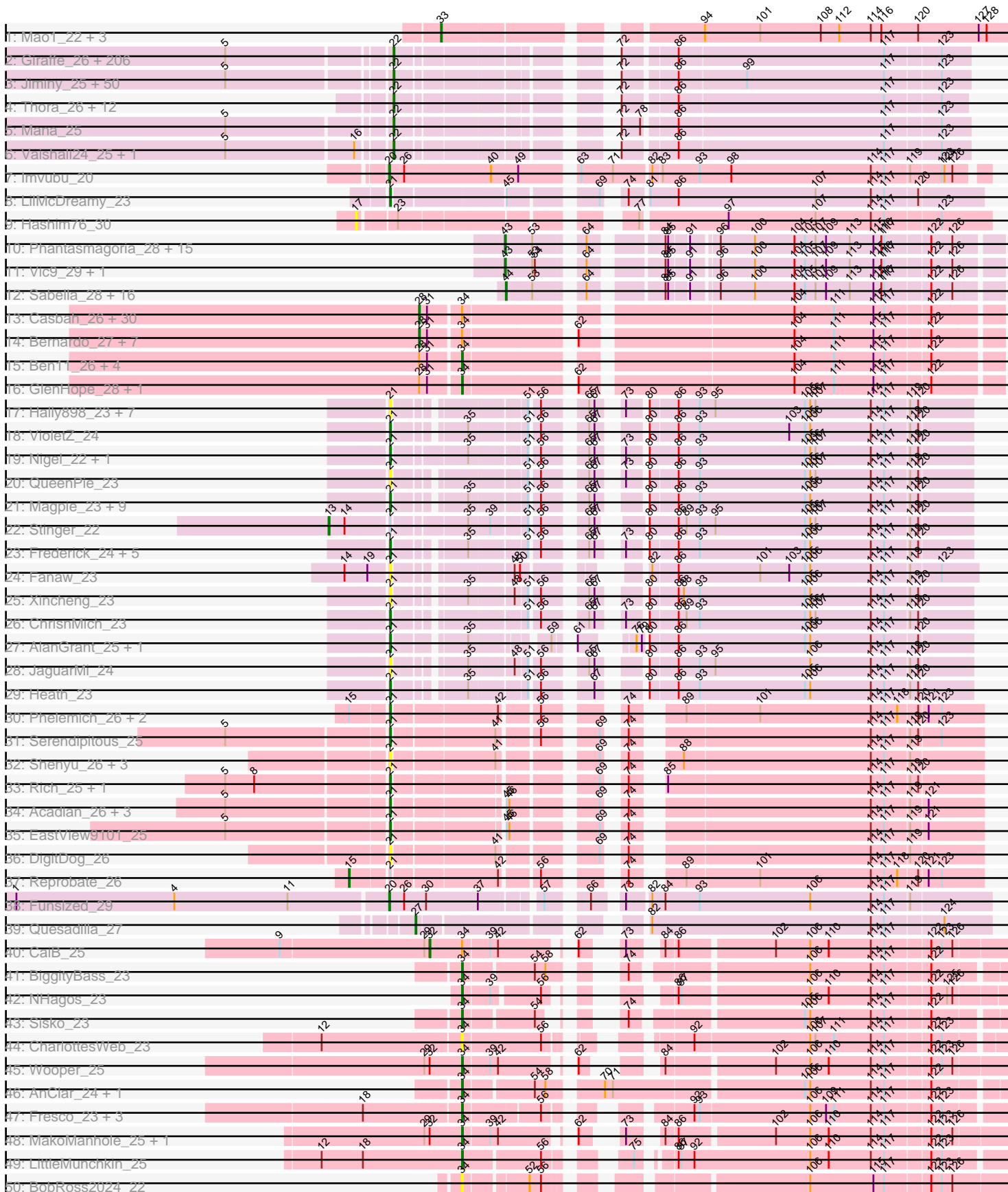
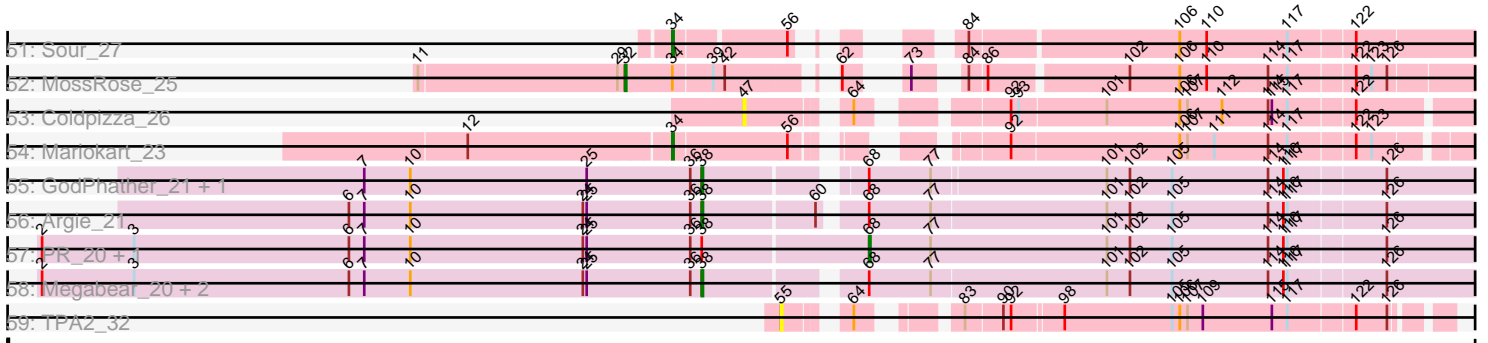


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start.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

## Pham 189342 Report

This analysis was run 11/02/24 on database version 579.

Pham number 189342 has 446 members, 42 are drafts.

Phages represented in each track:

- Track 1 : Mao1\_22, Mask\_23, Dori\_23, Sejanus\_23
- Track 2 : Giraffe\_26, Haimas\_26, Serpentine\_0026, Banjo\_25, Iridoclysis\_26, Mikota\_26, Nacho\_0026, Pops\_26, Chunky\_26, Adriana\_26, Mcshane\_25, Nicole21\_26, Hetaeria\_26, Kimbrough\_26, Lumine\_25, Potter\_25, Oosterbaan\_26, Selr12\_26, Burr\_25, Inchworm\_26, Matalotodo\_26, Valjean\_26, OliverWalter\_26, SilverBell\_26, UncleHowie\_26, Olive\_26, Usavi\_26, Gyarad\_0026, Zelda\_26, EmpTee\_26, Eugenia\_26, Mulan\_25, Prickles\_26, FluffyNinja\_26, Pherdinand\_26, LuckyMarjie\_25, Altwerkus\_25, DirtJuice\_26, Basato\_27, Frankicide\_26, Toni\_25, Morty\_26, Thunderbird\_25, Boehler\_26, KLucky39\_26, Cher\_25, Haleema\_25, Buckeye\_26, HenryJackson\_25, Gwilliam\_26, Pipsqueak\_26, SDcharge11\_26, Etaye\_26, Antonia\_25, Gareth\_25, Plmatters\_26, Newman\_26, Waterdiva\_26, Kwadwo\_25, Schueller\_26, Simielle\_25, Manad\_25, Squid\_26, Cornobble\_25, Freya\_25, Olak\_25, ABU\_26, Hamish\_26, Lulumae\_25, Scoot17C\_26, ThreeOh3D2\_26, BlackStallion\_26, Murdoc\_26, Mecca\_25, Yoshand\_26, LostAndPhound\_25, Schadenfreude\_25, Scrick\_26, MitKao\_26, Swish\_26, Orfeu\_25, Bishoperium\_25, Mutante\_25, Serendipity\_26, Orion\_26, Sigman\_26, Roy17\_26, Lulwa\_26, Xavier\_25, CheetO\_26, Emiris\_26, Spartan300\_26, Cobra\_26, Megatron\_26, Dingo\_26, LeeLot\_26, KlimbOn\_26, PhrodoBaggins\_25, IsaacEli\_26, PinheadLarry\_26, Beaglebox\_25, Sophia\_25, Jillium\_25, Lopsy\_25, Grand2040\_25, Chorkpop\_26, Mosaic\_25, ProfessorX\_26, Solosis\_25, Maru\_25, Virapocalypse\_26, Crownjwl\_26, Roliet\_26, Harvey\_26, Kikipoo\_26, Telesworld\_25, SassyCat97\_25, Hertubise\_26, Dati\_26, QueenBeane\_26, DaddyDaniels\_26, Childish\_25, Fozzie\_25, MiniBoss\_26, Omniscient\_26, Ricotta\_25, Badfish\_26, Held\_26, JangoPhett\_26, Lego3393\_26, Horchata\_26, Bluephacebaby\_25, KingVeVeVe\_26, Nyala\_25, Colbert\_26, Phareon\_26, AbsoluteMadLad\_25, Kahve\_25, Pacifista\_25, Fang\_26, LeiMonet\_26, Inverness\_26, YouGoGlencoco\_26, ShiVal\_26, Cosmolli16\_25, LemonSlice\_26, DonSanchon\_25, Legolas\_25, Cannibal\_26, HSavage\_26, HighStump\_25, TallGrassMM\_26, Eremos\_26, Morgushi\_26, Suffolk\_26, Dice\_25, LasagnaCat\_26, Carthage\_24, JacAttac\_26, MRabcd\_25, Riggan\_26, Dione\_25, Lasso\_26, UAch1\_26, Mesh1\_26, Sheila\_26, Samaymay\_26, Timmi\_25, True\_25, Katniss\_26, Squiggle\_26, TomBombadil\_26, Phipps\_26, AltPhacts\_26, Daffy\_26, Craff\_26, Kloppinator\_26, PhatCats2014\_26, Soto\_26, DoesntMatter\_26, Zaider\_27, Piglet\_0025, Daka\_26, Roscoe\_27, CamL\_26, Phunky\_26, Phamished\_26, Weher20\_26, FugateOSU\_25, Vaticameos\_26, Podrick\_26, FriarPreacher\_26, Vista\_26, CampRoach\_26, Tooj\_26, RedMaple\_25, Melc17\_26, Surely\_26, Aelin\_25, Jiraiya\_26, Tomlarah\_26, Placalicious\_25, Slatt\_26, PG1\_26, Vortex\_26, Chah\_27, Vivaldi\_26

- Track 3 : Jiminy\_25, Phergie\_25, DuchessDung\_24, DelRivs\_25, Phleuron\_25, Rimu\_27, BatteryCK\_25, MrPhizzler\_25, Oline\_25, Maskar\_25, Derpp\_25, Magic8\_26, TyrionL\_25, Zonia\_26, Hocus\_25, Trypo\_26, OSmaximus\_26, Veritas\_25, Swiphy\_27, Coletti\_25, Doddsville\_26, Duggie\_25, MichaelPhcott\_25, Kailash\_26, JakeO\_25, JDog\_25, Chute\_25, Pinkman\_25, MelsMeow\_25, Windsor\_25, Keitherie\_26, Ashraf\_25, ImtiyazSitla\_25, Virgeve\_25, PhrankReynolds\_25, Durga\_26, PhenghisKhan\_25, GeneCoco\_26, Soile\_26, Longacauda\_25, Wallhey\_25, Apizium\_25, Kwksand96\_25, Brilliant\_26, Hartsy\_26, Struggle\_25, Mag7\_25, PhatLouie\_26, Chaelin\_25, Labeouficaum\_25, CharlieGBrown\_25
- Track 4 : Thora\_26, Orwigg\_26, Megamind20\_26, Numberten\_26, Andre\_26, Charles1\_26, Quisquiliae\_26, Gophee\_26, Puhltonio\_26, Skippy\_26, Fringe\_26, BlueHusk\_26, Anderson\_26
- Track 5 : Mana\_25
- Track 6 : Vaishali24\_25, Robyn\_25
- Track 7 : Imvubu\_20
- Track 8 : LilMcDreamy\_23
- Track 9 : Hashim76\_30
- Track 10 : Phantasmagoria\_28, Allegro\_28, Kheth\_28, LizLemon\_28, Godines\_28, Coffee\_28, TA17A\_28, Rhinoforte\_28, Opia\_28, Lars\_28, Bananafish\_28, Boyle\_28, Holeinone\_28, Blocker23\_28, Qyrzula\_26, ItsyBitsy1\_28
- Track 11 : Vic9\_29, Laurie\_28
- Track 12 : Sabella\_28, Faze9\_28, Brownie5\_28, Rosebush\_28, Kaleb\_28, West99\_28, Calamitous\_28, Tinciduntolum\_29, Tres\_28, Arbiter\_28, MasterPo\_28, Eaglehorse\_28, Hedgerow\_28, Glass\_28, Ares\_28, Lephleur\_28, FrenchFry\_28
- Track 13 : Casbah\_26, Baloo\_27, Briakila\_27, LestyG\_27, Yinz\_27, MmasiCarm\_27, RagingRooster\_27, RomaT\_27, Audrey\_27, Phaedrus\_25, ChaChing\_27, Athena\_28, Abinghost\_27, Corofin\_27, Phayeta\_27, Tydolla\_27, HarveySr\_27, Marley1013\_27, Daisy\_27, Devonte\_27, Philly\_26, Gervas\_27, Halfpint\_26, OrangeOswald\_27, Deenasa\_27, Nozo\_27, Obutu\_27, Morty007\_27, Mortcellus\_26, SynergyX\_27, Kamiyu\_27
- Track 14 : Bernardo\_27, Phlyer\_27, Neos5\_27, Yahalom\_27, Heathcliff\_27, Akoma\_27, Gadget\_28, Pipefish\_27
- Track 15 : Ben11\_26, SlippinJimmy\_27, Chandler\_27, Rita1961\_27, Compostia\_28
- Track 16 : GlenHope\_28, Kronus\_26
- Track 17 : Hally898\_23, Antihero\_23, Ahwei\_23, Poster\_23, Lambano\_23, Epah\_23, GinPorsche\_23, Nanao\_23
- Track 18 : VioletZ\_24
- Track 19 : Nigel\_22, JAMaL\_24
- Track 20 : QueenPie\_23
- Track 21 : Magpie\_23, Hangman\_24, Waleliano\_24, BrownCNA\_25, Mudslide\_24, Mithril\_24, Hydro\_24, Lolalove\_24, Zemanar\_25, Austelle\_25
- Track 22 : Stinger\_22
- Track 23 : Frederick\_24, RawrgerThat\_24, Prince\_24, Fortunato\_24, Apex\_24, BobbyK\_24
- Track 24 : Fanaw\_23
- Track 25 : Xincheng\_23
- Track 26 : ChrisnMich\_23
- Track 27 : AlanGrant\_25, Vincenzo\_25
- Track 28 : JaguarMi\_24
- Track 29 : Heath\_23
- Track 30 : Phelemich\_26, Mysterious\_27, Nehemiah\_25
- Track 31 : Serendipitous\_25

- Track 32 : Shenyu\_26, KarasumaRum\_28, Nangang\_26, StinkyVeggy\_28
- Track 33 : Rich\_25, Bae\_25
- Track 34 : Acadian\_26, Donny\_26, Suigeneris\_26, SirJeffery\_26
- Track 35 : EastView9101\_25
- Track 36 : DigitDog\_26
- Track 37 : Reprobate\_26
- Track 38 : Funsized\_29
- Track 39 : Quesadilla\_27
- Track 40 : CaiB\_25
- Track 41 : BiggityBass\_23
- Track 42 : NHagos\_23
- Track 43 : Sisko\_23
- Track 44 : CharlottesWeb\_23
- Track 45 : Wooper\_25
- Track 46 : AnClar\_24, Yago84\_23
- Track 47 : Fresco\_23, Axumite\_23, Shatter\_23, Ligma\_23
- Track 48 : MakoManhole\_25, AnarQue\_25
- Track 49 : LittleMunchkin\_25
- Track 50 : BobRoss2024\_22
- Track 51 : Sour\_27
- Track 52 : MossRose\_25
- Track 53 : Coldpizza\_26
- Track 54 : Mariokart\_23
- Track 55 : GodPhather\_21, Jeon\_20
- Track 56 : Argie\_21
- Track 57 : PR\_20, D12\_20
- Track 58 : Megabear\_20, Taptic\_20, Cepens\_20
- Track 59 : TPA2\_32

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

The start number called the most often in the published annotations is 22, it was called in 262 of the 404 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• ABU\_26, AbsoluteMadLad\_25, Adriana\_26, Aelin\_25, AltPhacts\_26, Altwerkus\_25, Anderson\_26, Andre\_26, Antonia\_25, Apizium\_25, Ashraf\_25, Badfish\_26, Banjo\_25, Basato\_27, BatteryCK\_25, Beaglebox\_25, Bishoperium\_25, BlackStallion\_26, BlueHusk\_26, Bluephacebaby\_25, Boehler\_26, Brilliant\_26, Buckeye\_26, Burr\_25, CamL\_26, CampRoach\_26, Cannibal\_26, Carthage\_24, Chaelin\_25, Chah\_27, Charles1\_26, CharlieGBrown\_25, CheetO\_26, Cher\_25, Childish\_25, Chorkpop\_26, Chunky\_26, Chute\_25, Cobra\_26, Colbert\_26, Coletti\_25, Cornobble\_25, Cosmolli16\_25, Craff\_26, Crownjwl\_26, DaddyDaniels\_26, Daffy\_26, Daka\_26, Dati\_26, DelRivs\_25, Derpp\_25, Dice\_25, Dingo\_26, Dione\_25, DirtJuice\_26, Doddsville\_26, DoesntMatter\_26, DonSancho\_25, DuchessDung\_24, Duggie\_25, Durga\_26, Emiris\_26, EmpTee\_26, Eremos\_26, Etaye\_26, Eugenia\_26, Fang\_26, FluffyNinja\_26, Fozzie\_25, Frankicide\_26, Freya\_25, FriarPreacher\_26, Fringe\_26, FugateOSU\_25, Gareth\_25, GeneCoco\_26, Giraffe\_26, Gophee\_26, Grand2040\_25, Gwilliam\_26, Gyarad\_0026, HSavage\_26, Haimas\_26, Haleema\_25, Hamish\_26, Hartsy\_26, Harvey\_26, Held\_26, HenryJackson\_25, Hertubise\_26, Hetaeria\_26,

HighStump\_25, Hocus\_25, Horchata\_26, ImtiyazSitla\_25, Inchworm\_26, Inverness\_26, Iridoclysis\_26, IsaacEli\_26, JDog\_25, JacAttac\_26, JakeO\_25, JangoPhett\_26, Jillium\_25, Jiminy\_25, Jiraiya\_26, KLucky39\_26, Kahve\_25, Kailash\_26, Katniss\_26, Keitherie\_26, Kikipoo\_26, Kimbrough\_26, KingVeVeVe\_26, KlimbOn\_26, Kloppinator\_26, Kwadwo\_25, Kwksand96\_25, Labeouficaum\_25, LasagnaCat\_26, Lasso\_26, LeeLot\_26, Lego3393\_26, Legolas\_25, LeiMonet\_26, LemonSlice\_26, Longacauda\_25, Lopsy\_25, LostAndPhound\_25, LuckyMarjie\_25, Lulumae\_25, Lulwa\_26, Lumine\_25, MRabcd\_25, Mag7\_25, Magic8\_26, Mana\_25, Manad\_25, Maru\_25, Maskar\_25, Matalotodo\_26, Mcshane\_25, Mecca\_25, Megamind20\_26, Megatron\_26, Melc17\_26, MelsMeow\_25, Mesh1\_26, MichaelPhcott\_25, Mikota\_26, MiniBoss\_26, MitKao\_26, Morgushi\_26, Morty\_26, Mosaic\_25, MrPhizzler\_25, Mulan\_25, Murdoc\_26, Mutante\_25, Nacho\_0026, Newman\_26, Nicole21\_26, Numberten\_26, Nyala\_25, OSmaximus\_26, Olak\_25, Oline\_25, Olive\_26, OliverWalter\_26, Omniscient\_26, Oosterbaan\_26, Orfeu\_25, Orion\_26, Orwigg\_26, PG1\_26, Pacifista\_25, Phamished\_26, Phareon\_26, PhatCats2014\_26, PhatLouie\_26, PhenghisKhan\_25, Pherdinand\_26, Phergie\_25, Phipps\_26, Phleuron\_25, PhrankReynolds\_25, PhrodoBaggins\_25, Phunky\_26, Piglet\_0025, PinheadLarry\_26, Pinkman\_25, Pipsqueak\_26, Placalicious\_25, Plmatters\_26, Podrick\_26, Pops\_26, Potter\_25, Prickles\_26, ProfessorX\_26, Puhltonio\_26, QueenBeane\_26, Quisquillae\_26, RedMaple\_25, Ricotta\_25, Riggan\_26, Rimu\_27, Robyn\_25, Roliet\_26, Roscoe\_27, Roy17\_26, SDcharge11\_26, Samaymay\_26, SassyCat97\_25, Schadenfreude\_25, Schueller\_26, Scoot17C\_26, Scrick\_26, Selr12\_26, Serendipity\_26, Serpentine\_0026, Sheila\_26, ShiVal\_26, Sigman\_26, SilverBell\_26, Simielle\_25, Skippy\_26, Slatt\_26, Soile\_26, Solosis\_25, Sophia\_25, Soto\_26, Spartan300\_26, Squid\_26, Squiggle\_26, Struggle\_25, Suffolk\_26, Surely\_26, Swiphy\_27, Swish\_26, TallGrassMM\_26, Telesworld\_25, Thora\_26, ThreeOh3D2\_26, Thunderbird\_25, Timmi\_25, TomBombadil\_26, Tomlarah\_26, Toni\_25, Tooj\_26, True\_25, Trypo\_26, TyrionL\_25, UAch1\_26, UncleHowie\_26, Usavi\_26, Vaishali24\_25, Valjean\_26, Vaticameos\_26, Veritas\_25, Virapocalypse\_26, Virgeve\_25, Vista\_26, Vivaldi\_26, Vortex\_26, Wallhey\_25, Waterdiva\_26, Weher20\_26, Windsor\_25, Xavier\_25, Yoshand\_26, YouGoGlencoco\_26, Zaider\_27, Zelda\_26, Zonia\_26,

