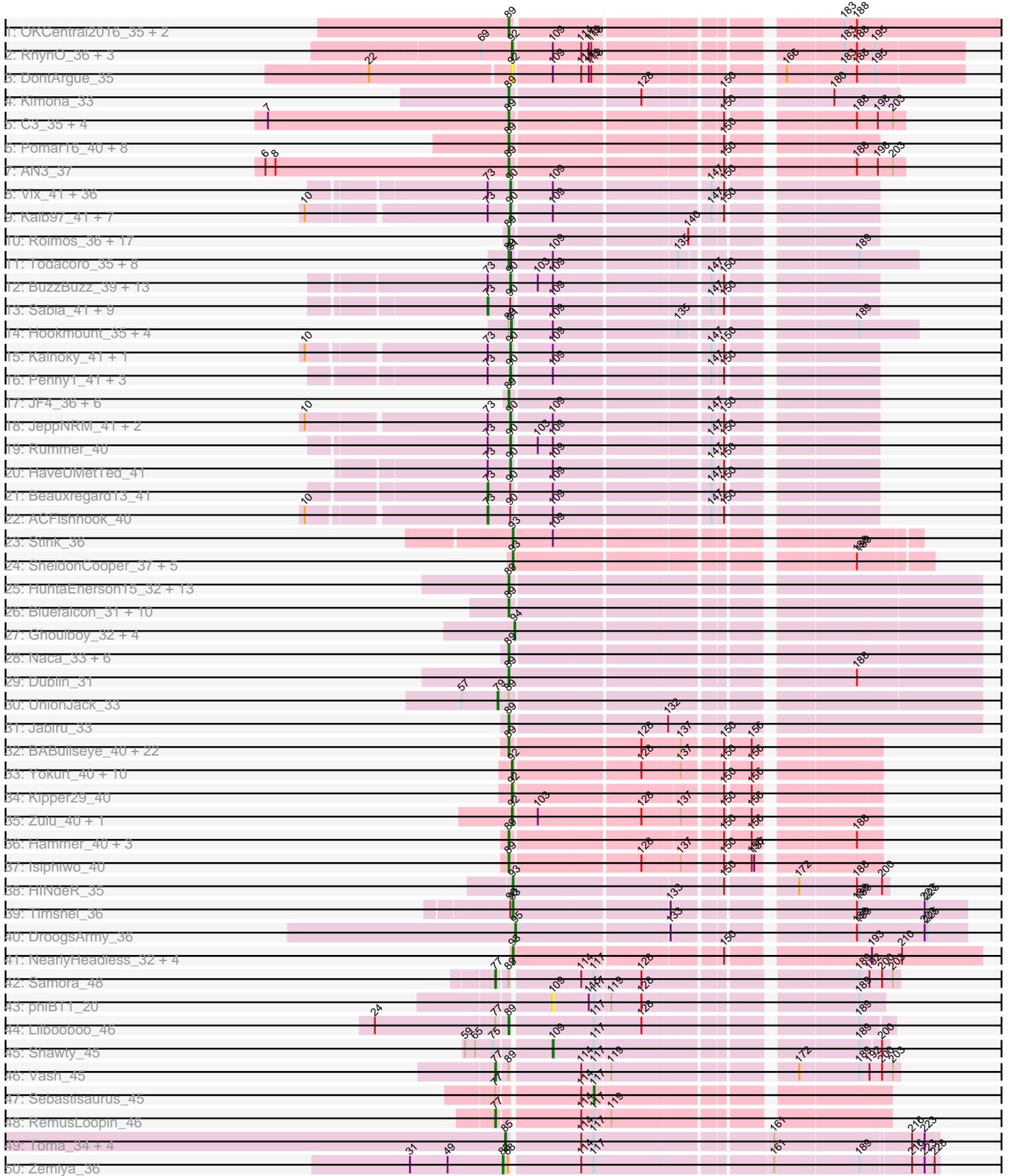
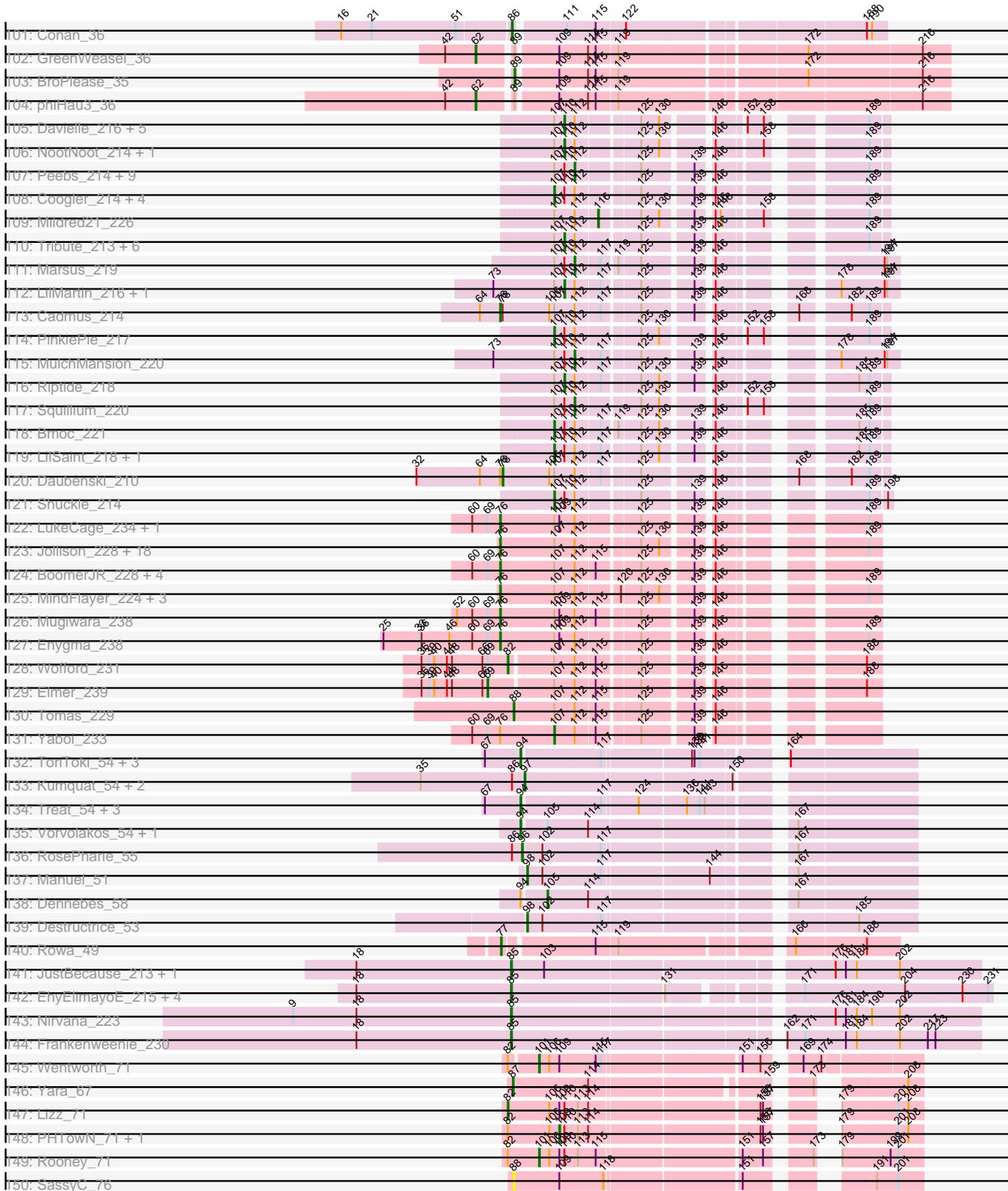


# Pham 290685



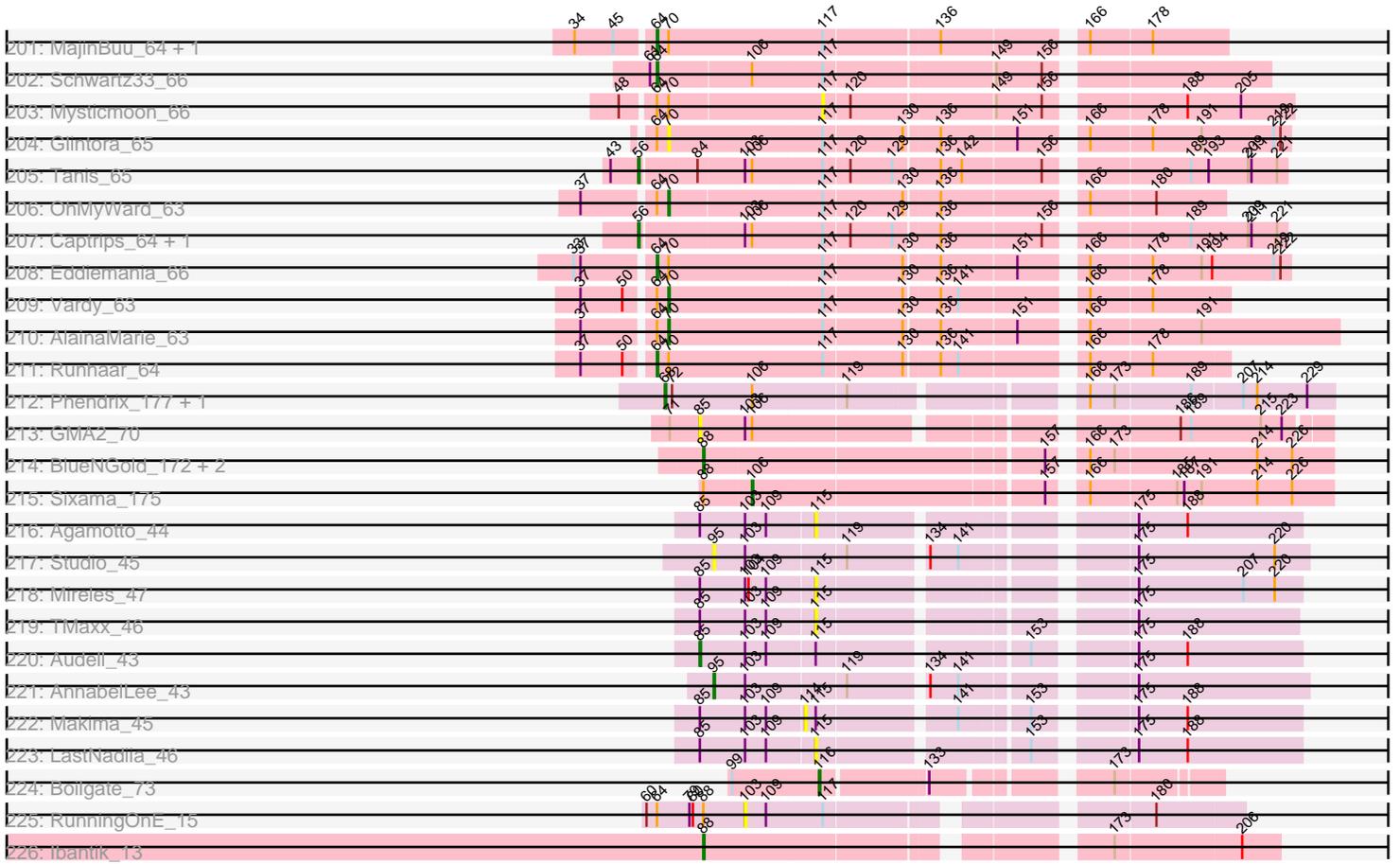


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start.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

## Pham 290685 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 290685 has 581 members, 53 are drafts.

Phages represented in each track:

- Track 1 : OKCentral2016\_35, Chupacabra\_35, Goose\_36
- Track 2 : RhynO\_36, Shapes\_39, Rowdy\_39, DustyMartin\_39
- Track 3 : DontArgue\_35
- Track 4 : Kimona\_33
- Track 5 : C3\_35, AN9\_40, AN18\_40, VC3\_40, VA6\_37
- Track 6 : Pomar16\_40, Naji\_40, D29\_36.1, Kerberos\_40, StarStuff\_40, Tomathan\_40, DBQu4n\_40, Duplo\_40, D32\_40
- Track 7 : AN3\_37
- Track 8 : Vix\_41, Microwolf\_41, Dieselweasel\_41, MuchMore\_43, DaHudson\_41, Phoebe\_41, JHC117\_41, GtownJaz\_41, Grif\_41, Jobu08\_40, Taurus\_41, Marie\_41, Aglet\_41, Tiffany\_41, MarQuardt\_41, Malinsilva\_43, Mainiac\_41, Cullens\_41, Stagni\_41, Fernando\_41, Lilith\_41, AugsMagnumOpus\_43, Pembroke\_41, Anubis\_43, P28Green\_41, JenCasNa\_41, SoilDragon\_40, Sabinator\_40, MadMarie\_41, StepMih\_41, Farber\_41, Zetzy\_40, LugYA\_43, Ollie\_41, BreSam8\_41, PGHhamlin\_43, OlanP\_40
- Track 9 : Kalb97\_41, Manu\_41, Groupthink\_41, Phranny\_41, PhishRPhriends\_39, PurpleHaze\_40, Reba\_41, Gemma\_40
- Track 10 : Roimos\_36, Bugatti\_36, TNguyen7\_36, Pistachio\_37, Heathen\_36, MA5\_36, Clammy\_36, Fred313\_36, SaturnRing\_36, BlueBird\_37, Kachowdy\_36, Giroux\_37, HelDan\_36, Marchesa\_36, Puppy\_37, Scout\_36, BabyRay\_36, Idleandcovert\_36
- Track 11 : Todacoro\_35, Texage\_34, Margo\_35, QuinnKiro\_34, Noella\_35, ResDef\_35, Norbert\_34, Panamaxus\_34, Veracruz\_34
- Track 12 : BuzzBuzz\_39, Daishi\_39, Soshari\_42, Louie6\_40, LarryKay\_40, Spike509\_40, Methuselah\_39, HashRod\_41, Bxz2\_38, TinyPebbles\_40, Misomonster\_42, KADY\_41, Phoxy\_40, AgronaGT15\_40
- Track 13 : Sabia\_41, Grum1\_41, GinkgoMaracino\_41, Snickers\_41, Watson\_41, SoYo\_41, Grub\_41, MoneyMay\_41, Wooldri\_43, Hercules11\_41
- Track 14 : Hookmount\_35, Lambert1\_35, Popcicle\_35, Caviar\_35, Pocahontas\_35
- Track 15 : Kalnoky\_41, Marius\_41
- Track 16 : Penny1\_41, EpicPhail\_41, LBerry\_41, PotatoSplit\_42
- Track 17 : JF4\_36, JF2\_36, MK4\_36, Isca\_36, Rockstar\_36, Phantastic\_36, B1\_34
- Track 18 : JeppNRM\_41, Pawn\_40, Heliosoles\_40

- Track 19 : Rummer\_40
- Track 20 : HaveUMetTed\_41
- Track 21 : Beauxregard13\_41
- Track 22 : ACFishhook\_40
- Track 23 : Stink\_36
- Track 24 : SheldonCooper\_37, ChampagnePapi\_37, BangNhom\_36, Obama12\_37, LHTSCC\_37, Cerulean\_37
- Track 25 : HuhtaEnerson15\_32, George\_31, LittleCherry\_32, Bonamassa\_32, Archetta\_32, Prinasha11\_33, Cuco\_32, Milcery\_32, Twigg\_32, Tarynearal\_31, Theia\_30, Coog\_32, Midas2\_32, MarysWell\_31
- Track 26 : Bluefalcon\_31, Discoknowium\_32, Lev2\_32, AgentM\_32, Aragog\_32, Conspiracy\_32, Tiger\_32, Phlorence\_32, ForGetIt\_32, Jovo\_32, PickleBack\_32
- Track 27 : Ghoulboy\_32, Zolita\_31, SydNat\_32, Micasa\_32, Swirley\_32
- Track 28 : Naca\_33, Airmid\_33, ElTiger69\_33, Scorpia\_34, Benedict\_33, PetterN\_34, Chadwick\_34
- Track 29 : Dublin\_31
- Track 30 : UnionJack\_33
- Track 31 : Jabiru\_33
- Track 32 : BABullseye\_40, Helmet\_41, Gruunaga\_40, Chartreuse\_40, Dorothea\_40, Kazan\_41, Blinn1\_41, Temprado\_40, Gladiator\_40, SuperAwesome\_40, Indra\_42, McFly\_40, Polyphemus\_40, Newrala\_40, Hoot\_40, BlessJoy\_40, Cookiedough\_40, Roksolana\_41, VohminGhazi\_40, JewelBug\_41, Neeharika16\_40, Jordennis\_40, SmellyB\_40
- Track 33 : Yokurt\_40, Artemis2UCLA\_40, WunderPhul\_40, Priamo\_41, Zaka\_40, Hexamo\_40, Jeffabunny\_40, Lilbunny\_39, Wiks\_39, ToneTone\_37, CloudWang3\_40
- Track 34 : Kipper29\_40
- Track 35 : Zulu\_40, Tucker\_40
- Track 36 : Hammer\_40, Koko\_40, Rifler\_40, Blue7\_41
- Track 37 : Isiphiwo\_40
- Track 38 : HINdeR\_35
- Track 39 : Timshel\_36
- Track 40 : DroogsArmy\_36
- Track 41 : NearlyHeadless\_32, Stephig9\_32, Danforth\_31, Roary\_32, Expelliarmus\_31
- Track 42 : Samora\_48
- Track 43 : phiBT1\_20
- Track 44 : Lilbooboo\_46
- Track 45 : Shawty\_45
- Track 46 : Vash\_45
- Track 47 : Sebastisaurus\_45
- Track 48 : RemusLoopin\_46
- Track 49 : Toma\_34, Lika\_34, Goby\_34, Sujidade\_35, Godpower\_35
- Track 50 : Zemlya\_36
- Track 51 : Brataylor\_37, Danzina\_36
- Track 52 : Legacy\_34, Esperer\_34, Hydra\_36, Bovely\_34, Unstoppable\_34, Leviticus\_34, Aaronocolus\_34, Ozzie\_34, SunsetPointe\_34, Indigo\_33, Phettuccine\_34
- Track 53 : Dattran\_36, Celeste\_35
- Track 54 : Chucky\_34, BarryBee\_37, OzzyJ\_35, TagePhighter\_36, Triste\_34, Snorlax\_34, Dwayne\_34, Emaanora\_37
- Track 55 : Ejemplo\_33, TuanPN\_33
- Track 56 : Nabi\_35, Lorelei\_35, Rana\_35
- Track 57 : Asten\_34, Whatever\_34

- Track 58 : Caliburn\_34
- Track 59 : EnochSoames\_37, Izzy\_35, Eddasa\_35, Oliynyk\_35, Rusticus\_35, BryanRecycles\_35, Jash\_35
- Track 60 : Nanodon\_36
- Track 61 : Werner\_34, Hippo\_34
- Track 62 : Yasdnil\_34, Maneekul\_34
- Track 63 : RedBear\_35, Katalie\_34, South40\_34
- Track 64 : Lannister\_36
- Track 65 : BeardedLady\_35
- Track 66 : SarahRose\_34
- Track 67 : Bowden\_35, Thestral\_36, TinaBelcher\_35, TrvxScott\_34
- Track 68 : Paedore\_34, Loofah\_35
- Track 69 : Andris\_34
- Track 70 : ELB20\_33, R4\_35
- Track 71 : Alvy\_37, BartholomewSD\_37
- Track 72 : Superstar\_38
- Track 73 : Animus\_34, GirlDinner\_34
- Track 74 : Puginator\_37
- Track 75 : Haizum\_36, Diane\_34, Amethyst\_34
- Track 76 : Pablito\_34
- Track 77 : Caelum\_36
- Track 78 : Nishikigoi\_36, Tefunt\_36
- Track 79 : Paolo\_37
- Track 80 : Omar\_37
- Track 81 : SqueakyClean\_34, Janus\_35
- Track 82 : Triumph\_36, Axiom\_35
- Track 83 : Jevington\_37
- Track 84 : Issmi\_36
- Track 85 : Zainub\_37
- Track 86 : Marav\_38
- Track 87 : Daudau\_35
- Track 88 : Hank144\_36
- Track 89 : Sudan\_36, Kaine\_35, Dexers\_34, Alsaber\_36
- Track 90 : Pavo\_36, ElGato\_36, Provolone\_36
- Track 91 : Vanseggelen\_40
- Track 92 : ZamZam\_38
- Track 93 : Yosif\_37
- Track 94 : Jhitchelle\_36
- Track 95 : Verabelle\_38
- Track 96 : SunkenRoot\_37, Amela\_35, Verse\_35
- Track 97 : Speedwell\_40
- Track 98 : phiCAM\_34
- Track 99 : Saftant\_35
- Track 100 : Celery\_38
- Track 101 : Conan\_36
- Track 102 : GreenWeasel\_36
- Track 103 : BroPlease\_35
- Track 104 : phiHau3\_36
- Track 105 : Davielle\_216, Bartholomune\_217, Persimmon\_220, Navo\_211, WhereRU\_216, Braelyn\_213
- Track 106 : NootNoot\_214, Paradiddles\_209
- Track 107 : Peebs\_214, Teutsch\_216, Evy\_207, Pepperwood\_217, EGole\_220, BlueOtter\_215, PacManQ\_213, Lululemon\_213, HangryHippo\_215, Cross\_216

- Track 108 : Coogler\_214, Leo04\_217, Targaryen\_216, Jay2Jay\_222, Warpy\_220
- Track 109 : Mildred21\_226
- Track 110 : Tribute\_213, Sushi23\_217, Watermoore\_216, Cursive\_219, Larnav\_216, Samisti12\_221, Scheme\_220
- Track 111 : Marsus\_219
- Track 112 : LilMartin\_216, Angela\_219
- Track 113 : Cadmus\_214
- Track 114 : PinkiePie\_217
- Track 115 : MulchMansion\_220
- Track 116 : Riptide\_218
- Track 117 : Squillium\_220
- Track 118 : Bmoc\_221
- Track 119 : LilSaint\_218, Anedea\_230
- Track 120 : Daubenski\_210
- Track 121 : Shuckle\_214
- Track 122 : LukeCage\_234, StarPlatinum\_238
- Track 123 : Jollison\_228, Rikishi\_232, Brizzy\_230, Wipeout\_221, Battuta\_229, Quaran19\_231, PumpkinSpice\_234, Starbow\_228, JimJam\_238, Spelly\_236, Karimac\_231, SaltySpittoon\_231, Spilled\_238, TomSawyer\_235, Gibbi\_239, AcciDwight\_239, Bordeaux\_229, KentuckyRacer\_237, CeilingFan\_235
- Track 124 : BoomerJR\_228, AngryGiraffe\_228, Stanimal\_228, Genie2\_228, Sollertia\_229
- Track 125 : MindFlayer\_224, Amabiko\_235, Birchlyn\_230, IchabodCrane\_225
- Track 126 : Mugiwara\_238
- Track 127 : Enygma\_238
- Track 128 : Wofford\_231
- Track 129 : Elmer\_239
- Track 130 : Tomas\_229
- Track 131 : Yaboi\_233
- Track 132 : ToriToki\_54, HaugeAnator\_54, Percastrophe\_54, ZooBear\_54
- Track 133 : Kumquat\_54, Zeigle\_54, WRightOn\_58
- Track 134 : Treat\_54, Olicious\_54, Immanuel3\_53, Romero\_54
- Track 135 : Vorvolakos\_54, Fabian\_51
- Track 136 : RosePharie\_55
- Track 137 : Manuel\_51
- Track 138 : Dennebes\_58
- Track 139 : Destructrice\_53
- Track 140 : Rowa\_49
- Track 141 : JustBecause\_213, Kela\_211
- Track 142 : EhyElimayoE\_215, Kradal\_214, Quantum\_211, Satis\_212, Sarkar\_223
- Track 143 : Nirvana\_223
- Track 144 : Frankenweenie\_230
- Track 145 : Wentworth\_71
- Track 146 : Yara\_67
- Track 147 : Lizz\_71
- Track 148 : PHTowN\_71, ShakeNBake\_71
- Track 149 : Rooney\_71
- Track 150 : SassyC\_76
- Track 151 : Gibson\_71
- Track 152 : Virizion\_76
- Track 153 : Spooks\_13
- Track 154 : Bimmel\_13
- Track 155 : Success\_13

- Track 156 : Weasels2\_199
- Track 157 : Grayson\_194
- Track 158 : Peregrin\_191
- Track 159 : PerroGrande22\_84
- Track 160 : Smoothie\_147
- Track 161 : Cucurbita\_145, Culver\_146, Toniann\_146, Lozinak\_146
- Track 162 : PhinkBoden\_144
- Track 163 : Aphelion\_145
- Track 164 : OneUp\_130
- Track 165 : CWormy\_63, Arataki\_63, Dialga\_64, Demure\_62, Zeph\_66
- Track 166 : Hortihabitatio\_66
- Track 167 : Crocheter\_64, BetterYeti\_64, PestoPenguin\_67, Gusicorn\_65, ShaggyRogers\_64
- Track 168 : ChickyNuggy\_68
- Track 169 : Secretariat\_64
- Track 170 : Untouchable\_66
- Track 171 : Artorias\_65, FortCran\_65, Capybara\_65, Kerry\_64, Dancer\_65, Gravy\_64
- Track 172 : Nadmeg\_65, Kenosha\_63
- Track 173 : Aflac\_63, Tonaltzin\_67
- Track 174 : Tairn4Wing\_67
- Track 175 : Chikenjars\_62
- Track 176 : Blanky\_64
- Track 177 : Citrus\_63
- Track 178 : EndAve\_65
- Track 179 : Avazak\_66
- Track 180 : Football\_67
- Track 181 : Luthien\_65
- Track 182 : Nithya\_64
- Track 183 : Burley\_64
- Track 184 : Aloe25\_66
- Track 185 : Duffington\_62
- Track 186 : ArtetaBall\_64, Madvan\_64
- Track 187 : Figliar\_62
- Track 188 : Petito\_67
- Track 189 : Odesza\_64, Roney\_65, Magel\_66, Gill\_65
- Track 190 : Rickmore\_61
- Track 191 : Phepper\_65
- Track 192 : Perkunas\_67, SweetCrkHerbs\_67, Talon44\_67
- Track 193 : Pherobrine\_66
- Track 194 : Hydrus\_66
- Track 195 : Fazel\_65
- Track 196 : Bugg\_68
- Track 197 : BluerMoon\_62, OlgasClover\_65
- Track 198 : Conley\_64
- Track 199 : Jodelie19\_62
- Track 200 : Mossy\_67
- Track 201 : MajinBuu\_64, TenaciousP\_64
- Track 202 : Schwartz33\_66
- Track 203 : Mysticmoon\_66
- Track 204 : Glintora\_65
- Track 205 : Tanis\_65
- Track 206 : OhMyWard\_63

- Track 207 : Captrips\_64, NoPickles\_64
- Track 208 : Eddiemania\_66
- Track 209 : Vardy\_63
- Track 210 : AlainaMarie\_63
- Track 211 : Runhaar\_64
- Track 212 : Phendrix\_177, GodonK\_189
- Track 213 : GMA2\_70
- Track 214 : BlueNGold\_172, Mareelih\_173, Boopy\_175
- Track 215 : Sixama\_175
- Track 216 : Agamoto\_44
- Track 217 : Studio\_45
- Track 218 : Mireles\_47
- Track 219 : TMaxx\_46
- Track 220 : Audell\_43
- Track 221 : AnnabelLee\_43
- Track 222 : Makima\_45
- Track 223 : LastNadiia\_46
- Track 224 : Boilgate\_73
- Track 225 : RunningOnE\_15
- Track 226 : Ibantik\_13

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

The start number called the most often in the published annotations is 89, it was called in 109 of the 528 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• AN3\_37, AN9\_40, ANI8\_40, AgentM\_32, Airmid\_33, Aragog\_32, Archetta\_32, B1\_34, BABullseye\_40, BabyRay\_36, Benedict\_33, BlessJoy\_40, Blinn1\_41, Blue7\_41, BlueBird\_37, Bluefalcon\_31, Bonamassa\_32, BroPlease\_35, Bugatti\_36, C3\_35, Chadwick\_34, Chartreuse\_40, Chupacabra\_35, Clammy\_36, Conspiracy\_32, Coog\_32, Cookiedough\_40, Cuco\_32, D29\_36.1, D32\_40, DBQu4n\_40, Discoknowium\_32, Dorothea\_40, Dublin\_31, Duplo\_40, ElTiger69\_33, ForGetIt\_32, Fred313\_36, George\_31, Giroux\_37, Gladiator\_40, Goose\_36, Gruunaga\_40, Hammer\_40, Heathen\_36, HelDan\_36, Helmet\_41, Hoot\_40, HuhtaEnerson15\_32, Idleandcovert\_36, Indra\_42, Isca\_36, Isiphiwo\_40, JF2\_36, JF4\_36, Jabiru\_33, JewelBug\_41, Jordennis\_40, Jovo\_32, Kachowdy\_36, Kazan\_41, Kerberos\_40, Kimona\_33, Koko\_40, Lev2\_32, Lilbooboo\_46, LittleCherry\_32, MA5\_36, MK4\_36, Marchesa\_36, Margo\_35, MarysWell\_31, McFly\_40, Midas2\_32, Milcery\_32, Naca\_33, Naji\_40, Neeharika16\_40, Newrala\_40, Noella\_35, Norbert\_34, OKCentral2016\_35, Panamaxus\_34, PetterN\_34, Phantastic\_36, Phlorence\_32, PickleBack\_32, Pistachio\_37, Polyphemus\_40, Pomar16\_40, Prinash11\_33, Puppy\_37, QuinnKiro\_34, ResDef\_35, Rifter\_40, Rockstar\_36, Roimos\_36, Roksolana\_41, SaturnRing\_36, Scorpia\_34, Scout\_36, SmellyB\_40, StarStuff\_40, SuperAwesome\_40, TNguyen7\_36, Tarynearal\_31, Temprado\_40, Texage\_34, Theia\_30, Tiger\_32, Todacoro\_35, Tomathan\_40, Twigg\_32, VA6\_37, VC3\_40, Veracruz\_34, VohminGhazi\_40,

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

• Caviar\_35, GreenWeasel\_36, Hookmount\_35, Lambert1\_35, Pocahontas\_35, Popcicle\_35, Samora\_48, UnionJack\_33, Vash\_45, phiHau3\_36,

