

Pham 292519



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 292519 Report

This analysis was run 04/18/26 on database version 643.

Pham number 292519 has 197 members, 36 are drafts.

Phages represented in each track:

- Track 1 : Ronan\_62, BobaPhatt\_63, Melpomini\_63, Shaqnato\_62, ErnieJ\_66, Halldule\_61, BadAgartude\_67, DirtMonster\_63, Pinkcreek\_60, Yassified\_65, EasyJones\_70, LRRHood\_64, Alice\_62, Grungle\_58, Blackdragon\_63, Lukilu\_60, Bezza\_59, Koguma\_65, Morizzled23\_70, Astraea\_69, Roots515\_67, Napoleon13\_65, Rabinovish\_67, JulietS\_62, Sauce\_69, Shifa\_60, Stubby\_63, Phox\_66
- Track 2 : PurduePete\_68, LolaVinca\_71, FoxtrotP1\_69, Littleton\_68, Kamryn\_68, Blackbrain\_63, Bipolarisk\_68, Guwapp\_67, Ading\_68, Delilah\_69, Dessert\_65, StubbySaigey\_69, CindyLou\_69, Capablanca\_70, Salacia\_71, Gabriel\_70, Jedediah\_70, Willis\_69, FudgeTart\_70, Derek\_68, Jezreel\_67, Tyke\_70, Chomp\_67, ValleyTerrace\_68, DrPhinkDaddy\_68, Jemmno\_68, ShiaLabeouf\_68, Momo\_67, Belieber\_62, Ngannou\_63, Fludd\_68, EmmaElysia\_67, Erdmann\_69, SilverDipper\_69, Flabslab\_65, BananaFence\_69, Gizmo\_72, Delylah\_71, Shelob\_71, Phlegm\_70, McWolfish\_67, Jaygup\_68, Daffodil\_72, GlutenPhree\_69, BackyardAgain\_65, Essence\_67, Caravan\_65, Maby2021\_69, Naija\_67, Mikro\_66, Loanshark\_69, DTDevon\_69, Fixie\_63, Ewok\_69, ChaylaJr\_64, Pivoine\_67, YoungMoneyMata\_68, Primadonna\_64, Nidhogg\_69, Ghost\_67, OrediggerDelux\_66, ZygoTaiga\_68, McGee\_68, Fongie\_67, Amataga\_68, Zeenon\_70, Labradorite\_68, Mangeria\_72, Izajani\_69, Yucca\_68, InigoMontoya\_69, Shnickers\_68, MoMoMixon\_69, SVoro\_67, Atlantean\_67, Asterius\_70, Burrough\_68, Rahel\_69, Rizal\_66, JPickles\_67, LifeSavor\_67, MikeLiesIn\_69, EmToTheThree\_72, Megamind\_68, Bread\_68, Patter\_68, Matsumoto\_67, ScottMcG\_66, YemiJoy2021\_69, Tortoise16\_66, SrishMeg2525\_68, Turret\_63, TinyTim\_69, Bonray\_69, SmallFry\_68, Quasimodo\_68, Dietrick\_62, Khaleesi\_68, Zalkecks\_70, Spec\_65, NedWong\_70, JustHall\_64, InterFolia\_78, Norm\_69, Phusco\_68, Latch\_68, ParkTD\_69, Substance289\_64, Naval22\_74, Gamgam\_68, Darko\_68, Janiyra\_70
- Track 3 : Cane17\_58, Cactojaque\_63, Domi\_62, StephanieG\_68, Colt\_60, RoMag\_63, Duckfeet\_61, Lethe\_67, Chargie21\_64, Ablatia\_65, Rocha\_66, LookingGlass\_70, QBert\_63, BeanWater\_62, JayJay\_75, Teardrop\_68, Adlitam\_68, Iota\_63, Jessibeth14\_67, CharlieB\_66, Montpel\_65, Lee7\_66, ChickenPhender\_64, NuevoMundo\_74, Sprinklers\_65, Lunareta\_65, IkeLoa\_63, Specks\_74, Basquiat\_64, Trinitium\_64
- Track 4 : PharkleMinkus\_73, Pupusa\_73, LordLeafolot\_75, Bowman\_67, FrayBell\_75, Cleatunium\_64, Tainan\_73
- Track 5 : BigCity\_74, Grasshills\_74, EggyFarm\_74
- Track 6 : Blubba\_59
- Track 7 : Moby\_60, Moiqah\_60

- Track 8 : Maturis\_65, DeejaClivia\_59
- Track 9 : JigglyPuff\_73, Demodog\_73, NoodleTree\_69, Bigswole\_75, Concombre\_74
- Track 10 : LinStu\_68, HyRo\_63, Sebata\_69
- Track 11 : Issimir\_68
- Track 12 : I3\_72
- Track 13 : ScoobyDoobyDoo\_47
- Track 14 : Myrna\_53

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

The start number called the most often in the published annotations is 6, it was called in 161 of the 161 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ablatia\_65, Ading\_68, Adlitam\_68, Alice\_62, Amataga\_68, Asterius\_70, Astraea\_69, Atlantean\_67, BackyardAgain\_65, BadAgartude\_67, BananaFence\_69, Basquiat\_64, BeanWater\_62, Belieber\_62, Bezza\_59, BigCity\_74, Bigswole\_75, Bipolarisk\_68, Blackbrain\_63, Blackdragon\_63, Blubba\_59, BobaPhatt\_63, Bonray\_69, Bowman\_67, Bread\_68, Burrough\_68, Cactojaque\_63, Cane17\_58, Capablanca\_70, Caravan\_65, Chargie21\_64, CharlieB\_66, ChaylaJr\_64, ChickenPhender\_64, Chomp\_67, CindyLou\_69, Cleatunium\_64, Colt\_60, Concombre\_74, DTDevon\_69, Daffodil\_72, Darko\_68, DeejaClivia\_59, Delilah\_69, Delylah\_71, Demodog\_73, Derek\_68, Dessert\_65, Dietrick\_62, DirtMonster\_63, Domi\_62, DrPhinkDaddy\_68, Duckfeet\_61, EasyJones\_70, EggyFarm\_74, EmToTheThree\_72, EmmaElysia\_67, Erdmann\_69, ErnieJ\_66, Essence\_67, Ewok\_69, Fixie\_63, Flabslab\_65, Fludd\_68, Fongie\_67, FoxtrotP1\_69, FrayBell\_75, FudgeTart\_70, Gabriel\_70, Gamgam\_68, Ghost\_67, Gizmo\_72, GlutenPhree\_69, Grasshills\_74, Grungle\_58, Guwapp\_67, Halldule\_61, HyRo\_63, I3\_72, IkeLoa\_63, InigoMontoya\_69, InterFolia\_78, Iota\_63, Issimir\_68, Izajani\_69, JPickles\_67, Janiyra\_70, JayJay\_75, Jaygup\_68, Jedediah\_70, Jemmno\_68, Jessibeth14\_67, Jezreel\_67, JigglyPuff\_73, JulietS\_62, JustHall\_64, Kamryn\_68, Khaleesi\_68, Koguma\_65, LRRHood\_64, Labradorite\_68, Latch\_68, Lee7\_66, Lethe\_67, LifeSavor\_67, LinStu\_68, Littleton\_68, Loanshark\_69, LolaVinca\_71, LookingGlass\_70, LordLeafolot\_75, Lukilu\_60, Lunareta\_65, Maby2021\_69, Mangeria\_72, Matsumoto\_67, Maturis\_65, McGee\_68, McWolfish\_67, Megamind\_68, Melpomini\_63, MikeLiesIn\_69, Mikro\_66, MoMoMixon\_69, Moby\_60, Moiqah\_60, Momo\_67, Montpel\_65, Morizzled23\_70, Myrna\_53, Naija\_67, Napoleon13\_65, Naval22\_74, NedWong\_70, Ngannou\_63, Nidhogg\_69, NoodleTree\_69, Norm\_69, NuevoMundo\_74, OrediggerDelux\_66, ParkTD\_69, Patter\_68, PharkleMinkus\_73, Phlegm\_70, Phox\_66, Phusco\_68, Pinkcreek\_60, Pivoine\_67, Primadonna\_64, Pupusa\_73, PurduePete\_68, QBert\_63, Quasimodo\_68, Rabinovish\_67, Rahel\_69, Rizal\_66, RoMag\_63, Rocha\_66, Ronan\_62, Roots515\_67, SVoro\_67, Salacia\_71, Sauce\_69, ScoobyDoobyDoo\_47, ScottMcG\_66, Sebata\_69, Shaqato\_62, Shelob\_71, ShiaLabeouf\_68, Shifa\_60, Shnickers\_68, SilverDipper\_69, SmallFry\_68, Spec\_65, Specks\_74, Sprinklers\_65, SrishMeg2525\_68, StephanieG\_68, StubbySaigey\_69, Stubby\_63, Substance289\_64, Tainan\_73, Teardrop\_68, TinyTim\_69, Tortoise16\_66, Trinitium\_64, Turret\_63, Tyke\_70, ValleyTerrace\_68, Willis\_69, Yassified\_65, YemiJoy2021\_69, YoungMoneyMata\_68, Yucca\_68, Zalkecks\_70, Zeenon\_70, ZygoTaiga\_68,

