

# Pham 290761



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 290761 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290761 has 316 members, 33 are drafts.

Phages represented in each track:

- Track 1 : Leopard\_100, Aikoy\_102
- Track 2 : Onyinye\_101
- Track 3 : Pacifista\_90, Virgeve\_89, Simielle\_90, GeneCoco\_91, Mcshane\_90, CampRoach\_91, Craff\_92, Aonishiki\_91, Phipps\_89, LeeLot\_89, BatteryCK\_89, Serendipity\_90, SDcharge11\_90, Sigman\_90, Chunky\_90, Durga\_93, Riggan\_92, Fringe\_95, Struggle\_91, Lulumae\_86, BlackStallion\_90, RedMaple\_90, Piglet\_0090, BlacksBerry\_91, Thunderbird\_91, Antonia\_90, Labeouficaum\_91, Olak\_90, Phergie\_91, UAch1\_92, Spartan300\_90, Eugenia\_93, Zaider\_92, Olive\_87, BoogieWoogie\_90, Oline\_90, Harvey\_88, Placalicious\_89, Derpp\_90, Wallhey\_92, Hocus\_89, JacAttac\_91, Hartsy\_89, Orfeu\_90, Pinkman\_90, Basato\_90, Lumine\_92, Held\_89, Phunky\_88, Quisquiliae\_93, Jiraiya\_92, Gwennie1\_90, Pherdinand\_92, Dingo\_88, Etaye\_90, TallGrassMM\_90, Doddsville\_88, Morty\_91, Inchworm\_92, Bishoperium\_91, Boehler\_89, FluffyNinja\_92, Mag7\_89, Numberten\_90, PhrodoBaggins\_93, Phleuron\_88, Roliet\_88, Banjo\_87, Hekos\_89, Kikipoo\_93, Chah\_93, Badfish\_91, Chorkpop\_92, Khan1\_91, Hetaeria\_91, HSavage\_89, Inverness\_89, Cannibal\_91, Caspiroi\_90, Kwadwo\_90, Slatt\_91, Adriana\_91, CharlieGBrown\_89, Orwigg\_90, Hertubise\_90, Yoshand\_92, FugateOSU\_91, KlimbOn\_90, TomBombadil\_91, Fozzie\_88, Selr12\_92, Matalotodo\_89, Manad\_90, Waterdiva\_92, Serpentine\_0092, DirtJuice\_90, Soto\_88, Surely\_91, Nicole21\_92, ShiVal\_89, Vista\_90, Childish\_91, Daffy\_90, GreenChile\_90, Altwerkus\_88, Fang\_92, Roscoe\_90, RedRaider89\_93, Burr\_91, Kwksand96\_92, Beaglebox\_87, KLucky39\_89, LuckyMarjie\_88, Vivaldi\_91, Plmatters\_88, Chute\_91, Bluephacebaby\_90, HogWash\_91, Legolas\_92, Cornbread\_89, Frankicide\_89, Dione\_89, Colbert\_89, OSmaximus\_92, Larson\_93, MitKao\_91, EmpTee\_90, LemonSlice\_91, Haimas\_88, Phareon\_88, Horchata\_86, Oosterbaan\_91, Cobra\_91, Jillium\_92, Sheila\_85, AltPhacts\_88, Cher\_91, Grand2040\_89, Pipsqueak\_88, Plata\_89, Tooj\_88, DonSancho\_86, Squid\_90, Samaymay\_91, CamL\_91, Buckeye\_90, Gwilliam\_91, Chuni\_92, Scoot17C\_91, MiniBoss\_87, Morgushi\_88, MRabcd\_91, ShadowBud\_92, Nacho\_0093, Haleema\_90, Anderson\_92, Chipette\_89, Scrick\_90, ABU\_89, MelsMeow\_90, Kloppinator\_91, Jiminy\_91, DaddyDaniels\_94, Kimbrough\_92, HighStump\_92, OneBrain\_93, Melc17\_88, SirBeauregard\_92, LostAndPhound\_90, Virapocalypse\_92, Ashraf\_92, Sophia\_89, Mulan\_90, BlueHusk\_92, Usavi\_91, Coletti\_94, Crownjwl\_88, Magic8\_90, Swiphy\_93, Eremos\_89, Mikota\_86, Chaelin\_92, Daka\_93, DoesntMatter\_88, Vaticameos\_88, QueenBeane\_91, Zelda\_91, Mosaic\_88, OliverWalter\_90, Roy17\_88, True\_89, Freya\_87, Dice\_90, UncleHowie\_87, Soile\_92, Apizium\_89, Karn\_91, DuchessDung\_88, Mesh1\_92, Lasso\_90, PG1\_89, Vortex\_89,

LasagnaCat\_92, DelRivs\_89, Kahve\_91, Longacauda\_92, Duggie\_91, Mecca\_91, Prickles\_92, Mana\_88, Mutante\_92, PinheadLarry\_90, Triad\_91, FremontTroll\_89, Lego3393\_89, KingTut\_82, Nathan\_91, Maru\_91, Keitherie\_94, Megamind20\_91, Iridoclysis\_90, Gyarad\_0090, Megatron\_92, Orion\_89, Jesabah\_93, Skippy\_91, PhenghisKhan\_91, Tomlarah\_91, AbsoluteMadLad\_89, Dati\_88, PhatLouie\_93, LeiMonet\_93, Xavier\_90, ImtiyazSitla\_92, TooFast2Furius\_92, Solosis\_89, ProfessorX\_89, Emiris\_93, Andre\_93, Podrick\_89, Charles1\_92, MichaelPhcott\_89, Potter\_85, Veritas\_90, KingVeVeVe\_89, Maskar\_92, Iridessa\_92, Trypo\_91, CheetO\_88, Brilliant\_94, Nyala\_90, Valjean\_89, PhatCats2014\_90, Murdoc\_87, Ricotta\_91, Toni\_90, Timmi\_89, PhrankReynolds\_89, Puhltonio\_87, DoLOn\_95, Newman\_87, ElvisPhasley\_92, FriarPreacher\_88, JDog\_90, IsaacEli\_93, Pops\_88, Lehmann\_92, Swish\_92, TyrionL\_91, Omniscient\_92, Giraffe\_91, Lulwa\_88, HenryJackson\_91, Zonia\_91, Aleia\_90, SilverBell\_92, Squiggle\_90, Kailash\_89, JakeO\_92, Weher20\_88, Happabalu\_89, Gareth\_91, Thora\_89, ThreeOh3D2\_92, AngelCake\_90, Windsor\_91, YouGoGlencoco\_91, Mesmerelda\_90, Gophee\_90, Katniss\_93, Hamish\_88, Phamished\_90, Schueller\_89, SassyCat97\_89, JangoPhett\_89, Telesworld\_89

- Track 4 : Carthage\_92, Robyn\_93, Vaishali24\_92
- Track 5 : FleetyMac\_93
- Track 6 : Flake\_93, Riverton\_90, PallasAthena\_92
- Track 7 : MrPhizzler\_94, Rimu\_89
- Track 8 : SallyH\_94
- Track 9 : Cosmolli16\_93
- Track 10 : LittleMinkey\_98
- Track 11 : Zenteno07\_95
- Track 12 : Hashim76\_92
- Track 13 : BirdsNest\_95
- Track 14 : KayaCho\_82
- Track 15 : Funsized\_83

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

The start number called the most often in the published annotations is 4, it was called in 277 of the 283 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_89, AbsoluteMadLad\_89, Adriana\_91, Aikoy\_102, Aleia\_90, AltPhacts\_88, Altwerkus\_88, Anderson\_92, Andre\_93, AngelCake\_90, Antonia\_90, Aonishiki\_91, Apizium\_89, Ashraf\_92, Badfish\_91, Banjo\_87, Basato\_90, BatteryCK\_89, Beaglebox\_87, Bishoperium\_91, BlackStallion\_90, BlacksBerry\_91, BlueHusk\_92, Bluephacebaby\_90, Boehler\_89, BoogieWoogie\_90, Brilliant\_94, Buckeye\_90, Burr\_91, CamL\_91, CampRoach\_91, Cannibal\_91, Carthage\_92, CaspiBoi\_90, Chaelin\_92, Chah\_93, Charles1\_92, CharlieGBrown\_89, CheetO\_88, Cher\_91, Childish\_91, Chipette\_89, Chorkpop\_92, Chuni\_92, Chunky\_90, Chute\_91, Cobra\_91, Colbert\_89, Coletti\_94, Cornbread\_89, Cosmolli16\_93, Craff\_92, Crownjwl\_88, DaddyDaniels\_94, Daffy\_90, Daka\_93, Dati\_88, DelRivs\_89, Derpp\_90, Dice\_90, Dingo\_88, Dione\_89, DirtJuice\_90, Doddsville\_88, DoesntMatter\_88, DoLOn\_95, DonSancho\_86, DuchessDung\_88, Duggie\_91, Durga\_93, ElvisPhasley\_92, Emiris\_93, EmpTee\_90, Eremos\_89, Etaye\_90, Eugenia\_93, Fang\_92, FleetyMac\_93, FluffyNinja\_92, Fozzie\_88, Frankicide\_89,

FremontTroll\_89, Freya\_87, FriarPreacher\_88, Fringe\_95, FugateOSU\_91, Gareth\_91, GeneCoco\_91, Giraffe\_91, Gophee\_90, Grand2040\_89, GreenChile\_90, Gwennie1\_90, Gwilliam\_91, Gyarad\_0090, HSavage\_89, Haimas\_88, Haleema\_90, Hamish\_88, Happabalu\_89, Hartsy\_89, Harvey\_88, Hekos\_89, Held\_89, HenryJackson\_91, Hertubise\_90, Hetaeria\_91, HighStump\_92, Hocus\_89, HogWash\_91, Horchata\_86, ImtiyazSitla\_92, Inchworm\_92, Inverness\_89, Iridessa\_92, Iridoclysis\_90, IsaacEli\_93, JDog\_90, JacAttac\_91, JakeO\_92, JangoPhett\_89, Jesabah\_93, Jillium\_92, Jiminy\_91, Jiraiya\_92, KLucky39\_89, Kahve\_91, Kailash\_89, Karn\_91, Katniss\_93, Keitherie\_94, Khan1\_91, Kikipoo\_93, Kimbrough\_92, KingTut\_82, KingVeVeVe\_89, KlimbOn\_90, Kloppinator\_91, Kwadwo\_90, Kwksand96\_92, Labeouficaum\_91, Larson\_93, LasagnaCat\_92, Lasso\_90, LeeLot\_89, Lego3393\_89, Legolas\_92, Lehmann\_92, LeiMonet\_93, LemonSlice\_91, Leopard\_100, Longacauda\_92, LostAndPhound\_90, LuckyMarjie\_88, Lulumae\_86, Lulwa\_88, Lumine\_92, MRabcd\_91, Mag7\_89, Magic8\_90, Mana\_88, Manad\_90, Maru\_91, Maskar\_92, Matalotodo\_89, Mcshane\_90, Mecca\_91, Megamind20\_91, Megatron\_92, Melc17\_88, MelsMeow\_90, Mesh1\_92, Mesmerelda\_90, MichaelPhcott\_89, Mikota\_86, MiniBoss\_87, MitKao\_91, Morgushi\_88, Morty\_91, Mosaic\_88, MrPhizzler\_94, Mulan\_90, Murdoc\_87, Mutante\_92, Nacho\_0093, Nathan\_91, Newman\_87, Nicole21\_92, Numberten\_90, Nyala\_90, OSmaximus\_92, Olak\_90, Oline\_90, Olive\_87, OliverWalter\_90, Omniscient\_92, OneBrain\_93, Oosterbaan\_91, Orfeu\_90, Orion\_89, Orwigg\_90, PG1\_89, Pacifista\_90, Phamished\_90, Phareon\_88, PhatCats2014\_90, PhatLouie\_93, PhenghisKhan\_91, Pherdinand\_92, Phergie\_91, Phipps\_89, Phleuron\_88, PhrankReynolds\_89, PhrodoBaggins\_93, Phunky\_88, Piglet\_0090, PinheadLarry\_90, Pinkman\_90, Pipsqueak\_88, Placalicious\_89, Plata\_89, Plmatters\_88, Podrick\_89, Pops\_88, Potter\_85, Prickles\_92, ProfessorX\_89, Puhltonio\_87, QueenBeane\_91, Quisquilliae\_93, RedMaple\_90, RedRaider89\_93, Ricotta\_91, Riggan\_92, Rimu\_89, Robyn\_93, Roliet\_88, Roscoe\_90, Roy17\_88, SDcharge11\_90, Samaymay\_91, SassyCat97\_89, Schueller\_89, Scoot17C\_91, Scrick\_90, Selr12\_92, Serendipity\_90, Serpentine\_0092, ShadowBud\_92, Sheila\_85, ShiVal\_89, Sigman\_90, SilverBell\_92, Simielle\_90, SirBeauregard\_92, Skippy\_91, Slatt\_91, Soile\_92, Solosis\_89, Sophia\_89, Soto\_88, Spartan300\_90, Squid\_90, Squiggle\_90, Struggle\_91, Surely\_91, Swiphy\_93, Swish\_92, TallGrassMM\_90, Telesworld\_89, Thora\_89, ThreeOh3D2\_92, Thunderbird\_91, Timmi\_89, TomBombadil\_91, Tomlarah\_91, Toni\_90, TooFast2Furius\_92, Tooj\_88, Triad\_91, True\_89, Trypo\_91, TyrionL\_91, UAch1\_92, UncleHowie\_87, Usavi\_91, Vaishali24\_92, Valjean\_89, Vaticameos\_88, Veritas\_90, Virapocalypse\_92, Virgeve\_89, Vista\_90, Vivaldi\_91, Vortex\_89, Wallhey\_92, Waterdiva\_92, Weher20\_88, Windsor\_91, Xavier\_90, Yoshand\_92, YouGoGlencoco\_91, Zaider\_92, Zelda\_91, Zonia\_91,