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

• ACFishhook\_40, Aaronocolus\_34, AcciDwight\_239, Aflac\_63, Agamoto\_44, Aglet\_41, AgronaGT15\_40, AlainaMarie\_63, Aloe25\_66, Alsaber\_36, Alvy\_37, Amabiko\_235, Amela\_35, Amethyst\_34, Andris\_34, Anedea\_230, Angela\_219, AngryGiraffe\_228, Animus\_34, AnnabelLee\_43, Anubis\_43, Aphelion\_145, Arataki\_63, Artemis2UCLA\_40, ArtetaBall\_64, Artorias\_65, Asten\_34, Audell\_43, AugsMagnumOpus\_43, Avazak\_66, Axiom\_35, BangNhom\_36, BarryBee\_37, BartholomewSD\_37, Bartholomune\_217, Battuta\_229, BeardedLady\_35, Beauxregard13\_41, BetterYeti\_64, Bimmel\_13, Birchlyn\_230, Blanky\_64, BlueNGold\_172, BlueOtter\_215, BluerMoon\_62, Bmoc\_221, Boilgate\_73, BoomerJR\_228, Boopy\_175, Bordeaux\_229, Bovely\_34, Bowden\_35, Braelyn\_213, Brataylor\_37, BreSam8\_41, Brizzy\_230, BryanRecycles\_35, Bugg\_68, Burley\_64, BuzzBuzz\_39, Bxz2\_38, CWormy\_63, Cadmus\_214, Caelum\_36, Caliburn\_34, Captrips\_64, Capybara\_65, CeilingFan\_235, Celery\_38, Celeste\_35, Cerulean\_37, ChampagnePapi\_37, ChickyNuggy\_68, Chikenjars\_62, Chucky\_34, Citrus\_63, CloudWang3\_40, Conan\_36, Conley\_64, Coogler\_214, Crocheter\_64, Cross\_216, Cucurbita\_145, Cullens\_41, Culver\_146, Cursive\_219, DaHudson\_41, Daishi\_39, Dancer\_65, Danforth\_31, Danzina\_36, Dattran\_36, Daubenski\_210, Daudau\_35, Davielle\_216, Demure\_62, Dennebes\_58, Destructrice\_53, Dexters\_34, Dialga\_64, Diane\_34, Dieselweasel\_41, DontArgue\_35, DroogsArmy\_36, Duffington\_62, DustyMartin\_39, Dwayne\_34, EGole\_220, ELB20\_33, Eddasa\_35, Eddiemania\_66, EhyElimayoE\_215, Ejemplo\_33, ElGato\_36, Elmer\_239, Emaanora\_37, EndAve\_65, EnochSoames\_37, Enygma\_238, EpicPhail\_41, Esperer\_34, Evy\_207, Expelliarmus\_31, Fabian\_51, Farber\_41, Fazel\_65, Fernando\_41, Figliar\_62, Football\_67, FortCran\_65, Frankenweenie\_230, GMA2\_70, Gemma\_40, Genie2\_228, Ghoulboy\_32, Gibbi\_239, Gibson\_71, Gill\_65, GingkoMaracino\_41, GirlDinner\_34, Glintora\_65, Goby\_34, GodonK\_189, Godpower\_35, Gravy\_64, Grayson\_194, Grif\_41, Groupthink\_41, Grub\_41, Grum1\_41, GtownJaz\_41, Gusicorn\_65, HINdeR\_35, Haizum\_36, HangryHippo\_215, Hank144\_36, HashRod\_41, HaugeAnator\_54, HaveUMetTed\_41, Heliosoles\_40, Hercules11\_41, Hexamo\_40, Hippo\_34, Hortihabitatio\_66, Hydra\_36, Hydrus\_66, Ibantik\_13, IchabodCrane\_225, Immanuel3\_53, Indigo\_33, Issmi\_36, Izzy\_35, JHC117\_41, Janus\_35, Jash\_35, Jay2Jay\_222, Jeffabunny\_40, JenCasNa\_41, JeppNRM\_41, Jevington\_37, Jhitchelle\_36, JimJam\_238, Jobu08\_40, Jodelie19\_62, Jollison\_228, JustBecause\_213, KADY\_41, Kaine\_35, Kalb97\_41, Kalnoky\_41, Karimac\_231, Katalie\_34, Kela\_211, Kenosha\_63, KentuckyRacer\_237, Kerry\_64, Kipper29\_40, Kradal\_214, Kumquat\_54, LBerry\_41, LHTSCC\_37, Lannister\_36, Larnav\_216, LarryKay\_40, LastNadiia\_46, Legacy\_34, Leo04\_217, Leviticus\_34, Lika\_34, LilMartin\_216, LilSaint\_218, Lilbunny\_39, Lilith\_41, Lizz\_71, Loofah\_35, Lorelei\_35, Louie6\_40, Lozinak\_146, LugYA\_43, LukeCage\_234, Lululemon\_213, Luthien\_65, MadMarie\_41, Madvan\_64, Magel\_66, Mainiac\_41, MajinBuu\_64, Makima\_45, Malinsilva\_43, Manekul\_34, Manu\_41, Manuel\_51, MarQuardt\_41, Marav\_38, Mareelih\_173, Marie\_41, Marius\_41, Marsus\_219, Methuselah\_39, Micasa\_32, Microwolf\_41, Mildred21\_226, MindFlayer\_224, Mireles\_47, Misomonster\_42, MoneyMay\_41, Mossy\_67, MuchMore\_43, Mugiwara\_238, MulchMansion\_220, Mysticmoon\_66, Nabi\_35, Nadmeg\_65, Nanodon\_36, Navo\_211, NearlyHeadless\_32, Nirvana\_223, Nishikigoi\_36, Nithya\_64, NoPickles\_64, NootNoot\_214, Obama12\_37, Odesza\_64, OhMyWard\_63, OlanP\_40, OlgasClover\_65, Olicious\_54, Oliynyk\_35, Ollie\_41, Omar\_37, OneUp\_130, Ozzie\_34, OzzyJ\_35, P28Green\_41, PGHhamlin\_43, PHTowN\_71, Pablito\_34,

PacManQ\_213, Paedore\_34, Paolo\_37, Paradiddles\_209, Pavo\_36, Pawn\_40, Peebs\_214, Pembroke\_41, Penny1\_41, Pepperwood\_217, Percastrophe\_54, Peregrin\_191, Perkunas\_67, PerroGrande22\_84, Persimmon\_220, PestoPenguin\_67, Petite\_67, Phendrix\_177, Phepper\_65, Pherobrine\_66, Phettuccine\_34, PhinkBoden\_144, PhishRPhriends\_39, Phoebe\_41, Phoxy\_40, Phranny\_41, PinkiePie\_217, PotatoSplit\_42, Priamo\_41, Provolone\_36, Puginator\_37, PumpkinSpice\_234, PurpleHaze\_40, Quantum\_211, Quaran19\_231, R4\_35, Rana\_35, Reba\_41, RedBear\_35, RemusLoopin\_46, RhynO\_36, Rickmore\_61, Rikishi\_232, Riptide\_218, Roary\_32, Romero\_54, Roney\_65, Rooney\_71, RosePharie\_55, Rowa\_49, Rowdy\_39, Rummer\_40, Runhaar\_64, RunningOnE\_15, Rusticus\_35, Sabia\_41, Sabinator\_40, Saftant\_35, SaltySpittoon\_231, Samisti12\_221, SarahRose\_34, Sarkar\_223, SassyC\_76, Satis\_212, Scheme\_220, Schwartz33\_66, Sebastisaurus\_45, Secretariat\_64, ShaggyRogers\_64, ShakeNBake\_71, Shapes\_39, Shawty\_45, SheldonCooper\_37, Shuckle\_214, Sixama\_175, Smoothie\_147, Snickers\_41, Snorlax\_34, SoYo\_41, SoilDragon\_40, Sollertia\_229, Soshari\_42, South40\_34, Speedwell\_40, Spelly\_236, Spike509\_40, Spilled\_238, Spooks\_13, SqueakyClean\_34, Squillium\_220, Stagni\_41, Stanimal\_228, StarPlatinum\_238, Starbow\_228, StepMih\_41, Stephig9\_32, Stink\_36, Studio\_45, Success\_13, Sudan\_36, Sujidade\_35, SunkenRoot\_37, SunsetPointe\_34, Superstar\_38, Sushi23\_217, SweetCrkHerbs\_67, Swirley\_32, SydNat\_32, TMaxx\_46, TagePhighter\_36, Tairn4Wing\_67, Talon44\_67, Tanis\_65, Targaryen\_216, Taurus\_41, Tefunt\_36, TenaciousP\_64, Teutsch\_216, Thestral\_36, Tiffany\_41, Timshel\_36, TinaBelcher\_35, TinyPebbles\_40, TomSawyer\_235, Toma\_34, Tomas\_229, Tonaltzin\_67, ToneTone\_37, Toniann\_146, ToriToki\_54, Treat\_54, Tribute\_213, Triste\_34, Triumph\_36, TrvxScott\_34, TuanPN\_33, Tucker\_40, Unstoppable\_34, Untouchable\_66, Vanseggelen\_40, Vardy\_63, Verabelle\_38, Verse\_35, Virizion\_76, Vix\_41, Vorvolakos\_54, WRightOn\_58, Warpy\_220, Watermoore\_216, Watson\_41, Weasels2\_199, Wentworth\_71, Werner\_34, Whatever\_34, WhereRU\_216, Wiks\_39, Wipeout\_221, Wofford\_231, Wooldri\_43, WunderPhul\_40, Yaboi\_233, Yara\_67, Yasdnil\_34, Yokurt\_40, Yosif\_37, Zainub\_37, Zaka\_40, ZamZam\_38, Zeigle\_54, Zemlya\_36, Zeph\_66, Zetzy\_40, Zolita\_31, ZooBear\_54, Zulu\_40, phiBT1\_20, phiCAM\_34,

### Summary by start number:

#### Start 34:

- Found in 7 of 581 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Jodelie19\_62 (DJ),

#### Start 56:

- Found in 23 of 581 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 13 of 528
- Called 65.2% of time when present
- Phage (with cluster) where this start called: Artorias\_65 (DJ), Captrips\_64 (DJ), Copybara\_65 (DJ), Conley\_64 (DJ), Dancer\_65 (DJ), Football\_67 (DJ), FortCran\_65 (DJ), Gravy\_64 (DJ), Kerry\_64 (DJ), NoPickles\_64 (DJ), Perkunas\_67 (DJ), Petite\_67 (DJ), SweetCrkHerbs\_67 (DJ), Talon44\_67 (DJ), Tanis\_65 (DJ),

#### Start 62:

- Found in 4 of 581 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 528

- Called 50.0% of time when present
- Phage (with cluster) where this start called: GreenWeasel\_36 (BD4), phiHau3\_36 (BD4),

#### Start 64:

- Found in 51 of 581 ( 8.8% ) of genes in pham
- Manual Annotations of this start: 25 of 528
- Called 60.8% of time when present
- Phage (with cluster) where this start called: Arataki\_63 (DJ), BetterYeti\_64 (DJ), Blanky\_64 (DJ), BluerMoon\_62 (DJ), CWormy\_63 (DJ), Chickenjars\_62 (DJ), Citrus\_63 (DJ), Crocheter\_64 (DJ), Demure\_62 (DJ), Dialga\_64 (DJ), Eddiemania\_66 (DJ), Fazel\_65 (DJ), Figliar\_62 (DJ), Gusicorn\_65 (DJ), Kenosha\_63 (DJ), Luthien\_65 (DJ), MajinBuu\_64 (DJ), Mossy\_67 (DJ), Nadmeg\_65 (DJ), Nithya\_64 (DJ), OlgasClover\_65 (DJ), PestoPenguin\_67 (DJ), Phepper\_65 (DJ), Pherobrine\_66 (DJ), Rickmore\_61 (DJ), Runhaar\_64 (DJ), Schwartz33\_66 (DJ), Secretariat\_64 (DJ), ShaggyRogers\_64 (DJ), TenaciousP\_64 (DJ), Zeph\_66 (DJ),

#### Start 68:

- Found in 2 of 581 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GodonK\_189 (DK), Phendrix\_177 (DK),

#### Start 69:

- Found in 16 of 581 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Elmer\_239 (BE2),

#### Start 70:

- Found in 45 of 581 ( 7.7% ) of genes in pham
- Manual Annotations of this start: 11 of 528
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Aflac\_63 (DJ), AlainaMarie\_63 (DJ), Aloe25\_66 (DJ), ArtetaBall\_64 (DJ), Burley\_64 (DJ), Duffington\_62 (DJ), EndAve\_65 (DJ), Glintora\_65 (DJ), Hortihabitatio\_66 (DJ), Hydrus\_66 (DJ), Madvan\_64 (DJ), OhMyWard\_63 (DJ), Tonaltzin\_67 (DJ), Untouchable\_66 (DJ), Vardy\_63 (DJ),

#### Start 73:

- Found in 85 of 581 ( 14.6% ) of genes in pham
- Manual Annotations of this start: 12 of 528
- Called 14.1% of time when present
- Phage (with cluster) where this start called: ACFishhook\_40 (A3), Beauxregard13\_41 (A3), GingkoMaracino\_41 (A3), Grub\_41 (A3), Grum1\_41 (A3), Hercules11\_41 (A3), MoneyMay\_41 (A3), Sabia\_41 (A3), Snickers\_41 (A3), SoYo\_41 (A3), Watson\_41 (A3), Wooldri\_43 (A3),

#### Start 74:

- Found in 38 of 581 ( 6.5% ) of genes in pham
- Manual Annotations of this start: 36 of 528
- Called 97.4% of time when present
- Phage (with cluster) where this start called: Aaronocolus\_34 (BD1), Asten\_34 (BD1), BarryBee\_37 (BD1), BeardedLady\_35 (BD1), Bovely\_34 (BD1), BryanRecycles\_35

(BD1), Chucky\_34 (BD1), Dwayne\_34 (BD1), Eddasa\_35 (BD1), Ejemplo\_33 (BD1), Emaanora\_37 (BD1), EnochSoames\_37 (BD1), Esperer\_34 (BD1), Hippo\_34 (BD1), Hydra\_36 (BD1), Indigo\_33 (BD1), Izzy\_35 (BD1), Jash\_35 (BD1), Lannister\_36 (BD1), Legacy\_34 (BD1), Leviticus\_34 (BD1), Maneekul\_34 (BD1), Oliynyk\_35 (BD1), Ozzie\_34 (BD1), OzzyJ\_35 (BD1), Phettuccine\_34 (BD1), Rusticus\_35 (BD1), SarahRose\_34 (BD1), Snorlax\_34 (BD1), SunsetPointe\_34 (BD1), TAgePhighter\_36 (BD1), Triste\_34 (BD1), TuanPN\_33 (BD1), Unstoppable\_34 (BD1), Werner\_34 (BD1), Whatever\_34 (BD1), Yasdnil\_34 (BD1),

#### Start 76:

- Found in 35 of 581 ( 6.0% ) of genes in pham
- Manual Annotations of this start: 31 of 528
- Called 94.3% of time when present
- Phage (with cluster) where this start called: AcciDwight\_239 (BE2), Amabiko\_235 (BE2), AngryGiraffe\_228 (BE2), Battuta\_229 (BE2), Birchlyn\_230 (BE2), BoomerJR\_228 (BE2), Bordeaux\_229 (BE2), Brizzy\_230 (BE2), Cadmus\_214 (BE1), CeilingFan\_235 (BE2), Enygma\_238 (BE2), Genie2\_228 (BE2), Gibbi\_239 (BE2), IchabodCrane\_225 (BE2), JimJam\_238 (BE2), Jollison\_228 (BE2), Karimac\_231 (BE2), KentuckyRacer\_237 (BE2), LukeCage\_234 (BE2), MindFlayer\_224 (BE2), Mugiwara\_238 (BE2), PumpkinSpice\_234 (BE2), Quarant19\_231 (BE2), Rikishi\_232 (BE2), SaltySpittoon\_231 (BE2), Sollertia\_229 (BE2), Spelly\_236 (BE2), Spilled\_238 (BE2), Stanimal\_228 (BE2), StarPlatinum\_238 (BE2), Starbow\_228 (BE2), TomSawyer\_235 (BE2), Wipeout\_221 (BE2),

#### Start 77:

- Found in 6 of 581 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 4 of 528
- Called 66.7% of time when present
- Phage (with cluster) where this start called: RemusLoopin\_46 (BB2), Rowa\_49 (BL), Samora\_48 (BB1), Vash\_45 (BB1),

#### Start 78:

- Found in 2 of 581 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Daubenski\_210 (BE1),

#### Start 79:

- Found in 2 of 581 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 50.0% of time when present
- Phage (with cluster) where this start called: UnionJack\_33 (A5),

#### Start 81:

- Found in 2 of 581 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Axiom\_35 (BD2), Triumph\_36 (BD2),

#### Start 82:

- Found in 8 of 581 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 25.0% of time when present

- Phage (with cluster) where this start called: Lizz\_71 (BN), Wofford\_231 (BE2),

#### Start 83:

- Found in 20 of 581 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 12 of 528
- Called 65.0% of time when present
- Phage (with cluster) where this start called: Amethyst\_34 (BD2), Andris\_34 (BD2), Diane\_34 (BD2), ELB20\_33 (BD2), Haizum\_36 (BD2), Loofah\_35 (BD2), Nanodon\_36 (BD1), Nishikigoi\_36 (BD2), Paedore\_34 (BD2), R4\_35 (BD2), Superstar\_38 (BD2), Tefunt\_36 (BD2), Zemlya\_36 (BD1),

#### Start 84:

- Found in 11 of 581 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 10 of 528
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Daudau\_35 (BD2), Gill\_65 (DJ), Hank144\_36 (BD2), Issmi\_36 (BD2), Jevington\_37 (BD2), Magel\_66 (DJ), Marav\_38 (BD2), Odesza\_64 (DJ), Pablito\_34 (BD2), Roney\_65 (DJ),

#### Start 85:

- Found in 26 of 581 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 18 of 528
- Called 80.8% of time when present
- Phage (with cluster) where this start called: Aphelion\_145 (CQ1), Audell\_43 (FR), EhyElimayoE\_215 (BM), Frankenweenie\_230 (BM), GMA2\_70 (DS), Goby\_34 (BD1), Godpower\_35 (BD1), JustBecause\_213 (BM), Kela\_211 (BM), Kradal\_214 (BM), Lika\_34 (BD1), Nirvana\_223 (BM), OneUp\_130 (CQ2), PerroGrande22\_84 (CC), PhinkBoden\_144 (CQ1), Quantum\_211 (BM), Sarkar\_223 (BM), Satis\_212 (BM), Smoothie\_147 (CQ1), Sujidade\_35 (BD1), Toma\_34 (BD1),

#### Start 86:

- Found in 27 of 581 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 15 of 528
- Called 81.5% of time when present
- Phage (with cluster) where this start called: Alsaber\_36 (BD3), Amela\_35 (BD3), Celery\_38 (BD3), Conan\_36 (BD3), Dexers\_34 (BD3), ElGato\_36 (BD3), Jhitchelle\_36 (BD3), Kaine\_35 (BD3), Katalie\_34 (BD1), Pavo\_36 (BD3), Provolone\_36 (BD3), RedBear\_35 (BD1), Saftant\_35 (BD3), South40\_34 (BD1), Speedwell\_40 (BD3), Sudan\_36 (BD3), SunkenRoot\_37 (BD3), Vanseggelen\_40 (BD3), Verabelle\_38 (BD3), Verse\_35 (BD3), Yosif\_37 (BD3), ZamZam\_38 (BD3),

#### Start 87:

- Found in 1 of 581 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yara\_67 (BN),

#### Start 88:

- Found in 31 of 581 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 25 of 528
- Called 83.9% of time when present
- Phage (with cluster) where this start called: Alvy\_37 (BD2), Animus\_34 (BD2), BartholomewSD\_37 (BD2), BlueNGold\_172 (DS), Boopy\_175 (DS), Bowden\_35

(BD2), Brataylor\_37 (BD1), Caelum\_36 (BD2), Celeste\_35 (BD1), Danzina\_36 (BD1), Dattran\_36 (BD1), GirlDinner\_34 (BD2), Ibantik\_13 (singleton), Janus\_35 (BD2), Lorelei\_35 (BD1), Mareelih\_173 (DS), Nabi\_35 (BD1), Omar\_37 (BD2), Rana\_35 (BD1), SassyC\_76 (BN), SqueakyClean\_34 (BD2), Thestral\_36 (BD2), TinaBelcher\_35 (BD2), Tomas\_229 (BE2), TrvxScott\_34 (BD2), Zainub\_37 (BD2),

Start 89:

- Found in 127 of 581 ( 21.9% ) of genes in pham
- Manual Annotations of this start: 109 of 528
- Called 92.1% of time when present
- Phage (with cluster) where this start called: AN3\_37 (A2), AN9\_40 (A2), ANI8\_40 (A2), AgentM\_32 (A5), Airmid\_33 (A5), Aragog\_32 (A5), Archetta\_32 (A5), B1\_34 (A3), BABullseye\_40 (A6), BabyRay\_36 (A3), Benedict\_33 (A5), BlessJoy\_40 (A6), Blinn1\_41 (A6), Blue7\_41 (A6), BlueBird\_37 (A3), Bluefalcon\_31 (A5), Bonamassa\_32 (A5), BroPlease\_35 (BD4), Bugatti\_36 (A3), C3\_35 (A2), Chadwick\_34 (A5), Chartreuse\_40 (A6), Chupacabra\_35 (A10), Clammy\_36 (A3), Conspiracy\_32 (A5), Coog\_32 (A5), Cookiedough\_40 (A6), Cuco\_32 (A5), D29\_36.1 (A2), D32\_40 (A2), DBQu4n\_40 (A2), Discoknowium\_32 (A5), Dorothea\_40 (A6), Dublin\_31 (A5), Duplo\_40 (A2), ElTiger69\_33 (A5), ForGetIt\_32 (A5), Fred313\_36 (A3), George\_31 (A5), Giroux\_37 (A3), Gladiator\_40 (A6), Goose\_36 (A10), Gruunaga\_40 (A6), Hammer\_40 (A6), Heathen\_36 (A3), HelDan\_36 (A3), Helmet\_41 (A6), Hoot\_40 (A6), HuhtaEnerson15\_32 (A5), Idleandcovert\_36 (A3), Indra\_42 (A6), Isca\_36 (A3), Isiphiwo\_40 (A6), JF2\_36 (A3), JF4\_36 (A3), Jabiru\_33 (A5), JewelBug\_41 (A6), Jordennis\_40 (A6), Jovo\_32 (A5), Kachowdy\_36 (A3), Kazan\_41 (A6), Kerberos\_40 (A2), Kimona\_33 (A19), Koko\_40 (A6), Lev2\_32 (A5), Lilbooboo\_46 (BB1), LittleCherry\_32 (A5), MA5\_36 (A3), MK4\_36 (A3), Marchesa\_36 (A3), Margo\_35 (A3), MarysWell\_31 (A5), McFly\_40 (A6), Midas2\_32 (A5), Milcery\_32 (A5), Naca\_33 (A5), Naji\_40 (A2), Neeharika16\_40 (A6), Newrala\_40 (A6), Noella\_35 (A3), Norbert\_34 (A3), OKCentral2016\_35 (A10), Panamaxus\_34 (A3), PetterN\_34 (A5), Phantastic\_36 (A3), Phlorence\_32 (A5), PickleBack\_32 (A5), Pistachio\_37 (A3), Polyphemus\_40 (A6), Pomar16\_40 (A2), Prinash11\_33 (A5), Puppy\_37 (A3), QuinnKiro\_34 (A3), ResDef\_35 (A3), Rifter\_40 (A6), Rockstar\_36 (A3), Roimos\_36 (A3), Roksolana\_41 (A6), SaturnRing\_36 (A3), Scorpio\_34 (A5), Scout\_36 (A3), SmellyB\_40 (A6), StarStuff\_40 (A2), SuperAwesome\_40 (A6), TNguyen7\_36 (A3), Tarynearal\_31 (A5), Temprado\_40 (A6), Texage\_34 (A3), Theia\_30 (A5), Tiger\_32 (A5), Todacoro\_35 (A3), Tomathan\_40 (A2), Twigg\_32 (A5), VA6\_37 (A2), VC3\_40 (A2), Veracruz\_34 (A3), VohminGhazi\_40 (A6),

Start 90:

- Found in 87 of 581 ( 15.0% ) of genes in pham
- Manual Annotations of this start: 74 of 528
- Called 85.1% of time when present
- Phage (with cluster) where this start called: Aglet\_41 (A3), AgronaGT15\_40 (A3), Anubis\_43 (A3), AugsMagnumOpus\_43 (A3), BreSam8\_41 (A3), BuzzBuzz\_39 (A3), Bxz2\_38 (A3), Cucurbita\_145 (CQ1), Cullens\_41 (A3), Culver\_146 (CQ1), DaHudson\_41 (A3), Daishi\_39 (A3), Dieselweasel\_41 (A3), EpicPhail\_41 (A3), Farber\_41 (A3), Fernando\_41 (A3), Gemma\_40 (A3), Grif\_41 (A3), Groupthink\_41 (A3), GtownJaz\_41 (A3), HashRod\_41 (A3), HaveUMetTed\_41 (A3), Heliosoles\_40 (A3), JHC117\_41 (A3), JenCasNa\_41 (A3), JeppNRM\_41 (A3), Jobu08\_40 (A3), KADY\_41 (A3), Kalb97\_41 (A3), Kalnoky\_41 (A3), LBerry\_41 (A3), LarryKay\_40 (A3), Lilith\_41 (A3), Louie6\_40 (A3), Lozinak\_146 (CQ1), LugYA\_43 (A3), MadMarie\_41 (A3), Mainiac\_41 (A3), Malinsilva\_43 (A3), Manu\_41 (A3), MarQuardt\_41 (A3), Marie\_41 (A3), Marius\_41 (A3), Methuselah\_39 (A3), Microwolf\_41 (A3),

Misomonster\_42 (A3), MuchMore\_43 (A3), OlanP\_40 (A3), Ollie\_41 (A3), P28Green\_41 (A3), PGHhamlin\_43 (A3), Pawn\_40 (A3), Pembroke\_41 (A3), Penny1\_41 (A3), PhishRPhriends\_39 (A3), Phoebe\_41 (A3), Phoxy\_40 (A3), Phranny\_41 (A3), PotatoSplit\_42 (A3), PurpleHaze\_40 (A3), Reba\_41 (A3), Rummer\_40 (A3), Sabinator\_40 (A3), SoilDragon\_40 (A3), Soshari\_42 (A3), Spike509\_40 (A3), Stagni\_41 (A3), StepMih\_41 (A3), Taurus\_41 (A3), Tiffany\_41 (A3), TinyPebbles\_40 (A3), Toniann\_146 (CQ1), Vix\_41 (A3), Zetzy\_40 (A3),

Start 91:

- Found in 14 of 581 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 5 of 528
- Called 35.7% of time when present
- Phage (with cluster) where this start called: Caviar\_35 (A3), Hookmount\_35 (A3), Lambert1\_35 (A3), Pocahontas\_35 (A3), Popcicle\_35 (A3),

Start 92:

- Found in 19 of 581 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 15 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA\_40 (A6), CloudWang3\_40 (A6), DontArgue\_35 (A10), DustyMartin\_39 (A10), Hexamo\_40 (A6), Jeffabunny\_40 (A6), Kipper29\_40 (A6), Lilbunny\_39 (A6), Priamo\_41 (A6), RhynO\_36 (A10), Rowdy\_39 (A10), Shapes\_39 (A10), ToneTone\_37 (A6), Tucker\_40 (A6), Wiks\_39 (A6), WunderPhul\_40 (A6), Yokurt\_40 (A6), Zaka\_40 (A6), Zulu\_40 (A6),

Start 93:

- Found in 14 of 581 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 14 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BangNhom\_36 (A4), Cerulean\_37 (A4), ChampagnePapi\_37 (A4), Danforth\_31 (A8), Expelliarmus\_31 (A8), HINdeR\_35 (A7), LHTSCC\_37 (A4), NearlyHeadless\_32 (A8), Obama12\_37 (A4), Roary\_32 (A8), SheldonCooper\_37 (A4), StepHig9\_32 (A8), Stink\_36 (A4), Timshel\_36 (A7),

Start 94:

- Found in 16 of 581 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 15 of 528
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Fabian\_51 (BF), Ghoulboy\_32 (A5), HaugeAnator\_54 (BF), Immanuel3\_53 (BF), Micasa\_32 (A5), Olicious\_54 (BF), Percastrophe\_54 (BF), Romero\_54 (BF), Swirley\_32 (A5), SydNat\_32 (A5), ToriToki\_54 (BF), Treat\_54 (BF), Vorvolakos\_54 (BF), Zolita\_31 (A5), ZooBear\_54 (BF),

Start 95:

- Found in 4 of 581 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 3 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnnabelLee\_43 (FR), DroogsArmy\_36 (A7), Studio\_45 (FR), Weasels2\_199 (CB),

Start 96:

- Found in 1 of 581 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RosePharie\_55 (BF),

Start 97:

- Found in 3 of 581 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 3 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumquat\_54 (BF), WRightOn\_58 (BF), Zeigle\_54 (BF),

Start 98:

- Found in 2 of 581 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Destructrice\_53 (BF), Manuel\_51 (BF),

Start 100:

- Found in 1 of 581 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spooks\_13 (BT),

Start 101:

- Found in 4 of 581 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Rooney\_71 (BN), Wentworth\_71 (BN),

Start 103:

- Found in 50 of 581 ( 8.6% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 8.0% of time when present
- Phage (with cluster) where this start called: Bugg\_68 (DJ), Grayson\_194 (CB), Peregrin\_191 (CB), RunningOnE\_15 (UNK),

Start 105:

- Found in 3 of 581 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Dennebes\_58 (BF),

Start 106:

- Found in 37 of 581 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 10.8% of time when present
- Phage (with cluster) where this start called: Avazak\_66 (DJ), Sixama\_175 (DS), Tairn4Wing\_67 (DJ), Virizion\_76 (BN),

Start 107:

- Found in 81 of 581 ( 13.9% ) of genes in pham
- Manual Annotations of this start: 11 of 528

- Called 13.6% of time when present
- Phage (with cluster) where this start called: Anedea\_230 (BE1), Bmoc\_221 (BE1), Coogler\_214 (BE1), Jay2Jay\_222 (BE1), Leo04\_217 (BE1), LilSaint\_218 (BE1), PinkiePie\_217 (BE1), Shuckle\_214 (BE1), Targaryen\_216 (BE1), Warpy\_220 (BE1), Yaboi\_233 (BE2),

#### Start 109:

- Found in 159 of 581 ( 27.4% ) of genes in pham
- Manual Annotations of this start: 6 of 528
- Called 4.4% of time when present
- Phage (with cluster) where this start called: Bimmel\_13 (BT), Gibson\_71 (BN), PHTown\_71 (BN), ShakeNBake\_71 (BN), Shawty\_45 (BB1), Success\_13 (BT), phiBT1\_20 (BB1),

#### Start 110:

- Found in 50 of 581 ( 8.6% ) of genes in pham
- Manual Annotations of this start: 18 of 528
- Called 36.0% of time when present
- Phage (with cluster) where this start called: Angela\_219 (BE1), Bartholomune\_217 (BE1), Braelyn\_213 (BE1), Cursive\_219 (BE1), Davielle\_216 (BE1), Larnav\_216 (BE1), LilMartin\_216 (BE1), Navo\_211 (BE1), NootNoot\_214 (BE1), Paradiddles\_209 (BE1), Persimmon\_220 (BE1), Riptide\_218 (BE1), Samisti12\_221 (BE1), Scheme\_220 (BE1), Sushi23\_217 (BE1), Tribute\_213 (BE1), Watermoore\_216 (BE1), WhereRU\_216 (BE1),

#### Start 111:

- Found in 36 of 581 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 5.6% of time when present
- Phage (with cluster) where this start called: Puginator\_37 (BD2), phiCAM\_34 (BD3),

#### Start 112:

- Found in 80 of 581 ( 13.8% ) of genes in pham
- Manual Annotations of this start: 13 of 528
- Called 16.2% of time when present
- Phage (with cluster) where this start called: BlueOtter\_215 (BE1), Cross\_216 (BE1), EGole\_220 (BE1), Evy\_207 (BE1), HangryHippo\_215 (BE1), Lululemon\_213 (BE1), Marsus\_219 (BE1), MulchMansion\_220 (BE1), PacManQ\_213 (BE1), Peebs\_214 (BE1), Pepperwood\_217 (BE1), Squillium\_220 (BE1), Teutsch\_216 (BE1),

#### Start 114:

- Found in 97 of 581 ( 16.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.0% of time when present
- Phage (with cluster) where this start called: Makima\_45 (FR),

#### Start 115:

- Found in 101 of 581 ( 17.4% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Agamoto\_44 (FR), Caliburn\_34 (BD1), LastNadiia\_46 (FR), Mireles\_47 (FR), Paolo\_37 (BD2), TMaxx\_46 (FR),

Start 116:

- Found in 13 of 581 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 2 of 528
- Called 15.4% of time when present
- Phage (with cluster) where this start called: Boilgate\_73 (K8), Mildred21\_226 (BE1),

Start 117:

- Found in 135 of 581 ( 23.2% ) of genes in pham
- Manual Annotations of this start: 1 of 528
- Called 2.2% of time when present
- Phage (with cluster) where this start called: ChickyNuggy\_68 (DJ), Mysticmoon\_66 (DJ), Sebastisaurus\_45 (BB2),

### **Summary by clusters:**

There are 33 clusters represented in this pham: singleton, DJ, DK, BL, BM, BN, BF, BT, K8, DS, UNK, A10, FR, A19, BD4, A3, A2, BD1, A4, BD3, A6, A8, CQ1, BB2, BB1, A7, CC, CB, BD2, CQ2, A5, BE2, BE1,

Info for manual annotations of cluster A10:

- Start number 89 was manually annotated 3 times for cluster A10.
- Start number 92 was manually annotated 1 time for cluster A10.

