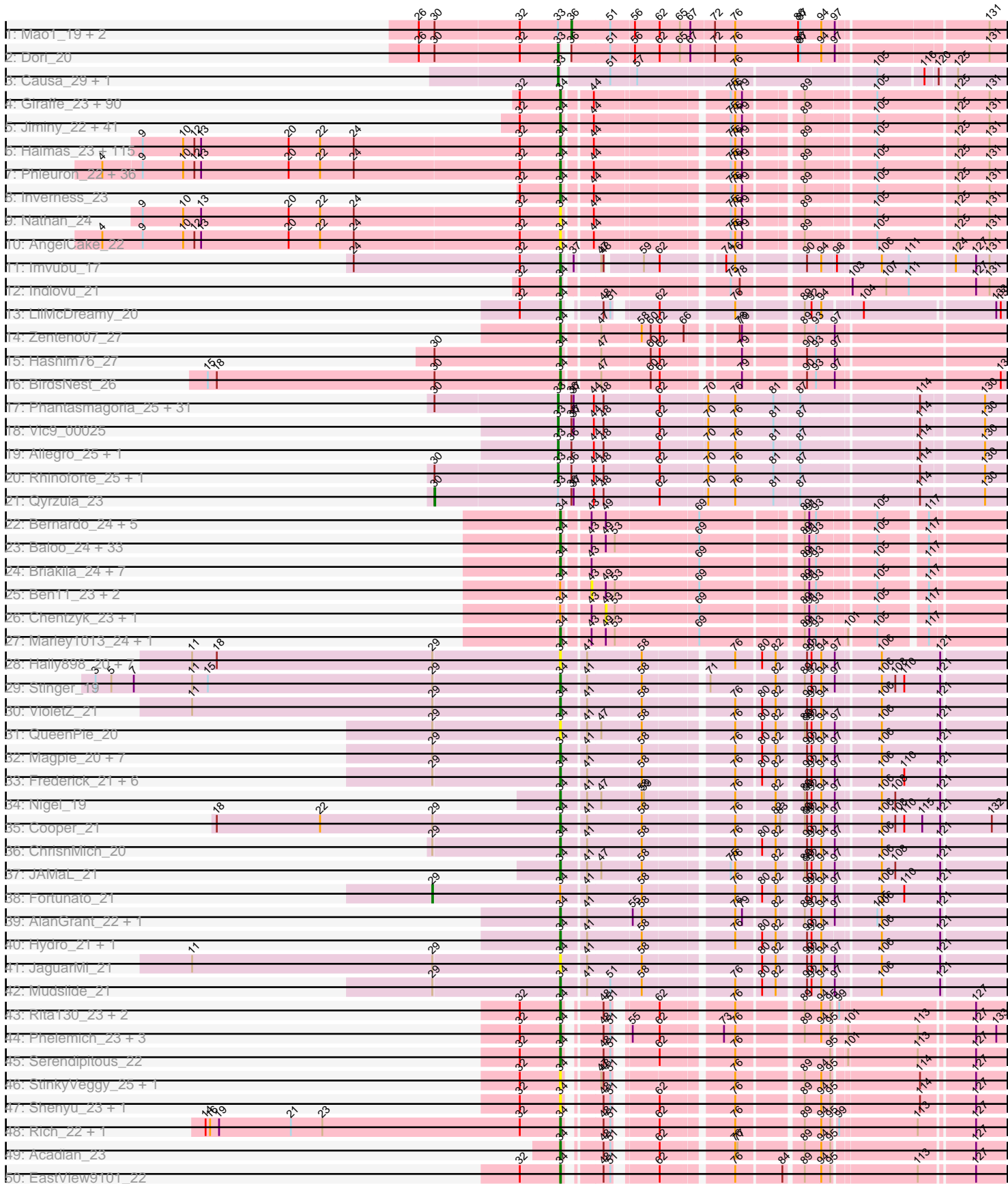
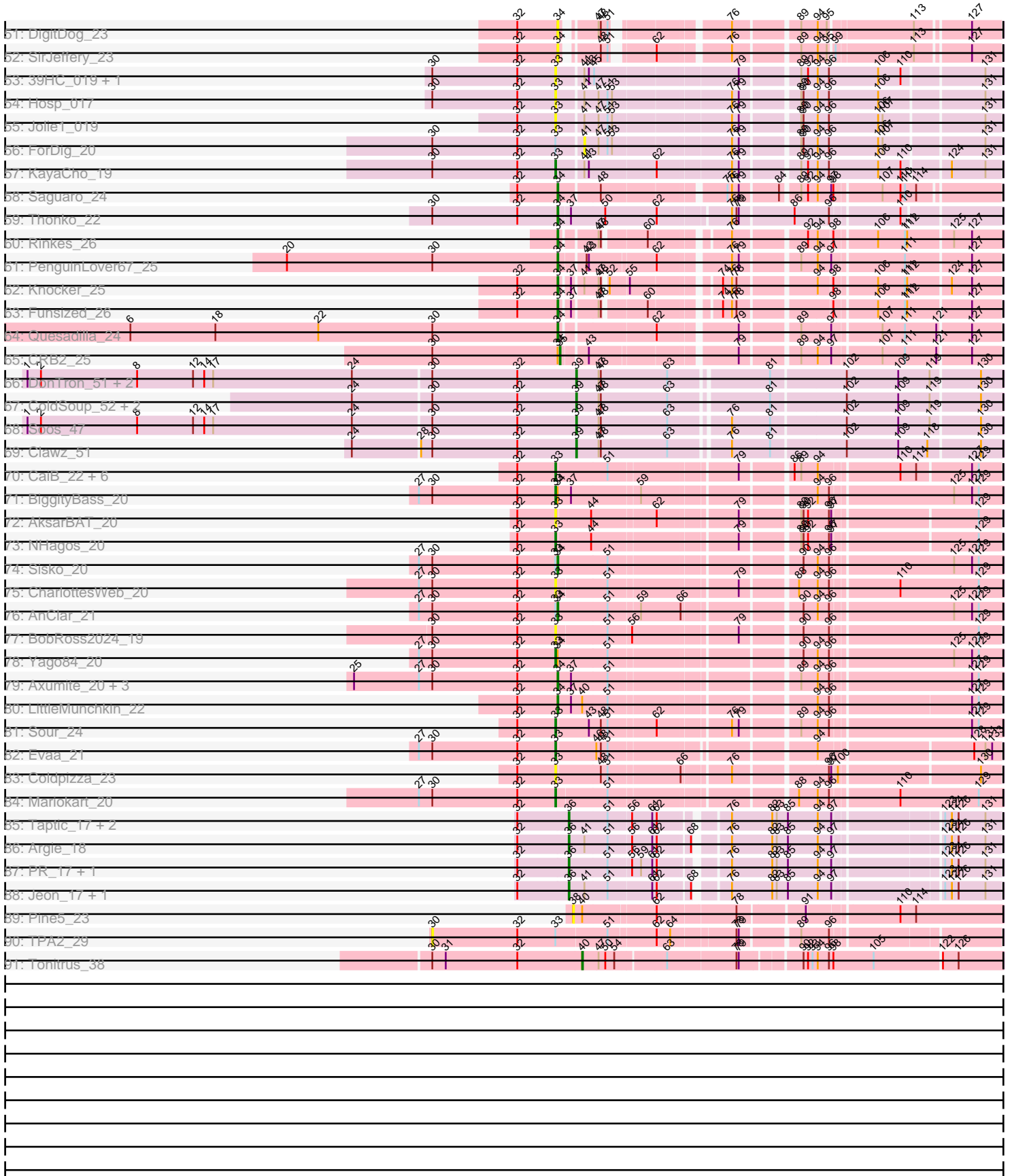


Pham 224150



Pham 224150



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 224150 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224150 has 506 members, 75 are drafts.

Phages represented in each track:

- Track 1 : Mao1\_19, Mask\_20, Sejanus\_20
- Track 2 : Dori\_20
- Track 3 : Causa\_29, StAugustine\_27
- Track 4 : Giraffe\_23, Serpentine\_0023, Banjo\_22, Nacho\_0023, Hetaeria\_23, Maru\_22, Valjean\_23, UncleHowie\_23, Olive\_23, Gyarad\_0023, Zelda\_23, EmpTee\_23, Mulan\_22, Riverton\_22, Altwerkus\_22, Basato\_24, Frankicide\_23, Cher\_22, KLucky39\_23, Pipsqueak\_23, Gareth\_22, Antonia\_22, Megamind20\_23, Manad\_22, Simielle\_22, Mana\_22, Cobra\_23, Daffy\_23, Freya\_22, Andre\_23, Scoot17C\_23, ThreeOh3D2\_23, Mecca\_22, LostAndPhound\_22, Bishoperium\_22, HighStump\_22, Serendipity\_23, Orion\_23, CheetO\_23, Emiris\_23, Spartan300\_23, Dingo\_23, Bluephacebaby\_22, KlimbOn\_23, PinheadLarry\_23, Lopsy\_22, Grand2040\_22, Chorkpop\_23, Solosis\_22, Roliet\_23, Harvey\_23, Telesworld\_22, Childish\_22, QueenBeane\_23, MiniBoss\_23, Held\_23, Nyala\_22, Colbert\_23, Phareon\_23, AbsoluteMadLad\_22, Kahve\_22, Fang\_23, LeiMonet\_23, Waterdiva\_23, Chipette\_24, DonSanchon\_22, HSavage\_23, Morgushi\_23, Dione\_22, UAch1\_23, Samaymay\_23, True\_22, AltPhacts\_23, Potter\_22, Piglet\_0022, CamL\_23, HenryJackson\_22, FugateOSU\_22, Vaishali24\_22, Vaticameos\_23, Robyn\_22, FriarPreacher\_23, Tooj\_23, RedMaple\_22, Suffolk\_23, Aelin\_22, Tomlarah\_23, Vortex\_23, PG1\_23, Chah\_24, Vivaldi\_23
- Track 5 : Jiminy\_22, Mikota\_23, Chunky\_23, DuchessDung\_21, OliverWalter\_23, KingVeVeVe\_23, Usavi\_23, MrPhizzler\_22, Prickles\_23, Oline\_22, Maskar\_22, DirtJuice\_23, Cornbread\_23, Boehler\_23, Thunderbird\_22, Plata\_23, Doddsville\_23, SDcharge11\_23, Duggie\_22, JakeO\_22, JDog\_22, Hocus\_22, TooFast2Furius\_24, Ashraf\_22, ImtiyazSitla\_22, Gwilliam\_23, ProfessorX\_23, Crownjwl\_23, DaddyDaniels\_23, Fozzie\_22, Horchata\_23, Newman\_23, Eremos\_23, Apizium\_22, Carthage\_21, Sheila\_23, Daka\_23, Soto\_23, Roscoe\_24, Struggle\_22, BlueHusk\_23, Jiraiya\_22
- Track 6 : Haimas\_23, Hamish\_23, SirBeauregard\_22, Iridoclysis\_23, Pops\_23, Adriana\_23, Nicole21\_23, Kimbrough\_23, DelRivs\_22, Lumine\_22, Oosterbaan\_23, Selr12\_23, Burr\_22, Inchworm\_23, Matalotodo\_23, SilverBell\_23, Murdoc\_23, Eugenia\_23, Keitherie\_23, Pherdinand\_23, Orwigg\_22, Thora\_23, Derpp\_22, TyrionL\_22, Buckeye\_23, OSmaximus\_23, Skippy\_23, Toni\_22, Fringe\_23, Kwadwo\_22, Legolas\_22, Squid\_23, Olak\_22, Cornobble\_22, ABU\_23, Numberten\_23, BlackStallion\_23, Windsor\_22, Mcshane\_22, FluffyNinja\_23, Schadenfreude\_22, MitKao\_23, Scrick\_23, Haleema\_22, Orfeu\_22, Swish\_23, Mutante\_22, Lulumae\_22, Podrick\_23, Roy17\_23, Sigman\_23, Lulwa\_23, Megatron\_23, LeeLot\_23, Xavier\_22, PhrodoBaggins\_22, IsaacEli\_23,

Beaglebox\_22, Jillium\_22, Sophia\_22, Surely\_23, Mosaic\_22, Slatt\_23, Jesabah\_23, Virapocalypse\_23, Kikipoo\_23, Charles1\_23, SassyCat97\_22, Hertubise\_23, Omniscient\_23, Soile\_23, Ricotta\_22, Badfish\_23, Lego3393\_23, JangoPhett\_23, Iridessa\_23, DoesntMatter\_23, YouGoGlencoco\_23, Quisquillae\_23, Cosmolli16\_22, ShiVal\_23, LemonSlice\_23, Cannibal\_23, Gophee\_23, TallGrassMM\_23, Dice\_22, LasagnaCat\_23, JacAttac\_23, MRabcd\_22, Riggan\_23, Puhltonio\_23, Lasso\_23, Mesh1\_23, Katniss\_23, Timmi\_22, Squiggle\_23, TomBombadil\_23, Phipps\_23, Kloppinator\_23, Craff\_23, PhatCats2014\_23, Zaider\_24, Morty\_23, Phunky\_23, Phamished\_23, Plmatters\_23, Vista\_23, Mesmerelda\_23, CampRoach\_23, LuckyMarjie\_22, Pacifista\_22, Chaelin\_22, Anderson\_23, Labeouficaum\_22, Placalicious\_22, Yoshand\_23

- Track 7 : Phleuron\_22, Rimu\_23, BatteryCK\_22, Phergie\_22, Magic8\_23, Zonia\_23, Pinkman\_22, Trypo\_23, Veritas\_22, Coletti\_22, Swiphy\_24, Etaye\_23, MichaelPhcott\_22, Kailash\_23, Schueller\_22, Chute\_22, MelsMeow\_22, PhrankReynolds\_22, Virgeve\_22, Durga\_23, Gwennie1\_23, GeneCoco\_23, Dati\_23, Longacauda\_22, Caspiroi\_24, Wallhey\_22, Kwksand96\_22, ElvisPhasley\_23, Brilliant\_23, PhenghisKhan\_22, Hartsy\_23, Weher20\_23, Mag7\_22, PhatLouie\_23, Melc17\_23, Khan1\_23, CharlieGBrown\_22

- Track 8 : Inverness\_23

- Track 9 : Nathan\_24

- Track 10 : AngelCake\_22

- Track 11 : Imvubu\_17

- Track 12 : Indlovu\_21

- Track 13 : LilMcDreamy\_20

- Track 14 : Zenteno07\_27

- Track 15 : Hashim76\_27

- Track 16 : BirdsNest\_26

- Track 17 : Phantasmagoria\_25, Sabella\_25, LizLemon\_25, Kheth\_25, Faze9\_25, Godines\_25, Brownie5\_25, West99\_25, Coffee\_25, MasterPo\_25, TA17A\_26, Calamitous\_25, Kolhan\_25, Bananafish\_25, Opia\_25, Eaglehorse\_25, LilSmirk\_25, Tinciduntolum\_26, Tres\_25, Lars\_25, Boyle\_25, Arbiter\_25, Holeinone\_25, Hedgerow\_25, Rosebush\_25, PrinceCharming\_25, Glass\_25, Kaleb\_25, Ares\_25, Lephleur\_25, ItsyBitsy1\_25, FrenchFry\_25

- Track 18 : Vic9\_00025

- Track 19 : Allegro\_25, Laurie\_25

- Track 20 : Rhinoforte\_25, Blocker23\_25

- Track 21 : Qyrzula\_23

- Track 22 : Bernardo\_24, GlenHope\_25, Pipefish\_24, Gadget\_25, Gervas\_24, RomaT\_24

- Track 23 : Baloo\_24, Phlyer\_24, Phayeta\_24, SwainyDoc\_24, Olivio\_23, Jackstina\_22, Yinz\_24, MmasiCarm\_24, Phaedrus\_22, Chalmers\_24, Audrey\_24, ChaChing\_24, Athena\_25, Neos5\_24, Nozo\_24, Corofin\_24, Tydolla\_24, SlippinJimmy\_24, HarveySr\_24, Daisy\_24, Devonte\_24, Heathcliff\_24, Philly\_23, Kronus\_23, OrangeOswald\_24, Halfpint\_23, Chandler\_24, Abingghost\_24, Obutu\_24, Shenandoah\_24, Mortcellus\_23, Rita1961\_24, Compostia\_25, Kamiyu\_24

- Track 24 : Briakila\_24, LestyG\_24, Yahalom\_24, RagingRooster\_24, Akoma\_24, Deenasa\_24, SynergyX\_24, Casbah\_23

- Track 25 : Ben11\_23, TinyTerror\_24, Glubnar\_24

- Track 26 : Chentzyk\_23, Marlia\_24

- Track 27 : Marley1013\_24, Morty007\_24

- Track 28 : Hally898\_20, Antihero\_20, Ahwei\_20, Poster\_20, Lambano\_20, Epah\_20, GinPorsche\_20, Nanao\_20

- Track 29 : Stinger\_19

- Track 30 : VioletZ\_21
- Track 31 : QueenPie\_20
- Track 32 : Magpie\_20, Hangman\_21, BrownCNA\_22, Mithril\_21, Xincheng\_20, Waleliano\_21, Zemanar\_22, Heath\_20
- Track 33 : Frederick\_21, RawrgerThat\_21, Fanaw\_20, Prince\_21, Apex\_21, BobbyK\_21, Austelle\_22
- Track 34 : Nigel\_19
- Track 35 : Cooper\_21
- Track 36 : ChrisnMich\_20
- Track 37 : JAMaL\_21
- Track 38 : Fortunato\_21
- Track 39 : AlanGrant\_22, Vincenzo\_22
- Track 40 : Hydro\_21, Lolalove\_21
- Track 41 : JaguarMi\_21
- Track 42 : Mudslide\_21
- Track 43 : Rita130\_23, Donny\_23, Suigeneris\_23
- Track 44 : Phelemich\_23, Mysterious\_24, Reprobate\_23, Nehemiah\_22
- Track 45 : Serendipitous\_22
- Track 46 : StinkyVeggy\_25, KarasumaRum\_25
- Track 47 : Shenyu\_23, Nangang\_23
- Track 48 : Rich\_22, Bae\_22
- Track 49 : Acadian\_23
- Track 50 : EastView9101\_22
- Track 51 : DigitDog\_23
- Track 52 : SirJeffery\_23
- Track 53 : 39HC\_019, 40BC\_019
- Track 54 : Hosp\_017
- Track 55 : Jolie1\_019
- Track 56 : ForDig\_20
- Track 57 : KayaCho\_19
- Track 58 : Saguaro\_24
- Track 59 : Thonko\_22
- Track 60 : Rinkes\_26
- Track 61 : PenguinLover67\_25
- Track 62 : Knocker\_25
- Track 63 : Funsized\_26
- Track 64 : Quesadilla\_24
- Track 65 : CRB2\_25
- Track 66 : DonTron\_51, Sting\_50, KingstonB\_52
- Track 67 : ColdSoup\_52, Amo99\_52, Jollymon\_51
- Track 68 : Soos\_47
- Track 69 : Clawz\_51
- Track 70 : CaiB\_22, CloverMinnie\_22, Wooper\_22, MakoManhole\_22, MossRose\_22, Yeshua\_22, AnarQue\_22
- Track 71 : BiggityBass\_20
- Track 72 : AksarBAT\_20
- Track 73 : NHagos\_20
- Track 74 : Sisko\_20
- Track 75 : CharlottesWeb\_20
- Track 76 : AnClar\_21
- Track 77 : BobRoss2024\_19
- Track 78 : Yago84\_20
- Track 79 : Axumite\_20, Shatter\_20, Fresco\_20, Ligma\_20

- Track 80 : LittleMunchkin\_22
- Track 81 : Sour\_24
- Track 82 : Evaa\_21
- Track 83 : Coldpizza\_23
- Track 84 : Mariokart\_20
- Track 85 : Taptic\_17, Megabear\_17, Cepens\_17
- Track 86 : Argie\_18
- Track 87 : PR\_17, D12\_17
- Track 88 : Jeon\_17, GodPhather\_18
- Track 89 : Pine5\_23
- Track 90 : TPA2\_29
- Track 91 : Tonitrus\_38

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

The start number called the most often in the published annotations is 34, it was called in 364 of the 431 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU\_23, Abinghost\_24, AbsoluteMadLad\_22, Acadian\_23, Adriana\_23, Aelin\_22, Ahwei\_20, Akoma\_24, AlanGrant\_22, AltPhacts\_23, Altwerkus\_22, AnClar\_21, Anderson\_23, Andre\_23, AngelCake\_22, Antihero\_20, Antonia\_22, Apex\_21, Apizium\_22, Ashraf\_22, Athena\_25, Audrey\_24, Austelle\_22, Axumite\_20, Badfish\_23, Bae\_22, Baloo\_24, Banjo\_22, Basato\_24, BatteryCK\_22, Beaglebox\_22, Bernardo\_24, BirdsNest\_26, Bishoperium\_22, BlackStallion\_23, BlueHusk\_23, Bluephacebaby\_22, BobbyK\_21, Bohler\_23, Briakila\_24, Brilliant\_23, BrownCNA\_22, Buckeye\_23, Burr\_22, CamL\_23, CampRoach\_23, Cannibal\_23, Carthage\_21, Casbah\_23, Caspiboi\_24, ChaChing\_24, Chaelin\_22, Chah\_24, Chalmers\_24, Chandler\_24, Charles1\_23, CharlieGBrown\_22, CheetO\_23, Cher\_22, Childish\_22, Chipette\_24, Chorkpop\_23, ChrisnMich\_20, Chunky\_23, Chute\_22, Cobra\_23, Colbert\_23, Coletti\_22, Compostia\_25, Cooper\_21, Cornbread\_23, Cornobble\_22, Corofin\_24, Cosmolli16\_22, Craff\_23, Crownjwl\_23, DaddyDaniels\_23, Daffy\_23, Daisy\_24, Daka\_23, Dati\_23, Deenasa\_24, DelRivs\_22, Derpp\_22, Devonte\_24, Dice\_22, DigitDog\_23, Dingo\_23, Dione\_22, DirtJuice\_23, Doddsville\_23, DoesntMatter\_23, DonSanchon\_22, Donny\_23, DuchessDung\_21, Duggie\_22, Durga\_23, EastView9101\_22, ElvisPhasley\_23, Emiris\_23, EmpTee\_23, Epah\_20, Eremos\_23, Etaye\_23, Eugenia\_23, Fanaw\_20, Fang\_23, FluffyNinja\_23, Fozzie\_22, Frankicide\_23, Frederick\_21, Fresco\_20, Freya\_22, FriarPreacher\_23, Fringe\_23, FugateOSU\_22, Funsized\_26, Gadget\_25, Gareth\_22, GeneCoco\_23, Gervas\_24, GinPorsche\_20, Giraffe\_23, GlenHope\_25, Gophee\_23, Grand2040\_22, Gwennie1\_23, Gwilliam\_23, Gyarad\_0023, HSavage\_23, Haimas\_23, Haleema\_22, Halfpint\_23, Hally898\_20, Hamish\_23, Hangman\_21, Hartsy\_23, HarveySr\_24, Harvey\_23, Hashim76\_27, Heath\_20, Heathcliff\_24, Held\_23, HenryJackson\_22, Hertubise\_23, Hetaeria\_23, HighStump\_22, Hocus\_22, Horchata\_23, Hydro\_21, ImtiyazSitla\_22, Imvubu\_17, Inchworm\_23, Indlovu\_21, Inverness\_23, Iridessa\_23, Iridoclysis\_23, IsaacEli\_23, JAMaL\_21, JDog\_22, JacAttac\_23, Jackstina\_22, JaguarMi\_21, JakeO\_22, JangoPhett\_23, Jesabah\_23, Jillium\_22, Jiminy\_22, Jiraiya\_22, KLucky39\_23, Kahve\_22, Kailash\_23, Kamiyu\_24, KarasumaRum\_25, Katniss\_23, Keitherie\_23, Khan1\_23, Kikipoo\_23, Kimbrough\_23, KingVeVeVe\_23, KlimbOn\_23, Kloppinator\_23, Knocker\_25, Kronus\_23, Kwadwo\_22, Kwksand96\_22,

Labeouficaum\_22, Lambano\_20, LasagnaCat\_23, Lasso\_23, LeeLot\_23, Lego3393\_23, Legolas\_22, LeiMonet\_23, LemonSlice\_23, LestyG\_24, Ligma\_20, LilMcDreamy\_20, LittleMunchkin\_22, Lolalove\_21, Longacauda\_22, Lopsy\_22, LostAndPhound\_22, LuckyMarjie\_22, Lulumae\_22, Lulwa\_23, Lumine\_22, MRabcd\_22, Mag7\_22, Magic8\_23, Maggie\_20, Mana\_22, Manad\_22, Marley1013\_24, Maru\_22, Maskar\_22, Matalotodo\_23, Mcshane\_22, Mecca\_22, Megamind20\_23, Megatron\_23, Melc17\_23, MelsMeow\_22, Mesh1\_23, Mesmerelda\_23, MichaelPhcott\_22, Mikota\_23, MiniBoss\_23, MitKao\_23, Mithril\_21, MmasiCarm\_24, Morgushi\_23, Mortcellus\_23, Morty007\_24, Morty\_23, Mosaic\_22, MrPhizzler\_22, Mudslide\_21, Mulan\_22, Murdoc\_23, Mutante\_22, Mysterious\_24, Nacho\_0023, Nanao\_20, Nangang\_23, Nathan\_24, Nehemiah\_22, Neos5\_24, Newman\_23, Nicole21\_23, Nigel\_19, Nozo\_24, Numberten\_23, Nyala\_22, OSmaximus\_23, Obutu\_24, Olak\_22, Oline\_22, Olive\_23, OliverWalter\_23, Olivio\_23, Omniscient\_23, Oosterbaan\_23, OrangeOswald\_24, Orfeu\_22, Orion\_23, Orwigg\_22, PG1\_23, Pacifista\_22, PenguinLover67\_25, Phaedrus\_22, Phamished\_23, Phareon\_23, PhatCats2014\_23, PhatLouie\_23, Phayeta\_24, Phelemich\_23, PhenghisKhan\_22, Pherdinand\_23, Phergie\_22, Philly\_23, Phipps\_23, Phleuron\_22, Phlyer\_24, PhrankReynolds\_22, PhrodoBaggins\_22, Phunky\_23, Piglet\_0022, PinheadLarry\_23, Pinkman\_22, Pipefish\_24, Pipsqueak\_23, Placalicious\_22, Plata\_23, Plmatters\_23, Podrick\_23, Pops\_23, Poster\_20, Potter\_22, Prickles\_23, Prince\_21, ProfessorX\_23, Puhltonio\_23, QueenBeane\_23, QueenPie\_20, Quesadilla\_24, Quisquiliae\_23, RagingRooster\_24, RawrgerThat\_21, RedMaple\_22, Reprobate\_23, Rich\_22, Ricotta\_22, Riggan\_23, Rimu\_23, Rinkes\_26, Rita130\_23, Rita1961\_24, Riverton\_22, Robyn\_22, Roliet\_23, RomaT\_24, Roscoe\_24, Roy17\_23, SDcharge11\_23, Saguaro\_24, Samaymay\_23, SassyCat97\_22, Schadenfreude\_22, Schueller\_22, Scoot17C\_23, Scrick\_23, Selr12\_23, Serendipitous\_22, Serendipity\_23, Serpentine\_0023, Shatter\_20, Sheila\_23, Shenandoah\_24, Shenyu\_23, ShiVal\_23, Sigman\_23, SilverBell\_23, Simielle\_22, SirBeauregard\_22, SirJeffery\_23, Sisko\_20, Skippy\_23, Slatt\_23, SlippinJimmy\_24, Soile\_23, Solosis\_22, Sophia\_22, Soto\_23, Spartan300\_23, Squid\_23, Squiggle\_23, Stinger\_19, StinkyVeggy\_25, Struggle\_22, Suffolk\_23, Suigeneris\_23, Surely\_23, SwainyDoc\_24, Swiphy\_24, Swish\_23, SynergyX\_24, TallGrassMM\_23, Telesworld\_22, Thonko\_22, Thora\_23, ThreeOh3D2\_23, Thunderbird\_22, Timmi\_22, TomBombadil\_23, Tomlarah\_23, Toni\_22, TooFast2Furius\_24, Tooj\_23, True\_22, Trypo\_23, Tydolla\_24, TyrionL\_22, UAch1\_23, UncleHowie\_23, Usavi\_23, Vaishali24\_22, Valjean\_23, Vaticameos\_23, Veritas\_22, Vincenzo\_22, VioletZ\_21, Virapocalypse\_23, Virgeve\_22, Vista\_23, Vivaldi\_23, Vortex\_23, Waleliano\_21, Wallhey\_22, Waterdiva\_23, Weher20\_23, Windsor\_22, Xavier\_22, Xincheng\_20, Yahalom\_24, Yinz\_24, Yoshand\_23, YouGoGlencoco\_23, Zaider\_24, Zelda\_23, Zemanar\_22, Zenteno07\_27, Zonia\_23,

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

- Ben11\_23, BiggityBass\_20, CRB2\_25, Chentzyk\_23, Fortunato\_21, Glubnar\_24, Marlia\_24, TinyTerror\_24, Yago84\_20,

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

- 39HC\_019, 40BC\_019, AksarBAT\_20, Allegro\_25, Amo99\_52, AnarQue\_22, Arbiter\_25, Ares\_25, Argie\_18, Bananafish\_25, Blocker23\_25, BobRoss2024\_19, Boyle\_25, Brownie5\_25, CaiB\_22, Calamitous\_25, Causa\_29, Cepens\_17, CharlottesWeb\_20, Clawz\_51, CloverMinnie\_22, Coffee\_25, ColdSoup\_52, Coldpizza\_23, D12\_17, DonTron\_51, Dori\_20, Eaglehorse\_25, Evaa\_21, Faze9\_25, ForDig\_20, FrenchFry\_25, Glass\_25, GodPhather\_18, Godines\_25, Hedgerow\_25, Holeinone\_25, Hosp\_017, ItsyBitsy1\_25, Jeon\_17, Jolie1\_019, Jollymon\_51,

Kaleb\_25, KayaCho\_19, Kheth\_25, KingstonB\_52, Kolhan\_25, Lars\_25, Laurie\_25, Lephleur\_25, LilSmirk\_25, LizLemon\_25, MakoManhole\_22, Mao1\_19, Mariokart\_20, Mask\_20, MasterPo\_25, Megabear\_17, MossRose\_22, NHagos\_20, Opia\_25, PR\_17, Phantasmagoria\_25, Pine5\_23, PrinceCharming\_25, Qyrzula\_23, Rhinoforte\_25, Rosebush\_25, Sabella\_25, Sejanus\_20, Soos\_47, Sour\_24, StAugustine\_27, Sting\_50, TA17A\_26, TPA2\_29, Taptic\_17, Tinciduntolum\_26, Tonitrus\_38, Tres\_25, Vic9\_00025, West99\_25, Wooper\_22, Yeshua\_22,