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

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

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### Summary by start number:

Start 6:

- Found in 197 of 197 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 161 of 161
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ablatia\_65 (C1), Ading\_68 (C1), Adlitam\_68 (C1), Alice\_62 (C1), Amataga\_68 (C1), Asterius\_70 (C1), Astraea\_69 (C1), Atlantean\_67 (C1), BackyardAgain\_65 (C1), BadAgartude\_67 (C1), BananaFence\_69 (C1), Basquiat\_64 (C1), BeanWater\_62 (C1), Belieber\_62 (C1), Bezza\_59 (C1), BigCity\_74 (C1), Bigswole\_75 (C1), Bipolarisk\_68 (C1), Blackbrain\_63 (C1), Blackdragon\_63 (C1), Blubba\_59 (C1), BobaPhatt\_63 (C1), Bonray\_69 (C1), Bowman\_67 (C1), Bread\_68 (C1), Burrough\_68 (C1), Cactojaque\_63 (C1), Cane17\_58 (C1), Capablanca\_70 (C1), Caravan\_65 (C1), Chargie21\_64 (C1), CharlieB\_66 (C1), ChaylaJr\_64 (C1), ChickenPhender\_64 (C1), Chomp\_67 (C1), CindyLou\_69 (C1), Cleatunium\_64 (C1), Colt\_60 (C1), Concombre\_74 (C1), DTDevon\_69 (C1), Daffodil\_72 (C1), Darko\_68 (C1), DeejaClivia\_59 (C1), Delilah\_69 (C1), Delylah\_71 (C1), Demodog\_73 (C1), Derek\_68 (C1), Dessert\_65 (C1), Dietrick\_62 (C1), DirtMonster\_63 (C1), Domi\_62 (C1), DrPhinkDaddy\_68 (C1), Duckfeet\_61 (C1), EasyJones\_70 (C1), EggyFarm\_74 (C1), EmToTheThree\_72 (C1), EmmaElysia\_67 (C1), Erdmann\_69 (C1), ErnieJ\_66 (C1), Essence\_67 (C1), Ewok\_69 (C1), Fixie\_63 (C1), Flabslab\_65 (C1), Fludd\_68 (C1), Fongie\_67 (C1), FoxtrotP1\_69 (C1), FrayBell\_75 (C1), FudgeTart\_70 (C1), Gabriel\_70 (C1), Gamgam\_68 (C1), Ghost\_67 (C1), Gizmo\_72 (C1), GlutenPhree\_69 (C1), Grasshills\_74 (C1), Grungle\_58 (C1), Guwapp\_67 (C1), Halldule\_61 (C1), HyRo\_63 (C1), I3\_72 (C1), IkeLoa\_63 (C1), InigoMontoya\_69 (C1), InterFolia\_78 (C1), Iota\_63 (C1), Issimir\_68 (C1), Izajani\_69 (C1), JPickles\_67 (C1), Janiyra\_70 (C1), JayJay\_75 (C1), Jaygup\_68 (C1), Jediah\_70 (C1), Jemmno\_68 (C1), Jessibeth14\_67 (C1), Jezreel\_67 (C1), JigglyPuff\_73 (C1), JulietS\_62 (C1), JustHall\_64 (C1), Kamryn\_68 (C1), Khaleesi\_68 (C1), Koguma\_65 (C1), LRRHood\_64 (C1), Labradorite\_68 (C1), Latch\_68 (C1), Lee7\_66 (C1), Lethe\_67 (C1), LifeSavor\_67 (C1), LinStu\_68 (C1), Littleton\_68 (C1), Loanshark\_69 (C1), LolaVinca\_71 (C1), LookingGlass\_70 (C1), LordLeafolot\_75 (C1), Lukilu\_60 (C1), Lunareta\_65 (C1), Maby2021\_69 (C1), Mangeria\_72 (C1), Matsumoto\_67 (C1), Maturis\_65 (C1), McGee\_68 (C1), McWolfish\_67 (C1), Megamind\_68 (C1), Melpomini\_63 (C1), MikeLiesIn\_69 (C1), Mikro\_66 (C1), MoMoMixon\_69 (C1), Moby\_60 (C1), Moiqah\_60 (C1), Momo\_67 (C1), Montpel\_65 (C1), Morizzled23\_70 (C1), Myrna\_53 (C2), Naija\_67 (C1), Napoleon13\_65 (C1), Naval22\_74 (C1), NedWong\_70 (C1), Ngannou\_63 (C1), Nidhogg\_69 (C1), NoodleTree\_69 (C1), Norm\_69 (C1), NuevoMundo\_74 (C1), OrediggerDelux\_66 (C1), ParkTD\_69 (C1), Patter\_68 (C1), PharkleMinkus\_73 (C1), Phlegm\_70 (C1), Phox\_66 (C1), Phusco\_68 (C1), Pinkcreek\_60 (C1), Pivoine\_67 (C1), Primadonna\_64 (C1), Pupusa\_73 (C1), PurduePete\_68 (C1), QBert\_63 (C1), Quasimodo\_68 (C1), Rabinovich\_67 (C1), Rahel\_69 (C1), Rizal\_66 (C1), RoMag\_63 (C1), Rocha\_66 (C1), Ronan\_62 (C1), Roots515\_67 (C1), SVoro\_67 (C1), Salacia\_71 (C1), Sauce\_69 (C1), ScoobyDoobyDoo\_47 (C2), ScottMcG\_66 (C1), Sebata\_69 (C1), Shaqnato\_62 (C1),

