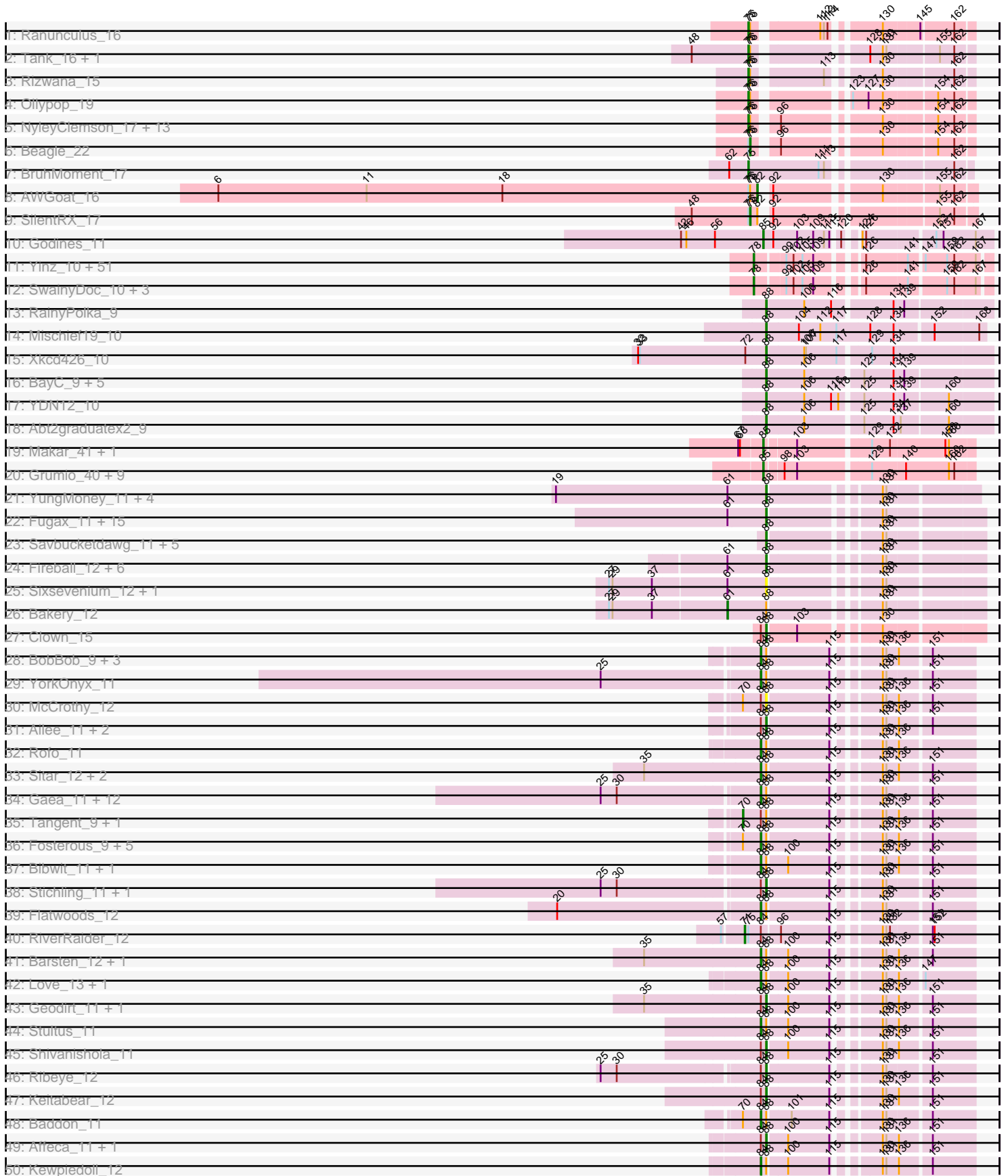
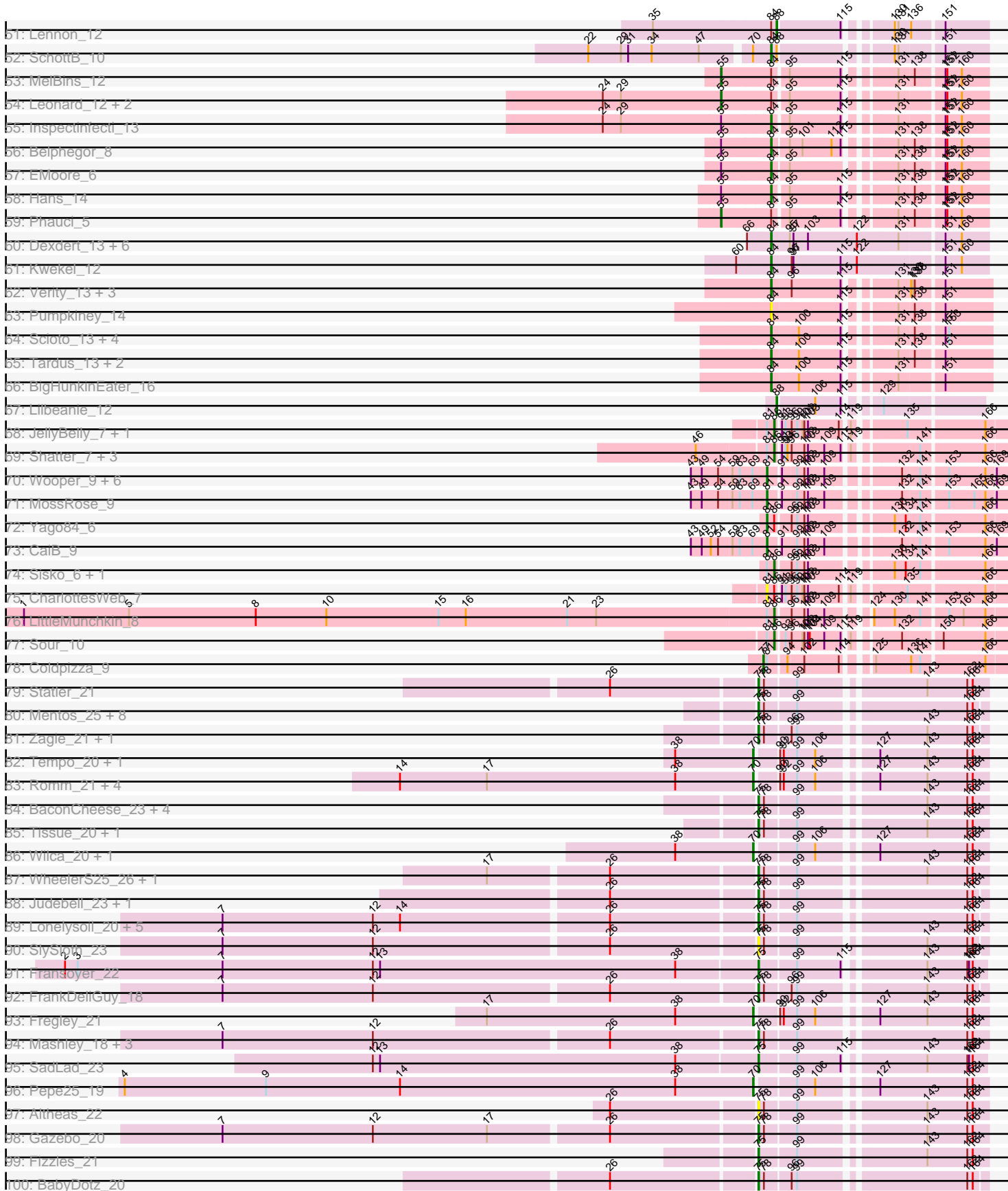


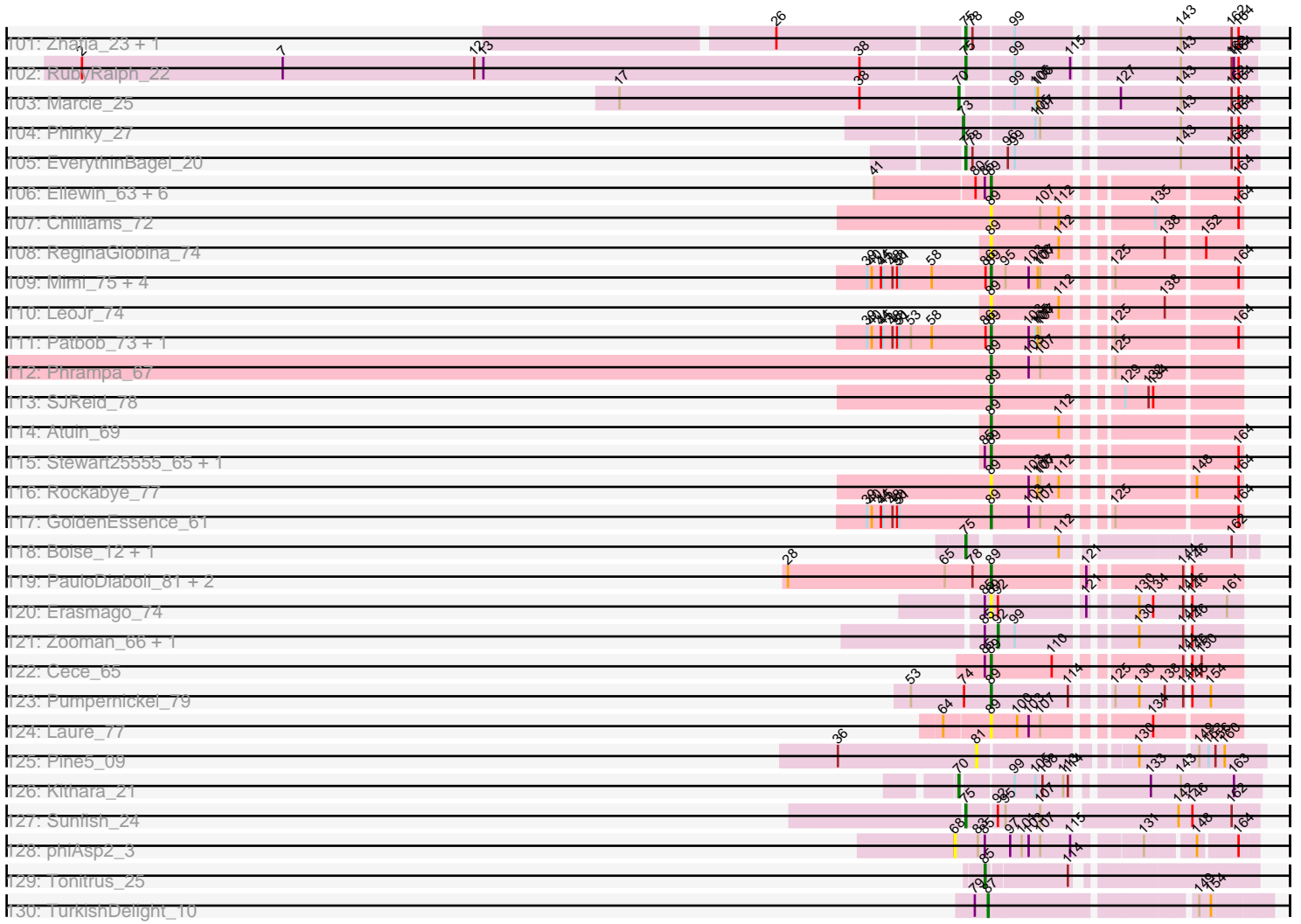
Pham 311120



Pham 311120



Pham 311120



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 311120 Report

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

Pham number 311120 has 350 members, 53 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus\_16
- Track 2 : Tank\_16, Wilde\_16
- Track 3 : Rizwana\_15
- Track 4 : Ollypop\_19
- Track 5 : NyleyClemson\_17, MellowYellow\_18, Popstraw\_20, Hive\_20, Odyssey395\_23, Pureglobe5\_23, Forrestell\_18, PhuzzTulsa\_19, Pointis\_21, RazzB\_17, Kubulix\_22, RIPWilbur\_19, BetaFish\_21, DogYard\_21
- Track 6 : Beagle\_22
- Track 7 : BruhMoment\_17
- Track 8 : AWGoat\_16
- Track 9 : SilentRX\_17
- Track 10 : Godines\_11
- Track 11 : Yinz\_10, SynergyX\_10, Kronus\_9, GlenHope\_11, Audrey\_10, Phaedrus\_9, Pipefish\_10, Bernardo\_10, Compostia\_10, HarveySr\_10, Neos5\_10, Marlia\_10, Mulaychimus\_10, Briakila\_10, Corofin\_10, Heathcliff\_10, Casbah\_9, Baloo\_10, Chalmers\_10, Mortcellus\_9, Ben11\_9, Jackstina\_9, Daisy\_10, RomaT\_10, Nozo\_10, ChaChing\_10, Gervas\_10, Philly\_9, Rita1961\_10, Yahalom\_10, Morty007\_10, Olivio\_9, Kamiyu\_10, RagingRooster\_10, Akoma\_10, Marley1013\_10, OrangeOswald\_10, Phlyer\_10, Tydolla\_10, SlippinJimmy\_10, TinyTerror\_10, Chandler\_10, Abinghost\_10, Halfpint\_9, Gadget\_11, Devonte\_10, Deenasa\_10, Obutu\_10, MmasiCarm\_10, Phayeta\_10, Chentzyk\_9, Shenandoah\_10
- Track 12 : SwainyDoc\_10, Athena\_11, Glubnar\_10, LestyG\_10
- Track 13 : RainyPolka\_9
- Track 14 : Mischief19\_10
- Track 15 : Xkcd426\_10
- Track 16 : BayC\_9, Salete\_9, Maih\_9, TP1604\_9, Asis\_9, BabyGotBac\_9
- Track 17 : YDN12\_10
- Track 18 : Abt2graduatex2\_9
- Track 19 : Makar\_41, Clawz\_40
- Track 20 : Grumio\_40, Purplicious\_38, Stillion\_40, Jollymon\_40, Soos\_36, ColdSoup\_41, Sting\_39, DonTron\_40, Amo99\_41, KingstonB\_38
- Track 21 : YungMoney\_11, Halo3\_12, RogerDodger\_12, CherryCola\_12, Valary\_12
- Track 22 : Fugax\_11, PinkCoffee\_11, Mutzi\_11, KimmyK\_11, ClamChowder\_11, Barb\_11, Salvador\_11, Twister6\_11, Arri\_12, VanDeWege\_12, Evamon\_11, Nubi\_11, Togo\_11, Danyall\_11, CoveyB\_11, SmokingBunny\_11
- Track 23 : Savbucketdawg\_11, Shinji\_11, Jambalaya\_11, TillyBobJoe\_11, JohnPork\_11, Portcullis\_11

- Track 24 : Fireball\_12, Sendy\_11, Gezellig\_11, Phlop\_11, Egi03\_11, Wizard\_11, PullumCavea\_11
- Track 25 : Sixsevenium\_12, SharkTale\_11
- Track 26 : Bakery\_12
- Track 27 : Clown\_15
- Track 28 : BobBob\_9, Jabberwocky\_10, Angelicage\_11, Sanjuju\_10
- Track 29 : YorkOnyx\_11
- Track 30 : McCrothy\_12
- Track 31 : Ailee\_11, Brawn1\_10, Fitzgerald\_10
- Track 32 : Rofo\_11
- Track 33 : Sitar\_12, Vivi2\_10, FuegoCuervo\_15
- Track 34 : Gaea\_11, LilHam\_9, Bizzy\_12, Kroos\_11, StorminNorm\_11, Baumdotcom\_11, Saronaya\_11, Kwobi\_11, Tangerine\_11, Gustavo\_11, Derg\_7, Ashertheman\_11, JKSyngboy\_10
- Track 35 : Tangent\_9, Paries\_12
- Track 36 : Fosterous\_9, Thing3\_12, Charming\_9, Galadriel\_13, Nordenberg\_6, Kamashten\_12
- Track 37 : Bibwit\_11, Sedona\_12
- Track 38 : Stichling\_11, Tycho\_11
- Track 39 : Flatwoods\_12
- Track 40 : RiverRaider\_12
- Track 41 : Barsten\_12, ChadMasterC\_11
- Track 42 : Love\_13, MoontowerMania\_10
- Track 43 : Geodirt\_11, Brandonk123\_14
- Track 44 : Stultus\_11
- Track 45 : Shivanishola\_11
- Track 46 : Ribeye\_12
- Track 47 : Keitabear\_12
- Track 48 : Baddon\_11
- Track 49 : Affeca\_11, McKinley\_12
- Track 50 : Kewpiedoll\_12
- Track 51 : Lennon\_12
- Track 52 : SchottB\_10
- Track 53 : MelBins\_12
- Track 54 : Leonard\_12, Phinally\_12, Ali17\_10
- Track 55 : Inspectinfecti\_13
- Track 56 : Belphegor\_8
- Track 57 : EMOore\_6
- Track 58 : Hans\_14
- Track 59 : Phauci\_5
- Track 60 : Dxdert\_13, Twonlo\_10, Tiamoceli\_13, RoadKill\_10, Chickadee\_12, EdmundFerry\_11, GTE6\_13
- Track 61 : Kwekel\_12
- Track 62 : Verity\_13, Delrey21\_13, Zipp\_13, DoctorFroggo\_13
- Track 63 : Pumpkiney\_14
- Track 64 : Scioto\_13, ViaConlectus\_13, Natkenzie\_13, Sampson\_13, Abblin\_13
- Track 65 : Tardus\_13, APunk\_14, Zitch\_14
- Track 66 : BigHunkinEater\_16
- Track 67 : Lilbeanie\_12
- Track 68 : JellyBelly\_7, Mariokart\_7
- Track 69 : Shatter\_7, Ligma\_7, Axumite\_7, Fresco\_7
- Track 70 : Wooper\_9, FelixTres\_9, TraderJ\_9, AnarQue\_9, MakoManhole\_9, Blackpen\_9, CloverMinnie\_9

- Track 71 : MossRose\_9
- Track 72 : Yago84\_6
- Track 73 : CaiB\_9
- Track 74 : Sisko\_6, AnClar\_6
- Track 75 : CharlottesWeb\_7
- Track 76 : LittleMunchkin\_8
- Track 77 : Sour\_10
- Track 78 : Coldpizza\_9
- Track 79 : Statler\_21
- Track 80 : Mentos\_25, Rudy\_19, Teehee\_22, Grassboy\_22, StrawberryJamm\_23, Sillytadpoles\_20, Viceroy\_20, Quammi\_19, Kyva\_23
- Track 81 : Zagie\_21, Rowlf\_17
- Track 82 : Tempo\_20, OneinaGillian\_20
- Track 83 : Romm\_21, KillerQueen\_21, CandC\_19, Kelcole\_19, RobinRose\_21
- Track 84 : BaconCheese\_23, Squash\_23, Nike\_21, Blab\_18, MorillMayhem\_20
- Track 85 : Tissue\_20, Mila11\_23
- Track 86 : Wilca\_20, BirdInFrench\_20
- Track 87 : WheelerS25\_26, AluminumJesus\_18
- Track 88 : Judebell\_23, Phabia\_21
- Track 89 : Lonelysoil\_20, Wayne3\_22, Casend\_22, Jehoshaphat\_23, Wheelie\_20, DonaldDuck\_20
- Track 90 : SlySloth\_23
- Track 91 : Fransoyer\_22
- Track 92 : FrankDeliGuy\_18
- Track 93 : Fregley\_21
- Track 94 : Mashley\_18, Llemily\_20, Hyperion\_19, SallyK\_22
- Track 95 : SadLad\_23
- Track 96 : Pepe25\_19
- Track 97 : Altheas\_22
- Track 98 : Gazebo\_20
- Track 99 : Fizzles\_21
- Track 100 : BabyDotz\_20
- Track 101 : Zhafia\_23, Namago\_21
- Track 102 : RubyRalph\_22
- Track 103 : Marcie\_25
- Track 104 : Phinky\_27
- Track 105 : EverythinBagel\_20
- Track 106 : Ellewin\_63, WaddleDee\_62, Emmetator\_67, Artu\_67, BooTeria\_71, KSunshine22\_69, DunneganBoMo\_64
- Track 107 : Chilliams\_72
- Track 108 : ReginaGlobina\_74
- Track 109 : Mimi\_75, FrostedClock\_78, Bloom\_79, Talia1610\_75, Racecar\_76
- Track 110 : LeoJr\_74
- Track 111 : Patbob\_73, FloraSnap32\_74
- Track 112 : Phrampa\_67
- Track 113 : SJReid\_78
- Track 114 : Atuin\_69
- Track 115 : Stewart25555\_65, Panchaali\_67
- Track 116 : Rockabye\_77
- Track 117 : GoldenEssence\_61
- Track 118 : Boise\_12, RomansRevenge\_12
- Track 119 : PauloDiaboli\_81, Dodo\_83, A3Wally\_81
- Track 120 : Erasmago\_74