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

- 

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

- Abinghost\_27, Acadian\_26, Ahwei\_23, Akoma\_27, AlanGrant\_25, Allegro\_28, AnClar\_24, AnarQue\_25, Antihero\_23, Apex\_24, Arbiter\_28, Ares\_28, Argie\_21, Athena\_28, Audrey\_27, Austelle\_25, Axumite\_23, Bae\_25, Baloo\_27, Bananafish\_28, Ben11\_26, Bernardo\_27, BiggityBass\_23, Blocker23\_28, BobRoss2024\_22, BobbyK\_24, Boyle\_28, Briakila\_27, BrownCNA\_25, Brownie5\_28, CaiB\_25, Calamitous\_28, Casbah\_26, Cepens\_20, ChaChing\_27, Chandler\_27, CharlottesWeb\_23, ChrisnMich\_23, Coffee\_28, Coldpizza\_26, Compostia\_28, Corofin\_27, D12\_20, Daisy\_27, Deenasa\_27, Devonte\_27, DigitDog\_26, Donny\_26, Dori\_23, Eaglehorse\_28, EastView9101\_25, Epah\_23, Fanaw\_23, Faze9\_28, Fortunato\_24, Frederick\_24, FrenchFry\_28, Fresco\_23, Funsized\_29, Gadget\_28, Gervas\_27, GinPorsche\_23, Glass\_28, GlenHope\_28, GodPhather\_21, Godines\_28, Halfpint\_26, Hally898\_23, Hangman\_24, HarveySr\_27, Hashim76\_30, Heath\_23, Heathcliff\_27, Hedgerow\_28, Holeinone\_28, Hydro\_24, Imvubu\_20, ItsyBitsy1\_28, JAMaL\_24, JaguarMi\_24, Jeon\_20, Kaleb\_28, Kamiyu\_27, KarasumaRum\_28, Kheth\_28, Kronus\_26, Lambano\_23, Lars\_28, Laurie\_28, Lephleur\_28, LestyG\_27, Ligma\_23, LilMcDreamy\_23, LittleMunchkin\_25, LizLemon\_28, Lolalove\_24,

Magpie\_23, MakoManhole\_25, Mao1\_22, Mariokart\_23, Marley1013\_27, Mask\_23, MasterPo\_28, Megabear\_20, Mithril\_24, MmasiCarm\_27, Mortcellus\_26, Morty007\_27, MossRose\_25, Mudslide\_24, Mysterious\_27, NHagos\_23, Nanao\_23, Nangang\_26, Nehemiah\_25, Neos5\_27, Nigel\_22, Nozo\_27, Obutu\_27, Opia\_28, OrangeOswald\_27, PR\_20, Phaedrus\_25, Phantasmagoria\_28, Phayeta\_27, Phelemich\_26, Philly\_26, Phlyer\_27, Pipefish\_27, Poster\_23, Prince\_24, QueenPie\_23, Quesadilla\_27, Qyrzula\_26, RagingRooster\_27, RawrgerThat\_24, Reprobate\_26, Rhinoforte\_28, Rich\_25, Rita1961\_27, RomaT\_27, Rosebush\_28, Sabella\_28, Sejanus\_23, Serendipitous\_25, Shatter\_23, Shenyu\_26, SirJeffery\_26, Sisko\_23, SlippinJimmy\_27, Sour\_27, Stinger\_22, StinkyVeggy\_28, Suigeneris\_26, SynergyX\_27, TA17A\_28, TPA2\_32, Taptic\_20, Tinciduntolum\_29, Tres\_28, Tydolla\_27, Vic9\_29, Vincenzo\_25, VioletZ\_24, Waleliano\_24, West99\_28, Wooper\_25, Xincheng\_23, Yago84\_23, Yahalom\_27, Yinz\_27, Zemanar\_25,

### Summary by start number:

#### Start 13:

- Found in 1 of 446 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 404
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Stinger\_22 (B4),

#### Start 15:

- Found in 4 of 446 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 404
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Reprobate\_26 (B5),

#### Start 17:

- Found in 1 of 446 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hashim76\_30 (B13),

#### Start 20:

- Found in 2 of 446 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 404
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Funsized\_29 (B9), Imvubu\_20 (B10),

#### Start 21:

- Found in 54 of 446 ( 12.1% ) of genes in pham
- Manual Annotations of this start: 32 of 404
- Called 96.3% of time when present
- Phage (with cluster) where this start called: Acadian\_26 (B5), Ahwei\_23 (B4), AlanGrant\_25 (B4), Antihero\_23 (B4), Apex\_24 (B4), Austelle\_25 (B4), Bae\_25 (B5), BobbyK\_24 (B4), BrownCNA\_25 (B4), ChrisnMich\_23 (B4), DigitDog\_26 (B5), Donny\_26 (B5), EastView9101\_25 (B5), Epah\_23 (B4), Fanaw\_23 (B4), Fortunato\_24 (B4), Frederick\_24 (B4), GinPorsche\_23 (B4), Hally898\_23 (B4), Hangman\_24 (B4), Heath\_23 (B4), Hydro\_24 (B4), JAMaL\_24 (B4), JaguarMi\_24 (B4), KarasumaRum\_28 (B5), Lambano\_23 (B4), LilMcDreamy\_23 (B12), Lolalove\_24 (B4), Magpie\_23 (B4), Mithril\_24 (B4), Mudslide\_24 (B4), Mysterious\_27 (B5), Nanao\_23 (B4), Nangang\_26 (B5), Nehemiah\_25 (B5), Nigel\_22 (B4),

Phelemich\_26 (B5), Poster\_23 (B4), Prince\_24 (B4), QueenPie\_23 (B4), RawrgerThat\_24 (B4), Rich\_25 (B5), Serendipitous\_25 (B5), Shenyu\_26 (B5), SirJeffery\_26 (B5), StinkyVeggy\_28 (B5), Suigeneris\_26 (B5), Vincenzo\_25 (B4), VioletZ\_24 (B4), Waleliano\_24 (B4), Xincheng\_23 (B4), Zemanar\_25 (B4),

Start 22:

- Found in 274 of 446 ( 61.4% ) of genes in pham
- Manual Annotations of this start: 262 of 404
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ABU\_26 (B1), AbsoluteMadLad\_25 (B1), Adriana\_26 (B1), Aelin\_25 (B1), AltPhacts\_26 (B1), Altwerkus\_25 (B1), Anderson\_26 (B1), Andre\_26 (B1), Antonia\_25 (B1), Apizium\_25 (B1), Ashraf\_25 (B1), Badfish\_26 (B1), Banjo\_25 (B1), Basato\_27 (B1), BatteryCK\_25 (B1), Beaglebox\_25 (B1), Bishoperium\_25 (B1), BlackStallion\_26 (B1), BlueHusk\_26 (B1), Bluephacebaby\_25 (B1), Boehler\_26 (B1), Brilliant\_26 (B1), Buckeye\_26 (B1), Burr\_25 (B1), CamL\_26 (B1), CampRoach\_26 (B1), Cannibal\_26 (B1), Carthage\_24 (B1), Chaelin\_25 (B1), Chah\_27 (B1), Charles1\_26 (B1), CharlieGBrown\_25 (B1), CheetO\_26 (B1), Cher\_25 (B1), Childish\_25 (B1), Chorkpop\_26 (B1), Chunky\_26 (B1), Chute\_25 (B1), Cobra\_26 (B1), Colbert\_26 (B1), Coletti\_25 (B1), Cornobble\_25 (B1), Cosmolli16\_25 (B1), Craff\_26 (B1), Crownjwl\_26 (B1), DaddyDaniels\_26 (B1), Daffy\_26 (B1), Daka\_26 (B1), Dati\_26 (B1), DelRivs\_25 (B1), Derpp\_25 (B1), Dice\_25 (B1), Dingo\_26 (B1), Dione\_25 (B1), DirtJuice\_26 (B1), Doddsville\_26 (B1), DoesntMatter\_26 (B1), DonSanchon\_25 (B1), DuchessDung\_24 (B1), Duggie\_25 (B1), Durga\_26 (B1), Emiris\_26 (B1), EmpTee\_26 (B1), Eremos\_26 (B1), Etaye\_26 (B1), Eugenia\_26 (B1), Fang\_26 (B1), FluffyNinja\_26 (B1), Fozzie\_25 (B1), Frankicide\_26 (B1), Freya\_25 (B1), FriarPreacher\_26 (B1), Fringe\_26 (B1), FugateOSU\_25 (B1), Gareth\_25 (B1), GeneCoco\_26 (B1), Giraffe\_26 (B1), Gophee\_26 (B1), Grand2040\_25 (B1), Gwilliam\_26 (B1), Gyarad\_0026 (B1), HSavage\_26 (B1), Haimas\_26 (B1), Haleema\_25 (B1), Hamish\_26 (B1), Hartsy\_26 (B1), Harvey\_26 (B1), Held\_26 (B1), HenryJackson\_25 (B1), Hertubise\_26 (B1), Hetaeria\_26 (B1), HighStump\_25 (B1), Hocus\_25 (B1), Horchata\_26 (B1), ImtiyazSitla\_25 (B1), Inchworm\_26 (B1), Inverness\_26 (B1), Iridoclysis\_26 (B1), IsaacEli\_26 (B1), JDog\_25 (B1), JacAttac\_26 (B1), JakeO\_25 (B1), JangoPhett\_26 (B1), Jillium\_25 (B1), Jiminy\_25 (B1), Jiraiya\_26 (B1), KLucky39\_26 (B1), Kahve\_25 (B1), Kailash\_26 (B1), Katniss\_26 (B1), Keitherie\_26 (B1), Kikipoo\_26 (B1), Kimbrough\_26 (B1), KingVeVeVe\_26 (B1), KlimbOn\_26 (B1), Kloppinator\_26 (B1), Kwadwo\_25 (B1), Kwksand96\_25 (B1), Labeouficaum\_25 (B1), LasagnaCat\_26 (B1), Lasso\_26 (B1), LeeLot\_26 (B1), Lego3393\_26 (B1), Legolas\_25 (B1), LeiMonet\_26 (B1), LemonSlice\_26 (B1), Longacauda\_25 (B1), Lopsy\_25 (B1), LostAndPhound\_25 (B1), LuckyMarjie\_25 (B1), Lulumae\_25 (B1), Lulwa\_26 (B1), Lumine\_25 (B1), MRabcd\_25 (B1), Mag7\_25 (B1), Magic8\_26 (B1), Mana\_25 (B1), Manad\_25 (B1), Maru\_25 (B1), Maskar\_25 (B1), Matalotodo\_26 (B1), Mcshane\_25 (B1), Mecca\_25 (B1), Megamind20\_26 (B1), Megatron\_26 (B1), Melc17\_26 (B1), MelsMeow\_25 (B1), Mesh1\_26 (B1), MichaelPhcott\_25 (B1), Mikota\_26 (B1), MiniBoss\_26 (B1), MitKao\_26 (B1), Morgushi\_26 (B1), Morty\_26 (B1), Mosaic\_25 (B1), MrPhizzler\_25 (B1), Mulan\_25 (B1), Murdoc\_26 (B1), Mutante\_25 (B1), Nacho\_0026 (B1), Newman\_26 (B1), Nicole21\_26 (B1), Numberten\_26 (B1), Nyala\_25 (B1), OSmaximus\_26 (B1), Olak\_25 (B1), Oline\_25 (B1), Olive\_26 (B1), OliverWalter\_26 (B1), Omniscient\_26 (B1), Oosterbaan\_26 (B1), Orfeu\_25 (B1), Orion\_26 (B1), Orwigg\_26 (B1), PG1\_26 (B1), Pacifista\_25 (B1), Phamished\_26 (B1), Phareon\_26 (B1), PhatCats2014\_26 (B1), PhatLouie\_26 (B1), PhenghisKhan\_25 (B1), Pherdinand\_26 (B1), Phergie\_25 (B1), Phipps\_26 (B1), Phleuron\_25 (B1), PhrankReynolds\_25 (B1), PhrodoBaggins\_25 (B1), Phunky\_26 (B1), Piglet\_0025



(B1), PinheadLarry\_26 (B1), Pinkman\_25 (B1), Pipsqueak\_26 (B1), Placalicious\_25 (B1), Plmatters\_26 (B1), Podrick\_26 (B1), Pops\_26 (B1), Potter\_25 (B1), Prickles\_26 (B1), ProfessorX\_26 (B1), Puhltonio\_26 (B1), QueenBeane\_26 (B1), Quisquillae\_26 (B1), RedMaple\_25 (B1), Ricotta\_25 (B1), Riggan\_26 (B1), Rimu\_27 (B1), Robyn\_25 (B1), Roliet\_26 (B1), Roscoe\_27 (B1), Roy17\_26 (B1), SDcharge11\_26 (B1), Samaymay\_26 (B1), SassyCat97\_25 (B1), Schadenfreude\_25 (B1), Schueller\_26 (B1), Scoot17C\_26 (B1), Scrick\_26 (B1), Selr12\_26 (B1), Serendipity\_26 (B1), Serpentine\_0026 (B1), Sheila\_26 (B1), ShiVal\_26 (B1), Sigman\_26 (B1), SilverBell\_26 (B1), Simielle\_25 (B1), Skippy\_26 (B1), Slatt\_26 (B1), Soile\_26 (B1), Solosis\_25 (B1), Sophia\_25 (B1), Soto\_26 (B1), Spartan300\_26 (B1), Squid\_26 (B1), Squiggle\_26 (B1), Struggle\_25 (B1), Suffolk\_26 (B1), Surely\_26 (B1), Swiphy\_27 (B1), Swish\_26 (B1), TallGrassMM\_26 (B1), Telesworld\_25 (B1), Thora\_26 (B1), ThreeOh3D2\_26 (B1), Thunderbird\_25 (B1), Timmi\_25 (B1), TomBombadil\_26 (B1), Tomlarah\_26 (B1), Toni\_25 (B1), Tooj\_26 (B1), True\_25 (B1), Trypo\_26 (B1), TyrionL\_25 (B1), UAch1\_26 (B1), UncleHowie\_26 (B1), Usavi\_26 (B1), Vaishali24\_25 (B1), Valjean\_26 (B1), Vaticameos\_26 (B1), Veritas\_25 (B1), Virapocalypse\_26 (B1), Virgeve\_25 (B1), Vista\_26 (B1), Vivaldi\_26 (B1), Vortex\_26 (B1), Wallhey\_25 (B1), Waterdiva\_26 (B1), Weher20\_26 (B1), Windsor\_25 (B1), Xavier\_25 (B1), Yoshand\_26 (B1), YouGoGlencoco\_26 (B1), Zaider\_27 (B1), Zelda\_26 (B1), Zonia\_26 (B1),

#### Start 27:

- Found in 1 of 446 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 404
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Quesadilla\_27 (B9),

#### Start 28:

- Found in 46 of 446 ( 10.3% ) of genes in pham
- Manual Annotations of this start: 39 of 404
- Called 84.8% of time when present
- Phage (with cluster) where this start called: Abinghost\_27 (B3), Akoma\_27 (B3), Athena\_28 (B3), Audrey\_27 (B3), Baloo\_27 (B3), Bernardo\_27 (B3), Briakila\_27 (B3), Casbah\_26 (B3), ChaChing\_27 (B3), Corofin\_27 (B3), Daisy\_27 (B3), Deenasa\_27 (B3), Devonte\_27 (B3), Gadget\_28 (B3), Gervas\_27 (B3), Halfpint\_26 (B3), HarveySr\_27 (B3), Heathcliff\_27 (B3), Kamiyu\_27 (B3), LestyG\_27 (B3), Marley1013\_27 (B3), MmasiCarm\_27 (B3), Mortcellus\_26 (B3), Morty007\_27 (B3), Neos5\_27 (B3), Nozo\_27 (B3), Obutu\_27 (B3), OrangeOswald\_27 (B3), Phaedrus\_25 (B3), Phayeta\_27 (B3), Philly\_26 (B3), Phlyer\_27 (B3), Pipefish\_27 (B3), RagingRooster\_27 (B3), RomaT\_27 (B3), SynergyX\_27 (B3), Tydolla\_27 (B3), Yahalom\_27 (B3), Yinz\_27 (B3),

#### Start 32:

- Found in 5 of 446 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 404
- Called 40.0% of time when present
- Phage (with cluster) where this start called: CaiB\_25 (DR), MossRose\_25 (DR),

#### Start 33:

- Found in 4 of 446 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 4 of 404
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Dori\_23 (AD), Mao1\_22 (AD), Mask\_23 (AD), Sejanus\_23 (AD),

#### Start 34:

- Found in 65 of 446 ( 14.6% ) of genes in pham
- Manual Annotations of this start: 20 of 404
- Called 36.9% of time when present
- Phage (with cluster) where this start called: AnClar\_24 (DR), AnarQue\_25 (DR), Axumite\_23 (DR), Ben11\_26 (B3), BiggityBass\_23 (DR), BobRoss2024\_22 (DR), Chandler\_27 (B3), CharlottesWeb\_23 (DR), Compostia\_28 (B3), Fresco\_23 (DR), GlenHope\_28 (B3), Kronus\_26 (B3), Ligma\_23 (DR), LittleMunchkin\_25 (DR), MakoManhole\_25 (DR), Mariokart\_23 (DR), NHagos\_23 (DR), Rita1961\_27 (B3), Shatter\_23 (DR), Sisko\_23 (DR), SlippinJimmy\_27 (B3), Sour\_27 (DR), Wooper\_25 (DR), Yago84\_23 (DR),

#### Start 38:

- Found in 8 of 446 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 6 of 404
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Argie\_21 (W), Cepens\_20 (W), GodPhather\_21 (W), Jeon\_20 (W), Megabear\_20 (W), Taptic\_20 (W),

#### Start 43:

- Found in 18 of 446 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 16 of 404
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Allegro\_28 (B2), Bananafish\_28 (B2), Blocker23\_28 (B2), Boyle\_28 (B2), Coffee\_28 (B2), Godines\_28 (B2), Holeinone\_28 (B2), ItsyBitsy1\_28 (B2), Kheth\_28 (B2), Lars\_28 (B2), Laurie\_28 (B2), LizLemon\_28 (B2), Opia\_28 (B2), Phantasmagoria\_28 (B2), Qyrzula\_26 (B2), Rhinoforte\_28 (B2), TA17A\_28 (B2), Vic9\_29 (B2),

#### Start 44:

- Found in 17 of 446 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 16 of 404
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arbiter\_28 (B2), Ares\_28 (B2), Brownie5\_28 (B2), Calamitous\_28 (B2), Eaglehorse\_28 (B2), Faze9\_28 (B2), FrenchFry\_28 (B2), Glass\_28 (B2), Hedgerow\_28 (B2), Kaleb\_28 (B2), Lephleur\_28 (B2), MasterPo\_28 (B2), Rosebush\_28 (B2), Sabella\_28 (B2), Tinciduntolum\_29 (B2), Tres\_28 (B2), West99\_28 (B2),

#### Start 47:

- Found in 1 of 446 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Coldpizza\_26 (DR),

#### Start 55:

- Found in 1 of 446 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TPA2\_32 (singleton),

Start 68:

- Found in 8 of 446 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 2 of 404
- Called 25.0% of time when present
- Phage (with cluster) where this start called: D12\_20 (W), PR\_20 (W),

### **Summary by clusters:**

There are 13 clusters represented in this pham: singleton, B2, B4, B5, B10, B12, B13, W, B3, AD, DR, B9, B1,

Info for manual annotations of cluster AD:

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

Info for manual annotations of cluster B1:

- Start number 22 was manually annotated 262 times for cluster B1.

Info for manual annotations of cluster B10:

- Start number 20 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B12:

- Start number 21 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B2:

- Start number 43 was manually annotated 16 times for cluster B2.
- Start number 44 was manually annotated 16 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 28 was manually annotated 39 times for cluster B3.
- Start number 34 was manually annotated 5 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 13 was manually annotated 1 time for cluster B4.
- Start number 21 was manually annotated 23 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 15 was manually annotated 1 time for cluster B5.
- Start number 21 was manually annotated 8 times for cluster B5.

Info for manual annotations of cluster B9:

- Start number 20 was manually annotated 1 time for cluster B9.
- Start number 27 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster DR:

- Start number 32 was manually annotated 2 times for cluster DR.
- Start number 34 was manually annotated 15 times for cluster DR.

Info for manual annotations of cluster W:

- Start number 38 was manually annotated 6 times for cluster W.
- Start number 68 was manually annotated 2 times for cluster W.

