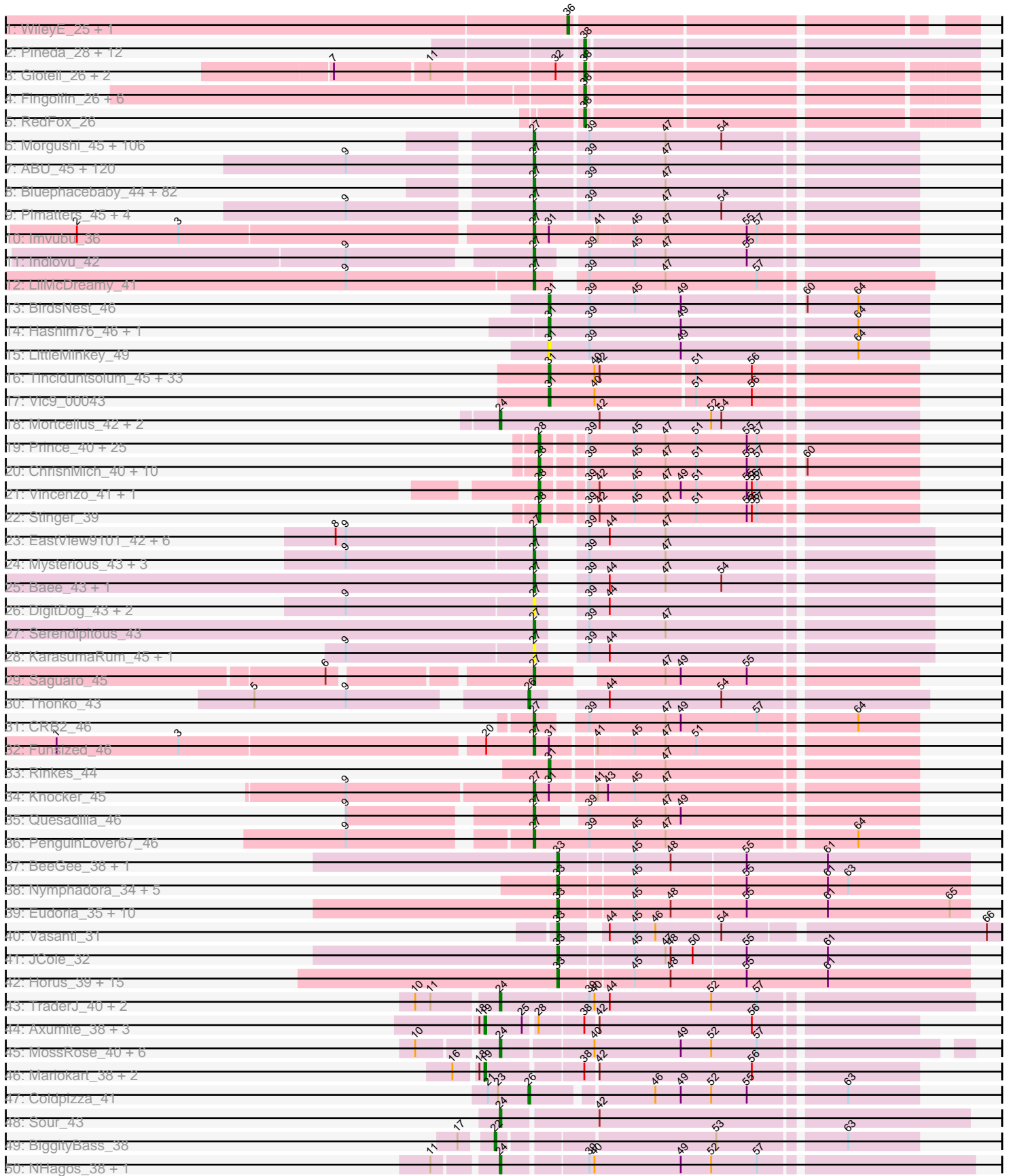
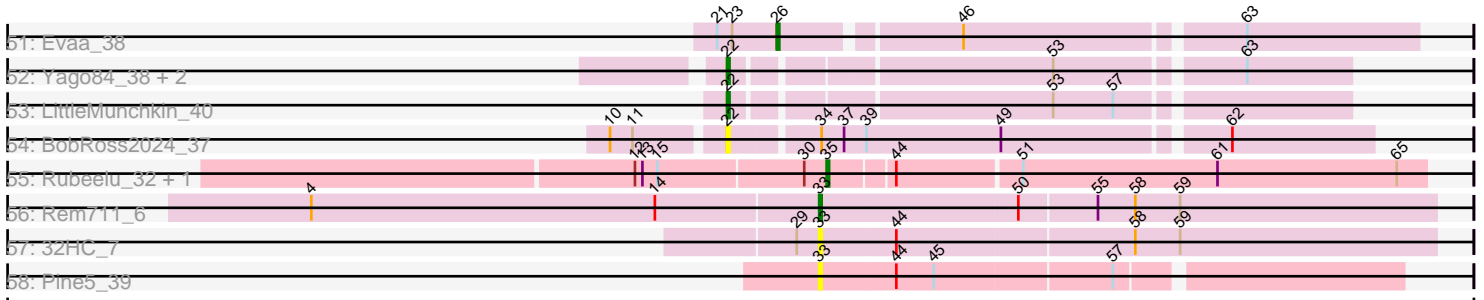


Pham 307805



# Pham 307805



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 307805 Report

This analysis was run 06/27/26 on database version 652.

Pham number 307805 has 524 members, 62 are drafts.

Phages represented in each track:

- Track 1 : WileyE\_25, Chickaboom\_25
- Track 2 : Pineda\_28, Coral\_26, Colusalem\_27, Lunar\_27, Polka\_26, HannahPhantana\_27, Cote\_27, GramZayde\_26, Daob\_27, Amelia\_27, OtsoOtso\_26, Melons\_27, Damocles\_28
- Track 3 : Glotell\_26, Leona\_25, Azaz\_25
- Track 4 : Fingolfin\_26, PhluffyCoco\_26, Atlantica\_26, Amphitrite\_26, DanHam62\_26, KHumphrey\_26, Camara\_26
- Track 5 : RedFox\_26
- Track 6 : Morgushi\_45, MiniBoss\_45, Soile\_45, Beaglebox\_44, Kwadwo\_44, Haleema\_44, Solosis\_44, Jesabah\_45, Dice\_44, Lulumae\_44, Telesworld\_44, Emiris\_45, Brilliant\_45, Cobra\_45, Swish\_45, Wallhey\_44, Vaishali24\_44, Orfeu\_44, Khan1\_45, Ricotta\_44, JacAttac\_45, Mikota\_45, Iridessa\_45, KingTut\_36, Vaticameos\_41, Piglet\_0044, Vortex\_45, PallasAthena\_45, Fozzie\_44, Apizium\_44, SallyH\_45, MRabcd\_44, Puhltonio\_45, Nova1\_45, Lehmann\_45, Timmi\_44, HSavage\_45, Maskar\_44, Derpp\_44, Kwksand96\_44, Carthage\_43, TallGrassMM\_45, Labeouficaum\_44, Pherdinand\_45, Cannibal\_45, Dione\_44, Pinkman\_44, Riverton\_45, Samaymay\_45, LuckyMarjie\_44, DuchessDung\_43, Pacifista\_44, Cher\_44, Nathan\_45, Gwennie1\_45, Aleia\_45, MrPhizzler\_45, RedMaple\_44, Murdoc\_45, Serpentine\_0045, Grand2040\_44, KLucky39\_45, Simielle\_44, Zonia\_45, Maru\_44, Rimu\_45, OSmaximus\_45, FluffyNinja\_45, Triad\_45, Mcshane\_44, Yoshand\_45, BlackStallion\_45, Gareth\_44, Banjo\_44, Cornbread\_44, Frankicide\_45, Freya\_44, KlimbOn\_45, Phunky\_45, Roy17\_45, Ashraf\_44, ImtiyazSitla\_44, Serendipity\_45, Legolas\_44, CamL\_45, Mana\_44, Sheila\_45, QueenBeane\_45, Gyarad\_0045, RedRaider89\_46, Taraxa\_45, GeneCoco\_45, ElvisPhasley\_45, PinheadLarry\_45, Xavier\_44, MelsMeow\_44, Longacauda\_44, Toni\_44, TyrionL\_44, Childish\_44, Newman\_45, Hocus\_44, Andre\_45, Sigman\_45, Phareon\_45, Daffy\_45, Inverness\_45
- Track 7 : ABU\_45, TooFast2Furius\_46, Spartan300\_45, PhrodoBaggins\_44, Badfish\_45, LasagnaCat\_45, DoesntMatter\_44, Horchata\_45, Scrick\_45, LostAndPhound\_44, Chute\_44, Katniss\_45, Orion\_45, Keitherie\_45, Scoot17C\_45, Charles1\_45, Megatron\_45, Omniscient\_45, IsaacEli\_45, PhatCats2014\_45, Lulwa\_45, Held\_45, HenryJackson\_44, GreenChile\_45, Harvey\_45, Robyn\_44, Nyala\_44, DaddyDaniels\_45, Valjean\_45, BlacksBerry\_44, Olak\_44, AltPhacts\_45, Morty\_45, DonSanchon\_44, Gophee\_45, Potter\_44, HighStump\_44, FleetyMac\_45, ShadowBud\_45, EmGer13\_44, Aonishiki\_45, OneBrain\_46, CampRoach\_45, Kimbrough\_45, LeiMonet\_45, Fang\_45, ShiVal\_45, Lumine\_44, TomBombadil\_45, Craff\_45, Jiraiya\_44, CharlieGBrown\_44, True\_44, Anderson\_45, Struggle\_44,

Hekos\_42, Fringe\_45, Flake\_45, EmpTee\_45, SirBeauregard\_45, Adriana\_45, Mesmerelda\_44, Chaelin\_45, Mecca\_44, PG1\_45, Megamind20\_45, Roscoe\_46, Chuni\_44, Plata\_44, Vivaldi\_45, DolOn\_46, Nacho\_0045, Chorkpop\_45, SassyCat97\_44, DelRivs\_44, Giraffe\_45, MitKao\_45, Numberten\_45, Boehler\_45, Aelin\_44, Inchworm\_45, NiaNia\_47, Bishoperium\_44, Chah\_46, Olive\_45, SDcharge11\_45, Oline\_44, Tomlarah\_45, Karn\_44, Manad\_44, Jiminy\_44, Quisquilliae\_45, Mosaic\_44, Podrick\_45, Selr12\_45, Larson\_46, ThreeOh3D2\_45, Windsor\_44, Skippy\_45, Squiggle\_45, Coletti\_45, Schadenfreude\_44, Lopsy\_44, Duggie\_44, Mutante\_44, Crownjwl\_45, BoogieWoogie\_44, Trypo\_45, ProfessorX\_45, Cornobble\_44, LeeLot\_45, Kikipoo\_45, Doddsville\_45, Thunderbird\_44, Lego3393\_44, Virgeve\_44, Durga\_45, CheetO\_45, LemonSlice\_45, Squid\_45, Antonia\_44

- Track 8 : Bluephacebaby\_44, Hamish\_45, PhenghisKhan\_44, JangoPhett\_45, Eremos\_45, Happabalu\_45, AbsoluteMadLad\_44, PhrankReynolds\_43, Colbert\_45, UAch1\_45, HogWash\_45, Phipps\_45, Jillium\_44, Slatt\_45, FugateOSU\_44, Roliet\_45, Phamished\_45, Mag7\_44, Lasso\_45, Tooj\_45, Hartsy\_45, FremontTroll\_45, BlueHusk\_45, Mesh1\_45, Kahve\_44, PhatLouie\_45, Daka\_46, Oosterbaan\_45, YouGoGlencoco\_45, Soto\_45, Matalotodo\_45, Placalicious\_44, Zaider\_46, Cosmolli16\_44, BatteryCK\_44, Caspiboi\_44, FriarPreacher\_44, JDog\_44, Haimas\_45, Zelda\_45, Buckeye\_45, Orwigg\_44, Hetaeria\_45, Phleuron\_44, Basato\_46, Swiphy\_45, Usavi\_45, Pipsqueak\_45, Melc17\_45, Burr\_44, KingVeVeVe\_45, Veritas\_44, Mulan\_44, MichaelPhcott\_44, Prickles\_45, Iridoclysis\_45, Riggan\_45, Magic8\_45, Weher20\_45, Chunky\_45, Gwilliam\_45, SilverBell\_45, OliverWalter\_45, DirtJuice\_45, Waterdiva\_45, Nicole21\_45, JakeO\_44, Altwerkus\_44, Suffolk\_45, Dati\_45, Kailash\_45, Phergie\_44, Schueller\_44, Thora\_45, Dingo\_45, AngelCake\_45, Vista\_45, Etaye\_45, Sophia\_44, Surely\_45, Virapocalypse\_45, Chipette\_46, Hertubise\_45

- Track 9 : Plmatters\_45, Kloppinator\_45, UncleHowie\_45, Eugenia\_45, Pops\_45

- Track 10 : Imvubu\_36

- Track 11 : Indlovu\_42

- Track 12 : LilMcDreamy\_41

- Track 13 : BirdsNest\_46

- Track 14 : Hashim76\_46, Zenteno07\_48

- Track 15 : LittleMinkey\_49

- Track 16 : Tinciduntolum\_45, Hedgerow\_44, TA17A\_45, Lephleur\_44, Brownie5\_44, Rhinoforte\_44, LilSmirk\_44, Boyle\_44, Eaglehorse\_44, Ares\_44, Lars\_44, MasterPo\_44, FrenchFry\_44, Bananafish\_44, Blocker23\_44, Tres\_44, Holeinone\_44, Sabella\_43, PrinceCharming\_44, Allegro\_44, Glass\_44, Kheth\_44, Kaleb\_44, Phantasmagoria\_44, LizLemon\_44, Calamitous\_44, Faze9\_43, ItsyBitsy1\_44, West99\_44, Coffee\_44, Kolhan\_44, Godines\_44, Laurie\_43, Opia\_44

- Track 17 : Vic9\_00043

- Track 18 : Mortcellus\_42, Bernardo\_44, Pipefish\_45

- Track 19 : Prince\_40, Zemanar\_41, Fortunato\_41, Apex\_41, Fanaw\_39, Nigel\_39, Heath\_39, Hydro\_40, JAMaL\_40, VioletZ\_41, BobbyK\_41, QueenPie\_39, JoyceMaria\_40, Austelle\_41, Waleliano\_40, Lolalove\_40, BrownCNA\_42, Mithril\_40, Mudslide\_40, RawrgerThat\_41, Xincheng\_39, Magpie\_39, Hangman\_40, JaguarMi\_40, Frederick\_41, Cooper\_41

- Track 20 : ChrisnMich\_40, LittleDigger\_39, GinPorsche\_40, Antihero\_39, Renkei\_39, Ahwei\_39, Nanao\_39, Hally898\_39, Lambano\_39, Epah\_39, Poster\_39

- Track 21 : Vincenzo\_41, AlanGrant\_42

- Track 22 : Stinger\_39

- Track 23 : EastView9101\_42, SirJeffery\_44, Rita130\_44, Reccee\_44, Acadian\_44, Donny\_44, Suigeneris\_44

- Track 24 : Mysterious\_43, Reprobate\_44, Nehemiah\_43, Phelemich\_43
- Track 25 : Bae\_43, Rich\_42
- Track 26 : DigitDog\_43, Nangang\_43, Shenyu\_43
- Track 27 : Serendipitous\_43
- Track 28 : KarasumaRum\_45, StinkyVeggy\_45
- Track 29 : Saguaro\_45
- Track 30 : Thonko\_43
- Track 31 : CRB2\_46
- Track 32 : Funsized\_46
- Track 33 : Rinkes\_44
- Track 34 : Knocker\_45
- Track 35 : Quesadilla\_46
- Track 36 : PenguinLover67\_46
- Track 37 : BeeGee\_38, RavenCo17\_36
- Track 38 : Nymphadora\_34, Bosnia\_34, Herod\_34, BatStarr\_34, Eviarto\_34, TimTam\_34
- Track 39 : Eudoria\_35, Maridalia\_34, Manasvini\_35, Suscepit\_35, Zameen\_35, Neobush\_35, Tayonia\_35, Polly\_32, Kita\_36, Antonio\_35, Trumpet\_35
- Track 40 : Vasanti\_31
- Track 41 : JCole\_32
- Track 42 : Horus\_39, BearBQ\_38, ShawBrad\_38, Lutum\_39, Asapag\_39, Ecliptus\_40, Whitney\_42, Leroy\_39, Phabuloso\_36, ODay\_42, Budski\_39, Getalong\_40, Kenna\_38, CheeseTouch\_37, Holliday\_38, Periwinkle\_42
- Track 43 : TraderJ\_40, Yeshua\_40, Wooper\_40
- Track 44 : Axumite\_38, Shatter\_38, Ligma\_38, Fresco\_38
- Track 45 : MossRose\_40, MakoManhole\_40, CaiB\_40, AnarQue\_40, FelixTres\_39, CloverMinnie\_40, Blackpen\_40
- Track 46 : Mariokart\_38, JellyBelly\_38, CharlottesWeb\_38
- Track 47 : Coldpizza\_41
- Track 48 : Sour\_43
- Track 49 : BiggityBass\_38
- Track 50 : NHagos\_38, AksarBAT\_38
- Track 51 : Evaa\_38
- Track 52 : Yago84\_38, Sisko\_38, AnClar\_39
- Track 53 : LittleMunchkin\_40
- Track 54 : BobRoss2024\_37
- Track 55 : Rubeelu\_32, Butters\_32
- Track 56 : Rem711\_6
- Track 57 : 32HC\_7
- Track 58 : Pine5\_39

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

The start number called the most often in the published annotations is 27, it was called in 308 of the 462 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_45, AbsoluteMadLad\_44, Acadian\_44, Adriana\_45, Aelin\_44, Aleia\_45, AltPhacts\_45, Altwerkus\_44, Anderson\_45, Andre\_45, AngelCake\_45, Antonia\_44, Aonishiki\_45, Apizium\_44, Ashraf\_44, Badfish\_45, Bae\_43, Banjo\_44, Basato\_46,

BatteryCK\_44, Beaglebox\_44, Bishoperium\_44, BlackStallion\_45, BlacksBerry\_44, BlueHusk\_45, Bluephacebaby\_44, Boehler\_45, BoogieWoogie\_44, Brilliant\_45, Buckeye\_45, Burr\_44, CRB2\_46, CamL\_45, CampRoach\_45, Cannibal\_45, Carthage\_43, Caspiboi\_44, Chaelin\_45, Chah\_46, Charles1\_45, CharlieGBrown\_44, CheetO\_45, Cher\_44, Childish\_44, Chipette\_46, Chorkpop\_45, Chuni\_44, Chunky\_45, Chute\_44, Cobra\_45, Colbert\_45, Coletti\_45, Cornbread\_44, Cornobble\_44, Cosmolli16\_44, Craff\_45, Crownjwl\_45, DaddyDaniels\_45, Daffy\_45, Daka\_46, Dati\_45, DelRivs\_44, Derpp\_44, Dice\_44, DigitDog\_43, Dingo\_45, Dione\_44, DirtJuice\_45, Doddsville\_45, DoesntMatter\_44, DoIOn\_46, DonSanchon\_44, Donny\_44, DuchessDung\_43, Duggie\_44, Durga\_45, EastView9101\_42, ElvisPhasley\_45, EmGer13\_44, Emiris\_45, EmpTee\_45, Eremos\_45, Etaye\_45, Eugenia\_45, Fang\_45, Flake\_45, FleetyMac\_45, FluffyNinja\_45, Fozzie\_44, Frankicide\_45, FremontTroll\_45, Freya\_44, FriarPreacher\_44, Fringe\_45, FugateOSU\_44, Funsized\_46, Gareth\_44, GeneCoco\_45, Giraffe\_45, Gophee\_45, Grand2040\_44, GreenChile\_45, Gwennie1\_45, Gwilliam\_45, Gyarad\_0045, HSavage\_45, Haimas\_45, Haleema\_44, Hamish\_45, Happabalu\_45, Hartsy\_45, Harvey\_45, Hekos\_42, Held\_45, HenryJackson\_44, Hertubise\_45, Hetaeria\_45, HighStump\_44, Hocus\_44, HogWash\_45, Horchata\_45, ImtiyazSitla\_44, Imvubu\_36, Inchworm\_45, Indlovu\_42, Inverness\_45, Iridessa\_45, Iridoclysis\_45, IsaacEli\_45, JDog\_44, JacAttac\_45, JakeO\_44, JangoPhett\_45, Jesabah\_45, Jillium\_44, Jiminy\_44, Jiraiya\_44, KLucky39\_45, Kahve\_44, Kailash\_45, KarasumaRum\_45, Karn\_44, Katniss\_45, Keitherie\_45, Khan1\_45, Kikipoo\_45, Kimbrough\_45, KingTut\_36, KingVeVeVe\_45, KlimbOn\_45, Kloppinator\_45, Knocker\_45, Kwadwo\_44, Kwksand96\_44, Labeouficaum\_44, Larson\_46, LasagnaCat\_45, Lasso\_45, LeeLot\_45, Lego3393\_44, Legolas\_44, Lehmann\_45, LeiMonet\_45, LemonSlice\_45, LilMcDreamy\_41, Longacauda\_44, Lopsy\_44, LostAndPhound\_44, LuckyMarjie\_44, Lulumae\_44, Lulwa\_45, Lumine\_44, MRabcd\_44, Mag7\_44, Magic8\_45, Mana\_44, Manad\_44, Maru\_44, Maskar\_44, Matalotodo\_45, Mcshane\_44, Mecca\_44, Megamind20\_45, Megatron\_45, Melc17\_45, MelsMeow\_44, Mesh1\_45, Mesmerelda\_44, MichaelPhcott\_44, Mikota\_45, MiniBoss\_45, MitKao\_45, Morgushi\_45, Morty\_45, Mosaic\_44, MrPhizzler\_45, Mulan\_44, Murdoc\_45, Mutante\_44, Mysterious\_43, Nacho\_0045, Nangang\_43, Nathan\_45, Nehemiah\_43, Newman\_45, NiaNia\_47, Nicole21\_45, Nova1\_45, Numberten\_45, Nyala\_44, OSmaximus\_45, Olak\_44, Oline\_44, Olive\_45, OliverWalter\_45, Omniscient\_45, OneBrain\_46, Oosterbaan\_45, Orfeu\_44, Orion\_45, Orwigg\_44, PG1\_45, Pacifista\_44, PallasAthena\_45, PenguinLover67\_46, Phamished\_45, Phareon\_45, PhatCats2014\_45, PhatLouie\_45, Phelemich\_43, PhenghisKhan\_44, Pherdinand\_45, Phergie\_44, Phipps\_45, Phleuron\_44, PhrankReynolds\_43, PhrodoBaggins\_44, Phunky\_45, Piglet\_0044, PinheadLarry\_45, Pinkman\_44, Pipsqueak\_45, Placalicious\_44, Plata\_44, Plmatters\_45, Podrick\_45, Pops\_45, Potter\_44, Prickles\_45, ProfessorX\_45, Puhltonio\_45, QueenBeane\_45, Quesadilla\_46, Quisquilliae\_45, Reccee\_44, RedMaple\_44, RedRaider89\_46, Reprobate\_44, Rich\_42, Ricotta\_44, Riggan\_45, Rimu\_45, Rita130\_44, Riverton\_45, Robyn\_44, Roliet\_45, Roscoe\_46, Roy17\_45, SDcharge11\_45, Saguario\_45, SallyH\_45, Samaymay\_45, SassyCat97\_44, Schadenfreude\_44, Schueller\_44, Scoot17C\_45, Scrick\_45, Selr12\_45, Serendipitous\_43, Serendipity\_45, Serpentine\_0045, ShadowBud\_45, Sheila\_45, Shenyu\_43, ShiVal\_45, Sigman\_45, SilverBell\_45, Simielle\_44, SirBeauregard\_45, SirJeffery\_44, Skippy\_45, Slatt\_45, Soile\_45, Solosis\_44, Sophia\_44, Soto\_45, Spartan300\_45, Squid\_45, Squiggle\_45, StinkyVeggy\_45, Struggle\_44, Suffolk\_45, Suigeneris\_44, Surely\_45, Swiphy\_45, Swish\_45, TallGrassMM\_45, Taraxa\_45, Telesworld\_44, Thora\_45, ThreeOh3D2\_45, Thunderbird\_44, Timmi\_44, TomBombadil\_45, Tomlarah\_45, Toni\_44, TooFast2Furius\_46, Tooj\_45, Triad\_45,