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

- Flake\_93, Onyinye\_101, PallasAthena\_92, Riverton\_90, SallyH\_94,

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

- BirdsNest\_95, Funsized\_83, Hashim76\_92, KayaCho\_82, LittleMinkey\_98, Zenteno07\_95,

### Summary by start number:

Start 2:

- Found in 3 of 316 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 283

- Called 33.3% of time when present
- Phage (with cluster) where this start called: Onyinye\_101 (AE),

#### Start 4:

- Found in 310 of 316 ( 98.1% ) of genes in pham
- Manual Annotations of this start: 277 of 283
- Called 98.4% of time when present
- Phage (with cluster) where this start called: ABU\_89 (B1), AbsoluteMadLad\_89 (B1), Adriana\_91 (B1), Aikoy\_102 (AE), Aleia\_90 (B1), AltPhacts\_88 (B1), Altwerkus\_88 (B1), Anderson\_92 (B1), Andre\_93 (B1), AngelCake\_90 (B1), Antonia\_90 (B1), Aonishiki\_91 (B1), Apizium\_89 (B1), Ashraf\_92 (B1), Badfish\_91 (B1), Banjo\_87 (B1), Basato\_90 (B1), BatteryCK\_89 (B1), Beaglebox\_87 (B1), Bishoperium\_91 (B1), BlackStallion\_90 (B1), BlacksBerry\_91 (B1), BlueHusk\_92 (B1), Bluephacebaby\_90 (B1), Boehler\_89 (B1), BoogieWoogie\_90 (B1), Brilliant\_94 (B1), Buckeye\_90 (B1), Burr\_91 (B1), CamL\_91 (B1), CampRoach\_91 (B1), Cannibal\_91 (B1), Carthage\_92 (B1), Caspiboi\_90 (B1), Chaelin\_92 (B1), Chah\_93 (B1), Charles1\_92 (B1), CharlieGBrown\_89 (B1), CheetO\_88 (B1), Cher\_91 (B1), Childish\_91 (B1), Chipette\_89 (B1), Chorkpop\_92 (B1), Chuni\_92 (B1), Chunky\_90 (B1), Chute\_91 (B1), Cobra\_91 (B1), Colbert\_89 (B1), Coletti\_94 (B1), Cornbread\_89 (B1), Cosmolli16\_93 (B1), Craff\_92 (B1), Crownjwl\_88 (B1), DaddyDaniels\_94 (B1), Daffy\_90 (B1), Daka\_93 (B1), Dati\_88 (B1), DelRivs\_89 (B1), Derpp\_90 (B1), Dice\_90 (B1), Dingo\_88 (B1), Dione\_89 (B1), DirtJuice\_90 (B1), Doddsville\_88 (B1), DoesntMatter\_88 (B1), DolOn\_95 (B1), DonSanchon\_86 (B1), DuchessDung\_88 (B1), Duggie\_91 (B1), Durga\_93 (B1), ElvisPhasley\_92 (B1), Emiris\_93 (B1), EmpTee\_90 (B1), Eremos\_89 (B1), Etaye\_90 (B1), Eugenia\_93 (B1), Fang\_92 (B1), FleetyMac\_93 (B1), FluffyNinja\_92 (B1), Fozzie\_88 (B1), Frankicide\_89 (B1), FremontTroll\_89 (B1), Freya\_87 (B1), FriarPreacher\_88 (B1), Fringe\_95 (B1), FugateOSU\_91 (B1), Gareth\_91 (B1), GeneCoco\_91 (B1), Giraffe\_91 (B1), Gophee\_90 (B1), Grand2040\_89 (B1), GreenChile\_90 (B1), Gwennie1\_90 (B1), Gwilliam\_91 (B1), Gyarad\_0090 (B1), HSavage\_89 (B1), Haimas\_88 (B1), Haleema\_90 (B1), Hamish\_88 (B1), Happabalu\_89 (B1), Hartsy\_89 (B1), Harvey\_88 (B1), Hekos\_89 (B1), Held\_89 (B1), HenryJackson\_91 (B1), Hertubise\_90 (B1), Hetaeria\_91 (B1), HighStump\_92 (B1), Hocus\_89 (B1), HogWash\_91 (B1), Horchata\_86 (B1), ImtiyazSitla\_92 (B1), Inchworm\_92 (B1), Inverness\_89 (B1), Iridessa\_92 (B1), Iridoclysis\_90 (B1), IsaacEli\_93 (B1), JDog\_90 (B1), JacAttac\_91 (B1), JakeO\_92 (B1), JangoPhett\_89 (B1), Jesabah\_93 (B1), Jillium\_92 (B1), Jiminy\_91 (B1), Jiraiya\_92 (B1), KLUcky39\_89 (B1), Kahve\_91 (B1), Kailash\_89 (B1), Karn\_91 (B1), Katniss\_93 (B1), Keitherie\_94 (B1), Khan1\_91 (B1), Kikipoo\_93 (B1), Kimbrough\_92 (B1), KingTut\_82 (B1), KingVeVeVe\_89 (B1), KlimbOn\_90 (B1), Kloppinator\_91 (B1), Kwadwo\_90 (B1), Kwksand96\_92 (B1), Labeouficaum\_91 (B1), Larson\_93 (B1), LasagnaCat\_92 (B1), Lasso\_90 (B1), LeeLot\_89 (B1), Lego3393\_89 (B1), Legolas\_92 (B1), Lehmann\_92 (B1), LeiMonet\_93 (B1), LemonSlice\_91 (B1), Leopard\_100 (AE), Longacauda\_92 (B1), LostAndPhound\_90 (B1), LuckyMarjie\_88 (B1), Lulumae\_86 (B1), Lulwa\_88 (B1), Lumine\_92 (B1), MRabcd\_91 (B1), Mag7\_89 (B1), Magic8\_90 (B1), Mana\_88 (B1), Manad\_90 (B1), Maru\_91 (B1), Maskar\_92 (B1), Matalotodo\_89 (B1), Mcshane\_90 (B1), Mecca\_91 (B1), Megamind20\_91 (B1), Megatron\_92 (B1), Melc17\_88 (B1), MelsMeow\_90 (B1), Mesh1\_92 (B1), Mesmerelda\_90 (B1), MichaelPhcott\_89 (B1), Mikota\_86 (B1), MiniBoss\_87 (B1), MitKao\_91 (B1), Morgushi\_88 (B1), Morty\_91 (B1), Mosaic\_88 (B1), MrPhizzler\_94 (B1), Mulan\_90 (B1), Murdoc\_87 (B1), Mutante\_92 (B1), Nacho\_0093 (B1), Nathan\_91 (B1), Newman\_87 (B1), Nicole21\_92 (B1), Numberten\_90 (B1), Nyala\_90 (B1), OSmaximus\_92 (B1), Olak\_90 (B1), Oline\_90 (B1), Olive\_87 (B1), OliverWalter\_90 (B1), Omniscient\_92 (B1), OneBrain\_93 (B1), Oosterbaan\_91 (B1),

Orfeu\_90 (B1), Orion\_89 (B1), Orwigg\_90 (B1), PG1\_89 (B1), Pacifista\_90 (B1), Phamished\_90 (B1), Phareon\_88 (B1), PhatCats2014\_90 (B1), PhatLouie\_93 (B1), PhenghisKhan\_91 (B1), Pherdinand\_92 (B1), Phergie\_91 (B1), Phipps\_89 (B1), Phleuron\_88 (B1), PhrankReynolds\_89 (B1), PhrodoBaggins\_93 (B1), Phunky\_88 (B1), Piglet\_0090 (B1), PinheadLarry\_90 (B1), Pinkman\_90 (B1), Pipsqueak\_88 (B1), Placalicious\_89 (B1), Plata\_89 (B1), Plmatters\_88 (B1), Podrick\_89 (B1), Pops\_88 (B1), Potter\_85 (B1), Prickles\_92 (B1), ProfessorX\_89 (B1), Puhltonio\_87 (B1), QueenBeane\_91 (B1), Quisquiliae\_93 (B1), RedMaple\_90 (B1), RedRaider89\_93 (B1), Ricotta\_91 (B1), Riggan\_92 (B1), Rimu\_89 (B1), Robyn\_93 (B1), Roliet\_88 (B1), Roscoe\_90 (B1), Roy17\_88 (B1), SDcharge11\_90 (B1), Samaymay\_91 (B1), SassyCat97\_89 (B1), Schueller\_89 (B1), Scoot17C\_91 (B1), Scrick\_90 (B1), Selr12\_92 (B1), Serendipity\_90 (B1), Serpentine\_0092 (B1), ShadowBud\_92 (B1), Sheila\_85 (B1), ShiVal\_89 (B1), Sigman\_90 (B1), SilverBell\_92 (B1), Simielle\_90 (B1), SirBeauregard\_92 (B1), Skippy\_91 (B1), Slatt\_91 (B1), Soile\_92 (B1), Solosis\_89 (B1), Sophia\_89 (B1), Soto\_88 (B1), Spartan300\_90 (B1), Squid\_90 (B1), Squiggle\_90 (B1), Struggle\_91 (B1), Surely\_91 (B1), Swiphy\_93 (B1), Swish\_92 (B1), TallGrassMM\_90 (B1), Telesworld\_89 (B1), Thora\_89 (B1), ThreeOh3D2\_92 (B1), Thunderbird\_91 (B1), Timmi\_89 (B1), TomBombadil\_91 (B1), Tomlarah\_91 (B1), Toni\_90 (B1), TooFast2Furious\_92 (B1), Tooj\_88 (B1), Triad\_91 (B1), True\_89 (B1), Trypo\_91 (B1), TyrionL\_91 (B1), UAch1\_92 (B1), UncleHowie\_87 (B1), Usavi\_91 (B1), Vaishali24\_92 (B1), Valjean\_89 (B1), Vaticameos\_88 (B1), Veritas\_90 (B1), Virapocalypse\_92 (B1), Virgeve\_89 (B1), Vista\_90 (B1), Vivaldi\_91 (B1), Vortex\_89 (B1), Wallhey\_92 (B1), Waterdiva\_92 (B1), Weher20\_88 (B1), Windsor\_91 (B1), Xavier\_90 (B1), Yoshand\_92 (B1), YouGoGlencoco\_91 (B1), Zaider\_92 (B1), Zelda\_91 (B1), Zonia\_91 (B1),

#### Start 5:

- Found in 310 of 316 ( 98.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.3% of time when present
- Phage (with cluster) where this start called: Flake\_93 (B1), PallasAthena\_92 (B1), Riverton\_90 (B1), SallyH\_94 (B1),

#### Start 6:

- Found in 6 of 316 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 5 of 283
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdsNest\_95 (B13), Funsized\_83 (B9), Hashim76\_92 (B13), KayaCho\_82 (B6), LittleMinkey\_98 (B13), Zenteno07\_95 (B13),

### Summary by clusters:

There are 5 clusters represented in this pham: B6, B9, AE, B13, B1,

Info for manual annotations of cluster AE:

- Start number 2 was manually annotated 1 time for cluster AE.
- Start number 4 was manually annotated 2 times for cluster AE.

Info for manual annotations of cluster B1:

- Start number 4 was manually annotated 275 times for cluster B1.

Info for manual annotations of cluster B13:

- Start number 6 was manually annotated 3 times for cluster B13.

Info for manual annotations of cluster B6:

- Start number 6 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B9:

- Start number 6 was manually annotated 1 time for cluster B9.