**Gene Information:**

Gene: ABU\_26 Start: 19142, Stop: 19705, Start Num: 22

Candidate Starts for ABU\_26:

(5, 18971), (Start: 22 @19142 has 262 MA's), (72, 19328), (86, 19382), (117, 19613), (123, 19673),

Gene: Abinghost\_27 Start: 19776, Stop: 20369, Start Num: 28

Candidate Starts for Abinghost\_27:

(Start: 28 @19776 has 39 MA's), (31, 19782), (Start: 34 @19815 has 20 MA's), (104, 20145), (111, 20190), (115, 20235), (117, 20247), (122, 20295),

Gene: AbsoluteMadLad\_25 Start: 19143, Stop: 19706, Start Num: 22

Candidate Starts for AbsoluteMadLad\_25:

(5, 18972), (Start: 22 @19143 has 262 MA's), (72, 19329), (86, 19383), (117, 19614), (123, 19674),

Gene: Acadian\_26 Start: 19859, Stop: 20425, Start Num: 21

Candidate Starts for Acadian\_26:

(5, 19685), (Start: 21 @19859 has 32 MA's), (45, 19964), (46, 19967), (69, 20045), (74, 20057), (114, 20303), (117, 20318), (119, 20345), (121, 20363),

Gene: Adriana\_26 Start: 19145, Stop: 19705, Start Num: 22

Candidate Starts for Adriana\_26:

(5, 18974), (Start: 22 @19145 has 262 MA's), (72, 19331), (86, 19385), (117, 19616), (123, 19676),

Gene: Aelin\_25 Start: 18708, Stop: 19268, Start Num: 22

Candidate Starts for Aelin\_25:

(5, 18537), (Start: 22 @18708 has 262 MA's), (72, 18894), (86, 18948), (117, 19179), (123, 19239),

Gene: Ahwei\_23 Start: 18773, Stop: 19333, Start Num: 21

Candidate Starts for Ahwei\_23:

(Start: 21 @18773 has 32 MA's), (51, 18890), (56, 18899), (65, 18935), (67, 18941), (73, 18956), (80, 18974), (86, 19004), (93, 19028), (95, 19046), (105, 19148), (106, 19154), (107, 19160), (114, 19223), (117, 19238), (119, 19265), (120, 19274),

Gene: Akoma\_27 Start: 19777, Stop: 20370, Start Num: 28

Candidate Starts for Akoma\_27:

(Start: 28 @19777 has 39 MA's), (31, 19783), (Start: 34 @19816 has 20 MA's), (62, 19921), (104, 20146), (111, 20191), (115, 20236), (117, 20248), (122, 20296),

Gene: AlanGrant\_25 Start: 20564, Stop: 21106, Start Num: 21

Candidate Starts for AlanGrant\_25:

(Start: 21 @20564 has 32 MA's), (35, 20627), (59, 20696), (61, 20705), (76, 20738), (79, 20744), (80, 20747), (86, 20777), (105, 20921), (106, 20927), (114, 20996), (117, 21011), (120, 21047),

Gene: Allegro\_28 Start: 21319, Stop: 21804, Start Num: 43

Candidate Starts for Allegro\_28:

(Start: 43 @21319 has 16 MA's), (53, 21346), (64, 21388), (84, 21454), (85, 21457), (91, 21475), (96, 21499), (100, 21538), (104, 21583), (105, 21595), (107, 21607), (109, 21619), (113, 21646), (115, 21673), (116, 21682), (117, 21685), (122, 21733), (126, 21757),

Gene: AltPhacts\_26 Start: 19137, Stop: 19697, Start Num: 22

Candidate Starts for AltPhacts\_26:

(5, 18966), (Start: 22 @19137 has 262 MA's), (72, 19323), (86, 19377), (117, 19608), (123, 19668),

Gene: Altwerkus\_25 Start: 18837, Stop: 19397, Start Num: 22

Candidate Starts for Altwerkus\_25:

(5, 18666), (Start: 22 @18837 has 262 MA's), (72, 19023), (86, 19077), (117, 19308), (123, 19368),

Gene: AnClar\_24 Start: 19894, Stop: 20457, Start Num: 34

Candidate Starts for AnClar\_24:

(Start: 34 @19894 has 20 MA's), (54, 19966), (58, 19978), (70, 20026), (71, 20035), (105, 20242), (106, 20248), (114, 20317), (117, 20332), (122, 20380),

Gene: AnarQue\_25 Start: 19081, Stop: 19596, Start Num: 34

Candidate Starts for AnarQue\_25:

(29, 19039), (Start: 32 @19045 has 2 MA's), (Start: 34 @19081 has 20 MA's), (39, 19108), (42, 19117), (62, 19174), (73, 19195), (84, 19219), (86, 19231), (102, 19333), (106, 19372), (110, 19393), (114, 19441), (117, 19456), (122, 19504), (123, 19516), (126, 19528),

Gene: Anderson\_26 Start: 19136, Stop: 19699, Start Num: 22

Candidate Starts for Anderson\_26:

(Start: 22 @19136 has 262 MA's), (72, 19322), (86, 19376), (117, 19607), (123, 19667),

Gene: Andre\_26 Start: 19134, Stop: 19697, Start Num: 22

Candidate Starts for Andre\_26:

(Start: 22 @19134 has 262 MA's), (72, 19320), (86, 19374), (117, 19605), (123, 19665),

Gene: Antihero\_23 Start: 18773, Stop: 19333, Start Num: 21

Candidate Starts for Antihero\_23:

(Start: 21 @18773 has 32 MA's), (51, 18890), (56, 18899), (65, 18935), (67, 18941), (73, 18956), (80, 18974), (86, 19004), (93, 19028), (95, 19046), (105, 19148), (106, 19154), (107, 19160), (114, 19223), (117, 19238), (119, 19265), (120, 19274),

Gene: Antonia\_25 Start: 18708, Stop: 19268, Start Num: 22

Candidate Starts for Antonia\_25:

(5, 18537), (Start: 22 @18708 has 262 MA's), (72, 18894), (86, 18948), (117, 19179), (123, 19239),

Gene: Apex\_24 Start: 19986, Stop: 20546, Start Num: 21

Candidate Starts for Apex\_24:

(Start: 21 @19986 has 32 MA's), (35, 20046), (51, 20103), (56, 20112), (65, 20148), (67, 20154), (73, 20169), (80, 20187), (86, 20217), (93, 20241), (105, 20361), (106, 20367), (114, 20436), (117, 20451), (119, 20478), (120, 20487),

Gene: Apizium\_25 Start: 18895, Stop: 19458, Start Num: 22

Candidate Starts for Apizium\_25:

(5, 18724), (Start: 22 @18895 has 262 MA's), (72, 19081), (86, 19135), (99, 19210), (117, 19366), (123, 19426),

Gene: Arbiter\_28 Start: 21405, Stop: 21890, Start Num: 44

Candidate Starts for Arbiter\_28:

(Start: 44 @21405 has 16 MA's), (53, 21432), (64, 21474), (84, 21540), (85, 21543), (91, 21561), (96, 21585), (100, 21624), (104, 21669), (105, 21681), (107, 21693), (109, 21705), (113, 21732), (115, 21759), (116, 21768), (117, 21771), (122, 21819), (126, 21843),

Gene: Ares\_28 Start: 21321, Stop: 21806, Start Num: 44

Candidate Starts for Ares\_28:

(Start: 44 @21321 has 16 MA's), (53, 21348), (64, 21390), (84, 21456), (85, 21459), (91, 21477), (96, 21501), (100, 21540), (104, 21585), (105, 21597), (107, 21609), (109, 21621), (113, 21648), (115, 21675), (116, 21684), (117, 21687), (122, 21735), (126, 21759),

Gene: Argie\_21 Start: 18900, Stop: 19478, Start Num: 38

Candidate Starts for Argie\_21:

(6, 18624), (7, 18636), (10, 18672), (24, 18807), (25, 18810), (36, 18891), (Start: 38 @18900 has 6 MA's), (60, 18984), (Start: 68 @19011 has 2 MA's), (77, 19059), (101, 19194), (102, 19212), (105, 19245), (114, 19320), (116, 19332), (117, 19335), (126, 19404),

Gene: Ashraf\_25 Start: 18699, Stop: 19262, Start Num: 22

Candidate Starts for Ashraf\_25:

(5, 18528), (Start: 22 @18699 has 262 MA's), (72, 18885), (86, 18939), (99, 19014), (117, 19170), (123, 19230),

Gene: Athena\_28 Start: 20539, Stop: 21132, Start Num: 28

Candidate Starts for Athena\_28:

(Start: 28 @20539 has 39 MA's), (31, 20545), (Start: 34 @20578 has 20 MA's), (104, 20908), (111, 20953), (115, 20998), (117, 21010), (122, 21058),

Gene: Audrey\_27 Start: 19776, Stop: 20369, Start Num: 28

Candidate Starts for Audrey\_27:

(Start: 28 @19776 has 39 MA's), (31, 19782), (Start: 34 @19815 has 20 MA's), (104, 20145), (111, 20190), (115, 20235), (117, 20247), (122, 20295),

Gene: Austelle\_25 Start: 20442, Stop: 21002, Start Num: 21

Candidate Starts for Austelle\_25:

(Start: 21 @20442 has 32 MA's), (35, 20502), (51, 20559), (56, 20568), (65, 20604), (67, 20610), (80, 20643), (86, 20673), (93, 20697), (105, 20817), (106, 20823), (114, 20892), (117, 20907), (119, 20934), (120, 20943),

Gene: Axumite\_23 Start: 17682, Stop: 18221, Start Num: 34

Candidate Starts for Axumite\_23:

(18, 17577), (Start: 34 @17682 has 20 MA's), (56, 17760), (92, 17868), (93, 17874), (106, 17997), (109, 18015), (111, 18024), (114, 18066), (117, 18081), (122, 18129), (123, 18141),

Gene: Badfish\_26 Start: 19167, Stop: 19727, Start Num: 22

Candidate Starts for Badfish\_26:

(5, 18996), (Start: 22 @19167 has 262 MA's), (72, 19353), (86, 19407), (117, 19638), (123, 19698),

Gene: Bae\_25 Start: 19615, Stop: 20181, Start Num: 21

Candidate Starts for Bae\_25:

(5, 19441), (8, 19474), (Start: 21 @19615 has 32 MA's), (69, 19801), (74, 19813), (85, 19831), (114, 20059), (117, 20074), (119, 20101), (120, 20110),

Gene: Baloo\_27 Start: 19776, Stop: 20369, Start Num: 28

Candidate Starts for Baloo\_27:

(Start: 28 @19776 has 39 MA's), (31, 19782), (Start: 34 @19815 has 20 MA's), (104, 20145), (111, 20190), (115, 20235), (117, 20247), (122, 20295),

Gene: Bananafish\_28 Start: 21316, Stop: 21801, Start Num: 43

Candidate Starts for Bananafish\_28:

(Start: 43 @21316 has 16 MA's), (53, 21343), (64, 21385), (84, 21451), (85, 21454), (91, 21472), (96, 21496), (100, 21535), (104, 21580), (105, 21592), (107, 21604), (109, 21616), (113, 21643), (115, 21670), (116, 21679), (117, 21682), (122, 21730), (126, 21754),

Gene: Banjo\_25 Start: 18844, Stop: 19407, Start Num: 22

Candidate Starts for Banjo\_25:

(5, 18673), (Start: 22 @18844 has 262 MA's), (72, 19030), (86, 19084), (117, 19315), (123, 19375),

Gene: Basato\_27 Start: 19369, Stop: 19932, Start Num: 22

Candidate Starts for Basato\_27:

(5, 19198), (Start: 22 @19369 has 262 MA's), (72, 19555), (86, 19609), (117, 19840), (123, 19900),

Gene: BatteryCK\_25 Start: 18721, Stop: 19284, Start Num: 22

Candidate Starts for BatteryCK\_25:

(5, 18550), (Start: 22 @18721 has 262 MA's), (72, 18907), (86, 18961), (99, 19036), (117, 19192), (123, 19252),

Gene: Beaglebox\_25 Start: 18864, Stop: 19427, Start Num: 22

Candidate Starts for Beaglebox\_25:

(5, 18693), (Start: 22 @18864 has 262 MA's), (72, 19050), (86, 19104), (117, 19335), (123, 19395),

Gene: Ben11\_26 Start: 19637, Stop: 20191, Start Num: 34

Candidate Starts for Ben11\_26:

(Start: 28 @19598 has 39 MA's), (31, 19604), (Start: 34 @19637 has 20 MA's), (104, 19967), (111, 20012), (115, 20057), (117, 20069), (122, 20117),

Gene: Bernardo\_27 Start: 19776, Stop: 20369, Start Num: 28

Candidate Starts for Bernardo\_27:

(Start: 28 @19776 has 39 MA's), (31, 19782), (Start: 34 @19815 has 20 MA's), (62, 19920), (104, 20145), (111, 20190), (115, 20235), (117, 20247), (122, 20295),

Gene: BiggityBass\_23 Start: 19979, Stop: 20494, Start Num: 34

Candidate Starts for BiggityBass\_23:

(Start: 34 @19979 has 20 MA's), (54, 20051), (58, 20063), (74, 20105), (106, 20285), (114, 20354), (117, 20369), (122, 20417),

Gene: Bishoperium\_25 Start: 18850, Stop: 19413, Start Num: 22

Candidate Starts for Bishoperium\_25:

(5, 18679), (Start: 22 @18850 has 262 MA's), (72, 19036), (86, 19090), (117, 19321), (123, 19381),

Gene: BlackStallion\_26 Start: 19155, Stop: 19718, Start Num: 22

Candidate Starts for BlackStallion\_26:

(5, 18984), (Start: 22 @19155 has 262 MA's), (72, 19341), (86, 19395), (117, 19626), (123, 19686),

Gene: Blocker23\_28 Start: 21437, Stop: 21922, Start Num: 43

Candidate Starts for Blocker23\_28:

(Start: 43 @21437 has 16 MA's), (53, 21464), (64, 21506), (84, 21572), (85, 21575), (91, 21593), (96, 21617), (100, 21656), (104, 21701), (105, 21713), (107, 21725), (109, 21737), (113, 21764), (115, 21791), (116, 21800), (117, 21803), (122, 21851), (126, 21875),

Gene: BlueHusk\_26 Start: 18652, Stop: 19215, Start Num: 22

Candidate Starts for BlueHusk\_26:

(Start: 22 @18652 has 262 MA's), (72, 18838), (86, 18892), (117, 19123), (123, 19183),

Gene: Bluephacebaby\_25 Start: 18850, Stop: 19413, Start Num: 22

Candidate Starts for Bluephacebaby\_25:

(5, 18679), (Start: 22 @18850 has 262 MA's), (72, 19036), (86, 19090), (117, 19321), (123, 19381),

Gene: BobRoss2024\_22 Start: 17442, Stop: 17978, Start Num: 34

Candidate Starts for BobRoss2024\_22:

(Start: 34 @17442 has 20 MA's), (52, 17505), (56, 17517), (106, 17754), (115, 17826), (117, 17838), (122, 17886), (123, 17898), (126, 17910),

Gene: BobbyK\_24 Start: 19805, Stop: 20365, Start Num: 21

Candidate Starts for BobbyK\_24:

(Start: 21 @19805 has 32 MA's), (35, 19865), (51, 19922), (56, 19931), (65, 19967), (67, 19973), (73, 19988), (80, 20006), (86, 20036), (93, 20060), (105, 20180), (106, 20186), (114, 20255), (117, 20270), (119, 20297), (120, 20306),

Gene: Boehler\_26 Start: 19160, Stop: 19720, Start Num: 22

Candidate Starts for Boehler\_26:

(5, 18989), (Start: 22 @19160 has 262 MA's), (72, 19346), (86, 19400), (117, 19631), (123, 19691),

Gene: Boyle\_28 Start: 21438, Stop: 21923, Start Num: 43

Candidate Starts for Boyle\_28:

(Start: 43 @21438 has 16 MA's), (53, 21465), (64, 21507), (84, 21573), (85, 21576), (91, 21594), (96, 21618), (100, 21657), (104, 21702), (105, 21714), (107, 21726), (109, 21738), (113, 21765), (115, 21792), (116, 21801), (117, 21804), (122, 21852), (126, 21876),

Gene: Briakila\_27 Start: 20541, Stop: 21134, Start Num: 28

Candidate Starts for Briakila\_27:

(Start: 28 @20541 has 39 MA's), (31, 20547), (Start: 34 @20580 has 20 MA's), (104, 20910), (111, 20955), (115, 21000), (117, 21012), (122, 21060),

Gene: Brilliant\_26 Start: 18855, Stop: 19418, Start Num: 22

Candidate Starts for Brilliant\_26:

(5, 18684), (Start: 22 @18855 has 262 MA's), (72, 19041), (86, 19095), (99, 19170), (117, 19326), (123, 19386),

Gene: BrownCNA\_25 Start: 20057, Stop: 20617, Start Num: 21

Candidate Starts for BrownCNA\_25:

(Start: 21 @20057 has 32 MA's), (35, 20117), (51, 20174), (56, 20183), (65, 20219), (67, 20225), (80, 20258), (86, 20288), (93, 20312), (105, 20432), (106, 20438), (114, 20507), (117, 20522), (119, 20549), (120, 20558),

Gene: Brownie5\_28 Start: 21438, Stop: 21923, Start Num: 44

Candidate Starts for Brownie5\_28:

(Start: 44 @21438 has 16 MA's), (53, 21465), (64, 21507), (84, 21573), (85, 21576), (91, 21594), (96, 21618), (100, 21657), (104, 21702), (105, 21714), (107, 21726), (109, 21738), (113, 21765), (115, 21792), (116, 21801), (117, 21804), (122, 21852), (126, 21876),

Gene: Buckeye\_26 Start: 19174, Stop: 19734, Start Num: 22

Candidate Starts for Buckeye\_26:

(5, 19003), (Start: 22 @19174 has 262 MA's), (72, 19360), (86, 19414), (117, 19645), (123, 19705),



Gene: Burr\_25 Start: 18849, Stop: 19412, Start Num: 22

Candidate Starts for Burr\_25:

(5, 18678), (Start: 22 @18849 has 262 MA's), (72, 19035), (86, 19089), (117, 19320), (123, 19380),

Gene: CaiB\_25 Start: 19031, Stop: 19582, Start Num: 32

Candidate Starts for CaiB\_25:

(9, 18866), (29, 19025), (Start: 32 @19031 has 2 MA's), (Start: 34 @19067 has 20 MA's), (39, 19094), (42, 19103), (62, 19160), (73, 19181), (84, 19205), (86, 19217), (102, 19319), (106, 19358), (110, 19379), (114, 19427), (117, 19442), (122, 19490), (123, 19502), (126, 19514),

Gene: Calamitous\_28 Start: 21318, Stop: 21803, Start Num: 44

Candidate Starts for Calamitous\_28:

(Start: 44 @21318 has 16 MA's), (53, 21345), (64, 21387), (84, 21453), (85, 21456), (91, 21474), (96, 21498), (100, 21537), (104, 21582), (105, 21594), (107, 21606), (109, 21618), (113, 21645), (115, 21672), (116, 21681), (117, 21684), (122, 21732), (126, 21756),

Gene: CamL\_26 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for CamL\_26:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (117, 19619), (123, 19679),

Gene: CampRoach\_26 Start: 19141, Stop: 19704, Start Num: 22

Candidate Starts for CampRoach\_26:

(5, 18970), (Start: 22 @19141 has 262 MA's), (72, 19327), (86, 19381), (117, 19612), (123, 19672),

Gene: Cannibal\_26 Start: 19134, Stop: 19697, Start Num: 22

Candidate Starts for Cannibal\_26:

(5, 18963), (Start: 22 @19134 has 262 MA's), (72, 19320), (86, 19374), (117, 19605), (123, 19665),

Gene: Carthage\_24 Start: 18060, Stop: 18623, Start Num: 22

Candidate Starts for Carthage\_24:

(5, 17889), (Start: 22 @18060 has 262 MA's), (72, 18246), (86, 18300), (117, 18531), (123, 18591),

Gene: Casbah\_26 Start: 19628, Stop: 20221, Start Num: 28

Candidate Starts for Casbah\_26:

(Start: 28 @19628 has 39 MA's), (31, 19634), (Start: 34 @19667 has 20 MA's), (104, 19997), (111, 20042), (115, 20087), (117, 20099), (122, 20147),

Gene: Cepens\_20 Start: 18624, Stop: 19199, Start Num: 38

Candidate Starts for Cepens\_20:

(2, 18108), (3, 18180), (6, 18348), (7, 18360), (10, 18396), (24, 18531), (25, 18534), (36, 18615), (Start: 38 @18624 has 6 MA's), (Start: 68 @18732 has 2 MA's), (77, 18780), (101, 18915), (102, 18933), (105, 18966), (114, 19041), (116, 19053), (117, 19056), (126, 19125),

Gene: ChaChing\_27 Start: 19791, Stop: 20384, Start Num: 28

Candidate Starts for ChaChing\_27:

(Start: 28 @19791 has 39 MA's), (31, 19797), (Start: 34 @19830 has 20 MA's), (104, 20160), (111, 20205), (115, 20250), (117, 20262), (122, 20310),

Gene: Chaelin\_25 Start: 18834, Stop: 19397, Start Num: 22

Candidate Starts for Chaelin\_25:

(5, 18663), (Start: 22 @18834 has 262 MA's), (72, 19020), (86, 19074), (99, 19149), (117, 19305), (123, 19365),

Gene: Chah\_27 Start: 19168, Stop: 19731, Start Num: 22  
Candidate Starts for Chah\_27:  
(5, 18997), (Start: 22 @19168 has 262 MA's), (72, 19354), (86, 19408), (117, 19639), (123, 19699),

Gene: Chandler\_27 Start: 20589, Stop: 21143, Start Num: 34  
Candidate Starts for Chandler\_27:  
(Start: 28 @20550 has 39 MA's), (31, 20556), (Start: 34 @20589 has 20 MA's), (104, 20919), (111, 20964), (115, 21009), (117, 21021), (122, 21069),

Gene: Charles1\_26 Start: 19133, Stop: 19696, Start Num: 22  
Candidate Starts for Charles1\_26:  
(Start: 22 @19133 has 262 MA's), (72, 19319), (86, 19373), (117, 19604), (123, 19664),

Gene: CharlieGBrown\_25 Start: 18719, Stop: 19282, Start Num: 22  
Candidate Starts for CharlieGBrown\_25:  
(5, 18548), (Start: 22 @18719 has 262 MA's), (72, 18905), (86, 18959), (99, 19034), (117, 19190), (123, 19250),

Gene: CharlottesWeb\_23 Start: 17577, Stop: 18101, Start Num: 34  
Candidate Starts for CharlottesWeb\_23:  
(12, 17427), (Start: 34 @17577 has 20 MA's), (56, 17661), (92, 17763), (106, 17892), (107, 17898), (111, 17919), (114, 17961), (117, 17976), (122, 18024), (123, 18036),

Gene: CheetO\_26 Start: 19147, Stop: 19710, Start Num: 22  
Candidate Starts for CheetO\_26:  
(5, 18976), (Start: 22 @19147 has 262 MA's), (72, 19333), (86, 19387), (117, 19618), (123, 19678),

Gene: Cher\_25 Start: 18873, Stop: 19436, Start Num: 22  
Candidate Starts for Cher\_25:  
(5, 18702), (Start: 22 @18873 has 262 MA's), (72, 19059), (86, 19113), (117, 19344), (123, 19404),

Gene: Childish\_25 Start: 18861, Stop: 19424, Start Num: 22  
Candidate Starts for Childish\_25:  
(5, 18690), (Start: 22 @18861 has 262 MA's), (72, 19047), (86, 19101), (117, 19332), (123, 19392),

Gene: Chorkpop\_26 Start: 18872, Stop: 19435, Start Num: 22  
Candidate Starts for Chorkpop\_26:  
(5, 18701), (Start: 22 @18872 has 262 MA's), (72, 19058), (86, 19112), (117, 19343), (123, 19403),

Gene: ChrisnMich\_23 Start: 18762, Stop: 19322, Start Num: 21  
Candidate Starts for ChrisnMich\_23:  
(Start: 21 @18762 has 32 MA's), (51, 18879), (56, 18888), (65, 18924), (67, 18930), (73, 18945), (80, 18963), (86, 18993), (89, 19002), (93, 19017), (105, 19137), (106, 19143), (107, 19149), (114, 19212), (117, 19227), (119, 19254), (120, 19263),

Gene: Chunky\_26 Start: 19160, Stop: 19720, Start Num: 22  
Candidate Starts for Chunky\_26:  
(5, 18989), (Start: 22 @19160 has 262 MA's), (72, 19346), (86, 19400), (117, 19631), (123, 19691),

Gene: Chute\_25 Start: 19185, Stop: 19748, Start Num: 22  
Candidate Starts for Chute\_25:  
(5, 19014), (Start: 22 @19185 has 262 MA's), (72, 19371), (86, 19425), (99, 19500), (117, 19656), (123, 19716),

Gene: Cobra\_26 Start: 19153, Stop: 19716, Start Num: 22

Candidate Starts for Cobra\_26:

(5, 18982), (Start: 22 @19153 has 262 MA's), (72, 19339), (86, 19393), (117, 19624), (123, 19684),

Gene: Coffee\_28 Start: 21430, Stop: 21915, Start Num: 43

Candidate Starts for Coffee\_28:

(Start: 43 @21430 has 16 MA's), (53, 21457), (64, 21499), (84, 21565), (85, 21568), (91, 21586), (96, 21610), (100, 21649), (104, 21694), (105, 21706), (107, 21718), (109, 21730), (113, 21757), (115, 21784), (116, 21793), (117, 21796), (122, 21844), (126, 21868),

Gene: Colbert\_26 Start: 19150, Stop: 19713, Start Num: 22

Candidate Starts for Colbert\_26:

(5, 18979), (Start: 22 @19150 has 262 MA's), (72, 19336), (86, 19390), (117, 19621), (123, 19681),

Gene: Coldpizza\_26 Start: 21916, Stop: 22410, Start Num: 47

Candidate Starts for Coldpizza\_26:

(47, 21916), (64, 21979), (92, 22066), (93, 22072), (101, 22138), (106, 22195), (107, 22201), (112, 22228), (114, 22264), (115, 22267), (117, 22279), (122, 22327),

Gene: Coletti\_25 Start: 19185, Stop: 19748, Start Num: 22

Candidate Starts for Coletti\_25:

(5, 19014), (Start: 22 @19185 has 262 MA's), (72, 19371), (86, 19425), (99, 19500), (117, 19656), (123, 19716),

Gene: Compostia\_28 Start: 20248, Stop: 20802, Start Num: 34

Candidate Starts for Compostia\_28:

(Start: 28 @20209 has 39 MA's), (31, 20215), (Start: 34 @20248 has 20 MA's), (104, 20578), (111, 20623), (115, 20668), (117, 20680), (122, 20728),

Gene: Cornobble\_25 Start: 18708, Stop: 19271, Start Num: 22

Candidate Starts for Cornobble\_25:

(5, 18537), (Start: 22 @18708 has 262 MA's), (72, 18894), (86, 18948), (117, 19179), (123, 19239),

Gene: Corofin\_27 Start: 19801, Stop: 20394, Start Num: 28

Candidate Starts for Corofin\_27:

(Start: 28 @19801 has 39 MA's), (31, 19807), (Start: 34 @19840 has 20 MA's), (104, 20170), (111, 20215), (115, 20260), (117, 20272), (122, 20320),

Gene: Cosmolli16\_25 Start: 18867, Stop: 19430, Start Num: 22

Candidate Starts for Cosmolli16\_25:

(5, 18696), (Start: 22 @18867 has 262 MA's), (72, 19053), (86, 19107), (117, 19338), (123, 19398),

Gene: Craff\_26 Start: 19154, Stop: 19717, Start Num: 22

Candidate Starts for Craff\_26:

(5, 18983), (Start: 22 @19154 has 262 MA's), (72, 19340), (86, 19394), (117, 19625), (123, 19685),

Gene: Crownjwl\_26 Start: 18921, Stop: 19481, Start Num: 22

Candidate Starts for Crownjwl\_26:

(5, 18750), (Start: 22 @18921 has 262 MA's), (72, 19107), (86, 19161), (117, 19392), (123, 19452),

Gene: D12\_20 Start: 18743, Stop: 19213, Start Num: 68

Candidate Starts for D12\_20:

(2, 18101), (3, 18173), (6, 18341), (7, 18353), (10, 18389), (24, 18524), (25, 18527), (36, 18608), (Start: 38 @18617 has 6 MA's), (Start: 68 @18743 has 2 MA's), (77, 18791), (101, 18929), (102, 18947), (105, 18980), (114, 19055), (116, 19067), (117, 19070), (126, 19139),

Gene: DaddyDaniels\_26 Start: 18846, Stop: 19406, Start Num: 22

Candidate Starts for DaddyDaniels\_26:

(5, 18675), (Start: 22 @18846 has 262 MA's), (72, 19032), (86, 19086), (117, 19317), (123, 19377),

Gene: Daffy\_26 Start: 18873, Stop: 19436, Start Num: 22

Candidate Starts for Daffy\_26:

(5, 18702), (Start: 22 @18873 has 262 MA's), (72, 19059), (86, 19113), (117, 19344), (123, 19404),

Gene: Daisy\_27 Start: 19797, Stop: 20390, Start Num: 28

Candidate Starts for Daisy\_27:

(Start: 28 @19797 has 39 MA's), (31, 19803), (Start: 34 @19836 has 20 MA's), (104, 20166), (111, 20211), (115, 20256), (117, 20268), (122, 20316),

Gene: Daka\_26 Start: 19150, Stop: 19713, Start Num: 22

Candidate Starts for Daka\_26:

(5, 18979), (Start: 22 @19150 has 262 MA's), (72, 19336), (86, 19390), (117, 19621), (123, 19681),

Gene: Dati\_26 Start: 18863, Stop: 19426, Start Num: 22

Candidate Starts for Dati\_26:

(5, 18692), (Start: 22 @18863 has 262 MA's), (72, 19049), (86, 19103), (117, 19334), (123, 19394),

Gene: Deenasa\_27 Start: 20539, Stop: 21132, Start Num: 28

Candidate Starts for Deenasa\_27:

(Start: 28 @20539 has 39 MA's), (31, 20545), (Start: 34 @20578 has 20 MA's), (104, 20908), (111, 20953), (115, 20998), (117, 21010), (122, 21058),

Gene: DelRivs\_25 Start: 18862, Stop: 19425, Start Num: 22

Candidate Starts for DelRivs\_25:

(5, 18691), (Start: 22 @18862 has 262 MA's), (72, 19048), (86, 19102), (99, 19177), (117, 19333), (123, 19393),

Gene: Derpp\_25 Start: 18709, Stop: 19272, Start Num: 22

Candidate Starts for Derpp\_25:

(5, 18538), (Start: 22 @18709 has 262 MA's), (72, 18895), (86, 18949), (99, 19024), (117, 19180), (123, 19240),

Gene: Devonte\_27 Start: 19776, Stop: 20369, Start Num: 28

Candidate Starts for Devonte\_27:

(Start: 28 @19776 has 39 MA's), (31, 19782), (Start: 34 @19815 has 20 MA's), (104, 20145), (111, 20190), (115, 20235), (117, 20247), (122, 20295),

Gene: Dice\_25 Start: 18850, Stop: 19413, Start Num: 22

Candidate Starts for Dice\_25:

(5, 18679), (Start: 22 @18850 has 262 MA's), (72, 19036), (86, 19090), (117, 19321), (123, 19381),

Gene: DigitDog\_26 Start: 19451, Stop: 20020, Start Num: 21

Candidate Starts for DigitDog\_26:

(Start: 21 @19451 has 32 MA's), (41, 19553), (69, 19640), (74, 19652), (114, 19898), (117, 19913), (119, 19940),

Gene: Dingo\_26 Start: 19134, Stop: 19694, Start Num: 22

Candidate Starts for Dingo\_26:

(5, 18963), (Start: 22 @19134 has 262 MA's), (72, 19320), (86, 19374), (117, 19605), (123, 19665),

Gene: Dione\_25 Start: 18851, Stop: 19414, Start Num: 22

Candidate Starts for Dione\_25:

(5, 18680), (Start: 22 @18851 has 262 MA's), (72, 19037), (86, 19091), (117, 19322), (123, 19382),

Gene: DirtJuice\_26 Start: 19136, Stop: 19699, Start Num: 22

Candidate Starts for DirtJuice\_26:

(5, 18965), (Start: 22 @19136 has 262 MA's), (72, 19322), (86, 19376), (117, 19607), (123, 19667),

Gene: Doddsville\_26 Start: 18863, Stop: 19426, Start Num: 22

Candidate Starts for Doddsville\_26:

(5, 18692), (Start: 22 @18863 has 262 MA's), (72, 19049), (86, 19103), (99, 19178), (117, 19334), (123, 19394),

Gene: DoesntMatter\_26 Start: 19132, Stop: 19695, Start Num: 22

Candidate Starts for DoesntMatter\_26:

(5, 18961), (Start: 22 @19132 has 262 MA's), (72, 19318), (86, 19372), (117, 19603), (123, 19663),

Gene: DonSanchon\_25 Start: 18849, Stop: 19412, Start Num: 22

Candidate Starts for DonSanchon\_25:

(5, 18678), (Start: 22 @18849 has 262 MA's), (72, 19035), (86, 19089), (117, 19320), (123, 19380),

Gene: Donny\_26 Start: 19864, Stop: 20430, Start Num: 21

Candidate Starts for Donny\_26:

(5, 19690), (Start: 21 @19864 has 32 MA's), (45, 19969), (46, 19972), (69, 20050), (74, 20062), (114, 20308), (117, 20323), (119, 20350), (121, 20368),

Gene: Dori\_23 Start: 16796, Stop: 17389, Start Num: 33

Candidate Starts for Dori\_23:

(Start: 33 @16796 has 4 MA's), (94, 17045), (101, 17108), (108, 17174), (112, 17195), (114, 17231), (116, 17243), (120, 17285), (127, 17354), (128, 17363),

Gene: DuchessDung\_24 Start: 18000, Stop: 18563, Start Num: 22

Candidate Starts for DuchessDung\_24:

(5, 17829), (Start: 22 @18000 has 262 MA's), (72, 18186), (86, 18240), (99, 18315), (117, 18471), (123, 18531),

Gene: Duggie\_25 Start: 18865, Stop: 19428, Start Num: 22

Candidate Starts for Duggie\_25:

(5, 18694), (Start: 22 @18865 has 262 MA's), (72, 19051), (86, 19105), (99, 19180), (117, 19336), (123, 19396),

Gene: Durga\_26 Start: 19162, Stop: 19725, Start Num: 22

Candidate Starts for Durga\_26:

(5, 18991), (Start: 22 @19162 has 262 MA's), (72, 19348), (86, 19402), (99, 19477), (117, 19633), (123, 19693),

Gene: Eaglehorse\_28 Start: 21339, Stop: 21824, Start Num: 44

Candidate Starts for Eaglehorse\_28:

(Start: 44 @21339 has 16 MA's), (53, 21366), (64, 21408), (84, 21474), (85, 21477), (91, 21495), (96, 21519), (100, 21558), (104, 21603), (105, 21615), (107, 21627), (109, 21639), (113, 21666), (115, 21693), (116, 21702), (117, 21705), (122, 21753), (126, 21777),

Gene: EastView9101\_25 Start: 19511, Stop: 20077, Start Num: 21

Candidate Starts for EastView9101\_25:

(5, 19337), (Start: 21 @19511 has 32 MA's), (45, 19616), (46, 19619), (69, 19697), (74, 19709), (114, 19955), (117, 19970), (119, 19997), (121, 20015),

Gene: Emiris\_26 Start: 19143, Stop: 19703, Start Num: 22

Candidate Starts for Emiris\_26:

(5, 18972), (Start: 22 @19143 has 262 MA's), (72, 19329), (86, 19383), (117, 19614), (123, 19674),

Gene: EmpTee\_26 Start: 19149, Stop: 19712, Start Num: 22

Candidate Starts for EmpTee\_26:

(5, 18978), (Start: 22 @19149 has 262 MA's), (72, 19335), (86, 19389), (117, 19620), (123, 19680),

Gene: Epah\_23 Start: 18773, Stop: 19333, Start Num: 21

Candidate Starts for Epah\_23:

(Start: 21 @18773 has 32 MA's), (51, 18890), (56, 18899), (65, 18935), (67, 18941), (73, 18956), (80, 18974), (86, 19004), (93, 19028), (95, 19046), (105, 19148), (106, 19154), (107, 19160), (114, 19223), (117, 19238), (119, 19265), (120, 19274),

Gene: Eremos\_26 Start: 19149, Stop: 19709, Start Num: 22

Candidate Starts for Eremos\_26:

(5, 18978), (Start: 22 @19149 has 262 MA's), (72, 19335), (86, 19389), (117, 19620), (123, 19680),

Gene: Etaye\_26 Start: 19135, Stop: 19698, Start Num: 22

Candidate Starts for Etaye\_26:

(5, 18964), (Start: 22 @19135 has 262 MA's), (72, 19321), (86, 19375), (117, 19606), (123, 19666),

Gene: Eugenia\_26 Start: 19162, Stop: 19722, Start Num: 22

Candidate Starts for Eugenia\_26:

(5, 18991), (Start: 22 @19162 has 262 MA's), (72, 19348), (86, 19402), (117, 19633), (123, 19693),

Gene: Fanaw\_23 Start: 19468, Stop: 20022, Start Num: 21

Candidate Starts for Fanaw\_23:

(14, 19426), (19, 19450), (Start: 21 @19468 has 32 MA's), (48, 19573), (50, 19579), (82, 19660), (86, 19687), (101, 19780), (103, 19813), (105, 19831), (106, 19837), (114, 19906), (117, 19921), (119, 19948), (123, 19981),

Gene: Fang\_26 Start: 19163, Stop: 19723, Start Num: 22

Candidate Starts for Fang\_26:

(5, 18992), (Start: 22 @19163 has 262 MA's), (72, 19349), (86, 19403), (117, 19634), (123, 19694),

Gene: Faze9\_28 Start: 21435, Stop: 21920, Start Num: 44

Candidate Starts for Faze9\_28:

(Start: 44 @21435 has 16 MA's), (53, 21462), (64, 21504), (84, 21570), (85, 21573), (91, 21591), (96, 21615), (100, 21654), (104, 21699), (105, 21711), (107, 21723), (109, 21735), (113, 21762), (115, 21789), (116, 21798), (117, 21801), (122, 21849), (126, 21873),

Gene: FluffyNinja\_26 Start: 19155, Stop: 19718, Start Num: 22

Candidate Starts for FluffyNinja\_26:

(5, 18984), (Start: 22 @19155 has 262 MA's), (72, 19341), (86, 19395), (117, 19626), (123, 19686),

Gene: Fortunato\_24 Start: 19799, Stop: 20359, Start Num: 21

Candidate Starts for Fortunato\_24:

(Start: 21 @19799 has 32 MA's), (35, 19859), (51, 19916), (56, 19925), (65, 19961), (67, 19967), (73, 19982), (80, 20000), (86, 20030), (93, 20054), (105, 20174), (106, 20180), (114, 20249), (117, 20264), (119, 20291), (120, 20300),

Gene: Fozzie\_25 Start: 19158, Stop: 19721, Start Num: 22

Candidate Starts for Fozzie\_25:

(5, 18987), (Start: 22 @19158 has 262 MA's), (72, 19344), (86, 19398), (117, 19629), (123, 19689),

Gene: Frankicide\_26 Start: 19149, Stop: 19712, Start Num: 22

Candidate Starts for Frankicide\_26:

(5, 18978), (Start: 22 @19149 has 262 MA's), (72, 19335), (86, 19389), (117, 19620), (123, 19680),

Gene: Frederick\_24 Start: 19808, Stop: 20368, Start Num: 21

Candidate Starts for Frederick\_24:

(Start: 21 @19808 has 32 MA's), (35, 19868), (51, 19925), (56, 19934), (65, 19970), (67, 19976), (73, 19991), (80, 20009), (86, 20039), (93, 20063), (105, 20183), (106, 20189), (114, 20258), (117, 20273), (119, 20300), (120, 20309),

Gene: FrenchFry\_28 Start: 21438, Stop: 21923, Start Num: 44

Candidate Starts for FrenchFry\_28:

(Start: 44 @21438 has 16 MA's), (53, 21465), (64, 21507), (84, 21573), (85, 21576), (91, 21594), (96, 21618), (100, 21657), (104, 21702), (105, 21714), (107, 21726), (109, 21738), (113, 21765), (115, 21792), (116, 21801), (117, 21804), (122, 21852), (126, 21876),

Gene: Fresco\_23 Start: 17682, Stop: 18221, Start Num: 34

Candidate Starts for Fresco\_23:

(18, 17577), (Start: 34 @17682 has 20 MA's), (56, 17760), (92, 17868), (93, 17874), (106, 17997), (109, 18015), (111, 18024), (114, 18066), (117, 18081), (122, 18129), (123, 18141),

Gene: Freya\_25 Start: 18844, Stop: 19404, Start Num: 22

Candidate Starts for Freya\_25:

(5, 18673), (Start: 22 @18844 has 262 MA's), (72, 19030), (86, 19084), (117, 19315), (123, 19375),

Gene: FriarPreacher\_26 Start: 19169, Stop: 19732, Start Num: 22

Candidate Starts for FriarPreacher\_26:

(5, 18998), (Start: 22 @19169 has 262 MA's), (72, 19355), (86, 19409), (117, 19640), (123, 19700),

Gene: Fringe\_26 Start: 19134, Stop: 19697, Start Num: 22

Candidate Starts for Fringe\_26:

(Start: 22 @19134 has 262 MA's), (72, 19320), (86, 19374), (117, 19605), (123, 19665),

Gene: FugateOSU\_25 Start: 18855, Stop: 19415, Start Num: 22

Candidate Starts for FugateOSU\_25:

(5, 18684), (Start: 22 @18855 has 262 MA's), (72, 19041), (86, 19095), (117, 19326), (123, 19386),

Gene: Funsized\_29 Start: 22234, Stop: 22848, Start Num: 20

Candidate Starts for Funsized\_29:

(1, 21817), (4, 21997), (11, 22126), (Start: 20 @22234 has 2 MA's), (26, 22249), (30, 22273), (37, 22330), (57, 22387), (66, 22420), (73, 22444), (82, 22468), (84, 22483), (93, 22522), (106, 22648),

(114, 22717), (117, 22732), (119, 22759),

Gene: Gadget\_28 Start: 19786, Stop: 20379, Start Num: 28

Candidate Starts for Gadget\_28:

(Start: 28 @19786 has 39 MA's), (31, 19792), (Start: 34 @19825 has 20 MA's), (62, 19930), (104, 20155), (111, 20200), (115, 20245), (117, 20257), (122, 20305),

Gene: Gareth\_25 Start: 18852, Stop: 19415, Start Num: 22

Candidate Starts for Gareth\_25:

(5, 18681), (Start: 22 @18852 has 262 MA's), (72, 19038), (86, 19092), (117, 19323), (123, 19383),

Gene: GeneCoco\_26 Start: 19154, Stop: 19717, Start Num: 22

Candidate Starts for GeneCoco\_26:

(5, 18983), (Start: 22 @19154 has 262 MA's), (72, 19340), (86, 19394), (99, 19469), (117, 19625), (123, 19685),

Gene: Gervas\_27 Start: 19760, Stop: 20353, Start Num: 28

Candidate Starts for Gervas\_27:

(Start: 28 @19760 has 39 MA's), (31, 19766), (Start: 34 @19799 has 20 MA's), (104, 20129), (111, 20174), (115, 20219), (117, 20231), (122, 20279),

Gene: GinPorsche\_23 Start: 18773, Stop: 19333, Start Num: 21

Candidate Starts for GinPorsche\_23:

(Start: 21 @18773 has 32 MA's), (51, 18890), (56, 18899), (65, 18935), (67, 18941), (73, 18956), (80, 18974), (86, 19004), (93, 19028), (95, 19046), (105, 19148), (106, 19154), (107, 19160), (114, 19223), (117, 19238), (119, 19265), (120, 19274),

Gene: Giraffe\_26 Start: 18857, Stop: 19420, Start Num: 22

Candidate Starts for Giraffe\_26:

(5, 18686), (Start: 22 @18857 has 262 MA's), (72, 19043), (86, 19097), (117, 19328), (123, 19388),

Gene: Glass\_28 Start: 21438, Stop: 21923, Start Num: 44

Candidate Starts for Glass\_28:

(Start: 44 @21438 has 16 MA's), (53, 21465), (64, 21507), (84, 21573), (85, 21576), (91, 21594), (96, 21618), (100, 21657), (104, 21702), (105, 21714), (107, 21726), (109, 21738), (113, 21765), (115, 21792), (116, 21801), (117, 21804), (122, 21852), (126, 21876),

Gene: GlenHope\_28 Start: 19808, Stop: 20362, Start Num: 34

Candidate Starts for GlenHope\_28:

(Start: 28 @19769 has 39 MA's), (31, 19775), (Start: 34 @19808 has 20 MA's), (62, 19913), (104, 20138), (111, 20183), (115, 20228), (117, 20240), (122, 20288),

Gene: GodPhather\_21 Start: 18903, Stop: 19472, Start Num: 38

Candidate Starts for GodPhather\_21:

(7, 18639), (10, 18675), (25, 18813), (36, 18894), (Start: 38 @18903 has 6 MA's), (Start: 68 @19008 has 2 MA's), (77, 19056), (101, 19188), (102, 19206), (105, 19239), (114, 19314), (116, 19326), (117, 19329), (126, 19398),

Gene: Godines\_28 Start: 21330, Stop: 21815, Start Num: 43

Candidate Starts for Godines\_28:

(Start: 43 @21330 has 16 MA's), (53, 21357), (64, 21399), (84, 21465), (85, 21468), (91, 21486), (96, 21510), (100, 21549), (104, 21594), (105, 21606), (107, 21618), (109, 21630), (113, 21657), (115, 21684), (116, 21693), (117, 21696), (122, 21744), (126, 21768),



Gene: Gophee\_26 Start: 19136, Stop: 19699, Start Num: 22

Candidate Starts for Gophee\_26:

(Start: 22 @19136 has 262 MA's), (72, 19322), (86, 19376), (117, 19607), (123, 19667),

Gene: Grand2040\_25 Start: 18872, Stop: 19435, Start Num: 22

Candidate Starts for Grand2040\_25:

(5, 18701), (Start: 22 @18872 has 262 MA's), (72, 19058), (86, 19112), (117, 19343), (123, 19403),

Gene: Gwilliam\_26 Start: 19145, Stop: 19708, Start Num: 22

Candidate Starts for Gwilliam\_26:

(5, 18974), (Start: 22 @19145 has 262 MA's), (72, 19331), (86, 19385), (117, 19616), (123, 19676),

Gene: Gyarad\_0026 Start: 19147, Stop: 19710, Start Num: 22

Candidate Starts for Gyarad\_0026:

(5, 18976), (Start: 22 @19147 has 262 MA's), (72, 19333), (86, 19387), (117, 19618), (123, 19678),

Gene: HSavage\_26 Start: 19155, Stop: 19718, Start Num: 22

Candidate Starts for HSavage\_26:

(5, 18984), (Start: 22 @19155 has 262 MA's), (72, 19341), (86, 19395), (117, 19626), (123, 19686),

Gene: Haimas\_26 Start: 19150, Stop: 19710, Start Num: 22

Candidate Starts for Haimas\_26:

(5, 18979), (Start: 22 @19150 has 262 MA's), (72, 19336), (86, 19390), (117, 19621), (123, 19681),

Gene: Haleema\_25 Start: 18872, Stop: 19435, Start Num: 22

Candidate Starts for Haleema\_25:

(5, 18701), (Start: 22 @18872 has 262 MA's), (72, 19058), (86, 19112), (117, 19343), (123, 19403),

Gene: Halfpint\_26 Start: 19601, Stop: 20194, Start Num: 28

Candidate Starts for Halfpint\_26:

(Start: 28 @19601 has 39 MA's), (31, 19607), (Start: 34 @19640 has 20 MA's), (104, 19970), (111, 20015), (115, 20060), (117, 20072), (122, 20120),

Gene: Hally898\_23 Start: 18773, Stop: 19333, Start Num: 21

Candidate Starts for Hally898\_23:

(Start: 21 @18773 has 32 MA's), (51, 18890), (56, 18899), (65, 18935), (67, 18941), (73, 18956), (80, 18974), (86, 19004), (93, 19028), (95, 19046), (105, 19148), (106, 19154), (107, 19160), (114, 19223), (117, 19238), (119, 19265), (120, 19274),

Gene: Hamish\_26 Start: 19142, Stop: 19702, Start Num: 22

Candidate Starts for Hamish\_26:

(5, 18971), (Start: 22 @19142 has 262 MA's), (72, 19328), (86, 19382), (117, 19613), (123, 19673),

Gene: Hangman\_24 Start: 19800, Stop: 20360, Start Num: 21

Candidate Starts for Hangman\_24:

(Start: 21 @19800 has 32 MA's), (35, 19860), (51, 19917), (56, 19926), (65, 19962), (67, 19968), (80, 20001), (86, 20031), (93, 20055), (105, 20175), (106, 20181), (114, 20250), (117, 20265), (119, 20292), (120, 20301),

Gene: Hartsy\_26 Start: 19165, Stop: 19728, Start Num: 22

Candidate Starts for Hartsy\_26:

(5, 18994), (Start: 22 @19165 has 262 MA's), (72, 19351), (86, 19405), (99, 19480), (117, 19636), (123, 19696),

Gene: Harvey\_26 Start: 19171, Stop: 19731, Start Num: 22

Candidate Starts for Harvey\_26:

(5, 19000), (Start: 22 @19171 has 262 MA's), (72, 19357), (86, 19411), (117, 19642), (123, 19702),

Gene: HarveySr\_27 Start: 19756, Stop: 20349, Start Num: 28

Candidate Starts for HarveySr\_27:

(Start: 28 @19756 has 39 MA's), (31, 19762), (Start: 34 @19795 has 20 MA's), (104, 20125), (111, 20170), (115, 20215), (117, 20227), (122, 20275),

Gene: Hashim76\_30 Start: 19673, Stop: 20305, Start Num: 17

Candidate Starts for Hashim76\_30:

(17, 19673), (23, 19709), (77, 19919), (97, 20012), (107, 20111), (114, 20174), (117, 20189), (123, 20249),

Gene: Heath\_23 Start: 19431, Stop: 19991, Start Num: 21

Candidate Starts for Heath\_23:

(Start: 21 @19431 has 32 MA's), (35, 19491), (51, 19548), (56, 19557), (67, 19599), (80, 19632), (86, 19662), (93, 19686), (105, 19806), (106, 19812), (114, 19881), (117, 19896), (119, 19923), (120, 19932),

Gene: Heathcliff\_27 Start: 19738, Stop: 20331, Start Num: 28

Candidate Starts for Heathcliff\_27:

(Start: 28 @19738 has 39 MA's), (31, 19744), (Start: 34 @19777 has 20 MA's), (62, 19882), (104, 20107), (111, 20152), (115, 20197), (117, 20209), (122, 20257),

Gene: Hedgerow\_28 Start: 21420, Stop: 21905, Start Num: 44

Candidate Starts for Hedgerow\_28:

(Start: 44 @21420 has 16 MA's), (53, 21447), (64, 21489), (84, 21555), (85, 21558), (91, 21576), (96, 21600), (100, 21639), (104, 21684), (105, 21696), (107, 21708), (109, 21720), (113, 21747), (115, 21774), (116, 21783), (117, 21786), (122, 21834), (126, 21858),

Gene: Held\_26 Start: 18856, Stop: 19419, Start Num: 22

Candidate Starts for Held\_26:

(5, 18685), (Start: 22 @18856 has 262 MA's), (72, 19042), (86, 19096), (117, 19327), (123, 19387),

Gene: HenryJackson\_25 Start: 18872, Stop: 19435, Start Num: 22

Candidate Starts for HenryJackson\_25:

(5, 18701), (Start: 22 @18872 has 262 MA's), (72, 19058), (86, 19112), (117, 19343), (123, 19403),

Gene: Hertubise\_26 Start: 19164, Stop: 19724, Start Num: 22

Candidate Starts for Hertubise\_26:

(5, 18993), (Start: 22 @19164 has 262 MA's), (72, 19350), (86, 19404), (117, 19635), (123, 19695),

Gene: Hetaeria\_26 Start: 19165, Stop: 19728, Start Num: 22

Candidate Starts for Hetaeria\_26:

(5, 18994), (Start: 22 @19165 has 262 MA's), (72, 19351), (86, 19405), (117, 19636), (123, 19696),

Gene: HighStump\_25 Start: 18855, Stop: 19418, Start Num: 22

Candidate Starts for HighStump\_25:

(5, 18684), (Start: 22 @18855 has 262 MA's), (72, 19041), (86, 19095), (117, 19326), (123, 19386),

Gene: Hocus\_25 Start: 18858, Stop: 19421, Start Num: 22

Candidate Starts for Hocus\_25:

(5, 18687), (Start: 22 @18858 has 262 MA's), (72, 19044), (86, 19098), (99, 19173), (117, 19329), (123, 19389),

Gene: Holeinone\_28 Start: 21315, Stop: 21800, Start Num: 43

Candidate Starts for Holeinone\_28:

(Start: 43 @21315 has 16 MA's), (53, 21342), (64, 21384), (84, 21450), (85, 21453), (91, 21471), (96, 21495), (100, 21534), (104, 21579), (105, 21591), (107, 21603), (109, 21615), (113, 21642), (115, 21669), (116, 21678), (117, 21681), (122, 21729), (126, 21753),

Gene: Horchata\_26 Start: 19134, Stop: 19697, Start Num: 22

Candidate Starts for Horchata\_26:

(5, 18963), (Start: 22 @19134 has 262 MA's), (72, 19320), (86, 19374), (117, 19605), (123, 19665),

Gene: Hydro\_24 Start: 19805, Stop: 20365, Start Num: 21

Candidate Starts for Hydro\_24:

(Start: 21 @19805 has 32 MA's), (35, 19865), (51, 19922), (56, 19931), (65, 19967), (67, 19973), (80, 20006), (86, 20036), (93, 20060), (105, 20180), (106, 20186), (114, 20255), (117, 20270), (119, 20297), (120, 20306),

Gene: ImtiyazSitla\_25 Start: 18699, Stop: 19262, Start Num: 22

Candidate Starts for ImtiyazSitla\_25:

(5, 18528), (Start: 22 @18699 has 262 MA's), (72, 18885), (86, 18939), (99, 19014), (117, 19170), (123, 19230),

Gene: Imvubu\_20 Start: 16898, Stop: 17533, Start Num: 20

Candidate Starts for Imvubu\_20:

(Start: 20 @16898 has 2 MA's), (26, 16913), (40, 17009), (49, 17039), (63, 17093), (71, 17129), (82, 17168), (83, 17177), (93, 17219), (98, 17255), (114, 17414), (117, 17429), (119, 17456), (123, 17489), (124, 17492), (126, 17501),

Gene: Inchworm\_26 Start: 19141, Stop: 19704, Start Num: 22

Candidate Starts for Inchworm\_26:

(5, 18970), (Start: 22 @19141 has 262 MA's), (72, 19327), (86, 19381), (117, 19612), (123, 19672),

Gene: Inverness\_26 Start: 19155, Stop: 19718, Start Num: 22

Candidate Starts for Inverness\_26:

(5, 18984), (Start: 22 @19155 has 262 MA's), (72, 19341), (86, 19395), (117, 19626), (123, 19686),

Gene: Iridoclysis\_26 Start: 19129, Stop: 19692, Start Num: 22

Candidate Starts for Iridoclysis\_26:

(5, 18958), (Start: 22 @19129 has 262 MA's), (72, 19315), (86, 19369), (117, 19600), (123, 19660),

Gene: IsaacEli\_26 Start: 19159, Stop: 19722, Start Num: 22

Candidate Starts for IsaacEli\_26:

(5, 18988), (Start: 22 @19159 has 262 MA's), (72, 19345), (86, 19399), (117, 19630), (123, 19690),

Gene: ItsyBitsy1\_28 Start: 21308, Stop: 21793, Start Num: 43

Candidate Starts for ItsyBitsy1\_28:

(Start: 43 @21308 has 16 MA's), (53, 21335), (64, 21377), (84, 21443), (85, 21446), (91, 21464), (96, 21488), (100, 21527), (104, 21572), (105, 21584), (107, 21596), (109, 21608), (113, 21635), (115,

21662), (116, 21671), (117, 21674), (122, 21722), (126, 21746),

Gene: JAMaL\_24 Start: 19969, Stop: 20541, Start Num: 21

Candidate Starts for JAMaL\_24:

(Start: 21 @19969 has 32 MA's), (35, 20038), (51, 20095), (56, 20104), (65, 20140), (67, 20146), (73, 20161), (80, 20179), (86, 20212), (93, 20236), (105, 20356), (106, 20362), (107, 20368), (114, 20431), (117, 20446), (119, 20473), (120, 20482),

Gene: JDog\_25 Start: 18865, Stop: 19428, Start Num: 22

Candidate Starts for JDog\_25:

(5, 18694), (Start: 22 @18865 has 262 MA's), (72, 19051), (86, 19105), (99, 19180), (117, 19336), (123, 19396),

Gene: JacAttac\_26 Start: 19141, Stop: 19704, Start Num: 22

Candidate Starts for JacAttac\_26:

(5, 18970), (Start: 22 @19141 has 262 MA's), (72, 19327), (86, 19381), (117, 19612), (123, 19672),

Gene: JaguarMi\_24 Start: 19267, Stop: 19827, Start Num: 21

Candidate Starts for JaguarMi\_24:

(Start: 21 @19267 has 32 MA's), (35, 19327), (48, 19372), (51, 19384), (56, 19393), (65, 19429), (67, 19435), (80, 19468), (86, 19498), (93, 19522), (95, 19540), (106, 19648), (114, 19717), (117, 19732), (119, 19759), (120, 19768),

Gene: JakeO\_25 Start: 18865, Stop: 19428, Start Num: 22

Candidate Starts for JakeO\_25:

(5, 18694), (Start: 22 @18865 has 262 MA's), (72, 19051), (86, 19105), (99, 19180), (117, 19336), (123, 19396),

Gene: JangoPhett\_26 Start: 19139, Stop: 19702, Start Num: 22

Candidate Starts for JangoPhett\_26:

(5, 18968), (Start: 22 @19139 has 262 MA's), (72, 19325), (86, 19379), (117, 19610), (123, 19670),

Gene: Jeon\_20 Start: 18645, Stop: 19214, Start Num: 38

Candidate Starts for Jeon\_20:

(7, 18381), (10, 18417), (25, 18555), (36, 18636), (Start: 38 @18645 has 6 MA's), (Start: 68 @18750 has 2 MA's), (77, 18798), (101, 18930), (102, 18948), (105, 18981), (114, 19056), (116, 19068), (117, 19071), (126, 19140),

Gene: Jillium\_25 Start: 18865, Stop: 19428, Start Num: 22

Candidate Starts for Jillium\_25:

(5, 18694), (Start: 22 @18865 has 262 MA's), (72, 19051), (86, 19105), (117, 19336), (123, 19396),

Gene: Jiminy\_25 Start: 18703, Stop: 19266, Start Num: 22

Candidate Starts for Jiminy\_25:

(5, 18532), (Start: 22 @18703 has 262 MA's), (72, 18889), (86, 18943), (99, 19018), (117, 19174), (123, 19234),

Gene: Jiraiya\_26 Start: 18863, Stop: 19423, Start Num: 22

Candidate Starts for Jiraiya\_26:

(5, 18692), (Start: 22 @18863 has 262 MA's), (72, 19049), (86, 19103), (117, 19334), (123, 19394),

Gene: KLucky39\_26 Start: 19147, Stop: 19710, Start Num: 22

Candidate Starts for KLucky39\_26:

(5, 18976), (Start: 22 @19147 has 262 MA's), (72, 19333), (86, 19387), (117, 19618), (123, 19678),

Gene: Kahve\_25 Start: 18869, Stop: 19432, Start Num: 22

Candidate Starts for Kahve\_25:

(5, 18698), (Start: 22 @18869 has 262 MA's), (72, 19055), (86, 19109), (117, 19340), (123, 19400),

Gene: Kailash\_26 Start: 19177, Stop: 19740, Start Num: 22

Candidate Starts for Kailash\_26:

(5, 19006), (Start: 22 @19177 has 262 MA's), (72, 19363), (86, 19417), (99, 19492), (117, 19648), (123, 19708),

Gene: Kaleb\_28 Start: 21435, Stop: 21920, Start Num: 44

Candidate Starts for Kaleb\_28:

(Start: 44 @21435 has 16 MA's), (53, 21462), (64, 21504), (84, 21570), (85, 21573), (91, 21591), (96, 21615), (100, 21654), (104, 21699), (105, 21711), (107, 21723), (109, 21735), (113, 21762), (115, 21789), (116, 21798), (117, 21801), (122, 21849), (126, 21873),

Gene: Kamiyu\_27 Start: 19745, Stop: 20338, Start Num: 28

Candidate Starts for Kamiyu\_27:

(Start: 28 @19745 has 39 MA's), (31, 19751), (Start: 34 @19784 has 20 MA's), (104, 20114), (111, 20159), (115, 20204), (117, 20216), (122, 20264),

Gene: KarasumaRum\_28 Start: 19984, Stop: 20553, Start Num: 21

Candidate Starts for KarasumaRum\_28:

(Start: 21 @19984 has 32 MA's), (41, 20086), (69, 20173), (74, 20185), (88, 20221), (114, 20431), (117, 20446), (119, 20473),

Gene: Katniss\_26 Start: 19167, Stop: 19727, Start Num: 22

Candidate Starts for Katniss\_26:

(5, 18996), (Start: 22 @19167 has 262 MA's), (72, 19353), (86, 19407), (117, 19638), (123, 19698),

Gene: Keitherie\_26 Start: 19187, Stop: 19750, Start Num: 22

Candidate Starts for Keitherie\_26:

(5, 19016), (Start: 22 @19187 has 262 MA's), (72, 19373), (86, 19427), (99, 19502), (117, 19658), (123, 19718),

Gene: Kheth\_28 Start: 21320, Stop: 21805, Start Num: 43

Candidate Starts for Kheth\_28:

(Start: 43 @21320 has 16 MA's), (53, 21347), (64, 21389), (84, 21455), (85, 21458), (91, 21476), (96, 21500), (100, 21539), (104, 21584), (105, 21596), (107, 21608), (109, 21620), (113, 21647), (115, 21674), (116, 21683), (117, 21686), (122, 21734), (126, 21758),

Gene: Kikipoo\_26 Start: 19159, Stop: 19722, Start Num: 22

Candidate Starts for Kikipoo\_26:

(5, 18988), (Start: 22 @19159 has 262 MA's), (72, 19345), (86, 19399), (117, 19630), (123, 19690),

Gene: Kimbrough\_26 Start: 18861, Stop: 19424, Start Num: 22

Candidate Starts for Kimbrough\_26:

(5, 18690), (Start: 22 @18861 has 262 MA's), (72, 19047), (86, 19101), (117, 19332), (123, 19392),

Gene: KingVeVeVe\_26 Start: 19138, Stop: 19698, Start Num: 22

Candidate Starts for KingVeVeVe\_26:

(5, 18967), (Start: 22 @19138 has 262 MA's), (72, 19324), (86, 19378), (117, 19609), (123, 19669),

Gene: KlimbOn\_26 Start: 19147, Stop: 19710, Start Num: 22  
Candidate Starts for KlimbOn\_26:  
(5, 18976), (Start: 22 @19147 has 262 MA's), (72, 19333), (86, 19387), (117, 19618), (123, 19678),

Gene: Kloppinator\_26 Start: 19167, Stop: 19730, Start Num: 22  
Candidate Starts for Kloppinator\_26:  
(5, 18996), (Start: 22 @19167 has 262 MA's), (72, 19353), (86, 19407), (117, 19638), (123, 19698),

Gene: Kronus\_26 Start: 20398, Stop: 20952, Start Num: 34  
Candidate Starts for Kronus\_26:  
(Start: 28 @20359 has 39 MA's), (31, 20365), (Start: 34 @20398 has 20 MA's), (62, 20503), (104, 20728), (111, 20773), (115, 20818), (117, 20830), (122, 20878),

Gene: Kwadwo\_25 Start: 18851, Stop: 19414, Start Num: 22  
Candidate Starts for Kwadwo\_25:  
(5, 18680), (Start: 22 @18851 has 262 MA's), (72, 19037), (86, 19091), (117, 19322), (123, 19382),

Gene: Kwksand96\_25 Start: 18713, Stop: 19276, Start Num: 22  
Candidate Starts for Kwksand96\_25:  
(5, 18542), (Start: 22 @18713 has 262 MA's), (72, 18899), (86, 18953), (99, 19028), (117, 19184), (123, 19244),

Gene: Labeouficaum\_25 Start: 18709, Stop: 19272, Start Num: 22  
Candidate Starts for Labeouficaum\_25:  
(5, 18538), (Start: 22 @18709 has 262 MA's), (72, 18895), (86, 18949), (99, 19024), (117, 19180), (123, 19240),

Gene: Lambano\_23 Start: 18773, Stop: 19333, Start Num: 21  
Candidate Starts for Lambano\_23:  
(Start: 21 @18773 has 32 MA's), (51, 18890), (56, 18899), (65, 18935), (67, 18941), (73, 18956), (80, 18974), (86, 19004), (93, 19028), (95, 19046), (105, 19148), (106, 19154), (107, 19160), (114, 19223), (117, 19238), (119, 19265), (120, 19274),

Gene: Lars\_28 Start: 21437, Stop: 21922, Start Num: 43  
Candidate Starts for Lars\_28:  
(Start: 43 @21437 has 16 MA's), (53, 21464), (64, 21506), (84, 21572), (85, 21575), (91, 21593), (96, 21617), (100, 21656), (104, 21701), (105, 21713), (107, 21725), (109, 21737), (113, 21764), (115, 21791), (116, 21800), (117, 21803), (122, 21851), (126, 21875),

Gene: LasagnaCat\_26 Start: 19153, Stop: 19716, Start Num: 22  
Candidate Starts for LasagnaCat\_26:  
(5, 18982), (Start: 22 @19153 has 262 MA's), (72, 19339), (86, 19393), (117, 19624), (123, 19684),

Gene: Lasso\_26 Start: 19126, Stop: 19689, Start Num: 22  
Candidate Starts for Lasso\_26:  
(5, 18955), (Start: 22 @19126 has 262 MA's), (72, 19312), (86, 19366), (117, 19597), (123, 19657),

Gene: Laurie\_28 Start: 21315, Stop: 21800, Start Num: 43  
Candidate Starts for Laurie\_28:  
(Start: 43 @21315 has 16 MA's), (53, 21342), (54, 21345), (64, 21384), (84, 21450), (85, 21453), (91, 21471), (96, 21495), (100, 21534), (104, 21579), (105, 21591), (107, 21603), (109, 21615), (113, 21642), (115, 21669), (116, 21678), (117, 21681), (122, 21729), (126, 21753),

Gene: LeeLot\_26 Start: 19151, Stop: 19714, Start Num: 22

Candidate Starts for LeeLot\_26:

(5, 18980), (Start: 22 @19151 has 262 MA's), (72, 19337), (86, 19391), (117, 19622), (123, 19682),

Gene: Lego3393\_26 Start: 19163, Stop: 19723, Start Num: 22

Candidate Starts for Lego3393\_26:

(5, 18992), (Start: 22 @19163 has 262 MA's), (72, 19349), (86, 19403), (117, 19634), (123, 19694),

Gene: Legolas\_25 Start: 18867, Stop: 19430, Start Num: 22

Candidate Starts for Legolas\_25:

(5, 18696), (Start: 22 @18867 has 262 MA's), (72, 19053), (86, 19107), (117, 19338), (123, 19398),

Gene: LeiMonet\_26 Start: 18858, Stop: 19421, Start Num: 22

Candidate Starts for LeiMonet\_26:

(5, 18687), (Start: 22 @18858 has 262 MA's), (72, 19044), (86, 19098), (117, 19329), (123, 19389),

Gene: LemonSlice\_26 Start: 18858, Stop: 19418, Start Num: 22

Candidate Starts for LemonSlice\_26:

(5, 18687), (Start: 22 @18858 has 262 MA's), (72, 19044), (86, 19098), (117, 19329), (123, 19389),

Gene: Lephleur\_28 Start: 21321, Stop: 21806, Start Num: 44

Candidate Starts for Lephleur\_28:

(Start: 44 @21321 has 16 MA's), (53, 21348), (64, 21390), (84, 21456), (85, 21459), (91, 21477), (96, 21501), (100, 21540), (104, 21585), (105, 21597), (107, 21609), (109, 21621), (113, 21648), (115, 21675), (116, 21684), (117, 21687), (122, 21735), (126, 21759),

Gene: LestyG\_27 Start: 19780, Stop: 20373, Start Num: 28

Candidate Starts for LestyG\_27:

(Start: 28 @19780 has 39 MA's), (31, 19786), (Start: 34 @19819 has 20 MA's), (104, 20149), (111, 20194), (115, 20239), (117, 20251), (122, 20299),

Gene: Ligma\_23 Start: 17682, Stop: 18221, Start Num: 34

Candidate Starts for Ligma\_23:

(18, 17577), (Start: 34 @17682 has 20 MA's), (56, 17760), (92, 17868), (93, 17874), (106, 17997), (109, 18015), (111, 18024), (114, 18066), (117, 18081), (122, 18129), (123, 18141),

Gene: LilMcDreamy\_23 Start: 19777, Stop: 20370, Start Num: 21

Candidate Starts for LilMcDreamy\_23:

(Start: 21 @19777 has 32 MA's), (45, 19888), (69, 19969), (74, 19981), (81, 19999), (86, 20029), (107, 20185), (114, 20248), (117, 20263), (120, 20299),

Gene: LittleMunchkin\_25 Start: 20512, Stop: 21039, Start Num: 34

Candidate Starts for LittleMunchkin\_25:

(12, 20359), (18, 20404), (Start: 34 @20512 has 20 MA's), (56, 20593), (75, 20650), (86, 20677), (87, 20680), (92, 20695), (106, 20827), (110, 20848), (114, 20896), (117, 20911), (122, 20959), (123, 20971),

Gene: LizLemon\_28 Start: 21437, Stop: 21922, Start Num: 43

Candidate Starts for LizLemon\_28:

(Start: 43 @21437 has 16 MA's), (53, 21464), (64, 21506), (84, 21572), (85, 21575), (91, 21593), (96, 21617), (100, 21656), (104, 21701), (105, 21713), (107, 21725), (109, 21737), (113, 21764), (115, 21791), (116, 21800), (117, 21803), (122, 21851), (126, 21875),