True\_44, Trypo\_45, TyrionL\_44, UAch1\_45, UncleHowie\_45, Usavi\_45, Vaishali24\_44, Valjean\_45, Vaticameos\_41, Veritas\_44, Virapocalypse\_45, Virgeve\_44, Vista\_45, Vivaldi\_45, Vortex\_45, Wallhey\_44, Waterdiva\_45, Weher20\_45, Windsor\_44, Xavier\_44, Yoshand\_45, YouGoGlencoco\_45, Zaider\_46, Zelda\_45, Zonia\_45,

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

- 

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

- 32HC\_7, Ahwei\_39, AksarBAT\_38, AlanGrant\_42, Allegro\_44, Amelia\_27, Amphitrite\_26, AnClar\_39, AnarQue\_40, Antihero\_39, Antonio\_35, Apex\_41, Ares\_44, Asapag\_39, Atlantica\_26, Austelle\_41, Axumite\_38, Azaz\_25, Bananafish\_44, BatStarr\_34, BearBQ\_38, BeeGee\_38, Bernardo\_44, BiggityBass\_38, BirdsNest\_46, Blackpen\_40, Blocker23\_44, BobRoss2024\_37, BobbyK\_41, Bosnia\_34, Boyle\_44, BrownCNA\_42, Brownie5\_44, Budski\_39, Butters\_32, CaiB\_40, Calamitous\_44, Camara\_26, CharlottesWeb\_38, CheeseTouch\_37, Chickaboom\_25, ChrisnMich\_40, CloverMinnie\_40, Coffee\_44, Coldpizza\_41, Colusalem\_27, Cooper\_41, Coral\_26, Cote\_27, Damocles\_28, DanHam62\_26, Daob\_27, Eaglehorse\_44, Ecliptus\_40, Epah\_39, Eudoria\_35, Evaa\_38, Eviarto\_34, Fanaw\_39, Faze9\_43, FelixTres\_39, Fingolfin\_26, Fortunato\_41, Frederick\_41, FrenchFry\_44, Fresco\_38, Getalong\_40, GinPorsche\_40, Glass\_44, Glotell\_26, Godines\_44, GramZayde\_26, Hally898\_39, Hangman\_40, HannahPhantana\_27, Hashim76\_46, Heath\_39, Hedgerow\_44, Herod\_34, Holeinone\_44, Holliday\_38, Horus\_39, Hydro\_40, ItsyBitsy1\_44, JAMaL\_40, JCole\_32, JaguarMi\_40, JellyBelly\_38, JoyceMaria\_40, KHumphrey\_26, Kaleb\_44, Kenna\_38, Kheth\_44, Kita\_36, Kolhan\_44, Lambano\_39, Lars\_44, Laurie\_43, Leona\_25, Lephleur\_44, Leroy\_39, Ligma\_38, LilSmirk\_44, LittleDigger\_39, LittleMinkey\_49, LittleMunchkin\_40, LizLemon\_44, Lolalove\_40, Lunar\_27, Lutum\_39, Magpie\_39, MakoManhole\_40, Manasvini\_35, Maridalia\_34, Mariokart\_38, MasterPo\_44, Melons\_27, Mithril\_40, Mortcellus\_42, MossRose\_40, Mudslide\_40, NHagos\_38, Nanao\_39, Neobush\_35, Nigel\_39, Nymphadora\_34, ODay\_42, Opia\_44, OtsoOtso\_26, Periwinkle\_42, Phabuloso\_36, Phantasmagoria\_44, PhluffyCoco\_26, Pine5\_39, Pineda\_28, Pipefish\_45, Polka\_26, Polly\_32, Poster\_39, PrinceCharming\_44, Prince\_40, QueenPie\_39, RavenCo17\_36, RawrgerThat\_41, RedFox\_26, Rem711\_6, Renkei\_39, Rhinoforte\_44, Rinkes\_44, Rubeelu\_32, Sabella\_43, Shatter\_38, ShawBrad\_38, Sisko\_38, Sour\_43, Stinger\_39, Suscepit\_35, TA17A\_45, Tayonia\_35, Thonko\_43, TimTam\_34, Tinciduntolum\_45, TraderJ\_40, Tres\_44, Trumpet\_35, Vasanti\_31, Vic9\_00043, Vincenzo\_41, VioletZ\_41, Waleliano\_40, West99\_44, Whitney\_42, WileyE\_25, Wooper\_40, Xincheng\_39, Yago84\_38, Yeshua\_40, Zameen\_35, Zemanar\_41, Zenteno07\_48,

### Summary by start number:

Start 19:

- Found in 7 of 524 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 5 of 462
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Axumite\_38 (DR), CharlottesWeb\_38 (DR), Fresco\_38 (DR), JellyBelly\_38 (DR), Ligma\_38 (DR), Mariokart\_38 (DR), Shatter\_38 (DR),

Start 22:

- Found in 6 of 524 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 5 of 462
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnClar\_39 (DR), BiggityBass\_38 (DR), BobRoss2024\_37 (DR), LittleMunchkin\_40 (DR), Sisko\_38 (DR), Yago84\_38 (DR),

#### Start 24:

- Found in 16 of 524 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 13 of 462
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AksarBAT\_38 (DR), AnarQue\_40 (DR), Bernardo\_44 (B3), Blackpen\_40 (DR), CaiB\_40 (DR), CloverMinnie\_40 (DR), FelixTres\_39 (DR), MakoManhole\_40 (DR), Mortcellus\_42 (B3), MossRose\_40 (DR), NHagos\_38 (DR), Pipefish\_45 (B3), Sour\_43 (DR), TraderJ\_40 (DR), Wooper\_40 (DR), Yeshua\_40 (DR),

#### Start 26:

- Found in 3 of 524 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 3 of 462
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Coldpizza\_41 (DR), Evaa\_38 (DR), Thonko\_43 (B8),

#### Start 27:

- Found in 344 of 524 ( 65.6% ) of genes in pham
- Manual Annotations of this start: 308 of 462
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ABU\_45 (B1), AbsoluteMadLad\_44 (B1), Acadian\_44 (B5), Adriana\_45 (B1), Aelin\_44 (B1), Aleia\_45 (B1), AltPhacts\_45 (B1), Altwerkus\_44 (B1), Anderson\_45 (B1), Andre\_45 (B1), AngelCake\_45 (B1), Antonia\_44 (B1), Aonishiki\_45 (B1), Apizium\_44 (B1), Ashraf\_44 (B1), Badfish\_45 (B1), Bae\_43 (B5), Banjo\_44 (B1), Basato\_46 (B1), BatteryCK\_44 (B1), Beaglebox\_44 (B1), Bishoperium\_44 (B1), BlackStallion\_45 (B1), BlacksBerry\_44 (B1), BlueHusk\_45 (B1), Bluephacebaby\_44 (B1), Boehler\_45 (B1), BoogieWoogie\_44 (B1), Brilliant\_45 (B1), Buckeye\_45 (B1), Burr\_44 (B1), CRB2\_46 (B9), CamL\_45 (B1), CampRoach\_45 (B1), Cannibal\_45 (B1), Carthage\_43 (B1), Caspiboi\_44 (B1), Chaelin\_45 (B1), Chah\_46 (B1), Charles1\_45 (B1), CharlieGBrown\_44 (B1), CheetO\_45 (B1), Cher\_44 (B1), Childish\_44 (B1), Chipette\_46 (B1), Chorkpop\_45 (B1), Chuni\_44 (B1), Chunky\_45 (B1), Chute\_44 (B1), Cobra\_45 (B1), Colbert\_45 (B1), Coletti\_45 (B1), Cornbread\_44 (B1), Cornobble\_44 (B1), Cosmolli16\_44 (B1), Craff\_45 (B1), Crownjwl\_45 (B1), DaddyDaniels\_45 (B1), Daffy\_45 (B1), Daka\_46 (B1), Dati\_45 (B1), DelRivs\_44 (B1), Derpp\_44 (B1), Dice\_44 (B1), DigitDog\_43 (B5), Dingo\_45 (B1), Dione\_44 (B1), DirtJuice\_45 (B1), Doddsville\_45 (B1), DoesntMatter\_44 (B1), DolOn\_46 (B1), DonSanchon\_44 (B1), Donny\_44 (B5), DuchessDung\_43 (B1), Duggie\_44 (B1), Durga\_45 (B1), EastView9101\_42 (B5), ElvisPhasley\_45 (B1), EmGer13\_44 (B1), Emiris\_45 (B1), EmpTee\_45 (B1), Eremos\_45 (B1), Etaye\_45 (B1), Eugenia\_45 (B1), Fang\_45 (B1), Flake\_45 (B1), FleetyMac\_45 (B1), FluffyNinja\_45 (B1), Fozzie\_44 (B1), Frankicide\_45 (B1), FremontTroll\_45 (B1), Freya\_44 (B1), FriarPreacher\_44 (B1), Fringe\_45 (B1), FugateOSU\_44 (B1), Funsized\_46 (B9), Gareth\_44 (B1), GeneCoco\_45 (B1), Giraffe\_45 (B1), Gophee\_45 (B1), Grand2040\_44 (B1), GreenChile\_45 (B1), Gwennie1\_45 (B1), Gwilliam\_45 (B1), Gyarad\_0045 (B1), HSavage\_45 (B1), Haimas\_45 (B1), Haleema\_44 (B1), Hamish\_45 (B1),

Happabalu\_45 (B1), Hartsy\_45 (B1), Harvey\_45 (B1), Hekos\_42 (B1), Held\_45 (B1), HenryJackson\_44 (B1), Hertubise\_45 (B1), Hetaeria\_45 (B1), HighStump\_44 (B1), Hocus\_44 (B1), HogWash\_45 (B1), Horchata\_45 (B1), ImtiyazSitla\_44 (B1), Imvubu\_36 (B10), Inchworm\_45 (B1), Indlovu\_42 (B11), Inverness\_45 (B1), Iridessa\_45 (B1), Iridoclysis\_45 (B1), IsaacEli\_45 (B1), JDog\_44 (B1), JacAttac\_45 (B1), JakeO\_44 (B1), JangoPhett\_45 (B1), Jesabah\_45 (B1), Jillium\_44 (B1), Jiminy\_44 (B1), Jiraiya\_44 (B1), KLUcky39\_45 (B1), Kahve\_44 (B1), Kailash\_45 (B1), KarasumaRum\_45 (B5), Karn\_44 (B1), Katniss\_45 (B1), Keitherie\_45 (B1), Khan1\_45 (B1), Kikipoo\_45 (B1), Kimbrough\_45 (B1), KingTut\_36 (B1), KingVeVeVe\_45 (B1), KlimbOn\_45 (B1), Kloppinator\_45 (B1), Knocker\_45 (B9), Kwadwo\_44 (B1), Kwksand96\_44 (B1), Labeouficaum\_44 (B1), Larson\_46 (B1), LasagnaCat\_45 (B1), Lasso\_45 (B1), LeeLot\_45 (B1), Lego3393\_44 (B1), Legolas\_44 (B1), Lehmann\_45 (B1), LeiMonet\_45 (B1), LemonSlice\_45 (B1), LilMcDreamy\_41 (B12), Longacauda\_44 (B1), Lopsy\_44 (B1), LostAndPhound\_44 (B1), LuckyMarjie\_44 (B1), Lulumae\_44 (B1), Lulwa\_45 (B1), Lumine\_44 (B1), MRabcd\_44 (B1), Mag7\_44 (B1), Magic8\_45 (B1), Mana\_44 (B1), Manad\_44 (B1), Maru\_44 (B1), Maskar\_44 (B1), Matalotodo\_45 (B1), Mcshane\_44 (B1), Mecca\_44 (B1), Megamind20\_45 (B1), Megatron\_45 (B1), Melc17\_45 (B1), MelsMeow\_44 (B1), Mesh1\_45 (B1), Mesmerelda\_44 (B1), MichaelPhcott\_44 (B1), Mikota\_45 (B1), MiniBoss\_45 (B1), MitKao\_45 (B1), Morgushi\_45 (B1), Morty\_45 (B1), Mosaic\_44 (B1), MrPhizzler\_45 (B1), Mulan\_44 (B1), Murdoc\_45 (B1), Mutante\_44 (B1), Mysterious\_43 (B5), Nacho\_0045 (B1), Nangang\_43 (B5), Nathan\_45 (B1), Nehemiah\_43 (B5), Newman\_45 (B1), NiaNia\_47 (B1), Nicole21\_45 (B1), Nova1\_45 (B1), Numberten\_45 (B1), Nyala\_44 (B1), OSmaximus\_45 (B1), Olak\_44 (B1), Oline\_44 (B1), Olive\_45 (B1), OliverWalter\_45 (B1), Omniscient\_45 (B1), OneBrain\_46 (B1), Oosterbaan\_45 (B1), Orfeu\_44 (B1), Orion\_45 (B1), Orwigg\_44 (B1), PG1\_45 (B1), Pacifista\_44 (B1), PallasAthena\_45 (B1), PenguinLover67\_46 (B9), Phamished\_45 (B1), Phareon\_45 (B1), PhatCats2014\_45 (B1), PhatLouie\_45 (B1), Phelemich\_43 (B5), PhenghisKhan\_44 (B1), Pherdinand\_45 (B1), Phergie\_44 (B1), Phipps\_45 (B1), Phleuron\_44 (B1), PhrankReynolds\_43 (B1), PhrodoBaggins\_44 (B1), Phunky\_45 (B1), Piglet\_0044 (B1), PinheadLarry\_45 (B1), Pinkman\_44 (B1), Pipsqueak\_45 (B1), Placalicious\_44 (B1), Plata\_44 (B1), Plmatters\_45 (B1), Podrick\_45 (B1), Pops\_45 (B1), Potter\_44 (B1), Prickles\_45 (B1), ProfessorX\_45 (B1), Puhltonio\_45 (B1), QueenBeane\_45 (B1), Quesadilla\_46 (B9), Quisquillae\_45 (B1), Reccee\_44 (B5), RedMaple\_44 (B1), RedRaider89\_46 (B1), Reprobate\_44 (B5), Rich\_42 (B5), Ricotta\_44 (B1), Riggan\_45 (B1), Rimu\_45 (B1), Rita130\_44 (B5), Riverton\_45 (B1), Robyn\_44 (B1), Roliet\_45 (B1), Roscoe\_46 (B1), Roy17\_45 (B1), SDcharge11\_45 (B1), Saguaro\_45 (B7), SallyH\_45 (B1), Samaymay\_45 (B1), SassyCat97\_44 (B1), Schadenfreude\_44 (B1), Schueller\_44 (B1), Scoot17C\_45 (B1), Scrick\_45 (B1), Selr12\_45 (B1), Serendipitous\_43 (B5), Serendipity\_45 (B1), Serpentine\_0045 (B1), ShadowBud\_45 (B1), Sheila\_45 (B1), Shenyu\_43 (B5), ShiVal\_45 (B1), Sigman\_45 (B1), SilverBell\_45 (B1), Simielle\_44 (B1), SirBeauregard\_45 (B1), SirJeffery\_44 (B5), Skippy\_45 (B1), Slatt\_45 (B1), Soile\_45 (B1), Solosis\_44 (B1), Sophia\_44 (B1), Soto\_45 (B1), Spartan300\_45 (B1), Squid\_45 (B1), Squiggle\_45 (B1), StinkyVeggy\_45 (B5), Struggle\_44 (B1), Suffolk\_45 (B1), Suigeneris\_44 (B5), Surely\_45 (B1), Swiphy\_45 (B1), Swish\_45 (B1), TallGrassMM\_45 (B1), Taraxa\_45 (B1), Telesworld\_44 (B1), Thora\_45 (B1), ThreeOh3D2\_45 (B1), Thunderbird\_44 (B1), Timmi\_44 (B1), TomBombadil\_45 (B1), Tomlarah\_45 (B1), Toni\_44 (B1), TooFast2Furius\_46 (B1), Tooj\_45 (B1), Triad\_45 (B1), True\_44 (B1), Trypo\_45 (B1), TyrionL\_44 (B1), UAch1\_45 (B1), UncleHowie\_45 (B1), Usavi\_45 (B1), Vaishali24\_44 (B1), Valjean\_45 (B1), Vaticameos\_41 (B1), Veritas\_44 (B1), Virapocalypse\_45 (B1), Virgeve\_44 (B1), Vista\_45 (B1), Vivaldi\_45 (B1), Vortex\_45 (B1), Wallhey\_44 (B1), Waterdiva\_45 (B1), Weher20\_45 (B1),

Windsor\_44 (B1), Xavier\_44 (B1), Yoshand\_45 (B1), YouGoGlencoco\_45 (B1), Zaider\_46 (B1), Zelda\_45 (B1), Zonia\_45 (B1),

Start 28:

- Found in 44 of 524 ( 8.4% ) of genes in pham
- Manual Annotations of this start: 28 of 462
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Ahwei\_39 (B4), AlanGrant\_42 (B4), Antihero\_39 (B4), Apex\_41 (B4), Austelle\_41 (B4), BobbyK\_41 (B4), BrownCNA\_42 (B4), ChrisnMich\_40 (B4), Cooper\_41 (B4), Epah\_39 (B4), Fanaw\_39 (B4), Fortunato\_41 (B4), Frederick\_41 (B4), GinPorsche\_40 (B4), Hally898\_39 (B4), Hangman\_40 (B4), Heath\_39 (B4), Hydro\_40 (B4), JAMaL\_40 (B4), JaguarMi\_40 (B4), JoyceMaria\_40 (B4), Lambano\_39 (B4), LittleDigger\_39 (B4), Lolalove\_40 (B4), Magpie\_39 (B4), Mithril\_40 (B4), Mudslide\_40 (B4), Nanao\_39 (B4), Nigel\_39 (B4), Poster\_39 (B4), Prince\_40 (B4), QueenPie\_39 (B4), RawrgerThat\_41 (B4), Renkei\_39 (B4), Stinger\_39 (B4), Vincenzo\_41 (B4), VioletZ\_41 (B4), Waleliano\_40 (B4), Xincheng\_39 (B4), Zemanar\_41 (B4),

Start 31:

- Found in 43 of 524 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 38 of 462
- Called 93.0% of time when present
- Phage (with cluster) where this start called: Allegro\_44 (B2), Ares\_44 (B2), Bananafish\_44 (B2), BirdsNest\_46 (B13), Blocker23\_44 (B2), Boyle\_44 (B2), Brownie5\_44 (B2), Calamitous\_44 (B2), Coffee\_44 (B2), Eaglehorse\_44 (B2), Faze9\_43 (B2), FrenchFry\_44 (B2), Glass\_44 (B2), Godines\_44 (B2), Hashim76\_46 (B13), Hedgerow\_44 (B2), Holeinone\_44 (B2), ItsyBitsy1\_44 (B2), Kaleb\_44 (B2), Kheth\_44 (B2), Kolhan\_44 (B2), Lars\_44 (B2), Laurie\_43 (B2), Lephleur\_44 (B2), LilSmirk\_44 (B2), LittleMinkey\_49 (B13), LizLemon\_44 (B2), MasterPo\_44 (B2), Opia\_44 (B2), Phantasmagoria\_44 (B2), PrinceCharming\_44 (B2), Rhinoforte\_44 (B2), Rinkes\_44 (B9), Sabella\_43 (B2), TA17A\_45 (B2), Tinciduntolum\_45 (B2), Tres\_44 (B2), Vic9\_00043 (B2), West99\_44 (B2), Zenteno07\_48 (B13),

