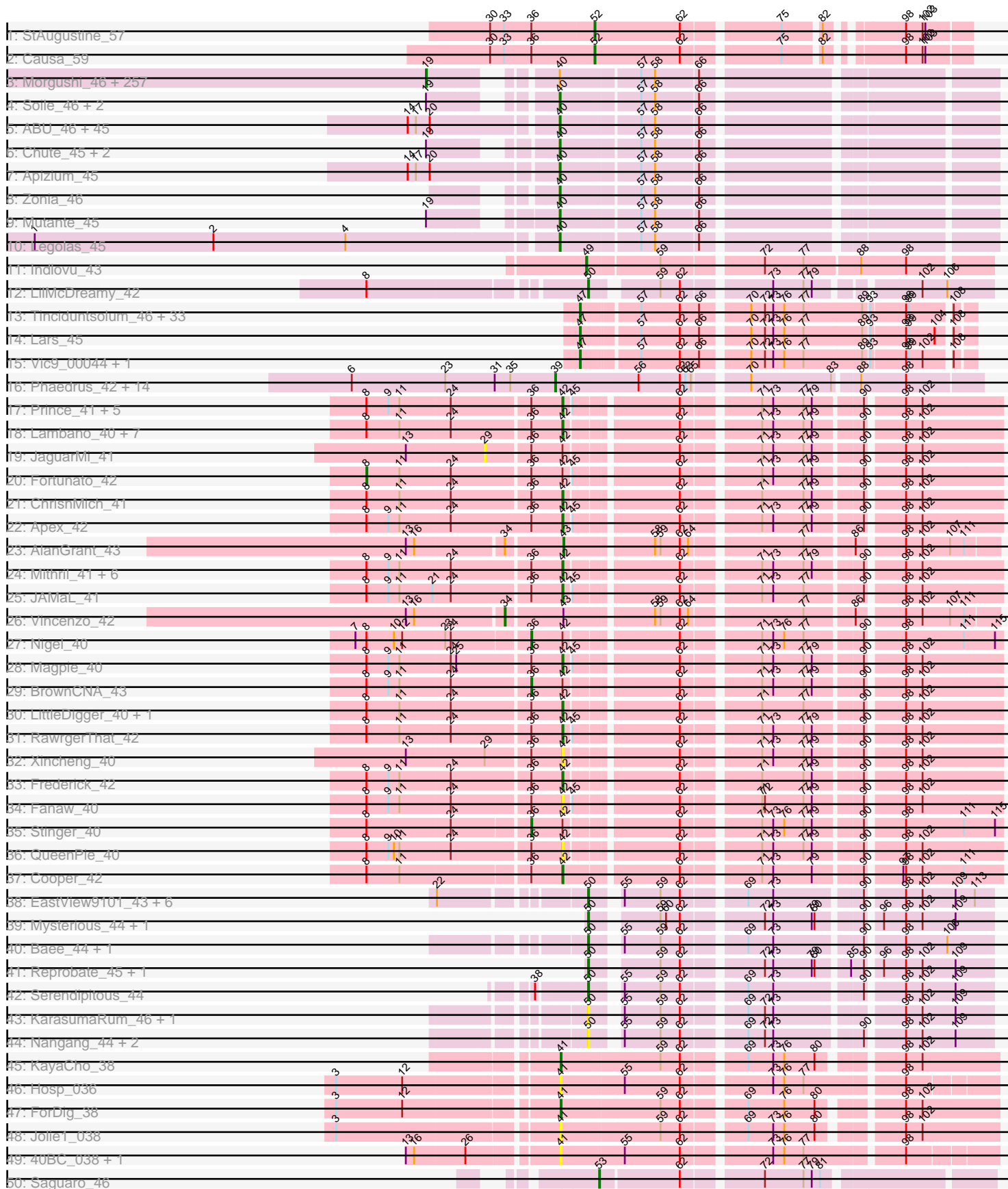


Pham 304606





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 304606 Report

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

Pham number 304606 has 470 members, 63 are drafts.

Phages represented in each track:

- Track 1 : StAugustine\_57
- Track 2 : Causa\_59
- Track 3 : Morgushi\_46, Bluephacebaby\_45, TooFast2Furius\_47, MiniBoss\_46, Hamish\_46, Spartan300\_46, Schadenfreude\_45, Beaglebox\_45, Kwadwo\_45, PhenghisKhan\_45, JangoPhett\_46, Haleema\_45, Horchata\_46, LostAndPhound\_45, Eremos\_46, Veritas\_45, Timmi\_45, Jesabah\_46, True\_45, Solosis\_45, Dice\_45, Lulumae\_45, AbsoluteMadLad\_45, Keitherie\_46, PhrankReynolds\_44, Telesworld\_45, Colbert\_46, Brilliant\_46, Charles1\_46, Cobra\_46, UAch1\_46, Quisquilliae\_46, Gwennie1\_46, Omniscient\_46, Squiggle\_46, HogWash\_46, Xavier\_45, Lulwa\_46, Phipps\_46, Wallhey\_45, OneBrain\_47, Banjo\_45, Jillium\_45, Held\_46, Slatt\_46, HenryJackson\_45, Lumine\_45, FugateOSU\_45, Vaishali24\_45, Roliet\_46, Harvey\_46, GreenChile\_46, RedRaider89\_47, Robyn\_45, Orfeu\_45, Mag7\_45, Khan1\_46, Nyala\_45, DaddyDaniels\_46, Lasso\_46, Valjean\_46, Tooj\_46, Ricotta\_45, DoesntMatter\_45, AltPhacts\_46, DonSanchon\_45, Mikota\_46, Gophee\_46, Potter\_45, Iridessa\_46, KingTut\_37, Piglet\_0045, PallasAthena\_46, Fozzie\_45, FleetyMac\_46, Scrick\_46, FremontTroll\_46, BlueHusk\_46, Waterdiva\_46, ShadowBud\_46, MRabcd\_45, Happabalu\_46, Puhltonio\_46, AngelCake\_46, Jiraiya\_45, Mesh1\_46, Aonishiki\_46, Kahve\_45, LeiMonet\_46, Kimbrough\_46, MrPhizzler\_46, PhatLouie\_46, Daka\_47, Nova1\_46, ShiVal\_46, Oosterbaan\_46, TomBombadil\_46, YouGoGlencoco\_46, Kloppinator\_46, Anderson\_46, HSavage\_46, Labeouficaum\_45, CharlieGBrown\_45, Placalicious\_45, Zaider\_47, Cosmolli16\_45, BatteryCK\_45, Struggle\_45, Caspiwai\_45, Hekos\_43, Derpp\_45, FriarPreacher\_45, Flake\_46, Soto\_46, Haimas\_46, DirtJuice\_46, Kwksand96\_45, Zelda\_46, TallGrassMM\_46, EmpTee\_46, SirBeauregard\_46, Carthage\_44, Matalotodo\_46, Podrick\_46, Cannibal\_46, Buckeye\_46, Dione\_45, Sheila\_46, Riverton\_46, Orwigg\_45, Mesmerelda\_45, Hetaeria\_46, LuckyMarjie\_45, Basato\_47, Phleuron\_45, Swiphy\_46, Usavi\_46, Pacifista\_45, Melc17\_46, Pipsqueak\_46, Chaelin\_46, Cher\_45, Burr\_45, Nathan\_46, KingVeVeVe\_46, Aleia\_46, Megamind20\_46, Chuni\_45, Roscoe\_47, Plata\_45, Vivaldi\_46, Serpentine\_0046, Murdoc\_46, SassyCat97\_45, MichaelPhcott\_45, Prickles\_46, Iridoclysis\_46, KLucky39\_46, Simielle\_45, Riggan\_46, Magic8\_46, DelRivs\_45, Weher20\_46, MitKao\_46, Numberten\_46, Boehler\_46, Maru\_45, Aelin\_45, Pops\_46, Rimu\_46, Chunky\_46, Bishoperium\_45, NiaNia\_48, Triad\_46, Mcshane\_45, Gwilliam\_46, Vortex\_46, SilverBell\_46, Chipette\_47, Olive\_46, OliverWalter\_46, SDcharge11\_46, Plmatters\_46, Oline\_45, Tomlarah\_46, Cornbread\_45, Karn\_45, Nicole21\_46, Altwerkus\_45, Manad\_45, JakeO\_45, Giraffe\_46, Hartsy\_46, Frankicide\_46, Jiminy\_45, Freya\_45, Mosaic\_45, Grand2040\_45, KlimbOn\_46, Selr12\_46,

Vaticameos\_42, Phunky\_46, Suffolk\_46, Larson\_47, Roy17\_46, Windsor\_45, Skippy\_46, Sophia\_45, Coletti\_46, UncleHowie\_46, Lopsy\_45, Eugenia\_46, Duggie\_45, Serendipity\_46, Crownjwl\_46, BoogieWoogie\_45, CamL\_46, ProfessorX\_46, Kailash\_46, Phergie\_45, Schueller\_45, Mana\_45, QueenBeane\_46, Thora\_46, Gyarad\_0046, BlacksBerry\_45, Olak\_45, Dingo\_46, Cornobble\_45, LeeLot\_46, Taraxa\_46, GeneCoco\_46, Samaymay\_46, PinheadLarry\_46, Doddsville\_46, Phareon\_46, Longacauda\_45, Mecca\_45, Thunderbird\_45, Pinkman\_45, Etaye\_46, Virgeve\_45, Toni\_45, Surely\_46, TyrionL\_45, Vista\_46, Chorkpop\_46, Childish\_45, Inverness\_46, Virapocalypse\_46, Newman\_46, Hocus\_45, CheetO\_46, LemonSlice\_46, Squid\_46, Daffy\_46, Antonia\_45, Hertubise\_46

- Track 4 : Soile\_46, Lehmann\_46, Gareth\_45
- Track 5 : ABU\_46, Badfish\_46, LasagnaCat\_46, Yoshand\_46, Katniss\_46, Orion\_46, Scoot17C\_46, Emiris\_46, Megatron\_46, Swish\_46, IsaacEli\_46, PhatCats2014\_46, JacAttac\_46, Phamished\_46, HighStump\_45, SallyH\_46, CampRoach\_46, Fang\_46, Craff\_46, Maskar\_45, Fringe\_46, Adriana\_46, DuchessDung\_44, PG1\_46, RedMaple\_45, DoIOn\_48, Mulan\_45, Nacho\_0046, OSmaximus\_46, Inchworm\_46, FluffyNinja\_46, Chah\_47, BlackStallion\_46, Pherdinand\_46, ThreeOh3D2\_46, Morty\_46, Ashraf\_45, ImtiyazSitla\_45, PhrodoBaggins\_45, Trypo\_46, ElvisPhasley\_46, MelsMeow\_45, Kikipoo\_46, Sigman\_46, Durga\_46, Andre\_46
- Track 6 : Chute\_45, JDog\_45, Dati\_46
- Track 7 : Apizium\_45
- Track 8 : Zonia\_46
- Track 9 : Mutante\_45
- Track 10 : Legolas\_45
- Track 11 : Indlovu\_43
- Track 12 : LilMcDreamy\_42
- Track 13 : Tinciduntolum\_46, Hedgerow\_45, TA17A\_46, LilSmirk\_45, Boyle\_45, Eaglehorse\_45, Arbiter\_44, Ares\_45, MasterPo\_45, FrenchFry\_45, Bananafish\_45, Blocker23\_45, Tres\_45, Holeinone\_45, Sabella\_44, PrinceCharming\_45, Allegro\_45, Glass\_45, Lephleur\_45, ItsyBitsy1\_45, Kheth\_45, Kaleb\_45, Phantasmagoria\_45, LizLemon\_45, Brownie5\_45, Calamitous\_45, Faze9\_44, West99\_45, Coffee\_45, Kolhan\_45, Godines\_45, Rhinoforte\_45, Rosebush\_44, Opia\_45
- Track 14 : Lars\_45
- Track 15 : Vic9\_00044, Laurie\_44
- Track 16 : Phaedruss\_42, Marlia\_44, Olivio\_43, Morty007\_44, Halfpint\_43, Chandler\_44, Shenandoah\_44, Mulaychimus\_44, Jackstina\_41, Phayeta\_45, Casbah\_43, Akoma\_44, Tydolla\_44, SlippinJimmy\_44, Audrey\_44
- Track 17 : Prince\_41, Zemanar\_42, VioletZ\_42, JoyceMaria\_41, Austelle\_42, Lolalove\_41
- Track 18 : Lambano\_40, Epah\_40, GinPorsche\_41, Hally898\_40, Antihero\_40, Nanao\_40, Ahwei\_40, Poster\_40
- Track 19 : JaguarMi\_41
- Track 20 : Fortunato\_42
- Track 21 : ChrisnMich\_41
- Track 22 : Apex\_42
- Track 23 : AlanGrant\_43
- Track 24 : Mithril\_41, Hydro\_41, Heath\_40, BobbyK\_42, Waleliano\_41, Mudslide\_41, Hangman\_41
- Track 25 : JAMaL\_41
- Track 26 : Vincenzo\_42
- Track 27 : Nigel\_40

- Track 28 : Magpie\_40
- Track 29 : BrownCNA\_43
- Track 30 : LittleDigger\_40, Renkei\_40
- Track 31 : RawrgerThat\_42
- Track 32 : Xincheng\_40
- Track 33 : Frederick\_42
- Track 34 : Fanaw\_40
- Track 35 : Stinger\_40
- Track 36 : QueenPie\_40
- Track 37 : Cooper\_42
- Track 38 : EastView9101\_43, SirJeffery\_45, Rita130\_45, Acadian\_45, Reccee\_45, Donny\_45, Suigeneris\_45
- Track 39 : Mysterious\_44, Nehemiah\_44
- Track 40 : Bae\_44, Rich\_43
- Track 41 : Reprobate\_45, Phelemich\_44
- Track 42 : Serendipitous\_44
- Track 43 : KarasumaRum\_46, StinkyVeggy\_46
- Track 44 : Nangang\_44, Shenyu\_44, DigitDog\_44
- Track 45 : KayaCho\_38
- Track 46 : Hosp\_036
- Track 47 : ForDig\_38
- Track 48 : Jolie1\_038
- Track 49 : 40BC\_038, 39HC\_038
- Track 50 : Saguaro\_46
- Track 51 : Thonko\_44
- Track 52 : CRB2\_47
- Track 53 : Rinkes\_45
- Track 54 : Funsized\_47
- Track 55 : Knocker\_46
- Track 56 : Quesadilla\_47
- Track 57 : TraderJ\_41, Yeshua\_41, Wooper\_41
- Track 58 : Axumite\_39, Shatter\_39, Ligma\_39, Fresco\_39
- Track 59 : MossRose\_41, MakoManhole\_41, AnarQue\_41, Blackpen\_41
- Track 60 : Mariokart\_39
- Track 61 : Coldpizza\_42
- Track 62 : Sour\_44
- Track 63 : CaiB\_41
- Track 64 : BiggityBass\_39
- Track 65 : NHagos\_39
- Track 66 : Evaa\_39
- Track 67 : AnClar\_40, Yago84\_39, Sisko\_39
- Track 68 : FelixTres\_41, CloverMinnie\_41
- Track 69 : JellyBelly\_39, CharlottesWeb\_39
- Track 70 : LittleMunchkin\_41
- Track 71 : BobRoss2024\_38
- Track 72 : AksarBAT\_39

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

The start number called the most often in the published annotations is 19, it was called in 235 of the 407 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbsoluteMadLad\_45, Aelin\_45, Aleia\_46, AltPhacts\_46, Altwerkus\_45, Anderson\_46, AngelCake\_46, Antonia\_45, Aonishiki\_46, Banjo\_45, Basato\_47, BatteryCK\_45, Beaglebox\_45, Bishoperium\_45, Blackberry\_45, BlueHusk\_46, Bluephacebaby\_45, Boehler\_46, BoogieWoogie\_45, Brilliant\_46, Buckeye\_46, Burr\_45, CamL\_46, Cannibal\_46, Carthage\_44, Caspiboi\_45, Chaelin\_46, Charles1\_46, CharlieGBrown\_45, CheetO\_46, Cher\_45, Childish\_45, Chipette\_47, Chorkpop\_46, Chuni\_45, Chunky\_46, Cobra\_46, Colbert\_46, Coletti\_46, Cornbread\_45, Cornobble\_45, Cosmolli16\_45, Crownjwl\_46, DaddyDaniels\_46, Daffy\_46, Daka\_47, DelRivs\_45, Derpp\_45, Dice\_45, Dingo\_46, Dione\_45, DirtJuice\_46, Doddsville\_46, DoesntMatter\_45, DonSancho\_45, Duggie\_45, EmpTee\_46, Eremos\_46, Etaye\_46, Eugenia\_46, Flake\_46, FleetyMac\_46, Fozzie\_45, Frankicide\_46, FremontTroll\_46, Freya\_45, FriarPreacher\_45, FugateOSU\_45, GeneCoco\_46, Giraffe\_46, Gophee\_46, Grand2040\_45, GreenChile\_46, Gwennie1\_46, Gwilliam\_46, Gyarad\_0046, HSavage\_46, Haimas\_46, Haleema\_45, Hamish\_46, Happabalu\_46, Hartsy\_46, Harvey\_46, Hekos\_43, Held\_46, HenryJackson\_45, Hertubise\_46, Hetaeria\_46, Hocus\_45, HogWash\_46, Horchata\_46, Inverness\_46, Iridessa\_46, Iridoclysis\_46, JakeO\_45, JangoPhett\_46, Jesabah\_46, Jillium\_45, Jiminy\_45, Jiraiya\_45, KLucky39\_46, Kahve\_45, Kailash\_46, Karn\_45, Keitherie\_46, Khan1\_46, Kimbrough\_46, KingTut\_37, KingVeVeVe\_46, KlimbOn\_46, Kloppinator\_46, Kwadwo\_45, Kwksand96\_45, Labeouficaum\_45, Larson\_47, Lasso\_46, LeeLot\_46, LeiMonet\_46, LemonSlice\_46, Longacauda\_45, Lopsy\_45, LostAndPhound\_45, LuckyMarjie\_45, Lulumae\_45, Lulwa\_46, Lumine\_45, MRabcd\_45, Mag7\_45, Magic8\_46, Mana\_45, Manad\_45, Maru\_45, Matalotodo\_46, Mcshane\_45, Mecca\_45, Megamind20\_46, Melc17\_46, Mesh1\_46, Mesmerelda\_45, MichaelPhcott\_45, Mikota\_46, MiniBoss\_46, MitKao\_46, Morgushi\_46, Mosaic\_45, MrPhizzler\_46, Murdoc\_46, Nathan\_46, Newman\_46, NiaNia\_48, Nicole21\_46, Nova1\_46, Numberten\_46, Nyala\_45, Olak\_45, Oline\_45, Olive\_46, OliverWalter\_46, Omniscient\_46, OneBrain\_47, Oosterbaan\_46, Orfeu\_45, Orwigg\_45, Pacifista\_45, PallasAthena\_46, Phareon\_46, PhatLouie\_46, PhenghisKhan\_45, Phergie\_45, Phipps\_46, Phleuron\_45, PhrankReynolds\_44, Phunky\_46, Piglet\_0045, PinheadLarry\_46, Pinkman\_45, Pipsqueak\_46, Placalicious\_45, Plata\_45, Plmatters\_46, Podrick\_46, Pops\_46, Potter\_45, Prickles\_46, ProfessorX\_46, Puhltonio\_46, QueenBeane\_46, Quisquillae\_46, RedRaider89\_47, Ricotta\_45, Riggan\_46, Rimu\_46, Riverton\_46, Robyn\_45, Roliet\_46, Roscoe\_47, Roy17\_46, SDcharge11\_46, Samaymay\_46, SassyCat97\_45, Schadenfreude\_45, Schueller\_45, Scrick\_46, Selr12\_46, Serendipity\_46, Serpentine\_0046, ShadowBud\_46, Sheila\_46, ShiVal\_46, SilverBell\_46, Simielle\_45, SirBeauregard\_46, Skippy\_46, Slatt\_46, Solosis\_45, Sophia\_45, Soto\_46, Spartan300\_46, Squid\_46, Squiggle\_46, Struggle\_45, Suffolk\_46, Surely\_46, Swiphy\_46, TallGrassMM\_46, Taraxa\_46, Telesworld\_45, Thora\_46, Thunderbird\_45, Timmi\_45, TomBombadil\_46, Tomlarah\_46, Toni\_45, TooFast2Furius\_47, Tooj\_46, Triad\_46, True\_45, TyrionL\_45, UAch1\_46, UncleHowie\_46, Usavi\_46, Vaishali24\_45, Valjean\_46, Vaticameos\_42, Veritas\_45, Virapocalypse\_46, Virgeve\_45, Vista\_46, Vivaldi\_46, Vortex\_46, Wallhey\_45, Waterdiva\_46, Weher20\_46, Windsor\_45, Xavier\_45, YouGoGlencoco\_46, Zaider\_47, Zelda\_46,

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

- Chute\_45, Dati\_46, Gareth\_45, JDog\_45, Lehmann\_46, Mutante\_45, Soile\_46,

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

- 39HC\_038, 40BC\_038, ABU\_46, Acadian\_45, Adriana\_46, Ahwei\_40, Akoma\_44, AksarBAT\_39, AlanGrant\_43, Allegro\_45, AnClar\_40, AnarQue\_41, Andre\_46, Antihero\_40, Apex\_42, Apizium\_45, Arbiter\_44, Ares\_45, Ashraf\_45, Audrey\_44, Austelle\_42, Axumite\_39, Badfish\_46, Bae\_44, Bananafish\_45, BiggityBass\_39, BlackStallion\_46, Blackpen\_41, Blocker23\_45, BobRoss2024\_38, BobbyK\_42, Boyle\_45, BrownCNA\_43, Brownie5\_45, CRB2\_47, CaiB\_41, Calamitous\_45, CampRoach\_46, Casbah\_43, Causa\_59, Chah\_47, Chandler\_44, CharlottesWeb\_39, ChrisnMich\_41, CloverMinnie\_41, Coffee\_45, Coldpizza\_42, Cooper\_42, Craff\_46, DigitDog\_44, DoOn\_48, Donny\_45, DuchessDung\_44, Durga\_46, Eaglehorse\_45, EastView9101\_43, ElvisPhasley\_46, Emiris\_46, Epah\_40, Evaa\_39, Fanaw\_40, Fang\_46, Faze9\_44, FelixTres\_41, FluffyNinja\_46, ForDig\_38, Fortunato\_42, Frederick\_42, FrenchFry\_45, Fresco\_39, Fringe\_46, Funsized\_47, GinPorsche\_41, Glass\_45, Godines\_45, Halfpint\_43, Hally898\_40, Hangman\_41, Heath\_40, Hedgerow\_45, HighStump\_45, Holeinone\_45, Hosp\_036, Hydro\_41, ImtiyazSitla\_45, Inchworm\_46, Indlovu\_43, IsaacEli\_46, ItsyBitsy1\_45, JAMaL\_41, JacAttac\_46, Jackstina\_41, JaguarMi\_41, JellyBelly\_39, Jolie1\_038, JoyceMaria\_41, Kaleb\_45, KarasumaRum\_46, Katniss\_46, KayaCho\_38, Kheth\_45, Kikipoo\_46, Knocker\_46, Kolhan\_45, Lambano\_40, Lars\_45, LasagnaCat\_46, Laurie\_44, Legolas\_45, Lephleur\_45, Ligma\_39, LilMcDreamy\_42, LilSmirk\_45, LittleDigger\_40, LittleMunchkin\_41, LizLemon\_45, Lolalove\_41, Magpie\_40, MakoManhole\_41, Mariokart\_39, Marlia\_44, Maskar\_45, MasterPo\_45, Megatron\_46, MelsMeow\_45, Mithril\_41, Morty007\_44, Morty\_46, MossRose\_41, Mudslide\_41, Mulan\_45, Mulaychimus\_44, Mysterious\_44, NHagos\_39, Nacho\_0046, Nanao\_40, Nangang\_44, Nehemiah\_44, Nigel\_40, OSmaximus\_46, Olivio\_43, Opia\_45, Orion\_46, PG1\_46, Phaedrus\_42, Phamished\_46, Phantasmagoria\_45, PhatCats2014\_46, Phayeta\_45, Phelemich\_44, Pherdinand\_46, PhrodoBaggins\_45, Poster\_40, PrinceCharming\_45, Prince\_41, QueenPie\_40, Quesadilla\_47, RawrgerThat\_42, Reccee\_45, RedMaple\_45, Renkei\_40, Reprobate\_45, Rhinoforte\_45, Rich\_43, Rinkes\_45, Rita130\_45, Rosebush\_44, Sabella\_44, Saguaro\_46, SallyH\_46, Scoot17C\_46, Serendipitous\_44, Shatter\_39, Shenandoah\_44, Shenyu\_44, Sigman\_46, SirJeffery\_45, Sisko\_39, SlippinJimmy\_44, Sour\_44, StAugustine\_57, Stinger\_40, StinkyVeggy\_46, Suigeneris\_45, Swish\_46, TA17A\_46, Thonko\_44, ThreeOh3D2\_46, Tinciduntolum\_46, TraderJ\_41, Tres\_45, Trypo\_46, Tydolla\_44, Vic9\_00044, Vincenzo\_42, VioletZ\_42, Waleliano\_41, West99\_45, Wooper\_41, Xincheng\_40, Yago84\_39, Yeshua\_41, Yoshand\_46, Zemanar\_42, Zonia\_46,

