: 38538, Start Num: 46  
Candidate Starts for Jiminy\_44:  
(18, 38855), (Start: 46 @38753 has 282 MA's), (Start: 61 @38723 has 19 MA's), (73, 38678),

Gene: Jiraiya\_46 Start: 38906, Stop: 38691, Start Num: 46  
Candidate Starts for Jiraiya\_46:  
(18, 39008), (Start: 46 @38906 has 282 MA's), (Start: 61 @38876 has 19 MA's), (73, 38831),

Gene: Jolie1\_037 Start: 36967, Stop: 36770, Start Num: 46  
Candidate Starts for Jolie1\_037:  
(Start: 46 @36967 has 282 MA's), (55, 36955), (64, 36949), (69, 36928), (73, 36910),

Gene: KLucky39\_45 Start: 39197, Stop: 38982, Start Num: 46  
Candidate Starts for KLucky39\_45:  
(Start: 46 @39197 has 282 MA's), (Start: 61 @39167 has 19 MA's), (73, 39122), (82, 39089),

Gene: Kahve\_44 Start: 38913, Stop: 38698, Start Num: 46  
Candidate Starts for Kahve\_44:  
(Start: 46 @38913 has 282 MA's), (Start: 61 @38883 has 19 MA's), (73, 38838),

Gene: Kailash\_45 Start: 39251, Stop: 39036, Start Num: 46  
Candidate Starts for Kailash\_45:  
(Start: 46 @39251 has 282 MA's), (Start: 61 @39221 has 19 MA's), (73, 39176),

Gene: Kaleb\_44 Start: 39557, Stop: 39351, Start Num: 52  
Candidate Starts for Kaleb\_44:  
(Start: 52 @39557 has 30 MA's), (Start: 62 @39530 has 3 MA's), (64, 39527), (77, 39473), (85, 39440),

Gene: Kamiyu\_43 Start: 39000, Stop: 38764, Start Num: 35  
Candidate Starts for Kamiyu\_43:  
(Start: 35 @39000 has 45 MA's), (64, 38943), (80, 38877), (82, 38871),

Gene: KarasumaRum\_45 Start: 39790, Stop: 39581, Start Num: 46  
Candidate Starts for KarasumaRum\_45:  
(18, 39898), (Start: 46 @39790 has 282 MA's), (Start: 61 @39775 has 19 MA's), (66, 39763),

Gene: Katniss\_45 Start: 39212, Stop: 38997, Start Num: 46  
Candidate Starts for Katniss\_45:  
(18, 39314), (Start: 46 @39212 has 282 MA's), (Start: 61 @39182 has 19 MA's), (73, 39137),

Gene: KayaCho\_37 Start: 36966, Stop: 36766, Start Num: 46  
Candidate Starts for KayaCho\_37:  
(Start: 46 @36966 has 282 MA's), (Start: 61 @36951 has 19 MA's), (69, 36924), (73, 36906),

Gene: Keitherie\_45 Start: 39250, Stop: 39035, Start Num: 46  
Candidate Starts for Keitherie\_45:  
(18, 39352), (Start: 46 @39250 has 282 MA's), (Start: 61 @39220 has 19 MA's), (73, 39175),

Gene: Kenna\_38 Start: 29550, Stop: 29314, Start Num: 41  
Candidate Starts for Kenna\_38:  
(Start: 41 @29550 has 36 MA's), (Start: 61 @29508 has 19 MA's), (68, 29487), (78, 29445), (87, 29397),

Gene: Kenuha5\_22 Start: 24468, Stop: 24289, Start Num: 56  
Candidate Starts for Kenuha5\_22:  
(Start: 44 @24492 has 1 MA's), (Start: 56 @24468 has 10 MA's), (Start: 61 @24462 has 19 MA's), (69, 24435), (75, 24402), (90, 24306),

Gene: Kersh\_23 Start: 24511, Stop: 24332, Start Num: 56  
Candidate Starts for Kersh\_23:  
(Start: 44 @24535 has 1 MA's), (Start: 56 @24511 has 10 MA's), (Start: 61 @24505 has 19 MA's), (69, 24478), (75, 24445), (90, 24349),

Gene: Kheth\_44 Start: 39445, Stop: 39239, Start Num: 52  
Candidate Starts for Kheth\_44:  
(Start: 52 @39445 has 30 MA's), (Start: 62 @39418 has 3 MA's), (64, 39415), (77, 39361), (85, 39328),

Gene: Kikipoo\_45 Start: 39203, Stop: 38988, Start Num: 46  
Candidate Starts for Kikipoo\_45:  
(18, 39305), (Start: 46 @39203 has 282 MA's), (Start: 61 @39173 has 19 MA's), (73, 39128),

Gene: Kimbrough\_45 Start: 38905, Stop: 38690, Start Num: 46  
Candidate Starts for Kimbrough\_45:  
(18, 39007), (Start: 46 @38905 has 282 MA's), (Start: 61 @38875 has 19 MA's), (73, 38830),

Gene: KingTut\_36 Start: 34574, Stop: 34359, Start Num: 46  
Candidate Starts for KingTut\_36:  
(Start: 46 @34574 has 282 MA's), (Start: 61 @34544 has 19 MA's), (73, 34499), (82, 34466),

Gene: KingVeVeVe\_45 Start: 39178, Stop: 38963, Start Num: 46  
Candidate Starts for KingVeVeVe\_45:  
(Start: 46 @39178 has 282 MA's), (Start: 61 @39148 has 19 MA's), (73, 39103),

Gene: Kita\_36 Start: 29363, Stop: 29127, Start Num: 41  
Candidate Starts for Kita\_36:  
(Start: 41 @29363 has 36 MA's), (Start: 61 @29321 has 19 MA's), (68, 29300), (78, 29258), (87, 29210), (94, 29138),

Gene: KlimbOn\_45 Start: 39191, Stop: 38976, Start Num: 46  
Candidate Starts for KlimbOn\_45:  
(Start: 46 @39191 has 282 MA's), (Start: 61 @39161 has 19 MA's), (73, 39116), (82, 39083),

Gene: Kloppinator\_45 Start: 39214, Stop: 38999, Start Num: 46  
Candidate Starts for Kloppinator\_45:  
(18, 39316), (Start: 46 @39214 has 282 MA's), (Start: 61 @39184 has 19 MA's), (73, 39139), (82, 39106),

Gene: Knocker\_45 Start: 40870, Stop: 40658, Start Num: 46  
Candidate Starts for Knocker\_45:  
(18, 40978), (Start: 46 @40870 has 282 MA's), (Start: 52 @40861 has 30 MA's), (63, 40837), (65, 40831), (69, 40816), (73, 40798),

Gene: Kronus\_42 Start: 39610, Stop: 39374, Start Num: 35  
Candidate Starts for Kronus\_42:  
(Start: 35 @39610 has 45 MA's), (64, 39553), (80, 39487), (82, 39481),

Gene: Kuleana\_27 Start: 19065, Stop: 18880, Start Num: 61  
Candidate Starts for Kuleana\_27:  
(Start: 57 @19077 has 4 MA's), (Start: 61 @19065 has 19 MA's),

Gene: Kwadwo\_44 Start: 38895, Stop: 38680, Start Num: 46  
Candidate Starts for Kwadwo\_44:  
(Start: 46 @38895 has 282 MA's), (Start: 61 @38865 has 19 MA's), (73, 38820), (82, 38787),

Gene: Kwksand96\_44 Start: 38764, Stop: 38549, Start Num: 46  
Candidate Starts for Kwksand96\_44:  
(Start: 46 @38764 has 282 MA's), (Start: 61 @38734 has 19 MA's), (73, 38689), (82, 38656),

Gene: Labeouficaum\_44 Start: 38759, Stop: 38544, Start Num: 46  
Candidate Starts for Labeouficaum\_44:  
(Start: 46 @38759 has 282 MA's), (Start: 61 @38729 has 19 MA's), (73, 38684), (82, 38651),

Gene: Lambano\_39 Start: 38183, Stop: 37977, Start Num: 47  
Candidate Starts for Lambano\_39:  
(Start: 47 @38183 has 25 MA's), (Start: 61 @38162 has 19 MA's), (69, 38135), (73, 38117), (77, 38099), (84, 38069), (86, 38063), (88, 38042),

Gene: Lars\_44 Start: 39547, Stop: 39341, Start Num: 52

Candidate Starts for Lars\_44:

(Start: 52 @39547 has 30 MA's), (Start: 62 @39520 has 3 MA's), (64, 39517), (77, 39463), (85, 39430),

Gene: LasagnaCat\_45 Start: 39197, Stop: 38982, Start Num: 46

Candidate Starts for LasagnaCat\_45:

(18, 39299), (Start: 46 @39197 has 282 MA's), (Start: 61 @39167 has 19 MA's), (73, 39122),

Gene: Lasso\_45 Start: 39170, Stop: 38955, Start Num: 46

Candidate Starts for Lasso\_45:

(Start: 46 @39170 has 282 MA's), (Start: 61 @39140 has 19 MA's), (73, 39095),

Gene: Laurie\_43 Start: 38946, Stop: 38740, Start Num: 52

Candidate Starts for Laurie\_43:

(Start: 52 @38946 has 30 MA's), (Start: 62 @38919 has 3 MA's), (64, 38916), (77, 38862), (85, 38829),

Gene: LeeLot\_45 Start: 39201, Stop: 38986, Start Num: 46

Candidate Starts for LeeLot\_45:

(18, 39303), (Start: 46 @39201 has 282 MA's), (Start: 61 @39171 has 19 MA's), (73, 39126),

Gene: Lego3393\_44 Start: 39206, Stop: 38991, Start Num: 46

Candidate Starts for Lego3393\_44:

(18, 39308), (Start: 46 @39206 has 282 MA's), (Start: 61 @39176 has 19 MA's), (73, 39131),

Gene: Legolas\_44 Start: 38911, Stop: 38696, Start Num: 46

Candidate Starts for Legolas\_44:

(Start: 46 @38911 has 282 MA's), (Start: 61 @38881 has 19 MA's), (73, 38836), (82, 38803),

Gene: LeiMonet\_46 Start: 38902, Stop: 38687, Start Num: 46

Candidate Starts for LeiMonet\_46:

(18, 39004), (Start: 46 @38902 has 282 MA's), (Start: 61 @38872 has 19 MA's), (73, 38827),

Gene: LemonSlice\_45 Start: 38898, Stop: 38683, Start Num: 46

Candidate Starts for LemonSlice\_45:

(18, 39000), (Start: 46 @38898 has 282 MA's), (Start: 61 @38868 has 19 MA's), (73, 38823),

Gene: Lephleur\_44 Start: 39440, Stop: 39234, Start Num: 52

Candidate Starts for Lephleur\_44:

(Start: 52 @39440 has 30 MA's), (Start: 62 @39413 has 3 MA's), (64, 39410), (77, 39356), (85, 39323),

Gene: Leroy\_39 Start: 30561, Stop: 30325, Start Num: 41

Candidate Starts for Leroy\_39:

(Start: 41 @30561 has 36 MA's), (Start: 61 @30519 has 19 MA's), (68, 30498), (78, 30456), (87, 30408),

Gene: LestyG\_43 Start: 39031, Stop: 38795, Start Num: 35

Candidate Starts for LestyG\_43:

(Start: 35 @39031 has 45 MA's), (64, 38974), (80, 38908), (82, 38902),

Gene: LilMcDreamy\_41 Start: 38754, Stop: 38542, Start Num: 46

Candidate Starts for LilMcDreamy\_41:

(18, 38862), (Start: 46 @38754 has 282 MA's), (Start: 61 @38736 has 19 MA's), (73, 38691), (86, 38637),

Gene: LittleMunchkin\_40 Start: 36172, Stop: 35945, Start Num: 40

Candidate Starts for LittleMunchkin\_40:

(Start: 40 @36172 has 1 MA's), (81, 36055), (86, 36031),

Gene: LizLemon\_44 Start: 39556, Stop: 39350, Start Num: 52

Candidate Starts for LizLemon\_44:

(Start: 52 @39556 has 30 MA's), (Start: 62 @39529 has 3 MA's), (64, 39526), (77, 39472), (85, 39439),

Gene: Lolalove\_40 Start: 39208, Stop: 39002, Start Num: 47

Candidate Starts for Lolalove\_40:

(Start: 47 @39208 has 25 MA's), (Start: 61 @39187 has 19 MA's), (69, 39160), (73, 39142), (77, 39124), (84, 39094), (86, 39088),

Gene: LonelyBoi\_35 Start: 30866, Stop: 30690, Start Num: 58

Candidate Starts for LonelyBoi\_35:

(Start: 58 @30866 has 1 MA's), (66, 30851), (72, 30824),

Gene: Longacauda\_44 Start: 38903, Stop: 38688, Start Num: 46

Candidate Starts for Longacauda\_44:

(Start: 46 @38903 has 282 MA's), (Start: 61 @38873 has 19 MA's), (73, 38828), (82, 38795),

Gene: Lopsy\_44 Start: 38753, Stop: 38538, Start Num: 46

Candidate Starts for Lopsy\_44:

(18, 38855), (Start: 46 @38753 has 282 MA's), (Start: 61 @38723 has 19 MA's), (73, 38678),

Gene: LostAndPhound\_44 Start: 38904, Stop: 38689, Start Num: 46

Candidate Starts for LostAndPhound\_44:

(18, 39006), (Start: 46 @38904 has 282 MA's), (Start: 61 @38874 has 19 MA's), (73, 38829),

Gene: LuckyMarjie\_44 Start: 38913, Stop: 38698, Start Num: 46

Candidate Starts for LuckyMarjie\_44:

(Start: 46 @38913 has 282 MA's), (Start: 61 @38883 has 19 MA's), (73, 38838), (82, 38805),

Gene: Lulumae\_44 Start: 38895, Stop: 38680, Start Num: 46

Candidate Starts for Lulumae\_44:

(Start: 46 @38895 has 282 MA's), (Start: 61 @38865 has 19 MA's), (73, 38820), (82, 38787),

Gene: Lulwa\_45 Start: 39182, Stop: 38967, Start Num: 46

Candidate Starts for Lulwa\_45:

(18, 39284), (Start: 46 @39182 has 282 MA's), (Start: 61 @39152 has 19 MA's), (73, 39107),

Gene: Lumine\_44 Start: 38891, Stop: 38676, Start Num: 46

Candidate Starts for Lumine\_44:

(18, 38993), (Start: 46 @38891 has 282 MA's), (Start: 61 @38861 has 19 MA's), (73, 38816),

Gene: Lunar\_27 Start: 19041, Stop: 18820, Start Num: 61

Candidate Starts for Lunar\_27:

(Start: 61 @19041 has 19 MA's),

Gene: Lutum\_39 Start: 29550, Stop: 29314, Start Num: 41

Candidate Starts for Lutum\_39:

(Start: 41 @29550 has 36 MA's), (Start: 61 @29508 has 19 MA's), (68, 29487), (78, 29445), (87, 29397),

Gene: MRabcd\_44 Start: 38895, Stop: 38680, Start Num: 46

Candidate Starts for MRabcd\_44:

(Start: 46 @38895 has 282 MA's), (Start: 61 @38865 has 19 MA's), (73, 38820), (82, 38787),

Gene: Madiba\_23 Start: 24209, Stop: 24036, Start Num: 61

Candidate Starts for Madiba\_23:

(Start: 44 @24239 has 1 MA's), (Start: 56 @24215 has 10 MA's), (Start: 61 @24209 has 19 MA's), (69, 24182), (75, 24149), (90, 24053),

Gene: Mag7\_44 Start: 38801, Stop: 38586, Start Num: 46

Candidate Starts for Mag7\_44:

(Start: 46 @38801 has 282 MA's), (Start: 61 @38771 has 19 MA's), (73, 38726),

Gene: Magic8\_45 Start: 39236, Stop: 39021, Start Num: 46

Candidate Starts for Magic8\_45:

(Start: 46 @39236 has 282 MA's), (Start: 61 @39206 has 19 MA's), (73, 39161),

Gene: Magpie\_39 Start: 39044, Stop: 38838, Start Num: 47

Candidate Starts for Magpie\_39:

(Start: 47 @39044 has 25 MA's), (Start: 61 @39023 has 19 MA's), (69, 38996), (73, 38978), (77, 38960), (84, 38930), (86, 38924),

Gene: Mana\_44 Start: 38910, Stop: 38695, Start Num: 46

Candidate Starts for Mana\_44:

(Start: 46 @38910 has 282 MA's), (Start: 61 @38880 has 19 MA's), (73, 38835), (82, 38802),

Gene: Manad\_44 Start: 38752, Stop: 38537, Start Num: 46

Candidate Starts for Manad\_44:

(18, 38854), (Start: 46 @38752 has 282 MA's), (Start: 61 @38722 has 19 MA's), (73, 38677),

Gene: Manasvini\_35 Start: 29355, Stop: 29119, Start Num: 41

Candidate Starts for Manasvini\_35:

(Start: 41 @29355 has 36 MA's), (Start: 61 @29313 has 19 MA's), (68, 29292), (78, 29250), (87, 29202), (94, 29130),

Gene: Maridalia\_34 Start: 29354, Stop: 29118, Start Num: 41

Candidate Starts for Maridalia\_34:

(Start: 41 @29354 has 36 MA's), (Start: 61 @29312 has 19 MA's), (68, 29291), (78, 29249), (87, 29201), (94, 29129),

Gene: Mariokart\_38 Start: 32762, Stop: 32526, Start Num: 34

Candidate Starts for Mariokart\_38:

(27, 32777), (31, 32765), (Start: 34 @32762 has 1 MA's), (Start: 61 @32711 has 19 MA's), (64, 32705), (85, 32615),

Gene: Marley1013\_43 Start: 39809, Stop: 39573, Start Num: 35

Candidate Starts for Marley1013\_43:

(Start: 35 @39809 has 45 MA's), (64, 39752), (80, 39686), (82, 39680),

Gene: Maru\_44 Start: 38853, Stop: 38638, Start Num: 46

Candidate Starts for Maru\_44:

(Start: 46 @38853 has 282 MA's), (Start: 61 @38823 has 19 MA's), (73, 38778), (82, 38745),

Gene: Maskar\_44 Start: 38747, Stop: 38532, Start Num: 46

Candidate Starts for Maskar\_44:

(Start: 46 @38747 has 282 MA's), (Start: 61 @38717 has 19 MA's), (73, 38672), (82, 38639),

Gene: MasterPo\_44 Start: 39443, Stop: 39237, Start Num: 52

Candidate Starts for MasterPo\_44:

(Start: 52 @39443 has 30 MA's), (Start: 62 @39416 has 3 MA's), (64, 39413), (77, 39359), (85, 39326),

Gene: Matalotodo\_45 Start: 39196, Stop: 38981, Start Num: 46

Candidate Starts for Matalotodo\_45:

(Start: 46 @39196 has 282 MA's), (Start: 61 @39166 has 19 MA's), (73, 39121),

Gene: Mcshane\_44 Start: 38893, Stop: 38678, Start Num: 46

Candidate Starts for Mcshane\_44:

(Start: 46 @38893 has 282 MA's), (Start: 61 @38863 has 19 MA's), (73, 38818), (82, 38785),

Gene: Mecca\_44 Start: 38896, Stop: 38681, Start Num: 46

Candidate Starts for Mecca\_44:

(18, 38998), (Start: 46 @38896 has 282 MA's), (Start: 61 @38866 has 19 MA's), (73, 38821),

Gene: Megamind20\_45 Start: 38918, Stop: 38703, Start Num: 46

Candidate Starts for Megamind20\_45:

(18, 39020), (Start: 46 @38918 has 282 MA's), (Start: 61 @38888 has 19 MA's), (73, 38843),

Gene: Megatron\_45 Start: 39194, Stop: 38979, Start Num: 46

Candidate Starts for Megatron\_45:

(18, 39296), (Start: 46 @39194 has 282 MA's), (Start: 61 @39164 has 19 MA's), (73, 39119),

Gene: Melc17\_45 Start: 39191, Stop: 38976, Start Num: 46

Candidate Starts for Melc17\_45:

(Start: 46 @39191 has 282 MA's), (Start: 61 @39161 has 19 MA's), (73, 39116),

Gene: Melons\_27 Start: 19041, Stop: 18820, Start Num: 61

Candidate Starts for Melons\_27:

(Start: 61 @19041 has 19 MA's),

Gene: MelsMeow\_44 Start: 38797, Stop: 38582, Start Num: 46

Candidate Starts for MelsMeow\_44:

(Start: 46 @38797 has 282 MA's), (Start: 61 @38767 has 19 MA's), (73, 38722), (82, 38689),

Gene: Mesh1\_45 Start: 39208, Stop: 38993, Start Num: 46

Candidate Starts for Mesh1\_45:

(Start: 46 @39208 has 282 MA's), (Start: 61 @39178 has 19 MA's), (73, 39133),

Gene: MichaelPhcott\_44 Start: 38798, Stop: 38583, Start Num: 46

Candidate Starts for MichaelPhcott\_44:

(Start: 46 @38798 has 282 MA's), (Start: 61 @38768 has 19 MA's), (73, 38723),

Gene: Mikota\_45 Start: 39181, Stop: 38966, Start Num: 46

Candidate Starts for Mikota\_45:

(Start: 46 @39181 has 282 MA's), (Start: 61 @39151 has 19 MA's), (73, 39106), (82, 39073),

Gene: MiniBoss\_45 Start: 39187, Stop: 38972, Start Num: 46

Candidate Starts for MiniBoss\_45:

(Start: 46 @39187 has 282 MA's), (Start: 61 @39157 has 19 MA's), (73, 39112), (82, 39079),

Gene: MitKao\_45 Start: 38902, Stop: 38687, Start Num: 46

Candidate Starts for MitKao\_45:

(18, 39004), (Start: 46 @38902 has 282 MA's), (Start: 61 @38872 has 19 MA's), (73, 38827),

Gene: Mithril\_40 Start: 39212, Stop: 39006, Start Num: 47

Candidate Starts for Mithril\_40:

(Start: 47 @39212 has 25 MA's), (Start: 61 @39191 has 19 MA's), (69, 39164), (73, 39146), (77, 39128), (84, 39098), (86, 39092),

Gene: MmasiCarm\_43 Start: 39013, Stop: 38777, Start Num: 35

Candidate Starts for MmasiCarm\_43:

(Start: 35 @39013 has 45 MA's), (64, 38956), (80, 38890), (82, 38884),

Gene: Mocha12\_30 Start: 25663, Stop: 25463, Start Num: 53

Candidate Starts for Mocha12\_30:

(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: Morgushi\_45 Start: 38903, Stop: 38688, Start Num: 46

Candidate Starts for Morgushi\_45:

(Start: 46 @38903 has 282 MA's), (Start: 61 @38873 has 19 MA's), (73, 38828), (82, 38795),

Gene: Mortcellus\_42 Start: 39665, Stop: 39429, Start Num: 35

Candidate Starts for Mortcellus\_42:

(Start: 35 @39665 has 45 MA's), (64, 39608), (80, 39542), (82, 39536),

Gene: Morty\_45 Start: 39203, Stop: 38988, Start Num: 46

Candidate Starts for Morty\_45:

(18, 39305), (Start: 46 @39203 has 282 MA's), (Start: 61 @39173 has 19 MA's), (73, 39128),

Gene: Morty007\_43 Start: 39809, Stop: 39573, Start Num: 35

Candidate Starts for Morty007\_43:

(Start: 35 @39809 has 45 MA's), (64, 39752), (80, 39686), (82, 39680),

Gene: Mosaic\_44 Start: 38908, Stop: 38693, Start Num: 46

Candidate Starts for Mosaic\_44:

(18, 39010), (Start: 46 @38908 has 282 MA's), (Start: 61 @38878 has 19 MA's), (73, 38833),

Gene: MrPhizzler\_44 Start: 38911, Stop: 38696, Start Num: 46

Candidate Starts for MrPhizzler\_44:

(Start: 46 @38911 has 282 MA's), (Start: 61 @38881 has 19 MA's), (73, 38836), (82, 38803),

Gene: Mudslide\_40 Start: 39444, Stop: 39238, Start Num: 47

Candidate Starts for Mudslide\_40:



(Start: 47 @39444 has 25 MA's), (Start: 61 @39423 has 19 MA's), (69, 39396), (73, 39378), (77, 39360), (84, 39330), (86, 39324),

Gene: Mulan\_44 Start: 38920, Stop: 38705, Start Num: 46

Candidate Starts for Mulan\_44:

(Start: 46 @38920 has 282 MA's), (Start: 61 @38890 has 19 MA's), (73, 38845),

Gene: Murdoc\_45 Start: 39195, Stop: 38980, Start Num: 46

Candidate Starts for Murdoc\_45:

(Start: 46 @39195 has 282 MA's), (Start: 61 @39165 has 19 MA's), (73, 39120), (82, 39087),

Gene: Mutante\_44 Start: 38902, Stop: 38687, Start Num: 46

Candidate Starts for Mutante\_44:

(18, 39004), (Start: 46 @38902 has 282 MA's), (Start: 61 @38872 has 19 MA's), (73, 38827),

Gene: Mysterious\_45 Start: 39920, Stop: 39711, Start Num: 46

Candidate Starts for Mysterious\_45:

(18, 40028), (Start: 46 @39920 has 282 MA's), (Start: 61 @39905 has 19 MA's), (73, 39860),

Gene: Nacho\_0045 Start: 39197, Stop: 38982, Start Num: 46

Candidate Starts for Nacho\_0045:

(18, 39299), (Start: 46 @39197 has 282 MA's), (Start: 61 @39167 has 19 MA's), (73, 39122),

Gene: Nanao\_39 Start: 38170, Stop: 37964, Start Num: 47

Candidate Starts for Nanao\_39:

(Start: 47 @38170 has 25 MA's), (Start: 61 @38149 has 19 MA's), (69, 38122), (73, 38104), (77, 38086), (84, 38056), (86, 38050), (88, 38029),

Gene: Nangang\_43 Start: 39713, Stop: 39504, Start Num: 46

Candidate Starts for Nangang\_43:

(18, 39821), (Start: 46 @39713 has 282 MA's), (Start: 61 @39698 has 19 MA's), (66, 39686),

Gene: Nehemiah\_43 Start: 39920, Stop: 39711, Start Num: 46

Candidate Starts for Nehemiah\_43:

(18, 40028), (Start: 46 @39920 has 282 MA's), (Start: 61 @39905 has 19 MA's), (73, 39860),

Gene: Neobush\_35 Start: 29354, Stop: 29118, Start Num: 41

Candidate Starts for Neobush\_35:

(Start: 41 @29354 has 36 MA's), (Start: 61 @29312 has 19 MA's), (68, 29291), (78, 29249), (87, 29201), (94, 29129),

Gene: Neos5\_43 Start: 39824, Stop: 39588, Start Num: 35

Candidate Starts for Neos5\_43:

(Start: 35 @39824 has 45 MA's), (64, 39767), (80, 39701), (82, 39695),

Gene: Newman\_45 Start: 39194, Stop: 38979, Start Num: 46

Candidate Starts for Newman\_45:

(Start: 46 @39194 has 282 MA's), (Start: 61 @39164 has 19 MA's), (73, 39119), (82, 39086),

Gene: Nicole21\_45 Start: 39192, Stop: 38977, Start Num: 46

Candidate Starts for Nicole21\_45:

(Start: 46 @39192 has 282 MA's), (Start: 61 @39162 has 19 MA's), (73, 39117),

Gene: Nigel\_39 Start: 38086, Stop: 37880, Start Num: 47

Candidate Starts for Nigel\_39:

(Start: 47 @38086 has 25 MA's), (Start: 61 @38065 has 19 MA's), (69, 38038), (73, 38020), (77, 38002), (84, 37972), (86, 37966),

Gene: Nozo\_43 Start: 39789, Stop: 39553, Start Num: 35

Candidate Starts for Nozo\_43:

(Start: 35 @39789 has 45 MA's), (64, 39732), (80, 39666), (82, 39660),

Gene: Numberten\_45 Start: 39201, Stop: 38986, Start Num: 46

Candidate Starts for Numberten\_45:

(18, 39303), (Start: 46 @39201 has 282 MA's), (Start: 61 @39171 has 19 MA's), (73, 39126),

Gene: Nyala\_44 Start: 38894, Stop: 38679, Start Num: 46

Candidate Starts for Nyala\_44:

(18, 38996), (Start: 46 @38894 has 282 MA's), (Start: 61 @38864 has 19 MA's), (73, 38819),

Gene: Nymphadora\_34 Start: 29521, Stop: 29285, Start Num: 41

Candidate Starts for Nymphadora\_34:

(Start: 41 @29521 has 36 MA's), (Start: 61 @29479 has 19 MA's), (78, 29416), (87, 29368), (88, 29356),

Gene: ODay\_42 Start: 31024, Stop: 30788, Start Num: 41

Candidate Starts for ODay\_42:

(Start: 41 @31024 has 36 MA's), (Start: 61 @30982 has 19 MA's), (68, 30961), (78, 30919), (87, 30871),

Gene: OSmaximus\_45 Start: 39236, Stop: 39021, Start Num: 46

Candidate Starts for OSmaximus\_45:

(Start: 46 @39236 has 282 MA's), (Start: 61 @39206 has 19 MA's), (73, 39161), (82, 39128),

Gene: Obutu\_43 Start: 39013, Stop: 38777, Start Num: 35

Candidate Starts for Obutu\_43:

(Start: 35 @39013 has 45 MA's), (64, 38956), (80, 38890), (82, 38884),

Gene: Ogopogo\_25 Start: 24675, Stop: 24496, Start Num: 56

Candidate Starts for Ogopogo\_25:

(Start: 44 @24699 has 1 MA's), (Start: 56 @24675 has 10 MA's), (Start: 61 @24669 has 19 MA's), (69, 24642), (75, 24609), (90, 24513),

Gene: Olak\_44 Start: 38897, Stop: 38682, Start Num: 46

Candidate Starts for Olak\_44:

(18, 38999), (Start: 46 @38897 has 282 MA's), (Start: 61 @38867 has 19 MA's), (73, 38822),

Gene: Oline\_44 Start: 38763, Stop: 38548, Start Num: 46

Candidate Starts for Oline\_44:

(18, 38865), (Start: 46 @38763 has 282 MA's), (Start: 61 @38733 has 19 MA's), (73, 38688),