Start 33:

- Found in 40 of 524 ( 7.6% ) of genes in pham
- Manual Annotations of this start: 37 of 462
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC\_7 (Z), Antonio\_35 (CZ1), Asapag\_39 (DN1), BatStarr\_34 (CZ1), BearBQ\_38 (DN), BeeGee\_38 (CY5), Bosnia\_34 (CZ1), Budski\_39 (DN), CheeseTouch\_37 (DN1), Ecliptus\_40 (DN), Eudoria\_35 (CZ1), Eviarto\_34 (CZ1), Getalong\_40 (DN1), Herod\_34 (CZ1), Holliday\_38 (DN1), Horus\_39 (DN1), JCole\_32 (CZ2), Kenna\_38 (DN1), Kita\_36 (CZ1), Leroy\_39 (DN1), Lutum\_39 (DN1), Manasvini\_35 (CZ1), Maridalia\_34 (CZ1), Neobush\_35 (CZ1), Nymphadora\_34 (CZ1), ODay\_42 (DN), Periwinkle\_42 (DN1), Phabuloso\_36 (DN1), Pine5\_39 (singleton), Polly\_32 (CZ1), RavenCo17\_36 (CZ8), Rem711\_6 (Z), ShawBrad\_38 (DN1), Suscepit\_35 (CZ1), Tayonia\_35 (CZ1), TimTam\_34 (CZ1), Trumpet\_35 (CZ1), Vasanti\_31 (CZ2), Whitney\_42 (DN1), Zameen\_35 (CZ1),

Start 35:

- Found in 2 of 524 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 462
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Butters\_32 (N), Rubeelu\_32 (N),

Start 36:

- Found in 2 of 524 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 462
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chickaboom\_25 (AS1), WileyE\_25 (AS1),

Start 38:

- Found in 31 of 524 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 21 of 462
- Called 77.4% of time when present
- Phage (with cluster) where this start called: Amelia\_27 (AS2), Amphitrite\_26 (AS3), Atlantica\_26 (AS3), Azaz\_25 (AS3), Camara\_26 (AS3), Colusalem\_27 (AS2), Coral\_26 (AS2), Cote\_27 (AS2), Damocles\_28 (AS2), DanHam62\_26 (AS3), Daob\_27 (AS2), Fingolfin\_26 (AS3), Glotell\_26 (AS3), GramZayde\_26 (AS2), HannahPhantana\_27 (AS2), KHumphrey\_26 (AS3), Leona\_25 (AS3), Lunar\_27 (AS2), Melons\_27 (AS2), OtsoOtso\_26 (AS2), PhluffyCoco\_26 (AS3), Pineda\_28 (AS2), Polka\_26 (AS2), RedFox\_26 (AS3),

### Summary by clusters:

There are 25 clusters represented in this pham: DN, singleton, CZ2, CZ1, CZ8, B12, B13, B10, B11, DR, DN1, AS3, AS2, AS1, CY5, N, Z, B4, B5, B7, B1, B2, B3, B8, B9,

Info for manual annotations of cluster AS1:

- Start number 36 was manually annotated 2 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 38 was manually annotated 11 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 38 was manually annotated 10 times for cluster AS3.

Info for manual annotations of cluster B1:

- Start number 27 was manually annotated 288 times for cluster B1.

Info for manual annotations of cluster B10:

- Start number 27 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 27 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 27 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 31 was manually annotated 3 times for cluster B13.

Info for manual annotations of cluster B2:

- Start number 31 was manually annotated 34 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 24 was manually annotated 3 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 28 was manually annotated 28 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 27 was manually annotated 11 times for cluster B5.

Info for manual annotations of cluster B7:

- Start number 27 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 26 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 27 was manually annotated 5 times for cluster B9.
- Start number 31 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster CY5:

- Start number 33 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CZ1:

- Start number 33 was manually annotated 17 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 33 was manually annotated 2 times for cluster CZ2.

Info for manual annotations of cluster CZ8:

- Start number 33 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DN:

- Start number 33 was manually annotated 4 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 33 was manually annotated 11 times for cluster DN1.

Info for manual annotations of cluster DR:

- Start number 19 was manually annotated 5 times for cluster DR.
- Start number 22 was manually annotated 5 times for cluster DR.
- Start number 24 was manually annotated 10 times for cluster DR.
- Start number 26 was manually annotated 2 times for cluster DR.

Info for manual annotations of cluster N:

- Start number 35 was manually annotated 2 times for cluster N.

Info for manual annotations of cluster Z:

- Start number 33 was manually annotated 1 time for cluster Z.

***Gene Information:***

Gene: 32HC\_7 Start: 3414, Stop: 3172, Start Num: 33  
Candidate Starts for 32HC\_7:  
(29, 3423), (Start: 33 @3414 has 37 MA's), (44, 3384), (58, 3291), (59, 3273),

Gene: ABU\_45 Start: 39190, Stop: 38975, Start Num: 27  
Candidate Starts for ABU\_45:  
(9, 39292), (Start: 27 @39190 has 308 MA's), (39, 39160), (47, 39115),

Gene: AbsoluteMadLad\_44 Start: 39199, Stop: 38984, Start Num: 27  
Candidate Starts for AbsoluteMadLad\_44:  
(Start: 27 @39199 has 308 MA's), (39, 39169), (47, 39124),

Gene: Acadian\_44 Start: 39648, Stop: 39439, Start Num: 27  
Candidate Starts for Acadian\_44:  
(8, 39762), (9, 39756), (Start: 27 @39648 has 308 MA's), (39, 39633), (44, 39621), (47, 39588),

Gene: Adriana\_45 Start: 39188, Stop: 38973, Start Num: 27  
Candidate Starts for Adriana\_45:  
(9, 39290), (Start: 27 @39188 has 308 MA's), (39, 39158), (47, 39113),

Gene: Aelin\_44 Start: 38754, Stop: 38539, Start Num: 27  
Candidate Starts for Aelin\_44:  
(9, 38856), (Start: 27 @38754 has 308 MA's), (39, 38724), (47, 38679),

Gene: Ahwei\_39 Start: 38171, Stop: 37965, Start Num: 28  
Candidate Starts for Ahwei\_39:  
(Start: 28 @38171 has 28 MA's), (39, 38150), (45, 38123), (47, 38105), (51, 38087), (55, 38057), (57, 38051), (60, 38030),

Gene: AksarBAT\_38 Start: 33442, Stop: 33182, Start Num: 24  
Candidate Starts for AksarBAT\_38:  
(11, 33475), (Start: 24 @33442 has 13 MA's), (39, 33400), (40, 33397), (49, 33346), (52, 33328), (57, 33301),

Gene: AlanGrant\_42 Start: 39951, Stop: 39745, Start Num: 28  
Candidate Starts for AlanGrant\_42:  
(Start: 28 @39951 has 28 MA's), (39, 39930), (42, 39924), (45, 39903), (47, 39885), (49, 39876), (51, 39867), (55, 39837), (56, 39834), (57, 39831),

Gene: Aleia\_45 Start: 38768, Stop: 38553, Start Num: 27  
Candidate Starts for Aleia\_45:  
(Start: 27 @38768 has 308 MA's), (39, 38738), (47, 38693), (54, 38660),

Gene: Allegro\_44 Start: 39432, Stop: 39226, Start Num: 31  
Candidate Starts for Allegro\_44:  
(Start: 31 @39432 has 38 MA's), (40, 39405), (42, 39402), (51, 39348), (56, 39315),

Gene: AltPhacts\_45 Start: 39177, Stop: 38962, Start Num: 27  
Candidate Starts for AltPhacts\_45:  
(9, 39279), (Start: 27 @39177 has 308 MA's), (39, 39147), (47, 39102),

Gene: Altwerkus\_44 Start: 38878, Stop: 38663, Start Num: 27  
Candidate Starts for Altwerkus\_44:

(Start: 27 @38878 has 308 MA's), (39, 38848), (47, 38803),

Gene: Amelia\_27 Start: 19057, Stop: 18836, Start Num: 38

Candidate Starts for Amelia\_27:

(Start: 38 @19057 has 21 MA's),

Gene: Amphitrite\_26 Start: 18730, Stop: 18515, Start Num: 38

Candidate Starts for Amphitrite\_26:

(Start: 38 @18730 has 21 MA's),

Gene: AnClar\_39 Start: 35606, Stop: 35379, Start Num: 22

Candidate Starts for AnClar\_39:

(Start: 22 @35606 has 5 MA's), (53, 35489), (63, 35420),

Gene: AnarQue\_40 Start: 34838, Stop: 34584, Start Num: 24

Candidate Starts for AnarQue\_40:

(10, 34880), (Start: 24 @34838 has 13 MA's), (40, 34790), (49, 34739), (52, 34721), (57, 34694),

Gene: Anderson\_45 Start: 39183, Stop: 38968, Start Num: 27

Candidate Starts for Anderson\_45:

(9, 39285), (Start: 27 @39183 has 308 MA's), (39, 39153), (47, 39108),

Gene: Andre\_45 Start: 39182, Stop: 38967, Start Num: 27

Candidate Starts for Andre\_45:

(Start: 27 @39182 has 308 MA's), (39, 39152), (47, 39107), (54, 39074),

Gene: AngelCake\_45 Start: 39202, Stop: 38987, Start Num: 27

Candidate Starts for AngelCake\_45:

(Start: 27 @39202 has 308 MA's), (39, 39172), (47, 39127),

Gene: Antihero\_39 Start: 38171, Stop: 37965, Start Num: 28

Candidate Starts for Antihero\_39:

(Start: 28 @38171 has 28 MA's), (39, 38150), (45, 38123), (47, 38105), (51, 38087), (55, 38057), (57, 38051), (60, 38030),

Gene: Antonia\_44 Start: 38754, Stop: 38539, Start Num: 27

Candidate Starts for Antonia\_44:

(9, 38856), (Start: 27 @38754 has 308 MA's), (39, 38724), (47, 38679),

Gene: Antonio\_35 Start: 29354, Stop: 29118, Start Num: 33

Candidate Starts for Antonio\_35:

(Start: 33 @29354 has 37 MA's), (45, 29312), (48, 29291), (55, 29249), (61, 29201), (65, 29129),

Gene: Aonishiki\_45 Start: 39226, Stop: 39011, Start Num: 27

Candidate Starts for Aonishiki\_45:

(9, 39328), (Start: 27 @39226 has 308 MA's), (39, 39196), (47, 39151),

Gene: Apex\_41 Start: 39377, Stop: 39171, Start Num: 28

Candidate Starts for Apex\_41:

(Start: 28 @39377 has 28 MA's), (39, 39356), (45, 39329), (47, 39311), (51, 39293), (55, 39263), (57, 39257),

Gene: Apizium\_44 Start: 38943, Stop: 38728, Start Num: 27

Candidate Starts for Apizium\_44:

(Start: 27 @38943 has 308 MA's), (39, 38913), (47, 38868), (54, 38835),

Gene: Ares\_44 Start: 39502, Stop: 39296, Start Num: 31

Candidate Starts for Ares\_44:

(Start: 31 @39502 has 38 MA's), (40, 39475), (42, 39472), (51, 39418), (56, 39385),

Gene: Asapag\_39 Start: 30538, Stop: 30302, Start Num: 33

Candidate Starts for Asapag\_39:

(Start: 33 @30538 has 37 MA's), (45, 30496), (48, 30475), (55, 30433), (61, 30385),

Gene: Ashraf\_44 Start: 38747, Stop: 38532, Start Num: 27

Candidate Starts for Ashraf\_44:

(Start: 27 @38747 has 308 MA's), (39, 38717), (47, 38672), (54, 38639),

Gene: Atlantica\_26 Start: 18732, Stop: 18517, Start Num: 38

Candidate Starts for Atlantica\_26:

(Start: 38 @18732 has 21 MA's),

Gene: Austelle\_41 Start: 39833, Stop: 39627, Start Num: 28

Candidate Starts for Austelle\_41:

(Start: 28 @39833 has 28 MA's), (39, 39812), (45, 39785), (47, 39767), (51, 39749), (55, 39719), (57, 39713),

Gene: Axumite\_38 Start: 32837, Stop: 32601, Start Num: 19

Candidate Starts for Axumite\_38:

(18, 32840), (Start: 19 @32837 has 5 MA's), (25, 32816), (Start: 28 @32810 has 28 MA's), (Start: 38 @32786 has 21 MA's), (42, 32780), (56, 32690),

Gene: Azaz\_25 Start: 18655, Stop: 18440, Start Num: 38

Candidate Starts for Azaz\_25:

(7, 18790), (11, 18736), (32, 18667), (Start: 38 @18655 has 21 MA's),

Gene: Badfish\_45 Start: 39213, Stop: 38998, Start Num: 27

Candidate Starts for Badfish\_45:

(9, 39315), (Start: 27 @39213 has 308 MA's), (39, 39183), (47, 39138),

Gene: Bae\_43 Start: 39550, Stop: 39341, Start Num: 27

Candidate Starts for Bae\_43:

(Start: 27 @39550 has 308 MA's), (39, 39535), (44, 39523), (47, 39490), (54, 39457),

Gene: Bananafish\_44 Start: 39438, Stop: 39232, Start Num: 31

Candidate Starts for Bananafish\_44:

(Start: 31 @39438 has 38 MA's), (40, 39411), (42, 39408), (51, 39354), (56, 39321),

Gene: Banjo\_44 Start: 38888, Stop: 38673, Start Num: 27

Candidate Starts for Banjo\_44:

(Start: 27 @38888 has 308 MA's), (39, 38858), (47, 38813), (54, 38780),

Gene: Basato\_46 Start: 39467, Stop: 39252, Start Num: 27

Candidate Starts for Basato\_46:

(Start: 27 @39467 has 308 MA's), (39, 39437), (47, 39392),

Gene: BatStarr\_34 Start: 29521, Stop: 29285, Start Num: 33  
Candidate Starts for BatStarr\_34:  
(Start: 33 @29521 has 37 MA's), (45, 29479), (55, 29416), (61, 29368), (63, 29356),

Gene: BatteryCK\_44 Start: 38807, Stop: 38592, Start Num: 27  
Candidate Starts for BatteryCK\_44:  
(Start: 27 @38807 has 308 MA's), (39, 38777), (47, 38732),

Gene: Beaglebox\_44 Start: 38909, Stop: 38694, Start Num: 27  
Candidate Starts for Beaglebox\_44:  
(Start: 27 @38909 has 308 MA's), (39, 38879), (47, 38834), (54, 38801),

Gene: BearBQ\_38 Start: 30173, Stop: 29937, Start Num: 33  
Candidate Starts for BearBQ\_38:  
(Start: 33 @30173 has 37 MA's), (45, 30131), (48, 30110), (55, 30068), (61, 30020),

Gene: BeeGee\_38 Start: 30304, Stop: 30068, Start Num: 33  
Candidate Starts for BeeGee\_38:  
(Start: 33 @30304 has 37 MA's), (45, 30262), (48, 30241), (55, 30199), (61, 30151),

Gene: Bernardo\_44 Start: 39575, Stop: 39339, Start Num: 24  
Candidate Starts for Bernardo\_44:  
(Start: 24 @39575 has 13 MA's), (42, 39518), (52, 39452), (54, 39446),

Gene: BiggityBass\_38 Start: 35067, Stop: 34840, Start Num: 22  
Candidate Starts for BiggityBass\_38:  
(17, 35082), (Start: 22 @35067 has 5 MA's), (53, 34950), (63, 34881),

Gene: BirdsNest\_46 Start: 37877, Stop: 37662, Start Num: 31  
Candidate Starts for BirdsNest\_46:  
(Start: 31 @37877 has 38 MA's), (39, 37853), (45, 37826), (49, 37799), (60, 37733), (64, 37703),

Gene: Bishoperium\_44 Start: 38897, Stop: 38682, Start Num: 27  
Candidate Starts for Bishoperium\_44:  
(9, 38999), (Start: 27 @38897 has 308 MA's), (39, 38867), (47, 38822),

Gene: BlackStallion\_45 Start: 39199, Stop: 38984, Start Num: 27  
Candidate Starts for BlackStallion\_45:  
(Start: 27 @39199 has 308 MA's), (39, 39169), (47, 39124), (54, 39091),

Gene: Blackpen\_40 Start: 34256, Stop: 34002, Start Num: 24  
Candidate Starts for Blackpen\_40:  
(10, 34298), (Start: 24 @34256 has 13 MA's), (40, 34208), (49, 34157), (52, 34139), (57, 34112),

Gene: BlacksBerry\_44 Start: 38915, Stop: 38700, Start Num: 27  
Candidate Starts for BlacksBerry\_44:  
(9, 39017), (Start: 27 @38915 has 308 MA's), (39, 38885), (47, 38840),

Gene: Blocker23\_44 Start: 39556, Stop: 39350, Start Num: 31  
Candidate Starts for Blocker23\_44:  
(Start: 31 @39556 has 38 MA's), (40, 39529), (42, 39526), (51, 39472), (56, 39439),

Gene: BlueHusk\_45 Start: 38696, Stop: 38481, Start Num: 27

Candidate Starts for BlueHusk\_45:  
(Start: 27 @38696 has 308 MA's), (39, 38666), (47, 38621),

Gene: Bluephacebaby\_44 Start: 38894, Stop: 38679, Start Num: 27  
Candidate Starts for Bluephacebaby\_44:  
(Start: 27 @38894 has 308 MA's), (39, 38864), (47, 38819),

Gene: BobRoss2024\_37 Start: 32952, Stop: 32707, Start Num: 22  
Candidate Starts for BobRoss2024\_37:  
(10, 32994), (11, 32985), (Start: 22 @32952 has 5 MA's), (34, 32919), (37, 32910), (39, 32901), (49, 32847), (62, 32763),

Gene: BobbyK\_41 Start: 39202, Stop: 38996, Start Num: 28  
Candidate Starts for BobbyK\_41:  
(Start: 28 @39202 has 28 MA's), (39, 39181), (45, 39154), (47, 39136), (51, 39118), (55, 39088), (57, 39082),

Gene: Boehler\_45 Start: 39200, Stop: 38985, Start Num: 27  
Candidate Starts for Boehler\_45:  
(9, 39302), (Start: 27 @39200 has 308 MA's), (39, 39170), (47, 39125),

Gene: BoogieWoogie\_44 Start: 38881, Stop: 38666, Start Num: 27  
Candidate Starts for BoogieWoogie\_44:  
(9, 38983), (Start: 27 @38881 has 308 MA's), (39, 38851), (47, 38806),

Gene: Bosnia\_34 Start: 29521, Stop: 29285, Start Num: 33  
Candidate Starts for Bosnia\_34:  
(Start: 33 @29521 has 37 MA's), (45, 29479), (55, 29416), (61, 29368), (63, 29356),

Gene: Boyle\_44 Start: 39557, Stop: 39351, Start Num: 31  
Candidate Starts for Boyle\_44:  
(Start: 31 @39557 has 38 MA's), (40, 39530), (42, 39527), (51, 39473), (56, 39440),

Gene: Brilliant\_45 Start: 38905, Stop: 38690, Start Num: 27  
Candidate Starts for Brilliant\_45:  
(Start: 27 @38905 has 308 MA's), (39, 38875), (47, 38830), (54, 38797),

Gene: BrownCNA\_42 Start: 39463, Stop: 39257, Start Num: 28  
Candidate Starts for BrownCNA\_42:  
(Start: 28 @39463 has 28 MA's), (39, 39442), (45, 39415), (47, 39397), (51, 39379), (55, 39349), (57, 39343),

Gene: Brownie5\_44 Start: 39563, Stop: 39357, Start Num: 31  
Candidate Starts for Brownie5\_44:  
(Start: 31 @39563 has 38 MA's), (40, 39536), (42, 39533), (51, 39479), (56, 39446),

Gene: Buckeye\_45 Start: 39217, Stop: 39002, Start Num: 27  
Candidate Starts for Buckeye\_45:  
(Start: 27 @39217 has 308 MA's), (39, 39187), (47, 39142),

Gene: Budski\_39 Start: 30500, Stop: 30264, Start Num: 33  
Candidate Starts for Budski\_39:  
(Start: 33 @30500 has 37 MA's), (45, 30458), (48, 30437), (55, 30395), (61, 30347),

Gene: Burr\_44 Start: 38894, Stop: 38679, Start Num: 27

Candidate Starts for Burr\_44:

(Start: 27 @38894 has 308 MA's), (39, 38864), (47, 38819),

Gene: Butters\_32 Start: 26751, Stop: 26518, Start Num: 35

Candidate Starts for Butters\_32:

(12, 26826), (13, 26823), (15, 26817), (30, 26760), (Start: 35 @26751 has 2 MA's), (44, 26727), (51, 26679), (61, 26601), (65, 26529),

Gene: CRB2\_46 Start: 41727, Stop: 41521, Start Num: 27

Candidate Starts for CRB2\_46:

(Start: 27 @41727 has 308 MA's), (39, 41706), (47, 41661), (49, 41652), (57, 41607), (64, 41556),

Gene: CaiB\_40 Start: 34824, Stop: 34570, Start Num: 24

Candidate Starts for CaiB\_40:

(10, 34866), (Start: 24 @34824 has 13 MA's), (40, 34776), (49, 34725), (52, 34707), (57, 34680),