Gene: Lolalove\_24 Start: 19802, Stop: 20362, Start Num: 21

Candidate Starts for Lolalove\_24:

(Start: 21 @19802 has 32 MA's), (35, 19862), (51, 19919), (56, 19928), (65, 19964), (67, 19970), (80, 20003), (86, 20033), (93, 20057), (105, 20177), (106, 20183), (114, 20252), (117, 20267), (119, 20294), (120, 20303),

Gene: Longacauda\_25 Start: 18853, Stop: 19416, Start Num: 22

Candidate Starts for Longacauda\_25:

(5, 18682), (Start: 22 @18853 has 262 MA's), (72, 19039), (86, 19093), (99, 19168), (117, 19324), (123, 19384),

Gene: Lopsy\_25 Start: 18709, Stop: 19272, Start Num: 22

Candidate Starts for Lopsy\_25:

(5, 18538), (Start: 22 @18709 has 262 MA's), (72, 18895), (86, 18949), (117, 19180), (123, 19240),

Gene: LostAndPhound\_25 Start: 18860, Stop: 19423, Start Num: 22

Candidate Starts for LostAndPhound\_25:

(5, 18689), (Start: 22 @18860 has 262 MA's), (72, 19046), (86, 19100), (117, 19331), (123, 19391),

Gene: LuckyMarjie\_25 Start: 18873, Stop: 19433, Start Num: 22

Candidate Starts for LuckyMarjie\_25:

(5, 18702), (Start: 22 @18873 has 262 MA's), (72, 19059), (86, 19113), (117, 19344), (123, 19404),

Gene: Lulumae\_25 Start: 18851, Stop: 19414, Start Num: 22

Candidate Starts for Lulumae\_25:

(5, 18680), (Start: 22 @18851 has 262 MA's), (72, 19037), (86, 19091), (117, 19322), (123, 19382),

Gene: Lulwa\_26 Start: 19138, Stop: 19701, Start Num: 22

Candidate Starts for Lulwa\_26:

(5, 18967), (Start: 22 @19138 has 262 MA's), (72, 19324), (86, 19378), (117, 19609), (123, 19669),

Gene: Lumine\_25 Start: 18847, Stop: 19410, Start Num: 22

Candidate Starts for Lumine\_25:

(5, 18676), (Start: 22 @18847 has 262 MA's), (72, 19033), (86, 19087), (117, 19318), (123, 19378),

Gene: MRabcd\_25 Start: 18852, Stop: 19412, Start Num: 22

Candidate Starts for MRabcd\_25:

(5, 18681), (Start: 22 @18852 has 262 MA's), (72, 19038), (86, 19092), (117, 19323), (123, 19383),

Gene: Mag7\_25 Start: 18727, Stop: 19290, Start Num: 22

Candidate Starts for Mag7\_25:

(5, 18556), (Start: 22 @18727 has 262 MA's), (72, 18913), (86, 18967), (99, 19042), (117, 19198), (123, 19258),

Gene: Magic8\_26 Start: 19165, Stop: 19728, Start Num: 22

Candidate Starts for Magic8\_26:

(5, 18994), (Start: 22 @19165 has 262 MA's), (72, 19351), (86, 19405), (99, 19480), (117, 19636), (123, 19696),

Gene: Magpie\_23 Start: 19625, Stop: 20185, Start Num: 21

Candidate Starts for Magpie\_23:



(Start: 21 @19625 has 32 MA's), (35, 19685), (51, 19742), (56, 19751), (65, 19787), (67, 19793), (80, 19826), (86, 19856), (93, 19880), (105, 20000), (106, 20006), (114, 20075), (117, 20090), (119, 20117), (120, 20126),

Gene: MakoManhole\_25 Start: 19085, Stop: 19600, Start Num: 34

Candidate Starts for MakoManhole\_25:

(29, 19043), (Start: 32 @19049 has 2 MA's), (Start: 34 @19085 has 20 MA's), (39, 19112), (42, 19121), (62, 19178), (73, 19199), (84, 19223), (86, 19235), (102, 19337), (106, 19376), (110, 19397), (114, 19445), (117, 19460), (122, 19508), (123, 19520), (126, 19532),

Gene: Mana\_25 Start: 18854, Stop: 19417, Start Num: 22

Candidate Starts for Mana\_25:

(5, 18683), (Start: 22 @18854 has 262 MA's), (72, 19040), (78, 19061), (86, 19094), (117, 19325), (123, 19385),

Gene: Manad\_25 Start: 18704, Stop: 19264, Start Num: 22

Candidate Starts for Manad\_25:

(5, 18533), (Start: 22 @18704 has 262 MA's), (72, 18890), (86, 18944), (117, 19175), (123, 19235),

Gene: Mao1\_22 Start: 17208, Stop: 17801, Start Num: 33

Candidate Starts for Mao1\_22:

(Start: 33 @17208 has 4 MA's), (94, 17457), (101, 17520), (108, 17586), (112, 17607), (114, 17643), (116, 17655), (120, 17697), (127, 17766), (128, 17775),

Gene: Mariokart\_23 Start: 17576, Stop: 18100, Start Num: 34

Candidate Starts for Mariokart\_23:

(12, 17426), (Start: 34 @17576 has 20 MA's), (56, 17660), (92, 17762), (106, 17891), (107, 17897), (111, 17918), (114, 17960), (117, 17975), (122, 18023), (123, 18035),

Gene: Marley1013\_27 Start: 20561, Stop: 21154, Start Num: 28

Candidate Starts for Marley1013\_27:

(Start: 28 @20561 has 39 MA's), (31, 20567), (Start: 34 @20600 has 20 MA's), (104, 20930), (111, 20975), (115, 21020), (117, 21032), (122, 21080),

Gene: Maru\_25 Start: 18853, Stop: 19416, Start Num: 22

Candidate Starts for Maru\_25:

(5, 18682), (Start: 22 @18853 has 262 MA's), (72, 19039), (86, 19093), (117, 19324), (123, 19384),

Gene: Mask\_23 Start: 17201, Stop: 17794, Start Num: 33

Candidate Starts for Mask\_23:

(Start: 33 @17201 has 4 MA's), (94, 17450), (101, 17513), (108, 17579), (112, 17600), (114, 17636), (116, 17648), (120, 17690), (127, 17759), (128, 17768),

Gene: Maskar\_25 Start: 18699, Stop: 19262, Start Num: 22

Candidate Starts for Maskar\_25:

(5, 18528), (Start: 22 @18699 has 262 MA's), (72, 18885), (86, 18939), (99, 19014), (117, 19170), (123, 19230),

Gene: MasterPo\_28 Start: 21318, Stop: 21803, Start Num: 44

Candidate Starts for MasterPo\_28:

(Start: 44 @21318 has 16 MA's), (53, 21345), (64, 21387), (84, 21453), (85, 21456), (91, 21474), (96, 21498), (100, 21537), (104, 21582), (105, 21594), (107, 21606), (109, 21618), (113, 21645), (115, 21672), (116, 21681), (117, 21684), (122, 21732), (126, 21756),

Gene: Matalotodo\_26 Start: 19146, Stop: 19709, Start Num: 22  
Candidate Starts for Matalotodo\_26:  
(5, 18975), (Start: 22 @19146 has 262 MA's), (72, 19332), (86, 19386), (117, 19617), (123, 19677),

Gene: Mcshane\_25 Start: 18849, Stop: 19412, Start Num: 22  
Candidate Starts for Mcshane\_25:  
(5, 18678), (Start: 22 @18849 has 262 MA's), (72, 19035), (86, 19089), (117, 19320), (123, 19380),

Gene: Mecca\_25 Start: 18846, Stop: 19409, Start Num: 22  
Candidate Starts for Mecca\_25:  
(5, 18675), (Start: 22 @18846 has 262 MA's), (72, 19032), (86, 19086), (117, 19317), (123, 19377),

Gene: Megabear\_20 Start: 18567, Stop: 19142, Start Num: 38  
Candidate Starts for Megabear\_20:  
(2, 18051), (3, 18123), (6, 18291), (7, 18303), (10, 18339), (24, 18474), (25, 18477), (36, 18558),  
(Start: 38 @18567 has 6 MA's), (Start: 68 @18675 has 2 MA's), (77, 18723), (101, 18858), (102, 18876), (105, 18909), (114, 18984), (116, 18996), (117, 18999), (126, 19068),

Gene: Megamind20\_26 Start: 18868, Stop: 19431, Start Num: 22  
Candidate Starts for Megamind20\_26:  
(Start: 22 @18868 has 262 MA's), (72, 19054), (86, 19108), (117, 19339), (123, 19399),

Gene: Megatron\_26 Start: 19150, Stop: 19713, Start Num: 22  
Candidate Starts for Megatron\_26:  
(5, 18979), (Start: 22 @19150 has 262 MA's), (72, 19336), (86, 19390), (117, 19621), (123, 19681),

Gene: Melc17\_26 Start: 19141, Stop: 19704, Start Num: 22  
Candidate Starts for Melc17\_26:  
(5, 18970), (Start: 22 @19141 has 262 MA's), (72, 19327), (86, 19381), (117, 19612), (123, 19672),

Gene: MelsMeow\_25 Start: 18727, Stop: 19290, Start Num: 22  
Candidate Starts for MelsMeow\_25:  
(5, 18556), (Start: 22 @18727 has 262 MA's), (72, 18913), (86, 18967), (99, 19042), (117, 19198),  
(123, 19258),

Gene: Mesh1\_26 Start: 19158, Stop: 19721, Start Num: 22  
Candidate Starts for Mesh1\_26:  
(5, 18987), (Start: 22 @19158 has 262 MA's), (72, 19344), (86, 19398), (117, 19629), (123, 19689),

Gene: MichaelPhcott\_25 Start: 18727, Stop: 19290, Start Num: 22  
Candidate Starts for MichaelPhcott\_25:  
(5, 18556), (Start: 22 @18727 has 262 MA's), (72, 18913), (86, 18967), (99, 19042), (117, 19198),  
(123, 19258),

Gene: Mikota\_26 Start: 19134, Stop: 19697, Start Num: 22  
Candidate Starts for Mikota\_26:  
(5, 18963), (Start: 22 @19134 has 262 MA's), (72, 19320), (86, 19374), (117, 19605), (123, 19665),

Gene: MiniBoss\_26 Start: 19137, Stop: 19700, Start Num: 22  
Candidate Starts for MiniBoss\_26:  
(5, 18966), (Start: 22 @19137 has 262 MA's), (72, 19323), (86, 19377), (117, 19608), (123, 19668),

Gene: MitKao\_26 Start: 18855, Stop: 19418, Start Num: 22

Candidate Starts for MitKao\_26:

(5, 18684), (Start: 22 @18855 has 262 MA's), (72, 19041), (86, 19095), (117, 19326), (123, 19386),

Gene: Mithril\_24 Start: 19806, Stop: 20366, Start Num: 21

Candidate Starts for Mithril\_24:

(Start: 21 @19806 has 32 MA's), (35, 19866), (51, 19923), (56, 19932), (65, 19968), (67, 19974), (80, 20007), (86, 20037), (93, 20061), (105, 20181), (106, 20187), (114, 20256), (117, 20271), (119, 20298), (120, 20307),

Gene: MmasiCarm\_27 Start: 19771, Stop: 20364, Start Num: 28

Candidate Starts for MmasiCarm\_27:

(Start: 28 @19771 has 39 MA's), (31, 19777), (Start: 34 @19810 has 20 MA's), (104, 20140), (111, 20185), (115, 20230), (117, 20242), (122, 20290),

Gene: Morgushi\_26 Start: 18860, Stop: 19420, Start Num: 22

Candidate Starts for Morgushi\_26:

(5, 18689), (Start: 22 @18860 has 262 MA's), (72, 19046), (86, 19100), (117, 19331), (123, 19391),

Gene: Mortcellus\_26 Start: 20414, Stop: 21007, Start Num: 28

Candidate Starts for Mortcellus\_26:

(Start: 28 @20414 has 39 MA's), (31, 20420), (Start: 34 @20453 has 20 MA's), (104, 20783), (111, 20828), (115, 20873), (117, 20885), (122, 20933),

Gene: Morty\_26 Start: 19159, Stop: 19722, Start Num: 22

Candidate Starts for Morty\_26:

(5, 18988), (Start: 22 @19159 has 262 MA's), (72, 19345), (86, 19399), (117, 19630), (123, 19690),

Gene: Morty007\_27 Start: 20561, Stop: 21154, Start Num: 28

Candidate Starts for Morty007\_27:

(Start: 28 @20561 has 39 MA's), (31, 20567), (Start: 34 @20600 has 20 MA's), (104, 20930), (111, 20975), (115, 21020), (117, 21032), (122, 21080),

Gene: Mosaic\_25 Start: 18861, Stop: 19424, Start Num: 22

Candidate Starts for Mosaic\_25:

(5, 18690), (Start: 22 @18861 has 262 MA's), (72, 19047), (86, 19101), (117, 19332), (123, 19392),

Gene: MossRose\_25 Start: 19028, Stop: 19579, Start Num: 32

Candidate Starts for MossRose\_25:

(11, 18872), (29, 19022), (Start: 32 @19028 has 2 MA's), (Start: 34 @19064 has 20 MA's), (39, 19091), (42, 19100), (62, 19157), (73, 19178), (84, 19202), (86, 19214), (102, 19316), (106, 19355), (110, 19376), (114, 19424), (117, 19439), (122, 19487), (123, 19499), (126, 19511),

Gene: MrPhizzler\_25 Start: 18860, Stop: 19423, Start Num: 22

Candidate Starts for MrPhizzler\_25:

(5, 18689), (Start: 22 @18860 has 262 MA's), (72, 19046), (86, 19100), (99, 19175), (117, 19331), (123, 19391),

Gene: Mudslide\_24 Start: 20053, Stop: 20613, Start Num: 21

Candidate Starts for Mudslide\_24:

(Start: 21 @20053 has 32 MA's), (35, 20113), (51, 20170), (56, 20179), (65, 20215), (67, 20221), (80, 20254), (86, 20284), (93, 20308), (105, 20428), (106, 20434), (114, 20503), (117, 20518), (119, 20545), (120, 20554),

Gene: Mulan\_25 Start: 18855, Stop: 19418, Start Num: 22

Candidate Starts for Mulan\_25:

(5, 18684), (Start: 22 @18855 has 262 MA's), (72, 19041), (86, 19095), (117, 19326), (123, 19386),

Gene: Murdoc\_26 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for Murdoc\_26:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (117, 19619), (123, 19679),

Gene: Mutante\_25 Start: 18858, Stop: 19421, Start Num: 22

Candidate Starts for Mutante\_25:

(5, 18687), (Start: 22 @18858 has 262 MA's), (72, 19044), (86, 19098), (117, 19329), (123, 19389),

Gene: Mysterious\_27 Start: 20111, Stop: 20680, Start Num: 21

Candidate Starts for Mysterious\_27:

(Start: 15 @20072 has 1 MA's), (Start: 21 @20111 has 32 MA's), (42, 20216), (56, 20252), (74, 20312), (89, 20351), (101, 20432), (114, 20558), (117, 20573), (118, 20588), (120, 20609), (121, 20618), (123, 20633),

Gene: NHagos\_23 Start: 17615, Stop: 18115, Start Num: 34

Candidate Starts for NHagos\_23:

(Start: 34 @17615 has 20 MA's), (39, 17642), (56, 17690), (86, 17759), (87, 17762), (106, 17900), (110, 17921), (114, 17969), (117, 17984), (122, 18032), (125, 18050), (126, 18056),

Gene: Nacho\_0026 Start: 19147, Stop: 19710, Start Num: 22

Candidate Starts for Nacho\_0026:

(5, 18976), (Start: 22 @19147 has 262 MA's), (72, 19333), (86, 19387), (117, 19618), (123, 19678),

Gene: Nanao\_23 Start: 18772, Stop: 19332, Start Num: 21

Candidate Starts for Nanao\_23:

(Start: 21 @18772 has 32 MA's), (51, 18889), (56, 18898), (65, 18934), (67, 18940), (73, 18955), (80, 18973), (86, 19003), (93, 19027), (95, 19045), (105, 19147), (106, 19153), (107, 19159), (114, 19222), (117, 19237), (119, 19264), (120, 19273),

Gene: Nangang\_26 Start: 19812, Stop: 20381, Start Num: 21

Candidate Starts for Nangang\_26:

(Start: 21 @19812 has 32 MA's), (41, 19914), (69, 20001), (74, 20013), (88, 20049), (114, 20259), (117, 20274), (119, 20301),

Gene: Nehemiah\_25 Start: 20111, Stop: 20680, Start Num: 21

Candidate Starts for Nehemiah\_25:

(Start: 15 @20072 has 1 MA's), (Start: 21 @20111 has 32 MA's), (42, 20216), (56, 20252), (74, 20312), (89, 20351), (101, 20432), (114, 20558), (117, 20573), (118, 20588), (120, 20609), (121, 20618), (123, 20633),

Gene: Neos5\_27 Start: 20568, Stop: 21161, Start Num: 28

Candidate Starts for Neos5\_27:

(Start: 28 @20568 has 39 MA's), (31, 20574), (Start: 34 @20607 has 20 MA's), (62, 20712), (104, 20937), (111, 20982), (115, 21027), (117, 21039), (122, 21087),

Gene: Newman\_26 Start: 19147, Stop: 19707, Start Num: 22

Candidate Starts for Newman\_26:

(5, 18976), (Start: 22 @19147 has 262 MA's), (72, 19333), (86, 19387), (117, 19618), (123, 19678),

Gene: Nicole21\_26 Start: 19139, Stop: 19702, Start Num: 22

Candidate Starts for Nicole21\_26:

(5, 18968), (Start: 22 @19139 has 262 MA's), (72, 19325), (86, 19379), (117, 19610), (123, 19670),

Gene: Nigel\_22 Start: 18656, Stop: 19228, Start Num: 21

Candidate Starts for Nigel\_22:

(Start: 21 @18656 has 32 MA's), (35, 18725), (51, 18782), (56, 18791), (65, 18827), (67, 18833), (73, 18848), (80, 18866), (86, 18899), (93, 18923), (105, 19043), (106, 19049), (107, 19055), (114, 19118), (117, 19133), (119, 19160), (120, 19169),

Gene: Nozo\_27 Start: 20538, Stop: 21131, Start Num: 28

Candidate Starts for Nozo\_27:

(Start: 28 @20538 has 39 MA's), (31, 20544), (Start: 34 @20577 has 20 MA's), (104, 20907), (111, 20952), (115, 20997), (117, 21009), (122, 21057),

Gene: Numberten\_26 Start: 19153, Stop: 19716, Start Num: 22

Candidate Starts for Numberten\_26:

(Start: 22 @19153 has 262 MA's), (72, 19339), (86, 19393), (117, 19624), (123, 19684),

Gene: Nyala\_25 Start: 18850, Stop: 19413, Start Num: 22

Candidate Starts for Nyala\_25:

(5, 18679), (Start: 22 @18850 has 262 MA's), (72, 19036), (86, 19090), (117, 19321), (123, 19381),

Gene: OSmaximus\_26 Start: 19176, Stop: 19739, Start Num: 22

Candidate Starts for OSmaximus\_26:

(5, 19005), (Start: 22 @19176 has 262 MA's), (72, 19362), (86, 19416), (99, 19491), (117, 19647), (123, 19707),

Gene: Obutu\_27 Start: 19771, Stop: 20364, Start Num: 28

Candidate Starts for Obutu\_27:

(Start: 28 @19771 has 39 MA's), (31, 19777), (Start: 34 @19810 has 20 MA's), (104, 20140), (111, 20185), (115, 20230), (117, 20242), (122, 20290),

Gene: Olak\_25 Start: 18851, Stop: 19414, Start Num: 22

Candidate Starts for Olak\_25:

(5, 18680), (Start: 22 @18851 has 262 MA's), (72, 19037), (86, 19091), (117, 19322), (123, 19382),

Gene: Oline\_25 Start: 18713, Stop: 19276, Start Num: 22

Candidate Starts for Oline\_25:

(5, 18542), (Start: 22 @18713 has 262 MA's), (72, 18899), (86, 18953), (99, 19028), (117, 19184), (123, 19244),

Gene: Olive\_26 Start: 19140, Stop: 19703, Start Num: 22

Candidate Starts for Olive\_26:

(5, 18969), (Start: 22 @19140 has 262 MA's), (72, 19326), (86, 19380), (117, 19611), (123, 19671),

Gene: OliverWalter\_26 Start: 19156, Stop: 19719, Start Num: 22

Candidate Starts for OliverWalter\_26:

(5, 18985), (Start: 22 @19156 has 262 MA's), (72, 19342), (86, 19396), (117, 19627), (123, 19687),

Gene: Omniscient\_26 Start: 19159, Stop: 19722, Start Num: 22

Candidate Starts for Omniscient\_26:

(5, 18988), (Start: 22 @19159 has 262 MA's), (72, 19345), (86, 19399), (117, 19630), (123, 19690),

Gene: Oosterbaan\_26 Start: 19151, Stop: 19711, Start Num: 22

Candidate Starts for Oosterbaan\_26:

(5, 18980), (Start: 22 @19151 has 262 MA's), (72, 19337), (86, 19391), (117, 19622), (123, 19682),

Gene: Opia\_28 Start: 21317, Stop: 21802, Start Num: 43

Candidate Starts for Opia\_28:

(Start: 43 @21317 has 16 MA's), (53, 21344), (64, 21386), (84, 21452), (85, 21455), (91, 21473), (96, 21497), (100, 21536), (104, 21581), (105, 21593), (107, 21605), (109, 21617), (113, 21644), (115, 21671), (116, 21680), (117, 21683), (122, 21731), (126, 21755),

Gene: OrangeOswald\_27 Start: 19776, Stop: 20369, Start Num: 28

Candidate Starts for OrangeOswald\_27:

(Start: 28 @19776 has 39 MA's), (31, 19782), (Start: 34 @19815 has 20 MA's), (104, 20145), (111, 20190), (115, 20235), (117, 20247), (122, 20295),

Gene: Orfeu\_25 Start: 18852, Stop: 19415, Start Num: 22

Candidate Starts for Orfeu\_25:

(5, 18681), (Start: 22 @18852 has 262 MA's), (72, 19038), (86, 19092), (117, 19323), (123, 19383),

Gene: Orion\_26 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for Orion\_26:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (117, 19619), (123, 19679),

Gene: Orwigg\_26 Start: 18846, Stop: 19409, Start Num: 22

Candidate Starts for Orwigg\_26:

(Start: 22 @18846 has 262 MA's), (72, 19032), (86, 19086), (117, 19317), (123, 19377),

Gene: PG1\_26 Start: 19161, Stop: 19724, Start Num: 22

Candidate Starts for PG1\_26:

(5, 18990), (Start: 22 @19161 has 262 MA's), (72, 19347), (86, 19401), (117, 19632), (123, 19692),