- Track 121 : Zooman\_66, Big4\_70
- Track 122 : Cece\_65
- Track 123 : Pumpernickel\_79
- Track 124 : Laure\_77
- Track 125 : Pine5\_09
- Track 126 : Kithara\_21
- Track 127 : Sunfish\_24
- Track 128 : phiAsp2\_3
- Track 129 : Tonitrus\_25
- Track 130 : TurkishDelight\_10

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

The start number called the most often in the published annotations is 84, it was called in 63 of the 297 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- APunk\_14, Abblin\_13, Angelicage\_11, Ashertheman\_11, Baddon\_11, Barsten\_12, Baumdotcom\_11, Belphegor\_8, Bibwit\_11, BigHunkinEater\_16, Bizzy\_12, BobBob\_9, ChadMasterC\_11, Charming\_9, Chickadee\_12, Delrey21\_13, Derg\_7, Dextert\_13, DoctorFroggo\_13, EMOore\_6, EdmundFerry\_11, Flatwoods\_12, Fosterous\_9, FuegoCuervo\_15, GTE6\_13, Gaea\_11, Galadriel\_13, Gustavo\_11, Hans\_14, Inspectinfecti\_13, JKSyngboy\_10, Jabberwocky\_10, Kamashten\_12, Kewpiedoll\_12, Kroos\_11, Kwekel\_12, Kwobi\_11, LilHam\_9, Love\_13, MoontowerMania\_10, Natkenzie\_13, Nordenberg\_6, Pumpkiney\_14, RoadKill\_10, Rofo\_11, Sampson\_13, Sanjuju\_10, Saronaya\_11, SchottB\_10, Scioto\_13, Sedona\_12, Sitar\_12, StorminNorm\_11, Stultus\_11, Tangerine\_11, Tardus\_13, Thing3\_12, Tiamoceli\_13, Twonlo\_10, Verity\_13, ViaConlectus\_13, Vivi2\_10, YorkOnyx\_11, Zipp\_13, Zitch\_14,

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

- Affeca\_11, Ailee\_11, Ali17\_10, Brandonk123\_14, Brawn1\_10, Clown\_15, Fitzgerald\_10, Geodirt\_11, Keitabear\_12, Lennon\_12, Leonard\_12, McCrothy\_12, McKinley\_12, MelBins\_12, Paries\_12, Phauci\_5, Phinally\_12, Ribeye\_12, RiverRaider\_12, Shivanishola\_11, Stichling\_11, Tangent\_9, Tycho\_11,

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

- A3Wally\_81, AWGoat\_16, Abinghost\_10, Abt2graduatex2\_9, Akoma\_10, Altheas\_22, AluminumJesus\_18, Amo99\_41, AnClar\_6, AnarQue\_9, Arri\_12, Artu\_67, Asis\_9, Athena\_11, Atuin\_69, Audrey\_10, Axumite\_7, BabyDotz\_20, BabyGotBac\_9, BaconCheese\_23, Bakery\_12, Baloo\_10, Barb\_11, BayC\_9, Beagle\_22, Ben11\_9, Bernardo\_10, BetaFish\_21, Big4\_70, BirdInFrench\_20, Blab\_18, Blackpen\_9, Bloom\_79, Boise\_12, BooTeria\_71, Briakila\_10, BruhMoment\_17, CaiB\_9, CandC\_19, Casbah\_9, Casend\_22, Cece\_65, ChaChing\_10, Chalmers\_10, Chandler\_10, CharlottesWeb\_7, Chentzyk\_9, CherryCola\_12, Chilliams\_72, ClamChowder\_11, Clawz\_40, CloverMinnie\_9, ColdSoup\_41, Coldpizza\_9, Compostia\_10, Corofin\_10, CoveyB\_11, Daisy\_10, Danyall\_11, Deenasa\_10, Devonte\_10, Dodo\_83, DogYard\_21, DonTron\_40, DonaldDuck\_20, DunneganBoMo\_64, Egi03\_11, Ellewin\_63, Emmetator\_67, Erasmago\_74, Evamon\_11, EverythinBagel\_20, FelixTres\_9, Fireball\_12, Fizzles\_21, FloraSnap32\_74, Forrestell\_18, FrankDeliGuy\_18, Fransoyer\_22, Fregley\_21,

Fresco\_7, FrostedClock\_78, Fugax\_11, Gadget\_11, Gazebo\_20, Gervas\_10, Gezellig\_11, GlenHope\_11, Glubnar\_10, Godines\_11, GoldenEssence\_61, Grassboy\_22, Grumio\_40, Halfpint\_9, Halo3\_12, HarveySr\_10, Heathcliff\_10, Hive\_20, Hyperion\_19, Jackstina\_9, Jambalaya\_11, Jehoshaphat\_23, JellyBelly\_7, JohnPork\_11, Jollymon\_40, Judebell\_23, KSunshine22\_69, Kamiyu\_10, Kelcole\_19, KillerQueen\_21, KimmyK\_11, KingstonB\_38, Kithara\_21, Kronus\_9, Kubulix\_22, Kyva\_23, Laure\_77, LeoJr\_74, LestyG\_10, Ligma\_7, Lilbeanie\_12, LittleMunchkin\_8, Llemily\_20, Lonelysoil\_20, Maih\_9, Makar\_41, MakoManhole\_9, Marcie\_25, Mariokart\_7, Marley1013\_10, Marlia\_10, Mashley\_18, MellowYellow\_18, Mentos\_25, Mila11\_23, Mimi\_75, Mischief19\_10, MmasiCarm\_10, MorillMayhem\_20, Mortcellus\_9, Morty007\_10, MossRose\_9, Mulaychimus\_10, Mutzi\_11, Namago\_21, Neos5\_10, Nike\_21, Nozo\_10, Nubi\_11, NyleyClemson\_17, Obutu\_10, Odyssey395\_23, Olivio\_9, Ollypop\_19, OneinaGillian\_20, OrangeOswald\_10, Panchaali\_67, Patbob\_73, PauloDiaboli\_81, Pepe25\_19, Phabia\_21, Phaedrus\_9, Phayeta\_10, Philly\_9, Phinky\_27, Phlop\_11, Phlyer\_10, Phrampa\_67, PhuzzTulsa\_19, Pine5\_09, PinkCoffee\_11, Pipefish\_10, Pointis\_21, Popstraw\_20, Portcullis\_11, PullumCavea\_11, Pumpernickel\_79, Pureglobe5\_23, Purplicious\_38, Quammi\_19, RIPWilbur\_19, Racecar\_76, RagingRooster\_10, RainyPolka\_9, Ranunculus\_16, RazzB\_17, ReginaGlobina\_74, Rita1961\_10, Rizwana\_15, RobinRose\_21, Rockabye\_77, RogerDodger\_12, RomaT\_10, RomansRevenge\_12, Romm\_21, Rowlf\_17, RubyRalph\_22, Rudy\_19, SJReid\_78, SadLad\_23, Salete\_9, SallyK\_22, Salvador\_11, Savbucketdawg\_11, Sendy\_11, SharkTale\_11, Shatter\_7, Shenandoah\_10, Shinji\_11, SilentRX\_17, Sillytadpoles\_20, Sisko\_6, Sixsevenium\_12, SlippinJimmy\_10, SlySloth\_23, SmokingBunny\_11, Soos\_36, Sour\_10, Squash\_23, Statler\_21, Stewart25555\_65, Stillion\_40, Sting\_39, StrawberryJamm\_23, Sunfish\_24, SwainyDoc\_10, SynergyX\_10, TP1604\_9, Talia1610\_75, Tank\_16, Teehee\_22, Tempo\_20, TillyBobJoe\_11, TinyTerror\_10, Tissue\_20, Togo\_11, Tonitrus\_25, TraderJ\_9, TurkishDelight\_10, Twister6\_11, Tydolla\_10, Valary\_12, VanDeWege\_12, Viceroy\_20, WaddleDee\_62, Wayne3\_22, WheelerS25\_26, Wheelie\_20, Wilca\_20, Wilde\_16, Wizard\_11, Wooper\_9, Xkcd426\_10, YDN12\_10, Yago84\_6, Yahalom\_10, Yinz\_10, YungMoney\_11, Zagie\_21, Zhafia\_23, Zooman\_66, phiAsp2\_3,

### Summary by start number:

#### Start 55:

- Found in 9 of 350 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 5 of 297
- Called 55.6% of time when present
- Phage (with cluster) where this start called: Ali17\_10 (DE2), Leonard\_12 (DE2), MelBins\_12 (DE2), Phauci\_5 (DE2), Phinally\_12 (DE2),

#### Start 61:

- Found in 31 of 350 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 3.2% of time when present
- Phage (with cluster) where this start called: Bakery\_12 (DC1),

#### Start 68:

- Found in 3 of 350 ( 0.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: phiAsp2\_3 (singleton),

Start 70:

- Found in 24 of 350 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 14 of 297
- Called 62.5% of time when present
- Phage (with cluster) where this start called: BirdInFrench\_20 (EG), CandC\_19 (EG), Fregley\_21 (EG), Kelcole\_19 (EG), KillerQueen\_21 (EG), Kithara\_21 (singleton), Marcie\_25 (EG), OneinaGillian\_20 (EG), Paries\_12 (DE1), Pepe25\_19 (EG), RobinRose\_21 (EG), Romm\_21 (EG), Tangent\_9 (DE1), Tempo\_20 (EG), Wilca\_20 (EG),

Start 71:

- Found in 1 of 350 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RiverRaider\_12 (DE1),

Start 73:

- Found in 1 of 350 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phinky\_27 (EG),

Start 75:

- Found in 72 of 350 ( 20.6% ) of genes in pham
- Manual Annotations of this start: 57 of 297
- Called 94.4% of time when present
- Phage (with cluster) where this start called: Altheas\_22 (EG), AluminumJesus\_18 (EG), BabyDotz\_20 (EG), BaconCheese\_23 (EG), BetaFish\_21 (AP2), Blab\_18 (EG), Boise\_12 (FT), BruhMoment\_17 (AP3), Casend\_22 (EG), DogYard\_21 (AP2), DonaldDuck\_20 (EG), EverythinBagel\_20 (EG), Fizzles\_21 (EG), Forrestell\_18 (AP2), FrankDeliGuy\_18 (EG), Fransoyer\_22 (EG), Gazebo\_20 (EG), Grassboy\_22 (EG), Hive\_20 (AP2), Hyperion\_19 (EG), Jehoshaphat\_23 (EG), Judebell\_23 (EG), Kubulix\_22 (AP2), Kyva\_23 (EG), Llemily\_20 (EG), Lonelysoil\_20 (EG), Mashley\_18 (EG), MellowYellow\_18 (AP2), Mentos\_25 (EG), Mila11\_23 (EG), MorillMayhem\_20 (EG), Namago\_21 (EG), Nike\_21 (EG), NyleyClemson\_17 (AP2), Odyssey395\_23 (AP2), Ollypop\_19 (AP2), Phabia\_21 (EG), PhuzzTulsa\_19 (AP2), Pointis\_21 (AP2), Popstraw\_20 (AP2), Pureglobe5\_23 (AP2), Quammi\_19 (EG), RIPWilbur\_19 (AP2), Ranunculus\_16 (AP), RazzB\_17 (AP2), Rizwana\_15 (AP1), RomansRevenge\_12 (FT), Rowlf\_17 (EG), RubyRalph\_22 (EG), Rudy\_19 (EG), SadLad\_23 (EG), SallyK\_22 (EG), Sillytadpoles\_20 (EG), SlySloth\_23 (EG), Squash\_23 (EG), Statler\_21 (EG), StrawberryJamm\_23 (EG), Sunfish\_24 (singleton), Tank\_16 (AP1), Teehee\_22 (EG), Tissue\_20 (EG), Viceroy\_20 (EG), Wayne3\_22 (EG), WheelerS25\_26 (EG), Wheelie\_20 (EG), Wilde\_16 (AP1), Zagie\_21 (EG), Zhafia\_23 (EG),

Start 76:

- Found in 22 of 350 ( 6.3% ) of genes in pham
- Manual Annotations of this start: 2 of 297
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Beagle\_22 (AP2), SilentRX\_17 (AP4),

Start 77:

- Found in 1 of 350 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Coldpizza\_9 (DR),

#### Start 78:

- Found in 100 of 350 ( 28.6% ) of genes in pham
- Manual Annotations of this start: 51 of 297
- Called 56.0% of time when present
- Phage (with cluster) where this start called: Abinghost\_10 (B3), Akoma\_10 (B3), Athena\_11 (B3), Audrey\_10 (B3), Baloo\_10 (B3), Ben11\_9 (B3), Bernardo\_10 (B3), Briakila\_10 (B3), Casbah\_9 (B3), ChaChing\_10 (B3), Chalmers\_10 (B3), Chandler\_10 (B3), Chentzyk\_9 (B3), Compostia\_10 (B3), Corofin\_10 (B3), Daisy\_10 (B3), Deenasa\_10 (B3), Devonte\_10 (B3), Gadjet\_11 (B3), Gervas\_10 (B3), GlenHope\_11 (B3), Glubnar\_10 (B3), Halfpint\_9 (B3), HarveySr\_10 (B3), Heathcliff\_10 (B3), Jackstina\_9 (B3), Kamiyu\_10 (B3), Kronus\_9 (B3), LestyG\_10 (B3), Marley1013\_10 (B3), Marlia\_10 (B3), MmasiCarm\_10 (B3), Mortcellus\_9 (B3), Morty007\_10 (B3), Mulaychimus\_10 (B3), Neos5\_10 (B3), Nozo\_10 (B3), Obutu\_10 (B3), Olivio\_9 (B3), OrangeOswald\_10 (B3), Phaedrus\_9 (B3), Phayeta\_10 (B3), Philly\_9 (B3), Phlyer\_10 (B3), Pipefish\_10 (B3), RagingRooster\_10 (B3), Rita1961\_10 (B3), RomaT\_10 (B3), Shenandoah\_10 (B3), SlippinJimmy\_10 (B3), SwainyDoc\_10 (B3), SynergyX\_10 (B3), TinyTerror\_10 (B3), Tydolla\_10 (B3), Yahalom\_10 (B3), Yinz\_10 (B3),

#### Start 81:

- Found in 23 of 350 ( 6.6% ) of genes in pham
- Manual Annotations of this start: 8 of 297
- Called 52.2% of time when present
- Phage (with cluster) where this start called: AnarQue\_9 (DR), Blackpen\_9 (DR), CaiB\_9 (DR), CharlottesWeb\_7 (DR), CloverMinnie\_9 (DR), FelixTres\_9 (DR), MakoManhole\_9 (DR), MossRose\_9 (DR), Pine5\_09 (singleton), TraderJ\_9 (DR), Wooper\_9 (DR), Yago84\_6 (DR),

#### Start 82:

- Found in 2 of 350 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AWGoat\_16 (AP4),

#### Start 84:

- Found in 88 of 350 ( 25.1% ) of genes in pham
- Manual Annotations of this start: 63 of 297
- Called 73.9% of time when present
- Phage (with cluster) where this start called: APunk\_14 (DE4), Abblin\_13 (DE4), Angelicage\_11 (DE1), Ashertheman\_11 (DE1), Baddon\_11 (DE1), Barsten\_12 (DE1), Baumdotcom\_11 (DE1), Belphegor\_8 (DE2), Bibwit\_11 (DE1), BigHunkinEater\_16 (DE4), Bizzy\_12 (DE1), BobBob\_9 (DE1), ChadMasterC\_11 (DE1), Charming\_9 (DE1), Chickadee\_12 (DE3), Delrey21\_13 (DE4), Derg\_7 (DE1), Dexdert\_13 (DE3), DoctorFroggo\_13 (DE4), EMoore\_6 (DE2), EdmundFerry\_11 (DE3), Flatwoods\_12 (DE1), Fosterous\_9 (DE1), FuegoCuervo\_15 (DE1), GTE6\_13 (DE3), Gaea\_11 (DE1), Galadriel\_13 (DE1), Gustavo\_11 (DE1), Hans\_14 (DE2), Inspectinfecti\_13 (DE2), JKSyngboy\_10 (DE1), Jabberwocky\_10 (DE1), Kamashten\_12 (DE1), Kewpiedoll\_12 (DE1), Kroos\_11 (DE1), Kwekel\_12 (DE3), Kwobi\_11 (DE1), LilHam\_9

(DE1), Love\_13 (DE1), MoontowerMania\_10 (DE1), Natkenzie\_13 (DE4), Nordenberg\_6 (DE1), Pumpkiney\_14 (DE4), RoadKill\_10 (DE3), Rofo\_11 (DE1), Sampson\_13 (DE4), Sanjuju\_10 (DE1), Saronaya\_11 (DE1), SchottB\_10 (DE1), Scioto\_13 (DE4), Sedona\_12 (DE1), Sitar\_12 (DE1), StorminNorm\_11 (DE1), Stultus\_11 (DE1), Tangerine\_11 (DE1), Tardus\_13 (DE4), Thing3\_12 (DE1), Tiamoceli\_13 (DE3), Twonlo\_10 (DE3), Verity\_13 (DE4), ViaConlectus\_13 (DE4), Vivi2\_10 (DE1), YorkOnyx\_11 (DE1), Zipp\_13 (DE4), Zitch\_14 (DE4),

#### Start 85:

- Found in 28 of 350 ( 8.0% ) of genes in pham
- Manual Annotations of this start: 8 of 297
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Amo99\_41 (CP), Clawz\_40 (CP), ColdSoup\_41 (CP), DonTron\_40 (CP), Godines\_11 (B2), Grumio\_40 (CP), Jollymon\_40 (CP), KingstonB\_38 (CP), Makar\_41 (CP), Purplicious\_38 (CP), Soos\_36 (CP), Stillion\_40 (CP), Sting\_39 (CP), Tonitrus\_25 (singleton),

#### Start 86:

- Found in 19 of 350 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 9 of 297
- Called 52.6% of time when present
- Phage (with cluster) where this start called: AnClar\_6 (DR), Axumite\_7 (DR), Fresco\_7 (DR), JellyBelly\_7 (DR), Ligma\_7 (DR), LittleMunchkin\_8 (DR), Mariokart\_7 (DR), Shatter\_7 (DR), Sisko\_6 (DR), Sour\_10 (DR),

#### Start 87:

- Found in 1 of 350 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TurkishDelight\_10 (singleton),