Shelob\_71 (C1), ShiaLabeouf\_68 (C1), Shifa\_60 (C1), Shnickers\_68 (C1), SilverDipper\_69 (C1), SmallFry\_68 (C1), Spec\_65 (C1), Specks\_74 (C1), Sprinklers\_65 (C1), SrishMeg2525\_68 (C1), StephanieG\_68 (C1), StubbySaigey\_69 (C1), Stubby\_63 (C1), Substance289\_64 (C1), Tainan\_73 (C1), Teardrop\_68 (C1), TinyTim\_69 (C1), Tortoise16\_66 (C1), Trinitium\_64 (C1), Turret\_63 (C1), Tyke\_70 (C1), ValleyTerrace\_68 (C1), Willis\_69 (C1), Yassified\_65 (C1), YemiJoy2021\_69 (C1), YoungMoneyMata\_68 (C1), Yucca\_68 (C1), Zalkecks\_70 (C1), Zeenon\_70 (C1), ZygoTaiga\_68 (C1),

### **Summary by clusters:**

There are 2 clusters represented in this pham: C2, C1,

Info for manual annotations of cluster C1:

- Start number 6 was manually annotated 159 times for cluster C1.

Info for manual annotations of cluster C2:

- Start number 6 was manually annotated 2 times for cluster C2.

### **Gene Information:**

Gene: Ablatia\_65 Start: 21533, Stop: 21739, Start Num: 6

Candidate Starts for Ablatia\_65:

(1, 21326), (2, 21338), (3, 21404), (Start: 6 @21533 has 161 MA's), (7, 21563), (11, 21683), (12, 21710), (14, 21716),

Gene: Ading\_68 Start: 21575, Stop: 21781, Start Num: 6

Candidate Starts for Ading\_68:

(3, 21446), (Start: 6 @21575 has 161 MA's), (7, 21605), (11, 21725), (12, 21752), (14, 21758),

Gene: Adlitam\_68 Start: 21592, Stop: 21798, Start Num: 6

Candidate Starts for Adlitam\_68:

(1, 21385), (2, 21397), (3, 21463), (Start: 6 @21592 has 161 MA's), (7, 21622), (11, 21742), (12, 21769), (14, 21775),

Gene: Alice\_62 Start: 21307, Stop: 21513, Start Num: 6

Candidate Starts for Alice\_62:

(Start: 6 @21307 has 161 MA's), (7, 21337), (11, 21457), (12, 21484), (14, 21490),

Gene: Amataga\_68 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Amataga\_68:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Asterius\_70 Start: 21991, Stop: 22197, Start Num: 6

Candidate Starts for Asterius\_70:

(3, 21862), (Start: 6 @21991 has 161 MA's), (7, 22021), (11, 22141), (12, 22168), (14, 22174),

Gene: Astraea\_69 Start: 22710, Stop: 22916, Start Num: 6

Candidate Starts for Astraea\_69:

(Start: 6 @22710 has 161 MA's), (7, 22740), (11, 22860), (12, 22887), (14, 22893),

Gene: Atlantean\_67 Start: 21596, Stop: 21802, Start Num: 6  
Candidate Starts for Atlantean\_67:  
(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: BackyardAgain\_65 Start: 21527, Stop: 21733, Start Num: 6  
Candidate Starts for BackyardAgain\_65:  
(3, 21398), (Start: 6 @21527 has 161 MA's), (7, 21557), (11, 21677), (12, 21704), (14, 21710),

Gene: BadAgartude\_67 Start: 23051, Stop: 23257, Start Num: 6  
Candidate Starts for BadAgartude\_67:  
(Start: 6 @23051 has 161 MA's), (7, 23081), (11, 23201), (12, 23228), (14, 23234),

Gene: BananaFence\_69 Start: 22534, Stop: 22740, Start Num: 6  
Candidate Starts for BananaFence\_69:  
(3, 22405), (Start: 6 @22534 has 161 MA's), (7, 22564), (11, 22684), (12, 22711), (14, 22717),

Gene: Basquiat\_64 Start: 21078, Stop: 21284, Start Num: 6  
Candidate Starts for Basquiat\_64:  
(1, 20871), (2, 20883), (3, 20949), (Start: 6 @21078 has 161 MA's), (7, 21108), (11, 21228), (12, 21255), (14, 21261),

Gene: BeanWater\_62 Start: 22000, Stop: 22206, Start Num: 6  
Candidate Starts for BeanWater\_62:  
(1, 21793), (2, 21805), (3, 21871), (Start: 6 @22000 has 161 MA's), (7, 22030), (11, 22150), (12, 22177), (14, 22183),

Gene: Belieber\_62 Start: 20948, Stop: 21154, Start Num: 6  
Candidate Starts for Belieber\_62:  
(3, 20819), (Start: 6 @20948 has 161 MA's), (7, 20978), (11, 21098), (12, 21125), (14, 21131),

Gene: Bezza\_59 Start: 21481, Stop: 21687, Start Num: 6  
Candidate Starts for Bezza\_59:  
(Start: 6 @21481 has 161 MA's), (7, 21511), (11, 21631), (12, 21658), (14, 21664),

Gene: BigCity\_74 Start: 24148, Stop: 24351, Start Num: 6  
Candidate Starts for BigCity\_74:  
(4, 24025), (5, 24070), (Start: 6 @24148 has 161 MA's), (7, 24178), (11, 24298), (12, 24325), (15, 24343),

Gene: Bigswole\_75 Start: 25182, Stop: 25385, Start Num: 6  
Candidate Starts for Bigswole\_75:  
(1, 24975), (2, 24987), (3, 25053), (Start: 6 @25182 has 161 MA's), (7, 25212), (11, 25332), (12, 25359), (15, 25377),

Gene: Bipolarisk\_68 Start: 22361, Stop: 22567, Start Num: 6  
Candidate Starts for Bipolarisk\_68:  
(3, 22232), (Start: 6 @22361 has 161 MA's), (7, 22391), (11, 22511), (12, 22538), (14, 22544),

Gene: Blackbrain\_63 Start: 20895, Stop: 21101, Start Num: 6  
Candidate Starts for Blackbrain\_63:  
(3, 20766), (Start: 6 @20895 has 161 MA's), (7, 20925), (11, 21045), (12, 21072), (14, 21078),

Gene: Blackdragon\_63 Start: 21519, Stop: 21725, Start Num: 6

Candidate Starts for Blackdragon\_63:

(Start: 6 @21519 has 161 MA's), (7, 21549), (11, 21669), (12, 21696), (14, 21702),

Gene: Blubba\_59 Start: 19764, Stop: 19970, Start Num: 6

Candidate Starts for Blubba\_59:

(4, 19641), (5, 19686), (Start: 6 @19764 has 161 MA's), (7, 19794), (11, 19914), (12, 19941), (14, 19947),

Gene: BobaPhatt\_63 Start: 21224, Stop: 21430, Start Num: 6

Candidate Starts for BobaPhatt\_63:

(Start: 6 @21224 has 161 MA's), (7, 21254), (11, 21374), (12, 21401), (14, 21407),