Gene: PR\_20 Start: 18720, Stop: 19190, Start Num: 68

Candidate Starts for PR\_20:

(2, 18078), (3, 18150), (6, 18318), (7, 18330), (10, 18366), (24, 18501), (25, 18504), (36, 18585), (Start: 38 @18594 has 6 MA's), (Start: 68 @18720 has 2 MA's), (77, 18768), (101, 18906), (102, 18924), (105, 18957), (114, 19032), (116, 19044), (117, 19047), (126, 19116),

Gene: Pacifista\_25 Start: 18852, Stop: 19415, Start Num: 22

Candidate Starts for Pacifista\_25:

(5, 18681), (Start: 22 @18852 has 262 MA's), (72, 19038), (86, 19092), (117, 19323), (123, 19383),

Gene: Phaedrus\_25 Start: 19692, Stop: 20285, Start Num: 28

Candidate Starts for Phaedrus\_25:

(Start: 28 @19692 has 39 MA's), (31, 19698), (Start: 34 @19731 has 20 MA's), (104, 20061), (111, 20106), (115, 20151), (117, 20163), (122, 20211),

Gene: Phamished\_26 Start: 19156, Stop: 19719, Start Num: 22

Candidate Starts for Phamished\_26:

(5, 18985), (Start: 22 @19156 has 262 MA's), (72, 19342), (86, 19396), (117, 19627), (123, 19687),

Gene: Phantasmagoria\_28 Start: 21313, Stop: 21798, Start Num: 43

Candidate Starts for Phantasmagoria\_28:

(Start: 43 @21313 has 16 MA's), (53, 21340), (64, 21382), (84, 21448), (85, 21451), (91, 21469), (96, 21493), (100, 21532), (104, 21577), (105, 21589), (107, 21601), (109, 21613), (113, 21640), (115, 21667), (116, 21676), (117, 21679), (122, 21727), (126, 21751),

Gene: Phareon\_26 Start: 18856, Stop: 19419, Start Num: 22

Candidate Starts for Phareon\_26:

(5, 18685), (Start: 22 @18856 has 262 MA's), (72, 19042), (86, 19096), (117, 19327), (123, 19387),

Gene: PhatCats2014\_26 Start: 19166, Stop: 19726, Start Num: 22

Candidate Starts for PhatCats2014\_26:

(5, 18995), (Start: 22 @19166 has 262 MA's), (72, 19352), (86, 19406), (117, 19637), (123, 19697),

Gene: PhatLouie\_26 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for PhatLouie\_26:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (99, 19463), (117, 19619), (123, 19679),

Gene: Phayeta\_27 Start: 19652, Stop: 20245, Start Num: 28

Candidate Starts for Phayeta\_27:

(Start: 28 @19652 has 39 MA's), (31, 19658), (Start: 34 @19691 has 20 MA's), (104, 20021), (111, 20066), (115, 20111), (117, 20123), (122, 20171),

Gene: Phelemich\_26 Start: 20107, Stop: 20676, Start Num: 21

Candidate Starts for Phelemich\_26:

(Start: 15 @20068 has 1 MA's), (Start: 21 @20107 has 32 MA's), (42, 20212), (56, 20248), (74, 20308), (89, 20347), (101, 20428), (114, 20554), (117, 20569), (118, 20584), (120, 20605), (121, 20614), (123, 20629),

Gene: PhenghisKhan\_25 Start: 18727, Stop: 19290, Start Num: 22

Candidate Starts for PhenghisKhan\_25:

(5, 18556), (Start: 22 @18727 has 262 MA's), (72, 18913), (86, 18967), (99, 19042), (117, 19198), (123, 19258),

Gene: Pherdinand\_26 Start: 19156, Stop: 19719, Start Num: 22

Candidate Starts for Pherdinand\_26:

(5, 18985), (Start: 22 @19156 has 262 MA's), (72, 19342), (86, 19396), (117, 19627), (123, 19687),

Gene: Phergie\_25 Start: 18721, Stop: 19284, Start Num: 22

Candidate Starts for Phergie\_25:

(5, 18550), (Start: 22 @18721 has 262 MA's), (72, 18907), (86, 18961), (99, 19036), (117, 19192), (123, 19252),

Gene: Philly\_26 Start: 19642, Stop: 20235, Start Num: 28

Candidate Starts for Philly\_26:

(Start: 28 @19642 has 39 MA's), (31, 19648), (Start: 34 @19681 has 20 MA's), (104, 20011), (111, 20056), (115, 20101), (117, 20113), (122, 20161),

Gene: Phipps\_26 Start: 19126, Stop: 19689, Start Num: 22

Candidate Starts for Phipps\_26:

(5, 18955), (Start: 22 @19126 has 262 MA's), (72, 19312), (86, 19366), (117, 19597), (123, 19657),

Gene: Phleuron\_25 Start: 18727, Stop: 19290, Start Num: 22

Candidate Starts for Phleuron\_25:

(5, 18556), (Start: 22 @18727 has 262 MA's), (72, 18913), (86, 18967), (99, 19042), (117, 19198), (123, 19258),

Gene: Phlyer\_27 Start: 20511, Stop: 21104, Start Num: 28

Candidate Starts for Phlyer\_27:

(Start: 28 @20511 has 39 MA's), (31, 20517), (Start: 34 @20550 has 20 MA's), (62, 20655), (104, 20880), (111, 20925), (115, 20970), (117, 20982), (122, 21030),

Gene: PhrankReynolds\_25 Start: 18727, Stop: 19290, Start Num: 22

Candidate Starts for PhrankReynolds\_25:

(5, 18556), (Start: 22 @18727 has 262 MA's), (72, 18913), (86, 18967), (99, 19042), (117, 19198), (123, 19258),

Gene: PhrodoBaggins\_25 Start: 19144, Stop: 19707, Start Num: 22

Candidate Starts for PhrodoBaggins\_25:

(5, 18973), (Start: 22 @19144 has 262 MA's), (72, 19330), (86, 19384), (117, 19615), (123, 19675),

Gene: Phunky\_26 Start: 19150, Stop: 19713, Start Num: 22

Candidate Starts for Phunky\_26:

(5, 18979), (Start: 22 @19150 has 262 MA's), (72, 19336), (86, 19390), (117, 19621), (123, 19681),

Gene: Piglet\_0025 Start: 19150, Stop: 19713, Start Num: 22

Candidate Starts for Piglet\_0025:

(5, 18979), (Start: 22 @19150 has 262 MA's), (72, 19336), (86, 19390), (117, 19621), (123, 19681),

Gene: PinheadLarry\_26 Start: 18867, Stop: 19430, Start Num: 22

Candidate Starts for PinheadLarry\_26:

(5, 18696), (Start: 22 @18867 has 262 MA's), (72, 19053), (86, 19107), (117, 19338), (123, 19398),

Gene: Pinkman\_25 Start: 18707, Stop: 19270, Start Num: 22

Candidate Starts for Pinkman\_25:

(5, 18536), (Start: 22 @18707 has 262 MA's), (72, 18893), (86, 18947), (99, 19022), (117, 19178), (123, 19238),

Gene: Pipefish\_27 Start: 20661, Stop: 21251, Start Num: 28

Candidate Starts for Pipefish\_27:

(Start: 28 @20661 has 39 MA's), (31, 20667), (Start: 34 @20700 has 20 MA's), (62, 20805), (104, 21027), (111, 21072), (115, 21117), (117, 21129), (122, 21177),

Gene: Pipsqueak\_26 Start: 19156, Stop: 19716, Start Num: 22

Candidate Starts for Pipsqueak\_26:

(5, 18985), (Start: 22 @19156 has 262 MA's), (72, 19342), (86, 19396), (117, 19627), (123, 19687),

Gene: Placalicious\_25 Start: 18849, Stop: 19409, Start Num: 22

Candidate Starts for Placalicious\_25:

(5, 18678), (Start: 22 @18849 has 262 MA's), (72, 19035), (86, 19089), (117, 19320), (123, 19380),

Gene: Plmatters\_26 Start: 19153, Stop: 19716, Start Num: 22

Candidate Starts for Plmatters\_26:

(5, 18982), (Start: 22 @19153 has 262 MA's), (72, 19339), (86, 19393), (117, 19624), (123, 19684),

Gene: Podrick\_26 Start: 19145, Stop: 19708, Start Num: 22



Candidate Starts for Podrick\_26:

(5, 18974), (Start: 22 @19145 has 262 MA's), (72, 19331), (86, 19385), (117, 19616), (123, 19676),

Gene: Pops\_26 Start: 19153, Stop: 19716, Start Num: 22

Candidate Starts for Pops\_26:

(5, 18982), (Start: 22 @19153 has 262 MA's), (72, 19339), (86, 19393), (117, 19624), (123, 19684),

Gene: Poster\_23 Start: 18773, Stop: 19333, Start Num: 21

Candidate Starts for Poster\_23:

(Start: 21 @18773 has 32 MA's), (51, 18890), (56, 18899), (65, 18935), (67, 18941), (73, 18956), (80, 18974), (86, 19004), (93, 19028), (95, 19046), (105, 19148), (106, 19154), (107, 19160), (114, 19223), (117, 19238), (119, 19265), (120, 19274),

Gene: Potter\_25 Start: 18863, Stop: 19426, Start Num: 22

Candidate Starts for Potter\_25:

(5, 18692), (Start: 22 @18863 has 262 MA's), (72, 19049), (86, 19103), (117, 19334), (123, 19394),

Gene: Prickles\_26 Start: 19142, Stop: 19705, Start Num: 22

Candidate Starts for Prickles\_26:

(5, 18971), (Start: 22 @19142 has 262 MA's), (72, 19328), (86, 19382), (117, 19613), (123, 19673),

Gene: Prince\_24 Start: 19965, Stop: 20525, Start Num: 21

Candidate Starts for Prince\_24:

(Start: 21 @19965 has 32 MA's), (35, 20025), (51, 20082), (56, 20091), (65, 20127), (67, 20133), (73, 20148), (80, 20166), (86, 20196), (93, 20220), (105, 20340), (106, 20346), (114, 20415), (117, 20430), (119, 20457), (120, 20466),

Gene: ProfessorX\_26 Start: 19140, Stop: 19703, Start Num: 22

Candidate Starts for ProfessorX\_26:

(5, 18969), (Start: 22 @19140 has 262 MA's), (72, 19326), (86, 19380), (117, 19611), (123, 19671),

Gene: Puhltonio\_26 Start: 19157, Stop: 19720, Start Num: 22

Candidate Starts for Puhltonio\_26:

(Start: 22 @19157 has 262 MA's), (72, 19343), (86, 19397), (117, 19628), (123, 19688),

Gene: QueenBeane\_26 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for QueenBeane\_26:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (117, 19619), (123, 19679),

Gene: QueenPie\_23 Start: 19969, Stop: 20529, Start Num: 21

Candidate Starts for QueenPie\_23:

(Start: 21 @19969 has 32 MA's), (51, 20086), (56, 20095), (65, 20131), (67, 20137), (73, 20152), (80, 20170), (86, 20200), (93, 20224), (105, 20344), (106, 20350), (107, 20356), (114, 20419), (117, 20434), (119, 20461), (120, 20470),

Gene: Quesadilla\_27 Start: 21307, Stop: 21885, Start Num: 27

Candidate Starts for Quesadilla\_27:

(Start: 27 @21307 has 1 MA's), (82, 21505), (114, 21754), (117, 21769), (124, 21832),

Gene: Quisquilliae\_26 Start: 19164, Stop: 19727, Start Num: 22

Candidate Starts for Quisquilliae\_26:

(Start: 22 @19164 has 262 MA's), (72, 19350), (86, 19404), (117, 19635), (123, 19695),

Gene: Qyrzula\_26 Start: 21403, Stop: 21888, Start Num: 43

Candidate Starts for Qyrzula\_26:

(Start: 43 @21403 has 16 MA's), (53, 21430), (64, 21472), (84, 21538), (85, 21541), (91, 21559), (96, 21583), (100, 21622), (104, 21667), (105, 21679), (107, 21691), (109, 21703), (113, 21730), (115, 21757), (116, 21766), (117, 21769), (122, 21817), (126, 21841),

Gene: RagingRooster\_27 Start: 19777, Stop: 20370, Start Num: 28

Candidate Starts for RagingRooster\_27:

(Start: 28 @19777 has 39 MA's), (31, 19783), (Start: 34 @19816 has 20 MA's), (104, 20146), (111, 20191), (115, 20236), (117, 20248), (122, 20296),

Gene: RawrgerThat\_24 Start: 19802, Stop: 20362, Start Num: 21

Candidate Starts for RawrgerThat\_24:

(Start: 21 @19802 has 32 MA's), (35, 19862), (51, 19919), (56, 19928), (65, 19964), (67, 19970), (73, 19985), (80, 20003), (86, 20033), (93, 20057), (105, 20177), (106, 20183), (114, 20252), (117, 20267), (119, 20294), (120, 20303),

Gene: RedMaple\_25 Start: 19159, Stop: 19719, Start Num: 22

Candidate Starts for RedMaple\_25:

(5, 18988), (Start: 22 @19159 has 262 MA's), (72, 19345), (86, 19399), (117, 19630), (123, 19690),

Gene: Reprobate\_26 Start: 20073, Stop: 20681, Start Num: 15

Candidate Starts for Reprobate\_26:

(Start: 15 @20073 has 1 MA's), (Start: 21 @20112 has 32 MA's), (42, 20217), (56, 20253), (74, 20313), (89, 20352), (101, 20433), (114, 20559), (117, 20574), (118, 20589), (120, 20610), (121, 20619), (123, 20634),

Gene: Rhinoforte\_28 Start: 21434, Stop: 21919, Start Num: 43

Candidate Starts for Rhinoforte\_28:

(Start: 43 @21434 has 16 MA's), (53, 21461), (64, 21503), (84, 21569), (85, 21572), (91, 21590), (96, 21614), (100, 21653), (104, 21698), (105, 21710), (107, 21722), (109, 21734), (113, 21761), (115, 21788), (116, 21797), (117, 21800), (122, 21848), (126, 21872),

Gene: Rich\_25 Start: 19612, Stop: 20178, Start Num: 21

Candidate Starts for Rich\_25:

(5, 19438), (8, 19471), (Start: 21 @19612 has 32 MA's), (69, 19798), (74, 19810), (85, 19828), (114, 20056), (117, 20071), (119, 20098), (120, 20107),

Gene: Ricotta\_25 Start: 18871, Stop: 19434, Start Num: 22

Candidate Starts for Ricotta\_25:

(5, 18700), (Start: 22 @18871 has 262 MA's), (72, 19057), (86, 19111), (117, 19342), (123, 19402),

Gene: Riggan\_26 Start: 19131, Stop: 19694, Start Num: 22

Candidate Starts for Riggan\_26:

(5, 18960), (Start: 22 @19131 has 262 MA's), (72, 19317), (86, 19371), (117, 19602), (123, 19662),

Gene: Rimu\_27 Start: 18880, Stop: 19443, Start Num: 22

Candidate Starts for Rimu\_27:

(5, 18709), (Start: 22 @18880 has 262 MA's), (72, 19066), (86, 19120), (99, 19195), (117, 19351), (123, 19411),

Gene: Rita1961\_27 Start: 19811, Stop: 20365, Start Num: 34

Candidate Starts for Rita1961\_27:

(Start: 28 @19772 has 39 MA's), (31, 19778), (Start: 34 @19811 has 20 MA's), (104, 20141), (111, 20186), (115, 20231), (117, 20243), (122, 20291),

Gene: Robyn\_25 Start: 18722, Stop: 19285, Start Num: 22

Candidate Starts for Robyn\_25:

(5, 18551), (16, 18692), (Start: 22 @18722 has 262 MA's), (72, 18908), (86, 18962), (117, 19193), (123, 19253),

Gene: Roliet\_26 Start: 19147, Stop: 19710, Start Num: 22

Candidate Starts for Roliet\_26:

(5, 18976), (Start: 22 @19147 has 262 MA's), (72, 19333), (86, 19387), (117, 19618), (123, 19678),

Gene: RomaT\_27 Start: 20562, Stop: 21155, Start Num: 28

Candidate Starts for RomaT\_27:

(Start: 28 @20562 has 39 MA's), (31, 20568), (Start: 34 @20601 has 20 MA's), (104, 20931), (111, 20976), (115, 21021), (117, 21033), (122, 21081),

Gene: Roscoe\_27 Start: 19389, Stop: 19949, Start Num: 22

Candidate Starts for Roscoe\_27:

(5, 19218), (Start: 22 @19389 has 262 MA's), (72, 19575), (86, 19629), (117, 19860), (123, 19920),

Gene: Rosebush\_28 Start: 21435, Stop: 21920, Start Num: 44

Candidate Starts for Rosebush\_28:

(Start: 44 @21435 has 16 MA's), (53, 21462), (64, 21504), (84, 21570), (85, 21573), (91, 21591), (96, 21615), (100, 21654), (104, 21699), (105, 21711), (107, 21723), (109, 21735), (113, 21762), (115, 21789), (116, 21798), (117, 21801), (122, 21849), (126, 21873),

Gene: Roy17\_26 Start: 18851, Stop: 19414, Start Num: 22

Candidate Starts for Roy17\_26:

(5, 18680), (Start: 22 @18851 has 262 MA's), (72, 19037), (86, 19091), (117, 19322), (123, 19382),

Gene: SDcharge11\_26 Start: 19129, Stop: 19689, Start Num: 22

Candidate Starts for SDcharge11\_26:

(5, 18958), (Start: 22 @19129 has 262 MA's), (72, 19315), (86, 19369), (117, 19600), (123, 19660),

Gene: Sabella\_28 Start: 21321, Stop: 21806, Start Num: 44

Candidate Starts for Sabella\_28:

(Start: 44 @21321 has 16 MA's), (53, 21348), (64, 21390), (84, 21456), (85, 21459), (91, 21477), (96, 21501), (100, 21540), (104, 21585), (105, 21597), (107, 21609), (109, 21621), (113, 21648), (115, 21675), (116, 21684), (117, 21687), (122, 21735), (126, 21759),

Gene: Samaymay\_26 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for Samaymay\_26:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (117, 19619), (123, 19679),

Gene: SassyCat97\_25 Start: 18857, Stop: 19420, Start Num: 22

Candidate Starts for SassyCat97\_25:

(5, 18686), (Start: 22 @18857 has 262 MA's), (72, 19043), (86, 19097), (117, 19328), (123, 19388),

Gene: Schadenfreude\_25 Start: 18705, Stop: 19268, Start Num: 22

Candidate Starts for Schadenfreude\_25:

(5, 18534), (Start: 22 @18705 has 262 MA's), (72, 18891), (86, 18945), (117, 19176), (123, 19236),

Gene: Schueller\_26 Start: 18848, Stop: 19411, Start Num: 22  
Candidate Starts for Schueller\_26:  
(5, 18677), (Start: 22 @18848 has 262 MA's), (72, 19034), (86, 19088), (117, 19319), (123, 19379),

Gene: Scoot17C\_26 Start: 19150, Stop: 19713, Start Num: 22  
Candidate Starts for Scoot17C\_26:  
(5, 18979), (Start: 22 @19150 has 262 MA's), (72, 19336), (86, 19390), (117, 19621), (123, 19681),

Gene: Scrick\_26 Start: 18875, Stop: 19438, Start Num: 22  
Candidate Starts for Scrick\_26:  
(5, 18704), (Start: 22 @18875 has 262 MA's), (72, 19061), (86, 19115), (117, 19346), (123, 19406),

Gene: Sejanus\_23 Start: 18142, Stop: 18735, Start Num: 33  
Candidate Starts for Sejanus\_23:  
(Start: 33 @18142 has 4 MA's), (94, 18391), (101, 18454), (108, 18520), (112, 18541), (114, 18577),  
(116, 18589), (120, 18631), (127, 18700), (128, 18709),

Gene: Selr12\_26 Start: 18872, Stop: 19435, Start Num: 22  
Candidate Starts for Selr12\_26:  
(5, 18701), (Start: 22 @18872 has 262 MA's), (72, 19058), (86, 19112), (117, 19343), (123, 19403),

Gene: Serendipitous\_25 Start: 19669, Stop: 20238, Start Num: 21  
Candidate Starts for Serendipitous\_25:  
(5, 19495), (Start: 21 @19669 has 32 MA's), (41, 19771), (56, 19810), (69, 19858), (74, 19870), (114,  
20116), (117, 20131), (119, 20158), (120, 20167), (123, 20191),

Gene: Serendipity\_26 Start: 19170, Stop: 19730, Start Num: 22  
Candidate Starts for Serendipity\_26:  
(5, 18999), (Start: 22 @19170 has 262 MA's), (72, 19356), (86, 19410), (117, 19641), (123, 19701),

Gene: Serpentine\_0026 Start: 19150, Stop: 19713, Start Num: 22  
Candidate Starts for Serpentine\_0026:  
(5, 18979), (Start: 22 @19150 has 262 MA's), (72, 19336), (86, 19390), (117, 19621), (123, 19681),

Gene: Shatter\_23 Start: 17682, Stop: 18221, Start Num: 34  
Candidate Starts for Shatter\_23:  
(18, 17577), (Start: 34 @17682 has 20 MA's), (56, 17760), (92, 17868), (93, 17874), (106, 17997),  
(109, 18015), (111, 18024), (114, 18066), (117, 18081), (122, 18129), (123, 18141),

Gene: Sheila\_26 Start: 19142, Stop: 19705, Start Num: 22  
Candidate Starts for Sheila\_26:  
(5, 18971), (Start: 22 @19142 has 262 MA's), (72, 19328), (86, 19382), (117, 19613), (123, 19673),

Gene: Shenyu\_26 Start: 19812, Stop: 20381, Start Num: 21  
Candidate Starts for Shenyu\_26:  
(Start: 21 @19812 has 32 MA's), (41, 19914), (69, 20001), (74, 20013), (88, 20049), (114, 20259),  
(117, 20274), (119, 20301),

Gene: ShiVal\_26 Start: 19142, Stop: 19705, Start Num: 22  
Candidate Starts for ShiVal\_26:  
(5, 18971), (Start: 22 @19142 has 262 MA's), (72, 19328), (86, 19382), (117, 19613), (123, 19673),

Gene: Sigman\_26 Start: 19141, Stop: 19704, Start Num: 22

Candidate Starts for Sigman\_26:  
(5, 18970), (Start: 22 @19141 has 262 MA's), (72, 19327), (86, 19381), (117, 19612), (123, 19672),

Gene: SilverBell\_26 Start: 19165, Stop: 19728, Start Num: 22

Candidate Starts for SilverBell\_26:  
(5, 18994), (Start: 22 @19165 has 262 MA's), (72, 19351), (86, 19405), (117, 19636), (123, 19696),