#### Start 88:

- Found in 105 of 350 ( 30.0% ) of genes in pham
- Manual Annotations of this start: 55 of 297
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Abt2graduatex2\_9 (BG), Affeca\_11 (DE1), Ailee\_11 (DE1), Arri\_12 (DC1), Asis\_9 (BG), BabyGotBac\_9 (BG), Barb\_11 (DC1), BayC\_9 (BG), Brandonk123\_14 (DE1), Brawn1\_10 (DE1), CherryCola\_12 (DC1), ClamChowder\_11 (DC1), Clown\_15 (DC2), CoveyB\_11 (DC1), Danyall\_11 (DC1), Egi03\_11 (DC1), Evamon\_11 (DC1), Fireball\_12 (DC1), Fitzgerald\_10 (DE1), Fugax\_11 (DC1), Geodirt\_11 (DE1), Gezellig\_11 (DC1), Halo3\_12 (DC1), Jambalaya\_11 (DC1), JohnPork\_11 (DC1), Keitabear\_12 (DE1), KimmyK\_11 (DC1), Lennon\_12 (DE1), Lilbeanie\_12 (DE5), Maih\_9 (BG), McCrothy\_12 (DE1), McKinley\_12 (DE1), Mischief19\_10 (BG), Mutzi\_11 (DC1), Nubi\_11 (DC1), Phlop\_11 (DC1), PinkCoffee\_11 (DC1), Portcullis\_11 (DC1), PullumCavea\_11 (DC1), RainyPolka\_9 (BG), Ribeye\_12 (DE1), RogerDodger\_12 (DC1), Salete\_9 (BG), Salvador\_11 (DC1), Savbucketdawg\_11 (DC1), Sendy\_11 (DC1), SharkTale\_11 (DC1), Shinji\_11 (DC1), Shivanishola\_11 (DE1), Sixsevenium\_12 (DC1), SmokingBunny\_11 (DC1), Stichling\_11 (DE1), TP1604\_9 (BG), TillyBobJoe\_11 (DC1), Togo\_11 (DC1), Twister6\_11 (DC1), Tycho\_11 (DE1), Valary\_12 (DC1), VanDeWege\_12 (DC1), Wizard\_11 (DC1), Xkcd426\_10 (BG), YDN12\_10 (BG), YungMoney\_11 (DC1),

Start 89:

- Found in 31 of 350 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 17 of 297
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally\_81 (GD1), Artu\_67 (FC), Atuin\_69 (FC), Bloom\_79 (FC), BooTeria\_71 (FC), Cece\_65 (GD3), Chilliams\_72 (FC), Dodo\_83 (GD1), DunneganBoMo\_64 (FC), Ellewin\_63 (FC), Emmetator\_67 (FC), Erasmago\_74 (GD2), FloraSnap32\_74 (FC), FrostedClock\_78 (FC), GoldenEssence\_61 (FC), KSunshine22\_69 (FC), Laure\_77 (UNK), LeoJr\_74 (FC), Mimi\_75 (FC), Panchaali\_67 (FC), Patbob\_73 (FC), PauloDiaboli\_81 (GD1), Phrampa\_67 (FC), Pumpernickel\_79 (GD4), Racecar\_76 (FC), ReginaGlobina\_74 (FC), Rockabye\_77 (FC), SJReid\_78 (FC), Stewart25555\_65 (FC), Talia1610\_75 (FC), WaddleDee\_62 (FC),

Start 92:

- Found in 15 of 350 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 2 of 297
- Called 13.3% of time when present
- Phage (with cluster) where this start called: Big4\_70 (GD2), Zooman\_66 (GD2),

### **Summary by clusters:**

There are 26 clusters represented in this pham: GD1, singleton, BG, GD4, AP2, AP3, AP1, GD2, AP4, FC, GD3, FT, DR, UNK, EG, AP, CP, DC2, DC1, DE1, DE2, DE3, DE4, DE5, B2, B3,

Info for manual annotations of cluster AP:

- Start number 75 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP1:

- Start number 75 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 75 was manually annotated 11 times for cluster AP2.
- Start number 76 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 75 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 76 was manually annotated 1 time for cluster AP4.
- Start number 82 was manually annotated 1 time for cluster AP4.

Info for manual annotations of cluster B2:

- Start number 85 was manually annotated 1 time for cluster B2.

Info for manual annotations of cluster B3:

- Start number 78 was manually annotated 51 times for cluster B3.

Info for manual annotations of cluster BG:

- Start number 88 was manually annotated 11 times for cluster BG.

Info for manual annotations of cluster CP:

- Start number 85 was manually annotated 6 times for cluster CP.

Info for manual annotations of cluster DC1:

- Start number 61 was manually annotated 1 time for cluster DC1.
- Start number 88 was manually annotated 31 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 88 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE1:

- Start number 70 was manually annotated 2 times for cluster DE1.
- Start number 71 was manually annotated 1 time for cluster DE1.
- Start number 84 was manually annotated 39 times for cluster DE1.
- Start number 88 was manually annotated 11 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 55 was manually annotated 5 times for cluster DE2.
- Start number 84 was manually annotated 4 times for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 84 was manually annotated 7 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 84 was manually annotated 13 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 88 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DR:

- Start number 77 was manually annotated 1 time for cluster DR.
- Start number 81 was manually annotated 8 times for cluster DR.
- Start number 86 was manually annotated 9 times for cluster DR.

Info for manual annotations of cluster EG:

- Start number 70 was manually annotated 11 times for cluster EG.
- Start number 73 was manually annotated 1 time for cluster EG.
- Start number 75 was manually annotated 39 times for cluster EG.

Info for manual annotations of cluster FC:

- Start number 89 was manually annotated 12 times for cluster FC.

Info for manual annotations of cluster FT:

- Start number 75 was manually annotated 1 time for cluster FT.

Info for manual annotations of cluster GD1:

- Start number 89 was manually annotated 3 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 92 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 89 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

•Start number 89 was manually annotated 1 time for cluster GD4.

**Gene Information:**

Gene: A3Wally\_81 Start: 29548, Stop: 29832, Start Num: 89

Candidate Starts for A3Wally\_81:

(28, 29287), (65, 29491), (Start: 78 @29527 has 51 MA's), (Start: 89 @29548 has 17 MA's), (121, 29659), (144, 29764), (146, 29767),

Gene: APunk\_14 Start: 7109, Stop: 7426, Start Num: 84

Candidate Starts for APunk\_14:

(Start: 84 @7109 has 63 MA's), (100, 7151), (115, 7220), (131, 7283), (138, 7307), (151, 7349),

Gene: AWGoat\_16 Start: 8424, Stop: 8723, Start Num: 82

Candidate Starts for AWGoat\_16:

(6, 7521), (11, 7770), (18, 7998), (Start: 75 @8409 has 57 MA's), (Start: 76 @8412 has 2 MA's), (Start: 82 @8424 has 1 MA's), (Start: 92 @8430 has 2 MA's), (130, 8583), (155, 8667), (162, 8691),

Gene: Abblin\_13 Start: 6625, Stop: 6942, Start Num: 84

Candidate Starts for Abblin\_13:

(Start: 84 @6625 has 63 MA's), (100, 6667), (115, 6736), (131, 6799), (138, 6823), (151, 6865), (153, 6871),

Gene: Abinghost\_10 Start: 5949, Stop: 6284, Start Num: 78

Candidate Starts for Abinghost\_10:

(Start: 78 @5949 has 51 MA's), (99, 5991), (102, 6003), (105, 6018), (109, 6036), (126, 6093), (141, 6159), (147, 6180), (159, 6216), (162, 6228), (167, 6264),

Gene: Abt2graduatex2\_9 Start: 7673, Stop: 8023, Start Num: 88

Candidate Starts for Abt2graduatex2\_9:

(Start: 88 @7673 has 55 MA's), (106, 7733), (125, 7820), (134, 7868), (137, 7877), (160, 7952),

Gene: Affeca\_11 Start: 6351, Stop: 6650, Start Num: 88

Candidate Starts for Affeca\_11:

(Start: 84 @6342 has 63 MA's), (Start: 88 @6351 has 55 MA's), (100, 6381), (115, 6450), (130, 6507), (131, 6513), (136, 6531), (151, 6579),

Gene: Ailee\_11 Start: 7213, Stop: 7512, Start Num: 88

Candidate Starts for Ailee\_11:

(Start: 84 @7204 has 63 MA's), (Start: 88 @7213 has 55 MA's), (115, 7312), (130, 7369), (131, 7375), (136, 7393), (151, 7441),

Gene: Akoma\_10 Start: 5949, Stop: 6284, Start Num: 78

Candidate Starts for Akoma\_10:

(Start: 78 @5949 has 51 MA's), (99, 5991), (102, 6003), (105, 6018), (109, 6036), (126, 6093), (141, 6159), (147, 6180), (159, 6216), (162, 6228), (167, 6264),

Gene: Ali17\_10 Start: 6021, Stop: 6407, Start Num: 55

Candidate Starts for Ali17\_10:

(24, 5826), (29, 5856), (Start: 55 @6021 has 5 MA's), (Start: 84 @6102 has 63 MA's), (95, 6123), (115, 6207), (131, 6270), (151, 6336), (152, 6339), (160, 6363),

Gene: Altheas\_22 Start: 8371, Stop: 8715, Start Num: 75

Candidate Starts for Altheas\_22:

(26, 8140), (Start: 75 @8371 has 57 MA's), (Start: 78 @8380 has 51 MA's), (99, 8428), (143, 8614), (162, 8680), (164, 8689),

Gene: AluminumJesus\_18 Start: 7735, Stop: 8079, Start Num: 75

Candidate Starts for AluminumJesus\_18:

(17, 7315), (26, 7504), (Start: 75 @7735 has 57 MA's), (Start: 78 @7744 has 51 MA's), (99, 7792), (143, 7978), (162, 8044), (164, 8053),

Gene: Amo99\_41 Start: 17853, Stop: 18179, Start Num: 85

Candidate Starts for Amo99\_41:

(Start: 85 @17853 has 8 MA's), (98, 17880), (103, 17901), (129, 18012), (140, 18066), (160, 18138), (162, 18147),

Gene: AnClar\_6 Start: 5256, Stop: 5579, Start Num: 86

Candidate Starts for AnClar\_6:

(Start: 81 @5244 has 8 MA's), (Start: 86 @5256 has 9 MA's), (96, 5274), (99, 5283), (102, 5295), (103, 5301), (130, 5412), (134, 5430), (141, 5451), (166, 5550),

Gene: AnarQue\_9 Start: 6416, Stop: 6754, Start Num: 81

Candidate Starts for AnarQue\_9:

(43, 6293), (49, 6311), (54, 6338), (59, 6359), (63, 6371), (69, 6392), (Start: 81 @6416 has 8 MA's), (91, 6434), (99, 6455), (102, 6467), (103, 6473), (109, 6500), (132, 6599), (141, 6626), (153, 6665), (166, 6725), (169, 6740),

Gene: Angelicage\_11 Start: 6771, Stop: 7079, Start Num: 84

Candidate Starts for Angelicage\_11:

(Start: 84 @6771 has 63 MA's), (Start: 88 @6780 has 55 MA's), (115, 6879), (130, 6936), (131, 6942), (136, 6960), (151, 7008),

Gene: Arri\_12 Start: 5316, Stop: 5630, Start Num: 88

Candidate Starts for Arri\_12:

(Start: 61 @5253 has 1 MA's), (Start: 88 @5316 has 55 MA's), (130, 5472), (131, 5478),

Gene: Artu\_67 Start: 27608, Stop: 27892, Start Num: 89

Candidate Starts for Artu\_67:

(41, 27464), (80, 27590), (Start: 85 @27602 has 8 MA's), (Start: 89 @27608 has 17 MA's), (164, 27887),

Gene: Ashertheman\_11 Start: 5950, Stop: 6258, Start Num: 84

Candidate Starts for Ashertheman\_11:

(25, 5698), (30, 5725), (Start: 84 @5950 has 63 MA's), (Start: 88 @5959 has 55 MA's), (115, 6058), (130, 6115), (131, 6121), (151, 6187),

Gene: Asis\_9 Start: 7730, Stop: 8080, Start Num: 88

Candidate Starts for Asis\_9:

(Start: 88 @7730 has 55 MA's), (106, 7790), (125, 7877), (134, 7925), (139, 7940),

Gene: Athena\_11 Start: 6712, Stop: 7047, Start Num: 78

Candidate Starts for Athena\_11:

(Start: 78 @6712 has 51 MA's), (99, 6754), (102, 6766), (105, 6781), (109, 6799), (126, 6856), (141, 6922), (159, 6979), (162, 6991), (167, 7027),

Gene: Atuin\_69 Start: 30721, Stop: 31002, Start Num: 89

Candidate Starts for Atuin\_69:

(Start: 89 @30721 has 17 MA's), (112, 30805),

Gene: Audrey\_10 Start: 5949, Stop: 6284, Start Num: 78

Candidate Starts for Audrey\_10:

(Start: 78 @5949 has 51 MA's), (99, 5991), (102, 6003), (105, 6018), (109, 6036), (126, 6093), (141, 6159), (147, 6180), (159, 6216), (162, 6228), (167, 6264),

Gene: Axumite\_7 Start: 4953, Stop: 5276, Start Num: 86

Candidate Starts for Axumite\_7:

(46, 4833), (Start: 81 @4941 has 8 MA's), (Start: 86 @4953 has 9 MA's), (91, 4959), (93, 4965), (94, 4968), (96, 4971), (102, 4992), (103, 4998), (109, 5025), (115, 5052), (119, 5058), (141, 5148), (166, 5247),

Gene: BabyDotz\_20 Start: 8186, Stop: 8524, Start Num: 75

Candidate Starts for BabyDotz\_20:

(26, 7955), (Start: 75 @8186 has 57 MA's), (Start: 78 @8195 has 51 MA's), (96, 8234), (99, 8243), (162, 8495), (164, 8504),

Gene: BabyGotBac\_9 Start: 7730, Stop: 8080, Start Num: 88

Candidate Starts for BabyGotBac\_9:

(Start: 88 @7730 has 55 MA's), (106, 7790), (125, 7877), (134, 7925), (139, 7940),

Gene: BaconCheese\_23 Start: 8883, Stop: 9227, Start Num: 75

Candidate Starts for BaconCheese\_23:

(Start: 75 @8883 has 57 MA's), (Start: 78 @8892 has 51 MA's), (99, 8940), (143, 9126), (162, 9192), (164, 9201),

Gene: Baddon\_11 Start: 6660, Stop: 6968, Start Num: 84

Candidate Starts for Baddon\_11:

(Start: 70 @6630 has 14 MA's), (Start: 84 @6660 has 63 MA's), (Start: 88 @6669 has 55 MA's), (101, 6705), (115, 6768), (130, 6825), (131, 6831), (151, 6897),

Gene: Bakery\_12 Start: 4954, Stop: 5331, Start Num: 61

Candidate Starts for Bakery\_12:

(27, 4762), (29, 4768), (37, 4834), (Start: 61 @4954 has 1 MA's), (Start: 88 @5017 has 55 MA's), (130, 5173), (131, 5179),

Gene: Baloo\_10 Start: 5949, Stop: 6284, Start Num: 78

Candidate Starts for Baloo\_10:

(Start: 78 @5949 has 51 MA's), (99, 5991), (102, 6003), (105, 6018), (109, 6036), (126, 6093), (141, 6159), (147, 6180), (159, 6216), (162, 6228), (167, 6264),

Gene: Barb\_11 Start: 5272, Stop: 5586, Start Num: 88

Candidate Starts for Barb\_11:

(Start: 61 @5209 has 1 MA's), (Start: 88 @5272 has 55 MA's), (130, 5428), (131, 5434),

Gene: Barsten\_12 Start: 6156, Stop: 6464, Start Num: 84

Candidate Starts for Barsten\_12:

(35, 5964), (Start: 84 @6156 has 63 MA's), (Start: 88 @6165 has 55 MA's), (100, 6195), (115, 6264), (130, 6321), (131, 6327), (136, 6345), (151, 6393),

Gene: Baumdotcom\_11 Start: 5973, Stop: 6281, Start Num: 84

Candidate Starts for Baumdotcom\_11:

(25, 5721), (30, 5748), (Start: 84 @5973 has 63 MA's), (Start: 88 @5982 has 55 MA's), (115, 6081), (130, 6138), (131, 6144), (151, 6210),

Gene: BayC\_9 Start: 7730, Stop: 8080, Start Num: 88

Candidate Starts for BayC\_9:

(Start: 88 @7730 has 55 MA's), (106, 7790), (125, 7877), (134, 7925), (139, 7940),

Gene: Beagle\_22 Start: 8934, Stop: 9242, Start Num: 76

Candidate Starts for Beagle\_22:

(Start: 75 @8931 has 57 MA's), (Start: 76 @8934 has 2 MA's), (96, 8964), (130, 9105), (154, 9186), (162, 9213),

Gene: Belphegor\_8 Start: 3927, Stop: 4235, Start Num: 84

Candidate Starts for Belphegor\_8:

(Start: 55 @3846 has 5 MA's), (Start: 84 @3927 has 63 MA's), (95, 3951), (101, 3972), (112, 4020), (115, 4035), (131, 4098), (138, 4122), (151, 4164), (152, 4167), (160, 4191),

Gene: Ben11\_9 Start: 5797, Stop: 6132, Start Num: 78

Candidate Starts for Ben11\_9:

(Start: 78 @5797 has 51 MA's), (99, 5839), (102, 5851), (105, 5866), (109, 5884), (126, 5941), (141, 6007), (147, 6028), (159, 6064), (162, 6076), (167, 6112),

Gene: Bernardo\_10 Start: 5977, Stop: 6312, Start Num: 78

Candidate Starts for Bernardo\_10:

(Start: 78 @5977 has 51 MA's), (99, 6019), (102, 6031), (105, 6046), (109, 6064), (126, 6121), (141, 6187), (147, 6208), (159, 6244), (162, 6256), (167, 6292),

Gene: BetaFish\_21 Start: 9134, Stop: 9445, Start Num: 75

Candidate Starts for BetaFish\_21:

(Start: 75 @9134 has 57 MA's), (Start: 76 @9137 has 2 MA's), (96, 9167), (130, 9308), (154, 9389), (162, 9416),

Gene: Bibwit\_11 Start: 7027, Stop: 7335, Start Num: 84

Candidate Starts for Bibwit\_11:

(Start: 84 @7027 has 63 MA's), (Start: 88 @7036 has 55 MA's), (100, 7066), (115, 7135), (130, 7192), (131, 7198), (136, 7216), (151, 7264),

Gene: Big4\_70 Start: 28857, Stop: 29132, Start Num: 92

Candidate Starts for Big4\_70:

(Start: 85 @28842 has 8 MA's), (Start: 92 @28857 has 2 MA's), (99, 28878), (130, 29007), (144, 29064), (146, 29067),

Gene: BigHunkinEater\_16 Start: 6556, Stop: 6873, Start Num: 84

Candidate Starts for BigHunkinEater\_16:

(Start: 84 @6556 has 63 MA's), (100, 6598), (115, 6667), (131, 6730), (151, 6796),

Gene: BirdInFrench\_20 Start: 7061, Stop: 7405, Start Num: 70

Candidate Starts for BirdInFrench\_20:

(38, 6932), (Start: 70 @7061 has 14 MA's), (99, 7118), (106, 7148), (127, 7226), (162, 7370), (164, 7379),

Gene: Bizzy\_12 Start: 6147, Stop: 6455, Start Num: 84

Candidate Starts for Bizzy\_12:

(25, 5895), (30, 5922), (Start: 84 @6147 has 63 MA's), (Start: 88 @6156 has 55 MA's), (115, 6255), (130, 6312), (131, 6318), (151, 6384),

Gene: Blab\_18 Start: 7511, Stop: 7855, Start Num: 75

Candidate Starts for Blab\_18:

(Start: 75 @7511 has 57 MA's), (Start: 78 @7520 has 51 MA's), (99, 7568), (143, 7754), (162, 7820), (164, 7829),