### Summary by start number:

#### Start 29:

- Found in 31 of 506 ( 6.1% ) of genes in pham
- Manual Annotations of this start: 1 of 431
- Called 3.2% of time when present
- Phage (with cluster) where this start called: Fortunato\_21 (B4),

#### Start 30:

- Found in 72 of 506 ( 14.2% ) of genes in pham
- Manual Annotations of this start: 1 of 431
- Called 2.8% of time when present
- Phage (with cluster) where this start called: Qyrzula\_23 (B2), TPA2\_29 (singleton),

#### Start 33:

- Found in 70 of 506 ( 13.8% ) of genes in pham
- Manual Annotations of this start: 48 of 431
- Called 88.6% of time when present
- Phage (with cluster) where this start called: 39HC\_019 (B6), 40BC\_019 (B6), AksarBAT\_20 (DR), Allegro\_25 (B2), AnarQue\_22 (DR), Arbiter\_25 (B2), Ares\_25 (B2), Bananafish\_25 (B2), BiggityBass\_20 (DR), Blocker23\_25 (B2), BobRoss2024\_19 (DR), Boyle\_25 (B2), Brownie5\_25 (B2), CaiB\_22 (DR), Calamitous\_25 (B2), Causa\_29 (AI), CharlottesWeb\_20 (DR), CloverMinnie\_22 (DR), Coffee\_25 (B2), Coldpizza\_23 (DR), Dori\_20 (AD), Eaglehorse\_25 (B2), Evaa\_21 (DR), Faze9\_25 (B2), FrenchFry\_25 (B2), Glass\_25 (B2), Godines\_25 (B2), Hedgerow\_25 (B2), Holeinone\_25 (B2), Hosp\_017 (B6), ItsyBitsy1\_25 (B2), Jolie1\_019 (B6), Kaleb\_25 (B2), KayaCho\_19 (B6), Kheth\_25 (B2), Kolhan\_25 (B2), Lars\_25 (B2), Laurie\_25 (B2), Lephleur\_25 (B2), LilSmirk\_25 (B2), LizLemon\_25 (B2), MakoManhole\_22 (DR), Mariokart\_20 (DR), MasterPo\_25 (B2), MossRose\_22 (DR), NHagos\_20 (DR), Opia\_25 (B2), Phantasmagoria\_25 (B2), PrinceCharming\_25 (B2), Rhinoforte\_25 (B2), Rosebush\_25 (B2), Sabella\_25 (B2), Sour\_24 (DR), StAugustine\_27 (AI), TA17A\_26 (B2), Tinciduntolum\_26 (B2), Tres\_25 (B2), Vic9\_00025 (B2), West99\_25 (B2), Wooper\_22 (DR), Yago84\_20 (DR), Yeshua\_22 (DR),

#### Start 34:

- Found in 422 of 506 ( 83.4% ) of genes in pham
- Manual Annotations of this start: 364 of 431
- Called 97.9% of time when present
- Phage (with cluster) where this start called: ABU\_23 (B1), Abinghost\_24 (B3), AbsoluteMadLad\_22 (B1), Acadian\_23 (B5), Adriana\_23 (B1), Aelin\_22 (B1), Ahwei\_20 (B4), Akoma\_24 (B3), AlanGrant\_22 (B4), AltPhacts\_23 (B1), Altwerkus\_22 (B1), AnClar\_21 (DR), Anderson\_23 (B1), Andre\_23 (B1), AngelCake\_22 (B1), Antihero\_20 (B4), Antonia\_22 (B1), Apex\_21 (B4), Apizium\_22 (B1), Ashraf\_22 (B1), Athena\_25 (B3), Audrey\_24 (B3), Austelle\_22 (B4), Axumite\_20



(DR), Badfish\_23 (B1), Bae\_22 (B5), Baloo\_24 (B3), Banjo\_22 (B1), Basato\_24 (B1), BatteryCK\_22 (B1), Beaglebox\_22 (B1), Bernardo\_24 (B3), BirdsNest\_26 (B13), Bishoperium\_22 (B1), BlackStallion\_23 (B1), BlueHusk\_23 (B1), Bluephacebaby\_22 (B1), BobbyK\_21 (B4), Boehler\_23 (B1), Briakila\_24 (B3), Brilliant\_23 (B1), BrownCNA\_22 (B4), Buckeye\_23 (B1), Burr\_22 (B1), CamL\_23 (B1), CampRoach\_23 (B1), Cannibal\_23 (B1), Carthage\_21 (B1), Casbah\_23 (B3), Caspiboi\_24 (B1), ChaChing\_24 (B3), Chaelin\_22 (B1), Chah\_24 (B1), Chalmers\_24 (B3), Chandler\_24 (B3), Charles1\_23 (B1), CharlieGBrown\_22 (B1), CheetO\_23 (B1), Cher\_22 (B1), Childish\_22 (B1), Chipette\_24 (B1), Chorkpop\_23 (B1), ChrisnMich\_20 (B4), Chunky\_23 (B1), Chute\_22 (B1), Cobra\_23 (B1), Colbert\_23 (B1), Coletti\_22 (B1), Compostia\_25 (B3), Cooper\_21 (B4), Cornbread\_23 (B1), Cornobble\_22 (B1), Corofin\_24 (B3), Cosmolli16\_22 (B1), Craff\_23 (B1), Crownjwl\_23 (B1), DaddyDaniels\_23 (B1), Daffy\_23 (B1), Daisy\_24 (B3), Daka\_23 (B1), Dati\_23 (B1), Deenasa\_24 (B3), DelRivs\_22 (B1), Derpp\_22 (B1), Devonte\_24 (B3), Dice\_22 (B1), DigitDog\_23 (B5), Dingo\_23 (B1), Dione\_22 (B1), DirtJuice\_23 (B1), Doddsville\_23 (B1), DoesntMatter\_23 (B1), DonSanchon\_22 (B1), Donny\_23 (B5), DuchessDung\_21 (B1), Duggie\_22 (B1), Durga\_23 (B1), EastView9101\_22 (B5), ElvisPhasley\_23 (B1), Emiris\_23 (B1), EmpTee\_23 (B1), Epah\_20 (B4), Eremos\_23 (B1), Etaye\_23 (B1), Eugenia\_23 (B1), Fanaw\_20 (B4), Fang\_23 (B1), FluffyNinja\_23 (B1), Fozzie\_22 (B1), Frankicide\_23 (B1), Frederick\_21 (B4), Fresco\_20 (DR), Freya\_22 (B1), FriarPreacher\_23 (B1), Fringe\_23 (B1), FugateOSU\_22 (B1), Funsized\_26 (B9), Gadget\_25 (B3), Gareth\_22 (B1), GeneCoco\_23 (B1), Gervas\_24 (B3), GinPorsche\_20 (B4), Giraffe\_23 (B1), GlenHope\_25 (B3), Gophee\_23 (B1), Grand2040\_22 (B1), Gwennie1\_23 (B1), Gwilliam\_23 (B1), Gyarad\_0023 (B1), HSavage\_23 (B1), Haimas\_23 (B1), Haleema\_22 (B1), Halfpint\_23 (B3), Hally898\_20 (B4), Hamish\_23 (B1), Hangman\_21 (B4), Hartsy\_23 (B1), HarveySr\_24 (B3), Harvey\_23 (B1), Hashim76\_27 (B13), Heath\_20 (B4), Heathcliff\_24 (B3), Held\_23 (B1), HenryJackson\_22 (B1), Hertubise\_23 (B1), Hetaeria\_23 (B1), HighStump\_22 (B1), Hocus\_22 (B1), Horchata\_23 (B1), Hydro\_21 (B4), ImtiyazSitla\_22 (B1), Imvubu\_17 (B10), Inchworm\_23 (B1), Indlovu\_21 (B11), Inverness\_23 (B1), Iridessa\_23 (B1), Iridoclysis\_23 (B1), IsaacEli\_23 (B1), JAMaL\_21 (B4), JDog\_22 (B1), JacAttac\_23 (B1), Jackstina\_22 (B3), JaguarMi\_21 (B4), JakeO\_22 (B1), JangoPhett\_23 (B1), Jesabah\_23 (B1), Jillium\_22 (B1), Jiminy\_22 (B1), Jiraiya\_22 (B1), KLucky39\_23 (B1), Kahve\_22 (B1), Kailash\_23 (B1), Kamiyu\_24 (B3), KarasumaRum\_25 (B5), Katniss\_23 (B1), Keitherie\_23 (B1), Khan1\_23 (B1), Kikipoo\_23 (B1), Kimbrough\_23 (B1), KingVeVeVe\_23 (B1), KlimbOn\_23 (B1), Kloppinator\_23 (B1), Knocker\_25 (B9), Kronus\_23 (B3), Kwadwo\_22 (B1), Kwksand96\_22 (B1), Labeouficaum\_22 (B1), Lambano\_20 (B4), LasagnaCat\_23 (B1), Lasso\_23 (B1), LeeLot\_23 (B1), Lego3393\_23 (B1), Legolas\_22 (B1), LeiMonet\_23 (B1), LemonSlice\_23 (B1), LestyG\_24 (B3), Ligma\_20 (DR), LilMcDreamy\_20 (B12), LittleMunchkin\_22 (DR), Lolalove\_21 (B4), Longacauda\_22 (B1), Lopsy\_22 (B1), LostAndPhound\_22 (B1), LuckyMarjie\_22 (B1), Lulumae\_22 (B1), Lulwa\_23 (B1), Lumine\_22 (B1), MRabcd\_22 (B1), Mag7\_22 (B1), Magic8\_23 (B1), Magpie\_20 (B4), Mana\_22 (B1), Manad\_22 (B1), Marley1013\_24 (B3), Maru\_22 (B1), Maskar\_22 (B1), Matalotodo\_23 (B1), Mcshane\_22 (B1), Mecca\_22 (B1), Megamind20\_23 (B1), Megatron\_23 (B1), Melc17\_23 (B1), MelsMeow\_22 (B1), Mesh1\_23 (B1), Mesmerelda\_23 (B1), MichaelPhcott\_22 (B1), Mikota\_23 (B1), MiniBoss\_23 (B1), MitKao\_23 (B1), Mithril\_21 (B4), MmasiCarm\_24 (B3), Morgushi\_23 (B1), Mortcellus\_23 (B3), Morty007\_24 (B3), Morty\_23 (B1), Mosaic\_22 (B1), MrPhizzler\_22 (B1), Mudslide\_21 (B4), Mulan\_22 (B1), Murdoc\_23 (B1), Mutante\_22 (B1), Mysterious\_24 (B5), Nacho\_0023 (B1), Nanao\_20 (B4), Nangang\_23 (B5), Nathan\_24 (B1), Nehemiah\_22 (B5), Neos5\_24 (B3), Newman\_23 (B1), Nicole21\_23 (B1), Nigel\_19 (B4), Nozo\_24 (B3), Numberten\_23 (B1), Nyala\_22

(B1), OSmaximus\_23 (B1), Obutu\_24 (B3), Olak\_22 (B1), Oline\_22 (B1), Olive\_23 (B1), OliverWalter\_23 (B1), Olivio\_23 (B3), Omniscient\_23 (B1), Oosterbaan\_23 (B1), OrangeOswald\_24 (B3), Orfeu\_22 (B1), Orion\_23 (B1), Orwigg\_22 (B1), PG1\_23 (B1), Pacifista\_22 (B1), PenguinLover67\_25 (B9), Phaedrus\_22 (B3), Phamished\_23 (B1), Phareon\_23 (B1), PhatCats2014\_23 (B1), PhatLouie\_23 (B1), Phayeta\_24 (B3), Phelemich\_23 (B5), PhenghisKhan\_22 (B1), Pherdinand\_23 (B1), Phergie\_22 (B1), Philly\_23 (B3), Phipps\_23 (B1), Phleuron\_22 (B1), Phlyer\_24 (B3), PhrankReynolds\_22 (B1), PhrodoBaggins\_22 (B1), Phunky\_23 (B1), Piglet\_0022 (B1), PinheadLarry\_23 (B1), Pinkman\_22 (B1), Pipefish\_24 (B3), Pipsqueak\_23 (B1), Placalicious\_22 (B1), Plata\_23 (B1), Plmatters\_23 (B1), Podrick\_23 (B1), Pops\_23 (B1), Poster\_20 (B4), Potter\_22 (B1), Prickles\_23 (B1), Prince\_21 (B4), ProfessorX\_23 (B1), Puhltonio\_23 (B1), QueenBeane\_23 (B1), QueenPie\_20 (B4), Quesadilla\_24 (B9), Quisquiliae\_23 (B1), RagingRooster\_24 (B3), RawrgerThat\_21 (B4), RedMaple\_22 (B1), Reprobate\_23 (B5), Rich\_22 (B5), Ricotta\_22 (B1), Riggan\_23 (B1), Rimu\_23 (B1), Rinkes\_26 (B9), Rita130\_23 (B5), Rita1961\_24 (B3), Riverton\_22 (B1), Robyn\_22 (B1), Roliet\_23 (B1), RomaT\_24 (B3), Roscoe\_24 (B1), Roy17\_23 (B1), SDcharge11\_23 (B1), Saguaro\_24 (B7), Samaymay\_23 (B1), SassyCat97\_22 (B1), Schadenfreude\_22 (B1), Schueller\_22 (B1), Scoot17C\_23 (B1), Scrick\_23 (B1), Selr12\_23 (B1), Serendipitous\_22 (B5), Serendipity\_23 (B1), Serpentine\_0023 (B1), Shatter\_20 (DR), Sheila\_23 (B1), Shenandoah\_24 (B3), Shenyu\_23 (B5), ShiVal\_23 (B1), Sigman\_23 (B1), SilverBell\_23 (B1), Simielle\_22 (B1), SirBeauregard\_22 (B1), SirJeffery\_23 (B5), Sisko\_20 (DR), Skippy\_23 (B1), Slatt\_23 (B1), SlippinJimmy\_24 (B3), Soile\_23 (B1), Solosis\_22 (B1), Sophia\_22 (B1), Soto\_23 (B1), Spartan300\_23 (B1), Squid\_23 (B1), Squiggle\_23 (B1), Stinger\_19 (B4), StinkyVeggy\_25 (B5), Struggle\_22 (B1), Suffolk\_23 (B1), Suigeneris\_23 (B5), Surely\_23 (B1), SwainyDoc\_24 (B3), Swiphy\_24 (B1), Swish\_23 (B1), SynergyX\_24 (B3), TallGrassMM\_23 (B1), Telesworld\_22 (B1), Thonko\_22 (B8), Thora\_23 (B1), ThreeOh3D2\_23 (B1), Thunderbird\_22 (B1), Timmi\_22 (B1), TomBombadil\_23 (B1), Tomlarah\_23 (B1), Toni\_22 (B1), TooFast2Furius\_24 (B1), Tooj\_23 (B1), True\_22 (B1), Trypo\_23 (B1), Tydolla\_24 (B3), TyrionL\_22 (B1), UAch1\_23 (B1), UncleHowie\_23 (B1), Usavi\_23 (B1), Vaishali24\_22 (B1), Valjean\_23 (B1), Vaticameos\_23 (B1), Veritas\_22 (B1), Vincenzo\_22 (B4), VioletZ\_21 (B4), Virapocalypse\_23 (B1), Virgeve\_22 (B1), Vista\_23 (B1), Vivaldi\_23 (B1), Vortex\_23 (B1), Waleliano\_21 (B4), Wallhey\_22 (B1), Waterdiva\_23 (B1), Weher20\_23 (B1), Windsor\_22 (B1), Xavier\_22 (B1), Xincheng\_20 (B4), Yahalom\_24 (B3), Yinz\_24 (B3), Yoshand\_23 (B1), YouGoGlencoco\_23 (B1), Zaider\_24 (B1), Zelda\_23 (B1), Zemanar\_22 (B4), Zenteno07\_27 (B13), Zonia\_23 (B1),

#### Start 35:

- Found in 1 of 506 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 431
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CRB2\_25 (B9),

#### Start 36:

- Found in 50 of 506 ( 9.9% ) of genes in pham
- Manual Annotations of this start: 11 of 431
- Called 22.0% of time when present
- Phage (with cluster) where this start called: Argie\_18 (W), Cepens\_17 (W), D12\_17 (W), GodPhather\_18 (W), Jeon\_17 (W), Mao1\_19 (AD), Mask\_20 (AD), Megabear\_17 (W), PR\_17 (W), Sejanus\_20 (AD), Taptic\_17 (W),

#### Start 38:

- Found in 1 of 506 ( 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: Pine5\_23 (singleton),

Start 39:

- Found in 8 of 506 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 4 of 431
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amo99\_52 (CP), Clawz\_51 (CP), ColdSoup\_52 (CP), DonTron\_51 (CP), Jollymon\_51 (CP), KingstonB\_52 (CP), Soos\_47 (CP), Sting\_50 (CP),

Start 40:

- Found in 3 of 506 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 431
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Tonitrus\_38 (singleton),

Start 41:

- Found in 47 of 506 ( 9.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.1% of time when present
- Phage (with cluster) where this start called: ForDig\_20 (B6),

Start 43:

- Found in 61 of 506 ( 12.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.9% of time when present
- Phage (with cluster) where this start called: Ben11\_23 (B3), Glubnar\_24 (B3), TinyTerror\_24 (B3),

Start 49:

- Found in 47 of 506 ( 9.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.3% of time when present
- Phage (with cluster) where this start called: Chentzyk\_23 (B3), Marlia\_24 (B3),

### **Summary by clusters:**

There are 19 clusters represented in this pham: singleton, B2, B10, AI, B8, B11, B4, B5, B6, B7, B13, B1, W, B3, B12, CP, DR, B9, AD,

Info for manual annotations of cluster AD:

- Start number 33 was manually annotated 1 time for cluster AD.
- Start number 36 was manually annotated 3 times for cluster AD.

Info for manual annotations of cluster AI:

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

Info for manual annotations of cluster B1:

- Start number 34 was manually annotated 266 times for cluster B1.

Info for manual annotations of cluster B10:

- Start number 34 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 34 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 34 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 34 was manually annotated 3 times for cluster B13.

Info for manual annotations of cluster B2:

- Start number 30 was manually annotated 1 time for cluster B2.
- Start number 33 was manually annotated 33 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 34 was manually annotated 45 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 29 was manually annotated 1 time for cluster B4.
- Start number 34 was manually annotated 24 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 34 was manually annotated 9 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 33 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B7:

- Start number 34 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 34 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 34 was manually annotated 5 times for cluster B9.
- Start number 35 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster CP:

- Start number 39 was manually annotated 4 times for cluster CP.

Info for manual annotations of cluster DR:

- Start number 33 was manually annotated 12 times for cluster DR.
- Start number 34 was manually annotated 7 times for cluster DR.

Info for manual annotations of cluster W:

- Start number 36 was manually annotated 8 times for cluster W.

***Gene Information:***

Gene: 39HC\_019 Start: 16977, Stop: 17525, Start Num: 33

Candidate Starts for 39HC\_019:

(Start: 30 @16812 has 1 MA's), (32, 16926), (Start: 33 @16977 has 48 MA's), (41, 17010), (43, 17016), (45, 17022), (79, 17202), (89, 17271), (92, 17280), (94, 17292), (96, 17307), (106, 17373), (110, 17403), (131, 17505),

Gene: 40BC\_019 Start: 16977, Stop: 17525, Start Num: 33

Candidate Starts for 40BC\_019:

(Start: 30 @16812 has 1 MA's), (32, 16926), (Start: 33 @16977 has 48 MA's), (41, 17010), (43, 17016), (45, 17022), (79, 17202), (89, 17271), (92, 17280), (94, 17292), (96, 17307), (106, 17373), (110, 17403), (131, 17505),

Gene: ABU\_23 Start: 17801, Stop: 18319, Start Num: 34

Candidate Starts for ABU\_23:

(9, 17246), (10, 17300), (12, 17315), (13, 17324), (20, 17441), (22, 17483), (24, 17528), (32, 17747), (Start: 34 @17801 has 364 MA's), (44, 17834), (75, 17990), (76, 17996), (79, 18005), (89, 18071), (105, 18155), (125, 18257), (131, 18299),

Gene: Abinghost\_24 Start: 18476, Stop: 18997, Start Num: 34

Candidate Starts for Abinghost\_24:

(Start: 34 @18476 has 364 MA's), (43, 18506), (49, 18524), (53, 18536), (69, 18641), (89, 18764), (91, 18770), (93, 18779), (105, 18848), (117, 18905),

Gene: AbsoluteMadLad\_22 Start: 17802, Stop: 18320, Start Num: 34

Candidate Starts for AbsoluteMadLad\_22:

(32, 17748), (Start: 34 @17802 has 364 MA's), (44, 17835), (75, 17991), (76, 17997), (79, 18006), (89, 18072), (105, 18156), (125, 18258), (131, 18300),

Gene: Acadian\_23 Start: 18554, Stop: 19045, Start Num: 34

Candidate Starts for Acadian\_23:

(Start: 34 @18554 has 364 MA's), (48, 18590), (51, 18599), (62, 18641), (76, 18725), (77, 18728), (89, 18803), (94, 18824), (95, 18836), (127, 19007),

Gene: Adriana\_23 Start: 17804, Stop: 18322, Start Num: 34

Candidate Starts for Adriana\_23:

(9, 17249), (10, 17303), (12, 17318), (13, 17327), (20, 17444), (22, 17486), (24, 17531), (32, 17750), (Start: 34 @17804 has 364 MA's), (44, 17837), (75, 17993), (76, 17999), (79, 18008), (89, 18074), (105, 18158), (125, 18260), (131, 18302),

Gene: Aelin\_22 Start: 17367, Stop: 17885, Start Num: 34

Candidate Starts for Aelin\_22:

(32, 17313), (Start: 34 @17367 has 364 MA's), (44, 17400), (75, 17556), (76, 17562), (79, 17571), (89, 17637), (105, 17721), (125, 17823), (131, 17865),

Gene: Ahwei\_20 Start: 17403, Stop: 17933, Start Num: 34

Candidate Starts for Ahwei\_20:

(11, 16914), (18, 16947), (Start: 29 @17235 has 1 MA's), (Start: 34 @17403 has 364 MA's), (41, 17433), (58, 17502), (76, 17607), (80, 17637), (82, 17655), (90, 17688), (92, 17694), (94, 17706), (97, 17721), (106, 17775), (121, 17853),

Gene: Akoma\_24 Start: 18474, Stop: 18995, Start Num: 34

Candidate Starts for Akoma\_24:

(Start: 34 @18474 has 364 MA's), (43, 18504), (69, 18639), (89, 18762), (91, 18768), (93, 18777), (105, 18846), (117, 18903),

Gene: AksarBAT\_20 Start: 16252, Stop: 16791, Start Num: 33

Candidate Starts for AksarBAT\_20:

(32, 16201), (Start: 33 @16252 has 48 MA's), (44, 16297), (62, 16378), (79, 16474), (89, 16543), (90, 16546), (92, 16552), (96, 16579), (97, 16582), (129, 16762),

Gene: AlanGrant\_22 Start: 19205, Stop: 19732, Start Num: 34

Candidate Starts for AlanGrant\_22:

(Start: 34 @19205 has 364 MA's), (41, 19235), (55, 19292), (58, 19304), (76, 19409), (79, 19418), (82, 19457), (89, 19484), (92, 19493), (94, 19505), (97, 19520), (105, 19568), (106, 19574), (121, 19652),

Gene: Allegro\_25 Start: 19911, Stop: 20471, Start Num: 33

Candidate Starts for Allegro\_25:

(Start: 33 @19911 has 48 MA's), (Start: 36 @19929 has 11 MA's), (44, 19959), (48, 19971), (62, 20043), (70, 20100), (76, 20136), (81, 20187), (87, 20220), (114, 20367), (130, 20445),

Gene: AltPhacts\_23 Start: 17796, Stop: 18314, Start Num: 34

Candidate Starts for AltPhacts\_23:

(32, 17742), (Start: 34 @17796 has 364 MA's), (44, 17829), (75, 17985), (76, 17991), (79, 18000), (89, 18066), (105, 18150), (125, 18252), (131, 18294),

Gene: Altwerkus\_22 Start: 17496, Stop: 18014, Start Num: 34

Candidate Starts for Altwerkus\_22:

(32, 17442), (Start: 34 @17496 has 364 MA's), (44, 17529), (75, 17685), (76, 17691), (79, 17700), (89, 17766), (105, 17850), (125, 17952), (131, 17994),

Gene: Amo99\_52 Start: 28627, Stop: 29169, Start Num: 39

Candidate Starts for Amo99\_52:

(24, 28333), (Start: 30 @28435 has 1 MA's), (32, 28549), (Start: 39 @28627 has 4 MA's), (47, 28657), (48, 28660), (63, 28747), (81, 28870), (102, 28966), (109, 29035), (119, 29077), (130, 29140),

Gene: AnClar\_21 Start: 18550, Stop: 19098, Start Num: 34

Candidate Starts for AnClar\_21:

(27, 18364), (Start: 30 @18382 has 1 MA's), (32, 18496), (Start: 33 @18547 has 48 MA's), (Start: 34 @18550 has 364 MA's), (51, 18616), (59, 18655), (66, 18706), (90, 18844), (94, 18862), (96, 18877), (125, 19033), (127, 19057), (129, 19066),

Gene: AnarQue\_22 Start: 17730, Stop: 18269, Start Num: 33

Candidate Starts for AnarQue\_22:

(32, 17679), (Start: 33 @17730 has 48 MA's), (51, 17796), (79, 17952), (86, 18012), (89, 18021), (94, 18042), (110, 18141), (114, 18162), (127, 18231), (129, 18240),

Gene: Anderson\_23 Start: 17794, Stop: 18312, Start Num: 34

Candidate Starts for Anderson\_23:

(9, 17239), (10, 17293), (12, 17308), (13, 17317), (20, 17434), (22, 17476), (24, 17521), (32, 17740), (Start: 34 @17794 has 364 MA's), (44, 17827), (75, 17983), (76, 17989), (79, 17998), (89, 18064), (105, 18148), (125, 18250), (131, 18292),

Gene: Andre\_23 Start: 17792, Stop: 18310, Start Num: 34

Candidate Starts for Andre\_23:

(32, 17738), (Start: 34 @17792 has 364 MA's), (44, 17825), (75, 17981), (76, 17987), (79, 17996), (89, 18062), (105, 18146), (125, 18248), (131, 18290),

Gene: AngelCake\_22 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for AngelCake\_22:

(4, 17198), (9, 17252), (10, 17306), (12, 17321), (13, 17330), (20, 17447), (22, 17489), (24, 17534), (32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: Antihero\_20 Start: 17403, Stop: 17933, Start Num: 34

Candidate Starts for Antihero\_20:

(11, 16914), (18, 16947), (Start: 29 @17235 has 1 MA's), (Start: 34 @17403 has 364 MA's), (41, 17433), (58, 17502), (76, 17607), (80, 17637), (82, 17655), (90, 17688), (92, 17694), (94, 17706), (97, 17721), (106, 17775), (121, 17853),

Gene: Antonia\_22 Start: 17367, Stop: 17885, Start Num: 34

Candidate Starts for Antonia\_22:

(32, 17313), (Start: 34 @17367 has 364 MA's), (44, 17400), (75, 17556), (76, 17562), (79, 17571), (89, 17637), (105, 17721), (125, 17823), (131, 17865),

Gene: Apex\_21 Start: 18616, Stop: 19146, Start Num: 34

Candidate Starts for Apex\_21:

(Start: 29 @18448 has 1 MA's), (Start: 34 @18616 has 364 MA's), (41, 18646), (58, 18715), (76, 18820), (80, 18850), (82, 18868), (90, 18901), (92, 18907), (94, 18919), (97, 18934), (106, 18988), (110, 19018), (121, 19066),

Gene: Apizium\_22 Start: 17537, Stop: 18055, Start Num: 34

Candidate Starts for Apizium\_22:

(32, 17483), (Start: 34 @17537 has 364 MA's), (44, 17570), (75, 17726), (76, 17732), (79, 17741), (89, 17807), (105, 17891), (125, 17993), (131, 18035),

Gene: Arbiter\_25 Start: 19999, Stop: 20559, Start Num: 33

Candidate Starts for Arbiter\_25:

(Start: 30 @19837 has 1 MA's), (Start: 33 @19999 has 48 MA's), (Start: 36 @20017 has 11 MA's), (37, 20020), (44, 20047), (48, 20059), (62, 20131), (70, 20188), (76, 20224), (81, 20275), (87, 20308), (114, 20455), (130, 20533),

Gene: Ares\_25 Start: 19915, Stop: 20475, Start Num: 33

Candidate Starts for Ares\_25:

(Start: 30 @19753 has 1 MA's), (Start: 33 @19915 has 48 MA's), (Start: 36 @19933 has 11 MA's), (37, 19936), (44, 19963), (48, 19975), (62, 20047), (70, 20104), (76, 20140), (81, 20191), (87, 20224), (114, 20371), (130, 20449),

Gene: Argie\_18 Start: 17562, Stop: 18083, Start Num: 36

Candidate Starts for Argie\_18:

(32, 17508), (Start: 36 @17562 has 11 MA's), (41, 17583), (51, 17613), (56, 17643), (61, 17670), (62, 17676), (68, 17715), (76, 17748), (82, 17802), (83, 17808), (85, 17823), (94, 17862), (97, 17880), (123, 18009), (124, 18018), (126, 18027), (131, 18063),

Gene: Ashraf\_22 Start: 17358, Stop: 17876, Start Num: 34

Candidate Starts for Ashraf\_22:

(32, 17304), (Start: 34 @17358 has 364 MA's), (44, 17391), (75, 17547), (76, 17553), (79, 17562), (89, 17628), (105, 17712), (125, 17814), (131, 17856),

Gene: Athena\_25 Start: 19239, Stop: 19760, Start Num: 34

Candidate Starts for Athena\_25:

(Start: 34 @19239 has 364 MA's), (43, 19269), (49, 19287), (53, 19299), (69, 19404), (89, 19527), (91, 19533), (93, 19542), (105, 19611), (117, 19668),

Gene: Audrey\_24 Start: 18476, Stop: 18997, Start Num: 34

Candidate Starts for Audrey\_24:

(Start: 34 @18476 has 364 MA's), (43, 18506), (49, 18524), (53, 18536), (69, 18641), (89, 18764), (91, 18770), (93, 18779), (105, 18848), (117, 18905),

Gene: Austelle\_22 Start: 19072, Stop: 19602, Start Num: 34

Candidate Starts for Austelle\_22:

(Start: 29 @18904 has 1 MA's), (Start: 34 @19072 has 364 MA's), (41, 19102), (58, 19171), (76, 19276), (80, 19306), (82, 19324), (90, 19357), (92, 19363), (94, 19375), (97, 19390), (106, 19444), (110, 19474), (121, 19522),