Info for manual annotations of cluster A19:

- Start number 89 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 89 was manually annotated 15 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 73 was manually annotated 12 times for cluster A3.
- Start number 89 was manually annotated 28 times for cluster A3.
- Start number 90 was manually annotated 70 times for cluster A3.
- Start number 91 was manually annotated 5 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 93 was manually annotated 7 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 79 was manually annotated 1 time for cluster A5.
- Start number 89 was manually annotated 32 times for cluster A5.
- Start number 94 was manually annotated 5 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 89 was manually annotated 28 times for cluster A6.
- Start number 92 was manually annotated 14 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 93 was manually annotated 2 times for cluster A7.
- Start number 95 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster A8:

- Start number 93 was manually annotated 5 times for cluster A8.

Info for manual annotations of cluster BB1:

- Start number 77 was manually annotated 2 times for cluster BB1.
- Start number 89 was manually annotated 1 time for cluster BB1.
- Start number 109 was manually annotated 1 time for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 77 was manually annotated 1 time for cluster BB2.
- Start number 117 was manually annotated 1 time for cluster BB2.

Info for manual annotations of cluster BD1:

- Start number 74 was manually annotated 36 times for cluster BD1.
- Start number 83 was manually annotated 2 times for cluster BD1.
- Start number 85 was manually annotated 5 times for cluster BD1.
- Start number 86 was manually annotated 3 times for cluster BD1.
- Start number 88 was manually annotated 7 times for cluster BD1.
- Start number 115 was manually annotated 1 time for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 81 was manually annotated 2 times for cluster BD2.
- Start number 83 was manually annotated 10 times for cluster BD2.
- Start number 84 was manually annotated 6 times for cluster BD2.
- Start number 88 was manually annotated 13 times for cluster BD2.
- Start number 111 was manually annotated 1 time for cluster BD2.
- Start number 115 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 86 was manually annotated 12 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 62 was manually annotated 2 times for cluster BD4.
- Start number 89 was manually annotated 1 time for cluster BD4.

Info for manual annotations of cluster BE1:

- Start number 76 was manually annotated 1 time for cluster BE1.
- Start number 78 was manually annotated 1 time for cluster BE1.
- Start number 107 was manually annotated 10 times for cluster BE1.
- Start number 110 was manually annotated 18 times for cluster BE1.
- Start number 112 was manually annotated 13 times for cluster BE1.
- Start number 116 was manually annotated 1 time for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 69 was manually annotated 1 time for cluster BE2.
- Start number 76 was manually annotated 30 times for cluster BE2.
- Start number 82 was manually annotated 1 time for cluster BE2.
- Start number 88 was manually annotated 1 time for cluster BE2.
- Start number 107 was manually annotated 1 time for cluster BE2.

Info for manual annotations of cluster BF:

- Start number 94 was manually annotated 10 times for cluster BF.
- Start number 96 was manually annotated 1 time for cluster BF.
- Start number 97 was manually annotated 3 times for cluster BF.
- Start number 98 was manually annotated 2 times for cluster BF.

- Start number 105 was manually annotated 1 time for cluster BF.

Info for manual annotations of cluster BL:

- Start number 77 was manually annotated 1 time for cluster BL.

Info for manual annotations of cluster BM:

- Start number 85 was manually annotated 8 times for cluster BM.

Info for manual annotations of cluster BN:

- Start number 82 was manually annotated 1 time for cluster BN.
- Start number 87 was manually annotated 1 time for cluster BN.
- Start number 101 was manually annotated 2 times for cluster BN.
- Start number 109 was manually annotated 3 times for cluster BN.

Info for manual annotations of cluster BT:

- Start number 100 was manually annotated 1 time for cluster BT.
- Start number 109 was manually annotated 2 times for cluster BT.

Info for manual annotations of cluster CB:

- Start number 95 was manually annotated 1 time for cluster CB.
- Start number 103 was manually annotated 2 times for cluster CB.

Info for manual annotations of cluster CQ1:

- Start number 85 was manually annotated 3 times for cluster CQ1.
- Start number 90 was manually annotated 4 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 85 was manually annotated 1 time for cluster CQ2.

Info for manual annotations of cluster DJ:

- Start number 34 was manually annotated 1 time for cluster DJ.
- Start number 56 was manually annotated 13 times for cluster DJ.
- Start number 64 was manually annotated 25 times for cluster DJ.
- Start number 70 was manually annotated 11 times for cluster DJ.
- Start number 84 was manually annotated 4 times for cluster DJ.
- Start number 106 was manually annotated 1 time for cluster DJ.

Info for manual annotations of cluster DK:

- Start number 68 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DS:

- Start number 88 was manually annotated 3 times for cluster DS.
- Start number 106 was manually annotated 1 time for cluster DS.

Info for manual annotations of cluster FR:

- Start number 85 was manually annotated 1 time for cluster FR.
- Start number 95 was manually annotated 1 time for cluster FR.

Info for manual annotations of cluster K8:

- Start number 116 was manually annotated 1 time for cluster K8.

**Gene Information:**

Gene: ACFishhook\_40 Start: 28503, Stop: 28093, Start Num: 73

Candidate Starts for ACFishhook\_40:

(10, 28701), (Start: 73 @28503 has 12 MA's), (Start: 90 @28476 has 74 MA's), (Start: 109 @28431 has 6 MA's), (147, 28260), (150, 28248),

Gene: AN3\_37 Start: 28097, Stop: 27681, Start Num: 89

Candidate Starts for AN3\_37:

(6, 28388), (8, 28376), (Start: 89 @28097 has 109 MA's), (150, 27866), (188, 27734), (198, 27713), (203, 27695),

Gene: AN9\_40 Start: 28082, Stop: 27666, Start Num: 89

Candidate Starts for AN9\_40:

(7, 28370), (Start: 89 @28082 has 109 MA's), (150, 27851), (188, 27719), (198, 27698), (203, 27680),

Gene: ANI8\_40 Start: 28082, Stop: 27666, Start Num: 89

Candidate Starts for ANI8\_40:

(7, 28370), (Start: 89 @28082 has 109 MA's), (150, 27851), (188, 27719), (198, 27698), (203, 27680),

Gene: Aaronocolus\_34 Start: 25685, Stop: 26173, Start Num: 74

Candidate Starts for Aaronocolus\_34:

(49, 25637), (Start: 74 @25685 has 36 MA's), (108, 25757), (Start: 115 @25802 has 2 MA's), (136, 25904), (173, 26021), (216, 26141), (228, 26168),

Gene: AcciDwight\_239 Start: 109317, Stop: 109685, Start Num: 76

Candidate Starts for AcciDwight\_239:

(Start: 76 @109317 has 31 MA's), (Start: 107 @109377 has 11 MA's), (Start: 112 @109401 has 13 MA's), (125, 109467), (130, 109488), (139, 109521), (146, 109536), (189, 109671),

Gene: Aflac\_63 Start: 46335, Stop: 46781, Start Num: 70

Candidate Starts for Aflac\_63:

(Start: 34 @46263 has 1 MA's), (45, 46296), (Start: 64 @46326 has 25 MA's), (Start: 70 @46335 has 11 MA's), (Start: 117 @46467 has 1 MA's), (136, 46560), (166, 46668), (178, 46719),

Gene: Agamoto\_44 Start: 32914, Stop: 32543, Start Num: 115

Candidate Starts for Agamoto\_44:

(Start: 85 @33010 has 18 MA's), (Start: 103 @32971 has 2 MA's), (Start: 109 @32953 has 6 MA's), (Start: 115 @32914 has 2 MA's), (175, 32683), (188, 32641),

Gene: AgentM\_32 Start: 27051, Stop: 26542, Start Num: 89

Candidate Starts for AgentM\_32:

(Start: 89 @27051 has 109 MA's),

Gene: Aglet\_41 Start: 28577, Stop: 28194, Start Num: 90

Candidate Starts for Aglet\_41:

(Start: 73 @28604 has 12 MA's), (Start: 90 @28577 has 74 MA's), (Start: 109 @28532 has 6 MA's), (147, 28361), (150, 28349),

Gene: AgronaGT15\_40 Start: 28395, Stop: 28012, Start Num: 90

Candidate Starts for AgronaGT15\_40:

(Start: 73 @28422 has 12 MA's), (Start: 90 @28395 has 74 MA's), (Start: 103 @28368 has 2 MA's),  
(Start: 109 @28350 has 6 MA's), (147, 28179), (150, 28167),

Gene: Airmid\_33 Start: 26678, Stop: 26169, Start Num: 89

Candidate Starts for Airmid\_33:

(Start: 89 @26678 has 109 MA's),

Gene: AlainaMarie\_63 Start: 46290, Stop: 46832, Start Num: 70

Candidate Starts for AlainaMarie\_63:

(37, 46224), (Start: 64 @46281 has 25 MA's), (Start: 70 @46290 has 11 MA's), (Start: 117 @46422  
has 1 MA's), (130, 46488), (136, 46515), (151, 46578), (166, 46623), (191, 46716),

Gene: Aloe25\_66 Start: 46400, Stop: 46861, Start Num: 70

Candidate Starts for Aloe25\_66:

(Start: 64 @46391 has 25 MA's), (Start: 70 @46400 has 11 MA's), (Start: 117 @46529 has 1 MA's),  
(136, 46622), (166, 46730), (191, 46823),

Gene: Alsaber\_36 Start: 27554, Stop: 27958, Start Num: 86

Candidate Starts for Alsaber\_36:

(Start: 86 @27554 has 15 MA's), (Start: 111 @27608 has 1 MA's), (Start: 115 @27641 has 2 MA's),  
(122, 27674), (188, 27935), (190, 27941),

Gene: Alvy\_37 Start: 27037, Stop: 27510, Start Num: 88

Candidate Starts for Alvy\_37:

(Start: 88 @27037 has 25 MA's), (Start: 109 @27082 has 6 MA's), (Start: 111 @27091 has 1 MA's),  
(114, 27115), (122, 27157), (136, 27226), (216, 27478), (223, 27493),

Gene: Amabiko\_235 Start: 109135, Stop: 109503, Start Num: 76

Candidate Starts for Amabiko\_235:

(Start: 76 @109135 has 31 MA's), (Start: 107 @109195 has 11 MA's), (Start: 112 @109219 has 13  
MA's), (120, 109264), (125, 109285), (130, 109306), (139, 109339), (146, 109354), (189, 109489),

Gene: Amela\_35 Start: 28386, Stop: 28790, Start Num: 86

Candidate Starts for Amela\_35:

(51, 28323), (Start: 86 @28386 has 15 MA's), (Start: 109 @28431 has 6 MA's), (Start: 111 @28440  
has 1 MA's), (114, 28464), (125, 28524), (173, 28707), (188, 28767), (190, 28773),

Gene: Amethyst\_34 Start: 26390, Stop: 26875, Start Num: 83

Candidate Starts for Amethyst\_34:

(Start: 83 @26390 has 12 MA's), (114, 26474), (Start: 117 @26489 has 1 MA's), (167, 26705), (216,  
26843), (223, 26858),

Gene: Andris\_34 Start: 26452, Stop: 26937, Start Num: 83

Candidate Starts for Andris\_34:

(Start: 83 @26452 has 12 MA's), (Start: 109 @26503 has 6 MA's), (114, 26536), (Start: 117 @26551  
has 1 MA's), (120, 26575), (128, 26608), (160, 26740), (213, 26896), (216, 26905), (223, 26920),

Gene: Anedea\_230 Start: 109729, Stop: 110043, Start Num: 107

Candidate Starts for Anedea\_230:

(Start: 107 @109729 has 11 MA's), (Start: 110 @109741 has 18 MA's), (Start: 112 @109753 has 13  
MA's), (Start: 117 @109780 has 1 MA's), (125, 109819), (130, 109840), (139, 109873), (146, 109888),  
(185, 110011), (189, 110023),

Gene: Angela\_219 Start: 107471, Stop: 107788, Start Num: 110

Candidate Starts for Angela\_219:

(Start: 73 @107390 has 12 MA's), (Start: 107 @107459 has 11 MA's), (Start: 110 @107471 has 18 MA's), (Start: 112 @107483 has 13 MA's), (Start: 117 @107510 has 1 MA's), (125, 107549), (139, 107603), (146, 107618), (178, 107720), (194, 107771), (197, 107774),

Gene: AngryGiraffe\_228 Start: 108607, Stop: 108975, Start Num: 76

Candidate Starts for AngryGiraffe\_228:

(60, 108574), (Start: 69 @108592 has 1 MA's), (Start: 76 @108607 has 31 MA's), (Start: 107 @108667 has 11 MA's), (Start: 112 @108691 has 13 MA's), (Start: 115 @108712 has 2 MA's), (125, 108757), (139, 108811), (146, 108826),

Gene: Animus\_34 Start: 26897, Stop: 27370, Start Num: 88

Candidate Starts for Animus\_34:

(Start: 88 @26897 has 25 MA's), (Start: 109 @26942 has 6 MA's), (Start: 111 @26951 has 1 MA's), (114, 26975), (122, 27017), (159, 27167), (216, 27338), (223, 27353),

Gene: AnnabelLee\_43 Start: 29937, Stop: 29476, Start Num: 95

Candidate Starts for AnnabelLee\_43:

(Start: 95 @29937 has 3 MA's), (Start: 103 @29910 has 2 MA's), (119, 29829), (134, 29769), (141, 29745), (175, 29622),

Gene: Anubis\_43 Start: 28462, Stop: 28079, Start Num: 90

Candidate Starts for Anubis\_43:

(Start: 73 @28489 has 12 MA's), (Start: 90 @28462 has 74 MA's), (Start: 109 @28417 has 6 MA's), (147, 28246), (150, 28234),

Gene: Aphelion\_145 Start: 79977, Stop: 80369, Start Num: 85

Candidate Starts for Aphelion\_145:

(Start: 85 @79977 has 18 MA's), (126, 80118), (180, 80310), (196, 80358),

Gene: Aragog\_32 Start: 27081, Stop: 26572, Start Num: 89

Candidate Starts for Aragog\_32:

(Start: 89 @27081 has 109 MA's),

Gene: Arataki\_63 Start: 45961, Stop: 46422, Start Num: 64

Candidate Starts for Arataki\_63:

(37, 45904), (Start: 64 @45961 has 25 MA's), (Start: 70 @45970 has 11 MA's), (Start: 117 @46102 has 1 MA's), (130, 46168), (136, 46195), (151, 46258), (166, 46303),

Gene: Archetta\_32 Start: 27187, Stop: 26678, Start Num: 89

Candidate Starts for Archetta\_32:

(Start: 89 @27187 has 109 MA's),

Gene: Artemis2UCLA\_40 Start: 26288, Stop: 25899, Start Num: 92

Candidate Starts for Artemis2UCLA\_40:

(Start: 92 @26288 has 15 MA's), (128, 26144), (137, 26099), (150, 26057), (156, 26030),

Gene: ArtetaBall\_64 Start: 46607, Stop: 47059, Start Num: 70

Candidate Starts for ArtetaBall\_64:

(37, 46541), (Start: 64 @46598 has 25 MA's), (Start: 70 @46607 has 11 MA's), (Start: 117 @46739 has 1 MA's), (130, 46805), (136, 46832), (151, 46895), (166, 46940),

Gene: Artorias\_65 Start: 46494, Stop: 47009, Start Num: 56

Candidate Starts for Artorias\_65:

(Start: 56 @46494 has 13 MA's), (Start: 103 @46578 has 2 MA's), (Start: 106 @46584 has 2 MA's),  
(Start: 117 @46644 has 1 MA's), (120, 46665), (129, 46701), (136, 46737), (156, 46821), (189, 46929),  
(193, 46944), (209, 46977), (211, 46980), (221, 47001),

Gene: Asten\_34 Start: 26046, Stop: 26534, Start Num: 74

Candidate Starts for Asten\_34:

(16, 25866), (21, 25902), (49, 25998), (Start: 74 @26046 has 36 MA's), (108, 26118), (114, 26154),  
(124, 26211), (172, 26376), (173, 26382), (216, 26502), (228, 26529),

Gene: Audell\_43 Start: 32606, Stop: 32139, Start Num: 85

Candidate Starts for Audell\_43:

(Start: 85 @32606 has 18 MA's), (Start: 103 @32567 has 2 MA's), (Start: 109 @32549 has 6 MA's),  
(Start: 115 @32510 has 2 MA's), (153, 32351), (175, 32279), (188, 32237),

Gene: AugsMagnumOpus\_43 Start: 28568, Stop: 28185, Start Num: 90

Candidate Starts for AugsMagnumOpus\_43:

(Start: 73 @28595 has 12 MA's), (Start: 90 @28568 has 74 MA's), (Start: 109 @28523 has 6 MA's),  
(147, 28352), (150, 28340),

Gene: Avazak\_66 Start: 46911, Stop: 47336, Start Num: 106

Candidate Starts for Avazak\_66:

(Start: 56 @46821 has 13 MA's), (Start: 106 @46911 has 2 MA's), (Start: 117 @46971 has 1 MA's),  
(120, 46992), (129, 47028), (136, 47064), (156, 47148), (189, 47256), (209, 47304), (211, 47307),  
(221, 47328),

Gene: Axiom\_35 Start: 26619, Stop: 27098, Start Num: 81

Candidate Starts for Axiom\_35:

(Start: 62 @26583 has 2 MA's), (Start: 81 @26619 has 2 MA's), (108, 26670), (114, 26706), (Start: 115  
@26715 has 2 MA's), (Start: 117 @26721 has 1 MA's), (119, 26739), (216, 27066), (223, 27081),

Gene: B1\_34 Start: 27319, Stop: 26933, Start Num: 89

Candidate Starts for B1\_34:

(Start: 89 @27319 has 109 MA's),

Gene: BABullseye\_40 Start: 26694, Stop: 26302, Start Num: 89

Candidate Starts for BABullseye\_40:

(Start: 89 @26694 has 109 MA's), (128, 26547), (137, 26502), (150, 26460), (156, 26433),

Gene: BabyRay\_36 Start: 27870, Stop: 27484, Start Num: 89

Candidate Starts for BabyRay\_36:

(Start: 89 @27870 has 109 MA's), (140, 27672),

Gene: BangNhom\_36 Start: 28100, Stop: 27660, Start Num: 93

Candidate Starts for BangNhom\_36:

(Start: 93 @28100 has 14 MA's), (188, 27740), (189, 27737),

Gene: BarryBee\_37 Start: 26056, Stop: 26544, Start Num: 74

Candidate Starts for BarryBee\_37:

(16, 25876), (21, 25912), (49, 26008), (Start: 74 @26056 has 36 MA's), (108, 26128), (114, 26164),  
(Start: 115 @26173 has 2 MA's), (124, 26221), (172, 26386), (173, 26392), (216, 26512), (228, 26539),

Gene: BartholomewSD\_37 Start: 27037, Stop: 27510, Start Num: 88  
Candidate Starts for BartholomewSD\_37:  
(Start: 88 @27037 has 25 MA's), (Start: 109 @27082 has 6 MA's), (Start: 111 @27091 has 1 MA's),  
(114, 27115), (122, 27157), (136, 27226), (216, 27478), (223, 27493),

Gene: Bartholomune\_217 Start: 107720, Stop: 108022, Start Num: 110  
Candidate Starts for Bartholomune\_217:  
(Start: 107 @107708 has 11 MA's), (Start: 110 @107720 has 18 MA's), (Start: 112 @107732 has 13  
MA's), (125, 107798), (130, 107819), (146, 107867), (152, 107894), (158, 107912), (189, 108002),

Gene: Battuta\_229 Start: 108450, Stop: 108818, Start Num: 76  
Candidate Starts for Battuta\_229:  
(Start: 76 @108450 has 31 MA's), (Start: 107 @108510 has 11 MA's), (Start: 112 @108534 has 13  
MA's), (125, 108600), (130, 108621), (139, 108654), (146, 108669), (189, 108804),

Gene: BeardedLady\_35 Start: 25938, Stop: 26426, Start Num: 74  
Candidate Starts for BeardedLady\_35:  
(Start: 74 @25938 has 36 MA's), (108, 26010), (Start: 115 @26055 has 2 MA's), (136, 26157), (173,  
26274), (216, 26394), (228, 26421),

Gene: Beauxregard13\_41 Start: 28603, Stop: 28193, Start Num: 73  
Candidate Starts for Beauxregard13\_41:  
(Start: 73 @28603 has 12 MA's), (Start: 90 @28576 has 74 MA's), (Start: 109 @28531 has 6 MA's),  
(147, 28360), (150, 28348),

Gene: Benedict\_33 Start: 26684, Stop: 26172, Start Num: 89  
Candidate Starts for Benedict\_33:  
(Start: 89 @26684 has 109 MA's),

Gene: BetterYeti\_64 Start: 46390, Stop: 46860, Start Num: 64  
Candidate Starts for BetterYeti\_64:  
(Start: 64 @46390 has 25 MA's), (Start: 70 @46399 has 11 MA's), (Start: 117 @46528 has 1 MA's),  
(136, 46621), (166, 46729), (191, 46822),

Gene: Bimmel\_13 Start: 9210, Stop: 8830, Start Num: 109  
Candidate Starts for Bimmel\_13:  
(53, 9318), (58, 9306), (Start: 109 @9210 has 6 MA's), (Start: 111 @9201 has 1 MA's), (113, 9189),  
(114, 9177), (120, 9141), (121, 9138), (141, 9054), (150, 9024), (173, 8952), (188, 8892), (189, 8889),  
(212, 8841),

Gene: Birchlyn\_230 Start: 106383, Stop: 106751, Start Num: 76  
Candidate Starts for Birchlyn\_230:  
(Start: 76 @106383 has 31 MA's), (Start: 107 @106443 has 11 MA's), (Start: 112 @106467 has 13  
MA's), (120, 106512), (125, 106533), (130, 106554), (139, 106587), (146, 106602), (189, 106737),

Gene: Blanky\_64 Start: 47900, Stop: 48352, Start Num: 64  
Candidate Starts for Blanky\_64:  
(37, 47843), (Start: 64 @47900 has 25 MA's), (Start: 70 @47909 has 11 MA's), (Start: 117 @48038  
has 1 MA's), (130, 48104), (136, 48131), (166, 48239), (178, 48290),

Gene: BlessJoy\_40 Start: 26611, Stop: 26219, Start Num: 89  
Candidate Starts for BlessJoy\_40:  
(Start: 89 @26611 has 109 MA's), (128, 26464), (137, 26419), (150, 26377), (156, 26350),

Gene: Blinn1\_41 Start: 26683, Stop: 26291, Start Num: 89

Candidate Starts for Blinn1\_41:

(Start: 89 @26683 has 109 MA's), (128, 26536), (137, 26491), (150, 26449), (156, 26422),

Gene: Blue7\_41 Start: 26619, Stop: 26230, Start Num: 89

Candidate Starts for Blue7\_41:

(Start: 89 @26619 has 109 MA's), (150, 26388), (156, 26361), (188, 26256),

Gene: BlueBird\_37 Start: 27799, Stop: 27413, Start Num: 89

Candidate Starts for BlueBird\_37:

(Start: 89 @27799 has 109 MA's), (140, 27601),

Gene: BlueNGold\_172 Start: 101916, Stop: 101413, Start Num: 88

Candidate Starts for BlueNGold\_172:

(Start: 88 @101916 has 25 MA's), (157, 101640), (166, 101619), (173, 101598), (214, 101478), (226, 101448),

Gene: BlueOtter\_215 Start: 107854, Stop: 108144, Start Num: 112

Candidate Starts for BlueOtter\_215:

(Start: 107 @107830 has 11 MA's), (Start: 110 @107842 has 18 MA's), (Start: 112 @107854 has 13 MA's), (125, 107920), (139, 107974), (146, 107989), (189, 108124),

Gene: Bluefalcon\_31 Start: 27140, Stop: 26631, Start Num: 89

Candidate Starts for Bluefalcon\_31:

(Start: 89 @27140 has 109 MA's),

Gene: BluerMoon\_62 Start: 46364, Stop: 46819, Start Num: 64

Candidate Starts for BluerMoon\_62:

(Start: 64 @46364 has 25 MA's), (Start: 70 @46373 has 11 MA's), (Start: 117 @46505 has 1 MA's), (136, 46598), (166, 46706), (178, 46757),

Gene: Bmoc\_221 Start: 107925, Stop: 108239, Start Num: 107

Candidate Starts for Bmoc\_221:

(Start: 107 @107925 has 11 MA's), (Start: 110 @107937 has 18 MA's), (Start: 112 @107949 has 13 MA's), (Start: 117 @107976 has 1 MA's), (119, 107991), (125, 108015), (130, 108036), (139, 108069), (146, 108084), (185, 108207), (189, 108219),

Gene: Boilgate\_73 Start: 53314, Stop: 53607, Start Num: 116

Candidate Starts for Boilgate\_73:

(99, 53242), (Start: 116 @53314 has 2 MA's), (133, 53398), (173, 53524),

Gene: Bonamassa\_32 Start: 26981, Stop: 26472, Start Num: 89

Candidate Starts for Bonamassa\_32:

(Start: 89 @26981 has 109 MA's),

Gene: BoomerJR\_228 Start: 109040, Stop: 109408, Start Num: 76

Candidate Starts for BoomerJR\_228:

(60, 109007), (Start: 69 @109025 has 1 MA's), (Start: 76 @109040 has 31 MA's), (Start: 107 @109100 has 11 MA's), (Start: 112 @109124 has 13 MA's), (Start: 115 @109145 has 2 MA's), (125, 109190), (139, 109244), (146, 109259),

Gene: Boopy\_175 Start: 101927, Stop: 101424, Start Num: 88

Candidate Starts for Boopy\_175:

(Start: 88 @101927 has 25 MA's), (157, 101651), (166, 101630), (173, 101609), (214, 101489), (226, 101459),

Gene: Bordeaux\_229 Start: 109033, Stop: 109401, Start Num: 76

Candidate Starts for Bordeaux\_229:

(Start: 76 @109033 has 31 MA's), (Start: 107 @109093 has 11 MA's), (Start: 112 @109117 has 13 MA's), (125, 109183), (130, 109204), (139, 109237), (146, 109252), (189, 109387),

Gene: Bovely\_34 Start: 25691, Stop: 26179, Start Num: 74

Candidate Starts for Bovely\_34:

(49, 25643), (Start: 74 @25691 has 36 MA's), (108, 25763), (Start: 115 @25808 has 2 MA's), (136, 25910), (173, 26027), (216, 26147), (228, 26174),

Gene: Bowden\_35 Start: 26947, Stop: 27420, Start Num: 88

Candidate Starts for Bowden\_35:

(Start: 88 @26947 has 25 MA's), (Start: 109 @26992 has 6 MA's), (Start: 111 @27001 has 1 MA's), (114, 27025), (122, 27067), (136, 27136), (216, 27388), (223, 27403),

Gene: Braelyn\_213 Start: 107367, Stop: 107669, Start Num: 110

Candidate Starts for Braelyn\_213:

(Start: 107 @107355 has 11 MA's), (Start: 110 @107367 has 18 MA's), (Start: 112 @107379 has 13 MA's), (125, 107445), (130, 107466), (146, 107514), (152, 107541), (158, 107559), (189, 107649),

Gene: Brataylor\_37 Start: 27039, Stop: 27515, Start Num: 88

Candidate Starts for Brataylor\_37:

(49, 26973), (Start: 83 @27033 has 12 MA's), (Start: 88 @27039 has 25 MA's), (114, 27117), (Start: 117 @27132 has 1 MA's), (161, 27327), (189, 27426), (216, 27483), (223, 27498), (228, 27510),

Gene: BreSam8\_41 Start: 28569, Stop: 28186, Start Num: 90

Candidate Starts for BreSam8\_41:

(Start: 73 @28596 has 12 MA's), (Start: 90 @28569 has 74 MA's), (Start: 109 @28524 has 6 MA's), (147, 28353), (150, 28341),

Gene: Brizzy\_230 Start: 109561, Stop: 109929, Start Num: 76

Candidate Starts for Brizzy\_230:

(Start: 76 @109561 has 31 MA's), (Start: 107 @109621 has 11 MA's), (Start: 112 @109645 has 13 MA's), (125, 109711), (130, 109732), (139, 109765), (146, 109780), (189, 109915),

Gene: BroPlease\_35 Start: 26228, Stop: 26704, Start Num: 89

Candidate Starts for BroPlease\_35:

(Start: 89 @26228 has 109 MA's), (Start: 109 @26273 has 6 MA's), (114, 26306), (Start: 115 @26315 has 2 MA's), (119, 26339), (172, 26543), (216, 26672),

Gene: BryanRecycles\_35 Start: 26042, Stop: 26530, Start Num: 74

Candidate Starts for BryanRecycles\_35:

(29, 25937), (49, 25994), (Start: 74 @26042 has 36 MA's), (108, 26114), (Start: 115 @26159 has 2 MA's), (136, 26261), (173, 26378), (216, 26498), (228, 26525),

Gene: Bugatti\_36 Start: 27799, Stop: 27413, Start Num: 89

Candidate Starts for Bugatti\_36:

(Start: 89 @27799 has 109 MA's), (140, 27601),

Gene: Bugg\_68 Start: 46623, Stop: 47054, Start Num: 103

Candidate Starts for Bugg\_68:

(Start: 56 @46539 has 13 MA's), (Start: 103 @46623 has 2 MA's), (Start: 106 @46629 has 2 MA's), (Start: 117 @46689 has 1 MA's), (120, 46710), (129, 46746), (136, 46782), (156, 46866), (189, 46974), (193, 46989), (209, 47022), (211, 47025), (221, 47046),

Gene: Burley\_64 Start: 46068, Stop: 46514, Start Num: 70

Candidate Starts for Burley\_64:

(37, 46002), (50, 46038), (Start: 64 @46059 has 25 MA's), (Start: 70 @46068 has 11 MA's), (Start: 117 @46197 has 1 MA's), (136, 46290), (166, 46398), (178, 46449),

Gene: BuzzBuzz\_39 Start: 28574, Stop: 28191, Start Num: 90

Candidate Starts for BuzzBuzz\_39:

(Start: 73 @28601 has 12 MA's), (Start: 90 @28574 has 74 MA's), (Start: 103 @28547 has 2 MA's), (Start: 109 @28529 has 6 MA's), (147, 28358), (150, 28346),

Gene: Bxz2\_38 Start: 28581, Stop: 28198, Start Num: 90

Candidate Starts for Bxz2\_38:

(Start: 73 @28608 has 12 MA's), (Start: 90 @28581 has 74 MA's), (Start: 103 @28554 has 2 MA's), (Start: 109 @28536 has 6 MA's), (147, 28365), (150, 28353),

Gene: C3\_35 Start: 28082, Stop: 27666, Start Num: 89

Candidate Starts for C3\_35:

(7, 28370), (Start: 89 @28082 has 109 MA's), (150, 27851), (188, 27719), (198, 27698), (203, 27680),

Gene: CWormy\_63 Start: 46012, Stop: 46473, Start Num: 64

Candidate Starts for CWormy\_63:

(37, 45955), (Start: 64 @46012 has 25 MA's), (Start: 70 @46021 has 11 MA's), (Start: 117 @46153 has 1 MA's), (130, 46219), (136, 46246), (151, 46309), (166, 46354),

Gene: Cadmus\_214 Start: 108600, Stop: 108977, Start Num: 76

Candidate Starts for Cadmus\_214:

(Start: 64 @108576 has 25 MA's), (Start: 76 @108600 has 31 MA's), (Start: 78 @108603 has 1 MA's), (Start: 106 @108657 has 2 MA's), (Start: 107 @108663 has 11 MA's), (Start: 112 @108687 has 13 MA's), (Start: 117 @108714 has 1 MA's), (125, 108753), (139, 108807), (146, 108822), (168, 108888), (182, 108936), (189, 108957),