### **Gene Information:**

Gene: ABU\_89 Start: 64749, Stop: 64528, Start Num: 4

Candidate Starts for ABU\_89:

(Start: 4 @64749 has 277 MA's), (5, 64740), (7, 64716), (9, 64683), (10, 64674),

Gene: AbsoluteMadLad\_89 Start: 64702, Stop: 64481, Start Num: 4

Candidate Starts for AbsoluteMadLad\_89:

(Start: 4 @64702 has 277 MA's), (5, 64693), (7, 64669), (9, 64636), (10, 64627),

Gene: Adriana\_91 Start: 65264, Stop: 65043, Start Num: 4

Candidate Starts for Adriana\_91:

(Start: 4 @65264 has 277 MA's), (5, 65255), (7, 65231), (9, 65198), (10, 65189),

Gene: Aikoy\_102 Start: 66205, Stop: 66456, Start Num: 4

Candidate Starts for Aikoy\_102:

(Start: 2 @66157 has 1 MA's), (Start: 4 @66205 has 277 MA's), (5, 66214), (9, 66271), (11, 66283), (14, 66301), (15, 66313),

Gene: Aleia\_90 Start: 64392, Stop: 64171, Start Num: 4

Candidate Starts for Aleia\_90:

(Start: 4 @64392 has 277 MA's), (5, 64383), (7, 64359), (9, 64326), (10, 64317),

Gene: AltPhacts\_88 Start: 63968, Stop: 63747, Start Num: 4

Candidate Starts for AltPhacts\_88:

(Start: 4 @63968 has 277 MA's), (5, 63959), (7, 63935), (9, 63902), (10, 63893),

Gene: Altwerkus\_88 Start: 64078, Stop: 63857, Start Num: 4

Candidate Starts for Altwerkus\_88:

(Start: 4 @64078 has 277 MA's), (5, 64069), (7, 64045), (9, 64012), (10, 64003),

Gene: Anderson\_92 Start: 64625, Stop: 64404, Start Num: 4

Candidate Starts for Anderson\_92:

(Start: 4 @64625 has 277 MA's), (5, 64616), (7, 64592), (9, 64559), (10, 64550),

Gene: Andre\_93 Start: 64647, Stop: 64426, Start Num: 4

Candidate Starts for Andre\_93:

(Start: 4 @64647 has 277 MA's), (5, 64638), (7, 64614), (9, 64581), (10, 64572),

Gene: AngelCake\_90 Start: 64374, Stop: 64153, Start Num: 4

Candidate Starts for AngelCake\_90:

(Start: 4 @64374 has 277 MA's), (5, 64365), (7, 64341), (9, 64308), (10, 64299),

Gene: Antonia\_90 Start: 64251, Stop: 64030, Start Num: 4

Candidate Starts for Antonia\_90:

(Start: 4 @64251 has 277 MA's), (5, 64242), (7, 64218), (9, 64185), (10, 64176),

Gene: Aonishiki\_91 Start: 64560, Stop: 64339, Start Num: 4

Candidate Starts for Aonishiki\_91:

(Start: 4 @64560 has 277 MA's), (5, 64551), (7, 64527), (9, 64494), (10, 64485),

Gene: Apizium\_89 Start: 63906, Stop: 63685, Start Num: 4

Candidate Starts for Apizium\_89:

(Start: 4 @63906 has 277 MA's), (5, 63897), (7, 63873), (9, 63840), (10, 63831),

Gene: Ashraf\_92 Start: 64738, Stop: 64517, Start Num: 4

Candidate Starts for Ashraf\_92:

(Start: 4 @64738 has 277 MA's), (5, 64729), (7, 64705), (9, 64672), (10, 64663),

Gene: Badfish\_91 Start: 64929, Stop: 64708, Start Num: 4

Candidate Starts for Badfish\_91:

(Start: 4 @64929 has 277 MA's), (5, 64920), (7, 64896), (9, 64863), (10, 64854),

Gene: Banjo\_87 Start: 64195, Stop: 63974, Start Num: 4

Candidate Starts for Banjo\_87:

(Start: 4 @64195 has 277 MA's), (5, 64186), (7, 64162), (9, 64129), (10, 64120),

Gene: Basato\_90 Start: 64660, Stop: 64439, Start Num: 4

Candidate Starts for Basato\_90:

(Start: 4 @64660 has 277 MA's), (5, 64651), (7, 64627), (9, 64594), (10, 64585),

Gene: BatteryCK\_89 Start: 64186, Stop: 63965, Start Num: 4

Candidate Starts for BatteryCK\_89:

(Start: 4 @64186 has 277 MA's), (5, 64177), (7, 64153), (9, 64120), (10, 64111),

Gene: Beaglebox\_87 Start: 64317, Stop: 64096, Start Num: 4

Candidate Starts for Beaglebox\_87:

(Start: 4 @64317 has 277 MA's), (5, 64308), (7, 64284), (9, 64251), (10, 64242),

Gene: BirdsNest\_95 Start: 67179, Stop: 66952, Start Num: 6

Candidate Starts for BirdsNest\_95:

(Start: 6 @67179 has 5 MA's), (9, 67134), (14, 67104), (21, 66978), (22, 66969),

Gene: Bishoperium\_91 Start: 64764, Stop: 64543, Start Num: 4

Candidate Starts for Bishoperium\_91:

(Start: 4 @64764 has 277 MA's), (5, 64755), (7, 64731), (9, 64698), (10, 64689),

Gene: BlackStallion\_90 Start: 64614, Stop: 64393, Start Num: 4

Candidate Starts for BlackStallion\_90:

(Start: 4 @64614 has 277 MA's), (5, 64605), (7, 64581), (9, 64548), (10, 64539),

Gene: BlacksBerry\_91 Start: 64139, Stop: 63918, Start Num: 4

Candidate Starts for BlacksBerry\_91:

(Start: 4 @64139 has 277 MA's), (5, 64130), (7, 64106), (9, 64073), (10, 64064),

Gene: BlueHusk\_92 Start: 64438, Stop: 64217, Start Num: 4

Candidate Starts for BlueHusk\_92:

(Start: 4 @64438 has 277 MA's), (5, 64429), (7, 64405), (9, 64372), (10, 64363),

Gene: Bluephacebaby\_90 Start: 64798, Stop: 64577, Start Num: 4

Candidate Starts for Bluephacebaby\_90:

(Start: 4 @64798 has 277 MA's), (5, 64789), (7, 64765), (9, 64732), (10, 64723),

Gene: Boehler\_89 Start: 64589, Stop: 64368, Start Num: 4

Candidate Starts for Boehler\_89:

(Start: 4 @64589 has 277 MA's), (5, 64580), (7, 64556), (9, 64523), (10, 64514),

Gene: BoogieWoogie\_90 Start: 64210, Stop: 63989, Start Num: 4

Candidate Starts for BoogieWoogie\_90:

(Start: 4 @64210 has 277 MA's), (5, 64201), (7, 64177), (9, 64144), (10, 64135),

Gene: Brilliant\_94 Start: 64778, Stop: 64557, Start Num: 4

Candidate Starts for Brilliant\_94:

(Start: 4 @64778 has 277 MA's), (5, 64769), (7, 64745), (9, 64712), (10, 64703),

Gene: Buckeye\_90 Start: 65316, Stop: 65095, Start Num: 4

Candidate Starts for Buckeye\_90:

(Start: 4 @65316 has 277 MA's), (5, 65307), (7, 65283), (9, 65250), (10, 65241),

Gene: Burr\_91 Start: 64250, Stop: 64029, Start Num: 4

Candidate Starts for Burr\_91:

(Start: 4 @64250 has 277 MA's), (5, 64241), (7, 64217), (9, 64184), (10, 64175),

Gene: CamL\_91 Start: 64549, Stop: 64328, Start Num: 4

Candidate Starts for CamL\_91:

(Start: 4 @64549 has 277 MA's), (5, 64540), (7, 64516), (9, 64483), (10, 64474),

Gene: CampRoach\_91 Start: 64646, Stop: 64425, Start Num: 4

Candidate Starts for CampRoach\_91:

(Start: 4 @64646 has 277 MA's), (5, 64637), (7, 64613), (9, 64580), (10, 64571),

Gene: Cannibal\_91 Start: 64652, Stop: 64431, Start Num: 4

Candidate Starts for Cannibal\_91:

(Start: 4 @64652 has 277 MA's), (5, 64643), (7, 64619), (9, 64586), (10, 64577),

Gene: Carthage\_92 Start: 64329, Stop: 64087, Start Num: 4

Candidate Starts for Carthage\_92:

(Start: 4 @64329 has 277 MA's), (5, 64320), (7, 64296), (9, 64263), (10, 64254), (16, 64182),

Gene: Caspiboi\_90 Start: 64485, Stop: 64264, Start Num: 4

Candidate Starts for Caspiboi\_90:

(Start: 4 @64485 has 277 MA's), (5, 64476), (7, 64452), (9, 64419), (10, 64410),

Gene: Chaelin\_92 Start: 64780, Stop: 64559, Start Num: 4

Candidate Starts for Chaelin\_92:

(Start: 4 @64780 has 277 MA's), (5, 64771), (7, 64747), (9, 64714), (10, 64705),

Gene: Chah\_93 Start: 64349, Stop: 64128, Start Num: 4

Candidate Starts for Chah\_93:

(Start: 4 @64349 has 277 MA's), (5, 64340), (7, 64316), (9, 64283), (10, 64274),

Gene: Charles1\_92 Start: 64558, Stop: 64337, Start Num: 4  
Candidate Starts for Charles1\_92:  
(Start: 4 @64558 has 277 MA's), (5, 64549), (7, 64525), (9, 64492), (10, 64483),

Gene: CharlieGBrown\_89 Start: 64281, Stop: 64060, Start Num: 4  
Candidate Starts for CharlieGBrown\_89:  
(Start: 4 @64281 has 277 MA's), (5, 64272), (7, 64248), (9, 64215), (10, 64206),

Gene: CheetO\_88 Start: 64655, Stop: 64434, Start Num: 4  
Candidate Starts for CheetO\_88:  
(Start: 4 @64655 has 277 MA's), (5, 64646), (7, 64622), (9, 64589), (10, 64580),

Gene: Cher\_91 Start: 64753, Stop: 64532, Start Num: 4  
Candidate Starts for Cher\_91:  
(Start: 4 @64753 has 277 MA's), (5, 64744), (7, 64720), (9, 64687), (10, 64678),

Gene: Childish\_91 Start: 64943, Stop: 64722, Start Num: 4  
Candidate Starts for Childish\_91:  
(Start: 4 @64943 has 277 MA's), (5, 64934), (7, 64910), (9, 64877), (10, 64868),

Gene: Chipette\_89 Start: 64480, Stop: 64259, Start Num: 4  
Candidate Starts for Chipette\_89:  
(Start: 4 @64480 has 277 MA's), (5, 64471), (7, 64447), (9, 64414), (10, 64405),

Gene: Chorkpop\_92 Start: 64406, Stop: 64185, Start Num: 4  
Candidate Starts for Chorkpop\_92:  
(Start: 4 @64406 has 277 MA's), (5, 64397), (7, 64373), (9, 64340), (10, 64331),

Gene: Chuni\_92 Start: 64991, Stop: 64770, Start Num: 4  
Candidate Starts for Chuni\_92:  
(Start: 4 @64991 has 277 MA's), (5, 64982), (7, 64958), (9, 64925), (10, 64916),

Gene: Chunky\_90 Start: 64251, Stop: 64030, Start Num: 4  
Candidate Starts for Chunky\_90:  
(Start: 4 @64251 has 277 MA's), (5, 64242), (7, 64218), (9, 64185), (10, 64176),

Gene: Chute\_91 Start: 64944, Stop: 64723, Start Num: 4  
Candidate Starts for Chute\_91:  
(Start: 4 @64944 has 277 MA's), (5, 64935), (7, 64911), (9, 64878), (10, 64869),

Gene: Cobra\_91 Start: 64775, Stop: 64554, Start Num: 4  
Candidate Starts for Cobra\_91:  
(Start: 4 @64775 has 277 MA's), (5, 64766), (7, 64742), (9, 64709), (10, 64700),

Gene: Colbert\_89 Start: 63673, Stop: 63452, Start Num: 4  
Candidate Starts for Colbert\_89:  
(Start: 4 @63673 has 277 MA's), (5, 63664), (7, 63640), (9, 63607), (10, 63598),

Gene: Coletti\_94 Start: 65300, Stop: 65079, Start Num: 4  
Candidate Starts for Coletti\_94:  
(Start: 4 @65300 has 277 MA's), (5, 65291), (7, 65267), (9, 65234), (10, 65225),

Gene: Cornbread\_89 Start: 64433, Stop: 64212, Start Num: 4  
Candidate Starts for Cornbread\_89:  
(Start: 4 @64433 has 277 MA's), (5, 64424), (7, 64400), (9, 64367), (10, 64358),

Gene: Cosmolli16\_93 Start: 65121, Stop: 64900, Start Num: 4  
Candidate Starts for Cosmolli16\_93:  
(Start: 4 @65121 has 277 MA's), (5, 65112), (7, 65088), (9, 65055), (10, 65046),

Gene: Craff\_92 Start: 65164, Stop: 64943, Start Num: 4  
Candidate Starts for Craff\_92:  
(Start: 4 @65164 has 277 MA's), (5, 65155), (7, 65131), (9, 65098), (10, 65089),

Gene: Crownjwl\_88 Start: 64430, Stop: 64209, Start Num: 4  
Candidate Starts for Crownjwl\_88:  
(Start: 4 @64430 has 277 MA's), (5, 64421), (7, 64397), (9, 64364), (10, 64355),

Gene: DaddyDaniels\_94 Start: 64897, Stop: 64676, Start Num: 4  
Candidate Starts for DaddyDaniels\_94:  
(Start: 4 @64897 has 277 MA's), (5, 64888), (7, 64864), (9, 64831), (10, 64822),

Gene: Daffy\_90 Start: 64391, Stop: 64170, Start Num: 4  
Candidate Starts for Daffy\_90:  
(Start: 4 @64391 has 277 MA's), (5, 64382), (7, 64358), (9, 64325), (10, 64316),