Gene: Simielle\_25 Start: 18840, Stop: 19403, Start Num: 22

Candidate Starts for Simielle\_25:  
(5, 18669), (Start: 22 @18840 has 262 MA's), (72, 19026), (86, 19080), (117, 19311), (123, 19371),

Gene: SirJeffery\_26 Start: 19855, Stop: 20421, Start Num: 21

Candidate Starts for SirJeffery\_26:  
(5, 19681), (Start: 21 @19855 has 32 MA's), (45, 19960), (46, 19963), (69, 20041), (74, 20053), (114, 20299), (117, 20314), (119, 20341), (121, 20359),

Gene: Sisko\_23 Start: 17967, Stop: 18464, Start Num: 34

Candidate Starts for Sisko\_23:  
(Start: 34 @17967 has 20 MA's), (54, 18039), (74, 18075), (105, 18249), (106, 18255), (114, 18324), (117, 18339), (122, 18387),

Gene: Skippy\_26 Start: 19136, Stop: 19699, Start Num: 22

Candidate Starts for Skippy\_26:  
(Start: 22 @19136 has 262 MA's), (72, 19322), (86, 19376), (117, 19607), (123, 19667),

Gene: Slatt\_26 Start: 19164, Stop: 19727, Start Num: 22

Candidate Starts for Slatt\_26:  
(5, 18993), (Start: 22 @19164 has 262 MA's), (72, 19350), (86, 19404), (117, 19635), (123, 19695),

Gene: SlippinJimmy\_27 Start: 20580, Stop: 21134, Start Num: 34

Candidate Starts for SlippinJimmy\_27:  
(Start: 28 @20541 has 39 MA's), (31, 20547), (Start: 34 @20580 has 20 MA's), (104, 20910), (111, 20955), (115, 21000), (117, 21012), (122, 21060),

Gene: Soile\_26 Start: 18862, Stop: 19425, Start Num: 22

Candidate Starts for Soile\_26:  
(5, 18691), (Start: 22 @18862 has 262 MA's), (72, 19048), (86, 19102), (99, 19177), (117, 19333), (123, 19393),

Gene: Solosis\_25 Start: 18867, Stop: 19427, Start Num: 22

Candidate Starts for Solosis\_25:  
(5, 18696), (Start: 22 @18867 has 262 MA's), (72, 19053), (86, 19107), (117, 19338), (123, 19398),

Gene: Sophia\_25 Start: 18860, Stop: 19423, Start Num: 22

Candidate Starts for Sophia\_25:  
(5, 18689), (Start: 22 @18860 has 262 MA's), (72, 19046), (86, 19100), (117, 19331), (123, 19391),

Gene: Soto\_26 Start: 19144, Stop: 19707, Start Num: 22

Candidate Starts for Soto\_26:  
(5, 18973), (Start: 22 @19144 has 262 MA's), (72, 19330), (86, 19384), (117, 19615), (123, 19675),

Gene: Sour\_27 Start: 21685, Stop: 22194, Start Num: 34

Candidate Starts for Sour\_27:

(Start: 34 @21685 has 20 MA's), (56, 21763), (84, 21817), (106, 21973), (110, 21994), (117, 22057), (122, 22105),

Gene: Spartan300\_26 Start: 19145, Stop: 19708, Start Num: 22

Candidate Starts for Spartan300\_26:

(5, 18974), (Start: 22 @19145 has 262 MA's), (72, 19331), (86, 19385), (117, 19616), (123, 19676),

Gene: Squid\_26 Start: 18857, Stop: 19420, Start Num: 22

Candidate Starts for Squid\_26:

(5, 18686), (Start: 22 @18857 has 262 MA's), (72, 19043), (86, 19097), (117, 19328), (123, 19388),

Gene: Squiggle\_26 Start: 18854, Stop: 19417, Start Num: 22

Candidate Starts for Squiggle\_26:

(5, 18683), (Start: 22 @18854 has 262 MA's), (72, 19040), (86, 19094), (117, 19325), (123, 19385),

Gene: Stinger\_22 Start: 18290, Stop: 18919, Start Num: 13

Candidate Starts for Stinger\_22:

(Start: 13 @18290 has 1 MA's), (14, 18308), (Start: 21 @18350 has 32 MA's), (35, 18419), (39, 18440), (51, 18476), (56, 18485), (65, 18521), (67, 18527), (80, 18557), (86, 18590), (89, 18599), (93, 18614), (95, 18632), (105, 18734), (106, 18740), (107, 18746), (114, 18809), (117, 18824), (119, 18851), (120, 18860),

Gene: StinkyVeggy\_28 Start: 19984, Stop: 20553, Start Num: 21

Candidate Starts for StinkyVeggy\_28:

(Start: 21 @19984 has 32 MA's), (41, 20086), (69, 20173), (74, 20185), (88, 20221), (114, 20431), (117, 20446), (119, 20473),

Gene: Struggle\_25 Start: 18701, Stop: 19264, Start Num: 22

Candidate Starts for Struggle\_25:

(5, 18530), (Start: 22 @18701 has 262 MA's), (72, 18887), (86, 18941), (99, 19016), (117, 19172), (123, 19232),

Gene: Suffolk\_26 Start: 19147, Stop: 19710, Start Num: 22

Candidate Starts for Suffolk\_26:

(5, 18976), (Start: 22 @19147 has 262 MA's), (72, 19333), (86, 19387), (117, 19618), (123, 19678),

Gene: Suigeneris\_26 Start: 19864, Stop: 20430, Start Num: 21

Candidate Starts for Suigeneris\_26:

(5, 19690), (Start: 21 @19864 has 32 MA's), (45, 19969), (46, 19972), (69, 20050), (74, 20062), (114, 20308), (117, 20323), (119, 20350), (121, 20368),

Gene: Surely\_26 Start: 19159, Stop: 19722, Start Num: 22

Candidate Starts for Surely\_26:

(5, 18988), (Start: 22 @19159 has 262 MA's), (72, 19345), (86, 19399), (117, 19630), (123, 19690),

Gene: Swiphy\_27 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for Swiphy\_27:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (99, 19463), (117, 19619), (123, 19679),

Gene: Swish\_26 Start: 19142, Stop: 19705, Start Num: 22

Candidate Starts for Swish\_26:

(5, 18971), (Start: 22 @19142 has 262 MA's), (72, 19328), (86, 19382), (117, 19613), (123, 19673),

Gene: SynergyX\_27 Start: 19777, Stop: 20370, Start Num: 28

Candidate Starts for SynergyX\_27:

(Start: 28 @19777 has 39 MA's), (31, 19783), (Start: 34 @19816 has 20 MA's), (104, 20146), (111, 20191), (115, 20236), (117, 20248), (122, 20296),

Gene: TA17A\_28 Start: 21314, Stop: 21799, Start Num: 43

Candidate Starts for TA17A\_28:

(Start: 43 @21314 has 16 MA's), (53, 21341), (64, 21383), (84, 21449), (85, 21452), (91, 21470), (96, 21494), (100, 21533), (104, 21578), (105, 21590), (107, 21602), (109, 21614), (113, 21641), (115, 21668), (116, 21677), (117, 21680), (122, 21728), (126, 21752),

Gene: TPA2\_32 Start: 20033, Stop: 20467, Start Num: 55

Candidate Starts for TPA2\_32:

(55, 20033), (64, 20066), (83, 20117), (90, 20144), (92, 20150), (98, 20186), (105, 20270), (106, 20276), (107, 20282), (109, 20294), (115, 20348), (117, 20360), (122, 20408), (126, 20432),

Gene: TallGrassMM\_26 Start: 18874, Stop: 19437, Start Num: 22

Candidate Starts for TallGrassMM\_26:

(5, 18703), (Start: 22 @18874 has 262 MA's), (72, 19060), (86, 19114), (117, 19345), (123, 19405),

Gene: Taptic\_20 Start: 18567, Stop: 19142, Start Num: 38

Candidate Starts for Taptic\_20:

(2, 18051), (3, 18123), (6, 18291), (7, 18303), (10, 18339), (24, 18474), (25, 18477), (36, 18558), (Start: 38 @18567 has 6 MA's), (Start: 68 @18675 has 2 MA's), (77, 18723), (101, 18858), (102, 18876), (105, 18909), (114, 18984), (116, 18996), (117, 18999), (126, 19068),

Gene: Telesworld\_25 Start: 18853, Stop: 19416, Start Num: 22

Candidate Starts for Telesworld\_25:

(5, 18682), (Start: 22 @18853 has 262 MA's), (72, 19039), (86, 19093), (117, 19324), (123, 19384),

Gene: Thora\_26 Start: 19159, Stop: 19719, Start Num: 22

Candidate Starts for Thora\_26:

(Start: 22 @19159 has 262 MA's), (72, 19345), (86, 19399), (117, 19630), (123, 19690),

Gene: ThreeOh3D2\_26 Start: 19157, Stop: 19717, Start Num: 22

Candidate Starts for ThreeOh3D2\_26:

(5, 18986), (Start: 22 @19157 has 262 MA's), (72, 19343), (86, 19397), (117, 19628), (123, 19688),

Gene: Thunderbird\_25 Start: 18857, Stop: 19417, Start Num: 22

Candidate Starts for Thunderbird\_25:

(5, 18686), (Start: 22 @18857 has 262 MA's), (72, 19043), (86, 19097), (117, 19328), (123, 19388),

Gene: Timmi\_25 Start: 18868, Stop: 19428, Start Num: 22

Candidate Starts for Timmi\_25:

(5, 18697), (Start: 22 @18868 has 262 MA's), (72, 19054), (86, 19108), (117, 19339), (123, 19399),

Gene: Tinciduntolum\_29 Start: 21437, Stop: 21922, Start Num: 44

Candidate Starts for Tinciduntolum\_29:

(Start: 44 @21437 has 16 MA's), (53, 21464), (64, 21506), (84, 21572), (85, 21575), (91, 21593), (96, 21617), (100, 21656), (104, 21701), (105, 21713), (107, 21725), (109, 21737), (113, 21764), (115, 21791), (116, 21800), (117, 21803), (122, 21851), (126, 21875),

Gene: TomBombadil\_26 Start: 19153, Stop: 19713, Start Num: 22  
Candidate Starts for TomBombadil\_26:  
(5, 18982), (Start: 22 @19153 has 262 MA's), (72, 19339), (86, 19393), (117, 19624), (123, 19684),

Gene: Tomlarah\_26 Start: 19143, Stop: 19706, Start Num: 22  
Candidate Starts for Tomlarah\_26:  
(5, 18972), (Start: 22 @19143 has 262 MA's), (72, 19329), (86, 19383), (117, 19614), (123, 19674),

Gene: Toni\_25 Start: 18852, Stop: 19415, Start Num: 22  
Candidate Starts for Toni\_25:  
(5, 18681), (Start: 22 @18852 has 262 MA's), (72, 19038), (86, 19092), (117, 19323), (123, 19383),

Gene: Tooj\_26 Start: 19154, Stop: 19717, Start Num: 22  
Candidate Starts for Tooj\_26:  
(5, 18983), (Start: 22 @19154 has 262 MA's), (72, 19340), (86, 19394), (117, 19625), (123, 19685),

Gene: Tres\_28 Start: 21318, Stop: 21803, Start Num: 44  
Candidate Starts for Tres\_28:  
(Start: 44 @21318 has 16 MA's), (53, 21345), (64, 21387), (84, 21453), (85, 21456), (91, 21474), (96, 21498), (100, 21537), (104, 21582), (105, 21594), (107, 21606), (109, 21618), (113, 21645), (115, 21672), (116, 21681), (117, 21684), (122, 21732), (126, 21756),

Gene: True\_25 Start: 18856, Stop: 19419, Start Num: 22  
Candidate Starts for True\_25:  
(5, 18685), (Start: 22 @18856 has 262 MA's), (72, 19042), (86, 19096), (117, 19327), (123, 19387),

Gene: Trypo\_26 Start: 19145, Stop: 19708, Start Num: 22  
Candidate Starts for Trypo\_26:  
(5, 18974), (Start: 22 @19145 has 262 MA's), (72, 19331), (86, 19385), (99, 19460), (117, 19616), (123, 19676),

Gene: Tydolla\_27 Start: 20514, Stop: 21107, Start Num: 28  
Candidate Starts for Tydolla\_27:  
(Start: 28 @20514 has 39 MA's), (31, 20520), (Start: 34 @20553 has 20 MA's), (104, 20883), (111, 20928), (115, 20973), (117, 20985), (122, 21033),

Gene: TyrionL\_25 Start: 18709, Stop: 19272, Start Num: 22  
Candidate Starts for TyrionL\_25:  
(5, 18538), (Start: 22 @18709 has 262 MA's), (72, 18895), (86, 18949), (99, 19024), (117, 19180), (123, 19240),

Gene: UAch1\_26 Start: 19165, Stop: 19728, Start Num: 22  
Candidate Starts for UAch1\_26:  
(5, 18994), (Start: 22 @19165 has 262 MA's), (72, 19351), (86, 19405), (117, 19636), (123, 19696),

Gene: UncleHowie\_26 Start: 18855, Stop: 19418, Start Num: 22  
Candidate Starts for UncleHowie\_26:  
(5, 18684), (Start: 22 @18855 has 262 MA's), (72, 19041), (86, 19095), (117, 19326), (123, 19386),

Gene: Usavi\_26 Start: 19156, Stop: 19719, Start Num: 22  
Candidate Starts for Usavi\_26:  
(5, 18985), (Start: 22 @19156 has 262 MA's), (72, 19342), (86, 19396), (117, 19627), (123, 19687),



Gene: Vaishali24\_25 Start: 18814, Stop: 19377, Start Num: 22

Candidate Starts for Vaishali24\_25:

(5, 18643), (16, 18784), (Start: 22 @18814 has 262 MA's), (72, 19000), (86, 19054), (117, 19285), (123, 19345),

Gene: Valjean\_26 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for Valjean\_26:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (117, 19619), (123, 19679),

Gene: Vaticameos\_26 Start: 18846, Stop: 19409, Start Num: 22

Candidate Starts for Vaticameos\_26:

(5, 18675), (Start: 22 @18846 has 262 MA's), (72, 19032), (86, 19086), (117, 19317), (123, 19377),

Gene: Veritas\_25 Start: 18715, Stop: 19278, Start Num: 22

Candidate Starts for Veritas\_25:

(5, 18544), (Start: 22 @18715 has 262 MA's), (72, 18901), (86, 18955), (99, 19030), (117, 19186), (123, 19246),

Gene: Vic9\_29 Start: 21765, Stop: 22250, Start Num: 43

Candidate Starts for Vic9\_29:

(Start: 43 @21765 has 16 MA's), (53, 21792), (54, 21795), (64, 21834), (84, 21900), (85, 21903), (91, 21921), (96, 21945), (100, 21984), (104, 22029), (105, 22041), (107, 22053), (109, 22065), (113, 22092), (115, 22119), (116, 22128), (117, 22131), (122, 22179), (126, 22203),

Gene: Vincenzo\_25 Start: 20564, Stop: 21106, Start Num: 21

Candidate Starts for Vincenzo\_25:

(Start: 21 @20564 has 32 MA's), (35, 20627), (59, 20696), (61, 20705), (76, 20738), (79, 20744), (80, 20747), (86, 20777), (105, 20921), (106, 20927), (114, 20996), (117, 21011), (120, 21047),

Gene: VioletZ\_24 Start: 19861, Stop: 20421, Start Num: 21

Candidate Starts for VioletZ\_24:

(Start: 21 @19861 has 32 MA's), (35, 19921), (51, 19978), (56, 19987), (65, 20023), (67, 20029), (80, 20062), (86, 20092), (93, 20116), (103, 20218), (105, 20236), (106, 20242), (114, 20311), (117, 20326), (119, 20353), (120, 20362),

Gene: Virapocalypse\_26 Start: 19139, Stop: 19702, Start Num: 22

Candidate Starts for Virapocalypse\_26:

(5, 18968), (Start: 22 @19139 has 262 MA's), (72, 19325), (86, 19379), (117, 19610), (123, 19670),

Gene: Virgeve\_25 Start: 18881, Stop: 19444, Start Num: 22

Candidate Starts for Virgeve\_25:

(5, 18710), (Start: 22 @18881 has 262 MA's), (72, 19067), (86, 19121), (99, 19196), (117, 19352), (123, 19412),

Gene: Vista\_26 Start: 19153, Stop: 19716, Start Num: 22

Candidate Starts for Vista\_26:

(5, 18982), (Start: 22 @19153 has 262 MA's), (72, 19339), (86, 19393), (117, 19624), (123, 19684),

Gene: Vivaldi\_26 Start: 19183, Stop: 19743, Start Num: 22

Candidate Starts for Vivaldi\_26:

(5, 19012), (Start: 22 @19183 has 262 MA's), (72, 19369), (86, 19423), (117, 19654), (123, 19714),

Gene: Vortex\_26 Start: 18863, Stop: 19423, Start Num: 22

Candidate Starts for Vortex\_26:

(5, 18692), (Start: 22 @18863 has 262 MA's), (72, 19049), (86, 19103), (117, 19334), (123, 19394),

Gene: Waleliano\_24 Start: 19800, Stop: 20360, Start Num: 21

Candidate Starts for Waleliano\_24:

(Start: 21 @19800 has 32 MA's), (35, 19860), (51, 19917), (56, 19926), (65, 19962), (67, 19968), (80, 20001), (86, 20031), (93, 20055), (105, 20175), (106, 20181), (114, 20250), (117, 20265), (119, 20292), (120, 20301),

Gene: Wallhey\_25 Start: 18713, Stop: 19276, Start Num: 22

Candidate Starts for Wallhey\_25:

(5, 18542), (Start: 22 @18713 has 262 MA's), (72, 18899), (86, 18953), (99, 19028), (117, 19184), (123, 19244),

Gene: Waterdiva\_26 Start: 19148, Stop: 19711, Start Num: 22

Candidate Starts for Waterdiva\_26:

(5, 18977), (Start: 22 @19148 has 262 MA's), (72, 19334), (86, 19388), (117, 19619), (123, 19679),

Gene: Weher20\_26 Start: 19141, Stop: 19704, Start Num: 22

Candidate Starts for Weher20\_26:

(5, 18970), (Start: 22 @19141 has 262 MA's), (72, 19327), (86, 19381), (117, 19612), (123, 19672),

Gene: West99\_28 Start: 21438, Stop: 21923, Start Num: 44

Candidate Starts for West99\_28:

(Start: 44 @21438 has 16 MA's), (53, 21465), (64, 21507), (84, 21573), (85, 21576), (91, 21594), (96, 21618), (100, 21657), (104, 21702), (105, 21714), (107, 21726), (109, 21738), (113, 21765), (115, 21792), (116, 21801), (117, 21804), (122, 21852), (126, 21876),

Gene: Windsor\_25 Start: 18833, Stop: 19396, Start Num: 22

Candidate Starts for Windsor\_25:

(5, 18662), (Start: 22 @18833 has 262 MA's), (72, 19019), (86, 19073), (99, 19148), (117, 19304), (123, 19364),

Gene: Wooper\_25 Start: 19076, Stop: 19591, Start Num: 34

Candidate Starts for Wooper\_25:

(29, 19034), (Start: 32 @19040 has 2 MA's), (Start: 34 @19076 has 20 MA's), (39, 19103), (42, 19112), (62, 19172), (84, 19214), (102, 19328), (106, 19367), (110, 19388), (114, 19436), (117, 19451), (122, 19499), (123, 19511), (126, 19523),

Gene: Xavier\_25 Start: 18866, Stop: 19429, Start Num: 22

Candidate Starts for Xavier\_25:

(5, 18695), (Start: 22 @18866 has 262 MA's), (72, 19052), (86, 19106), (117, 19337), (123, 19397),

Gene: Xincheng\_23 Start: 19261, Stop: 19821, Start Num: 21

Candidate Starts for Xincheng\_23:

(Start: 21 @19261 has 32 MA's), (35, 19321), (48, 19366), (51, 19378), (56, 19387), (65, 19423), (67, 19429), (80, 19462), (86, 19492), (88, 19498), (93, 19516), (105, 19636), (106, 19642), (114, 19711), (117, 19726), (119, 19753), (120, 19762),

Gene: Yago84\_23 Start: 17975, Stop: 18538, Start Num: 34

Candidate Starts for Yago84\_23:

(Start: 34 @17975 has 20 MA's), (54, 18047), (58, 18059), (70, 18107), (71, 18116), (105, 18323), (106, 18329), (114, 18398), (117, 18413), (122, 18461),

Gene: Yahalom\_27 Start: 19789, Stop: 20382, Start Num: 28

Candidate Starts for Yahalom\_27:

(Start: 28 @19789 has 39 MA's), (31, 19795), (Start: 34 @19828 has 20 MA's), (62, 19933), (104, 20158), (111, 20203), (115, 20248), (117, 20260), (122, 20308),

Gene: Yinz\_27 Start: 19815, Stop: 20408, Start Num: 28

Candidate Starts for Yinz\_27:

(Start: 28 @19815 has 39 MA's), (31, 19821), (Start: 34 @19854 has 20 MA's), (104, 20184), (111, 20229), (115, 20274), (117, 20286), (122, 20334),

Gene: Yoshand\_26 Start: 19155, Stop: 19718, Start Num: 22

Candidate Starts for Yoshand\_26:

(5, 18984), (Start: 22 @19155 has 262 MA's), (72, 19341), (86, 19395), (117, 19626), (123, 19686),

Gene: YouGoGlencoco\_26 Start: 19144, Stop: 19707, Start Num: 22

Candidate Starts for YouGoGlencoco\_26:

(5, 18973), (Start: 22 @19144 has 262 MA's), (72, 19330), (86, 19384), (117, 19615), (123, 19675),

Gene: Zaider\_27 Start: 19380, Stop: 19943, Start Num: 22

Candidate Starts for Zaider\_27:

(5, 19209), (Start: 22 @19380 has 262 MA's), (72, 19566), (86, 19620), (117, 19851), (123, 19911),

Gene: Zelda\_26 Start: 19149, Stop: 19712, Start Num: 22

Candidate Starts for Zelda\_26:

(5, 18978), (Start: 22 @19149 has 262 MA's), (72, 19335), (86, 19389), (117, 19620), (123, 19680),

Gene: Zemanar\_25 Start: 19800, Stop: 20360, Start Num: 21

Candidate Starts for Zemanar\_25:

(Start: 21 @19800 has 32 MA's), (35, 19860), (51, 19917), (56, 19926), (65, 19962), (67, 19968), (80, 20001), (86, 20031), (93, 20055), (105, 20175), (106, 20181), (114, 20250), (117, 20265), (119, 20292), (120, 20301),

Gene: Zonia\_26 Start: 19163, Stop: 19726, Start Num: 22

Candidate Starts for Zonia\_26:

(5, 18992), (Start: 22 @19163 has 262 MA's), (72, 19349), (86, 19403), (99, 19478), (117, 19634), (123, 19694),