### Summary by start number:

Start 8:

- Found in 38 of 470 ( 8.1% ) of genes in pham
- Manual Annotations of this start: 1 of 407
- Called 2.6% of time when present
- Phage (with cluster) where this start called: Fortunato\_42 (B4),

Start 19:

- Found in 265 of 470 ( 56.4% ) of genes in pham
- Manual Annotations of this start: 235 of 407
- Called 97.4% of time when present
- Phage (with cluster) where this start called: AbsoluteMadLad\_45 (B1), Aelin\_45 (B1), Aleia\_46 (B1), AltPhacts\_46 (B1), Altwerkus\_45 (B1), Anderson\_46 (B1),

AngelCake\_46 (B1), Antonia\_45 (B1), Aonishiki\_46 (B1), Banjo\_45 (B1), Basato\_47 (B1), BatteryCK\_45 (B1), Beaglebox\_45 (B1), Bishoperium\_45 (B1), BlacksBerry\_45 (B1), BlueHusk\_46 (B1), Bluephacebaby\_45 (B1), Boehler\_46 (B1), BoogieWoogie\_45 (B1), Brilliant\_46 (B1), Buckeye\_46 (B1), Burr\_45 (B1), CamL\_46 (B1), Cannibal\_46 (B1), Carthage\_44 (B1), Caspiroi\_45 (B1), Chaelin\_46 (B1), Charles1\_46 (B1), CharlieGBrown\_45 (B1), CheetO\_46 (B1), Cher\_45 (B1), Childish\_45 (B1), Chipette\_47 (B1), Chorkpop\_46 (B1), Chuni\_45 (B1), Chunky\_46 (B1), Cobra\_46 (B1), Colbert\_46 (B1), Coletti\_46 (B1), Cornbread\_45 (B1), Cornobble\_45 (B1), Cosmolli16\_45 (B1), Crownjwl\_46 (B1), DaddyDaniels\_46 (B1), Daffy\_46 (B1), Daka\_47 (B1), DelRivs\_45 (B1), Derpp\_45 (B1), Dice\_45 (B1), Dingo\_46 (B1), Dione\_45 (B1), DirtJuice\_46 (B1), Doddsville\_46 (B1), DoesntMatter\_45 (B1), DonSanchon\_45 (B1), Duggie\_45 (B1), EmpTee\_46 (B1), Eremos\_46 (B1), Etaye\_46 (B1), Eugenia\_46 (B1), Flake\_46 (B1), FleetyMac\_46 (B1), Fozzie\_45 (B1), Frankicide\_46 (B1), FremontTroll\_46 (B1), Freya\_45 (B1), FriarPreacher\_45 (B1), FugateOSU\_45 (B1), GeneCoco\_46 (B1), Giraffe\_46 (B1), Gophee\_46 (B1), Grand2040\_45 (B1), GreenChile\_46 (B1), Gwennie1\_46 (B1), Gwilliam\_46 (B1), Gyarad\_0046 (B1), HSavage\_46 (B1), Haimas\_46 (B1), Haleema\_45 (B1), Hamish\_46 (B1), Happabalu\_46 (B1), Hartsy\_46 (B1), Harvey\_46 (B1), Hekos\_43 (B1), Held\_46 (B1), HenryJackson\_45 (B1), Hertubise\_46 (B1), Hetaeria\_46 (B1), Hocus\_45 (B1), HogWash\_46 (B1), Horchata\_46 (B1), Inverness\_46 (B1), Iridessa\_46 (B1), Iridoclysis\_46 (B1), JakeO\_45 (B1), JangoPhett\_46 (B1), Jesabah\_46 (B1), Jillium\_45 (B1), Jiminy\_45 (B1), Jiraiya\_45 (B1), KLucky39\_46 (B1), Kahve\_45 (B1), Kailash\_46 (B1), Karn\_45 (B1), Keitherie\_46 (B1), Khan1\_46 (B1), Kimbrough\_46 (B1), KingTut\_37 (B1), KingVeVeVe\_46 (B1), KlimbOn\_46 (B1), Kloppinator\_46 (B1), Kwadwo\_45 (B1), Kwksand96\_45 (B1), Labeouficaum\_45 (B1), Larson\_47 (B1), Lasso\_46 (B1), LeeLot\_46 (B1), LeiMonet\_46 (B1), LemonSlice\_46 (B1), Longacauda\_45 (B1), Lopsy\_45 (B1), LostAndPhound\_45 (B1), LuckyMarjie\_45 (B1), Lulumae\_45 (B1), Lulwa\_46 (B1), Lumine\_45 (B1), MRabcd\_45 (B1), Mag7\_45 (B1), Magic8\_46 (B1), Mana\_45 (B1), Manad\_45 (B1), Maru\_45 (B1), Matalotodo\_46 (B1), Mcshane\_45 (B1), Mecca\_45 (B1), Megamind20\_46 (B1), Melc17\_46 (B1), Mesh1\_46 (B1), Mesmerelda\_45 (B1), MichaelPhcott\_45 (B1), Mikota\_46 (B1), MiniBoss\_46 (B1), MitKao\_46 (B1), Morgushi\_46 (B1), Mosaic\_45 (B1), MrPhizzler\_46 (B1), Murdoc\_46 (B1), Nathan\_46 (B1), Newman\_46 (B1), NiaNia\_48 (B1), Nicole21\_46 (B1), Nova1\_46 (B1), Numberten\_46 (B1), Nyala\_45 (B1), Olak\_45 (B1), Oline\_45 (B1), Olive\_46 (B1), OliverWalter\_46 (B1), Omniscient\_46 (B1), OneBrain\_47 (B1), Oosterbaan\_46 (B1), Orfeu\_45 (B1), Orwigg\_45 (B1), Pacifista\_45 (B1), PallasAthena\_46 (B1), Phareon\_46 (B1), PhatLouie\_46 (B1), PhenghisKhan\_45 (B1), Phergie\_45 (B1), Phipps\_46 (B1), Phleuron\_45 (B1), PhrankReynolds\_44 (B1), Phunky\_46 (B1), Piglet\_0045 (B1), PinheadLarry\_46 (B1), Pinkman\_45 (B1), Pipsqueak\_46 (B1), Placalicious\_45 (B1), Plata\_45 (B1), Plmatters\_46 (B1), Podrick\_46 (B1), Pops\_46 (B1), Potter\_45 (B1), Prickles\_46 (B1), ProfessorX\_46 (B1), Puhltonio\_46 (B1), QueenBeane\_46 (B1), Quisquiliae\_46 (B1), RedRaider89\_47 (B1), Ricotta\_45 (B1), Riggan\_46 (B1), Rimu\_46 (B1), Riverton\_46 (B1), Robyn\_45 (B1), Roliet\_46 (B1), Roscoe\_47 (B1), Roy17\_46 (B1), SDcharge11\_46 (B1), Samaymay\_46 (B1), SassyCat97\_45 (B1), Schadenfreude\_45 (B1), Schueller\_45 (B1), Scrick\_46 (B1), Selr12\_46 (B1), Serendipity\_46 (B1), Serpentine\_0046 (B1), ShadowBud\_46 (B1), Sheila\_46 (B1), ShiVal\_46 (B1), SilverBell\_46 (B1), Simielle\_45 (B1), SirBeauregard\_46 (B1), Skippy\_46 (B1), Slatt\_46 (B1), Solosis\_45 (B1), Sophia\_45 (B1), Soto\_46 (B1), Spartan300\_46 (B1), Squid\_46 (B1), Squiggle\_46 (B1), Struggle\_45 (B1), Suffolk\_46 (B1), Surely\_46 (B1), Swiphy\_46 (B1), TallGrassMM\_46 (B1), Taraxa\_46 (B1), Telesworld\_45 (B1), Thora\_46 (B1), Thunderbird\_45 (B1), Timmi\_45 (B1), TomBombadil\_46 (B1),

Tomlarah\_46 (B1), Toni\_45 (B1), TooFast2Furius\_47 (B1), Tooj\_46 (B1), Triad\_46 (B1), True\_45 (B1), TyrionL\_45 (B1), UAch1\_46 (B1), UncleHowie\_46 (B1), Usavi\_46 (B1), Vaishali24\_45 (B1), Valjean\_46 (B1), Vaticameos\_42 (B1), Veritas\_45 (B1), Virapocalypse\_46 (B1), Virgeve\_45 (B1), Vista\_46 (B1), Vivaldi\_46 (B1), Vortex\_46 (B1), Wallhey\_45 (B1), Waterdiva\_46 (B1), Weher20\_46 (B1), Windsor\_45 (B1), Xavier\_45 (B1), YouGoGlencoco\_46 (B1), Zaider\_47 (B1), Zelda\_46 (B1),

Start 29:

- Found in 4 of 470 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 407
- Called 50.0% of time when present
- Phage (with cluster) where this start called: JaguarMi\_41 (B4), Quesadilla\_47 (B9),

Start 34:

- Found in 2 of 470 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 407
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Vincenzo\_42 (B4),

Start 36:

- Found in 40 of 470 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 3 of 407
- Called 7.5% of time when present
- Phage (with cluster) where this start called: BrownCNA\_43 (B4), Nigel\_40 (B4), Stinger\_40 (B4),

Start 37:

- Found in 7 of 470 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 2 of 407
- Called 28.6% of time when present
- Phage (with cluster) where this start called: CloverMinnie\_41 (DR), FelixTres\_41 (DR),

Start 39:

- Found in 15 of 470 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 10 of 407
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akoma\_44 (B3), Audrey\_44 (B3), Casbah\_43 (B3), Chandler\_44 (B3), Halfpint\_43 (B3), Jackstina\_41 (B3), Marlia\_44 (B3), Morty007\_44 (B3), Mulaychimus\_44 (B3), Olivio\_43 (B3), Phaedrus\_42 (B3), Phayeta\_45 (B3), Shenandoah\_44 (B3), SlippinJimmy\_44 (B3), Tydolla\_44 (B3),

Start 40:

- Found in 314 of 470 ( 66.8% ) of genes in pham
- Manual Annotations of this start: 52 of 407
- Called 17.8% of time when present
- Phage (with cluster) where this start called: ABU\_46 (B1), Adriana\_46 (B1), Andre\_46 (B1), Apizium\_45 (B1), Ashraf\_45 (B1), Badfish\_46 (B1), BlackStallion\_46 (B1), CampRoach\_46 (B1), Chah\_47 (B1), Chute\_45 (B1), Craff\_46 (B1), Dati\_46 (B1), DolOn\_48 (B1), DuchessDung\_44 (B1), Durga\_46 (B1), ElvisPhasley\_46 (B1), Emiris\_46 (B1), Fang\_46 (B1), FluffyNinja\_46 (B1), Fringe\_46 (B1), Gareth\_45 (B1), HighStump\_45 (B1), ImtiyazSitla\_45 (B1), Inchworm\_46 (B1), IsaacEli\_46 (B1), JDog\_45 (B1), JacAttac\_46 (B1), Katniss\_46 (B1), Kikipoo\_46 (B1), LasagnaCat\_46

(B1), Legolas\_45 (B1), Lehmann\_46 (B1), Maskar\_45 (B1), Megatron\_46 (B1), MelsMeow\_45 (B1), Morty\_46 (B1), Mulan\_45 (B1), Mutante\_45 (B1), Nacho\_0046 (B1), OSmaximus\_46 (B1), Orion\_46 (B1), PG1\_46 (B1), Phamished\_46 (B1), PhatCats2014\_46 (B1), Pherdinand\_46 (B1), PhrodoBaggins\_45 (B1), RedMaple\_45 (B1), SallyH\_46 (B1), Scoot17C\_46 (B1), Sigman\_46 (B1), Soile\_46 (B1), Swish\_46 (B1), ThreeOh3D2\_46 (B1), Trypo\_46 (B1), Yoshand\_46 (B1), Zonia\_46 (B1),

#### Start 41:

- Found in 16 of 470 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 12 of 407
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC\_038 (B6), 40BC\_038 (B6), AnClar\_40 (DR), Axumite\_39 (DR), BiggityBass\_39 (DR), ForDig\_38 (B6), Fresco\_39 (DR), Hosp\_036 (B6), Jolie1\_038 (B6), KayaCho\_38 (B6), Ligma\_39 (DR), LittleMunchkin\_41 (DR), Mariokart\_39 (DR), Shatter\_39 (DR), Sisko\_39 (DR), Yago84\_39 (DR),

#### Start 42:

- Found in 38 of 470 ( 8.1% ) of genes in pham
- Manual Annotations of this start: 22 of 407
- Called 86.8% of time when present
- Phage (with cluster) where this start called: Ahwei\_40 (B4), Antihero\_40 (B4), Apex\_42 (B4), Austelle\_42 (B4), BobbyK\_42 (B4), ChrisnMich\_41 (B4), Cooper\_42 (B4), Epah\_40 (B4), Fanaw\_40 (B4), Frederick\_42 (B4), GinPorsche\_41 (B4), Hally898\_40 (B4), Hangman\_41 (B4), Heath\_40 (B4), Hydro\_41 (B4), JAMaL\_41 (B4), JoyceMaria\_41 (B4), Lambano\_40 (B4), LittleDigger\_40 (B4), Lolalove\_41 (B4), Magpie\_40 (B4), Mithril\_41 (B4), Mudslide\_41 (B4), Nanao\_40 (B4), Poster\_40 (B4), Prince\_41 (B4), QueenPie\_40 (B4), RawrgerThat\_42 (B4), Renkei\_40 (B4), VioletZ\_42 (B4), Waleliano\_41 (B4), Xincheng\_40 (B4), Zemanar\_42 (B4),

#### Start 43:

- Found in 4 of 470 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 407
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AlanGrant\_43 (B4), CharlottesWeb\_39 (DR), JellyBelly\_39 (DR),

#### Start 44:

- Found in 1 of 470 ( 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: BobRoss2024\_38 (DR),

#### Start 46:

- Found in 2 of 470 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 407
- Called 50.0% of time when present
- Phage (with cluster) where this start called: CRB2\_47 (B9),

#### Start 47:

- Found in 38 of 470 ( 8.1% ) of genes in pham
- Manual Annotations of this start: 37 of 407
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Allegro\_45 (B2), Arbiter\_44 (B2), Ares\_45 (B2), Bananafish\_45 (B2), Blocker23\_45 (B2), Boyle\_45 (B2), Brownie5\_45 (B2), Calamitous\_45 (B2), Coffee\_45 (B2), Eaglehorse\_45 (B2), Faze9\_44 (B2), FrenchFry\_45 (B2), Glass\_45 (B2), Godines\_45 (B2), Hedgerow\_45 (B2), Holeinone\_45 (B2), ItsyBitsy1\_45 (B2), Kaleb\_45 (B2), Kheth\_45 (B2), Kolhan\_45 (B2), Lars\_45 (B2), Laurie\_44 (B2), Lephleur\_45 (B2), LilSmirk\_45 (B2), LizLemon\_45 (B2), MasterPo\_45 (B2), Opia\_45 (B2), Phantasmagoria\_45 (B2), PrinceCharming\_45 (B2), Rhinoforte\_45 (B2), Rosebush\_44 (B2), Sabella\_44 (B2), Sour\_44 (DR), TA17A\_46 (B2), Tinciduntolum\_46 (B2), Tres\_45 (B2), Vic9\_00044 (B2), West99\_45 (B2),

#### Start 49:

- Found in 1 of 470 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 407
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Indlovu\_43 (B11),

#### Start 50:

- Found in 24 of 470 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 15 of 407
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acadian\_45 (B5), AksarBAT\_39 (DR), Bae\_44 (B5), DigitDog\_44 (B5), Donny\_45 (B5), EastView9101\_43 (B5), Funsized\_47 (B9), KarasumaRum\_46 (B5), LilMcDreamy\_42 (B12), Mysterious\_44 (B5), NHagos\_39 (DR), Nangang\_44 (B5), Nehemiah\_44 (B5), Phelemich\_44 (B5), Reccee\_45 (B5), Reprobate\_45 (B5), Rich\_43 (B5), Rita130\_45 (B5), Serendipitous\_44 (B5), Shenyu\_44 (B5), SirJeffery\_45 (B5), StinkyVeggy\_46 (B5), Suigeneris\_45 (B5), Thonko\_44 (B8),

#### Start 51:

- Found in 10 of 470 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 6 of 407
- Called 80.0% of time when present
- Phage (with cluster) where this start called: AnarQue\_41 (DR), Blackpen\_41 (DR), CaiB\_41 (DR), MakoManhole\_41 (DR), MossRose\_41 (DR), TraderJ\_41 (DR), Wooper\_41 (DR), Yeshua\_41 (DR),

#### Start 52:

- Found in 4 of 470 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 4 of 407
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Causa\_59 (AI), Coldpizza\_42 (DR), Evaa\_39 (DR), StAugustine\_57 (AI),

#### Start 53:

- Found in 1 of 470 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 407
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Saguaro\_46 (B7),

#### Start 54:

- Found in 2 of 470 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 407

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Knocker\_46 (B9), Rinkes\_45 (B9),

### **Summary by clusters:**

There are 13 clusters represented in this pham: A1, B8, B3, B4, B5, B6, B7, B12, B1, B2, B11, DR, B9,

Info for manual annotations of cluster A1:

- Start number 52 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster B1:

- Start number 19 was manually annotated 235 times for cluster B1.
- Start number 40 was manually annotated 52 times for cluster B1.

Info for manual annotations of cluster B11:

- Start number 49 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 50 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B2:

- Start number 47 was manually annotated 36 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 39 was manually annotated 10 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 8 was manually annotated 1 time for cluster B4.
- Start number 34 was manually annotated 1 time for cluster B4.
- Start number 36 was manually annotated 3 times for cluster B4.
- Start number 42 was manually annotated 22 times for cluster B4.
- Start number 43 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B5:

- Start number 50 was manually annotated 11 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 41 was manually annotated 2 times for cluster B6.

Info for manual annotations of cluster B7:

- Start number 53 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 50 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 29 was manually annotated 1 time for cluster B9.
- Start number 46 was manually annotated 1 time for cluster B9.
- Start number 50 was manually annotated 1 time for cluster B9.
- Start number 54 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster DR:

- Start number 37 was manually annotated 2 times for cluster DR.
- Start number 41 was manually annotated 10 times for cluster DR.
- Start number 47 was manually annotated 1 time for cluster DR.
- Start number 50 was manually annotated 1 time for cluster DR.
- Start number 51 was manually annotated 6 times for cluster DR.
- Start number 52 was manually annotated 2 times for cluster DR.

### **Gene Information:**

Gene: 39HC\_038 Start: 37421, Stop: 36984, Start Num: 41

Candidate Starts for 39HC\_038:

(13, 37574), (16, 37565), (26, 37511), (Start: 41 @37421 has 12 MA's), (55, 37355), (62, 37295), (73, 37208), (76, 37196), (77, 37175), (98, 37076),

Gene: 40BC\_038 Start: 37421, Stop: 36984, Start Num: 41

Candidate Starts for 40BC\_038:

(13, 37574), (16, 37565), (26, 37511), (Start: 41 @37421 has 12 MA's), (55, 37355), (62, 37295), (73, 37208), (76, 37196), (77, 37175), (98, 37076),

Gene: ABU\_46 Start: 39612, Stop: 39187, Start Num: 40

Candidate Starts for ABU\_46:

(14, 39762), (17, 39753), (20, 39738), (Start: 40 @39612 has 52 MA's), (57, 39534), (58, 39519), (66, 39474),

Gene: AbsoluteMadLad\_45 Start: 39726, Stop: 39196, Start Num: 19

Candidate Starts for AbsoluteMadLad\_45:

(Start: 19 @39726 has 235 MA's), (Start: 40 @39621 has 52 MA's), (57, 39543), (58, 39528), (66, 39483),

Gene: Acadian\_45 Start: 40034, Stop: 39648, Start Num: 50

Candidate Starts for Acadian\_45:

(22, 40172), (Start: 50 @40034 has 15 MA's), (55, 40013), (59, 39974), (62, 39953), (69, 39893), (73, 39866), (90, 39779), (98, 39743), (102, 39725), (109, 39689), (113, 39668),

Gene: Adriana\_46 Start: 39610, Stop: 39185, Start Num: 40

Candidate Starts for Adriana\_46:

(14, 39760), (17, 39751), (20, 39736), (Start: 40 @39610 has 52 MA's), (57, 39532), (58, 39517), (66, 39472),

Gene: Aelin\_45 Start: 39278, Stop: 38751, Start Num: 19

Candidate Starts for Aelin\_45:

(Start: 19 @39278 has 235 MA's), (Start: 40 @39176 has 52 MA's), (57, 39098), (58, 39083), (66, 39038),

Gene: Ahwei\_40 Start: 38593, Stop: 38168, Start Num: 42

Candidate Starts for Ahwei\_40:

(Start: 8 @38797 has 1 MA's), (11, 38761), (24, 38707), (Start: 36 @38626 has 3 MA's), (Start: 42 @38593 has 22 MA's), (62, 38485), (71, 38410), (73, 38398), (77, 38365), (79, 38356), (90, 38308), (98, 38272), (102, 38254),

Gene: Akoma\_44 Start: 39465, Stop: 39028, Start Num: 39

Candidate Starts for Akoma\_44:

(6, 39684), (23, 39582), (31, 39528), (35, 39513), (Start: 39 @39465 has 10 MA's), (56, 39375), (62, 39330), (63, 39324), (65, 39318), (70, 39267), (83, 39180), (88, 39156), (98, 39108),

Gene: AksarBAT\_39 Start: 33818, Stop: 33444, Start Num: 50

Candidate Starts for AksarBAT\_39:

(Start: 50 @33818 has 15 MA's), (62, 33737), (66, 33719), (73, 33650), (85, 33581), (98, 33530), (102, 33512),

Gene: AlanGrant\_43 Start: 40379, Stop: 39954, Start Num: 43

Candidate Starts for AlanGrant\_43:

(13, 40535), (16, 40526), (Start: 34 @40436 has 1 MA's), (Start: 43 @40379 has 1 MA's), (58, 40292), (59, 40286), (62, 40265), (64, 40256), (77, 40145), (86, 40097), (98, 40052), (102, 40034), (107, 40004), (111, 39989),

Gene: Aleia\_46 Start: 39289, Stop: 38765, Start Num: 19

Candidate Starts for Aleia\_46:

(Start: 19 @39289 has 235 MA's), (Start: 40 @39190 has 52 MA's), (57, 39112), (58, 39097), (66, 39052),

Gene: Allegro\_45 Start: 39852, Stop: 39463, Start Num: 47

Candidate Starts for Allegro\_45:

(Start: 47 @39852 has 37 MA's), (57, 39795), (62, 39753), (66, 39732), (70, 39687), (72, 39672), (73, 39663), (76, 39651), (77, 39630), (89, 39567), (93, 39561), (98, 39525), (99, 39522), (108, 39483),

Gene: AltPhacts\_46 Start: 39698, Stop: 39174, Start Num: 19

Candidate Starts for AltPhacts\_46:

(Start: 19 @39698 has 235 MA's), (Start: 40 @39599 has 52 MA's), (57, 39521), (58, 39506), (66, 39461),

Gene: Altwerkus\_45 Start: 39405, Stop: 38875, Start Num: 19

Candidate Starts for Altwerkus\_45:

(Start: 19 @39405 has 235 MA's), (Start: 40 @39300 has 52 MA's), (57, 39222), (58, 39207), (66, 39162),

Gene: AnClar\_40 Start: 36039, Stop: 35620, Start Num: 41

Candidate Starts for AnClar\_40:

(Start: 41 @36039 has 12 MA's), (62, 35922), (66, 35904), (100, 35703), (105, 35667), (107, 35661),

Gene: AnarQue\_41 Start: 35226, Stop: 34840, Start Num: 51

Candidate Starts for AnarQue\_41:

(Start: 37 @35280 has 2 MA's), (Start: 51 @35226 has 6 MA's), (59, 35166), (61, 35151), (71, 35058), (73, 35046), (77, 35013), (93, 34965), (95, 34956),

Gene: Anderson\_46 Start: 39704, Stop: 39180, Start Num: 19

Candidate Starts for Anderson\_46:

(Start: 19 @39704 has 235 MA's), (Start: 40 @39605 has 52 MA's), (57, 39527), (58, 39512), (66, 39467),

Gene: Andre\_46 Start: 39604, Stop: 39179, Start Num: 40

Candidate Starts for Andre\_46:

(14, 39754), (17, 39745), (20, 39730), (Start: 40 @39604 has 52 MA's), (57, 39526), (58, 39511), (66, 39466),

Gene: AngelCake\_46 Start: 39726, Stop: 39199, Start Num: 19

Candidate Starts for AngelCake\_46:

(Start: 19 @39726 has 235 MA's), (Start: 40 @39624 has 52 MA's), (57, 39546), (58, 39531), (66, 39486),

Gene: Antihero\_40 Start: 38593, Stop: 38168, Start Num: 42

Candidate Starts for Antihero\_40:

(Start: 8 @38797 has 1 MA's), (11, 38761), (24, 38707), (Start: 36 @38626 has 3 MA's), (Start: 42 @38593 has 22 MA's), (62, 38485), (71, 38410), (73, 38398), (77, 38365), (79, 38356), (90, 38308), (98, 38272), (102, 38254),

Gene: Antonia\_45 Start: 39278, Stop: 38751, Start Num: 19

Candidate Starts for Antonia\_45:

(Start: 19 @39278 has 235 MA's), (Start: 40 @39176 has 52 MA's), (57, 39098), (58, 39083), (66, 39038),

Gene: Aonishiki\_46 Start: 39747, Stop: 39223, Start Num: 19

Candidate Starts for Aonishiki\_46:

(Start: 19 @39747 has 235 MA's), (Start: 40 @39648 has 52 MA's), (57, 39570), (58, 39555), (66, 39510),

Gene: Apex\_42 Start: 39799, Stop: 39374, Start Num: 42

Candidate Starts for Apex\_42:

(Start: 8 @40009 has 1 MA's), (9, 39985), (11, 39973), (24, 39919), (Start: 36 @39832 has 3 MA's), (Start: 42 @39799 has 22 MA's), (45, 39793), (62, 39691), (71, 39616), (73, 39604), (77, 39571), (79, 39562), (90, 39514), (98, 39478), (102, 39460),

Gene: Apizium\_45 Start: 39365, Stop: 38940, Start Num: 40

Candidate Starts for Apizium\_45:

(14, 39518), (17, 39509), (20, 39494), (Start: 40 @39365 has 52 MA's), (57, 39287), (58, 39272), (66, 39227),

Gene: Arbiter\_44 Start: 39938, Stop: 39549, Start Num: 47

Candidate Starts for Arbiter\_44:

(Start: 47 @39938 has 37 MA's), (57, 39881), (62, 39839), (66, 39818), (70, 39773), (72, 39758), (73, 39749), (76, 39737), (77, 39716), (89, 39653), (93, 39647), (98, 39611), (99, 39608), (108, 39569),

Gene: Ares\_45 Start: 39922, Stop: 39533, Start Num: 47

Candidate Starts for Ares\_45:

(Start: 47 @39922 has 37 MA's), (57, 39865), (62, 39823), (66, 39802), (70, 39757), (72, 39742), (73, 39733), (76, 39721), (77, 39700), (89, 39637), (93, 39631), (98, 39595), (99, 39592), (108, 39553),

Gene: Ashraf\_45 Start: 39169, Stop: 38744, Start Num: 40

Candidate Starts for Ashraf\_45:

(14, 39319), (17, 39310), (20, 39295), (Start: 40 @39169 has 52 MA's), (57, 39091), (58, 39076), (66, 39031),

Gene: Audrey\_44 Start: 39461, Stop: 39024, Start Num: 39

Candidate Starts for Audrey\_44:

(6, 39680), (23, 39578), (31, 39524), (35, 39509), (Start: 39 @39461 has 10 MA's), (56, 39371), (62, 39326), (63, 39320), (65, 39314), (70, 39263), (83, 39176), (88, 39152), (98, 39104),

Gene: Austelle\_42 Start: 40255, Stop: 39830, Start Num: 42

Candidate Starts for Austelle\_42:

(Start: 8 @40459 has 1 MA's), (9, 40435), (11, 40423), (24, 40369), (Start: 36 @40288 has 3 MA's), (Start: 42 @40255 has 22 MA's), (45, 40249), (62, 40147), (71, 40072), (73, 40060), (77, 40027), (79, 40018), (90, 39970), (98, 39934), (102, 39916),

Gene: Axumite\_39 Start: 33273, Stop: 32851, Start Num: 41

Candidate Starts for Axumite\_39:

(Start: 41 @33273 has 12 MA's), (62, 33156), (66, 33138), (71, 33081), (85, 32994), (93, 32979), (100, 32934), (107, 32892),

Gene: Badfish\_46 Start: 39635, Stop: 39210, Start Num: 40

Candidate Starts for Badfish\_46:

(14, 39785), (17, 39776), (20, 39761), (Start: 40 @39635 has 52 MA's), (57, 39557), (58, 39542), (66, 39497),

Gene: Bae\_44 Start: 39937, Stop: 39551, Start Num: 50

Candidate Starts for Bae\_44:

(Start: 50 @39937 has 15 MA's), (55, 39916), (59, 39877), (62, 39856), (69, 39796), (73, 39769), (90, 39682), (98, 39646), (106, 39601),

Gene: Bananafish\_45 Start: 39858, Stop: 39469, Start Num: 47

Candidate Starts for Bananafish\_45:

(Start: 47 @39858 has 37 MA's), (57, 39801), (62, 39759), (66, 39738), (70, 39693), (72, 39678), (73, 39669), (76, 39657), (77, 39636), (89, 39573), (93, 39567), (98, 39531), (99, 39528), (108, 39489),

Gene: Banjo\_45 Start: 39409, Stop: 38885, Start Num: 19

Candidate Starts for Banjo\_45:

(Start: 19 @39409 has 235 MA's), (Start: 40 @39310 has 52 MA's), (57, 39232), (58, 39217), (66, 39172),

Gene: Basato\_47 Start: 39988, Stop: 39464, Start Num: 19

Candidate Starts for Basato\_47:

(Start: 19 @39988 has 235 MA's), (Start: 40 @39889 has 52 MA's), (57, 39811), (58, 39796), (66, 39751),

Gene: BatteryCK\_45 Start: 39331, Stop: 38804, Start Num: 19

Candidate Starts for BatteryCK\_45:

(Start: 19 @39331 has 235 MA's), (Start: 40 @39229 has 52 MA's), (57, 39151), (58, 39136), (66, 39091),

Gene: Beaglebox\_45 Start: 39430, Stop: 38906, Start Num: 19

Candidate Starts for Beaglebox\_45:

(Start: 19 @39430 has 235 MA's), (Start: 40 @39331 has 52 MA's), (57, 39253), (58, 39238), (66, 39193),

Gene: BiggityBass\_39 Start: 35501, Stop: 35082, Start Num: 41

Candidate Starts for BiggityBass\_39:

(18, 35645), (28, 35582), (Start: 41 @35501 has 12 MA's), (62, 35384), (66, 35366), (73, 35297), (99, 35168), (100, 35165), (107, 35123),

Gene: Bishoperium\_45 Start: 39418, Stop: 38894, Start Num: 19

Candidate Starts for Bishoperium\_45:

(Start: 19 @39418 has 235 MA's), (Start: 40 @39319 has 52 MA's), (57, 39241), (58, 39226), (66, 39181),

Gene: BlackStallion\_46 Start: 39621, Stop: 39196, Start Num: 40

Candidate Starts for BlackStallion\_46:

(14, 39771), (17, 39762), (20, 39747), (Start: 40 @39621 has 52 MA's), (57, 39543), (58, 39528), (66, 39483),

Gene: Blackpen\_41 Start: 34644, Stop: 34258, Start Num: 51

Candidate Starts for Blackpen\_41:

(Start: 37 @34698 has 2 MA's), (Start: 51 @34644 has 6 MA's), (59, 34584), (61, 34569), (71, 34476), (73, 34464), (77, 34431), (93, 34383), (95, 34374),

Gene: BlacksBerry\_45 Start: 39439, Stop: 38912, Start Num: 19

Candidate Starts for BlacksBerry\_45:

(Start: 19 @39439 has 235 MA's), (Start: 40 @39337 has 52 MA's), (57, 39259), (58, 39244), (66, 39199),

Gene: Blocker23\_45 Start: 39976, Stop: 39587, Start Num: 47

Candidate Starts for Blocker23\_45:

(Start: 47 @39976 has 37 MA's), (57, 39919), (62, 39877), (66, 39856), (70, 39811), (72, 39796), (73, 39787), (76, 39775), (77, 39754), (89, 39691), (93, 39685), (98, 39649), (99, 39646), (108, 39607),

Gene: BlueHusk\_46 Start: 39223, Stop: 38693, Start Num: 19

Candidate Starts for BlueHusk\_46:

(Start: 19 @39223 has 235 MA's), (Start: 40 @39118 has 52 MA's), (57, 39040), (58, 39025), (66, 38980),

Gene: Bluephacebaby\_45 Start: 39421, Stop: 38891, Start Num: 19

Candidate Starts for Bluephacebaby\_45:

(Start: 19 @39421 has 235 MA's), (Start: 40 @39316 has 52 MA's), (57, 39238), (58, 39223), (66, 39178),

Gene: BobRoss2024\_38 Start: 33364, Stop: 32954, Start Num: 44

Candidate Starts for BobRoss2024\_38:

(44, 33364), (59, 33280), (64, 33250), (68, 33208), (76, 33148), (80, 33115), (84, 33097),

Gene: BobbyK\_42 Start: 39624, Stop: 39199, Start Num: 42

Candidate Starts for BobbyK\_42:

(Start: 8 @39828 has 1 MA's), (9, 39804), (11, 39792), (24, 39738), (Start: 36 @39657 has 3 MA's), (Start: 42 @39624 has 22 MA's), (62, 39516), (71, 39441), (73, 39429), (77, 39396), (79, 39387), (90, 39339), (98, 39303), (102, 39285),

Gene: Boehler\_46 Start: 39727, Stop: 39197, Start Num: 19

Candidate Starts for Boehler\_46:

(Start: 19 @39727 has 235 MA's), (Start: 40 @39622 has 52 MA's), (57, 39544), (58, 39529), (66, 39484),

Gene: BoogieWoogie\_45 Start: 39408, Stop: 38878, Start Num: 19

Candidate Starts for BoogieWoogie\_45:

(Start: 19 @39408 has 235 MA's), (Start: 40 @39303 has 52 MA's), (57, 39225), (58, 39210), (66, 39165),

Gene: Boyle\_45 Start: 39977, Stop: 39588, Start Num: 47

Candidate Starts for Boyle\_45:

(Start: 47 @39977 has 37 MA's), (57, 39920), (62, 39878), (66, 39857), (70, 39812), (72, 39797), (73, 39788), (76, 39776), (77, 39755), (89, 39692), (93, 39686), (98, 39650), (99, 39647), (108, 39608),

Gene: Brilliant\_46 Start: 39426, Stop: 38902, Start Num: 19

Candidate Starts for Brilliant\_46:

(Start: 19 @39426 has 235 MA's), (Start: 40 @39327 has 52 MA's), (57, 39249), (58, 39234), (66, 39189),

Gene: BrownCNA\_43 Start: 39918, Stop: 39460, Start Num: 36

Candidate Starts for BrownCNA\_43:

(Start: 8 @40089 has 1 MA's), (9, 40065), (11, 40053), (24, 39999), (Start: 36 @39918 has 3 MA's), (Start: 42 @39885 has 22 MA's), (62, 39777), (71, 39702), (73, 39690), (77, 39657), (79, 39648), (90, 39600), (98, 39564), (102, 39546),

Gene: Brownie5\_45 Start: 39983, Stop: 39594, Start Num: 47

Candidate Starts for Brownie5\_45:

(Start: 47 @39983 has 37 MA's), (57, 39926), (62, 39884), (66, 39863), (70, 39818), (72, 39803), (73, 39794), (76, 39782), (77, 39761), (89, 39698), (93, 39692), (98, 39656), (99, 39653), (108, 39614),

Gene: Buckeye\_46 Start: 39741, Stop: 39214, Start Num: 19

Candidate Starts for Buckeye\_46:

(Start: 19 @39741 has 235 MA's), (Start: 40 @39639 has 52 MA's), (57, 39561), (58, 39546), (66, 39501),

Gene: Burr\_45 Start: 39415, Stop: 38891, Start Num: 19

Candidate Starts for Burr\_45:

(Start: 19 @39415 has 235 MA's), (Start: 40 @39316 has 52 MA's), (57, 39238), (58, 39223), (66, 39178),

Gene: CRB2\_47 Start: 42140, Stop: 41727, Start Num: 46

Candidate Starts for CRB2\_47:

(13, 42299), (16, 42290), (Start: 29 @42215 has 1 MA's), (Start: 46 @42140 has 1 MA's), (59, 42065), (112, 41756),

Gene: CaiB\_41 Start: 35212, Stop: 34826, Start Num: 51

Candidate Starts for CaiB\_41:

(Start: 37 @35266 has 2 MA's), (Start: 51 @35212 has 6 MA's), (57, 35173), (59, 35152), (61, 35137), (71, 35044), (73, 35032), (75, 35023), (77, 34999), (93, 34951), (95, 34942),

Gene: Calamitous\_45 Start: 39863, Stop: 39474, Start Num: 47

Candidate Starts for Calamitous\_45:

(Start: 47 @39863 has 37 MA's), (57, 39806), (62, 39764), (66, 39743), (70, 39698), (72, 39683), (73, 39674), (76, 39662), (77, 39641), (89, 39578), (93, 39572), (98, 39536), (99, 39533), (108, 39494),

Gene: CamL\_46 Start: 39716, Stop: 39192, Start Num: 19

Candidate Starts for CamL\_46:

(Start: 19 @39716 has 235 MA's), (Start: 40 @39617 has 52 MA's), (57, 39539), (58, 39524), (66, 39479),

Gene: CampRoach\_46 Start: 39607, Stop: 39182, Start Num: 40

Candidate Starts for CampRoach\_46:

(14, 39757), (17, 39748), (20, 39733), (Start: 40 @39607 has 52 MA's), (57, 39529), (58, 39514), (66, 39469),

Gene: Cannibal\_46 Start: 39699, Stop: 39175, Start Num: 19

Candidate Starts for Cannibal\_46:

(Start: 19 @39699 has 235 MA's), (Start: 40 @39600 has 52 MA's), (57, 39522), (58, 39507), (66, 39462),

Gene: Carthage\_44 Start: 38628, Stop: 38104, Start Num: 19

Candidate Starts for Carthage\_44:

(Start: 19 @38628 has 235 MA's), (Start: 40 @38529 has 52 MA's), (57, 38451), (58, 38436), (66, 38391),

Gene: Casbah\_43 Start: 39313, Stop: 38876, Start Num: 39

Candidate Starts for Casbah\_43:

(6, 39532), (23, 39430), (31, 39376), (35, 39361), (Start: 39 @39313 has 10 MA's), (56, 39223), (62, 39178), (63, 39172), (65, 39166), (70, 39115), (83, 39028), (88, 39004), (98, 38956),

Gene: Caspiboi\_45 Start: 39425, Stop: 38901, Start Num: 19

Candidate Starts for Caspiboi\_45:

(Start: 19 @39425 has 235 MA's), (Start: 40 @39326 has 52 MA's), (57, 39248), (58, 39233), (66, 39188),

Gene: Causa\_59 Start: 48193, Stop: 47834, Start Num: 52

Candidate Starts for Causa\_59:

(30, 48304), (33, 48289), (Start: 36 @48259 has 3 MA's), (Start: 52 @48193 has 4 MA's), (62, 48100), (75, 48004), (82, 47968), (98, 47902), (102, 47884), (103, 47881),

Gene: Chaelin\_46 Start: 39416, Stop: 38889, Start Num: 19

Candidate Starts for Chaelin\_46:

(Start: 19 @39416 has 235 MA's), (Start: 40 @39314 has 52 MA's), (57, 39236), (58, 39221), (66, 39176),

Gene: Chah\_47 Start: 39634, Stop: 39209, Start Num: 40

Candidate Starts for Chah\_47:

(14, 39784), (17, 39775), (20, 39760), (Start: 40 @39634 has 52 MA's), (57, 39556), (58, 39541), (66, 39496),

Gene: Chandler\_44 Start: 40244, Stop: 39807, Start Num: 39

Candidate Starts for Chandler\_44:

(6, 40463), (23, 40361), (31, 40307), (35, 40292), (Start: 39 @40244 has 10 MA's), (56, 40154), (62, 40109), (63, 40103), (65, 40097), (70, 40046), (83, 39959), (88, 39935), (98, 39887),

Gene: Charles1\_46 Start: 39701, Stop: 39177, Start Num: 19

Candidate Starts for Charles1\_46:

(Start: 19 @39701 has 235 MA's), (Start: 40 @39602 has 52 MA's), (57, 39524), (58, 39509), (66, 39464),

Gene: CharlieGBrown\_45 Start: 39291, Stop: 38767, Start Num: 19

Candidate Starts for CharlieGBrown\_45:

(Start: 19 @39291 has 235 MA's), (Start: 40 @39192 has 52 MA's), (57, 39114), (58, 39099), (66, 39054),

Gene: CharlottesWeb\_39 Start: 33161, Stop: 32775, Start Num: 43  
Candidate Starts for CharlottesWeb\_39:  
(Start: 43 @33161 has 1 MA's), (65, 33047), (66, 33041), (73, 32972), (75, 32963), (93, 32888), (100, 32843), (102, 32831),

Gene: CheetO\_46 Start: 39721, Stop: 39191, Start Num: 19  
Candidate Starts for CheetO\_46:  
(Start: 19 @39721 has 235 MA's), (Start: 40 @39616 has 52 MA's), (57, 39538), (58, 39523), (66, 39478),

Gene: Cher\_45 Start: 39438, Stop: 38914, Start Num: 19  
Candidate Starts for Cher\_45:  
(Start: 19 @39438 has 235 MA's), (Start: 40 @39339 has 52 MA's), (57, 39261), (58, 39246), (66, 39201),

Gene: Childish\_45 Start: 39441, Stop: 38917, Start Num: 19  
Candidate Starts for Childish\_45:  
(Start: 19 @39441 has 235 MA's), (Start: 40 @39342 has 52 MA's), (57, 39264), (58, 39249), (66, 39204),

Gene: Chipette\_47 Start: 39931, Stop: 39407, Start Num: 19  
Candidate Starts for Chipette\_47:  
(Start: 19 @39931 has 235 MA's), (Start: 40 @39832 has 52 MA's), (57, 39754), (58, 39739), (66, 39694),

Gene: Chorkpop\_46 Start: 39437, Stop: 38913, Start Num: 19  
Candidate Starts for Chorkpop\_46:  
(Start: 19 @39437 has 235 MA's), (Start: 40 @39338 has 52 MA's), (57, 39260), (58, 39245), (66, 39200),

Gene: ChrisnMich\_41 Start: 38585, Stop: 38160, Start Num: 42  
Candidate Starts for ChrisnMich\_41:  
(Start: 8 @38789 has 1 MA's), (11, 38753), (24, 38699), (Start: 36 @38618 has 3 MA's), (Start: 42 @38585 has 22 MA's), (62, 38477), (71, 38402), (77, 38357), (79, 38348), (90, 38300), (98, 38264), (102, 38246),

Gene: Chuni\_45 Start: 39735, Stop: 39208, Start Num: 19  
Candidate Starts for Chuni\_45:  
(Start: 19 @39735 has 235 MA's), (Start: 40 @39633 has 52 MA's), (57, 39555), (58, 39540), (66, 39495),

Gene: Chunky\_46 Start: 39724, Stop: 39200, Start Num: 19  
Candidate Starts for Chunky\_46:  
(Start: 19 @39724 has 235 MA's), (Start: 40 @39625 has 52 MA's), (57, 39547), (58, 39532), (66, 39487),

Gene: Chute\_45 Start: 39663, Stop: 39238, Start Num: 40  
Candidate Starts for Chute\_45:  
(Start: 19 @39765 has 235 MA's), (Start: 40 @39663 has 52 MA's), (57, 39585), (58, 39570), (66, 39525),

Gene: CloverMinnie\_41 Start: 35206, Stop: 34766, Start Num: 37  
Candidate Starts for CloverMinnie\_41:

(Start: 37 @35206 has 2 MA's), (Start: 51 @35152 has 6 MA's), (59, 35092), (61, 35077), (71, 34984), (73, 34972), (77, 34939), (93, 34891), (95, 34882),

Gene: Cobra\_46 Start: 39722, Stop: 39198, Start Num: 19

Candidate Starts for Cobra\_46:

(Start: 19 @39722 has 235 MA's), (Start: 40 @39623 has 52 MA's), (57, 39545), (58, 39530), (66, 39485),

Gene: Coffee\_45 Start: 39966, Stop: 39577, Start Num: 47

Candidate Starts for Coffee\_45:

(Start: 47 @39966 has 37 MA's), (57, 39909), (62, 39867), (66, 39846), (70, 39801), (72, 39786), (73, 39777), (76, 39765), (77, 39744), (89, 39681), (93, 39675), (98, 39639), (99, 39636), (108, 39597),

Gene: Colbert\_46 Start: 39777, Stop: 39253, Start Num: 19

Candidate Starts for Colbert\_46:

(Start: 19 @39777 has 235 MA's), (Start: 40 @39678 has 52 MA's), (57, 39600), (58, 39585), (66, 39540),

Gene: Coldpizza\_42 Start: 37983, Stop: 37594, Start Num: 52

Candidate Starts for Coldpizza\_42:

(Start: 52 @37983 has 4 MA's), (61, 37899), (62, 37893), (66, 37875), (75, 37797), (98, 37686),

Gene: Coletti\_46 Start: 39765, Stop: 39238, Start Num: 19

Candidate Starts for Coletti\_46:

(Start: 19 @39765 has 235 MA's), (Start: 40 @39663 has 52 MA's), (57, 39585), (58, 39570), (66, 39525),

Gene: Cooper\_42 Start: 38807, Stop: 38379, Start Num: 42

Candidate Starts for Cooper\_42:

(Start: 8 @39008 has 1 MA's), (11, 38972), (Start: 36 @38840 has 3 MA's), (Start: 42 @38807 has 22 MA's), (62, 38696), (71, 38621), (73, 38609), (79, 38567), (90, 38519), (97, 38486), (98, 38483), (102, 38465), (111, 38420),

Gene: Cornbread\_45 Start: 39438, Stop: 38914, Start Num: 19

Candidate Starts for Cornbread\_45:

(Start: 19 @39438 has 235 MA's), (Start: 40 @39339 has 52 MA's), (57, 39261), (58, 39246), (66, 39201),

Gene: Cornobble\_45 Start: 39279, Stop: 38752, Start Num: 19

Candidate Starts for Cornobble\_45:

(Start: 19 @39279 has 235 MA's), (Start: 40 @39177 has 52 MA's), (57, 39099), (58, 39084), (66, 39039),

Gene: Cosmolli16\_45 Start: 39429, Stop: 38902, Start Num: 19

Candidate Starts for Cosmolli16\_45:

(Start: 19 @39429 has 235 MA's), (Start: 40 @39327 has 52 MA's), (57, 39249), (58, 39234), (66, 39189),

Gene: Craff\_46 Start: 39620, Stop: 39195, Start Num: 40

Candidate Starts for Craff\_46:

(14, 39770), (17, 39761), (20, 39746), (Start: 40 @39620 has 52 MA's), (57, 39542), (58, 39527), (66, 39482),

Gene: Crownjwl\_46 Start: 39498, Stop: 38968, Start Num: 19

Candidate Starts for Crownjwl\_46:

(Start: 19 @39498 has 235 MA's), (Start: 40 @39393 has 52 MA's), (57, 39315), (58, 39300), (66, 39255),

Gene: DaddyDaniels\_46 Start: 39410, Stop: 38886, Start Num: 19

Candidate Starts for DaddyDaniels\_46:

(Start: 19 @39410 has 235 MA's), (Start: 40 @39311 has 52 MA's), (57, 39233), (58, 39218), (66, 39173),

Gene: Daffy\_46 Start: 39441, Stop: 38917, Start Num: 19

Candidate Starts for Daffy\_46:

(Start: 19 @39441 has 235 MA's), (Start: 40 @39342 has 52 MA's), (57, 39264), (58, 39249), (66, 39204),

Gene: Daka\_47 Start: 39714, Stop: 39190, Start Num: 19

Candidate Starts for Daka\_47:

(Start: 19 @39714 has 235 MA's), (Start: 40 @39615 has 52 MA's), (57, 39537), (58, 39522), (66, 39477),

Gene: Dati\_46 Start: 39336, Stop: 38911, Start Num: 40

Candidate Starts for Dati\_46:

(Start: 19 @39438 has 235 MA's), (Start: 40 @39336 has 52 MA's), (57, 39258), (58, 39243), (66, 39198),

Gene: DelRivs\_45 Start: 39442, Stop: 38912, Start Num: 19

Candidate Starts for DelRivs\_45:

(Start: 19 @39442 has 235 MA's), (Start: 40 @39337 has 52 MA's), (57, 39259), (58, 39244), (66, 39199),

Gene: Derpp\_45 Start: 39280, Stop: 38756, Start Num: 19

Candidate Starts for Derpp\_45:

(Start: 19 @39280 has 235 MA's), (Start: 40 @39181 has 52 MA's), (57, 39103), (58, 39088), (66, 39043),

Gene: Dice\_45 Start: 39412, Stop: 38891, Start Num: 19

Candidate Starts for Dice\_45:

(Start: 19 @39412 has 235 MA's), (Start: 40 @39316 has 52 MA's), (57, 39238), (58, 39223), (66, 39178),

Gene: DigitDog\_44 Start: 39734, Stop: 39348, Start Num: 50

Candidate Starts for DigitDog\_44:

(Start: 50 @39734 has 15 MA's), (55, 39713), (59, 39674), (62, 39653), (69, 39593), (72, 39575), (73, 39566), (90, 39479), (98, 39443), (102, 39425), (109, 39389),

Gene: Dingo\_46 Start: 39704, Stop: 39174, Start Num: 19

Candidate Starts for Dingo\_46:

(Start: 19 @39704 has 235 MA's), (Start: 40 @39599 has 52 MA's), (57, 39521), (58, 39506), (66, 39461),

Gene: Dione\_45 Start: 39420, Stop: 38896, Start Num: 19

Candidate Starts for Dione\_45:

(Start: 19 @39420 has 235 MA's), (Start: 40 @39321 has 52 MA's), (57, 39243), (58, 39228), (66, 39183),

Gene: DirtJuice\_46 Start: 39704, Stop: 39180, Start Num: 19

Candidate Starts for DirtJuice\_46:

(Start: 19 @39704 has 235 MA's), (Start: 40 @39605 has 52 MA's), (57, 39527), (58, 39512), (66, 39467),

Gene: Doddsville\_46 Start: 39434, Stop: 38910, Start Num: 19

Candidate Starts for Doddsville\_46:

(Start: 19 @39434 has 235 MA's), (Start: 40 @39335 has 52 MA's), (57, 39257), (58, 39242), (66, 39197),

Gene: DoesntMatter\_45 Start: 39707, Stop: 39183, Start Num: 19

Candidate Starts for DoesntMatter\_45:

(Start: 19 @39707 has 235 MA's), (Start: 40 @39608 has 52 MA's), (57, 39530), (58, 39515), (66, 39470),

Gene: DolOn\_48 Start: 39845, Stop: 39420, Start Num: 40

Candidate Starts for DolOn\_48:

(14, 39995), (17, 39986), (20, 39971), (Start: 40 @39845 has 52 MA's), (57, 39767), (58, 39752), (66, 39707),

Gene: DonSanchon\_45 Start: 39417, Stop: 38890, Start Num: 19

Candidate Starts for DonSanchon\_45:

(Start: 19 @39417 has 235 MA's), (Start: 40 @39315 has 52 MA's), (57, 39237), (58, 39222), (66, 39177),

Gene: Donny\_45 Start: 40039, Stop: 39653, Start Num: 50

Candidate Starts for Donny\_45:

(22, 40177), (Start: 50 @40039 has 15 MA's), (55, 40018), (59, 39979), (62, 39958), (69, 39898), (73, 39871), (90, 39784), (98, 39748), (102, 39730), (109, 39694), (113, 39673),

Gene: DuchessDung\_44 Start: 38469, Stop: 38044, Start Num: 40

Candidate Starts for DuchessDung\_44:

(14, 38619), (17, 38610), (20, 38595), (Start: 40 @38469 has 52 MA's), (57, 38391), (58, 38376), (66, 38331),

Gene: Duggie\_45 Start: 39436, Stop: 38912, Start Num: 19

Candidate Starts for Duggie\_45:

(Start: 19 @39436 has 235 MA's), (Start: 40 @39337 has 52 MA's), (57, 39259), (58, 39244), (66, 39199),

Gene: Durga\_46 Start: 39635, Stop: 39210, Start Num: 40

Candidate Starts for Durga\_46:

(14, 39785), (17, 39776), (20, 39761), (Start: 40 @39635 has 52 MA's), (57, 39557), (58, 39542), (66, 39497),

Gene: Eaglehorse\_45 Start: 39890, Stop: 39501, Start Num: 47

Candidate Starts for Eaglehorse\_45:

(Start: 47 @39890 has 37 MA's), (57, 39833), (62, 39791), (66, 39770), (70, 39725), (72, 39710), (73, 39701), (76, 39689), (77, 39668), (89, 39605), (93, 39599), (98, 39563), (99, 39560), (108, 39521),

Gene: EastView9101\_43 Start: 39689, Stop: 39303, Start Num: 50

Candidate Starts for EastView9101\_43:

(22, 39827), (Start: 50 @39689 has 15 MA's), (55, 39668), (59, 39629), (62, 39608), (69, 39548), (73, 39521), (90, 39434), (98, 39398), (102, 39380), (109, 39344), (113, 39323),

Gene: ElvisPhasley\_46 Start: 39657, Stop: 39232, Start Num: 40

Candidate Starts for ElvisPhasley\_46:

(14, 39807), (17, 39798), (20, 39783), (Start: 40 @39657 has 52 MA's), (57, 39579), (58, 39564), (66, 39519),

Gene: Emiris\_46 Start: 39603, Stop: 39178, Start Num: 40

Candidate Starts for Emiris\_46:

(14, 39753), (17, 39744), (20, 39729), (Start: 40 @39603 has 52 MA's), (57, 39525), (58, 39510), (66, 39465),

Gene: EmpTee\_46 Start: 39720, Stop: 39190, Start Num: 19

Candidate Starts for EmpTee\_46:

(Start: 19 @39720 has 235 MA's), (Start: 40 @39615 has 52 MA's), (57, 39537), (58, 39522), (66, 39477),

Gene: Epah\_40 Start: 38593, Stop: 38168, Start Num: 42

Candidate Starts for Epah\_40:

(Start: 8 @38797 has 1 MA's), (11, 38761), (24, 38707), (Start: 36 @38626 has 3 MA's), (Start: 42 @38593 has 22 MA's), (62, 38485), (71, 38410), (73, 38398), (77, 38365), (79, 38356), (90, 38308), (98, 38272), (102, 38254),

Gene: Eremos\_46 Start: 39713, Stop: 39189, Start Num: 19

Candidate Starts for Eremos\_46:

(Start: 19 @39713 has 235 MA's), (Start: 40 @39614 has 52 MA's), (57, 39536), (58, 39521), (66, 39476),

Gene: Etaye\_46 Start: 39707, Stop: 39180, Start Num: 19

Candidate Starts for Etaye\_46:

(Start: 19 @39707 has 235 MA's), (Start: 40 @39605 has 52 MA's), (57, 39527), (58, 39512), (66, 39467),

Gene: Eugenia\_46 Start: 39723, Stop: 39199, Start Num: 19

Candidate Starts for Eugenia\_46:

(Start: 19 @39723 has 235 MA's), (Start: 40 @39624 has 52 MA's), (57, 39546), (58, 39531), (66, 39486),

Gene: Evaa\_39 Start: 34284, Stop: 33898, Start Num: 52

Candidate Starts for Evaa\_39:

(48, 34296), (Start: 52 @34284 has 4 MA's), (62, 34194), (66, 34176), (76, 34095), (85, 34041), (91, 34029),

Gene: Fanaw\_40 Start: 39290, Stop: 38865, Start Num: 42

Candidate Starts for Fanaw\_40:

(Start: 8 @39494 has 1 MA's), (9, 39470), (11, 39458), (24, 39404), (Start: 36 @39323 has 3 MA's), (Start: 42 @39290 has 22 MA's), (45, 39284), (62, 39182), (71, 39107), (72, 39104), (77, 39062), (79, 39053), (90, 39005), (98, 38969), (102, 38951),

Gene: Fang\_46 Start: 39628, Stop: 39203, Start Num: 40

Candidate Starts for Fang\_46:

(14, 39778), (17, 39769), (20, 39754), (Start: 40 @39628 has 52 MA's), (57, 39550), (58, 39535), (66, 39490),

Gene: Faze9\_44 Start: 39986, Stop: 39597, Start Num: 47

Candidate Starts for Faze9\_44:

(Start: 47 @39986 has 37 MA's), (57, 39929), (62, 39887), (66, 39866), (70, 39821), (72, 39806), (73, 39797), (76, 39785), (77, 39764), (89, 39701), (93, 39695), (98, 39659), (99, 39656), (108, 39617),

Gene: FelixTres\_41 Start: 35269, Stop: 34829, Start Num: 37

Candidate Starts for FelixTres\_41:

(Start: 37 @35269 has 2 MA's), (Start: 51 @35215 has 6 MA's), (59, 35155), (61, 35140), (71, 35047), (73, 35035), (77, 35002), (93, 34954), (95, 34945),

Gene: Flake\_46 Start: 39772, Stop: 39245, Start Num: 19

Candidate Starts for Flake\_46:

(Start: 19 @39772 has 235 MA's), (Start: 40 @39670 has 52 MA's), (57, 39592), (58, 39577), (66, 39532),

Gene: FleetyMac\_46 Start: 39725, Stop: 39198, Start Num: 19

Candidate Starts for FleetyMac\_46:

(Start: 19 @39725 has 235 MA's), (Start: 40 @39623 has 52 MA's), (57, 39545), (58, 39530), (66, 39485),

Gene: FluffyNinja\_46 Start: 39621, Stop: 39196, Start Num: 40

Candidate Starts for FluffyNinja\_46:

(14, 39771), (17, 39762), (20, 39747), (Start: 40 @39621 has 52 MA's), (57, 39543), (58, 39528), (66, 39483),

Gene: ForDig\_38 Start: 37407, Stop: 36973, Start Num: 41

Candidate Starts for ForDig\_38:

(3, 37635), (12, 37563), (Start: 41 @37407 has 12 MA's), (59, 37302), (62, 37281), (69, 37221), (76, 37182), (80, 37149), (98, 37074), (102, 37056),

Gene: Fortunato\_42 Start: 39822, Stop: 39193, Start Num: 8

Candidate Starts for Fortunato\_42:

(Start: 8 @39822 has 1 MA's), (11, 39786), (24, 39732), (Start: 36 @39651 has 3 MA's), (Start: 42 @39618 has 22 MA's), (45, 39612), (62, 39510), (71, 39435), (73, 39423), (77, 39390), (79, 39381), (90, 39333), (98, 39297), (102, 39279),

Gene: Fozzie\_45 Start: 39742, Stop: 39212, Start Num: 19

Candidate Starts for Fozzie\_45:

(Start: 19 @39742 has 235 MA's), (Start: 40 @39637 has 52 MA's), (57, 39559), (58, 39544), (66, 39499),

Gene: Frankicide\_46 Start: 39732, Stop: 39208, Start Num: 19

Candidate Starts for Frankicide\_46:

(Start: 19 @39732 has 235 MA's), (Start: 40 @39633 has 52 MA's), (57, 39555), (58, 39540), (66, 39495),

Gene: Frederick\_42 Start: 39624, Stop: 39199, Start Num: 42

Candidate Starts for Frederick\_42:

(Start: 8 @39828 has 1 MA's), (9, 39804), (11, 39792), (24, 39738), (Start: 36 @39657 has 3 MA's), (Start: 42 @39624 has 22 MA's), (62, 39516), (71, 39441), (77, 39396), (79, 39387), (90, 39339), (98, 39303), (102, 39285),

Gene: FremontTroll\_46 Start: 39480, Stop: 38950, Start Num: 19

Candidate Starts for FremontTroll\_46:

(Start: 19 @39480 has 235 MA's), (Start: 40 @39375 has 52 MA's), (57, 39297), (58, 39282), (66, 39237),

Gene: FrenchFry\_45 Start: 39980, Stop: 39591, Start Num: 47

Candidate Starts for FrenchFry\_45:

(Start: 47 @39980 has 37 MA's), (57, 39923), (62, 39881), (66, 39860), (70, 39815), (72, 39800), (73, 39791), (76, 39779), (77, 39758), (89, 39695), (93, 39689), (98, 39653), (99, 39650), (108, 39611),

Gene: Fresco\_39 Start: 33273, Stop: 32851, Start Num: 41

Candidate Starts for Fresco\_39:

(Start: 41 @33273 has 12 MA's), (62, 33156), (66, 33138), (71, 33081), (85, 32994), (93, 32979), (100, 32934), (107, 32892),

Gene: Freya\_45 Start: 39411, Stop: 38887, Start Num: 19

Candidate Starts for Freya\_45:

(Start: 19 @39411 has 235 MA's), (Start: 40 @39312 has 52 MA's), (57, 39234), (58, 39219), (66, 39174),

Gene: FriarPreacher\_45 Start: 39744, Stop: 39214, Start Num: 19

Candidate Starts for FriarPreacher\_45:

(Start: 19 @39744 has 235 MA's), (Start: 40 @39639 has 52 MA's), (57, 39561), (58, 39546), (66, 39501),

Gene: Fringe\_46 Start: 39604, Stop: 39179, Start Num: 40

Candidate Starts for Fringe\_46:

(14, 39754), (17, 39745), (20, 39730), (Start: 40 @39604 has 52 MA's), (57, 39526), (58, 39511), (66, 39466),

Gene: FugateOSU\_45 Start: 39419, Stop: 38892, Start Num: 19

Candidate Starts for FugateOSU\_45:

(Start: 19 @39419 has 235 MA's), (Start: 40 @39317 has 52 MA's), (57, 39239), (58, 39224), (66, 39179),

Gene: Funsized\_47 Start: 42156, Stop: 41758, Start Num: 50

Candidate Starts for Funsized\_47:

(Start: 50 @42156 has 15 MA's), (66, 42054), (71, 41997), (72, 41994), (78, 41946), (93, 41886), (102, 41829),

Gene: Gareth\_45 Start: 39320, Stop: 38895, Start Num: 40

Candidate Starts for Gareth\_45:

(Start: 19 @39419 has 235 MA's), (Start: 40 @39320 has 52 MA's), (57, 39242), (58, 39227), (66, 39182),

Gene: GeneCoco\_46 Start: 39728, Stop: 39204, Start Num: 19

Candidate Starts for GeneCoco\_46:

(Start: 19 @39728 has 235 MA's), (Start: 40 @39629 has 52 MA's), (57, 39551), (58, 39536), (66, 39491),

Gene: GinPorsche\_41 Start: 38593, Stop: 38168, Start Num: 42

Candidate Starts for GinPorsche\_41:

(Start: 8 @38797 has 1 MA's), (11, 38761), (24, 38707), (Start: 36 @38626 has 3 MA's), (Start: 42 @38593 has 22 MA's), (62, 38485), (71, 38410), (73, 38398), (77, 38365), (79, 38356), (90, 38308), (98, 38272), (102, 38254),

Gene: Giraffe\_46 Start: 39422, Stop: 38898, Start Num: 19

Candidate Starts for Giraffe\_46:

(Start: 19 @39422 has 235 MA's), (Start: 40 @39323 has 52 MA's), (57, 39245), (58, 39230), (66, 39185),

Gene: Glass\_45 Start: 39980, Stop: 39591, Start Num: 47

Candidate Starts for Glass\_45:

(Start: 47 @39980 has 37 MA's), (57, 39923), (62, 39881), (66, 39860), (70, 39815), (72, 39800), (73, 39791), (76, 39779), (77, 39758), (89, 39695), (93, 39689), (98, 39653), (99, 39650), (108, 39611),

Gene: Godines\_45 Start: 39922, Stop: 39533, Start Num: 47

Candidate Starts for Godines\_45:

(Start: 47 @39922 has 37 MA's), (57, 39865), (62, 39823), (66, 39802), (70, 39757), (72, 39742), (73, 39733), (76, 39721), (77, 39700), (89, 39637), (93, 39631), (98, 39595), (99, 39592), (108, 39553),

Gene: Gophee\_46 Start: 39711, Stop: 39181, Start Num: 19

Candidate Starts for Gophee\_46:

(Start: 19 @39711 has 235 MA's), (Start: 40 @39606 has 52 MA's), (57, 39528), (58, 39513), (66, 39468),

Gene: Grand2040\_45 Start: 39437, Stop: 38913, Start Num: 19

Candidate Starts for Grand2040\_45:

(Start: 19 @39437 has 235 MA's), (Start: 40 @39338 has 52 MA's), (57, 39260), (58, 39245), (66, 39200),

Gene: GreenChile\_46 Start: 39716, Stop: 39189, Start Num: 19

Candidate Starts for GreenChile\_46:

(Start: 19 @39716 has 235 MA's), (Start: 40 @39614 has 52 MA's), (57, 39536), (58, 39521), (66, 39476),

Gene: Gwennie1\_46 Start: 39783, Stop: 39259, Start Num: 19

Candidate Starts for Gwennie1\_46:

(Start: 19 @39783 has 235 MA's), (Start: 40 @39684 has 52 MA's), (57, 39606), (58, 39591), (66, 39546),

Gene: Gwilliam\_46 Start: 39717, Stop: 39193, Start Num: 19

Candidate Starts for Gwilliam\_46:

(Start: 19 @39717 has 235 MA's), (Start: 40 @39618 has 52 MA's), (57, 39540), (58, 39525), (66, 39480),

Gene: Gyarad\_0046 Start: 39719, Stop: 39195, Start Num: 19

Candidate Starts for Gyarad\_0046:

(Start: 19 @39719 has 235 MA's), (Start: 40 @39620 has 52 MA's), (57, 39542), (58, 39527), (66, 39482),

Gene: HSavage\_46 Start: 39723, Stop: 39199, Start Num: 19

Candidate Starts for HSavage\_46:

(Start: 19 @39723 has 235 MA's), (Start: 40 @39624 has 52 MA's), (57, 39546), (58, 39531), (66, 39486),

Gene: Haimas\_46 Start: 39717, Stop: 39190, Start Num: 19

Candidate Starts for Haimas\_46:

(Start: 19 @39717 has 235 MA's), (Start: 40 @39615 has 52 MA's), (57, 39537), (58, 39522), (66, 39477),

Gene: Haleema\_45 Start: 39437, Stop: 38913, Start Num: 19

Candidate Starts for Haleema\_45:

(Start: 19 @39437 has 235 MA's), (Start: 40 @39338 has 52 MA's), (57, 39260), (58, 39245), (66, 39200),

Gene: Halfpint\_43 Start: 39281, Stop: 38844, Start Num: 39

Candidate Starts for Halfpint\_43:

(6, 39500), (23, 39398), (31, 39344), (35, 39329), (Start: 39 @39281 has 10 MA's), (56, 39191), (62, 39146), (63, 39140), (65, 39134), (70, 39083), (83, 38996), (88, 38972), (98, 38924),

Gene: Hally898\_40 Start: 38605, Stop: 38180, Start Num: 42

Candidate Starts for Hally898\_40:

(Start: 8 @38809 has 1 MA's), (11, 38773), (24, 38719), (Start: 36 @38638 has 3 MA's), (Start: 42 @38605 has 22 MA's), (62, 38497), (71, 38422), (73, 38410), (77, 38377), (79, 38368), (90, 38320), (98, 38284), (102, 38266),

Gene: Hamish\_46 Start: 39709, Stop: 39182, Start Num: 19

Candidate Starts for Hamish\_46:

(Start: 19 @39709 has 235 MA's), (Start: 40 @39607 has 52 MA's), (57, 39529), (58, 39514), (66, 39469),

Gene: Hangman\_41 Start: 39616, Stop: 39191, Start Num: 42

Candidate Starts for Hangman\_41:

(Start: 8 @39820 has 1 MA's), (9, 39796), (11, 39784), (24, 39730), (Start: 36 @39649 has 3 MA's), (Start: 42 @39616 has 22 MA's), (62, 39508), (71, 39433), (73, 39421), (77, 39388), (79, 39379), (90, 39331), (98, 39295), (102, 39277),

Gene: Happabalu\_46 Start: 39438, Stop: 38911, Start Num: 19

Candidate Starts for Happabalu\_46:

(Start: 19 @39438 has 235 MA's), (Start: 40 @39336 has 52 MA's), (57, 39258), (58, 39243), (66, 39198),

Gene: Hartsy\_46 Start: 39760, Stop: 39233, Start Num: 19

Candidate Starts for Hartsy\_46:

(Start: 19 @39760 has 235 MA's), (Start: 40 @39658 has 52 MA's), (57, 39580), (58, 39565), (66, 39520),

Gene: Harvey\_46 Start: 39735, Stop: 39208, Start Num: 19

Candidate Starts for Harvey\_46:

(Start: 19 @39735 has 235 MA's), (Start: 40 @39633 has 52 MA's), (57, 39555), (58, 39540), (66, 39495),

Gene: Heath\_40 Start: 39223, Stop: 38798, Start Num: 42

Candidate Starts for Heath\_40:

(Start: 8 @39427 has 1 MA's), (9, 39403), (11, 39391), (24, 39337), (Start: 36 @39256 has 3 MA's), (Start: 42 @39223 has 22 MA's), (62, 39115), (71, 39040), (73, 39028), (77, 38995), (79, 38986), (90, 38938), (98, 38902), (102, 38884),

Gene: Hedgerow\_45 Start: 39962, Stop: 39573, Start Num: 47

Candidate Starts for Hedgerow\_45:

(Start: 47 @39962 has 37 MA's), (57, 39905), (62, 39863), (66, 39842), (70, 39797), (72, 39782), (73, 39773), (76, 39761), (77, 39740), (89, 39677), (93, 39671), (98, 39635), (99, 39632), (108, 39593),

Gene: Hekos\_43 Start: 38286, Stop: 37762, Start Num: 19

Candidate Starts for Hekos\_43:

(Start: 19 @38286 has 235 MA's), (Start: 40 @38187 has 52 MA's), (57, 38109), (58, 38094), (66, 38049),

Gene: Held\_46 Start: 39421, Stop: 38897, Start Num: 19

Candidate Starts for Held\_46:

(Start: 19 @39421 has 235 MA's), (Start: 40 @39322 has 52 MA's), (57, 39244), (58, 39229), (66, 39184),

Gene: HenryJackson\_45 Start: 39437, Stop: 38913, Start Num: 19

Candidate Starts for HenryJackson\_45:

(Start: 19 @39437 has 235 MA's), (Start: 40 @39338 has 52 MA's), (57, 39260), (58, 39245), (66, 39200),

Gene: Hertubise\_46 Start: 39731, Stop: 39204, Start Num: 19

Candidate Starts for Hertubise\_46:

(Start: 19 @39731 has 235 MA's), (Start: 40 @39629 has 52 MA's), (57, 39551), (58, 39536), (66, 39491),

Gene: Hetaeria\_46 Start: 39733, Stop: 39206, Start Num: 19

Candidate Starts for Hetaeria\_46:

(Start: 19 @39733 has 235 MA's), (Start: 40 @39631 has 52 MA's), (57, 39553), (58, 39538), (66, 39493),

Gene: HighStump\_45 Start: 39321, Stop: 38896, Start Num: 40

Candidate Starts for HighStump\_45:

(14, 39471), (17, 39462), (20, 39447), (Start: 40 @39321 has 52 MA's), (57, 39243), (58, 39228), (66, 39183),

Gene: Hocus\_45 Start: 39426, Stop: 38902, Start Num: 19

Candidate Starts for Hocus\_45:

(Start: 19 @39426 has 235 MA's), (Start: 40 @39327 has 52 MA's), (57, 39249), (58, 39234), (66, 39189),

Gene: HogWash\_46 Start: 39729, Stop: 39202, Start Num: 19

Candidate Starts for HogWash\_46:

(Start: 19 @39729 has 235 MA's), (Start: 40 @39627 has 52 MA's), (57, 39549), (58, 39534), (66, 39489),

Gene: Holeinone\_45 Start: 39842, Stop: 39453, Start Num: 47

Candidate Starts for Holeinone\_45:

(Start: 47 @39842 has 37 MA's), (57, 39785), (62, 39743), (66, 39722), (70, 39677), (72, 39662), (73, 39653), (76, 39641), (77, 39620), (89, 39557), (93, 39551), (98, 39515), (99, 39512), (108, 39473),

Gene: Horchata\_46 Start: 39711, Stop: 39184, Start Num: 19

Candidate Starts for Horchata\_46:

(Start: 19 @39711 has 235 MA's), (Start: 40 @39609 has 52 MA's), (57, 39531), (58, 39516), (66, 39471),

Gene: Hosp\_036 Start: 35614, Stop: 35177, Start Num: 41

Candidate Starts for Hosp\_036:

(3, 35842), (12, 35770), (Start: 41 @35614 has 12 MA's), (55, 35548), (62, 35488), (73, 35401), (76, 35389), (77, 35368), (98, 35269),

Gene: Hydro\_41 Start: 39633, Stop: 39208, Start Num: 42

Candidate Starts for Hydro\_41:

(Start: 8 @39837 has 1 MA's), (9, 39813), (11, 39801), (24, 39747), (Start: 36 @39666 has 3 MA's), (Start: 42 @39633 has 22 MA's), (62, 39525), (71, 39450), (73, 39438), (77, 39405), (79, 39396), (90, 39348), (98, 39312), (102, 39294),

Gene: ImtiyazSitla\_45 Start: 39169, Stop: 38744, Start Num: 40

Candidate Starts for ImtiyazSitla\_45:

(14, 39319), (17, 39310), (20, 39295), (Start: 40 @39169 has 52 MA's), (57, 39091), (58, 39076), (66, 39031),

Gene: Inchworm\_46 Start: 39607, Stop: 39182, Start Num: 40

Candidate Starts for Inchworm\_46:

(14, 39757), (17, 39748), (20, 39733), (Start: 40 @39607 has 52 MA's), (57, 39529), (58, 39514), (66, 39469),

Gene: Indlovu\_43 Start: 38910, Stop: 38503, Start Num: 49

Candidate Starts for Indlovu\_43:

(Start: 49 @38910 has 1 MA's), (59, 38835), (72, 38736), (77, 38694), (88, 38637), (98, 38589),

Gene: Inverness\_46 Start: 39720, Stop: 39196, Start Num: 19

Candidate Starts for Inverness\_46:

(Start: 19 @39720 has 235 MA's), (Start: 40 @39621 has 52 MA's), (57, 39543), (58, 39528), (66, 39483),

Gene: Iridessa\_46 Start: 39422, Stop: 38898, Start Num: 19

Candidate Starts for Iridessa\_46:

(Start: 19 @39422 has 235 MA's), (Start: 40 @39323 has 52 MA's), (57, 39245), (58, 39230), (66, 39185),

Gene: Iridoclysis\_46 Start: 39703, Stop: 39176, Start Num: 19

Candidate Starts for Iridoclysis\_46:

(Start: 19 @39703 has 235 MA's), (Start: 40 @39601 has 52 MA's), (57, 39523), (58, 39508), (66, 39463),

Gene: IsaacEli\_46 Start: 39625, Stop: 39200, Start Num: 40

Candidate Starts for IsaacEli\_46:

(14, 39775), (17, 39766), (20, 39751), (Start: 40 @39625 has 52 MA's), (57, 39547), (58, 39532), (66, 39487),

Gene: ItsyBitsy1\_45 Start: 39844, Stop: 39455, Start Num: 47

Candidate Starts for ItsyBitsy1\_45:

(Start: 47 @39844 has 37 MA's), (57, 39787), (62, 39745), (66, 39724), (70, 39679), (72, 39664), (73, 39655), (76, 39643), (77, 39622), (89, 39559), (93, 39553), (98, 39517), (99, 39514), (108, 39475),

Gene: JAMaL\_41 Start: 39804, Stop: 39379, Start Num: 42

Candidate Starts for JAMaL\_41:

(Start: 8 @40008 has 1 MA's), (9, 39984), (11, 39972), (21, 39936), (24, 39918), (Start: 36 @39837 has 3 MA's), (Start: 42 @39804 has 22 MA's), (45, 39798), (62, 39696), (71, 39621), (73, 39609), (77, 39576), (90, 39519), (98, 39483), (102, 39465),

Gene: JDog\_45 Start: 39338, Stop: 38913, Start Num: 40

Candidate Starts for JDog\_45:

(Start: 19 @39440 has 235 MA's), (Start: 40 @39338 has 52 MA's), (57, 39260), (58, 39245), (66, 39200),

Gene: JacAttac\_46 Start: 39607, Stop: 39182, Start Num: 40

Candidate Starts for JacAttac\_46:

(14, 39757), (17, 39748), (20, 39733), (Start: 40 @39607 has 52 MA's), (57, 39529), (58, 39514), (66, 39469),

Gene: Jackstina\_41 Start: 39385, Stop: 38948, Start Num: 39

Candidate Starts for Jackstina\_41:

(6, 39604), (23, 39502), (31, 39448), (35, 39433), (Start: 39 @39385 has 10 MA's), (56, 39295), (62, 39250), (63, 39244), (65, 39238), (70, 39187), (83, 39100), (88, 39076), (98, 39028),

Gene: JaguarMi\_41 Start: 39177, Stop: 38674, Start Num: 29

Candidate Starts for JaguarMi\_41:

(13, 39261), (Start: 29 @39177 has 1 MA's), (Start: 36 @39132 has 3 MA's), (Start: 42 @39099 has 22 MA's), (62, 38991), (71, 38916), (73, 38904), (77, 38871), (79, 38862), (90, 38814), (98, 38778), (102, 38760),

Gene: JakeO\_45 Start: 39439, Stop: 38915, Start Num: 19

Candidate Starts for JakeO\_45:

(Start: 19 @39439 has 235 MA's), (Start: 40 @39340 has 52 MA's), (57, 39262), (58, 39247), (66, 39202),

Gene: JangoPhett\_46 Start: 39714, Stop: 39184, Start Num: 19

Candidate Starts for JangoPhett\_46:

(Start: 19 @39714 has 235 MA's), (Start: 40 @39609 has 52 MA's), (57, 39531), (58, 39516), (66, 39471),

Gene: JellyBelly\_39 Start: 33164, Stop: 32778, Start Num: 43

Candidate Starts for JellyBelly\_39:

(Start: 43 @33164 has 1 MA's), (65, 33050), (66, 33044), (73, 32975), (75, 32966), (93, 32891), (100, 32846), (102, 32834),

Gene: Jesabah\_46 Start: 39442, Stop: 38915, Start Num: 19

Candidate Starts for Jesabah\_46:

(Start: 19 @39442 has 235 MA's), (Start: 40 @39340 has 52 MA's), (57, 39262), (58, 39247), (66, 39202),

Gene: Jillium\_45 Start: 39433, Stop: 38906, Start Num: 19

Candidate Starts for Jillium\_45:

(Start: 19 @39433 has 235 MA's), (Start: 40 @39331 has 52 MA's), (57, 39253), (58, 39238), (66, 39193),

Gene: Jiminy\_45 Start: 39274, Stop: 38750, Start Num: 19

Candidate Starts for Jiminy\_45:

(Start: 19 @39274 has 235 MA's), (Start: 40 @39175 has 52 MA's), (57, 39097), (58, 39082), (66, 39037),

Gene: Jiraiya\_45 Start: 39427, Stop: 38903, Start Num: 19

Candidate Starts for Jiraiya\_45:

(Start: 19 @39427 has 235 MA's), (Start: 40 @39328 has 52 MA's), (57, 39250), (58, 39235), (66, 39190),

Gene: Jolie1\_038 Start: 37398, Stop: 36964, Start Num: 41

Candidate Starts for Jolie1\_038:

(3, 37626), (Start: 41 @37398 has 12 MA's), (59, 37293), (62, 37272), (69, 37212), (73, 37185), (76, 37173), (80, 37140), (98, 37065), (102, 37047),

Gene: JoyceMaria\_41 Start: 39619, Stop: 39194, Start Num: 42

Candidate Starts for JoyceMaria\_41:

(Start: 8 @39823 has 1 MA's), (9, 39799), (11, 39787), (24, 39733), (Start: 36 @39652 has 3 MA's), (Start: 42 @39619 has 22 MA's), (45, 39613), (62, 39511), (71, 39436), (73, 39424), (77, 39391), (79, 39382), (90, 39334), (98, 39298), (102, 39280),

Gene: KLucky39\_46 Start: 39718, Stop: 39194, Start Num: 19

Candidate Starts for KLucky39\_46:

(Start: 19 @39718 has 235 MA's), (Start: 40 @39619 has 52 MA's), (57, 39541), (58, 39526), (66, 39481),

Gene: Kahve\_45 Start: 39434, Stop: 38910, Start Num: 19

Candidate Starts for Kahve\_45:

(Start: 19 @39434 has 235 MA's), (Start: 40 @39335 has 52 MA's), (57, 39257), (58, 39242), (66, 39197),

Gene: Kailash\_46 Start: 39775, Stop: 39248, Start Num: 19

Candidate Starts for Kailash\_46:

(Start: 19 @39775 has 235 MA's), (Start: 40 @39673 has 52 MA's), (57, 39595), (58, 39580), (66, 39535),

Gene: Kaleb\_45 Start: 39977, Stop: 39588, Start Num: 47

Candidate Starts for Kaleb\_45:

(Start: 47 @39977 has 37 MA's), (57, 39920), (62, 39878), (66, 39857), (70, 39812), (72, 39797), (73, 39788), (76, 39776), (77, 39755), (89, 39692), (93, 39686), (98, 39650), (99, 39647), (108, 39608),

Gene: KarasumaRum\_46 Start: 40176, Stop: 39790, Start Num: 50

Candidate Starts for KarasumaRum\_46:

(Start: 50 @40176 has 15 MA's), (55, 40155), (59, 40116), (62, 40095), (69, 40035), (72, 40017), (73, 40008), (98, 39885), (102, 39867), (109, 39831),

Gene: Karn\_45 Start: 39434, Stop: 38910, Start Num: 19

Candidate Starts for Karn\_45:

(Start: 19 @39434 has 235 MA's), (Start: 40 @39335 has 52 MA's), (57, 39257), (58, 39242), (66, 39197),

Gene: Katniss\_46 Start: 39634, Stop: 39209, Start Num: 40

Candidate Starts for Katniss\_46:

(14, 39784), (17, 39775), (20, 39760), (Start: 40 @39634 has 52 MA's), (57, 39556), (58, 39541), (66, 39496),

Gene: KayaCho\_38 Start: 37397, Stop: 36963, Start Num: 41

Candidate Starts for KayaCho\_38:

(Start: 41 @37397 has 12 MA's), (59, 37292), (62, 37271), (69, 37211), (73, 37184), (76, 37172), (80, 37139), (98, 37064), (102, 37046),

Gene: Keitherie\_46 Start: 39774, Stop: 39247, Start Num: 19

Candidate Starts for Keitherie\_46:

(Start: 19 @39774 has 235 MA's), (Start: 40 @39672 has 52 MA's), (57, 39594), (58, 39579), (66, 39534),

Gene: Khan1\_46 Start: 39455, Stop: 38931, Start Num: 19

Candidate Starts for Khan1\_46:

(Start: 19 @39455 has 235 MA's), (Start: 40 @39356 has 52 MA's), (57, 39278), (58, 39263), (66, 39218),

Gene: Kheth\_45 Start: 39865, Stop: 39476, Start Num: 47

Candidate Starts for Kheth\_45:

(Start: 47 @39865 has 37 MA's), (57, 39808), (62, 39766), (66, 39745), (70, 39700), (72, 39685), (73, 39676), (76, 39664), (77, 39643), (89, 39580), (93, 39574), (98, 39538), (99, 39535), (108, 39496),

Gene: Kikipoo\_46 Start: 39625, Stop: 39200, Start Num: 40

Candidate Starts for Kikipoo\_46:

(14, 39775), (17, 39766), (20, 39751), (Start: 40 @39625 has 52 MA's), (57, 39547), (58, 39532), (66, 39487),

Gene: Kimbrough\_46 Start: 39435, Stop: 38902, Start Num: 19

Candidate Starts for Kimbrough\_46:

(Start: 19 @39435 has 235 MA's), (Start: 40 @39327 has 52 MA's), (57, 39249), (58, 39234), (66, 39189),

Gene: KingTut\_37 Start: 35098, Stop: 34571, Start Num: 19

Candidate Starts for KingTut\_37:

(Start: 19 @35098 has 235 MA's), (Start: 40 @34996 has 52 MA's), (57, 34918), (58, 34903), (66, 34858),

Gene: KingVeVeVe\_46 Start: 39705, Stop: 39175, Start Num: 19

Candidate Starts for KingVeVeVe\_46:

(Start: 19 @39705 has 235 MA's), (Start: 40 @39600 has 52 MA's), (57, 39522), (58, 39507), (66, 39462),

Gene: KlimbOn\_46 Start: 39712, Stop: 39188, Start Num: 19

Candidate Starts for KlimbOn\_46:

(Start: 19 @39712 has 235 MA's), (Start: 40 @39613 has 52 MA's), (57, 39535), (58, 39520), (66, 39475),

Gene: Kloppinator\_46 Start: 39738, Stop: 39211, Start Num: 19

Candidate Starts for Kloppinator\_46:

(Start: 19 @39738 has 235 MA's), (Start: 40 @39636 has 52 MA's), (57, 39558), (58, 39543), (66, 39498),

Gene: Knocker\_46 Start: 41265, Stop: 40882, Start Num: 54

Candidate Starts for Knocker\_46:

(Start: 54 @41265 has 2 MA's), (62, 41190), (66, 41172), (67, 41157), (71, 41115), (79, 41061), (87, 41019), (89, 41013), (101, 40950), (110, 40914),

Gene: Kolhan\_45 Start: 39856, Stop: 39467, Start Num: 47

Candidate Starts for Kolhan\_45:

(Start: 47 @39856 has 37 MA's), (57, 39799), (62, 39757), (66, 39736), (70, 39691), (72, 39676), (73, 39667), (76, 39655), (77, 39634), (89, 39571), (93, 39565), (98, 39529), (99, 39526), (108, 39487),

Gene: Kwadwo\_45 Start: 39416, Stop: 38892, Start Num: 19

Candidate Starts for Kwadwo\_45:

(Start: 19 @39416 has 235 MA's), (Start: 40 @39317 has 52 MA's), (57, 39239), (58, 39224), (66, 39179),

Gene: Kwksand96\_45 Start: 39285, Stop: 38761, Start Num: 19

Candidate Starts for Kwksand96\_45:

(Start: 19 @39285 has 235 MA's), (Start: 40 @39186 has 52 MA's), (57, 39108), (58, 39093), (66, 39048),

Gene: Labeouficaum\_45 Start: 39280, Stop: 38756, Start Num: 19

Candidate Starts for Labeouficaum\_45:

(Start: 19 @39280 has 235 MA's), (Start: 40 @39181 has 52 MA's), (57, 39103), (58, 39088), (66, 39043),

Gene: Lambano\_40 Start: 38605, Stop: 38180, Start Num: 42

Candidate Starts for Lambano\_40:

(Start: 8 @38809 has 1 MA's), (11, 38773), (24, 38719), (Start: 36 @38638 has 3 MA's), (Start: 42 @38605 has 22 MA's), (62, 38497), (71, 38422), (73, 38410), (77, 38377), (79, 38368), (90, 38320), (98, 38284), (102, 38266),

Gene: Lars\_45 Start: 39967, Stop: 39578, Start Num: 47

Candidate Starts for Lars\_45:

(Start: 47 @39967 has 37 MA's), (57, 39910), (62, 39868), (66, 39847), (70, 39802), (72, 39787), (73, 39778), (76, 39766), (77, 39745), (89, 39682), (93, 39676), (98, 39640), (99, 39637), (104, 39610), (108, 39598),

Gene: Larson\_47 Start: 39832, Stop: 39305, Start Num: 19

Candidate Starts for Larson\_47:

(Start: 19 @39832 has 235 MA's), (Start: 40 @39730 has 52 MA's), (57, 39652), (58, 39637), (66, 39592),

Gene: LasagnaCat\_46 Start: 39619, Stop: 39194, Start Num: 40

Candidate Starts for LasagnaCat\_46:

(14, 39769), (17, 39760), (20, 39745), (Start: 40 @39619 has 52 MA's), (57, 39541), (58, 39526), (66, 39481),

Gene: Lasso\_46 Start: 39691, Stop: 39167, Start Num: 19

Candidate Starts for Lasso\_46:

(Start: 19 @39691 has 235 MA's), (Start: 40 @39592 has 52 MA's), (57, 39514), (58, 39499), (66, 39454),

Gene: Laurie\_44 Start: 39366, Stop: 38977, Start Num: 47

Candidate Starts for Laurie\_44:

(Start: 47 @39366 has 37 MA's), (57, 39309), (62, 39267), (66, 39246), (70, 39201), (72, 39186), (73, 39177), (76, 39165), (77, 39144), (89, 39081), (93, 39075), (98, 39039), (99, 39036), (102, 39021), (108, 38997),

Gene: LeeLot\_46 Start: 39722, Stop: 39198, Start Num: 19

Candidate Starts for LeeLot\_46:

(Start: 19 @39722 has 235 MA's), (Start: 40 @39623 has 52 MA's), (57, 39545), (58, 39530), (66, 39485),

Gene: Legolas\_45 Start: 39333, Stop: 38908, Start Num: 40

Candidate Starts for Legolas\_45:

(1, 39888), (2, 39693), (4, 39549), (Start: 40 @39333 has 52 MA's), (57, 39255), (58, 39240), (66, 39195),

Gene: Lehmann\_46 Start: 39156, Stop: 38731, Start Num: 40

Candidate Starts for Lehmann\_46:

(Start: 19 @39255 has 235 MA's), (Start: 40 @39156 has 52 MA's), (57, 39078), (58, 39063), (66, 39018),

Gene: LeiMonet\_46 Start: 39423, Stop: 38899, Start Num: 19

Candidate Starts for LeiMonet\_46:

(Start: 19 @39423 has 235 MA's), (Start: 40 @39324 has 52 MA's), (57, 39246), (58, 39231), (66, 39186),

Gene: LemonSlice\_46 Start: 39422, Stop: 38895, Start Num: 19

Candidate Starts for LemonSlice\_46:

(Start: 19 @39422 has 235 MA's), (Start: 40 @39320 has 52 MA's), (57, 39242), (58, 39227), (66, 39182),

Gene: Lephleur\_45 Start: 39860, Stop: 39471, Start Num: 47

Candidate Starts for Lephleur\_45:

(Start: 47 @39860 has 37 MA's), (57, 39803), (62, 39761), (66, 39740), (70, 39695), (72, 39680), (73, 39671), (76, 39659), (77, 39638), (89, 39575), (93, 39569), (98, 39533), (99, 39530), (108, 39491),

Gene: Ligma\_39 Start: 33273, Stop: 32851, Start Num: 41

Candidate Starts for Ligma\_39:

(Start: 41 @33273 has 12 MA's), (62, 33156), (66, 33138), (71, 33081), (85, 32994), (93, 32979), (100, 32934), (107, 32892),

Gene: LilMcDreamy\_42 Start: 39137, Stop: 38754, Start Num: 50

Candidate Starts for LilMcDreamy\_42:

(Start: 8 @39353 has 1 MA's), (Start: 50 @39137 has 15 MA's), (59, 39077), (62, 39056), (73, 38969), (77, 38936), (79, 38927), (102, 38831), (106, 38804),

Gene: LilSmirk\_45 Start: 39854, Stop: 39465, Start Num: 47

Candidate Starts for LilSmirk\_45:

(Start: 47 @39854 has 37 MA's), (57, 39797), (62, 39755), (66, 39734), (70, 39689), (72, 39674), (73, 39665), (76, 39653), (77, 39632), (89, 39569), (93, 39563), (98, 39527), (99, 39524), (108, 39485),

Gene: LittleDigger\_40 Start: 38627, Stop: 38202, Start Num: 42

Candidate Starts for LittleDigger\_40:

(Start: 8 @38831 has 1 MA's), (11, 38795), (24, 38741), (Start: 36 @38660 has 3 MA's), (Start: 42 @38627 has 22 MA's), (62, 38519), (71, 38444), (77, 38399), (90, 38342), (98, 38306), (102, 38288),

Gene: LittleMunchkin\_41 Start: 36568, Stop: 36182, Start Num: 41

Candidate Starts for LittleMunchkin\_41:

(Start: 41 @36568 has 12 MA's), (62, 36460), (66, 36442), (73, 36373), (76, 36361), (80, 36328), (100, 36247), (102, 36235),