Gene: Caelum\_36 Start: 26653, Stop: 27126, Start Num: 88

Candidate Starts for Caelum\_36:

(Start: 88 @26653 has 25 MA's), (Start: 109 @26698 has 6 MA's), (Start: 111 @26707 has 1 MA's), (114, 26731), (Start: 115 @26740 has 2 MA's), (122, 26773), (159, 26923), (172, 26968), (216, 27094), (220, 27103), (223, 27109),

Gene: Caliburn\_34 Start: 25785, Stop: 26156, Start Num: 115

Candidate Starts for Caliburn\_34:

(49, 25620), (Start: 74 @25668 has 36 MA's), (108, 25740), (Start: 115 @25785 has 2 MA's), (136, 25887), (173, 26004), (216, 26124), (228, 26151),

Gene: Captrips\_64 Start: 45969, Stop: 46484, Start Num: 56

Candidate Starts for Captrips\_64:

(Start: 56 @45969 has 13 MA's), (Start: 103 @46053 has 2 MA's), (Start: 106 @46059 has 2 MA's), (Start: 117 @46119 has 1 MA's), (120, 46140), (129, 46176), (136, 46212), (156, 46296), (189, 46404), (209, 46452), (211, 46455), (221, 46476),

Gene: Capybara\_65 Start: 46300, Stop: 46815, Start Num: 56

Candidate Starts for Capybara\_65:

(Start: 56 @46300 has 13 MA's), (Start: 103 @46384 has 2 MA's), (Start: 106 @46390 has 2 MA's),  
(Start: 117 @46450 has 1 MA's), (120, 46471), (129, 46507), (136, 46543), (156, 46627), (189, 46735),  
(193, 46750), (209, 46783), (211, 46786), (221, 46807),

Gene: Caviar\_35 Start: 27809, Stop: 27381, Start Num: 91

Candidate Starts for Caviar\_35:

(Start: 89 @27812 has 109 MA's), (Start: 91 @27809 has 5 MA's), (Start: 109 @27764 has 6 MA's),  
(135, 27626), (189, 27449),

Gene: CeilingFan\_235 Start: 109828, Stop: 110196, Start Num: 76

Candidate Starts for CeilingFan\_235:

(Start: 76 @109828 has 31 MA's), (Start: 107 @109888 has 11 MA's), (Start: 112 @109912 has 13  
MA's), (125, 109978), (130, 109999), (139, 110032), (146, 110047), (189, 110182),

Gene: Celery\_38 Start: 27479, Stop: 27883, Start Num: 86

Candidate Starts for Celery\_38:

(Start: 86 @27479 has 15 MA's), (Start: 109 @27524 has 6 MA's), (Start: 111 @27533 has 1 MA's),  
(114, 27557), (Start: 115 @27566 has 2 MA's), (122, 27599), (173, 27800), (188, 27860), (190, 27866),

Gene: Celeste\_35 Start: 26508, Stop: 26984, Start Num: 88

Candidate Starts for Celeste\_35:

(49, 26442), (Start: 83 @26502 has 12 MA's), (Start: 88 @26508 has 25 MA's), (114, 26586), (Start:  
117 @26601 has 1 MA's), (161, 26796), (189, 26895), (216, 26952),

Gene: Cerulean\_37 Start: 28101, Stop: 27661, Start Num: 93

Candidate Starts for Cerulean\_37:

(Start: 93 @28101 has 14 MA's), (188, 27741), (189, 27738),

Gene: Chadwick\_34 Start: 26587, Stop: 26075, Start Num: 89

Candidate Starts for Chadwick\_34:

(Start: 89 @26587 has 109 MA's),

Gene: ChampagnePapi\_37 Start: 28100, Stop: 27660, Start Num: 93

Candidate Starts for ChampagnePapi\_37:

(Start: 93 @28100 has 14 MA's), (188, 27740), (189, 27737),

Gene: Chartreuse\_40 Start: 26563, Stop: 26171, Start Num: 89

Candidate Starts for Chartreuse\_40:

(Start: 89 @26563 has 109 MA's), (128, 26416), (137, 26371), (150, 26329), (156, 26302),

Gene: ChickyNuggy\_68 Start: 46712, Stop: 47077, Start Num: 117

Candidate Starts for ChickyNuggy\_68:

(Start: 56 @46562 has 13 MA's), (Start: 103 @46646 has 2 MA's), (Start: 106 @46652 has 2 MA's),  
(Start: 117 @46712 has 1 MA's), (120, 46733), (129, 46769), (136, 46805), (156, 46889), (189, 46997),  
(193, 47012), (209, 47045), (211, 47048), (221, 47069),

Gene: Chikenjars\_62 Start: 46297, Stop: 46848, Start Num: 64

Candidate Starts for Chikenjars\_62:

(37, 46240), (Start: 64 @46297 has 25 MA's), (Start: 70 @46306 has 11 MA's), (Start: 117 @46438  
has 1 MA's), (130, 46504), (136, 46531), (151, 46594), (166, 46639), (178, 46690), (191, 46732),

Gene: Chucky\_34 Start: 26060, Stop: 26548, Start Num: 74

Candidate Starts for Chucky\_34:

(16, 25880), (21, 25916), (49, 26012), (Start: 74 @26060 has 36 MA's), (108, 26132), (114, 26168), (Start: 115 @26177 has 2 MA's), (124, 26225), (172, 26390), (173, 26396), (216, 26516), (228, 26543),

Gene: Chupacabra\_35 Start: 27785, Stop: 27258, Start Num: 89

Candidate Starts for Chupacabra\_35:

(Start: 89 @27785 has 109 MA's), (183, 27440), (188, 27425),

Gene: Citrus\_63 Start: 46571, Stop: 47122, Start Num: 64

Candidate Starts for Citrus\_63:

(37, 46514), (Start: 64 @46571 has 25 MA's), (Start: 70 @46580 has 11 MA's), (Start: 117 @46712 has 1 MA's), (130, 46778), (136, 46805), (151, 46868), (166, 46913), (191, 47006),

Gene: Clammy\_36 Start: 27799, Stop: 27413, Start Num: 89

Candidate Starts for Clammy\_36:

(Start: 89 @27799 has 109 MA's), (140, 27601),

Gene: CloudWang3\_40 Start: 26388, Stop: 25999, Start Num: 92

Candidate Starts for CloudWang3\_40:

(Start: 92 @26388 has 15 MA's), (128, 26244), (137, 26199), (150, 26157), (156, 26130),

Gene: Conan\_36 Start: 27448, Stop: 27852, Start Num: 86

Candidate Starts for Conan\_36:

(16, 27253), (21, 27289), (51, 27388), (Start: 86 @27448 has 15 MA's), (Start: 111 @27502 has 1 MA's), (Start: 115 @27535 has 2 MA's), (122, 27568), (188, 27829), (190, 27835),

Gene: Conley\_64 Start: 47055, Stop: 47570, Start Num: 56

Candidate Starts for Conley\_64:

(11, 46869), (12, 46872), (14, 46899), (19, 46938), (27, 46974), (28, 46977), (30, 46989), (38, 47007), (Start: 56 @47055 has 13 MA's), (63, 47064), (Start: 106 @47145 has 2 MA's), (Start: 115 @47199 has 2 MA's), (Start: 116 @47202 has 2 MA's), (Start: 117 @47205 has 1 MA's), (120, 47226), (129, 47262), (156, 47382), (173, 47427), (209, 47538), (211, 47541), (221, 47562),

Gene: Conspiracy\_32 Start: 26881, Stop: 26372, Start Num: 89

Candidate Starts for Conspiracy\_32:

(Start: 89 @26881 has 109 MA's),

Gene: Coog\_32 Start: 27021, Stop: 26512, Start Num: 89

Candidate Starts for Coog\_32:

(Start: 89 @27021 has 109 MA's),

Gene: Coogler\_214 Start: 108255, Stop: 108569, Start Num: 107

Candidate Starts for Coogler\_214:

(Start: 107 @108255 has 11 MA's), (Start: 110 @108267 has 18 MA's), (Start: 112 @108279 has 13 MA's), (125, 108345), (139, 108399), (146, 108414), (189, 108549),

Gene: Cookiedough\_40 Start: 26610, Stop: 26218, Start Num: 89

Candidate Starts for Cookiedough\_40:

(Start: 89 @26610 has 109 MA's), (128, 26463), (137, 26418), (150, 26376), (156, 26349),

Gene: Crocheter\_64 Start: 46484, Stop: 46954, Start Num: 64

Candidate Starts for Crocheter\_64:

(Start: 64 @46484 has 25 MA's), (Start: 70 @46493 has 11 MA's), (Start: 117 @46622 has 1 MA's), (136, 46715), (166, 46823), (191, 46916),

Gene: Cross\_216 Start: 108499, Stop: 108789, Start Num: 112

Candidate Starts for Cross\_216:

(Start: 107 @108475 has 11 MA's), (Start: 110 @108487 has 18 MA's), (Start: 112 @108499 has 13 MA's), (125, 108565), (139, 108619), (146, 108634), (189, 108769),

Gene: Cuco\_32 Start: 26980, Stop: 26471, Start Num: 89

Candidate Starts for Cuco\_32:

(Start: 89 @26980 has 109 MA's),

Gene: Cucurbita\_145 Start: 80440, Stop: 80829, Start Num: 90

Candidate Starts for Cucurbita\_145:

(Start: 90 @80440 has 74 MA's), (126, 80578), (189, 80800), (196, 80818),

Gene: Cullens\_41 Start: 28575, Stop: 28192, Start Num: 90

Candidate Starts for Cullens\_41:

(Start: 73 @28602 has 12 MA's), (Start: 90 @28575 has 74 MA's), (Start: 109 @28530 has 6 MA's), (147, 28359), (150, 28347),

Gene: Culver\_146 Start: 78704, Stop: 79093, Start Num: 90

Candidate Starts for Culver\_146:

(Start: 90 @78704 has 74 MA's), (126, 78842), (189, 79064), (196, 79082),

Gene: Cursive\_219 Start: 108171, Stop: 108473, Start Num: 110

Candidate Starts for Cursive\_219:

(Start: 107 @108159 has 11 MA's), (Start: 110 @108171 has 18 MA's), (Start: 112 @108183 has 13 MA's), (125, 108249), (139, 108303), (146, 108318), (189, 108453),

Gene: D29\_36.1 Start: 27983, Stop: 27597, Start Num: 89

Candidate Starts for D29\_36.1:

(Start: 89 @27983 has 109 MA's), (150, 27752),

Gene: D32\_40 Start: 27983, Stop: 27597, Start Num: 89

Candidate Starts for D32\_40:

(Start: 89 @27983 has 109 MA's), (150, 27752),

Gene: DBQu4n\_40 Start: 27983, Stop: 27597, Start Num: 89

Candidate Starts for DBQu4n\_40:

(Start: 89 @27983 has 109 MA's), (150, 27752),

Gene: DaHudson\_41 Start: 28568, Stop: 28185, Start Num: 90

Candidate Starts for DaHudson\_41:

(Start: 73 @28595 has 12 MA's), (Start: 90 @28568 has 74 MA's), (Start: 109 @28523 has 6 MA's), (147, 28352), (150, 28340),

Gene: Daishi\_39 Start: 27415, Stop: 27032, Start Num: 90

Candidate Starts for Daishi\_39:

(Start: 73 @27442 has 12 MA's), (Start: 90 @27415 has 74 MA's), (Start: 103 @27388 has 2 MA's), (Start: 109 @27370 has 6 MA's), (147, 27199), (150, 27187),

Gene: Dancer\_65 Start: 46229, Stop: 46744, Start Num: 56

Candidate Starts for Dancer\_65:

(Start: 56 @46229 has 13 MA's), (Start: 103 @46313 has 2 MA's), (Start: 106 @46319 has 2 MA's), (Start: 117 @46379 has 1 MA's), (120, 46400), (129, 46436), (136, 46472), (156, 46556), (189, 46664), (193, 46679), (209, 46712), (211, 46715), (221, 46736),

Gene: Danforth\_31 Start: 26198, Stop: 25686, Start Num: 93

Candidate Starts for Danforth\_31:

(Start: 93 @26198 has 14 MA's), (150, 25967), (193, 25817), (210, 25781),

Gene: Danzina\_36 Start: 26809, Stop: 27285, Start Num: 88

Candidate Starts for Danzina\_36:

(49, 26743), (Start: 83 @26803 has 12 MA's), (Start: 88 @26809 has 25 MA's), (114, 26887), (Start: 117 @26902 has 1 MA's), (161, 27097), (189, 27196), (216, 27253), (223, 27268), (228, 27280),

Gene: Dattran\_36 Start: 26615, Stop: 27091, Start Num: 88

Candidate Starts for Dattran\_36:

(49, 26549), (Start: 83 @26609 has 12 MA's), (Start: 88 @26615 has 25 MA's), (114, 26693), (Start: 117 @26708 has 1 MA's), (161, 26903), (189, 27002), (216, 27059),

Gene: Daubenski\_210 Start: 108498, Stop: 108872, Start Num: 78

Candidate Starts for Daubenski\_210:

(32, 108396), (Start: 64 @108471 has 25 MA's), (Start: 76 @108495 has 31 MA's), (Start: 78 @108498 has 1 MA's), (Start: 106 @108552 has 2 MA's), (Start: 107 @108558 has 11 MA's), (Start: 112 @108582 has 13 MA's), (Start: 117 @108609 has 1 MA's), (125, 108648), (146, 108717), (168, 108783), (182, 108831), (189, 108852),

Gene: Daudau\_35 Start: 26779, Stop: 27237, Start Num: 84

Candidate Starts for Daudau\_35:

(60, 26740), (Start: 84 @26779 has 10 MA's), (Start: 109 @26824 has 6 MA's), (114, 26857), (Start: 115 @26866 has 2 MA's), (Start: 116 @26869 has 2 MA's), (172, 27079), (173, 27085), (180, 27118), (216, 27205), (223, 27220),

Gene: Davielle\_216 Start: 107765, Stop: 108067, Start Num: 110

Candidate Starts for Davielle\_216:

(Start: 107 @107753 has 11 MA's), (Start: 110 @107765 has 18 MA's), (Start: 112 @107777 has 13 MA's), (125, 107843), (130, 107864), (146, 107912), (152, 107939), (158, 107957), (189, 108047),

Gene: Demure\_62 Start: 45961, Stop: 46422, Start Num: 64

Candidate Starts for Demure\_62:

(37, 45904), (Start: 64 @45961 has 25 MA's), (Start: 70 @45970 has 11 MA's), (Start: 117 @46102 has 1 MA's), (130, 46168), (136, 46195), (151, 46258), (166, 46303),

Gene: Dennebes\_58 Start: 29550, Stop: 29158, Start Num: 105

Candidate Starts for Dennebes\_58:

(Start: 94 @29577 has 15 MA's), (Start: 105 @29550 has 1 MA's), (114, 29505), (167, 29295),

Gene: Destructrice\_53 Start: 29352, Stop: 28939, Start Num: 98

Candidate Starts for Destructrice\_53:

(Start: 98 @29352 has 2 MA's), (102, 29334), (Start: 117 @29268 has 1 MA's), (185, 29007),

Gene: Dexers\_34 Start: 27476, Stop: 27880, Start Num: 86

Candidate Starts for Dexers\_34:

(Start: 86 @27476 has 15 MA's), (Start: 111 @27530 has 1 MA's), (Start: 115 @27563 has 2 MA's), (122, 27596), (188, 27857), (190, 27863),

Gene: Dialga\_64 Start: 46617, Stop: 47078, Start Num: 64

Candidate Starts for Dialga\_64:

(37, 46560), (Start: 64 @46617 has 25 MA's), (Start: 70 @46626 has 11 MA's), (Start: 117 @46758 has 1 MA's), (130, 46824), (136, 46851), (151, 46914), (166, 46959),

Gene: Diane\_34 Start: 26663, Stop: 27148, Start Num: 83

Candidate Starts for Diane\_34:

(Start: 83 @26663 has 12 MA's), (114, 26747), (Start: 117 @26762 has 1 MA's), (167, 26978), (216, 27116), (223, 27131),

Gene: Dieselweasel\_41 Start: 28578, Stop: 28195, Start Num: 90

Candidate Starts for Dieselweasel\_41:

(Start: 73 @28605 has 12 MA's), (Start: 90 @28578 has 74 MA's), (Start: 109 @28533 has 6 MA's), (147, 28362), (150, 28350),

Gene: Discoknowium\_32 Start: 27090, Stop: 26581, Start Num: 89

Candidate Starts for Discoknowium\_32:

(Start: 89 @27090 has 109 MA's),

Gene: DontArgue\_35 Start: 26801, Stop: 26325, Start Num: 92

Candidate Starts for DontArgue\_35:

(22, 26966), (Start: 92 @26801 has 15 MA's), (Start: 109 @26756 has 6 MA's), (114, 26723), (Start: 115 @26714 has 2 MA's), (Start: 116 @26711 has 2 MA's), (166, 26525), (183, 26459), (188, 26444), (195, 26426),

Gene: Dorothea\_40 Start: 26617, Stop: 26225, Start Num: 89

Candidate Starts for Dorothea\_40:

(Start: 89 @26617 has 109 MA's), (128, 26470), (137, 26425), (150, 26383), (156, 26356),

Gene: DroogsArmy\_36 Start: 29992, Stop: 29501, Start Num: 95

Candidate Starts for DroogsArmy\_36:

(Start: 95 @29992 has 3 MA's), (133, 29818), (188, 29632), (189, 29629), (223, 29551), (225, 29548),

Gene: Dublin\_31 Start: 26952, Stop: 26440, Start Num: 89

Candidate Starts for Dublin\_31:

(Start: 89 @26952 has 109 MA's), (188, 26583),

Gene: Duffington\_62 Start: 46002, Stop: 46544, Start Num: 70

Candidate Starts for Duffington\_62:

(37, 45936), (Start: 64 @45993 has 25 MA's), (Start: 70 @46002 has 11 MA's), (Start: 117 @46134 has 1 MA's), (130, 46200), (136, 46227), (166, 46335),

Gene: Duplo\_40 Start: 28021, Stop: 27635, Start Num: 89

Candidate Starts for Duplo\_40:

(Start: 89 @28021 has 109 MA's), (150, 27790),

Gene: DustyMartin\_39 Start: 27581, Stop: 27105, Start Num: 92

Candidate Starts for DustyMartin\_39:

(Start: 69 @27617 has 1 MA's), (Start: 92 @27581 has 15 MA's), (Start: 109 @27536 has 6 MA's), (114, 27503), (Start: 115 @27494 has 2 MA's), (Start: 116 @27491 has 2 MA's), (183, 27239), (188,

27224), (195, 27206),

Gene: Dwayne\_34 Start: 26047, Stop: 26535, Start Num: 74

Candidate Starts for Dwayne\_34:

(16, 25867), (21, 25903), (49, 25999), (Start: 74 @26047 has 36 MA's), (108, 26119), (114, 26155), (Start: 115 @26164 has 2 MA's), (124, 26212), (172, 26377), (173, 26383), (216, 26503), (228, 26530),

Gene: EGole\_220 Start: 110229, Stop: 110519, Start Num: 112

Candidate Starts for EGole\_220:

(Start: 107 @110205 has 11 MA's), (Start: 110 @110217 has 18 MA's), (Start: 112 @110229 has 13 MA's), (125, 110295), (139, 110349), (146, 110364), (189, 110499),

Gene: ELB20\_33 Start: 27045, Stop: 27530, Start Num: 83

Candidate Starts for ELB20\_33:

(Start: 83 @27045 has 12 MA's), (114, 27129), (Start: 117 @27144 has 1 MA's), (128, 27201), (160, 27333), (172, 27372), (216, 27498), (223, 27513),

Gene: Eddasa\_35 Start: 26042, Stop: 26530, Start Num: 74

Candidate Starts for Eddasa\_35:

(29, 25937), (49, 25994), (Start: 74 @26042 has 36 MA's), (108, 26114), (Start: 115 @26159 has 2 MA's), (136, 26261), (173, 26378), (216, 26498), (228, 26525),

Gene: Eddiemania\_66 Start: 47192, Stop: 47701, Start Num: 64

Candidate Starts for Eddiemania\_66:

(33, 47129), (37, 47135), (Start: 64 @47192 has 25 MA's), (Start: 70 @47201 has 11 MA's), (Start: 117 @47333 has 1 MA's), (130, 47399), (136, 47426), (151, 47489), (166, 47534), (178, 47585), (191, 47627), (194, 47636), (219, 47687), (222, 47693),

Gene: EhyElimayoE\_215 Start: 129333, Stop: 129842, Start Num: 85

Candidate Starts for EhyElimayoE\_215:

(18, 129150), (Start: 85 @129333 has 18 MA's), (131, 129507), (171, 129624), (204, 129741), (230, 129807), (231, 129837),

Gene: Ejemplo\_33 Start: 25988, Stop: 26476, Start Num: 74

Candidate Starts for Ejemplo\_33:

(17, 25820), (47, 25937), (Start: 74 @25988 has 36 MA's), (108, 26060), (114, 26096), (Start: 115 @26105 has 2 MA's), (124, 26153), (172, 26318), (173, 26324), (216, 26444), (228, 26471),

Gene: ElGato\_36 Start: 27112, Stop: 27516, Start Num: 86

Candidate Starts for ElGato\_36:

(16, 26917), (51, 27052), (Start: 86 @27112 has 15 MA's), (Start: 111 @27166 has 1 MA's), (Start: 115 @27199 has 2 MA's), (122, 27232), (188, 27493), (190, 27499),

Gene: ElTiger69\_33 Start: 26682, Stop: 26170, Start Num: 89

Candidate Starts for ElTiger69\_33:

(Start: 89 @26682 has 109 MA's),

Gene: Elmer\_239 Start: 112604, Stop: 112984, Start Num: 69

Candidate Starts for Elmer\_239:

(36, 112526), (39, 112535), (40, 112541), (44, 112556), (48, 112562), (66, 112598), (Start: 69 @112604 has 1 MA's), (Start: 107 @112676 has 11 MA's), (Start: 112 @112700 has 13 MA's), (Start: 115 @112721 has 2 MA's), (125, 112766), (139, 112820), (146, 112835), (188, 112967),

Gene: Emaanora\_37 Start: 26005, Stop: 26493, Start Num: 74

Candidate Starts for Emaanora\_37:

(16, 25825), (21, 25861), (49, 25957), (Start: 74 @26005 has 36 MA's), (108, 26077), (114, 26113), (Start: 115 @26122 has 2 MA's), (124, 26170), (172, 26335), (173, 26341), (216, 26461), (228, 26488),

Gene: EndAve\_65 Start: 46474, Stop: 47016, Start Num: 70

Candidate Starts for EndAve\_65:

(37, 46408), (Start: 64 @46465 has 25 MA's), (Start: 70 @46474 has 11 MA's), (Start: 117 @46606 has 1 MA's), (130, 46672), (136, 46699), (151, 46762), (166, 46807), (178, 46858), (191, 46900),

Gene: EnochSoames\_37 Start: 26037, Stop: 26525, Start Num: 74

Candidate Starts for EnochSoames\_37:

(29, 25932), (49, 25989), (Start: 74 @26037 has 36 MA's), (108, 26109), (Start: 115 @26154 has 2 MA's), (136, 26256), (173, 26373), (216, 26493), (228, 26520),

Gene: Enygma\_238 Start: 111845, Stop: 112213, Start Num: 76

Candidate Starts for Enygma\_238:

(25, 111707), (33, 111749), (36, 111752), (46, 111785), (60, 111812), (Start: 69 @111830 has 1 MA's), (Start: 76 @111845 has 31 MA's), (Start: 107 @111905 has 11 MA's), (Start: 109 @111911 has 6 MA's), (Start: 112 @111929 has 13 MA's), (125, 111995), (139, 112049), (146, 112064), (189, 112199),

Gene: EpicPhail\_41 Start: 28576, Stop: 28193, Start Num: 90

Candidate Starts for EpicPhail\_41:

(Start: 73 @28603 has 12 MA's), (Start: 90 @28576 has 74 MA's), (Start: 109 @28531 has 6 MA's), (147, 28360), (150, 28348),

Gene: Esperer\_34 Start: 25504, Stop: 25992, Start Num: 74

Candidate Starts for Esperer\_34:

(49, 25456), (Start: 74 @25504 has 36 MA's), (108, 25576), (Start: 115 @25621 has 2 MA's), (136, 25723), (173, 25840), (216, 25960), (228, 25987),

Gene: Evy\_207 Start: 108670, Stop: 108960, Start Num: 112

Candidate Starts for Evy\_207:

(Start: 107 @108646 has 11 MA's), (Start: 110 @108658 has 18 MA's), (Start: 112 @108670 has 13 MA's), (125, 108736), (139, 108790), (146, 108805), (189, 108940),

Gene: Expelliarmus\_31 Start: 26184, Stop: 25672, Start Num: 93

Candidate Starts for Expelliarmus\_31:

(Start: 93 @26184 has 14 MA's), (150, 25953), (193, 25803), (210, 25767),

Gene: Fabian\_51 Start: 29095, Stop: 28676, Start Num: 94

Candidate Starts for Fabian\_51:

(Start: 94 @29095 has 15 MA's), (Start: 105 @29068 has 1 MA's), (114, 29023), (167, 28813),

Gene: Farber\_41 Start: 28569, Stop: 28186, Start Num: 90

Candidate Starts for Farber\_41:

(Start: 73 @28596 has 12 MA's), (Start: 90 @28569 has 74 MA's), (Start: 109 @28524 has 6 MA's), (147, 28353), (150, 28341),

Gene: Fazel\_65 Start: 46305, Stop: 46814, Start Num: 64

Candidate Starts for Fazel\_65:

(Start: 64 @46305 has 25 MA's), (Start: 70 @46314 has 11 MA's), (Start: 117 @46443 has 1 MA's), (149, 46581), (188, 46725),

Gene: Fernando\_41 Start: 28575, Stop: 28192, Start Num: 90

Candidate Starts for Fernando\_41:

(Start: 73 @28602 has 12 MA's), (Start: 90 @28575 has 74 MA's), (Start: 109 @28530 has 6 MA's), (147, 28359), (150, 28347),

Gene: Figliar\_62 Start: 46394, Stop: 46849, Start Num: 64

Candidate Starts for Figliar\_62:

(Start: 34 @46331 has 1 MA's), (45, 46364), (Start: 64 @46394 has 25 MA's), (Start: 70 @46403 has 11 MA's), (Start: 117 @46535 has 1 MA's), (130, 46601), (136, 46628), (166, 46736), (178, 46787),

Gene: Football\_67 Start: 46120, Stop: 46635, Start Num: 56

Candidate Starts for Football\_67:

(Start: 56 @46120 has 13 MA's), (Start: 103 @46204 has 2 MA's), (Start: 106 @46210 has 2 MA's), (Start: 117 @46270 has 1 MA's), (120, 46291), (129, 46327), (141, 46378), (156, 46447), (189, 46555), (209, 46603), (211, 46606), (221, 46627),

Gene: ForGetIt\_32 Start: 26906, Stop: 26397, Start Num: 89

Candidate Starts for ForGetIt\_32:

(Start: 89 @26906 has 109 MA's),

Gene: FortCran\_65 Start: 46494, Stop: 47009, Start Num: 56

Candidate Starts for FortCran\_65:

(Start: 56 @46494 has 13 MA's), (Start: 103 @46578 has 2 MA's), (Start: 106 @46584 has 2 MA's), (Start: 117 @46644 has 1 MA's), (120, 46665), (129, 46701), (136, 46737), (156, 46821), (189, 46929), (193, 46944), (209, 46977), (211, 46980), (221, 47001),

Gene: Frankenweenie\_230 Start: 138966, Stop: 139478, Start Num: 85

Candidate Starts for Frankenweenie\_230:

(18, 138783), (Start: 85 @138966 has 18 MA's), (162, 139251), (171, 139272), (181, 139320), (184, 139332), (202, 139383), (217, 139416), (223, 139425),

Gene: Fred313\_36 Start: 27551, Stop: 27165, Start Num: 89

Candidate Starts for Fred313\_36:

(Start: 89 @27551 has 109 MA's), (140, 27353),

Gene: GMA2\_70 Start: 73346, Stop: 72861, Start Num: 85

Candidate Starts for GMA2\_70:

(71, 73370), (Start: 85 @73346 has 18 MA's), (Start: 103 @73307 has 2 MA's), (Start: 106 @73301 has 2 MA's), (186, 72983), (189, 72974), (215, 72914), (223, 72896),

Gene: Gemma\_40 Start: 28397, Stop: 28014, Start Num: 90

Candidate Starts for Gemma\_40:

(10, 28625), (Start: 73 @28424 has 12 MA's), (Start: 90 @28397 has 74 MA's), (Start: 109 @28352 has 6 MA's), (147, 28181), (150, 28169),

Gene: Genie2\_228 Start: 109165, Stop: 109533, Start Num: 76

Candidate Starts for Genie2\_228:

(60, 109132), (Start: 69 @109150 has 1 MA's), (Start: 76 @109165 has 31 MA's), (Start: 107 @109225 has 11 MA's), (Start: 112 @109249 has 13 MA's), (Start: 115 @109270 has 2 MA's), (125, 109315), (139, 109369), (146, 109384),

Gene: George\_31 Start: 26981, Stop: 26472, Start Num: 89  
Candidate Starts for George\_31:  
(Start: 89 @26981 has 109 MA's),

Gene: Ghouboy\_32 Start: 27221, Stop: 26715, Start Num: 94  
Candidate Starts for Ghouboy\_32:  
(Start: 94 @27221 has 15 MA's),

Gene: Gibbi\_239 Start: 109321, Stop: 109689, Start Num: 76  
Candidate Starts for Gibbi\_239:  
(Start: 76 @109321 has 31 MA's), (Start: 107 @109381 has 11 MA's), (Start: 112 @109405 has 13 MA's), (125, 109471), (130, 109492), (139, 109525), (146, 109540), (189, 109675),

Gene: Gibson\_71 Start: 50674, Stop: 50318, Start Num: 109  
Candidate Starts for Gibson\_71:  
(Start: 82 @50734 has 2 MA's), (Start: 101 @50698 has 2 MA's), (Start: 106 @50686 has 2 MA's), (Start: 109 @50674 has 6 MA's), (Start: 110 @50668 has 18 MA's), (113, 50653), (Start: 115 @50632 has 2 MA's), (151, 50476), (157, 50452), (173, 50413), (179, 50410), (199, 50356), (201, 50347),

Gene: Gill\_65 Start: 46357, Stop: 46827, Start Num: 84  
Candidate Starts for Gill\_65:  
(43, 46288), (Start: 56 @46312 has 13 MA's), (Start: 84 @46357 has 10 MA's), (Start: 103 @46396 has 2 MA's), (Start: 106 @46402 has 2 MA's), (Start: 117 @46462 has 1 MA's), (120, 46483), (129, 46519), (136, 46555), (156, 46639), (189, 46747), (193, 46762), (209, 46795), (211, 46798), (221, 46819),

Gene: GingkoMaracino\_41 Start: 28489, Stop: 28079, Start Num: 73  
Candidate Starts for GingkoMaracino\_41:  
(Start: 73 @28489 has 12 MA's), (Start: 90 @28462 has 74 MA's), (Start: 109 @28417 has 6 MA's), (147, 28246), (150, 28234),

Gene: GirlDinner\_34 Start: 26398, Stop: 26871, Start Num: 88  
Candidate Starts for GirlDinner\_34:  
(Start: 88 @26398 has 25 MA's), (Start: 109 @26443 has 6 MA's), (Start: 111 @26452 has 1 MA's), (114, 26476), (122, 26518), (159, 26668), (216, 26839), (223, 26854),

Gene: Giroux\_37 Start: 27798, Stop: 27412, Start Num: 89  
Candidate Starts for Giroux\_37:  
(Start: 89 @27798 has 109 MA's), (140, 27600),

Gene: Gladiator\_40 Start: 26599, Stop: 26207, Start Num: 89  
Candidate Starts for Gladiator\_40:  
(Start: 89 @26599 has 109 MA's), (128, 26452), (137, 26407), (150, 26365), (156, 26338),