Gene: Calamitous\_44 Start: 39443, Stop: 39237, Start Num: 31

Candidate Starts for Calamitous\_44:

(Start: 31 @39443 has 38 MA's), (40, 39416), (42, 39413), (51, 39359), (56, 39326),

Gene: CamL\_45 Start: 39195, Stop: 38980, Start Num: 27

Candidate Starts for CamL\_45:

(Start: 27 @39195 has 308 MA's), (39, 39165), (47, 39120), (54, 39087),

Gene: Camara\_26 Start: 18733, Stop: 18518, Start Num: 38

Candidate Starts for Camara\_26:

(Start: 38 @18733 has 21 MA's),

Gene: CampRoach\_45 Start: 39185, Stop: 38970, Start Num: 27

Candidate Starts for CampRoach\_45:

(9, 39287), (Start: 27 @39185 has 308 MA's), (39, 39155), (47, 39110),

Gene: Cannibal\_45 Start: 39178, Stop: 38963, Start Num: 27

Candidate Starts for Cannibal\_45:

(Start: 27 @39178 has 308 MA's), (39, 39148), (47, 39103), (54, 39070),

Gene: Carthage\_43 Start: 38107, Stop: 37892, Start Num: 27

Candidate Starts for Carthage\_43:

(Start: 27 @38107 has 308 MA's), (39, 38077), (47, 38032), (54, 37999),

Gene: Caspiboi\_44 Start: 38904, Stop: 38689, Start Num: 27

Candidate Starts for Caspiboi\_44:

(Start: 27 @38904 has 308 MA's), (39, 38874), (47, 38829),

Gene: Chaelin\_45 Start: 38892, Stop: 38677, Start Num: 27

Candidate Starts for Chaelin\_45:

(9, 38994), (Start: 27 @38892 has 308 MA's), (39, 38862), (47, 38817),

Gene: Chah\_46 Start: 39212, Stop: 38997, Start Num: 27

Candidate Starts for Chah\_46:

(9, 39314), (Start: 27 @39212 has 308 MA's), (39, 39182), (47, 39137),

Gene: Charles1\_45 Start: 39180, Stop: 38965, Start Num: 27

Candidate Starts for Charles1\_45:

(9, 39282), (Start: 27 @39180 has 308 MA's), (39, 39150), (47, 39105),

Gene: CharlieGBrown\_44 Start: 38770, Stop: 38555, Start Num: 27

Candidate Starts for CharlieGBrown\_44:

(9, 38872), (Start: 27 @38770 has 308 MA's), (39, 38740), (47, 38695),

Gene: CharlottesWeb\_38 Start: 32763, Stop: 32527, Start Num: 19

Candidate Starts for CharlottesWeb\_38:

(16, 32778), (18, 32766), (Start: 19 @32763 has 5 MA's), (Start: 38 @32712 has 21 MA's), (42, 32706), (56, 32616),

Gene: CheeseTouch\_37 Start: 27100, Stop: 26864, Start Num: 33

Candidate Starts for CheeseTouch\_37:

(Start: 33 @27100 has 37 MA's), (45, 27058), (48, 27037), (55, 26995), (61, 26947),

Gene: CheetO\_45 Start: 39194, Stop: 38979, Start Num: 27

Candidate Starts for CheetO\_45:

(9, 39296), (Start: 27 @39194 has 308 MA's), (39, 39164), (47, 39119),

Gene: Cher\_44 Start: 38917, Stop: 38702, Start Num: 27

Candidate Starts for Cher\_44:

(Start: 27 @38917 has 308 MA's), (39, 38887), (47, 38842), (54, 38809),

Gene: Chickaboom\_25 Start: 18878, Stop: 18663, Start Num: 36

Candidate Starts for Chickaboom\_25:

(Start: 36 @18878 has 2 MA's),

Gene: Childish\_44 Start: 38920, Stop: 38705, Start Num: 27

Candidate Starts for Childish\_44:

(Start: 27 @38920 has 308 MA's), (39, 38890), (47, 38845), (54, 38812),

Gene: Chipette\_46 Start: 39410, Stop: 39195, Start Num: 27

Candidate Starts for Chipette\_46:

(Start: 27 @39410 has 308 MA's), (39, 39380), (47, 39335),

Gene: Chorkpop\_45 Start: 38916, Stop: 38701, Start Num: 27

Candidate Starts for Chorkpop\_45:

(9, 39018), (Start: 27 @38916 has 308 MA's), (39, 38886), (47, 38841),

Gene: ChrisnMich\_40 Start: 38163, Stop: 37957, Start Num: 28

Candidate Starts for ChrisnMich\_40:

(Start: 28 @38163 has 28 MA's), (39, 38142), (45, 38115), (47, 38097), (51, 38079), (55, 38049), (57, 38043), (60, 38022),

Gene: Chuni\_44 Start: 39211, Stop: 38996, Start Num: 27

Candidate Starts for Chuni\_44:

(9, 39313), (Start: 27 @39211 has 308 MA's), (39, 39181), (47, 39136),

Gene: Chunky\_45 Start: 39203, Stop: 38988, Start Num: 27

Candidate Starts for Chunky\_45:

(Start: 27 @39203 has 308 MA's), (39, 39173), (47, 39128),

Gene: Chute\_44 Start: 39241, Stop: 39026, Start Num: 27

Candidate Starts for Chute\_44:

(9, 39343), (Start: 27 @39241 has 308 MA's), (39, 39211), (47, 39166),

Gene: CloverMinnie\_40 Start: 34764, Stop: 34510, Start Num: 24

Candidate Starts for CloverMinnie\_40:

(10, 34806), (Start: 24 @34764 has 13 MA's), (40, 34716), (49, 34665), (52, 34647), (57, 34620),

Gene: Cobra\_45 Start: 39201, Stop: 38986, Start Num: 27

Candidate Starts for Cobra\_45:

(Start: 27 @39201 has 308 MA's), (39, 39171), (47, 39126), (54, 39093),

Gene: Coffee\_44 Start: 39546, Stop: 39340, Start Num: 31

Candidate Starts for Coffee\_44:

(Start: 31 @39546 has 38 MA's), (40, 39519), (42, 39516), (51, 39462), (56, 39429),

Gene: Colbert\_45 Start: 39256, Stop: 39041, Start Num: 27

Candidate Starts for Colbert\_45:

(Start: 27 @39256 has 308 MA's), (39, 39226), (47, 39181),

Gene: Coldpizza\_41 Start: 37616, Stop: 37404, Start Num: 26

Candidate Starts for Coldpizza\_41:

(21, 37640), (23, 37634), (Start: 26 @37616 has 3 MA's), (46, 37550), (49, 37535), (52, 37517), (55, 37496), (63, 37445),

Gene: Coletti\_45 Start: 39241, Stop: 39026, Start Num: 27

Candidate Starts for Coletti\_45:

(9, 39343), (Start: 27 @39241 has 308 MA's), (39, 39211), (47, 39166),

Gene: Colusalem\_27 Start: 19035, Stop: 18814, Start Num: 38

Candidate Starts for Colusalem\_27:

(Start: 38 @19035 has 21 MA's),

Gene: Cooper\_41 Start: 38382, Stop: 38176, Start Num: 28

Candidate Starts for Cooper\_41:

(Start: 28 @38382 has 28 MA's), (39, 38361), (45, 38334), (47, 38316), (51, 38298), (55, 38268), (57, 38262),

Gene: Coral\_26 Start: 18896, Stop: 18675, Start Num: 38

Candidate Starts for Coral\_26:

(Start: 38 @18896 has 21 MA's),

Gene: Cornbread\_44 Start: 38917, Stop: 38702, Start Num: 27

Candidate Starts for Cornbread\_44:

(Start: 27 @38917 has 308 MA's), (39, 38887), (47, 38842), (54, 38809),

Gene: Cornobble\_44 Start: 38755, Stop: 38540, Start Num: 27

Candidate Starts for Cornobble\_44:

(9, 38857), (Start: 27 @38755 has 308 MA's), (39, 38725), (47, 38680),

Gene: Cosmolli16\_44 Start: 38905, Stop: 38690, Start Num: 27

Candidate Starts for Cosmolli16\_44:  
(Start: 27 @38905 has 308 MA's), (39, 38875), (47, 38830),

Gene: Cote\_27 Start: 19041, Stop: 18820, Start Num: 38  
Candidate Starts for Cote\_27:  
(Start: 38 @19041 has 21 MA's),

Gene: Craff\_45 Start: 39198, Stop: 38983, Start Num: 27  
Candidate Starts for Craff\_45:  
(9, 39300), (Start: 27 @39198 has 308 MA's), (39, 39168), (47, 39123),

Gene: Crownjwl\_45 Start: 38971, Stop: 38756, Start Num: 27  
Candidate Starts for Crownjwl\_45:  
(9, 39073), (Start: 27 @38971 has 308 MA's), (39, 38941), (47, 38896),

Gene: DaddyDaniels\_45 Start: 38889, Stop: 38674, Start Num: 27  
Candidate Starts for DaddyDaniels\_45:  
(9, 38991), (Start: 27 @38889 has 308 MA's), (39, 38859), (47, 38814),

Gene: Daffy\_45 Start: 38920, Stop: 38705, Start Num: 27  
Candidate Starts for Daffy\_45:  
(Start: 27 @38920 has 308 MA's), (39, 38890), (47, 38845), (54, 38812),

Gene: Daka\_46 Start: 39193, Stop: 38978, Start Num: 27  
Candidate Starts for Daka\_46:  
(Start: 27 @39193 has 308 MA's), (39, 39163), (47, 39118),

Gene: Damocles\_28 Start: 19194, Stop: 18973, Start Num: 38  
Candidate Starts for Damocles\_28:  
(Start: 38 @19194 has 21 MA's),

Gene: DanHam62\_26 Start: 18732, Stop: 18517, Start Num: 38  
Candidate Starts for DanHam62\_26:  
(Start: 38 @18732 has 21 MA's),

Gene: Daob\_27 Start: 19046, Stop: 18825, Start Num: 38  
Candidate Starts for Daob\_27:  
(Start: 38 @19046 has 21 MA's),

Gene: Dati\_45 Start: 38914, Stop: 38699, Start Num: 27  
Candidate Starts for Dati\_45:  
(Start: 27 @38914 has 308 MA's), (39, 38884), (47, 38839),

Gene: DelRivs\_44 Start: 38915, Stop: 38700, Start Num: 27  
Candidate Starts for DelRivs\_44:  
(9, 39017), (Start: 27 @38915 has 308 MA's), (39, 38885), (47, 38840),

Gene: Derpp\_44 Start: 38759, Stop: 38544, Start Num: 27  
Candidate Starts for Derpp\_44:  
(Start: 27 @38759 has 308 MA's), (39, 38729), (47, 38684), (54, 38651),

Gene: Dice\_44 Start: 38894, Stop: 38679, Start Num: 27  
Candidate Starts for Dice\_44:

(Start: 27 @38894 has 308 MA's), (39, 38864), (47, 38819), (54, 38786),

Gene: DigitDog\_43 Start: 39348, Stop: 39139, Start Num: 27

Candidate Starts for DigitDog\_43:

(9, 39456), (Start: 27 @39348 has 308 MA's), (39, 39333), (44, 39321),

Gene: Dingo\_45 Start: 39177, Stop: 38962, Start Num: 27

Candidate Starts for Dingo\_45:

(Start: 27 @39177 has 308 MA's), (39, 39147), (47, 39102),

Gene: Dione\_44 Start: 38899, Stop: 38684, Start Num: 27

Candidate Starts for Dione\_44:

(Start: 27 @38899 has 308 MA's), (39, 38869), (47, 38824), (54, 38791),

Gene: DirtJuice\_45 Start: 39183, Stop: 38968, Start Num: 27

Candidate Starts for DirtJuice\_45:

(Start: 27 @39183 has 308 MA's), (39, 39153), (47, 39108),

Gene: Doddsville\_45 Start: 38913, Stop: 38698, Start Num: 27

Candidate Starts for Doddsville\_45:

(9, 39015), (Start: 27 @38913 has 308 MA's), (39, 38883), (47, 38838),

Gene: DoesntMatter\_44 Start: 39186, Stop: 38971, Start Num: 27

Candidate Starts for DoesntMatter\_44:

(9, 39288), (Start: 27 @39186 has 308 MA's), (39, 39156), (47, 39111),

Gene: DolOn\_46 Start: 39423, Stop: 39208, Start Num: 27

Candidate Starts for DolOn\_46:

(9, 39525), (Start: 27 @39423 has 308 MA's), (39, 39393), (47, 39348),

Gene: DonSanchon\_44 Start: 38893, Stop: 38678, Start Num: 27

Candidate Starts for DonSanchon\_44:

(9, 38995), (Start: 27 @38893 has 308 MA's), (39, 38863), (47, 38818),

Gene: Donny\_44 Start: 39653, Stop: 39444, Start Num: 27

Candidate Starts for Donny\_44:

(8, 39767), (9, 39761), (Start: 27 @39653 has 308 MA's), (39, 39638), (44, 39626), (47, 39593),

Gene: DuchessDung\_43 Start: 38047, Stop: 37832, Start Num: 27

Candidate Starts for DuchessDung\_43:

(Start: 27 @38047 has 308 MA's), (39, 38017), (47, 37972), (54, 37939),

Gene: Duggie\_44 Start: 38915, Stop: 38700, Start Num: 27

Candidate Starts for Duggie\_44:

(9, 39017), (Start: 27 @38915 has 308 MA's), (39, 38885), (47, 38840),

Gene: Durga\_45 Start: 39213, Stop: 38998, Start Num: 27

Candidate Starts for Durga\_45:

(9, 39315), (Start: 27 @39213 has 308 MA's), (39, 39183), (47, 39138),

Gene: Eaglehorse\_44 Start: 39470, Stop: 39264, Start Num: 31

Candidate Starts for Eaglehorse\_44:

(Start: 31 @39470 has 38 MA's), (40, 39443), (42, 39440), (51, 39386), (56, 39353),

Gene: EastView9101\_42 Start: 39303, Stop: 39094, Start Num: 27  
Candidate Starts for EastView9101\_42:  
(8, 39417), (9, 39411), (Start: 27 @39303 has 308 MA's), (39, 39288), (44, 39276), (47, 39243),

Gene: Ecliptus\_40 Start: 31004, Stop: 30768, Start Num: 33  
Candidate Starts for Ecliptus\_40:  
(Start: 33 @31004 has 37 MA's), (45, 30962), (48, 30941), (55, 30899), (61, 30851),

Gene: ElvisPhasley\_45 Start: 39235, Stop: 39020, Start Num: 27  
Candidate Starts for ElvisPhasley\_45:  
(Start: 27 @39235 has 308 MA's), (39, 39205), (47, 39160), (54, 39127),

Gene: EmGer13\_44 Start: 38754, Stop: 38539, Start Num: 27  
Candidate Starts for EmGer13\_44:  
(9, 38856), (Start: 27 @38754 has 308 MA's), (39, 38724), (47, 38679),

Gene: Emiris\_45 Start: 39181, Stop: 38966, Start Num: 27  
Candidate Starts for Emiris\_45:  
(Start: 27 @39181 has 308 MA's), (39, 39151), (47, 39106), (54, 39073),

Gene: EmpTee\_45 Start: 39193, Stop: 38978, Start Num: 27  
Candidate Starts for EmpTee\_45:  
(9, 39295), (Start: 27 @39193 has 308 MA's), (39, 39163), (47, 39118),

Gene: Epah\_39 Start: 38171, Stop: 37965, Start Num: 28  
Candidate Starts for Epah\_39:  
(Start: 28 @38171 has 28 MA's), (39, 38150), (45, 38123), (47, 38105), (51, 38087), (55, 38057), (57, 38051), (60, 38030),

Gene: Eremos\_45 Start: 39192, Stop: 38977, Start Num: 27  
Candidate Starts for Eremos\_45:  
(Start: 27 @39192 has 308 MA's), (39, 39162), (47, 39117),

Gene: Etaye\_45 Start: 39183, Stop: 38968, Start Num: 27  
Candidate Starts for Etaye\_45:  
(Start: 27 @39183 has 308 MA's), (39, 39153), (47, 39108),

Gene: Eudoria\_35 Start: 29354, Stop: 29118, Start Num: 33  
Candidate Starts for Eudoria\_35:  
(Start: 33 @29354 has 37 MA's), (45, 29312), (48, 29291), (55, 29249), (61, 29201), (65, 29129),

Gene: Eugenia\_45 Start: 39202, Stop: 38987, Start Num: 27  
Candidate Starts for Eugenia\_45:  
(9, 39304), (Start: 27 @39202 has 308 MA's), (39, 39172), (47, 39127), (54, 39094),

Gene: Evaa\_38 Start: 33917, Stop: 33678, Start Num: 26  
Candidate Starts for Evaa\_38:  
(21, 33941), (23, 33935), (Start: 26 @33917 has 3 MA's), (46, 33851), (63, 33746),

Gene: Eviarto\_34 Start: 29497, Stop: 29261, Start Num: 33  
Candidate Starts for Eviarto\_34:  
(Start: 33 @29497 has 37 MA's), (45, 29455), (55, 29392), (61, 29344), (63, 29332),

Gene: Fanaw\_39 Start: 38868, Stop: 38662, Start Num: 28  
Candidate Starts for Fanaw\_39:  
(Start: 28 @38868 has 28 MA's), (39, 38847), (45, 38820), (47, 38802), (51, 38784), (55, 38754), (57, 38748),

Gene: Fang\_45 Start: 39206, Stop: 38991, Start Num: 27  
Candidate Starts for Fang\_45:  
(9, 39308), (Start: 27 @39206 has 308 MA's), (39, 39176), (47, 39131),

Gene: Faze9\_43 Start: 39566, Stop: 39360, Start Num: 31  
Candidate Starts for Faze9\_43:  
(Start: 31 @39566 has 38 MA's), (40, 39539), (42, 39536), (51, 39482), (56, 39449),

Gene: FelixTres\_39 Start: 34827, Stop: 34573, Start Num: 24  
Candidate Starts for FelixTres\_39:  
(10, 34869), (Start: 24 @34827 has 13 MA's), (40, 34779), (49, 34728), (52, 34710), (57, 34683),

Gene: Fingolfin\_26 Start: 18733, Stop: 18518, Start Num: 38  
Candidate Starts for Fingolfin\_26:  
(Start: 38 @18733 has 21 MA's),

Gene: Flake\_45 Start: 39248, Stop: 39033, Start Num: 27  
Candidate Starts for Flake\_45:  
(9, 39350), (Start: 27 @39248 has 308 MA's), (39, 39218), (47, 39173),

Gene: FleetyMac\_45 Start: 39201, Stop: 38986, Start Num: 27  
Candidate Starts for FleetyMac\_45:  
(9, 39303), (Start: 27 @39201 has 308 MA's), (39, 39171), (47, 39126),

Gene: FluffyNinja\_45 Start: 39199, Stop: 38984, Start Num: 27  
Candidate Starts for FluffyNinja\_45:  
(Start: 27 @39199 has 308 MA's), (39, 39169), (47, 39124), (54, 39091),

Gene: Fortunato\_41 Start: 39196, Stop: 38990, Start Num: 28  
Candidate Starts for Fortunato\_41:  
(Start: 28 @39196 has 28 MA's), (39, 39175), (45, 39148), (47, 39130), (51, 39112), (55, 39082), (57, 39076),

Gene: Fozzie\_44 Start: 39215, Stop: 39000, Start Num: 27  
Candidate Starts for Fozzie\_44:  
(Start: 27 @39215 has 308 MA's), (39, 39185), (47, 39140), (54, 39107),

Gene: Frankicide\_45 Start: 39211, Stop: 38996, Start Num: 27  
Candidate Starts for Frankicide\_45:  
(Start: 27 @39211 has 308 MA's), (39, 39181), (47, 39136), (54, 39103),

Gene: Frederick\_41 Start: 39202, Stop: 38996, Start Num: 28  
Candidate Starts for Frederick\_41:  
(Start: 28 @39202 has 28 MA's), (39, 39181), (45, 39154), (47, 39136), (51, 39118), (55, 39088), (57, 39082),

Gene: FremontTroll\_45 Start: 38953, Stop: 38738, Start Num: 27

Candidate Starts for FremontTroll\_45:  
(Start: 27 @38953 has 308 MA's), (39, 38923), (47, 38878),

Gene: FrenchFry\_44 Start: 39560, Stop: 39354, Start Num: 31  
Candidate Starts for FrenchFry\_44:  
(Start: 31 @39560 has 38 MA's), (40, 39533), (42, 39530), (51, 39476), (56, 39443),

Gene: Fresco\_38 Start: 32837, Stop: 32601, Start Num: 19  
Candidate Starts for Fresco\_38:  
(18, 32840), (Start: 19 @32837 has 5 MA's), (25, 32816), (Start: 28 @32810 has 28 MA's), (Start: 38 @32786 has 21 MA's), (42, 32780), (56, 32690),

Gene: Freya\_44 Start: 38890, Stop: 38675, Start Num: 27  
Candidate Starts for Freya\_44:  
(Start: 27 @38890 has 308 MA's), (39, 38860), (47, 38815), (54, 38782),

Gene: FriarPreacher\_44 Start: 39217, Stop: 39002, Start Num: 27  
Candidate Starts for FriarPreacher\_44:  
(Start: 27 @39217 has 308 MA's), (39, 39187), (47, 39142),

Gene: Fringe\_45 Start: 39182, Stop: 38967, Start Num: 27  
Candidate Starts for Fringe\_45:  
(9, 39284), (Start: 27 @39182 has 308 MA's), (39, 39152), (47, 39107),

Gene: FugateOSU\_44 Start: 38895, Stop: 38680, Start Num: 27  
Candidate Starts for FugateOSU\_44:  
(Start: 27 @38895 has 308 MA's), (39, 38865), (47, 38820),

