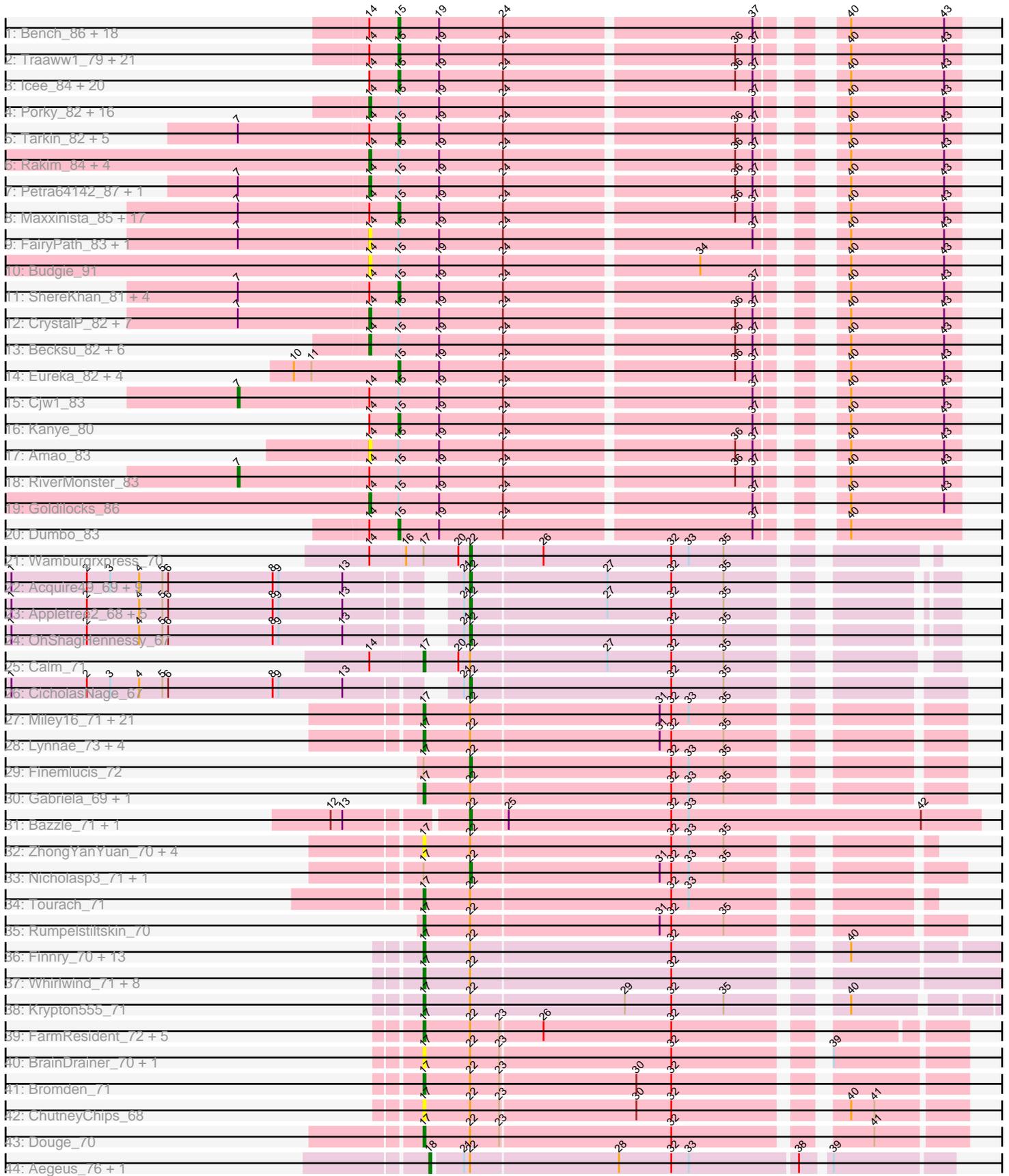


Pham 281961



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 281961 Report

This analysis was run 02/23/26 on database version 636.

Pham number 281961 has 242 members, 41 are drafts.

Phages represented in each track:

- Track 1 : Bench\_86, Greep\_87, Tomaszewski\_78, Filch\_84, Palpatine\_85, Misfit\_84, NelitzaMV\_81, TBrady12\_86, Command613\_85, Elph10\_83, Kostya\_83, MadamMonkfish\_83, Qualification\_84, Willez\_78, Emmina\_83, Lilizi\_84, Xandras\_82, OrionPax\_82, Mosby\_79
- Track 2 : Traaww1\_79, MISSy\_84, AmericanBeauty\_87, MPhalcon\_84, Policronamos\_86, GoldenSpark\_87, SophKB\_80, Buck\_84, Wiggin\_85, NoSleep\_84, Stank\_86, Nala\_85, Asriel\_82, Moldemort\_86, Argent26\_87, Holt\_88, Highbury\_82, Saints25\_82, HanKaySha\_83, Gemini\_88, Adnama\_87, IHOP\_81
- Track 3 : Icee\_84, Flypotenuse\_79, Kimchi\_87, Glexan\_82, Myrale\_83, FoghornLeghorn\_77, Harella\_83, Rimmer\_84, Sotrice96\_84, BigBubba\_83, Gage\_85, Cookies\_80, Cactus\_86, Bask21\_83, Daikon\_85, TeamEdward\_85, StormChicken\_85, DoctorDiddles\_82, StolenFromERC\_86, ChotaBhai\_83, Pat3\_81
- Track 4 : Porky\_82, Ptowny\_80, NonchalantPear\_81, Dusk\_80, BugsBunny\_83, ChosenOne\_83, Sassay\_78, Youngblood\_86, Elite2014\_82, Nimrod\_84, BadStone\_80, Lilpickle\_82, TeardropMSU\_79, Bruin\_80, Contagion\_79, Terminus\_86, ABCat\_80
- Track 5 : Tarkin\_82, Miniwave\_78, Pharsalus\_80, Brewer\_78, Paperbeatsrock\_82, Phaja\_81
- Track 6 : Rakim\_84, Balomoji\_83, Gator\_81, SirDuracell\_82, Hoonter\_86
- Track 7 : Petra64142\_87, YassJohnny\_80
- Track 8 : Maxxinsta\_85, Ukulele\_78, Phrux\_80, Czyszczonek1\_84, 244\_84, Thresher\_85, ShamWow\_83, JeTaime\_83, StellaBean\_81, Henry\_81, Mindy\_82, Teaspoon\_84, Inca\_80, Simpliphy\_82, Pumpkin\_86, BilboSwaggins\_81, Thimble\_84, Lilac\_85
- Track 9 : FairyPath\_83, MollyToe\_78
- Track 10 : Budgie\_91
- Track 11 : ShereKhan\_81, Hopey\_83, FireRed\_87, DrDrey\_83, PhatBacter\_87
- Track 12 : CrystalP\_82, Stark\_84, HufflyPuff\_86, Easy2Say\_84, PaddyBaddy\_83, Toto\_81, xkcd\_86, Murica\_86
- Track 13 : Becksu\_82, Marshmallow\_81, Barbarian\_82, GooberAzure\_86, Murphy\_83, Tucu\_84, Phaux\_85
- Track 14 : Eureka\_82, BaboJay\_81, Goku\_82, Manda\_85, Bogg\_84
- Track 15 : Cjw1\_83
- Track 16 : Kanye\_80
- Track 17 : Amao\_83
- Track 18 : RiverMonster\_83
- Track 19 : Goldilocks\_86

- Track 20 : Dumbo\_83
- Track 21 : Wamburgexpress\_70
- Track 22 : Acquire49\_69, JoeDirt\_69, Silverleaf\_69, Rose5\_69, Tyson\_70, AvadaKedavra\_69, Poochiewood\_68, Halena\_67, MAckerman\_67, Wyatt2\_70
- Track 23 : Appletree2\_68, Enceladus\_66, UPIE\_68, DirkDirk\_66, LeBron\_68, Zaria\_70
- Track 24 : OhShagHennessy\_67
- Track 25 : Calm\_71
- Track 26 : CicholasNage\_67
- Track 27 : Miley16\_71, Underpass\_62, DrSeegs\_71, Lewan\_72, BobsGarage\_71, Claus\_72, Gardann\_72, OverPar\_73, Faith1\_71, Crossroads\_71, Sarshaun\_72, BigCheese\_71, Itos\_70, Breezona\_71, Winky\_71, Netyap\_72, Wilder\_72, Kahlid\_71, Zakai\_72, Vetrix\_71, Soap141\_71, Loadrie\_70
- Track 28 : Lynnae\_73, Hafay\_73, GuuelaD\_69, LilDestine\_71, MkaliMitinis3\_72
- Track 29 : Finemlucis\_72
- Track 30 : Gabriela\_69, SoJulia\_72
- Track 31 : Bazzle\_71, Archie\_70
- Track 32 : ZhongYanYuan\_70, DanBing\_73, DHan\_74, Baoshan\_70, Rossetti\_73
- Track 33 : Nicholasp3\_71, Wigglewiggles\_71
- Track 34 : Tourach\_71
- Track 35 : Rumpelstiltskin\_70
- Track 36 : Finnry\_70, Jubie\_69, Moostard\_68, Clautastrophe\_69, Bellis\_70, Kingsolomon\_68, Red305\_71, TriFive\_71, Jobypre\_70, MsGreen\_70, Samty\_70, Nicholas\_68, Lumos\_71, Snenia\_69
- Track 37 : Whirlwind\_71, DuncansLeg\_70, MiniLon\_74, BourbonZero\_71, Ellson\_69, KirDoubleO7\_68, MiniMac\_74, Lolly9\_70, LiyuLake\_69
- Track 38 : Krypton555\_71
- Track 39 : FarmResident\_72, Douzhi\_70, Chaser\_68, PYPDinur\_68, DyoEdafos\_74, Quby\_70
- Track 40 : BrainDrainer\_70, Sheng711\_70
- Track 41 : Bromden\_71
- Track 42 : ChutneyChips\_68
- Track 43 : Douge\_70
- Track 44 : Aegeus\_76, Baudelaire\_76

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

The start number called the most often in the published annotations is 15, it was called in 91 of the 201 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_84, Adnama\_87, AmericanBeauty\_87, Argent26\_87, Asriel\_82, BaboJay\_81, Bask21\_83, Bench\_86, BigBubba\_83, BilboSwaggins\_81, Bogg\_84, Brewer\_78, Buck\_84, Cactus\_86, ChotaBhai\_83, Command613\_85, Cookies\_80, Czyszczon1\_84, Daikon\_85, DoctorDiddles\_82, DrDrey\_83, Dumbo\_83, Elph10\_83, Emmina\_83, Eureka\_82, Filch\_84, FireRed\_87, Flypotenuse\_79, FoghornLeghorn\_77, Gage\_85, Gemini\_88, Glexan\_82, Goku\_82, GoldenSpark\_87, Greep\_87, HanKaySha\_83, Harella\_83, Henry\_81, Highbury\_82, Holt\_88, Hopey\_83, IHOP\_81, Icee\_84, Inca\_80, JeTaime\_83, Kanye\_80, Kimchi\_87, Kostya\_83, Lilac\_85, Lilizi\_84, MISSy\_84, MPhalcon\_84, MadamMonkfish\_83, Manda\_85,

Maxxinista\_85, Mindy\_82, Miniwave\_78, Misfit\_84, Moldemort\_86, Mosby\_79, Myrale\_83, Nala\_85, NelitzaMV\_81, NoSleep\_84, OrionPax\_82, Palpatine\_85, Paperbeatsrock\_82, Pat3\_81, Phaja\_81, Pharsalus\_80, PhatBacter\_87, Phrux\_80, Policronamos\_86, Pumpkin\_86, Quallification\_84, Rimmer\_84, Saints25\_82, ShamWow\_83, ShereKhan\_81, Simpliphy\_82, SophKB\_80, Sotrice96\_84, Stank\_86, StellaBean\_81, StolenFromERC\_86, StormChicken\_85, TBrady12\_86, Tarkin\_82, TeamEdward\_85, Teaspoon\_84, Thimble\_84, Thresher\_85, Tomaszewski\_78, Traaww1\_79, Ukulele\_78, Wiggin\_85, Willez\_78, Xandras\_82,

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

- ABCat\_80, Amao\_83, BadStone\_80, Balomoji\_83, Barbarian\_82, Becksu\_82, Bruin\_80, Budgie\_91, BugsBunny\_83, ChosenOne\_83, Cjw1\_83, Contagion\_79, CrystalP\_82, Dusk\_80, Easy2Say\_84, Elite2014\_82, FairyPath\_83, Gator\_81, Goldilocks\_86, GooberAzure\_86, Hoonter\_86, HufflyPuff\_86, Lilpickle\_82, Marshmallow\_81, MollyToe\_78, Murica\_86, Murphy\_83, Nimrod\_84, NonchalantPear\_81, PaddyBaddy\_83, Petra64142\_87, Phaux\_85, Porky\_82, Ptowny\_80, Rakim\_84, RiverMonster\_83, Sassay\_78, SirDuracell\_82, Stark\_84, TeardropMSU\_79, Terminus\_86, Toto\_81, Tuco\_84, YassJohnny\_80, Youngblood\_86, xkcd\_86,