Gene: Bonray\_69 Start: 22638, Stop: 22844, Start Num: 6

Candidate Starts for Bonray\_69:

(3, 22509), (Start: 6 @22638 has 161 MA's), (7, 22668), (11, 22788), (12, 22815), (14, 22821),

Gene: Bowman\_67 Start: 22650, Stop: 22853, Start Num: 6

Candidate Starts for Bowman\_67:

(3, 22521), (Start: 6 @22650 has 161 MA's), (7, 22680), (11, 22800), (12, 22827), (15, 22845),

Gene: Bread\_68 Start: 22331, Stop: 22537, Start Num: 6

Candidate Starts for Bread\_68:

(3, 22202), (Start: 6 @22331 has 161 MA's), (7, 22361), (11, 22481), (12, 22508), (14, 22514),

Gene: Burrough\_68 Start: 22364, Stop: 22570, Start Num: 6

Candidate Starts for Burrough\_68:

(3, 22235), (Start: 6 @22364 has 161 MA's), (7, 22394), (11, 22514), (12, 22541), (14, 22547),

Gene: Cactojaque\_63 Start: 21002, Stop: 21208, Start Num: 6

Candidate Starts for Cactojaque\_63:

(1, 20795), (2, 20807), (3, 20873), (Start: 6 @21002 has 161 MA's), (7, 21032), (11, 21152), (12, 21179), (14, 21185),

Gene: Cane17\_58 Start: 19374, Stop: 19580, Start Num: 6

Candidate Starts for Cane17\_58:

(1, 19167), (2, 19179), (3, 19245), (Start: 6 @19374 has 161 MA's), (7, 19404), (11, 19524), (12, 19551), (14, 19557),

Gene: Capablanca\_70 Start: 22721, Stop: 22927, Start Num: 6

Candidate Starts for Capablanca\_70:

(3, 22592), (Start: 6 @22721 has 161 MA's), (7, 22751), (11, 22871), (12, 22898), (14, 22904),

Gene: Caravan\_65 Start: 21709, Stop: 21915, Start Num: 6

Candidate Starts for Caravan\_65:

(3, 21580), (Start: 6 @21709 has 161 MA's), (7, 21739), (11, 21859), (12, 21886), (14, 21892),

Gene: Chargie21\_64 Start: 21078, Stop: 21284, Start Num: 6

Candidate Starts for Chargie21\_64:

(1, 20871), (2, 20883), (3, 20949), (Start: 6 @21078 has 161 MA's), (7, 21108), (11, 21228), (12, 21255), (14, 21261),

Gene: CharlieB\_66 Start: 21235, Stop: 21441, Start Num: 6

Candidate Starts for CharlieB\_66:

(1, 21028), (2, 21040), (3, 21106), (Start: 6 @21235 has 161 MA's), (7, 21265), (11, 21385), (12, 21412), (14, 21418),

Gene: ChaylaJr\_64 Start: 21109, Stop: 21315, Start Num: 6

Candidate Starts for ChaylaJr\_64:

(3, 20980), (Start: 6 @21109 has 161 MA's), (7, 21139), (11, 21259), (12, 21286), (14, 21292),

Gene: ChickenPhender\_64 Start: 21126, Stop: 21332, Start Num: 6

Candidate Starts for ChickenPhender\_64:

(1, 20919), (2, 20931), (3, 20997), (Start: 6 @21126 has 161 MA's), (7, 21156), (11, 21276), (12, 21303), (14, 21309),

Gene: Chomp\_67 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Chomp\_67:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: CindyLou\_69 Start: 22121, Stop: 22327, Start Num: 6

Candidate Starts for CindyLou\_69:

(3, 21992), (Start: 6 @22121 has 161 MA's), (7, 22151), (11, 22271), (12, 22298), (14, 22304),

Gene: Cleatunium\_64 Start: 21746, Stop: 21949, Start Num: 6

Candidate Starts for Cleatunium\_64:

(3, 21617), (Start: 6 @21746 has 161 MA's), (7, 21776), (11, 21896), (12, 21923), (15, 21941),

Gene: Colt\_60 Start: 20360, Stop: 20566, Start Num: 6

Candidate Starts for Colt\_60:

(1, 20153), (2, 20165), (3, 20231), (Start: 6 @20360 has 161 MA's), (7, 20390), (11, 20510), (12, 20537), (14, 20543),

Gene: Concombres\_74 Start: 24709, Stop: 24912, Start Num: 6

Candidate Starts for Concombres\_74:

(1, 24502), (2, 24514), (3, 24580), (Start: 6 @24709 has 161 MA's), (7, 24739), (11, 24859), (12, 24886), (15, 24904),

Gene: DTDevon\_69 Start: 22760, Stop: 22966, Start Num: 6

Candidate Starts for DTDevon\_69:

(3, 22631), (Start: 6 @22760 has 161 MA's), (7, 22790), (11, 22910), (12, 22937), (14, 22943),

Gene: Daffodil\_72 Start: 22650, Stop: 22856, Start Num: 6

Candidate Starts for Daffodil\_72:

(3, 22521), (Start: 6 @22650 has 161 MA's), (7, 22680), (11, 22800), (12, 22827), (14, 22833),

Gene: Darko\_68 Start: 22503, Stop: 22709, Start Num: 6

Candidate Starts for Darko\_68:

(3, 22374), (Start: 6 @22503 has 161 MA's), (7, 22533), (11, 22653), (12, 22680), (14, 22686),

Gene: DeejaClivia\_59 Start: 19751, Stop: 19957, Start Num: 6

Candidate Starts for DeejaClivia\_59:

(Start: 6 @19751 has 161 MA's), (7, 19781), (11, 19901), (12, 19928), (14, 19934),

Gene: Delilah\_69 Start: 22650, Stop: 22856, Start Num: 6

Candidate Starts for Delilah\_69:

(3, 22521), (Start: 6 @22650 has 161 MA's), (7, 22680), (11, 22800), (12, 22827), (14, 22833),

Gene: Delylah\_71 Start: 22428, Stop: 22634, Start Num: 6

Candidate Starts for Delylah\_71:

(3, 22299), (Start: 6 @22428 has 161 MA's), (7, 22458), (11, 22578), (12, 22605), (14, 22611),

Gene: Demodog\_73 Start: 24709, Stop: 24912, Start Num: 6

Candidate Starts for Demodog\_73:

(1, 24502), (2, 24514), (3, 24580), (Start: 6 @24709 has 161 MA's), (7, 24739), (11, 24859), (12, 24886), (15, 24904),

Gene: Derek\_68 Start: 21927, Stop: 22133, Start Num: 6

Candidate Starts for Derek\_68:

(3, 21798), (Start: 6 @21927 has 161 MA's), (7, 21957), (11, 22077), (12, 22104), (14, 22110),

Gene: Dessert\_65 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Dessert\_65:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Dietrick\_62 Start: 20768, Stop: 20974, Start Num: 6

Candidate Starts for Dietrick\_62:

(3, 20639), (Start: 6 @20768 has 161 MA's), (7, 20798), (11, 20918), (12, 20945), (14, 20951),

Gene: DirtMonster\_63 Start: 22094, Stop: 22300, Start Num: 6

Candidate Starts for DirtMonster\_63:

(Start: 6 @22094 has 161 MA's), (7, 22124), (11, 22244), (12, 22271), (14, 22277),