Gene: Daka\_93 Start: 64596, Stop: 64375, Start Num: 4  
Candidate Starts for Daka\_93:  
(Start: 4 @64596 has 277 MA's), (5, 64587), (7, 64563), (9, 64530), (10, 64521),

Gene: Dati\_88 Start: 64575, Stop: 64354, Start Num: 4  
Candidate Starts for Dati\_88:  
(Start: 4 @64575 has 277 MA's), (5, 64566), (7, 64542), (9, 64509), (10, 64500),

Gene: DelRivs\_89 Start: 64204, Stop: 63983, Start Num: 4  
Candidate Starts for DelRivs\_89:  
(Start: 4 @64204 has 277 MA's), (5, 64195), (7, 64171), (9, 64138), (10, 64129),

Gene: Derpp\_90 Start: 64314, Stop: 64093, Start Num: 4  
Candidate Starts for Derpp\_90:  
(Start: 4 @64314 has 277 MA's), (5, 64305), (7, 64281), (9, 64248), (10, 64239),

Gene: Dice\_90 Start: 64236, Stop: 64015, Start Num: 4  
Candidate Starts for Dice\_90:  
(Start: 4 @64236 has 277 MA's), (5, 64227), (7, 64203), (9, 64170), (10, 64161),

Gene: Dingo\_88 Start: 63957, Stop: 63736, Start Num: 4  
Candidate Starts for Dingo\_88:  
(Start: 4 @63957 has 277 MA's), (5, 63948), (7, 63924), (9, 63891), (10, 63882),

Gene: Dione\_89 Start: 63956, Stop: 63735, Start Num: 4  
Candidate Starts for Dione\_89:  
(Start: 4 @63956 has 277 MA's), (5, 63947), (7, 63923), (9, 63890), (10, 63881),

Gene: DirtJuice\_90 Start: 64696, Stop: 64475, Start Num: 4

Candidate Starts for DirtJuice\_90:

(Start: 4 @64696 has 277 MA's), (5, 64687), (7, 64663), (9, 64630), (10, 64621),

Gene: Doddsville\_88 Start: 64396, Stop: 64175, Start Num: 4

Candidate Starts for Doddsville\_88:

(Start: 4 @64396 has 277 MA's), (5, 64387), (7, 64363), (9, 64330), (10, 64321),

Gene: DoesntMatter\_88 Start: 64232, Stop: 64011, Start Num: 4

Candidate Starts for DoesntMatter\_88:

(Start: 4 @64232 has 277 MA's), (5, 64223), (7, 64199), (9, 64166), (10, 64157),

Gene: DolOn\_95 Start: 65682, Stop: 65461, Start Num: 4

Candidate Starts for DolOn\_95:

(Start: 4 @65682 has 277 MA's), (5, 65673), (7, 65649), (9, 65616), (10, 65607),

Gene: DonSanchon\_86 Start: 63914, Stop: 63693, Start Num: 4

Candidate Starts for DonSanchon\_86:

(Start: 4 @63914 has 277 MA's), (5, 63905), (7, 63881), (9, 63848), (10, 63839),

Gene: DuchessDung\_88 Start: 63912, Stop: 63691, Start Num: 4

Candidate Starts for DuchessDung\_88:

(Start: 4 @63912 has 277 MA's), (5, 63903), (7, 63879), (9, 63846), (10, 63837),

Gene: Duggie\_91 Start: 64538, Stop: 64317, Start Num: 4

Candidate Starts for Duggie\_91:

(Start: 4 @64538 has 277 MA's), (5, 64529), (7, 64505), (9, 64472), (10, 64463),

Gene: Durga\_93 Start: 65020, Stop: 64799, Start Num: 4

Candidate Starts for Durga\_93:

(Start: 4 @65020 has 277 MA's), (5, 65011), (7, 64987), (9, 64954), (10, 64945),

Gene: ElvisPhasley\_92 Start: 65562, Stop: 65341, Start Num: 4

Candidate Starts for ElvisPhasley\_92:

(Start: 4 @65562 has 277 MA's), (5, 65553), (7, 65529), (9, 65496), (10, 65487),

Gene: Emiris\_93 Start: 64926, Stop: 64705, Start Num: 4

Candidate Starts for Emiris\_93:

(Start: 4 @64926 has 277 MA's), (5, 64917), (7, 64893), (9, 64860), (10, 64851),

Gene: EmpTee\_90 Start: 64328, Stop: 64107, Start Num: 4

Candidate Starts for EmpTee\_90:

(Start: 4 @64328 has 277 MA's), (5, 64319), (7, 64295), (9, 64262), (10, 64253),

Gene: Eremos\_89 Start: 64618, Stop: 64397, Start Num: 4

Candidate Starts for Eremos\_89:

(Start: 4 @64618 has 277 MA's), (5, 64609), (7, 64585), (9, 64552), (10, 64543),

Gene: Etaye\_90 Start: 65104, Stop: 64883, Start Num: 4

Candidate Starts for Etaye\_90:

(Start: 4 @65104 has 277 MA's), (5, 65095), (7, 65071), (9, 65038), (10, 65029),

Gene: Eugenia\_93 Start: 65038, Stop: 64817, Start Num: 4

Candidate Starts for Eugenia\_93:

(Start: 4 @65038 has 277 MA's), (5, 65029), (7, 65005), (9, 64972), (10, 64963),

Gene: Fang\_92 Start: 64746, Stop: 64525, Start Num: 4

Candidate Starts for Fang\_92:

(Start: 4 @64746 has 277 MA's), (5, 64737), (7, 64713), (9, 64680), (10, 64671),

Gene: Flake\_93 Start: 64509, Stop: 64297, Start Num: 5

Candidate Starts for Flake\_93:

(Start: 4 @64518 has 277 MA's), (5, 64509), (7, 64485), (9, 64452), (10, 64443),

Gene: FleetyMac\_93 Start: 64428, Stop: 64207, Start Num: 4

Candidate Starts for FleetyMac\_93:

(Start: 4 @64428 has 277 MA's), (5, 64419), (7, 64395), (9, 64362), (10, 64353),

Gene: FluffyNinja\_92 Start: 64616, Stop: 64395, Start Num: 4

Candidate Starts for FluffyNinja\_92:

(Start: 4 @64616 has 277 MA's), (5, 64607), (7, 64583), (9, 64550), (10, 64541),

Gene: Fozzie\_88 Start: 64942, Stop: 64721, Start Num: 4

Candidate Starts for Fozzie\_88:

(Start: 4 @64942 has 277 MA's), (5, 64933), (7, 64909), (9, 64876), (10, 64867),

Gene: Frankicide\_89 Start: 64442, Stop: 64221, Start Num: 4

Candidate Starts for Frankicide\_89:

(Start: 4 @64442 has 277 MA's), (5, 64433), (7, 64409), (9, 64376), (10, 64367),

Gene: FremontTroll\_89 Start: 64855, Stop: 64634, Start Num: 4

Candidate Starts for FremontTroll\_89:

(Start: 4 @64855 has 277 MA's), (5, 64846), (7, 64822), (9, 64789), (10, 64780),

Gene: Freya\_87 Start: 63934, Stop: 63713, Start Num: 4

Candidate Starts for Freya\_87:

(Start: 4 @63934 has 277 MA's), (5, 63925), (7, 63901), (9, 63868), (10, 63859),

Gene: FriarPreacher\_88 Start: 64315, Stop: 64094, Start Num: 4

Candidate Starts for FriarPreacher\_88:

(Start: 4 @64315 has 277 MA's), (5, 64306), (7, 64282), (9, 64249), (10, 64240),

Gene: Fringe\_95 Start: 65092, Stop: 64871, Start Num: 4

Candidate Starts for Fringe\_95:

(Start: 4 @65092 has 277 MA's), (5, 65083), (7, 65059), (9, 65026), (10, 65017),

Gene: FugateOSU\_91 Start: 65375, Stop: 65154, Start Num: 4

Candidate Starts for FugateOSU\_91:

(Start: 4 @65375 has 277 MA's), (5, 65366), (7, 65342), (9, 65309), (10, 65300),

Gene: Funsized\_83 Start: 66552, Stop: 66259, Start Num: 6

Candidate Starts for Funsized\_83:

(1, 66690), (3, 66585), (Start: 6 @66552 has 5 MA's), (8, 66519), (12, 66492), (13, 66489), (18, 66387),  
(23, 66303),

Gene: Gareth\_91 Start: 64764, Stop: 64543, Start Num: 4

Candidate Starts for Gareth\_91:

(Start: 4 @64764 has 277 MA's), (5, 64755), (7, 64731), (9, 64698), (10, 64689),

Gene: GeneCoco\_91 Start: 64944, Stop: 64723, Start Num: 4

Candidate Starts for GeneCoco\_91:

(Start: 4 @64944 has 277 MA's), (5, 64935), (7, 64911), (9, 64878), (10, 64869),

Gene: Giraffe\_91 Start: 64768, Stop: 64547, Start Num: 4

Candidate Starts for Giraffe\_91:

(Start: 4 @64768 has 277 MA's), (5, 64759), (7, 64735), (9, 64702), (10, 64693),

Gene: Gophee\_90 Start: 64755, Stop: 64534, Start Num: 4

Candidate Starts for Gophee\_90:

(Start: 4 @64755 has 277 MA's), (5, 64746), (7, 64722), (9, 64689), (10, 64680),

Gene: Grand2040\_89 Start: 64733, Stop: 64512, Start Num: 4

Candidate Starts for Grand2040\_89:

(Start: 4 @64733 has 277 MA's), (5, 64724), (7, 64700), (9, 64667), (10, 64658),

Gene: GreenChile\_90 Start: 64428, Stop: 64207, Start Num: 4

Candidate Starts for GreenChile\_90:

(Start: 4 @64428 has 277 MA's), (5, 64419), (7, 64395), (9, 64362), (10, 64353),

Gene: Gwennie1\_90 Start: 64579, Stop: 64358, Start Num: 4

Candidate Starts for Gwennie1\_90:

(Start: 4 @64579 has 277 MA's), (5, 64570), (7, 64546), (9, 64513), (10, 64504),

Gene: Gwilliam\_91 Start: 65299, Stop: 65078, Start Num: 4

Candidate Starts for Gwilliam\_91:

(Start: 4 @65299 has 277 MA's), (5, 65290), (7, 65266), (9, 65233), (10, 65224),

Gene: Gyarad\_0090 Start: 64253, Stop: 64032, Start Num: 4

Candidate Starts for Gyarad\_0090:

(Start: 4 @64253 has 277 MA's), (5, 64244), (7, 64220), (9, 64187), (10, 64178),

Gene: HSavage\_89 Start: 64270, Stop: 64049, Start Num: 4

Candidate Starts for HSavage\_89:

(Start: 4 @64270 has 277 MA's), (5, 64261), (7, 64237), (9, 64204), (10, 64195),

Gene: Haimas\_88 Start: 64195, Stop: 63974, Start Num: 4

Candidate Starts for Haimas\_88:

(Start: 4 @64195 has 277 MA's), (5, 64186), (7, 64162), (9, 64129), (10, 64120),

Gene: Haleema\_90 Start: 64314, Stop: 64093, Start Num: 4

Candidate Starts for Haleema\_90:

(Start: 4 @64314 has 277 MA's), (5, 64305), (7, 64281), (9, 64248), (10, 64239),

Gene: Hamish\_88 Start: 64483, Stop: 64262, Start Num: 4

Candidate Starts for Hamish\_88:

(Start: 4 @64483 has 277 MA's), (5, 64474), (7, 64450), (9, 64417), (10, 64408),

Gene: Happabalu\_89 Start: 65409, Stop: 65188, Start Num: 4

Candidate Starts for Happabalu\_89:

(Start: 4 @65409 has 277 MA's), (5, 65400), (7, 65376), (9, 65343), (10, 65334),

Gene: Hartsy\_89 Start: 64432, Stop: 64211, Start Num: 4

Candidate Starts for Hartsy\_89:

(Start: 4 @64432 has 277 MA's), (5, 64423), (7, 64399), (9, 64366), (10, 64357),

Gene: Harvey\_88 Start: 64092, Stop: 63871, Start Num: 4

Candidate Starts for Harvey\_88:

(Start: 4 @64092 has 277 MA's), (5, 64083), (7, 64059), (9, 64026), (10, 64017),

Gene: Hashim76\_92 Start: 66668, Stop: 66417, Start Num: 6

Candidate Starts for Hashim76\_92:

(Start: 6 @66668 has 5 MA's), (9, 66623), (14, 66593), (17, 66521), (20, 66464), (21, 66461),

Gene: Hekos\_89 Start: 64107, Stop: 63886, Start Num: 4

Candidate Starts for Hekos\_89:

(Start: 4 @64107 has 277 MA's), (5, 64098), (7, 64074), (9, 64041), (10, 64032),

Gene: Held\_89 Start: 64213, Stop: 63992, Start Num: 4

Candidate Starts for Held\_89:

(Start: 4 @64213 has 277 MA's), (5, 64204), (7, 64180), (9, 64147), (10, 64138),

Gene: HenryJackson\_91 Start: 64932, Stop: 64711, Start Num: 4

Candidate Starts for HenryJackson\_91:

(Start: 4 @64932 has 277 MA's), (5, 64923), (7, 64899), (9, 64866), (10, 64857),

Gene: Hertubise\_90 Start: 64574, Stop: 64353, Start Num: 4

Candidate Starts for Hertubise\_90:

(Start: 4 @64574 has 277 MA's), (5, 64565), (7, 64541), (9, 64508), (10, 64499),

Gene: Hetaeria\_91 Start: 64581, Stop: 64360, Start Num: 4

Candidate Starts for Hetaeria\_91:

(Start: 4 @64581 has 277 MA's), (5, 64572), (7, 64548), (9, 64515), (10, 64506),

Gene: HighStump\_92 Start: 64719, Stop: 64498, Start Num: 4

Candidate Starts for HighStump\_92:

(Start: 4 @64719 has 277 MA's), (5, 64710), (7, 64686), (9, 64653), (10, 64644),

Gene: Hocus\_89 Start: 64233, Stop: 64012, Start Num: 4

Candidate Starts for Hocus\_89:

(Start: 4 @64233 has 277 MA's), (5, 64224), (7, 64200), (9, 64167), (10, 64158),

Gene: HogWash\_91 Start: 65246, Stop: 65025, Start Num: 4

Candidate Starts for HogWash\_91:

(Start: 4 @65246 has 277 MA's), (5, 65237), (7, 65213), (9, 65180), (10, 65171),

Gene: Horchata\_86 Start: 64410, Stop: 64189, Start Num: 4

Candidate Starts for Horchata\_86:

(Start: 4 @64410 has 277 MA's), (5, 64401), (7, 64377), (9, 64344), (10, 64335),

Gene: ImtiyazSitla\_92 Start: 64738, Stop: 64517, Start Num: 4

Candidate Starts for ImtiyazSitla\_92:

(Start: 4 @64738 has 277 MA's), (5, 64729), (7, 64705), (9, 64672), (10, 64663),

Gene: Inchworm\_92 Start: 64606, Stop: 64385, Start Num: 4  
Candidate Starts for Inchworm\_92:  
(Start: 4 @64606 has 277 MA's), (5, 64597), (7, 64573), (9, 64540), (10, 64531),

Gene: Inverness\_89 Start: 64407, Stop: 64186, Start Num: 4  
Candidate Starts for Inverness\_89:  
(Start: 4 @64407 has 277 MA's), (5, 64398), (7, 64374), (9, 64341), (10, 64332),

Gene: Iridessa\_92 Start: 64331, Stop: 64110, Start Num: 4  
Candidate Starts for Iridessa\_92:  
(Start: 4 @64331 has 277 MA's), (5, 64322), (7, 64298), (9, 64265), (10, 64256),

Gene: Iridoclysis\_90 Start: 64497, Stop: 64276, Start Num: 4  
Candidate Starts for Iridoclysis\_90:  
(Start: 4 @64497 has 277 MA's), (5, 64488), (7, 64464), (9, 64431), (10, 64422),

Gene: IsaacEli\_93 Start: 64737, Stop: 64516, Start Num: 4  
Candidate Starts for IsaacEli\_93:  
(Start: 4 @64737 has 277 MA's), (5, 64728), (7, 64704), (9, 64671), (10, 64662),

Gene: JDog\_90 Start: 64767, Stop: 64546, Start Num: 4  
Candidate Starts for JDog\_90:  
(Start: 4 @64767 has 277 MA's), (5, 64758), (7, 64734), (9, 64701), (10, 64692),

Gene: JacAttac\_91 Start: 64211, Stop: 63990, Start Num: 4  
Candidate Starts for JacAttac\_91:  
(Start: 4 @64211 has 277 MA's), (5, 64202), (7, 64178), (9, 64145), (10, 64136),

Gene: JakeO\_92 Start: 64495, Stop: 64274, Start Num: 4  
Candidate Starts for JakeO\_92:  
(Start: 4 @64495 has 277 MA's), (5, 64486), (7, 64462), (9, 64429), (10, 64420),

Gene: JangoPhett\_89 Start: 64571, Stop: 64350, Start Num: 4  
Candidate Starts for JangoPhett\_89:  
(Start: 4 @64571 has 277 MA's), (5, 64562), (7, 64538), (9, 64505), (10, 64496),

Gene: Jesabah\_93 Start: 65333, Stop: 65112, Start Num: 4  
Candidate Starts for Jesabah\_93:  
(Start: 4 @65333 has 277 MA's), (5, 65324), (7, 65300), (9, 65267), (10, 65258),

Gene: Jillium\_92 Start: 64927, Stop: 64706, Start Num: 4  
Candidate Starts for Jillium\_92:  
(Start: 4 @64927 has 277 MA's), (5, 64918), (7, 64894), (9, 64861), (10, 64852),

Gene: Jiminy\_91 Start: 64431, Stop: 64210, Start Num: 4  
Candidate Starts for Jiminy\_91:  
(Start: 4 @64431 has 277 MA's), (5, 64422), (7, 64398), (9, 64365), (10, 64356),

Gene: Jiraiya\_92 Start: 64515, Stop: 64294, Start Num: 4  
Candidate Starts for Jiraiya\_92:  
(Start: 4 @64515 has 277 MA's), (5, 64506), (7, 64482), (9, 64449), (10, 64440),

Gene: KLucky39\_89 Start: 64290, Stop: 64069, Start Num: 4

Candidate Starts for KLucky39\_89:

(Start: 4 @64290 has 277 MA's), (5, 64281), (7, 64257), (9, 64224), (10, 64215),

Gene: Kahve\_91 Start: 64930, Stop: 64709, Start Num: 4

Candidate Starts for Kahve\_91:

(Start: 4 @64930 has 277 MA's), (5, 64921), (7, 64897), (9, 64864), (10, 64855),

Gene: Kailash\_89 Start: 64630, Stop: 64409, Start Num: 4

Candidate Starts for Kailash\_89:

(Start: 4 @64630 has 277 MA's), (5, 64621), (7, 64597), (9, 64564), (10, 64555),

Gene: Karn\_91 Start: 64486, Stop: 64265, Start Num: 4

Candidate Starts for Karn\_91:

(Start: 4 @64486 has 277 MA's), (5, 64477), (7, 64453), (9, 64420), (10, 64411),

Gene: Katniss\_93 Start: 64346, Stop: 64125, Start Num: 4

Candidate Starts for Katniss\_93:

(Start: 4 @64346 has 277 MA's), (5, 64337), (7, 64313), (9, 64280), (10, 64271),

Gene: KayaCho\_82 Start: 64280, Stop: 64017, Start Num: 6

Candidate Starts for KayaCho\_82:

(Start: 6 @64280 has 5 MA's), (9, 64238), (14, 64208), (19, 64103),

Gene: Keitherie\_94 Start: 64988, Stop: 64767, Start Num: 4

Candidate Starts for Keitherie\_94:

(Start: 4 @64988 has 277 MA's), (5, 64979), (7, 64955), (9, 64922), (10, 64913),

Gene: Khan1\_91 Start: 64709, Stop: 64488, Start Num: 4

Candidate Starts for Khan1\_91:

(Start: 4 @64709 has 277 MA's), (5, 64700), (7, 64676), (9, 64643), (10, 64634),

Gene: Kikipoo\_93 Start: 64737, Stop: 64516, Start Num: 4

Candidate Starts for Kikipoo\_93:

(Start: 4 @64737 has 277 MA's), (5, 64728), (7, 64704), (9, 64671), (10, 64662),

Gene: Kimbrough\_92 Start: 64809, Stop: 64588, Start Num: 4

Candidate Starts for Kimbrough\_92:

(Start: 4 @64809 has 277 MA's), (5, 64800), (7, 64776), (9, 64743), (10, 64734),

Gene: KingTut\_82 Start: 60969, Stop: 60748, Start Num: 4

Candidate Starts for KingTut\_82:

(Start: 4 @60969 has 277 MA's), (5, 60960), (7, 60936), (9, 60903), (10, 60894),

Gene: KingVeVeVe\_89 Start: 63943, Stop: 63722, Start Num: 4

Candidate Starts for KingVeVeVe\_89:

(Start: 4 @63943 has 277 MA's), (5, 63934), (7, 63910), (9, 63877), (10, 63868),

Gene: KlimbOn\_90 Start: 64249, Stop: 64028, Start Num: 4

Candidate Starts for KlimbOn\_90:

(Start: 4 @64249 has 277 MA's), (5, 64240), (7, 64216), (9, 64183), (10, 64174),

Gene: Kloppinator\_91 Start: 64379, Stop: 64158, Start Num: 4

Candidate Starts for Kloppinator\_91:

(Start: 4 @64379 has 277 MA's), (5, 64370), (7, 64346), (9, 64313), (10, 64304),

Gene: Kwadwo\_90 Start: 64234, Stop: 64013, Start Num: 4

Candidate Starts for Kwadwo\_90:

(Start: 4 @64234 has 277 MA's), (5, 64225), (7, 64201), (9, 64168), (10, 64159),

Gene: Kwksand96\_92 Start: 64501, Stop: 64280, Start Num: 4

Candidate Starts for Kwksand96\_92:

(Start: 4 @64501 has 277 MA's), (5, 64492), (7, 64468), (9, 64435), (10, 64426),

Gene: Labeouficaum\_91 Start: 64314, Stop: 64093, Start Num: 4

Candidate Starts for Labeouficaum\_91:

(Start: 4 @64314 has 277 MA's), (5, 64305), (7, 64281), (9, 64248), (10, 64239),

Gene: Larson\_93 Start: 64578, Stop: 64357, Start Num: 4

Candidate Starts for Larson\_93:

(Start: 4 @64578 has 277 MA's), (5, 64569), (7, 64545), (9, 64512), (10, 64503),

Gene: LasagnaCat\_92 Start: 64616, Stop: 64395, Start Num: 4

Candidate Starts for LasagnaCat\_92:

(Start: 4 @64616 has 277 MA's), (5, 64607), (7, 64583), (9, 64550), (10, 64541),

Gene: Lasso\_90 Start: 64475, Stop: 64254, Start Num: 4

Candidate Starts for Lasso\_90:

(Start: 4 @64475 has 277 MA's), (5, 64466), (7, 64442), (9, 64409), (10, 64400),

Gene: LeeLot\_89 Start: 64819, Stop: 64598, Start Num: 4

Candidate Starts for LeeLot\_89:

(Start: 4 @64819 has 277 MA's), (5, 64810), (7, 64786), (9, 64753), (10, 64744),

Gene: Lego3393\_89 Start: 64936, Stop: 64715, Start Num: 4

Candidate Starts for Lego3393\_89:

(Start: 4 @64936 has 277 MA's), (5, 64927), (7, 64903), (9, 64870), (10, 64861),

Gene: Legolas\_92 Start: 64563, Stop: 64342, Start Num: 4

Candidate Starts for Legolas\_92:

(Start: 4 @64563 has 277 MA's), (5, 64554), (7, 64530), (9, 64497), (10, 64488),

Gene: Lehmann\_92 Start: 64826, Stop: 64605, Start Num: 4

Candidate Starts for Lehmann\_92:

(Start: 4 @64826 has 277 MA's), (5, 64817), (7, 64793), (9, 64760), (10, 64751),

Gene: LeiMonet\_93 Start: 64697, Stop: 64476, Start Num: 4

Candidate Starts for LeiMonet\_93:

(Start: 4 @64697 has 277 MA's), (5, 64688), (7, 64664), (9, 64631), (10, 64622),

Gene: LemonSlice\_91 Start: 64222, Stop: 64001, Start Num: 4

Candidate Starts for LemonSlice\_91:

(Start: 4 @64222 has 277 MA's), (5, 64213), (7, 64189), (9, 64156), (10, 64147),

Gene: Leopard\_100 Start: 66137, Stop: 66388, Start Num: 4

Candidate Starts for Leopard\_100:

(Start: 2 @66089 has 1 MA's), (Start: 4 @66137 has 277 MA's), (5, 66146), (9, 66203), (11, 66215), (14, 66233), (15, 66245),

Gene: LittleMinkey\_98 Start: 67143, Stop: 66892, Start Num: 6

Candidate Starts for LittleMinkey\_98:

(Start: 6 @67143 has 5 MA's), (9, 67098), (14, 67068), (20, 66939), (21, 66936),

Gene: Longacauda\_92 Start: 64716, Stop: 64495, Start Num: 4

Candidate Starts for Longacauda\_92:

(Start: 4 @64716 has 277 MA's), (5, 64707), (7, 64683), (9, 64650), (10, 64641),

Gene: LostAndPhound\_90 Start: 64764, Stop: 64543, Start Num: 4

Candidate Starts for LostAndPhound\_90:

(Start: 4 @64764 has 277 MA's), (5, 64755), (7, 64731), (9, 64698), (10, 64689),

Gene: LuckyMarjie\_88 Start: 63974, Stop: 63753, Start Num: 4

Candidate Starts for LuckyMarjie\_88:

(Start: 4 @63974 has 277 MA's), (5, 63965), (7, 63941), (9, 63908), (10, 63899),

Gene: Lulumae\_86 Start: 63955, Stop: 63734, Start Num: 4

Candidate Starts for Lulumae\_86:

(Start: 4 @63955 has 277 MA's), (5, 63946), (7, 63922), (9, 63889), (10, 63880),

Gene: Lulwa\_88 Start: 63588, Stop: 63367, Start Num: 4

Candidate Starts for Lulwa\_88:

(Start: 4 @63588 has 277 MA's), (5, 63579), (7, 63555), (9, 63522), (10, 63513),

Gene: Lumine\_92 Start: 64413, Stop: 64192, Start Num: 4

Candidate Starts for Lumine\_92:

(Start: 4 @64413 has 277 MA's), (5, 64404), (7, 64380), (9, 64347), (10, 64338),

Gene: MRabcd\_91 Start: 64690, Stop: 64469, Start Num: 4

Candidate Starts for MRabcd\_91:

(Start: 4 @64690 has 277 MA's), (5, 64681), (7, 64657), (9, 64624), (10, 64615),

Gene: Mag7\_89 Start: 64174, Stop: 63953, Start Num: 4

Candidate Starts for Mag7\_89:

(Start: 4 @64174 has 277 MA's), (5, 64165), (7, 64141), (9, 64108), (10, 64099),

Gene: Magic8\_90 Start: 64542, Stop: 64321, Start Num: 4

Candidate Starts for Magic8\_90:

(Start: 4 @64542 has 277 MA's), (5, 64533), (7, 64509), (9, 64476), (10, 64467),

Gene: Mana\_88 Start: 64378, Stop: 64157, Start Num: 4

Candidate Starts for Mana\_88:

(Start: 4 @64378 has 277 MA's), (5, 64369), (7, 64345), (9, 64312), (10, 64303),

Gene: Manad\_90 Start: 64488, Stop: 64267, Start Num: 4

Candidate Starts for Manad\_90:

(Start: 4 @64488 has 277 MA's), (5, 64479), (7, 64455), (9, 64422), (10, 64413),

Gene: Maru\_91 Start: 64826, Stop: 64605, Start Num: 4

Candidate Starts for Maru\_91:

(Start: 4 @64826 has 277 MA's), (5, 64817), (7, 64793), (9, 64760), (10, 64751),

Gene: Maskar\_92 Start: 64738, Stop: 64517, Start Num: 4

Candidate Starts for Maskar\_92:

(Start: 4 @64738 has 277 MA's), (5, 64729), (7, 64705), (9, 64672), (10, 64663),

Gene: Matalotodo\_89 Start: 65222, Stop: 65001, Start Num: 4

Candidate Starts for Matalotodo\_89:

(Start: 4 @65222 has 277 MA's), (5, 65213), (7, 65189), (9, 65156), (10, 65147),

Gene: Mcshane\_90 Start: 64236, Stop: 64015, Start Num: 4

Candidate Starts for Mcshane\_90:

(Start: 4 @64236 has 277 MA's), (5, 64227), (7, 64203), (9, 64170), (10, 64161),

Gene: Mecca\_91 Start: 64790, Stop: 64569, Start Num: 4

Candidate Starts for Mecca\_91:

(Start: 4 @64790 has 277 MA's), (5, 64781), (7, 64757), (9, 64724), (10, 64715),

Gene: Megamind20\_91 Start: 64200, Stop: 63979, Start Num: 4

Candidate Starts for Megamind20\_91:

(Start: 4 @64200 has 277 MA's), (5, 64191), (7, 64167), (9, 64134), (10, 64125),

Gene: Megatron\_92 Start: 64908, Stop: 64687, Start Num: 4

Candidate Starts for Megatron\_92:

(Start: 4 @64908 has 277 MA's), (5, 64899), (7, 64875), (9, 64842), (10, 64833),

Gene: Melc17\_88 Start: 64858, Stop: 64637, Start Num: 4

Candidate Starts for Melc17\_88:

(Start: 4 @64858 has 277 MA's), (5, 64849), (7, 64825), (9, 64792), (10, 64783),

Gene: MelsMeow\_90 Start: 64498, Stop: 64277, Start Num: 4

Candidate Starts for MelsMeow\_90:

(Start: 4 @64498 has 277 MA's), (5, 64489), (7, 64465), (9, 64432), (10, 64423),

Gene: Mesh1\_92 Start: 64951, Stop: 64730, Start Num: 4

Candidate Starts for Mesh1\_92:

(Start: 4 @64951 has 277 MA's), (5, 64942), (7, 64918), (9, 64885), (10, 64876),

Gene: Mesmerelda\_90 Start: 64789, Stop: 64568, Start Num: 4

Candidate Starts for Mesmerelda\_90:

(Start: 4 @64789 has 277 MA's), (5, 64780), (7, 64756), (9, 64723), (10, 64714),

Gene: MichaelPhcott\_89 Start: 64171, Stop: 63950, Start Num: 4

Candidate Starts for MichaelPhcott\_89:

(Start: 4 @64171 has 277 MA's), (5, 64162), (7, 64138), (9, 64105), (10, 64096),

Gene: Mikota\_86 Start: 63942, Stop: 63721, Start Num: 4

Candidate Starts for Mikota\_86:

(Start: 4 @63942 has 277 MA's), (5, 63933), (7, 63909), (9, 63876), (10, 63867),

Gene: MiniBoss\_87 Start: 63542, Stop: 63321, Start Num: 4

Candidate Starts for MiniBoss\_87:

(Start: 4 @63542 has 277 MA's), (5, 63533), (7, 63509), (9, 63476), (10, 63467),

Gene: MitKao\_91 Start: 64392, Stop: 64171, Start Num: 4  
Candidate Starts for MitKao\_91:  
(Start: 4 @64392 has 277 MA's), (5, 64383), (7, 64359), (9, 64326), (10, 64317),

Gene: Morgushi\_88 Start: 64206, Stop: 63985, Start Num: 4  
Candidate Starts for Morgushi\_88:  
(Start: 4 @64206 has 277 MA's), (5, 64197), (7, 64173), (9, 64140), (10, 64131),

Gene: Morty\_91 Start: 64778, Stop: 64557, Start Num: 4  
Candidate Starts for Morty\_91:  
(Start: 4 @64778 has 277 MA's), (5, 64769), (7, 64745), (9, 64712), (10, 64703),

Gene: Mosaic\_88 Start: 64388, Stop: 64167, Start Num: 4  
Candidate Starts for Mosaic\_88:  
(Start: 4 @64388 has 277 MA's), (5, 64379), (7, 64355), (9, 64322), (10, 64313),

Gene: MrPhizzler\_94 Start: 64686, Stop: 64465, Start Num: 4  
Candidate Starts for MrPhizzler\_94:  
(Start: 4 @64686 has 277 MA's), (5, 64677), (9, 64620), (10, 64611),

Gene: Mulan\_90 Start: 64420, Stop: 64199, Start Num: 4  
Candidate Starts for Mulan\_90:  
(Start: 4 @64420 has 277 MA's), (5, 64411), (7, 64387), (9, 64354), (10, 64345),

Gene: Murdoc\_87 Start: 64499, Stop: 64278, Start Num: 4  
Candidate Starts for Murdoc\_87:  
(Start: 4 @64499 has 277 MA's), (5, 64490), (7, 64466), (9, 64433), (10, 64424),

Gene: Mutante\_92 Start: 64393, Stop: 64172, Start Num: 4  
Candidate Starts for Mutante\_92:  
(Start: 4 @64393 has 277 MA's), (5, 64384), (7, 64360), (9, 64327), (10, 64318),

Gene: Nacho\_0093 Start: 65464, Stop: 65243, Start Num: 4  
Candidate Starts for Nacho\_0093:  
(Start: 4 @65464 has 277 MA's), (5, 65455), (7, 65431), (9, 65398), (10, 65389),

Gene: Nathan\_91 Start: 64919, Stop: 64698, Start Num: 4  
Candidate Starts for Nathan\_91:  
(Start: 4 @64919 has 277 MA's), (5, 64910), (7, 64886), (9, 64853), (10, 64844),

Gene: Newman\_87 Start: 64741, Stop: 64520, Start Num: 4  
Candidate Starts for Newman\_87:  
(Start: 4 @64741 has 277 MA's), (5, 64732), (7, 64708), (9, 64675), (10, 64666),

Gene: Nicole21\_92 Start: 64526, Stop: 64305, Start Num: 4  
Candidate Starts for Nicole21\_92:  
(Start: 4 @64526 has 277 MA's), (5, 64517), (7, 64493), (9, 64460), (10, 64451),

Gene: Numberten\_90 Start: 64508, Stop: 64287, Start Num: 4  
Candidate Starts for Numberten\_90:  
(Start: 4 @64508 has 277 MA's), (5, 64499), (7, 64475), (9, 64442), (10, 64433),

Gene: Nyala\_90 Start: 64242, Stop: 64021, Start Num: 4  
Candidate Starts for Nyala\_90:  
(Start: 4 @64242 has 277 MA's), (5, 64233), (7, 64209), (9, 64176), (10, 64167),

Gene: OSmaximus\_92 Start: 65073, Stop: 64852, Start Num: 4  
Candidate Starts for OSmaximus\_92:  
(Start: 4 @65073 has 277 MA's), (5, 65064), (7, 65040), (9, 65007), (10, 64998),

Gene: Olak\_90 Start: 64406, Stop: 64185, Start Num: 4  
Candidate Starts for Olak\_90:  
(Start: 4 @64406 has 277 MA's), (5, 64397), (7, 64373), (9, 64340), (10, 64331),

Gene: Oline\_90 Start: 64397, Stop: 64176, Start Num: 4  
Candidate Starts for Oline\_90:  
(Start: 4 @64397 has 277 MA's), (5, 64388), (7, 64364), (9, 64331), (10, 64322),

Gene: Olive\_87 Start: 64638, Stop: 64417, Start Num: 4  
Candidate Starts for Olive\_87:  
(Start: 4 @64638 has 277 MA's), (5, 64629), (7, 64605), (9, 64572), (10, 64563),

Gene: OliverWalter\_90 Start: 64693, Stop: 64472, Start Num: 4  
Candidate Starts for OliverWalter\_90:  
(Start: 4 @64693 has 277 MA's), (5, 64684), (7, 64660), (9, 64627), (10, 64618),

Gene: Omniscient\_92 Start: 65096, Stop: 64875, Start Num: 4  
Candidate Starts for Omniscient\_92:  
(Start: 4 @65096 has 277 MA's), (5, 65087), (7, 65063), (9, 65030), (10, 65021),

Gene: OneBrain\_93 Start: 64657, Stop: 64436, Start Num: 4  
Candidate Starts for OneBrain\_93:  
(Start: 4 @64657 has 277 MA's), (5, 64648), (7, 64624), (9, 64591), (10, 64582),

Gene: Onyinye\_101 Start: 65950, Stop: 66249, Start Num: 2  
Candidate Starts for Onyinye\_101:  
(Start: 2 @65950 has 1 MA's), (Start: 4 @65998 has 277 MA's), (5, 66007), (9, 66064), (11, 66076),  
(14, 66094), (15, 66106),

Gene: Oosterbaan\_91 Start: 64633, Stop: 64412, Start Num: 4  
Candidate Starts for Oosterbaan\_91:  
(Start: 4 @64633 has 277 MA's), (5, 64624), (7, 64600), (9, 64567), (10, 64558),

Gene: Orfeu\_90 Start: 64756, Stop: 64535, Start Num: 4  
Candidate Starts for Orfeu\_90:  
(Start: 4 @64756 has 277 MA's), (5, 64747), (7, 64723), (9, 64690), (10, 64681),

Gene: Orion\_89 Start: 64326, Stop: 64105, Start Num: 4  
Candidate Starts for Orion\_89:  
(Start: 4 @64326 has 277 MA's), (5, 64317), (7, 64293), (9, 64260), (10, 64251),

Gene: Orwigg\_90 Start: 64162, Stop: 63941, Start Num: 4  
Candidate Starts for Orwigg\_90:  
(Start: 4 @64162 has 277 MA's), (5, 64153), (7, 64129), (9, 64096), (10, 64087),

Gene: PG1\_89 Start: 64898, Stop: 64677, Start Num: 4  
Candidate Starts for PG1\_89:  
(Start: 4 @64898 has 277 MA's), (5, 64889), (7, 64865), (9, 64832), (10, 64823),

Gene: Pacifista\_90 Start: 64247, Stop: 64026, Start Num: 4  
Candidate Starts for Pacifista\_90:  
(Start: 4 @64247 has 277 MA's), (5, 64238), (7, 64214), (9, 64181), (10, 64172),

Gene: PallasAthena\_92 Start: 64219, Stop: 64007, Start Num: 5  
Candidate Starts for PallasAthena\_92:  
(Start: 4 @64228 has 277 MA's), (5, 64219), (7, 64195), (9, 64162), (10, 64153),

Gene: Phamished\_90 Start: 64414, Stop: 64193, Start Num: 4  
Candidate Starts for Phamished\_90:  
(Start: 4 @64414 has 277 MA's), (5, 64405), (7, 64381), (9, 64348), (10, 64339),