Gene: Blackpen\_9 Start: 5908, Stop: 6246, Start Num: 81

Candidate Starts for Blackpen\_9:

(43, 5785), (49, 5803), (54, 5830), (59, 5851), (63, 5863), (69, 5884), (Start: 81 @5908 has 8 MA's), (91, 5926), (99, 5947), (102, 5959), (103, 5965), (109, 5992), (132, 6091), (141, 6118), (153, 6157), (166, 6217), (169, 6232),

Gene: Bloom\_79 Start: 33362, Stop: 33646, Start Num: 89

Candidate Starts for Bloom\_79:

(39, 33203), (40, 33209), (44, 33221), (45, 33224), (48, 33236), (50, 33242), (51, 33245), (58, 33287), (Start: 86 @33356 has 9 MA's), (Start: 89 @33362 has 17 MA's), (95, 33380), (103, 33410), (106, 33422), (107, 33425), (125, 33491), (164, 33641),

Gene: BobBob\_9 Start: 5693, Stop: 6001, Start Num: 84

Candidate Starts for BobBob\_9:

(Start: 84 @5693 has 63 MA's), (Start: 88 @5702 has 55 MA's), (115, 5801), (130, 5858), (131, 5864), (136, 5882), (151, 5930),

Gene: Boise\_12 Start: 6049, Stop: 6360, Start Num: 75

Candidate Starts for Boise\_12:

(Start: 75 @6049 has 57 MA's), (112, 6148), (162, 6331),

Gene: BooTeria\_71 Start: 28063, Stop: 28347, Start Num: 89

Candidate Starts for BooTeria\_71:

(41, 27919), (80, 28045), (Start: 85 @28057 has 8 MA's), (Start: 89 @28063 has 17 MA's), (164, 28342),

Gene: Brandonk123\_14 Start: 6849, Stop: 7148, Start Num: 88

Candidate Starts for Brandonk123\_14:

(35, 6648), (Start: 84 @6840 has 63 MA's), (Start: 88 @6849 has 55 MA's), (100, 6879), (115, 6948), (130, 7005), (131, 7011), (136, 7029), (151, 7077),

Gene: Brawn1\_10 Start: 6532, Stop: 6831, Start Num: 88

Candidate Starts for Brawn1\_10:

(Start: 84 @6523 has 63 MA's), (Start: 88 @6532 has 55 MA's), (115, 6631), (130, 6688), (131, 6694), (136, 6712), (151, 6760),

Gene: Briakila\_10 Start: 6738, Stop: 7073, Start Num: 78

Candidate Starts for Briakila\_10:

(Start: 78 @6738 has 51 MA's), (99, 6780), (102, 6792), (105, 6807), (109, 6825), (126, 6882), (141, 6948), (147, 6969), (159, 7005), (162, 7017), (167, 7053),

Gene: BruhMoment\_17 Start: 8281, Stop: 8610, Start Num: 75

Candidate Starts for BruhMoment\_17:

(62, 8251), (Start: 75 @8281 has 57 MA's), (111, 8398), (113, 8407), (162, 8584),

Gene: CaiB\_9 Start: 6416, Stop: 6754, Start Num: 81

Candidate Starts for CaiB\_9:

(43, 6293), (49, 6311), (52, 6326), (54, 6338), (59, 6359), (63, 6371), (69, 6392), (Start: 81 @6416 has 8 MA's), (91, 6434), (99, 6455), (102, 6467), (103, 6473), (109, 6500), (132, 6599), (141, 6626), (153, 6665), (166, 6725), (169, 6740),

Gene: CandC\_19 Start: 6747, Stop: 7091, Start Num: 70

Candidate Starts for CandC\_19:

(14, 6162), (17, 6306), (38, 6618), (Start: 70 @6747 has 14 MA's), (90, 6777), (Start: 92 @6783 has 2 MA's), (99, 6804), (106, 6834), (127, 6912), (143, 6990), (162, 7056), (164, 7065),

Gene: Casbah\_9 Start: 5798, Stop: 6133, Start Num: 78

Candidate Starts for Casbah\_9:

(Start: 78 @5798 has 51 MA's), (99, 5840), (102, 5852), (105, 5867), (109, 5885), (126, 5942), (141, 6008), (147, 6029), (159, 6065), (162, 6077), (167, 6113),

Gene: Casend\_22 Start: 8510, Stop: 8848, Start Num: 75

Candidate Starts for Casend\_22:

(7, 7655), (12, 7904), (14, 7949), (26, 8279), (Start: 75 @8510 has 57 MA's), (Start: 78 @8519 has 51 MA's), (99, 8567), (162, 8819), (164, 8828),

Gene: Cece\_65 Start: 27218, Stop: 27502, Start Num: 89

Candidate Starts for Cece\_65:

(Start: 85 @27212 has 8 MA's), (Start: 89 @27218 has 17 MA's), (110, 27296), (144, 27434), (146, 27437), (150, 27449),

Gene: ChaChing\_10 Start: 5964, Stop: 6299, Start Num: 78

Candidate Starts for ChaChing\_10:

(Start: 78 @5964 has 51 MA's), (99, 6006), (102, 6018), (105, 6033), (109, 6051), (126, 6108), (141, 6174), (147, 6195), (159, 6231), (162, 6243), (167, 6279),

Gene: ChadMasterC\_11 Start: 6428, Stop: 6736, Start Num: 84

Candidate Starts for ChadMasterC\_11:

(35, 6236), (Start: 84 @6428 has 63 MA's), (Start: 88 @6437 has 55 MA's), (100, 6467), (115, 6536), (130, 6593), (131, 6599), (136, 6617), (151, 6665),

Gene: Chalmers\_10 Start: 6739, Stop: 7074, Start Num: 78

Candidate Starts for Chalmers\_10:

(Start: 78 @6739 has 51 MA's), (99, 6781), (102, 6793), (105, 6808), (109, 6826), (126, 6883), (141, 6949), (147, 6970), (159, 7006), (162, 7018), (167, 7054),

Gene: Chandler\_10 Start: 6712, Stop: 7047, Start Num: 78

Candidate Starts for Chandler\_10:

(Start: 78 @6712 has 51 MA's), (99, 6754), (102, 6766), (105, 6781), (109, 6799), (126, 6856), (141, 6922), (147, 6943), (159, 6979), (162, 6991), (167, 7027),

Gene: CharlottesWeb\_7 Start: 4948, Stop: 5283, Start Num: 81

Candidate Starts for CharlottesWeb\_7:

(Start: 81 @4948 has 8 MA's), (Start: 86 @4960 has 9 MA's), (91, 4966), (93, 4972), (96, 4978), (99, 4987), (101, 4996), (102, 4999), (103, 5005), (114, 5056), (119, 5065), (135, 5137), (166, 5254),

Gene: Charming\_9 Start: 5695, Stop: 6003, Start Num: 84

Candidate Starts for Charming\_9:

(Start: 70 @5665 has 14 MA's), (Start: 84 @5695 has 63 MA's), (Start: 88 @5704 has 55 MA's), (115, 5803), (130, 5860), (131, 5866), (136, 5884), (151, 5932),

Gene: Chentzyk\_9 Start: 5825, Stop: 6160, Start Num: 78

Candidate Starts for Chentzyk\_9:

(Start: 78 @5825 has 51 MA's), (99, 5867), (102, 5879), (105, 5894), (109, 5912), (126, 5969), (141, 6035), (147, 6056), (159, 6092), (162, 6104), (167, 6140),

Gene: CherryCola\_12 Start: 5508, Stop: 5822, Start Num: 88

Candidate Starts for CherryCola\_12:

(19, 5157), (Start: 61 @5445 has 1 MA's), (Start: 88 @5508 has 55 MA's), (130, 5664), (131, 5670),

Gene: Chickadee\_12 Start: 5433, Stop: 5771, Start Num: 84

Candidate Starts for Chickadee\_12:

(66, 5397), (Start: 84 @5433 has 63 MA's), (95, 5460), (97, 5466), (103, 5490), (122, 5568), (131, 5634), (151, 5700), (160, 5727),

Gene: Chilliams\_72 Start: 33749, Stop: 34030, Start Num: 89

Candidate Starts for Chilliams\_72:

(Start: 89 @33749 has 17 MA's), (107, 33812), (112, 33836), (135, 33926), (164, 34025),

Gene: ClamChowder\_11 Start: 5272, Stop: 5586, Start Num: 88

Candidate Starts for ClamChowder\_11:

(Start: 61 @5209 has 1 MA's), (Start: 88 @5272 has 55 MA's), (130, 5428), (131, 5434),

Gene: Clawz\_40 Start: 17751, Stop: 18077, Start Num: 85

Candidate Starts for Clawz\_40:

(67, 17715), (68, 17718), (Start: 85 @17751 has 8 MA's), (103, 17799), (129, 17910), (132, 17940), (158, 18030), (160, 18036),

Gene: CloverMinnie\_9 Start: 6416, Stop: 6754, Start Num: 81

Candidate Starts for CloverMinnie\_9:

(43, 6293), (49, 6311), (54, 6338), (59, 6359), (63, 6371), (69, 6392), (Start: 81 @6416 has 8 MA's), (91, 6434), (99, 6455), (102, 6467), (103, 6473), (109, 6500), (132, 6599), (141, 6626), (153, 6665), (166, 6725), (169, 6740),

Gene: Clown\_15 Start: 8549, Stop: 8863, Start Num: 88

Candidate Starts for Clown\_15:

(Start: 84 @8540 has 63 MA's), (Start: 88 @8549 has 55 MA's), (103, 8594), (130, 8705),

Gene: ColdSoup\_41 Start: 17853, Stop: 18179, Start Num: 85

Candidate Starts for ColdSoup\_41:

(Start: 85 @17853 has 8 MA's), (98, 17880), (103, 17901), (129, 18012), (140, 18066), (160, 18138), (162, 18147),

Gene: Coldpizza\_9 Start: 6855, Stop: 7208, Start Num: 77

Candidate Starts for Coldpizza\_9:

(Start: 77 @6855 has 1 MA's), (Start: 81 @6861 has 8 MA's), (94, 6888), (102, 6912), (114, 6969), (125, 6999), (136, 7053), (141, 7068), (166, 7167),

Gene: Compostia\_10 Start: 5957, Stop: 6292, Start Num: 78

Candidate Starts for Compostia\_10:

(Start: 78 @5957 has 51 MA's), (99, 5999), (102, 6011), (105, 6026), (109, 6044), (126, 6101), (141, 6167), (147, 6188), (159, 6224), (162, 6236), (167, 6272),

Gene: Corofin\_10 Start: 5974, Stop: 6309, Start Num: 78

Candidate Starts for Corofin\_10:

(Start: 78 @5974 has 51 MA's), (99, 6016), (102, 6028), (105, 6043), (109, 6061), (126, 6118), (141, 6184), (147, 6205), (159, 6241), (162, 6253), (167, 6289),

Gene: CoveyB\_11 Start: 5144, Stop: 5458, Start Num: 88

Candidate Starts for CoveyB\_11:

(Start: 61 @5081 has 1 MA's), (Start: 88 @5144 has 55 MA's), (130, 5300), (131, 5306),

Gene: Daisy\_10 Start: 5952, Stop: 6287, Start Num: 78

Candidate Starts for Daisy\_10:

(Start: 78 @5952 has 51 MA's), (99, 5994), (102, 6006), (105, 6021), (109, 6039), (126, 6096), (141, 6162), (147, 6183), (159, 6219), (162, 6231), (167, 6267),

Gene: Danyall\_11 Start: 5144, Stop: 5458, Start Num: 88

Candidate Starts for Danyall\_11:

(Start: 61 @5081 has 1 MA's), (Start: 88 @5144 has 55 MA's), (130, 5300), (131, 5306),

Gene: Deenasa\_10 Start: 6712, Stop: 7047, Start Num: 78

Candidate Starts for Deenasa\_10:

(Start: 78 @6712 has 51 MA's), (99, 6754), (102, 6766), (105, 6781), (109, 6799), (126, 6856), (141, 6922), (147, 6943), (159, 6979), (162, 6991), (167, 7027),

Gene: Delrey21\_13 Start: 6898, Stop: 7215, Start Num: 84

Candidate Starts for Delrey21\_13:

(Start: 84 @6898 has 63 MA's), (96, 6928), (115, 7009), (131, 7072), (136, 7090), (137, 7093), (138, 7096), (151, 7138),

Gene: Derg\_7 Start: 5277, Stop: 5585, Start Num: 84

Candidate Starts for Derg\_7:

(25, 5025), (30, 5052), (Start: 84 @5277 has 63 MA's), (Start: 88 @5286 has 55 MA's), (115, 5385), (130, 5442), (131, 5448), (151, 5514),

Gene: Devonte\_10 Start: 5949, Stop: 6284, Start Num: 78

Candidate Starts for Devonte\_10:

(Start: 78 @5949 has 51 MA's), (99, 5991), (102, 6003), (105, 6018), (109, 6036), (126, 6093), (141, 6159), (147, 6180), (159, 6216), (162, 6228), (167, 6264),

Gene: Dxdert\_13 Start: 5891, Stop: 6229, Start Num: 84

Candidate Starts for Dxdert\_13:

(66, 5855), (Start: 84 @5891 has 63 MA's), (95, 5918), (97, 5924), (103, 5948), (122, 6026), (131, 6092), (151, 6158), (160, 6185),

Gene: DoctorFroggo\_13 Start: 6898, Stop: 7215, Start Num: 84

Candidate Starts for DoctorFroggo\_13:

(Start: 84 @6898 has 63 MA's), (96, 6928), (115, 7009), (131, 7072), (136, 7090), (137, 7093), (138, 7096), (151, 7138),

Gene: Dodo\_83 Start: 29870, Stop: 30154, Start Num: 89

Candidate Starts for Dodo\_83:

(28, 29609), (65, 29813), (Start: 78 @29849 has 51 MA's), (Start: 89 @29870 has 17 MA's), (121, 29981), (144, 30086), (146, 30089),

Gene: DogYard\_21 Start: 9001, Stop: 9312, Start Num: 75

Candidate Starts for DogYard\_21:

(Start: 75 @9001 has 57 MA's), (Start: 76 @9004 has 2 MA's), (96, 9034), (130, 9175), (154, 9256), (162, 9283),

Gene: DonTron\_40 Start: 17923, Stop: 18249, Start Num: 85

Candidate Starts for DonTron\_40:

(Start: 85 @17923 has 8 MA's), (98, 17950), (103, 17971), (129, 18082), (140, 18136), (160, 18208), (162, 18217),

Gene: DonaldDuck\_20 Start: 7856, Stop: 8194, Start Num: 75

Candidate Starts for DonaldDuck\_20:

(7, 7001), (12, 7250), (14, 7295), (26, 7625), (Start: 75 @7856 has 57 MA's), (Start: 78 @7865 has 51 MA's), (99, 7913), (162, 8165), (164, 8174),

Gene: DunneganBoMo\_64 Start: 27488, Stop: 27772, Start Num: 89

Candidate Starts for DunneganBoMo\_64:

(41, 27344), (80, 27470), (Start: 85 @27482 has 8 MA's), (Start: 89 @27488 has 17 MA's), (164, 27767),

Gene: EMoore\_6 Start: 4085, Stop: 4393, Start Num: 84

Candidate Starts for EMoore\_6:

(Start: 55 @4004 has 5 MA's), (Start: 84 @4085 has 63 MA's), (95, 4109), (131, 4256), (138, 4280), (151, 4322), (152, 4325), (160, 4349),

Gene: EdmundFerry\_11 Start: 5448, Stop: 5786, Start Num: 84

Candidate Starts for EdmundFerry\_11:

(66, 5412), (Start: 84 @5448 has 63 MA's), (95, 5475), (97, 5481), (103, 5505), (122, 5583), (131, 5649), (151, 5715), (160, 5742),

Gene: Egi03\_11 Start: 5251, Stop: 5565, Start Num: 88

Candidate Starts for Egi03\_11:

(Start: 61 @5188 has 1 MA's), (Start: 88 @5251 has 55 MA's), (130, 5407), (131, 5413),

Gene: Ellewin\_63 Start: 27215, Stop: 27499, Start Num: 89

Candidate Starts for Ellewin\_63:

(41, 27071), (80, 27197), (Start: 85 @27209 has 8 MA's), (Start: 89 @27215 has 17 MA's), (164, 27494),

Gene: Emmetator\_67 Start: 28235, Stop: 28519, Start Num: 89

Candidate Starts for Emmetator\_67:

(41, 28091), (80, 28217), (Start: 85 @28229 has 8 MA's), (Start: 89 @28235 has 17 MA's), (164, 28514),

Gene: Erasmago\_74 Start: 28535, Stop: 28819, Start Num: 89

Candidate Starts for Erasmago\_74:

(Start: 85 @28529 has 8 MA's), (Start: 89 @28535 has 17 MA's), (Start: 92 @28544 has 2 MA's), (121, 28646), (130, 28694), (134, 28712), (144, 28751), (146, 28754), (161, 28799),

Gene: Evamon\_11 Start: 5125, Stop: 5439, Start Num: 88

Candidate Starts for Evamon\_11:

(Start: 61 @5062 has 1 MA's), (Start: 88 @5125 has 55 MA's), (130, 5281), (131, 5287),

Gene: EverythinBagel\_20 Start: 8257, Stop: 8601, Start Num: 75

Candidate Starts for EverythinBagel\_20:

(Start: 75 @8257 has 57 MA's), (Start: 78 @8266 has 51 MA's), (96, 8305), (99, 8314), (143, 8500), (162, 8566), (164, 8575),

Gene: FelixTres\_9 Start: 6416, Stop: 6754, Start Num: 81

Candidate Starts for FelixTres\_9:

(43, 6293), (49, 6311), (54, 6338), (59, 6359), (63, 6371), (69, 6392), (Start: 81 @6416 has 8 MA's), (91, 6434), (99, 6455), (102, 6467), (103, 6473), (109, 6500), (132, 6599), (141, 6626), (153, 6665), (166, 6725), (169, 6740),

Gene: Fireball\_12 Start: 5251, Stop: 5565, Start Num: 88

Candidate Starts for Fireball\_12:

(Start: 61 @5188 has 1 MA's), (Start: 88 @5251 has 55 MA's), (130, 5407), (131, 5413),

Gene: Fitzgerald\_10 Start: 6630, Stop: 6929, Start Num: 88

Candidate Starts for Fitzgerald\_10:

(Start: 84 @6621 has 63 MA's), (Start: 88 @6630 has 55 MA's), (115, 6729), (130, 6786), (131, 6792), (136, 6810), (151, 6858),

Gene: Fizzles\_21 Start: 7811, Stop: 8155, Start Num: 75

Candidate Starts for Fizzles\_21:

(Start: 75 @7811 has 57 MA's), (99, 7868), (143, 8054), (162, 8120), (164, 8129),

Gene: Flatwoods\_12 Start: 6151, Stop: 6459, Start Num: 84

Candidate Starts for Flatwoods\_12:

(20, 5824), (Start: 84 @6151 has 63 MA's), (Start: 88 @6160 has 55 MA's), (115, 6259), (130, 6316), (131, 6322), (151, 6388),

Gene: FloraSnap32\_74 Start: 31817, Stop: 32101, Start Num: 89

Candidate Starts for FloraSnap32\_74:

(39, 31658), (40, 31664), (44, 31676), (45, 31679), (48, 31691), (50, 31697), (51, 31700), (53, 31715), (58, 31742), (Start: 86 @31811 has 9 MA's), (Start: 89 @31817 has 17 MA's), (103, 31865), (105, 31874), (106, 31877), (107, 31880), (125, 31946), (164, 32096),

Gene: Forrestell\_18 Start: 7645, Stop: 7956, Start Num: 75

Candidate Starts for Forrestell\_18:

(Start: 75 @7645 has 57 MA's), (Start: 76 @7648 has 2 MA's), (96, 7678), (130, 7819), (154, 7900), (162, 7927),

Gene: Fosterous\_9 Start: 5693, Stop: 6001, Start Num: 84

Candidate Starts for Fosterous\_9:

(Start: 70 @5663 has 14 MA's), (Start: 84 @5693 has 63 MA's), (Start: 88 @5702 has 55 MA's), (115, 5801), (130, 5858), (131, 5864), (136, 5882), (151, 5930),

Gene: FrankDeliGuy\_18 Start: 7715, Stop: 8053, Start Num: 75

Candidate Starts for FrankDeliGuy\_18:

(7, 6860), (12, 7109), (26, 7484), (Start: 75 @7715 has 57 MA's), (Start: 78 @7724 has 51 MA's), (96, 7763), (99, 7772), (143, 7958), (162, 8024), (164, 8033),

Gene: Fransoyer\_22 Start: 8000, Stop: 8341, Start Num: 75

Candidate Starts for Fransoyer\_22:

(2, 6860), (3, 6881), (7, 7121), (12, 7370), (13, 7382), (38, 7868), (Start: 75 @8000 has 57 MA's), (99, 8057), (115, 8129), (143, 8243), (162, 8309), (163, 8312), (164, 8318),

Gene: Fregley\_21 Start: 7285, Stop: 7629, Start Num: 70

Candidate Starts for Fregley\_21:

(17, 6844), (38, 7156), (Start: 70 @7285 has 14 MA's), (90, 7315), (Start: 92 @7321 has 2 MA's), (99, 7342), (106, 7372), (127, 7450), (143, 7528), (162, 7594), (164, 7603),

Gene: Fresco\_7 Start: 4953, Stop: 5276, Start Num: 86

Candidate Starts for Fresco\_7:

(46, 4833), (Start: 81 @4941 has 8 MA's), (Start: 86 @4953 has 9 MA's), (91, 4959), (93, 4965), (94, 4968), (96, 4971), (102, 4992), (103, 4998), (109, 5025), (115, 5052), (119, 5058), (141, 5148), (166, 5247),

Gene: FrostedClock\_78 Start: 32850, Stop: 33134, Start Num: 89

Candidate Starts for FrostedClock\_78:

(39, 32691), (40, 32697), (44, 32709), (45, 32712), (48, 32724), (50, 32730), (51, 32733), (58, 32775), (Start: 86 @32844 has 9 MA's), (Start: 89 @32850 has 17 MA's), (95, 32868), (103, 32898), (106, 32910), (107, 32913), (125, 32979), (164, 33129),

Gene: FuegoCuervo\_15 Start: 6443, Stop: 6751, Start Num: 84

Candidate Starts for FuegoCuervo\_15:

(35, 6251), (Start: 84 @6443 has 63 MA's), (Start: 88 @6452 has 55 MA's), (115, 6551), (130, 6608), (131, 6614), (136, 6632), (151, 6680),

Gene: Fugax\_11 Start: 5272, Stop: 5586, Start Num: 88

Candidate Starts for Fugax\_11:

(Start: 61 @5209 has 1 MA's), (Start: 88 @5272 has 55 MA's), (130, 5428), (131, 5434),

Gene: GTE6\_13 Start: 5949, Stop: 6287, Start Num: 84

Candidate Starts for GTE6\_13:

(66, 5913), (Start: 84 @5949 has 63 MA's), (95, 5976), (97, 5982), (103, 6006), (122, 6084), (131, 6150), (151, 6216), (160, 6243),

Gene: Gadget\_11 Start: 5953, Stop: 6288, Start Num: 78

Candidate Starts for Gadget\_11:

(Start: 78 @5953 has 51 MA's), (99, 5995), (102, 6007), (105, 6022), (109, 6040), (126, 6097), (141, 6163), (147, 6184), (159, 6220), (162, 6232), (167, 6268),

Gene: Gaea\_11 Start: 5953, Stop: 6261, Start Num: 84

Candidate Starts for Gaea\_11:

(25, 5701), (30, 5728), (Start: 84 @5953 has 63 MA's), (Start: 88 @5962 has 55 MA's), (115, 6061), (130, 6118), (131, 6124), (151, 6190),

Gene: Galadriel\_13 Start: 6461, Stop: 6769, Start Num: 84

Candidate Starts for Galadriel\_13:

(Start: 70 @6431 has 14 MA's), (Start: 84 @6461 has 63 MA's), (Start: 88 @6470 has 55 MA's), (115, 6569), (130, 6626), (131, 6632), (136, 6650), (151, 6698),

Gene: Gazebo\_20 Start: 8077, Stop: 8421, Start Num: 75

Candidate Starts for Gazebo\_20:

(7, 7222), (12, 7471), (17, 7657), (26, 7846), (Start: 75 @8077 has 57 MA's), (Start: 78 @8086 has 51 MA's), (99, 8134), (143, 8320), (162, 8386), (164, 8395),

Gene: Geodirt\_11 Start: 6477, Stop: 6776, Start Num: 88

Candidate Starts for Geodirt\_11:

(35, 6276), (Start: 84 @6468 has 63 MA's), (Start: 88 @6477 has 55 MA's), (100, 6507), (115, 6576), (130, 6633), (131, 6639), (136, 6657), (151, 6705),

Gene: Gervas\_10 Start: 5944, Stop: 6279, Start Num: 78

Candidate Starts for Gervas\_10:

(Start: 78 @5944 has 51 MA's), (99, 5986), (102, 5998), (105, 6013), (109, 6031), (126, 6088), (141, 6154), (147, 6175), (159, 6211), (162, 6223), (167, 6259),

Gene: Gezellig\_11 Start: 5251, Stop: 5565, Start Num: 88

Candidate Starts for Gezellig\_11:

(Start: 61 @5188 has 1 MA's), (Start: 88 @5251 has 55 MA's), (130, 5407), (131, 5413),

Gene: GlenHope\_11 Start: 5963, Stop: 6298, Start Num: 78

Candidate Starts for GlenHope\_11:

(Start: 78 @5963 has 51 MA's), (99, 6005), (102, 6017), (105, 6032), (109, 6050), (126, 6107), (141, 6173), (147, 6194), (159, 6230), (162, 6242), (167, 6278),

Gene: Glubnar\_10 Start: 5953, Stop: 6288, Start Num: 78

Candidate Starts for Glubnar\_10:

(Start: 78 @5953 has 51 MA's), (99, 5995), (102, 6007), (105, 6022), (109, 6040), (126, 6097), (141, 6163), (159, 6220), (162, 6232), (167, 6268),

Gene: Godines\_11 Start: 7363, Stop: 7701, Start Num: 85

Candidate Starts for Godines\_11:

(42, 7225), (46, 7234), (56, 7282), (Start: 85 @7363 has 8 MA's), (Start: 92 @7378 has 2 MA's), (103, 7417), (109, 7444), (113, 7462), (115, 7471), (120, 7480), (124, 7495), (126, 7501), (153, 7606), (157, 7618), (167, 7672),

Gene: GoldenEssence\_61 Start: 27155, Stop: 27439, Start Num: 89

Candidate Starts for GoldenEssence\_61:

(39, 26996), (40, 27002), (44, 27014), (45, 27017), (48, 27029), (50, 27035), (51, 27038), (Start: 89 @27155 has 17 MA's), (103, 27203), (107, 27218), (125, 27284), (164, 27434),

Gene: Grassboy\_22 Start: 8532, Stop: 8870, Start Num: 75

Candidate Starts for Grassboy\_22:

(Start: 75 @8532 has 57 MA's), (Start: 78 @8541 has 51 MA's), (99, 8589), (162, 8841), (164, 8850),

Gene: Grumio\_40 Start: 17361, Stop: 17687, Start Num: 85

Candidate Starts for Grumio\_40:

(Start: 85 @17361 has 8 MA's), (98, 17388), (103, 17409), (129, 17520), (140, 17574), (160, 17646), (162, 17655),

Gene: Gustavo\_11 Start: 5950, Stop: 6258, Start Num: 84

Candidate Starts for Gustavo\_11:

(25, 5698), (30, 5725), (Start: 84 @5950 has 63 MA's), (Start: 88 @5959 has 55 MA's), (115, 6058), (130, 6115), (131, 6121), (151, 6187),

Gene: Halfpint\_9 Start: 5798, Stop: 6133, Start Num: 78

Candidate Starts for Halfpint\_9:

(Start: 78 @5798 has 51 MA's), (99, 5840), (102, 5852), (105, 5867), (109, 5885), (126, 5942), (141, 6008), (147, 6029), (159, 6065), (162, 6077), (167, 6113),

Gene: Halo3\_12 Start: 5583, Stop: 5888, Start Num: 88

Candidate Starts for Halo3\_12:

(19, 5232), (Start: 61 @5520 has 1 MA's), (Start: 88 @5583 has 55 MA's), (130, 5739), (131, 5745),

Gene: Hans\_14 Start: 6642, Stop: 6947, Start Num: 84

Candidate Starts for Hans\_14:

(Start: 55 @6561 has 5 MA's), (Start: 84 @6642 has 63 MA's), (95, 6663), (115, 6747), (131, 6810), (138, 6834), (151, 6876), (152, 6879), (160, 6903),

Gene: HarveySr\_10 Start: 5950, Stop: 6285, Start Num: 78

Candidate Starts for HarveySr\_10:

(Start: 78 @5950 has 51 MA's), (99, 5992), (102, 6004), (105, 6019), (109, 6037), (126, 6094), (141, 6160), (147, 6181), (159, 6217), (162, 6229), (167, 6265),

Gene: Heathcliff\_10 Start: 5944, Stop: 6279, Start Num: 78

Candidate Starts for Heathcliff\_10:

(Start: 78 @5944 has 51 MA's), (99, 5986), (102, 5998), (105, 6013), (109, 6031), (126, 6088), (141, 6154), (147, 6175), (159, 6211), (162, 6223), (167, 6259),

Gene: Hive\_20 Start: 9015, Stop: 9326, Start Num: 75

Candidate Starts for Hive\_20:

(Start: 75 @9015 has 57 MA's), (Start: 76 @9018 has 2 MA's), (96, 9048), (130, 9189), (154, 9270), (162, 9297),

Gene: Hyperion\_19 Start: 7780, Stop: 8124, Start Num: 75

Candidate Starts for Hyperion\_19:

(7, 6925), (12, 7174), (26, 7549), (Start: 75 @7780 has 57 MA's), (Start: 78 @7789 has 51 MA's), (99, 7837), (162, 8089), (164, 8098),

Gene: Inspectinfecti\_13 Start: 7159, Stop: 7464, Start Num: 84

Candidate Starts for Inspectinfecti\_13:

(24, 6883), (29, 6913), (Start: 55 @7078 has 5 MA's), (Start: 84 @7159 has 63 MA's), (95, 7180), (115, 7264), (131, 7327), (151, 7393), (152, 7396), (160, 7420),

Gene: JKSyngboy\_10 Start: 6461, Stop: 6769, Start Num: 84

Candidate Starts for JKSyngboy\_10:

(25, 6209), (30, 6236), (Start: 84 @6461 has 63 MA's), (Start: 88 @6470 has 55 MA's), (115, 6569), (130, 6626), (131, 6632), (151, 6698),

Gene: Jabberwocky\_10 Start: 6623, Stop: 6931, Start Num: 84

Candidate Starts for Jabberwocky\_10:

(Start: 84 @6623 has 63 MA's), (Start: 88 @6632 has 55 MA's), (115, 6731), (130, 6788), (131, 6794), (136, 6812), (151, 6860),

Gene: Jackstina\_9 Start: 5866, Stop: 6201, Start Num: 78

Candidate Starts for Jackstina\_9:

(Start: 78 @5866 has 51 MA's), (99, 5908), (102, 5920), (105, 5935), (109, 5953), (126, 6010), (141, 6076), (147, 6097), (159, 6133), (162, 6145), (167, 6181),

Gene: Jambalaya\_11 Start: 4956, Stop: 5270, Start Num: 88

Candidate Starts for Jambalaya\_11:

(Start: 88 @4956 has 55 MA's), (130, 5112), (131, 5118),

Gene: Jehoshaphat\_23 Start: 8775, Stop: 9113, Start Num: 75

Candidate Starts for Jehoshaphat\_23:

(7, 7920), (12, 8169), (14, 8214), (26, 8544), (Start: 75 @8775 has 57 MA's), (Start: 78 @8784 has 51 MA's), (99, 8832), (162, 9084), (164, 9093),

Gene: JellyBelly\_7 Start: 4960, Stop: 5283, Start Num: 86

Candidate Starts for JellyBelly\_7:

(Start: 81 @4948 has 8 MA's), (Start: 86 @4960 has 9 MA's), (91, 4966), (93, 4972), (96, 4978), (99, 4987), (101, 4996), (102, 4999), (103, 5005), (114, 5056), (119, 5065), (135, 5137), (166, 5254),

Gene: JohnPork\_11 Start: 5204, Stop: 5518, Start Num: 88

Candidate Starts for JohnPork\_11:

(Start: 88 @5204 has 55 MA's), (130, 5360), (131, 5366),

Gene: Jollymon\_40 Start: 17853, Stop: 18179, Start Num: 85

Candidate Starts for Jollymon\_40:

(Start: 85 @17853 has 8 MA's), (98, 17880), (103, 17901), (129, 18012), (140, 18066), (160, 18138), (162, 18147),

Gene: Judebell\_23 Start: 8316, Stop: 8654, Start Num: 75

Candidate Starts for Judebell\_23:

(26, 8085), (Start: 75 @8316 has 57 MA's), (Start: 78 @8325 has 51 MA's), (99, 8373), (162, 8625), (164, 8634),

Gene: KSunshine22\_69 Start: 28755, Stop: 29039, Start Num: 89

Candidate Starts for KSunshine22\_69:

(41, 28611), (80, 28737), (Start: 85 @28749 has 8 MA's), (Start: 89 @28755 has 17 MA's), (164, 29034),

Gene: Kamashten\_12 Start: 6782, Stop: 7090, Start Num: 84

Candidate Starts for Kamashten\_12:

(Start: 70 @6752 has 14 MA's), (Start: 84 @6782 has 63 MA's), (Start: 88 @6791 has 55 MA's), (115, 6890), (130, 6947), (131, 6953), (136, 6971), (151, 7019),

Gene: Kamiyu\_10 Start: 5944, Stop: 6279, Start Num: 78

Candidate Starts for Kamiyu\_10:

(Start: 78 @5944 has 51 MA's), (99, 5986), (102, 5998), (105, 6013), (109, 6031), (126, 6088), (141, 6154), (147, 6175), (159, 6211), (162, 6223), (167, 6259),

Gene: Keitabear\_12 Start: 7843, Stop: 8142, Start Num: 88

Candidate Starts for Keitabear\_12:

(Start: 84 @7834 has 63 MA's), (Start: 88 @7843 has 55 MA's), (115, 7942), (130, 7999), (131, 8005), (136, 8023), (151, 8071),

Gene: Kelcole\_19 Start: 7138, Stop: 7482, Start Num: 70

Candidate Starts for Kelcole\_19:

(14, 6553), (17, 6697), (38, 7009), (Start: 70 @7138 has 14 MA's), (90, 7168), (Start: 92 @7174 has 2 MA's), (99, 7195), (106, 7225), (127, 7303), (143, 7381), (162, 7447), (164, 7456),

Gene: Kewpiedoll\_12 Start: 6184, Stop: 6492, Start Num: 84

Candidate Starts for Kewpiedoll\_12:

(Start: 84 @6184 has 63 MA's), (Start: 88 @6193 has 55 MA's), (100, 6223), (115, 6292), (130, 6349), (131, 6355), (136, 6373), (151, 6421),

Gene: KillerQueen\_21 Start: 6954, Stop: 7298, Start Num: 70

Candidate Starts for KillerQueen\_21:

(14, 6369), (17, 6513), (38, 6825), (Start: 70 @6954 has 14 MA's), (90, 6984), (Start: 92 @6990 has 2 MA's), (99, 7011), (106, 7041), (127, 7119), (143, 7197), (162, 7263), (164, 7272),

Gene: KimmyK\_11 Start: 5272, Stop: 5586, Start Num: 88

Candidate Starts for KimmyK\_11:

(Start: 61 @5209 has 1 MA's), (Start: 88 @5272 has 55 MA's), (130, 5428), (131, 5434),

Gene: KingstonB\_38 Start: 17361, Stop: 17687, Start Num: 85

Candidate Starts for KingstonB\_38:

(Start: 85 @17361 has 8 MA's), (98, 17388), (103, 17409), (129, 17520), (140, 17574), (160, 17646), (162, 17655),

Gene: Kithara\_21 Start: 9380, Stop: 9730, Start Num: 70

Candidate Starts for Kithara\_21:

(Start: 70 @9380 has 14 MA's), (99, 9440), (105, 9467), (108, 9476), (113, 9503), (114, 9509), (133, 9587), (143, 9626), (163, 9695),

Gene: Kronus\_9 Start: 6559, Stop: 6894, Start Num: 78

Candidate Starts for Kronus\_9:

(Start: 78 @6559 has 51 MA's), (99, 6601), (102, 6613), (105, 6628), (109, 6646), (126, 6703), (141, 6769), (147, 6790), (159, 6826), (162, 6838), (167, 6874),

Gene: Kroos\_11 Start: 6114, Stop: 6422, Start Num: 84

Candidate Starts for Kroos\_11:

(25, 5862), (30, 5889), (Start: 84 @6114 has 63 MA's), (Start: 88 @6123 has 55 MA's), (115, 6222), (130, 6279), (131, 6285), (151, 6351),

Gene: Kubulix\_22 Start: 9130, Stop: 9441, Start Num: 75

Candidate Starts for Kubulix\_22:

(Start: 75 @9130 has 57 MA's), (Start: 76 @9133 has 2 MA's), (96, 9163), (130, 9304), (154, 9385), (162, 9412),

Gene: Kwekel\_12 Start: 5442, Stop: 5780, Start Num: 84

Candidate Starts for Kwekel\_12:

(60, 5388), (Start: 84 @5442 has 63 MA's), (96, 5472), (97, 5475), (115, 5553), (122, 5577), (151, 5709), (160, 5736),

Gene: Kwobi\_11 Start: 5953, Stop: 6261, Start Num: 84

Candidate Starts for Kwobi\_11:

(25, 5701), (30, 5728), (Start: 84 @5953 has 63 MA's), (Start: 88 @5962 has 55 MA's), (115, 6061), (130, 6118), (131, 6124), (151, 6190),

Gene: Kyva\_23 Start: 8567, Stop: 8905, Start Num: 75

Candidate Starts for Kyva\_23:

(Start: 75 @8567 has 57 MA's), (Start: 78 @8576 has 51 MA's), (99, 8624), (162, 8876), (164, 8885),

Gene: Laure\_77 Start: 33462, Stop: 33746, Start Num: 89

Candidate Starts for Laure\_77:

(64, 33405), (Start: 89 @33462 has 17 MA's), (100, 33495), (103, 33510), (107, 33525), (134, 33639),

Gene: Lennon\_12 Start: 7052, Stop: 7351, Start Num: 88

Candidate Starts for Lennon\_12:

(35, 6851), (Start: 84 @7043 has 63 MA's), (Start: 88 @7052 has 55 MA's), (115, 7151), (130, 7208), (131, 7214), (136, 7232), (151, 7280),

Gene: LeoJr\_74 Start: 30861, Stop: 31142, Start Num: 89

Candidate Starts for LeoJr\_74:

(Start: 89 @30861 has 17 MA's), (112, 30945), (138, 31050),

Gene: Leonard\_12 Start: 6673, Stop: 7059, Start Num: 55

Candidate Starts for Leonard\_12:

(24, 6478), (29, 6508), (Start: 55 @6673 has 5 MA's), (Start: 84 @6754 has 63 MA's), (95, 6775), (115, 6859), (131, 6922), (151, 6988), (152, 6991), (160, 7015),

Gene: LestyG\_10 Start: 5953, Stop: 6288, Start Num: 78

Candidate Starts for LestyG\_10:

(Start: 78 @5953 has 51 MA's), (99, 5995), (102, 6007), (105, 6022), (109, 6040), (126, 6097), (141, 6163), (159, 6220), (162, 6232), (167, 6268),

Gene: Ligma\_7 Start: 4953, Stop: 5276, Start Num: 86

Candidate Starts for Ligma\_7:

(46, 4833), (Start: 81 @4941 has 8 MA's), (Start: 86 @4953 has 9 MA's), (91, 4959), (93, 4965), (94, 4968), (96, 4971), (102, 4992), (103, 4998), (109, 5025), (115, 5052), (119, 5058), (141, 5148), (166, 5247),

Gene: LilHam\_9 Start: 5269, Stop: 5577, Start Num: 84

Candidate Starts for LilHam\_9:

(25, 5017), (30, 5044), (Start: 84 @5269 has 63 MA's), (Start: 88 @5278 has 55 MA's), (115, 5377), (130, 5434), (131, 5440), (151, 5506),

Gene: Lilbeanie\_12 Start: 4954, Stop: 5247, Start Num: 88

Candidate Starts for Lilbeanie\_12:

(Start: 88 @4954 has 55 MA's), (106, 5011), (115, 5053), (129, 5092),

Gene: LittleMunchkin\_8 Start: 6237, Stop: 6560, Start Num: 86

Candidate Starts for LittleMunchkin\_8:

(1, 4998), (5, 5172), (8, 5382), (10, 5499), (15, 5685), (16, 5730), (21, 5898), (23, 5946), (Start: 81 @6225 has 8 MA's), (Start: 86 @6237 has 9 MA's), (96, 6255), (102, 6276), (103, 6282), (109, 6309), (124, 6360), (130, 6393), (141, 6432), (153, 6471), (161, 6495), (166, 6531),

Gene: Llemily\_20 Start: 7551, Stop: 7889, Start Num: 75

Candidate Starts for Llemily\_20:

(7, 6696), (12, 6945), (26, 7320), (Start: 75 @7551 has 57 MA's), (Start: 78 @7560 has 51 MA's), (99, 7608), (162, 7860), (164, 7869),

Gene: Lonelysoil\_20 Start: 7796, Stop: 8134, Start Num: 75

Candidate Starts for Lonelysoil\_20:

(7, 6941), (12, 7190), (14, 7235), (26, 7565), (Start: 75 @7796 has 57 MA's), (Start: 78 @7805 has 51 MA's), (99, 7853), (162, 8105), (164, 8114),

Gene: Love\_13 Start: 6772, Stop: 7080, Start Num: 84

Candidate Starts for Love\_13:

(Start: 84 @6772 has 63 MA's), (Start: 88 @6781 has 55 MA's), (100, 6811), (115, 6880), (130, 6937), (131, 6943), (136, 6961), (147, 6997),

Gene: Maih\_9 Start: 7729, Stop: 8079, Start Num: 88

Candidate Starts for Maih\_9:

(Start: 88 @7729 has 55 MA's), (106, 7789), (125, 7876), (134, 7924), (139, 7939),

Gene: Makar\_41 Start: 17820, Stop: 18146, Start Num: 85

Candidate Starts for Makar\_41:

(67, 17784), (68, 17787), (Start: 85 @17820 has 8 MA's), (103, 17868), (129, 17979), (132, 18009), (158, 18099), (160, 18105),

Gene: MakoManhole\_9 Start: 6416, Stop: 6754, Start Num: 81

Candidate Starts for MakoManhole\_9:

(43, 6293), (49, 6311), (54, 6338), (59, 6359), (63, 6371), (69, 6392), (Start: 81 @6416 has 8 MA's), (91, 6434), (99, 6455), (102, 6467), (103, 6473), (109, 6500), (132, 6599), (141, 6626), (153, 6665), (166, 6725), (169, 6740),

Gene: Marcie\_25 Start: 7843, Stop: 8187, Start Num: 70

Candidate Starts for Marcie\_25:

(17, 7402), (38, 7714), (Start: 70 @7843 has 14 MA's), (99, 7900), (105, 7927), (106, 7930), (127, 8008), (143, 8086), (162, 8152), (164, 8161),

Gene: Mariokart\_7 Start: 4960, Stop: 5283, Start Num: 86

Candidate Starts for Mariokart\_7:

(Start: 81 @4948 has 8 MA's), (Start: 86 @4960 has 9 MA's), (91, 4966), (93, 4972), (96, 4978), (99, 4987), (101, 4996), (102, 4999), (103, 5005), (114, 5056), (119, 5065), (135, 5137), (166, 5254),

Gene: Marley1013\_10 Start: 6739, Stop: 7074, Start Num: 78

Candidate Starts for Marley1013\_10:

(Start: 78 @6739 has 51 MA's), (99, 6781), (102, 6793), (105, 6808), (109, 6826), (126, 6883), (141, 6949), (147, 6970), (159, 7006), (162, 7018), (167, 7054),

Gene: Marlia\_10 Start: 5944, Stop: 6279, Start Num: 78

Candidate Starts for Marlia\_10:

(Start: 78 @5944 has 51 MA's), (99, 5986), (102, 5998), (105, 6013), (109, 6031), (126, 6088), (141, 6154), (147, 6175), (159, 6211), (162, 6223), (167, 6259),

Gene: Mashley\_18 Start: 7591, Stop: 7935, Start Num: 75

Candidate Starts for Mashley\_18:

(7, 6736), (12, 6985), (26, 7360), (Start: 75 @7591 has 57 MA's), (Start: 78 @7600 has 51 MA's), (99, 7648), (162, 7900), (164, 7909),

Gene: McCrothy\_12 Start: 6647, Stop: 6946, Start Num: 88

Candidate Starts for McCrothy\_12:

(Start: 70 @6608 has 14 MA's), (Start: 84 @6638 has 63 MA's), (Start: 88 @6647 has 55 MA's), (115, 6746), (130, 6803), (131, 6809), (136, 6827), (151, 6875),

Gene: McKinley\_12 Start: 7140, Stop: 7439, Start Num: 88

Candidate Starts for McKinley\_12:

(Start: 84 @7131 has 63 MA's), (Start: 88 @7140 has 55 MA's), (100, 7170), (115, 7239), (130, 7296), (131, 7302), (136, 7320), (151, 7368),

Gene: MelBins\_12 Start: 6449, Stop: 6835, Start Num: 55

Candidate Starts for MelBins\_12:

(Start: 55 @6449 has 5 MA's), (Start: 84 @6530 has 63 MA's), (95, 6551), (115, 6635), (131, 6698), (138, 6722), (151, 6764), (152, 6767), (160, 6791),

Gene: MellowYellow\_18 Start: 7675, Stop: 7986, Start Num: 75

Candidate Starts for MellowYellow\_18:

(Start: 75 @7675 has 57 MA's), (Start: 76 @7678 has 2 MA's), (96, 7708), (130, 7849), (154, 7930), (162, 7957),

Gene: Mentos\_25 Start: 9130, Stop: 9468, Start Num: 75

Candidate Starts for Mentos\_25:

(Start: 75 @9130 has 57 MA's), (Start: 78 @9139 has 51 MA's), (99, 9187), (162, 9439), (164, 9448),

Gene: Mila11\_23 Start: 8666, Stop: 9010, Start Num: 75

Candidate Starts for Mila11\_23:

(Start: 75 @8666 has 57 MA's), (Start: 78 @8675 has 51 MA's), (99, 8723), (143, 8909), (162, 8975), (164, 8984),

Gene: Mimi\_75 Start: 32709, Stop: 32993, Start Num: 89

Candidate Starts for Mimi\_75:

(39, 32550), (40, 32556), (44, 32568), (45, 32571), (48, 32583), (50, 32589), (51, 32592), (58, 32634), (Start: 86 @32703 has 9 MA's), (Start: 89 @32709 has 17 MA's), (95, 32727), (103, 32757), (106, 32769), (107, 32772), (125, 32838), (164, 32988),

Gene: Mischief19\_10 Start: 9272, Stop: 9619, Start Num: 88

Candidate Starts for Mischief19\_10:

(Start: 88 @9272 has 55 MA's), (104, 9323), (112, 9359), (117, 9386), (128, 9440), (134, 9479), (152, 9536), (168, 9608),

Gene: MmasiCarm\_10 Start: 5949, Stop: 6284, Start Num: 78

Candidate Starts for MmasiCarm\_10:

(Start: 78 @5949 has 51 MA's), (99, 5991), (102, 6003), (105, 6018), (109, 6036), (126, 6093), (141, 6159), (147, 6180), (159, 6216), (162, 6228), (167, 6264),

Gene: MoontowerMania\_10 Start: 6171, Stop: 6479, Start Num: 84

Candidate Starts for MoontowerMania\_10:

(Start: 84 @6171 has 63 MA's), (Start: 88 @6180 has 55 MA's), (100, 6210), (115, 6279), (130, 6336), (131, 6342), (136, 6360), (147, 6396),

Gene: MorillMayhem\_20 Start: 7599, Stop: 7943, Start Num: 75

Candidate Starts for MorillMayhem\_20:

(Start: 75 @7599 has 57 MA's), (Start: 78 @7608 has 51 MA's), (99, 7656), (143, 7842), (162, 7908), (164, 7917),

Gene: Mortcellus\_9 Start: 6587, Stop: 6922, Start Num: 78

Candidate Starts for Mortcellus\_9:

(Start: 78 @6587 has 51 MA's), (99, 6629), (102, 6641), (105, 6656), (109, 6674), (126, 6731), (141, 6797), (147, 6818), (159, 6854), (162, 6866), (167, 6902),

Gene: Morty007\_10 Start: 6739, Stop: 7074, Start Num: 78

Candidate Starts for Morty007\_10:

(Start: 78 @6739 has 51 MA's), (99, 6781), (102, 6793), (105, 6808), (109, 6826), (126, 6883), (141, 6949), (147, 6970), (159, 7006), (162, 7018), (167, 7054),

Gene: MossRose\_9 Start: 6416, Stop: 6754, Start Num: 81

Candidate Starts for MossRose\_9:

(43, 6293), (49, 6311), (54, 6338), (59, 6359), (63, 6371), (69, 6392), (Start: 81 @6416 has 8 MA's), (91, 6434), (99, 6455), (102, 6467), (103, 6473), (109, 6500), (132, 6599), (141, 6626), (153, 6665), (165, 6707), (166, 6725), (169, 6740),

Gene: Mulaychimus\_10 Start: 5950, Stop: 6285, Start Num: 78

Candidate Starts for Mulaychimus\_10:

(Start: 78 @5950 has 51 MA's), (99, 5992), (102, 6004), (105, 6019), (109, 6037), (126, 6094), (141, 6160), (147, 6181), (159, 6217), (162, 6229), (167, 6265),

Gene: Mutzi\_11 Start: 5144, Stop: 5458, Start Num: 88

Candidate Starts for Mutzi\_11:

(Start: 61 @5081 has 1 MA's), (Start: 88 @5144 has 55 MA's), (130, 5300), (131, 5306),

Gene: Namago\_21 Start: 7611, Stop: 7955, Start Num: 75

Candidate Starts for Namago\_21:

(26, 7380), (Start: 75 @7611 has 57 MA's), (Start: 78 @7620 has 51 MA's), (99, 7668), (143, 7854), (162, 7920), (164, 7929),

Gene: Natkenzie\_13 Start: 6625, Stop: 6942, Start Num: 84

Candidate Starts for Natkenzie\_13:

(Start: 84 @6625 has 63 MA's), (100, 6667), (115, 6736), (131, 6799), (138, 6823), (151, 6865), (153, 6871),

Gene: Neos5\_10 Start: 6739, Stop: 7074, Start Num: 78

Candidate Starts for Neos5\_10:

(Start: 78 @6739 has 51 MA's), (99, 6781), (102, 6793), (105, 6808), (109, 6826), (126, 6883), (141, 6949), (147, 6970), (159, 7006), (162, 7018), (167, 7054),

Gene: Nike\_21 Start: 8517, Stop: 8861, Start Num: 75

Candidate Starts for Nike\_21:

(Start: 75 @8517 has 57 MA's), (Start: 78 @8526 has 51 MA's), (99, 8574), (143, 8760), (162, 8826), (164, 8835),

Gene: Nordenberg\_6 Start: 4315, Stop: 4623, Start Num: 84

Candidate Starts for Nordenberg\_6:

(Start: 70 @4285 has 14 MA's), (Start: 84 @4315 has 63 MA's), (Start: 88 @4324 has 55 MA's), (115, 4423), (130, 4480), (131, 4486), (136, 4504), (151, 4552),

Gene: Nozo\_10 Start: 6711, Stop: 7046, Start Num: 78

Candidate Starts for Nozo\_10:

(Start: 78 @6711 has 51 MA's), (99, 6753), (102, 6765), (105, 6780), (109, 6798), (126, 6855), (141, 6921), (147, 6942), (159, 6978), (162, 6990), (167, 7026),

Gene: Nubi\_11 Start: 5144, Stop: 5449, Start Num: 88

Candidate Starts for Nubi\_11:

(Start: 61 @5081 has 1 MA's), (Start: 88 @5144 has 55 MA's), (130, 5300), (131, 5306),

Gene: NyleyClemson\_17 Start: 7617, Stop: 7928, Start Num: 75

Candidate Starts for NyleyClemson\_17:

(Start: 75 @7617 has 57 MA's), (Start: 76 @7620 has 2 MA's), (96, 7650), (130, 7791), (154, 7872), (162, 7899),

Gene: Obutu\_10 Start: 5950, Stop: 6285, Start Num: 78

Candidate Starts for Obutu\_10:

(Start: 78 @5950 has 51 MA's), (99, 5992), (102, 6004), (105, 6019), (109, 6037), (126, 6094), (141, 6160), (147, 6181), (159, 6217), (162, 6229), (167, 6265),

Gene: Odyssey395\_23 Start: 9132, Stop: 9443, Start Num: 75

Candidate Starts for Odyssey395\_23:

(Start: 75 @9132 has 57 MA's), (Start: 76 @9135 has 2 MA's), (96, 9165), (130, 9306), (154, 9387), (162, 9414),

Gene: Olivio\_9 Start: 5798, Stop: 6133, Start Num: 78

Candidate Starts for Olivio\_9:

(Start: 78 @5798 has 51 MA's), (99, 5840), (102, 5852), (105, 5867), (109, 5885), (126, 5942), (141, 6008), (147, 6029), (159, 6065), (162, 6077), (167, 6113),

Gene: Ollypop\_19 Start: 8113, Stop: 8424, Start Num: 75

Candidate Starts for Ollypop\_19:

(Start: 75 @8113 has 57 MA's), (Start: 76 @8116 has 2 MA's), (123, 8239), (127, 8263), (130, 8287), (154, 8368), (162, 8395),

Gene: OneinaGillian\_20 Start: 6820, Stop: 7164, Start Num: 70

Candidate Starts for OneinaGillian\_20:

(38, 6691), (Start: 70 @6820 has 14 MA's), (90, 6850), (Start: 92 @6856 has 2 MA's), (99, 6877), (106, 6907), (127, 6985), (143, 7063), (162, 7129), (164, 7138),

Gene: OrangeOswald\_10 Start: 5949, Stop: 6284, Start Num: 78

Candidate Starts for OrangeOswald\_10:

(Start: 78 @5949 has 51 MA's), (99, 5991), (102, 6003), (105, 6018), (109, 6036), (126, 6093), (141, 6159), (147, 6180), (159, 6216), (162, 6228), (167, 6264),

Gene: Panchaali\_67 Start: 28341, Stop: 28625, Start Num: 89

Candidate Starts for Panchaali\_67:

(Start: 85 @28335 has 8 MA's), (Start: 89 @28341 has 17 MA's), (164, 28620),

Gene: Paries\_12 Start: 6433, Stop: 6771, Start Num: 70

Candidate Starts for Paries\_12:

(Start: 70 @6433 has 14 MA's), (Start: 84 @6463 has 63 MA's), (Start: 88 @6472 has 55 MA's), (115, 6571), (130, 6628), (131, 6634), (136, 6652), (151, 6700),

Gene: Patbob\_73 Start: 33002, Stop: 33286, Start Num: 89

Candidate Starts for Patbob\_73:

(39, 32843), (40, 32849), (44, 32861), (45, 32864), (48, 32876), (50, 32882), (51, 32885), (53, 32900), (58, 32927), (Start: 86 @32996 has 9 MA's), (Start: 89 @33002 has 17 MA's), (103, 33050), (105, 33059), (106, 33062), (107, 33065), (125, 33131), (164, 33281),

Gene: PauloDiaboli\_81 Start: 28905, Stop: 29189, Start Num: 89

Candidate Starts for PauloDiaboli\_81:

(28, 28644), (65, 28848), (Start: 78 @28884 has 51 MA's), (Start: 89 @28905 has 17 MA's), (121, 29016), (144, 29121), (146, 29124),

Gene: Pepe25\_19 Start: 7078, Stop: 7422, Start Num: 70

Candidate Starts for Pepe25\_19:

(4, 6037), (9, 6271), (14, 6493), (38, 6949), (Start: 70 @7078 has 14 MA's), (99, 7135), (106, 7165), (127, 7243), (162, 7387), (164, 7396),

Gene: Phabia\_21 Start: 7969, Stop: 8307, Start Num: 75

Candidate Starts for Phabia\_21:

(26, 7738), (Start: 75 @7969 has 57 MA's), (Start: 78 @7978 has 51 MA's), (99, 8026), (162, 8278), (164, 8287),

Gene: Phaedrus\_9 Start: 5866, Stop: 6201, Start Num: 78

Candidate Starts for Phaedrus\_9:

(Start: 78 @5866 has 51 MA's), (99, 5908), (102, 5920), (105, 5935), (109, 5953), (126, 6010), (141, 6076), (147, 6097), (159, 6133), (162, 6145), (167, 6181),

Gene: Phauci\_5 Start: 3202, Stop: 3588, Start Num: 55

Candidate Starts for Phauci\_5:

(Start: 55 @3202 has 5 MA's), (Start: 84 @3283 has 63 MA's), (95, 3304), (115, 3388), (131, 3451), (138, 3475), (151, 3517), (152, 3520), (160, 3544),

Gene: Phayeta\_10 Start: 5825, Stop: 6160, Start Num: 78

Candidate Starts for Phayeta\_10:

(Start: 78 @5825 has 51 MA's), (99, 5867), (102, 5879), (105, 5894), (109, 5912), (126, 5969), (141, 6035), (147, 6056), (159, 6092), (162, 6104), (167, 6140),

Gene: Philly\_9 Start: 5839, Stop: 6174, Start Num: 78

Candidate Starts for Philly\_9:

(Start: 78 @5839 has 51 MA's), (99, 5881), (102, 5893), (105, 5908), (109, 5926), (126, 5983), (141, 6049), (147, 6070), (159, 6106), (162, 6118), (167, 6154),

Gene: Phinally\_12 Start: 6670, Stop: 7056, Start Num: 55

Candidate Starts for Phinally\_12:

(24, 6475), (29, 6505), (Start: 55 @6670 has 5 MA's), (Start: 84 @6751 has 63 MA's), (95, 6772), (115, 6856), (131, 6919), (151, 6985), (152, 6988), (160, 7012),