Gene: Axumite\_20 Start: 16345, Stop: 16893, Start Num: 34

Candidate Starts for Axumite\_20:

(25, 16072), (27, 16159), (Start: 30 @16177 has 1 MA's), (32, 16291), (Start: 34 @16345 has 364 MA's), (37, 16363), (51, 16411), (89, 16636), (94, 16657), (96, 16672), (127, 16852), (129, 16861),

Gene: Badfish\_23 Start: 17826, Stop: 18344, Start Num: 34

Candidate Starts for Badfish\_23:

(9, 17271), (10, 17325), (12, 17340), (13, 17349), (20, 17466), (22, 17508), (24, 17553), (32, 17772), (Start: 34 @17826 has 364 MA's), (44, 17859), (75, 18015), (76, 18021), (79, 18030), (89, 18096), (105, 18180), (125, 18282), (131, 18324),

Gene: Bae\_22 Start: 18312, Stop: 18803, Start Num: 34

Candidate Starts for Bae\_22:

(14, 17838), (16, 17844), (19, 17856), (21, 17952), (23, 17994), (32, 18258), (Start: 34 @18312 has 364 MA's), (48, 18348), (51, 18357), (62, 18399), (76, 18483), (89, 18561), (94, 18582), (95, 18594), (99, 18600), (113, 18699), (127, 18765),

Gene: Baloo\_24 Start: 18473, Stop: 18994, Start Num: 34

Candidate Starts for Baloo\_24:

(Start: 34 @18473 has 364 MA's), (43, 18503), (49, 18521), (53, 18533), (69, 18638), (89, 18761), (91, 18767), (93, 18776), (105, 18845), (117, 18902),

Gene: Bananafish\_25 Start: 19908, Stop: 20468, Start Num: 33

Candidate Starts for Bananafish\_25:

(Start: 30 @19746 has 1 MA's), (Start: 33 @19908 has 48 MA's), (Start: 36 @19926 has 11 MA's), (37, 19929), (44, 19956), (48, 19968), (62, 20040), (70, 20097), (76, 20133), (81, 20184), (87, 20217), (114, 20364), (130, 20442),

Gene: Banjo\_22 Start: 17503, Stop: 18021, Start Num: 34

Candidate Starts for Banjo\_22:

(32, 17449), (Start: 34 @17503 has 364 MA's), (44, 17536), (75, 17692), (76, 17698), (79, 17707), (89, 17773), (105, 17857), (125, 17959), (131, 18001),

Gene: Basato\_24 Start: 18028, Stop: 18546, Start Num: 34

Candidate Starts for Basato\_24:



(32, 17974), (Start: 34 @18028 has 364 MA's), (44, 18061), (75, 18217), (76, 18223), (79, 18232), (89, 18298), (105, 18382), (125, 18484), (131, 18526),

Gene: BatteryCK\_22 Start: 17360, Stop: 17878, Start Num: 34

Candidate Starts for BatteryCK\_22:

(4, 16754), (9, 16805), (10, 16859), (12, 16874), (13, 16883), (20, 17000), (22, 17042), (24, 17087), (32, 17306), (Start: 34 @17360 has 364 MA's), (44, 17393), (75, 17549), (76, 17555), (79, 17564), (89, 17630), (105, 17714), (125, 17816), (131, 17858),

Gene: Beaglebox\_22 Start: 17523, Stop: 18041, Start Num: 34

Candidate Starts for Beaglebox\_22:

(9, 16968), (10, 17022), (12, 17037), (13, 17046), (20, 17163), (22, 17205), (24, 17250), (32, 17469), (Start: 34 @17523 has 364 MA's), (44, 17556), (75, 17712), (76, 17718), (79, 17727), (89, 17793), (105, 17877), (125, 17979), (131, 18021),

Gene: Ben11\_23 Start: 18328, Stop: 18819, Start Num: 43

Candidate Starts for Ben11\_23:

(Start: 34 @18298 has 364 MA's), (43, 18328), (49, 18346), (53, 18358), (69, 18463), (89, 18586), (91, 18592), (93, 18601), (105, 18670), (117, 18727),

Gene: Bernardo\_24 Start: 18473, Stop: 18994, Start Num: 34

Candidate Starts for Bernardo\_24:

(Start: 34 @18473 has 364 MA's), (43, 18503), (49, 18521), (69, 18638), (89, 18761), (91, 18767), (93, 18776), (105, 18845), (117, 18902),

Gene: BiggityBass\_20 Start: 18635, Stop: 19186, Start Num: 33

Candidate Starts for BiggityBass\_20:

(27, 18452), (Start: 30 @18470 has 1 MA's), (32, 18584), (Start: 33 @18635 has 48 MA's), (Start: 34 @18638 has 364 MA's), (37, 18656), (59, 18743), (94, 18950), (96, 18965), (125, 19121), (127, 19145), (129, 19154),

Gene: BirdsNest\_26 Start: 17878, Stop: 18396, Start Num: 34

Candidate Starts for BirdsNest\_26:

(15, 17407), (18, 17419), (Start: 30 @17710 has 1 MA's), (Start: 34 @17878 has 364 MA's), (47, 17920), (60, 17983), (62, 17992), (79, 18079), (90, 18151), (93, 18163), (97, 18184), (134, 18391),

Gene: Bishoperium\_22 Start: 17509, Stop: 18027, Start Num: 34

Candidate Starts for Bishoperium\_22:

(32, 17455), (Start: 34 @17509 has 364 MA's), (44, 17542), (75, 17698), (76, 17704), (79, 17713), (89, 17779), (105, 17863), (125, 17965), (131, 18007),

Gene: BlackStallion\_23 Start: 17814, Stop: 18332, Start Num: 34

Candidate Starts for BlackStallion\_23:

(9, 17259), (10, 17313), (12, 17328), (13, 17337), (20, 17454), (22, 17496), (24, 17541), (32, 17760), (Start: 34 @17814 has 364 MA's), (44, 17847), (75, 18003), (76, 18009), (79, 18018), (89, 18084), (105, 18168), (125, 18270), (131, 18312),

Gene: Blocker23\_25 Start: 20032, Stop: 20592, Start Num: 33

Candidate Starts for Blocker23\_25:

(Start: 30 @19870 has 1 MA's), (Start: 33 @20032 has 48 MA's), (Start: 36 @20050 has 11 MA's), (44, 20080), (48, 20092), (62, 20164), (70, 20221), (76, 20257), (81, 20308), (87, 20341), (114, 20488), (130, 20566),

Gene: BlueHusk\_23 Start: 17310, Stop: 17828, Start Num: 34

Candidate Starts for BlueHusk\_23:

(32, 17256), (Start: 34 @17310 has 364 MA's), (44, 17343), (75, 17499), (76, 17505), (79, 17514), (89, 17580), (105, 17664), (125, 17766), (131, 17808),

Gene: Bluephacebaby\_22 Start: 17509, Stop: 18027, Start Num: 34

Candidate Starts for Bluephacebaby\_22:

(32, 17455), (Start: 34 @17509 has 364 MA's), (44, 17542), (75, 17698), (76, 17704), (79, 17713), (89, 17779), (105, 17863), (125, 17965), (131, 18007),

Gene: BobRoss2024\_19 Start: 16107, Stop: 16655, Start Num: 33

Candidate Starts for BobRoss2024\_19:

(Start: 30 @15942 has 1 MA's), (32, 16056), (Start: 33 @16107 has 48 MA's), (51, 16173), (56, 16203), (79, 16332), (90, 16404), (96, 16437), (129, 16626),

Gene: BobbyK\_21 Start: 18435, Stop: 18965, Start Num: 34

Candidate Starts for BobbyK\_21:

(Start: 29 @18267 has 1 MA's), (Start: 34 @18435 has 364 MA's), (41, 18465), (58, 18534), (76, 18639), (80, 18669), (82, 18687), (90, 18720), (92, 18726), (94, 18738), (97, 18753), (106, 18807), (110, 18837), (121, 18885),

Gene: Boehler\_23 Start: 17819, Stop: 18337, Start Num: 34

Candidate Starts for Boehler\_23:

(32, 17765), (Start: 34 @17819 has 364 MA's), (44, 17852), (75, 18008), (76, 18014), (79, 18023), (89, 18089), (105, 18173), (125, 18275), (131, 18317),

Gene: Boyle\_25 Start: 20033, Stop: 20593, Start Num: 33

Candidate Starts for Boyle\_25:

(Start: 30 @19871 has 1 MA's), (Start: 33 @20033 has 48 MA's), (Start: 36 @20051 has 11 MA's), (37, 20054), (44, 20081), (48, 20093), (62, 20165), (70, 20222), (76, 20258), (81, 20309), (87, 20342), (114, 20489), (130, 20567),

Gene: Briakila\_24 Start: 19241, Stop: 19762, Start Num: 34

Candidate Starts for Briakila\_24:

(Start: 34 @19241 has 364 MA's), (43, 19271), (69, 19406), (89, 19529), (91, 19535), (93, 19544), (105, 19613), (117, 19670),

Gene: Brilliant\_23 Start: 17514, Stop: 18032, Start Num: 34

Candidate Starts for Brilliant\_23:

(4, 16908), (9, 16959), (10, 17013), (12, 17028), (13, 17037), (20, 17154), (22, 17196), (24, 17241), (32, 17460), (Start: 34 @17514 has 364 MA's), (44, 17547), (75, 17703), (76, 17709), (79, 17718), (89, 17784), (105, 17868), (125, 17970), (131, 18012),

Gene: BrownCNA\_22 Start: 18687, Stop: 19217, Start Num: 34

Candidate Starts for BrownCNA\_22:

(Start: 29 @18519 has 1 MA's), (Start: 34 @18687 has 364 MA's), (41, 18717), (58, 18786), (76, 18891), (80, 18921), (82, 18939), (90, 18972), (92, 18978), (94, 18990), (97, 19005), (106, 19059), (121, 19137),

Gene: Brownie5\_25 Start: 20032, Stop: 20592, Start Num: 33

Candidate Starts for Brownie5\_25:

(Start: 30 @19870 has 1 MA's), (Start: 33 @20032 has 48 MA's), (Start: 36 @20050 has 11 MA's), (37, 20053), (44, 20080), (48, 20092), (62, 20164), (70, 20221), (76, 20257), (81, 20308), (87, 20341), (114,

20488), (130, 20566),

Gene: Buckeye\_23 Start: 17833, Stop: 18351, Start Num: 34

Candidate Starts for Buckeye\_23:

(9, 17278), (10, 17332), (12, 17347), (13, 17356), (20, 17473), (22, 17515), (24, 17560), (32, 17779), (Start: 34 @17833 has 364 MA's), (44, 17866), (75, 18022), (76, 18028), (79, 18037), (89, 18103), (105, 18187), (125, 18289), (131, 18331),

Gene: Burr\_22 Start: 17508, Stop: 18026, Start Num: 34

Candidate Starts for Burr\_22:

(9, 16953), (10, 17007), (12, 17022), (13, 17031), (20, 17148), (22, 17190), (24, 17235), (32, 17454), (Start: 34 @17508 has 364 MA's), (44, 17541), (75, 17697), (76, 17703), (79, 17712), (89, 17778), (105, 17862), (125, 17964), (131, 18006),

Gene: CRB2\_25 Start: 20186, Stop: 20707, Start Num: 35

Candidate Starts for CRB2\_25:

(Start: 30 @20015 has 1 MA's), (Start: 34 @20183 has 364 MA's), (Start: 35 @20186 has 1 MA's), (43, 20216), (79, 20390), (89, 20459), (94, 20480), (97, 20495), (107, 20555), (111, 20585), (121, 20627), (127, 20669),

Gene: CaiB\_22 Start: 17716, Stop: 18255, Start Num: 33

Candidate Starts for CaiB\_22:

(32, 17665), (Start: 33 @17716 has 48 MA's), (51, 17782), (79, 17938), (86, 17998), (89, 18007), (94, 18028), (110, 18127), (114, 18148), (127, 18217), (129, 18226),

Gene: Calamitous\_25 Start: 19912, Stop: 20472, Start Num: 33

Candidate Starts for Calamitous\_25:

(Start: 30 @19750 has 1 MA's), (Start: 33 @19912 has 48 MA's), (Start: 36 @19930 has 11 MA's), (37, 19933), (44, 19960), (48, 19972), (62, 20044), (70, 20101), (76, 20137), (81, 20188), (87, 20221), (114, 20368), (130, 20446),

Gene: CamL\_23 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for CamL\_23:

(32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: CampRoach\_23 Start: 17800, Stop: 18318, Start Num: 34

Candidate Starts for CampRoach\_23:

(9, 17245), (10, 17299), (12, 17314), (13, 17323), (20, 17440), (22, 17482), (24, 17527), (32, 17746), (Start: 34 @17800 has 364 MA's), (44, 17833), (75, 17989), (76, 17995), (79, 18004), (89, 18070), (105, 18154), (125, 18256), (131, 18298),

Gene: Cannibal\_23 Start: 17793, Stop: 18311, Start Num: 34

Candidate Starts for Cannibal\_23:

(9, 17238), (10, 17292), (12, 17307), (13, 17316), (20, 17433), (22, 17475), (24, 17520), (32, 17739), (Start: 34 @17793 has 364 MA's), (44, 17826), (75, 17982), (76, 17988), (79, 17997), (89, 18063), (105, 18147), (125, 18249), (131, 18291),

Gene: Carthage\_21 Start: 16719, Stop: 17237, Start Num: 34

Candidate Starts for Carthage\_21:

(32, 16665), (Start: 34 @16719 has 364 MA's), (44, 16752), (75, 16908), (76, 16914), (79, 16923), (89, 16989), (105, 17073), (125, 17175), (131, 17217),

Gene: Casbah\_23 Start: 18328, Stop: 18849, Start Num: 34

Candidate Starts for Casbah\_23:

(Start: 34 @18328 has 364 MA's), (43, 18358), (69, 18493), (89, 18616), (91, 18622), (93, 18631), (105, 18700), (117, 18757),

Gene: Caspiboi\_24 Start: 17514, Stop: 18032, Start Num: 34

Candidate Starts for Caspiboi\_24:

(4, 16908), (9, 16959), (10, 17013), (12, 17028), (13, 17037), (20, 17154), (22, 17196), (24, 17241), (32, 17460), (Start: 34 @17514 has 364 MA's), (44, 17547), (75, 17703), (76, 17709), (79, 17718), (89, 17784), (105, 17868), (125, 17970), (131, 18012),

Gene: Causa\_29 Start: 20871, Stop: 21404, Start Num: 33

Candidate Starts for Causa\_29:

(Start: 33 @20871 has 48 MA's), (51, 20928), (57, 20961), (76, 21081), (105, 21252), (116, 21309), (120, 21324), (125, 21342),

Gene: Cepens\_17 Start: 17286, Stop: 17807, Start Num: 36

Candidate Starts for Cepens\_17:

(32, 17232), (Start: 36 @17286 has 11 MA's), (51, 17337), (56, 17367), (61, 17394), (62, 17400), (76, 17472), (82, 17526), (83, 17532), (85, 17547), (94, 17586), (97, 17604), (123, 17733), (124, 17742), (126, 17751), (131, 17787),

Gene: ChaChing\_24 Start: 18491, Stop: 19012, Start Num: 34

Candidate Starts for ChaChing\_24:

(Start: 34 @18491 has 364 MA's), (43, 18521), (49, 18539), (53, 18551), (69, 18656), (89, 18779), (91, 18785), (93, 18794), (105, 18863), (117, 18920),

Gene: Chaelin\_22 Start: 17476, Stop: 17994, Start Num: 34

Candidate Starts for Chaelin\_22:

(9, 16921), (10, 16975), (12, 16990), (13, 16999), (20, 17116), (22, 17158), (24, 17203), (32, 17422), (Start: 34 @17476 has 364 MA's), (44, 17509), (75, 17665), (76, 17671), (79, 17680), (89, 17746), (105, 17830), (125, 17932), (131, 17974),

Gene: Chah\_24 Start: 17827, Stop: 18345, Start Num: 34

Candidate Starts for Chah\_24:

(32, 17773), (Start: 34 @17827 has 364 MA's), (44, 17860), (75, 18016), (76, 18022), (79, 18031), (89, 18097), (105, 18181), (125, 18283), (131, 18325),

Gene: Chalmers\_24 Start: 19282, Stop: 19803, Start Num: 34

Candidate Starts for Chalmers\_24:

(Start: 34 @19282 has 364 MA's), (43, 19312), (49, 19330), (53, 19342), (69, 19447), (89, 19570), (91, 19576), (93, 19585), (105, 19654), (117, 19711),

Gene: Chandler\_24 Start: 19250, Stop: 19771, Start Num: 34

Candidate Starts for Chandler\_24:

(Start: 34 @19250 has 364 MA's), (43, 19280), (49, 19298), (53, 19310), (69, 19415), (89, 19538), (91, 19544), (93, 19553), (105, 19622), (117, 19679),

Gene: Charles1\_23 Start: 17791, Stop: 18309, Start Num: 34

Candidate Starts for Charles1\_23:

(9, 17236), (10, 17290), (12, 17305), (13, 17314), (20, 17431), (22, 17473), (24, 17518), (32, 17737), (Start: 34 @17791 has 364 MA's), (44, 17824), (75, 17980), (76, 17986), (79, 17995), (89, 18061), (105, 18145), (125, 18247), (131, 18289),

Gene: CharlieGBrown\_22 Start: 17378, Stop: 17896, Start Num: 34

Candidate Starts for CharlieGBrown\_22:

(4, 16772), (9, 16823), (10, 16877), (12, 16892), (13, 16901), (20, 17018), (22, 17060), (24, 17105), (32, 17324), (Start: 34 @17378 has 364 MA's), (44, 17411), (75, 17567), (76, 17573), (79, 17582), (89, 17648), (105, 17732), (125, 17834), (131, 17876),

Gene: CharlottesWeb\_20 Start: 16236, Stop: 16784, Start Num: 33

Candidate Starts for CharlottesWeb\_20:

(27, 16053), (Start: 30 @16071 has 1 MA's), (32, 16185), (Start: 33 @16236 has 48 MA's), (51, 16302), (79, 16458), (88, 16524), (94, 16548), (96, 16563), (110, 16647), (129, 16752),

Gene: CheetO\_23 Start: 17806, Stop: 18324, Start Num: 34

Candidate Starts for CheetO\_23:

(32, 17752), (Start: 34 @17806 has 364 MA's), (44, 17839), (75, 17995), (76, 18001), (79, 18010), (89, 18076), (105, 18160), (125, 18262), (131, 18304),

Gene: Chentzyk\_23 Start: 18394, Stop: 18867, Start Num: 49

Candidate Starts for Chentzyk\_23:

(Start: 34 @18346 has 364 MA's), (43, 18376), (49, 18394), (53, 18406), (69, 18511), (89, 18634), (91, 18640), (93, 18649), (105, 18718), (117, 18775),

Gene: Cher\_22 Start: 17532, Stop: 18050, Start Num: 34

Candidate Starts for Cher\_22:

(32, 17478), (Start: 34 @17532 has 364 MA's), (44, 17565), (75, 17721), (76, 17727), (79, 17736), (89, 17802), (105, 17886), (125, 17988), (131, 18030),

Gene: Childish\_22 Start: 17520, Stop: 18038, Start Num: 34

Candidate Starts for Childish\_22:

(32, 17466), (Start: 34 @17520 has 364 MA's), (44, 17553), (75, 17709), (76, 17715), (79, 17724), (89, 17790), (105, 17874), (125, 17976), (131, 18018),

Gene: Chipette\_24 Start: 18029, Stop: 18547, Start Num: 34

Candidate Starts for Chipette\_24:

(32, 17975), (Start: 34 @18029 has 364 MA's), (44, 18062), (75, 18218), (76, 18224), (79, 18233), (89, 18299), (105, 18383), (125, 18485), (131, 18527),

Gene: Chorkpop\_23 Start: 17531, Stop: 18049, Start Num: 34

Candidate Starts for Chorkpop\_23:

(32, 17477), (Start: 34 @17531 has 364 MA's), (44, 17564), (75, 17720), (76, 17726), (79, 17735), (89, 17801), (105, 17885), (125, 17987), (131, 18029),

Gene: ChrisnMich\_20 Start: 17392, Stop: 17922, Start Num: 34

Candidate Starts for ChrisnMich\_20:

(Start: 29 @17224 has 1 MA's), (Start: 34 @17392 has 364 MA's), (41, 17422), (58, 17491), (76, 17596), (80, 17626), (82, 17644), (90, 17677), (92, 17683), (94, 17695), (97, 17710), (106, 17764), (121, 17842),

Gene: Chunky\_23 Start: 17819, Stop: 18337, Start Num: 34

Candidate Starts for Chunky\_23:

(32, 17765), (Start: 34 @17819 has 364 MA's), (44, 17852), (75, 18008), (76, 18014), (79, 18023), (89, 18089), (105, 18173), (125, 18275), (131, 18317),

Gene: Chute\_22 Start: 17824, Stop: 18342, Start Num: 34

Candidate Starts for Chute\_22:

(4, 17218), (9, 17269), (10, 17323), (12, 17338), (13, 17347), (20, 17464), (22, 17506), (24, 17551), (32, 17770), (Start: 34 @17824 has 364 MA's), (44, 17857), (75, 18013), (76, 18019), (79, 18028), (89, 18094), (105, 18178), (125, 18280), (131, 18322),

Gene: Clawz\_51 Start: 28542, Stop: 29084, Start Num: 39

Candidate Starts for Clawz\_51:

(24, 28248), (28, 28335), (Start: 30 @28350 has 1 MA's), (32, 28464), (Start: 39 @28542 has 4 MA's), (47, 28572), (48, 28575), (63, 28662), (76, 28734), (81, 28785), (102, 28881), (109, 28950), (118, 28989), (130, 29055),

Gene: CloverMinnie\_22 Start: 17656, Stop: 18195, Start Num: 33

Candidate Starts for CloverMinnie\_22:

(32, 17605), (Start: 33 @17656 has 48 MA's), (51, 17722), (79, 17878), (86, 17938), (89, 17947), (94, 17968), (110, 18067), (114, 18088), (127, 18157), (129, 18166),

Gene: Cobra\_23 Start: 17812, Stop: 18330, Start Num: 34

Candidate Starts for Cobra\_23:

(32, 17758), (Start: 34 @17812 has 364 MA's), (44, 17845), (75, 18001), (76, 18007), (79, 18016), (89, 18082), (105, 18166), (125, 18268), (131, 18310),

Gene: Coffee\_25 Start: 20025, Stop: 20585, Start Num: 33

Candidate Starts for Coffee\_25:

(Start: 30 @19863 has 1 MA's), (Start: 33 @20025 has 48 MA's), (Start: 36 @20043 has 11 MA's), (37, 20046), (44, 20073), (48, 20085), (62, 20157), (70, 20214), (76, 20250), (81, 20301), (87, 20334), (114, 20481), (130, 20559),

Gene: Colbert\_23 Start: 17809, Stop: 18327, Start Num: 34

Candidate Starts for Colbert\_23:

(32, 17755), (Start: 34 @17809 has 364 MA's), (44, 17842), (75, 17998), (76, 18004), (79, 18013), (89, 18079), (105, 18163), (125, 18265), (131, 18307),

Gene: ColdSoup\_52 Start: 28627, Stop: 29169, Start Num: 39

Candidate Starts for ColdSoup\_52:

(24, 28333), (Start: 30 @28435 has 1 MA's), (32, 28549), (Start: 39 @28627 has 4 MA's), (47, 28657), (48, 28660), (63, 28747), (81, 28870), (102, 28966), (109, 29035), (119, 29077), (130, 29140),

Gene: Coldpizza\_23 Start: 20577, Stop: 21116, Start Num: 33

Candidate Starts for Coldpizza\_23:

(32, 20526), (Start: 33 @20577 has 48 MA's), (48, 20634), (51, 20643), (66, 20733), (76, 20790), (96, 20904), (97, 20907), (100, 20913), (130, 21090),

Gene: Coletti\_22 Start: 17824, Stop: 18342, Start Num: 34

Candidate Starts for Coletti\_22:

(4, 17218), (9, 17269), (10, 17323), (12, 17338), (13, 17347), (20, 17464), (22, 17506), (24, 17551), (32, 17770), (Start: 34 @17824 has 364 MA's), (44, 17857), (75, 18013), (76, 18019), (79, 18028), (89, 18094), (105, 18178), (125, 18280), (131, 18322),

Gene: Compostia\_25 Start: 18909, Stop: 19430, Start Num: 34

Candidate Starts for Compostia\_25:

(Start: 34 @18909 has 364 MA's), (43, 18939), (49, 18957), (53, 18969), (69, 19074), (89, 19197), (91, 19203), (93, 19212), (105, 19281), (117, 19338),

Gene: Cooper\_21 Start: 17506, Stop: 18036, Start Num: 34

Candidate Starts for Cooper\_21:

(18, 17050), (22, 17188), (Start: 29 @17338 has 1 MA's), (Start: 34 @17506 has 364 MA's), (41, 17536), (58, 17605), (76, 17710), (82, 17758), (83, 17764), (89, 17788), (90, 17791), (92, 17797), (94, 17809), (97, 17824), (106, 17878), (108, 17896), (110, 17908), (115, 17932), (121, 17956), (132, 18019),

Gene: Cornbread\_23 Start: 17525, Stop: 18043, Start Num: 34

Candidate Starts for Cornbread\_23:

(32, 17471), (Start: 34 @17525 has 364 MA's), (44, 17558), (75, 17714), (76, 17720), (79, 17729), (89, 17795), (105, 17879), (125, 17981), (131, 18023),

Gene: Cornobble\_22 Start: 17367, Stop: 17885, Start Num: 34

Candidate Starts for Cornobble\_22:

(9, 16812), (10, 16866), (12, 16881), (13, 16890), (20, 17007), (22, 17049), (24, 17094), (32, 17313), (Start: 34 @17367 has 364 MA's), (44, 17400), (75, 17556), (76, 17562), (79, 17571), (89, 17637), (105, 17721), (125, 17823), (131, 17865),

Gene: Corofin\_24 Start: 18501, Stop: 19022, Start Num: 34

Candidate Starts for Corofin\_24:

(Start: 34 @18501 has 364 MA's), (43, 18531), (49, 18549), (53, 18561), (69, 18666), (89, 18789), (91, 18795), (93, 18804), (105, 18873), (117, 18930),

Gene: Cosmolli16\_22 Start: 17526, Stop: 18044, Start Num: 34

Candidate Starts for Cosmolli16\_22:

(9, 16971), (10, 17025), (12, 17040), (13, 17049), (20, 17166), (22, 17208), (24, 17253), (32, 17472), (Start: 34 @17526 has 364 MA's), (44, 17559), (75, 17715), (76, 17721), (79, 17730), (89, 17796), (105, 17880), (125, 17982), (131, 18024),

Gene: Craff\_23 Start: 17813, Stop: 18331, Start Num: 34

Candidate Starts for Craff\_23:

(9, 17258), (10, 17312), (12, 17327), (13, 17336), (20, 17453), (22, 17495), (24, 17540), (32, 17759), (Start: 34 @17813 has 364 MA's), (44, 17846), (75, 18002), (76, 18008), (79, 18017), (89, 18083), (105, 18167), (125, 18269), (131, 18311),

Gene: Crownjwl\_23 Start: 17580, Stop: 18098, Start Num: 34

Candidate Starts for Crownjwl\_23:

(32, 17526), (Start: 34 @17580 has 364 MA's), (44, 17613), (75, 17769), (76, 17775), (79, 17784), (89, 17850), (105, 17934), (125, 18036), (131, 18078),

Gene: D12\_17 Start: 17279, Stop: 17800, Start Num: 36

Candidate Starts for D12\_17:

(32, 17225), (Start: 36 @17279 has 11 MA's), (51, 17330), (56, 17360), (59, 17372), (61, 17387), (62, 17393), (76, 17465), (82, 17519), (83, 17525), (85, 17540), (94, 17579), (97, 17597), (123, 17726), (124, 17735), (126, 17744), (131, 17780),

Gene: DaddyDaniels\_23 Start: 17505, Stop: 18023, Start Num: 34

Candidate Starts for DaddyDaniels\_23:

(32, 17451), (Start: 34 @17505 has 364 MA's), (44, 17538), (75, 17694), (76, 17700), (79, 17709), (89, 17775), (105, 17859), (125, 17961), (131, 18003),

Gene: Daffy\_23 Start: 17532, Stop: 18050, Start Num: 34

Candidate Starts for Daffy\_23:

(32, 17478), (Start: 34 @17532 has 364 MA's), (44, 17565), (75, 17721), (76, 17727), (79, 17736), (89, 17802), (105, 17886), (125, 17988), (131, 18030),

Gene: Daisy\_24 Start: 18497, Stop: 19018, Start Num: 34

Candidate Starts for Daisy\_24:

(Start: 34 @18497 has 364 MA's), (43, 18527), (49, 18545), (53, 18557), (69, 18662), (89, 18785), (91, 18791), (93, 18800), (105, 18869), (117, 18926),

Gene: Daka\_23 Start: 17809, Stop: 18327, Start Num: 34

Candidate Starts for Daka\_23:

(32, 17755), (Start: 34 @17809 has 364 MA's), (44, 17842), (75, 17998), (76, 18004), (79, 18013), (89, 18079), (105, 18163), (125, 18265), (131, 18307),

Gene: Dati\_23 Start: 17522, Stop: 18040, Start Num: 34

Candidate Starts for Dati\_23:

(4, 16916), (9, 16967), (10, 17021), (12, 17036), (13, 17045), (20, 17162), (22, 17204), (24, 17249), (32, 17468), (Start: 34 @17522 has 364 MA's), (44, 17555), (75, 17711), (76, 17717), (79, 17726), (89, 17792), (105, 17876), (125, 17978), (131, 18020),

Gene: Deenasa\_24 Start: 19239, Stop: 19760, Start Num: 34

Candidate Starts for Deenasa\_24:

(Start: 34 @19239 has 364 MA's), (43, 19269), (69, 19404), (89, 19527), (91, 19533), (93, 19542), (105, 19611), (117, 19668),

Gene: DelRivs\_22 Start: 17521, Stop: 18039, Start Num: 34

Candidate Starts for DelRivs\_22:

(9, 16966), (10, 17020), (12, 17035), (13, 17044), (20, 17161), (22, 17203), (24, 17248), (32, 17467), (Start: 34 @17521 has 364 MA's), (44, 17554), (75, 17710), (76, 17716), (79, 17725), (89, 17791), (105, 17875), (125, 17977), (131, 18019),

Gene: Derpp\_22 Start: 17368, Stop: 17886, Start Num: 34

Candidate Starts for Derpp\_22:

(9, 16813), (10, 16867), (12, 16882), (13, 16891), (20, 17008), (22, 17050), (24, 17095), (32, 17314), (Start: 34 @17368 has 364 MA's), (44, 17401), (75, 17557), (76, 17563), (79, 17572), (89, 17638), (105, 17722), (125, 17824), (131, 17866),