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

- Acquire49\_69, Aegeus\_76, Appletree2\_68, Archie\_70, AvadaKedavra\_69, Baoshan\_70, Baudelaire\_76, Bazzle\_71, Bellis\_70, BigCheese\_71, BobsGarage\_71, BourbonZero\_71, BrainDrainer\_70, Breezona\_71, Bromden\_71, Calm\_71, Chaser\_68, ChutneyChips\_68, CicholasNage\_67, Claus\_72, Clautastrophe\_69, Crossroads\_71, DHan\_74, DanBing\_73, DirkDirk\_66, Douge\_70, Douzhi\_70, DrSeegs\_71, DuncansLeg\_70, DyoEdafos\_74, Ellson\_69, Enceladus\_66, Faith1\_71, FarmResident\_72, Finemlucis\_72, Finnry\_70, Gabriela\_69, Gardann\_72, GuuelaD\_69, Hafay\_73, Halena\_67, Itos\_70, Jobypre\_70, JoeDirt\_69, Jubie\_69, Kahlid\_71, Kingsolomon\_68, KirDoubleO7\_68, Krypton555\_71, LeBron\_68, Lewan\_72, LilDestine\_71, LiyuLake\_69, Loadrie\_70, Lolly9\_70, Lumos\_71, Lynnae\_73, MAckerman\_67, Miley16\_71, MiniLon\_74, MiniMac\_74, MkaliMitinis3\_72, Moostard\_68, MsGreen\_70, Netyap\_72, Nicholas\_68, Nicholasp3\_71, OhShagHennessy\_67, OverPar\_73, PYPDinur\_68, Poochiewood\_68, Quby\_70, Red305\_71, Rose5\_69, Rossetti\_73, Rumpelstiltskin\_70, Samty\_70, Sarshaun\_72, Sheng711\_70, Silverleaf\_69, Snenia\_69, SoJulia\_72, Soap141\_71, Tourach\_71, TriFive\_71, Tyson\_70, UPIE\_68, Underpass\_62, Vetrix\_71, Wamburgexpress\_70, Whirlwind\_71, Wigglewiggle\_71, Wilder\_72, Winky\_71, Wyatt2\_70, Zakai\_72, Zaria\_70, ZhongYanYuan\_70,

### Summary by start number:

Start 7:

- Found in 43 of 242 ( 17.8% ) of genes in pham
- Manual Annotations of this start: 2 of 201
- Called 4.7% of time when present
- Phage (with cluster) where this start called: Cjw1\_83 (E), RiverMonster\_83 (E),

Start 14:

- Found in 141 of 242 ( 58.3% ) of genes in pham
- Manual Annotations of this start: 34 of 201
- Called 31.2% of time when present

- Phage (with cluster) where this start called: ABCat\_80 (E), Amao\_83 (E), BadStone\_80 (E), Balomoji\_83 (E), Barbarian\_82 (E), Becksu\_82 (E), Bruin\_80 (E), Budgie\_91 (E), BugsBunny\_83 (E), ChosenOne\_83 (E), Contagion\_79 (E), CrystalP\_82 (E), Dusk\_80 (E), Easy2Say\_84 (E), Elite2014\_82 (E), FairyPath\_83 (E), Gator\_81 (E), Goldilocks\_86 (E), GooberAzure\_86 (E), Hoonter\_86 (E), HuffyPuff\_86 (E), Lilpickle\_82 (E), Marshmallow\_81 (E), MollyToe\_78 (E), Murica\_86 (E), Murphy\_83 (E), Nimrod\_84 (E), NonchalantPear\_81 (E), PaddyBaddy\_83 (E), Petra64142\_87 (E), Phaux\_85 (E), Porky\_82 (E), Ptowny\_80 (E), Rakim\_84 (E), Sassay\_78 (E), SirDuracell\_82 (E), Stark\_84 (E), TeardropMSU\_79 (E), Terminus\_86 (E), Toto\_81 (E), Tuco\_84 (E), YassJohnny\_80 (E), Youngblood\_86 (E), xkcd\_86 (E),

#### Start 15:

- Found in 144 of 242 ( 59.5% ) of genes in pham
- Manual Annotations of this start: 91 of 201
- Called 68.1% of time when present
- Phage (with cluster) where this start called: 244\_84 (E), Adnama\_87 (E), AmericanBeauty\_87 (E), Argent26\_87 (E), Asriel\_82 (E), BaboJay\_81 (E), Bask21\_83 (E), Bench\_86 (E), BigBubba\_83 (E), BilboSwaggins\_81 (E), Bogg\_84 (E), Brewer\_78 (E), Buck\_84 (E), Cactus\_86 (E), ChotaBhai\_83 (E), Command613\_85 (E), Cookies\_80 (E), Czyszczonek\_84 (E), Daikon\_85 (E), DoctorDiddles\_82 (E), DrDrey\_83 (E), Dumbo\_83 (E), Elph10\_83 (E), Emmina\_83 (E), Eureka\_82 (E), Filch\_84 (E), FireRed\_87 (E), Flypotenuse\_79 (E), FoghornLeghorn\_77 (E), Gage\_85 (E), Gemini\_88 (E), Glexan\_82 (E), Goku\_82 (E), GoldenSpark\_87 (E), Greep\_87 (E), HanKaySha\_83 (E), Harella\_83 (E), Henry\_81 (E), Highbury\_82 (E), Holt\_88 (E), Hopey\_83 (E), IHOP\_81 (E), Icee\_84 (E), Inca\_80 (E), JeTaime\_83 (E), Kanye\_80 (E), Kimchi\_87 (E), Kostya\_83 (E), Lilac\_85 (E), Lilizi\_84 (E), MISSy\_84 (E), MPhalcon\_84 (E), MadamMonkfish\_83 (E), Manda\_85 (E), Maxxinista\_85 (E), Mindy\_82 (E), Miniwave\_78 (E), Misfit\_84 (E), Moldemort\_86 (E), Mosby\_79 (E), Myrale\_83 (E), Nala\_85 (E), NelitzaMV\_81 (E), NoSleep\_84 (E), OrionPax\_82 (E), Palpatine\_85 (E), Paperbeatsrock\_82 (E), Pat3\_81 (E), Phaja\_81 (E), Pharsalus\_80 (E), PhatBacter\_87 (E), Phrux\_80 (E), Policronamos\_86 (E), Pumpkin\_86 (E), Quallification\_84 (E), Rimmer\_84 (E), Saints25\_82 (E), ShamWow\_83 (E), ShereKhan\_81 (E), Simpliphy\_82 (E), SophKB\_80 (E), Sotrice96\_84 (E), Stank\_86 (E), StellaBean\_81 (E), StolenFromERC\_86 (E), StormChicken\_85 (E), TBrady12\_86 (E), Tarkin\_82 (E), TeamEdward\_85 (E), Teaspoon\_84 (E), Thimble\_84 (E), Thresher\_85 (E), Tomaszewski\_78 (E), Traaww1\_79 (E), Ukulele\_78 (E), Wiggin\_85 (E), Willez\_78 (E), Xandras\_82 (E),

#### Start 17:

- Found in 76 of 242 ( 31.4% ) of genes in pham
- Manual Annotations of this start: 49 of 201
- Called 94.7% of time when present
- Phage (with cluster) where this start called: Baoshan\_70 (L2), Bellis\_70 (L3), BigCheese\_71 (L2), BobsGarage\_71 (L2), BourbonZero\_71 (L3), BrainDrainer\_70 (L4), Breezona\_71 (L2), Bromden\_71 (L4), Calm\_71 (L1), Chaser\_68 (L4), ChutneyChips\_68 (L4), Claus\_72 (L2), Clautastrophe\_69 (L3), Crossroads\_71 (L2), DHan\_74 (L2), DanBing\_73 (L2), Douge\_70 (L4), Douzhi\_70 (L4), DrSeegs\_71 (L2), DuncansLeg\_70 (L3), DyoEdafos\_74 (L4), Ellson\_69 (L3), Faith1\_71 (L2), FarmResident\_72 (L4), Finnry\_70 (L3), Gabriela\_69 (L2), Gardann\_72 (L2), GuuelaD\_69 (L2), Hafay\_73 (L2), Itos\_70 (L2), Jobypre\_70 (L3), Jubie\_69 (L3), Kahlid\_71 (L2), Kingsolomon\_68 (L3), KirDoubleO7\_68 (L3), Krypton555\_71 (L3), Lewan\_72 (L2), LilDestine\_71 (L2), LiyuLake\_69 (L3), Loadrie\_70 (L2), Lolly9\_70 (L3), Lumos\_71 (L3), Lynnae\_73 (L2), Miley16\_71 (L2), MiniLon\_74 (L3), MiniMac\_74

(L3), MkaliMitinis3\_72 (L2), Moostard\_68 (L3), MsGreen\_70 (L3), Netyap\_72 (L2), Nicholas\_68 (L3), OverPar\_73 (L2), PYPDinur\_68 (L4), Quby\_70 (L4), Red305\_71 (L3), Rossetti\_73 (L2), Rumpelstiltskin\_70 (L2), Samty\_70 (L3), Sarshaun\_72 (L2), Sheng711\_70 (L4), Snenia\_69 (L3), SoJulia\_72 (L2), Soap141\_71 (L2), Tourach\_71 (L2), TriFive\_71 (L3), Underpass\_62 (L2), Vetrix\_71 (L2), Whirlwind\_71 (L3), Wilder\_72 (L2), Winky\_71 (L2), Zakai\_72 (L2), ZhongYanYuan\_70 (L2),

Start 18:

- Found in 2 of 242 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 201
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_76 (L5), Baudelaire\_76 (L5),

Start 22:

- Found in 98 of 242 ( 40.5% ) of genes in pham
- Manual Annotations of this start: 23 of 201
- Called 24.5% of time when present
- Phage (with cluster) where this start called: Acquire49\_69 (L1), Appletree2\_68 (L1), Archie\_70 (L2), AvadaKedavra\_69 (L1), Bazzle\_71 (L2), CicholasNage\_67 (L1), DirkDirk\_66 (L1), Enceladus\_66 (L1), Finemlucis\_72 (L2), Halena\_67 (L1), JoeDirt\_69 (L1), LeBron\_68 (L1), MAckerman\_67 (L1), Nicholasp3\_71 (L2), OhShagHennessy\_67 (L1), Poochiewood\_68 (L1), Rose5\_69 (L1), Silverleaf\_69 (L1), Tyson\_70 (L1), UPIE\_68 (L1), Wamburgxpress\_70 (L1), Wigglewiggle\_71 (L2), Wyatt2\_70 (L1), Zaria\_70 (L1),

### Summary by clusters:

There are 6 clusters represented in this pham: E, L4, L5, L2, L3, L1,

Info for manual annotations of cluster E:

- Start number 7 was manually annotated 2 times for cluster E.
- Start number 14 was manually annotated 34 times for cluster E.
- Start number 15 was manually annotated 91 times for cluster E.

Info for manual annotations of cluster L1:

- Start number 17 was manually annotated 1 time for cluster L1.
- Start number 22 was manually annotated 18 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 17 was manually annotated 25 times for cluster L2.
- Start number 22 was manually annotated 5 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 17 was manually annotated 19 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 17 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 18 was manually annotated 2 times for cluster L5.