Gene: Phinky\_27 Start: 8832, Stop: 9176, Start Num: 73

Candidate Starts for Phinky\_27:

(Start: 73 @8832 has 1 MA's), (105, 8916), (107, 8922), (143, 9075), (162, 9141), (164, 9150),

Gene: Phlop\_11 Start: 5251, Stop: 5565, Start Num: 88

Candidate Starts for Phlop\_11:

(Start: 61 @5188 has 1 MA's), (Start: 88 @5251 has 55 MA's), (130, 5407), (131, 5413),

Gene: Phlyer\_10 Start: 6706, Stop: 7041, Start Num: 78  
Candidate Starts for Phlyer\_10:  
(Start: 78 @6706 has 51 MA's), (99, 6748), (102, 6760), (105, 6775), (109, 6793), (126, 6850), (141, 6916), (147, 6937), (159, 6973), (162, 6985), (167, 7021),

Gene: Phrampa\_67 Start: 30028, Stop: 30312, Start Num: 89  
Candidate Starts for Phrampa\_67:  
(Start: 89 @30028 has 17 MA's), (103, 30076), (107, 30091), (125, 30157),

Gene: PhuzzTulsa\_19 Start: 8919, Stop: 9230, Start Num: 75  
Candidate Starts for PhuzzTulsa\_19:  
(Start: 75 @8919 has 57 MA's), (Start: 76 @8922 has 2 MA's), (96, 8952), (130, 9093), (154, 9174), (162, 9201),

Gene: Pine5\_09 Start: 5622, Stop: 5945, Start Num: 81  
Candidate Starts for Pine5\_09:  
(36, 5445), (Start: 81 @5622 has 8 MA's), (130, 5793), (149, 5859), (153, 5871), (156, 5880), (160, 5892),

Gene: PinkCoffee\_11 Start: 5281, Stop: 5595, Start Num: 88  
Candidate Starts for PinkCoffee\_11:  
(Start: 61 @5218 has 1 MA's), (Start: 88 @5281 has 55 MA's), (130, 5437), (131, 5443),

Gene: Pipefish\_10 Start: 6844, Stop: 7179, Start Num: 78  
Candidate Starts for Pipefish\_10:  
(Start: 78 @6844 has 51 MA's), (99, 6886), (102, 6898), (105, 6913), (109, 6931), (126, 6988), (141, 7054), (147, 7075), (159, 7111), (162, 7123), (167, 7159),

Gene: Pointis\_21 Start: 9130, Stop: 9441, Start Num: 75  
Candidate Starts for Pointis\_21:  
(Start: 75 @9130 has 57 MA's), (Start: 76 @9133 has 2 MA's), (96, 9163), (130, 9304), (154, 9385), (162, 9412),

Gene: Popstraw\_20 Start: 8919, Stop: 9230, Start Num: 75  
Candidate Starts for Popstraw\_20:  
(Start: 75 @8919 has 57 MA's), (Start: 76 @8922 has 2 MA's), (96, 8952), (130, 9093), (154, 9174), (162, 9201),

Gene: Portcullis\_11 Start: 5204, Stop: 5518, Start Num: 88  
Candidate Starts for Portcullis\_11:  
(Start: 88 @5204 has 55 MA's), (130, 5360), (131, 5366),

Gene: PullumCavea\_11 Start: 5251, Stop: 5565, Start Num: 88  
Candidate Starts for PullumCavea\_11:  
(Start: 61 @5188 has 1 MA's), (Start: 88 @5251 has 55 MA's), (130, 5407), (131, 5413),

Gene: Pumpernickel\_79 Start: 31092, Stop: 31376, Start Num: 89  
Candidate Starts for Pumpernickel\_79:  
(53, 30990), (74, 31059), (Start: 89 @31092 has 17 MA's), (114, 31191), (125, 31221), (130, 31251), (138, 31284), (144, 31308), (146, 31311), (154, 31335),

Gene: Pumpkiney\_14 Start: 5859, Stop: 6176, Start Num: 84

Candidate Starts for Pumpkiney\_14:

(Start: 84 @5859 has 63 MA's), (115, 5970), (131, 6033), (138, 6057), (151, 6099),

Gene: Pureglobe5\_23 Start: 9146, Stop: 9457, Start Num: 75

Candidate Starts for Pureglobe5\_23:

(Start: 75 @9146 has 57 MA's), (Start: 76 @9149 has 2 MA's), (96, 9179), (130, 9320), (154, 9401), (162, 9428),

Gene: Purplicious\_38 Start: 17102, Stop: 17428, Start Num: 85

Candidate Starts for Purplicious\_38:

(Start: 85 @17102 has 8 MA's), (98, 17129), (103, 17150), (129, 17261), (140, 17315), (160, 17387), (162, 17396),

Gene: Quammi\_19 Start: 7540, Stop: 7878, Start Num: 75

Candidate Starts for Quammi\_19:

(Start: 75 @7540 has 57 MA's), (Start: 78 @7549 has 51 MA's), (99, 7597), (162, 7849), (164, 7858),

Gene: RIPWilbur\_19 Start: 8282, Stop: 8593, Start Num: 75

Candidate Starts for RIPWilbur\_19:

(Start: 75 @8282 has 57 MA's), (Start: 76 @8285 has 2 MA's), (96, 8315), (130, 8456), (154, 8537), (162, 8564),

Gene: Racecar\_76 Start: 33362, Stop: 33646, Start Num: 89

Candidate Starts for Racecar\_76:

(39, 33203), (40, 33209), (44, 33221), (45, 33224), (48, 33236), (50, 33242), (51, 33245), (58, 33287), (Start: 86 @33356 has 9 MA's), (Start: 89 @33362 has 17 MA's), (95, 33380), (103, 33410), (106, 33422), (107, 33425), (125, 33491), (164, 33641),

Gene: RagingRooster\_10 Start: 5950, Stop: 6285, Start Num: 78

Candidate Starts for RagingRooster\_10:

(Start: 78 @5950 has 51 MA's), (99, 5992), (102, 6004), (105, 6019), (109, 6037), (126, 6094), (141, 6160), (147, 6181), (159, 6217), (162, 6229), (167, 6265),

Gene: RainyPolka\_9 Start: 7682, Stop: 8032, Start Num: 88

Candidate Starts for RainyPolka\_9:

(Start: 88 @7682 has 55 MA's), (106, 7742), (116, 7787), (134, 7877), (139, 7892),

Gene: Ranunculus\_16 Start: 8071, Stop: 8382, Start Num: 75

Candidate Starts for Ranunculus\_16:

(Start: 75 @8071 has 57 MA's), (Start: 76 @8074 has 2 MA's), (112, 8170), (113, 8176), (114, 8182), (130, 8245), (145, 8302), (162, 8353),

Gene: RazzB\_17 Start: 7445, Stop: 7756, Start Num: 75

Candidate Starts for RazzB\_17:

(Start: 75 @7445 has 57 MA's), (Start: 76 @7448 has 2 MA's), (96, 7478), (130, 7619), (154, 7700), (162, 7727),

Gene: ReginaGlobina\_74 Start: 31418, Stop: 31699, Start Num: 89

Candidate Starts for ReginaGlobina\_74:

(Start: 89 @31418 has 17 MA's), (112, 31502), (138, 31607), (152, 31652),

Gene: Ribeye\_12 Start: 6157, Stop: 6456, Start Num: 88

Candidate Starts for Ribeye\_12:

(25, 5896), (30, 5923), (Start: 84 @6148 has 63 MA's), (Start: 88 @6157 has 55 MA's), (115, 6256), (130, 6313), (131, 6319), (151, 6385),

Gene: Rita1961\_10 Start: 5950, Stop: 6285, Start Num: 78

Candidate Starts for Rita1961\_10:

(Start: 78 @5950 has 51 MA's), (99, 5992), (102, 6004), (105, 6019), (109, 6037), (126, 6094), (141, 6160), (147, 6181), (159, 6217), (162, 6229), (167, 6265),

Gene: RiverRaider\_12 Start: 5677, Stop: 6012, Start Num: 71

Candidate Starts for RiverRaider\_12:

(57, 5644), (Start: 71 @5677 has 1 MA's), (Start: 75 @5683 has 57 MA's), (Start: 84 @5704 has 63 MA's), (96, 5731), (115, 5812), (130, 5869), (131, 5875), (132, 5881), (151, 5941), (152, 5944),

Gene: Rizwana\_15 Start: 8050, Stop: 8361, Start Num: 75

Candidate Starts for Rizwana\_15:

(Start: 75 @8050 has 57 MA's), (Start: 76 @8053 has 2 MA's), (113, 8155), (130, 8224), (162, 8332),

Gene: RoadKill\_10 Start: 4904, Stop: 5242, Start Num: 84

Candidate Starts for RoadKill\_10:

(66, 4868), (Start: 84 @4904 has 63 MA's), (95, 4931), (97, 4937), (103, 4961), (122, 5039), (131, 5105), (151, 5171), (160, 5198),

Gene: RobinRose\_21 Start: 6973, Stop: 7317, Start Num: 70

Candidate Starts for RobinRose\_21:

(14, 6388), (17, 6532), (38, 6844), (Start: 70 @6973 has 14 MA's), (90, 7003), (Start: 92 @7009 has 2 MA's), (99, 7030), (106, 7060), (127, 7138), (143, 7216), (162, 7282), (164, 7291),

Gene: Rockabye\_77 Start: 34104, Stop: 34385, Start Num: 89

Candidate Starts for Rockabye\_77:

(Start: 89 @34104 has 17 MA's), (103, 34152), (106, 34164), (107, 34167), (112, 34191), (148, 34326), (164, 34380),

Gene: Rofo\_11 Start: 6703, Stop: 7011, Start Num: 84

Candidate Starts for Rofo\_11:

(Start: 84 @6703 has 63 MA's), (Start: 88 @6712 has 55 MA's), (115, 6811), (130, 6868), (131, 6874), (136, 6892),

Gene: RogerDodger\_12 Start: 5508, Stop: 5822, Start Num: 88

Candidate Starts for RogerDodger\_12:

(19, 5157), (Start: 61 @5445 has 1 MA's), (Start: 88 @5508 has 55 MA's), (130, 5664), (131, 5670),

Gene: RomaT\_10 Start: 6712, Stop: 7047, Start Num: 78

Candidate Starts for RomaT\_10:

(Start: 78 @6712 has 51 MA's), (99, 6754), (102, 6766), (105, 6781), (109, 6799), (126, 6856), (141, 6922), (147, 6943), (159, 6979), (162, 6991), (167, 7027),

Gene: RomansRevenge\_12 Start: 6049, Stop: 6360, Start Num: 75

Candidate Starts for RomansRevenge\_12:

(Start: 75 @6049 has 57 MA's), (112, 6148), (162, 6331),

Gene: Romm\_21 Start: 6973, Stop: 7317, Start Num: 70

Candidate Starts for Romm\_21:

(14, 6388), (17, 6532), (38, 6844), (Start: 70 @6973 has 14 MA's), (90, 7003), (Start: 92 @7009 has 2 MA's), (99, 7030), (106, 7060), (127, 7138), (143, 7216), (162, 7282), (164, 7291),

Gene: Rowlf\_17 Start: 7306, Stop: 7644, Start Num: 75

Candidate Starts for Rowlf\_17:

(Start: 75 @7306 has 57 MA's), (Start: 78 @7315 has 51 MA's), (96, 7354), (99, 7363), (143, 7549), (162, 7615), (164, 7624),

Gene: RubyRalph\_22 Start: 7934, Stop: 8275, Start Num: 75

Candidate Starts for RubyRalph\_22:

(2, 6794), (7, 7055), (12, 7304), (13, 7316), (38, 7802), (Start: 75 @7934 has 57 MA's), (99, 7991), (115, 8063), (143, 8177), (162, 8243), (163, 8246), (164, 8252),

Gene: Rudy\_19 Start: 7540, Stop: 7878, Start Num: 75

Candidate Starts for Rudy\_19:

(Start: 75 @7540 has 57 MA's), (Start: 78 @7549 has 51 MA's), (99, 7597), (162, 7849), (164, 7858),

Gene: SJReid\_78 Start: 34582, Stop: 34863, Start Num: 89

Candidate Starts for SJReid\_78:

(Start: 89 @34582 has 17 MA's), (129, 34720), (132, 34750), (134, 34756),

Gene: SadLad\_23 Start: 8391, Stop: 8732, Start Num: 75

Candidate Starts for SadLad\_23:

(12, 7761), (13, 7773), (38, 8259), (Start: 75 @8391 has 57 MA's), (99, 8448), (115, 8520), (143, 8634), (162, 8700), (163, 8703), (164, 8709),

Gene: Salete\_9 Start: 7730, Stop: 8080, Start Num: 88

Candidate Starts for Salete\_9:

(Start: 88 @7730 has 55 MA's), (106, 7790), (125, 7877), (134, 7925), (139, 7940),

Gene: SallyK\_22 Start: 8701, Stop: 9039, Start Num: 75

Candidate Starts for SallyK\_22:

(7, 7846), (12, 8095), (26, 8470), (Start: 75 @8701 has 57 MA's), (Start: 78 @8710 has 51 MA's), (99, 8758), (162, 9010), (164, 9019),

Gene: Salvador\_11 Start: 5123, Stop: 5437, Start Num: 88

Candidate Starts for Salvador\_11:

(Start: 61 @5060 has 1 MA's), (Start: 88 @5123 has 55 MA's), (130, 5279), (131, 5285),

Gene: Sampson\_13 Start: 6570, Stop: 6887, Start Num: 84

Candidate Starts for Sampson\_13:

(Start: 84 @6570 has 63 MA's), (100, 6612), (115, 6681), (131, 6744), (138, 6768), (151, 6810), (153, 6816),

Gene: Sanjuju\_10 Start: 6661, Stop: 6969, Start Num: 84

Candidate Starts for Sanjuju\_10:

(Start: 84 @6661 has 63 MA's), (Start: 88 @6670 has 55 MA's), (115, 6769), (130, 6826), (131, 6832), (136, 6850), (151, 6898),

Gene: Saronaya\_11 Start: 5950, Stop: 6258, Start Num: 84

Candidate Starts for Saronaya\_11:

(25, 5698), (30, 5725), (Start: 84 @5950 has 63 MA's), (Start: 88 @5959 has 55 MA's), (115, 6058), (130, 6115), (131, 6121), (151, 6187),

Gene: Savbucketdawg\_11 Start: 4956, Stop: 5270, Start Num: 88

Candidate Starts for Savbucketdawg\_11:

(Start: 88 @4956 has 55 MA's), (130, 5112), (131, 5118),

Gene: SchottB\_10 Start: 6126, Stop: 6434, Start Num: 84

Candidate Starts for SchottB\_10:

(22, 5841), (29, 5895), (31, 5907), (34, 5946), (47, 6024), (Start: 70 @6096 has 14 MA's), (Start: 84 @6126 has 63 MA's), (Start: 88 @6135 has 55 MA's), (130, 6291), (131, 6297), (151, 6363),

Gene: Scioto\_13 Start: 6625, Stop: 6942, Start Num: 84

Candidate Starts for Scioto\_13:

(Start: 84 @6625 has 63 MA's), (100, 6667), (115, 6736), (131, 6799), (138, 6823), (151, 6865), (153, 6871),

Gene: Sedona\_12 Start: 7669, Stop: 7977, Start Num: 84

Candidate Starts for Sedona\_12:

(Start: 84 @7669 has 63 MA's), (Start: 88 @7678 has 55 MA's), (100, 7708), (115, 7777), (130, 7834), (131, 7840), (136, 7858), (151, 7906),

Gene: Sendy\_11 Start: 5251, Stop: 5565, Start Num: 88

Candidate Starts for Sendy\_11:

(Start: 61 @5188 has 1 MA's), (Start: 88 @5251 has 55 MA's), (130, 5407), (131, 5413),

Gene: SharkTale\_11 Start: 5865, Stop: 6179, Start Num: 88

Candidate Starts for SharkTale\_11:

(27, 5610), (29, 5616), (37, 5682), (Start: 61 @5802 has 1 MA's), (Start: 88 @5865 has 55 MA's), (130, 6021), (131, 6027),

Gene: Shatter\_7 Start: 4953, Stop: 5276, Start Num: 86

Candidate Starts for Shatter\_7:

(46, 4833), (Start: 81 @4941 has 8 MA's), (Start: 86 @4953 has 9 MA's), (91, 4959), (93, 4965), (94, 4968), (96, 4971), (102, 4992), (103, 4998), (109, 5025), (115, 5052), (119, 5058), (141, 5148), (166, 5247),

Gene: Shenandoah\_10 Start: 5949, Stop: 6284, Start Num: 78

Candidate Starts for Shenandoah\_10:

(Start: 78 @5949 has 51 MA's), (99, 5991), (102, 6003), (105, 6018), (109, 6036), (126, 6093), (141, 6159), (147, 6180), (159, 6216), (162, 6228), (167, 6264),

Gene: Shinji\_11 Start: 5145, Stop: 5459, Start Num: 88

Candidate Starts for Shinji\_11:

(Start: 88 @5145 has 55 MA's), (130, 5301), (131, 5307),

Gene: Shivanishola\_11 Start: 6886, Stop: 7185, Start Num: 88

Candidate Starts for Shivanishola\_11:

(Start: 84 @6877 has 63 MA's), (Start: 88 @6886 has 55 MA's), (100, 6916), (115, 6985), (130, 7042), (131, 7048), (136, 7066), (151, 7114),

Gene: SilentRX\_17 Start: 8205, Stop: 8516, Start Num: 76

Candidate Starts for SilentRX\_17:

(48, 8109), (Start: 75 @8202 has 57 MA's), (Start: 76 @8205 has 2 MA's), (Start: 82 @8217 has 1 MA's), (Start: 92 @8223 has 2 MA's), (155, 8460), (162, 8484),

Gene: Sillytadpoles\_20 Start: 7538, Stop: 7876, Start Num: 75

Candidate Starts for Sillytadpoles\_20:

(Start: 75 @7538 has 57 MA's), (Start: 78 @7547 has 51 MA's), (99, 7595), (162, 7847), (164, 7856),

Gene: Sisko\_6 Start: 4758, Stop: 5081, Start Num: 86

Candidate Starts for Sisko\_6:

(Start: 81 @4746 has 8 MA's), (Start: 86 @4758 has 9 MA's), (96, 4776), (99, 4785), (102, 4797), (103, 4803), (130, 4914), (134, 4932), (141, 4953), (166, 5052),

Gene: Sitar\_12 Start: 7043, Stop: 7351, Start Num: 84

Candidate Starts for Sitar\_12:

(35, 6851), (Start: 84 @7043 has 63 MA's), (Start: 88 @7052 has 55 MA's), (115, 7151), (130, 7208), (131, 7214), (136, 7232), (151, 7280),

Gene: Sixsevenium\_12 Start: 5017, Stop: 5331, Start Num: 88

Candidate Starts for Sixsevenium\_12:

(27, 4762), (29, 4768), (37, 4834), (Start: 61 @4954 has 1 MA's), (Start: 88 @5017 has 55 MA's), (130, 5173), (131, 5179),

Gene: SlippinJimmy\_10 Start: 6711, Stop: 7046, Start Num: 78

Candidate Starts for SlippinJimmy\_10:

(Start: 78 @6711 has 51 MA's), (99, 6753), (102, 6765), (105, 6780), (109, 6798), (126, 6855), (141, 6921), (147, 6942), (159, 6978), (162, 6990), (167, 7026),

Gene: SlySloth\_23 Start: 8492, Stop: 8830, Start Num: 75

Candidate Starts for SlySloth\_23:

(7, 7637), (12, 7886), (26, 8261), (Start: 75 @8492 has 57 MA's), (Start: 78 @8501 has 51 MA's), (99, 8549), (143, 8735), (162, 8801), (164, 8810),

Gene: SmokingBunny\_11 Start: 5123, Stop: 5437, Start Num: 88

Candidate Starts for SmokingBunny\_11:

(Start: 61 @5060 has 1 MA's), (Start: 88 @5123 has 55 MA's), (130, 5279), (131, 5285),

Gene: Soos\_36 Start: 17090, Stop: 17416, Start Num: 85

Candidate Starts for Soos\_36:

(Start: 85 @17090 has 8 MA's), (98, 17117), (103, 17138), (129, 17249), (140, 17303), (160, 17375), (162, 17384),

Gene: Sour\_10 Start: 6612, Stop: 6938, Start Num: 86

Candidate Starts for Sour\_10:

(Start: 81 @6600 has 8 MA's), (Start: 86 @6612 has 9 MA's), (93, 6624), (96, 6630), (101, 6648), (102, 6651), (103, 6657), (104, 6660), (109, 6684), (115, 6711), (119, 6717), (132, 6780), (150, 6837), (166, 6906),

Gene: Squash\_23 Start: 8572, Stop: 8916, Start Num: 75

Candidate Starts for Squash\_23:

(Start: 75 @8572 has 57 MA's), (Start: 78 @8581 has 51 MA's), (99, 8629), (143, 8815), (162, 8881), (164, 8890),

Gene: Statler\_21 Start: 8077, Stop: 8421, Start Num: 75

Candidate Starts for Statler\_21:

(26, 7846), (Start: 75 @8077 has 57 MA's), (Start: 78 @8086 has 51 MA's), (99, 8134), (143, 8320), (162, 8386), (164, 8395),

Gene: Stewart25555\_65 Start: 27748, Stop: 28032, Start Num: 89

Candidate Starts for Stewart25555\_65:

(Start: 85 @27742 has 8 MA's), (Start: 89 @27748 has 17 MA's), (164, 28027),

Gene: Stichling\_11 Start: 5346, Stop: 5645, Start Num: 88

Candidate Starts for Stichling\_11:

(25, 5085), (30, 5112), (Start: 84 @5337 has 63 MA's), (Start: 88 @5346 has 55 MA's), (115, 5445), (130, 5502), (131, 5508), (151, 5574),

Gene: Stillion\_40 Start: 17675, Stop: 18001, Start Num: 85

Candidate Starts for Stillion\_40:

(Start: 85 @17675 has 8 MA's), (98, 17702), (103, 17723), (129, 17834), (140, 17888), (160, 17960), (162, 17969),

Gene: Sting\_39 Start: 17529, Stop: 17855, Start Num: 85

Candidate Starts for Sting\_39:

(Start: 85 @17529 has 8 MA's), (98, 17556), (103, 17577), (129, 17688), (140, 17742), (160, 17814), (162, 17823),

Gene: StorminNorm\_11 Start: 5953, Stop: 6261, Start Num: 84

Candidate Starts for StorminNorm\_11:

(25, 5701), (30, 5728), (Start: 84 @5953 has 63 MA's), (Start: 88 @5962 has 55 MA's), (115, 6061), (130, 6118), (131, 6124), (151, 6190),

Gene: StrawberryJamm\_23 Start: 7840, Stop: 8178, Start Num: 75

Candidate Starts for StrawberryJamm\_23:

(Start: 75 @7840 has 57 MA's), (Start: 78 @7849 has 51 MA's), (99, 7897), (162, 8149), (164, 8158),

Gene: Stultus\_11 Start: 6867, Stop: 7175, Start Num: 84

Candidate Starts for Stultus\_11:

(Start: 84 @6867 has 63 MA's), (Start: 88 @6876 has 55 MA's), (100, 6906), (115, 6975), (130, 7032), (131, 7038), (136, 7056), (151, 7104),

Gene: Sunfish\_24 Start: 9142, Stop: 9498, Start Num: 75

Candidate Starts for Sunfish\_24:

(Start: 75 @9142 has 57 MA's), (Start: 92 @9175 has 2 MA's), (95, 9184), (107, 9229), (142, 9394), (146, 9412), (162, 9463),

Gene: SwainyDoc\_10 Start: 5947, Stop: 6282, Start Num: 78

Candidate Starts for SwainyDoc\_10:

(Start: 78 @5947 has 51 MA's), (99, 5989), (102, 6001), (105, 6016), (109, 6034), (126, 6091), (141, 6157), (159, 6214), (162, 6226), (167, 6262),

Gene: SynergyX\_10 Start: 5950, Stop: 6285, Start Num: 78

Candidate Starts for SynergyX\_10:

(Start: 78 @5950 has 51 MA's), (99, 5992), (102, 6004), (105, 6019), (109, 6037), (126, 6094), (141, 6160), (147, 6181), (159, 6217), (162, 6229), (167, 6265),

Gene: TP1604\_9 Start: 7730, Stop: 8080, Start Num: 88

Candidate Starts for TP1604\_9:

(Start: 88 @7730 has 55 MA's), (106, 7790), (125, 7877), (134, 7925), (139, 7940),

Gene: Talia1610\_75 Start: 32727, Stop: 33011, Start Num: 89

Candidate Starts for Talia1610\_75:

(39, 32568), (40, 32574), (44, 32586), (45, 32589), (48, 32601), (50, 32607), (51, 32610), (58, 32652), (Start: 86 @32721 has 9 MA's), (Start: 89 @32727 has 17 MA's), (95, 32745), (103, 32775), (106, 32787), (107, 32790), (125, 32856), (164, 33006),

Gene: Tangent\_9 Start: 5665, Stop: 6003, Start Num: 70

Candidate Starts for Tangent\_9:

(Start: 70 @5665 has 14 MA's), (Start: 84 @5695 has 63 MA's), (Start: 88 @5704 has 55 MA's), (115, 5803), (130, 5860), (131, 5866), (136, 5884), (151, 5932),

Gene: Tangerine\_11 Start: 5962, Stop: 6270, Start Num: 84

Candidate Starts for Tangerine\_11:

(25, 5710), (30, 5737), (Start: 84 @5962 has 63 MA's), (Start: 88 @5971 has 55 MA's), (115, 6070), (130, 6127), (131, 6133), (151, 6199),

Gene: Tank\_16 Start: 8065, Stop: 8376, Start Num: 75

Candidate Starts for Tank\_16:

(48, 7972), (Start: 75 @8065 has 57 MA's), (Start: 76 @8068 has 2 MA's), (128, 8218), (130, 8239), (131, 8245), (155, 8323), (162, 8347),

Gene: Tardus\_13 Start: 5665, Stop: 5982, Start Num: 84

Candidate Starts for Tardus\_13:

(Start: 84 @5665 has 63 MA's), (100, 5707), (115, 5776), (131, 5839), (138, 5863), (151, 5905),

Gene: Teehee\_22 Start: 8775, Stop: 9113, Start Num: 75

Candidate Starts for Teehee\_22:

(Start: 75 @8775 has 57 MA's), (Start: 78 @8784 has 51 MA's), (99, 8832), (162, 9084), (164, 9093),

Gene: Tempo\_20 Start: 7165, Stop: 7509, Start Num: 70

Candidate Starts for Tempo\_20:

(38, 7036), (Start: 70 @7165 has 14 MA's), (90, 7195), (Start: 92 @7201 has 2 MA's), (99, 7222), (106, 7252), (127, 7330), (143, 7408), (162, 7474), (164, 7483),

Gene: Thing3\_12 Start: 6782, Stop: 7090, Start Num: 84

Candidate Starts for Thing3\_12:

(Start: 70 @6752 has 14 MA's), (Start: 84 @6782 has 63 MA's), (Start: 88 @6791 has 55 MA's), (115, 6890), (130, 6947), (131, 6953), (136, 6971), (151, 7019),

Gene: Tiamoceli\_13 Start: 6287, Stop: 6625, Start Num: 84

Candidate Starts for Tiamoceli\_13:

(66, 6251), (Start: 84 @6287 has 63 MA's), (95, 6314), (97, 6320), (103, 6344), (122, 6422), (131, 6488), (151, 6554), (160, 6581),

Gene: TillyBobJoe\_11 Start: 4959, Stop: 5273, Start Num: 88

Candidate Starts for TillyBobJoe\_11:

(Start: 88 @4959 has 55 MA's), (130, 5115), (131, 5121),

Gene: TinyTerror\_10 Start: 5952, Stop: 6287, Start Num: 78

Candidate Starts for TinyTerror\_10:

(Start: 78 @5952 has 51 MA's), (99, 5994), (102, 6006), (105, 6021), (109, 6039), (126, 6096), (141, 6162), (147, 6183), (159, 6219), (162, 6231), (167, 6267),

Gene: Tissue\_20 Start: 7909, Stop: 8253, Start Num: 75

Candidate Starts for Tissue\_20:

(Start: 75 @7909 has 57 MA's), (Start: 78 @7918 has 51 MA's), (99, 7966), (143, 8152), (162, 8218), (164, 8227),

Gene: Togo\_11 Start: 5123, Stop: 5437, Start Num: 88

Candidate Starts for Togo\_11:

(Start: 61 @5060 has 1 MA's), (Start: 88 @5123 has 55 MA's), (130, 5279), (131, 5285),

Gene: Tonitrus\_25 Start: 14059, Stop: 14370, Start Num: 85

Candidate Starts for Tonitrus\_25:

(Start: 85 @14059 has 8 MA's), (114, 14158),

Gene: TraderJ\_9 Start: 6413, Stop: 6751, Start Num: 81

Candidate Starts for TraderJ\_9:

(43, 6290), (49, 6308), (54, 6335), (59, 6356), (63, 6368), (69, 6389), (Start: 81 @6413 has 8 MA's), (91, 6431), (99, 6452), (102, 6464), (103, 6470), (109, 6497), (132, 6596), (141, 6623), (153, 6662), (166, 6722), (169, 6737),

Gene: TurkishDelight\_10 Start: 6065, Stop: 6391, Start Num: 87

Candidate Starts for TurkishDelight\_10:

(79, 6050), (Start: 87 @6065 has 1 MA's), (149, 6305), (154, 6317),

Gene: Twister6\_11 Start: 5055, Stop: 5369, Start Num: 88

Candidate Starts for Twister6\_11:

(Start: 61 @4992 has 1 MA's), (Start: 88 @5055 has 55 MA's), (130, 5211), (131, 5217),

Gene: Twonlo\_10 Start: 4904, Stop: 5242, Start Num: 84

Candidate Starts for Twonlo\_10:

(66, 4868), (Start: 84 @4904 has 63 MA's), (95, 4931), (97, 4937), (103, 4961), (122, 5039), (131, 5105), (151, 5171), (160, 5198),

Gene: Tycho\_11 Start: 5971, Stop: 6270, Start Num: 88

Candidate Starts for Tycho\_11:

(25, 5710), (30, 5737), (Start: 84 @5962 has 63 MA's), (Start: 88 @5971 has 55 MA's), (115, 6070), (130, 6127), (131, 6133), (151, 6199),

Gene: Tydolla\_10 Start: 6711, Stop: 7046, Start Num: 78

Candidate Starts for Tydolla\_10:

(Start: 78 @6711 has 51 MA's), (99, 6753), (102, 6765), (105, 6780), (109, 6798), (126, 6855), (141, 6921), (147, 6942), (159, 6978), (162, 6990), (167, 7026),

Gene: Valary\_12 Start: 5508, Stop: 5822, Start Num: 88

Candidate Starts for Valary\_12:

(19, 5157), (Start: 61 @5445 has 1 MA's), (Start: 88 @5508 has 55 MA's), (130, 5664), (131, 5670),

Gene: VanDeWege\_12 Start: 5436, Stop: 5750, Start Num: 88

Candidate Starts for VanDeWege\_12:

(Start: 61 @5373 has 1 MA's), (Start: 88 @5436 has 55 MA's), (130, 5592), (131, 5598),

Gene: Verity\_13 Start: 6898, Stop: 7215, Start Num: 84

Candidate Starts for Verity\_13:

(Start: 84 @6898 has 63 MA's), (96, 6928), (115, 7009), (131, 7072), (136, 7090), (137, 7093), (138, 7096), (151, 7138),

Gene: ViaConlectus\_13 Start: 6625, Stop: 6942, Start Num: 84

Candidate Starts for ViaConlectus\_13:

(Start: 84 @6625 has 63 MA's), (100, 6667), (115, 6736), (131, 6799), (138, 6823), (151, 6865), (153, 6871),

Gene: Viceroy\_20 Start: 7540, Stop: 7878, Start Num: 75

Candidate Starts for Viceroy\_20:

(Start: 75 @7540 has 57 MA's), (Start: 78 @7549 has 51 MA's), (99, 7597), (162, 7849), (164, 7858),

Gene: Vivi2\_10 Start: 5856, Stop: 6164, Start Num: 84

Candidate Starts for Vivi2\_10:

(35, 5664), (Start: 84 @5856 has 63 MA's), (Start: 88 @5865 has 55 MA's), (115, 5964), (130, 6021), (131, 6027), (136, 6045), (151, 6093),

Gene: WaddleDee\_62 Start: 27340, Stop: 27624, Start Num: 89

Candidate Starts for WaddleDee\_62:

(41, 27196), (80, 27322), (Start: 85 @27334 has 8 MA's), (Start: 89 @27340 has 17 MA's), (164, 27619),

Gene: Wayne3\_22 Start: 8505, Stop: 8843, Start Num: 75

Candidate Starts for Wayne3\_22:

(7, 7650), (12, 7899), (14, 7944), (26, 8274), (Start: 75 @8505 has 57 MA's), (Start: 78 @8514 has 51 MA's), (99, 8562), (162, 8814), (164, 8823),

Gene: WheelerS25\_26 Start: 9288, Stop: 9632, Start Num: 75

Candidate Starts for WheelerS25\_26:

(17, 8868), (26, 9057), (Start: 75 @9288 has 57 MA's), (Start: 78 @9297 has 51 MA's), (99, 9345), (143, 9531), (162, 9597), (164, 9606),

Gene: Wheelie\_20 Start: 7856, Stop: 8194, Start Num: 75

Candidate Starts for Wheelie\_20:

(7, 7001), (12, 7250), (14, 7295), (26, 7625), (Start: 75 @7856 has 57 MA's), (Start: 78 @7865 has 51 MA's), (99, 7913), (162, 8165), (164, 8174),

Gene: Wilca\_20 Start: 7061, Stop: 7405, Start Num: 70

Candidate Starts for Wilca\_20:

(38, 6932), (Start: 70 @7061 has 14 MA's), (99, 7118), (106, 7148), (127, 7226), (162, 7370), (164, 7379),

Gene: Wilde\_16 Start: 7993, Stop: 8304, Start Num: 75

Candidate Starts for Wilde\_16:

(48, 7900), (Start: 75 @7993 has 57 MA's), (Start: 76 @7996 has 2 MA's), (128, 8146), (130, 8167), (131, 8173), (155, 8251), (162, 8275),

Gene: Wizard\_11 Start: 5251, Stop: 5565, Start Num: 88

Candidate Starts for Wizard\_11:

(Start: 61 @5188 has 1 MA's), (Start: 88 @5251 has 55 MA's), (130, 5407), (131, 5413),

Gene: Wooper\_9 Start: 6416, Stop: 6754, Start Num: 81

Candidate Starts for Wooper\_9:

(43, 6293), (49, 6311), (54, 6338), (59, 6359), (63, 6371), (69, 6392), (Start: 81 @6416 has 8 MA's), (91, 6434), (99, 6455), (102, 6467), (103, 6473), (109, 6500), (132, 6599), (141, 6626), (153, 6665), (166, 6725), (169, 6740),

Gene: Xkcd426\_10 Start: 8759, Stop: 9115, Start Num: 88

Candidate Starts for Xkcd426\_10:

(32, 8549), (33, 8552), (72, 8729), (Start: 88 @8759 has 55 MA's), (106, 8819), (107, 8822), (117, 8873), (129, 8918), (134, 8954),

Gene: YDN12\_10 Start: 7676, Stop: 8026, Start Num: 88

Candidate Starts for YDN12\_10:

(Start: 88 @7676 has 55 MA's), (106, 7736), (116, 7781), (118, 7793), (125, 7823), (134, 7871), (139, 7886), (160, 7955),

Gene: Yago84\_6 Start: 4755, Stop: 5090, Start Num: 81

Candidate Starts for Yago84\_6:

(Start: 81 @4755 has 8 MA's), (Start: 86 @4767 has 9 MA's), (96, 4785), (99, 4794), (102, 4806), (103, 4812), (130, 4923), (134, 4941), (141, 4962), (166, 5061),

Gene: Yahalom\_10 Start: 5950, Stop: 6285, Start Num: 78

Candidate Starts for Yahalom\_10:

(Start: 78 @5950 has 51 MA's), (99, 5992), (102, 6004), (105, 6019), (109, 6037), (126, 6094), (141, 6160), (147, 6181), (159, 6217), (162, 6229), (167, 6265),

Gene: Yinz\_10 Start: 5976, Stop: 6311, Start Num: 78

Candidate Starts for Yinz\_10:

(Start: 78 @5976 has 51 MA's), (99, 6018), (102, 6030), (105, 6045), (109, 6063), (126, 6120), (141, 6186), (147, 6207), (159, 6243), (162, 6255), (167, 6291),

Gene: YorkOnyx\_11 Start: 5911, Stop: 6219, Start Num: 84

Candidate Starts for YorkOnyx\_11:

(25, 5659), (Start: 84 @5911 has 63 MA's), (Start: 88 @5920 has 55 MA's), (115, 6019), (130, 6076), (131, 6082), (151, 6148),

Gene: YungMoney\_11 Start: 6205, Stop: 6510, Start Num: 88

Candidate Starts for YungMoney\_11:

(19, 5854), (Start: 61 @6142 has 1 MA's), (Start: 88 @6205 has 55 MA's), (130, 6361), (131, 6367),

Gene: Zagie\_21 Start: 8043, Stop: 8381, Start Num: 75

Candidate Starts for Zagie\_21:

(Start: 75 @8043 has 57 MA's), (Start: 78 @8052 has 51 MA's), (96, 8091), (99, 8100), (143, 8286), (162, 8352), (164, 8361),

Gene: Zhafia\_23 Start: 8281, Stop: 8625, Start Num: 75

Candidate Starts for Zhafia\_23:

(26, 8050), (Start: 75 @8281 has 57 MA's), (Start: 78 @8290 has 51 MA's), (99, 8338), (143, 8524), (162, 8590), (164, 8599),

Gene: Zipp\_13 Start: 7043, Stop: 7360, Start Num: 84

Candidate Starts for Zipp\_13:

(Start: 84 @7043 has 63 MA's), (96, 7073), (115, 7154), (131, 7217), (136, 7235), (137, 7238), (138, 7241), (151, 7283),

Gene: Zitch\_14 Start: 6362, Stop: 6679, Start Num: 84

Candidate Starts for Zitch\_14:

(Start: 84 @6362 has 63 MA's), (100, 6404), (115, 6473), (131, 6536), (138, 6560), (151, 6602),

Gene: Zooman\_66 Start: 27525, Stop: 27800, Start Num: 92

Candidate Starts for Zooman\_66:

(Start: 85 @27510 has 8 MA's), (Start: 92 @27525 has 2 MA's), (99, 27546), (130, 27675), (144, 27732), (146, 27735),

Gene: phiAsp2\_3 Start: 663, Stop: 1013, Start Num: 68

Candidate Starts for phiAsp2\_3:

(68, 663), (83, 693), (Start: 85 @702 has 8 MA's), (97, 732), (101, 747), (103, 756), (107, 771), (115, 810), (131, 888), (148, 945), (164, 990),