Gene: Devonte\_24 Start: 18476, Stop: 18997, Start Num: 34

Candidate Starts for Devonte\_24:

(Start: 34 @18476 has 364 MA's), (43, 18506), (49, 18524), (53, 18536), (69, 18641), (89, 18764), (91, 18770), (93, 18779), (105, 18848), (117, 18905),

Gene: Dice\_22 Start: 17509, Stop: 18027, Start Num: 34

Candidate Starts for Dice\_22:

(9, 16954), (10, 17008), (12, 17023), (13, 17032), (20, 17149), (22, 17191), (24, 17236), (32, 17455), (Start: 34 @17509 has 364 MA's), (44, 17542), (75, 17698), (76, 17704), (79, 17713), (89, 17779), (105, 17863), (125, 17965), (131, 18007),

Gene: DigitDog\_23 Start: 18144, Stop: 18635, Start Num: 34

Candidate Starts for DigitDog\_23:

(32, 18090), (Start: 34 @18144 has 364 MA's), (47, 18177), (48, 18180), (51, 18189), (76, 18315), (89, 18393), (94, 18414), (95, 18426), (113, 18531), (127, 18597),



Gene: Dingo\_23 Start: 17793, Stop: 18311, Start Num: 34

Candidate Starts for Dingo\_23:

(32, 17739), (Start: 34 @17793 has 364 MA's), (44, 17826), (75, 17982), (76, 17988), (79, 17997), (89, 18063), (105, 18147), (125, 18249), (131, 18291),

Gene: Dione\_22 Start: 17510, Stop: 18028, Start Num: 34

Candidate Starts for Dione\_22:

(32, 17456), (Start: 34 @17510 has 364 MA's), (44, 17543), (75, 17699), (76, 17705), (79, 17714), (89, 17780), (105, 17864), (125, 17966), (131, 18008),

Gene: DirtJuice\_23 Start: 17795, Stop: 18313, Start Num: 34

Candidate Starts for DirtJuice\_23:

(32, 17741), (Start: 34 @17795 has 364 MA's), (44, 17828), (75, 17984), (76, 17990), (79, 17999), (89, 18065), (105, 18149), (125, 18251), (131, 18293),

Gene: Doddsville\_23 Start: 17522, Stop: 18040, Start Num: 34

Candidate Starts for Doddsville\_23:

(32, 17468), (Start: 34 @17522 has 364 MA's), (44, 17555), (75, 17711), (76, 17717), (79, 17726), (89, 17792), (105, 17876), (125, 17978), (131, 18020),

Gene: DoesntMatter\_23 Start: 17791, Stop: 18309, Start Num: 34

Candidate Starts for DoesntMatter\_23:

(9, 17236), (10, 17290), (12, 17305), (13, 17314), (20, 17431), (22, 17473), (24, 17518), (32, 17737), (Start: 34 @17791 has 364 MA's), (44, 17824), (75, 17980), (76, 17986), (79, 17995), (89, 18061), (105, 18145), (125, 18247), (131, 18289),

Gene: DonSanchon\_22 Start: 17508, Stop: 18026, Start Num: 34

Candidate Starts for DonSanchon\_22:

(32, 17454), (Start: 34 @17508 has 364 MA's), (44, 17541), (75, 17697), (76, 17703), (79, 17712), (89, 17778), (105, 17862), (125, 17964), (131, 18006),

Gene: DonTron\_51 Start: 28667, Stop: 29209, Start Num: 39

Candidate Starts for DonTron\_51:

(1, 27938), (2, 27956), (8, 28085), (12, 28160), (14, 28175), (17, 28187), (24, 28373), (Start: 30 @28475 has 1 MA's), (32, 28589), (Start: 39 @28667 has 4 MA's), (47, 28697), (48, 28700), (63, 28787), (81, 28910), (102, 29006), (109, 29075), (119, 29117), (130, 29180),

Gene: Donny\_23 Start: 18559, Stop: 19050, Start Num: 34

Candidate Starts for Donny\_23:

(32, 18505), (Start: 34 @18559 has 364 MA's), (48, 18595), (51, 18604), (62, 18646), (76, 18730), (89, 18808), (94, 18829), (95, 18841), (99, 18847), (127, 19012),

Gene: Dori\_20 Start: 15428, Stop: 15976, Start Num: 33

Candidate Starts for Dori\_20:

(26, 15245), (Start: 30 @15266 has 1 MA's), (32, 15377), (Start: 33 @15428 has 48 MA's), (Start: 36 @15431 has 11 MA's), (51, 15482), (56, 15512), (62, 15545), (65, 15572), (67, 15584), (72, 15614), (76, 15641), (86, 15725), (87, 15728), (94, 15755), (97, 15773), (131, 15956),

Gene: DuchessDung\_21 Start: 16659, Stop: 17177, Start Num: 34

Candidate Starts for DuchessDung\_21:

(32, 16605), (Start: 34 @16659 has 364 MA's), (44, 16692), (75, 16848), (76, 16854), (79, 16863), (89, 16929), (105, 17013), (125, 17115), (131, 17157),

Gene: Duggie\_22 Start: 17524, Stop: 18042, Start Num: 34

Candidate Starts for Duggie\_22:

(32, 17470), (Start: 34 @17524 has 364 MA's), (44, 17557), (75, 17713), (76, 17719), (79, 17728), (89, 17794), (105, 17878), (125, 17980), (131, 18022),

Gene: Durga\_23 Start: 17821, Stop: 18339, Start Num: 34

Candidate Starts for Durga\_23:

(4, 17215), (9, 17266), (10, 17320), (12, 17335), (13, 17344), (20, 17461), (22, 17503), (24, 17548), (32, 17767), (Start: 34 @17821 has 364 MA's), (44, 17854), (75, 18010), (76, 18016), (79, 18025), (89, 18091), (105, 18175), (125, 18277), (131, 18319),

Gene: Eaglehorse\_25 Start: 19933, Stop: 20493, Start Num: 33

Candidate Starts for Eaglehorse\_25:

(Start: 30 @19771 has 1 MA's), (Start: 33 @19933 has 48 MA's), (Start: 36 @19951 has 11 MA's), (37, 19954), (44, 19981), (48, 19993), (62, 20065), (70, 20122), (76, 20158), (81, 20209), (87, 20242), (114, 20389), (130, 20467),

Gene: EastView9101\_22 Start: 18189, Stop: 18680, Start Num: 34

Candidate Starts for EastView9101\_22:

(32, 18135), (Start: 34 @18189 has 364 MA's), (48, 18225), (51, 18234), (62, 18276), (76, 18360), (84, 18417), (89, 18438), (94, 18459), (95, 18471), (113, 18576), (127, 18642),

Gene: ElvisPhasley\_23 Start: 17820, Stop: 18338, Start Num: 34

Candidate Starts for ElvisPhasley\_23:

(4, 17214), (9, 17265), (10, 17319), (12, 17334), (13, 17343), (20, 17460), (22, 17502), (24, 17547), (32, 17766), (Start: 34 @17820 has 364 MA's), (44, 17853), (75, 18009), (76, 18015), (79, 18024), (89, 18090), (105, 18174), (125, 18276), (131, 18318),

Gene: Emiris\_23 Start: 17802, Stop: 18320, Start Num: 34

Candidate Starts for Emiris\_23:

(32, 17748), (Start: 34 @17802 has 364 MA's), (44, 17835), (75, 17991), (76, 17997), (79, 18006), (89, 18072), (105, 18156), (125, 18258), (131, 18300),

Gene: EmpTee\_23 Start: 17808, Stop: 18326, Start Num: 34

Candidate Starts for EmpTee\_23:

(32, 17754), (Start: 34 @17808 has 364 MA's), (44, 17841), (75, 17997), (76, 18003), (79, 18012), (89, 18078), (105, 18162), (125, 18264), (131, 18306),

Gene: Epah\_20 Start: 17403, Stop: 17933, Start Num: 34

Candidate Starts for Epah\_20:

(11, 16914), (18, 16947), (Start: 29 @17235 has 1 MA's), (Start: 34 @17403 has 364 MA's), (41, 17433), (58, 17502), (76, 17607), (80, 17637), (82, 17655), (90, 17688), (92, 17694), (94, 17706), (97, 17721), (106, 17775), (121, 17853),

Gene: Eremos\_23 Start: 17808, Stop: 18326, Start Num: 34

Candidate Starts for Eremos\_23:

(32, 17754), (Start: 34 @17808 has 364 MA's), (44, 17841), (75, 17997), (76, 18003), (79, 18012), (89, 18078), (105, 18162), (125, 18264), (131, 18306),

Gene: Etaye\_23 Start: 17794, Stop: 18312, Start Num: 34

Candidate Starts for Etaye\_23:

(4, 17188), (9, 17239), (10, 17293), (12, 17308), (13, 17317), (20, 17434), (22, 17476), (24, 17521), (32, 17740), (Start: 34 @17794 has 364 MA's), (44, 17827), (75, 17983), (76, 17989), (79, 17998), (89,

18064), (105, 18148), (125, 18250), (131, 18292),

Gene: Eugenia\_23 Start: 17821, Stop: 18339, Start Num: 34

Candidate Starts for Eugenia\_23:

(9, 17266), (10, 17320), (12, 17335), (13, 17344), (20, 17461), (22, 17503), (24, 17548), (32, 17767), (Start: 34 @17821 has 364 MA's), (44, 17854), (75, 18010), (76, 18016), (79, 18025), (89, 18091), (105, 18175), (125, 18277), (131, 18319),

Gene: Evaa\_21 Start: 17590, Stop: 18126, Start Num: 33

Candidate Starts for Evaa\_21:

(27, 17407), (Start: 30 @17425 has 1 MA's), (32, 17539), (Start: 33 @17590 has 48 MA's), (46, 17641), (48, 17647), (51, 17656), (94, 17899), (128, 18091), (131, 18106), (133, 18115),

Gene: Fanaw\_20 Start: 18097, Stop: 18627, Start Num: 34

Candidate Starts for Fanaw\_20:

(Start: 29 @17929 has 1 MA's), (Start: 34 @18097 has 364 MA's), (41, 18127), (58, 18196), (76, 18301), (80, 18331), (82, 18349), (90, 18382), (92, 18388), (94, 18400), (97, 18415), (106, 18469), (110, 18499), (121, 18547),

Gene: Fang\_23 Start: 17822, Stop: 18340, Start Num: 34

Candidate Starts for Fang\_23:

(32, 17768), (Start: 34 @17822 has 364 MA's), (44, 17855), (75, 18011), (76, 18017), (79, 18026), (89, 18092), (105, 18176), (125, 18278), (131, 18320),

Gene: Faze9\_25 Start: 20029, Stop: 20589, Start Num: 33

Candidate Starts for Faze9\_25:

(Start: 30 @19867 has 1 MA's), (Start: 33 @20029 has 48 MA's), (Start: 36 @20047 has 11 MA's), (37, 20050), (44, 20077), (48, 20089), (62, 20161), (70, 20218), (76, 20254), (81, 20305), (87, 20338), (114, 20485), (130, 20563),

Gene: FluffyNinja\_23 Start: 17814, Stop: 18332, Start Num: 34

Candidate Starts for FluffyNinja\_23:

(9, 17259), (10, 17313), (12, 17328), (13, 17337), (20, 17454), (22, 17496), (24, 17541), (32, 17760), (Start: 34 @17814 has 364 MA's), (44, 17847), (75, 18003), (76, 18009), (79, 18018), (89, 18084), (105, 18168), (125, 18270), (131, 18312),

Gene: ForDig\_20 Start: 17000, Stop: 17515, Start Num: 41

Candidate Starts for ForDig\_20:

(Start: 30 @16802 has 1 MA's), (32, 16916), (Start: 33 @16967 has 48 MA's), (41, 17000), (47, 17018), (51, 17030), (53, 17036), (76, 17183), (79, 17192), (89, 17261), (90, 17264), (94, 17282), (96, 17297), (106, 17363), (107, 17369), (131, 17495),

Gene: Fortunato\_21 Start: 18261, Stop: 18959, Start Num: 29

Candidate Starts for Fortunato\_21:

(Start: 29 @18261 has 1 MA's), (Start: 34 @18429 has 364 MA's), (41, 18459), (58, 18528), (76, 18633), (80, 18663), (82, 18681), (90, 18714), (92, 18720), (94, 18732), (97, 18747), (106, 18801), (110, 18831), (121, 18879),

Gene: Fozzie\_22 Start: 17817, Stop: 18335, Start Num: 34

Candidate Starts for Fozzie\_22:

(32, 17763), (Start: 34 @17817 has 364 MA's), (44, 17850), (75, 18006), (76, 18012), (79, 18021), (89, 18087), (105, 18171), (125, 18273), (131, 18315),

Gene: Frankicide\_23 Start: 17808, Stop: 18326, Start Num: 34

Candidate Starts for Frankicide\_23:

(32, 17754), (Start: 34 @17808 has 364 MA's), (44, 17841), (75, 17997), (76, 18003), (79, 18012), (89, 18078), (105, 18162), (125, 18264), (131, 18306),

Gene: Frederick\_21 Start: 18438, Stop: 18968, Start Num: 34

Candidate Starts for Frederick\_21:

(Start: 29 @18270 has 1 MA's), (Start: 34 @18438 has 364 MA's), (41, 18468), (58, 18537), (76, 18642), (80, 18672), (82, 18690), (90, 18723), (92, 18729), (94, 18741), (97, 18756), (106, 18810), (110, 18840), (121, 18888),

Gene: FrenchFry\_25 Start: 20032, Stop: 20592, Start Num: 33

Candidate Starts for FrenchFry\_25:

(Start: 30 @19870 has 1 MA's), (Start: 33 @20032 has 48 MA's), (Start: 36 @20050 has 11 MA's), (37, 20053), (44, 20080), (48, 20092), (62, 20164), (70, 20221), (76, 20257), (81, 20308), (87, 20341), (114, 20488), (130, 20566),

Gene: Fresco\_20 Start: 16345, Stop: 16893, Start Num: 34

Candidate Starts for Fresco\_20:

(25, 16072), (27, 16159), (Start: 30 @16177 has 1 MA's), (32, 16291), (Start: 34 @16345 has 364 MA's), (37, 16363), (51, 16411), (89, 16636), (94, 16657), (96, 16672), (127, 16852), (129, 16861),

Gene: Freya\_22 Start: 17503, Stop: 18021, Start Num: 34

Candidate Starts for Freya\_22:

(32, 17449), (Start: 34 @17503 has 364 MA's), (44, 17536), (75, 17692), (76, 17698), (79, 17707), (89, 17773), (105, 17857), (125, 17959), (131, 18001),

Gene: FriarPreacher\_23 Start: 17828, Stop: 18346, Start Num: 34

Candidate Starts for FriarPreacher\_23:

(32, 17774), (Start: 34 @17828 has 364 MA's), (44, 17861), (75, 18017), (76, 18023), (79, 18032), (89, 18098), (105, 18182), (125, 18284), (131, 18326),

Gene: Fringe\_23 Start: 17792, Stop: 18310, Start Num: 34

Candidate Starts for Fringe\_23:

(9, 17237), (10, 17291), (12, 17306), (13, 17315), (20, 17432), (22, 17474), (24, 17519), (32, 17738), (Start: 34 @17792 has 364 MA's), (44, 17825), (75, 17981), (76, 17987), (79, 17996), (89, 18062), (105, 18146), (125, 18248), (131, 18290),

Gene: FugateOSU\_22 Start: 17514, Stop: 18032, Start Num: 34

Candidate Starts for FugateOSU\_22:

(32, 17460), (Start: 34 @17514 has 364 MA's), (44, 17547), (75, 17703), (76, 17709), (79, 17718), (89, 17784), (105, 17868), (125, 17970), (131, 18012),

Gene: Funsized\_26 Start: 20899, Stop: 21408, Start Num: 34

Candidate Starts for Funsized\_26:

(32, 20845), (Start: 34 @20899 has 364 MA's), (37, 20911), (47, 20941), (48, 20944), (60, 20995), (74, 21070), (76, 21082), (78, 21088), (98, 21199), (106, 21250), (111, 21286), (112, 21289), (127, 21370),

Gene: Gadget\_25 Start: 18480, Stop: 19004, Start Num: 34

Candidate Starts for Gadget\_25:

(Start: 34 @18480 has 364 MA's), (43, 18513), (49, 18531), (69, 18648), (89, 18771), (91, 18777), (93, 18786), (105, 18855), (117, 18912),

Gene: Gareth\_22 Start: 17511, Stop: 18029, Start Num: 34

Candidate Starts for Gareth\_22:

(32, 17457), (Start: 34 @17511 has 364 MA's), (44, 17544), (75, 17700), (76, 17706), (79, 17715), (89, 17781), (105, 17865), (125, 17967), (131, 18009),

Gene: GeneCoco\_23 Start: 17813, Stop: 18331, Start Num: 34

Candidate Starts for GeneCoco\_23:

(4, 17207), (9, 17258), (10, 17312), (12, 17327), (13, 17336), (20, 17453), (22, 17495), (24, 17540), (32, 17759), (Start: 34 @17813 has 364 MA's), (44, 17846), (75, 18002), (76, 18008), (79, 18017), (89, 18083), (105, 18167), (125, 18269), (131, 18311),

Gene: Gervas\_24 Start: 18457, Stop: 18978, Start Num: 34

Candidate Starts for Gervas\_24:

(Start: 34 @18457 has 364 MA's), (43, 18487), (49, 18505), (69, 18622), (89, 18745), (91, 18751), (93, 18760), (105, 18829), (117, 18886),

Gene: GinPorsche\_20 Start: 17403, Stop: 17933, Start Num: 34

Candidate Starts for GinPorsche\_20:

(11, 16914), (18, 16947), (Start: 29 @17235 has 1 MA's), (Start: 34 @17403 has 364 MA's), (41, 17433), (58, 17502), (76, 17607), (80, 17637), (82, 17655), (90, 17688), (92, 17694), (94, 17706), (97, 17721), (106, 17775), (121, 17853),

Gene: Giraffe\_23 Start: 17516, Stop: 18034, Start Num: 34

Candidate Starts for Giraffe\_23:

(32, 17462), (Start: 34 @17516 has 364 MA's), (44, 17549), (75, 17705), (76, 17711), (79, 17720), (89, 17786), (105, 17870), (125, 17972), (131, 18014),

Gene: Glass\_25 Start: 20032, Stop: 20592, Start Num: 33

Candidate Starts for Glass\_25:

(Start: 30 @19870 has 1 MA's), (Start: 33 @20032 has 48 MA's), (Start: 36 @20050 has 11 MA's), (37, 20053), (44, 20080), (48, 20092), (62, 20164), (70, 20221), (76, 20257), (81, 20308), (87, 20341), (114, 20488), (130, 20566),

Gene: GlenHope\_25 Start: 18466, Stop: 18987, Start Num: 34

Candidate Starts for GlenHope\_25:

(Start: 34 @18466 has 364 MA's), (43, 18496), (49, 18514), (69, 18631), (89, 18754), (91, 18760), (93, 18769), (105, 18838), (117, 18895),

Gene: Glubnar\_24 Start: 18511, Stop: 19002, Start Num: 43

Candidate Starts for Glubnar\_24:

(Start: 34 @18481 has 364 MA's), (43, 18511), (49, 18529), (53, 18541), (69, 18646), (89, 18769), (91, 18775), (93, 18784), (105, 18853), (117, 18910),

Gene: GodPhather\_18 Start: 17544, Stop: 18065, Start Num: 36

Candidate Starts for GodPhather\_18:

(32, 17490), (Start: 36 @17544 has 11 MA's), (41, 17565), (51, 17595), (61, 17652), (62, 17658), (68, 17697), (76, 17730), (82, 17784), (83, 17790), (85, 17805), (94, 17844), (97, 17862), (123, 17991), (124, 18000), (126, 18009), (131, 18045),

Gene: Godines\_25 Start: 19925, Stop: 20485, Start Num: 33

Candidate Starts for Godines\_25:

(Start: 30 @19763 has 1 MA's), (Start: 33 @19925 has 48 MA's), (Start: 36 @19943 has 11 MA's), (37, 19946), (44, 19973), (48, 19985), (62, 20057), (70, 20114), (76, 20150), (81, 20201), (87, 20234), (114,

20381), (130, 20459),

Gene: Gophee\_23 Start: 17794, Stop: 18312, Start Num: 34

Candidate Starts for Gophee\_23:

(9, 17239), (10, 17293), (12, 17308), (13, 17317), (20, 17434), (22, 17476), (24, 17521), (32, 17740), (Start: 34 @17794 has 364 MA's), (44, 17827), (75, 17983), (76, 17989), (79, 17998), (89, 18064), (105, 18148), (125, 18250), (131, 18292),

Gene: Grand2040\_22 Start: 17531, Stop: 18049, Start Num: 34

Candidate Starts for Grand2040\_22:

(32, 17477), (Start: 34 @17531 has 364 MA's), (44, 17564), (75, 17720), (76, 17726), (79, 17735), (89, 17801), (105, 17885), (125, 17987), (131, 18029),

Gene: Gwennie1\_23 Start: 17833, Stop: 18351, Start Num: 34

Candidate Starts for Gwennie1\_23:

(4, 17227), (9, 17278), (10, 17332), (12, 17347), (13, 17356), (20, 17473), (22, 17515), (24, 17560), (32, 17779), (Start: 34 @17833 has 364 MA's), (44, 17866), (75, 18022), (76, 18028), (79, 18037), (89, 18103), (105, 18187), (125, 18289), (131, 18331),

Gene: Gwilliam\_23 Start: 17804, Stop: 18322, Start Num: 34

Candidate Starts for Gwilliam\_23:

(32, 17750), (Start: 34 @17804 has 364 MA's), (44, 17837), (75, 17993), (76, 17999), (79, 18008), (89, 18074), (105, 18158), (125, 18260), (131, 18302),

Gene: Gyarad\_0023 Start: 17806, Stop: 18324, Start Num: 34

Candidate Starts for Gyarad\_0023:

(32, 17752), (Start: 34 @17806 has 364 MA's), (44, 17839), (75, 17995), (76, 18001), (79, 18010), (89, 18076), (105, 18160), (125, 18262), (131, 18304),

Gene: HSavage\_23 Start: 17814, Stop: 18332, Start Num: 34

Candidate Starts for HSavage\_23:

(32, 17760), (Start: 34 @17814 has 364 MA's), (44, 17847), (75, 18003), (76, 18009), (79, 18018), (89, 18084), (105, 18168), (125, 18270), (131, 18312),

Gene: Haimas\_23 Start: 17809, Stop: 18327, Start Num: 34

Candidate Starts for Haimas\_23:

(9, 17254), (10, 17308), (12, 17323), (13, 17332), (20, 17449), (22, 17491), (24, 17536), (32, 17755), (Start: 34 @17809 has 364 MA's), (44, 17842), (75, 17998), (76, 18004), (79, 18013), (89, 18079), (105, 18163), (125, 18265), (131, 18307),

Gene: Haleema\_22 Start: 17531, Stop: 18049, Start Num: 34

Candidate Starts for Haleema\_22:

(9, 16976), (10, 17030), (12, 17045), (13, 17054), (20, 17171), (22, 17213), (24, 17258), (32, 17477), (Start: 34 @17531 has 364 MA's), (44, 17564), (75, 17720), (76, 17726), (79, 17735), (89, 17801), (105, 17885), (125, 17987), (131, 18029),

Gene: Halfpint\_23 Start: 18301, Stop: 18822, Start Num: 34

Candidate Starts for Halfpint\_23:

(Start: 34 @18301 has 364 MA's), (43, 18331), (49, 18349), (53, 18361), (69, 18466), (89, 18589), (91, 18595), (93, 18604), (105, 18673), (117, 18730),

Gene: Hally898\_20 Start: 17403, Stop: 17933, Start Num: 34

Candidate Starts for Hally898\_20:

(11, 16914), (18, 16947), (Start: 29 @17235 has 1 MA's), (Start: 34 @17403 has 364 MA's), (41, 17433), (58, 17502), (76, 17607), (80, 17637), (82, 17655), (90, 17688), (92, 17694), (94, 17706), (97, 17721), (106, 17775), (121, 17853),

Gene: Hamish\_23 Start: 17801, Stop: 18319, Start Num: 34

Candidate Starts for Hamish\_23:

(9, 17246), (10, 17300), (12, 17315), (13, 17324), (20, 17441), (22, 17483), (24, 17528), (32, 17747), (Start: 34 @17801 has 364 MA's), (44, 17834), (75, 17990), (76, 17996), (79, 18005), (89, 18071), (105, 18155), (125, 18257), (131, 18299),

Gene: Hangman\_21 Start: 18436, Stop: 18966, Start Num: 34

Candidate Starts for Hangman\_21:

(Start: 29 @18268 has 1 MA's), (Start: 34 @18436 has 364 MA's), (41, 18466), (58, 18535), (76, 18640), (80, 18670), (82, 18688), (90, 18721), (92, 18727), (94, 18739), (97, 18754), (106, 18808), (121, 18886),

Gene: Hartsy\_23 Start: 17804, Stop: 18322, Start Num: 34

Candidate Starts for Hartsy\_23:

(4, 17198), (9, 17249), (10, 17303), (12, 17318), (13, 17327), (20, 17444), (22, 17486), (24, 17531), (32, 17750), (Start: 34 @17804 has 364 MA's), (44, 17837), (75, 17993), (76, 17999), (79, 18008), (89, 18074), (105, 18158), (125, 18260), (131, 18302),

Gene: Harvey\_23 Start: 17830, Stop: 18348, Start Num: 34

Candidate Starts for Harvey\_23:

(32, 17776), (Start: 34 @17830 has 364 MA's), (44, 17863), (75, 18019), (76, 18025), (79, 18034), (89, 18100), (105, 18184), (125, 18286), (131, 18328),

Gene: HarveySr\_24 Start: 18453, Stop: 18977, Start Num: 34

Candidate Starts for HarveySr\_24:

(Start: 34 @18453 has 364 MA's), (43, 18486), (49, 18504), (53, 18516), (69, 18621), (89, 18744), (91, 18750), (93, 18759), (105, 18828), (117, 18885),

Gene: Hashim76\_27 Start: 18297, Stop: 18815, Start Num: 34

Candidate Starts for Hashim76\_27:

(Start: 30 @18129 has 1 MA's), (Start: 34 @18297 has 364 MA's), (47, 18339), (60, 18402), (62, 18411), (79, 18498), (90, 18570), (93, 18582), (97, 18603),

Gene: Heath\_20 Start: 18067, Stop: 18597, Start Num: 34

Candidate Starts for Heath\_20:

(Start: 29 @17899 has 1 MA's), (Start: 34 @18067 has 364 MA's), (41, 18097), (58, 18166), (76, 18271), (80, 18301), (82, 18319), (90, 18352), (92, 18358), (94, 18370), (97, 18385), (106, 18439), (121, 18517),

Gene: Heathcliff\_24 Start: 18438, Stop: 18959, Start Num: 34

Candidate Starts for Heathcliff\_24:

(Start: 34 @18438 has 364 MA's), (43, 18468), (49, 18486), (53, 18498), (69, 18603), (89, 18726), (91, 18732), (93, 18741), (105, 18810), (117, 18867),

Gene: Hedgerow\_25 Start: 20014, Stop: 20574, Start Num: 33

Candidate Starts for Hedgerow\_25:

(Start: 30 @19852 has 1 MA's), (Start: 33 @20014 has 48 MA's), (Start: 36 @20032 has 11 MA's), (37, 20035), (44, 20062), (48, 20074), (62, 20146), (70, 20203), (76, 20239), (81, 20290), (87, 20323), (114, 20470), (130, 20548),

Gene: Held\_23 Start: 17515, Stop: 18033, Start Num: 34

Candidate Starts for Held\_23:

(32, 17461), (Start: 34 @17515 has 364 MA's), (44, 17548), (75, 17704), (76, 17710), (79, 17719), (89, 17785), (105, 17869), (125, 17971), (131, 18013),

Gene: HenryJackson\_22 Start: 17531, Stop: 18049, Start Num: 34

Candidate Starts for HenryJackson\_22:

(32, 17477), (Start: 34 @17531 has 364 MA's), (44, 17564), (75, 17720), (76, 17726), (79, 17735), (89, 17801), (105, 17885), (125, 17987), (131, 18029),

Gene: Hertubise\_23 Start: 17823, Stop: 18341, Start Num: 34

Candidate Starts for Hertubise\_23:

(9, 17268), (10, 17322), (12, 17337), (13, 17346), (20, 17463), (22, 17505), (24, 17550), (32, 17769), (Start: 34 @17823 has 364 MA's), (44, 17856), (75, 18012), (76, 18018), (79, 18027), (89, 18093), (105, 18177), (125, 18279), (131, 18321),

Gene: Hetaeria\_23 Start: 17824, Stop: 18342, Start Num: 34

Candidate Starts for Hetaeria\_23:

(32, 17770), (Start: 34 @17824 has 364 MA's), (44, 17857), (75, 18013), (76, 18019), (79, 18028), (89, 18094), (105, 18178), (125, 18280), (131, 18322),

Gene: HighStump\_22 Start: 17514, Stop: 18032, Start Num: 34

Candidate Starts for HighStump\_22:

(32, 17460), (Start: 34 @17514 has 364 MA's), (44, 17547), (75, 17703), (76, 17709), (79, 17718), (89, 17784), (105, 17868), (125, 17970), (131, 18012),

Gene: Hocus\_22 Start: 17517, Stop: 18035, Start Num: 34

Candidate Starts for Hocus\_22:

(32, 17463), (Start: 34 @17517 has 364 MA's), (44, 17550), (75, 17706), (76, 17712), (79, 17721), (89, 17787), (105, 17871), (125, 17973), (131, 18015),

Gene: Holeinone\_25 Start: 19910, Stop: 20470, Start Num: 33

Candidate Starts for Holeinone\_25:

(Start: 30 @19748 has 1 MA's), (Start: 33 @19910 has 48 MA's), (Start: 36 @19928 has 11 MA's), (37, 19931), (44, 19958), (48, 19970), (62, 20042), (70, 20099), (76, 20135), (81, 20186), (87, 20219), (114, 20366), (130, 20444),

Gene: Horchata\_23 Start: 17793, Stop: 18311, Start Num: 34

Candidate Starts for Horchata\_23:

(32, 17739), (Start: 34 @17793 has 364 MA's), (44, 17826), (75, 17982), (76, 17988), (79, 17997), (89, 18063), (105, 18147), (125, 18249), (131, 18291),

Gene: Hosp\_017 Start: 15179, Stop: 15727, Start Num: 33

Candidate Starts for Hosp\_017:

(Start: 30 @15014 has 1 MA's), (32, 15128), (Start: 33 @15179 has 48 MA's), (41, 15212), (47, 15230), (51, 15242), (53, 15248), (76, 15395), (79, 15404), (89, 15473), (90, 15476), (94, 15494), (96, 15509), (106, 15575), (131, 15707),