**Gene Information:**

Gene: 244\_84 Start: 51568, Stop: 51828, Start Num: 15

Candidate Starts for 244\_84:

(Start: 7 @51487 has 2 MA's), (Start: 14 @51553 has 34 MA's), (Start: 15 @51568 has 91 MA's), (19, 51589), (24, 51622), (36, 51736), (37, 51745), (40, 51772), (43, 51820),

Gene: ABCat\_80 Start: 51906, Stop: 52181, Start Num: 14

Candidate Starts for ABCat\_80:

(Start: 14 @51906 has 34 MA's), (Start: 15 @51921 has 91 MA's), (19, 51942), (24, 51975), (37, 52098), (40, 52125), (43, 52173),

Gene: Acquire49\_69 Start: 47331, Stop: 47555, Start Num: 22

Candidate Starts for Acquire49\_69:

(1, 47112), (2, 47151), (3, 47163), (4, 47178), (5, 47190), (6, 47193), (8, 47247), (9, 47250), (13, 47283), (21, 47328), (Start: 22 @47331 has 23 MA's), (27, 47400), (32, 47433), (35, 47460),

Gene: Adnama\_87 Start: 51944, Stop: 52204, Start Num: 15

Candidate Starts for Adnama\_87:

(Start: 14 @51929 has 34 MA's), (Start: 15 @51944 has 91 MA's), (19, 51965), (24, 51998), (36, 52112), (37, 52121), (40, 52148), (43, 52196),

Gene: Aegeus\_76 Start: 49391, Stop: 49645, Start Num: 18

Candidate Starts for Aegeus\_76:

(Start: 18 @49391 has 2 MA's), (21, 49406), (Start: 22 @49409 has 23 MA's), (28, 49484), (32, 49511), (33, 49520), (38, 49574), (39, 49586),

Gene: Amao\_83 Start: 51323, Stop: 51598, Start Num: 14

Candidate Starts for Amao\_83:

(Start: 14 @51323 has 34 MA's), (Start: 15 @51338 has 91 MA's), (19, 51359), (24, 51392), (36, 51506), (37, 51515), (40, 51542), (43, 51590),

Gene: AmericanBeauty\_87 Start: 52090, Stop: 52350, Start Num: 15

Candidate Starts for AmericanBeauty\_87:

(Start: 14 @52075 has 34 MA's), (Start: 15 @52090 has 91 MA's), (19, 52111), (24, 52144), (36, 52258), (37, 52267), (40, 52294), (43, 52342),

Gene: Appletree2\_68 Start: 46946, Stop: 47170, Start Num: 22

Candidate Starts for Appletree2\_68:

(1, 46727), (2, 46766), (4, 46793), (5, 46805), (6, 46808), (8, 46862), (9, 46865), (13, 46898), (21, 46943), (Start: 22 @46946 has 23 MA's), (27, 47015), (32, 47048), (35, 47075),

Gene: Archie\_70 Start: 48823, Stop: 49083, Start Num: 22

Candidate Starts for Archie\_70:

(12, 48760), (13, 48766), (Start: 22 @48823 has 23 MA's), (25, 48841), (32, 48925), (33, 48934), (42, 49054),

Gene: Argent26\_87 Start: 51728, Stop: 51988, Start Num: 15

Candidate Starts for Argent26\_87:

(Start: 14 @51713 has 34 MA's), (Start: 15 @51728 has 91 MA's), (19, 51749), (24, 51782), (36, 51896), (37, 51905), (40, 51932), (43, 51980),

Gene: Asriel\_82 Start: 50281, Stop: 50541, Start Num: 15

Candidate Starts for Asriel\_82:

(Start: 14 @50266 has 34 MA's), (Start: 15 @50281 has 91 MA's), (19, 50302), (24, 50335), (36, 50449), (37, 50458), (40, 50485), (43, 50533),

Gene: AvadaKedavra\_69 Start: 47404, Stop: 47628, Start Num: 22

Candidate Starts for AvadaKedavra\_69:

(1, 47185), (2, 47224), (3, 47236), (4, 47251), (5, 47263), (6, 47266), (8, 47320), (9, 47323), (13, 47356), (21, 47401), (Start: 22 @47404 has 23 MA's), (27, 47473), (32, 47506), (35, 47533),

Gene: BaboJay\_81 Start: 51569, Stop: 51829, Start Num: 15

Candidate Starts for BaboJay\_81:

(10, 51515), (11, 51524), (Start: 15 @51569 has 91 MA's), (19, 51590), (24, 51623), (36, 51737), (37, 51746), (40, 51773), (43, 51821),

Gene: BadStone\_80 Start: 51475, Stop: 51750, Start Num: 14

Candidate Starts for BadStone\_80:

(Start: 14 @51475 has 34 MA's), (Start: 15 @51490 has 91 MA's), (19, 51511), (24, 51544), (37, 51667), (40, 51694), (43, 51742),

Gene: Balomoji\_83 Start: 52036, Stop: 52311, Start Num: 14

Candidate Starts for Balomoji\_83:

(Start: 14 @52036 has 34 MA's), (Start: 15 @52051 has 91 MA's), (19, 52072), (24, 52105), (36, 52219), (37, 52228), (40, 52255), (43, 52303),

Gene: Baoshan\_70 Start: 49075, Stop: 49329, Start Num: 17

Candidate Starts for Baoshan\_70:

(Start: 17 @49075 has 49 MA's), (Start: 22 @49099 has 23 MA's), (32, 49201), (33, 49210), (35, 49228),

Gene: Barbarian\_82 Start: 50266, Stop: 50541, Start Num: 14

Candidate Starts for Barbarian\_82:

(Start: 14 @50266 has 34 MA's), (Start: 15 @50281 has 91 MA's), (19, 50302), (24, 50335), (36, 50449), (37, 50458), (40, 50485), (43, 50533),

Gene: Bask21\_83 Start: 50904, Stop: 51164, Start Num: 15

Candidate Starts for Bask21\_83:

(Start: 14 @50889 has 34 MA's), (Start: 15 @50904 has 91 MA's), (19, 50925), (24, 50958), (36, 51072), (37, 51081), (40, 51108), (43, 51156),

Gene: Baudelaire\_76 Start: 49391, Stop: 49645, Start Num: 18

Candidate Starts for Baudelaire\_76:

(Start: 18 @49391 has 2 MA's), (21, 49406), (Start: 22 @49409 has 23 MA's), (28, 49484), (32, 49511), (33, 49520), (38, 49574), (39, 49586),

Gene: Bazzle\_71 Start: 49203, Stop: 49463, Start Num: 22

Candidate Starts for Bazzle\_71:

(12, 49140), (13, 49146), (Start: 22 @49203 has 23 MA's), (25, 49221), (32, 49305), (33, 49314), (42, 49434),

Gene: Becksu\_82 Start: 52105, Stop: 52380, Start Num: 14

Candidate Starts for Becksu\_82:

(Start: 14 @52105 has 34 MA's), (Start: 15 @52120 has 91 MA's), (19, 52141), (24, 52174), (36, 52288), (37, 52297), (40, 52324), (43, 52372),

Gene: Bellis\_70 Start: 49176, Stop: 49457, Start Num: 17

Candidate Starts for Bellis\_70:

(Start: 17 @49176 has 49 MA's), (Start: 22 @49200 has 23 MA's), (32, 49302), (40, 49377),

Gene: Bench\_86 Start: 51585, Stop: 51845, Start Num: 15

Candidate Starts for Bench\_86:

(Start: 14 @51570 has 34 MA's), (Start: 15 @51585 has 91 MA's), (19, 51606), (24, 51639), (37, 51762), (40, 51789), (43, 51837),

Gene: BigBubba\_83 Start: 51297, Stop: 51557, Start Num: 15

Candidate Starts for BigBubba\_83:

(Start: 14 @51282 has 34 MA's), (Start: 15 @51297 has 91 MA's), (19, 51318), (24, 51351), (36, 51465), (37, 51474), (40, 51501), (43, 51549),

Gene: BigCheese\_71 Start: 48842, Stop: 49096, Start Num: 17

Candidate Starts for BigCheese\_71:

(Start: 17 @48842 has 49 MA's), (Start: 22 @48866 has 23 MA's), (31, 48962), (32, 48968), (33, 48977), (35, 48995),

Gene: BilboSwaggins\_81 Start: 51926, Stop: 52186, Start Num: 15

Candidate Starts for BilboSwaggins\_81:

(Start: 7 @51845 has 2 MA's), (Start: 14 @51911 has 34 MA's), (Start: 15 @51926 has 91 MA's), (19, 51947), (24, 51980), (36, 52094), (37, 52103), (40, 52130), (43, 52178),

Gene: BobsGarage\_71 Start: 48842, Stop: 49096, Start Num: 17

Candidate Starts for BobsGarage\_71:

(Start: 17 @48842 has 49 MA's), (Start: 22 @48866 has 23 MA's), (31, 48962), (32, 48968), (33, 48977), (35, 48995),

Gene: Bogg\_84 Start: 51312, Stop: 51572, Start Num: 15

Candidate Starts for Bogg\_84:

(10, 51258), (11, 51267), (Start: 15 @51312 has 91 MA's), (19, 51333), (24, 51366), (36, 51480), (37, 51489), (40, 51516), (43, 51564),

Gene: BourbonZero\_71 Start: 49221, Stop: 49502, Start Num: 17

Candidate Starts for BourbonZero\_71:

(Start: 17 @49221 has 49 MA's), (Start: 22 @49245 has 23 MA's), (32, 49347),

Gene: BrainDrainer\_70 Start: 48064, Stop: 48321, Start Num: 17

Candidate Starts for BrainDrainer\_70:

(Start: 17 @48064 has 49 MA's), (Start: 22 @48088 has 23 MA's), (23, 48103), (32, 48190), (39, 48256),

Gene: Breezona\_71 Start: 48842, Stop: 49096, Start Num: 17

Candidate Starts for Breezona\_71:

(Start: 17 @48842 has 49 MA's), (Start: 22 @48866 has 23 MA's), (31, 48962), (32, 48968), (33, 48977), (35, 48995),

Gene: Brewer\_78 Start: 50387, Stop: 50647, Start Num: 15

Candidate Starts for Brewer\_78:

(Start: 7 @50306 has 2 MA's), (Start: 14 @50372 has 34 MA's), (Start: 15 @50387 has 91 MA's), (19, 50408), (24, 50441), (36, 50555), (37, 50564), (40, 50591), (43, 50639),

Gene: Bromden\_71 Start: 48810, Stop: 49067, Start Num: 17

Candidate Starts for Bromden\_71:

(Start: 17 @48810 has 49 MA's), (Start: 22 @48834 has 23 MA's), (23, 48849), (30, 48918), (32, 48936),

Gene: Bruin\_80 Start: 50449, Stop: 50724, Start Num: 14

Candidate Starts for Bruin\_80:

(Start: 14 @50449 has 34 MA's), (Start: 15 @50464 has 91 MA's), (19, 50485), (24, 50518), (37, 50641), (40, 50668), (43, 50716),

Gene: Buck\_84 Start: 52169, Stop: 52429, Start Num: 15

Candidate Starts for Buck\_84:

(Start: 14 @52154 has 34 MA's), (Start: 15 @52169 has 91 MA's), (19, 52190), (24, 52223), (36, 52337), (37, 52346), (40, 52373), (43, 52421),

Gene: Budgie\_91 Start: 51938, Stop: 52213, Start Num: 14

Candidate Starts for Budgie\_91:

(Start: 14 @51938 has 34 MA's), (Start: 15 @51953 has 91 MA's), (19, 51974), (24, 52007), (34, 52103), (40, 52157), (43, 52205),

Gene: BugsBunny\_83 Start: 51978, Stop: 52253, Start Num: 14

Candidate Starts for BugsBunny\_83:

(Start: 14 @51978 has 34 MA's), (Start: 15 @51993 has 91 MA's), (19, 52014), (24, 52047), (37, 52170), (40, 52197), (43, 52245),

Gene: Cactus\_86 Start: 50945, Stop: 51205, Start Num: 15

Candidate Starts for Cactus\_86:

(Start: 14 @50930 has 34 MA's), (Start: 15 @50945 has 91 MA's), (19, 50966), (24, 50999), (36, 51113), (37, 51122), (40, 51149), (43, 51197),

Gene: Calm\_71 Start: 47633, Stop: 47881, Start Num: 17

Candidate Starts for Calm\_71:

(Start: 14 @47606 has 34 MA's), (Start: 17 @47633 has 49 MA's), (20, 47651), (Start: 22 @47657 has 23 MA's), (27, 47726), (32, 47759), (35, 47786),

Gene: Chaser\_68 Start: 47833, Stop: 48087, Start Num: 17

Candidate Starts for Chaser\_68:

(Start: 17 @47833 has 49 MA's), (Start: 22 @47857 has 23 MA's), (23, 47872), (26, 47893), (32, 47959),

Gene: ChosenOne\_83 Start: 50930, Stop: 51205, Start Num: 14

Candidate Starts for ChosenOne\_83:

(Start: 14 @50930 has 34 MA's), (Start: 15 @50945 has 91 MA's), (19, 50966), (24, 50999), (37, 51122), (40, 51149), (43, 51197),

Gene: ChotaBhai\_83 Start: 51269, Stop: 51529, Start Num: 15

Candidate Starts for ChotaBhai\_83:

(Start: 14 @51254 has 34 MA's), (Start: 15 @51269 has 91 MA's), (19, 51290), (24, 51323), (36, 51437), (37, 51446), (40, 51473), (43, 51521),

Gene: ChutneyChips\_68 Start: 48095, Stop: 48352, Start Num: 17

Candidate Starts for ChutneyChips\_68:

(Start: 17 @48095 has 49 MA's), (Start: 22 @48119 has 23 MA's), (23, 48134), (30, 48203), (32, 48221), (40, 48296), (41, 48308),

Gene: CicholasNage\_67 Start: 47161, Stop: 47391, Start Num: 22

Candidate Starts for CicholasNage\_67:

(1, 46942), (2, 46981), (3, 46993), (4, 47008), (5, 47020), (6, 47023), (8, 47077), (9, 47080), (13, 47113), (21, 47158), (Start: 22 @47161 has 23 MA's), (32, 47263), (35, 47290),

Gene: Cjw1\_83 Start: 52558, Stop: 52899, Start Num: 7

Candidate Starts for Cjw1\_83:

(Start: 7 @52558 has 2 MA's), (Start: 14 @52624 has 34 MA's), (Start: 15 @52639 has 91 MA's), (19, 52660), (24, 52693), (37, 52816), (40, 52843), (43, 52891),

Gene: Claus\_72 Start: 49213, Stop: 49452, Start Num: 17

Candidate Starts for Claus\_72:

(Start: 17 @49213 has 49 MA's), (Start: 22 @49237 has 23 MA's), (31, 49333), (32, 49339), (33, 49348), (35, 49366),

Gene: Clautastrophe\_69 Start: 49173, Stop: 49454, Start Num: 17

Candidate Starts for Clautastrophe\_69:

(Start: 17 @49173 has 49 MA's), (Start: 22 @49197 has 23 MA's), (32, 49299), (40, 49374),

Gene: Command613\_85 Start: 51984, Stop: 52244, Start Num: 15

Candidate Starts for Command613\_85:

(Start: 14 @51969 has 34 MA's), (Start: 15 @51984 has 91 MA's), (19, 52005), (24, 52038), (37, 52161), (40, 52188), (43, 52236),

Gene: Contagion\_79 Start: 50730, Stop: 51005, Start Num: 14

Candidate Starts for Contagion\_79:

(Start: 14 @50730 has 34 MA's), (Start: 15 @50745 has 91 MA's), (19, 50766), (24, 50799), (37, 50922), (40, 50949), (43, 50997),

Gene: Cookies\_80 Start: 51126, Stop: 51386, Start Num: 15

Candidate Starts for Cookies\_80:

(Start: 14 @51111 has 34 MA's), (Start: 15 @51126 has 91 MA's), (19, 51147), (24, 51180), (36, 51294), (37, 51303), (40, 51330), (43, 51378),

Gene: Crossroads\_71 Start: 48917, Stop: 49171, Start Num: 17

Candidate Starts for Crossroads\_71:

(Start: 17 @48917 has 49 MA's), (Start: 22 @48941 has 23 MA's), (31, 49037), (32, 49043), (33, 49052), (35, 49070),

Gene: CrystalP\_82 Start: 51911, Stop: 52186, Start Num: 14

Candidate Starts for CrystalP\_82:

(Start: 7 @51845 has 2 MA's), (Start: 14 @51911 has 34 MA's), (Start: 15 @51926 has 91 MA's), (19, 51947), (24, 51980), (36, 52094), (37, 52103), (40, 52130), (43, 52178),

Gene: Czyszczone1\_84 Start: 51448, Stop: 51708, Start Num: 15

Candidate Starts for Czyszczone1\_84:

(Start: 7 @51367 has 2 MA's), (Start: 14 @51433 has 34 MA's), (Start: 15 @51448 has 91 MA's), (19, 51469), (24, 51502), (36, 51616), (37, 51625), (40, 51652), (43, 51700),

Gene: DHan\_74 Start: 49113, Stop: 49385, Start Num: 17

Candidate Starts for DHan\_74:

(Start: 17 @49113 has 49 MA's), (Start: 22 @49137 has 23 MA's), (32, 49239), (33, 49248), (35, 49266),

Gene: Daikon\_85 Start: 52072, Stop: 52332, Start Num: 15

Candidate Starts for Daikon\_85:

(Start: 14 @52057 has 34 MA's), (Start: 15 @52072 has 91 MA's), (19, 52093), (24, 52126), (36, 52240), (37, 52249), (40, 52276), (43, 52324),

Gene: DanBing\_73 Start: 49082, Stop: 49321, Start Num: 17

Candidate Starts for DanBing\_73:

(Start: 17 @49082 has 49 MA's), (Start: 22 @49106 has 23 MA's), (32, 49208), (33, 49217), (35, 49235),

Gene: DirkDirk\_66 Start: 46532, Stop: 46756, Start Num: 22

Candidate Starts for DirkDirk\_66:

(1, 46313), (2, 46352), (4, 46379), (5, 46391), (6, 46394), (8, 46448), (9, 46451), (13, 46484), (21, 46529), (Start: 22 @46532 has 23 MA's), (27, 46601), (32, 46634), (35, 46661),

Gene: DoctorDiddles\_82 Start: 51313, Stop: 51573, Start Num: 15

Candidate Starts for DoctorDiddles\_82:

(Start: 14 @51298 has 34 MA's), (Start: 15 @51313 has 91 MA's), (19, 51334), (24, 51367), (36, 51481), (37, 51490), (40, 51517), (43, 51565),

Gene: Douge\_70 Start: 47833, Stop: 48090, Start Num: 17

Candidate Starts for Douge\_70:

(Start: 17 @47833 has 49 MA's), (Start: 22 @47857 has 23 MA's), (23, 47872), (32, 47959), (41, 48046),

Gene: Douzhi\_70 Start: 47883, Stop: 48137, Start Num: 17

Candidate Starts for Douzhi\_70:

(Start: 17 @47883 has 49 MA's), (Start: 22 @47907 has 23 MA's), (23, 47922), (26, 47943), (32, 48009),

Gene: DrDrey\_83 Start: 52367, Stop: 52627, Start Num: 15

Candidate Starts for DrDrey\_83:

(Start: 7 @52286 has 2 MA's), (Start: 14 @52352 has 34 MA's), (Start: 15 @52367 has 91 MA's), (19, 52388), (24, 52421), (37, 52544), (40, 52571), (43, 52619),

Gene: DrSeegs\_71 Start: 48842, Stop: 49096, Start Num: 17

Candidate Starts for DrSeegs\_71:

(Start: 17 @48842 has 49 MA's), (Start: 22 @48866 has 23 MA's), (31, 48962), (32, 48968), (33, 48977), (35, 48995),

Gene: Dumbo\_83 Start: 50850, Stop: 51110, Start Num: 15

Candidate Starts for Dumbo\_83:

(Start: 14 @50835 has 34 MA's), (Start: 15 @50850 has 91 MA's), (19, 50871), (24, 50904), (37, 51027), (40, 51054),

Gene: DuncansLeg\_70 Start: 49209, Stop: 49490, Start Num: 17

Candidate Starts for DuncansLeg\_70:

(Start: 17 @49209 has 49 MA's), (Start: 22 @49233 has 23 MA's), (32, 49335),

Gene: Dusk\_80 Start: 51135, Stop: 51410, Start Num: 14

Candidate Starts for Dusk\_80:

(Start: 14 @51135 has 34 MA's), (Start: 15 @51150 has 91 MA's), (19, 51171), (24, 51204), (37, 51327), (40, 51354), (43, 51402),

Gene: DyoEdafos\_74 Start: 48328, Stop: 48582, Start Num: 17

Candidate Starts for DyoEdafos\_74:

(Start: 17 @48328 has 49 MA's), (Start: 22 @48352 has 23 MA's), (23, 48367), (26, 48388), (32, 48454),

Gene: Easy2Say\_84 Start: 52376, Stop: 52651, Start Num: 14

Candidate Starts for Easy2Say\_84:

(Start: 7 @52310 has 2 MA's), (Start: 14 @52376 has 34 MA's), (Start: 15 @52391 has 91 MA's), (19, 52412), (24, 52445), (36, 52559), (37, 52568), (40, 52595), (43, 52643),

Gene: Elite2014\_82 Start: 50929, Stop: 51204, Start Num: 14

Candidate Starts for Elite2014\_82:

(Start: 14 @50929 has 34 MA's), (Start: 15 @50944 has 91 MA's), (19, 50965), (24, 50998), (37, 51121), (40, 51148), (43, 51196),

Gene: Ellson\_69 Start: 49524, Stop: 49805, Start Num: 17

Candidate Starts for Ellson\_69:

(Start: 17 @49524 has 49 MA's), (Start: 22 @49548 has 23 MA's), (32, 49650),

Gene: Elph10\_83 Start: 50946, Stop: 51206, Start Num: 15

Candidate Starts for Elph10\_83:

(Start: 14 @50931 has 34 MA's), (Start: 15 @50946 has 91 MA's), (19, 50967), (24, 51000), (37, 51123), (40, 51150), (43, 51198),

Gene: Emmina\_83 Start: 50848, Stop: 51108, Start Num: 15

Candidate Starts for Emmina\_83:

(Start: 14 @50833 has 34 MA's), (Start: 15 @50848 has 91 MA's), (19, 50869), (24, 50902), (37, 51025), (40, 51052), (43, 51100),

Gene: Enceladus\_66 Start: 47289, Stop: 47513, Start Num: 22

Candidate Starts for Enceladus\_66:

(1, 47070), (2, 47109), (4, 47136), (5, 47148), (6, 47151), (8, 47205), (9, 47208), (13, 47241), (21, 47286), (Start: 22 @47289 has 23 MA's), (27, 47358), (32, 47391), (35, 47418),

Gene: Eureka\_82 Start: 51860, Stop: 52120, Start Num: 15

Candidate Starts for Eureka\_82:

(10, 51806), (11, 51815), (Start: 15 @51860 has 91 MA's), (19, 51881), (24, 51914), (36, 52028), (37, 52037), (40, 52064), (43, 52112),

Gene: FairyPath\_83 Start: 52048, Stop: 52323, Start Num: 14

Candidate Starts for FairyPath\_83:

(Start: 7 @51982 has 2 MA's), (Start: 14 @52048 has 34 MA's), (Start: 15 @52063 has 91 MA's), (19, 52084), (24, 52117), (37, 52240), (40, 52267), (43, 52315),

Gene: Faith1\_71 Start: 48842, Stop: 49096, Start Num: 17

Candidate Starts for Faith1\_71:

(Start: 17 @48842 has 49 MA's), (Start: 22 @48866 has 23 MA's), (31, 48962), (32, 48968), (33, 48977), (35, 48995),

Gene: FarmResident\_72 Start: 47828, Stop: 48082, Start Num: 17

Candidate Starts for FarmResident\_72:

(Start: 17 @47828 has 49 MA's), (Start: 22 @47852 has 23 MA's), (23, 47867), (26, 47888), (32, 47954),

Gene: Filch\_84 Start: 50873, Stop: 51133, Start Num: 15

Candidate Starts for Filch\_84:

(Start: 14 @50858 has 34 MA's), (Start: 15 @50873 has 91 MA's), (19, 50894), (24, 50927), (37, 51050), (40, 51077), (43, 51125),

Gene: Finemlucis\_72 Start: 49587, Stop: 49817, Start Num: 22

Candidate Starts for Finemlucis\_72:

(Start: 17 @49563 has 49 MA's), (Start: 22 @49587 has 23 MA's), (32, 49689), (33, 49698), (35, 49716),

Gene: Finnry\_70 Start: 49437, Stop: 49718, Start Num: 17

Candidate Starts for Finnry\_70:

(Start: 17 @49437 has 49 MA's), (Start: 22 @49461 has 23 MA's), (32, 49563), (40, 49638),

Gene: FireRed\_87 Start: 52438, Stop: 52698, Start Num: 15

Candidate Starts for FireRed\_87:

(Start: 7 @52357 has 2 MA's), (Start: 14 @52423 has 34 MA's), (Start: 15 @52438 has 91 MA's), (19, 52459), (24, 52492), (37, 52615), (40, 52642), (43, 52690),

Gene: Flypotenuse\_79 Start: 50935, Stop: 51195, Start Num: 15

Candidate Starts for Flypotenuse\_79:

(Start: 14 @50920 has 34 MA's), (Start: 15 @50935 has 91 MA's), (19, 50956), (24, 50989), (36, 51103), (37, 51112), (40, 51139), (43, 51187),

Gene: FoghornLeghorn\_77 Start: 49948, Stop: 50208, Start Num: 15

Candidate Starts for FoghornLeghorn\_77:

(Start: 14 @49933 has 34 MA's), (Start: 15 @49948 has 91 MA's), (19, 49969), (24, 50002), (36, 50116), (37, 50125), (40, 50152), (43, 50200),

Gene: Gabriela\_69 Start: 47689, Stop: 47943, Start Num: 17

Candidate Starts for Gabriela\_69:

(Start: 17 @47689 has 49 MA's), (Start: 22 @47713 has 23 MA's), (32, 47815), (33, 47824), (35, 47842),

Gene: Gage\_85 Start: 51728, Stop: 51988, Start Num: 15

Candidate Starts for Gage\_85:

(Start: 14 @51713 has 34 MA's), (Start: 15 @51728 has 91 MA's), (19, 51749), (24, 51782), (36, 51896), (37, 51905), (40, 51932), (43, 51980),

Gene: Gardann\_72 Start: 48875, Stop: 49129, Start Num: 17

Candidate Starts for Gardann\_72:

(Start: 17 @48875 has 49 MA's), (Start: 22 @48899 has 23 MA's), (31, 48995), (32, 49001), (33, 49010), (35, 49028),

Gene: Gator\_81 Start: 51763, Stop: 52038, Start Num: 14

Candidate Starts for Gator\_81:

(Start: 14 @51763 has 34 MA's), (Start: 15 @51778 has 91 MA's), (19, 51799), (24, 51832), (36, 51946), (37, 51955), (40, 51982), (43, 52030),

Gene: Gemini\_88 Start: 52245, Stop: 52505, Start Num: 15

Candidate Starts for Gemini\_88:

(Start: 14 @52230 has 34 MA's), (Start: 15 @52245 has 91 MA's), (19, 52266), (24, 52299), (36, 52413), (37, 52422), (40, 52449), (43, 52497),

Gene: Glexan\_82 Start: 52065, Stop: 52325, Start Num: 15

Candidate Starts for Glexan\_82:

(Start: 14 @52050 has 34 MA's), (Start: 15 @52065 has 91 MA's), (19, 52086), (24, 52119), (36, 52233), (37, 52242), (40, 52269), (43, 52317),

Gene: Goku\_82 Start: 51589, Stop: 51849, Start Num: 15

Candidate Starts for Goku\_82:

(10, 51535), (11, 51544), (Start: 15 @51589 has 91 MA's), (19, 51610), (24, 51643), (36, 51757), (37, 51766), (40, 51793), (43, 51841),

Gene: GoldenSpark\_87 Start: 51728, Stop: 51988, Start Num: 15

Candidate Starts for GoldenSpark\_87:

(Start: 14 @51713 has 34 MA's), (Start: 15 @51728 has 91 MA's), (19, 51749), (24, 51782), (36, 51896), (37, 51905), (40, 51932), (43, 51980),

Gene: Goldilocks\_86 Start: 51208, Stop: 51483, Start Num: 14

Candidate Starts for Goldilocks\_86:

(Start: 14 @51208 has 34 MA's), (Start: 15 @51223 has 91 MA's), (19, 51244), (24, 51277), (37, 51400), (40, 51427), (43, 51475),

Gene: GooberAzure\_86 Start: 51713, Stop: 51988, Start Num: 14

Candidate Starts for GooberAzure\_86:

(Start: 14 @51713 has 34 MA's), (Start: 15 @51728 has 91 MA's), (19, 51749), (24, 51782), (36, 51896), (37, 51905), (40, 51932), (43, 51980),

Gene: Greep\_87 Start: 52724, Stop: 52984, Start Num: 15

Candidate Starts for Greep\_87:

(Start: 14 @52709 has 34 MA's), (Start: 15 @52724 has 91 MA's), (19, 52745), (24, 52778), (37, 52901), (40, 52928), (43, 52976),

Gene: GuuelaD\_69 Start: 48957, Stop: 49211, Start Num: 17

Candidate Starts for GuuelaD\_69:

(Start: 17 @48957 has 49 MA's), (Start: 22 @48981 has 23 MA's), (31, 49077), (32, 49083), (35, 49110),

Gene: Hafay\_73 Start: 48946, Stop: 49200, Start Num: 17

Candidate Starts for Hafay\_73:

(Start: 17 @48946 has 49 MA's), (Start: 22 @48970 has 23 MA's), (31, 49066), (32, 49072), (35, 49099),

Gene: Halena\_67 Start: 46569, Stop: 46793, Start Num: 22

Candidate Starts for Halena\_67:

(1, 46350), (2, 46389), (3, 46401), (4, 46416), (5, 46428), (6, 46431), (8, 46485), (9, 46488), (13, 46521), (21, 46566), (Start: 22 @46569 has 23 MA's), (27, 46638), (32, 46671), (35, 46698),

Gene: HanKaySha\_83 Start: 51026, Stop: 51286, Start Num: 15

Candidate Starts for HanKaySha\_83:

(Start: 14 @51011 has 34 MA's), (Start: 15 @51026 has 91 MA's), (19, 51047), (24, 51080), (36, 51194), (37, 51203), (40, 51230), (43, 51278),

Gene: Harella\_83 Start: 52581, Stop: 52841, Start Num: 15

Candidate Starts for Harella\_83:

(Start: 14 @52566 has 34 MA's), (Start: 15 @52581 has 91 MA's), (19, 52602), (24, 52635), (36, 52749), (37, 52758), (40, 52785), (43, 52833),

Gene: Henry\_81 Start: 51366, Stop: 51626, Start Num: 15

Candidate Starts for Henry\_81:

(Start: 7 @51285 has 2 MA's), (Start: 14 @51351 has 34 MA's), (Start: 15 @51366 has 91 MA's), (19, 51387), (24, 51420), (36, 51534), (37, 51543), (40, 51570), (43, 51618),

Gene: Highbury\_82 Start: 51017, Stop: 51277, Start Num: 15

Candidate Starts for Highbury\_82:

(Start: 14 @51002 has 34 MA's), (Start: 15 @51017 has 91 MA's), (19, 51038), (24, 51071), (36, 51185), (37, 51194), (40, 51221), (43, 51269),

Gene: Holt\_88 Start: 52142, Stop: 52402, Start Num: 15

Candidate Starts for Holt\_88:

(Start: 14 @52127 has 34 MA's), (Start: 15 @52142 has 91 MA's), (19, 52163), (24, 52196), (36, 52310), (37, 52319), (40, 52346), (43, 52394),

Gene: Hoonter\_86 Start: 51710, Stop: 51985, Start Num: 14

Candidate Starts for Hoonter\_86:

(Start: 14 @51710 has 34 MA's), (Start: 15 @51725 has 91 MA's), (19, 51746), (24, 51779), (36, 51893), (37, 51902), (40, 51929), (43, 51977),

Gene: Hokey\_83 Start: 51558, Stop: 51818, Start Num: 15

Candidate Starts for Hokey\_83:

(Start: 7 @51477 has 2 MA's), (Start: 14 @51543 has 34 MA's), (Start: 15 @51558 has 91 MA's), (19, 51579), (24, 51612), (37, 51735), (40, 51762), (43, 51810),

Gene: HufflyPuff\_86 Start: 52376, Stop: 52651, Start Num: 14

Candidate Starts for HufflyPuff\_86:

(Start: 7 @52310 has 2 MA's), (Start: 14 @52376 has 34 MA's), (Start: 15 @52391 has 91 MA's), (19, 52412), (24, 52445), (36, 52559), (37, 52568), (40, 52595), (43, 52643),

Gene: IHOP\_81 Start: 51490, Stop: 51750, Start Num: 15

Candidate Starts for IHOP\_81:

(Start: 14 @51475 has 34 MA's), (Start: 15 @51490 has 91 MA's), (19, 51511), (24, 51544), (36, 51658), (37, 51667), (40, 51694), (43, 51742),

Gene: Icee\_84 Start: 51392, Stop: 51652, Start Num: 15

Candidate Starts for Icee\_84:

(Start: 14 @51377 has 34 MA's), (Start: 15 @51392 has 91 MA's), (19, 51413), (24, 51446), (36, 51560), (37, 51569), (40, 51596), (43, 51644),

Gene: Inca\_80 Start: 50018, Stop: 50278, Start Num: 15

Candidate Starts for Inca\_80:

(Start: 7 @49937 has 2 MA's), (Start: 14 @50003 has 34 MA's), (Start: 15 @50018 has 91 MA's), (19, 50039), (24, 50072), (36, 50186), (37, 50195), (40, 50222), (43, 50270),

Gene: Itos\_70 Start: 47748, Stop: 48002, Start Num: 17

Candidate Starts for Itos\_70:

(Start: 17 @47748 has 49 MA's), (Start: 22 @47772 has 23 MA's), (31, 47868), (32, 47874), (33, 47883), (35, 47901),

Gene: JeTaime\_83 Start: 52207, Stop: 52467, Start Num: 15

Candidate Starts for JeTaime\_83:

(Start: 7 @52126 has 2 MA's), (Start: 14 @52192 has 34 MA's), (Start: 15 @52207 has 91 MA's), (19, 52228), (24, 52261), (36, 52375), (37, 52384), (40, 52411), (43, 52459),

Gene: Jobypre\_70 Start: 49173, Stop: 49454, Start Num: 17

Candidate Starts for Jobypre\_70:

(Start: 17 @49173 has 49 MA's), (Start: 22 @49197 has 23 MA's), (32, 49299), (40, 49374),

Gene: JoeDirt\_69 Start: 47722, Stop: 47946, Start Num: 22

Candidate Starts for JoeDirt\_69:

(1, 47503), (2, 47542), (3, 47554), (4, 47569), (5, 47581), (6, 47584), (8, 47638), (9, 47641), (13, 47674), (21, 47719), (Start: 22 @47722 has 23 MA's), (27, 47791), (32, 47824), (35, 47851),

Gene: Jubie\_69 Start: 49308, Stop: 49589, Start Num: 17

Candidate Starts for Jubie\_69:

(Start: 17 @49308 has 49 MA's), (Start: 22 @49332 has 23 MA's), (32, 49434), (40, 49509),

Gene: Kahlid\_71 Start: 48848, Stop: 49102, Start Num: 17

Candidate Starts for Kahlid\_71:

(Start: 17 @48848 has 49 MA's), (Start: 22 @48872 has 23 MA's), (31, 48968), (32, 48974), (33, 48983), (35, 49001),

Gene: Kanye\_80 Start: 51074, Stop: 51334, Start Num: 15

Candidate Starts for Kanye\_80:

(Start: 14 @51059 has 34 MA's), (Start: 15 @51074 has 91 MA's), (19, 51095), (24, 51128), (37, 51251), (40, 51278), (43, 51326),

Gene: Kimchi\_87 Start: 51731, Stop: 51991, Start Num: 15

Candidate Starts for Kimchi\_87:

(Start: 14 @51716 has 34 MA's), (Start: 15 @51731 has 91 MA's), (19, 51752), (24, 51785), (36, 51899), (37, 51908), (40, 51935), (43, 51983),

Gene: Kingsolomon\_68 Start: 49180, Stop: 49461, Start Num: 17

Candidate Starts for Kingsolomon\_68:

(Start: 17 @49180 has 49 MA's), (Start: 22 @49204 has 23 MA's), (32, 49306), (40, 49381),

Gene: KirDoubleO7\_68 Start: 49211, Stop: 49492, Start Num: 17

Candidate Starts for KirDoubleO7\_68:

(Start: 17 @49211 has 49 MA's), (Start: 22 @49235 has 23 MA's), (32, 49337),

Gene: Kostya\_83 Start: 51592, Stop: 51852, Start Num: 15

Candidate Starts for Kostya\_83:

(Start: 14 @51577 has 34 MA's), (Start: 15 @51592 has 91 MA's), (19, 51613), (24, 51646), (37, 51769), (40, 51796), (43, 51844),

Gene: Krypton555\_71 Start: 49399, Stop: 49668, Start Num: 17

Candidate Starts for Krypton555\_71:

(Start: 17 @49399 has 49 MA's), (Start: 22 @49423 has 23 MA's), (29, 49501), (32, 49525), (35, 49552), (40, 49600),

Gene: LeBron\_68 Start: 46573, Stop: 46797, Start Num: 22

Candidate Starts for LeBron\_68:

(1, 46354), (2, 46393), (4, 46420), (5, 46432), (6, 46435), (8, 46489), (9, 46492), (13, 46525), (21, 46570), (Start: 22 @46573 has 23 MA's), (27, 46642), (32, 46675), (35, 46702),

Gene: Lewan\_72 Start: 48899, Stop: 49153, Start Num: 17

Candidate Starts for Lewan\_72:

(Start: 17 @48899 has 49 MA's), (Start: 22 @48923 has 23 MA's), (31, 49019), (32, 49025), (33, 49034), (35, 49052),

Gene: LilDestine\_71 Start: 48875, Stop: 49129, Start Num: 17

Candidate Starts for LilDestine\_71:

(Start: 17 @48875 has 49 MA's), (Start: 22 @48899 has 23 MA's), (31, 48995), (32, 49001), (35, 49028),

Gene: Lilac\_85 Start: 51343, Stop: 51603, Start Num: 15

Candidate Starts for Lilac\_85:

(Start: 7 @51262 has 2 MA's), (Start: 14 @51328 has 34 MA's), (Start: 15 @51343 has 91 MA's), (19, 51364), (24, 51397), (36, 51511), (37, 51520), (40, 51547), (43, 51595),

Gene: Lilizi\_84 Start: 51056, Stop: 51316, Start Num: 15

Candidate Starts for Lilizi\_84:

(Start: 14 @51041 has 34 MA's), (Start: 15 @51056 has 91 MA's), (19, 51077), (24, 51110), (37, 51233), (40, 51260), (43, 51308),

Gene: Lilpickle\_82 Start: 50929, Stop: 51204, Start Num: 14

Candidate Starts for Lilpickle\_82:

(Start: 14 @50929 has 34 MA's), (Start: 15 @50944 has 91 MA's), (19, 50965), (24, 50998), (37, 51121), (40, 51148), (43, 51196),

Gene: LiyuLake\_69 Start: 49227, Stop: 49508, Start Num: 17

Candidate Starts for LiyuLake\_69:

(Start: 17 @49227 has 49 MA's), (Start: 22 @49251 has 23 MA's), (32, 49353),

Gene: Loadrie\_70 Start: 48927, Stop: 49181, Start Num: 17

Candidate Starts for Loadrie\_70:

(Start: 17 @48927 has 49 MA's), (Start: 22 @48951 has 23 MA's), (31, 49047), (32, 49053), (33, 49062), (35, 49080),

Gene: Lolly9\_70 Start: 49299, Stop: 49580, Start Num: 17

Candidate Starts for Lolly9\_70:

(Start: 17 @49299 has 49 MA's), (Start: 22 @49323 has 23 MA's), (32, 49425),

Gene: Lumos\_71 Start: 49170, Stop: 49451, Start Num: 17

Candidate Starts for Lumos\_71:

(Start: 17 @49170 has 49 MA's), (Start: 22 @49194 has 23 MA's), (32, 49296), (40, 49371),

Gene: Lynnae\_73 Start: 48873, Stop: 49127, Start Num: 17

Candidate Starts for Lynnae\_73:

(Start: 17 @48873 has 49 MA's), (Start: 22 @48897 has 23 MA's), (31, 48993), (32, 48999), (35, 49026),

Gene: MAckerman\_67 Start: 46562, Stop: 46786, Start Num: 22

Candidate Starts for MAckerman\_67:

(1, 46343), (2, 46382), (3, 46394), (4, 46409), (5, 46421), (6, 46424), (8, 46478), (9, 46481), (13, 46514), (21, 46559), (Start: 22 @46562 has 23 MA's), (27, 46631), (32, 46664), (35, 46691),

Gene: MISSy\_84 Start: 51450, Stop: 51710, Start Num: 15

Candidate Starts for MISSy\_84:

(Start: 14 @51435 has 34 MA's), (Start: 15 @51450 has 91 MA's), (19, 51471), (24, 51504), (36, 51618), (37, 51627), (40, 51654), (43, 51702),

Gene: MPhalcon\_84 Start: 51443, Stop: 51703, Start Num: 15

Candidate Starts for MPhalcon\_84:

(Start: 14 @51428 has 34 MA's), (Start: 15 @51443 has 91 MA's), (19, 51464), (24, 51497), (36, 51611), (37, 51620), (40, 51647), (43, 51695),

Gene: MadamMonkfish\_83 Start: 50671, Stop: 50931, Start Num: 15

Candidate Starts for MadamMonkfish\_83:

(Start: 14 @50656 has 34 MA's), (Start: 15 @50671 has 91 MA's), (19, 50692), (24, 50725), (37, 50848), (40, 50875), (43, 50923),

Gene: Manda\_85 Start: 52978, Stop: 53238, Start Num: 15

Candidate Starts for Manda\_85:

(10, 52924), (11, 52933), (Start: 15 @52978 has 91 MA's), (19, 52999), (24, 53032), (36, 53146), (37, 53155), (40, 53182), (43, 53230),

Gene: Marshmallow\_81 Start: 52205, Stop: 52480, Start Num: 14

Candidate Starts for Marshmallow\_81:

(Start: 14 @52205 has 34 MA's), (Start: 15 @52220 has 91 MA's), (19, 52241), (24, 52274), (36, 52388), (37, 52397), (40, 52424), (43, 52472),

Gene: Maxxinista\_85 Start: 51316, Stop: 51576, Start Num: 15

Candidate Starts for Maxxinista\_85:

(Start: 7 @51235 has 2 MA's), (Start: 14 @51301 has 34 MA's), (Start: 15 @51316 has 91 MA's), (19, 51337), (24, 51370), (36, 51484), (37, 51493), (40, 51520), (43, 51568),

Gene: Miley16\_71 Start: 48842, Stop: 49096, Start Num: 17

Candidate Starts for Miley16\_71:

(Start: 17 @48842 has 49 MA's), (Start: 22 @48866 has 23 MA's), (31, 48962), (32, 48968), (33, 48977), (35, 48995),

Gene: Mindy\_82 Start: 50532, Stop: 50792, Start Num: 15

Candidate Starts for Mindy\_82:

(Start: 7 @50451 has 2 MA's), (Start: 14 @50517 has 34 MA's), (Start: 15 @50532 has 91 MA's), (19, 50553), (24, 50586), (36, 50700), (37, 50709), (40, 50736), (43, 50784),

Gene: MiniLon\_74 Start: 49300, Stop: 49581, Start Num: 17

Candidate Starts for MiniLon\_74:

(Start: 17 @49300 has 49 MA's), (Start: 22 @49324 has 23 MA's), (32, 49426),

Gene: MiniMac\_74 Start: 49298, Stop: 49579, Start Num: 17

Candidate Starts for MiniMac\_74:

(Start: 17 @49298 has 49 MA's), (Start: 22 @49322 has 23 MA's), (32, 49424),

Gene: Miniwave\_78 Start: 50988, Stop: 51248, Start Num: 15

Candidate Starts for Miniwave\_78:

(Start: 7 @50907 has 2 MA's), (Start: 14 @50973 has 34 MA's), (Start: 15 @50988 has 91 MA's), (19, 51009), (24, 51042), (36, 51156), (37, 51165), (40, 51192), (43, 51240),

Gene: Misfit\_84 Start: 52462, Stop: 52722, Start Num: 15

Candidate Starts for Misfit\_84:

(Start: 14 @52447 has 34 MA's), (Start: 15 @52462 has 91 MA's), (19, 52483), (24, 52516), (37, 52639), (40, 52666), (43, 52714),

Gene: MkaliMitinis3\_72 Start: 48911, Stop: 49165, Start Num: 17

Candidate Starts for MkaliMitinis3\_72:

(Start: 17 @48911 has 49 MA's), (Start: 22 @48935 has 23 MA's), (31, 49031), (32, 49037), (35, 49064),

Gene: Moldemort\_86 Start: 51544, Stop: 51804, Start Num: 15

Candidate Starts for Moldemort\_86:

(Start: 14 @51529 has 34 MA's), (Start: 15 @51544 has 91 MA's), (19, 51565), (24, 51598), (36, 51712), (37, 51721), (40, 51748), (43, 51796),

Gene: MollyToe\_78 Start: 50274, Stop: 50549, Start Num: 14

Candidate Starts for MollyToe\_78:

(Start: 7 @50208 has 2 MA's), (Start: 14 @50274 has 34 MA's), (Start: 15 @50289 has 91 MA's), (19, 50310), (24, 50343), (37, 50466), (40, 50493), (43, 50541),

Gene: Moostard\_68 Start: 49176, Stop: 49457, Start Num: 17

Candidate Starts for Moostard\_68:

(Start: 17 @49176 has 49 MA's), (Start: 22 @49200 has 23 MA's), (32, 49302), (40, 49377),

Gene: Mosby\_79 Start: 50745, Stop: 51005, Start Num: 15

Candidate Starts for Mosby\_79:

(Start: 14 @50730 has 34 MA's), (Start: 15 @50745 has 91 MA's), (19, 50766), (24, 50799), (37, 50922), (40, 50949), (43, 50997),

Gene: MsGreen\_70 Start: 49173, Stop: 49454, Start Num: 17

Candidate Starts for MsGreen\_70:

(Start: 17 @49173 has 49 MA's), (Start: 22 @49197 has 23 MA's), (32, 49299), (40, 49374),

Gene: Murica\_86 Start: 52376, Stop: 52651, Start Num: 14

Candidate Starts for Murica\_86:

(Start: 7 @52310 has 2 MA's), (Start: 14 @52376 has 34 MA's), (Start: 15 @52391 has 91 MA's), (19, 52412), (24, 52445), (36, 52559), (37, 52568), (40, 52595), (43, 52643),

Gene: Murphy\_83 Start: 51813, Stop: 52088, Start Num: 14

Candidate Starts for Murphy\_83:

(Start: 14 @51813 has 34 MA's), (Start: 15 @51828 has 91 MA's), (19, 51849), (24, 51882), (36, 51996), (37, 52005), (40, 52032), (43, 52080),

Gene: Myrale\_83 Start: 52088, Stop: 52348, Start Num: 15

Candidate Starts for Myrale\_83:

(Start: 14 @52073 has 34 MA's), (Start: 15 @52088 has 91 MA's), (19, 52109), (24, 52142), (36, 52256), (37, 52265), (40, 52292), (43, 52340),

Gene: Nala\_85 Start: 51952, Stop: 52212, Start Num: 15

Candidate Starts for Nala\_85:

(Start: 14 @51937 has 34 MA's), (Start: 15 @51952 has 91 MA's), (19, 51973), (24, 52006), (36, 52120), (37, 52129), (40, 52156), (43, 52204),

Gene: NelitzaMV\_81 Start: 51034, Stop: 51294, Start Num: 15

Candidate Starts for NelitzaMV\_81:

(Start: 14 @51019 has 34 MA's), (Start: 15 @51034 has 91 MA's), (19, 51055), (24, 51088), (37, 51211), (40, 51238), (43, 51286),

Gene: Netyap\_72 Start: 48843, Stop: 49097, Start Num: 17

Candidate Starts for Netyap\_72:

(Start: 17 @48843 has 49 MA's), (Start: 22 @48867 has 23 MA's), (31, 48963), (32, 48969), (33, 48978), (35, 48996),

Gene: Nicholas\_68 Start: 49180, Stop: 49461, Start Num: 17

Candidate Starts for Nicholas\_68:

(Start: 17 @49180 has 49 MA's), (Start: 22 @49204 has 23 MA's), (32, 49306), (40, 49381),

Gene: Nicholasp3\_71 Start: 48899, Stop: 49129, Start Num: 22

Candidate Starts for Nicholasp3\_71:

(Start: 17 @48875 has 49 MA's), (Start: 22 @48899 has 23 MA's), (31, 48995), (32, 49001), (33, 49010), (35, 49028),

Gene: Nimrod\_84 Start: 52640, Stop: 52915, Start Num: 14

Candidate Starts for Nimrod\_84:

(Start: 14 @52640 has 34 MA's), (Start: 15 @52655 has 91 MA's), (19, 52676), (24, 52709), (37, 52832), (40, 52859), (43, 52907),

Gene: NoSleep\_84 Start: 51289, Stop: 51549, Start Num: 15

Candidate Starts for NoSleep\_84:

(Start: 14 @51274 has 34 MA's), (Start: 15 @51289 has 91 MA's), (19, 51310), (24, 51343), (36, 51457), (37, 51466), (40, 51493), (43, 51541),

Gene: NonchalantPear\_81 Start: 51130, Stop: 51405, Start Num: 14

Candidate Starts for NonchalantPear\_81:

(Start: 14 @51130 has 34 MA's), (Start: 15 @51145 has 91 MA's), (19, 51166), (24, 51199), (37, 51322), (40, 51349), (43, 51397),

Gene: OhShagHennessy\_67 Start: 46438, Stop: 46662, Start Num: 22

Candidate Starts for OhShagHennessy\_67:

(1, 46219), (2, 46258), (4, 46285), (5, 46297), (6, 46300), (8, 46354), (9, 46357), (13, 46390), (21, 46435), (Start: 22 @46438 has 23 MA's), (32, 46540), (35, 46567),

Gene: OrionPax\_82 Start: 51040, Stop: 51300, Start Num: 15

Candidate Starts for OrionPax\_82:

(Start: 14 @51025 has 34 MA's), (Start: 15 @51040 has 91 MA's), (19, 51061), (24, 51094), (37, 51217), (40, 51244), (43, 51292),

Gene: OverPar\_73 Start: 48927, Stop: 49181, Start Num: 17

Candidate Starts for OverPar\_73:

(Start: 17 @48927 has 49 MA's), (Start: 22 @48951 has 23 MA's), (31, 49047), (32, 49053), (33, 49062), (35, 49080),

Gene: PYPDinur\_68 Start: 47913, Stop: 48167, Start Num: 17

Candidate Starts for PYPDinur\_68:

(Start: 17 @47913 has 49 MA's), (Start: 22 @47937 has 23 MA's), (23, 47952), (26, 47973), (32, 48039),

Gene: PaddyBaddy\_83 Start: 51025, Stop: 51300, Start Num: 14

Candidate Starts for PaddyBaddy\_83:

(Start: 7 @50959 has 2 MA's), (Start: 14 @51025 has 34 MA's), (Start: 15 @51040 has 91 MA's), (19, 51061), (24, 51094), (36, 51208), (37, 51217), (40, 51244), (43, 51292),