Gene: Glintora\_65 Start: 46950, Stop: 47450, Start Num: 70  
Candidate Starts for Glintora\_65:  
(Start: 64 @46941 has 25 MA's), (Start: 70 @46950 has 11 MA's), (Start: 117 @47082 has 1 MA's), (130, 47148), (136, 47175), (151, 47238), (166, 47283), (178, 47334), (191, 47376), (219, 47436), (222, 47442),

Gene: Goby\_34 Start: 26511, Stop: 26990, Start Num: 85  
Candidate Starts for Goby\_34:

(Start: 85 @26511 has 18 MA's), (114, 26592), (Start: 117 @26607 has 1 MA's), (161, 26802), (216, 26958), (223, 26973),

Gene: GodonK\_189 Start: 98192, Stop: 97662, Start Num: 68

Candidate Starts for GodonK\_189:

(Start: 68 @98192 has 2 MA's), (72, 98186), (Start: 106 @98117 has 2 MA's), (119, 98039), (166, 97868), (173, 97847), (189, 97784), (207, 97742), (214, 97730), (229, 97688),

Gene: Godpower\_35 Start: 26506, Stop: 26985, Start Num: 85

Candidate Starts for Godpower\_35:

(Start: 85 @26506 has 18 MA's), (114, 26587), (Start: 117 @26602 has 1 MA's), (161, 26797), (216, 26953), (223, 26968),

Gene: Goose\_36 Start: 27589, Stop: 27062, Start Num: 89

Candidate Starts for Goose\_36:

(Start: 89 @27589 has 109 MA's), (183, 27244), (188, 27229),

Gene: Gravy\_64 Start: 45990, Stop: 46505, Start Num: 56

Candidate Starts for Gravy\_64:

(Start: 56 @45990 has 13 MA's), (Start: 103 @46074 has 2 MA's), (Start: 106 @46080 has 2 MA's), (Start: 117 @46140 has 1 MA's), (120, 46161), (129, 46197), (136, 46233), (156, 46317), (189, 46425), (193, 46440), (209, 46473), (211, 46476), (221, 46497),

Gene: Grayson\_194 Start: 100750, Stop: 101079, Start Num: 103

Candidate Starts for Grayson\_194:

(Start: 103 @100750 has 2 MA's), (Start: 110 @100774 has 18 MA's), (127, 100861), (145, 100918), (170, 101002),

Gene: GreenWeasel\_36 Start: 26199, Stop: 26711, Start Num: 62

Candidate Starts for GreenWeasel\_36:

(42, 26163), (Start: 62 @26199 has 2 MA's), (Start: 89 @26235 has 109 MA's), (Start: 109 @26280 has 6 MA's), (114, 26313), (Start: 115 @26322 has 2 MA's), (119, 26346), (172, 26550), (216, 26679),

Gene: Grif\_41 Start: 28650, Stop: 28267, Start Num: 90

Candidate Starts for Grif\_41:

(Start: 73 @28677 has 12 MA's), (Start: 90 @28650 has 74 MA's), (Start: 109 @28605 has 6 MA's), (147, 28434), (150, 28422),

Gene: Groupthink\_41 Start: 28401, Stop: 28018, Start Num: 90

Candidate Starts for Groupthink\_41:

(10, 28629), (Start: 73 @28428 has 12 MA's), (Start: 90 @28401 has 74 MA's), (Start: 109 @28356 has 6 MA's), (147, 28185), (150, 28173),

Gene: Grub\_41 Start: 28595, Stop: 28185, Start Num: 73

Candidate Starts for Grub\_41:

(Start: 73 @28595 has 12 MA's), (Start: 90 @28568 has 74 MA's), (Start: 109 @28523 has 6 MA's), (147, 28352), (150, 28340),

Gene: Grum1\_41 Start: 28602, Stop: 28192, Start Num: 73

Candidate Starts for Grum1\_41:

(Start: 73 @28602 has 12 MA's), (Start: 90 @28575 has 74 MA's), (Start: 109 @28530 has 6 MA's), (147, 28359), (150, 28347),

Gene: Gruunaga\_40 Start: 26598, Stop: 26206, Start Num: 89  
Candidate Starts for Gruunaga\_40:  
(Start: 89 @26598 has 109 MA's), (128, 26451), (137, 26406), (150, 26364), (156, 26337),

Gene: GtownJaz\_41 Start: 28577, Stop: 28194, Start Num: 90  
Candidate Starts for GtownJaz\_41:  
(Start: 73 @28604 has 12 MA's), (Start: 90 @28577 has 74 MA's), (Start: 109 @28532 has 6 MA's),  
(147, 28361), (150, 28349),

Gene: Gusicorn\_65 Start: 46391, Stop: 46861, Start Num: 64  
Candidate Starts for Gusicorn\_65:  
(Start: 64 @46391 has 25 MA's), (Start: 70 @46400 has 11 MA's), (Start: 117 @46529 has 1 MA's),  
(136, 46622), (166, 46730), (191, 46823),

Gene: HINdeR\_35 Start: 29947, Stop: 29549, Start Num: 93  
Candidate Starts for HINdeR\_35:  
(Start: 93 @29947 has 14 MA's), (150, 29719), (172, 29653), (188, 29587), (200, 29557),

Gene: Haizum\_36 Start: 26732, Stop: 27217, Start Num: 83  
Candidate Starts for Haizum\_36:  
(Start: 83 @26732 has 12 MA's), (114, 26816), (Start: 117 @26831 has 1 MA's), (167, 27047), (216,  
27185), (223, 27200),

Gene: Hammer\_40 Start: 26429, Stop: 26040, Start Num: 89  
Candidate Starts for Hammer\_40:  
(Start: 89 @26429 has 109 MA's), (150, 26198), (156, 26171), (188, 26066),

Gene: HangryHippo\_215 Start: 107854, Stop: 108144, Start Num: 112  
Candidate Starts for HangryHippo\_215:  
(Start: 107 @107830 has 11 MA's), (Start: 110 @107842 has 18 MA's), (Start: 112 @107854 has 13  
MA's), (125, 107920), (139, 107974), (146, 107989), (189, 108124),

Gene: Hank144\_36 Start: 26811, Stop: 27266, Start Num: 84  
Candidate Starts for Hank144\_36:  
(Start: 84 @26811 has 10 MA's), (Start: 106 @26844 has 2 MA's), (Start: 109 @26856 has 6 MA's),  
(114, 26889), (Start: 115 @26898 has 2 MA's), (173, 27117), (216, 27234), (223, 27249),

Gene: HashRod\_41 Start: 28574, Stop: 28191, Start Num: 90  
Candidate Starts for HashRod\_41:  
(Start: 73 @28601 has 12 MA's), (Start: 90 @28574 has 74 MA's), (Start: 103 @28547 has 2 MA's),  
(Start: 109 @28529 has 6 MA's), (147, 28358), (150, 28346),

Gene: HaugeAnator\_54 Start: 29438, Stop: 29022, Start Num: 94  
Candidate Starts for HaugeAnator\_54:  
(67, 29480), (Start: 94 @29438 has 15 MA's), (Start: 117 @29351 has 1 MA's), (138, 29255), (139,  
29252), (141, 29246), (164, 29168),

Gene: HaveUMetTed\_41 Start: 28394, Stop: 28011, Start Num: 90  
Candidate Starts for HaveUMetTed\_41:  
(Start: 73 @28421 has 12 MA's), (Start: 90 @28394 has 74 MA's), (Start: 109 @28349 has 6 MA's),  
(147, 28178), (150, 28166),

Gene: Heathen\_36 Start: 27607, Stop: 27221, Start Num: 89

Candidate Starts for Heathen\_36:  
(Start: 89 @27607 has 109 MA's), (140, 27409),

Gene: HelDan\_36 Start: 27859, Stop: 27473, Start Num: 89  
Candidate Starts for HelDan\_36:  
(Start: 89 @27859 has 109 MA's), (140, 27661),

Gene: Heliosoles\_40 Start: 28401, Stop: 28018, Start Num: 90  
Candidate Starts for Heliosoles\_40:  
(10, 28632), (Start: 73 @28428 has 12 MA's), (Start: 90 @28401 has 74 MA's), (Start: 109 @28356 has 6 MA's), (147, 28185), (150, 28173),

Gene: Helmet\_41 Start: 26617, Stop: 26225, Start Num: 89  
Candidate Starts for Helmet\_41:  
(Start: 89 @26617 has 109 MA's), (128, 26470), (137, 26425), (150, 26383), (156, 26356),

Gene: Hercules11\_41 Start: 28611, Stop: 28201, Start Num: 73  
Candidate Starts for Hercules11\_41:  
(Start: 73 @28611 has 12 MA's), (Start: 90 @28584 has 74 MA's), (Start: 109 @28539 has 6 MA's), (147, 28368), (150, 28356),

Gene: Hexamo\_40 Start: 26376, Stop: 25987, Start Num: 92  
Candidate Starts for Hexamo\_40:  
(Start: 92 @26376 has 15 MA's), (128, 26232), (137, 26187), (150, 26145), (156, 26118),

Gene: Hippo\_34 Start: 26056, Stop: 26544, Start Num: 74  
Candidate Starts for Hippo\_34:  
(16, 25876), (21, 25912), (49, 26008), (Start: 74 @26056 has 36 MA's), (108, 26128), (114, 26164), (Start: 115 @26173 has 2 MA's), (124, 26221), (136, 26275), (157, 26350), (172, 26386), (173, 26392), (216, 26512), (228, 26539),

Gene: Hookmount\_35 Start: 27810, Stop: 27382, Start Num: 91  
Candidate Starts for Hookmount\_35:  
(Start: 89 @27813 has 109 MA's), (Start: 91 @27810 has 5 MA's), (Start: 109 @27765 has 6 MA's), (135, 27627), (189, 27450),

Gene: Hoot\_40 Start: 26594, Stop: 26202, Start Num: 89  
Candidate Starts for Hoot\_40:  
(Start: 89 @26594 has 109 MA's), (128, 26447), (137, 26402), (150, 26360), (156, 26333),

Gene: Hortihabitatio\_66 Start: 47107, Stop: 47610, Start Num: 70  
Candidate Starts for Hortihabitatio\_66:  
(36, 47032), (41, 47053), (60, 47089), (Start: 64 @47098 has 25 MA's), (Start: 70 @47107 has 11 MA's), (Start: 117 @47236 has 1 MA's), (149, 47374), (188, 47518),

Gene: HuhtaEnerson15\_32 Start: 26972, Stop: 26463, Start Num: 89  
Candidate Starts for HuhtaEnerson15\_32:  
(Start: 89 @26972 has 109 MA's),

Gene: Hydra\_36 Start: 26216, Stop: 26704, Start Num: 74  
Candidate Starts for Hydra\_36:  
(49, 26168), (Start: 74 @26216 has 36 MA's), (108, 26288), (Start: 115 @26333 has 2 MA's), (136, 26435), (173, 26552), (216, 26672), (228, 26699),

Gene: Hydrus\_66 Start: 47228, Stop: 47680, Start Num: 70

Candidate Starts for Hydrus\_66:

(37, 47162), (55, 47207), (Start: 64 @47219 has 25 MA's), (Start: 70 @47228 has 11 MA's), (Start: 117 @47360 has 1 MA's), (130, 47426), (136, 47453), (151, 47516), (166, 47561),

Gene: Ibantik\_13 Start: 5594, Stop: 5154, Start Num: 88

Candidate Starts for Ibantik\_13:

(Start: 88 @5594 has 25 MA's), (173, 5291), (206, 5186),

Gene: IchabodCrane\_225 Start: 108836, Stop: 109204, Start Num: 76

Candidate Starts for IchabodCrane\_225:

(Start: 76 @108836 has 31 MA's), (Start: 107 @108896 has 11 MA's), (Start: 112 @108920 has 13 MA's), (120, 108965), (125, 108986), (130, 109007), (139, 109040), (146, 109055), (189, 109190),

Gene: Idleandcovert\_36 Start: 27799, Stop: 27413, Start Num: 89

Candidate Starts for Idleandcovert\_36:

(Start: 89 @27799 has 109 MA's), (140, 27601),

Gene: Immanuel3\_53 Start: 29441, Stop: 29025, Start Num: 94

Candidate Starts for Immanuel3\_53:

(67, 29483), (Start: 94 @29441 has 15 MA's), (Start: 117 @29354 has 1 MA's), (124, 29315), (136, 29264), (141, 29249), (143, 29243),

Gene: Indigo\_33 Start: 25684, Stop: 26172, Start Num: 74

Candidate Starts for Indigo\_33:

(49, 25636), (Start: 74 @25684 has 36 MA's), (108, 25756), (Start: 115 @25801 has 2 MA's), (136, 25903), (173, 26020), (216, 26140), (228, 26167),

Gene: Indra\_42 Start: 26618, Stop: 26226, Start Num: 89

Candidate Starts for Indra\_42:

(Start: 89 @26618 has 109 MA's), (128, 26471), (137, 26426), (150, 26384), (156, 26357),

Gene: Isca\_36 Start: 27568, Stop: 27182, Start Num: 89

Candidate Starts for Isca\_36:

(Start: 89 @27568 has 109 MA's),

Gene: Isiphiwo\_40 Start: 26688, Stop: 26296, Start Num: 89

Candidate Starts for Isiphiwo\_40:

(Start: 89 @26688 has 109 MA's), (128, 26541), (137, 26496), (150, 26454), (156, 26427), (157, 26424),

Gene: Issmi\_36 Start: 27365, Stop: 27823, Start Num: 84

Candidate Starts for Issmi\_36:

(Start: 84 @27365 has 10 MA's), (Start: 109 @27410 has 6 MA's), (114, 27443), (Start: 115 @27452 has 2 MA's), (172, 27665), (173, 27671), (180, 27704), (216, 27791), (223, 27806),

Gene: Izzy\_35 Start: 26089, Stop: 26577, Start Num: 74

Candidate Starts for Izzy\_35:

(29, 25984), (49, 26041), (Start: 74 @26089 has 36 MA's), (108, 26161), (Start: 115 @26206 has 2 MA's), (136, 26308), (173, 26425), (216, 26545), (228, 26572),

Gene: JF2\_36 Start: 27319, Stop: 26933, Start Num: 89

Candidate Starts for JF2\_36:  
(Start: 89 @27319 has 109 MA's),

Gene: JF4\_36 Start: 27319, Stop: 26933, Start Num: 89  
Candidate Starts for JF4\_36:  
(Start: 89 @27319 has 109 MA's),

Gene: JHC117\_41 Start: 28574, Stop: 28191, Start Num: 90  
Candidate Starts for JHC117\_41:  
(Start: 73 @28601 has 12 MA's), (Start: 90 @28574 has 74 MA's), (Start: 109 @28529 has 6 MA's),  
(147, 28358), (150, 28346),

Gene: Jabiru\_33 Start: 26731, Stop: 26219, Start Num: 89  
Candidate Starts for Jabiru\_33:  
(Start: 89 @26731 has 109 MA's), (132, 26554),

Gene: Janus\_35 Start: 26738, Stop: 27211, Start Num: 88  
Candidate Starts for Janus\_35:  
(Start: 88 @26738 has 25 MA's), (Start: 109 @26783 has 6 MA's), (Start: 111 @26792 has 1 MA's),  
(114, 26816), (Start: 115 @26825 has 2 MA's), (122, 26858), (159, 27008), (216, 27179), (223, 27194),

Gene: Jash\_35 Start: 26042, Stop: 26530, Start Num: 74  
Candidate Starts for Jash\_35:  
(29, 25937), (49, 25994), (Start: 74 @26042 has 36 MA's), (108, 26114), (Start: 115 @26159 has 2  
MA's), (136, 26261), (173, 26378), (216, 26498), (228, 26525),

Gene: Jay2Jay\_222 Start: 108801, Stop: 109115, Start Num: 107  
Candidate Starts for Jay2Jay\_222:  
(Start: 107 @108801 has 11 MA's), (Start: 110 @108813 has 18 MA's), (Start: 112 @108825 has 13  
MA's), (125, 108891), (139, 108945), (146, 108960), (189, 109095),

Gene: Jeffabunny\_40 Start: 26412, Stop: 26023, Start Num: 92  
Candidate Starts for Jeffabunny\_40:  
(Start: 92 @26412 has 15 MA's), (128, 26268), (137, 26223), (150, 26181), (156, 26154),

Gene: JenCasNa\_41 Start: 28575, Stop: 28192, Start Num: 90  
Candidate Starts for JenCasNa\_41:  
(Start: 73 @28602 has 12 MA's), (Start: 90 @28575 has 74 MA's), (Start: 109 @28530 has 6 MA's),  
(147, 28359), (150, 28347),

Gene: JeppNRM\_41 Start: 28399, Stop: 28016, Start Num: 90  
Candidate Starts for JeppNRM\_41:  
(10, 28630), (Start: 73 @28426 has 12 MA's), (Start: 90 @28399 has 74 MA's), (Start: 109 @28354  
has 6 MA's), (147, 28183), (150, 28171),

Gene: Jevington\_37 Start: 27148, Stop: 27609, Start Num: 84  
Candidate Starts for Jevington\_37:  
(Start: 84 @27148 has 10 MA's), (Start: 109 @27196 has 6 MA's), (114, 27229), (172, 27451), (173,  
27457), (180, 27490), (216, 27577), (223, 27592),

Gene: JewelBug\_41 Start: 26622, Stop: 26230, Start Num: 89  
Candidate Starts for JewelBug\_41:  
(Start: 89 @26622 has 109 MA's), (128, 26475), (137, 26430), (150, 26388), (156, 26361),

Gene: Jhitchelle\_36 Start: 26984, Stop: 27391, Start Num: 86

Candidate Starts for Jhitchelle\_36:

(51, 26924), (Start: 86 @26984 has 15 MA's), (Start: 111 @27041 has 1 MA's), (114, 27065), (Start: 115 @27074 has 2 MA's), (122, 27107), (125, 27125), (136, 27176), (141, 27191), (159, 27257), (173, 27308), (188, 27368), (190, 27374),

Gene: JimJam\_238 Start: 110757, Stop: 111125, Start Num: 76

Candidate Starts for JimJam\_238:

(Start: 76 @110757 has 31 MA's), (Start: 107 @110817 has 11 MA's), (Start: 112 @110841 has 13 MA's), (125, 110907), (130, 110928), (139, 110961), (146, 110976), (189, 111111),

Gene: Jobu08\_40 Start: 28405, Stop: 28022, Start Num: 90

Candidate Starts for Jobu08\_40:

(Start: 73 @28432 has 12 MA's), (Start: 90 @28405 has 74 MA's), (Start: 109 @28360 has 6 MA's), (147, 28189), (150, 28177),

Gene: Jodelie19\_62 Start: 47735, Stop: 48253, Start Num: 34

Candidate Starts for Jodelie19\_62:

(Start: 34 @47735 has 1 MA's), (45, 47768), (Start: 64 @47798 has 25 MA's), (Start: 70 @47807 has 11 MA's), (Start: 117 @47939 has 1 MA's), (136, 48032), (166, 48140), (178, 48191),

Gene: Jollison\_228 Start: 108967, Stop: 109335, Start Num: 76

Candidate Starts for Jollison\_228:

(Start: 76 @108967 has 31 MA's), (Start: 107 @109027 has 11 MA's), (Start: 112 @109051 has 13 MA's), (125, 109117), (130, 109138), (139, 109171), (146, 109186), (189, 109321),

Gene: Jordennis\_40 Start: 26606, Stop: 26214, Start Num: 89

Candidate Starts for Jordennis\_40:

(Start: 89 @26606 has 109 MA's), (128, 26459), (137, 26414), (150, 26372), (156, 26345),

Gene: Jovo\_32 Start: 27162, Stop: 26653, Start Num: 89

Candidate Starts for Jovo\_32:

(Start: 89 @27162 has 109 MA's),

Gene: JustBecause\_213 Start: 126485, Stop: 127003, Start Num: 85

Candidate Starts for JustBecause\_213:

(18, 126302), (Start: 85 @126485 has 18 MA's), (Start: 103 @126524 has 2 MA's), (176, 126833), (181, 126845), (184, 126857), (202, 126908),

Gene: KADY\_41 Start: 28574, Stop: 28191, Start Num: 90

Candidate Starts for KADY\_41:

(Start: 73 @28601 has 12 MA's), (Start: 90 @28574 has 74 MA's), (Start: 103 @28547 has 2 MA's), (Start: 109 @28529 has 6 MA's), (147, 28358), (150, 28346),

Gene: Kachowdy\_36 Start: 27859, Stop: 27473, Start Num: 89

Candidate Starts for Kachowdy\_36:

(Start: 89 @27859 has 109 MA's), (140, 27661),

Gene: Kaine\_35 Start: 27263, Stop: 27667, Start Num: 86

Candidate Starts for Kaine\_35:

(Start: 86 @27263 has 15 MA's), (Start: 111 @27317 has 1 MA's), (Start: 115 @27350 has 2 MA's), (122, 27383), (188, 27644), (190, 27650),

Gene: Kalb97\_41 Start: 28400, Stop: 28017, Start Num: 90  
Candidate Starts for Kalb97\_41:  
(10, 28628), (Start: 73 @28427 has 12 MA's), (Start: 90 @28400 has 74 MA's), (Start: 109 @28355 has 6 MA's), (147, 28184), (150, 28172),

Gene: Kalnoky\_41 Start: 28401, Stop: 28018, Start Num: 90  
Candidate Starts for Kalnoky\_41:  
(10, 28626), (Start: 73 @28428 has 12 MA's), (Start: 90 @28401 has 74 MA's), (Start: 109 @28356 has 6 MA's), (147, 28185), (150, 28173),

Gene: Karimac\_231 Start: 109152, Stop: 109520, Start Num: 76  
Candidate Starts for Karimac\_231:  
(Start: 76 @109152 has 31 MA's), (Start: 107 @109212 has 11 MA's), (Start: 112 @109236 has 13 MA's), (125, 109302), (130, 109323), (139, 109356), (146, 109371), (189, 109506),

Gene: Katalie\_34 Start: 26236, Stop: 26655, Start Num: 86  
Candidate Starts for Katalie\_34:  
(Start: 86 @26236 has 15 MA's), (108, 26281), (Start: 109 @26284 has 6 MA's), (Start: 115 @26326 has 2 MA's), (125, 26377), (128, 26386), (136, 26428), (163, 26530),

Gene: Kazan\_41 Start: 26622, Stop: 26230, Start Num: 89  
Candidate Starts for Kazan\_41:  
(Start: 89 @26622 has 109 MA's), (128, 26475), (137, 26430), (150, 26388), (156, 26361),

Gene: Kela\_211 Start: 126330, Stop: 126848, Start Num: 85  
Candidate Starts for Kela\_211:  
(18, 126147), (Start: 85 @126330 has 18 MA's), (Start: 103 @126369 has 2 MA's), (176, 126678), (181, 126690), (184, 126702), (202, 126753),

Gene: Kenosha\_63 Start: 46678, Stop: 47133, Start Num: 64  
Candidate Starts for Kenosha\_63:  
(37, 46621), (50, 46657), (Start: 64 @46678 has 25 MA's), (Start: 70 @46687 has 11 MA's), (Start: 117 @46816 has 1 MA's), (136, 46909), (166, 47017), (178, 47068),

Gene: KentuckyRacer\_237 Start: 110672, Stop: 111040, Start Num: 76  
Candidate Starts for KentuckyRacer\_237:  
(Start: 76 @110672 has 31 MA's), (Start: 107 @110732 has 11 MA's), (Start: 112 @110756 has 13 MA's), (125, 110822), (130, 110843), (139, 110876), (146, 110891), (189, 111026),

Gene: Kerberos\_40 Start: 27983, Stop: 27597, Start Num: 89  
Candidate Starts for Kerberos\_40:  
(Start: 89 @27983 has 109 MA's), (150, 27752),

Gene: Kerry\_64 Start: 45990, Stop: 46505, Start Num: 56  
Candidate Starts for Kerry\_64:  
(Start: 56 @45990 has 13 MA's), (Start: 103 @46074 has 2 MA's), (Start: 106 @46080 has 2 MA's), (Start: 117 @46140 has 1 MA's), (120, 46161), (129, 46197), (136, 46233), (156, 46317), (189, 46425), (193, 46440), (209, 46473), (211, 46476), (221, 46497),

Gene: Kimona\_33 Start: 25900, Stop: 25490, Start Num: 89  
Candidate Starts for Kimona\_33:  
(Start: 89 @25900 has 109 MA's), (128, 25753), (150, 25672), (180, 25567),

Gene: Kipper29\_40 Start: 26610, Stop: 26224, Start Num: 92

Candidate Starts for Kipper29\_40:

(Start: 92 @26610 has 15 MA's), (150, 26382), (156, 26355),

Gene: Koko\_40 Start: 26968, Stop: 26579, Start Num: 89

Candidate Starts for Koko\_40:

(Start: 89 @26968 has 109 MA's), (150, 26737), (156, 26710), (188, 26605),

Gene: Kradal\_214 Start: 129330, Stop: 129839, Start Num: 85

Candidate Starts for Kradal\_214:

(18, 129147), (Start: 85 @129330 has 18 MA's), (131, 129504), (171, 129621), (204, 129738), (230, 129804), (231, 129834),

Gene: Kumquat\_54 Start: 29457, Stop: 29041, Start Num: 97

Candidate Starts for Kumquat\_54:

(35, 29580), (Start: 86 @29472 has 15 MA's), (Start: 97 @29457 has 3 MA's), (150, 29229),

Gene: LBerry\_41 Start: 28576, Stop: 28193, Start Num: 90

Candidate Starts for LBerry\_41:

(Start: 73 @28603 has 12 MA's), (Start: 90 @28576 has 74 MA's), (Start: 109 @28531 has 6 MA's), (147, 28360), (150, 28348),

Gene: LHTSCC\_37 Start: 28100, Stop: 27660, Start Num: 93

Candidate Starts for LHTSCC\_37:

(Start: 93 @28100 has 14 MA's), (188, 27740), (189, 27737),

Gene: Lambert1\_35 Start: 27809, Stop: 27381, Start Num: 91

Candidate Starts for Lambert1\_35:

(Start: 89 @27812 has 109 MA's), (Start: 91 @27809 has 5 MA's), (Start: 109 @27764 has 6 MA's), (135, 27626), (189, 27449),

Gene: Lannister\_36 Start: 26707, Stop: 27195, Start Num: 74

Candidate Starts for Lannister\_36:

(16, 26527), (49, 26659), (Start: 74 @26707 has 36 MA's), (108, 26779), (180, 27076), (216, 27163), (228, 27190),

Gene: Larnav\_216 Start: 108336, Stop: 108638, Start Num: 110

Candidate Starts for Larnav\_216:

(Start: 107 @108324 has 11 MA's), (Start: 110 @108336 has 18 MA's), (Start: 112 @108348 has 13 MA's), (125, 108414), (139, 108468), (146, 108483), (189, 108618),

Gene: LarryKay\_40 Start: 28576, Stop: 28193, Start Num: 90

Candidate Starts for LarryKay\_40:

(Start: 73 @28603 has 12 MA's), (Start: 90 @28576 has 74 MA's), (Start: 103 @28549 has 2 MA's), (Start: 109 @28531 has 6 MA's), (147, 28360), (150, 28348),

Gene: LastNadiia\_46 Start: 32476, Stop: 32105, Start Num: 115

Candidate Starts for LastNadiia\_46:

(Start: 85 @32572 has 18 MA's), (Start: 103 @32533 has 2 MA's), (Start: 109 @32515 has 6 MA's), (Start: 115 @32476 has 2 MA's), (153, 32317), (175, 32245), (188, 32203),

Gene: Legacy\_34 Start: 25659, Stop: 26147, Start Num: 74

Candidate Starts for Legacy\_34:

(49, 25611), (Start: 74 @25659 has 36 MA's), (108, 25731), (Start: 115 @25776 has 2 MA's), (136, 25878), (173, 25995), (216, 26115), (228, 26142),

Gene: Leo04\_217 Start: 108856, Stop: 109170, Start Num: 107

Candidate Starts for Leo04\_217:

(Start: 107 @108856 has 11 MA's), (Start: 110 @108868 has 18 MA's), (Start: 112 @108880 has 13 MA's), (125, 108946), (139, 109000), (146, 109015), (189, 109150),

Gene: Lev2\_32 Start: 26794, Stop: 26285, Start Num: 89

Candidate Starts for Lev2\_32:

(Start: 89 @26794 has 109 MA's),

Gene: Leviticus\_34 Start: 25688, Stop: 26176, Start Num: 74

Candidate Starts for Leviticus\_34:

(49, 25640), (Start: 74 @25688 has 36 MA's), (108, 25760), (Start: 115 @25805 has 2 MA's), (136, 25907), (173, 26024), (216, 26144), (228, 26171),

Gene: Lika\_34 Start: 26509, Stop: 26988, Start Num: 85

Candidate Starts for Lika\_34:

(Start: 85 @26509 has 18 MA's), (114, 26590), (Start: 117 @26605 has 1 MA's), (161, 26800), (216, 26956), (223, 26971),

Gene: LilMartin\_216 Start: 106835, Stop: 107152, Start Num: 110

Candidate Starts for LilMartin\_216:

(Start: 73 @106754 has 12 MA's), (Start: 107 @106823 has 11 MA's), (Start: 110 @106835 has 18 MA's), (Start: 112 @106847 has 13 MA's), (Start: 117 @106874 has 1 MA's), (125, 106913), (139, 106967), (146, 106982), (178, 107084), (194, 107135), (197, 107138),

Gene: LilSaint\_218 Start: 108101, Stop: 108415, Start Num: 107

Candidate Starts for LilSaint\_218:

(Start: 107 @108101 has 11 MA's), (Start: 110 @108113 has 18 MA's), (Start: 112 @108125 has 13 MA's), (Start: 117 @108152 has 1 MA's), (125, 108191), (130, 108212), (139, 108245), (146, 108260), (185, 108383), (189, 108395),

Gene: Lilbooboo\_46 Start: 33605, Stop: 34009, Start Num: 89

Candidate Starts for Lilbooboo\_46:

(24, 33455), (Start: 77 @33593 has 4 MA's), (Start: 89 @33605 has 109 MA's), (Start: 117 @33698 has 1 MA's), (128, 33752), (189, 33974),

Gene: Lilbunny\_39 Start: 26386, Stop: 25997, Start Num: 92

Candidate Starts for Lilbunny\_39:

(Start: 92 @26386 has 15 MA's), (128, 26242), (137, 26197), (150, 26155), (156, 26128),

Gene: Lilit\_41 Start: 28569, Stop: 28186, Start Num: 90

Candidate Starts for Lilit\_41:

(Start: 73 @28596 has 12 MA's), (Start: 90 @28569 has 74 MA's), (Start: 109 @28524 has 6 MA's), (147, 28353), (150, 28341),

Gene: LittleCherry\_32 Start: 26982, Stop: 26473, Start Num: 89

Candidate Starts for LittleCherry\_32:

(Start: 89 @26982 has 109 MA's),

Gene: Lizz\_71 Start: 50574, Stop: 50158, Start Num: 82

Candidate Starts for Lizz\_71:

(Start: 82 @50574 has 2 MA's), (Start: 106 @50526 has 2 MA's), (Start: 109 @50514 has 6 MA's), (Start: 110 @50508 has 18 MA's), (113, 50493), (114, 50481), (156, 50295), (157, 50292), (179, 50250), (201, 50187), (208, 50175),

Gene: Loofah\_35 Start: 26915, Stop: 27400, Start Num: 83

Candidate Starts for Loofah\_35:

(Start: 83 @26915 has 12 MA's), (114, 26999), (Start: 117 @27014 has 1 MA's), (216, 27368), (223, 27383),

Gene: Lorelei\_35 Start: 26571, Stop: 27047, Start Num: 88

Candidate Starts for Lorelei\_35:

(16, 26373), (21, 26409), (49, 26505), (Start: 83 @26565 has 12 MA's), (Start: 88 @26571 has 25 MA's), (114, 26649), (Start: 117 @26664 has 1 MA's), (161, 26859), (216, 27015), (223, 27030),