Gene: Olive\_45 Start: 39184, Stop: 38969, Start Num: 46

Candidate Starts for Olive\_45:

(18, 39286), (Start: 46 @39184 has 282 MA's), (Start: 61 @39154 has 19 MA's), (73, 39109),

Gene: OliverWalter\_45 Start: 39206, Stop: 38991, Start Num: 46

Candidate Starts for OliverWalter\_45:  
(Start: 46 @39206 has 282 MA's), (Start: 61 @39176 has 19 MA's), (73, 39131),

Gene: Omniscient\_45 Start: 39203, Stop: 38988, Start Num: 46  
Candidate Starts for Omniscient\_45:  
(18, 39305), (Start: 46 @39203 has 282 MA's), (Start: 61 @39173 has 19 MA's), (73, 39128),

Gene: Oosterbaan\_45 Start: 39194, Stop: 38979, Start Num: 46  
Candidate Starts for Oosterbaan\_45:  
(Start: 46 @39194 has 282 MA's), (Start: 61 @39164 has 19 MA's), (73, 39119),

Gene: Opia\_44 Start: 39429, Stop: 39223, Start Num: 52  
Candidate Starts for Opia\_44:  
(Start: 52 @39429 has 30 MA's), (Start: 62 @39402 has 3 MA's), (64, 39399), (77, 39345), (85, 39312),

Gene: OrangeOswald\_43 Start: 39030, Stop: 38794, Start Num: 35  
Candidate Starts for OrangeOswald\_43:  
(Start: 35 @39030 has 45 MA's), (64, 38973), (80, 38907), (82, 38901),

Gene: Orcanus\_26 Start: 19951, Stop: 19748, Start Num: 61  
Candidate Starts for Orcanus\_26:  
(Start: 61 @19951 has 19 MA's),

Gene: Orfeu\_44 Start: 38902, Stop: 38687, Start Num: 46  
Candidate Starts for Orfeu\_44:  
(Start: 46 @38902 has 282 MA's), (Start: 61 @38872 has 19 MA's), (73, 38827), (82, 38794),

Gene: Orion\_45 Start: 39192, Stop: 38977, Start Num: 46  
Candidate Starts for Orion\_45:  
(18, 39294), (Start: 46 @39192 has 282 MA's), (Start: 61 @39162 has 19 MA's), (73, 39117),

Gene: Orwigg\_45 Start: 38890, Stop: 38675, Start Num: 46  
Candidate Starts for Orwigg\_45:  
(Start: 46 @38890 has 282 MA's), (Start: 61 @38860 has 19 MA's), (73, 38815),

Gene: PG1\_45 Start: 39205, Stop: 38990, Start Num: 46  
Candidate Starts for PG1\_45:  
(18, 39307), (Start: 46 @39205 has 282 MA's), (Start: 61 @39175 has 19 MA's), (73, 39130),

Gene: Pacifista\_44 Start: 38896, Stop: 38681, Start Num: 46  
Candidate Starts for Pacifista\_44:  
(Start: 46 @38896 has 282 MA's), (Start: 61 @38866 has 19 MA's), (73, 38821), (82, 38788),

Gene: PenguinLover67\_46 Start: 41013, Stop: 40795, Start Num: 46  
Candidate Starts for PenguinLover67\_46:  
(18, 41109), (Start: 46 @41013 has 282 MA's), (Start: 61 @40980 has 19 MA's), (69, 40953), (73, 40935), (91, 40830),

Gene: Periwinkle\_42 Start: 31005, Stop: 30769, Start Num: 41  
Candidate Starts for Periwinkle\_42:  
(Start: 41 @31005 has 36 MA's), (Start: 61 @30963 has 19 MA's), (68, 30942), (78, 30900), (87, 30852),

Gene: Phabuloso\_36 Start: 29262, Stop: 29026, Start Num: 41

Candidate Starts for Phabuloso\_36:

(Start: 41 @29262 has 36 MA's), (Start: 61 @29220 has 19 MA's), (68, 29199), (78, 29157), (87, 29109),

Gene: Phaedrus\_41 Start: 38950, Stop: 38714, Start Num: 35

Candidate Starts for Phaedrus\_41:

(Start: 35 @38950 has 45 MA's), (64, 38893), (80, 38827), (82, 38821),

Gene: Phamished\_45 Start: 39200, Stop: 38985, Start Num: 46

Candidate Starts for Phamished\_45:

(Start: 46 @39200 has 282 MA's), (Start: 61 @39170 has 19 MA's), (73, 39125),

Gene: Phantasmagoria\_44 Start: 39441, Stop: 39235, Start Num: 52

Candidate Starts for Phantasmagoria\_44:

(Start: 52 @39441 has 30 MA's), (Start: 62 @39414 has 3 MA's), (64, 39411), (77, 39357), (85, 39324),

Gene: Phareon\_45 Start: 38904, Stop: 38689, Start Num: 46

Candidate Starts for Phareon\_45:

(Start: 46 @38904 has 282 MA's), (Start: 61 @38874 has 19 MA's), (73, 38829), (82, 38796),

Gene: PhatCats2014\_45 Start: 39209, Stop: 38994, Start Num: 46

Candidate Starts for PhatCats2014\_45:

(18, 39311), (Start: 46 @39209 has 282 MA's), (Start: 61 @39179 has 19 MA's), (73, 39134),

Gene: PhatLouie\_45 Start: 39198, Stop: 38983, Start Num: 46

Candidate Starts for PhatLouie\_45:

(Start: 46 @39198 has 282 MA's), (Start: 61 @39168 has 19 MA's), (73, 39123),

Gene: Phayeta\_44 Start: 38895, Stop: 38659, Start Num: 35

Candidate Starts for Phayeta\_44:

(Start: 35 @38895 has 45 MA's), (64, 38838), (80, 38772), (82, 38766),

Gene: Phelemich\_43 Start: 39919, Stop: 39710, Start Num: 46

Candidate Starts for Phelemich\_43:

(18, 40027), (Start: 46 @39919 has 282 MA's), (Start: 61 @39904 has 19 MA's), (73, 39859),

Gene: PhenghisKhan\_44 Start: 38804, Stop: 38589, Start Num: 46

Candidate Starts for PhenghisKhan\_44:

(Start: 46 @38804 has 282 MA's), (Start: 61 @38774 has 19 MA's), (73, 38729),

Gene: Pherdinand\_45 Start: 39200, Stop: 38985, Start Num: 46

Candidate Starts for Pherdinand\_45:

(Start: 46 @39200 has 282 MA's), (Start: 61 @39170 has 19 MA's), (73, 39125), (82, 39092),

Gene: Phergie\_44 Start: 38795, Stop: 38580, Start Num: 46

Candidate Starts for Phergie\_44:

(Start: 46 @38795 has 282 MA's), (Start: 61 @38765 has 19 MA's), (73, 38720),

Gene: Philly\_42 Start: 38881, Stop: 38645, Start Num: 35

Candidate Starts for Philly\_42:

(Start: 35 @38881 has 45 MA's), (64, 38824), (80, 38758), (82, 38752),

Gene: Phipps\_45 Start: 39171, Stop: 38956, Start Num: 46

Candidate Starts for Phipps\_45:

(Start: 46 @39171 has 282 MA's), (Start: 61 @39141 has 19 MA's), (73, 39096),

Gene: Phistory\_39 Start: 29860, Stop: 29666, Start Num: 61

Candidate Starts for Phistory\_39:

(Start: 41 @29902 has 36 MA's), (Start: 61 @29860 has 19 MA's), (68, 29839), (78, 29797), (87, 29749),

Gene: Phleuron\_44 Start: 38801, Stop: 38586, Start Num: 46

Candidate Starts for Phleuron\_44:

(Start: 46 @38801 has 282 MA's), (Start: 61 @38771 has 19 MA's), (73, 38726),

Gene: Phlyer\_43 Start: 39769, Stop: 39533, Start Num: 35

Candidate Starts for Phlyer\_43:

(Start: 35 @39769 has 45 MA's), (64, 39712), (80, 39646), (82, 39640),

Gene: PhrankReynolds\_43 Start: 38801, Stop: 38586, Start Num: 46

Candidate Starts for PhrankReynolds\_43:

(Start: 46 @38801 has 282 MA's), (Start: 61 @38771 has 19 MA's), (73, 38726),

Gene: PhrodoBaggins\_44 Start: 39188, Stop: 38973, Start Num: 46

Candidate Starts for PhrodoBaggins\_44:

(18, 39290), (Start: 46 @39188 has 282 MA's), (Start: 61 @39158 has 19 MA's), (73, 39113),

Gene: Phunky\_45 Start: 39201, Stop: 38986, Start Num: 46

Candidate Starts for Phunky\_45:

(Start: 46 @39201 has 282 MA's), (Start: 61 @39171 has 19 MA's), (73, 39126), (82, 39093),

Gene: Piglet\_0044 Start: 39308, Stop: 39093, Start Num: 46

Candidate Starts for Piglet\_0044:

(Start: 46 @39308 has 282 MA's), (Start: 61 @39278 has 19 MA's), (73, 39233), (82, 39200),

Gene: Pine5\_39 Start: 32324, Stop: 32103, Start Num: 53

Candidate Starts for Pine5\_39:

(Start: 53 @32324 has 13 MA's), (66, 32294), (69, 32279), (86, 32210),

Gene: PinheadLarry\_45 Start: 38914, Stop: 38699, Start Num: 46

Candidate Starts for PinheadLarry\_45:

(Start: 46 @38914 has 282 MA's), (Start: 61 @38884 has 19 MA's), (73, 38839), (82, 38806),

Gene: Pinkman\_44 Start: 38757, Stop: 38542, Start Num: 46

Candidate Starts for Pinkman\_44:

(Start: 46 @38757 has 282 MA's), (Start: 61 @38727 has 19 MA's), (73, 38682), (82, 38649),

Gene: Pipefish\_45 Start: 40422, Stop: 40186, Start Num: 35

Candidate Starts for Pipefish\_45:

(Start: 35 @40422 has 45 MA's), (64, 40365), (80, 40299), (82, 40293),

Gene: Pipsqueak\_45 Start: 39199, Stop: 38984, Start Num: 46

Candidate Starts for Pipsqueak\_45:

(Start: 46 @39199 has 282 MA's), (Start: 61 @39169 has 19 MA's), (73, 39124),

Gene: Placalicious\_44 Start: 38892, Stop: 38677, Start Num: 46

Candidate Starts for Placalicious\_44:

(Start: 46 @38892 has 282 MA's), (Start: 61 @38862 has 19 MA's), (73, 38817),

Gene: Plmatters\_45 Start: 39198, Stop: 38983, Start Num: 46

Candidate Starts for Plmatters\_45:

(18, 39300), (Start: 46 @39198 has 282 MA's), (Start: 61 @39168 has 19 MA's), (73, 39123), (82, 39090),

Gene: Podrick\_45 Start: 39189, Stop: 38974, Start Num: 46

Candidate Starts for Podrick\_45:

(18, 39291), (Start: 46 @39189 has 282 MA's), (Start: 61 @39159 has 19 MA's), (73, 39114),

Gene: Polka\_26 Start: 18904, Stop: 18683, Start Num: 61

Candidate Starts for Polka\_26:

(Start: 61 @18904 has 19 MA's),

Gene: Polly\_32 Start: 28797, Stop: 28561, Start Num: 41

Candidate Starts for Polly\_32:

(Start: 41 @28797 has 36 MA's), (Start: 61 @28755 has 19 MA's), (68, 28734), (78, 28692), (87, 28644), (94, 28572),

Gene: Pollywog\_25 Start: 25545, Stop: 25366, Start Num: 56

Candidate Starts for Pollywog\_25:

(Start: 44 @25569 has 1 MA's), (Start: 56 @25545 has 10 MA's), (Start: 61 @25539 has 19 MA's), (69, 25512), (75, 25479), (90, 25383),

Gene: Pops\_45 Start: 39213, Stop: 38998, Start Num: 46

Candidate Starts for Pops\_45:

(18, 39315), (Start: 46 @39213 has 282 MA's), (Start: 61 @39183 has 19 MA's), (73, 39138), (82, 39105),

Gene: Poster\_39 Start: 38171, Stop: 37965, Start Num: 47

Candidate Starts for Poster\_39:

(Start: 47 @38171 has 25 MA's), (Start: 61 @38150 has 19 MA's), (69, 38123), (73, 38105), (77, 38087), (84, 38057), (86, 38051), (88, 38030),

Gene: Potter\_44 Start: 38913, Stop: 38698, Start Num: 46

Candidate Starts for Potter\_44:

(18, 39015), (Start: 46 @38913 has 282 MA's), (Start: 61 @38883 has 19 MA's), (73, 38838),

Gene: Prickles\_45 Start: 39189, Stop: 38974, Start Num: 46

Candidate Starts for Prickles\_45:

(Start: 46 @39189 has 282 MA's), (Start: 61 @39159 has 19 MA's), (73, 39114),

Gene: Prince\_40 Start: 39354, Stop: 39148, Start Num: 47

Candidate Starts for Prince\_40:

(Start: 47 @39354 has 25 MA's), (Start: 61 @39333 has 19 MA's), (69, 39306), (73, 39288), (77, 39270), (84, 39240), (86, 39234),

Gene: ProfessorX\_45 Start: 39184, Stop: 38969, Start Num: 46

Candidate Starts for ProfessorX\_45:

(18, 39286), (Start: 46 @39184 has 282 MA's), (Start: 61 @39154 has 19 MA's), (73, 39109),

Gene: Puhltonio\_45 Start: 39205, Stop: 38990, Start Num: 46

Candidate Starts for Puhltonio\_45:

(Start: 46 @39205 has 282 MA's), (Start: 61 @39175 has 19 MA's), (73, 39130), (82, 39097),

Gene: Purky\_30 Start: 26584, Stop: 26351, Start Num: 43

Candidate Starts for Purky\_30:

(20, 26659), (22, 26656), (23, 26650), (38, 26593), (Start: 43 @26584 has 4 MA's), (54, 26560), (71, 26512), (87, 26434), (89, 26419),

Gene: Purky\_36 Start: 28450, Stop: 28653, Start Num: 44

Candidate Starts for Purky\_36:

(Start: 44 @28450 has 1 MA's), (50, 28462), (Start: 61 @28480 has 19 MA's), (85, 28588), (87, 28600),

Gene: QueenBeane\_45 Start: 39195, Stop: 38980, Start Num: 46

Candidate Starts for QueenBeane\_45:

(Start: 46 @39195 has 282 MA's), (Start: 61 @39165 has 19 MA's), (73, 39120), (82, 39087),

Gene: QueenPie\_39 Start: 39295, Stop: 39089, Start Num: 47

Candidate Starts for QueenPie\_39:

(Start: 47 @39295 has 25 MA's), (Start: 61 @39274 has 19 MA's), (69, 39247), (73, 39229), (77, 39211), (84, 39181), (86, 39175),

Gene: Quesadilla\_46 Start: 40987, Stop: 40781, Start Num: 46

Candidate Starts for Quesadilla\_46:

(18, 41086), (Start: 46 @40987 has 282 MA's), (Start: 61 @40966 has 19 MA's), (73, 40921), (75, 40912),

Gene: Quisquilliae\_45 Start: 39223, Stop: 39008, Start Num: 46

Candidate Starts for Quisquilliae\_45:

(18, 39325), (Start: 46 @39223 has 282 MA's), (Start: 61 @39193 has 19 MA's), (73, 39148),

Gene: Qyrzula\_41 Start: 39560, Stop: 39381, Start Num: 62

Candidate Starts for Qyrzula\_41:

(Start: 52 @39587 has 30 MA's), (Start: 62 @39560 has 3 MA's), (64, 39557), (77, 39503), (85, 39470),

Gene: RagingRooster\_43 Start: 39031, Stop: 38795, Start Num: 35

Candidate Starts for RagingRooster\_43:

(Start: 35 @39031 has 45 MA's), (64, 38974), (80, 38908), (82, 38902),

Gene: RavenCo17\_36 Start: 30180, Stop: 29944, Start Num: 41

Candidate Starts for RavenCo17\_36:

(Start: 41 @30180 has 36 MA's), (Start: 61 @30138 has 19 MA's), (68, 30117), (78, 30075), (87, 30027),

Gene: RawrgerThat\_41 Start: 39199, Stop: 38993, Start Num: 47

Candidate Starts for RawrgerThat\_41:

(Start: 47 @39199 has 25 MA's), (Start: 61 @39178 has 19 MA's), (69, 39151), (73, 39133), (77, 39115), (84, 39085), (86, 39079),

Gene: RayTheFireFly\_38 Start: 29870, Stop: 29667, Start Num: 57  
Candidate Starts for RayTheFireFly\_38:  
(Start: 41 @29903 has 36 MA's), (Start: 57 @29870 has 4 MA's), (68, 29840), (76, 29807), (78, 29798), (87, 29750),

Gene: RedMaple\_44 Start: 39202, Stop: 38987, Start Num: 46  
Candidate Starts for RedMaple\_44:  
(Start: 46 @39202 has 282 MA's), (Start: 61 @39172 has 19 MA's), (73, 39127), (82, 39094),

Gene: Rem711\_6 Start: 3521, Stop: 3279, Start Num: 39  
Candidate Starts for Rem711\_6:  
(11, 3722), (21, 3584), (Start: 39 @3521 has 1 MA's), (70, 3443), (78, 3413), (83, 3398), (86, 3380),

Gene: Reprobate\_44 Start: 39924, Stop: 39715, Start Num: 46  
Candidate Starts for Reprobate\_44:  
(18, 40032), (Start: 46 @39924 has 282 MA's), (Start: 61 @39909 has 19 MA's), (73, 39864),

Gene: Rhinoforte\_44 Start: 39550, Stop: 39344, Start Num: 52  
Candidate Starts for Rhinoforte\_44:  
(Start: 52 @39550 has 30 MA's), (Start: 62 @39523 has 3 MA's), (64, 39520), (77, 39466), (85, 39433),

Gene: Rich\_42 Start: 39520, Stop: 39311, Start Num: 46  
Candidate Starts for Rich\_42:  
(Start: 46 @39520 has 282 MA's), (Start: 61 @39505 has 19 MA's), (66, 39493), (73, 39460), (82, 39427),

Gene: Ricotta\_44 Start: 38921, Stop: 38706, Start Num: 46  
Candidate Starts for Ricotta\_44:  
(Start: 46 @38921 has 282 MA's), (Start: 61 @38891 has 19 MA's), (73, 38846), (82, 38813),

Gene: Riggan\_45 Start: 39182, Stop: 38967, Start Num: 46  
Candidate Starts for Riggan\_45:  
(Start: 46 @39182 has 282 MA's), (Start: 61 @39152 has 19 MA's), (73, 39107),

Gene: Rimu\_47 Start: 38931, Stop: 38716, Start Num: 46  
Candidate Starts for Rimu\_47:  
(Start: 46 @38931 has 282 MA's), (Start: 61 @38901 has 19 MA's), (73, 38856), (82, 38823),

Gene: Rinkes\_44 Start: 40426, Stop: 40223, Start Num: 52  
Candidate Starts for Rinkes\_44:  
(Start: 52 @40426 has 30 MA's), (73, 40363),

Gene: Rita1961\_43 Start: 39014, Stop: 38778, Start Num: 35  
Candidate Starts for Rita1961\_43:  
(Start: 35 @39014 has 45 MA's), (64, 38957), (80, 38891), (82, 38885),

Gene: Robyn\_44 Start: 38766, Stop: 38551, Start Num: 46  
Candidate Starts for Robyn\_44:  
(18, 38868), (Start: 46 @38766 has 282 MA's), (Start: 61 @38736 has 19 MA's), (73, 38691),

Gene: Roliet\_45 Start: 39191, Stop: 38976, Start Num: 46



Candidate Starts for Roliet\_45:

(Start: 46 @39191 has 282 MA's), (Start: 61 @39161 has 19 MA's), (73, 39116),

Gene: RomaT\_43 Start: 39804, Stop: 39568, Start Num: 35

Candidate Starts for RomaT\_43:

(Start: 35 @39804 has 45 MA's), (64, 39747), (80, 39681), (82, 39675),

Gene: Roscoe\_46 Start: 39429, Stop: 39214, Start Num: 46

Candidate Starts for Roscoe\_46:

(18, 39531), (Start: 46 @39429 has 282 MA's), (Start: 61 @39399 has 19 MA's), (73, 39354),

Gene: Rosebush\_43 Start: 39530, Stop: 39351, Start Num: 62

Candidate Starts for Rosebush\_43:

(Start: 52 @39557 has 30 MA's), (Start: 62 @39530 has 3 MA's), (64, 39527), (77, 39473), (85, 39440),

Gene: Roy17\_45 Start: 38895, Stop: 38680, Start Num: 46

Candidate Starts for Roy17\_45:

(Start: 46 @38895 has 282 MA's), (Start: 61 @38865 has 19 MA's), (73, 38820), (82, 38787),

Gene: Rubeelu\_32 Start: 26751, Stop: 26518, Start Num: 43

Candidate Starts for Rubeelu\_32:

(20, 26826), (22, 26823), (23, 26817), (38, 26760), (Start: 43 @26751 has 4 MA's), (54, 26727), (71, 26679), (87, 26601), (94, 26529),

Gene: SDcharge11\_45 Start: 39169, Stop: 38954, Start Num: 46

Candidate Starts for SDcharge11\_45:

(18, 39271), (Start: 46 @39169 has 282 MA's), (Start: 61 @39139 has 19 MA's), (73, 39094),

Gene: Sabella\_43 Start: 39434, Stop: 39228, Start Num: 52

Candidate Starts for Sabella\_43:

(Start: 52 @39434 has 30 MA's), (Start: 62 @39407 has 3 MA's), (64, 39404), (77, 39350), (85, 39317),

Gene: Saguaro\_45 Start: 40648, Stop: 40445, Start Num: 46

Candidate Starts for Saguaro\_45:

(16, 40756), (Start: 46 @40648 has 282 MA's), (73, 40585), (75, 40576), (84, 40537),

Gene: Sahara\_29 Start: 25333, Stop: 25133, Start Num: 53

Candidate Starts for Sahara\_29:

(Start: 53 @25333 has 13 MA's), (66, 25312), (69, 25297), (72, 25285), (82, 25249),

Gene: Samaymay\_45 Start: 39195, Stop: 38980, Start Num: 46

Candidate Starts for Samaymay\_45:

(Start: 46 @39195 has 282 MA's), (Start: 61 @39165 has 19 MA's), (73, 39120), (82, 39087),

Gene: SassyCat97\_44 Start: 38901, Stop: 38686, Start Num: 46

Candidate Starts for SassyCat97\_44:

(18, 39003), (Start: 46 @38901 has 282 MA's), (Start: 61 @38871 has 19 MA's), (73, 38826),

Gene: Savage\_30 Start: 25663, Stop: 25463, Start Num: 53

Candidate Starts for Savage\_30:

(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: Sbash\_32 Start: 28849, Stop: 28601, Start Num: 43  
Candidate Starts for Sbash\_32:  
(20, 28924), (22, 28921), (23, 28915), (38, 28858), (Start: 43 @28849 has 4 MA's), (54, 28825), (87, 28699), (89, 28684), (95, 28609),

Gene: Schadenfreude\_44 Start: 38752, Stop: 38537, Start Num: 46  
Candidate Starts for Schadenfreude\_44:  
(18, 38854), (Start: 46 @38752 has 282 MA's), (Start: 61 @38722 has 19 MA's), (73, 38677),

Gene: Schueller\_45 Start: 38914, Stop: 38699, Start Num: 46  
Candidate Starts for Schueller\_45:  
(Start: 46 @38914 has 282 MA's), (Start: 61 @38884 has 19 MA's), (73, 38839),

Gene: Scoot17C\_45 Start: 39194, Stop: 38979, Start Num: 46  
Candidate Starts for Scoot17C\_45:  
(18, 39296), (Start: 46 @39194 has 282 MA's), (Start: 61 @39164 has 19 MA's), (73, 39119),

Gene: Scrick\_45 Start: 38919, Stop: 38704, Start Num: 46  
Candidate Starts for Scrick\_45:  
(18, 39021), (Start: 46 @38919 has 282 MA's), (Start: 61 @38889 has 19 MA's), (73, 38844),

Gene: Selr12\_45 Start: 38922, Stop: 38707, Start Num: 46  
Candidate Starts for Selr12\_45:  
(18, 39024), (Start: 46 @38922 has 282 MA's), (Start: 61 @38892 has 19 MA's), (73, 38847),

Gene: Serendipitous\_43 Start: 39478, Stop: 39269, Start Num: 46  
Candidate Starts for Serendipitous\_43:  
(Start: 46 @39478 has 282 MA's), (Start: 61 @39463 has 19 MA's), (73, 39418),

Gene: Serendipity\_45 Start: 39219, Stop: 39004, Start Num: 46  
Candidate Starts for Serendipity\_45:  
(Start: 46 @39219 has 282 MA's), (Start: 61 @39189 has 19 MA's), (73, 39144), (82, 39111),

Gene: Serpentine\_0045 Start: 39200, Stop: 38985, Start Num: 46  
Candidate Starts for Serpentine\_0045:  
(Start: 46 @39200 has 282 MA's), (Start: 61 @39170 has 19 MA's), (73, 39125), (82, 39092),

Gene: Shambre1\_30 Start: 22778, Stop: 22578, Start Num: 49  
Candidate Starts for Shambre1\_30:  
(Start: 49 @22778 has 3 MA's), (93, 22595),

Gene: Sheila\_45 Start: 39237, Stop: 39022, Start Num: 46  
Candidate Starts for Sheila\_45:  
(Start: 46 @39237 has 282 MA's), (Start: 61 @39207 has 19 MA's), (73, 39162), (82, 39129),

Gene: Shenyu\_43 Start: 39713, Stop: 39504, Start Num: 46  
Candidate Starts for Shenyu\_43:  
(18, 39821), (Start: 46 @39713 has 282 MA's), (Start: 61 @39698 has 19 MA's), (66, 39686),

Gene: ShiVal\_45 Start: 39193, Stop: 38978, Start Num: 46  
Candidate Starts for ShiVal\_45:  
(18, 39295), (Start: 46 @39193 has 282 MA's), (Start: 61 @39163 has 19 MA's), (73, 39118),

Gene: ShroomBoi\_22 Start: 24354, Stop: 24175, Start Num: 56  
Candidate Starts for ShroomBoi\_22:  
(Start: 44 @24378 has 1 MA's), (Start: 56 @24354 has 10 MA's), (Start: 61 @24348 has 19 MA's),  
(66, 24336), (69, 24321), (75, 24288), (90, 24192),

Gene: Sigman\_45 Start: 39185, Stop: 38970, Start Num: 46  
Candidate Starts for Sigman\_45:  
(Start: 46 @39185 has 282 MA's), (Start: 61 @39155 has 19 MA's), (73, 39110), (82, 39077),

Gene: SilverBell\_45 Start: 39215, Stop: 39000, Start Num: 46  
Candidate Starts for SilverBell\_45:  
(Start: 46 @39215 has 282 MA's), (Start: 61 @39185 has 19 MA's), (73, 39140),

Gene: Simielle\_44 Start: 38888, Stop: 38673, Start Num: 46  
Candidate Starts for Simielle\_44:  
(Start: 46 @38888 has 282 MA's), (Start: 61 @38858 has 19 MA's), (73, 38813), (82, 38780),

Gene: SirJeffery\_44 Start: 39650, Stop: 39441, Start Num: 46  
Candidate Starts for SirJeffery\_44:  
(17, 39764), (18, 39758), (Start: 46 @39650 has 282 MA's), (Start: 61 @39635 has 19 MA's), (66,  
39623), (73, 39590),

Gene: Skippy\_45 Start: 39183, Stop: 38968, Start Num: 46  
Candidate Starts for Skippy\_45:  
(18, 39285), (Start: 46 @39183 has 282 MA's), (Start: 61 @39153 has 19 MA's), (73, 39108),

Gene: Slatt\_45 Start: 39209, Stop: 38994, Start Num: 46  
Candidate Starts for Slatt\_45:  
(Start: 46 @39209 has 282 MA's), (Start: 61 @39179 has 19 MA's), (73, 39134),

Gene: Sleepyhead\_33 Start: 26741, Stop: 26493, Start Num: 41  
Candidate Starts for Sleepyhead\_33:  
(24, 26798), (Start: 41 @26741 has 36 MA's), (Start: 49 @26723 has 3 MA's), (74, 26651), (78,  
26636),

Gene: SlippinJimmy\_43 Start: 39796, Stop: 39560, Start Num: 35  
Candidate Starts for SlippinJimmy\_43:  
(Start: 35 @39796 has 45 MA's), (64, 39739), (80, 39673), (82, 39667),

Gene: Soile\_45 Start: 38912, Stop: 38697, Start Num: 46  
Candidate Starts for Soile\_45:  
(Start: 46 @38912 has 282 MA's), (Start: 61 @38882 has 19 MA's), (73, 38837), (82, 38804),

Gene: Solosis\_44 Start: 38910, Stop: 38695, Start Num: 46  
Candidate Starts for Solosis\_44:  
(Start: 46 @38910 has 282 MA's), (Start: 61 @38880 has 19 MA's), (73, 38835), (82, 38802),

Gene: Sophia\_44 Start: 38910, Stop: 38695, Start Num: 46  
Candidate Starts for Sophia\_44:  
(Start: 46 @38910 has 282 MA's), (Start: 61 @38880 has 19 MA's), (73, 38835),

Gene: Soto\_45 Start: 39203, Stop: 38988, Start Num: 46

Candidate Starts for Soto\_45:

(Start: 46 @39203 has 282 MA's), (Start: 61 @39173 has 19 MA's), (73, 39128),

Gene: Spartan300\_45 Start: 39189, Stop: 38974, Start Num: 46

Candidate Starts for Spartan300\_45:

(18, 39291), (Start: 46 @39189 has 282 MA's), (Start: 61 @39159 has 19 MA's), (73, 39114),

Gene: Spooky\_39 Start: 29741, Stop: 29508, Start Num: 49

Candidate Starts for Spooky\_39:

(26, 29801), (Start: 35 @29771 has 45 MA's), (Start: 49 @29741 has 3 MA's), (51, 29738), (59, 29723), (91, 29549), (92, 29543),

Gene: Sproutie\_30 Start: 25663, Stop: 25463, Start Num: 53

Candidate Starts for Sproutie\_30:

(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: Squid\_45 Start: 38901, Stop: 38686, Start Num: 46

Candidate Starts for Squid\_45:

(18, 39003), (Start: 46 @38901 has 282 MA's), (Start: 61 @38871 has 19 MA's), (73, 38826),

Gene: Squiddly\_40 Start: 31125, Stop: 30892, Start Num: 49

Candidate Starts for Squiddly\_40:

(26, 31185), (Start: 35 @31155 has 45 MA's), (Start: 49 @31125 has 3 MA's), (51, 31122), (59, 31107), (91, 30933), (92, 30927),

Gene: Squiggle\_45 Start: 38913, Stop: 38698, Start Num: 46

Candidate Starts for Squiggle\_45:

(18, 39015), (Start: 46 @38913 has 282 MA's), (Start: 61 @38883 has 19 MA's), (73, 38838),

Gene: StAugustine\_59 Start: 47843, Stop: 47547, Start Num: 25

Candidate Starts for StAugustine\_59:

(4, 48254), (5, 48245), (7, 48053), (13, 47951), (15, 47930), (19, 47870), (22, 47852), (25, 47843), (28, 47813), (30, 47801),

Gene: Stinger\_39 Start: 37776, Stop: 37570, Start Num: 47

Candidate Starts for Stinger\_39:

(Start: 47 @37776 has 25 MA's), (Start: 61 @37755 has 19 MA's), (64, 37749), (69, 37728), (73, 37710), (77, 37692), (84, 37662), (85, 37659), (86, 37656),

Gene: StinkyVeggy\_45 Start: 39790, Stop: 39581, Start Num: 46

Candidate Starts for StinkyVeggy\_45:

(18, 39898), (Start: 46 @39790 has 282 MA's), (Start: 61 @39775 has 19 MA's), (66, 39763),

Gene: Struggle\_44 Start: 38751, Stop: 38536, Start Num: 46

Candidate Starts for Struggle\_44:

(18, 38853), (Start: 46 @38751 has 282 MA's), (Start: 61 @38721 has 19 MA's), (73, 38676),

Gene: Suffolk\_45 Start: 39200, Stop: 38985, Start Num: 46

Candidate Starts for Suffolk\_45:

(Start: 46 @39200 has 282 MA's), (Start: 61 @39170 has 19 MA's), (73, 39125),

Gene: Suigeneris\_44 Start: 39653, Stop: 39444, Start Num: 46

Candidate Starts for Suigeneris\_44:

(17, 39767), (18, 39761), (Start: 46 @39653 has 282 MA's), (Start: 61 @39638 has 19 MA's), (66, 39626), (73, 39593),

Gene: Surely\_45 Start: 39203, Stop: 38988, Start Num: 46

Candidate Starts for Surely\_45:

(Start: 46 @39203 has 282 MA's), (Start: 61 @39173 has 19 MA's), (73, 39128),

Gene: Susceptit\_35 Start: 29355, Stop: 29119, Start Num: 41

Candidate Starts for Susceptit\_35:

(Start: 41 @29355 has 36 MA's), (Start: 61 @29313 has 19 MA's), (68, 29292), (78, 29250), (87, 29202), (94, 29130),

Gene: Swiphy\_47 Start: 39198, Stop: 38983, Start Num: 46

Candidate Starts for Swiphy\_47:

(Start: 46 @39198 has 282 MA's), (Start: 61 @39168 has 19 MA's), (73, 39123),

Gene: Swish\_45 Start: 39186, Stop: 38971, Start Num: 46

Candidate Starts for Swish\_45:

(Start: 46 @39186 has 282 MA's), (Start: 61 @39156 has 19 MA's), (73, 39111), (82, 39078),

Gene: SynergyX\_43 Start: 39031, Stop: 38795, Start Num: 35

Candidate Starts for SynergyX\_43:

(Start: 35 @39031 has 45 MA's), (64, 38974), (80, 38908), (82, 38902),

Gene: TA17A\_44 Start: 39424, Stop: 39218, Start Num: 52

Candidate Starts for TA17A\_44:

(Start: 52 @39424 has 30 MA's), (Start: 62 @39397 has 3 MA's), (64, 39394), (77, 39340), (85, 39307),

Gene: TallGrassMM\_45 Start: 38825, Stop: 38610, Start Num: 46

Candidate Starts for TallGrassMM\_45:

(Start: 46 @38825 has 282 MA's), (Start: 61 @38795 has 19 MA's), (73, 38750), (82, 38717),

Gene: TaylorSipht\_26 Start: 18969, Stop: 18775, Start Num: 61

Candidate Starts for TaylorSipht\_26:

(Start: 61 @18969 has 19 MA's),

Gene: Tayonia\_35 Start: 29354, Stop: 29118, Start Num: 41

Candidate Starts for Tayonia\_35:

(Start: 41 @29354 has 36 MA's), (Start: 61 @29312 has 19 MA's), (68, 29291), (78, 29249), (87, 29201), (94, 29129),

Gene: Telesworld\_44 Start: 38898, Stop: 38683, Start Num: 46

Candidate Starts for Telesworld\_44:

(Start: 46 @38898 has 282 MA's), (Start: 61 @38868 has 19 MA's), (73, 38823), (82, 38790),

Gene: ThetaBob\_24 Start: 24665, Stop: 24492, Start Num: 61

Candidate Starts for ThetaBob\_24:

(Start: 44 @24695 has 1 MA's), (Start: 56 @24671 has 10 MA's), (Start: 61 @24665 has 19 MA's), (69, 24638), (75, 24605), (90, 24509),

Gene: Thonko\_43 Start: 36961, Stop: 36752, Start Num: 45

Candidate Starts for Thonko\_43:

(14, 37108), (18, 37054), (Start: 45 @36961 has 1 MA's), (66, 36931), (82, 36865),

Gene: Thora\_45 Start: 39202, Stop: 38987, Start Num: 46

Candidate Starts for Thora\_45:

(Start: 46 @39202 has 282 MA's), (Start: 61 @39172 has 19 MA's), (73, 39127),

Gene: ThreeOh3D2\_45 Start: 39200, Stop: 38985, Start Num: 46

Candidate Starts for ThreeOh3D2\_45:

(18, 39302), (Start: 46 @39200 has 282 MA's), (Start: 61 @39170 has 19 MA's), (73, 39125),

Gene: Thunderbird\_44 Start: 38906, Stop: 38691, Start Num: 46

Candidate Starts for Thunderbird\_44:

(18, 39008), (Start: 46 @38906 has 282 MA's), (Start: 61 @38876 has 19 MA's), (73, 38831),

Gene: TimTam\_34 Start: 29521, Stop: 29285, Start Num: 41

Candidate Starts for TimTam\_34:

(Start: 41 @29521 has 36 MA's), (Start: 61 @29479 has 19 MA's), (78, 29416), (87, 29368), (88, 29356),

Gene: Timmi\_44 Start: 38911, Stop: 38696, Start Num: 46

Candidate Starts for Timmi\_44:

(Start: 46 @38911 has 282 MA's), (Start: 61 @38881 has 19 MA's), (73, 38836), (82, 38803),

Gene: Tinciduntolum\_45 Start: 39562, Stop: 39356, Start Num: 52

Candidate Starts for Tinciduntolum\_45:

(Start: 52 @39562 has 30 MA's), (Start: 62 @39535 has 3 MA's), (64, 39532), (77, 39478), (85, 39445),

Gene: TomBombadil\_45 Start: 39196, Stop: 38981, Start Num: 46

Candidate Starts for TomBombadil\_45:

(18, 39298), (Start: 46 @39196 has 282 MA's), (Start: 61 @39166 has 19 MA's), (73, 39121),

Gene: Tomlarah\_45 Start: 39187, Stop: 38972, Start Num: 46

Candidate Starts for Tomlarah\_45:

(18, 39289), (Start: 46 @39187 has 282 MA's), (Start: 61 @39157 has 19 MA's), (73, 39112),

Gene: Toni\_44 Start: 38903, Stop: 38688, Start Num: 46

Candidate Starts for Toni\_44:

(Start: 46 @38903 has 282 MA's), (Start: 61 @38873 has 19 MA's), (73, 38828), (82, 38795),

Gene: Tooj\_45 Start: 39260, Stop: 39045, Start Num: 46

Candidate Starts for Tooj\_45:

(Start: 46 @39260 has 282 MA's), (Start: 61 @39230 has 19 MA's), (73, 39185),

Gene: Tres\_44 Start: 39437, Stop: 39231, Start Num: 52

Candidate Starts for Tres\_44:

(Start: 52 @39437 has 30 MA's), (Start: 62 @39410 has 3 MA's), (64, 39407), (77, 39353), (85, 39320),

Gene: True\_44 Start: 38900, Stop: 38685, Start Num: 46

Candidate Starts for True\_44:

(18, 39002), (Start: 46 @38900 has 282 MA's), (Start: 61 @38870 has 19 MA's), (73, 38825),

Gene: Trumpet\_35 Start: 29355, Stop: 29119, Start Num: 41  
Candidate Starts for Trumpet\_35:  
(Start: 41 @29355 has 36 MA's), (Start: 61 @29313 has 19 MA's), (68, 29292), (78, 29250), (87, 29202), (94, 29130),

Gene: Trypo\_45 Start: 39196, Stop: 38981, Start Num: 46  
Candidate Starts for Trypo\_45:  
(18, 39298), (Start: 46 @39196 has 282 MA's), (Start: 61 @39166 has 19 MA's), (73, 39121),

Gene: TuertoX\_30 Start: 25663, Stop: 25463, Start Num: 53  
Candidate Starts for TuertoX\_30:  
(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: Tydolla\_43 Start: 39765, Stop: 39529, Start Num: 35  
Candidate Starts for Tydolla\_43:  
(Start: 35 @39765 has 45 MA's), (64, 39708), (80, 39642), (82, 39636),

Gene: TyrionL\_44 Start: 38759, Stop: 38544, Start Num: 46  
Candidate Starts for TyrionL\_44:  
(Start: 46 @38759 has 282 MA's), (Start: 61 @38729 has 19 MA's), (73, 38684), (82, 38651),