Gene: Palpatine\_85 Start: 52418, Stop: 52678, Start Num: 15

Candidate Starts for Palpatine\_85:

(Start: 14 @52403 has 34 MA's), (Start: 15 @52418 has 91 MA's), (19, 52439), (24, 52472), (37, 52595), (40, 52622), (43, 52670),

Gene: Paperbeatsrock\_82 Start: 51666, Stop: 51926, Start Num: 15

Candidate Starts for Paperbeatsrock\_82:

(Start: 7 @51585 has 2 MA's), (Start: 14 @51651 has 34 MA's), (Start: 15 @51666 has 91 MA's), (19, 51687), (24, 51720), (36, 51834), (37, 51843), (40, 51870), (43, 51918),

Gene: Pat3\_81 Start: 50198, Stop: 50458, Start Num: 15

Candidate Starts for Pat3\_81:

(Start: 14 @50183 has 34 MA's), (Start: 15 @50198 has 91 MA's), (19, 50219), (24, 50252), (36, 50366), (37, 50375), (40, 50402), (43, 50450),

Gene: Petra64142\_87 Start: 52870, Stop: 53145, Start Num: 14

Candidate Starts for Petra64142\_87:

(Start: 7 @52804 has 2 MA's), (Start: 14 @52870 has 34 MA's), (Start: 15 @52885 has 91 MA's), (19, 52906), (24, 52939), (36, 53053), (37, 53062), (40, 53089), (43, 53137),

Gene: Phaja\_81 Start: 51492, Stop: 51752, Start Num: 15

Candidate Starts for Phaja\_81:

(Start: 7 @51411 has 2 MA's), (Start: 14 @51477 has 34 MA's), (Start: 15 @51492 has 91 MA's), (19, 51513), (24, 51546), (36, 51660), (37, 51669), (40, 51696), (43, 51744),

Gene: Pharsalus\_80 Start: 51466, Stop: 51726, Start Num: 15

Candidate Starts for Pharsalus\_80:

(Start: 7 @51385 has 2 MA's), (Start: 14 @51451 has 34 MA's), (Start: 15 @51466 has 91 MA's), (19, 51487), (24, 51520), (36, 51634), (37, 51643), (40, 51670), (43, 51718),

Gene: PhatBacter\_87 Start: 52438, Stop: 52698, Start Num: 15

Candidate Starts for PhatBacter\_87:

(Start: 7 @52357 has 2 MA's), (Start: 14 @52423 has 34 MA's), (Start: 15 @52438 has 91 MA's), (19, 52459), (24, 52492), (37, 52615), (40, 52642), (43, 52690),

Gene: Phaux\_85 Start: 52418, Stop: 52693, Start Num: 14

Candidate Starts for Phaux\_85:

(Start: 14 @52418 has 34 MA's), (Start: 15 @52433 has 91 MA's), (19, 52454), (24, 52487), (36, 52601), (37, 52610), (40, 52637), (43, 52685),

Gene: Phrux\_80 Start: 51026, Stop: 51286, Start Num: 15

Candidate Starts for Phrux\_80:

(Start: 7 @50945 has 2 MA's), (Start: 14 @51011 has 34 MA's), (Start: 15 @51026 has 91 MA's), (19, 51047), (24, 51080), (36, 51194), (37, 51203), (40, 51230), (43, 51278),

Gene: Policronamos\_86 Start: 52433, Stop: 52693, Start Num: 15

Candidate Starts for Policronamos\_86:

(Start: 14 @52418 has 34 MA's), (Start: 15 @52433 has 91 MA's), (19, 52454), (24, 52487), (36, 52601), (37, 52610), (40, 52637), (43, 52685),

Gene: Poochiewood\_68 Start: 47730, Stop: 47954, Start Num: 22

Candidate Starts for Poochiewood\_68:

(1, 47511), (2, 47550), (3, 47562), (4, 47577), (5, 47589), (6, 47592), (8, 47646), (9, 47649), (13, 47682), (21, 47727), (Start: 22 @47730 has 23 MA's), (27, 47799), (32, 47832), (35, 47859),

Gene: Porky\_82 Start: 50841, Stop: 51116, Start Num: 14

Candidate Starts for Porky\_82:

(Start: 14 @50841 has 34 MA's), (Start: 15 @50856 has 91 MA's), (19, 50877), (24, 50910), (37, 51033), (40, 51060), (43, 51108),

Gene: Ptowny\_80 Start: 50313, Stop: 50588, Start Num: 14

Candidate Starts for Ptowny\_80:

(Start: 14 @50313 has 34 MA's), (Start: 15 @50328 has 91 MA's), (19, 50349), (24, 50382), (37, 50505), (40, 50532), (43, 50580),

Gene: Pumpkin\_86 Start: 52084, Stop: 52344, Start Num: 15

Candidate Starts for Pumpkin\_86:

(Start: 7 @52003 has 2 MA's), (Start: 14 @52069 has 34 MA's), (Start: 15 @52084 has 91 MA's), (19, 52105), (24, 52138), (36, 52252), (37, 52261), (40, 52288), (43, 52336),

Gene: Quallification\_84 Start: 52074, Stop: 52334, Start Num: 15

Candidate Starts for Quallification\_84:

(Start: 14 @52059 has 34 MA's), (Start: 15 @52074 has 91 MA's), (19, 52095), (24, 52128), (37, 52251), (40, 52278), (43, 52326),

Gene: Quby\_70 Start: 47793, Stop: 48047, Start Num: 17

Candidate Starts for Quby\_70:

(Start: 17 @47793 has 49 MA's), (Start: 22 @47817 has 23 MA's), (23, 47832), (26, 47853), (32, 47919),

Gene: Rakim\_84 Start: 51525, Stop: 51800, Start Num: 14

Candidate Starts for Rakim\_84:

(Start: 14 @51525 has 34 MA's), (Start: 15 @51540 has 91 MA's), (19, 51561), (24, 51594), (36, 51708), (37, 51717), (40, 51744), (43, 51792),

Gene: Red305\_71 Start: 49173, Stop: 49454, Start Num: 17

Candidate Starts for Red305\_71:

(Start: 17 @49173 has 49 MA's), (Start: 22 @49197 has 23 MA's), (32, 49299), (40, 49374),

Gene: Rimmer\_84 Start: 51779, Stop: 52039, Start Num: 15

Candidate Starts for Rimmer\_84:

(Start: 14 @51764 has 34 MA's), (Start: 15 @51779 has 91 MA's), (19, 51800), (24, 51833), (36, 51947), (37, 51956), (40, 51983), (43, 52031),

Gene: RiverMonster\_83 Start: 51523, Stop: 51864, Start Num: 7

Candidate Starts for RiverMonster\_83:

(Start: 7 @51523 has 2 MA's), (Start: 14 @51589 has 34 MA's), (Start: 15 @51604 has 91 MA's), (19, 51625), (24, 51658), (36, 51772), (37, 51781), (40, 51808), (43, 51856),

Gene: Rose5\_69 Start: 47742, Stop: 47966, Start Num: 22

Candidate Starts for Rose5\_69:

(1, 47523), (2, 47562), (3, 47574), (4, 47589), (5, 47601), (6, 47604), (8, 47658), (9, 47661), (13, 47694), (21, 47739), (Start: 22 @47742 has 23 MA's), (27, 47811), (32, 47844), (35, 47871),

Gene: Rossetti\_73 Start: 49421, Stop: 49675, Start Num: 17

Candidate Starts for Rossetti\_73:

(Start: 17 @49421 has 49 MA's), (Start: 22 @49445 has 23 MA's), (32, 49547), (33, 49556), (35, 49574),

Gene: Rumpelstiltskin\_70 Start: 48668, Stop: 48922, Start Num: 17

Candidate Starts for Rumpelstiltskin\_70:

(Start: 17 @48668 has 49 MA's), (Start: 22 @48692 has 23 MA's), (31, 48788), (32, 48794), (35, 48821),

Gene: Saints25\_82 Start: 51017, Stop: 51277, Start Num: 15

Candidate Starts for Saints25\_82:

(Start: 14 @51002 has 34 MA's), (Start: 15 @51017 has 91 MA's), (19, 51038), (24, 51071), (36, 51185), (37, 51194), (40, 51221), (43, 51269),

Gene: Samty\_70 Start: 49181, Stop: 49462, Start Num: 17

Candidate Starts for Samty\_70:

(Start: 17 @49181 has 49 MA's), (Start: 22 @49205 has 23 MA's), (32, 49307), (40, 49382),

Gene: Sarshaun\_72 Start: 48935, Stop: 49189, Start Num: 17

Candidate Starts for Sarshaun\_72:

(Start: 17 @48935 has 49 MA's), (Start: 22 @48959 has 23 MA's), (31, 49055), (32, 49061), (33, 49070), (35, 49088),

Gene: Sassay\_78 Start: 49692, Stop: 49967, Start Num: 14

Candidate Starts for Sassay\_78:

(Start: 14 @49692 has 34 MA's), (Start: 15 @49707 has 91 MA's), (19, 49728), (24, 49761), (37, 49884), (40, 49911), (43, 49959),

Gene: ShamWow\_83 Start: 51926, Stop: 52186, Start Num: 15

Candidate Starts for ShamWow\_83:

(Start: 7 @51845 has 2 MA's), (Start: 14 @51911 has 34 MA's), (Start: 15 @51926 has 91 MA's), (19, 51947), (24, 51980), (36, 52094), (37, 52103), (40, 52130), (43, 52178),

Gene: Sheng711\_70 Start: 47918, Stop: 48175, Start Num: 17

Candidate Starts for Sheng711\_70:

(Start: 17 @47918 has 49 MA's), (Start: 22 @47942 has 23 MA's), (23, 47957), (32, 48044), (39, 48110),

Gene: ShereKhan\_81 Start: 51999, Stop: 52259, Start Num: 15

Candidate Starts for ShereKhan\_81:

(Start: 7 @51918 has 2 MA's), (Start: 14 @51984 has 34 MA's), (Start: 15 @51999 has 91 MA's), (19, 52020), (24, 52053), (37, 52176), (40, 52203), (43, 52251),

Gene: Silverleaf\_69 Start: 47192, Stop: 47416, Start Num: 22

Candidate Starts for Silverleaf\_69:

(1, 46973), (2, 47012), (3, 47024), (4, 47039), (5, 47051), (6, 47054), (8, 47108), (9, 47111), (13, 47144), (21, 47189), (Start: 22 @47192 has 23 MA's), (27, 47261), (32, 47294), (35, 47321),

Gene: Simpliphy\_82 Start: 51007, Stop: 51267, Start Num: 15

Candidate Starts for Simpliphy\_82:

(Start: 7 @50926 has 2 MA's), (Start: 14 @50992 has 34 MA's), (Start: 15 @51007 has 91 MA's), (19, 51028), (24, 51061), (36, 51175), (37, 51184), (40, 51211), (43, 51259),

Gene: SirDuracell\_82 Start: 50278, Stop: 50553, Start Num: 14

Candidate Starts for SirDuracell\_82:

(Start: 14 @50278 has 34 MA's), (Start: 15 @50293 has 91 MA's), (19, 50314), (24, 50347), (36, 50461), (37, 50470), (40, 50497), (43, 50545),

Gene: Snenia\_69 Start: 49174, Stop: 49455, Start Num: 17

Candidate Starts for Snenia\_69:

(Start: 17 @49174 has 49 MA's), (Start: 22 @49198 has 23 MA's), (32, 49300), (40, 49375),

Gene: SoJulia\_72 Start: 49504, Stop: 49758, Start Num: 17

Candidate Starts for SoJulia\_72:

(Start: 17 @49504 has 49 MA's), (Start: 22 @49528 has 23 MA's), (32, 49630), (33, 49639), (35, 49657),

Gene: Soap141\_71 Start: 48935, Stop: 49189, Start Num: 17

Candidate Starts for Soap141\_71:

(Start: 17 @48935 has 49 MA's), (Start: 22 @48959 has 23 MA's), (31, 49055), (32, 49061), (33, 49070), (35, 49088),

Gene: SophKB\_80 Start: 50685, Stop: 50945, Start Num: 15

Candidate Starts for SophKB\_80:

(Start: 14 @50670 has 34 MA's), (Start: 15 @50685 has 91 MA's), (19, 50706), (24, 50739), (36, 50853), (37, 50862), (40, 50889), (43, 50937),

Gene: Sotrice96\_84 Start: 51688, Stop: 51948, Start Num: 15

Candidate Starts for Sotrice96\_84:

(Start: 14 @51673 has 34 MA's), (Start: 15 @51688 has 91 MA's), (19, 51709), (24, 51742), (36, 51856), (37, 51865), (40, 51892), (43, 51940),

Gene: Stank\_86 Start: 51946, Stop: 52206, Start Num: 15

Candidate Starts for Stank\_86:

(Start: 14 @51931 has 34 MA's), (Start: 15 @51946 has 91 MA's), (19, 51967), (24, 52000), (36, 52114), (37, 52123), (40, 52150), (43, 52198),

Gene: Stark\_84 Start: 51472, Stop: 51747, Start Num: 14

Candidate Starts for Stark\_84:

(Start: 7 @51406 has 2 MA's), (Start: 14 @51472 has 34 MA's), (Start: 15 @51487 has 91 MA's), (19, 51508), (24, 51541), (36, 51655), (37, 51664), (40, 51691), (43, 51739),

Gene: StellaBean\_81 Start: 51250, Stop: 51510, Start Num: 15

Candidate Starts for StellaBean\_81:

(Start: 7 @51169 has 2 MA's), (Start: 14 @51235 has 34 MA's), (Start: 15 @51250 has 91 MA's), (19, 51271), (24, 51304), (36, 51418), (37, 51427), (40, 51454), (43, 51502),

Gene: StolenFromERC\_86 Start: 51728, Stop: 51988, Start Num: 15

Candidate Starts for StolenFromERC\_86:

(Start: 14 @51713 has 34 MA's), (Start: 15 @51728 has 91 MA's), (19, 51749), (24, 51782), (36, 51896), (37, 51905), (40, 51932), (43, 51980),

Gene: StormChicken\_85 Start: 52386, Stop: 52646, Start Num: 15

Candidate Starts for StormChicken\_85:

(Start: 14 @52371 has 34 MA's), (Start: 15 @52386 has 91 MA's), (19, 52407), (24, 52440), (36, 52554), (37, 52563), (40, 52590), (43, 52638),

Gene: TBrady12\_86 Start: 51427, Stop: 51687, Start Num: 15

Candidate Starts for TBrady12\_86:

(Start: 14 @51412 has 34 MA's), (Start: 15 @51427 has 91 MA's), (19, 51448), (24, 51481), (37, 51604), (40, 51631), (43, 51679),

Gene: Tarkin\_82 Start: 51675, Stop: 51935, Start Num: 15

Candidate Starts for Tarkin\_82:

(Start: 7 @51594 has 2 MA's), (Start: 14 @51660 has 34 MA's), (Start: 15 @51675 has 91 MA's), (19, 51696), (24, 51729), (36, 51843), (37, 51852), (40, 51879), (43, 51927),

Gene: TeamEdward\_85 Start: 52380, Stop: 52640, Start Num: 15

Candidate Starts for TeamEdward\_85:

(Start: 14 @52365 has 34 MA's), (Start: 15 @52380 has 91 MA's), (19, 52401), (24, 52434), (36, 52548), (37, 52557), (40, 52584), (43, 52632),

Gene: TeardropMSU\_79 Start: 50660, Stop: 50935, Start Num: 14

Candidate Starts for TeardropMSU\_79:

(Start: 14 @50660 has 34 MA's), (Start: 15 @50675 has 91 MA's), (19, 50696), (24, 50729), (37, 50852), (40, 50879), (43, 50927),

Gene: Teaspoon\_84 Start: 51569, Stop: 51829, Start Num: 15

Candidate Starts for Teaspoon\_84:

(Start: 7 @51488 has 2 MA's), (Start: 14 @51554 has 34 MA's), (Start: 15 @51569 has 91 MA's), (19, 51590), (24, 51623), (36, 51737), (37, 51746), (40, 51773), (43, 51821),

Gene: Terminus\_86 Start: 52447, Stop: 52722, Start Num: 14

Candidate Starts for Terminus\_86:

(Start: 14 @52447 has 34 MA's), (Start: 15 @52462 has 91 MA's), (19, 52483), (24, 52516), (37, 52639), (40, 52666), (43, 52714),

Gene: Thimble\_84 Start: 50907, Stop: 51167, Start Num: 15

Candidate Starts for Thimble\_84:

(Start: 7 @50826 has 2 MA's), (Start: 14 @50892 has 34 MA's), (Start: 15 @50907 has 91 MA's), (19, 50928), (24, 50961), (36, 51075), (37, 51084), (40, 51111), (43, 51159),

Gene: Thresher\_85 Start: 52546, Stop: 52806, Start Num: 15

Candidate Starts for Thresher\_85:

(Start: 7 @52465 has 2 MA's), (Start: 14 @52531 has 34 MA's), (Start: 15 @52546 has 91 MA's), (19, 52567), (24, 52600), (36, 52714), (37, 52723), (40, 52750), (43, 52798),

Gene: Tomaszewski\_78 Start: 50838, Stop: 51098, Start Num: 15

Candidate Starts for Tomaszewski\_78:

(Start: 14 @50823 has 34 MA's), (Start: 15 @50838 has 91 MA's), (19, 50859), (24, 50892), (37, 51015), (40, 51042), (43, 51090),

Gene: Toto\_81 Start: 51911, Stop: 52186, Start Num: 14

Candidate Starts for Toto\_81:

(Start: 7 @51845 has 2 MA's), (Start: 14 @51911 has 34 MA's), (Start: 15 @51926 has 91 MA's), (19, 51947), (24, 51980), (36, 52094), (37, 52103), (40, 52130), (43, 52178),

Gene: Tourach\_71 Start: 49214, Stop: 49453, Start Num: 17

Candidate Starts for Tourach\_71:

(Start: 17 @49214 has 49 MA's), (Start: 22 @49238 has 23 MA's), (32, 49340), (33, 49349),

Gene: Traaww1\_79 Start: 51110, Stop: 51370, Start Num: 15

Candidate Starts for Traaww1\_79:

(Start: 14 @51095 has 34 MA's), (Start: 15 @51110 has 91 MA's), (19, 51131), (24, 51164), (36, 51278), (37, 51287), (40, 51314), (43, 51362),

Gene: TriFive\_71 Start: 49173, Stop: 49454, Start Num: 17

Candidate Starts for TriFive\_71:

(Start: 17 @49173 has 49 MA's), (Start: 22 @49197 has 23 MA's), (32, 49299), (40, 49374),

Gene: Tuco\_84 Start: 52419, Stop: 52694, Start Num: 14

Candidate Starts for Tuco\_84:

(Start: 14 @52419 has 34 MA's), (Start: 15 @52434 has 91 MA's), (19, 52455), (24, 52488), (36, 52602), (37, 52611), (40, 52638), (43, 52686),

Gene: Tyson\_70 Start: 47668, Stop: 47892, Start Num: 22

Candidate Starts for Tyson\_70:

(1, 47449), (2, 47488), (3, 47500), (4, 47515), (5, 47527), (6, 47530), (8, 47584), (9, 47587), (13, 47620), (21, 47665), (Start: 22 @47668 has 23 MA's), (27, 47737), (32, 47770), (35, 47797),

Gene: UPIE\_68 Start: 47268, Stop: 47492, Start Num: 22

Candidate Starts for UPIE\_68:

(1, 47049), (2, 47088), (4, 47115), (5, 47127), (6, 47130), (8, 47184), (9, 47187), (13, 47220), (21, 47265), (Start: 22 @47268 has 23 MA's), (27, 47337), (32, 47370), (35, 47397),

Gene: Ukulele\_78 Start: 50820, Stop: 51080, Start Num: 15

Candidate Starts for Ukulele\_78:

(Start: 7 @50739 has 2 MA's), (Start: 14 @50805 has 34 MA's), (Start: 15 @50820 has 91 MA's), (19, 50841), (24, 50874), (36, 50988), (37, 50997), (40, 51024), (43, 51072),

Gene: Underpass\_62 Start: 43911, Stop: 44165, Start Num: 17

Candidate Starts for Underpass\_62:

(Start: 17 @43911 has 49 MA's), (Start: 22 @43935 has 23 MA's), (31, 44031), (32, 44037), (33, 44046), (35, 44064),

Gene: Vetric\_71 Start: 48882, Stop: 49136, Start Num: 17

Candidate Starts for Vetric\_71:

(Start: 17 @48882 has 49 MA's), (Start: 22 @48906 has 23 MA's), (31, 49002), (32, 49008), (33, 49017), (35, 49035),

Gene: Wamburgexpress\_70 Start: 47833, Stop: 48048, Start Num: 22

Candidate Starts for Wamburgexpress\_70:

(Start: 14 @47782 has 34 MA's), (16, 47800), (Start: 17 @47809 has 49 MA's), (20, 47827), (Start: 22 @47833 has 23 MA's), (26, 47869), (32, 47935), (33, 47944), (35, 47962),

Gene: Whirlwind\_71 Start: 49276, Stop: 49557, Start Num: 17

Candidate Starts for Whirlwind\_71:

(Start: 17 @49276 has 49 MA's), (Start: 22 @49300 has 23 MA's), (32, 49402),

Gene: Wiggin\_85 Start: 51511, Stop: 51771, Start Num: 15

Candidate Starts for Wiggin\_85:

(Start: 14 @51496 has 34 MA's), (Start: 15 @51511 has 91 MA's), (19, 51532), (24, 51565), (36, 51679), (37, 51688), (40, 51715), (43, 51763),

Gene: Wigglewiggles\_71 Start: 48923, Stop: 49153, Start Num: 22

Candidate Starts for Wigglewiggles\_71:

(Start: 17 @48899 has 49 MA's), (Start: 22 @48923 has 23 MA's), (31, 49019), (32, 49025), (33, 49034), (35, 49052),

Gene: Wilder\_72 Start: 48848, Stop: 49102, Start Num: 17

Candidate Starts for Wilder\_72:

(Start: 17 @48848 has 49 MA's), (Start: 22 @48872 has 23 MA's), (31, 48968), (32, 48974), (33, 48983), (35, 49001),

Gene: Willez\_78 Start: 49707, Stop: 49967, Start Num: 15

Candidate Starts for Willez\_78:

(Start: 14 @49692 has 34 MA's), (Start: 15 @49707 has 91 MA's), (19, 49728), (24, 49761), (37, 49884), (40, 49911), (43, 49959),

Gene: Winky\_71 Start: 48842, Stop: 49096, Start Num: 17

Candidate Starts for Winky\_71:

(Start: 17 @48842 has 49 MA's), (Start: 22 @48866 has 23 MA's), (31, 48962), (32, 48968), (33, 48977), (35, 48995),

Gene: Wyatt2\_70 Start: 47666, Stop: 47890, Start Num: 22

Candidate Starts for Wyatt2\_70:

(1, 47447), (2, 47486), (3, 47498), (4, 47513), (5, 47525), (6, 47528), (8, 47582), (9, 47585), (13, 47618), (21, 47663), (Start: 22 @47666 has 23 MA's), (27, 47735), (32, 47768), (35, 47795),

Gene: Xandras\_82 Start: 50919, Stop: 51179, Start Num: 15

Candidate Starts for Xandras\_82:

(Start: 14 @50904 has 34 MA's), (Start: 15 @50919 has 91 MA's), (19, 50940), (24, 50973), (37, 51096), (40, 51123), (43, 51171),

Gene: YassJohnny\_80 Start: 50862, Stop: 51137, Start Num: 14

Candidate Starts for YassJohnny\_80:

(Start: 7 @50796 has 2 MA's), (Start: 14 @50862 has 34 MA's), (Start: 15 @50877 has 91 MA's), (19, 50898), (24, 50931), (36, 51045), (37, 51054), (40, 51081), (43, 51129),

Gene: Youngblood\_86 Start: 52374, Stop: 52649, Start Num: 14

Candidate Starts for Youngblood\_86:

(Start: 14 @52374 has 34 MA's), (Start: 15 @52389 has 91 MA's), (19, 52410), (24, 52443), (37, 52566), (40, 52593), (43, 52641),

Gene: Zakai\_72 Start: 49168, Stop: 49422, Start Num: 17

Candidate Starts for Zakai\_72:

(Start: 17 @49168 has 49 MA's), (Start: 22 @49192 has 23 MA's), (31, 49288), (32, 49294), (33, 49303), (35, 49321),

Gene: Zaria\_70 Start: 47122, Stop: 47346, Start Num: 22

Candidate Starts for Zaria\_70:

(1, 46903), (2, 46942), (4, 46969), (5, 46981), (6, 46984), (8, 47038), (9, 47041), (13, 47074), (21, 47119), (Start: 22 @47122 has 23 MA's), (27, 47191), (32, 47224), (35, 47251),

Gene: ZhongYanYuan\_70 Start: 48737, Stop: 48976, Start Num: 17

Candidate Starts for ZhongYanYuan\_70:

(Start: 17 @48737 has 49 MA's), (Start: 22 @48761 has 23 MA's), (32, 48863), (33, 48872), (35, 48890),

Gene: xkcd\_86 Start: 52561, Stop: 52836, Start Num: 14

Candidate Starts for xkcd\_86:

(Start: 7 @52495 has 2 MA's), (Start: 14 @52561 has 34 MA's), (Start: 15 @52576 has 91 MA's), (19, 52597), (24, 52630), (36, 52744), (37, 52753), (40, 52780), (43, 52828),