Gene: Domi\_62 Start: 21538, Stop: 21744, Start Num: 6

Candidate Starts for Domi\_62:

(1, 21331), (2, 21343), (3, 21409), (Start: 6 @21538 has 161 MA's), (7, 21568), (11, 21688), (12, 21715), (14, 21721),

Gene: DrPhinkDaddy\_68 Start: 22702, Stop: 22908, Start Num: 6

Candidate Starts for DrPhinkDaddy\_68:

(3, 22573), (Start: 6 @22702 has 161 MA's), (7, 22732), (11, 22852), (12, 22879), (14, 22885),

Gene: Duckfeet\_61 Start: 21202, Stop: 21408, Start Num: 6

Candidate Starts for Duckfeet\_61:

(1, 20995), (2, 21007), (3, 21073), (Start: 6 @21202 has 161 MA's), (7, 21232), (11, 21352), (12, 21379), (14, 21385),

Gene: EasyJones\_70 Start: 22253, Stop: 22459, Start Num: 6

Candidate Starts for EasyJones\_70:

(Start: 6 @22253 has 161 MA's), (7, 22283), (11, 22403), (12, 22430), (14, 22436),

Gene: EggyFarm\_74 Start: 24148, Stop: 24351, Start Num: 6

Candidate Starts for EggyFarm\_74:

(4, 24025), (5, 24070), (Start: 6 @24148 has 161 MA's), (7, 24178), (11, 24298), (12, 24325), (15, 24343),

Gene: EmToTheThree\_72 Start: 24122, Stop: 24328, Start Num: 6

Candidate Starts for EmToTheThree\_72:

(3, 23993), (Start: 6 @24122 has 161 MA's), (7, 24152), (11, 24272), (12, 24299), (14, 24305),

Gene: EmmaElysia\_67 Start: 21166, Stop: 21372, Start Num: 6  
Candidate Starts for EmmaElysia\_67:  
(3, 21037), (Start: 6 @21166 has 161 MA's), (7, 21196), (11, 21316), (12, 21343), (14, 21349),

Gene: Erdmann\_69 Start: 22650, Stop: 22856, Start Num: 6  
Candidate Starts for Erdmann\_69:  
(3, 22521), (Start: 6 @22650 has 161 MA's), (7, 22680), (11, 22800), (12, 22827), (14, 22833),

Gene: ErnieJ\_66 Start: 21597, Stop: 21803, Start Num: 6  
Candidate Starts for ErnieJ\_66:  
(Start: 6 @21597 has 161 MA's), (7, 21627), (11, 21747), (12, 21774), (14, 21780),

Gene: Essence\_67 Start: 21450, Stop: 21656, Start Num: 6  
Candidate Starts for Essence\_67:  
(3, 21321), (Start: 6 @21450 has 161 MA's), (7, 21480), (11, 21600), (12, 21627), (14, 21633),

Gene: Ewok\_69 Start: 22653, Stop: 22859, Start Num: 6  
Candidate Starts for Ewok\_69:  
(3, 22524), (Start: 6 @22653 has 161 MA's), (7, 22683), (11, 22803), (12, 22830), (14, 22836),

Gene: Fixie\_63 Start: 20795, Stop: 21001, Start Num: 6  
Candidate Starts for Fixie\_63:  
(3, 20666), (Start: 6 @20795 has 161 MA's), (7, 20825), (11, 20945), (12, 20972), (14, 20978),

Gene: Flabslab\_65 Start: 21672, Stop: 21878, Start Num: 6  
Candidate Starts for Flabslab\_65:  
(3, 21543), (Start: 6 @21672 has 161 MA's), (7, 21702), (11, 21822), (12, 21849), (14, 21855),

Gene: Fludd\_68 Start: 21525, Stop: 21731, Start Num: 6  
Candidate Starts for Fludd\_68:  
(3, 21396), (Start: 6 @21525 has 161 MA's), (7, 21555), (11, 21675), (12, 21702), (14, 21708),

Gene: Fongie\_67 Start: 22869, Stop: 23075, Start Num: 6  
Candidate Starts for Fongie\_67:  
(3, 22740), (Start: 6 @22869 has 161 MA's), (7, 22899), (11, 23019), (12, 23046), (14, 23052),

Gene: FoxtrotP1\_69 Start: 23037, Stop: 23243, Start Num: 6  
Candidate Starts for FoxtrotP1\_69:  
(3, 22908), (Start: 6 @23037 has 161 MA's), (7, 23067), (11, 23187), (12, 23214), (14, 23220),

Gene: FrayBell\_75 Start: 24164, Stop: 24367, Start Num: 6  
Candidate Starts for FrayBell\_75:  
(3, 24035), (Start: 6 @24164 has 161 MA's), (7, 24194), (11, 24314), (12, 24341), (15, 24359),

Gene: FudgeTart\_70 Start: 22572, Stop: 22778, Start Num: 6  
Candidate Starts for FudgeTart\_70:  
(3, 22443), (Start: 6 @22572 has 161 MA's), (7, 22602), (11, 22722), (12, 22749), (14, 22755),

Gene: Gabriel\_70 Start: 21829, Stop: 22035, Start Num: 6  
Candidate Starts for Gabriel\_70:  
(3, 21700), (Start: 6 @21829 has 161 MA's), (7, 21859), (11, 21979), (12, 22006), (14, 22012),

Gene: Gamgam\_68 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Gamgam\_68:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Ghost\_67 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Ghost\_67:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Gizmo\_72 Start: 22333, Stop: 22539, Start Num: 6

Candidate Starts for Gizmo\_72:

(3, 22204), (Start: 6 @22333 has 161 MA's), (7, 22363), (11, 22483), (12, 22510), (14, 22516),

Gene: GlutenPhree\_69 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for GlutenPhree\_69:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Grasshills\_74 Start: 24148, Stop: 24351, Start Num: 6

Candidate Starts for Grasshills\_74:

(4, 24025), (5, 24070), (Start: 6 @24148 has 161 MA's), (7, 24178), (11, 24298), (12, 24325), (15, 24343),

Gene: Grungle\_58 Start: 19785, Stop: 19991, Start Num: 6

Candidate Starts for Grungle\_58:

(Start: 6 @19785 has 161 MA's), (7, 19815), (11, 19935), (12, 19962), (14, 19968),

Gene: Guwapp\_67 Start: 21691, Stop: 21897, Start Num: 6

Candidate Starts for Guwapp\_67:

(3, 21562), (Start: 6 @21691 has 161 MA's), (7, 21721), (11, 21841), (12, 21868), (14, 21874),

Gene: Halldule\_61 Start: 20362, Stop: 20568, Start Num: 6

Candidate Starts for Halldule\_61:

(Start: 6 @20362 has 161 MA's), (7, 20392), (11, 20512), (12, 20539), (14, 20545),

Gene: HyRo\_63 Start: 21714, Stop: 21920, Start Num: 6

Candidate Starts for HyRo\_63:

(Start: 6 @21714 has 161 MA's), (7, 21744), (11, 21864), (12, 21891), (14, 21897),

Gene: I3\_72 Start: 22560, Stop: 22766, Start Num: 6

Candidate Starts for I3\_72:

(4, 22437), (Start: 6 @22560 has 161 MA's), (7, 22590), (11, 22710), (12, 22737), (14, 22743),