Gene: Phareon\_88 Start: 63939, Stop: 63718, Start Num: 4  
Candidate Starts for Phareon\_88:  
(Start: 4 @63939 has 277 MA's), (5, 63930), (7, 63906), (9, 63873), (10, 63864),

Gene: PhatCats2014\_90 Start: 64898, Stop: 64677, Start Num: 4  
Candidate Starts for PhatCats2014\_90:  
(Start: 4 @64898 has 277 MA's), (5, 64889), (7, 64865), (9, 64832), (10, 64823),

Gene: PhatLouie\_93 Start: 64772, Stop: 64551, Start Num: 4  
Candidate Starts for PhatLouie\_93:  
(Start: 4 @64772 has 277 MA's), (5, 64763), (7, 64739), (9, 64706), (10, 64697),

Gene: PhenghisKhan\_91 Start: 64403, Stop: 64182, Start Num: 4  
Candidate Starts for PhenghisKhan\_91:  
(Start: 4 @64403 has 277 MA's), (5, 64394), (7, 64370), (9, 64337), (10, 64328),

Gene: Pherdinand\_92 Start: 64618, Stop: 64397, Start Num: 4  
Candidate Starts for Pherdinand\_92:  
(Start: 4 @64618 has 277 MA's), (5, 64609), (7, 64585), (9, 64552), (10, 64543),

Gene: Phergie\_91 Start: 64392, Stop: 64171, Start Num: 4  
Candidate Starts for Phergie\_91:  
(Start: 4 @64392 has 277 MA's), (5, 64383), (7, 64359), (9, 64326), (10, 64317),

Gene: Phipps\_89 Start: 64470, Stop: 64249, Start Num: 4  
Candidate Starts for Phipps\_89:  
(Start: 4 @64470 has 277 MA's), (5, 64461), (7, 64437), (9, 64404), (10, 64395),

Gene: Phleuron\_88 Start: 64204, Stop: 63983, Start Num: 4  
Candidate Starts for Phleuron\_88:  
(Start: 4 @64204 has 277 MA's), (5, 64195), (7, 64171), (9, 64138), (10, 64129),

Gene: PhrankReynolds\_89 Start: 64397, Stop: 64176, Start Num: 4  
Candidate Starts for PhrankReynolds\_89:  
(Start: 4 @64397 has 277 MA's), (5, 64388), (7, 64364), (9, 64331), (10, 64322),

Gene: PhrodoBaggins\_93 Start: 64773, Stop: 64552, Start Num: 4

Candidate Starts for PhrodoBaggins\_93:

(Start: 4 @64773 has 277 MA's), (5, 64764), (7, 64740), (9, 64707), (10, 64698),

Gene: Phunky\_88 Start: 64276, Stop: 64055, Start Num: 4

Candidate Starts for Phunky\_88:

(Start: 4 @64276 has 277 MA's), (5, 64267), (7, 64243), (9, 64210), (10, 64201),

Gene: Piglet\_0090 Start: 64892, Stop: 64671, Start Num: 4

Candidate Starts for Piglet\_0090:

(Start: 4 @64892 has 277 MA's), (5, 64883), (7, 64859), (9, 64826), (10, 64817),

Gene: PinheadLarry\_90 Start: 64543, Stop: 64322, Start Num: 4

Candidate Starts for PinheadLarry\_90:

(Start: 4 @64543 has 277 MA's), (5, 64534), (7, 64510), (9, 64477), (10, 64468),

Gene: Pinkman\_90 Start: 64616, Stop: 64395, Start Num: 4

Candidate Starts for Pinkman\_90:

(Start: 4 @64616 has 277 MA's), (5, 64607), (7, 64583), (9, 64550), (10, 64541),

Gene: Pipsqueak\_88 Start: 64229, Stop: 64008, Start Num: 4

Candidate Starts for Pipsqueak\_88:

(Start: 4 @64229 has 277 MA's), (5, 64220), (7, 64196), (9, 64163), (10, 64154),

Gene: Placalicious\_89 Start: 65262, Stop: 65041, Start Num: 4

Candidate Starts for Placalicious\_89:

(Start: 4 @65262 has 277 MA's), (5, 65253), (7, 65229), (9, 65196), (10, 65187),

Gene: Plata\_89 Start: 64484, Stop: 64263, Start Num: 4

Candidate Starts for Plata\_89:

(Start: 4 @64484 has 277 MA's), (5, 64475), (7, 64451), (9, 64418), (10, 64409),

Gene: Plmatters\_88 Start: 64217, Stop: 63996, Start Num: 4

Candidate Starts for Plmatters\_88:

(Start: 4 @64217 has 277 MA's), (5, 64208), (7, 64184), (9, 64151), (10, 64142),

Gene: Podrick\_89 Start: 64305, Stop: 64084, Start Num: 4

Candidate Starts for Podrick\_89:

(Start: 4 @64305 has 277 MA's), (5, 64296), (7, 64272), (9, 64239), (10, 64230),

Gene: Pops\_88 Start: 64407, Stop: 64186, Start Num: 4

Candidate Starts for Pops\_88:

(Start: 4 @64407 has 277 MA's), (5, 64398), (7, 64374), (9, 64341), (10, 64332),

Gene: Potter\_85 Start: 64226, Stop: 64005, Start Num: 4

Candidate Starts for Potter\_85:

(Start: 4 @64226 has 277 MA's), (5, 64217), (7, 64193), (9, 64160), (10, 64151),

Gene: Prickles\_92 Start: 64595, Stop: 64374, Start Num: 4

Candidate Starts for Prickles\_92:

(Start: 4 @64595 has 277 MA's), (5, 64586), (7, 64562), (9, 64529), (10, 64520),

Gene: ProfessorX\_89 Start: 64263, Stop: 64042, Start Num: 4

Candidate Starts for ProfessorX\_89:

(Start: 4 @64263 has 277 MA's), (5, 64254), (7, 64230), (9, 64197), (10, 64188),

Gene: Puhltonio\_87 Start: 64500, Stop: 64279, Start Num: 4

Candidate Starts for Puhltonio\_87:

(Start: 4 @64500 has 277 MA's), (5, 64491), (7, 64467), (9, 64434), (10, 64425),

Gene: QueenBeane\_91 Start: 64549, Stop: 64328, Start Num: 4

Candidate Starts for QueenBeane\_91:

(Start: 4 @64549 has 277 MA's), (5, 64540), (7, 64516), (9, 64483), (10, 64474),

Gene: Quisquilliae\_93 Start: 64560, Stop: 64339, Start Num: 4

Candidate Starts for Quisquilliae\_93:

(Start: 4 @64560 has 277 MA's), (5, 64551), (7, 64527), (9, 64494), (10, 64485),

Gene: RedMaple\_90 Start: 65163, Stop: 64942, Start Num: 4

Candidate Starts for RedMaple\_90:

(Start: 4 @65163 has 277 MA's), (5, 65154), (7, 65130), (9, 65097), (10, 65088),

Gene: RedRaider89\_93 Start: 64849, Stop: 64628, Start Num: 4

Candidate Starts for RedRaider89\_93:

(Start: 4 @64849 has 277 MA's), (5, 64840), (7, 64816), (9, 64783), (10, 64774),

Gene: Ricotta\_91 Start: 64245, Stop: 64024, Start Num: 4

Candidate Starts for Ricotta\_91:

(Start: 4 @64245 has 277 MA's), (5, 64236), (7, 64212), (9, 64179), (10, 64170),

Gene: Riggan\_92 Start: 64730, Stop: 64509, Start Num: 4

Candidate Starts for Riggan\_92:

(Start: 4 @64730 has 277 MA's), (5, 64721), (7, 64697), (9, 64664), (10, 64655),

Gene: Rimu\_89 Start: 64709, Stop: 64488, Start Num: 4

Candidate Starts for Rimu\_89:

(Start: 4 @64709 has 277 MA's), (5, 64700), (9, 64643), (10, 64634),

Gene: Riverton\_90 Start: 64480, Stop: 64268, Start Num: 5

Candidate Starts for Riverton\_90:

(Start: 4 @64489 has 277 MA's), (5, 64480), (7, 64456), (9, 64423), (10, 64414),

Gene: Robyn\_93 Start: 64997, Stop: 64755, Start Num: 4

Candidate Starts for Robyn\_93:

(Start: 4 @64997 has 277 MA's), (5, 64988), (7, 64964), (9, 64931), (10, 64922), (16, 64850),

Gene: Roliet\_88 Start: 63590, Stop: 63369, Start Num: 4

Candidate Starts for Roliet\_88:

(Start: 4 @63590 has 277 MA's), (5, 63581), (7, 63557), (9, 63524), (10, 63515),

Gene: Roscoe\_90 Start: 64850, Stop: 64629, Start Num: 4

Candidate Starts for Roscoe\_90:

(Start: 4 @64850 has 277 MA's), (5, 64841), (7, 64817), (9, 64784), (10, 64775),

Gene: Roy17\_88 Start: 63955, Stop: 63734, Start Num: 4

Candidate Starts for Roy17\_88:

(Start: 4 @63955 has 277 MA's), (5, 63946), (7, 63922), (9, 63889), (10, 63880),

Gene: SDcharge11\_90 Start: 63883, Stop: 63662, Start Num: 4  
Candidate Starts for SDcharge11\_90:  
(Start: 4 @63883 has 277 MA's), (5, 63874), (7, 63850), (9, 63817), (10, 63808),

Gene: SallyH\_94 Start: 64480, Stop: 64268, Start Num: 5  
Candidate Starts for SallyH\_94:  
(Start: 4 @64489 has 277 MA's), (5, 64480), (7, 64456), (9, 64423), (10, 64414),

Gene: Samaymay\_91 Start: 64549, Stop: 64328, Start Num: 4  
Candidate Starts for Samaymay\_91:  
(Start: 4 @64549 has 277 MA's), (5, 64540), (7, 64516), (9, 64483), (10, 64474),

Gene: SassyCat97\_89 Start: 64217, Stop: 63996, Start Num: 4  
Candidate Starts for SassyCat97\_89:  
(Start: 4 @64217 has 277 MA's), (5, 64208), (7, 64184), (9, 64151), (10, 64142),

Gene: Schueller\_89 Start: 64491, Stop: 64270, Start Num: 4  
Candidate Starts for Schueller\_89:  
(Start: 4 @64491 has 277 MA's), (5, 64482), (7, 64458), (9, 64425), (10, 64416),

Gene: Scoot17C\_91 Start: 64330, Stop: 64109, Start Num: 4  
Candidate Starts for Scoot17C\_91:  
(Start: 4 @64330 has 277 MA's), (5, 64321), (7, 64297), (9, 64264), (10, 64255),

Gene: Scrick\_90 Start: 64231, Stop: 64010, Start Num: 4  
Candidate Starts for Scrick\_90:  
(Start: 4 @64231 has 277 MA's), (5, 64222), (7, 64198), (9, 64165), (10, 64156),

Gene: Selr12\_92 Start: 64272, Stop: 64051, Start Num: 4  
Candidate Starts for Selr12\_92:  
(Start: 4 @64272 has 277 MA's), (5, 64263), (7, 64239), (9, 64206), (10, 64197),

Gene: Serendipity\_90 Start: 64703, Stop: 64482, Start Num: 4  
Candidate Starts for Serendipity\_90:  
(Start: 4 @64703 has 277 MA's), (5, 64694), (7, 64670), (9, 64637), (10, 64628),

Gene: Serpentine\_0092 Start: 64784, Stop: 64563, Start Num: 4  
Candidate Starts for Serpentine\_0092:  
(Start: 4 @64784 has 277 MA's), (5, 64775), (7, 64751), (9, 64718), (10, 64709),

Gene: ShadowBud\_92 Start: 64557, Stop: 64336, Start Num: 4  
Candidate Starts for ShadowBud\_92:  
(Start: 4 @64557 has 277 MA's), (5, 64548), (7, 64524), (9, 64491), (10, 64482),

Gene: Sheila\_85 Start: 63796, Stop: 63575, Start Num: 4  
Candidate Starts for Sheila\_85:  
(Start: 4 @63796 has 277 MA's), (5, 63787), (7, 63763), (9, 63730), (10, 63721),

Gene: ShiVal\_89 Start: 64254, Stop: 64033, Start Num: 4  
Candidate Starts for ShiVal\_89:  
(Start: 4 @64254 has 277 MA's), (5, 64245), (7, 64221), (9, 64188), (10, 64179),

Gene: Sigman\_90 Start: 64211, Stop: 63990, Start Num: 4  
Candidate Starts for Sigman\_90:  
(Start: 4 @64211 has 277 MA's), (5, 64202), (7, 64178), (9, 64145), (10, 64136),

Gene: SilverBell\_92 Start: 64664, Stop: 64443, Start Num: 4  
Candidate Starts for SilverBell\_92:  
(Start: 4 @64664 has 277 MA's), (5, 64655), (7, 64631), (9, 64598), (10, 64589),

Gene: Simielle\_90 Start: 64196, Stop: 63975, Start Num: 4  
Candidate Starts for Simielle\_90:  
(Start: 4 @64196 has 277 MA's), (5, 64187), (7, 64163), (9, 64130), (10, 64121),