Gene: UAch1\_45 Start: 39209, Stop: 38994, Start Num: 46  
Candidate Starts for UAch1\_45:  
(Start: 46 @39209 has 282 MA's), (Start: 61 @39179 has 19 MA's), (73, 39134),

Gene: UncleHowie\_45 Start: 38899, Stop: 38684, Start Num: 46  
Candidate Starts for UncleHowie\_45:  
(18, 39001), (Start: 46 @38899 has 282 MA's), (Start: 61 @38869 has 19 MA's), (73, 38824), (82, 38791),

Gene: Usavi\_45 Start: 39200, Stop: 38985, Start Num: 46  
Candidate Starts for Usavi\_45:  
(Start: 46 @39200 has 282 MA's), (Start: 61 @39170 has 19 MA's), (73, 39125),

Gene: Vaishali24\_44 Start: 38861, Stop: 38646, Start Num: 46  
Candidate Starts for Vaishali24\_44:  
(Start: 46 @38861 has 282 MA's), (Start: 61 @38831 has 19 MA's), (73, 38786), (82, 38753),

Gene: Valjean\_45 Start: 39192, Stop: 38977, Start Num: 46  
Candidate Starts for Valjean\_45:  
(18, 39294), (Start: 46 @39192 has 282 MA's), (Start: 61 @39162 has 19 MA's), (73, 39117),

Gene: Vasanti\_31 Start: 26204, Stop: 25965, Start Num: 53  
Candidate Starts for Vasanti\_31:  
(Start: 53 @26204 has 13 MA's), (66, 26183), (69, 26168), (72, 26156), (82, 26120), (96, 25973),

Gene: Vaticameos\_41 Start: 36890, Stop: 36675, Start Num: 46  
Candidate Starts for Vaticameos\_41:  
(Start: 46 @36890 has 282 MA's), (Start: 61 @36860 has 19 MA's), (73, 36815), (82, 36782),

Gene: Veritas\_44 Start: 38762, Stop: 38547, Start Num: 46  
Candidate Starts for Veritas\_44:  
(Start: 46 @38762 has 282 MA's), (Start: 61 @38732 has 19 MA's), (73, 38687),

Gene: Vic9\_44 Start: 39943, Stop: 39737, Start Num: 52

Candidate Starts for Vic9\_44:

(Start: 52 @39943 has 30 MA's), (Start: 62 @39916 has 3 MA's), (77, 39859), (85, 39826),

Gene: Vincenzo\_41 Start: 39951, Stop: 39745, Start Num: 47

Candidate Starts for Vincenzo\_41:

(Start: 47 @39951 has 25 MA's), (Start: 61 @39930 has 19 MA's), (64, 39924), (69, 39903), (73, 39885), (75, 39876), (77, 39867), (84, 39837), (85, 39834), (86, 39831),

Gene: VioletZ\_41 Start: 39270, Stop: 39064, Start Num: 47

Candidate Starts for VioletZ\_41:

(Start: 47 @39270 has 25 MA's), (Start: 61 @39249 has 19 MA's), (69, 39222), (73, 39204), (77, 39186), (84, 39156), (86, 39150),

Gene: Virapocalypse\_45 Start: 39187, Stop: 38972, Start Num: 46

Candidate Starts for Virapocalypse\_45:

(Start: 46 @39187 has 282 MA's), (Start: 61 @39157 has 19 MA's), (73, 39112),

Gene: Virgeve\_44 Start: 38967, Stop: 38752, Start Num: 46

Candidate Starts for Virgeve\_44:

(18, 39069), (Start: 46 @38967 has 282 MA's), (Start: 61 @38937 has 19 MA's), (73, 38892),

Gene: Vista\_45 Start: 39200, Stop: 38985, Start Num: 46

Candidate Starts for Vista\_45:

(Start: 46 @39200 has 282 MA's), (Start: 61 @39170 has 19 MA's), (73, 39125),

Gene: Vivaldi\_45 Start: 39229, Stop: 39014, Start Num: 46

Candidate Starts for Vivaldi\_45:

(18, 39331), (Start: 46 @39229 has 282 MA's), (Start: 61 @39199 has 19 MA's), (73, 39154),

Gene: Vortex\_45 Start: 38906, Stop: 38691, Start Num: 46

Candidate Starts for Vortex\_45:

(Start: 46 @38906 has 282 MA's), (Start: 61 @38876 has 19 MA's), (73, 38831), (82, 38798),

Gene: Vulpecula\_25 Start: 19383, Stop: 19186, Start Num: 57

Candidate Starts for Vulpecula\_25:

(Start: 57 @19383 has 4 MA's),

Gene: Waleliano\_40 Start: 39197, Stop: 38991, Start Num: 47

Candidate Starts for Waleliano\_40:

(Start: 47 @39197 has 25 MA's), (Start: 61 @39176 has 19 MA's), (69, 39149), (73, 39131), (77, 39113), (84, 39083), (86, 39077),

Gene: Wallhey\_44 Start: 38763, Stop: 38548, Start Num: 46

Candidate Starts for Wallhey\_44:

(Start: 46 @38763 has 282 MA's), (Start: 61 @38733 has 19 MA's), (73, 38688), (82, 38655),

Gene: Waterdiva\_45 Start: 39192, Stop: 38977, Start Num: 46

Candidate Starts for Waterdiva\_45:

(Start: 46 @39192 has 282 MA's), (Start: 61 @39162 has 19 MA's), (73, 39117),

Gene: Weher20\_45 Start: 39191, Stop: 38976, Start Num: 46



Candidate Starts for Weher20\_45:

(Start: 46 @39191 has 282 MA's), (Start: 61 @39161 has 19 MA's), (73, 39116),

Gene: West99\_44 Start: 39557, Stop: 39351, Start Num: 52

Candidate Starts for West99\_44:

(Start: 52 @39557 has 30 MA's), (Start: 62 @39530 has 3 MA's), (64, 39527), (77, 39473), (85, 39440),

Gene: Whack\_33 Start: 28160, Stop: 27924, Start Num: 41

Candidate Starts for Whack\_33:

(29, 28187), (Start: 41 @28160 has 36 MA's), (83, 28040),

Gene: Whiteclaw\_30 Start: 25663, Stop: 25463, Start Num: 53

Candidate Starts for Whiteclaw\_30:

(Start: 53 @25663 has 13 MA's), (66, 25642), (69, 25627), (72, 25615), (82, 25579),

Gene: Whitney\_42 Start: 32542, Stop: 32306, Start Num: 41

Candidate Starts for Whitney\_42:

(Start: 41 @32542 has 36 MA's), (Start: 61 @32500 has 19 MA's), (68, 32479), (78, 32437), (87, 32389),

Gene: Windsor\_44 Start: 38896, Stop: 38681, Start Num: 46

Candidate Starts for Windsor\_44:

(18, 38998), (Start: 46 @38896 has 282 MA's), (Start: 61 @38866 has 19 MA's), (73, 38821),

Gene: Xavier\_44 Start: 38913, Stop: 38698, Start Num: 46

Candidate Starts for Xavier\_44:

(Start: 46 @38913 has 282 MA's), (Start: 61 @38883 has 19 MA's), (73, 38838), (82, 38805),

Gene: Xincheng\_39 Start: 38653, Stop: 38447, Start Num: 47

Candidate Starts for Xincheng\_39:

(Start: 47 @38653 has 25 MA's), (Start: 61 @38632 has 19 MA's), (69, 38605), (73, 38587), (77, 38569), (84, 38539), (86, 38533),

Gene: Yahalom\_43 Start: 39041, Stop: 38805, Start Num: 35

Candidate Starts for Yahalom\_43:

(Start: 35 @39041 has 45 MA's), (64, 38984), (80, 38918), (82, 38912),

Gene: Yinz\_43 Start: 39067, Stop: 38831, Start Num: 35

Candidate Starts for Yinz\_43:

(Start: 35 @39067 has 45 MA's), (64, 39010), (80, 38944), (82, 38938),

Gene: Yoshand\_45 Start: 39199, Stop: 38984, Start Num: 46

Candidate Starts for Yoshand\_45:

(Start: 46 @39199 has 282 MA's), (Start: 61 @39169 has 19 MA's), (73, 39124), (82, 39091),

Gene: Yoshi\_28 Start: 24080, Stop: 23901, Start Num: 56

Candidate Starts for Yoshi\_28:

(Start: 44 @24104 has 1 MA's), (Start: 56 @24080 has 10 MA's), (Start: 61 @24074 has 19 MA's), (69, 24047), (75, 24014), (90, 23918),

Gene: YouGoGlencoco\_45 Start: 39194, Stop: 38979, Start Num: 46

Candidate Starts for YouGoGlencoco\_45:

(Start: 46 @39194 has 282 MA's), (Start: 61 @39164 has 19 MA's), (73, 39119),

Gene: Zaider\_46 Start: 39424, Stop: 39209, Start Num: 46

Candidate Starts for Zaider\_46:

(Start: 46 @39424 has 282 MA's), (Start: 61 @39394 has 19 MA's), (73, 39349),

Gene: Zameen\_35 Start: 29354, Stop: 29118, Start Num: 41

Candidate Starts for Zameen\_35:

(Start: 41 @29354 has 36 MA's), (Start: 61 @29312 has 19 MA's), (68, 29291), (78, 29249), (87, 29201), (94, 29129),

Gene: Zelda\_45 Start: 39241, Stop: 39026, Start Num: 46

Candidate Starts for Zelda\_45:

(Start: 46 @39241 has 282 MA's), (Start: 61 @39211 has 19 MA's), (73, 39166),

Gene: Zemanar\_41 Start: 39200, Stop: 38994, Start Num: 47

Candidate Starts for Zemanar\_41:

(Start: 47 @39200 has 25 MA's), (Start: 61 @39179 has 19 MA's), (69, 39152), (73, 39134), (77, 39116), (84, 39086), (86, 39080),

Gene: Zenteno07\_48 Start: 38553, Stop: 38338, Start Num: 48

Candidate Starts for Zenteno07\_48:

(Start: 48 @38553 has 3 MA's), (Start: 61 @38529 has 19 MA's), (75, 38475), (91, 38379),

Gene: Zonia\_45 Start: 39213, Stop: 38998, Start Num: 46

Candidate Starts for Zonia\_45:

(Start: 46 @39213 has 282 MA's), (Start: 61 @39183 has 19 MA's), (73, 39138), (82, 39105),