Gene: Hydro\_21 Start: 18435, Stop: 18965, Start Num: 34

Candidate Starts for Hydro\_21:

(Start: 34 @18435 has 364 MA's), (41, 18465), (58, 18534), (76, 18639), (80, 18669), (82, 18687), (90, 18720), (92, 18726), (94, 18738), (106, 18807), (121, 18885),



Gene: ImtiyazSitla\_22 Start: 17358, Stop: 17876, Start Num: 34

Candidate Starts for ImtiyazSitla\_22:

(32, 17304), (Start: 34 @17358 has 364 MA's), (44, 17391), (75, 17547), (76, 17553), (79, 17562), (89, 17628), (105, 17712), (125, 17814), (131, 17856),

Gene: Imvubu\_17 Start: 15573, Stop: 16082, Start Num: 34

Candidate Starts for Imvubu\_17:

(24, 15297), (32, 15519), (Start: 34 @15573 has 364 MA's), (37, 15585), (47, 15615), (48, 15618), (59, 15660), (62, 15678), (74, 15744), (76, 15756), (90, 15837), (94, 15855), (98, 15873), (106, 15924), (111, 15960), (124, 16017), (127, 16044), (131, 16062),

Gene: Inchworm\_23 Start: 17800, Stop: 18318, Start Num: 34

Candidate Starts for Inchworm\_23:

(9, 17245), (10, 17299), (12, 17314), (13, 17323), (20, 17440), (22, 17482), (24, 17527), (32, 17746), (Start: 34 @17800 has 364 MA's), (44, 17833), (75, 17989), (76, 17995), (79, 18004), (89, 18070), (105, 18154), (125, 18256), (131, 18298),

Gene: Indlovu\_21 Start: 18170, Stop: 18697, Start Num: 34

Candidate Starts for Indlovu\_21:

(32, 18116), (Start: 34 @18170 has 364 MA's), (75, 18359), (78, 18371), (103, 18500), (107, 18545), (111, 18575), (127, 18659), (131, 18677),

Gene: Inverness\_23 Start: 17814, Stop: 18332, Start Num: 34

Candidate Starts for Inverness\_23:

(32, 17760), (Start: 34 @17814 has 364 MA's), (44, 17847), (75, 18003), (76, 18009), (79, 18018), (89, 18084), (105, 18168), (125, 18270), (131, 18312),

Gene: Iridessa\_23 Start: 17483, Stop: 18001, Start Num: 34

Candidate Starts for Iridessa\_23:

(9, 16928), (10, 16982), (12, 16997), (13, 17006), (20, 17123), (22, 17165), (24, 17210), (32, 17429), (Start: 34 @17483 has 364 MA's), (44, 17516), (75, 17672), (76, 17678), (79, 17687), (89, 17753), (105, 17837), (125, 17939), (131, 17981),

Gene: Iridoclysis\_23 Start: 17788, Stop: 18306, Start Num: 34

Candidate Starts for Iridoclysis\_23:

(9, 17233), (10, 17287), (12, 17302), (13, 17311), (20, 17428), (22, 17470), (24, 17515), (32, 17734), (Start: 34 @17788 has 364 MA's), (44, 17821), (75, 17977), (76, 17983), (79, 17992), (89, 18058), (105, 18142), (125, 18244), (131, 18286),

Gene: IsaacEli\_23 Start: 17818, Stop: 18336, Start Num: 34

Candidate Starts for IsaacEli\_23:

(9, 17263), (10, 17317), (12, 17332), (13, 17341), (20, 17458), (22, 17500), (24, 17545), (32, 17764), (Start: 34 @17818 has 364 MA's), (44, 17851), (75, 18007), (76, 18013), (79, 18022), (89, 18088), (105, 18172), (125, 18274), (131, 18316),

Gene: ItsyBitsy1\_25 Start: 19903, Stop: 20463, Start Num: 33

Candidate Starts for ItsyBitsy1\_25:

(Start: 30 @19741 has 1 MA's), (Start: 33 @19903 has 48 MA's), (Start: 36 @19921 has 11 MA's), (37, 19924), (44, 19951), (48, 19963), (62, 20035), (70, 20092), (76, 20128), (81, 20179), (87, 20212), (114, 20359), (130, 20437),

Gene: JAMaL\_21 Start: 18616, Stop: 19146, Start Num: 34

Candidate Starts for JAMaL\_21:

(Start: 34 @18616 has 364 MA's), (41, 18646), (47, 18664), (58, 18715), (75, 18814), (76, 18820), (82, 18868), (89, 18898), (90, 18901), (92, 18907), (94, 18919), (97, 18934), (106, 18988), (108, 19006), (121, 19066),

Gene: JDog\_22 Start: 17524, Stop: 18042, Start Num: 34

Candidate Starts for JDog\_22:

(32, 17470), (Start: 34 @17524 has 364 MA's), (44, 17557), (75, 17713), (76, 17719), (79, 17728), (89, 17794), (105, 17878), (125, 17980), (131, 18022),

Gene: JacAttac\_23 Start: 17800, Stop: 18318, Start Num: 34

Candidate Starts for JacAttac\_23:

(9, 17245), (10, 17299), (12, 17314), (13, 17323), (20, 17440), (22, 17482), (24, 17527), (32, 17746), (Start: 34 @17800 has 364 MA's), (44, 17833), (75, 17989), (76, 17995), (79, 18004), (89, 18070), (105, 18154), (125, 18256), (131, 18298),

Gene: Jackstina\_22 Start: 18402, Stop: 18923, Start Num: 34

Candidate Starts for Jackstina\_22:

(Start: 34 @18402 has 364 MA's), (43, 18432), (49, 18450), (53, 18462), (69, 18567), (89, 18690), (91, 18696), (93, 18705), (105, 18774), (117, 18831),

Gene: JaguarMi\_21 Start: 17897, Stop: 18427, Start Num: 34

Candidate Starts for JaguarMi\_21:

(11, 17408), (Start: 29 @17729 has 1 MA's), (Start: 34 @17897 has 364 MA's), (41, 17927), (58, 17996), (80, 18131), (82, 18149), (90, 18182), (92, 18188), (94, 18200), (97, 18215), (106, 18269), (121, 18347),

Gene: JakeO\_22 Start: 17524, Stop: 18042, Start Num: 34

Candidate Starts for JakeO\_22:

(32, 17470), (Start: 34 @17524 has 364 MA's), (44, 17557), (75, 17713), (76, 17719), (79, 17728), (89, 17794), (105, 17878), (125, 17980), (131, 18022),

Gene: JangoPhett\_23 Start: 17798, Stop: 18316, Start Num: 34

Candidate Starts for JangoPhett\_23:

(9, 17243), (10, 17297), (12, 17312), (13, 17321), (20, 17438), (22, 17480), (24, 17525), (32, 17744), (Start: 34 @17798 has 364 MA's), (44, 17831), (75, 17987), (76, 17993), (79, 18002), (89, 18068), (105, 18152), (125, 18254), (131, 18296),

Gene: Jeon\_17 Start: 17286, Stop: 17807, Start Num: 36

Candidate Starts for Jeon\_17:

(32, 17232), (Start: 36 @17286 has 11 MA's), (41, 17307), (51, 17337), (61, 17394), (62, 17400), (68, 17439), (76, 17472), (82, 17526), (83, 17532), (85, 17547), (94, 17586), (97, 17604), (123, 17733), (124, 17742), (126, 17751), (131, 17787),

Gene: Jesabah\_23 Start: 17526, Stop: 18044, Start Num: 34

Candidate Starts for Jesabah\_23:

(9, 16971), (10, 17025), (12, 17040), (13, 17049), (20, 17166), (22, 17208), (24, 17253), (32, 17472), (Start: 34 @17526 has 364 MA's), (44, 17559), (75, 17715), (76, 17721), (79, 17730), (89, 17796), (105, 17880), (125, 17982), (131, 18024),

Gene: Jillium\_22 Start: 17524, Stop: 18042, Start Num: 34

Candidate Starts for Jillium\_22:

(9, 16969), (10, 17023), (12, 17038), (13, 17047), (20, 17164), (22, 17206), (24, 17251), (32, 17470), (Start: 34 @17524 has 364 MA's), (44, 17557), (75, 17713), (76, 17719), (79, 17728), (89, 17794), (105, 17878), (125, 17980), (131, 18022),

Gene: Jiminy\_22 Start: 17362, Stop: 17880, Start Num: 34

Candidate Starts for Jiminy\_22:

(32, 17308), (Start: 34 @17362 has 364 MA's), (44, 17395), (75, 17551), (76, 17557), (79, 17566), (89, 17632), (105, 17716), (125, 17818), (131, 17860),

Gene: Jiraiya\_22 Start: 17522, Stop: 18040, Start Num: 34

Candidate Starts for Jiraiya\_22:

(32, 17468), (Start: 34 @17522 has 364 MA's), (44, 17555), (75, 17711), (76, 17717), (79, 17726), (89, 17792), (105, 17876), (125, 17978), (131, 18020),

Gene: Jolie1\_019 Start: 16953, Stop: 17501, Start Num: 33

Candidate Starts for Jolie1\_019:

(32, 16902), (Start: 33 @16953 has 48 MA's), (41, 16986), (47, 17004), (51, 17016), (53, 17022), (76, 17169), (79, 17178), (89, 17247), (90, 17250), (94, 17268), (96, 17283), (106, 17349), (107, 17355), (131, 17481),

Gene: Jollymon\_51 Start: 28627, Stop: 29169, Start Num: 39

Candidate Starts for Jollymon\_51:

(24, 28333), (Start: 30 @28435 has 1 MA's), (32, 28549), (Start: 39 @28627 has 4 MA's), (47, 28657), (48, 28660), (63, 28747), (81, 28870), (102, 28966), (109, 29035), (119, 29077), (130, 29140),

Gene: KLucky39\_23 Start: 17806, Stop: 18324, Start Num: 34

Candidate Starts for KLucky39\_23:

(32, 17752), (Start: 34 @17806 has 364 MA's), (44, 17839), (75, 17995), (76, 18001), (79, 18010), (89, 18076), (105, 18160), (125, 18262), (131, 18304),

Gene: Kahve\_22 Start: 17528, Stop: 18046, Start Num: 34

Candidate Starts for Kahve\_22:

(32, 17474), (Start: 34 @17528 has 364 MA's), (44, 17561), (75, 17717), (76, 17723), (79, 17732), (89, 17798), (105, 17882), (125, 17984), (131, 18026),

Gene: Kailash\_23 Start: 17816, Stop: 18334, Start Num: 34

Candidate Starts for Kailash\_23:

(4, 17210), (9, 17261), (10, 17315), (12, 17330), (13, 17339), (20, 17456), (22, 17498), (24, 17543), (32, 17762), (Start: 34 @17816 has 364 MA's), (44, 17849), (75, 18005), (76, 18011), (79, 18020), (89, 18086), (105, 18170), (125, 18272), (131, 18314),

Gene: Kaleb\_25 Start: 20029, Stop: 20589, Start Num: 33

Candidate Starts for Kaleb\_25:

(Start: 30 @19867 has 1 MA's), (Start: 33 @20029 has 48 MA's), (Start: 36 @20047 has 11 MA's), (37, 20050), (44, 20077), (48, 20089), (62, 20161), (70, 20218), (76, 20254), (81, 20305), (87, 20338), (114, 20485), (130, 20563),

Gene: Kamiyu\_24 Start: 18445, Stop: 18966, Start Num: 34

Candidate Starts for Kamiyu\_24:

(Start: 34 @18445 has 364 MA's), (43, 18475), (49, 18493), (53, 18505), (69, 18610), (89, 18733), (91, 18739), (93, 18748), (105, 18817), (117, 18874),

Gene: KarasumaRum\_25 Start: 18677, Stop: 19168, Start Num: 34

Candidate Starts for KarasumaRum\_25:

(32, 18623), (Start: 34 @18677 has 364 MA's), (47, 18710), (48, 18713), (51, 18722), (76, 18848), (89, 18926), (94, 18947), (95, 18959), (114, 19067), (127, 19130),

Gene: Katniss\_23 Start: 17826, Stop: 18344, Start Num: 34

Candidate Starts for Katniss\_23:

(9, 17271), (10, 17325), (12, 17340), (13, 17349), (20, 17466), (22, 17508), (24, 17553), (32, 17772), (Start: 34 @17826 has 364 MA's), (44, 17859), (75, 18015), (76, 18021), (79, 18030), (89, 18096), (105, 18180), (125, 18282), (131, 18324),

Gene: KayaCho\_19 Start: 16963, Stop: 17511, Start Num: 33

Candidate Starts for KayaCho\_19:

(Start: 30 @16798 has 1 MA's), (32, 16912), (Start: 33 @16963 has 48 MA's), (41, 16996), (43, 17002), (62, 17086), (76, 17179), (79, 17188), (89, 17257), (92, 17266), (94, 17278), (96, 17293), (106, 17359), (110, 17389), (124, 17446), (131, 17491),

Gene: Keitherie\_23 Start: 17829, Stop: 18347, Start Num: 34

Candidate Starts for Keitherie\_23:

(9, 17274), (10, 17328), (12, 17343), (13, 17352), (20, 17469), (22, 17511), (24, 17556), (32, 17775), (Start: 34 @17829 has 364 MA's), (44, 17862), (75, 18018), (76, 18024), (79, 18033), (89, 18099), (105, 18183), (125, 18285), (131, 18327),

Gene: Khan1\_23 Start: 17522, Stop: 18040, Start Num: 34

Candidate Starts for Khan1\_23:

(4, 16916), (9, 16967), (10, 17021), (12, 17036), (13, 17045), (20, 17162), (22, 17204), (24, 17249), (32, 17468), (Start: 34 @17522 has 364 MA's), (44, 17555), (75, 17711), (76, 17717), (79, 17726), (89, 17792), (105, 17876), (125, 17978), (131, 18020),

Gene: Kheth\_25 Start: 19915, Stop: 20475, Start Num: 33

Candidate Starts for Kheth\_25:

(Start: 30 @19753 has 1 MA's), (Start: 33 @19915 has 48 MA's), (Start: 36 @19933 has 11 MA's), (37, 19936), (44, 19963), (48, 19975), (62, 20047), (70, 20104), (76, 20140), (81, 20191), (87, 20224), (114, 20371), (130, 20449),

Gene: Kikipoo\_23 Start: 17818, Stop: 18336, Start Num: 34

Candidate Starts for Kikipoo\_23:

(9, 17263), (10, 17317), (12, 17332), (13, 17341), (20, 17458), (22, 17500), (24, 17545), (32, 17764), (Start: 34 @17818 has 364 MA's), (44, 17851), (75, 18007), (76, 18013), (79, 18022), (89, 18088), (105, 18172), (125, 18274), (131, 18316),

Gene: Kimbrough\_23 Start: 17520, Stop: 18038, Start Num: 34

Candidate Starts for Kimbrough\_23:

(9, 16965), (10, 17019), (12, 17034), (13, 17043), (20, 17160), (22, 17202), (24, 17247), (32, 17466), (Start: 34 @17520 has 364 MA's), (44, 17553), (75, 17709), (76, 17715), (79, 17724), (89, 17790), (105, 17874), (125, 17976), (131, 18018),

Gene: KingVeVeVe\_23 Start: 17797, Stop: 18315, Start Num: 34

Candidate Starts for KingVeVeVe\_23:

(32, 17743), (Start: 34 @17797 has 364 MA's), (44, 17830), (75, 17986), (76, 17992), (79, 18001), (89, 18067), (105, 18151), (125, 18253), (131, 18295),

Gene: KingstonB\_52 Start: 28105, Stop: 28647, Start Num: 39

Candidate Starts for KingstonB\_52:

(1, 27376), (2, 27394), (8, 27523), (12, 27598), (14, 27613), (17, 27625), (24, 27811), (Start: 30 @27913 has 1 MA's), (32, 28027), (Start: 39 @28105 has 4 MA's), (47, 28135), (48, 28138), (63, 28225), (81, 28348), (102, 28444), (109, 28513), (119, 28555), (130, 28618),

Gene: KlimbOn\_23 Start: 17806, Stop: 18324, Start Num: 34

Candidate Starts for KlimbOn\_23:

(32, 17752), (Start: 34 @17806 has 364 MA's), (44, 17839), (75, 17995), (76, 18001), (79, 18010), (89, 18076), (105, 18160), (125, 18262), (131, 18304),

Gene: Kloppinator\_23 Start: 17826, Stop: 18344, Start Num: 34

Candidate Starts for Kloppinator\_23:

(9, 17271), (10, 17325), (12, 17340), (13, 17349), (20, 17466), (22, 17508), (24, 17553), (32, 17772), (Start: 34 @17826 has 364 MA's), (44, 17859), (75, 18015), (76, 18021), (79, 18030), (89, 18096), (105, 18180), (125, 18282), (131, 18324),

Gene: Knocker\_25 Start: 20941, Stop: 21450, Start Num: 34

Candidate Starts for Knocker\_25:

(32, 20887), (Start: 34 @20941 has 364 MA's), (37, 20953), (41, 20965), (47, 20983), (48, 20986), (52, 20989), (55, 21013), (74, 21112), (76, 21124), (78, 21130), (94, 21223), (98, 21241), (106, 21292), (111, 21328), (112, 21331), (124, 21385), (127, 21412),

Gene: Kolhan\_25 Start: 19912, Stop: 20472, Start Num: 33

Candidate Starts for Kolhan\_25:

(Start: 30 @19750 has 1 MA's), (Start: 33 @19912 has 48 MA's), (Start: 36 @19930 has 11 MA's), (37, 19933), (44, 19960), (48, 19972), (62, 20044), (70, 20101), (76, 20137), (81, 20188), (87, 20221), (114, 20368), (130, 20446),

Gene: Kronus\_23 Start: 19059, Stop: 19580, Start Num: 34

Candidate Starts for Kronus\_23:

(Start: 34 @19059 has 364 MA's), (43, 19089), (49, 19107), (53, 19119), (69, 19224), (89, 19347), (91, 19353), (93, 19362), (105, 19431), (117, 19488),

Gene: Kwadwo\_22 Start: 17510, Stop: 18028, Start Num: 34

Candidate Starts for Kwadwo\_22:

(9, 16955), (10, 17009), (12, 17024), (13, 17033), (20, 17150), (22, 17192), (24, 17237), (32, 17456), (Start: 34 @17510 has 364 MA's), (44, 17543), (75, 17699), (76, 17705), (79, 17714), (89, 17780), (105, 17864), (125, 17966), (131, 18008),

Gene: Kwksand96\_22 Start: 17372, Stop: 17890, Start Num: 34

Candidate Starts for Kwksand96\_22:

(4, 16766), (9, 16817), (10, 16871), (12, 16886), (13, 16895), (20, 17012), (22, 17054), (24, 17099), (32, 17318), (Start: 34 @17372 has 364 MA's), (44, 17405), (75, 17561), (76, 17567), (79, 17576), (89, 17642), (105, 17726), (125, 17828), (131, 17870),

Gene: Labeouficaum\_22 Start: 17368, Stop: 17886, Start Num: 34

Candidate Starts for Labeouficaum\_22:

(9, 16813), (10, 16867), (12, 16882), (13, 16891), (20, 17008), (22, 17050), (24, 17095), (32, 17314), (Start: 34 @17368 has 364 MA's), (44, 17401), (75, 17557), (76, 17563), (79, 17572), (89, 17638), (105, 17722), (125, 17824), (131, 17866),

Gene: Lambano\_20 Start: 17403, Stop: 17933, Start Num: 34

Candidate Starts for Lambano\_20:

(11, 16914), (18, 16947), (Start: 29 @17235 has 1 MA's), (Start: 34 @17403 has 364 MA's), (41, 17433), (58, 17502), (76, 17607), (80, 17637), (82, 17655), (90, 17688), (92, 17694), (94, 17706), (97, 17721), (106, 17775), (121, 17853),

Gene: Lars\_25 Start: 20032, Stop: 20592, Start Num: 33

Candidate Starts for Lars\_25:

(Start: 30 @19870 has 1 MA's), (Start: 33 @20032 has 48 MA's), (Start: 36 @20050 has 11 MA's), (37, 20053), (44, 20080), (48, 20092), (62, 20164), (70, 20221), (76, 20257), (81, 20308), (87, 20341), (114, 20488), (130, 20566),

Gene: LasagnaCat\_23 Start: 17812, Stop: 18330, Start Num: 34

Candidate Starts for LasagnaCat\_23:

(9, 17257), (10, 17311), (12, 17326), (13, 17335), (20, 17452), (22, 17494), (24, 17539), (32, 17758), (Start: 34 @17812 has 364 MA's), (44, 17845), (75, 18001), (76, 18007), (79, 18016), (89, 18082), (105, 18166), (125, 18268), (131, 18310),

Gene: Lasso\_23 Start: 17785, Stop: 18303, Start Num: 34

Candidate Starts for Lasso\_23:

(9, 17230), (10, 17284), (12, 17299), (13, 17308), (20, 17425), (22, 17467), (24, 17512), (32, 17731), (Start: 34 @17785 has 364 MA's), (44, 17818), (75, 17974), (76, 17980), (79, 17989), (89, 18055), (105, 18139), (125, 18241), (131, 18283),

Gene: Laurie\_25 Start: 19906, Stop: 20466, Start Num: 33

Candidate Starts for Laurie\_25:

(Start: 33 @19906 has 48 MA's), (Start: 36 @19924 has 11 MA's), (44, 19954), (48, 19966), (62, 20038), (70, 20095), (76, 20131), (81, 20182), (87, 20215), (114, 20362), (130, 20440),

Gene: LeeLot\_23 Start: 17810, Stop: 18328, Start Num: 34

Candidate Starts for LeeLot\_23:

(9, 17255), (10, 17309), (12, 17324), (13, 17333), (20, 17450), (22, 17492), (24, 17537), (32, 17756), (Start: 34 @17810 has 364 MA's), (44, 17843), (75, 17999), (76, 18005), (79, 18014), (89, 18080), (105, 18164), (125, 18266), (131, 18308),

Gene: Lego3393\_23 Start: 17822, Stop: 18340, Start Num: 34

Candidate Starts for Lego3393\_23:

(9, 17267), (10, 17321), (12, 17336), (13, 17345), (20, 17462), (22, 17504), (24, 17549), (32, 17768), (Start: 34 @17822 has 364 MA's), (44, 17855), (75, 18011), (76, 18017), (79, 18026), (89, 18092), (105, 18176), (125, 18278), (131, 18320),

Gene: Legolas\_22 Start: 17526, Stop: 18044, Start Num: 34

Candidate Starts for Legolas\_22:

(9, 16971), (10, 17025), (12, 17040), (13, 17049), (20, 17166), (22, 17208), (24, 17253), (32, 17472), (Start: 34 @17526 has 364 MA's), (44, 17559), (75, 17715), (76, 17721), (79, 17730), (89, 17796), (105, 17880), (125, 17982), (131, 18024),

Gene: LeiMonet\_23 Start: 17517, Stop: 18035, Start Num: 34

Candidate Starts for LeiMonet\_23:

(32, 17463), (Start: 34 @17517 has 364 MA's), (44, 17550), (75, 17706), (76, 17712), (79, 17721), (89, 17787), (105, 17871), (125, 17973), (131, 18015),

Gene: LemonSlice\_23 Start: 17517, Stop: 18035, Start Num: 34

Candidate Starts for LemonSlice\_23:

(9, 16962), (10, 17016), (12, 17031), (13, 17040), (20, 17157), (22, 17199), (24, 17244), (32, 17463), (Start: 34 @17517 has 364 MA's), (44, 17550), (75, 17706), (76, 17712), (79, 17721), (89, 17787), (105, 17871), (125, 17973), (131, 18015),

Gene: Lephleur\_25 Start: 19912, Stop: 20472, Start Num: 33

Candidate Starts for Lephleur\_25:

(Start: 30 @19750 has 1 MA's), (Start: 33 @19912 has 48 MA's), (Start: 36 @19930 has 11 MA's), (37, 19933), (44, 19960), (48, 19972), (62, 20044), (70, 20101), (76, 20137), (81, 20188), (87, 20221), (114, 20368), (130, 20446),

Gene: LestyG\_24 Start: 18480, Stop: 19001, Start Num: 34

Candidate Starts for LestyG\_24:

(Start: 34 @18480 has 364 MA's), (43, 18510), (69, 18645), (89, 18768), (91, 18774), (93, 18783), (105, 18852), (117, 18909),

Gene: Ligma\_20 Start: 16345, Stop: 16893, Start Num: 34

Candidate Starts for Ligma\_20:

(25, 16072), (27, 16159), (Start: 30 @16177 has 1 MA's), (32, 16291), (Start: 34 @16345 has 364 MA's), (37, 16363), (51, 16411), (89, 16636), (94, 16657), (96, 16672), (127, 16852), (129, 16861),

Gene: LilMcDreamy\_20 Start: 18494, Stop: 18985, Start Num: 34

Candidate Starts for LilMcDreamy\_20:

(32, 18440), (Start: 34 @18494 has 364 MA's), (48, 18530), (51, 18539), (62, 18581), (76, 18665), (89, 18743), (92, 18752), (94, 18764), (104, 18809), (133, 18974), (134, 18980),

Gene: LilSmirk\_25 Start: 19912, Stop: 20472, Start Num: 33

Candidate Starts for LilSmirk\_25:

(Start: 30 @19750 has 1 MA's), (Start: 33 @19912 has 48 MA's), (Start: 36 @19930 has 11 MA's), (37, 19933), (44, 19960), (48, 19972), (62, 20044), (70, 20101), (76, 20137), (81, 20188), (87, 20221), (114, 20368), (130, 20446),

Gene: LittleMunchkin\_22 Start: 19184, Stop: 19726, Start Num: 34

Candidate Starts for LittleMunchkin\_22:

(32, 19130), (Start: 34 @19184 has 364 MA's), (37, 19202), (Start: 40 @19217 has 1 MA's), (51, 19250), (94, 19496), (96, 19511), (127, 19688), (129, 19697),

Gene: LizLemon\_25 Start: 20029, Stop: 20589, Start Num: 33

Candidate Starts for LizLemon\_25:

(Start: 30 @19867 has 1 MA's), (Start: 33 @20029 has 48 MA's), (Start: 36 @20047 has 11 MA's), (37, 20050), (44, 20077), (48, 20089), (62, 20161), (70, 20218), (76, 20254), (81, 20305), (87, 20338), (114, 20485), (130, 20563),

Gene: Lolalove\_21 Start: 18432, Stop: 18962, Start Num: 34

Candidate Starts for Lolalove\_21:

(Start: 34 @18432 has 364 MA's), (41, 18462), (58, 18531), (76, 18636), (80, 18666), (82, 18684), (90, 18717), (92, 18723), (94, 18735), (106, 18804), (121, 18882),

Gene: Longacauda\_22 Start: 17512, Stop: 18030, Start Num: 34

Candidate Starts for Longacauda\_22:

(4, 16906), (9, 16957), (10, 17011), (12, 17026), (13, 17035), (20, 17152), (22, 17194), (24, 17239), (32, 17458), (Start: 34 @17512 has 364 MA's), (44, 17545), (75, 17701), (76, 17707), (79, 17716), (89, 17782), (105, 17866), (125, 17968), (131, 18010),

Gene: Lopsy\_22 Start: 17368, Stop: 17886, Start Num: 34

Candidate Starts for Lopsy\_22:

(32, 17314), (Start: 34 @17368 has 364 MA's), (44, 17401), (75, 17557), (76, 17563), (79, 17572), (89, 17638), (105, 17722), (125, 17824), (131, 17866),

Gene: LostAndPhound\_22 Start: 17519, Stop: 18037, Start Num: 34

Candidate Starts for LostAndPhound\_22:

(32, 17465), (Start: 34 @17519 has 364 MA's), (44, 17552), (75, 17708), (76, 17714), (79, 17723), (89, 17789), (105, 17873), (125, 17975), (131, 18017),

Gene: LuckyMarjie\_22 Start: 17532, Stop: 18050, Start Num: 34

Candidate Starts for LuckyMarjie\_22:

(9, 16977), (10, 17031), (12, 17046), (13, 17055), (20, 17172), (22, 17214), (24, 17259), (32, 17478), (Start: 34 @17532 has 364 MA's), (44, 17565), (75, 17721), (76, 17727), (79, 17736), (89, 17802), (105, 17886), (125, 17988), (131, 18030),

Gene: Lulumae\_22 Start: 17510, Stop: 18028, Start Num: 34

Candidate Starts for Lulumae\_22:

(9, 16955), (10, 17009), (12, 17024), (13, 17033), (20, 17150), (22, 17192), (24, 17237), (32, 17456), (Start: 34 @17510 has 364 MA's), (44, 17543), (75, 17699), (76, 17705), (79, 17714), (89, 17780), (105, 17864), (125, 17966), (131, 18008),

Gene: Lulwa\_23 Start: 17797, Stop: 18315, Start Num: 34

Candidate Starts for Lulwa\_23:

(9, 17242), (10, 17296), (12, 17311), (13, 17320), (20, 17437), (22, 17479), (24, 17524), (32, 17743), (Start: 34 @17797 has 364 MA's), (44, 17830), (75, 17986), (76, 17992), (79, 18001), (89, 18067), (105, 18151), (125, 18253), (131, 18295),

Gene: Lumine\_22 Start: 17506, Stop: 18024, Start Num: 34

Candidate Starts for Lumine\_22:

(9, 16951), (10, 17005), (12, 17020), (13, 17029), (20, 17146), (22, 17188), (24, 17233), (32, 17452), (Start: 34 @17506 has 364 MA's), (44, 17539), (75, 17695), (76, 17701), (79, 17710), (89, 17776), (105, 17860), (125, 17962), (131, 18004),

Gene: MRabcd\_22 Start: 17511, Stop: 18029, Start Num: 34

Candidate Starts for MRabcd\_22:

(9, 16956), (10, 17010), (12, 17025), (13, 17034), (20, 17151), (22, 17193), (24, 17238), (32, 17457), (Start: 34 @17511 has 364 MA's), (44, 17544), (75, 17700), (76, 17706), (79, 17715), (89, 17781), (105, 17865), (125, 17967), (131, 18009),

Gene: Mag7\_22 Start: 17366, Stop: 17884, Start Num: 34

Candidate Starts for Mag7\_22:

(4, 16760), (9, 16811), (10, 16865), (12, 16880), (13, 16889), (20, 17006), (22, 17048), (24, 17093), (32, 17312), (Start: 34 @17366 has 364 MA's), (44, 17399), (75, 17555), (76, 17561), (79, 17570), (89, 17636), (105, 17720), (125, 17822), (131, 17864),

Gene: Magic8\_23 Start: 17804, Stop: 18322, Start Num: 34

Candidate Starts for Magic8\_23:

(4, 17198), (9, 17249), (10, 17303), (12, 17318), (13, 17327), (20, 17444), (22, 17486), (24, 17531), (32, 17750), (Start: 34 @17804 has 364 MA's), (44, 17837), (75, 17993), (76, 17999), (79, 18008), (89, 18074), (105, 18158), (125, 18260), (131, 18302),

Gene: Magpie\_20 Start: 18255, Stop: 18785, Start Num: 34



Candidate Starts for Magpie\_20:

(Start: 29 @18087 has 1 MA's), (Start: 34 @18255 has 364 MA's), (41, 18285), (58, 18354), (76, 18459), (80, 18489), (82, 18507), (90, 18540), (92, 18546), (94, 18558), (97, 18573), (106, 18627), (121, 18705),

Gene: MakoManhole\_22 Start: 17734, Stop: 18273, Start Num: 33

Candidate Starts for MakoManhole\_22:

(32, 17683), (Start: 33 @17734 has 48 MA's), (51, 17800), (79, 17956), (86, 18016), (89, 18025), (94, 18046), (110, 18145), (114, 18166), (127, 18235), (129, 18244),

Gene: Mana\_22 Start: 17513, Stop: 18031, Start Num: 34

Candidate Starts for Mana\_22:

(32, 17459), (Start: 34 @17513 has 364 MA's), (44, 17546), (75, 17702), (76, 17708), (79, 17717), (89, 17783), (105, 17867), (125, 17969), (131, 18011),

Gene: Manad\_22 Start: 17363, Stop: 17881, Start Num: 34

Candidate Starts for Manad\_22:

(32, 17309), (Start: 34 @17363 has 364 MA's), (44, 17396), (75, 17552), (76, 17558), (79, 17567), (89, 17633), (105, 17717), (125, 17819), (131, 17861),

Gene: Mao1\_19 Start: 15827, Stop: 16372, Start Num: 36

Candidate Starts for Mao1\_19:

(26, 15641), (Start: 30 @15662 has 1 MA's), (32, 15773), (Start: 33 @15824 has 48 MA's), (Start: 36 @15827 has 11 MA's), (51, 15878), (56, 15908), (62, 15941), (65, 15968), (67, 15980), (72, 16010), (76, 16037), (86, 16121), (87, 16124), (94, 16151), (97, 16169), (131, 16352),

Gene: Mariokart\_20 Start: 16235, Stop: 16783, Start Num: 33

Candidate Starts for Mariokart\_20:

(27, 16052), (Start: 30 @16070 has 1 MA's), (32, 16184), (Start: 33 @16235 has 48 MA's), (51, 16301), (88, 16523), (94, 16547), (96, 16562), (110, 16646), (129, 16751),

Gene: Marley1013\_24 Start: 19258, Stop: 19779, Start Num: 34

Candidate Starts for Marley1013\_24:

(Start: 34 @19258 has 364 MA's), (43, 19288), (49, 19306), (53, 19318), (69, 19423), (89, 19546), (91, 19552), (93, 19561), (101, 19597), (105, 19630), (117, 19687),

Gene: Marlia\_24 Start: 18508, Stop: 18981, Start Num: 49

Candidate Starts for Marlia\_24:

(Start: 34 @18460 has 364 MA's), (43, 18490), (49, 18508), (53, 18520), (69, 18625), (89, 18748), (91, 18754), (93, 18763), (105, 18832), (117, 18889),

Gene: Maru\_22 Start: 17512, Stop: 18030, Start Num: 34

Candidate Starts for Maru\_22:

(32, 17458), (Start: 34 @17512 has 364 MA's), (44, 17545), (75, 17701), (76, 17707), (79, 17716), (89, 17782), (105, 17866), (125, 17968), (131, 18010),

Gene: Mask\_20 Start: 15828, Stop: 16373, Start Num: 36

Candidate Starts for Mask\_20:

(26, 15642), (Start: 30 @15663 has 1 MA's), (32, 15774), (Start: 33 @15825 has 48 MA's), (Start: 36 @15828 has 11 MA's), (51, 15879), (56, 15909), (62, 15942), (65, 15969), (67, 15981), (72, 16011), (76, 16038), (86, 16122), (87, 16125), (94, 16152), (97, 16170), (131, 16353),

Gene: Maskar\_22 Start: 17358, Stop: 17876, Start Num: 34

Candidate Starts for Maskar\_22:

(32, 17304), (Start: 34 @17358 has 364 MA's), (44, 17391), (75, 17547), (76, 17553), (79, 17562), (89, 17628), (105, 17712), (125, 17814), (131, 17856),

Gene: MasterPo\_25 Start: 19912, Stop: 20472, Start Num: 33

Candidate Starts for MasterPo\_25:

(Start: 30 @19750 has 1 MA's), (Start: 33 @19912 has 48 MA's), (Start: 36 @19930 has 11 MA's), (37, 19933), (44, 19960), (48, 19972), (62, 20044), (70, 20101), (76, 20137), (81, 20188), (87, 20221), (114, 20368), (130, 20446),

Gene: Matalotodo\_23 Start: 17805, Stop: 18323, Start Num: 34

Candidate Starts for Matalotodo\_23:

(9, 17250), (10, 17304), (12, 17319), (13, 17328), (20, 17445), (22, 17487), (24, 17532), (32, 17751), (Start: 34 @17805 has 364 MA's), (44, 17838), (75, 17994), (76, 18000), (79, 18009), (89, 18075), (105, 18159), (125, 18261), (131, 18303),

Gene: Mcshane\_22 Start: 17508, Stop: 18026, Start Num: 34

Candidate Starts for Mcshane\_22:

(9, 16953), (10, 17007), (12, 17022), (13, 17031), (20, 17148), (22, 17190), (24, 17235), (32, 17454), (Start: 34 @17508 has 364 MA's), (44, 17541), (75, 17697), (76, 17703), (79, 17712), (89, 17778), (105, 17862), (125, 17964), (131, 18006),

Gene: Mecca\_22 Start: 17505, Stop: 18023, Start Num: 34

Candidate Starts for Mecca\_22:

(32, 17451), (Start: 34 @17505 has 364 MA's), (44, 17538), (75, 17694), (76, 17700), (79, 17709), (89, 17775), (105, 17859), (125, 17961), (131, 18003),

Gene: Megabear\_17 Start: 17229, Stop: 17750, Start Num: 36

Candidate Starts for Megabear\_17:

(32, 17175), (Start: 36 @17229 has 11 MA's), (51, 17280), (56, 17310), (61, 17337), (62, 17343), (76, 17415), (82, 17469), (83, 17475), (85, 17490), (94, 17529), (97, 17547), (123, 17676), (124, 17685), (126, 17694), (131, 17730),

Gene: Megamind20\_23 Start: 17526, Stop: 18044, Start Num: 34

Candidate Starts for Megamind20\_23:

(32, 17472), (Start: 34 @17526 has 364 MA's), (44, 17559), (75, 17715), (76, 17721), (79, 17730), (89, 17796), (105, 17880), (125, 17982), (131, 18024),

Gene: Megatron\_23 Start: 17809, Stop: 18327, Start Num: 34

Candidate Starts for Megatron\_23:

(9, 17254), (10, 17308), (12, 17323), (13, 17332), (20, 17449), (22, 17491), (24, 17536), (32, 17755), (Start: 34 @17809 has 364 MA's), (44, 17842), (75, 17998), (76, 18004), (79, 18013), (89, 18079), (105, 18163), (125, 18265), (131, 18307),

Gene: Melc17\_23 Start: 17800, Stop: 18318, Start Num: 34

Candidate Starts for Melc17\_23:

(4, 17194), (9, 17245), (10, 17299), (12, 17314), (13, 17323), (20, 17440), (22, 17482), (24, 17527), (32, 17746), (Start: 34 @17800 has 364 MA's), (44, 17833), (75, 17989), (76, 17995), (79, 18004), (89, 18070), (105, 18154), (125, 18256), (131, 18298),

Gene: MelsMeow\_22 Start: 17366, Stop: 17884, Start Num: 34

Candidate Starts for MelsMeow\_22:

(4, 16760), (9, 16811), (10, 16865), (12, 16880), (13, 16889), (20, 17006), (22, 17048), (24, 17093), (32, 17312), (Start: 34 @17366 has 364 MA's), (44, 17399), (75, 17555), (76, 17561), (79, 17570), (89, 17636), (105, 17720), (125, 17822), (131, 17864),

Gene: Mesh1\_23 Start: 17817, Stop: 18335, Start Num: 34

Candidate Starts for Mesh1\_23:

(9, 17262), (10, 17316), (12, 17331), (13, 17340), (20, 17457), (22, 17499), (24, 17544), (32, 17763), (Start: 34 @17817 has 364 MA's), (44, 17850), (75, 18006), (76, 18012), (79, 18021), (89, 18087), (105, 18171), (125, 18273), (131, 18315),

Gene: Mesmerelda\_23 Start: 17511, Stop: 18029, Start Num: 34

Candidate Starts for Mesmerelda\_23:

(9, 16956), (10, 17010), (12, 17025), (13, 17034), (20, 17151), (22, 17193), (24, 17238), (32, 17457), (Start: 34 @17511 has 364 MA's), (44, 17544), (75, 17700), (76, 17706), (79, 17715), (89, 17781), (105, 17865), (125, 17967), (131, 18009),

Gene: MichaelPhcott\_22 Start: 17366, Stop: 17884, Start Num: 34

Candidate Starts for MichaelPhcott\_22:

(4, 16760), (9, 16811), (10, 16865), (12, 16880), (13, 16889), (20, 17006), (22, 17048), (24, 17093), (32, 17312), (Start: 34 @17366 has 364 MA's), (44, 17399), (75, 17555), (76, 17561), (79, 17570), (89, 17636), (105, 17720), (125, 17822), (131, 17864),

Gene: Mikota\_23 Start: 17793, Stop: 18311, Start Num: 34

Candidate Starts for Mikota\_23:

(32, 17739), (Start: 34 @17793 has 364 MA's), (44, 17826), (75, 17982), (76, 17988), (79, 17997), (89, 18063), (105, 18147), (125, 18249), (131, 18291),

Gene: MiniBoss\_23 Start: 17796, Stop: 18314, Start Num: 34

Candidate Starts for MiniBoss\_23:

(32, 17742), (Start: 34 @17796 has 364 MA's), (44, 17829), (75, 17985), (76, 17991), (79, 18000), (89, 18066), (105, 18150), (125, 18252), (131, 18294),

Gene: MitKao\_23 Start: 17514, Stop: 18032, Start Num: 34

Candidate Starts for MitKao\_23:

(9, 16959), (10, 17013), (12, 17028), (13, 17037), (20, 17154), (22, 17196), (24, 17241), (32, 17460), (Start: 34 @17514 has 364 MA's), (44, 17547), (75, 17703), (76, 17709), (79, 17718), (89, 17784), (105, 17868), (125, 17970), (131, 18012),

Gene: Mithril\_21 Start: 18436, Stop: 18966, Start Num: 34

Candidate Starts for Mithril\_21:

(Start: 29 @18268 has 1 MA's), (Start: 34 @18436 has 364 MA's), (41, 18466), (58, 18535), (76, 18640), (80, 18670), (82, 18688), (90, 18721), (92, 18727), (94, 18739), (97, 18754), (106, 18808), (121, 18886),

Gene: MmasiCarm\_24 Start: 18471, Stop: 18992, Start Num: 34

Candidate Starts for MmasiCarm\_24:

(Start: 34 @18471 has 364 MA's), (43, 18501), (49, 18519), (53, 18531), (69, 18636), (89, 18759), (91, 18765), (93, 18774), (105, 18843), (117, 18900),

Gene: Morgushi\_23 Start: 17519, Stop: 18037, Start Num: 34

Candidate Starts for Morgushi\_23:

(32, 17465), (Start: 34 @17519 has 364 MA's), (44, 17552), (75, 17708), (76, 17714), (79, 17723), (89, 17789), (105, 17873), (125, 17975), (131, 18017),

Gene: Mortcellus\_23 Start: 19114, Stop: 19635, Start Num: 34

Candidate Starts for Mortcellus\_23:

(Start: 34 @19114 has 364 MA's), (43, 19144), (49, 19162), (53, 19174), (69, 19279), (89, 19402), (91, 19408), (93, 19417), (105, 19486), (117, 19543),

Gene: Morty\_23 Start: 17818, Stop: 18336, Start Num: 34

Candidate Starts for Morty\_23:

(9, 17263), (10, 17317), (12, 17332), (13, 17341), (20, 17458), (22, 17500), (24, 17545), (32, 17764), (Start: 34 @17818 has 364 MA's), (44, 17851), (75, 18007), (76, 18013), (79, 18022), (89, 18088), (105, 18172), (125, 18274), (131, 18316),

Gene: Morty007\_24 Start: 19258, Stop: 19779, Start Num: 34

Candidate Starts for Morty007\_24:

(Start: 34 @19258 has 364 MA's), (43, 19288), (49, 19306), (53, 19318), (69, 19423), (89, 19546), (91, 19552), (93, 19561), (101, 19597), (105, 19630), (117, 19687),

Gene: Mosaic\_22 Start: 17520, Stop: 18038, Start Num: 34

Candidate Starts for Mosaic\_22:

(9, 16965), (10, 17019), (12, 17034), (13, 17043), (20, 17160), (22, 17202), (24, 17247), (32, 17466), (Start: 34 @17520 has 364 MA's), (44, 17553), (75, 17709), (76, 17715), (79, 17724), (89, 17790), (105, 17874), (125, 17976), (131, 18018),

Gene: MossRose\_22 Start: 17713, Stop: 18252, Start Num: 33

Candidate Starts for MossRose\_22:

(32, 17662), (Start: 33 @17713 has 48 MA's), (51, 17779), (79, 17935), (86, 17995), (89, 18004), (94, 18025), (110, 18124), (114, 18145), (127, 18214), (129, 18223),

Gene: MrPhizzler\_22 Start: 17519, Stop: 18037, Start Num: 34

Candidate Starts for MrPhizzler\_22:

(32, 17465), (Start: 34 @17519 has 364 MA's), (44, 17552), (75, 17708), (76, 17714), (79, 17723), (89, 17789), (105, 17873), (125, 17975), (131, 18017),

Gene: Mudslide\_21 Start: 18683, Stop: 19213, Start Num: 34

Candidate Starts for Mudslide\_21:

(Start: 29 @18515 has 1 MA's), (Start: 34 @18683 has 364 MA's), (41, 18713), (51, 18743), (58, 18782), (76, 18887), (80, 18917), (82, 18935), (90, 18968), (92, 18974), (94, 18986), (97, 19001), (106, 19055), (121, 19133),

Gene: Mulan\_22 Start: 17514, Stop: 18032, Start Num: 34

Candidate Starts for Mulan\_22:

(32, 17460), (Start: 34 @17514 has 364 MA's), (44, 17547), (75, 17703), (76, 17709), (79, 17718), (89, 17784), (105, 17868), (125, 17970), (131, 18012),

Gene: Murdoc\_23 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for Murdoc\_23:

(9, 17252), (10, 17306), (12, 17321), (13, 17330), (20, 17447), (22, 17489), (24, 17534), (32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: Mutante\_22 Start: 17517, Stop: 18035, Start Num: 34

Candidate Starts for Mutante\_22:

(9, 16962), (10, 17016), (12, 17031), (13, 17040), (20, 17157), (22, 17199), (24, 17244), (32, 17463), (Start: 34 @17517 has 364 MA's), (44, 17550), (75, 17706), (76, 17712), (79, 17721), (89, 17787), (105, 17871), (125, 17973), (131, 18015),

Gene: Mysterious\_24 Start: 18806, Stop: 19297, Start Num: 34

Candidate Starts for Mysterious\_24:

(32, 18752), (Start: 34 @18806 has 364 MA's), (48, 18842), (51, 18851), (55, 18860), (62, 18893), (73, 18962), (76, 18977), (89, 19055), (94, 19076), (95, 19088), (101, 19103), (113, 19193), (127, 19259), (133, 19286),

Gene: NHagos\_20 Start: 16255, Stop: 16794, Start Num: 33

Candidate Starts for NHagos\_20:

(32, 16204), (Start: 33 @16255 has 48 MA's), (44, 16300), (79, 16477), (89, 16546), (90, 16549), (92, 16555), (96, 16582), (97, 16585), (129, 16765),

Gene: Nacho\_0023 Start: 17806, Stop: 18324, Start Num: 34

Candidate Starts for Nacho\_0023:

(32, 17752), (Start: 34 @17806 has 364 MA's), (44, 17839), (75, 17995), (76, 18001), (79, 18010), (89, 18076), (105, 18160), (125, 18262), (131, 18304),

Gene: Nanao\_20 Start: 17402, Stop: 17932, Start Num: 34

Candidate Starts for Nanao\_20:

(11, 16913), (18, 16946), (Start: 29 @17234 has 1 MA's), (Start: 34 @17402 has 364 MA's), (41, 17432), (58, 17501), (76, 17606), (80, 17636), (82, 17654), (90, 17687), (92, 17693), (94, 17705), (97, 17720), (106, 17774), (121, 17852),

Gene: Nangang\_23 Start: 18505, Stop: 18996, Start Num: 34

Candidate Starts for Nangang\_23:

(32, 18451), (Start: 34 @18505 has 364 MA's), (48, 18541), (51, 18550), (62, 18592), (76, 18676), (89, 18754), (94, 18775), (95, 18787), (114, 18895), (127, 18958),

Gene: Nathan\_24 Start: 17819, Stop: 18337, Start Num: 34

Candidate Starts for Nathan\_24:

(9, 17264), (10, 17318), (13, 17342), (20, 17459), (22, 17501), (24, 17546), (32, 17765), (Start: 34 @17819 has 364 MA's), (44, 17852), (75, 18008), (76, 18014), (79, 18023), (89, 18089), (105, 18173), (125, 18275), (131, 18317),

Gene: Nehemiah\_22 Start: 18806, Stop: 19297, Start Num: 34

Candidate Starts for Nehemiah\_22:

(32, 18752), (Start: 34 @18806 has 364 MA's), (48, 18842), (51, 18851), (55, 18860), (62, 18893), (73, 18962), (76, 18977), (89, 19055), (94, 19076), (95, 19088), (101, 19103), (113, 19193), (127, 19259), (133, 19286),

Gene: Neos5\_24 Start: 19268, Stop: 19789, Start Num: 34

Candidate Starts for Neos5\_24:

(Start: 34 @19268 has 364 MA's), (43, 19298), (49, 19316), (53, 19328), (69, 19433), (89, 19556), (91, 19562), (93, 19571), (105, 19640), (117, 19697),

Gene: Newman\_23 Start: 17806, Stop: 18324, Start Num: 34

Candidate Starts for Newman\_23:

(32, 17752), (Start: 34 @17806 has 364 MA's), (44, 17839), (75, 17995), (76, 18001), (79, 18010), (89, 18076), (105, 18160), (125, 18262), (131, 18304),

Gene: Nicole21\_23 Start: 17798, Stop: 18316, Start Num: 34

Candidate Starts for Nicole21\_23:

(9, 17243), (10, 17297), (12, 17312), (13, 17321), (20, 17438), (22, 17480), (24, 17525), (32, 17744), (Start: 34 @17798 has 364 MA's), (44, 17831), (75, 17987), (76, 17993), (79, 18002), (89, 18068), (105, 18152), (125, 18254), (131, 18296),

Gene: Nigel\_19 Start: 17285, Stop: 17815, Start Num: 34

Candidate Starts for Nigel\_19:

(Start: 34 @17285 has 364 MA's), (41, 17315), (47, 17333), (58, 17384), (59, 17387), (76, 17489), (82, 17537), (89, 17567), (90, 17570), (92, 17576), (94, 17588), (97, 17603), (106, 17657), (108, 17675), (121, 17735),

Gene: Nozo\_24 Start: 19238, Stop: 19759, Start Num: 34

Candidate Starts for Nozo\_24:

(Start: 34 @19238 has 364 MA's), (43, 19268), (49, 19286), (53, 19298), (69, 19403), (89, 19526), (91, 19532), (93, 19541), (105, 19610), (117, 19667),

Gene: Numberten\_23 Start: 17811, Stop: 18329, Start Num: 34

Candidate Starts for Numberten\_23:

(9, 17256), (10, 17310), (12, 17325), (13, 17334), (20, 17451), (22, 17493), (24, 17538), (32, 17757), (Start: 34 @17811 has 364 MA's), (44, 17844), (75, 18000), (76, 18006), (79, 18015), (89, 18081), (105, 18165), (125, 18267), (131, 18309),

Gene: Nyala\_22 Start: 17509, Stop: 18027, Start Num: 34

Candidate Starts for Nyala\_22:

(32, 17455), (Start: 34 @17509 has 364 MA's), (44, 17542), (75, 17698), (76, 17704), (79, 17713), (89, 17779), (105, 17863), (125, 17965), (131, 18007),

Gene: OSmaximus\_23 Start: 17818, Stop: 18336, Start Num: 34

Candidate Starts for OSmaximus\_23:

(9, 17263), (10, 17317), (12, 17332), (13, 17341), (20, 17458), (22, 17500), (24, 17545), (32, 17764), (Start: 34 @17818 has 364 MA's), (44, 17851), (75, 18007), (76, 18013), (79, 18022), (89, 18088), (105, 18172), (125, 18274), (131, 18316),

Gene: Obutu\_24 Start: 18471, Stop: 18992, Start Num: 34

Candidate Starts for Obutu\_24:

(Start: 34 @18471 has 364 MA's), (43, 18501), (49, 18519), (53, 18531), (69, 18636), (89, 18759), (91, 18765), (93, 18774), (105, 18843), (117, 18900),

Gene: Olak\_22 Start: 17510, Stop: 18028, Start Num: 34

Candidate Starts for Olak\_22:

(9, 16955), (10, 17009), (12, 17024), (13, 17033), (20, 17150), (22, 17192), (24, 17237), (32, 17456), (Start: 34 @17510 has 364 MA's), (44, 17543), (75, 17699), (76, 17705), (79, 17714), (89, 17780), (105, 17864), (125, 17966), (131, 18008),

Gene: Oline\_22 Start: 17372, Stop: 17890, Start Num: 34

Candidate Starts for Oline\_22:

(32, 17318), (Start: 34 @17372 has 364 MA's), (44, 17405), (75, 17561), (76, 17567), (79, 17576), (89, 17642), (105, 17726), (125, 17828), (131, 17870),

Gene: Olive\_23 Start: 17799, Stop: 18317, Start Num: 34

Candidate Starts for Olive\_23:

(32, 17745), (Start: 34 @17799 has 364 MA's), (44, 17832), (75, 17988), (76, 17994), (79, 18003), (89, 18069), (105, 18153), (125, 18255), (131, 18297),

Gene: OliverWalter\_23 Start: 17815, Stop: 18333, Start Num: 34

Candidate Starts for OliverWalter\_23:

(32, 17761), (Start: 34 @17815 has 364 MA's), (44, 17848), (75, 18004), (76, 18010), (79, 18019), (89, 18085), (105, 18169), (125, 18271), (131, 18313),

Gene: Olivio\_23 Start: 18325, Stop: 18846, Start Num: 34

Candidate Starts for Olivio\_23:

(Start: 34 @18325 has 364 MA's), (43, 18355), (49, 18373), (53, 18385), (69, 18490), (89, 18613), (91, 18619), (93, 18628), (105, 18697), (117, 18754),

Gene: Omniscient\_23 Start: 17818, Stop: 18336, Start Num: 34

Candidate Starts for Omniscient\_23:

(9, 17263), (10, 17317), (12, 17332), (13, 17341), (20, 17458), (22, 17500), (24, 17545), (32, 17764), (Start: 34 @17818 has 364 MA's), (44, 17851), (75, 18007), (76, 18013), (79, 18022), (89, 18088), (105, 18172), (125, 18274), (131, 18316),

Gene: Oosterbaan\_23 Start: 17810, Stop: 18328, Start Num: 34

Candidate Starts for Oosterbaan\_23:

(9, 17255), (10, 17309), (12, 17324), (13, 17333), (20, 17450), (22, 17492), (24, 17537), (32, 17756), (Start: 34 @17810 has 364 MA's), (44, 17843), (75, 17999), (76, 18005), (79, 18014), (89, 18080), (105, 18164), (125, 18266), (131, 18308),

Gene: Opia\_25 Start: 19912, Stop: 20472, Start Num: 33

Candidate Starts for Opia\_25:

(Start: 30 @19750 has 1 MA's), (Start: 33 @19912 has 48 MA's), (Start: 36 @19930 has 11 MA's), (37, 19933), (44, 19960), (48, 19972), (62, 20044), (70, 20101), (76, 20137), (81, 20188), (87, 20221), (114, 20368), (130, 20446),

Gene: OrangeOswald\_24 Start: 18476, Stop: 18997, Start Num: 34

Candidate Starts for OrangeOswald\_24:

(Start: 34 @18476 has 364 MA's), (43, 18506), (49, 18524), (53, 18536), (69, 18641), (89, 18764), (91, 18770), (93, 18779), (105, 18848), (117, 18905),

Gene: Orfeu\_22 Start: 17509, Stop: 18027, Start Num: 34

Candidate Starts for Orfeu\_22:

(9, 16954), (10, 17008), (12, 17023), (13, 17032), (20, 17149), (22, 17191), (24, 17236), (32, 17455), (Start: 34 @17509 has 364 MA's), (44, 17542), (75, 17698), (76, 17704), (79, 17713), (89, 17779), (105, 17863), (125, 17965), (131, 18007),

Gene: Orion\_23 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for Orion\_23:

(32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: Orwigg\_22 Start: 17504, Stop: 18022, Start Num: 34

Candidate Starts for Orwigg\_22:

(9, 16949), (10, 17003), (12, 17018), (13, 17027), (20, 17144), (22, 17186), (24, 17231), (32, 17450), (Start: 34 @17504 has 364 MA's), (44, 17537), (75, 17693), (76, 17699), (79, 17708), (89, 17774), (105, 17858), (125, 17960), (131, 18002),

Gene: PG1\_23 Start: 17820, Stop: 18338, Start Num: 34

Candidate Starts for PG1\_23:

(32, 17766), (Start: 34 @17820 has 364 MA's), (44, 17853), (75, 18009), (76, 18015), (79, 18024), (89, 18090), (105, 18174), (125, 18276), (131, 18318),

Gene: PR\_17 Start: 17256, Stop: 17777, Start Num: 36

Candidate Starts for PR\_17:

(32, 17202), (Start: 36 @17256 has 11 MA's), (51, 17307), (56, 17337), (59, 17349), (61, 17364), (62, 17370), (76, 17442), (82, 17496), (83, 17502), (85, 17517), (94, 17556), (97, 17574), (123, 17703), (124, 17712), (126, 17721), (131, 17757),

Gene: Pacifista\_22 Start: 17511, Stop: 18029, Start Num: 34

Candidate Starts for Pacifista\_22:

(9, 16956), (10, 17010), (12, 17025), (13, 17034), (20, 17151), (22, 17193), (24, 17238), (32, 17457), (Start: 34 @17511 has 364 MA's), (44, 17544), (75, 17700), (76, 17706), (79, 17715), (89, 17781), (105, 17865), (125, 17967), (131, 18009),

Gene: PenguinLover67\_25 Start: 20039, Stop: 20563, Start Num: 34

Candidate Starts for PenguinLover67\_25:

(20, 19676), (Start: 30 @19871 has 1 MA's), (Start: 34 @20039 has 364 MA's), (42, 20069), (43, 20072), (62, 20153), (76, 20237), (79, 20246), (89, 20315), (94, 20336), (97, 20351), (111, 20441), (127, 20525),

Gene: Phaedrus\_22 Start: 18392, Stop: 18913, Start Num: 34

Candidate Starts for Phaedrus\_22:

(Start: 34 @18392 has 364 MA's), (43, 18422), (49, 18440), (53, 18452), (69, 18557), (89, 18680), (91, 18686), (93, 18695), (105, 18764), (117, 18821),

Gene: Phamished\_23 Start: 17815, Stop: 18333, Start Num: 34

Candidate Starts for Phamished\_23:

(9, 17260), (10, 17314), (12, 17329), (13, 17338), (20, 17455), (22, 17497), (24, 17542), (32, 17761), (Start: 34 @17815 has 364 MA's), (44, 17848), (75, 18004), (76, 18010), (79, 18019), (89, 18085), (105, 18169), (125, 18271), (131, 18313),

Gene: Phantasmagoria\_25 Start: 19908, Stop: 20468, Start Num: 33

Candidate Starts for Phantasmagoria\_25:

(Start: 30 @19746 has 1 MA's), (Start: 33 @19908 has 48 MA's), (Start: 36 @19926 has 11 MA's), (37, 19929), (44, 19956), (48, 19968), (62, 20040), (70, 20097), (76, 20133), (81, 20184), (87, 20217), (114, 20364), (130, 20442),

Gene: Phareon\_23 Start: 17515, Stop: 18033, Start Num: 34

Candidate Starts for Phareon\_23:

(32, 17461), (Start: 34 @17515 has 364 MA's), (44, 17548), (75, 17704), (76, 17710), (79, 17719), (89, 17785), (105, 17869), (125, 17971), (131, 18013),

Gene: PhatCats2014\_23 Start: 17825, Stop: 18343, Start Num: 34

Candidate Starts for PhatCats2014\_23:

(9, 17270), (10, 17324), (12, 17339), (13, 17348), (20, 17465), (22, 17507), (24, 17552), (32, 17771), (Start: 34 @17825 has 364 MA's), (44, 17858), (75, 18014), (76, 18020), (79, 18029), (89, 18095), (105, 18179), (125, 18281), (131, 18323),

Gene: PhatLouie\_23 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for PhatLouie\_23:



(4, 17201), (9, 17252), (10, 17306), (12, 17321), (13, 17330), (20, 17447), (22, 17489), (24, 17534), (32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: Phayeta\_24 Start: 18352, Stop: 18873, Start Num: 34

Candidate Starts for Phayeta\_24:

(Start: 34 @18352 has 364 MA's), (43, 18382), (49, 18400), (53, 18412), (69, 18517), (89, 18640), (91, 18646), (93, 18655), (105, 18724), (117, 18781),

Gene: Phelemich\_23 Start: 18802, Stop: 19293, Start Num: 34

Candidate Starts for Phelemich\_23:

(32, 18748), (Start: 34 @18802 has 364 MA's), (48, 18838), (51, 18847), (55, 18856), (62, 18889), (73, 18958), (76, 18973), (89, 19051), (94, 19072), (95, 19084), (101, 19099), (113, 19189), (127, 19255), (133, 19282),

Gene: PhenghisKhan\_22 Start: 17366, Stop: 17884, Start Num: 34

Candidate Starts for PhenghisKhan\_22:

(4, 16760), (9, 16811), (10, 16865), (12, 16880), (13, 16889), (20, 17006), (22, 17048), (24, 17093), (32, 17312), (Start: 34 @17366 has 364 MA's), (44, 17399), (75, 17555), (76, 17561), (79, 17570), (89, 17636), (105, 17720), (125, 17822), (131, 17864),