Gene: SirBeauregard\_92 Start: 64777, Stop: 64556, Start Num: 4  
Candidate Starts for SirBeauregard\_92:  
(Start: 4 @64777 has 277 MA's), (5, 64768), (7, 64744), (9, 64711), (10, 64702),

Gene: Skippy\_91 Start: 64625, Stop: 64404, Start Num: 4  
Candidate Starts for Skippy\_91:  
(Start: 4 @64625 has 277 MA's), (5, 64616), (7, 64592), (9, 64559), (10, 64550),

Gene: Slatt\_91 Start: 64512, Stop: 64291, Start Num: 4  
Candidate Starts for Slatt\_91:  
(Start: 4 @64512 has 277 MA's), (5, 64503), (7, 64479), (9, 64446), (10, 64437),

Gene: Soile\_92 Start: 64750, Stop: 64529, Start Num: 4  
Candidate Starts for Soile\_92:  
(Start: 4 @64750 has 277 MA's), (5, 64741), (7, 64717), (9, 64684), (10, 64675),

Gene: Solosis\_89 Start: 64218, Stop: 63997, Start Num: 4  
Candidate Starts for Solosis\_89:  
(Start: 4 @64218 has 277 MA's), (5, 64209), (7, 64185), (9, 64152), (10, 64143),

Gene: Sophia\_89 Start: 64206, Stop: 63985, Start Num: 4  
Candidate Starts for Sophia\_89:  
(Start: 4 @64206 has 277 MA's), (5, 64197), (7, 64173), (9, 64140), (10, 64131),

Gene: Soto\_88 Start: 63923, Stop: 63702, Start Num: 4  
Candidate Starts for Soto\_88:  
(Start: 4 @63923 has 277 MA's), (5, 63914), (7, 63890), (9, 63857), (10, 63848),

Gene: Spartan300\_90 Start: 64468, Stop: 64247, Start Num: 4  
Candidate Starts for Spartan300\_90:  
(Start: 4 @64468 has 277 MA's), (5, 64459), (7, 64435), (9, 64402), (10, 64393),

Gene: Squid\_90 Start: 64497, Stop: 64276, Start Num: 4  
Candidate Starts for Squid\_90:  
(Start: 4 @64497 has 277 MA's), (5, 64488), (7, 64464), (9, 64431), (10, 64422),

Gene: Squiggle\_90 Start: 64225, Stop: 64004, Start Num: 4  
Candidate Starts for Squiggle\_90:  
(Start: 4 @64225 has 277 MA's), (5, 64216), (7, 64192), (9, 64159), (10, 64150),

Gene: Struggle\_91 Start: 64323, Stop: 64102, Start Num: 4

Candidate Starts for Struggle\_91:

(Start: 4 @64323 has 277 MA's), (5, 64314), (7, 64290), (9, 64257), (10, 64248),

Gene: Surely\_91 Start: 64788, Stop: 64567, Start Num: 4

Candidate Starts for Surely\_91:

(Start: 4 @64788 has 277 MA's), (5, 64779), (7, 64755), (9, 64722), (10, 64713),

Gene: Swiphy\_93 Start: 64772, Stop: 64551, Start Num: 4

Candidate Starts for Swiphy\_93:

(Start: 4 @64772 has 277 MA's), (5, 64763), (7, 64739), (9, 64706), (10, 64697),

Gene: Swish\_92 Start: 64634, Stop: 64413, Start Num: 4

Candidate Starts for Swish\_92:

(Start: 4 @64634 has 277 MA's), (5, 64625), (7, 64601), (9, 64568), (10, 64559),

Gene: TallGrassMM\_90 Start: 64283, Stop: 64062, Start Num: 4

Candidate Starts for TallGrassMM\_90:

(Start: 4 @64283 has 277 MA's), (5, 64274), (7, 64250), (9, 64217), (10, 64208),

Gene: Telesworld\_89 Start: 64360, Stop: 64139, Start Num: 4

Candidate Starts for Telesworld\_89:

(Start: 4 @64360 has 277 MA's), (5, 64351), (7, 64327), (9, 64294), (10, 64285),

Gene: Thora\_89 Start: 64737, Stop: 64516, Start Num: 4

Candidate Starts for Thora\_89:

(Start: 4 @64737 has 277 MA's), (5, 64728), (7, 64704), (9, 64671), (10, 64662),

Gene: ThreeOh3D2\_92 Start: 64891, Stop: 64670, Start Num: 4

Candidate Starts for ThreeOh3D2\_92:

(Start: 4 @64891 has 277 MA's), (5, 64882), (7, 64858), (9, 64825), (10, 64816),

Gene: Thunderbird\_91 Start: 64480, Stop: 64259, Start Num: 4

Candidate Starts for Thunderbird\_91:

(Start: 4 @64480 has 277 MA's), (5, 64471), (7, 64447), (9, 64414), (10, 64405),

Gene: Timmi\_89 Start: 64254, Stop: 64033, Start Num: 4

Candidate Starts for Timmi\_89:

(Start: 4 @64254 has 277 MA's), (5, 64245), (7, 64221), (9, 64188), (10, 64179),

Gene: TomBombadil\_91 Start: 64781, Stop: 64560, Start Num: 4

Candidate Starts for TomBombadil\_91:

(Start: 4 @64781 has 277 MA's), (5, 64772), (7, 64748), (9, 64715), (10, 64706),

Gene: Tomlarah\_91 Start: 65087, Stop: 64866, Start Num: 4

Candidate Starts for Tomlarah\_91:

(Start: 4 @65087 has 277 MA's), (5, 65078), (7, 65054), (9, 65021), (10, 65012),

Gene: Toni\_90 Start: 64683, Stop: 64462, Start Num: 4

Candidate Starts for Toni\_90:

(Start: 4 @64683 has 277 MA's), (5, 64674), (7, 64650), (9, 64617), (10, 64608),

Gene: TooFast2Furius\_92 Start: 64645, Stop: 64424, Start Num: 4

Candidate Starts for TooFast2Furius\_92:

(Start: 4 @64645 has 277 MA's), (5, 64636), (7, 64612), (9, 64579), (10, 64570),

Gene: Tooj\_88 Start: 63897, Stop: 63676, Start Num: 4

Candidate Starts for Tooj\_88:

(Start: 4 @63897 has 277 MA's), (5, 63888), (7, 63864), (9, 63831), (10, 63822),

Gene: Triad\_91 Start: 64131, Stop: 63910, Start Num: 4

Candidate Starts for Triad\_91:

(Start: 4 @64131 has 277 MA's), (5, 64122), (7, 64098), (9, 64065), (10, 64056),

Gene: True\_89 Start: 64230, Stop: 64009, Start Num: 4

Candidate Starts for True\_89:

(Start: 4 @64230 has 277 MA's), (5, 64221), (7, 64197), (9, 64164), (10, 64155),

Gene: Trypo\_91 Start: 64952, Stop: 64731, Start Num: 4

Candidate Starts for Trypo\_91:

(Start: 4 @64952 has 277 MA's), (5, 64943), (7, 64919), (9, 64886), (10, 64877),

Gene: TyrionL\_91 Start: 64314, Stop: 64093, Start Num: 4

Candidate Starts for TyrionL\_91:

(Start: 4 @64314 has 277 MA's), (5, 64305), (7, 64281), (9, 64248), (10, 64239),

Gene: UAch1\_92 Start: 64581, Stop: 64360, Start Num: 4

Candidate Starts for UAch1\_92:

(Start: 4 @64581 has 277 MA's), (5, 64572), (7, 64548), (9, 64515), (10, 64506),

Gene: UncleHowie\_87 Start: 63918, Stop: 63697, Start Num: 4

Candidate Starts for UncleHowie\_87:

(Start: 4 @63918 has 277 MA's), (5, 63909), (7, 63885), (9, 63852), (10, 63843),

Gene: Usavi\_91 Start: 65078, Stop: 64857, Start Num: 4

Candidate Starts for Usavi\_91:

(Start: 4 @65078 has 277 MA's), (5, 65069), (7, 65045), (9, 65012), (10, 65003),

Gene: Vaishali24\_92 Start: 64678, Stop: 64436, Start Num: 4

Candidate Starts for Vaishali24\_92:

(Start: 4 @64678 has 277 MA's), (5, 64669), (7, 64645), (9, 64612), (10, 64603), (16, 64531),

Gene: Valjean\_89 Start: 64472, Stop: 64251, Start Num: 4

Candidate Starts for Valjean\_89:

(Start: 4 @64472 has 277 MA's), (5, 64463), (7, 64439), (9, 64406), (10, 64397),

Gene: Vaticameos\_88 Start: 62787, Stop: 62566, Start Num: 4

Candidate Starts for Vaticameos\_88:

(Start: 4 @62787 has 277 MA's), (5, 62778), (7, 62754), (9, 62721), (10, 62712),

Gene: Veritas\_90 Start: 64395, Stop: 64174, Start Num: 4

Candidate Starts for Veritas\_90:

(Start: 4 @64395 has 277 MA's), (5, 64386), (7, 64362), (9, 64329), (10, 64320),

Gene: Virapocalypse\_92 Start: 64580, Stop: 64359, Start Num: 4

Candidate Starts for Virapocalypse\_92:

(Start: 4 @64580 has 277 MA's), (5, 64571), (7, 64547), (9, 64514), (10, 64505),

Gene: Virgeve\_89 Start: 64199, Stop: 63978, Start Num: 4  
Candidate Starts for Virgeve\_89:  
(Start: 4 @64199 has 277 MA's), (5, 64190), (7, 64166), (9, 64133), (10, 64124),

Gene: Vista\_90 Start: 64393, Stop: 64172, Start Num: 4  
Candidate Starts for Vista\_90:  
(Start: 4 @64393 has 277 MA's), (5, 64384), (7, 64360), (9, 64327), (10, 64318),

Gene: Vivaldi\_91 Start: 64659, Stop: 64438, Start Num: 4  
Candidate Starts for Vivaldi\_91:  
(Start: 4 @64659 has 277 MA's), (5, 64650), (7, 64626), (9, 64593), (10, 64584),

Gene: Vortex\_89 Start: 64500, Stop: 64279, Start Num: 4  
Candidate Starts for Vortex\_89:  
(Start: 4 @64500 has 277 MA's), (5, 64491), (7, 64467), (9, 64434), (10, 64425),

Gene: Wallhey\_92 Start: 64501, Stop: 64280, Start Num: 4  
Candidate Starts for Wallhey\_92:  
(Start: 4 @64501 has 277 MA's), (5, 64492), (7, 64468), (9, 64435), (10, 64426),

Gene: Waterdiva\_92 Start: 64767, Stop: 64546, Start Num: 4  
Candidate Starts for Waterdiva\_92:  
(Start: 4 @64767 has 277 MA's), (5, 64758), (7, 64734), (9, 64701), (10, 64692),

Gene: Weher20\_88 Start: 64838, Stop: 64617, Start Num: 4  
Candidate Starts for Weher20\_88:  
(Start: 4 @64838 has 277 MA's), (5, 64829), (7, 64805), (9, 64772), (10, 64763),

Gene: Windsor\_91 Start: 64783, Stop: 64562, Start Num: 4  
Candidate Starts for Windsor\_91:  
(Start: 4 @64783 has 277 MA's), (5, 64774), (7, 64750), (9, 64717), (10, 64708),

Gene: Xavier\_90 Start: 64392, Stop: 64171, Start Num: 4  
Candidate Starts for Xavier\_90:  
(Start: 4 @64392 has 277 MA's), (5, 64383), (7, 64359), (9, 64326), (10, 64317),

Gene: Yoshand\_92 Start: 64617, Stop: 64396, Start Num: 4  
Candidate Starts for Yoshand\_92:  
(Start: 4 @64617 has 277 MA's), (5, 64608), (7, 64584), (9, 64551), (10, 64542),

Gene: YouGoGlencoco\_91 Start: 64507, Stop: 64286, Start Num: 4  
Candidate Starts for YouGoGlencoco\_91:  
(Start: 4 @64507 has 277 MA's), (5, 64498), (7, 64474), (9, 64441), (10, 64432),

Gene: Zaider\_92 Start: 64882, Stop: 64661, Start Num: 4  
Candidate Starts for Zaider\_92:  
(Start: 4 @64882 has 277 MA's), (5, 64873), (7, 64849), (9, 64816), (10, 64807),

Gene: Zelda\_91 Start: 64838, Stop: 64617, Start Num: 4  
Candidate Starts for Zelda\_91:  
(Start: 4 @64838 has 277 MA's), (5, 64829), (7, 64805), (9, 64772), (10, 64763),

Gene: Zenteno07\_95 Start: 66788, Stop: 66540, Start Num: 6

Candidate Starts for Zenteno07\_95:

(Start: 6 @66788 has 5 MA's), (14, 66713), (20, 66587), (21, 66584),

Gene: Zonia\_91 Start: 64949, Stop: 64728, Start Num: 4

Candidate Starts for Zonia\_91:

(Start: 4 @64949 has 277 MA's), (5, 64940), (7, 64916), (9, 64883), (10, 64874),