Gene: Funsized\_46 Start: 41756, Stop: 41544, Start Num: 27  
Candidate Starts for Funsized\_46:  
(1, 42029), (3, 41957), (20, 41783), (Start: 27 @41756 has 308 MA's), (Start: 31 @41747 has 38 MA's), (41, 41723), (45, 41702), (47, 41684), (51, 41666),

Gene: Gareth\_44 Start: 38898, Stop: 38683, Start Num: 27  
Candidate Starts for Gareth\_44:  
(Start: 27 @38898 has 308 MA's), (39, 38868), (47, 38823), (54, 38790),

Gene: GeneCoco\_45 Start: 39207, Stop: 38992, Start Num: 27  
Candidate Starts for GeneCoco\_45:  
(Start: 27 @39207 has 308 MA's), (39, 39177), (47, 39132), (54, 39099),

Gene: Getalong\_40 Start: 31359, Stop: 31123, Start Num: 33  
Candidate Starts for Getalong\_40:  
(Start: 33 @31359 has 37 MA's), (45, 31317), (48, 31296), (55, 31254), (61, 31206),

Gene: GinPorsche\_40 Start: 38171, Stop: 37965, Start Num: 28  
Candidate Starts for GinPorsche\_40:  
(Start: 28 @38171 has 28 MA's), (39, 38150), (45, 38123), (47, 38105), (51, 38087), (55, 38057), (57, 38051), (60, 38030),

Gene: Giraffe\_45 Start: 38901, Stop: 38686, Start Num: 27  
Candidate Starts for Giraffe\_45:  
(9, 39003), (Start: 27 @38901 has 308 MA's), (39, 38871), (47, 38826),

Gene: Glass\_44 Start: 39560, Stop: 39354, Start Num: 31  
Candidate Starts for Glass\_44:  
(Start: 31 @39560 has 38 MA's), (40, 39533), (42, 39530), (51, 39476), (56, 39443),

Gene: Glotell\_26 Start: 18731, Stop: 18516, Start Num: 38  
Candidate Starts for Glotell\_26:  
(7, 18866), (11, 18812), (32, 18743), (Start: 38 @18731 has 21 MA's),

Gene: Godines\_44 Start: 39502, Stop: 39296, Start Num: 31  
Candidate Starts for Godines\_44:  
(Start: 31 @39502 has 38 MA's), (40, 39475), (42, 39472), (51, 39418), (56, 39385),

Gene: Gophee\_45 Start: 39184, Stop: 38969, Start Num: 27  
Candidate Starts for Gophee\_45:  
(9, 39286), (Start: 27 @39184 has 308 MA's), (39, 39154), (47, 39109),

Gene: GramZayde\_26 Start: 18877, Stop: 18656, Start Num: 38  
Candidate Starts for GramZayde\_26:  
(Start: 38 @18877 has 21 MA's),

Gene: Grand2040\_44 Start: 38916, Stop: 38701, Start Num: 27  
Candidate Starts for Grand2040\_44:  
(Start: 27 @38916 has 308 MA's), (39, 38886), (47, 38841), (54, 38808),

Gene: GreenChile\_45 Start: 39192, Stop: 38977, Start Num: 27  
Candidate Starts for GreenChile\_45:  
(9, 39294), (Start: 27 @39192 has 308 MA's), (39, 39162), (47, 39117),

Gene: Gwennie1\_45 Start: 39262, Stop: 39047, Start Num: 27  
Candidate Starts for Gwennie1\_45:  
(Start: 27 @39262 has 308 MA's), (39, 39232), (47, 39187), (54, 39154),

Gene: Gwilliam\_45 Start: 39196, Stop: 38981, Start Num: 27  
Candidate Starts for Gwilliam\_45:  
(Start: 27 @39196 has 308 MA's), (39, 39166), (47, 39121),

Gene: Gyarad\_0045 Start: 39198, Stop: 38983, Start Num: 27  
Candidate Starts for Gyarad\_0045:  
(Start: 27 @39198 has 308 MA's), (39, 39168), (47, 39123), (54, 39090),

Gene: HSavage\_45 Start: 39202, Stop: 38987, Start Num: 27  
Candidate Starts for HSavage\_45:  
(Start: 27 @39202 has 308 MA's), (39, 39172), (47, 39127), (54, 39094),

Gene: Haimas\_45 Start: 39193, Stop: 38978, Start Num: 27  
Candidate Starts for Haimas\_45:  
(Start: 27 @39193 has 308 MA's), (39, 39163), (47, 39118),

Gene: Haleema\_44 Start: 38916, Stop: 38701, Start Num: 27  
Candidate Starts for Haleema\_44:  
(Start: 27 @38916 has 308 MA's), (39, 38886), (47, 38841), (54, 38808),

Gene: Hally898\_39 Start: 38183, Stop: 37977, Start Num: 28

Candidate Starts for Hally898\_39:

(Start: 28 @38183 has 28 MA's), (39, 38162), (45, 38135), (47, 38117), (51, 38099), (55, 38069), (57, 38063), (60, 38042),

Gene: Hamish\_45 Start: 39185, Stop: 38970, Start Num: 27

Candidate Starts for Hamish\_45:

(Start: 27 @39185 has 308 MA's), (39, 39155), (47, 39110),

Gene: Hangman\_40 Start: 39194, Stop: 38988, Start Num: 28

Candidate Starts for Hangman\_40:

(Start: 28 @39194 has 28 MA's), (39, 39173), (45, 39146), (47, 39128), (51, 39110), (55, 39080), (57, 39074),

Gene: HannahPhantana\_27 Start: 19053, Stop: 18832, Start Num: 38

Candidate Starts for HannahPhantana\_27:

(Start: 38 @19053 has 21 MA's),

Gene: Happabalu\_45 Start: 38914, Stop: 38699, Start Num: 27

Candidate Starts for Happabalu\_45:

(Start: 27 @38914 has 308 MA's), (39, 38884), (47, 38839),

Gene: Hartsy\_45 Start: 39236, Stop: 39021, Start Num: 27

Candidate Starts for Hartsy\_45:

(Start: 27 @39236 has 308 MA's), (39, 39206), (47, 39161),

Gene: Harvey\_45 Start: 39211, Stop: 38996, Start Num: 27

Candidate Starts for Harvey\_45:

(9, 39313), (Start: 27 @39211 has 308 MA's), (39, 39181), (47, 39136),

Gene: Hashim76\_46 Start: 38349, Stop: 38134, Start Num: 31

Candidate Starts for Hashim76\_46:

(Start: 31 @38349 has 38 MA's), (39, 38325), (49, 38271), (64, 38175),

Gene: Heath\_39 Start: 38801, Stop: 38595, Start Num: 28

Candidate Starts for Heath\_39:

(Start: 28 @38801 has 28 MA's), (39, 38780), (45, 38753), (47, 38735), (51, 38717), (55, 38687), (57, 38681),

Gene: Hedgerow\_44 Start: 39542, Stop: 39336, Start Num: 31

Candidate Starts for Hedgerow\_44:

(Start: 31 @39542 has 38 MA's), (40, 39515), (42, 39512), (51, 39458), (56, 39425),

Gene: Hekos\_42 Start: 37765, Stop: 37550, Start Num: 27

Candidate Starts for Hekos\_42:

(9, 37867), (Start: 27 @37765 has 308 MA's), (39, 37735), (47, 37690),

Gene: Held\_45 Start: 38900, Stop: 38685, Start Num: 27

Candidate Starts for Held\_45:

(9, 39002), (Start: 27 @38900 has 308 MA's), (39, 38870), (47, 38825),

Gene: HenryJackson\_44 Start: 38916, Stop: 38701, Start Num: 27

Candidate Starts for HenryJackson\_44:

(9, 39018), (Start: 27 @38916 has 308 MA's), (39, 38886), (47, 38841),

Gene: Herod\_34 Start: 29521, Stop: 29285, Start Num: 33

Candidate Starts for Herod\_34:

(Start: 33 @29521 has 37 MA's), (45, 29479), (55, 29416), (61, 29368), (63, 29356),

Gene: Hertubise\_45 Start: 39207, Stop: 38992, Start Num: 27

Candidate Starts for Hertubise\_45:

(Start: 27 @39207 has 308 MA's), (39, 39177), (47, 39132),

Gene: Hetaeria\_45 Start: 39209, Stop: 38994, Start Num: 27

Candidate Starts for Hetaeria\_45:

(Start: 27 @39209 has 308 MA's), (39, 39179), (47, 39134),

Gene: HighStump\_44 Start: 38899, Stop: 38684, Start Num: 27

Candidate Starts for HighStump\_44:

(9, 39001), (Start: 27 @38899 has 308 MA's), (39, 38869), (47, 38824),

Gene: Hocus\_44 Start: 38905, Stop: 38690, Start Num: 27

Candidate Starts for Hocus\_44:

(Start: 27 @38905 has 308 MA's), (39, 38875), (47, 38830), (54, 38797),

Gene: HogWash\_45 Start: 39205, Stop: 38990, Start Num: 27

Candidate Starts for HogWash\_45:

(Start: 27 @39205 has 308 MA's), (39, 39175), (47, 39130),

Gene: Holeinone\_44 Start: 39422, Stop: 39216, Start Num: 31

Candidate Starts for Holeinone\_44:

(Start: 31 @39422 has 38 MA's), (40, 39395), (42, 39392), (51, 39338), (56, 39305),

Gene: Holliday\_38 Start: 29214, Stop: 28978, Start Num: 33

Candidate Starts for Holliday\_38:

(Start: 33 @29214 has 37 MA's), (45, 29172), (48, 29151), (55, 29109), (61, 29061),

Gene: Horchata\_45 Start: 39187, Stop: 38972, Start Num: 27

Candidate Starts for Horchata\_45:

(9, 39289), (Start: 27 @39187 has 308 MA's), (39, 39157), (47, 39112),

Gene: Horus\_39 Start: 30560, Stop: 30324, Start Num: 33

Candidate Starts for Horus\_39:

(Start: 33 @30560 has 37 MA's), (45, 30518), (48, 30497), (55, 30455), (61, 30407),

Gene: Hydro\_40 Start: 39211, Stop: 39005, Start Num: 28

Candidate Starts for Hydro\_40:

(Start: 28 @39211 has 28 MA's), (39, 39190), (45, 39163), (47, 39145), (51, 39127), (55, 39097), (57, 39091),

Gene: ImtiyazSitla\_44 Start: 38747, Stop: 38532, Start Num: 27

Candidate Starts for ImtiyazSitla\_44:

(Start: 27 @38747 has 308 MA's), (39, 38717), (47, 38672), (54, 38639),

Gene: Imvubu\_36 Start: 35895, Stop: 35680, Start Num: 27

Candidate Starts for Imvubu\_36:

(2, 36156), (3, 36096), (Start: 27 @35895 has 308 MA's), (Start: 31 @35886 has 38 MA's), (41, 35859), (45, 35838), (47, 35820), (55, 35772), (57, 35766),

Gene: Inchworm\_45 Start: 39185, Stop: 38970, Start Num: 27  
Candidate Starts for Inchworm\_45:  
(9, 39287), (Start: 27 @39185 has 308 MA's), (39, 39155), (47, 39110),

Gene: Indlovu\_42 Start: 38503, Stop: 38300, Start Num: 27  
Candidate Starts for Indlovu\_42:  
(9, 38602), (Start: 27 @38503 has 308 MA's), (39, 38485), (45, 38458), (47, 38440), (55, 38392),

Gene: Inverness\_45 Start: 39199, Stop: 38984, Start Num: 27  
Candidate Starts for Inverness\_45:  
(Start: 27 @39199 has 308 MA's), (39, 39169), (47, 39124), (54, 39091),

Gene: Iridessa\_45 Start: 38901, Stop: 38686, Start Num: 27  
Candidate Starts for Iridessa\_45:  
(Start: 27 @38901 has 308 MA's), (39, 38871), (47, 38826), (54, 38793),

Gene: Iridoclysis\_45 Start: 39179, Stop: 38964, Start Num: 27  
Candidate Starts for Iridoclysis\_45:  
(Start: 27 @39179 has 308 MA's), (39, 39149), (47, 39104),

Gene: IsaacEli\_45 Start: 39203, Stop: 38988, Start Num: 27  
Candidate Starts for IsaacEli\_45:  
(9, 39305), (Start: 27 @39203 has 308 MA's), (39, 39173), (47, 39128),

Gene: ItsyBitsy1\_44 Start: 39424, Stop: 39218, Start Num: 31  
Candidate Starts for ItsyBitsy1\_44:  
(Start: 31 @39424 has 38 MA's), (40, 39397), (42, 39394), (51, 39340), (56, 39307),

Gene: JAMaL\_40 Start: 39382, Stop: 39176, Start Num: 28  
Candidate Starts for JAMaL\_40:  
(Start: 28 @39382 has 28 MA's), (39, 39361), (45, 39334), (47, 39316), (51, 39298), (55, 39268), (57, 39262),

Gene: JCole\_32 Start: 26177, Stop: 25941, Start Num: 33  
Candidate Starts for JCole\_32:  
(Start: 33 @26177 has 37 MA's), (45, 26135), (47, 26117), (48, 26114), (50, 26102), (55, 26072), (61, 26024),

Gene: JDog\_44 Start: 38916, Stop: 38701, Start Num: 27  
Candidate Starts for JDog\_44:  
(Start: 27 @38916 has 308 MA's), (39, 38886), (47, 38841),

Gene: JacAttac\_45 Start: 39185, Stop: 38970, Start Num: 27  
Candidate Starts for JacAttac\_45:  
(Start: 27 @39185 has 308 MA's), (39, 39155), (47, 39110), (54, 39077),

Gene: JaguarMi\_40 Start: 38677, Stop: 38471, Start Num: 28  
Candidate Starts for JaguarMi\_40:  
(Start: 28 @38677 has 28 MA's), (39, 38656), (45, 38629), (47, 38611), (51, 38593), (55, 38563), (57, 38557),

Gene: JakeO\_44 Start: 38918, Stop: 38703, Start Num: 27  
Candidate Starts for JakeO\_44:  
(Start: 27 @38918 has 308 MA's), (39, 38888), (47, 38843),

Gene: JangoPhett\_45 Start: 39187, Stop: 38972, Start Num: 27  
Candidate Starts for JangoPhett\_45:  
(Start: 27 @39187 has 308 MA's), (39, 39157), (47, 39112),

Gene: JellyBelly\_38 Start: 32766, Stop: 32530, Start Num: 19  
Candidate Starts for JellyBelly\_38:  
(16, 32781), (18, 32769), (Start: 19 @32766 has 5 MA's), (Start: 38 @32715 has 21 MA's), (42, 32709),  
(56, 32619),

Gene: Jesabah\_45 Start: 38918, Stop: 38703, Start Num: 27  
Candidate Starts for Jesabah\_45:  
(Start: 27 @38918 has 308 MA's), (39, 38888), (47, 38843), (54, 38810),

Gene: Jillium\_44 Start: 38909, Stop: 38694, Start Num: 27  
Candidate Starts for Jillium\_44:  
(Start: 27 @38909 has 308 MA's), (39, 38879), (47, 38834),

Gene: Jiminy\_44 Start: 38753, Stop: 38538, Start Num: 27  
Candidate Starts for Jiminy\_44:  
(9, 38855), (Start: 27 @38753 has 308 MA's), (39, 38723), (47, 38678),

Gene: Jiraiya\_44 Start: 38906, Stop: 38691, Start Num: 27  
Candidate Starts for Jiraiya\_44:  
(9, 39008), (Start: 27 @38906 has 308 MA's), (39, 38876), (47, 38831),

Gene: JoyceMaria\_40 Start: 39197, Stop: 38991, Start Num: 28  
Candidate Starts for JoyceMaria\_40:  
(Start: 28 @39197 has 28 MA's), (39, 39176), (45, 39149), (47, 39131), (51, 39113), (55, 39083), (57,  
39077),

Gene: KHumphrey\_26 Start: 18730, Stop: 18515, Start Num: 38  
Candidate Starts for KHumphrey\_26:  
(Start: 38 @18730 has 21 MA's),

Gene: KLucky39\_45 Start: 39197, Stop: 38982, Start Num: 27  
Candidate Starts for KLucky39\_45:  
(Start: 27 @39197 has 308 MA's), (39, 39167), (47, 39122), (54, 39089),

Gene: Kahve\_44 Start: 38913, Stop: 38698, Start Num: 27  
Candidate Starts for Kahve\_44:  
(Start: 27 @38913 has 308 MA's), (39, 38883), (47, 38838),

Gene: Kailash\_45 Start: 39251, Stop: 39036, Start Num: 27  
Candidate Starts for Kailash\_45:  
(Start: 27 @39251 has 308 MA's), (39, 39221), (47, 39176),

Gene: Kaleb\_44 Start: 39557, Stop: 39351, Start Num: 31  
Candidate Starts for Kaleb\_44:

(Start: 31 @39557 has 38 MA's), (40, 39530), (42, 39527), (51, 39473), (56, 39440),

Gene: KarasumaRum\_45 Start: 39790, Stop: 39581, Start Num: 27

Candidate Starts for KarasumaRum\_45:

(9, 39898), (Start: 27 @39790 has 308 MA's), (39, 39775), (44, 39763),

Gene: Karn\_44 Start: 38913, Stop: 38698, Start Num: 27

Candidate Starts for Karn\_44:

(9, 39015), (Start: 27 @38913 has 308 MA's), (39, 38883), (47, 38838),

Gene: Katniss\_45 Start: 39212, Stop: 38997, Start Num: 27

Candidate Starts for Katniss\_45:

(9, 39314), (Start: 27 @39212 has 308 MA's), (39, 39182), (47, 39137),

Gene: Keitherie\_45 Start: 39250, Stop: 39035, Start Num: 27

Candidate Starts for Keitherie\_45:

(9, 39352), (Start: 27 @39250 has 308 MA's), (39, 39220), (47, 39175),

Gene: Kenna\_38 Start: 29550, Stop: 29314, Start Num: 33

Candidate Starts for Kenna\_38:

(Start: 33 @29550 has 37 MA's), (45, 29508), (48, 29487), (55, 29445), (61, 29397),

Gene: Khan1\_45 Start: 38934, Stop: 38719, Start Num: 27

Candidate Starts for Khan1\_45:

(Start: 27 @38934 has 308 MA's), (39, 38904), (47, 38859), (54, 38826),

Gene: Kheth\_44 Start: 39445, Stop: 39239, Start Num: 31

Candidate Starts for Kheth\_44:

(Start: 31 @39445 has 38 MA's), (40, 39418), (42, 39415), (51, 39361), (56, 39328),

Gene: Kikipoo\_45 Start: 39203, Stop: 38988, Start Num: 27

Candidate Starts for Kikipoo\_45:

(9, 39305), (Start: 27 @39203 has 308 MA's), (39, 39173), (47, 39128),

Gene: Kimbrough\_45 Start: 38905, Stop: 38690, Start Num: 27

Candidate Starts for Kimbrough\_45:

(9, 39007), (Start: 27 @38905 has 308 MA's), (39, 38875), (47, 38830),

Gene: KingTut\_36 Start: 34574, Stop: 34359, Start Num: 27

Candidate Starts for KingTut\_36:

(Start: 27 @34574 has 308 MA's), (39, 34544), (47, 34499), (54, 34466),

Gene: KingVeVeVe\_45 Start: 39178, Stop: 38963, Start Num: 27

Candidate Starts for KingVeVeVe\_45:

(Start: 27 @39178 has 308 MA's), (39, 39148), (47, 39103),

Gene: Kita\_36 Start: 29363, Stop: 29127, Start Num: 33

Candidate Starts for Kita\_36:

(Start: 33 @29363 has 37 MA's), (45, 29321), (48, 29300), (55, 29258), (61, 29210), (65, 29138),

Gene: KlimbOn\_45 Start: 39191, Stop: 38976, Start Num: 27

Candidate Starts for KlimbOn\_45:

(Start: 27 @39191 has 308 MA's), (39, 39161), (47, 39116), (54, 39083),

Gene: Kloppinator\_45 Start: 39214, Stop: 38999, Start Num: 27

Candidate Starts for Kloppinator\_45:

(9, 39316), (Start: 27 @39214 has 308 MA's), (39, 39184), (47, 39139), (54, 39106),

Gene: Knocker\_45 Start: 40870, Stop: 40658, Start Num: 27

Candidate Starts for Knocker\_45:

(9, 40978), (Start: 27 @40870 has 308 MA's), (Start: 31 @40861 has 38 MA's), (41, 40837), (43, 40831), (45, 40816), (47, 40798),

Gene: Kolhan\_44 Start: 39436, Stop: 39230, Start Num: 31

Candidate Starts for Kolhan\_44:

(Start: 31 @39436 has 38 MA's), (40, 39409), (42, 39406), (51, 39352), (56, 39319),

Gene: Kwadwo\_44 Start: 38895, Stop: 38680, Start Num: 27

Candidate Starts for Kwadwo\_44:

(Start: 27 @38895 has 308 MA's), (39, 38865), (47, 38820), (54, 38787),

Gene: Kwksand96\_44 Start: 38764, Stop: 38549, Start Num: 27

Candidate Starts for Kwksand96\_44:

(Start: 27 @38764 has 308 MA's), (39, 38734), (47, 38689), (54, 38656),

Gene: Labeouficaum\_44 Start: 38759, Stop: 38544, Start Num: 27

Candidate Starts for Labeouficaum\_44:

(Start: 27 @38759 has 308 MA's), (39, 38729), (47, 38684), (54, 38651),

Gene: Lambano\_39 Start: 38183, Stop: 37977, Start Num: 28

Candidate Starts for Lambano\_39:

(Start: 28 @38183 has 28 MA's), (39, 38162), (45, 38135), (47, 38117), (51, 38099), (55, 38069), (57, 38063), (60, 38042),

Gene: Lars\_44 Start: 39547, Stop: 39341, Start Num: 31

Candidate Starts for Lars\_44:

(Start: 31 @39547 has 38 MA's), (40, 39520), (42, 39517), (51, 39463), (56, 39430),

Gene: Larson\_46 Start: 39308, Stop: 39093, Start Num: 27

Candidate Starts for Larson\_46:

(9, 39410), (Start: 27 @39308 has 308 MA's), (39, 39278), (47, 39233),

Gene: LasagnaCat\_45 Start: 39197, Stop: 38982, Start Num: 27

Candidate Starts for LasagnaCat\_45:

(9, 39299), (Start: 27 @39197 has 308 MA's), (39, 39167), (47, 39122),

Gene: Lasso\_45 Start: 39170, Stop: 38955, Start Num: 27

Candidate Starts for Lasso\_45:

(Start: 27 @39170 has 308 MA's), (39, 39140), (47, 39095),

Gene: Laurie\_43 Start: 38946, Stop: 38740, Start Num: 31

Candidate Starts for Laurie\_43:

(Start: 31 @38946 has 38 MA's), (40, 38919), (42, 38916), (51, 38862), (56, 38829),

Gene: LeeLot\_45 Start: 39201, Stop: 38986, Start Num: 27

Candidate Starts for LeeLot\_45:

(9, 39303), (Start: 27 @39201 has 308 MA's), (39, 39171), (47, 39126),

Gene: Lego3393\_44 Start: 39206, Stop: 38991, Start Num: 27

Candidate Starts for Lego3393\_44:

(9, 39308), (Start: 27 @39206 has 308 MA's), (39, 39176), (47, 39131),

Gene: Legolas\_44 Start: 38911, Stop: 38696, Start Num: 27

Candidate Starts for Legolas\_44:

(Start: 27 @38911 has 308 MA's), (39, 38881), (47, 38836), (54, 38803),

Gene: Lehmann\_45 Start: 38734, Stop: 38519, Start Num: 27

Candidate Starts for Lehmann\_45:

(Start: 27 @38734 has 308 MA's), (39, 38704), (47, 38659), (54, 38626),

Gene: LeiMonet\_45 Start: 38902, Stop: 38687, Start Num: 27

Candidate Starts for LeiMonet\_45:

(9, 39004), (Start: 27 @38902 has 308 MA's), (39, 38872), (47, 38827),

Gene: LemonSlice\_45 Start: 38898, Stop: 38683, Start Num: 27

Candidate Starts for LemonSlice\_45:

(9, 39000), (Start: 27 @38898 has 308 MA's), (39, 38868), (47, 38823),

Gene: Leona\_25 Start: 18655, Stop: 18440, Start Num: 38

Candidate Starts for Leona\_25:

(7, 18790), (11, 18736), (32, 18667), (Start: 38 @18655 has 21 MA's),

Gene: Lephleur\_44 Start: 39440, Stop: 39234, Start Num: 31

Candidate Starts for Lephleur\_44:

(Start: 31 @39440 has 38 MA's), (40, 39413), (42, 39410), (51, 39356), (56, 39323),

Gene: Leroy\_39 Start: 30561, Stop: 30325, Start Num: 33

Candidate Starts for Leroy\_39:

(Start: 33 @30561 has 37 MA's), (45, 30519), (48, 30498), (55, 30456), (61, 30408),

Gene: Ligma\_38 Start: 32837, Stop: 32601, Start Num: 19

Candidate Starts for Ligma\_38:

(18, 32840), (Start: 19 @32837 has 5 MA's), (25, 32816), (Start: 28 @32810 has 28 MA's), (Start: 38 @32786 has 21 MA's), (42, 32780), (56, 32690),

Gene: LilMcDreamy\_41 Start: 38754, Stop: 38542, Start Num: 27

Candidate Starts for LilMcDreamy\_41:

(9, 38862), (Start: 27 @38754 has 308 MA's), (39, 38736), (47, 38691), (57, 38637),

Gene: LilSmirk\_44 Start: 39434, Stop: 39228, Start Num: 31

Candidate Starts for LilSmirk\_44:

(Start: 31 @39434 has 38 MA's), (40, 39407), (42, 39404), (51, 39350), (56, 39317),

Gene: LittleDigger\_39 Start: 38205, Stop: 37999, Start Num: 28

Candidate Starts for LittleDigger\_39:

(Start: 28 @38205 has 28 MA's), (39, 38184), (45, 38157), (47, 38139), (51, 38121), (55, 38091), (57, 38085), (60, 38064),

Gene: LittleMinkey\_49 Start: 38461, Stop: 38246, Start Num: 31

Candidate Starts for LittleMinkey\_49:  
(Start: 31 @38461 has 38 MA's), (39, 38437), (49, 38383), (64, 38287),

Gene: LittleMunchkin\_40 Start: 36172, Stop: 35945, Start Num: 22  
Candidate Starts for LittleMunchkin\_40:  
(Start: 22 @36172 has 5 MA's), (53, 36055), (57, 36031),

Gene: LizLemon\_44 Start: 39556, Stop: 39350, Start Num: 31  
Candidate Starts for LizLemon\_44:  
(Start: 31 @39556 has 38 MA's), (40, 39529), (42, 39526), (51, 39472), (56, 39439),

Gene: Lolalove\_40 Start: 39208, Stop: 39002, Start Num: 28  
Candidate Starts for Lolalove\_40:  
(Start: 28 @39208 has 28 MA's), (39, 39187), (45, 39160), (47, 39142), (51, 39124), (55, 39094), (57, 39088),

Gene: Longacauda\_44 Start: 38903, Stop: 38688, Start Num: 27  
Candidate Starts for Longacauda\_44:  
(Start: 27 @38903 has 308 MA's), (39, 38873), (47, 38828), (54, 38795),

Gene: Lopsy\_44 Start: 38753, Stop: 38538, Start Num: 27  
Candidate Starts for Lopsy\_44:  
(9, 38855), (Start: 27 @38753 has 308 MA's), (39, 38723), (47, 38678),

Gene: LostAndPhound\_44 Start: 38904, Stop: 38689, Start Num: 27  
Candidate Starts for LostAndPhound\_44:  
(9, 39006), (Start: 27 @38904 has 308 MA's), (39, 38874), (47, 38829),

Gene: LuckyMarjie\_44 Start: 38913, Stop: 38698, Start Num: 27  
Candidate Starts for LuckyMarjie\_44:  
(Start: 27 @38913 has 308 MA's), (39, 38883), (47, 38838), (54, 38805),

Gene: Lulumae\_44 Start: 38895, Stop: 38680, Start Num: 27  
Candidate Starts for Lulumae\_44:  
(Start: 27 @38895 has 308 MA's), (39, 38865), (47, 38820), (54, 38787),

Gene: Lulwa\_45 Start: 39182, Stop: 38967, Start Num: 27  
Candidate Starts for Lulwa\_45:  
(9, 39284), (Start: 27 @39182 has 308 MA's), (39, 39152), (47, 39107),

Gene: Lumine\_44 Start: 38891, Stop: 38676, Start Num: 27  
Candidate Starts for Lumine\_44:  
(9, 38993), (Start: 27 @38891 has 308 MA's), (39, 38861), (47, 38816),

Gene: Lunar\_27 Start: 19041, Stop: 18820, Start Num: 38  
Candidate Starts for Lunar\_27:  
(Start: 38 @19041 has 21 MA's),

Gene: Lutum\_39 Start: 29550, Stop: 29314, Start Num: 33  
Candidate Starts for Lutum\_39:  
(Start: 33 @29550 has 37 MA's), (45, 29508), (48, 29487), (55, 29445), (61, 29397),

Gene: MRabcd\_44 Start: 38895, Stop: 38680, Start Num: 27

Candidate Starts for MRabcd\_44:

(Start: 27 @38895 has 308 MA's), (39, 38865), (47, 38820), (54, 38787),

Gene: Mag7\_44 Start: 38801, Stop: 38586, Start Num: 27

Candidate Starts for Mag7\_44:

(Start: 27 @38801 has 308 MA's), (39, 38771), (47, 38726),

Gene: Magic8\_45 Start: 39236, Stop: 39021, Start Num: 27

Candidate Starts for Magic8\_45:

(Start: 27 @39236 has 308 MA's), (39, 39206), (47, 39161),

Gene: Magpie\_39 Start: 39044, Stop: 38838, Start Num: 28

Candidate Starts for Magpie\_39:

(Start: 28 @39044 has 28 MA's), (39, 39023), (45, 38996), (47, 38978), (51, 38960), (55, 38930), (57, 38924),

Gene: MakoManhole\_40 Start: 34842, Stop: 34588, Start Num: 24

Candidate Starts for MakoManhole\_40:

(10, 34884), (Start: 24 @34842 has 13 MA's), (40, 34794), (49, 34743), (52, 34725), (57, 34698),

Gene: Mana\_44 Start: 38910, Stop: 38695, Start Num: 27

Candidate Starts for Mana\_44:

(Start: 27 @38910 has 308 MA's), (39, 38880), (47, 38835), (54, 38802),

Gene: Manad\_44 Start: 38752, Stop: 38537, Start Num: 27

Candidate Starts for Manad\_44:

(9, 38854), (Start: 27 @38752 has 308 MA's), (39, 38722), (47, 38677),

Gene: Manasvini\_35 Start: 29355, Stop: 29119, Start Num: 33

Candidate Starts for Manasvini\_35:

(Start: 33 @29355 has 37 MA's), (45, 29313), (48, 29292), (55, 29250), (61, 29202), (65, 29130),

Gene: Maridalia\_34 Start: 29354, Stop: 29118, Start Num: 33

Candidate Starts for Maridalia\_34:

(Start: 33 @29354 has 37 MA's), (45, 29312), (48, 29291), (55, 29249), (61, 29201), (65, 29129),

Gene: Mariokart\_38 Start: 32762, Stop: 32526, Start Num: 19

Candidate Starts for Mariokart\_38:

(16, 32777), (18, 32765), (Start: 19 @32762 has 5 MA's), (Start: 38 @32711 has 21 MA's), (42, 32705), (56, 32615),

Gene: Maru\_44 Start: 38853, Stop: 38638, Start Num: 27

Candidate Starts for Maru\_44:

(Start: 27 @38853 has 308 MA's), (39, 38823), (47, 38778), (54, 38745),

Gene: Maskar\_44 Start: 38747, Stop: 38532, Start Num: 27

Candidate Starts for Maskar\_44:

(Start: 27 @38747 has 308 MA's), (39, 38717), (47, 38672), (54, 38639),

Gene: MasterPo\_44 Start: 39443, Stop: 39237, Start Num: 31

Candidate Starts for MasterPo\_44:

(Start: 31 @39443 has 38 MA's), (40, 39416), (42, 39413), (51, 39359), (56, 39326),

Gene: Matalotodo\_45 Start: 39196, Stop: 38981, Start Num: 27

Candidate Starts for Matalotodo\_45:

(Start: 27 @39196 has 308 MA's), (39, 39166), (47, 39121),

Gene: Mcshane\_44 Start: 38893, Stop: 38678, Start Num: 27

Candidate Starts for Mcshane\_44:

(Start: 27 @38893 has 308 MA's), (39, 38863), (47, 38818), (54, 38785),

Gene: Mecca\_44 Start: 38896, Stop: 38681, Start Num: 27

Candidate Starts for Mecca\_44:

(9, 38998), (Start: 27 @38896 has 308 MA's), (39, 38866), (47, 38821),

Gene: Megamind20\_45 Start: 38918, Stop: 38703, Start Num: 27

Candidate Starts for Megamind20\_45:

(9, 39020), (Start: 27 @38918 has 308 MA's), (39, 38888), (47, 38843),

Gene: Megatron\_45 Start: 39194, Stop: 38979, Start Num: 27

Candidate Starts for Megatron\_45:

(9, 39296), (Start: 27 @39194 has 308 MA's), (39, 39164), (47, 39119),

Gene: Melc17\_45 Start: 39191, Stop: 38976, Start Num: 27

Candidate Starts for Melc17\_45:

(Start: 27 @39191 has 308 MA's), (39, 39161), (47, 39116),

Gene: Melons\_27 Start: 19041, Stop: 18820, Start Num: 38

Candidate Starts for Melons\_27:

(Start: 38 @19041 has 21 MA's),

Gene: MelsMeow\_44 Start: 38797, Stop: 38582, Start Num: 27

Candidate Starts for MelsMeow\_44:

(Start: 27 @38797 has 308 MA's), (39, 38767), (47, 38722), (54, 38689),

Gene: Mesh1\_45 Start: 39208, Stop: 38993, Start Num: 27

Candidate Starts for Mesh1\_45:

(Start: 27 @39208 has 308 MA's), (39, 39178), (47, 39133),

Gene: Mesmerelda\_44 Start: 38906, Stop: 38691, Start Num: 27

Candidate Starts for Mesmerelda\_44:

(9, 39008), (Start: 27 @38906 has 308 MA's), (39, 38876), (47, 38831),

Gene: MichaelPhcott\_44 Start: 38798, Stop: 38583, Start Num: 27

Candidate Starts for MichaelPhcott\_44:

(Start: 27 @38798 has 308 MA's), (39, 38768), (47, 38723),

Gene: Mikota\_45 Start: 39181, Stop: 38966, Start Num: 27

Candidate Starts for Mikota\_45:

(Start: 27 @39181 has 308 MA's), (39, 39151), (47, 39106), (54, 39073),

Gene: MiniBoss\_45 Start: 39187, Stop: 38972, Start Num: 27

Candidate Starts for MiniBoss\_45:

(Start: 27 @39187 has 308 MA's), (39, 39157), (47, 39112), (54, 39079),

Gene: MitKao\_45 Start: 38902, Stop: 38687, Start Num: 27

Candidate Starts for MitKao\_45:  
(9, 39004), (Start: 27 @38902 has 308 MA's), (39, 38872), (47, 38827),

Gene: Mithril\_40 Start: 39212, Stop: 39006, Start Num: 28  
Candidate Starts for Mithril\_40:  
(Start: 28 @39212 has 28 MA's), (39, 39191), (45, 39164), (47, 39146), (51, 39128), (55, 39098), (57, 39092),

Gene: Morgushi\_45 Start: 38903, Stop: 38688, Start Num: 27  
Candidate Starts for Morgushi\_45:  
(Start: 27 @38903 has 308 MA's), (39, 38873), (47, 38828), (54, 38795),

Gene: Mortcellus\_42 Start: 39665, Stop: 39429, Start Num: 24  
Candidate Starts for Mortcellus\_42:  
(Start: 24 @39665 has 13 MA's), (42, 39608), (52, 39542), (54, 39536),

Gene: Morty\_45 Start: 39203, Stop: 38988, Start Num: 27  
Candidate Starts for Morty\_45:  
(9, 39305), (Start: 27 @39203 has 308 MA's), (39, 39173), (47, 39128),

Gene: Mosaic\_44 Start: 38908, Stop: 38693, Start Num: 27  
Candidate Starts for Mosaic\_44:  
(9, 39010), (Start: 27 @38908 has 308 MA's), (39, 38878), (47, 38833),

Gene: MossRose\_40 Start: 34821, Stop: 34567, Start Num: 24  
Candidate Starts for MossRose\_40:  
(10, 34863), (Start: 24 @34821 has 13 MA's), (40, 34773), (49, 34722), (52, 34704), (57, 34677),

Gene: MrPhizzler\_45 Start: 38911, Stop: 38696, Start Num: 27  
Candidate Starts for MrPhizzler\_45:  
(Start: 27 @38911 has 308 MA's), (39, 38881), (47, 38836), (54, 38803),

Gene: Mudslide\_40 Start: 39444, Stop: 39238, Start Num: 28  
Candidate Starts for Mudslide\_40:  
(Start: 28 @39444 has 28 MA's), (39, 39423), (45, 39396), (47, 39378), (51, 39360), (55, 39330), (57, 39324),

Gene: Mulan\_44 Start: 38920, Stop: 38705, Start Num: 27  
Candidate Starts for Mulan\_44:  
(Start: 27 @38920 has 308 MA's), (39, 38890), (47, 38845),

Gene: Murdoc\_45 Start: 39195, Stop: 38980, Start Num: 27  
Candidate Starts for Murdoc\_45:  
(Start: 27 @39195 has 308 MA's), (39, 39165), (47, 39120), (54, 39087),

Gene: Mutante\_44 Start: 38902, Stop: 38687, Start Num: 27  
Candidate Starts for Mutante\_44:  
(9, 39004), (Start: 27 @38902 has 308 MA's), (39, 38872), (47, 38827),

Gene: Mysterious\_43 Start: 39920, Stop: 39711, Start Num: 27  
Candidate Starts for Mysterious\_43:  
(9, 40028), (Start: 27 @39920 has 308 MA's), (39, 39905), (47, 39860),

Gene: NHagos\_38 Start: 33445, Stop: 33185, Start Num: 24  
Candidate Starts for NHagos\_38:  
(11, 33478), (Start: 24 @33445 has 13 MA's), (39, 33403), (40, 33400), (49, 33349), (52, 33331), (57, 33304),

Gene: Nacho\_0045 Start: 39197, Stop: 38982, Start Num: 27  
Candidate Starts for Nacho\_0045:  
(9, 39299), (Start: 27 @39197 has 308 MA's), (39, 39167), (47, 39122),

Gene: Nanao\_39 Start: 38170, Stop: 37964, Start Num: 28  
Candidate Starts for Nanao\_39:  
(Start: 28 @38170 has 28 MA's), (39, 38149), (45, 38122), (47, 38104), (51, 38086), (55, 38056), (57, 38050), (60, 38029),

Gene: Nangang\_43 Start: 39713, Stop: 39504, Start Num: 27  
Candidate Starts for Nangang\_43:  
(9, 39821), (Start: 27 @39713 has 308 MA's), (39, 39698), (44, 39686),

Gene: Nathan\_45 Start: 39233, Stop: 39018, Start Num: 27  
Candidate Starts for Nathan\_45:  
(Start: 27 @39233 has 308 MA's), (39, 39203), (47, 39158), (54, 39125),

Gene: Nehemiah\_43 Start: 39920, Stop: 39711, Start Num: 27  
Candidate Starts for Nehemiah\_43:  
(9, 40028), (Start: 27 @39920 has 308 MA's), (39, 39905), (47, 39860),

Gene: Neobush\_35 Start: 29354, Stop: 29118, Start Num: 33  
Candidate Starts for Neobush\_35:  
(Start: 33 @29354 has 37 MA's), (45, 29312), (48, 29291), (55, 29249), (61, 29201), (65, 29129),

Gene: Newman\_45 Start: 39194, Stop: 38979, Start Num: 27  
Candidate Starts for Newman\_45:  
(Start: 27 @39194 has 308 MA's), (39, 39164), (47, 39119), (54, 39086),

Gene: NiaNia\_47 Start: 38925, Stop: 38710, Start Num: 27  
Candidate Starts for NiaNia\_47:  
(9, 39027), (Start: 27 @38925 has 308 MA's), (39, 38895), (47, 38850),

Gene: Nicole21\_45 Start: 39192, Stop: 38977, Start Num: 27  
Candidate Starts for Nicole21\_45:  
(Start: 27 @39192 has 308 MA's), (39, 39162), (47, 39117),

Gene: Nigel\_39 Start: 38086, Stop: 37880, Start Num: 28  
Candidate Starts for Nigel\_39:  
(Start: 28 @38086 has 28 MA's), (39, 38065), (45, 38038), (47, 38020), (51, 38002), (55, 37972), (57, 37966),

Gene: Nova1\_45 Start: 38848, Stop: 38633, Start Num: 27  
Candidate Starts for Nova1\_45:  
(Start: 27 @38848 has 308 MA's), (39, 38818), (47, 38773), (54, 38740),

Gene: Numberten\_45 Start: 39201, Stop: 38986, Start Num: 27  
Candidate Starts for Numberten\_45:

(9, 39303), (Start: 27 @39201 has 308 MA's), (39, 39171), (47, 39126),

Gene: Nyala\_44 Start: 38894, Stop: 38679, Start Num: 27

Candidate Starts for Nyala\_44:

(9, 38996), (Start: 27 @38894 has 308 MA's), (39, 38864), (47, 38819),

Gene: Nymphadora\_34 Start: 29521, Stop: 29285, Start Num: 33

Candidate Starts for Nymphadora\_34:

(Start: 33 @29521 has 37 MA's), (45, 29479), (55, 29416), (61, 29368), (63, 29356),

Gene: ODay\_42 Start: 31024, Stop: 30788, Start Num: 33

Candidate Starts for ODay\_42:

(Start: 33 @31024 has 37 MA's), (45, 30982), (48, 30961), (55, 30919), (61, 30871),

Gene: OSmaximus\_45 Start: 39236, Stop: 39021, Start Num: 27

Candidate Starts for OSmaximus\_45:

(Start: 27 @39236 has 308 MA's), (39, 39206), (47, 39161), (54, 39128),

Gene: Olak\_44 Start: 38897, Stop: 38682, Start Num: 27

Candidate Starts for Olak\_44:

(9, 38999), (Start: 27 @38897 has 308 MA's), (39, 38867), (47, 38822),

Gene: Oline\_44 Start: 38763, Stop: 38548, Start Num: 27

Candidate Starts for Oline\_44:

(9, 38865), (Start: 27 @38763 has 308 MA's), (39, 38733), (47, 38688),

Gene: Olive\_45 Start: 39184, Stop: 38969, Start Num: 27

Candidate Starts for Olive\_45:

(9, 39286), (Start: 27 @39184 has 308 MA's), (39, 39154), (47, 39109),

Gene: OliverWalter\_45 Start: 39206, Stop: 38991, Start Num: 27

Candidate Starts for OliverWalter\_45:

(Start: 27 @39206 has 308 MA's), (39, 39176), (47, 39131),

Gene: Omniscient\_45 Start: 39203, Stop: 38988, Start Num: 27

Candidate Starts for Omniscient\_45:

(9, 39305), (Start: 27 @39203 has 308 MA's), (39, 39173), (47, 39128),

Gene: OneBrain\_46 Start: 38902, Stop: 38687, Start Num: 27

Candidate Starts for OneBrain\_46:

(9, 39004), (Start: 27 @38902 has 308 MA's), (39, 38872), (47, 38827),

Gene: Oosterbaan\_45 Start: 39194, Stop: 38979, Start Num: 27

Candidate Starts for Oosterbaan\_45:

(Start: 27 @39194 has 308 MA's), (39, 39164), (47, 39119),

Gene: Opia\_44 Start: 39429, Stop: 39223, Start Num: 31

Candidate Starts for Opia\_44:

(Start: 31 @39429 has 38 MA's), (40, 39402), (42, 39399), (51, 39345), (56, 39312),

Gene: Orfeu\_44 Start: 38902, Stop: 38687, Start Num: 27

Candidate Starts for Orfeu\_44:

(Start: 27 @38902 has 308 MA's), (39, 38872), (47, 38827), (54, 38794),

Gene: Orion\_45 Start: 39192, Stop: 38977, Start Num: 27  
Candidate Starts for Orion\_45:  
(9, 39294), (Start: 27 @39192 has 308 MA's), (39, 39162), (47, 39117),

Gene: Orwigg\_44 Start: 38890, Stop: 38675, Start Num: 27  
Candidate Starts for Orwigg\_44:  
(Start: 27 @38890 has 308 MA's), (39, 38860), (47, 38815),

Gene: OtsoOtso\_26 Start: 18904, Stop: 18683, Start Num: 38  
Candidate Starts for OtsoOtso\_26:  
(Start: 38 @18904 has 21 MA's),

Gene: PG1\_45 Start: 39205, Stop: 38990, Start Num: 27  
Candidate Starts for PG1\_45:  
(9, 39307), (Start: 27 @39205 has 308 MA's), (39, 39175), (47, 39130),

Gene: Pacifista\_44 Start: 38896, Stop: 38681, Start Num: 27  
Candidate Starts for Pacifista\_44:  
(Start: 27 @38896 has 308 MA's), (39, 38866), (47, 38821), (54, 38788),

Gene: PallasAthena\_45 Start: 38907, Stop: 38692, Start Num: 27  
Candidate Starts for PallasAthena\_45:  
(Start: 27 @38907 has 308 MA's), (39, 38877), (47, 38832), (54, 38799),

Gene: PenguinLover67\_46 Start: 41013, Stop: 40795, Start Num: 27  
Candidate Starts for PenguinLover67\_46:  
(9, 41109), (Start: 27 @41013 has 308 MA's), (39, 40980), (45, 40953), (47, 40935), (64, 40830),

Gene: Periwinkle\_42 Start: 31005, Stop: 30769, Start Num: 33  
Candidate Starts for Periwinkle\_42:  
(Start: 33 @31005 has 37 MA's), (45, 30963), (48, 30942), (55, 30900), (61, 30852),

Gene: Phabuloso\_36 Start: 29262, Stop: 29026, Start Num: 33  
Candidate Starts for Phabuloso\_36:  
(Start: 33 @29262 has 37 MA's), (45, 29220), (48, 29199), (55, 29157), (61, 29109),

Gene: Phamished\_45 Start: 39200, Stop: 38985, Start Num: 27  
Candidate Starts for Phamished\_45:  
(Start: 27 @39200 has 308 MA's), (39, 39170), (47, 39125),

Gene: Phantasmagoria\_44 Start: 39441, Stop: 39235, Start Num: 31  
Candidate Starts for Phantasmagoria\_44:  
(Start: 31 @39441 has 38 MA's), (40, 39414), (42, 39411), (51, 39357), (56, 39324),

Gene: Phareon\_45 Start: 38904, Stop: 38689, Start Num: 27  
Candidate Starts for Phareon\_45:  
(Start: 27 @38904 has 308 MA's), (39, 38874), (47, 38829), (54, 38796),

Gene: PhatCats2014\_45 Start: 39209, Stop: 38994, Start Num: 27  
Candidate Starts for PhatCats2014\_45:  
(9, 39311), (Start: 27 @39209 has 308 MA's), (39, 39179), (47, 39134),

Gene: PhatLouie\_45 Start: 39198, Stop: 38983, Start Num: 27

Candidate Starts for PhatLouie\_45:

(Start: 27 @39198 has 308 MA's), (39, 39168), (47, 39123),

Gene: Phelemich\_43 Start: 39919, Stop: 39710, Start Num: 27

Candidate Starts for Phelemich\_43:

(9, 40027), (Start: 27 @39919 has 308 MA's), (39, 39904), (47, 39859),

Gene: PhenghisKhan\_44 Start: 38804, Stop: 38589, Start Num: 27

Candidate Starts for PhenghisKhan\_44:

(Start: 27 @38804 has 308 MA's), (39, 38774), (47, 38729),

Gene: Pherdinand\_45 Start: 39200, Stop: 38985, Start Num: 27

Candidate Starts for Pherdinand\_45:

(Start: 27 @39200 has 308 MA's), (39, 39170), (47, 39125), (54, 39092),

Gene: Phergie\_44 Start: 38795, Stop: 38580, Start Num: 27

Candidate Starts for Phergie\_44:

(Start: 27 @38795 has 308 MA's), (39, 38765), (47, 38720),

Gene: Phipps\_45 Start: 39171, Stop: 38956, Start Num: 27

Candidate Starts for Phipps\_45:

(Start: 27 @39171 has 308 MA's), (39, 39141), (47, 39096),

Gene: Phleuron\_44 Start: 38801, Stop: 38586, Start Num: 27

Candidate Starts for Phleuron\_44:

(Start: 27 @38801 has 308 MA's), (39, 38771), (47, 38726),

Gene: PhluffyCoco\_26 Start: 18717, Stop: 18502, Start Num: 38

Candidate Starts for PhluffyCoco\_26:

(Start: 38 @18717 has 21 MA's),

Gene: PhrankReynolds\_43 Start: 38801, Stop: 38586, Start Num: 27

Candidate Starts for PhrankReynolds\_43:

(Start: 27 @38801 has 308 MA's), (39, 38771), (47, 38726),

Gene: PhrodoBaggins\_44 Start: 39188, Stop: 38973, Start Num: 27

Candidate Starts for PhrodoBaggins\_44:

(9, 39290), (Start: 27 @39188 has 308 MA's), (39, 39158), (47, 39113),

Gene: Phunky\_45 Start: 39201, Stop: 38986, Start Num: 27

Candidate Starts for Phunky\_45:

(Start: 27 @39201 has 308 MA's), (39, 39171), (47, 39126), (54, 39093),

Gene: Piglet\_0044 Start: 39308, Stop: 39093, Start Num: 27

Candidate Starts for Piglet\_0044:

(Start: 27 @39308 has 308 MA's), (39, 39278), (47, 39233), (54, 39200),

Gene: Pine5\_39 Start: 32324, Stop: 32103, Start Num: 33

Candidate Starts for Pine5\_39:

(Start: 33 @32324 has 37 MA's), (44, 32294), (45, 32279), (57, 32210),

Gene: Pineda\_28 Start: 19194, Stop: 18973, Start Num: 38

Candidate Starts for Pineda\_28:  
(Start: 38 @19194 has 21 MA's),

Gene: PinheadLarry\_45 Start: 38914, Stop: 38699, Start Num: 27  
Candidate Starts for PinheadLarry\_45:  
(Start: 27 @38914 has 308 MA's), (39, 38884), (47, 38839), (54, 38806),

Gene: Pinkman\_44 Start: 38757, Stop: 38542, Start Num: 27  
Candidate Starts for Pinkman\_44:  
(Start: 27 @38757 has 308 MA's), (39, 38727), (47, 38682), (54, 38649),

Gene: Pipefish\_45 Start: 40422, Stop: 40186, Start Num: 24  
Candidate Starts for Pipefish\_45:  
(Start: 24 @40422 has 13 MA's), (42, 40365), (52, 40299), (54, 40293),

Gene: Pipsqueak\_45 Start: 39199, Stop: 38984, Start Num: 27  
Candidate Starts for Pipsqueak\_45:  
(Start: 27 @39199 has 308 MA's), (39, 39169), (47, 39124),

Gene: Placalicious\_44 Start: 38892, Stop: 38677, Start Num: 27  
Candidate Starts for Placalicious\_44:  
(Start: 27 @38892 has 308 MA's), (39, 38862), (47, 38817),

Gene: Plata\_44 Start: 38913, Stop: 38698, Start Num: 27  
Candidate Starts for Plata\_44:  
(9, 39015), (Start: 27 @38913 has 308 MA's), (39, 38883), (47, 38838),

Gene: Plmatters\_45 Start: 39198, Stop: 38983, Start Num: 27  
Candidate Starts for Plmatters\_45:  
(9, 39300), (Start: 27 @39198 has 308 MA's), (39, 39168), (47, 39123), (54, 39090),

Gene: Podrick\_45 Start: 39189, Stop: 38974, Start Num: 27  
Candidate Starts for Podrick\_45:  
(9, 39291), (Start: 27 @39189 has 308 MA's), (39, 39159), (47, 39114),

Gene: Polka\_26 Start: 18904, Stop: 18683, Start Num: 38  
Candidate Starts for Polka\_26:  
(Start: 38 @18904 has 21 MA's),

Gene: Polly\_32 Start: 28797, Stop: 28561, Start Num: 33  
Candidate Starts for Polly\_32:  
(Start: 33 @28797 has 37 MA's), (45, 28755), (48, 28734), (55, 28692), (61, 28644), (65, 28572),

Gene: Pops\_45 Start: 39213, Stop: 38998, Start Num: 27  
Candidate Starts for Pops\_45:  
(9, 39315), (Start: 27 @39213 has 308 MA's), (39, 39183), (47, 39138), (54, 39105),

Gene: Poster\_39 Start: 38171, Stop: 37965, Start Num: 28  
Candidate Starts for Poster\_39:  
(Start: 28 @38171 has 28 MA's), (39, 38150), (45, 38123), (47, 38105), (51, 38087), (55, 38057), (57, 38051), (60, 38030),

Gene: Potter\_44 Start: 38913, Stop: 38698, Start Num: 27

Candidate Starts for Potter\_44:

(9, 39015), (Start: 27 @38913 has 308 MA's), (39, 38883), (47, 38838),

Gene: Prickles\_45 Start: 39189, Stop: 38974, Start Num: 27

Candidate Starts for Prickles\_45:

(Start: 27 @39189 has 308 MA's), (39, 39159), (47, 39114),

Gene: Prince\_40 Start: 39354, Stop: 39148, Start Num: 28

Candidate Starts for Prince\_40:

(Start: 28 @39354 has 28 MA's), (39, 39333), (45, 39306), (47, 39288), (51, 39270), (55, 39240), (57, 39234),

Gene: PrinceCharming\_44 Start: 39549, Stop: 39343, Start Num: 31

Candidate Starts for PrinceCharming\_44:

(Start: 31 @39549 has 38 MA's), (40, 39522), (42, 39519), (51, 39465), (56, 39432),

Gene: ProfessorX\_45 Start: 39184, Stop: 38969, Start Num: 27

Candidate Starts for ProfessorX\_45:

(9, 39286), (Start: 27 @39184 has 308 MA's), (39, 39154), (47, 39109),

Gene: Puhltonio\_45 Start: 39205, Stop: 38990, Start Num: 27

Candidate Starts for Puhltonio\_45:

(Start: 27 @39205 has 308 MA's), (39, 39175), (47, 39130), (54, 39097),

Gene: QueenBeane\_45 Start: 39195, Stop: 38980, Start Num: 27

Candidate Starts for QueenBeane\_45:

(Start: 27 @39195 has 308 MA's), (39, 39165), (47, 39120), (54, 39087),

Gene: QueenPie\_39 Start: 39295, Stop: 39089, Start Num: 28

Candidate Starts for QueenPie\_39:

(Start: 28 @39295 has 28 MA's), (39, 39274), (45, 39247), (47, 39229), (51, 39211), (55, 39181), (57, 39175),

Gene: Quesadilla\_46 Start: 40987, Stop: 40781, Start Num: 27

Candidate Starts for Quesadilla\_46:

(9, 41086), (Start: 27 @40987 has 308 MA's), (39, 40966), (47, 40921), (49, 40912),

Gene: Quisquilliae\_45 Start: 39223, Stop: 39008, Start Num: 27

Candidate Starts for Quisquilliae\_45:

(9, 39325), (Start: 27 @39223 has 308 MA's), (39, 39193), (47, 39148),

Gene: RavenCo17\_36 Start: 30180, Stop: 29944, Start Num: 33

Candidate Starts for RavenCo17\_36:

(Start: 33 @30180 has 37 MA's), (45, 30138), (48, 30117), (55, 30075), (61, 30027),

Gene: RawrgerThat\_41 Start: 39199, Stop: 38993, Start Num: 28

Candidate Starts for RawrgerThat\_41:

(Start: 28 @39199 has 28 MA's), (39, 39178), (45, 39151), (47, 39133), (51, 39115), (55, 39085), (57, 39079),

Gene: Reccee\_44 Start: 39831, Stop: 39622, Start Num: 27

Candidate Starts for Reccee\_44:

(8, 39945), (9, 39939), (Start: 27 @39831 has 308 MA's), (39, 39816), (44, 39804), (47, 39771),

Gene: RedFox\_26 Start: 18732, Stop: 18517, Start Num: 38

Candidate Starts for RedFox\_26:

(Start: 38 @18732 has 21 MA's),

Gene: RedMaple\_44 Start: 39202, Stop: 38987, Start Num: 27

Candidate Starts for RedMaple\_44:

(Start: 27 @39202 has 308 MA's), (39, 39172), (47, 39127), (54, 39094),

Gene: RedRaider89\_46 Start: 39422, Stop: 39207, Start Num: 27

Candidate Starts for RedRaider89\_46:

(Start: 27 @39422 has 308 MA's), (39, 39392), (47, 39347), (54, 39314),

Gene: Rem711\_6 Start: 3521, Stop: 3279, Start Num: 33

Candidate Starts for Rem711\_6:

(4, 3722), (14, 3584), (Start: 33 @3521 has 37 MA's), (50, 3443), (55, 3413), (58, 3398), (59, 3380),

Gene: Renkei\_39 Start: 38205, Stop: 37999, Start Num: 28

Candidate Starts for Renkei\_39:

(Start: 28 @38205 has 28 MA's), (39, 38184), (45, 38157), (47, 38139), (51, 38121), (55, 38091), (57, 38085), (60, 38064),

Gene: Reprobate\_44 Start: 39924, Stop: 39715, Start Num: 27

Candidate Starts for Reprobate\_44:

(9, 40032), (Start: 27 @39924 has 308 MA's), (39, 39909), (47, 39864),

Gene: Rhinoforte\_44 Start: 39550, Stop: 39344, Start Num: 31

Candidate Starts for Rhinoforte\_44:

(Start: 31 @39550 has 38 MA's), (40, 39523), (42, 39520), (51, 39466), (56, 39433),

Gene: Rich\_42 Start: 39520, Stop: 39311, Start Num: 27

Candidate Starts for Rich\_42:

(Start: 27 @39520 has 308 MA's), (39, 39505), (44, 39493), (47, 39460), (54, 39427),

Gene: Ricotta\_44 Start: 38921, Stop: 38706, Start Num: 27

Candidate Starts for Ricotta\_44:

(Start: 27 @38921 has 308 MA's), (39, 38891), (47, 38846), (54, 38813),

Gene: Riggan\_45 Start: 39182, Stop: 38967, Start Num: 27

Candidate Starts for Riggan\_45:

(Start: 27 @39182 has 308 MA's), (39, 39152), (47, 39107),

Gene: Rimu\_45 Start: 38931, Stop: 38716, Start Num: 27

Candidate Starts for Rimu\_45:

(Start: 27 @38931 has 308 MA's), (39, 38901), (47, 38856), (54, 38823),

Gene: Rinkes\_44 Start: 40426, Stop: 40223, Start Num: 31

Candidate Starts for Rinkes\_44:

(Start: 31 @40426 has 38 MA's), (47, 40363),

Gene: Rita130\_44 Start: 39651, Stop: 39442, Start Num: 27

Candidate Starts for Rita130\_44:

(8, 39765), (9, 39759), (Start: 27 @39651 has 308 MA's), (39, 39636), (44, 39624), (47, 39591),

Gene: Riverton\_45 Start: 39203, Stop: 38988, Start Num: 27  
Candidate Starts for Riverton\_45:  
(Start: 27 @39203 has 308 MA's), (39, 39173), (47, 39128), (54, 39095),

Gene: Robyn\_44 Start: 38766, Stop: 38551, Start Num: 27  
Candidate Starts for Robyn\_44:  
(9, 38868), (Start: 27 @38766 has 308 MA's), (39, 38736), (47, 38691),

Gene: Roliet\_45 Start: 39191, Stop: 38976, Start Num: 27  
Candidate Starts for Roliet\_45:  
(Start: 27 @39191 has 308 MA's), (39, 39161), (47, 39116),

Gene: Roscoe\_46 Start: 39429, Stop: 39214, Start Num: 27  
Candidate Starts for Roscoe\_46:  
(9, 39531), (Start: 27 @39429 has 308 MA's), (39, 39399), (47, 39354),

Gene: Roy17\_45 Start: 38895, Stop: 38680, Start Num: 27  
Candidate Starts for Roy17\_45:  
(Start: 27 @38895 has 308 MA's), (39, 38865), (47, 38820), (54, 38787),

Gene: Rubeelu\_32 Start: 26751, Stop: 26518, Start Num: 35  
Candidate Starts for Rubeelu\_32:  
(12, 26826), (13, 26823), (15, 26817), (30, 26760), (Start: 35 @26751 has 2 MA's), (44, 26727), (51, 26679), (61, 26601), (65, 26529),

Gene: SDcharge11\_45 Start: 39169, Stop: 38954, Start Num: 27  
Candidate Starts for SDcharge11\_45:  
(9, 39271), (Start: 27 @39169 has 308 MA's), (39, 39139), (47, 39094),

Gene: Sabella\_43 Start: 39434, Stop: 39228, Start Num: 31  
Candidate Starts for Sabella\_43:  
(Start: 31 @39434 has 38 MA's), (40, 39407), (42, 39404), (51, 39350), (56, 39317),

Gene: Saguaro\_45 Start: 40648, Stop: 40445, Start Num: 27  
Candidate Starts for Saguaro\_45:  
(6, 40756), (Start: 27 @40648 has 308 MA's), (47, 40585), (49, 40576), (55, 40537),

Gene: SallyH\_45 Start: 39205, Stop: 38990, Start Num: 27  
Candidate Starts for SallyH\_45:  
(Start: 27 @39205 has 308 MA's), (39, 39175), (47, 39130), (54, 39097),

Gene: Samaymay\_45 Start: 39195, Stop: 38980, Start Num: 27  
Candidate Starts for Samaymay\_45:  
(Start: 27 @39195 has 308 MA's), (39, 39165), (47, 39120), (54, 39087),

Gene: SassyCat97\_44 Start: 38901, Stop: 38686, Start Num: 27  
Candidate Starts for SassyCat97\_44:  
(9, 39003), (Start: 27 @38901 has 308 MA's), (39, 38871), (47, 38826),

Gene: Schadenfreude\_44 Start: 38752, Stop: 38537, Start Num: 27  
Candidate Starts for Schadenfreude\_44:  
(9, 38854), (Start: 27 @38752 has 308 MA's), (39, 38722), (47, 38677),

Gene: Schueller\_44 Start: 38914, Stop: 38699, Start Num: 27

Candidate Starts for Schueller\_44:

(Start: 27 @38914 has 308 MA's), (39, 38884), (47, 38839),

Gene: Scoot17C\_45 Start: 39194, Stop: 38979, Start Num: 27

Candidate Starts for Scoot17C\_45:

(9, 39296), (Start: 27 @39194 has 308 MA's), (39, 39164), (47, 39119),

Gene: Scrick\_45 Start: 38919, Stop: 38704, Start Num: 27

Candidate Starts for Scrick\_45:

(9, 39021), (Start: 27 @38919 has 308 MA's), (39, 38889), (47, 38844),

Gene: Selr12\_45 Start: 38922, Stop: 38707, Start Num: 27

Candidate Starts for Selr12\_45:

(9, 39024), (Start: 27 @38922 has 308 MA's), (39, 38892), (47, 38847),

Gene: Serendipitous\_43 Start: 39478, Stop: 39269, Start Num: 27

Candidate Starts for Serendipitous\_43:

(Start: 27 @39478 has 308 MA's), (39, 39463), (47, 39418),

Gene: Serendipity\_45 Start: 39219, Stop: 39004, Start Num: 27

Candidate Starts for Serendipity\_45:

(Start: 27 @39219 has 308 MA's), (39, 39189), (47, 39144), (54, 39111),

Gene: Serpentine\_0045 Start: 39200, Stop: 38985, Start Num: 27

Candidate Starts for Serpentine\_0045:

(Start: 27 @39200 has 308 MA's), (39, 39170), (47, 39125), (54, 39092),

Gene: ShadowBud\_45 Start: 39220, Stop: 39005, Start Num: 27

Candidate Starts for ShadowBud\_45:

(9, 39322), (Start: 27 @39220 has 308 MA's), (39, 39190), (47, 39145),

Gene: Shatter\_38 Start: 32837, Stop: 32601, Start Num: 19

Candidate Starts for Shatter\_38:

(18, 32840), (Start: 19 @32837 has 5 MA's), (25, 32816), (Start: 28 @32810 has 28 MA's), (Start: 38 @32786 has 21 MA's), (42, 32780), (56, 32690),

Gene: ShawBrad\_38 Start: 29124, Stop: 28888, Start Num: 33

Candidate Starts for ShawBrad\_38:

(Start: 33 @29124 has 37 MA's), (45, 29082), (48, 29061), (55, 29019), (61, 28971),

Gene: Sheila\_45 Start: 39237, Stop: 39022, Start Num: 27

Candidate Starts for Sheila\_45:

(Start: 27 @39237 has 308 MA's), (39, 39207), (47, 39162), (54, 39129),

Gene: Shenyu\_43 Start: 39713, Stop: 39504, Start Num: 27

Candidate Starts for Shenyu\_43:

(9, 39821), (Start: 27 @39713 has 308 MA's), (39, 39698), (44, 39686),

Gene: ShiVal\_45 Start: 39193, Stop: 38978, Start Num: 27

Candidate Starts for ShiVal\_45:

(9, 39295), (Start: 27 @39193 has 308 MA's), (39, 39163), (47, 39118),

Gene: Sigman\_45 Start: 39185, Stop: 38970, Start Num: 27  
Candidate Starts for Sigman\_45:  
(Start: 27 @39185 has 308 MA's), (39, 39155), (47, 39110), (54, 39077),

Gene: SilverBell\_45 Start: 39215, Stop: 39000, Start Num: 27  
Candidate Starts for SilverBell\_45:  
(Start: 27 @39215 has 308 MA's), (39, 39185), (47, 39140),

Gene: Simielle\_44 Start: 38888, Stop: 38673, Start Num: 27  
Candidate Starts for Simielle\_44:  
(Start: 27 @38888 has 308 MA's), (39, 38858), (47, 38813), (54, 38780),

Gene: SirBeauregard\_45 Start: 38892, Stop: 38677, Start Num: 27  
Candidate Starts for SirBeauregard\_45:  
(9, 38994), (Start: 27 @38892 has 308 MA's), (39, 38862), (47, 38817),

Gene: SirJeffery\_44 Start: 39650, Stop: 39441, Start Num: 27  
Candidate Starts for SirJeffery\_44:  
(8, 39764), (9, 39758), (Start: 27 @39650 has 308 MA's), (39, 39635), (44, 39623), (47, 39590),

Gene: Sisko\_38 Start: 33610, Stop: 33383, Start Num: 22  
Candidate Starts for Sisko\_38:  
(Start: 22 @33610 has 5 MA's), (53, 33493), (63, 33424),

Gene: Skippy\_45 Start: 39183, Stop: 38968, Start Num: 27  
Candidate Starts for Skippy\_45:  
(9, 39285), (Start: 27 @39183 has 308 MA's), (39, 39153), (47, 39108),

Gene: Slatt\_45 Start: 39209, Stop: 38994, Start Num: 27  
Candidate Starts for Slatt\_45:  
(Start: 27 @39209 has 308 MA's), (39, 39179), (47, 39134),

Gene: Soile\_45 Start: 38912, Stop: 38697, Start Num: 27  
Candidate Starts for Soile\_45:  
(Start: 27 @38912 has 308 MA's), (39, 38882), (47, 38837), (54, 38804),

Gene: Solosis\_44 Start: 38910, Stop: 38695, Start Num: 27  
Candidate Starts for Solosis\_44:  
(Start: 27 @38910 has 308 MA's), (39, 38880), (47, 38835), (54, 38802),

Gene: Sophia\_44 Start: 38910, Stop: 38695, Start Num: 27  
Candidate Starts for Sophia\_44:  
(Start: 27 @38910 has 308 MA's), (39, 38880), (47, 38835),

Gene: Soto\_45 Start: 39203, Stop: 38988, Start Num: 27  
Candidate Starts for Soto\_45:  
(Start: 27 @39203 has 308 MA's), (39, 39173), (47, 39128),

Gene: Sour\_43 Start: 37566, Stop: 37306, Start Num: 24  
Candidate Starts for Sour\_43:  
(Start: 24 @37566 has 13 MA's), (42, 37515),

Gene: Spartan300\_45 Start: 39189, Stop: 38974, Start Num: 27  
Candidate Starts for Spartan300\_45:  
(9, 39291), (Start: 27 @39189 has 308 MA's), (39, 39159), (47, 39114),

Gene: Squid\_45 Start: 38901, Stop: 38686, Start Num: 27  
Candidate Starts for Squid\_45:  
(9, 39003), (Start: 27 @38901 has 308 MA's), (39, 38871), (47, 38826),

Gene: Squiggle\_45 Start: 38913, Stop: 38698, Start Num: 27  
Candidate Starts for Squiggle\_45:  
(9, 39015), (Start: 27 @38913 has 308 MA's), (39, 38883), (47, 38838),

Gene: Stinger\_39 Start: 37776, Stop: 37570, Start Num: 28  
Candidate Starts for Stinger\_39:  
(Start: 28 @37776 has 28 MA's), (39, 37755), (42, 37749), (45, 37728), (47, 37710), (51, 37692), (55, 37662), (56, 37659), (57, 37656),

Gene: StinkyVeggy\_45 Start: 39790, Stop: 39581, Start Num: 27  
Candidate Starts for StinkyVeggy\_45:  
(9, 39898), (Start: 27 @39790 has 308 MA's), (39, 39775), (44, 39763),

Gene: Struggle\_44 Start: 38751, Stop: 38536, Start Num: 27  
Candidate Starts for Struggle\_44:  
(9, 38853), (Start: 27 @38751 has 308 MA's), (39, 38721), (47, 38676),

Gene: Suffolk\_45 Start: 39200, Stop: 38985, Start Num: 27  
Candidate Starts for Suffolk\_45:  
(Start: 27 @39200 has 308 MA's), (39, 39170), (47, 39125),

Gene: Suigeneris\_44 Start: 39653, Stop: 39444, Start Num: 27  
Candidate Starts for Suigeneris\_44:  
(8, 39767), (9, 39761), (Start: 27 @39653 has 308 MA's), (39, 39638), (44, 39626), (47, 39593),

Gene: Surely\_45 Start: 39203, Stop: 38988, Start Num: 27  
Candidate Starts for Surely\_45:  
(Start: 27 @39203 has 308 MA's), (39, 39173), (47, 39128),

Gene: Suscepit\_35 Start: 29355, Stop: 29119, Start Num: 33  
Candidate Starts for Suscepit\_35:  
(Start: 33 @29355 has 37 MA's), (45, 29313), (48, 29292), (55, 29250), (61, 29202), (65, 29130),

Gene: Swiphy\_45 Start: 39198, Stop: 38983, Start Num: 27  
Candidate Starts for Swiphy\_45:  
(Start: 27 @39198 has 308 MA's), (39, 39168), (47, 39123),

Gene: Swish\_45 Start: 39186, Stop: 38971, Start Num: 27  
Candidate Starts for Swish\_45:  
(Start: 27 @39186 has 308 MA's), (39, 39156), (47, 39111), (54, 39078),

Gene: TA17A\_45 Start: 39424, Stop: 39218, Start Num: 31  
Candidate Starts for TA17A\_45:  
(Start: 31 @39424 has 38 MA's), (40, 39397), (42, 39394), (51, 39340), (56, 39307),

Gene: TallGrassMM\_45 Start: 38825, Stop: 38610, Start Num: 27  
Candidate Starts for TallGrassMM\_45:  
(Start: 27 @38825 has 308 MA's), (39, 38795), (47, 38750), (54, 38717),

Gene: Taraxa\_45 Start: 38401, Stop: 38186, Start Num: 27  
Candidate Starts for Taraxa\_45:  
(Start: 27 @38401 has 308 MA's), (39, 38371), (47, 38326), (54, 38293),

Gene: Tayonia\_35 Start: 29354, Stop: 29118, Start Num: 33  
Candidate Starts for Tayonia\_35:  
(Start: 33 @29354 has 37 MA's), (45, 29312), (48, 29291), (55, 29249), (61, 29201), (65, 29129),

Gene: Telesworld\_44 Start: 38898, Stop: 38683, Start Num: 27  
Candidate Starts for Telesworld\_44:  
(Start: 27 @38898 has 308 MA's), (39, 38868), (47, 38823), (54, 38790),

Gene: Thonko\_43 Start: 36961, Stop: 36752, Start Num: 26  
Candidate Starts for Thonko\_43:  
(5, 37108), (9, 37054), (Start: 26 @36961 has 3 MA's), (44, 36931), (54, 36865),

Gene: Thora\_45 Start: 39202, Stop: 38987, Start Num: 27  
Candidate Starts for Thora\_45:  
(Start: 27 @39202 has 308 MA's), (39, 39172), (47, 39127),

Gene: ThreeOh3D2\_45 Start: 39200, Stop: 38985, Start Num: 27  
Candidate Starts for ThreeOh3D2\_45:  
(9, 39302), (Start: 27 @39200 has 308 MA's), (39, 39170), (47, 39125),

Gene: Thunderbird\_44 Start: 38906, Stop: 38691, Start Num: 27  
Candidate Starts for Thunderbird\_44:  
(9, 39008), (Start: 27 @38906 has 308 MA's), (39, 38876), (47, 38831),

Gene: TimTam\_34 Start: 29521, Stop: 29285, Start Num: 33  
Candidate Starts for TimTam\_34:  
(Start: 33 @29521 has 37 MA's), (45, 29479), (55, 29416), (61, 29368), (63, 29356),

Gene: Timmi\_44 Start: 38911, Stop: 38696, Start Num: 27  
Candidate Starts for Timmi\_44:  
(Start: 27 @38911 has 308 MA's), (39, 38881), (47, 38836), (54, 38803),

Gene: Tinciduntolum\_45 Start: 39562, Stop: 39356, Start Num: 31  
Candidate Starts for Tinciduntolum\_45:  
(Start: 31 @39562 has 38 MA's), (40, 39535), (42, 39532), (51, 39478), (56, 39445),

Gene: TomBombadil\_45 Start: 39196, Stop: 38981, Start Num: 27  
Candidate Starts for TomBombadil\_45:  
(9, 39298), (Start: 27 @39196 has 308 MA's), (39, 39166), (47, 39121),

Gene: Tomlarah\_45 Start: 39187, Stop: 38972, Start Num: 27  
Candidate Starts for Tomlarah\_45:  
(9, 39289), (Start: 27 @39187 has 308 MA's), (39, 39157), (47, 39112),

Gene: Toni\_44 Start: 38903, Stop: 38688, Start Num: 27

Candidate Starts for Toni\_44:

(Start: 27 @38903 has 308 MA's), (39, 38873), (47, 38828), (54, 38795),

Gene: TooFast2Furius\_46 Start: 39432, Stop: 39217, Start Num: 27

Candidate Starts for TooFast2Furius\_46:

(9, 39534), (Start: 27 @39432 has 308 MA's), (39, 39402), (47, 39357),

Gene: Tooj\_45 Start: 39260, Stop: 39045, Start Num: 27

Candidate Starts for Tooj\_45:

(Start: 27 @39260 has 308 MA's), (39, 39230), (47, 39185),

Gene: TraderJ\_40 Start: 34851, Stop: 34585, Start Num: 24

Candidate Starts for TraderJ\_40:

(10, 34896), (11, 34887), (Start: 24 @34851 has 13 MA's), (39, 34803), (40, 34800), (44, 34791), (52, 34731), (57, 34704),

Gene: Tres\_44 Start: 39437, Stop: 39231, Start Num: 31

Candidate Starts for Tres\_44:

(Start: 31 @39437 has 38 MA's), (40, 39410), (42, 39407), (51, 39353), (56, 39320),

Gene: Triad\_45 Start: 38064, Stop: 37849, Start Num: 27

Candidate Starts for Triad\_45:

(Start: 27 @38064 has 308 MA's), (39, 38034), (47, 37989), (54, 37956),

Gene: True\_44 Start: 38900, Stop: 38685, Start Num: 27

Candidate Starts for True\_44:

(9, 39002), (Start: 27 @38900 has 308 MA's), (39, 38870), (47, 38825),

Gene: Trumpet\_35 Start: 29355, Stop: 29119, Start Num: 33

Candidate Starts for Trumpet\_35:

(Start: 33 @29355 has 37 MA's), (45, 29313), (48, 29292), (55, 29250), (61, 29202), (65, 29130),

Gene: Trypo\_45 Start: 39196, Stop: 38981, Start Num: 27

Candidate Starts for Trypo\_45:

(9, 39298), (Start: 27 @39196 has 308 MA's), (39, 39166), (47, 39121),

Gene: TyrionL\_44 Start: 38759, Stop: 38544, Start Num: 27

Candidate Starts for TyrionL\_44:

(Start: 27 @38759 has 308 MA's), (39, 38729), (47, 38684), (54, 38651),

Gene: UAch1\_45 Start: 39209, Stop: 38994, Start Num: 27

Candidate Starts for UAch1\_45:

(Start: 27 @39209 has 308 MA's), (39, 39179), (47, 39134),

Gene: UncleHowie\_45 Start: 38899, Stop: 38684, Start Num: 27

Candidate Starts for UncleHowie\_45:

(9, 39001), (Start: 27 @38899 has 308 MA's), (39, 38869), (47, 38824), (54, 38791),

Gene: Usavi\_45 Start: 39200, Stop: 38985, Start Num: 27

Candidate Starts for Usavi\_45:

(Start: 27 @39200 has 308 MA's), (39, 39170), (47, 39125),

Gene: Vaishali24\_44 Start: 38861, Stop: 38646, Start Num: 27

Candidate Starts for Vaishali24\_44:

(Start: 27 @38861 has 308 MA's), (39, 38831), (47, 38786), (54, 38753),

Gene: Valjean\_45 Start: 39192, Stop: 38977, Start Num: 27

Candidate Starts for Valjean\_45:

(9, 39294), (Start: 27 @39192 has 308 MA's), (39, 39162), (47, 39117),

Gene: Vasanti\_31 Start: 26204, Stop: 25965, Start Num: 33

Candidate Starts for Vasanti\_31:

(Start: 33 @26204 has 37 MA's), (44, 26183), (45, 26168), (46, 26156), (54, 26120), (66, 25973),

Gene: Vaticameos\_41 Start: 36890, Stop: 36675, Start Num: 27

Candidate Starts for Vaticameos\_41:

(Start: 27 @36890 has 308 MA's), (39, 36860), (47, 36815), (54, 36782),

Gene: Veritas\_44 Start: 38762, Stop: 38547, Start Num: 27

Candidate Starts for Veritas\_44:

(Start: 27 @38762 has 308 MA's), (39, 38732), (47, 38687),

Gene: Vic9\_00043 Start: 39943, Stop: 39737, Start Num: 31

Candidate Starts for Vic9\_00043:

(Start: 31 @39943 has 38 MA's), (40, 39916), (51, 39859), (56, 39826),

Gene: Vincenzo\_41 Start: 39951, Stop: 39745, Start Num: 28

Candidate Starts for Vincenzo\_41:

(Start: 28 @39951 has 28 MA's), (39, 39930), (42, 39924), (45, 39903), (47, 39885), (49, 39876), (51, 39867), (55, 39837), (56, 39834), (57, 39831),

Gene: VioletZ\_41 Start: 39270, Stop: 39064, Start Num: 28

Candidate Starts for VioletZ\_41:

(Start: 28 @39270 has 28 MA's), (39, 39249), (45, 39222), (47, 39204), (51, 39186), (55, 39156), (57, 39150),

Gene: Virapocalypse\_45 Start: 39187, Stop: 38972, Start Num: 27

Candidate Starts for Virapocalypse\_45:

(Start: 27 @39187 has 308 MA's), (39, 39157), (47, 39112),

Gene: Virgeve\_44 Start: 38967, Stop: 38752, Start Num: 27

Candidate Starts for Virgeve\_44:

(9, 39069), (Start: 27 @38967 has 308 MA's), (39, 38937), (47, 38892),

Gene: Vista\_45 Start: 39200, Stop: 38985, Start Num: 27

Candidate Starts for Vista\_45:

(Start: 27 @39200 has 308 MA's), (39, 39170), (47, 39125),

Gene: Vivaldi\_45 Start: 39229, Stop: 39014, Start Num: 27

Candidate Starts for Vivaldi\_45:

(9, 39331), (Start: 27 @39229 has 308 MA's), (39, 39199), (47, 39154),

Gene: Vortex\_45 Start: 38906, Stop: 38691, Start Num: 27

Candidate Starts for Vortex\_45:

(Start: 27 @38906 has 308 MA's), (39, 38876), (47, 38831), (54, 38798),

Gene: Waleliano\_40 Start: 39197, Stop: 38991, Start Num: 28  
Candidate Starts for Waleliano\_40:  
(Start: 28 @39197 has 28 MA's), (39, 39176), (45, 39149), (47, 39131), (51, 39113), (55, 39083), (57, 39077),

Gene: Wallhey\_44 Start: 38763, Stop: 38548, Start Num: 27  
Candidate Starts for Wallhey\_44:  
(Start: 27 @38763 has 308 MA's), (39, 38733), (47, 38688), (54, 38655),

Gene: Waterdiva\_45 Start: 39192, Stop: 38977, Start Num: 27  
Candidate Starts for Waterdiva\_45:  
(Start: 27 @39192 has 308 MA's), (39, 39162), (47, 39117),

Gene: Weher20\_45 Start: 39191, Stop: 38976, Start Num: 27  
Candidate Starts for Weher20\_45:  
(Start: 27 @39191 has 308 MA's), (39, 39161), (47, 39116),

Gene: West99\_44 Start: 39557, Stop: 39351, Start Num: 31  
Candidate Starts for West99\_44:  
(Start: 31 @39557 has 38 MA's), (40, 39530), (42, 39527), (51, 39473), (56, 39440),

Gene: Whitney\_42 Start: 32542, Stop: 32306, Start Num: 33  
Candidate Starts for Whitney\_42:  
(Start: 33 @32542 has 37 MA's), (45, 32500), (48, 32479), (55, 32437), (61, 32389),

Gene: WileyE\_25 Start: 18878, Stop: 18663, Start Num: 36  
Candidate Starts for WileyE\_25:  
(Start: 36 @18878 has 2 MA's),

Gene: Windsor\_44 Start: 38896, Stop: 38681, Start Num: 27  
Candidate Starts for Windsor\_44:  
(9, 38998), (Start: 27 @38896 has 308 MA's), (39, 38866), (47, 38821),

Gene: Wooper\_40 Start: 34857, Stop: 34591, Start Num: 24  
Candidate Starts for Wooper\_40:  
(10, 34902), (11, 34893), (Start: 24 @34857 has 13 MA's), (39, 34809), (40, 34806), (44, 34797), (52, 34737), (57, 34710),

Gene: Xavier\_44 Start: 38913, Stop: 38698, Start Num: 27  
Candidate Starts for Xavier\_44:  
(Start: 27 @38913 has 308 MA's), (39, 38883), (47, 38838), (54, 38805),

Gene: Xincheng\_39 Start: 38653, Stop: 38447, Start Num: 28  
Candidate Starts for Xincheng\_39:  
(Start: 28 @38653 has 28 MA's), (39, 38632), (45, 38605), (47, 38587), (51, 38569), (55, 38539), (57, 38533),

Gene: Yago84\_38 Start: 33684, Stop: 33457, Start Num: 22  
Candidate Starts for Yago84\_38:  
(Start: 22 @33684 has 5 MA's), (53, 33567), (63, 33498),

Gene: Yeshua\_40 Start: 34834, Stop: 34568, Start Num: 24  
Candidate Starts for Yeshua\_40:

(10, 34879), (11, 34870), (Start: 24 @34834 has 13 MA's), (39, 34786), (40, 34783), (44, 34774), (52, 34714), (57, 34687),

Gene: Yoshand\_45 Start: 39199, Stop: 38984, Start Num: 27

Candidate Starts for Yoshand\_45:

(Start: 27 @39199 has 308 MA's), (39, 39169), (47, 39124), (54, 39091),

Gene: YouGoGlencoco\_45 Start: 39194, Stop: 38979, Start Num: 27

Candidate Starts for YouGoGlencoco\_45:

(Start: 27 @39194 has 308 MA's), (39, 39164), (47, 39119),

Gene: Zaider\_46 Start: 39424, Stop: 39209, Start Num: 27

Candidate Starts for Zaider\_46:

(Start: 27 @39424 has 308 MA's), (39, 39394), (47, 39349),

Gene: Zameen\_35 Start: 29354, Stop: 29118, Start Num: 33

Candidate Starts for Zameen\_35:

(Start: 33 @29354 has 37 MA's), (45, 29312), (48, 29291), (55, 29249), (61, 29201), (65, 29129),

Gene: Zelda\_45 Start: 39241, Stop: 39026, Start Num: 27

Candidate Starts for Zelda\_45:

(Start: 27 @39241 has 308 MA's), (39, 39211), (47, 39166),

Gene: Zemanar\_41 Start: 39200, Stop: 38994, Start Num: 28

Candidate Starts for Zemanar\_41:

(Start: 28 @39200 has 28 MA's), (39, 39179), (45, 39152), (47, 39134), (51, 39116), (55, 39086), (57, 39080),

Gene: Zenteno07\_48 Start: 38553, Stop: 38338, Start Num: 31

Candidate Starts for Zenteno07\_48:

(Start: 31 @38553 has 38 MA's), (39, 38529), (49, 38475), (64, 38379),

Gene: Zonia\_45 Start: 39213, Stop: 38998, Start Num: 27

Candidate Starts for Zonia\_45:

(Start: 27 @39213 has 308 MA's), (39, 39183), (47, 39138), (54, 39105),