Gene: LizLemon\_45 Start: 39976, Stop: 39587, Start Num: 47

Candidate Starts for LizLemon\_45:

(Start: 47 @39976 has 37 MA's), (57, 39919), (62, 39877), (66, 39856), (70, 39811), (72, 39796), (73, 39787), (76, 39775), (77, 39754), (89, 39691), (93, 39685), (98, 39649), (99, 39646), (108, 39607),

Gene: Lolalove\_41 Start: 39630, Stop: 39205, Start Num: 42

Candidate Starts for Lolalove\_41:

(Start: 8 @39834 has 1 MA's), (9, 39810), (11, 39798), (24, 39744), (Start: 36 @39663 has 3 MA's), (Start: 42 @39630 has 22 MA's), (45, 39624), (62, 39522), (71, 39447), (73, 39435), (77, 39402), (79, 39393), (90, 39345), (98, 39309), (102, 39291),

Gene: Longacauda\_45 Start: 39424, Stop: 38900, Start Num: 19

Candidate Starts for Longacauda\_45:

(Start: 19 @39424 has 235 MA's), (Start: 40 @39325 has 52 MA's), (57, 39247), (58, 39232), (66, 39187),

Gene: Lopsy\_45 Start: 39277, Stop: 38750, Start Num: 19

Candidate Starts for Lopsy\_45:

(Start: 19 @39277 has 235 MA's), (Start: 40 @39175 has 52 MA's), (57, 39097), (58, 39082), (66, 39037),

Gene: LostAndPhound\_45 Start: 39425, Stop: 38901, Start Num: 19

Candidate Starts for LostAndPhound\_45:

(Start: 19 @39425 has 235 MA's), (Start: 40 @39326 has 52 MA's), (57, 39248), (58, 39233), (66, 39188),

Gene: LuckyMarjie\_45 Start: 39431, Stop: 38910, Start Num: 19

Candidate Starts for LuckyMarjie\_45:

(Start: 19 @39431 has 235 MA's), (Start: 40 @39335 has 52 MA's), (57, 39257), (58, 39242), (66, 39197),

Gene: Lulumae\_45 Start: 39416, Stop: 38892, Start Num: 19

Candidate Starts for Lulumae\_45:

(Start: 19 @39416 has 235 MA's), (Start: 40 @39317 has 52 MA's), (57, 39239), (58, 39224), (66, 39179),

Gene: Lulwa\_46 Start: 39703, Stop: 39179, Start Num: 19

Candidate Starts for Lulwa\_46:

(Start: 19 @39703 has 235 MA's), (Start: 40 @39604 has 52 MA's), (57, 39526), (58, 39511), (66, 39466),

Gene: Lumine\_45 Start: 39412, Stop: 38888, Start Num: 19

Candidate Starts for Lumine\_45:

(Start: 19 @39412 has 235 MA's), (Start: 40 @39313 has 52 MA's), (57, 39235), (58, 39220), (66, 39175),

Gene: MRabcd\_45 Start: 39416, Stop: 38892, Start Num: 19

Candidate Starts for MRabcd\_45:

(Start: 19 @39416 has 235 MA's), (Start: 40 @39317 has 52 MA's), (57, 39239), (58, 39224), (66, 39179),

Gene: Mag7\_45 Start: 39325, Stop: 38798, Start Num: 19

Candidate Starts for Mag7\_45:

(Start: 19 @39325 has 235 MA's), (Start: 40 @39223 has 52 MA's), (57, 39145), (58, 39130), (66, 39085),

Gene: Magic8\_46 Start: 39760, Stop: 39233, Start Num: 19

Candidate Starts for Magic8\_46:

(Start: 19 @39760 has 235 MA's), (Start: 40 @39658 has 52 MA's), (57, 39580), (58, 39565), (66, 39520),

Gene: Magpie\_40 Start: 39466, Stop: 39041, Start Num: 42

Candidate Starts for Magpie\_40:

(Start: 8 @39670 has 1 MA's), (9, 39646), (11, 39634), (24, 39580), (25, 39574), (Start: 36 @39499 has 3 MA's), (Start: 42 @39466 has 22 MA's), (45, 39460), (62, 39358), (71, 39283), (73, 39271), (77, 39238), (79, 39229), (90, 39181), (98, 39145), (102, 39127),

Gene: MakoManhole\_41 Start: 35230, Stop: 34844, Start Num: 51

Candidate Starts for MakoManhole\_41:

(Start: 37 @35284 has 2 MA's), (Start: 51 @35230 has 6 MA's), (59, 35170), (61, 35155), (71, 35062), (73, 35050), (77, 35017), (93, 34969), (95, 34960),

Gene: Mana\_45 Start: 39431, Stop: 38907, Start Num: 19

Candidate Starts for Mana\_45:

(Start: 19 @39431 has 235 MA's), (Start: 40 @39332 has 52 MA's), (57, 39254), (58, 39239), (66, 39194),

Gene: Manad\_45 Start: 39276, Stop: 38749, Start Num: 19

Candidate Starts for Manad\_45:

(Start: 19 @39276 has 235 MA's), (Start: 40 @39174 has 52 MA's), (57, 39096), (58, 39081), (66, 39036),

Gene: Mariokart\_39 Start: 33175, Stop: 32774, Start Num: 41

Candidate Starts for Mariokart\_39:

(Start: 41 @33175 has 12 MA's), (65, 33046), (66, 33040), (73, 32971), (75, 32962), (93, 32887), (100, 32842), (102, 32830),

Gene: Marlia\_44 Start: 39446, Stop: 39009, Start Num: 39

Candidate Starts for Marlia\_44:

(6, 39665), (23, 39563), (31, 39509), (35, 39494), (Start: 39 @39446 has 10 MA's), (56, 39356), (62, 39311), (63, 39305), (65, 39299), (70, 39248), (83, 39161), (88, 39137), (98, 39089),

Gene: Maru\_45 Start: 39374, Stop: 38850, Start Num: 19

Candidate Starts for Maru\_45:

(Start: 19 @39374 has 235 MA's), (Start: 40 @39275 has 52 MA's), (57, 39197), (58, 39182), (66, 39137),

Gene: Maskar\_45 Start: 39169, Stop: 38744, Start Num: 40

Candidate Starts for Maskar\_45:

(14, 39319), (17, 39310), (20, 39295), (Start: 40 @39169 has 52 MA's), (57, 39091), (58, 39076), (66, 39031),

Gene: MasterPo\_45 Start: 39863, Stop: 39474, Start Num: 47

Candidate Starts for MasterPo\_45:

(Start: 47 @39863 has 37 MA's), (57, 39806), (62, 39764), (66, 39743), (70, 39698), (72, 39683), (73, 39674), (76, 39662), (77, 39641), (89, 39578), (93, 39572), (98, 39536), (99, 39533), (108, 39494),

Gene: Matalotodo\_46 Start: 39720, Stop: 39193, Start Num: 19

Candidate Starts for Matalotodo\_46:

(Start: 19 @39720 has 235 MA's), (Start: 40 @39618 has 52 MA's), (57, 39540), (58, 39525), (66, 39480),

Gene: Mcshane\_45 Start: 39417, Stop: 38890, Start Num: 19

Candidate Starts for Mcshane\_45:

(Start: 19 @39417 has 235 MA's), (Start: 40 @39315 has 52 MA's), (57, 39237), (58, 39222), (66, 39177),

Gene: Mecca\_45 Start: 39423, Stop: 38893, Start Num: 19

Candidate Starts for Mecca\_45:

(Start: 19 @39423 has 235 MA's), (Start: 40 @39318 has 52 MA's), (57, 39240), (58, 39225), (66, 39180),

Gene: Megamind20\_46 Start: 39445, Stop: 38915, Start Num: 19

Candidate Starts for Megamind20\_46:

(Start: 19 @39445 has 235 MA's), (Start: 40 @39340 has 52 MA's), (57, 39262), (58, 39247), (66, 39202),

Gene: Megatron\_46 Start: 39616, Stop: 39191, Start Num: 40

Candidate Starts for Megatron\_46:

(14, 39766), (17, 39757), (20, 39742), (Start: 40 @39616 has 52 MA's), (57, 39538), (58, 39523), (66, 39478),

Gene: Melc17\_46 Start: 39715, Stop: 39188, Start Num: 19

Candidate Starts for Melc17\_46:

(Start: 19 @39715 has 235 MA's), (Start: 40 @39613 has 52 MA's), (57, 39535), (58, 39520), (66, 39475),

Gene: MelsMeow\_45 Start: 39219, Stop: 38794, Start Num: 40

Candidate Starts for MelsMeow\_45:

(14, 39369), (17, 39360), (20, 39345), (Start: 40 @39219 has 52 MA's), (57, 39141), (58, 39126), (66, 39081),

Gene: Mesh1\_46 Start: 39732, Stop: 39205, Start Num: 19

Candidate Starts for Mesh1\_46:

(Start: 19 @39732 has 235 MA's), (Start: 40 @39630 has 52 MA's), (57, 39552), (58, 39537), (66, 39492),

Gene: Mesmerelda\_45 Start: 39433, Stop: 38903, Start Num: 19  
Candidate Starts for Mesmerelda\_45:  
(Start: 19 @39433 has 235 MA's), (Start: 40 @39328 has 52 MA's), (57, 39250), (58, 39235), (66, 39190),

Gene: MichaelPhcott\_45 Start: 39322, Stop: 38795, Start Num: 19  
Candidate Starts for MichaelPhcott\_45:  
(Start: 19 @39322 has 235 MA's), (Start: 40 @39220 has 52 MA's), (57, 39142), (58, 39127), (66, 39082),

Gene: Mikota\_46 Start: 39702, Stop: 39178, Start Num: 19  
Candidate Starts for Mikota\_46:  
(Start: 19 @39702 has 235 MA's), (Start: 40 @39603 has 52 MA's), (57, 39525), (58, 39510), (66, 39465),

Gene: MiniBoss\_46 Start: 39708, Stop: 39184, Start Num: 19  
Candidate Starts for MiniBoss\_46:  
(Start: 19 @39708 has 235 MA's), (Start: 40 @39609 has 52 MA's), (57, 39531), (58, 39516), (66, 39471),

Gene: MitKao\_46 Start: 39423, Stop: 38899, Start Num: 19  
Candidate Starts for MitKao\_46:  
(Start: 19 @39423 has 235 MA's), (Start: 40 @39324 has 52 MA's), (57, 39246), (58, 39231), (66, 39186),

Gene: Mithril\_41 Start: 39634, Stop: 39209, Start Num: 42  
Candidate Starts for Mithril\_41:  
(Start: 8 @39838 has 1 MA's), (9, 39814), (11, 39802), (24, 39748), (Start: 36 @39667 has 3 MA's), (Start: 42 @39634 has 22 MA's), (62, 39526), (71, 39451), (73, 39439), (77, 39406), (79, 39397), (90, 39349), (98, 39313), (102, 39295),

Gene: Morgushi\_46 Start: 39424, Stop: 38900, Start Num: 19  
Candidate Starts for Morgushi\_46:  
(Start: 19 @39424 has 235 MA's), (Start: 40 @39325 has 52 MA's), (57, 39247), (58, 39232), (66, 39187),

Gene: Morty\_46 Start: 39625, Stop: 39200, Start Num: 40  
Candidate Starts for Morty\_46:  
(14, 39775), (17, 39766), (20, 39751), (Start: 40 @39625 has 52 MA's), (57, 39547), (58, 39532), (66, 39487),

Gene: Morty007\_44 Start: 40243, Stop: 39806, Start Num: 39  
Candidate Starts for Morty007\_44:  
(6, 40462), (23, 40360), (31, 40306), (35, 40291), (Start: 39 @40243 has 10 MA's), (56, 40153), (62, 40108), (63, 40102), (65, 40096), (70, 40045), (83, 39958), (88, 39934), (98, 39886),

Gene: Mosaic\_45 Start: 39417, Stop: 38905, Start Num: 19  
Candidate Starts for Mosaic\_45:  
(Start: 19 @39417 has 235 MA's), (Start: 40 @39318 has 52 MA's), (57, 39252), (58, 39237), (66, 39192),

Gene: MossRose\_41 Start: 35209, Stop: 34823, Start Num: 51  
Candidate Starts for MossRose\_41:

(Start: 37 @35263 has 2 MA's), (Start: 51 @35209 has 6 MA's), (59, 35149), (61, 35134), (71, 35041), (73, 35029), (77, 34996), (93, 34948), (95, 34939),

Gene: MrPhizzler\_46 Start: 39432, Stop: 38908, Start Num: 19

Candidate Starts for MrPhizzler\_46:

(Start: 19 @39432 has 235 MA's), (Start: 40 @39333 has 52 MA's), (57, 39255), (58, 39240), (66, 39195),

Gene: Mudslide\_41 Start: 39866, Stop: 39441, Start Num: 42

Candidate Starts for Mudslide\_41:

(Start: 8 @40070 has 1 MA's), (9, 40046), (11, 40034), (24, 39980), (Start: 36 @39899 has 3 MA's), (Start: 42 @39866 has 22 MA's), (62, 39758), (71, 39683), (73, 39671), (77, 39638), (79, 39629), (90, 39581), (98, 39545), (102, 39527),

Gene: Mulan\_45 Start: 39342, Stop: 38917, Start Num: 40

Candidate Starts for Mulan\_45:

(14, 39492), (17, 39483), (20, 39468), (Start: 40 @39342 has 52 MA's), (57, 39264), (58, 39249), (66, 39204),

Gene: Mulaychimus\_44 Start: 39429, Stop: 38992, Start Num: 39

Candidate Starts for Mulaychimus\_44:

(6, 39648), (23, 39546), (31, 39492), (35, 39477), (Start: 39 @39429 has 10 MA's), (56, 39339), (62, 39294), (63, 39288), (65, 39282), (70, 39231), (83, 39144), (88, 39120), (98, 39072),

Gene: Murdoc\_46 Start: 39716, Stop: 39192, Start Num: 19

Candidate Starts for Murdoc\_46:

(Start: 19 @39716 has 235 MA's), (Start: 40 @39617 has 52 MA's), (57, 39539), (58, 39524), (66, 39479),

Gene: Mutante\_45 Start: 39324, Stop: 38899, Start Num: 40

Candidate Starts for Mutante\_45:

(Start: 19 @39429 has 235 MA's), (Start: 40 @39324 has 52 MA's), (57, 39246), (58, 39231), (66, 39186),

Gene: Mysterious\_44 Start: 40306, Stop: 39920, Start Num: 50

Candidate Starts for Mysterious\_44:

(Start: 50 @40306 has 15 MA's), (59, 40246), (60, 40240), (62, 40225), (72, 40147), (73, 40138), (79, 40096), (80, 40093), (90, 40051), (96, 40039), (98, 40015), (102, 39997), (109, 39961),

Gene: NHagos\_39 Start: 33821, Stop: 33447, Start Num: 50

Candidate Starts for NHagos\_39:

(Start: 50 @33821 has 15 MA's), (62, 33740), (66, 33722), (73, 33653), (85, 33584), (98, 33533), (102, 33515),

Gene: Nacho\_0046 Start: 39619, Stop: 39194, Start Num: 40

Candidate Starts for Nacho\_0046:

(14, 39769), (17, 39760), (20, 39745), (Start: 40 @39619 has 52 MA's), (57, 39541), (58, 39526), (66, 39481),

Gene: Nanao\_40 Start: 38592, Stop: 38167, Start Num: 42

Candidate Starts for Nanao\_40:

(Start: 8 @38796 has 1 MA's), (11, 38760), (24, 38706), (Start: 36 @38625 has 3 MA's), (Start: 42 @38592 has 22 MA's), (62, 38484), (71, 38409), (73, 38397), (77, 38364), (79, 38355), (90, 38307),

(98, 38271), (102, 38253),

Gene: Nangang\_44 Start: 40099, Stop: 39713, Start Num: 50

Candidate Starts for Nangang\_44:

(Start: 50 @40099 has 15 MA's), (55, 40078), (59, 40039), (62, 40018), (69, 39958), (72, 39940), (73, 39931), (90, 39844), (98, 39808), (102, 39790), (109, 39754),

Gene: Nathan\_46 Start: 39754, Stop: 39230, Start Num: 19

Candidate Starts for Nathan\_46:

(Start: 19 @39754 has 235 MA's), (Start: 40 @39655 has 52 MA's), (57, 39577), (58, 39562), (66, 39517),

Gene: Nehemiah\_44 Start: 40306, Stop: 39920, Start Num: 50

Candidate Starts for Nehemiah\_44:

(Start: 50 @40306 has 15 MA's), (59, 40246), (60, 40240), (62, 40225), (72, 40147), (73, 40138), (79, 40096), (80, 40093), (90, 40051), (96, 40039), (98, 40015), (102, 39997), (109, 39961),

Gene: Newman\_46 Start: 39715, Stop: 39191, Start Num: 19

Candidate Starts for Newman\_46:

(Start: 19 @39715 has 235 MA's), (Start: 40 @39616 has 52 MA's), (57, 39538), (58, 39523), (66, 39478),

Gene: NiaNia\_48 Start: 39452, Stop: 38922, Start Num: 19

Candidate Starts for NiaNia\_48:

(Start: 19 @39452 has 235 MA's), (Start: 40 @39347 has 52 MA's), (57, 39269), (58, 39254), (66, 39209),

Gene: Nicole21\_46 Start: 39716, Stop: 39189, Start Num: 19

Candidate Starts for Nicole21\_46:

(Start: 19 @39716 has 235 MA's), (Start: 40 @39614 has 52 MA's), (57, 39536), (58, 39521), (66, 39476),

Gene: Nigel\_40 Start: 38541, Stop: 38083, Start Num: 36

Candidate Starts for Nigel\_40:

(7, 38721), (Start: 8 @38709 has 1 MA's), (10, 38679), (12, 38670), (23, 38625), (24, 38619), (Start: 36 @38541 has 3 MA's), (Start: 42 @38508 has 22 MA's), (62, 38400), (71, 38325), (73, 38313), (76, 38301), (77, 38280), (90, 38223), (98, 38187), (111, 38124), (115, 38091),

Gene: Nova1\_46 Start: 39369, Stop: 38845, Start Num: 19

Candidate Starts for Nova1\_46:

(Start: 19 @39369 has 235 MA's), (Start: 40 @39270 has 52 MA's), (57, 39192), (58, 39177), (66, 39132),

Gene: Numberten\_46 Start: 39722, Stop: 39198, Start Num: 19

Candidate Starts for Numberten\_46:

(Start: 19 @39722 has 235 MA's), (Start: 40 @39623 has 52 MA's), (57, 39545), (58, 39530), (66, 39485),

Gene: Nyala\_45 Start: 39421, Stop: 38891, Start Num: 19

Candidate Starts for Nyala\_45:

(Start: 19 @39421 has 235 MA's), (Start: 40 @39316 has 52 MA's), (57, 39238), (58, 39223), (66, 39178),

Gene: OSmaximus\_46 Start: 39658, Stop: 39233, Start Num: 40  
Candidate Starts for OSmaximus\_46:  
(14, 39808), (17, 39799), (20, 39784), (Start: 40 @39658 has 52 MA's), (57, 39580), (58, 39565), (66, 39520),

Gene: Olak\_45 Start: 39424, Stop: 38894, Start Num: 19  
Candidate Starts for Olak\_45:  
(Start: 19 @39424 has 235 MA's), (Start: 40 @39319 has 52 MA's), (57, 39241), (58, 39226), (66, 39181),

Gene: Oline\_45 Start: 39284, Stop: 38760, Start Num: 19  
Candidate Starts for Oline\_45:  
(Start: 19 @39284 has 235 MA's), (Start: 40 @39185 has 52 MA's), (57, 39107), (58, 39092), (66, 39047),

Gene: Olive\_46 Start: 39711, Stop: 39181, Start Num: 19  
Candidate Starts for Olive\_46:  
(Start: 19 @39711 has 235 MA's), (Start: 40 @39606 has 52 MA's), (57, 39528), (58, 39513), (66, 39468),

Gene: OliverWalter\_46 Start: 39733, Stop: 39203, Start Num: 19  
Candidate Starts for OliverWalter\_46:  
(Start: 19 @39733 has 235 MA's), (Start: 40 @39628 has 52 MA's), (57, 39550), (58, 39535), (66, 39490),

Gene: Olivio\_43 Start: 39316, Stop: 38879, Start Num: 39  
Candidate Starts for Olivio\_43:  
(6, 39535), (23, 39433), (31, 39379), (35, 39364), (Start: 39 @39316 has 10 MA's), (56, 39226), (62, 39181), (63, 39175), (65, 39169), (70, 39118), (83, 39031), (88, 39007), (98, 38959),

Gene: Omniscient\_46 Start: 39730, Stop: 39200, Start Num: 19  
Candidate Starts for Omniscient\_46:  
(Start: 19 @39730 has 235 MA's), (Start: 40 @39625 has 52 MA's), (57, 39547), (58, 39532), (66, 39487),

Gene: OneBrain\_47 Start: 39423, Stop: 38899, Start Num: 19  
Candidate Starts for OneBrain\_47:  
(Start: 19 @39423 has 235 MA's), (Start: 40 @39324 has 52 MA's), (57, 39246), (58, 39231), (66, 39186),

Gene: Oosterbaan\_46 Start: 39718, Stop: 39191, Start Num: 19  
Candidate Starts for Oosterbaan\_46:  
(Start: 19 @39718 has 235 MA's), (Start: 40 @39616 has 52 MA's), (57, 39538), (58, 39523), (66, 39478),

Gene: Opia\_45 Start: 39849, Stop: 39460, Start Num: 47  
Candidate Starts for Opia\_45:  
(Start: 47 @39849 has 37 MA's), (57, 39792), (62, 39750), (66, 39729), (70, 39684), (72, 39669), (73, 39660), (76, 39648), (77, 39627), (89, 39564), (93, 39558), (98, 39522), (99, 39519), (108, 39480),

Gene: Orfeu\_45 Start: 39423, Stop: 38899, Start Num: 19  
Candidate Starts for Orfeu\_45:

(Start: 19 @39423 has 235 MA's), (Start: 40 @39324 has 52 MA's), (57, 39246), (58, 39231), (66, 39186),

Gene: Orion\_46 Start: 39614, Stop: 39189, Start Num: 40

Candidate Starts for Orion\_46:

(14, 39764), (17, 39755), (20, 39740), (Start: 40 @39614 has 52 MA's), (57, 39536), (58, 39521), (66, 39476),

Gene: Orwigg\_45 Start: 39417, Stop: 38887, Start Num: 19

Candidate Starts for Orwigg\_45:

(Start: 19 @39417 has 235 MA's), (Start: 40 @39312 has 52 MA's), (57, 39234), (58, 39219), (66, 39174),

Gene: PG1\_46 Start: 39627, Stop: 39202, Start Num: 40

Candidate Starts for PG1\_46:

(14, 39777), (17, 39768), (20, 39753), (Start: 40 @39627 has 52 MA's), (57, 39549), (58, 39534), (66, 39489),

Gene: Pacifista\_45 Start: 39420, Stop: 38893, Start Num: 19

Candidate Starts for Pacifista\_45:

(Start: 19 @39420 has 235 MA's), (Start: 40 @39318 has 52 MA's), (57, 39240), (58, 39225), (66, 39180),

Gene: PallasAthena\_46 Start: 39428, Stop: 38904, Start Num: 19

Candidate Starts for PallasAthena\_46:

(Start: 19 @39428 has 235 MA's), (Start: 40 @39329 has 52 MA's), (57, 39251), (58, 39236), (66, 39191),

Gene: Phaedrus\_42 Start: 39384, Stop: 38947, Start Num: 39

Candidate Starts for Phaedrus\_42:

(6, 39603), (23, 39501), (31, 39447), (35, 39432), (Start: 39 @39384 has 10 MA's), (56, 39294), (62, 39249), (63, 39243), (65, 39237), (70, 39186), (83, 39099), (88, 39075), (98, 39027),

Gene: Phamished\_46 Start: 39622, Stop: 39197, Start Num: 40

Candidate Starts for Phamished\_46:

(14, 39772), (17, 39763), (20, 39748), (Start: 40 @39622 has 52 MA's), (57, 39544), (58, 39529), (66, 39484),

Gene: Phantasmagoria\_45 Start: 39861, Stop: 39472, Start Num: 47

Candidate Starts for Phantasmagoria\_45:

(Start: 47 @39861 has 37 MA's), (57, 39804), (62, 39762), (66, 39741), (70, 39696), (72, 39681), (73, 39672), (76, 39660), (77, 39639), (89, 39576), (93, 39570), (98, 39534), (99, 39531), (108, 39492),

Gene: Phareon\_46 Start: 39425, Stop: 38901, Start Num: 19

Candidate Starts for Phareon\_46:

(Start: 19 @39425 has 235 MA's), (Start: 40 @39326 has 52 MA's), (57, 39248), (58, 39233), (66, 39188),

Gene: PhatCats2014\_46 Start: 39631, Stop: 39206, Start Num: 40

Candidate Starts for PhatCats2014\_46:

(14, 39781), (17, 39772), (20, 39757), (Start: 40 @39631 has 52 MA's), (57, 39553), (58, 39538), (66, 39493),

Gene: PhatLouie\_46 Start: 39722, Stop: 39195, Start Num: 19

Candidate Starts for PhatLouie\_46:

(Start: 19 @39722 has 235 MA's), (Start: 40 @39620 has 52 MA's), (57, 39542), (58, 39527), (66, 39482),

Gene: Phayeta\_45 Start: 39329, Stop: 38892, Start Num: 39

Candidate Starts for Phayeta\_45:

(6, 39548), (23, 39446), (31, 39392), (35, 39377), (Start: 39 @39329 has 10 MA's), (56, 39239), (62, 39194), (63, 39188), (65, 39182), (70, 39131), (83, 39044), (88, 39020), (98, 38972),

Gene: Phelemich\_44 Start: 40305, Stop: 39919, Start Num: 50

Candidate Starts for Phelemich\_44:

(Start: 50 @40305 has 15 MA's), (59, 40245), (62, 40224), (72, 40146), (73, 40137), (79, 40095), (80, 40092), (85, 40062), (90, 40050), (96, 40038), (98, 40014), (102, 39996), (109, 39960),

Gene: PhenghisKhan\_45 Start: 39328, Stop: 38801, Start Num: 19

Candidate Starts for PhenghisKhan\_45:

(Start: 19 @39328 has 235 MA's), (Start: 40 @39226 has 52 MA's), (57, 39148), (58, 39133), (66, 39088),

Gene: Pherdinand\_46 Start: 39622, Stop: 39197, Start Num: 40

Candidate Starts for Pherdinand\_46:

(14, 39772), (17, 39763), (20, 39748), (Start: 40 @39622 has 52 MA's), (57, 39544), (58, 39529), (66, 39484),

Gene: Phergie\_45 Start: 39319, Stop: 38792, Start Num: 19

Candidate Starts for Phergie\_45:

(Start: 19 @39319 has 235 MA's), (Start: 40 @39217 has 52 MA's), (57, 39139), (58, 39124), (66, 39079),

Gene: Phipps\_46 Start: 39698, Stop: 39168, Start Num: 19

Candidate Starts for Phipps\_46:

(Start: 19 @39698 has 235 MA's), (Start: 40 @39593 has 52 MA's), (57, 39515), (58, 39500), (66, 39455),

Gene: Phleuron\_45 Start: 39325, Stop: 38798, Start Num: 19

Candidate Starts for Phleuron\_45:

(Start: 19 @39325 has 235 MA's), (Start: 40 @39223 has 52 MA's), (57, 39145), (58, 39130), (66, 39085),

Gene: PhrankReynolds\_44 Start: 39325, Stop: 38798, Start Num: 19

Candidate Starts for PhrankReynolds\_44:

(Start: 19 @39325 has 235 MA's), (Start: 40 @39223 has 52 MA's), (57, 39145), (58, 39130), (66, 39085),

Gene: PhrodoBaggins\_45 Start: 39610, Stop: 39185, Start Num: 40

Candidate Starts for PhrodoBaggins\_45:

(14, 39760), (17, 39751), (20, 39736), (Start: 40 @39610 has 52 MA's), (57, 39532), (58, 39517), (66, 39472),

Gene: Phunky\_46 Start: 39722, Stop: 39198, Start Num: 19

Candidate Starts for Phunky\_46:

(Start: 19 @39722 has 235 MA's), (Start: 40 @39623 has 52 MA's), (57, 39545), (58, 39530), (66, 39485),

Gene: Piglet\_0045 Start: 39829, Stop: 39305, Start Num: 19

Candidate Starts for Piglet\_0045:

(Start: 19 @39829 has 235 MA's), (Start: 40 @39730 has 52 MA's), (57, 39652), (58, 39637), (66, 39592),

Gene: PinheadLarry\_46 Start: 39435, Stop: 38911, Start Num: 19

Candidate Starts for PinheadLarry\_46:

(Start: 19 @39435 has 235 MA's), (Start: 40 @39336 has 52 MA's), (57, 39258), (58, 39243), (66, 39198),

Gene: Pinkman\_45 Start: 39278, Stop: 38754, Start Num: 19

Candidate Starts for Pinkman\_45:

(Start: 19 @39278 has 235 MA's), (Start: 40 @39179 has 52 MA's), (57, 39101), (58, 39086), (66, 39041),

Gene: Pipsqueak\_46 Start: 39723, Stop: 39196, Start Num: 19

Candidate Starts for Pipsqueak\_46:

(Start: 19 @39723 has 235 MA's), (Start: 40 @39621 has 52 MA's), (57, 39543), (58, 39528), (66, 39483),

Gene: Placalicious\_45 Start: 39416, Stop: 38889, Start Num: 19

Candidate Starts for Placalicious\_45:

(Start: 19 @39416 has 235 MA's), (Start: 40 @39314 has 52 MA's), (57, 39236), (58, 39221), (66, 39176),

Gene: Plata\_45 Start: 39434, Stop: 38910, Start Num: 19

Candidate Starts for Plata\_45:

(Start: 19 @39434 has 235 MA's), (Start: 40 @39335 has 52 MA's), (57, 39257), (58, 39242), (66, 39197),

Gene: Plmatters\_46 Start: 39719, Stop: 39195, Start Num: 19

Candidate Starts for Plmatters\_46:

(Start: 19 @39719 has 235 MA's), (Start: 40 @39620 has 52 MA's), (57, 39542), (58, 39527), (66, 39482),

Gene: Podrick\_46 Start: 39710, Stop: 39186, Start Num: 19

Candidate Starts for Podrick\_46:

(Start: 19 @39710 has 235 MA's), (Start: 40 @39611 has 52 MA's), (57, 39533), (58, 39518), (66, 39473),

Gene: Pops\_46 Start: 39734, Stop: 39210, Start Num: 19

Candidate Starts for Pops\_46:

(Start: 19 @39734 has 235 MA's), (Start: 40 @39635 has 52 MA's), (57, 39557), (58, 39542), (66, 39497),

Gene: Poster\_40 Start: 38593, Stop: 38168, Start Num: 42

Candidate Starts for Poster\_40:

(Start: 8 @38797 has 1 MA's), (11, 38761), (24, 38707), (Start: 36 @38626 has 3 MA's), (Start: 42 @38593 has 22 MA's), (62, 38485), (71, 38410), (73, 38398), (77, 38365), (79, 38356), (90, 38308), (98, 38272), (102, 38254),

Gene: Potter\_45 Start: 39434, Stop: 38910, Start Num: 19

Candidate Starts for Potter\_45:

(Start: 19 @39434 has 235 MA's), (Start: 40 @39335 has 52 MA's), (57, 39257), (58, 39242), (66, 39197),

Gene: Prickles\_46 Start: 39710, Stop: 39186, Start Num: 19

Candidate Starts for Prickles\_46:

(Start: 19 @39710 has 235 MA's), (Start: 40 @39611 has 52 MA's), (57, 39533), (58, 39518), (66, 39473),

Gene: Prince\_41 Start: 39776, Stop: 39351, Start Num: 42

Candidate Starts for Prince\_41:

(Start: 8 @39980 has 1 MA's), (9, 39956), (11, 39944), (24, 39890), (Start: 36 @39809 has 3 MA's), (Start: 42 @39776 has 22 MA's), (45, 39770), (62, 39668), (71, 39593), (73, 39581), (77, 39548), (79, 39539), (90, 39491), (98, 39455), (102, 39437),

Gene: PrinceCharming\_45 Start: 39969, Stop: 39580, Start Num: 47

Candidate Starts for PrinceCharming\_45:

(Start: 47 @39969 has 37 MA's), (57, 39912), (62, 39870), (66, 39849), (70, 39804), (72, 39789), (73, 39780), (76, 39768), (77, 39747), (89, 39684), (93, 39678), (98, 39642), (99, 39639), (108, 39600),

Gene: ProfessorX\_46 Start: 39711, Stop: 39181, Start Num: 19

Candidate Starts for ProfessorX\_46:

(Start: 19 @39711 has 235 MA's), (Start: 40 @39606 has 52 MA's), (57, 39528), (58, 39513), (66, 39468),

Gene: Puhltonio\_46 Start: 39726, Stop: 39202, Start Num: 19

Candidate Starts for Puhltonio\_46:

(Start: 19 @39726 has 235 MA's), (Start: 40 @39627 has 52 MA's), (57, 39549), (58, 39534), (66, 39489),

Gene: QueenBeane\_46 Start: 39716, Stop: 39192, Start Num: 19

Candidate Starts for QueenBeane\_46:

(Start: 19 @39716 has 235 MA's), (Start: 40 @39617 has 52 MA's), (57, 39539), (58, 39524), (66, 39479),

Gene: QueenPie\_40 Start: 39717, Stop: 39292, Start Num: 42

Candidate Starts for QueenPie\_40:

(Start: 8 @39921 has 1 MA's), (9, 39897), (10, 39891), (11, 39885), (24, 39831), (Start: 36 @39750 has 3 MA's), (Start: 42 @39717 has 22 MA's), (62, 39609), (71, 39534), (73, 39522), (77, 39489), (79, 39480), (90, 39432), (98, 39396), (102, 39378),

Gene: Quesadilla\_47 Start: 41493, Stop: 40987, Start Num: 29

Candidate Starts for Quesadilla\_47:

(13, 41577), (Start: 29 @41493 has 1 MA's), (Start: 46 @41406 has 1 MA's), (62, 41304), (92, 41115), (102, 41055), (111, 41019),

Gene: Quisquilliae\_46 Start: 39747, Stop: 39220, Start Num: 19

Candidate Starts for Quisquilliae\_46:

(Start: 19 @39747 has 235 MA's), (Start: 40 @39645 has 52 MA's), (57, 39567), (58, 39552), (66, 39507),

Gene: RawrgerThat\_42 Start: 39621, Stop: 39196, Start Num: 42

Candidate Starts for RawrgerThat\_42:

(Start: 8 @39825 has 1 MA's), (11, 39789), (24, 39735), (Start: 36 @39654 has 3 MA's), (Start: 42 @39621 has 22 MA's), (45, 39615), (62, 39513), (71, 39438), (73, 39426), (77, 39393), (79, 39384), (90, 39336), (98, 39300), (102, 39282),

Gene: Reccee\_45 Start: 40217, Stop: 39831, Start Num: 50

Candidate Starts for Reccee\_45:

(22, 40355), (Start: 50 @40217 has 15 MA's), (55, 40196), (59, 40157), (62, 40136), (69, 40076), (73, 40049), (90, 39962), (98, 39926), (102, 39908), (109, 39872), (113, 39851),

Gene: RedMaple\_45 Start: 39624, Stop: 39199, Start Num: 40

Candidate Starts for RedMaple\_45:

(14, 39774), (17, 39765), (20, 39750), (Start: 40 @39624 has 52 MA's), (57, 39546), (58, 39531), (66, 39486),

Gene: RedRaider89\_47 Start: 39943, Stop: 39419, Start Num: 19

Candidate Starts for RedRaider89\_47:

(Start: 19 @39943 has 235 MA's), (Start: 40 @39844 has 52 MA's), (57, 39766), (58, 39751), (66, 39706),

Gene: Renkei\_40 Start: 38627, Stop: 38202, Start Num: 42

Candidate Starts for Renkei\_40:

(Start: 8 @38831 has 1 MA's), (11, 38795), (24, 38741), (Start: 36 @38660 has 3 MA's), (Start: 42 @38627 has 22 MA's), (62, 38519), (71, 38444), (77, 38399), (90, 38342), (98, 38306), (102, 38288),

Gene: Reprobate\_45 Start: 40310, Stop: 39924, Start Num: 50

Candidate Starts for Reprobate\_45:

(Start: 50 @40310 has 15 MA's), (59, 40250), (62, 40229), (72, 40151), (73, 40142), (79, 40100), (80, 40097), (85, 40067), (90, 40055), (96, 40043), (98, 40019), (102, 40001), (109, 39965),

Gene: Rhinoforte\_45 Start: 39970, Stop: 39581, Start Num: 47

Candidate Starts for Rhinoforte\_45:

(Start: 47 @39970 has 37 MA's), (57, 39913), (62, 39871), (66, 39850), (70, 39805), (72, 39790), (73, 39781), (76, 39769), (77, 39748), (89, 39685), (93, 39679), (98, 39643), (99, 39640), (108, 39601),

Gene: Rich\_43 Start: 39907, Stop: 39521, Start Num: 50

Candidate Starts for Rich\_43:

(Start: 50 @39907 has 15 MA's), (55, 39886), (59, 39847), (62, 39826), (69, 39766), (73, 39739), (90, 39652), (98, 39616), (106, 39571),

Gene: Ricotta\_45 Start: 39439, Stop: 38918, Start Num: 19

Candidate Starts for Ricotta\_45:

(Start: 19 @39439 has 235 MA's), (Start: 40 @39343 has 52 MA's), (57, 39265), (58, 39250), (66, 39205),

Gene: Riggan\_46 Start: 39706, Stop: 39179, Start Num: 19

Candidate Starts for Riggan\_46:

(Start: 19 @39706 has 235 MA's), (Start: 40 @39604 has 52 MA's), (57, 39526), (58, 39511), (66, 39466),

Gene: Rimu\_46 Start: 39452, Stop: 38928, Start Num: 19

Candidate Starts for Rimu\_46:

(Start: 19 @39452 has 235 MA's), (Start: 40 @39353 has 52 MA's), (57, 39275), (58, 39260), (66, 39215),

Gene: Rinkes\_45 Start: 40821, Stop: 40423, Start Num: 54

Candidate Starts for Rinkes\_45:

(3, 41061), (Start: 8 @41028 has 1 MA's), (10, 40998), (Start: 54 @40821 has 2 MA's), (62, 40752), (66, 40734), (75, 40656), (78, 40626), (102, 40509), (111, 40473),

Gene: Rita130\_45 Start: 40037, Stop: 39651, Start Num: 50

Candidate Starts for Rita130\_45:

(22, 40175), (Start: 50 @40037 has 15 MA's), (55, 40016), (59, 39977), (62, 39956), (69, 39896), (73, 39869), (90, 39782), (98, 39746), (102, 39728), (109, 39692), (113, 39671),

Gene: Riverton\_46 Start: 39724, Stop: 39200, Start Num: 19

Candidate Starts for Riverton\_46:

(Start: 19 @39724 has 235 MA's), (Start: 40 @39625 has 52 MA's), (57, 39547), (58, 39532), (66, 39487),

Gene: Robyn\_45 Start: 39290, Stop: 38763, Start Num: 19

Candidate Starts for Robyn\_45:

(Start: 19 @39290 has 235 MA's), (Start: 40 @39188 has 52 MA's), (57, 39110), (58, 39095), (66, 39050),

Gene: Roliet\_46 Start: 39718, Stop: 39188, Start Num: 19

Candidate Starts for Roliet\_46:

(Start: 19 @39718 has 235 MA's), (Start: 40 @39613 has 52 MA's), (57, 39535), (58, 39520), (66, 39475),

Gene: Roscoe\_47 Start: 39956, Stop: 39426, Start Num: 19

Candidate Starts for Roscoe\_47:

(Start: 19 @39956 has 235 MA's), (Start: 40 @39851 has 52 MA's), (57, 39773), (58, 39758), (66, 39713),

Gene: Rosebush\_44 Start: 39977, Stop: 39588, Start Num: 47

Candidate Starts for Rosebush\_44:

(Start: 47 @39977 has 37 MA's), (57, 39920), (62, 39878), (66, 39857), (70, 39812), (72, 39797), (73, 39788), (76, 39776), (77, 39755), (89, 39692), (93, 39686), (98, 39650), (99, 39647), (108, 39608),

Gene: Roy17\_46 Start: 39416, Stop: 38892, Start Num: 19

Candidate Starts for Roy17\_46:

(Start: 19 @39416 has 235 MA's), (Start: 40 @39317 has 52 MA's), (57, 39239), (58, 39224), (66, 39179),

Gene: SDcharge11\_46 Start: 39696, Stop: 39166, Start Num: 19

Candidate Starts for SDcharge11\_46:

(Start: 19 @39696 has 235 MA's), (Start: 40 @39591 has 52 MA's), (57, 39513), (58, 39498), (66, 39453),

Gene: Sabella\_44 Start: 39854, Stop: 39465, Start Num: 47

Candidate Starts for Sabella\_44:

(Start: 47 @39854 has 37 MA's), (57, 39797), (62, 39755), (66, 39734), (70, 39689), (72, 39674), (73, 39665), (76, 39653), (77, 39632), (89, 39569), (93, 39563), (98, 39527), (99, 39524), (108, 39485),

Gene: Saguaro\_46 Start: 41034, Stop: 40648, Start Num: 53  
Candidate Starts for Saguaro\_46:  
(Start: 53 @41034 has 1 MA's), (62, 40953), (72, 40875), (77, 40833), (79, 40824), (81, 40815),

Gene: SallyH\_46 Start: 39627, Stop: 39202, Start Num: 40  
Candidate Starts for SallyH\_46:  
(14, 39777), (17, 39768), (20, 39753), (Start: 40 @39627 has 52 MA's), (57, 39549), (58, 39534), (66, 39489),

Gene: Samaymay\_46 Start: 39716, Stop: 39192, Start Num: 19  
Candidate Starts for Samaymay\_46:  
(Start: 19 @39716 has 235 MA's), (Start: 40 @39617 has 52 MA's), (57, 39539), (58, 39524), (66, 39479),

Gene: SassyCat97\_45 Start: 39422, Stop: 38898, Start Num: 19  
Candidate Starts for SassyCat97\_45:  
(Start: 19 @39422 has 235 MA's), (Start: 40 @39323 has 52 MA's), (57, 39245), (58, 39230), (66, 39185),

Gene: Schadenfreude\_45 Start: 39264, Stop: 38749, Start Num: 19  
Candidate Starts for Schadenfreude\_45:  
(Start: 19 @39264 has 235 MA's), (Start: 40 @39162 has 52 MA's), (57, 39096), (58, 39081), (66, 39036),

Gene: Schueller\_45 Start: 39435, Stop: 38911, Start Num: 19  
Candidate Starts for Schueller\_45:  
(Start: 19 @39435 has 235 MA's), (Start: 40 @39336 has 52 MA's), (57, 39258), (58, 39243), (66, 39198),

Gene: Scoot17C\_46 Start: 39616, Stop: 39191, Start Num: 40  
Candidate Starts for Scoot17C\_46:  
(14, 39766), (17, 39757), (20, 39742), (Start: 40 @39616 has 52 MA's), (57, 39538), (58, 39523), (66, 39478),

Gene: Scrick\_46 Start: 39446, Stop: 38916, Start Num: 19  
Candidate Starts for Scrick\_46:  
(Start: 19 @39446 has 235 MA's), (Start: 40 @39341 has 52 MA's), (57, 39263), (58, 39248), (66, 39203),

Gene: Selr12\_46 Start: 39449, Stop: 38919, Start Num: 19  
Candidate Starts for Selr12\_46:  
(Start: 19 @39449 has 235 MA's), (Start: 40 @39344 has 52 MA's), (57, 39266), (58, 39251), (66, 39206),

Gene: Serendipitous\_44 Start: 39865, Stop: 39479, Start Num: 50  
Candidate Starts for Serendipitous\_44:  
(38, 39916), (Start: 50 @39865 has 15 MA's), (55, 39844), (59, 39805), (62, 39784), (69, 39724), (73, 39697), (90, 39610), (98, 39574), (102, 39556), (109, 39520),

Gene: Serendipity\_46 Start: 39740, Stop: 39216, Start Num: 19  
Candidate Starts for Serendipity\_46:  
(Start: 19 @39740 has 235 MA's), (Start: 40 @39641 has 52 MA's), (57, 39563), (58, 39548), (66, 39503),

Gene: Serpentine\_0046 Start: 39721, Stop: 39197, Start Num: 19

Candidate Starts for Serpentine\_0046:

(Start: 19 @39721 has 235 MA's), (Start: 40 @39622 has 52 MA's), (57, 39544), (58, 39529), (66, 39484),

Gene: ShadowBud\_46 Start: 39744, Stop: 39217, Start Num: 19

Candidate Starts for ShadowBud\_46:

(Start: 19 @39744 has 235 MA's), (Start: 40 @39642 has 52 MA's), (57, 39564), (58, 39549), (66, 39504),

Gene: Shatter\_39 Start: 33273, Stop: 32851, Start Num: 41

Candidate Starts for Shatter\_39:

(Start: 41 @33273 has 12 MA's), (62, 33156), (66, 33138), (71, 33081), (85, 32994), (93, 32979), (100, 32934), (107, 32892),

Gene: Sheila\_46 Start: 39758, Stop: 39234, Start Num: 19

Candidate Starts for Sheila\_46:

(Start: 19 @39758 has 235 MA's), (Start: 40 @39659 has 52 MA's), (57, 39581), (58, 39566), (66, 39521),

Gene: Shenandoah\_44 Start: 39437, Stop: 39000, Start Num: 39

Candidate Starts for Shenandoah\_44:

(6, 39656), (23, 39554), (31, 39500), (35, 39485), (Start: 39 @39437 has 10 MA's), (56, 39347), (62, 39302), (63, 39296), (65, 39290), (70, 39239), (83, 39152), (88, 39128), (98, 39080),

Gene: Shenyu\_44 Start: 40099, Stop: 39713, Start Num: 50

Candidate Starts for Shenyu\_44:

(Start: 50 @40099 has 15 MA's), (55, 40078), (59, 40039), (62, 40018), (69, 39958), (72, 39940), (73, 39931), (90, 39844), (98, 39808), (102, 39790), (109, 39754),

Gene: ShiVal\_46 Start: 39720, Stop: 39190, Start Num: 19

Candidate Starts for ShiVal\_46:

(Start: 19 @39720 has 235 MA's), (Start: 40 @39615 has 52 MA's), (57, 39537), (58, 39522), (66, 39477),

Gene: Sigman\_46 Start: 39607, Stop: 39182, Start Num: 40

Candidate Starts for Sigman\_46:

(14, 39757), (17, 39748), (20, 39733), (Start: 40 @39607 has 52 MA's), (57, 39529), (58, 39514), (66, 39469),

Gene: SilverBell\_46 Start: 39739, Stop: 39212, Start Num: 19

Candidate Starts for SilverBell\_46:

(Start: 19 @39739 has 235 MA's), (Start: 40 @39637 has 52 MA's), (57, 39559), (58, 39544), (66, 39499),

Gene: Simielle\_45 Start: 39409, Stop: 38885, Start Num: 19

Candidate Starts for Simielle\_45:

(Start: 19 @39409 has 235 MA's), (Start: 40 @39310 has 52 MA's), (57, 39232), (58, 39217), (66, 39172),

Gene: SirBeauregard\_46 Start: 39416, Stop: 38889, Start Num: 19

Candidate Starts for SirBeauregard\_46:

(Start: 19 @39416 has 235 MA's), (Start: 40 @39314 has 52 MA's), (57, 39236), (58, 39221), (66, 39176),

Gene: SirJeffery\_45 Start: 40036, Stop: 39650, Start Num: 50

Candidate Starts for SirJeffery\_45:

(22, 40174), (Start: 50 @40036 has 15 MA's), (55, 40015), (59, 39976), (62, 39955), (69, 39895), (73, 39868), (90, 39781), (98, 39745), (102, 39727), (109, 39691), (113, 39670),

Gene: Sisko\_39 Start: 34043, Stop: 33624, Start Num: 41

Candidate Starts for Sisko\_39:

(Start: 41 @34043 has 12 MA's), (62, 33926), (66, 33908), (100, 33707), (105, 33671), (107, 33665),

Gene: Skippy\_46 Start: 39704, Stop: 39180, Start Num: 19

Candidate Starts for Skippy\_46:

(Start: 19 @39704 has 235 MA's), (Start: 40 @39605 has 52 MA's), (57, 39527), (58, 39512), (66, 39467),

Gene: Slatt\_46 Start: 39730, Stop: 39206, Start Num: 19

Candidate Starts for Slatt\_46:

(Start: 19 @39730 has 235 MA's), (Start: 40 @39631 has 52 MA's), (57, 39553), (58, 39538), (66, 39493),

Gene: SlippinJimmy\_44 Start: 40230, Stop: 39793, Start Num: 39

Candidate Starts for SlippinJimmy\_44:

(6, 40449), (23, 40347), (31, 40293), (35, 40278), (Start: 39 @40230 has 10 MA's), (56, 40140), (62, 40095), (63, 40089), (65, 40083), (70, 40032), (83, 39945), (88, 39921), (98, 39873),

Gene: Soile\_46 Start: 39334, Stop: 38909, Start Num: 40

Candidate Starts for Soile\_46:

(Start: 19 @39433 has 235 MA's), (Start: 40 @39334 has 52 MA's), (57, 39256), (58, 39241), (66, 39196),

Gene: Solosis\_45 Start: 39431, Stop: 38907, Start Num: 19

Candidate Starts for Solosis\_45:

(Start: 19 @39431 has 235 MA's), (Start: 40 @39332 has 52 MA's), (57, 39254), (58, 39239), (66, 39194),

Gene: Sophia\_45 Start: 39431, Stop: 38907, Start Num: 19

Candidate Starts for Sophia\_45:

(Start: 19 @39431 has 235 MA's), (Start: 40 @39332 has 52 MA's), (57, 39254), (58, 39239), (66, 39194),

Gene: Soto\_46 Start: 39730, Stop: 39200, Start Num: 19

Candidate Starts for Soto\_46:

(Start: 19 @39730 has 235 MA's), (Start: 40 @39625 has 52 MA's), (57, 39547), (58, 39532), (66, 39487),

Gene: Sour\_44 Start: 37942, Stop: 37568, Start Num: 47

Candidate Starts for Sour\_44:

(15, 38089), (27, 38026), (Start: 47 @37942 has 37 MA's), (62, 37858), (66, 37840), (73, 37771), (74, 37768), (94, 37684), (100, 37645), (114, 37582),

Gene: Spartan300\_46 Start: 39716, Stop: 39186, Start Num: 19

Candidate Starts for Spartan300\_46:

(Start: 19 @39716 has 235 MA's), (Start: 40 @39611 has 52 MA's), (57, 39533), (58, 39518), (66, 39473),

Gene: Squid\_46 Start: 39422, Stop: 38898, Start Num: 19

Candidate Starts for Squid\_46:

(Start: 19 @39422 has 235 MA's), (Start: 40 @39323 has 52 MA's), (57, 39245), (58, 39230), (66, 39185),

Gene: Squiggle\_46 Start: 39440, Stop: 38910, Start Num: 19

Candidate Starts for Squiggle\_46:

(Start: 19 @39440 has 235 MA's), (Start: 40 @39335 has 52 MA's), (57, 39257), (58, 39242), (66, 39197),

Gene: StAugustine\_57 Start: 48208, Stop: 47849, Start Num: 52

Candidate Starts for StAugustine\_57:

(30, 48319), (33, 48304), (Start: 36 @48274 has 3 MA's), (Start: 52 @48208 has 4 MA's), (62, 48115), (75, 48019), (82, 47983), (98, 47917), (102, 47899), (103, 47896),

Gene: Stinger\_40 Start: 38231, Stop: 37773, Start Num: 36

Candidate Starts for Stinger\_40:

(Start: 8 @38399 has 1 MA's), (24, 38309), (Start: 36 @38231 has 3 MA's), (Start: 42 @38198 has 22 MA's), (62, 38090), (71, 38015), (73, 38003), (76, 37991), (77, 37970), (79, 37961), (90, 37913), (98, 37877), (111, 37814), (115, 37781),

Gene: StinkyVeggy\_46 Start: 40176, Stop: 39790, Start Num: 50

Candidate Starts for StinkyVeggy\_46:

(Start: 50 @40176 has 15 MA's), (55, 40155), (59, 40116), (62, 40095), (69, 40035), (72, 40017), (73, 40008), (98, 39885), (102, 39867), (109, 39831),

Gene: Struggle\_45 Start: 39272, Stop: 38748, Start Num: 19

Candidate Starts for Struggle\_45:

(Start: 19 @39272 has 235 MA's), (Start: 40 @39173 has 52 MA's), (57, 39095), (58, 39080), (66, 39035),

Gene: Suffolk\_46 Start: 39721, Stop: 39197, Start Num: 19

Candidate Starts for Suffolk\_46:

(Start: 19 @39721 has 235 MA's), (Start: 40 @39622 has 52 MA's), (57, 39544), (58, 39529), (66, 39484),

Gene: Suigeneris\_45 Start: 40039, Stop: 39653, Start Num: 50

Candidate Starts for Suigeneris\_45:

(22, 40177), (Start: 50 @40039 has 15 MA's), (55, 40018), (59, 39979), (62, 39958), (69, 39898), (73, 39871), (90, 39784), (98, 39748), (102, 39730), (109, 39694), (113, 39673),

Gene: Surely\_46 Start: 39727, Stop: 39200, Start Num: 19

Candidate Starts for Surely\_46:

(Start: 19 @39727 has 235 MA's), (Start: 40 @39625 has 52 MA's), (57, 39547), (58, 39532), (66, 39487),

Gene: Swiphy\_46 Start: 39722, Stop: 39195, Start Num: 19

Candidate Starts for Swiphy\_46:

(Start: 19 @39722 has 235 MA's), (Start: 40 @39620 has 52 MA's), (57, 39542), (58, 39527), (66, 39482),

Gene: Swish\_46 Start: 39608, Stop: 39183, Start Num: 40

Candidate Starts for Swish\_46:

(14, 39758), (17, 39749), (20, 39734), (Start: 40 @39608 has 52 MA's), (57, 39530), (58, 39515), (66, 39470),

Gene: TA17A\_46 Start: 39844, Stop: 39455, Start Num: 47

Candidate Starts for TA17A\_46:

(Start: 47 @39844 has 37 MA's), (57, 39787), (62, 39745), (66, 39724), (70, 39679), (72, 39664), (73, 39655), (76, 39643), (77, 39622), (89, 39559), (93, 39553), (98, 39517), (99, 39514), (108, 39475),

Gene: TallGrassMM\_46 Start: 39346, Stop: 38822, Start Num: 19

Candidate Starts for TallGrassMM\_46:

(Start: 19 @39346 has 235 MA's), (Start: 40 @39247 has 52 MA's), (57, 39169), (58, 39154), (66, 39109),

Gene: Taraxa\_46 Start: 38925, Stop: 38398, Start Num: 19

Candidate Starts for Taraxa\_46:

(Start: 19 @38925 has 235 MA's), (Start: 40 @38823 has 52 MA's), (57, 38745), (58, 38730), (66, 38685),

Gene: Telesworld\_45 Start: 39419, Stop: 38895, Start Num: 19

Candidate Starts for Telesworld\_45:

(Start: 19 @39419 has 235 MA's), (Start: 40 @39320 has 52 MA's), (57, 39242), (58, 39227), (66, 39182),

Gene: Thonko\_44 Start: 37338, Stop: 36958, Start Num: 50

Candidate Starts for Thonko\_44:

(22, 37470), (32, 37404), (Start: 50 @37338 has 15 MA's), (62, 37257), (66, 37239),

Gene: Thora\_46 Start: 39726, Stop: 39199, Start Num: 19

Candidate Starts for Thora\_46:

(Start: 19 @39726 has 235 MA's), (Start: 40 @39624 has 52 MA's), (57, 39546), (58, 39531), (66, 39486),

Gene: ThreeOh3D2\_46 Start: 39622, Stop: 39197, Start Num: 40

Candidate Starts for ThreeOh3D2\_46:

(14, 39772), (17, 39763), (20, 39748), (Start: 40 @39622 has 52 MA's), (57, 39544), (58, 39529), (66, 39484),

Gene: Thunderbird\_45 Start: 39427, Stop: 38903, Start Num: 19

Candidate Starts for Thunderbird\_45:

(Start: 19 @39427 has 235 MA's), (Start: 40 @39328 has 52 MA's), (57, 39250), (58, 39235), (66, 39190),

Gene: Timmi\_45 Start: 39432, Stop: 38908, Start Num: 19

Candidate Starts for Timmi\_45:

(Start: 19 @39432 has 235 MA's), (Start: 40 @39333 has 52 MA's), (57, 39255), (58, 39240), (66, 39195),

Gene: Tinciduntolum\_46 Start: 39982, Stop: 39593, Start Num: 47

Candidate Starts for Tincidunt\_solum\_46:

(Start: 47 @39982 has 37 MA's), (57, 39925), (62, 39883), (66, 39862), (70, 39817), (72, 39802), (73, 39793), (76, 39781), (77, 39760), (89, 39697), (93, 39691), (98, 39655), (99, 39652), (108, 39613),

Gene: TomBombadil\_46 Start: 39717, Stop: 39193, Start Num: 19

Candidate Starts for TomBombadil\_46:

(Start: 19 @39717 has 235 MA's), (Start: 40 @39618 has 52 MA's), (57, 39540), (58, 39525), (66, 39480),

Gene: Tomlarah\_46 Start: 39714, Stop: 39184, Start Num: 19

Candidate Starts for Tomlarah\_46:

(Start: 19 @39714 has 235 MA's), (Start: 40 @39609 has 52 MA's), (57, 39531), (58, 39516), (66, 39471),

Gene: Toni\_45 Start: 39424, Stop: 38900, Start Num: 19

Candidate Starts for Toni\_45:

(Start: 19 @39424 has 235 MA's), (Start: 40 @39325 has 52 MA's), (57, 39247), (58, 39232), (66, 39187),

Gene: TooFast2Furius\_47 Start: 39956, Stop: 39429, Start Num: 19

Candidate Starts for TooFast2Furius\_47:

(Start: 19 @39956 has 235 MA's), (Start: 40 @39854 has 52 MA's), (57, 39776), (58, 39761), (66, 39716),

Gene: Tooj\_46 Start: 39781, Stop: 39257, Start Num: 19

Candidate Starts for Tooj\_46:

(Start: 19 @39781 has 235 MA's), (Start: 40 @39682 has 52 MA's), (57, 39604), (58, 39589), (66, 39544),

Gene: TraderJ\_41 Start: 35242, Stop: 34853, Start Num: 51

Candidate Starts for TraderJ\_41:

(5, 35491), (Start: 51 @35242 has 6 MA's), (59, 35182), (61, 35167), (71, 35074), (73, 35062), (77, 35029), (93, 34981), (95, 34972), (102, 34924),

Gene: Tres\_45 Start: 39857, Stop: 39468, Start Num: 47

Candidate Starts for Tres\_45:

(Start: 47 @39857 has 37 MA's), (57, 39800), (62, 39758), (66, 39737), (70, 39692), (72, 39677), (73, 39668), (76, 39656), (77, 39635), (89, 39572), (93, 39566), (98, 39530), (99, 39527), (108, 39488),

Gene: Triad\_46 Start: 38585, Stop: 38061, Start Num: 19

Candidate Starts for Triad\_46:

(Start: 19 @38585 has 235 MA's), (Start: 40 @38486 has 52 MA's), (57, 38408), (58, 38393), (66, 38348),

Gene: True\_45 Start: 39424, Stop: 38897, Start Num: 19

Candidate Starts for True\_45:

(Start: 19 @39424 has 235 MA's), (Start: 40 @39322 has 52 MA's), (57, 39244), (58, 39229), (66, 39184),

Gene: Trypo\_46 Start: 39618, Stop: 39193, Start Num: 40

Candidate Starts for Trypo\_46:

(14, 39768), (17, 39759), (20, 39744), (Start: 40 @39618 has 52 MA's), (57, 39540), (58, 39525), (66, 39480),

Gene: Tydolla\_44 Start: 40199, Stop: 39762, Start Num: 39

Candidate Starts for Tydolla\_44:

(6, 40418), (23, 40316), (31, 40262), (35, 40247), (Start: 39 @40199 has 10 MA's), (56, 40109), (62, 40064), (63, 40058), (65, 40052), (70, 40001), (83, 39914), (88, 39890), (98, 39842),

Gene: TyrionL\_45 Start: 39280, Stop: 38756, Start Num: 19

Candidate Starts for TyrionL\_45:

(Start: 19 @39280 has 235 MA's), (Start: 40 @39181 has 52 MA's), (57, 39103), (58, 39088), (66, 39043),

Gene: UAch1\_46 Start: 39733, Stop: 39206, Start Num: 19

Candidate Starts for UAch1\_46:

(Start: 19 @39733 has 235 MA's), (Start: 40 @39631 has 52 MA's), (57, 39553), (58, 39538), (66, 39493),

Gene: UncleHowie\_46 Start: 39423, Stop: 38896, Start Num: 19

Candidate Starts for UncleHowie\_46:

(Start: 19 @39423 has 235 MA's), (Start: 40 @39321 has 52 MA's), (57, 39243), (58, 39228), (66, 39183),

Gene: Usavi\_46 Start: 39721, Stop: 39197, Start Num: 19

Candidate Starts for Usavi\_46:

(Start: 19 @39721 has 235 MA's), (Start: 40 @39622 has 52 MA's), (57, 39544), (58, 39529), (66, 39484),

Gene: Vaishali24\_45 Start: 39382, Stop: 38858, Start Num: 19

Candidate Starts for Vaishali24\_45:

(Start: 19 @39382 has 235 MA's), (Start: 40 @39283 has 52 MA's), (57, 39205), (58, 39190), (66, 39145),

Gene: Valjean\_46 Start: 39719, Stop: 39189, Start Num: 19

Candidate Starts for Valjean\_46:

(Start: 19 @39719 has 235 MA's), (Start: 40 @39614 has 52 MA's), (57, 39536), (58, 39521), (66, 39476),

Gene: Vaticameos\_42 Start: 37411, Stop: 36887, Start Num: 19

Candidate Starts for Vaticameos\_42:

(Start: 19 @37411 has 235 MA's), (Start: 40 @37312 has 52 MA's), (57, 37234), (58, 37219), (66, 37174),

Gene: Veritas\_45 Start: 39286, Stop: 38759, Start Num: 19

Candidate Starts for Veritas\_45:

(Start: 19 @39286 has 235 MA's), (Start: 40 @39184 has 52 MA's), (57, 39106), (58, 39091), (66, 39046),

Gene: Vic9\_00044 Start: 40363, Stop: 39974, Start Num: 47

Candidate Starts for Vic9\_00044:

(Start: 47 @40363 has 37 MA's), (57, 40306), (62, 40264), (66, 40243), (70, 40198), (72, 40183), (73, 40174), (76, 40162), (77, 40141), (89, 40078), (93, 40072), (98, 40036), (99, 40033), (102, 40018), (108, 39994),

Gene: Vincenzo\_42 Start: 40436, Stop: 39954, Start Num: 34

Candidate Starts for Vincenzo\_42:

(13, 40535), (16, 40526), (Start: 34 @40436 has 1 MA's), (Start: 43 @40379 has 1 MA's), (58, 40292), (59, 40286), (62, 40265), (64, 40256), (77, 40145), (86, 40097), (98, 40052), (102, 40034), (107, 40004), (111, 39989),

Gene: VioletZ\_42 Start: 39692, Stop: 39267, Start Num: 42

Candidate Starts for VioletZ\_42:

(Start: 8 @39896 has 1 MA's), (9, 39872), (11, 39860), (24, 39806), (Start: 36 @39725 has 3 MA's), (Start: 42 @39692 has 22 MA's), (45, 39686), (62, 39584), (71, 39509), (73, 39497), (77, 39464), (79, 39455), (90, 39407), (98, 39371), (102, 39353),

Gene: Virapocalypse\_46 Start: 39714, Stop: 39184, Start Num: 19

Candidate Starts for Virapocalypse\_46:

(Start: 19 @39714 has 235 MA's), (Start: 40 @39609 has 52 MA's), (57, 39531), (58, 39516), (66, 39471),

Gene: Virgeve\_45 Start: 39491, Stop: 38964, Start Num: 19

Candidate Starts for Virgeve\_45:

(Start: 19 @39491 has 235 MA's), (Start: 40 @39389 has 52 MA's), (57, 39311), (58, 39296), (66, 39251),

Gene: Vista\_46 Start: 39724, Stop: 39197, Start Num: 19

Candidate Starts for Vista\_46:

(Start: 19 @39724 has 235 MA's), (Start: 40 @39622 has 52 MA's), (57, 39544), (58, 39529), (66, 39484),

Gene: Vivaldi\_46 Start: 39750, Stop: 39226, Start Num: 19

Candidate Starts for Vivaldi\_46:

(Start: 19 @39750 has 235 MA's), (Start: 40 @39651 has 52 MA's), (57, 39573), (58, 39558), (66, 39513),

Gene: Vortex\_46 Start: 39427, Stop: 38903, Start Num: 19

Candidate Starts for Vortex\_46:

(Start: 19 @39427 has 235 MA's), (Start: 40 @39328 has 52 MA's), (57, 39250), (58, 39235), (66, 39190),

Gene: Waleliano\_41 Start: 39619, Stop: 39194, Start Num: 42

Candidate Starts for Waleliano\_41:

(Start: 8 @39823 has 1 MA's), (9, 39799), (11, 39787), (24, 39733), (Start: 36 @39652 has 3 MA's), (Start: 42 @39619 has 22 MA's), (62, 39511), (71, 39436), (73, 39424), (77, 39391), (79, 39382), (90, 39334), (98, 39298), (102, 39280),

Gene: Wallhey\_45 Start: 39284, Stop: 38760, Start Num: 19

Candidate Starts for Wallhey\_45:

(Start: 19 @39284 has 235 MA's), (Start: 40 @39185 has 52 MA's), (57, 39107), (58, 39092), (66, 39047),

Gene: Waterdiva\_46 Start: 39716, Stop: 39189, Start Num: 19

Candidate Starts for Waterdiva\_46:

(Start: 19 @39716 has 235 MA's), (Start: 40 @39614 has 52 MA's), (57, 39536), (58, 39521), (66, 39476),

Gene: Weher20\_46 Start: 39715, Stop: 39188, Start Num: 19

Candidate Starts for Weher20\_46:

(Start: 19 @39715 has 235 MA's), (Start: 40 @39613 has 52 MA's), (57, 39535), (58, 39520), (66, 39475),

Gene: West99\_45 Start: 39977, Stop: 39588, Start Num: 47

Candidate Starts for West99\_45:

(Start: 47 @39977 has 37 MA's), (57, 39920), (62, 39878), (66, 39857), (70, 39812), (72, 39797), (73, 39788), (76, 39776), (77, 39755), (89, 39692), (93, 39686), (98, 39650), (99, 39647), (108, 39608),

Gene: Windsor\_45 Start: 39420, Stop: 38893, Start Num: 19

Candidate Starts for Windsor\_45:

(Start: 19 @39420 has 235 MA's), (Start: 40 @39318 has 52 MA's), (57, 39240), (58, 39225), (66, 39180),

Gene: Wooper\_41 Start: 35248, Stop: 34859, Start Num: 51

Candidate Starts for Wooper\_41:

(5, 35497), (Start: 51 @35248 has 6 MA's), (59, 35188), (61, 35173), (71, 35080), (73, 35068), (77, 35035), (93, 34987), (95, 34978), (102, 34930),

Gene: Xavier\_45 Start: 39434, Stop: 38910, Start Num: 19

Candidate Starts for Xavier\_45:

(Start: 19 @39434 has 235 MA's), (Start: 40 @39335 has 52 MA's), (57, 39257), (58, 39242), (66, 39197),

Gene: Xincheng\_40 Start: 39075, Stop: 38650, Start Num: 42

Candidate Starts for Xincheng\_40:

(13, 39237), (Start: 29 @39153 has 1 MA's), (Start: 36 @39108 has 3 MA's), (Start: 42 @39075 has 22 MA's), (62, 38967), (71, 38892), (73, 38880), (77, 38847), (79, 38838), (90, 38790), (98, 38754), (102, 38736),

Gene: Yago84\_39 Start: 34117, Stop: 33698, Start Num: 41

Candidate Starts for Yago84\_39:

(Start: 41 @34117 has 12 MA's), (62, 34000), (66, 33982), (100, 33781), (105, 33745), (107, 33739),

Gene: Yeshua\_41 Start: 35225, Stop: 34836, Start Num: 51

Candidate Starts for Yeshua\_41:

(5, 35474), (Start: 51 @35225 has 6 MA's), (59, 35165), (61, 35150), (71, 35057), (73, 35045), (77, 35012), (93, 34964), (95, 34955), (102, 34907),

Gene: Yoshand\_46 Start: 39621, Stop: 39196, Start Num: 40

Candidate Starts for Yoshand\_46:

(14, 39771), (17, 39762), (20, 39747), (Start: 40 @39621 has 52 MA's), (57, 39543), (58, 39528), (66, 39483),

Gene: YouGoGlencoco\_46 Start: 39718, Stop: 39191, Start Num: 19

Candidate Starts for YouGoGlencoco\_46:

(Start: 19 @39718 has 235 MA's), (Start: 40 @39616 has 52 MA's), (57, 39538), (58, 39523), (66, 39478),

Gene: Zaider\_47 Start: 39948, Stop: 39421, Start Num: 19

Candidate Starts for Zaider\_47:

(Start: 19 @39948 has 235 MA's), (Start: 40 @39846 has 52 MA's), (57, 39768), (58, 39753), (66, 39708),

Gene: Zelda\_46 Start: 39765, Stop: 39238, Start Num: 19

Candidate Starts for Zelda\_46:

(Start: 19 @39765 has 235 MA's), (Start: 40 @39663 has 52 MA's), (57, 39585), (58, 39570), (66, 39525),

Gene: Zemanar\_42 Start: 39622, Stop: 39197, Start Num: 42

Candidate Starts for Zemanar\_42:

(Start: 8 @39826 has 1 MA's), (9, 39802), (11, 39790), (24, 39736), (Start: 36 @39655 has 3 MA's), (Start: 42 @39622 has 22 MA's), (45, 39616), (62, 39514), (71, 39439), (73, 39427), (77, 39394), (79, 39385), (90, 39337), (98, 39301), (102, 39283),

Gene: Zonia\_46 Start: 39635, Stop: 39210, Start Num: 40

Candidate Starts for Zonia\_46:

(Start: 40 @39635 has 52 MA's), (57, 39557), (58, 39542), (66, 39497),