Gene: IkeLoa\_63 Start: 21335, Stop: 21541, Start Num: 6

Candidate Starts for IkeLoa\_63:

(1, 21128), (2, 21140), (3, 21206), (Start: 6 @21335 has 161 MA's), (7, 21365), (11, 21485), (12, 21512), (14, 21518),

Gene: InigoMontoya\_69 Start: 21557, Stop: 21763, Start Num: 6

Candidate Starts for InigoMontoya\_69:

(3, 21428), (Start: 6 @21557 has 161 MA's), (7, 21587), (11, 21707), (12, 21734), (14, 21740),

Gene: InterFolia\_78 Start: 25102, Stop: 25308, Start Num: 6

Candidate Starts for InterFolia\_78:

(3, 24973), (Start: 6 @25102 has 161 MA's), (7, 25132), (11, 25252), (12, 25279), (14, 25285),

Gene: Iota\_63 Start: 21691, Stop: 21897, Start Num: 6

Candidate Starts for Iota\_63:

(1, 21484), (2, 21496), (3, 21562), (Start: 6 @21691 has 161 MA's), (7, 21721), (11, 21841), (12, 21868), (14, 21874),

Gene: Issimir\_68 Start: 22593, Stop: 22799, Start Num: 6

Candidate Starts for Issimir\_68:

(1, 22386), (3, 22464), (Start: 6 @22593 has 161 MA's), (7, 22623), (11, 22743), (12, 22770), (14, 22776),

Gene: Izajani\_69 Start: 22666, Stop: 22872, Start Num: 6

Candidate Starts for Izajani\_69:

(3, 22537), (Start: 6 @22666 has 161 MA's), (7, 22696), (11, 22816), (12, 22843), (14, 22849),

Gene: JPickles\_67 Start: 20790, Stop: 20996, Start Num: 6

Candidate Starts for JPickles\_67:

(3, 20661), (Start: 6 @20790 has 161 MA's), (7, 20820), (11, 20940), (12, 20967), (14, 20973),

Gene: Janiyra\_70 Start: 22355, Stop: 22561, Start Num: 6

Candidate Starts for Janiyra\_70:

(3, 22226), (Start: 6 @22355 has 161 MA's), (7, 22385), (11, 22505), (12, 22532), (14, 22538),

Gene: JayJay\_75 Start: 23147, Stop: 23353, Start Num: 6

Candidate Starts for JayJay\_75:

(1, 22940), (2, 22952), (3, 23018), (Start: 6 @23147 has 161 MA's), (7, 23177), (11, 23297), (12, 23324), (14, 23330),

Gene: Jaygup\_68 Start: 21592, Stop: 21798, Start Num: 6

Candidate Starts for Jaygup\_68:

(3, 21463), (Start: 6 @21592 has 161 MA's), (7, 21622), (11, 21742), (12, 21769), (14, 21775),

Gene: Jedediah\_70 Start: 22093, Stop: 22299, Start Num: 6

Candidate Starts for Jedediah\_70:

(3, 21964), (Start: 6 @22093 has 161 MA's), (7, 22123), (11, 22243), (12, 22270), (14, 22276),

Gene: Jemmno\_68 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Jemmno\_68:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Jessibeth14\_67 Start: 22112, Stop: 22318, Start Num: 6

Candidate Starts for Jessibeth14\_67:

(1, 21905), (2, 21917), (3, 21983), (Start: 6 @22112 has 161 MA's), (7, 22142), (11, 22262), (12, 22289), (14, 22295),

Gene: Jezreel\_67 Start: 21909, Stop: 22115, Start Num: 6

Candidate Starts for Jezreel\_67:

(3, 21780), (Start: 6 @21909 has 161 MA's), (7, 21939), (11, 22059), (12, 22086), (14, 22092),

Gene: JigglyPuff\_73 Start: 24102, Stop: 24305, Start Num: 6

Candidate Starts for JigglyPuff\_73:

(1, 23895), (2, 23907), (3, 23973), (Start: 6 @24102 has 161 MA's), (7, 24132), (11, 24252), (12, 24279), (15, 24297),

Gene: JulietS\_62 Start: 20213, Stop: 20419, Start Num: 6  
Candidate Starts for JulietS\_62:  
(Start: 6 @20213 has 161 MA's), (7, 20243), (11, 20363), (12, 20390), (14, 20396),

Gene: JustHall\_64 Start: 21915, Stop: 22121, Start Num: 6  
Candidate Starts for JustHall\_64:  
(3, 21786), (Start: 6 @21915 has 161 MA's), (7, 21945), (11, 22065), (12, 22092), (14, 22098),

Gene: Kamryn\_68 Start: 22269, Stop: 22475, Start Num: 6  
Candidate Starts for Kamryn\_68:  
(3, 22140), (Start: 6 @22269 has 161 MA's), (7, 22299), (11, 22419), (12, 22446), (14, 22452),

Gene: Khaleesi\_68 Start: 22397, Stop: 22603, Start Num: 6  
Candidate Starts for Khaleesi\_68:  
(3, 22268), (Start: 6 @22397 has 161 MA's), (7, 22427), (11, 22547), (12, 22574), (14, 22580),

Gene: Koguma\_65 Start: 20431, Stop: 20637, Start Num: 6  
Candidate Starts for Koguma\_65:  
(Start: 6 @20431 has 161 MA's), (7, 20461), (11, 20581), (12, 20608), (14, 20614),

Gene: LRRHood\_64 Start: 22354, Stop: 22560, Start Num: 6  
Candidate Starts for LRRHood\_64:  
(Start: 6 @22354 has 161 MA's), (7, 22384), (11, 22504), (12, 22531), (14, 22537),

Gene: Labradorite\_68 Start: 21713, Stop: 21919, Start Num: 6  
Candidate Starts for Labradorite\_68:  
(3, 21584), (Start: 6 @21713 has 161 MA's), (7, 21743), (11, 21863), (12, 21890), (14, 21896),

Gene: Latch\_68 Start: 21596, Stop: 21802, Start Num: 6  
Candidate Starts for Latch\_68:  
(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Lee7\_66 Start: 22328, Stop: 22534, Start Num: 6  
Candidate Starts for Lee7\_66:  
(1, 22121), (2, 22133), (3, 22199), (Start: 6 @22328 has 161 MA's), (7, 22358), (11, 22478), (12, 22505), (14, 22511),

Gene: Lethe\_67 Start: 22591, Stop: 22797, Start Num: 6  
Candidate Starts for Lethe\_67:  
(1, 22384), (2, 22396), (3, 22462), (Start: 6 @22591 has 161 MA's), (7, 22621), (11, 22741), (12, 22768), (14, 22774),

Gene: LifeSavor\_67 Start: 21315, Stop: 21521, Start Num: 6  
Candidate Starts for LifeSavor\_67:  
(3, 21186), (Start: 6 @21315 has 161 MA's), (7, 21345), (11, 21465), (12, 21492), (14, 21498),

Gene: LinStu\_68 Start: 23060, Stop: 23266, Start Num: 6  
Candidate Starts for LinStu\_68:  
(Start: 6 @23060 has 161 MA's), (7, 23090), (11, 23210), (12, 23237), (14, 23243),