Gene: Louie6\_40 Start: 28575, Stop: 28192, Start Num: 90

Candidate Starts for Louie6\_40:

(Start: 73 @28602 has 12 MA's), (Start: 90 @28575 has 74 MA's), (Start: 103 @28548 has 2 MA's), (Start: 109 @28530 has 6 MA's), (147, 28359), (150, 28347),

Gene: Lozinak\_146 Start: 79968, Stop: 80357, Start Num: 90

Candidate Starts for Lozinak\_146:

(Start: 90 @79968 has 74 MA's), (126, 80106), (189, 80328), (196, 80346),

Gene: LugYA\_43 Start: 28576, Stop: 28193, Start Num: 90

Candidate Starts for LugYA\_43:

(Start: 73 @28603 has 12 MA's), (Start: 90 @28576 has 74 MA's), (Start: 109 @28531 has 6 MA's), (147, 28360), (150, 28348),

Gene: LukeCage\_234 Start: 111003, Stop: 111371, Start Num: 76

Candidate Starts for LukeCage\_234:

(60, 110970), (Start: 69 @110988 has 1 MA's), (Start: 76 @111003 has 31 MA's), (Start: 107 @111063 has 11 MA's), (Start: 109 @111069 has 6 MA's), (Start: 112 @111087 has 13 MA's), (125, 111153), (139, 111207), (146, 111222), (189, 111357),

Gene: Lululemon\_213 Start: 107235, Stop: 107525, Start Num: 112

Candidate Starts for Lululemon\_213:

(Start: 107 @107211 has 11 MA's), (Start: 110 @107223 has 18 MA's), (Start: 112 @107235 has 13 MA's), (125, 107301), (139, 107355), (146, 107370), (189, 107505),

Gene: Luthien\_65 Start: 46459, Stop: 47010, Start Num: 64

Candidate Starts for Luthien\_65:

(37, 46402), (Start: 64 @46459 has 25 MA's), (Start: 70 @46468 has 11 MA's), (Start: 117 @46600 has 1 MA's), (130, 46666), (136, 46693), (151, 46756), (166, 46801), (191, 46894), (194, 46903),

Gene: MA5\_36 Start: 27451, Stop: 27065, Start Num: 89

Candidate Starts for MA5\_36:

(Start: 89 @27451 has 109 MA's), (140, 27253),

Gene: MK4\_36 Start: 27553, Stop: 27167, Start Num: 89

Candidate Starts for MK4\_36:

(Start: 89 @27553 has 109 MA's),

Gene: MadMarie\_41 Start: 28578, Stop: 28195, Start Num: 90

Candidate Starts for MadMarie\_41:

(Start: 73 @28605 has 12 MA's), (Start: 90 @28578 has 74 MA's), (Start: 109 @28533 has 6 MA's), (147, 28362), (150, 28350),

Gene: Madvan\_64 Start: 46114, Stop: 46566, Start Num: 70

Candidate Starts for Madvan\_64:

(37, 46048), (Start: 64 @46105 has 25 MA's), (Start: 70 @46114 has 11 MA's), (Start: 117 @46246 has 1 MA's), (130, 46312), (136, 46339), (151, 46402), (166, 46447),

Gene: Magel\_66 Start: 46272, Stop: 46742, Start Num: 84

Candidate Starts for Magel\_66:

(43, 46203), (Start: 56 @46227 has 13 MA's), (Start: 84 @46272 has 10 MA's), (Start: 103 @46311 has 2 MA's), (Start: 106 @46317 has 2 MA's), (Start: 117 @46377 has 1 MA's), (120, 46398), (129, 46434), (136, 46470), (156, 46554), (189, 46662), (193, 46677), (209, 46710), (211, 46713), (221, 46734),

Gene: Mainiac\_41 Start: 28569, Stop: 28186, Start Num: 90

Candidate Starts for Mainiac\_41:

(Start: 73 @28596 has 12 MA's), (Start: 90 @28569 has 74 MA's), (Start: 109 @28524 has 6 MA's), (147, 28353), (150, 28341),

Gene: MajinBuu\_64 Start: 46776, Stop: 47231, Start Num: 64

Candidate Starts for MajinBuu\_64:

(Start: 34 @46713 has 1 MA's), (45, 46746), (Start: 64 @46776 has 25 MA's), (Start: 70 @46785 has 11 MA's), (Start: 117 @46917 has 1 MA's), (136, 47010), (166, 47118), (178, 47169),

Gene: Makima\_45 Start: 31587, Stop: 31207, Start Num: 114

Candidate Starts for Makima\_45:

(Start: 85 @31674 has 18 MA's), (Start: 103 @31635 has 2 MA's), (Start: 109 @31617 has 6 MA's), (114, 31587), (Start: 115 @31578 has 2 MA's), (141, 31470), (153, 31419), (175, 31347), (188, 31305),

Gene: Malinsilva\_43 Start: 28568, Stop: 28185, Start Num: 90

Candidate Starts for Malinsilva\_43:

(Start: 73 @28595 has 12 MA's), (Start: 90 @28568 has 74 MA's), (Start: 109 @28523 has 6 MA's), (147, 28352), (150, 28340),

Gene: Maneekul\_34 Start: 26078, Stop: 26566, Start Num: 74

Candidate Starts for Maneekul\_34:

(16, 25898), (49, 26030), (Start: 74 @26078 has 36 MA's), (108, 26150), (114, 26186), (Start: 115 @26195 has 2 MA's), (124, 26243), (172, 26408), (173, 26414), (216, 26534), (228, 26561),

Gene: Manu\_41 Start: 28401, Stop: 28018, Start Num: 90

Candidate Starts for Manu\_41:

(10, 28629), (Start: 73 @28428 has 12 MA's), (Start: 90 @28401 has 74 MA's), (Start: 109 @28356 has 6 MA's), (147, 28185), (150, 28173),

Gene: Manuel\_51 Start: 29161, Stop: 28748, Start Num: 98

Candidate Starts for Manuel\_51:

(Start: 98 @29161 has 2 MA's), (102, 29143), (Start: 117 @29077 has 1 MA's), (144, 28960), (167, 28885),

Gene: MarQuardt\_41 Start: 28577, Stop: 28194, Start Num: 90  
Candidate Starts for MarQuardt\_41:  
(Start: 73 @28604 has 12 MA's), (Start: 90 @28577 has 74 MA's), (Start: 109 @28532 has 6 MA's),  
(147, 28361), (150, 28349),

Gene: Marav\_38 Start: 27473, Stop: 27934, Start Num: 84  
Candidate Starts for Marav\_38:  
(Start: 84 @27473 has 10 MA's), (Start: 109 @27521 has 6 MA's), (114, 27554), (172, 27776), (173,  
27782), (180, 27815), (216, 27902), (223, 27917),

Gene: Marchesa\_36 Start: 27857, Stop: 27471, Start Num: 89  
Candidate Starts for Marchesa\_36:  
(Start: 89 @27857 has 109 MA's), (140, 27659),

Gene: Mareelih\_173 Start: 101362, Stop: 100859, Start Num: 88  
Candidate Starts for Mareelih\_173:  
(Start: 88 @101362 has 25 MA's), (157, 101086), (166, 101065), (173, 101044), (214, 100924), (226,  
100894),

Gene: Margo\_35 Start: 27838, Stop: 27407, Start Num: 89  
Candidate Starts for Margo\_35:  
(Start: 89 @27838 has 109 MA's), (Start: 91 @27835 has 5 MA's), (Start: 109 @27790 has 6 MA's),  
(135, 27652), (189, 27475),

Gene: Marie\_41 Start: 28575, Stop: 28192, Start Num: 90  
Candidate Starts for Marie\_41:  
(Start: 73 @28602 has 12 MA's), (Start: 90 @28575 has 74 MA's), (Start: 109 @28530 has 6 MA's),  
(147, 28359), (150, 28347),

Gene: Marius\_41 Start: 28401, Stop: 28018, Start Num: 90  
Candidate Starts for Marius\_41:  
(10, 28626), (Start: 73 @28428 has 12 MA's), (Start: 90 @28401 has 74 MA's), (Start: 109 @28356  
has 6 MA's), (147, 28185), (150, 28173),

Gene: Marsus\_219 Start: 108512, Stop: 108817, Start Num: 112  
Candidate Starts for Marsus\_219:  
(Start: 107 @108488 has 11 MA's), (Start: 110 @108500 has 18 MA's), (Start: 112 @108512 has 13  
MA's), (Start: 117 @108539 has 1 MA's), (119, 108554), (125, 108578), (139, 108632), (146, 108647),  
(194, 108800), (197, 108803),

Gene: MarysWell\_31 Start: 27030, Stop: 26521, Start Num: 89  
Candidate Starts for MarysWell\_31:  
(Start: 89 @27030 has 109 MA's),

Gene: McFly\_40 Start: 26616, Stop: 26224, Start Num: 89  
Candidate Starts for McFly\_40:  
(Start: 89 @26616 has 109 MA's), (128, 26469), (137, 26424), (150, 26382), (156, 26355),

Gene: Methuselah\_39 Start: 28570, Stop: 28187, Start Num: 90  
Candidate Starts for Methuselah\_39:  
(Start: 73 @28597 has 12 MA's), (Start: 90 @28570 has 74 MA's), (Start: 103 @28543 has 2 MA's),  
(Start: 109 @28525 has 6 MA's), (147, 28354), (150, 28342),

Gene: Micasa\_32 Start: 26944, Stop: 26438, Start Num: 94  
Candidate Starts for Micasa\_32:  
(Start: 94 @26944 has 15 MA's),

Gene: Microwolf\_41 Start: 28577, Stop: 28194, Start Num: 90  
Candidate Starts for Microwolf\_41:  
(Start: 73 @28604 has 12 MA's), (Start: 90 @28577 has 74 MA's), (Start: 109 @28532 has 6 MA's),  
(147, 28361), (150, 28349),

Gene: Midas2\_32 Start: 27021, Stop: 26512, Start Num: 89  
Candidate Starts for Midas2\_32:  
(Start: 89 @27021 has 109 MA's),

Gene: Milcery\_32 Start: 26986, Stop: 26477, Start Num: 89  
Candidate Starts for Milcery\_32:  
(Start: 89 @26986 has 109 MA's),

Gene: Mildred21\_226 Start: 106654, Stop: 106920, Start Num: 116  
Candidate Starts for Mildred21\_226:  
(Start: 107 @106606 has 11 MA's), (Start: 112 @106630 has 13 MA's), (Start: 116 @106654 has 2 MA's),  
(125, 106696), (130, 106717), (139, 106750), (146, 106765), (148, 106771), (158, 106810),  
(189, 106900),

Gene: MindFlayer\_224 Start: 108352, Stop: 108720, Start Num: 76  
Candidate Starts for MindFlayer\_224:  
(Start: 76 @108352 has 31 MA's), (Start: 107 @108412 has 11 MA's), (Start: 112 @108436 has 13 MA's),  
(120, 108481), (125, 108502), (130, 108523), (139, 108556), (146, 108571), (189, 108706),

Gene: Mireles\_47 Start: 31119, Stop: 30748, Start Num: 115  
Candidate Starts for Mireles\_47:  
(Start: 85 @31215 has 18 MA's), (Start: 103 @31176 has 2 MA's), (104, 31173), (Start: 109 @31158 has 6 MA's),  
(Start: 115 @31119 has 2 MA's), (175, 30888), (207, 30798), (220, 30771),

Gene: Misomonster\_42 Start: 28573, Stop: 28190, Start Num: 90  
Candidate Starts for Misomonster\_42:  
(Start: 73 @28600 has 12 MA's), (Start: 90 @28573 has 74 MA's), (Start: 103 @28546 has 2 MA's),  
(Start: 109 @28528 has 6 MA's), (147, 28357), (150, 28345),

Gene: MoneyMay\_41 Start: 28602, Stop: 28192, Start Num: 73  
Candidate Starts for MoneyMay\_41:  
(Start: 73 @28602 has 12 MA's), (Start: 90 @28575 has 74 MA's), (Start: 109 @28530 has 6 MA's),  
(147, 28359), (150, 28347),

Gene: Mossy\_67 Start: 48112, Stop: 48564, Start Num: 64  
Candidate Starts for Mossy\_67:  
(37, 48055), (Start: 64 @48112 has 25 MA's), (Start: 70 @48121 has 11 MA's), (Start: 117 @48250 has 1 MA's),  
(130, 48316), (136, 48343), (166, 48451),

Gene: MuchMore\_43 Start: 28568, Stop: 28185, Start Num: 90  
Candidate Starts for MuchMore\_43:  
(Start: 73 @28595 has 12 MA's), (Start: 90 @28568 has 74 MA's), (Start: 109 @28523 has 6 MA's),  
(147, 28352), (150, 28340),

Gene: Mugiwara\_238 Start: 111539, Stop: 111907, Start Num: 76

Candidate Starts for Mugiwara\_238:

(52, 111488), (60, 111506), (Start: 69 @111524 has 1 MA's), (Start: 76 @111539 has 31 MA's), (Start: 107 @111599 has 11 MA's), (Start: 109 @111605 has 6 MA's), (Start: 112 @111623 has 13 MA's), (Start: 115 @111644 has 2 MA's), (125, 111689), (139, 111743), (146, 111758),

Gene: MulchMansion\_220 Start: 108481, Stop: 108786, Start Num: 112

Candidate Starts for MulchMansion\_220:

(Start: 73 @108388 has 12 MA's), (Start: 107 @108457 has 11 MA's), (Start: 110 @108469 has 18 MA's), (Start: 112 @108481 has 13 MA's), (Start: 117 @108508 has 1 MA's), (125, 108547), (139, 108601), (146, 108616), (178, 108718), (194, 108769), (197, 108772),

Gene: Mysticmoon\_66 Start: 47638, Stop: 48009, Start Num: 117

Candidate Starts for Mysticmoon\_66:

(48, 47476), (Start: 64 @47500 has 25 MA's), (Start: 70 @47509 has 11 MA's), (Start: 117 @47638 has 1 MA's), (120, 47659), (149, 47776), (156, 47815), (188, 47920), (205, 47965),

Gene: Nabi\_35 Start: 26571, Stop: 27047, Start Num: 88

Candidate Starts for Nabi\_35:

(16, 26373), (21, 26409), (49, 26505), (Start: 83 @26565 has 12 MA's), (Start: 88 @26571 has 25 MA's), (114, 26649), (Start: 117 @26664 has 1 MA's), (161, 26859), (216, 27015), (223, 27030),

Gene: Naca\_33 Start: 27224, Stop: 26715, Start Num: 89

Candidate Starts for Naca\_33:

(Start: 89 @27224 has 109 MA's),

Gene: Nadmeg\_65 Start: 47342, Stop: 47797, Start Num: 64

Candidate Starts for Nadmeg\_65:

(37, 47285), (50, 47321), (Start: 64 @47342 has 25 MA's), (Start: 70 @47351 has 11 MA's), (Start: 117 @47480 has 1 MA's), (136, 47573), (166, 47681), (178, 47732),

Gene: Naji\_40 Start: 27983, Stop: 27597, Start Num: 89

Candidate Starts for Naji\_40:

(Start: 89 @27983 has 109 MA's), (150, 27752),

Gene: Nanodon\_36 Start: 26328, Stop: 26813, Start Num: 83

Candidate Starts for Nanodon\_36:

(Start: 83 @26328 has 12 MA's), (114, 26412), (Start: 117 @26427 has 1 MA's), (160, 26616), (165, 26637), (172, 26655), (216, 26781), (223, 26796),

Gene: Navo\_211 Start: 106571, Stop: 106873, Start Num: 110

Candidate Starts for Navo\_211:

(Start: 107 @106559 has 11 MA's), (Start: 110 @106571 has 18 MA's), (Start: 112 @106583 has 13 MA's), (125, 106649), (130, 106670), (146, 106718), (152, 106745), (158, 106763), (189, 106853),

Gene: NearlyHeadless\_32 Start: 26237, Stop: 25725, Start Num: 93

Candidate Starts for NearlyHeadless\_32:

(Start: 93 @26237 has 14 MA's), (150, 26006), (193, 25856), (210, 25820),

Gene: Neeharika16\_40 Start: 26609, Stop: 26217, Start Num: 89

Candidate Starts for Neeharika16\_40:

(Start: 89 @26609 has 109 MA's), (128, 26462), (137, 26417), (150, 26375), (156, 26348),

Gene: Newrala\_40 Start: 26609, Stop: 26217, Start Num: 89  
Candidate Starts for Newrala\_40:  
(Start: 89 @26609 has 109 MA's), (128, 26462), (137, 26417), (150, 26375), (156, 26348),

Gene: Nirvana\_223 Start: 137189, Stop: 137701, Start Num: 85  
Candidate Starts for Nirvana\_223:  
(9, 136931), (18, 137006), (Start: 85 @137189 has 18 MA's), (176, 137531), (181, 137543), (184, 137555), (190, 137573), (202, 137606),

Gene: Nishikigoi\_36 Start: 26732, Stop: 27217, Start Num: 83  
Candidate Starts for Nishikigoi\_36:  
(Start: 83 @26732 has 12 MA's), (Start: 109 @26783 has 6 MA's), (114, 26816), (Start: 117 @26831 has 1 MA's), (167, 27047), (216, 27185), (223, 27200),

Gene: Nithya\_64 Start: 46208, Stop: 46717, Start Num: 64  
Candidate Starts for Nithya\_64:  
(37, 46151), (Start: 64 @46208 has 25 MA's), (Start: 70 @46217 has 11 MA's), (Start: 117 @46349 has 1 MA's), (130, 46415), (136, 46442), (151, 46505), (166, 46550), (191, 46643), (219, 46703), (222, 46709),

Gene: NoPickles\_64 Start: 45655, Stop: 46170, Start Num: 56  
Candidate Starts for NoPickles\_64:  
(Start: 56 @45655 has 13 MA's), (Start: 103 @45739 has 2 MA's), (Start: 106 @45745 has 2 MA's), (Start: 117 @45805 has 1 MA's), (120, 45826), (129, 45862), (136, 45898), (156, 45982), (189, 46090), (209, 46138), (211, 46141), (221, 46162),

Gene: Noella\_35 Start: 27813, Stop: 27382, Start Num: 89  
Candidate Starts for Noella\_35:  
(Start: 89 @27813 has 109 MA's), (Start: 91 @27810 has 5 MA's), (Start: 109 @27765 has 6 MA's), (135, 27627), (189, 27450),

Gene: NootNoot\_214 Start: 107088, Stop: 107390, Start Num: 110  
Candidate Starts for NootNoot\_214:  
(Start: 107 @107076 has 11 MA's), (Start: 110 @107088 has 18 MA's), (Start: 112 @107100 has 13 MA's), (125, 107166), (130, 107187), (146, 107235), (158, 107280), (189, 107370),

Gene: Norbert\_34 Start: 27812, Stop: 27381, Start Num: 89  
Candidate Starts for Norbert\_34:  
(Start: 89 @27812 has 109 MA's), (Start: 91 @27809 has 5 MA's), (Start: 109 @27764 has 6 MA's), (135, 27626), (189, 27449),

Gene: OKCentral2016\_35 Start: 27492, Stop: 26965, Start Num: 89  
Candidate Starts for OKCentral2016\_35:  
(Start: 89 @27492 has 109 MA's), (183, 27147), (188, 27132),

Gene: Obama12\_37 Start: 28102, Stop: 27662, Start Num: 93  
Candidate Starts for Obama12\_37:  
(Start: 93 @28102 has 14 MA's), (188, 27742), (189, 27739),

Gene: Odesza\_64 Start: 46216, Stop: 46686, Start Num: 84  
Candidate Starts for Odesza\_64:  
(43, 46147), (Start: 56 @46171 has 13 MA's), (Start: 84 @46216 has 10 MA's), (Start: 103 @46255 has 2 MA's), (Start: 106 @46261 has 2 MA's), (Start: 117 @46321 has 1 MA's), (120, 46342), (129,

46378), (136, 46414), (156, 46498), (189, 46606), (193, 46621), (209, 46654), (211, 46657), (221, 46678),

Gene: OhMyWard\_63 Start: 47880, Stop: 48323, Start Num: 70

Candidate Starts for OhMyWard\_63:

(37, 47814), (Start: 64 @47871 has 25 MA's), (Start: 70 @47880 has 11 MA's), (Start: 117 @48009 has 1 MA's), (130, 48075), (136, 48102), (166, 48210), (180, 48264),

Gene: OlanP\_40 Start: 28582, Stop: 28199, Start Num: 90

Candidate Starts for OlanP\_40:

(Start: 73 @28609 has 12 MA's), (Start: 90 @28582 has 74 MA's), (Start: 109 @28537 has 6 MA's), (147, 28366), (150, 28354),

Gene: OlgasClover\_65 Start: 47388, Stop: 47843, Start Num: 64

Candidate Starts for OlgasClover\_65:

(Start: 64 @47388 has 25 MA's), (Start: 70 @47397 has 11 MA's), (Start: 117 @47529 has 1 MA's), (136, 47622), (166, 47730), (178, 47781),

Gene: Olicious\_54 Start: 29438, Stop: 29022, Start Num: 94

Candidate Starts for Olicious\_54:

(67, 29480), (Start: 94 @29438 has 15 MA's), (Start: 117 @29351 has 1 MA's), (124, 29312), (136, 29261), (141, 29246), (143, 29240),

Gene: Oliynyk\_35 Start: 26042, Stop: 26530, Start Num: 74

Candidate Starts for Oliynyk\_35:

(29, 25937), (49, 25994), (Start: 74 @26042 has 36 MA's), (108, 26114), (Start: 115 @26159 has 2 MA's), (136, 26261), (173, 26378), (216, 26498), (228, 26525),

Gene: Ollie\_41 Start: 28447, Stop: 28064, Start Num: 90

Candidate Starts for Ollie\_41:

(Start: 73 @28474 has 12 MA's), (Start: 90 @28447 has 74 MA's), (Start: 109 @28402 has 6 MA's), (147, 28231), (150, 28219),

Gene: Omar\_37 Start: 26978, Stop: 27451, Start Num: 88

Candidate Starts for Omar\_37:

(Start: 88 @26978 has 25 MA's), (Start: 111 @27032 has 1 MA's), (114, 27056), (Start: 115 @27065 has 2 MA's), (Start: 117 @27071 has 1 MA's), (216, 27419), (223, 27434),

Gene: OneUp\_130 Start: 77814, Stop: 78209, Start Num: 85

Candidate Starts for OneUp\_130:

(51, 77748), (Start: 85 @77814 has 18 MA's), (126, 77958), (196, 78198),

Gene: Ozzie\_34 Start: 25668, Stop: 26156, Start Num: 74

Candidate Starts for Ozzie\_34:

(49, 25620), (Start: 74 @25668 has 36 MA's), (108, 25740), (Start: 115 @25785 has 2 MA's), (136, 25887), (173, 26004), (216, 26124), (228, 26151),

Gene: OzzyJ\_35 Start: 26047, Stop: 26535, Start Num: 74

Candidate Starts for OzzyJ\_35:

(16, 25867), (21, 25903), (49, 25999), (Start: 74 @26047 has 36 MA's), (108, 26119), (114, 26155), (Start: 115 @26164 has 2 MA's), (124, 26212), (172, 26377), (173, 26383), (216, 26503), (228, 26530),

Gene: P28Green\_41 Start: 28578, Stop: 28195, Start Num: 90

Candidate Starts for P28Green\_41:

(Start: 73 @28605 has 12 MA's), (Start: 90 @28578 has 74 MA's), (Start: 109 @28533 has 6 MA's), (147, 28362), (150, 28350),

Gene: PGHhamlin\_43 Start: 28568, Stop: 28185, Start Num: 90

Candidate Starts for PGHhamlin\_43:

(Start: 73 @28595 has 12 MA's), (Start: 90 @28568 has 74 MA's), (Start: 109 @28523 has 6 MA's), (147, 28352), (150, 28340),

Gene: PHTowN\_71 Start: 50512, Stop: 50156, Start Num: 109

Candidate Starts for PHTowN\_71:

(Start: 82 @50572 has 2 MA's), (Start: 106 @50524 has 2 MA's), (Start: 109 @50512 has 6 MA's), (Start: 110 @50506 has 18 MA's), (113, 50491), (114, 50479), (156, 50293), (157, 50290), (179, 50248), (201, 50185), (208, 50173),

Gene: Pablito\_34 Start: 26313, Stop: 26771, Start Num: 84

Candidate Starts for Pablito\_34:

(Start: 84 @26313 has 10 MA's), (114, 26394), (124, 26451), (172, 26616), (173, 26622), (185, 26673), (216, 26739), (223, 26754),

Gene: PacManQ\_213 Start: 107235, Stop: 107525, Start Num: 112

Candidate Starts for PacManQ\_213:

(Start: 107 @107211 has 11 MA's), (Start: 110 @107223 has 18 MA's), (Start: 112 @107235 has 13 MA's), (125, 107301), (139, 107355), (146, 107370), (189, 107505),

Gene: Paedore\_34 Start: 26900, Stop: 27385, Start Num: 83

Candidate Starts for Paedore\_34:

(Start: 83 @26900 has 12 MA's), (114, 26984), (Start: 117 @26999 has 1 MA's), (216, 27353), (223, 27368),

Gene: Panamaxus\_34 Start: 27812, Stop: 27381, Start Num: 89

Candidate Starts for Panamaxus\_34:

(Start: 89 @27812 has 109 MA's), (Start: 91 @27809 has 5 MA's), (Start: 109 @27764 has 6 MA's), (135, 27626), (189, 27449),

Gene: Paolo\_37 Start: 27402, Stop: 27788, Start Num: 115

Candidate Starts for Paolo\_37:

(Start: 88 @27315 has 25 MA's), (Start: 109 @27360 has 6 MA's), (Start: 111 @27369 has 1 MA's), (114, 27393), (Start: 115 @27402 has 2 MA's), (Start: 117 @27408 has 1 MA's), (136, 27504), (173, 27636), (216, 27756), (223, 27771),

Gene: Paradiddles\_209 Start: 109463, Stop: 109765, Start Num: 110

Candidate Starts for Paradiddles\_209:

(Start: 107 @109451 has 11 MA's), (Start: 110 @109463 has 18 MA's), (Start: 112 @109475 has 13 MA's), (125, 109541), (130, 109562), (146, 109610), (158, 109655), (189, 109745),

Gene: Pavo\_36 Start: 27721, Stop: 28125, Start Num: 86

Candidate Starts for Pavo\_36:

(16, 27526), (51, 27661), (Start: 86 @27721 has 15 MA's), (Start: 111 @27775 has 1 MA's), (Start: 115 @27808 has 2 MA's), (122, 27841), (188, 28102), (190, 28108),

Gene: Pawn\_40 Start: 28402, Stop: 28019, Start Num: 90

Candidate Starts for Pawn\_40:

(10, 28633), (Start: 73 @28429 has 12 MA's), (Start: 90 @28402 has 74 MA's), (Start: 109 @28357 has 6 MA's), (147, 28186), (150, 28174),

Gene: Peebs\_214 Start: 108319, Stop: 108609, Start Num: 112

Candidate Starts for Peebs\_214:

(Start: 107 @108295 has 11 MA's), (Start: 110 @108307 has 18 MA's), (Start: 112 @108319 has 13 MA's), (125, 108385), (139, 108439), (146, 108454), (189, 108589),

Gene: Pembroke\_41 Start: 28577, Stop: 28194, Start Num: 90

Candidate Starts for Pembroke\_41:

(Start: 73 @28604 has 12 MA's), (Start: 90 @28577 has 74 MA's), (Start: 109 @28532 has 6 MA's), (147, 28361), (150, 28349),

Gene: Penny1\_41 Start: 28576, Stop: 28193, Start Num: 90

Candidate Starts for Penny1\_41:

(Start: 73 @28603 has 12 MA's), (Start: 90 @28576 has 74 MA's), (Start: 109 @28531 has 6 MA's), (147, 28360), (150, 28348),

Gene: Pepperwood\_217 Start: 108551, Stop: 108841, Start Num: 112

Candidate Starts for Pepperwood\_217:

(Start: 107 @108527 has 11 MA's), (Start: 110 @108539 has 18 MA's), (Start: 112 @108551 has 13 MA's), (125, 108617), (139, 108671), (146, 108686), (189, 108821),

Gene: Percastrophe\_54 Start: 29372, Stop: 28956, Start Num: 94

Candidate Starts for Percastrophe\_54:

(67, 29414), (Start: 94 @29372 has 15 MA's), (Start: 117 @29285 has 1 MA's), (138, 29189), (139, 29186), (141, 29180), (164, 29102),

Gene: Peregrin\_191 Start: 101143, Stop: 101472, Start Num: 103

Candidate Starts for Peregrin\_191:

(Start: 103 @101143 has 2 MA's), (Start: 110 @101167 has 18 MA's), (127, 101254), (145, 101311), (154, 101356), (170, 101395),

Gene: Perkunas\_67 Start: 46556, Stop: 47071, Start Num: 56

Candidate Starts for Perkunas\_67:

(7, 46325), (11, 46370), (12, 46373), (14, 46400), (19, 46439), (27, 46475), (28, 46478), (30, 46490), (38, 46508), (Start: 56 @46556 has 13 MA's), (63, 46565), (Start: 115 @46700 has 2 MA's), (Start: 116 @46703 has 2 MA's), (Start: 117 @46706 has 1 MA's), (120, 46727), (129, 46763), (141, 46814), (156, 46883), (211, 47042), (221, 47063),

Gene: PerroGrande22\_84 Start: 59419, Stop: 60045, Start Num: 85

Candidate Starts for PerroGrande22\_84:

(Start: 85 @59419 has 18 MA's), (Start: 103 @59458 has 2 MA's), (Start: 106 @59464 has 2 MA's), (Start: 107 @59470 has 11 MA's), (Start: 117 @59524 has 1 MA's), (156, 59701), (180, 59779), (188, 59806), (189, 59809), (203, 59848), (224, 59887), (227, 59896),

Gene: Persimmon\_220 Start: 107589, Stop: 107891, Start Num: 110

Candidate Starts for Persimmon\_220:

(Start: 107 @107577 has 11 MA's), (Start: 110 @107589 has 18 MA's), (Start: 112 @107601 has 13 MA's), (125, 107667), (130, 107688), (146, 107736), (152, 107763), (158, 107781), (189, 107871),

Gene: PestoPenguin\_67 Start: 46391, Stop: 46861, Start Num: 64

Candidate Starts for PestoPenguin\_67:

(Start: 64 @46391 has 25 MA's), (Start: 70 @46400 has 11 MA's), (Start: 117 @46529 has 1 MA's), (136, 46622), (166, 46730), (191, 46823),

Gene: Petito\_67 Start: 47726, Stop: 48241, Start Num: 56

Candidate Starts for Petito\_67:

(Start: 56 @47726 has 13 MA's), (63, 47735), (Start: 106 @47816 has 2 MA's), (Start: 115 @47870 has 2 MA's), (Start: 116 @47873 has 2 MA's), (Start: 117 @47876 has 1 MA's), (120, 47897), (129, 47933), (156, 48053), (173, 48098), (209, 48209), (211, 48212), (221, 48233),

Gene: PetterN\_34 Start: 26587, Stop: 26075, Start Num: 89

Candidate Starts for PetterN\_34:

(Start: 89 @26587 has 109 MA's),

Gene: Phantastic\_36 Start: 27584, Stop: 27198, Start Num: 89

Candidate Starts for Phantastic\_36:

(Start: 89 @27584 has 109 MA's),

Gene: Phendrix\_177 Start: 96622, Stop: 96095, Start Num: 68

Candidate Starts for Phendrix\_177:

(Start: 68 @96622 has 2 MA's), (72, 96616), (Start: 106 @96547 has 2 MA's), (119, 96469), (166, 96298), (173, 96277), (189, 96214), (207, 96172), (214, 96160), (229, 96118),

Gene: Phepper\_65 Start: 46347, Stop: 46808, Start Num: 64

Candidate Starts for Phepper\_65:

(37, 46290), (Start: 64 @46347 has 25 MA's), (Start: 70 @46356 has 11 MA's), (Start: 117 @46488 has 1 MA's), (136, 46581), (151, 46644), (166, 46689),