Gene: Pherdinand\_23 Start: 17815, Stop: 18333, Start Num: 34

Candidate Starts for Pherdinand\_23:

(9, 17260), (10, 17314), (12, 17329), (13, 17338), (20, 17455), (22, 17497), (24, 17542), (32, 17761), (Start: 34 @17815 has 364 MA's), (44, 17848), (75, 18004), (76, 18010), (79, 18019), (89, 18085), (105, 18169), (125, 18271), (131, 18313),

Gene: Phergie\_22 Start: 17360, Stop: 17878, Start Num: 34

Candidate Starts for Phergie\_22:

(4, 16754), (9, 16805), (10, 16859), (12, 16874), (13, 16883), (20, 17000), (22, 17042), (24, 17087), (32, 17306), (Start: 34 @17360 has 364 MA's), (44, 17393), (75, 17549), (76, 17555), (79, 17564), (89, 17630), (105, 17714), (125, 17816), (131, 17858),

Gene: Philly\_23 Start: 18342, Stop: 18863, Start Num: 34

Candidate Starts for Philly\_23:

(Start: 34 @18342 has 364 MA's), (43, 18372), (49, 18390), (53, 18402), (69, 18507), (89, 18630), (91, 18636), (93, 18645), (105, 18714), (117, 18771),

Gene: Phipps\_23 Start: 17785, Stop: 18303, Start Num: 34

Candidate Starts for Phipps\_23:

(9, 17230), (10, 17284), (12, 17299), (13, 17308), (20, 17425), (22, 17467), (24, 17512), (32, 17731), (Start: 34 @17785 has 364 MA's), (44, 17818), (75, 17974), (76, 17980), (79, 17989), (89, 18055), (105, 18139), (125, 18241), (131, 18283),

Gene: Phleuron\_22 Start: 17366, Stop: 17884, Start Num: 34

Candidate Starts for Phleuron\_22:

(4, 16760), (9, 16811), (10, 16865), (12, 16880), (13, 16889), (20, 17006), (22, 17048), (24, 17093), (32, 17312), (Start: 34 @17366 has 364 MA's), (44, 17399), (75, 17555), (76, 17561), (79, 17570), (89, 17636), (105, 17720), (125, 17822), (131, 17864),

Gene: Phlyer\_24 Start: 19211, Stop: 19732, Start Num: 34

Candidate Starts for Phlyer\_24:

(Start: 34 @19211 has 364 MA's), (43, 19241), (49, 19259), (53, 19271), (69, 19376), (89, 19499), (91, 19505), (93, 19514), (105, 19583), (117, 19640),

Gene: PhrankReynolds\_22 Start: 17366, Stop: 17884, Start Num: 34

Candidate Starts for PhrankReynolds\_22:

(4, 16760), (9, 16811), (10, 16865), (12, 16880), (13, 16889), (20, 17006), (22, 17048), (24, 17093), (32, 17312), (Start: 34 @17366 has 364 MA's), (44, 17399), (75, 17555), (76, 17561), (79, 17570), (89, 17636), (105, 17720), (125, 17822), (131, 17864),

Gene: PhrodoBaggins\_22 Start: 17803, Stop: 18321, Start Num: 34

Candidate Starts for PhrodoBaggins\_22:

(9, 17248), (10, 17302), (12, 17317), (13, 17326), (20, 17443), (22, 17485), (24, 17530), (32, 17749), (Start: 34 @17803 has 364 MA's), (44, 17836), (75, 17992), (76, 17998), (79, 18007), (89, 18073), (105, 18157), (125, 18259), (131, 18301),

Gene: Phunky\_23 Start: 17809, Stop: 18327, Start Num: 34

Candidate Starts for Phunky\_23:

(9, 17254), (10, 17308), (12, 17323), (13, 17332), (20, 17449), (22, 17491), (24, 17536), (32, 17755), (Start: 34 @17809 has 364 MA's), (44, 17842), (75, 17998), (76, 18004), (79, 18013), (89, 18079), (105, 18163), (125, 18265), (131, 18307),

Gene: Piglet\_0022 Start: 17809, Stop: 18327, Start Num: 34

Candidate Starts for Piglet\_0022:

(32, 17755), (Start: 34 @17809 has 364 MA's), (44, 17842), (75, 17998), (76, 18004), (79, 18013), (89, 18079), (105, 18163), (125, 18265), (131, 18307),

Gene: Pine5\_23 Start: 18642, Stop: 19172, Start Num: 38

Candidate Starts for Pine5\_23:

(38, 18642), (Start: 40 @18654 has 1 MA's), (62, 18747), (78, 18843), (91, 18924), (110, 19035), (114, 19056),

Gene: PinheadLarry\_23 Start: 17526, Stop: 18044, Start Num: 34

Candidate Starts for PinheadLarry\_23:

(32, 17472), (Start: 34 @17526 has 364 MA's), (44, 17559), (75, 17715), (76, 17721), (79, 17730), (89, 17796), (105, 17880), (125, 17982), (131, 18024),

Gene: Pinkman\_22 Start: 17366, Stop: 17884, Start Num: 34

Candidate Starts for Pinkman\_22:

(4, 16760), (9, 16811), (10, 16865), (12, 16880), (13, 16889), (20, 17006), (22, 17048), (24, 17093), (32, 17312), (Start: 34 @17366 has 364 MA's), (44, 17399), (75, 17555), (76, 17561), (79, 17570), (89, 17636), (105, 17720), (125, 17822), (131, 17864),

Gene: Pipefish\_24 Start: 19358, Stop: 19879, Start Num: 34

Candidate Starts for Pipefish\_24:

(Start: 34 @19358 has 364 MA's), (43, 19388), (49, 19406), (69, 19523), (89, 19646), (91, 19652), (93, 19661), (105, 19730), (117, 19787),

Gene: Pipsqueak\_23 Start: 17815, Stop: 18333, Start Num: 34

Candidate Starts for Pipsqueak\_23:

(32, 17761), (Start: 34 @17815 has 364 MA's), (44, 17848), (75, 18004), (76, 18010), (79, 18019), (89, 18085), (105, 18169), (125, 18271), (131, 18313),

Gene: Placalicious\_22 Start: 17508, Stop: 18026, Start Num: 34

Candidate Starts for Placalicious\_22:

(9, 16953), (10, 17007), (12, 17022), (13, 17031), (20, 17148), (22, 17190), (24, 17235), (32, 17454), (Start: 34 @17508 has 364 MA's), (44, 17541), (75, 17697), (76, 17703), (79, 17712), (89, 17778), (105, 17862), (125, 17964), (131, 18006),

Gene: Plata\_23 Start: 17522, Stop: 18040, Start Num: 34

Candidate Starts for Plata\_23:

(32, 17468), (Start: 34 @17522 has 364 MA's), (44, 17555), (75, 17711), (76, 17717), (79, 17726), (89, 17792), (105, 17876), (125, 17978), (131, 18020),

Gene: Plmatters\_23 Start: 17812, Stop: 18330, Start Num: 34

Candidate Starts for Plmatters\_23:

(9, 17257), (10, 17311), (12, 17326), (13, 17335), (20, 17452), (22, 17494), (24, 17539), (32, 17758), (Start: 34 @17812 has 364 MA's), (44, 17845), (75, 18001), (76, 18007), (79, 18016), (89, 18082), (105, 18166), (125, 18268), (131, 18310),

Gene: Podrick\_23 Start: 17804, Stop: 18322, Start Num: 34

Candidate Starts for Podrick\_23:

(9, 17249), (10, 17303), (12, 17318), (13, 17327), (20, 17444), (22, 17486), (24, 17531), (32, 17750), (Start: 34 @17804 has 364 MA's), (44, 17837), (75, 17993), (76, 17999), (79, 18008), (89, 18074), (105, 18158), (125, 18260), (131, 18302),

Gene: Pops\_23 Start: 17812, Stop: 18330, Start Num: 34

Candidate Starts for Pops\_23:

(9, 17257), (10, 17311), (12, 17326), (13, 17335), (20, 17452), (22, 17494), (24, 17539), (32, 17758), (Start: 34 @17812 has 364 MA's), (44, 17845), (75, 18001), (76, 18007), (79, 18016), (89, 18082), (105, 18166), (125, 18268), (131, 18310),

Gene: Poster\_20 Start: 17403, Stop: 17933, Start Num: 34

Candidate Starts for Poster\_20:

(11, 16914), (18, 16947), (Start: 29 @17235 has 1 MA's), (Start: 34 @17403 has 364 MA's), (41, 17433), (58, 17502), (76, 17607), (80, 17637), (82, 17655), (90, 17688), (92, 17694), (94, 17706), (97, 17721), (106, 17775), (121, 17853),

Gene: Potter\_22 Start: 17522, Stop: 18040, Start Num: 34

Candidate Starts for Potter\_22:

(32, 17468), (Start: 34 @17522 has 364 MA's), (44, 17555), (75, 17711), (76, 17717), (79, 17726), (89, 17792), (105, 17876), (125, 17978), (131, 18020),

Gene: Prickles\_23 Start: 17801, Stop: 18319, Start Num: 34

Candidate Starts for Prickles\_23:

(32, 17747), (Start: 34 @17801 has 364 MA's), (44, 17834), (75, 17990), (76, 17996), (79, 18005), (89, 18071), (105, 18155), (125, 18257), (131, 18299),

Gene: Prince\_21 Start: 18595, Stop: 19125, Start Num: 34

Candidate Starts for Prince\_21:

(Start: 29 @18427 has 1 MA's), (Start: 34 @18595 has 364 MA's), (41, 18625), (58, 18694), (76, 18799), (80, 18829), (82, 18847), (90, 18880), (92, 18886), (94, 18898), (97, 18913), (106, 18967), (110, 18997), (121, 19045),

Gene: PrinceCharming\_25 Start: 20028, Stop: 20588, Start Num: 33

Candidate Starts for PrinceCharming\_25:

(Start: 30 @19866 has 1 MA's), (Start: 33 @20028 has 48 MA's), (Start: 36 @20046 has 11 MA's), (37, 20049), (44, 20076), (48, 20088), (62, 20160), (70, 20217), (76, 20253), (81, 20304), (87, 20337), (114, 20484), (130, 20562),

Gene: ProfessorX\_23 Start: 17799, Stop: 18317, Start Num: 34

Candidate Starts for ProfessorX\_23:

(32, 17745), (Start: 34 @17799 has 364 MA's), (44, 17832), (75, 17988), (76, 17994), (79, 18003), (89, 18069), (105, 18153), (125, 18255), (131, 18297),

Gene: Puhltonio\_23 Start: 17815, Stop: 18333, Start Num: 34

Candidate Starts for Puhltonio\_23:

(9, 17260), (10, 17314), (12, 17329), (13, 17338), (20, 17455), (22, 17497), (24, 17542), (32, 17761), (Start: 34 @17815 has 364 MA's), (44, 17848), (75, 18004), (76, 18010), (79, 18019), (89, 18085), (105, 18169), (125, 18271), (131, 18313),

Gene: QueenBeane\_23 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for QueenBeane\_23:

(32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: QueenPie\_20 Start: 18601, Stop: 19131, Start Num: 34

Candidate Starts for QueenPie\_20:

(Start: 29 @18433 has 1 MA's), (Start: 34 @18601 has 364 MA's), (41, 18631), (47, 18649), (58, 18700), (76, 18805), (80, 18835), (82, 18853), (89, 18883), (90, 18886), (92, 18892), (94, 18904), (97, 18919), (106, 18973), (121, 19051),

Gene: Quesadilla\_24 Start: 19939, Stop: 20463, Start Num: 34

Candidate Starts for Quesadilla\_24:

(6, 19366), (18, 19480), (22, 19618), (Start: 30 @19771 has 1 MA's), (Start: 34 @19939 has 364 MA's), (62, 20053), (79, 20146), (89, 20215), (97, 20251), (107, 20311), (111, 20341), (121, 20383), (127, 20425),

Gene: Quisquilliae\_23 Start: 17822, Stop: 18340, Start Num: 34

Candidate Starts for Quisquilliae\_23:

(9, 17267), (10, 17321), (12, 17336), (13, 17345), (20, 17462), (22, 17504), (24, 17549), (32, 17768), (Start: 34 @17822 has 364 MA's), (44, 17855), (75, 18011), (76, 18017), (79, 18026), (89, 18092), (105, 18176), (125, 18278), (131, 18320),

Gene: Qyrzula\_23 Start: 19836, Stop: 20558, Start Num: 30

Candidate Starts for Qyrzula\_23:

(Start: 30 @19836 has 1 MA's), (Start: 33 @19998 has 48 MA's), (Start: 36 @20016 has 11 MA's), (37, 20019), (44, 20046), (48, 20058), (62, 20130), (70, 20187), (76, 20223), (81, 20274), (87, 20307), (114, 20454), (130, 20532),

Gene: RagingRooster\_24 Start: 18477, Stop: 18998, Start Num: 34

Candidate Starts for RagingRooster\_24:

(Start: 34 @18477 has 364 MA's), (43, 18507), (69, 18642), (89, 18765), (91, 18771), (93, 18780), (105, 18849), (117, 18906),

Gene: RawrgerThat\_21 Start: 18432, Stop: 18962, Start Num: 34

Candidate Starts for RawrgerThat\_21:

(Start: 29 @18264 has 1 MA's), (Start: 34 @18432 has 364 MA's), (41, 18462), (58, 18531), (76, 18636), (80, 18666), (82, 18684), (90, 18717), (92, 18723), (94, 18735), (97, 18750), (106, 18804),

(110, 18834), (121, 18882),

Gene: RedMaple\_22 Start: 17818, Stop: 18336, Start Num: 34

Candidate Starts for RedMaple\_22:

(32, 17764), (Start: 34 @17818 has 364 MA's), (44, 17851), (75, 18007), (76, 18013), (79, 18022), (89, 18088), (105, 18172), (125, 18274), (131, 18316),

Gene: Reprobate\_23 Start: 18807, Stop: 19298, Start Num: 34

Candidate Starts for Reprobate\_23:

(32, 18753), (Start: 34 @18807 has 364 MA's), (48, 18843), (51, 18852), (55, 18861), (62, 18894), (73, 18963), (76, 18978), (89, 19056), (94, 19077), (95, 19089), (101, 19104), (113, 19194), (127, 19260), (133, 19287),

Gene: Rhinoforte\_25 Start: 20029, Stop: 20589, Start Num: 33

Candidate Starts for Rhinoforte\_25:

(Start: 30 @19867 has 1 MA's), (Start: 33 @20029 has 48 MA's), (Start: 36 @20047 has 11 MA's), (44, 20077), (48, 20089), (62, 20161), (70, 20218), (76, 20254), (81, 20305), (87, 20338), (114, 20485), (130, 20563),

Gene: Rich\_22 Start: 18309, Stop: 18800, Start Num: 34

Candidate Starts for Rich\_22:

(14, 17835), (16, 17841), (19, 17853), (21, 17949), (23, 17991), (32, 18255), (Start: 34 @18309 has 364 MA's), (48, 18345), (51, 18354), (62, 18396), (76, 18480), (89, 18558), (94, 18579), (95, 18591), (99, 18597), (113, 18696), (127, 18762),

Gene: Ricotta\_22 Start: 17530, Stop: 18048, Start Num: 34

Candidate Starts for Ricotta\_22:

(9, 16975), (10, 17029), (12, 17044), (13, 17053), (20, 17170), (22, 17212), (24, 17257), (32, 17476), (Start: 34 @17530 has 364 MA's), (44, 17563), (75, 17719), (76, 17725), (79, 17734), (89, 17800), (105, 17884), (125, 17986), (131, 18028),

Gene: Riggan\_23 Start: 17790, Stop: 18308, Start Num: 34

Candidate Starts for Riggan\_23:

(9, 17235), (10, 17289), (12, 17304), (13, 17313), (20, 17430), (22, 17472), (24, 17517), (32, 17736), (Start: 34 @17790 has 364 MA's), (44, 17823), (75, 17979), (76, 17985), (79, 17994), (89, 18060), (105, 18144), (125, 18246), (131, 18288),

Gene: Rimu\_23 Start: 17519, Stop: 18037, Start Num: 34

Candidate Starts for Rimu\_23:

(4, 16913), (9, 16964), (10, 17018), (12, 17033), (13, 17042), (20, 17159), (22, 17201), (24, 17246), (32, 17465), (Start: 34 @17519 has 364 MA's), (44, 17552), (75, 17708), (76, 17714), (79, 17723), (89, 17789), (105, 17873), (125, 17975), (131, 18017),

Gene: Rinkes\_26 Start: 20820, Stop: 21332, Start Num: 34

Candidate Starts for Rinkes\_26:

(Start: 34 @20820 has 364 MA's), (47, 20862), (48, 20865), (60, 20916), (76, 21003), (92, 21090), (94, 21102), (98, 21120), (106, 21171), (111, 21207), (112, 21210), (125, 21267), (127, 21291),

Gene: Rita130\_23 Start: 18555, Stop: 19046, Start Num: 34

Candidate Starts for Rita130\_23:

(32, 18501), (Start: 34 @18555 has 364 MA's), (48, 18591), (51, 18600), (62, 18642), (76, 18726), (89, 18804), (94, 18825), (95, 18837), (99, 18843), (127, 19008),

Gene: Rita1961\_24 Start: 18472, Stop: 18993, Start Num: 34

Candidate Starts for Rita1961\_24:

(Start: 34 @18472 has 364 MA's), (43, 18502), (49, 18520), (53, 18532), (69, 18637), (89, 18760), (91, 18766), (93, 18775), (105, 18844), (117, 18901),

Gene: Riverton\_22 Start: 17814, Stop: 18332, Start Num: 34

Candidate Starts for Riverton\_22:

(32, 17760), (Start: 34 @17814 has 364 MA's), (44, 17847), (75, 18003), (76, 18009), (79, 18018), (89, 18084), (105, 18168), (125, 18270), (131, 18312),

Gene: Robyn\_22 Start: 17381, Stop: 17899, Start Num: 34

Candidate Starts for Robyn\_22:

(32, 17327), (Start: 34 @17381 has 364 MA's), (44, 17414), (75, 17570), (76, 17576), (79, 17585), (89, 17651), (105, 17735), (125, 17837), (131, 17879),

Gene: Roliet\_23 Start: 17806, Stop: 18324, Start Num: 34

Candidate Starts for Roliet\_23:

(32, 17752), (Start: 34 @17806 has 364 MA's), (44, 17839), (75, 17995), (76, 18001), (79, 18010), (89, 18076), (105, 18160), (125, 18262), (131, 18304),

Gene: RomaT\_24 Start: 19256, Stop: 19780, Start Num: 34

Candidate Starts for RomaT\_24:

(Start: 34 @19256 has 364 MA's), (43, 19289), (49, 19307), (69, 19424), (89, 19547), (91, 19553), (93, 19562), (105, 19631), (117, 19688),

Gene: Roscoe\_24 Start: 18048, Stop: 18566, Start Num: 34

Candidate Starts for Roscoe\_24:

(32, 17994), (Start: 34 @18048 has 364 MA's), (44, 18081), (75, 18237), (76, 18243), (79, 18252), (89, 18318), (105, 18402), (125, 18504), (131, 18546),

Gene: Rosebush\_25 Start: 20029, Stop: 20589, Start Num: 33

Candidate Starts for Rosebush\_25:

(Start: 30 @19867 has 1 MA's), (Start: 33 @20029 has 48 MA's), (Start: 36 @20047 has 11 MA's), (37, 20050), (44, 20077), (48, 20089), (62, 20161), (70, 20218), (76, 20254), (81, 20305), (87, 20338), (114, 20485), (130, 20563),

Gene: Roy17\_23 Start: 17510, Stop: 18028, Start Num: 34

Candidate Starts for Roy17\_23:

(9, 16955), (10, 17009), (12, 17024), (13, 17033), (20, 17150), (22, 17192), (24, 17237), (32, 17456), (Start: 34 @17510 has 364 MA's), (44, 17543), (75, 17699), (76, 17705), (79, 17714), (89, 17780), (105, 17864), (125, 17966), (131, 18008),

Gene: SDcharge11\_23 Start: 17788, Stop: 18306, Start Num: 34

Candidate Starts for SDcharge11\_23:

(32, 17734), (Start: 34 @17788 has 364 MA's), (44, 17821), (75, 17977), (76, 17983), (79, 17992), (89, 18058), (105, 18142), (125, 18244), (131, 18286),

Gene: Sabella\_25 Start: 19915, Stop: 20475, Start Num: 33

Candidate Starts for Sabella\_25:

(Start: 30 @19753 has 1 MA's), (Start: 33 @19915 has 48 MA's), (Start: 36 @19933 has 11 MA's), (37, 19936), (44, 19963), (48, 19975), (62, 20047), (70, 20104), (76, 20140), (81, 20191), (87, 20224), (114, 20371), (130, 20449),

Gene: Saguaro\_24 Start: 19845, Stop: 20369, Start Num: 34

Candidate Starts for Saguaro\_24:

(32, 19791), (Start: 34 @19845 has 364 MA's), (48, 19896), (75, 20043), (76, 20049), (79, 20058), (84, 20106), (89, 20127), (92, 20136), (94, 20148), (97, 20163), (98, 20166), (107, 20223), (110, 20247), (111, 20253), (114, 20268),

Gene: Samaymay\_23 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for Samaymay\_23:

(32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: SassyCat97\_22 Start: 17516, Stop: 18034, Start Num: 34

Candidate Starts for SassyCat97\_22:

(9, 16961), (10, 17015), (12, 17030), (13, 17039), (20, 17156), (22, 17198), (24, 17243), (32, 17462), (Start: 34 @17516 has 364 MA's), (44, 17549), (75, 17705), (76, 17711), (79, 17720), (89, 17786), (105, 17870), (125, 17972), (131, 18014),

Gene: Schadenfreude\_22 Start: 17364, Stop: 17882, Start Num: 34

Candidate Starts for Schadenfreude\_22:

(9, 16809), (10, 16863), (12, 16878), (13, 16887), (20, 17004), (22, 17046), (24, 17091), (32, 17310), (Start: 34 @17364 has 364 MA's), (44, 17397), (75, 17553), (76, 17559), (79, 17568), (89, 17634), (105, 17718), (125, 17820), (131, 17862),

Gene: Schueller\_22 Start: 17507, Stop: 18025, Start Num: 34

Candidate Starts for Schueller\_22:

(4, 16901), (9, 16952), (10, 17006), (12, 17021), (13, 17030), (20, 17147), (22, 17189), (24, 17234), (32, 17453), (Start: 34 @17507 has 364 MA's), (44, 17540), (75, 17696), (76, 17702), (79, 17711), (89, 17777), (105, 17861), (125, 17963), (131, 18005),

Gene: Scoot17C\_23 Start: 17809, Stop: 18327, Start Num: 34

Candidate Starts for Scoot17C\_23:

(32, 17755), (Start: 34 @17809 has 364 MA's), (44, 17842), (75, 17998), (76, 18004), (79, 18013), (89, 18079), (105, 18163), (125, 18265), (131, 18307),

Gene: Scrick\_23 Start: 17534, Stop: 18052, Start Num: 34

Candidate Starts for Scrick\_23:

(9, 16979), (10, 17033), (12, 17048), (13, 17057), (20, 17174), (22, 17216), (24, 17261), (32, 17480), (Start: 34 @17534 has 364 MA's), (44, 17567), (75, 17723), (76, 17729), (79, 17738), (89, 17804), (105, 17888), (125, 17990), (131, 18032),

Gene: Sejanus\_20 Start: 16761, Stop: 17306, Start Num: 36

Candidate Starts for Sejanus\_20:

(26, 16575), (Start: 30 @16596 has 1 MA's), (32, 16707), (Start: 33 @16758 has 48 MA's), (Start: 36 @16761 has 11 MA's), (51, 16812), (56, 16842), (62, 16875), (65, 16902), (67, 16914), (72, 16944), (76, 16971), (86, 17055), (87, 17058), (94, 17085), (97, 17103), (131, 17286),

Gene: Selr12\_23 Start: 17531, Stop: 18049, Start Num: 34

Candidate Starts for Selr12\_23:

(9, 16976), (10, 17030), (12, 17045), (13, 17054), (20, 17171), (22, 17213), (24, 17258), (32, 17477), (Start: 34 @17531 has 364 MA's), (44, 17564), (75, 17720), (76, 17726), (79, 17735), (89, 17801), (105, 17885), (125, 17987), (131, 18029),

Gene: Serendipitous\_22 Start: 18365, Stop: 18856, Start Num: 34

Candidate Starts for Serendipitous\_22:

(32, 18311), (Start: 34 @18365 has 364 MA's), (48, 18401), (51, 18410), (62, 18452), (76, 18536), (95, 18647), (101, 18662), (113, 18752), (127, 18818),

Gene: Serendipity\_23 Start: 17829, Stop: 18347, Start Num: 34

Candidate Starts for Serendipity\_23:

(32, 17775), (Start: 34 @17829 has 364 MA's), (44, 17862), (75, 18018), (76, 18024), (79, 18033), (89, 18099), (105, 18183), (125, 18285), (131, 18327),

Gene: Serpentine\_0023 Start: 17809, Stop: 18327, Start Num: 34

Candidate Starts for Serpentine\_0023:

(32, 17755), (Start: 34 @17809 has 364 MA's), (44, 17842), (75, 17998), (76, 18004), (79, 18013), (89, 18079), (105, 18163), (125, 18265), (131, 18307),

Gene: Shatter\_20 Start: 16345, Stop: 16893, Start Num: 34

Candidate Starts for Shatter\_20:

(25, 16072), (27, 16159), (Start: 30 @16177 has 1 MA's), (32, 16291), (Start: 34 @16345 has 364 MA's), (37, 16363), (51, 16411), (89, 16636), (94, 16657), (96, 16672), (127, 16852), (129, 16861),

Gene: Sheila\_23 Start: 17801, Stop: 18319, Start Num: 34

Candidate Starts for Sheila\_23:

(32, 17747), (Start: 34 @17801 has 364 MA's), (44, 17834), (75, 17990), (76, 17996), (79, 18005), (89, 18071), (105, 18155), (125, 18257), (131, 18299),

Gene: Shenandoah\_24 Start: 18455, Stop: 18976, Start Num: 34

Candidate Starts for Shenandoah\_24:

(Start: 34 @18455 has 364 MA's), (43, 18485), (49, 18503), (53, 18515), (69, 18620), (89, 18743), (91, 18749), (93, 18758), (105, 18827), (117, 18884),

Gene: Shenyu\_23 Start: 18505, Stop: 18996, Start Num: 34

Candidate Starts for Shenyu\_23:

(32, 18451), (Start: 34 @18505 has 364 MA's), (48, 18541), (51, 18550), (62, 18592), (76, 18676), (89, 18754), (94, 18775), (95, 18787), (114, 18895), (127, 18958),

Gene: ShiVal\_23 Start: 17801, Stop: 18319, Start Num: 34

Candidate Starts for ShiVal\_23:

(9, 17246), (10, 17300), (12, 17315), (13, 17324), (20, 17441), (22, 17483), (24, 17528), (32, 17747), (Start: 34 @17801 has 364 MA's), (44, 17834), (75, 17990), (76, 17996), (79, 18005), (89, 18071), (105, 18155), (125, 18257), (131, 18299),

Gene: Sigman\_23 Start: 17800, Stop: 18318, Start Num: 34

Candidate Starts for Sigman\_23:

(9, 17245), (10, 17299), (12, 17314), (13, 17323), (20, 17440), (22, 17482), (24, 17527), (32, 17746), (Start: 34 @17800 has 364 MA's), (44, 17833), (75, 17989), (76, 17995), (79, 18004), (89, 18070), (105, 18154), (125, 18256), (131, 18298),

Gene: SilverBell\_23 Start: 17824, Stop: 18342, Start Num: 34

Candidate Starts for SilverBell\_23:

(9, 17269), (10, 17323), (12, 17338), (13, 17347), (20, 17464), (22, 17506), (24, 17551), (32, 17770), (Start: 34 @17824 has 364 MA's), (44, 17857), (75, 18013), (76, 18019), (79, 18028), (89, 18094), (105, 18178), (125, 18280), (131, 18322),

Gene: Simielle\_22 Start: 17499, Stop: 18017, Start Num: 34



Candidate Starts for Simielle\_22:

(32, 17445), (Start: 34 @17499 has 364 MA's), (44, 17532), (75, 17688), (76, 17694), (79, 17703), (89, 17769), (105, 17853), (125, 17955), (131, 17997),

Gene: SirBeauregard\_22 Start: 17476, Stop: 17994, Start Num: 34

Candidate Starts for SirBeauregard\_22:

(9, 16921), (10, 16975), (12, 16990), (13, 16999), (20, 17116), (22, 17158), (24, 17203), (32, 17422), (Start: 34 @17476 has 364 MA's), (44, 17509), (75, 17665), (76, 17671), (79, 17680), (89, 17746), (105, 17830), (125, 17932), (131, 17974),

Gene: SirJeffery\_23 Start: 18547, Stop: 19038, Start Num: 34

Candidate Starts for SirJeffery\_23:

(32, 18493), (Start: 34 @18547 has 364 MA's), (48, 18583), (51, 18592), (62, 18634), (76, 18718), (89, 18796), (94, 18817), (95, 18829), (99, 18835), (113, 18934), (127, 19000),

Gene: Sisko\_20 Start: 16623, Stop: 17171, Start Num: 34

Candidate Starts for Sisko\_20:

(27, 16437), (Start: 30 @16455 has 1 MA's), (32, 16569), (Start: 33 @16620 has 48 MA's), (Start: 34 @16623 has 364 MA's), (51, 16689), (90, 16917), (94, 16935), (96, 16950), (125, 17106), (127, 17130), (129, 17139),

Gene: Skippy\_23 Start: 17794, Stop: 18312, Start Num: 34

Candidate Starts for Skippy\_23:

(9, 17239), (10, 17293), (12, 17308), (13, 17317), (20, 17434), (22, 17476), (24, 17521), (32, 17740), (Start: 34 @17794 has 364 MA's), (44, 17827), (75, 17983), (76, 17989), (79, 17998), (89, 18064), (105, 18148), (125, 18250), (131, 18292),

Gene: Slatt\_23 Start: 17823, Stop: 18341, Start Num: 34

Candidate Starts for Slatt\_23:

(9, 17268), (10, 17322), (12, 17337), (13, 17346), (20, 17463), (22, 17505), (24, 17550), (32, 17769), (Start: 34 @17823 has 364 MA's), (44, 17856), (75, 18012), (76, 18018), (79, 18027), (89, 18093), (105, 18177), (125, 18279), (131, 18321),

Gene: SlippinJimmy\_24 Start: 19241, Stop: 19762, Start Num: 34

Candidate Starts for SlippinJimmy\_24:

(Start: 34 @19241 has 364 MA's), (43, 19271), (49, 19289), (53, 19301), (69, 19406), (89, 19529), (91, 19535), (93, 19544), (105, 19613), (117, 19670),

Gene: Soile\_23 Start: 17521, Stop: 18039, Start Num: 34

Candidate Starts for Soile\_23:

(9, 16966), (10, 17020), (12, 17035), (13, 17044), (20, 17161), (22, 17203), (24, 17248), (32, 17467), (Start: 34 @17521 has 364 MA's), (44, 17554), (75, 17710), (76, 17716), (79, 17725), (89, 17791), (105, 17875), (125, 17977), (131, 18019),

Gene: Solosis\_22 Start: 17526, Stop: 18044, Start Num: 34

Candidate Starts for Solosis\_22:

(32, 17472), (Start: 34 @17526 has 364 MA's), (44, 17559), (75, 17715), (76, 17721), (79, 17730), (89, 17796), (105, 17880), (125, 17982), (131, 18024),

Gene: Soos\_47 Start: 27834, Stop: 28376, Start Num: 39

Candidate Starts for Soos\_47:

(1, 27105), (2, 27123), (8, 27252), (12, 27327), (14, 27342), (17, 27354), (24, 27540), (Start: 30 @27642 has 1 MA's), (32, 27756), (Start: 39 @27834 has 4 MA's), (47, 27864), (48, 27867), (63,

27954), (76, 28026), (81, 28077), (102, 28173), (109, 28242), (119, 28284), (130, 28347),

Gene: Sophia\_22 Start: 17519, Stop: 18037, Start Num: 34

Candidate Starts for Sophia\_22:

(9, 16964), (10, 17018), (12, 17033), (13, 17042), (20, 17159), (22, 17201), (24, 17246), (32, 17465), (Start: 34 @17519 has 364 MA's), (44, 17552), (75, 17708), (76, 17714), (79, 17723), (89, 17789), (105, 17873), (125, 17975), (131, 18017),

Gene: Soto\_23 Start: 17803, Stop: 18321, Start Num: 34

Candidate Starts for Soto\_23:

(32, 17749), (Start: 34 @17803 has 364 MA's), (44, 17836), (75, 17992), (76, 17998), (79, 18007), (89, 18073), (105, 18157), (125, 18259), (131, 18301),

Gene: Sour\_24 Start: 20334, Stop: 20882, Start Num: 33

Candidate Starts for Sour\_24:

(32, 20283), (Start: 33 @20334 has 48 MA's), (43, 20376), (48, 20391), (51, 20400), (62, 20460), (76, 20547), (79, 20556), (89, 20625), (94, 20646), (96, 20661), (127, 20841), (129, 20850),

Gene: Spartan300\_23 Start: 17804, Stop: 18322, Start Num: 34

Candidate Starts for Spartan300\_23:

(32, 17750), (Start: 34 @17804 has 364 MA's), (44, 17837), (75, 17993), (76, 17999), (79, 18008), (89, 18074), (105, 18158), (125, 18260), (131, 18302),

Gene: Squid\_23 Start: 17516, Stop: 18034, Start Num: 34

Candidate Starts for Squid\_23:

(9, 16961), (10, 17015), (12, 17030), (13, 17039), (20, 17156), (22, 17198), (24, 17243), (32, 17462), (Start: 34 @17516 has 364 MA's), (44, 17549), (75, 17705), (76, 17711), (79, 17720), (89, 17786), (105, 17870), (125, 17972), (131, 18014),

Gene: Squiggle\_23 Start: 17513, Stop: 18031, Start Num: 34

Candidate Starts for Squiggle\_23:

(9, 16958), (10, 17012), (12, 17027), (13, 17036), (20, 17153), (22, 17195), (24, 17240), (32, 17459), (Start: 34 @17513 has 364 MA's), (44, 17546), (75, 17702), (76, 17708), (79, 17717), (89, 17783), (105, 17867), (125, 17969), (131, 18011),

Gene: StAugustine\_27 Start: 20865, Stop: 21398, Start Num: 33

Candidate Starts for StAugustine\_27:

(Start: 33 @20865 has 48 MA's), (51, 20922), (57, 20955), (76, 21075), (105, 21246), (116, 21303), (120, 21318), (125, 21336),

Gene: Sting\_50 Start: 28273, Stop: 28815, Start Num: 39

Candidate Starts for Sting\_50:

(1, 27544), (2, 27562), (8, 27691), (12, 27766), (14, 27781), (17, 27793), (24, 27979), (Start: 30 @28081 has 1 MA's), (32, 28195), (Start: 39 @28273 has 4 MA's), (47, 28303), (48, 28306), (63, 28393), (81, 28516), (102, 28612), (109, 28681), (119, 28723), (130, 28786),

Gene: Stinger\_19 Start: 16960, Stop: 17490, Start Num: 34

Candidate Starts for Stinger\_19:

(3, 16342), (5, 16363), (7, 16393), (11, 16471), (15, 16492), (Start: 29 @16792 has 1 MA's), (Start: 34 @16960 has 364 MA's), (41, 16990), (58, 17059), (71, 17131), (82, 17212), (89, 17242), (92, 17251), (94, 17263), (97, 17278), (106, 17332), (108, 17350), (110, 17362), (121, 17410),

Gene: StinkyVeggy\_25 Start: 18677, Stop: 19168, Start Num: 34

Candidate Starts for StinkyVeggy\_25:

(32, 18623), (Start: 34 @18677 has 364 MA's), (47, 18710), (48, 18713), (51, 18722), (76, 18848), (89, 18926), (94, 18947), (95, 18959), (114, 19067), (127, 19130),

Gene: Struggle\_22 Start: 17360, Stop: 17878, Start Num: 34

Candidate Starts for Struggle\_22:

(32, 17306), (Start: 34 @17360 has 364 MA's), (44, 17393), (75, 17549), (76, 17555), (79, 17564), (89, 17630), (105, 17714), (125, 17816), (131, 17858),

Gene: Suffolk\_23 Start: 17806, Stop: 18324, Start Num: 34

Candidate Starts for Suffolk\_23:

(32, 17752), (Start: 34 @17806 has 364 MA's), (44, 17839), (75, 17995), (76, 18001), (79, 18010), (89, 18076), (105, 18160), (125, 18262), (131, 18304),

Gene: Suigeneris\_23 Start: 18559, Stop: 19050, Start Num: 34

Candidate Starts for Suigeneris\_23:

(32, 18505), (Start: 34 @18559 has 364 MA's), (48, 18595), (51, 18604), (62, 18646), (76, 18730), (89, 18808), (94, 18829), (95, 18841), (99, 18847), (127, 19012),

Gene: Surely\_23 Start: 17818, Stop: 18336, Start Num: 34

Candidate Starts for Surely\_23:

(9, 17263), (10, 17317), (12, 17332), (13, 17341), (20, 17458), (22, 17500), (24, 17545), (32, 17764), (Start: 34 @17818 has 364 MA's), (44, 17851), (75, 18007), (76, 18013), (79, 18022), (89, 18088), (105, 18172), (125, 18274), (131, 18316),

Gene: SwainyDoc\_24 Start: 18474, Stop: 18995, Start Num: 34

Candidate Starts for SwainyDoc\_24:

(Start: 34 @18474 has 364 MA's), (43, 18504), (49, 18522), (53, 18534), (69, 18639), (89, 18762), (91, 18768), (93, 18777), (105, 18846), (117, 18903),

Gene: Swiphy\_24 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for Swiphy\_24:

(4, 17201), (9, 17252), (10, 17306), (12, 17321), (13, 17330), (20, 17447), (22, 17489), (24, 17534), (32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: Swish\_23 Start: 17801, Stop: 18319, Start Num: 34

Candidate Starts for Swish\_23:

(9, 17246), (10, 17300), (12, 17315), (13, 17324), (20, 17441), (22, 17483), (24, 17528), (32, 17747), (Start: 34 @17801 has 364 MA's), (44, 17834), (75, 17990), (76, 17996), (79, 18005), (89, 18071), (105, 18155), (125, 18257), (131, 18299),

Gene: SynergyX\_24 Start: 18477, Stop: 18998, Start Num: 34

Candidate Starts for SynergyX\_24:

(Start: 34 @18477 has 364 MA's), (43, 18507), (69, 18642), (89, 18765), (91, 18771), (93, 18780), (105, 18849), (117, 18906),

Gene: TA17A\_26 Start: 19909, Stop: 20469, Start Num: 33

Candidate Starts for TA17A\_26:

(Start: 30 @19747 has 1 MA's), (Start: 33 @19909 has 48 MA's), (Start: 36 @19927 has 11 MA's), (37, 19930), (44, 19957), (48, 19969), (62, 20041), (70, 20098), (76, 20134), (81, 20185), (87, 20218), (114, 20365), (130, 20443),

Gene: TPA2\_29 Start: 18558, Stop: 19259, Start Num: 30

Candidate Starts for TPA2\_29:

(Start: 30 @18558 has 1 MA's), (32, 18672), (Start: 33 @18723 has 48 MA's), (51, 18789), (62, 18849), (64, 18867), (78, 18945), (79, 18948), (89, 19017), (96, 19053),

Gene: TallGrassMM\_23 Start: 17533, Stop: 18051, Start Num: 34

Candidate Starts for TallGrassMM\_23:

(9, 16978), (10, 17032), (12, 17047), (13, 17056), (20, 17173), (22, 17215), (24, 17260), (32, 17479), (Start: 34 @17533 has 364 MA's), (44, 17566), (75, 17722), (76, 17728), (79, 17737), (89, 17803), (105, 17887), (125, 17989), (131, 18031),

Gene: Taptic\_17 Start: 17229, Stop: 17750, Start Num: 36

Candidate Starts for Taptic\_17:

(32, 17175), (Start: 36 @17229 has 11 MA's), (51, 17280), (56, 17310), (61, 17337), (62, 17343), (76, 17415), (82, 17469), (83, 17475), (85, 17490), (94, 17529), (97, 17547), (123, 17676), (124, 17685), (126, 17694), (131, 17730),

Gene: Telesworld\_22 Start: 17512, Stop: 18030, Start Num: 34

Candidate Starts for Telesworld\_22:

(32, 17458), (Start: 34 @17512 has 364 MA's), (44, 17545), (75, 17701), (76, 17707), (79, 17716), (89, 17782), (105, 17866), (125, 17968), (131, 18010),

Gene: Thonko\_22 Start: 16247, Stop: 16792, Start Num: 34

Candidate Starts for Thonko\_22:

(Start: 30 @16079 has 1 MA's), (32, 16193), (Start: 34 @16247 has 364 MA's), (37, 16262), (50, 16307), (62, 16376), (76, 16463), (78, 16469), (79, 16472), (86, 16541), (96, 16586), (110, 16670),

Gene: Thora\_23 Start: 17817, Stop: 18335, Start Num: 34

Candidate Starts for Thora\_23:

(9, 17262), (10, 17316), (12, 17331), (13, 17340), (20, 17457), (22, 17499), (24, 17544), (32, 17763), (Start: 34 @17817 has 364 MA's), (44, 17850), (75, 18006), (76, 18012), (79, 18021), (89, 18087), (105, 18171), (125, 18273), (131, 18315),

Gene: ThreeOh3D2\_23 Start: 17816, Stop: 18334, Start Num: 34

Candidate Starts for ThreeOh3D2\_23:

(32, 17762), (Start: 34 @17816 has 364 MA's), (44, 17849), (75, 18005), (76, 18011), (79, 18020), (89, 18086), (105, 18170), (125, 18272), (131, 18314),

Gene: Thunderbird\_22 Start: 17516, Stop: 18034, Start Num: 34

Candidate Starts for Thunderbird\_22:

(32, 17462), (Start: 34 @17516 has 364 MA's), (44, 17549), (75, 17705), (76, 17711), (79, 17720), (89, 17786), (105, 17870), (125, 17972), (131, 18014),

Gene: Timmi\_22 Start: 17527, Stop: 18045, Start Num: 34

Candidate Starts for Timmi\_22:

(9, 16972), (10, 17026), (12, 17041), (13, 17050), (20, 17167), (22, 17209), (24, 17254), (32, 17473), (Start: 34 @17527 has 364 MA's), (44, 17560), (75, 17716), (76, 17722), (79, 17731), (89, 17797), (105, 17881), (125, 17983), (131, 18025),

Gene: Tinciduntolum\_26 Start: 20031, Stop: 20591, Start Num: 33

Candidate Starts for Tinciduntolum\_26:

(Start: 30 @19869 has 1 MA's), (Start: 33 @20031 has 48 MA's), (Start: 36 @20049 has 11 MA's), (37, 20052), (44, 20079), (48, 20091), (62, 20163), (70, 20220), (76, 20256), (81, 20307), (87, 20340), (114,

20487), (130, 20565),

Gene: TinyTerror\_24 Start: 18504, Stop: 18995, Start Num: 43

Candidate Starts for TinyTerror\_24:

(Start: 34 @18474 has 364 MA's), (43, 18504), (49, 18522), (53, 18534), (69, 18639), (89, 18762), (91, 18768), (93, 18777), (105, 18846), (117, 18903),

Gene: TomBombadil\_23 Start: 17812, Stop: 18330, Start Num: 34

Candidate Starts for TomBombadil\_23:

(9, 17257), (10, 17311), (12, 17326), (13, 17335), (20, 17452), (22, 17494), (24, 17539), (32, 17758), (Start: 34 @17812 has 364 MA's), (44, 17845), (75, 18001), (76, 18007), (79, 18016), (89, 18082), (105, 18166), (125, 18268), (131, 18310),

Gene: Tomlarah\_23 Start: 17802, Stop: 18320, Start Num: 34

Candidate Starts for Tomlarah\_23:

(32, 17748), (Start: 34 @17802 has 364 MA's), (44, 17835), (75, 17991), (76, 17997), (79, 18006), (89, 18072), (105, 18156), (125, 18258), (131, 18300),

Gene: Toni\_22 Start: 17511, Stop: 18029, Start Num: 34

Candidate Starts for Toni\_22:

(9, 16956), (10, 17010), (12, 17025), (13, 17034), (20, 17151), (22, 17193), (24, 17238), (32, 17457), (Start: 34 @17511 has 364 MA's), (44, 17544), (75, 17700), (76, 17706), (79, 17715), (89, 17781), (105, 17865), (125, 17967), (131, 18009),

Gene: Tonitrus\_38 Start: 26505, Stop: 27032, Start Num: 40

Candidate Starts for Tonitrus\_38:

(Start: 30 @26307 has 1 MA's), (31, 26325), (32, 26421), (Start: 40 @26505 has 1 MA's), (47, 26526), (50, 26535), (54, 26547), (63, 26607), (78, 26697), (79, 26700), (90, 26772), (92, 26778), (93, 26784), (94, 26790), (96, 26805), (98, 26811), (105, 26865), (122, 26952), (126, 26973),

Gene: TooFast2Furius\_24 Start: 18048, Stop: 18566, Start Num: 34

Candidate Starts for TooFast2Furius\_24:

(32, 17994), (Start: 34 @18048 has 364 MA's), (44, 18081), (75, 18237), (76, 18243), (79, 18252), (89, 18318), (105, 18402), (125, 18504), (131, 18546),

Gene: Tooj\_23 Start: 17813, Stop: 18331, Start Num: 34

Candidate Starts for Tooj\_23:

(32, 17759), (Start: 34 @17813 has 364 MA's), (44, 17846), (75, 18002), (76, 18008), (79, 18017), (89, 18083), (105, 18167), (125, 18269), (131, 18311),

Gene: Tres\_25 Start: 19912, Stop: 20472, Start Num: 33

Candidate Starts for Tres\_25:

(Start: 30 @19750 has 1 MA's), (Start: 33 @19912 has 48 MA's), (Start: 36 @19930 has 11 MA's), (37, 19933), (44, 19960), (48, 19972), (62, 20044), (70, 20101), (76, 20137), (81, 20188), (87, 20221), (114, 20368), (130, 20446),

Gene: True\_22 Start: 17515, Stop: 18033, Start Num: 34

Candidate Starts for True\_22:

(32, 17461), (Start: 34 @17515 has 364 MA's), (44, 17548), (75, 17704), (76, 17710), (79, 17719), (89, 17785), (105, 17869), (125, 17971), (131, 18013),

Gene: Trypo\_23 Start: 17804, Stop: 18322, Start Num: 34

Candidate Starts for Trypo\_23:

(4, 17198), (9, 17249), (10, 17303), (12, 17318), (13, 17327), (20, 17444), (22, 17486), (24, 17531), (32, 17750), (Start: 34 @17804 has 364 MA's), (44, 17837), (75, 17993), (76, 17999), (79, 18008), (89, 18074), (105, 18158), (125, 18260), (131, 18302),

Gene: Tydolla\_24 Start: 19214, Stop: 19735, Start Num: 34

Candidate Starts for Tydolla\_24:

(Start: 34 @19214 has 364 MA's), (43, 19244), (49, 19262), (53, 19274), (69, 19379), (89, 19502), (91, 19508), (93, 19517), (105, 19586), (117, 19643),

Gene: TyrionL\_22 Start: 17368, Stop: 17886, Start Num: 34

Candidate Starts for TyrionL\_22:

(9, 16813), (10, 16867), (12, 16882), (13, 16891), (20, 17008), (22, 17050), (24, 17095), (32, 17314), (Start: 34 @17368 has 364 MA's), (44, 17401), (75, 17557), (76, 17563), (79, 17572), (89, 17638), (105, 17722), (125, 17824), (131, 17866),

Gene: UAch1\_23 Start: 17824, Stop: 18342, Start Num: 34

Candidate Starts for UAch1\_23:

(32, 17770), (Start: 34 @17824 has 364 MA's), (44, 17857), (75, 18013), (76, 18019), (79, 18028), (89, 18094), (105, 18178), (125, 18280), (131, 18322),

Gene: UncleHowie\_23 Start: 17514, Stop: 18032, Start Num: 34

Candidate Starts for UncleHowie\_23:

(32, 17460), (Start: 34 @17514 has 364 MA's), (44, 17547), (75, 17703), (76, 17709), (79, 17718), (89, 17784), (105, 17868), (125, 17970), (131, 18012),

Gene: Usavi\_23 Start: 17815, Stop: 18333, Start Num: 34

Candidate Starts for Usavi\_23:

(32, 17761), (Start: 34 @17815 has 364 MA's), (44, 17848), (75, 18004), (76, 18010), (79, 18019), (89, 18085), (105, 18169), (125, 18271), (131, 18313),

Gene: Vaishali24\_22 Start: 17468, Stop: 17986, Start Num: 34

Candidate Starts for Vaishali24\_22:

(32, 17414), (Start: 34 @17468 has 364 MA's), (44, 17501), (75, 17657), (76, 17663), (79, 17672), (89, 17738), (105, 17822), (125, 17924), (131, 17966),

Gene: Valjean\_23 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for Valjean\_23:

(32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: Vaticameos\_23 Start: 17505, Stop: 18023, Start Num: 34

Candidate Starts for Vaticameos\_23:

(32, 17451), (Start: 34 @17505 has 364 MA's), (44, 17538), (75, 17694), (76, 17700), (79, 17709), (89, 17775), (105, 17859), (125, 17961), (131, 18003),

Gene: Veritas\_22 Start: 17354, Stop: 17872, Start Num: 34

Candidate Starts for Veritas\_22:

(4, 16748), (9, 16799), (10, 16853), (12, 16868), (13, 16877), (20, 16994), (22, 17036), (24, 17081), (32, 17300), (Start: 34 @17354 has 364 MA's), (44, 17387), (75, 17543), (76, 17549), (79, 17558), (89, 17624), (105, 17708), (125, 17810), (131, 17852),

Gene: Vic9\_00025 Start: 20354, Stop: 20914, Start Num: 33

Candidate Starts for Vic9\_00025:

(Start: 33 @20354 has 48 MA's), (Start: 36 @20372 has 11 MA's), (37, 20375), (44, 20402), (48, 20414), (62, 20486), (70, 20543), (76, 20579), (81, 20630), (87, 20663), (114, 20810), (130, 20888),

Gene: Vincenzo\_22 Start: 19205, Stop: 19732, Start Num: 34

Candidate Starts for Vincenzo\_22:

(Start: 34 @19205 has 364 MA's), (41, 19235), (55, 19292), (58, 19304), (76, 19409), (79, 19418), (82, 19457), (89, 19484), (92, 19493), (94, 19505), (97, 19520), (105, 19568), (106, 19574), (121, 19652),

Gene: VioletZ\_21 Start: 18491, Stop: 19021, Start Num: 34

Candidate Starts for VioletZ\_21:

(11, 18002), (Start: 29 @18323 has 1 MA's), (Start: 34 @18491 has 364 MA's), (41, 18521), (58, 18590), (76, 18695), (80, 18725), (82, 18743), (90, 18776), (92, 18782), (94, 18794), (106, 18863), (121, 18941),

Gene: Virapocalypse\_23 Start: 17798, Stop: 18316, Start Num: 34

Candidate Starts for Virapocalypse\_23:

(9, 17243), (10, 17297), (12, 17312), (13, 17321), (20, 17438), (22, 17480), (24, 17525), (32, 17744), (Start: 34 @17798 has 364 MA's), (44, 17831), (75, 17987), (76, 17993), (79, 18002), (89, 18068), (105, 18152), (125, 18254), (131, 18296),

Gene: Virgeve\_22 Start: 17520, Stop: 18038, Start Num: 34

Candidate Starts for Virgeve\_22:

(4, 16914), (9, 16965), (10, 17019), (12, 17034), (13, 17043), (20, 17160), (22, 17202), (24, 17247), (32, 17466), (Start: 34 @17520 has 364 MA's), (44, 17553), (75, 17709), (76, 17715), (79, 17724), (89, 17790), (105, 17874), (125, 17976), (131, 18018),

Gene: Vista\_23 Start: 17812, Stop: 18330, Start Num: 34

Candidate Starts for Vista\_23:

(9, 17257), (10, 17311), (12, 17326), (13, 17335), (20, 17452), (22, 17494), (24, 17539), (32, 17758), (Start: 34 @17812 has 364 MA's), (44, 17845), (75, 18001), (76, 18007), (79, 18016), (89, 18082), (105, 18166), (125, 18268), (131, 18310),

Gene: Vivaldi\_23 Start: 17842, Stop: 18360, Start Num: 34

Candidate Starts for Vivaldi\_23:

(32, 17788), (Start: 34 @17842 has 364 MA's), (44, 17875), (75, 18031), (76, 18037), (79, 18046), (89, 18112), (105, 18196), (125, 18298), (131, 18340),

Gene: Vortex\_23 Start: 17522, Stop: 18040, Start Num: 34

Candidate Starts for Vortex\_23:

(32, 17468), (Start: 34 @17522 has 364 MA's), (44, 17555), (75, 17711), (76, 17717), (79, 17726), (89, 17792), (105, 17876), (125, 17978), (131, 18020),

Gene: Waleliano\_21 Start: 18436, Stop: 18966, Start Num: 34

Candidate Starts for Waleliano\_21:

(Start: 29 @18268 has 1 MA's), (Start: 34 @18436 has 364 MA's), (41, 18466), (58, 18535), (76, 18640), (80, 18670), (82, 18688), (90, 18721), (92, 18727), (94, 18739), (97, 18754), (106, 18808), (121, 18886),

Gene: Wallhey\_22 Start: 17372, Stop: 17890, Start Num: 34

Candidate Starts for Wallhey\_22:

(4, 16766), (9, 16817), (10, 16871), (12, 16886), (13, 16895), (20, 17012), (22, 17054), (24, 17099), (32, 17318), (Start: 34 @17372 has 364 MA's), (44, 17405), (75, 17561), (76, 17567), (79, 17576), (89, 17642), (105, 17726), (125, 17828), (131, 17870),

Gene: Waterdiva\_23 Start: 17807, Stop: 18325, Start Num: 34

Candidate Starts for Waterdiva\_23:

(32, 17753), (Start: 34 @17807 has 364 MA's), (44, 17840), (75, 17996), (76, 18002), (79, 18011), (89, 18077), (105, 18161), (125, 18263), (131, 18305),

Gene: Weher20\_23 Start: 17800, Stop: 18318, Start Num: 34

Candidate Starts for Weher20\_23:

(4, 17194), (9, 17245), (10, 17299), (12, 17314), (13, 17323), (20, 17440), (22, 17482), (24, 17527), (32, 17746), (Start: 34 @17800 has 364 MA's), (44, 17833), (75, 17989), (76, 17995), (79, 18004), (89, 18070), (105, 18154), (125, 18256), (131, 18298),

Gene: West99\_25 Start: 20032, Stop: 20592, Start Num: 33

Candidate Starts for West99\_25:

(Start: 30 @19870 has 1 MA's), (Start: 33 @20032 has 48 MA's), (Start: 36 @20050 has 11 MA's), (37, 20053), (44, 20080), (48, 20092), (62, 20164), (70, 20221), (76, 20257), (81, 20308), (87, 20341), (114, 20488), (130, 20566),

Gene: Windsor\_22 Start: 17475, Stop: 17993, Start Num: 34

Candidate Starts for Windsor\_22:

(9, 16920), (10, 16974), (12, 16989), (13, 16998), (20, 17115), (22, 17157), (24, 17202), (32, 17421), (Start: 34 @17475 has 364 MA's), (44, 17508), (75, 17664), (76, 17670), (79, 17679), (89, 17745), (105, 17829), (125, 17931), (131, 17973),

Gene: Wooper\_22 Start: 17725, Stop: 18264, Start Num: 33

Candidate Starts for Wooper\_22:

(32, 17674), (Start: 33 @17725 has 48 MA's), (51, 17791), (79, 17947), (86, 18007), (89, 18016), (94, 18037), (110, 18136), (114, 18157), (127, 18226), (129, 18235),

Gene: Xavier\_22 Start: 17525, Stop: 18043, Start Num: 34

Candidate Starts for Xavier\_22:

(9, 16970), (10, 17024), (12, 17039), (13, 17048), (20, 17165), (22, 17207), (24, 17252), (32, 17471), (Start: 34 @17525 has 364 MA's), (44, 17558), (75, 17714), (76, 17720), (79, 17729), (89, 17795), (105, 17879), (125, 17981), (131, 18023),

Gene: Xincheng\_20 Start: 17891, Stop: 18421, Start Num: 34

Candidate Starts for Xincheng\_20:

(Start: 29 @17723 has 1 MA's), (Start: 34 @17891 has 364 MA's), (41, 17921), (58, 17990), (76, 18095), (80, 18125), (82, 18143), (90, 18176), (92, 18182), (94, 18194), (97, 18209), (106, 18263), (121, 18341),

Gene: Yago84\_20 Start: 16628, Stop: 17179, Start Num: 33

Candidate Starts for Yago84\_20:

(27, 16445), (Start: 30 @16463 has 1 MA's), (32, 16577), (Start: 33 @16628 has 48 MA's), (Start: 34 @16631 has 364 MA's), (51, 16697), (90, 16925), (94, 16943), (96, 16958), (125, 17114), (127, 17138), (129, 17147),

Gene: Yahalom\_24 Start: 18486, Stop: 19007, Start Num: 34

Candidate Starts for Yahalom\_24:

(Start: 34 @18486 has 364 MA's), (43, 18516), (69, 18651), (89, 18774), (91, 18780), (93, 18789), (105, 18858), (117, 18915),

Gene: Yeshua\_22 Start: 17702, Stop: 18241, Start Num: 33



Candidate Starts for Yeshua\_22:

(32, 17651), (Start: 33 @17702 has 48 MA's), (51, 17768), (79, 17924), (86, 17984), (89, 17993), (94, 18014), (110, 18113), (114, 18134), (127, 18203), (129, 18212),

Gene: Yinz\_24 Start: 18515, Stop: 19036, Start Num: 34

Candidate Starts for Yinz\_24:

(Start: 34 @18515 has 364 MA's), (43, 18545), (49, 18563), (53, 18575), (69, 18680), (89, 18803), (91, 18809), (93, 18818), (105, 18887), (117, 18944),

Gene: Yoshand\_23 Start: 17814, Stop: 18332, Start Num: 34

Candidate Starts for Yoshand\_23:

(9, 17259), (10, 17313), (12, 17328), (13, 17337), (20, 17454), (22, 17496), (24, 17541), (32, 17760), (Start: 34 @17814 has 364 MA's), (44, 17847), (75, 18003), (76, 18009), (79, 18018), (89, 18084), (105, 18168), (125, 18270), (131, 18312),

Gene: YouGoGlencoco\_23 Start: 17803, Stop: 18321, Start Num: 34

Candidate Starts for YouGoGlencoco\_23:

(9, 17248), (10, 17302), (12, 17317), (13, 17326), (20, 17443), (22, 17485), (24, 17530), (32, 17749), (Start: 34 @17803 has 364 MA's), (44, 17836), (75, 17992), (76, 17998), (79, 18007), (89, 18073), (105, 18157), (125, 18259), (131, 18301),

Gene: Zaider\_24 Start: 18039, Stop: 18557, Start Num: 34

Candidate Starts for Zaider\_24:

(9, 17484), (10, 17538), (12, 17553), (13, 17562), (20, 17679), (22, 17721), (24, 17766), (32, 17985), (Start: 34 @18039 has 364 MA's), (44, 18072), (75, 18228), (76, 18234), (79, 18243), (89, 18309), (105, 18393), (125, 18495), (131, 18537),

Gene: Zelda\_23 Start: 17808, Stop: 18326, Start Num: 34

Candidate Starts for Zelda\_23:

(32, 17754), (Start: 34 @17808 has 364 MA's), (44, 17841), (75, 17997), (76, 18003), (79, 18012), (89, 18078), (105, 18162), (125, 18264), (131, 18306),

Gene: Zemanar\_22 Start: 18436, Stop: 18966, Start Num: 34

Candidate Starts for Zemanar\_22:

(Start: 29 @18268 has 1 MA's), (Start: 34 @18436 has 364 MA's), (41, 18466), (58, 18535), (76, 18640), (80, 18670), (82, 18688), (90, 18721), (92, 18727), (94, 18739), (97, 18754), (106, 18808), (121, 18886),

Gene: Zenteno07\_27 Start: 18252, Stop: 18770, Start Num: 34

Candidate Starts for Zenteno07\_27:

(Start: 34 @18252 has 364 MA's), (47, 18294), (58, 18345), (60, 18357), (62, 18366), (66, 18396), (78, 18450), (79, 18453), (89, 18522), (93, 18537), (97, 18558),

Gene: Zonia\_23 Start: 17822, Stop: 18340, Start Num: 34

Candidate Starts for Zonia\_23:

(4, 17216), (9, 17267), (10, 17321), (12, 17336), (13, 17345), (20, 17462), (22, 17504), (24, 17549), (32, 17768), (Start: 34 @17822 has 364 MA's), (44, 17855), (75, 18011), (76, 18017), (79, 18026), (89, 18092), (105, 18176), (125, 18278), (131, 18320),