Gene: Pherobrine\_66 Start: 47919, Stop: 48428, Start Num: 64

Candidate Starts for Pherobrine\_66:

(41, 47871), (48, 47886), (Start: 64 @47919 has 25 MA's), (Start: 70 @47928 has 11 MA's), (Start: 117 @48057 has 1 MA's), (120, 48078), (149, 48195), (156, 48234), (188, 48339), (205, 48384),

Gene: Phettuccine\_34 Start: 25684, Stop: 26172, Start Num: 74

Candidate Starts for Phettuccine\_34:

(49, 25636), (Start: 74 @25684 has 36 MA's), (108, 25756), (Start: 115 @25801 has 2 MA's), (136, 25903), (173, 26020), (216, 26140), (228, 26167),

Gene: PhinkBoden\_144 Start: 79554, Stop: 79946, Start Num: 85

Candidate Starts for PhinkBoden\_144:

(Start: 85 @79554 has 18 MA's), (126, 79695), (189, 79917), (196, 79935),

Gene: PhishRPhriends\_39 Start: 27579, Stop: 27196, Start Num: 90

Candidate Starts for PhishRPhriends\_39:

(10, 27807), (Start: 73 @27606 has 12 MA's), (Start: 90 @27579 has 74 MA's), (Start: 109 @27534 has 6 MA's), (147, 27363), (150, 27351),

Gene: Phlorence\_32 Start: 27081, Stop: 26572, Start Num: 89

Candidate Starts for Phlorence\_32:

(Start: 89 @27081 has 109 MA's),

Gene: Phoebe\_41 Start: 28568, Stop: 28185, Start Num: 90

Candidate Starts for Phoebe\_41:

(Start: 73 @28595 has 12 MA's), (Start: 90 @28568 has 74 MA's), (Start: 109 @28523 has 6 MA's),  
(147, 28352), (150, 28340),

Gene: Phoxy\_40 Start: 28571, Stop: 28188, Start Num: 90

Candidate Starts for Phoxy\_40:

(Start: 73 @28598 has 12 MA's), (Start: 90 @28571 has 74 MA's), (Start: 103 @28544 has 2 MA's),  
(Start: 109 @28526 has 6 MA's), (147, 28355), (150, 28343),

Gene: Phranny\_41 Start: 28387, Stop: 28004, Start Num: 90

Candidate Starts for Phranny\_41:

(10, 28615), (Start: 73 @28414 has 12 MA's), (Start: 90 @28387 has 74 MA's), (Start: 109 @28342  
has 6 MA's), (147, 28171), (150, 28159),

Gene: PickleBack\_32 Start: 26795, Stop: 26286, Start Num: 89

Candidate Starts for PickleBack\_32:

(Start: 89 @26795 has 109 MA's),

Gene: PinkiePie\_217 Start: 108231, Stop: 108545, Start Num: 107

Candidate Starts for PinkiePie\_217:

(Start: 107 @108231 has 11 MA's), (Start: 110 @108243 has 18 MA's), (Start: 112 @108255 has 13  
MA's), (125, 108321), (130, 108342), (146, 108390), (152, 108417), (158, 108435), (189, 108525),

Gene: Pistachio\_37 Start: 27346, Stop: 26960, Start Num: 89

Candidate Starts for Pistachio\_37:

(Start: 89 @27346 has 109 MA's), (140, 27148),

Gene: Pocahontas\_35 Start: 27806, Stop: 27378, Start Num: 91

Candidate Starts for Pocahontas\_35:

(Start: 89 @27809 has 109 MA's), (Start: 91 @27806 has 5 MA's), (Start: 109 @27761 has 6 MA's),  
(135, 27623), (189, 27446),

Gene: Polyphemus\_40 Start: 26608, Stop: 26216, Start Num: 89

Candidate Starts for Polyphemus\_40:

(Start: 89 @26608 has 109 MA's), (128, 26461), (137, 26416), (150, 26374), (156, 26347),

Gene: Pomar16\_40 Start: 28024, Stop: 27638, Start Num: 89

Candidate Starts for Pomar16\_40:

(Start: 89 @28024 has 109 MA's), (150, 27793),

Gene: Popcicle\_35 Start: 27806, Stop: 27378, Start Num: 91

Candidate Starts for Popcicle\_35:

(Start: 89 @27809 has 109 MA's), (Start: 91 @27806 has 5 MA's), (Start: 109 @27761 has 6 MA's),  
(135, 27623), (189, 27446),

Gene: PotatoSplit\_42 Start: 28576, Stop: 28193, Start Num: 90

Candidate Starts for PotatoSplit\_42:

(Start: 73 @28603 has 12 MA's), (Start: 90 @28576 has 74 MA's), (Start: 109 @28531 has 6 MA's),  
(147, 28360), (150, 28348),

Gene: Priamo\_41 Start: 26652, Stop: 26263, Start Num: 92

Candidate Starts for Priamo\_41:

(Start: 92 @26652 has 15 MA's), (128, 26508), (137, 26463), (150, 26421), (156, 26394),

Gene: Prinashe11\_33 Start: 26949, Stop: 26440, Start Num: 89  
Candidate Starts for Prinashe11\_33:  
(Start: 89 @26949 has 109 MA's),

Gene: Provolone\_36 Start: 27103, Stop: 27507, Start Num: 86  
Candidate Starts for Provolone\_36:  
(16, 26908), (51, 27043), (Start: 86 @27103 has 15 MA's), (Start: 111 @27157 has 1 MA's), (Start: 115 @27190 has 2 MA's), (122, 27223), (188, 27484), (190, 27490),

Gene: Puginator\_37 Start: 27390, Stop: 27809, Start Num: 111  
Candidate Starts for Puginator\_37:  
(Start: 88 @27336 has 25 MA's), (Start: 109 @27381 has 6 MA's), (Start: 111 @27390 has 1 MA's), (114, 27414), (Start: 115 @27423 has 2 MA's), (Start: 117 @27429 has 1 MA's), (136, 27525), (173, 27657), (216, 27777), (223, 27792),

Gene: PumpkinSpice\_234 Start: 109573, Stop: 109941, Start Num: 76  
Candidate Starts for PumpkinSpice\_234:  
(Start: 76 @109573 has 31 MA's), (Start: 107 @109633 has 11 MA's), (Start: 112 @109657 has 13 MA's), (125, 109723), (130, 109744), (139, 109777), (146, 109792), (189, 109927),

Gene: Puppy\_37 Start: 27416, Stop: 27030, Start Num: 89  
Candidate Starts for Puppy\_37:  
(Start: 89 @27416 has 109 MA's), (140, 27218),

Gene: PurpleHaze\_40 Start: 28400, Stop: 28017, Start Num: 90  
Candidate Starts for PurpleHaze\_40:  
(10, 28628), (Start: 73 @28427 has 12 MA's), (Start: 90 @28400 has 74 MA's), (Start: 109 @28355 has 6 MA's), (147, 28184), (150, 28172),

Gene: Quantum\_211 Start: 129324, Stop: 129833, Start Num: 85  
Candidate Starts for Quantum\_211:  
(18, 129141), (Start: 85 @129324 has 18 MA's), (131, 129498), (171, 129615), (204, 129732), (230, 129798), (231, 129828),

Gene: Quaran19\_231 Start: 109014, Stop: 109382, Start Num: 76  
Candidate Starts for Quaran19\_231:  
(Start: 76 @109014 has 31 MA's), (Start: 107 @109074 has 11 MA's), (Start: 112 @109098 has 13 MA's), (125, 109164), (130, 109185), (139, 109218), (146, 109233), (189, 109368),

Gene: QuinnKiro\_34 Start: 27812, Stop: 27381, Start Num: 89  
Candidate Starts for QuinnKiro\_34:  
(Start: 89 @27812 has 109 MA's), (Start: 91 @27809 has 5 MA's), (Start: 109 @27764 has 6 MA's), (135, 27626), (189, 27449),

Gene: R4\_35 Start: 27055, Stop: 27540, Start Num: 83  
Candidate Starts for R4\_35:  
(Start: 83 @27055 has 12 MA's), (114, 27139), (Start: 117 @27154 has 1 MA's), (128, 27211), (160, 27343), (172, 27382), (216, 27508), (223, 27523),

Gene: Rana\_35 Start: 26571, Stop: 27047, Start Num: 88  
Candidate Starts for Rana\_35:  
(16, 26373), (21, 26409), (49, 26505), (Start: 83 @26565 has 12 MA's), (Start: 88 @26571 has 25 MA's), (114, 26649), (Start: 117 @26664 has 1 MA's), (161, 26859), (216, 27015), (223, 27030),

Gene: Reba\_41 Start: 28060, Stop: 27677, Start Num: 90

Candidate Starts for Reba\_41:

(10, 28288), (Start: 73 @28087 has 12 MA's), (Start: 90 @28060 has 74 MA's), (Start: 109 @28015 has 6 MA's), (147, 27844), (150, 27832),

Gene: RedBear\_35 Start: 26236, Stop: 26655, Start Num: 86

Candidate Starts for RedBear\_35:

(Start: 86 @26236 has 15 MA's), (108, 26281), (Start: 109 @26284 has 6 MA's), (Start: 115 @26326 has 2 MA's), (125, 26377), (128, 26386), (136, 26428), (163, 26530),

Gene: RemusLoopin\_46 Start: 34126, Stop: 34542, Start Num: 77

Candidate Starts for RemusLoopin\_46:

(Start: 77 @34126 has 4 MA's), (114, 34216), (Start: 117 @34231 has 1 MA's), (119, 34249),

Gene: ResDef\_35 Start: 27812, Stop: 27381, Start Num: 89

Candidate Starts for ResDef\_35:

(Start: 89 @27812 has 109 MA's), (Start: 91 @27809 has 5 MA's), (Start: 109 @27764 has 6 MA's), (135, 27626), (189, 27449),

Gene: RhynO\_36 Start: 27673, Stop: 27197, Start Num: 92

Candidate Starts for RhynO\_36:

(Start: 69 @27709 has 1 MA's), (Start: 92 @27673 has 15 MA's), (Start: 109 @27628 has 6 MA's), (114, 27595), (Start: 115 @27586 has 2 MA's), (Start: 116 @27583 has 2 MA's), (183, 27331), (188, 27316), (195, 27298),

Gene: Rickmore\_61 Start: 44723, Stop: 45232, Start Num: 64

Candidate Starts for Rickmore\_61:

(Start: 34 @44660 has 1 MA's), (45, 44693), (Start: 64 @44723 has 25 MA's), (Start: 117 @44864 has 1 MA's), (130, 44930), (136, 44957), (151, 45020), (166, 45065), (178, 45116), (191, 45158), (194, 45167), (219, 45218), (222, 45224),

Gene: Rifter\_40 Start: 26392, Stop: 26003, Start Num: 89

Candidate Starts for Rifter\_40:

(Start: 89 @26392 has 109 MA's), (150, 26161), (156, 26134), (188, 26029),

Gene: Rikishi\_232 Start: 109295, Stop: 109663, Start Num: 76

Candidate Starts for Rikishi\_232:

(Start: 76 @109295 has 31 MA's), (Start: 107 @109355 has 11 MA's), (Start: 112 @109379 has 13 MA's), (125, 109445), (130, 109466), (139, 109499), (146, 109514), (189, 109649),

Gene: Riptide\_218 Start: 107271, Stop: 107573, Start Num: 110

Candidate Starts for Riptide\_218:

(Start: 107 @107259 has 11 MA's), (Start: 110 @107271 has 18 MA's), (Start: 112 @107283 has 13 MA's), (Start: 117 @107310 has 1 MA's), (125, 107349), (130, 107370), (139, 107403), (146, 107418), (185, 107541), (189, 107553),

Gene: Roary\_32 Start: 26183, Stop: 25671, Start Num: 93

Candidate Starts for Roary\_32:

(Start: 93 @26183 has 14 MA's), (150, 25952), (193, 25802), (210, 25766),

Gene: Rockstar\_36 Start: 27560, Stop: 27174, Start Num: 89

Candidate Starts for Rockstar\_36:

(Start: 89 @27560 has 109 MA's),

Gene: Roimos\_36 Start: 27775, Stop: 27389, Start Num: 89

Candidate Starts for Roimos\_36:

(Start: 89 @27775 has 109 MA's), (140, 27577),

Gene: Roksolana\_41 Start: 26646, Stop: 26254, Start Num: 89

Candidate Starts for Roksolana\_41:

(Start: 89 @26646 has 109 MA's), (128, 26499), (137, 26454), (150, 26412), (156, 26385),

Gene: Romero\_54 Start: 29431, Stop: 29015, Start Num: 94

Candidate Starts for Romero\_54:

(67, 29473), (Start: 94 @29431 has 15 MA's), (Start: 117 @29344 has 1 MA's), (124, 29305), (136, 29254), (141, 29239), (143, 29233),

Gene: Roney\_65 Start: 46382, Stop: 46852, Start Num: 84

Candidate Starts for Roney\_65:

(43, 46313), (Start: 56 @46337 has 13 MA's), (Start: 84 @46382 has 10 MA's), (Start: 103 @46421 has 2 MA's), (Start: 106 @46427 has 2 MA's), (Start: 117 @46487 has 1 MA's), (120, 46508), (129, 46544), (136, 46580), (156, 46664), (189, 46772), (193, 46787), (209, 46820), (211, 46823), (221, 46844),

Gene: Rooney\_71 Start: 50674, Stop: 50294, Start Num: 101

Candidate Starts for Rooney\_71:

(Start: 82 @50710 has 2 MA's), (Start: 101 @50674 has 2 MA's), (Start: 106 @50662 has 2 MA's), (Start: 109 @50650 has 6 MA's), (Start: 110 @50644 has 18 MA's), (113, 50629), (Start: 115 @50608 has 2 MA's), (151, 50452), (157, 50428), (173, 50389), (179, 50386), (199, 50332), (201, 50323),

Gene: RosePharie\_55 Start: 29769, Stop: 29353, Start Num: 96

Candidate Starts for RosePharie\_55:

(Start: 86 @29781 has 15 MA's), (Start: 96 @29769 has 1 MA's), (102, 29748), (Start: 117 @29682 has 1 MA's), (167, 29490),

Gene: Rowa\_49 Start: 35076, Stop: 35489, Start Num: 77

Candidate Starts for Rowa\_49:

(Start: 77 @35076 has 4 MA's), (Start: 115 @35175 has 2 MA's), (119, 35199), (166, 35373), (188, 35454),

Gene: Rowdy\_39 Start: 27581, Stop: 27105, Start Num: 92

Candidate Starts for Rowdy\_39:

(Start: 69 @27617 has 1 MA's), (Start: 92 @27581 has 15 MA's), (Start: 109 @27536 has 6 MA's), (114, 27503), (Start: 115 @27494 has 2 MA's), (Start: 116 @27491 has 2 MA's), (183, 27239), (188, 27224), (195, 27206),

Gene: Rummer\_40 Start: 28571, Stop: 28188, Start Num: 90

Candidate Starts for Rummer\_40:

(Start: 73 @28598 has 12 MA's), (Start: 90 @28571 has 74 MA's), (Start: 103 @28544 has 2 MA's), (Start: 109 @28526 has 6 MA's), (147, 28355), (150, 28343),

Gene: Runhaar\_64 Start: 46158, Stop: 46613, Start Num: 64

Candidate Starts for Runhaar\_64:

(37, 46101), (50, 46137), (Start: 64 @46158 has 25 MA's), (Start: 70 @46167 has 11 MA's), (Start: 117 @46299 has 1 MA's), (130, 46365), (136, 46392), (141, 46407), (166, 46500), (178, 46551),

Gene: RunningOnE\_15 Start: 5392, Stop: 5018, Start Num: 103

Candidate Starts for RunningOnE\_15:

(60, 5476), (Start: 64 @5467 has 25 MA's), (Start: 79 @5440 has 1 MA's), (80, 5437), (Start: 88 @5428 has 25 MA's), (Start: 103 @5392 has 2 MA's), (Start: 109 @5374 has 6 MA's), (Start: 117 @5326 has 1 MA's), (180, 5092),

Gene: Rusticus\_35 Start: 26042, Stop: 26530, Start Num: 74

Candidate Starts for Rusticus\_35:

(29, 25937), (49, 25994), (Start: 74 @26042 has 36 MA's), (108, 26114), (Start: 115 @26159 has 2 MA's), (136, 26261), (173, 26378), (216, 26498), (228, 26525),

Gene: Sabia\_41 Start: 28596, Stop: 28186, Start Num: 73

Candidate Starts for Sabia\_41:

(Start: 73 @28596 has 12 MA's), (Start: 90 @28569 has 74 MA's), (Start: 109 @28524 has 6 MA's), (147, 28353), (150, 28341),

Gene: Sabinator\_40 Start: 28574, Stop: 28191, Start Num: 90

Candidate Starts for Sabinator\_40:

(Start: 73 @28601 has 12 MA's), (Start: 90 @28574 has 74 MA's), (Start: 109 @28529 has 6 MA's), (147, 28358), (150, 28346),

Gene: Saftant\_35 Start: 27670, Stop: 28074, Start Num: 86

Candidate Starts for Saftant\_35:

(Start: 86 @27670 has 15 MA's), (Start: 111 @27724 has 1 MA's), (Start: 115 @27757 has 2 MA's), (122, 27790), (173, 27991), (188, 28051), (190, 28057),

Gene: SaltySpittoon\_231 Start: 108556, Stop: 108924, Start Num: 76

Candidate Starts for SaltySpittoon\_231:

(Start: 76 @108556 has 31 MA's), (Start: 107 @108616 has 11 MA's), (Start: 112 @108640 has 13 MA's), (125, 108706), (130, 108727), (139, 108760), (146, 108775), (189, 108910),

Gene: Samisti12\_221 Start: 110133, Stop: 110435, Start Num: 110

Candidate Starts for Samisti12\_221:

(Start: 107 @110121 has 11 MA's), (Start: 110 @110133 has 18 MA's), (Start: 112 @110145 has 13 MA's), (125, 110211), (139, 110265), (146, 110280), (189, 110415),

Gene: Samora\_48 Start: 34458, Stop: 34883, Start Num: 77

Candidate Starts for Samora\_48:

(Start: 77 @34458 has 4 MA's), (Start: 89 @34470 has 109 MA's), (114, 34548), (Start: 117 @34563 has 1 MA's), (128, 34617), (189, 34839), (192, 34851), (200, 34863), (203, 34875),

Gene: SarahRose\_34 Start: 26055, Stop: 26543, Start Num: 74

Candidate Starts for SarahRose\_34:

(Start: 74 @26055 has 36 MA's), (108, 26127), (114, 26163), (Start: 115 @26172 has 2 MA's), (124, 26220), (172, 26385), (173, 26391), (216, 26511), (228, 26538),

Gene: Sarkar\_223 Start: 129354, Stop: 129863, Start Num: 85

Candidate Starts for Sarkar\_223:

(18, 129171), (Start: 85 @129354 has 18 MA's), (131, 129528), (171, 129645), (204, 129762), (230, 129828), (231, 129858),

Gene: SassyC\_76 Start: 51643, Stop: 51233, Start Num: 88

Candidate Starts for SassyC\_76:

(Start: 88 @51643 has 25 MA's), (Start: 109 @51589 has 6 MA's), (118, 51538), (151, 51391), (191, 51286), (201, 51262),

Gene: Satis\_212 Start: 129667, Stop: 130176, Start Num: 85

Candidate Starts for Satis\_212:

(18, 129484), (Start: 85 @129667 has 18 MA's), (131, 129841), (171, 129958), (204, 130075), (230, 130141), (231, 130171),

Gene: SaturnRing\_36 Start: 27799, Stop: 27413, Start Num: 89

Candidate Starts for SaturnRing\_36:

(Start: 89 @27799 has 109 MA's), (140, 27601),

Gene: Scheme\_220 Start: 109778, Stop: 110080, Start Num: 110

Candidate Starts for Scheme\_220:

(Start: 107 @109766 has 11 MA's), (Start: 110 @109778 has 18 MA's), (Start: 112 @109790 has 13 MA's), (125, 109856), (139, 109910), (146, 109925), (189, 110060),

Gene: Schwartz33\_66 Start: 46646, Stop: 47134, Start Num: 64

Candidate Starts for Schwartz33\_66:

(61, 46640), (Start: 64 @46646 has 25 MA's), (Start: 106 @46724 has 2 MA's), (Start: 117 @46784 has 1 MA's), (149, 46922), (156, 46961),

Gene: Scorpio\_34 Start: 26664, Stop: 26152, Start Num: 89

Candidate Starts for Scorpio\_34:

(Start: 89 @26664 has 109 MA's),

Gene: Scout\_36 Start: 27106, Stop: 26720, Start Num: 89

Candidate Starts for Scout\_36:

(Start: 89 @27106 has 109 MA's), (140, 26908),

Gene: Sebastisaurus\_45 Start: 34670, Stop: 34981, Start Num: 117

Candidate Starts for Sebastisaurus\_45:

(Start: 77 @34565 has 4 MA's), (114, 34655), (Start: 117 @34670 has 1 MA's),

Gene: Secretariat\_64 Start: 45608, Stop: 46093, Start Num: 64

Candidate Starts for Secretariat\_64:

(15, 45440), (20, 45479), (26, 45497), (48, 45575), (54, 45584), (Start: 64 @45608 has 25 MA's), (Start: 106 @45683 has 2 MA's), (Start: 117 @45743 has 1 MA's), (129, 45800), (149, 45881), (155, 45917), (156, 45920),

Gene: ShaggyRogers\_64 Start: 46127, Stop: 46597, Start Num: 64

Candidate Starts for ShaggyRogers\_64:

(Start: 64 @46127 has 25 MA's), (Start: 70 @46136 has 11 MA's), (Start: 117 @46265 has 1 MA's), (136, 46358), (166, 46466), (191, 46559),

Gene: ShakeNBake\_71 Start: 50539, Stop: 50183, Start Num: 109

Candidate Starts for ShakeNBake\_71:

(Start: 82 @50599 has 2 MA's), (Start: 106 @50551 has 2 MA's), (Start: 109 @50539 has 6 MA's), (Start: 110 @50533 has 18 MA's), (113, 50518), (114, 50506), (156, 50320), (157, 50317), (179, 50275), (201, 50212), (208, 50200),

Gene: Shapes\_39 Start: 27581, Stop: 27105, Start Num: 92

Candidate Starts for Shapes\_39:

(Start: 69 @27617 has 1 MA's), (Start: 92 @27581 has 15 MA's), (Start: 109 @27536 has 6 MA's), (114, 27503), (Start: 115 @27494 has 2 MA's), (Start: 116 @27491 has 2 MA's), (183, 27239), (188, 27224), (195, 27206),

Gene: Shawty\_45 Start: 33157, Stop: 33510, Start Num: 109

Candidate Starts for Shawty\_45:

(59, 33064), (65, 33076), (75, 33097), (Start: 109 @33157 has 6 MA's), (Start: 117 @33205 has 1 MA's), (189, 33481), (200, 33502),

Gene: SheldonCooper\_37 Start: 28101, Stop: 27661, Start Num: 93

Candidate Starts for SheldonCooper\_37:

(Start: 93 @28101 has 14 MA's), (188, 27741), (189, 27738),

Gene: Shuckle\_214 Start: 108488, Stop: 108805, Start Num: 107

Candidate Starts for Shuckle\_214:

(Start: 107 @108488 has 11 MA's), (Start: 110 @108500 has 18 MA's), (Start: 112 @108512 has 13 MA's), (125, 108578), (139, 108632), (146, 108647), (189, 108782), (198, 108800),

Gene: Sixama\_175 Start: 101856, Stop: 101392, Start Num: 106

Candidate Starts for Sixama\_175:

(Start: 88 @101895 has 25 MA's), (Start: 106 @101856 has 2 MA's), (157, 101619), (166, 101598), (185, 101526), (187, 101520), (191, 101505), (214, 101457), (226, 101427),

Gene: SmellyB\_40 Start: 26616, Stop: 26224, Start Num: 89

Candidate Starts for SmellyB\_40:

(Start: 89 @26616 has 109 MA's), (128, 26469), (137, 26424), (150, 26382), (156, 26355),

Gene: Smoothie\_147 Start: 79538, Stop: 79933, Start Num: 85

Candidate Starts for Smoothie\_147:

(1, 78968), (2, 79082), (3, 79109), (4, 79139), (5, 79232), (13, 79331), (23, 79382), (26, 79394), (39, 79445), (44, 79466), (54, 79481), (Start: 85 @79538 has 18 MA's), (126, 79682), (189, 79904), (196, 79922),

Gene: Snickers\_41 Start: 28576, Stop: 28166, Start Num: 73

Candidate Starts for Snickers\_41:

(Start: 73 @28576 has 12 MA's), (Start: 90 @28549 has 74 MA's), (Start: 109 @28504 has 6 MA's), (147, 28333), (150, 28321),

Gene: Snorlax\_34 Start: 26059, Stop: 26547, Start Num: 74

Candidate Starts for Snorlax\_34:

(16, 25879), (21, 25915), (49, 26011), (Start: 74 @26059 has 36 MA's), (108, 26131), (114, 26167), (Start: 115 @26176 has 2 MA's), (124, 26224), (172, 26389), (173, 26395), (216, 26515), (228, 26542),

Gene: SoYo\_41 Start: 28514, Stop: 28104, Start Num: 73

Candidate Starts for SoYo\_41:

(Start: 73 @28514 has 12 MA's), (Start: 90 @28487 has 74 MA's), (Start: 109 @28442 has 6 MA's), (147, 28271), (150, 28259),

Gene: SoilDragon\_40 Start: 28021, Stop: 27638, Start Num: 90

Candidate Starts for SoilDragon\_40:

(Start: 73 @28048 has 12 MA's), (Start: 90 @28021 has 74 MA's), (Start: 109 @27976 has 6 MA's), (147, 27805), (150, 27793),

Gene: Sollertia\_229 Start: 109154, Stop: 109522, Start Num: 76

Candidate Starts for Sollertia\_229:

(60, 109121), (Start: 69 @109139 has 1 MA's), (Start: 76 @109154 has 31 MA's), (Start: 107 @109214 has 11 MA's), (Start: 112 @109238 has 13 MA's), (Start: 115 @109259 has 2 MA's), (125, 109304), (139, 109358), (146, 109373),

Gene: Soshari\_42 Start: 28570, Stop: 28187, Start Num: 90

Candidate Starts for Soshari\_42:

(Start: 73 @28597 has 12 MA's), (Start: 90 @28570 has 74 MA's), (Start: 103 @28543 has 2 MA's), (Start: 109 @28525 has 6 MA's), (147, 28354), (150, 28342),

Gene: South40\_34 Start: 26236, Stop: 26655, Start Num: 86

Candidate Starts for South40\_34:

(Start: 86 @26236 has 15 MA's), (108, 26281), (Start: 109 @26284 has 6 MA's), (Start: 115 @26326 has 2 MA's), (125, 26377), (128, 26386), (136, 26428), (163, 26530),

Gene: Speedwell\_40 Start: 28980, Stop: 29384, Start Num: 86

Candidate Starts for Speedwell\_40:

(Start: 86 @28980 has 15 MA's), (Start: 111 @29034 has 1 MA's), (114, 29058), (Start: 115 @29067 has 2 MA's), (125, 29118), (136, 29169), (173, 29301), (188, 29361), (190, 29367),

Gene: Spelly\_236 Start: 108485, Stop: 108853, Start Num: 76

Candidate Starts for Spelly\_236:

(Start: 76 @108485 has 31 MA's), (Start: 107 @108545 has 11 MA's), (Start: 112 @108569 has 13 MA's), (125, 108635), (130, 108656), (139, 108689), (146, 108704), (189, 108839),

Gene: Spike509\_40 Start: 28571, Stop: 28188, Start Num: 90

Candidate Starts for Spike509\_40:

(Start: 73 @28598 has 12 MA's), (Start: 90 @28571 has 74 MA's), (Start: 103 @28544 has 2 MA's), (Start: 109 @28526 has 6 MA's), (147, 28355), (150, 28343),

Gene: Spilled\_238 Start: 109689, Stop: 110057, Start Num: 76

Candidate Starts for Spilled\_238:

(Start: 76 @109689 has 31 MA's), (Start: 107 @109749 has 11 MA's), (Start: 112 @109773 has 13 MA's), (125, 109839), (130, 109860), (139, 109893), (146, 109908), (189, 110043),

Gene: Spooks\_13 Start: 9516, Stop: 9091, Start Num: 100

Candidate Starts for Spooks\_13:

(53, 9597), (58, 9585), (Start: 100 @9516 has 1 MA's), (114, 9456), (Start: 117 @9441 has 1 MA's), (125, 9396), (141, 9333), (156, 9276), (173, 9231), (188, 9171), (189, 9168), (218, 9105),

Gene: SqueakyClean\_34 Start: 26829, Stop: 27302, Start Num: 88

Candidate Starts for SqueakyClean\_34:

(Start: 88 @26829 has 25 MA's), (Start: 109 @26874 has 6 MA's), (Start: 111 @26883 has 1 MA's), (114, 26907), (Start: 115 @26916 has 2 MA's), (122, 26949), (159, 27099), (216, 27270), (223, 27285),

Gene: Squillium\_220 Start: 108257, Stop: 108547, Start Num: 112

Candidate Starts for Squillium\_220:

(Start: 107 @108233 has 11 MA's), (Start: 110 @108245 has 18 MA's), (Start: 112 @108257 has 13 MA's), (125, 108323), (130, 108344), (146, 108392), (152, 108419), (158, 108437), (189, 108527),

Gene: Stagni\_41 Start: 28578, Stop: 28195, Start Num: 90

Candidate Starts for Stagni\_41:

(Start: 73 @28605 has 12 MA's), (Start: 90 @28578 has 74 MA's), (Start: 109 @28533 has 6 MA's), (147, 28362), (150, 28350),

Gene: Stanimal\_228 Start: 109526, Stop: 109894, Start Num: 76

Candidate Starts for Stanimal\_228:

(60, 109493), (Start: 69 @109511 has 1 MA's), (Start: 76 @109526 has 31 MA's), (Start: 107 @109586 has 11 MA's), (Start: 112 @109610 has 13 MA's), (Start: 115 @109631 has 2 MA's), (125, 109676), (139, 109730), (146, 109745),

Gene: StarPlatinum\_238 Start: 111486, Stop: 111854, Start Num: 76

Candidate Starts for StarPlatinum\_238:

(60, 111453), (Start: 69 @111471 has 1 MA's), (Start: 76 @111486 has 31 MA's), (Start: 107 @111546 has 11 MA's), (Start: 109 @111552 has 6 MA's), (Start: 112 @111570 has 13 MA's), (125, 111636), (139, 111690), (146, 111705), (189, 111840),

Gene: StarStuff\_40 Start: 27986, Stop: 27600, Start Num: 89

Candidate Starts for StarStuff\_40:

(Start: 89 @27986 has 109 MA's), (150, 27755),

Gene: Starbow\_228 Start: 108529, Stop: 108897, Start Num: 76

Candidate Starts for Starbow\_228:

(Start: 76 @108529 has 31 MA's), (Start: 107 @108589 has 11 MA's), (Start: 112 @108613 has 13 MA's), (125, 108679), (130, 108700), (139, 108733), (146, 108748), (189, 108883),

Gene: StepMih\_41 Start: 28569, Stop: 28186, Start Num: 90

Candidate Starts for StepMih\_41:

(Start: 73 @28596 has 12 MA's), (Start: 90 @28569 has 74 MA's), (Start: 109 @28524 has 6 MA's), (147, 28353), (150, 28341),

Gene: Stephig9\_32 Start: 26211, Stop: 25699, Start Num: 93

Candidate Starts for Stephig9\_32:

(Start: 93 @26211 has 14 MA's), (150, 25980), (193, 25830), (210, 25794),

Gene: Stink\_36 Start: 28296, Stop: 27874, Start Num: 93

Candidate Starts for Stink\_36:

(Start: 93 @28296 has 14 MA's), (Start: 109 @28251 has 6 MA's),

Gene: Studio\_45 Start: 31294, Stop: 30833, Start Num: 95

Candidate Starts for Studio\_45:

(Start: 95 @31294 has 3 MA's), (Start: 103 @31267 has 2 MA's), (119, 31186), (134, 31126), (141, 31102), (175, 30979), (220, 30862),

Gene: Success\_13 Start: 8706, Stop: 8326, Start Num: 109

Candidate Starts for Success\_13:

(53, 8814), (58, 8802), (Start: 109 @8706 has 6 MA's), (121, 8634), (123, 8625), (155, 8496), (177, 8421), (188, 8388), (189, 8385), (212, 8337),

Gene: Sudan\_36 Start: 27550, Stop: 27954, Start Num: 86

Candidate Starts for Sudan\_36:

(Start: 86 @27550 has 15 MA's), (Start: 111 @27604 has 1 MA's), (Start: 115 @27637 has 2 MA's), (122, 27670), (188, 27931), (190, 27937),

Gene: Sujidade\_35 Start: 26794, Stop: 27273, Start Num: 85

Candidate Starts for Sujidade\_35:

(Start: 85 @26794 has 18 MA's), (114, 26875), (Start: 117 @26890 has 1 MA's), (161, 27085), (216, 27241), (223, 27256),

Gene: SunkenRoot\_37 Start: 28186, Stop: 28590, Start Num: 86

Candidate Starts for SunkenRoot\_37:

(51, 28123), (Start: 86 @28186 has 15 MA's), (Start: 109 @28231 has 6 MA's), (Start: 111 @28240 has 1 MA's), (114, 28264), (125, 28324), (173, 28507), (188, 28567), (190, 28573),

Gene: SunsetPointe\_34 Start: 25675, Stop: 26163, Start Num: 74

Candidate Starts for SunsetPointe\_34:

(49, 25627), (Start: 74 @25675 has 36 MA's), (108, 25747), (Start: 115 @25792 has 2 MA's), (136, 25894), (173, 26011), (216, 26131), (228, 26158),

Gene: SuperAwesome\_40 Start: 26609, Stop: 26217, Start Num: 89

Candidate Starts for SuperAwesome\_40:

(Start: 89 @26609 has 109 MA's), (128, 26462), (137, 26417), (150, 26375), (156, 26348),

Gene: Superstar\_38 Start: 27847, Stop: 28332, Start Num: 83

Candidate Starts for Superstar\_38:

(Start: 83 @27847 has 12 MA's), (114, 27931), (Start: 117 @27946 has 1 MA's), (160, 28135), (216, 28300), (223, 28315),

Gene: Sushi23\_217 Start: 109173, Stop: 109475, Start Num: 110

Candidate Starts for Sushi23\_217:

(Start: 107 @109161 has 11 MA's), (Start: 110 @109173 has 18 MA's), (Start: 112 @109185 has 13 MA's), (125, 109251), (139, 109305), (146, 109320), (189, 109455),

Gene: SweetCrkHerbs\_67 Start: 46248, Stop: 46763, Start Num: 56

Candidate Starts for SweetCrkHerbs\_67:

(7, 46017), (11, 46062), (12, 46065), (14, 46092), (19, 46131), (27, 46167), (28, 46170), (30, 46182), (38, 46200), (Start: 56 @46248 has 13 MA's), (63, 46257), (Start: 115 @46392 has 2 MA's), (Start: 116 @46395 has 2 MA's), (Start: 117 @46398 has 1 MA's), (120, 46419), (129, 46455), (141, 46506), (156, 46575), (211, 46734), (221, 46755),

Gene: Swirley\_32 Start: 26951, Stop: 26445, Start Num: 94

Candidate Starts for Swirley\_32:

(Start: 94 @26951 has 15 MA's),

Gene: SydNat\_32 Start: 27230, Stop: 26724, Start Num: 94

Candidate Starts for SydNat\_32:

(Start: 94 @27230 has 15 MA's),

Gene: TMaxx\_46 Start: 30765, Stop: 30397, Start Num: 115

Candidate Starts for TMaxx\_46:

(Start: 85 @30861 has 18 MA's), (Start: 103 @30822 has 2 MA's), (Start: 109 @30804 has 6 MA's), (Start: 115 @30765 has 2 MA's), (175, 30534),

Gene: TNguyen7\_36 Start: 27763, Stop: 27377, Start Num: 89

Candidate Starts for TNguyen7\_36:

(Start: 89 @27763 has 109 MA's), (140, 27565),

Gene: TagePighther\_36 Start: 26059, Stop: 26547, Start Num: 74

Candidate Starts for TagePighther\_36:

(16, 25879), (21, 25915), (49, 26011), (Start: 74 @26059 has 36 MA's), (108, 26131), (114, 26167), (Start: 115 @26176 has 2 MA's), (124, 26224), (172, 26389), (173, 26395), (216, 26515), (228, 26542),

Gene: Tairn4Wing\_67 Start: 46421, Stop: 46846, Start Num: 106

Candidate Starts for Tairn4Wing\_67:

(Start: 56 @46331 has 13 MA's), (Start: 103 @46415 has 2 MA's), (Start: 106 @46421 has 2 MA's), (Start: 117 @46481 has 1 MA's), (120, 46502), (129, 46538), (136, 46574), (156, 46658), (189, 46766), (193, 46781), (209, 46814), (211, 46817), (221, 46838),

Gene: Talon44\_67 Start: 46590, Stop: 47105, Start Num: 56

Candidate Starts for Talon44\_67:

(7, 46359), (11, 46404), (12, 46407), (14, 46434), (19, 46473), (27, 46509), (28, 46512), (30, 46524), (38, 46542), (Start: 56 @46590 has 13 MA's), (63, 46599), (Start: 115 @46734 has 2 MA's), (Start: 116 @46737 has 2 MA's), (Start: 117 @46740 has 1 MA's), (120, 46761), (129, 46797), (141, 46848), (156, 46917), (211, 47076), (221, 47097),

Gene: Tanis\_65 Start: 46157, Stop: 46672, Start Num: 56

Candidate Starts for Tanis\_65:

(43, 46133), (Start: 56 @46157 has 13 MA's), (Start: 84 @46202 has 10 MA's), (Start: 103 @46241 has 2 MA's), (Start: 106 @46247 has 2 MA's), (Start: 117 @46307 has 1 MA's), (120, 46328), (129, 46364), (136, 46400), (142, 46418), (156, 46484), (189, 46592), (193, 46607), (209, 46640), (211, 46643), (221, 46664),

Gene: Targaryen\_216 Start: 109330, Stop: 109644, Start Num: 107

Candidate Starts for Targaryen\_216:

(Start: 107 @109330 has 11 MA's), (Start: 110 @109342 has 18 MA's), (Start: 112 @109354 has 13 MA's), (125, 109420), (139, 109474), (146, 109489), (189, 109624),

Gene: Tarynearal\_31 Start: 26979, Stop: 26470, Start Num: 89

Candidate Starts for Tarynearal\_31:

(Start: 89 @26979 has 109 MA's),

Gene: Taurus\_41 Start: 28575, Stop: 28192, Start Num: 90

Candidate Starts for Taurus\_41:

(Start: 73 @28602 has 12 MA's), (Start: 90 @28575 has 74 MA's), (Start: 109 @28530 has 6 MA's), (147, 28359), (150, 28347),

Gene: Tefunt\_36 Start: 26734, Stop: 27219, Start Num: 83

Candidate Starts for Tefunt\_36:

(Start: 83 @26734 has 12 MA's), (Start: 109 @26785 has 6 MA's), (114, 26818), (Start: 117 @26833 has 1 MA's), (167, 27049), (216, 27187), (223, 27202),

Gene: Temprado\_40 Start: 26617, Stop: 26225, Start Num: 89

Candidate Starts for Temprado\_40:

(Start: 89 @26617 has 109 MA's), (128, 26470), (137, 26425), (150, 26383), (156, 26356),

Gene: TenaciousP\_64 Start: 47760, Stop: 48215, Start Num: 64

Candidate Starts for TenaciousP\_64:

(Start: 34 @47697 has 1 MA's), (45, 47730), (Start: 64 @47760 has 25 MA's), (Start: 70 @47769 has 11 MA's), (Start: 117 @47901 has 1 MA's), (136, 47994), (166, 48102), (178, 48153),

Gene: Teutsch\_216 Start: 108974, Stop: 109264, Start Num: 112  
Candidate Starts for Teutsch\_216:  
(Start: 107 @108950 has 11 MA's), (Start: 110 @108962 has 18 MA's), (Start: 112 @108974 has 13 MA's), (125, 109040), (139, 109094), (146, 109109), (189, 109244),

Gene: Texage\_34 Start: 27813, Stop: 27382, Start Num: 89  
Candidate Starts for Texage\_34:  
(Start: 89 @27813 has 109 MA's), (Start: 91 @27810 has 5 MA's), (Start: 109 @27765 has 6 MA's), (135, 27627), (189, 27450),

Gene: Theia\_30 Start: 27003, Stop: 26494, Start Num: 89  
Candidate Starts for Theia\_30:  
(Start: 89 @27003 has 109 MA's),

Gene: Thestral\_36 Start: 26939, Stop: 27412, Start Num: 88  
Candidate Starts for Thestral\_36:  
(Start: 88 @26939 has 25 MA's), (Start: 109 @26984 has 6 MA's), (Start: 111 @26993 has 1 MA's), (114, 27017), (122, 27059), (136, 27128), (216, 27380), (223, 27395),

Gene: Tiffany\_41 Start: 28461, Stop: 28078, Start Num: 90  
Candidate Starts for Tiffany\_41:  
(Start: 73 @28488 has 12 MA's), (Start: 90 @28461 has 74 MA's), (Start: 109 @28416 has 6 MA's), (147, 28245), (150, 28233),

Gene: Tiger\_32 Start: 26872, Stop: 26363, Start Num: 89  
Candidate Starts for Tiger\_32:  
(Start: 89 @26872 has 109 MA's),

Gene: Timshel\_36 Start: 30226, Stop: 29732, Start Num: 93  
Candidate Starts for Timshel\_36:  
(Start: 90 @30229 has 74 MA's), (Start: 93 @30226 has 14 MA's), (133, 30049), (188, 29863), (189, 29860), (223, 29782), (225, 29779),

Gene: TinaBelcher\_35 Start: 26886, Stop: 27359, Start Num: 88  
Candidate Starts for TinaBelcher\_35:  
(Start: 88 @26886 has 25 MA's), (Start: 109 @26931 has 6 MA's), (Start: 111 @26940 has 1 MA's), (114, 26964), (122, 27006), (136, 27075), (216, 27327), (223, 27342),

Gene: TinyPebbles\_40 Start: 28576, Stop: 28193, Start Num: 90  
Candidate Starts for TinyPebbles\_40:  
(Start: 73 @28603 has 12 MA's), (Start: 90 @28576 has 74 MA's), (Start: 103 @28549 has 2 MA's), (Start: 109 @28531 has 6 MA's), (147, 28360), (150, 28348),

Gene: Todacoro\_35 Start: 27812, Stop: 27381, Start Num: 89  
Candidate Starts for Todacoro\_35:  
(Start: 89 @27812 has 109 MA's), (Start: 91 @27809 has 5 MA's), (Start: 109 @27764 has 6 MA's), (135, 27626), (189, 27449),

Gene: TomSawyer\_235 Start: 111000, Stop: 111368, Start Num: 76  
Candidate Starts for TomSawyer\_235:  
(Start: 76 @111000 has 31 MA's), (Start: 107 @111060 has 11 MA's), (Start: 112 @111084 has 13 MA's), (125, 111150), (130, 111171), (139, 111204), (146, 111219), (189, 111354),

Gene: Toma\_34 Start: 26511, Stop: 26990, Start Num: 85  
Candidate Starts for Toma\_34:  
(Start: 85 @26511 has 18 MA's), (114, 26592), (Start: 117 @26607 has 1 MA's), (161, 26802), (216, 26958), (223, 26973),

Gene: Tomas\_229 Start: 109990, Stop: 110343, Start Num: 88  
Candidate Starts for Tomas\_229:  
(Start: 88 @109990 has 25 MA's), (Start: 107 @110035 has 11 MA's), (Start: 112 @110059 has 13 MA's), (Start: 115 @110080 has 2 MA's), (125, 110125), (139, 110179), (146, 110194),

Gene: Tomathan\_40 Start: 27983, Stop: 27597, Start Num: 89  
Candidate Starts for Tomathan\_40:  
(Start: 89 @27983 has 109 MA's), (150, 27752),

Gene: Tonaltzin\_67 Start: 46339, Stop: 46785, Start Num: 70  
Candidate Starts for Tonaltzin\_67:  
(Start: 34 @46267 has 1 MA's), (45, 46300), (Start: 64 @46330 has 25 MA's), (Start: 70 @46339 has 11 MA's), (Start: 117 @46471 has 1 MA's), (136, 46564), (166, 46672), (178, 46723),

Gene: ToneTone\_37 Start: 26318, Stop: 25929, Start Num: 92  
Candidate Starts for ToneTone\_37:  
(Start: 92 @26318 has 15 MA's), (128, 26174), (137, 26129), (150, 26087), (156, 26060),

Gene: Toniann\_146 Start: 79300, Stop: 79689, Start Num: 90  
Candidate Starts for Toniann\_146:  
(Start: 90 @79300 has 74 MA's), (126, 79438), (189, 79660), (196, 79678),

Gene: ToriToki\_54 Start: 29434, Stop: 29018, Start Num: 94  
Candidate Starts for ToriToki\_54:  
(67, 29476), (Start: 94 @29434 has 15 MA's), (Start: 117 @29347 has 1 MA's), (138, 29251), (139, 29248), (141, 29242), (164, 29164),

Gene: Treat\_54 Start: 29375, Stop: 28959, Start Num: 94  
Candidate Starts for Treat\_54:  
(67, 29417), (Start: 94 @29375 has 15 MA's), (Start: 117 @29288 has 1 MA's), (124, 29249), (136, 29198), (141, 29183), (143, 29177),

Gene: Tribute\_213 Start: 109127, Stop: 109429, Start Num: 110  
Candidate Starts for Tribute\_213:  
(Start: 107 @109115 has 11 MA's), (Start: 110 @109127 has 18 MA's), (Start: 112 @109139 has 13 MA's), (125, 109205), (139, 109259), (146, 109274), (189, 109409),

Gene: Triste\_34 Start: 26047, Stop: 26535, Start Num: 74  
Candidate Starts for Triste\_34:  
(16, 25867), (21, 25903), (49, 25999), (Start: 74 @26047 has 36 MA's), (108, 26119), (114, 26155), (Start: 115 @26164 has 2 MA's), (124, 26212), (172, 26377), (173, 26383), (216, 26503), (228, 26530),

Gene: Triumph\_36 Start: 26636, Stop: 27115, Start Num: 81  
Candidate Starts for Triumph\_36:  
(Start: 62 @26600 has 2 MA's), (Start: 81 @26636 has 2 MA's), (108, 26687), (114, 26723), (Start: 115 @26732 has 2 MA's), (Start: 117 @26738 has 1 MA's), (119, 26756), (216, 27083), (223, 27098),

Gene: TrvxScott\_34 Start: 26932, Stop: 27405, Start Num: 88

Candidate Starts for TrvxScott\_34:

(Start: 88 @26932 has 25 MA's), (Start: 109 @26977 has 6 MA's), (Start: 111 @26986 has 1 MA's), (114, 27010), (122, 27052), (136, 27121), (216, 27373), (223, 27388),

Gene: TuanPN\_33 Start: 25988, Stop: 26476, Start Num: 74

Candidate Starts for TuanPN\_33:

(17, 25820), (47, 25937), (Start: 74 @25988 has 36 MA's), (108, 26060), (114, 26096), (Start: 115 @26105 has 2 MA's), (124, 26153), (172, 26318), (173, 26324), (216, 26444), (228, 26471),

Gene: Tucker\_40 Start: 26404, Stop: 26015, Start Num: 92

Candidate Starts for Tucker\_40:

(Start: 92 @26404 has 15 MA's), (Start: 103 @26377 has 2 MA's), (128, 26260), (137, 26215), (150, 26173), (156, 26146),

Gene: Twigg\_32 Start: 26952, Stop: 26443, Start Num: 89

Candidate Starts for Twigg\_32:

(Start: 89 @26952 has 109 MA's),

Gene: UnionJack\_33 Start: 26328, Stop: 25807, Start Num: 79

Candidate Starts for UnionJack\_33:

(57, 26370), (Start: 79 @26328 has 1 MA's), (Start: 89 @26316 has 109 MA's),

Gene: Unstoppable\_34 Start: 25679, Stop: 26167, Start Num: 74

Candidate Starts for Unstoppable\_34:

(49, 25631), (Start: 74 @25679 has 36 MA's), (108, 25751), (Start: 115 @25796 has 2 MA's), (136, 25898), (173, 26015), (216, 26135), (228, 26162),

Gene: Untouchable\_66 Start: 47269, Stop: 47808, Start Num: 70

Candidate Starts for Untouchable\_66:

(37, 47203), (Start: 64 @47260 has 25 MA's), (Start: 70 @47269 has 11 MA's), (Start: 117 @47401 has 1 MA's), (136, 47494), (151, 47557), (166, 47602), (178, 47653), (205, 47725),

Gene: VA6\_37 Start: 28094, Stop: 27678, Start Num: 89

Candidate Starts for VA6\_37:

(7, 28382), (Start: 89 @28094 has 109 MA's), (150, 27863), (188, 27731), (198, 27710), (203, 27692),

Gene: VC3\_40 Start: 28082, Stop: 27666, Start Num: 89

Candidate Starts for VC3\_40:

(7, 28370), (Start: 89 @28082 has 109 MA's), (150, 27851), (188, 27719), (198, 27698), (203, 27680),

Gene: Vanseggelen\_40 Start: 27232, Stop: 27636, Start Num: 86

Candidate Starts for Vanseggelen\_40:

(16, 27037), (51, 27172), (Start: 86 @27232 has 15 MA's), (Start: 109 @27277 has 6 MA's), (Start: 111 @27286 has 1 MA's), (114, 27310), (Start: 115 @27319 has 2 MA's), (122, 27352), (188, 27613), (190, 27619),

Gene: Vardy\_63 Start: 46057, Stop: 46503, Start Num: 70

Candidate Starts for Vardy\_63:

(37, 45991), (50, 46027), (Start: 64 @46048 has 25 MA's), (Start: 70 @46057 has 11 MA's), (Start: 117 @46189 has 1 MA's), (130, 46255), (136, 46282), (141, 46297), (166, 46390), (178, 46441),

Gene: Vash\_45 Start: 33403, Stop: 33828, Start Num: 77

Candidate Starts for Vash\_45:

(Start: 77 @33403 has 4 MA's), (Start: 89 @33415 has 109 MA's), (114, 33493), (Start: 117 @33508 has 1 MA's), (119, 33526), (172, 33715), (189, 33784), (192, 33796), (200, 33808), (203, 33820),

Gene: Verabelle\_38 Start: 27616, Stop: 28023, Start Num: 86

Candidate Starts for Verabelle\_38:

(16, 27421), (29, 27496), (51, 27556), (Start: 86 @27616 has 15 MA's), (Start: 111 @27673 has 1 MA's), (Start: 115 @27706 has 2 MA's), (125, 27757), (136, 27808), (141, 27823), (173, 27940), (188, 28000), (190, 28006),

Gene: Veracruz\_34 Start: 27812, Stop: 27381, Start Num: 89

Candidate Starts for Veracruz\_34:

(Start: 89 @27812 has 109 MA's), (Start: 91 @27809 has 5 MA's), (Start: 109 @27764 has 6 MA's), (135, 27626), (189, 27449),

Gene: Verse\_35 Start: 28380, Stop: 28784, Start Num: 86

Candidate Starts for Verse\_35:

(51, 28317), (Start: 86 @28380 has 15 MA's), (Start: 109 @28425 has 6 MA's), (Start: 111 @28434 has 1 MA's), (114, 28458), (125, 28518), (173, 28701), (188, 28761), (190, 28767),

Gene: Virizion\_76 Start: 50882, Stop: 50514, Start Num: 106

Candidate Starts for Virizion\_76:

(Start: 82 @50930 has 2 MA's), (Start: 101 @50894 has 2 MA's), (Start: 106 @50882 has 2 MA's), (Start: 109 @50870 has 6 MA's), (Start: 110 @50864 has 18 MA's), (113, 50849), (Start: 115 @50828 has 2 MA's), (151, 50672), (157, 50648), (173, 50609), (179, 50606), (199, 50552), (201, 50543),

Gene: Vix\_41 Start: 28658, Stop: 28275, Start Num: 90

Candidate Starts for Vix\_41:

(Start: 73 @28685 has 12 MA's), (Start: 90 @28658 has 74 MA's), (Start: 109 @28613 has 6 MA's), (147, 28442), (150, 28430),

Gene: VohminGhazi\_40 Start: 26617, Stop: 26225, Start Num: 89

Candidate Starts for VohminGhazi\_40:

(Start: 89 @26617 has 109 MA's), (128, 26470), (137, 26425), (150, 26383), (156, 26356),

Gene: Vorvolakos\_54 Start: 29094, Stop: 28675, Start Num: 94

Candidate Starts for Vorvolakos\_54:

(Start: 94 @29094 has 15 MA's), (Start: 105 @29067 has 1 MA's), (114, 29022), (167, 28812),

Gene: WRightOn\_58 Start: 29613, Stop: 29197, Start Num: 97

Candidate Starts for WRightOn\_58:

(35, 29736), (Start: 86 @29628 has 15 MA's), (Start: 97 @29613 has 3 MA's), (150, 29385),

Gene: Warpy\_220 Start: 108239, Stop: 108553, Start Num: 107

Candidate Starts for Warpy\_220:

(Start: 107 @108239 has 11 MA's), (Start: 110 @108251 has 18 MA's), (Start: 112 @108263 has 13 MA's), (125, 108329), (139, 108383), (146, 108398), (189, 108533),

Gene: Watermoore\_216 Start: 109485, Stop: 109787, Start Num: 110

Candidate Starts for Watermoore\_216:

(Start: 107 @109473 has 11 MA's), (Start: 110 @109485 has 18 MA's), (Start: 112 @109497 has 13 MA's), (125, 109563), (139, 109617), (146, 109632), (189, 109767),

Gene: Watson\_41 Start: 28595, Stop: 28185, Start Num: 73

Candidate Starts for Watson\_41:

(Start: 73 @28595 has 12 MA's), (Start: 90 @28568 has 74 MA's), (Start: 109 @28523 has 6 MA's), (147, 28352), (150, 28340),

Gene: Weasels2\_199 Start: 104456, Stop: 104812, Start Num: 95

Candidate Starts for Weasels2\_199:

(Start: 95 @104456 has 3 MA's), (Start: 103 @104483 has 2 MA's), (Start: 110 @104507 has 18 MA's), (127, 104594), (170, 104735),

Gene: Wentworth\_71 Start: 50670, Stop: 50269, Start Num: 101

Candidate Starts for Wentworth\_71:

(Start: 82 @50700 has 2 MA's), (Start: 101 @50670 has 2 MA's), (Start: 106 @50658 has 2 MA's), (Start: 109 @50646 has 6 MA's), (Start: 115 @50604 has 2 MA's), (Start: 117 @50598 has 1 MA's), (151, 50448), (156, 50427), (169, 50397), (174, 50376),

Gene: Werner\_34 Start: 26057, Stop: 26545, Start Num: 74

Candidate Starts for Werner\_34:

(16, 25877), (21, 25913), (49, 26009), (Start: 74 @26057 has 36 MA's), (108, 26129), (114, 26165), (Start: 115 @26174 has 2 MA's), (124, 26222), (136, 26276), (157, 26351), (172, 26387), (173, 26393), (216, 26513), (228, 26540),

Gene: Whatever\_34 Start: 26057, Stop: 26545, Start Num: 74

Candidate Starts for Whatever\_34:

(16, 25877), (21, 25913), (49, 26009), (Start: 74 @26057 has 36 MA's), (108, 26129), (114, 26165), (124, 26222), (172, 26387), (173, 26393), (216, 26513), (228, 26540),

Gene: WhereRU\_216 Start: 107768, Stop: 108070, Start Num: 110

Candidate Starts for WhereRU\_216:

(Start: 107 @107756 has 11 MA's), (Start: 110 @107768 has 18 MA's), (Start: 112 @107780 has 13 MA's), (125, 107846), (130, 107867), (146, 107915), (152, 107942), (158, 107960), (189, 108050),

Gene: Wiks\_39 Start: 26386, Stop: 25997, Start Num: 92

Candidate Starts for Wiks\_39:

(Start: 92 @26386 has 15 MA's), (128, 26242), (137, 26197), (150, 26155), (156, 26128),

Gene: Wipeout\_221 Start: 109952, Stop: 110320, Start Num: 76

Candidate Starts for Wipeout\_221:

(Start: 76 @109952 has 31 MA's), (Start: 107 @110012 has 11 MA's), (Start: 112 @110036 has 13 MA's), (125, 110102), (130, 110123), (139, 110156), (146, 110171), (189, 110306),

Gene: Wofford\_231 Start: 112242, Stop: 112598, Start Num: 82

Candidate Starts for Wofford\_231:

(36, 112140), (39, 112149), (40, 112155), (44, 112170), (48, 112176), (66, 112212), (Start: 69 @112218 has 1 MA's), (Start: 82 @112242 has 2 MA's), (Start: 107 @112290 has 11 MA's), (Start: 112 @112314 has 13 MA's), (Start: 115 @112335 has 2 MA's), (125, 112380), (139, 112434), (146, 112449), (188, 112581),

Gene: Wooldri\_43 Start: 28514, Stop: 28104, Start Num: 73

Candidate Starts for Wooldri\_43:

(Start: 73 @28514 has 12 MA's), (Start: 90 @28487 has 74 MA's), (Start: 109 @28442 has 6 MA's), (147, 28271), (150, 28259),

Gene: WunderPhul\_40 Start: 26384, Stop: 25995, Start Num: 92

Candidate Starts for WunderPhul\_40:

(Start: 92 @26384 has 15 MA's), (128, 26240), (137, 26195), (150, 26153), (156, 26126),

Gene: Yaboi\_233 Start: 109149, Stop: 109457, Start Num: 107

Candidate Starts for Yaboi\_233:

(60, 109056), (Start: 69 @109074 has 1 MA's), (Start: 76 @109089 has 31 MA's), (Start: 107 @109149 has 11 MA's), (Start: 112 @109173 has 13 MA's), (Start: 115 @109194 has 2 MA's), (125, 109239), (139, 109293), (146, 109308),

Gene: Yara\_67 Start: 49527, Stop: 49126, Start Num: 87

Candidate Starts for Yara\_67:

(Start: 87 @49527 has 1 MA's), (114, 49440), (159, 49254), (173, 49221), (208, 49143),

Gene: Yasdnil\_34 Start: 26106, Stop: 26594, Start Num: 74

Candidate Starts for Yasdnil\_34:

(16, 25926), (49, 26058), (Start: 74 @26106 has 36 MA's), (108, 26178), (114, 26214), (Start: 115 @26223 has 2 MA's), (124, 26271), (172, 26436), (173, 26442), (216, 26562), (228, 26589),

Gene: Yokurt\_40 Start: 26386, Stop: 25997, Start Num: 92

Candidate Starts for Yokurt\_40:

(Start: 92 @26386 has 15 MA's), (128, 26242), (137, 26197), (150, 26155), (156, 26128),

Gene: Yosif\_37 Start: 28173, Stop: 28583, Start Num: 86

Candidate Starts for Yosif\_37:

(Start: 86 @28173 has 15 MA's), (Start: 111 @28227 has 1 MA's), (114, 28251), (173, 28494), (188, 28554), (190, 28560),

Gene: Zainub\_37 Start: 27276, Stop: 27749, Start Num: 88

Candidate Starts for Zainub\_37:

(Start: 88 @27276 has 25 MA's), (Start: 109 @27321 has 6 MA's), (Start: 111 @27330 has 1 MA's), (114, 27354), (Start: 115 @27363 has 2 MA's), (Start: 117 @27369 has 1 MA's), (136, 27465), (173, 27597), (216, 27717), (223, 27732),

Gene: Zaka\_40 Start: 26386, Stop: 25997, Start Num: 92

Candidate Starts for Zaka\_40:

(Start: 92 @26386 has 15 MA's), (128, 26242), (137, 26197), (150, 26155), (156, 26128),

Gene: ZamZam\_38 Start: 27654, Stop: 28058, Start Num: 86

Candidate Starts for ZamZam\_38:

(Start: 86 @27654 has 15 MA's), (Start: 109 @27699 has 6 MA's), (Start: 111 @27708 has 1 MA's), (114, 27732), (Start: 115 @27741 has 2 MA's), (Start: 117 @27747 has 1 MA's), (142, 27861), (188, 28035), (190, 28041),

Gene: Zeigle\_54 Start: 29457, Stop: 29041, Start Num: 97

Candidate Starts for Zeigle\_54:

(35, 29580), (Start: 86 @29472 has 15 MA's), (Start: 97 @29457 has 3 MA's), (150, 29229),

Gene: Zemlya\_36 Start: 26609, Stop: 27091, Start Num: 83

Candidate Starts for Zemlya\_36:

(31, 26504), (49, 26549), (Start: 83 @26609 has 12 MA's), (Start: 88 @26615 has 25 MA's), (114, 26693), (Start: 117 @26708 has 1 MA's), (161, 26903), (189, 27002), (216, 27059), (223, 27074), (228, 27086),

Gene: Zeph\_66 Start: 47186, Stop: 47647, Start Num: 64  
Candidate Starts for Zeph\_66:  
(37, 47129), (Start: 64 @47186 has 25 MA's), (Start: 70 @47195 has 11 MA's), (Start: 117 @47327 has 1 MA's), (130, 47393), (136, 47420), (151, 47483), (166, 47528),

Gene: Zetzy\_40 Start: 28139, Stop: 27756, Start Num: 90  
Candidate Starts for Zetzy\_40:  
(Start: 73 @28166 has 12 MA's), (Start: 90 @28139 has 74 MA's), (Start: 109 @28094 has 6 MA's), (147, 27923), (150, 27911),

Gene: Zolita\_31 Start: 27234, Stop: 26728, Start Num: 94  
Candidate Starts for Zolita\_31:  
(Start: 94 @27234 has 15 MA's),

Gene: ZooBear\_54 Start: 29438, Stop: 29022, Start Num: 94  
Candidate Starts for ZooBear\_54:  
(67, 29480), (Start: 94 @29438 has 15 MA's), (Start: 117 @29351 has 1 MA's), (138, 29255), (139, 29252), (141, 29246), (164, 29168),

Gene: Zulu\_40 Start: 26385, Stop: 25996, Start Num: 92  
Candidate Starts for Zulu\_40:  
(Start: 92 @26385 has 15 MA's), (Start: 103 @26358 has 2 MA's), (128, 26241), (137, 26196), (150, 26154), (156, 26127),

Gene: phiBT1\_20 Start: 34511, Stop: 34861, Start Num: 109  
Candidate Starts for phiBT1\_20:  
(Start: 109 @34511 has 6 MA's), (Start: 115 @34553 has 2 MA's), (Start: 117 @34559 has 1 MA's), (119, 34577), (128, 34613), (189, 34835),

Gene: phiCAM\_34 Start: 29556, Stop: 29906, Start Num: 111  
Candidate Starts for phiCAM\_34:  
(Start: 86 @29499 has 15 MA's), (Start: 111 @29556 has 1 MA's), (114, 29580), (Start: 115 @29589 has 2 MA's), (122, 29622), (125, 29640), (159, 29772), (166, 29802), (172, 29817), (183, 29868), (188, 29883), (190, 29889),

Gene: phiHau3\_36 Start: 26164, Stop: 26676, Start Num: 62  
Candidate Starts for phiHau3\_36:  
(42, 26128), (Start: 62 @26164 has 2 MA's), (Start: 89 @26200 has 109 MA's), (Start: 109 @26245 has 6 MA's), (114, 26278), (Start: 115 @26287 has 2 MA's), (119, 26311), (216, 26644),