Gene: Littleton\_68 Start: 21596, Stop: 21802, Start Num: 6  
Candidate Starts for Littleton\_68:  
(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Loanshark\_69 Start: 22650, Stop: 22856, Start Num: 6

Candidate Starts for Loanshark\_69:

(3, 22521), (Start: 6 @22650 has 161 MA's), (7, 22680), (11, 22800), (12, 22827), (14, 22833),

Gene: LolaVinca\_71 Start: 23811, Stop: 24017, Start Num: 6

Candidate Starts for LolaVinca\_71:

(3, 23682), (Start: 6 @23811 has 161 MA's), (7, 23841), (11, 23961), (12, 23988), (14, 23994),

Gene: LookingGlass\_70 Start: 23093, Stop: 23299, Start Num: 6

Candidate Starts for LookingGlass\_70:

(1, 22886), (2, 22898), (3, 22964), (Start: 6 @23093 has 161 MA's), (7, 23123), (11, 23243), (12, 23270), (14, 23276),

Gene: LordLeafolot\_75 Start: 24163, Stop: 24366, Start Num: 6

Candidate Starts for LordLeafolot\_75:

(3, 24034), (Start: 6 @24163 has 161 MA's), (7, 24193), (11, 24313), (12, 24340), (15, 24358),

Gene: Lukilu\_60 Start: 21556, Stop: 21762, Start Num: 6

Candidate Starts for Lukilu\_60:

(Start: 6 @21556 has 161 MA's), (7, 21586), (11, 21706), (12, 21733), (14, 21739),

Gene: Lunareta\_65 Start: 22546, Stop: 22752, Start Num: 6

Candidate Starts for Lunareta\_65:

(1, 22339), (2, 22351), (3, 22417), (Start: 6 @22546 has 161 MA's), (7, 22576), (11, 22696), (12, 22723), (14, 22729),

Gene: Maby2021\_69 Start: 22331, Stop: 22537, Start Num: 6

Candidate Starts for Maby2021\_69:

(3, 22202), (Start: 6 @22331 has 161 MA's), (7, 22361), (11, 22481), (12, 22508), (14, 22514),

Gene: Mangeria\_72 Start: 23674, Stop: 23880, Start Num: 6

Candidate Starts for Mangeria\_72:

(3, 23545), (Start: 6 @23674 has 161 MA's), (7, 23704), (11, 23824), (12, 23851), (14, 23857),

Gene: Matsumoto\_67 Start: 21557, Stop: 21763, Start Num: 6

Candidate Starts for Matsumoto\_67:

(3, 21428), (Start: 6 @21557 has 161 MA's), (7, 21587), (11, 21707), (12, 21734), (14, 21740),

Gene: Maturis\_65 Start: 22183, Stop: 22389, Start Num: 6

Candidate Starts for Maturis\_65:

(Start: 6 @22183 has 161 MA's), (7, 22213), (11, 22333), (12, 22360), (14, 22366),

Gene: McGee\_68 Start: 20780, Stop: 20986, Start Num: 6

Candidate Starts for McGee\_68:

(3, 20651), (Start: 6 @20780 has 161 MA's), (7, 20810), (11, 20930), (12, 20957), (14, 20963),

Gene: McWolfish\_67 Start: 22078, Stop: 22284, Start Num: 6

Candidate Starts for McWolfish\_67:

(3, 21949), (Start: 6 @22078 has 161 MA's), (7, 22108), (11, 22228), (12, 22255), (14, 22261),

Gene: Megamind\_68 Start: 22316, Stop: 22522, Start Num: 6

Candidate Starts for Megamind\_68:

(3, 22187), (Start: 6 @22316 has 161 MA's), (7, 22346), (11, 22466), (12, 22493), (14, 22499),

Gene: Melpomini\_63 Start: 20665, Stop: 20871, Start Num: 6

Candidate Starts for Melpomini\_63:

(Start: 6 @20665 has 161 MA's), (7, 20695), (11, 20815), (12, 20842), (14, 20848),

Gene: MikeLiesIn\_69 Start: 22663, Stop: 22869, Start Num: 6

Candidate Starts for MikeLiesIn\_69:

(3, 22534), (Start: 6 @22663 has 161 MA's), (7, 22693), (11, 22813), (12, 22840), (14, 22846),

Gene: Mikro\_66 Start: 23137, Stop: 23343, Start Num: 6

Candidate Starts for Mikro\_66:

(3, 23008), (Start: 6 @23137 has 161 MA's), (7, 23167), (11, 23287), (12, 23314), (14, 23320),

Gene: MoMoMixon\_69 Start: 22748, Stop: 22954, Start Num: 6

Candidate Starts for MoMoMixon\_69:

(3, 22619), (Start: 6 @22748 has 161 MA's), (7, 22778), (11, 22898), (12, 22925), (14, 22931),

Gene: Moby\_60 Start: 19152, Stop: 19358, Start Num: 6

Candidate Starts for Moby\_60:

(Start: 6 @19152 has 161 MA's), (7, 19182), (11, 19302), (12, 19329), (14, 19335),

Gene: Moiqah\_60 Start: 19152, Stop: 19358, Start Num: 6

Candidate Starts for Moiqah\_60:

(Start: 6 @19152 has 161 MA's), (7, 19182), (11, 19302), (12, 19329), (14, 19335),

Gene: Momo\_67 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Momo\_67:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Montpel\_65 Start: 22546, Stop: 22752, Start Num: 6

Candidate Starts for Montpel\_65:

(1, 22339), (2, 22351), (3, 22417), (Start: 6 @22546 has 161 MA's), (7, 22576), (11, 22696), (12, 22723), (14, 22729),

Gene: Morizzled23\_70 Start: 22280, Stop: 22486, Start Num: 6

Candidate Starts for Morizzled23\_70:

(Start: 6 @22280 has 161 MA's), (7, 22310), (11, 22430), (12, 22457), (14, 22463),

Gene: Myrna\_53 Start: 21157, Stop: 21366, Start Num: 6

Candidate Starts for Myrna\_53:

(Start: 6 @21157 has 161 MA's), (7, 21187), (10, 21307), (13, 21340), (16, 21358),

Gene: Naija\_67 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Naija\_67:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Napoleon13\_65 Start: 20589, Stop: 20795, Start Num: 6

Candidate Starts for Napoleon13\_65:

(Start: 6 @20589 has 161 MA's), (7, 20619), (11, 20739), (12, 20766), (14, 20772),

Gene: Naval22\_74 Start: 23673, Stop: 23879, Start Num: 6

Candidate Starts for Naval22\_74:

(3, 23544), (Start: 6 @23673 has 161 MA's), (7, 23703), (11, 23823), (12, 23850), (14, 23856),

Gene: NedWong\_70 Start: 22650, Stop: 22856, Start Num: 6

Candidate Starts for NedWong\_70:

(3, 22521), (Start: 6 @22650 has 161 MA's), (7, 22680), (11, 22800), (12, 22827), (14, 22833),

Gene: Ngannou\_63 Start: 20578, Stop: 20784, Start Num: 6

Candidate Starts for Ngannou\_63:

(3, 20449), (Start: 6 @20578 has 161 MA's), (7, 20608), (11, 20728), (12, 20755), (14, 20761),

Gene: Nidhogg\_69 Start: 22504, Stop: 22710, Start Num: 6

Candidate Starts for Nidhogg\_69:

(3, 22375), (Start: 6 @22504 has 161 MA's), (7, 22534), (11, 22654), (12, 22681), (14, 22687),

Gene: NoodleTree\_69 Start: 22511, Stop: 22714, Start Num: 6

Candidate Starts for NoodleTree\_69:

(1, 22304), (2, 22316), (3, 22382), (Start: 6 @22511 has 161 MA's), (7, 22541), (11, 22661), (12, 22688), (15, 22706),

Gene: Norm\_69 Start: 22651, Stop: 22857, Start Num: 6

Candidate Starts for Norm\_69:

(3, 22522), (Start: 6 @22651 has 161 MA's), (7, 22681), (11, 22801), (12, 22828), (14, 22834),

Gene: NuevoMundo\_74 Start: 23710, Stop: 23916, Start Num: 6

Candidate Starts for NuevoMundo\_74:

(1, 23503), (2, 23515), (3, 23581), (Start: 6 @23710 has 161 MA's), (7, 23740), (11, 23860), (12, 23887), (14, 23893),

Gene: OrediggerDelux\_66 Start: 22332, Stop: 22538, Start Num: 6

Candidate Starts for OrediggerDelux\_66:

(3, 22203), (Start: 6 @22332 has 161 MA's), (7, 22362), (11, 22482), (12, 22509), (14, 22515),

Gene: ParkTD\_69 Start: 22650, Stop: 22856, Start Num: 6

Candidate Starts for ParkTD\_69:

(3, 22521), (Start: 6 @22650 has 161 MA's), (7, 22680), (11, 22800), (12, 22827), (14, 22833),

Gene: Patter\_68 Start: 21613, Stop: 21819, Start Num: 6

Candidate Starts for Patter\_68:

(3, 21484), (Start: 6 @21613 has 161 MA's), (7, 21643), (11, 21763), (12, 21790), (14, 21796),

Gene: PharkleMinkus\_73 Start: 24164, Stop: 24367, Start Num: 6

Candidate Starts for PharkleMinkus\_73:

(3, 24035), (Start: 6 @24164 has 161 MA's), (7, 24194), (11, 24314), (12, 24341), (15, 24359),

Gene: Phlegm\_70 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Phlegm\_70:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Phox\_66 Start: 23036, Stop: 23242, Start Num: 6

Candidate Starts for Phox\_66:

(Start: 6 @23036 has 161 MA's), (7, 23066), (11, 23186), (12, 23213), (14, 23219),

Gene: Phusco\_68 Start: 22406, Stop: 22612, Start Num: 6

Candidate Starts for Phusco\_68:

(3, 22277), (Start: 6 @22406 has 161 MA's), (7, 22436), (11, 22556), (12, 22583), (14, 22589),

Gene: Pinkcreek\_60 Start: 20614, Stop: 20820, Start Num: 6

Candidate Starts for Pinkcreek\_60:

(Start: 6 @20614 has 161 MA's), (7, 20644), (11, 20764), (12, 20791), (14, 20797),

Gene: Pivoine\_67 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for Pivoine\_67:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Primadonna\_64 Start: 21995, Stop: 22201, Start Num: 6

Candidate Starts for Primadonna\_64:

(3, 21866), (Start: 6 @21995 has 161 MA's), (7, 22025), (11, 22145), (12, 22172), (14, 22178),

Gene: Pupusa\_73 Start: 24531, Stop: 24734, Start Num: 6

Candidate Starts for Pupusa\_73:

(3, 24402), (Start: 6 @24531 has 161 MA's), (7, 24561), (11, 24681), (12, 24708), (15, 24726),

Gene: PurduePete\_68 Start: 22374, Stop: 22580, Start Num: 6

Candidate Starts for PurduePete\_68:

(3, 22245), (Start: 6 @22374 has 161 MA's), (7, 22404), (11, 22524), (12, 22551), (14, 22557),

Gene: QBert\_63 Start: 22445, Stop: 22651, Start Num: 6

Candidate Starts for QBert\_63:

(1, 22238), (2, 22250), (3, 22316), (Start: 6 @22445 has 161 MA's), (7, 22475), (11, 22595), (12, 22622), (14, 22628),

Gene: Quasimodo\_68 Start: 22614, Stop: 22820, Start Num: 6

Candidate Starts for Quasimodo\_68:

(3, 22485), (Start: 6 @22614 has 161 MA's), (7, 22644), (11, 22764), (12, 22791), (14, 22797),

Gene: Rabinovish\_67 Start: 23332, Stop: 23538, Start Num: 6

Candidate Starts for Rabinovish\_67:

(Start: 6 @23332 has 161 MA's), (7, 23362), (11, 23482), (12, 23509), (14, 23515),

Gene: Rahel\_69 Start: 21965, Stop: 22171, Start Num: 6

Candidate Starts for Rahel\_69:

(3, 21836), (Start: 6 @21965 has 161 MA's), (7, 21995), (11, 22115), (12, 22142), (14, 22148),

Gene: Rizal\_66 Start: 21567, Stop: 21773, Start Num: 6

Candidate Starts for Rizal\_66:

(3, 21438), (Start: 6 @21567 has 161 MA's), (7, 21597), (11, 21717), (12, 21744), (14, 21750),

Gene: RoMag\_63 Start: 21569, Stop: 21775, Start Num: 6

Candidate Starts for RoMag\_63:

(1, 21362), (2, 21374), (3, 21440), (Start: 6 @21569 has 161 MA's), (7, 21599), (11, 21719), (12, 21746), (14, 21752),

Gene: Rocha\_66 Start: 21656, Stop: 21862, Start Num: 6

Candidate Starts for Rocha\_66:

(1, 21449), (2, 21461), (3, 21527), (Start: 6 @21656 has 161 MA's), (7, 21686), (11, 21806), (12, 21833), (14, 21839),

Gene: Ronan\_62 Start: 19853, Stop: 20059, Start Num: 6

Candidate Starts for Ronan\_62:

(Start: 6 @19853 has 161 MA's), (7, 19883), (11, 20003), (12, 20030), (14, 20036),

Gene: Roots515\_67 Start: 22051, Stop: 22257, Start Num: 6

Candidate Starts for Roots515\_67:

(Start: 6 @22051 has 161 MA's), (7, 22081), (11, 22201), (12, 22228), (14, 22234),

Gene: SVoro\_67 Start: 22644, Stop: 22850, Start Num: 6

Candidate Starts for SVoro\_67:

(3, 22515), (Start: 6 @22644 has 161 MA's), (7, 22674), (11, 22794), (12, 22821), (14, 22827),

Gene: Salacia\_71 Start: 22708, Stop: 22914, Start Num: 6

Candidate Starts for Salacia\_71:

(3, 22579), (Start: 6 @22708 has 161 MA's), (7, 22738), (11, 22858), (12, 22885), (14, 22891),

Gene: Sauce\_69 Start: 22254, Stop: 22460, Start Num: 6

Candidate Starts for Sauce\_69:

(Start: 6 @22254 has 161 MA's), (7, 22284), (11, 22404), (12, 22431), (14, 22437),

Gene: ScoobyDoobyDoo\_47 Start: 17127, Stop: 17333, Start Num: 6

Candidate Starts for ScoobyDoobyDoo\_47:

(Start: 6 @17127 has 161 MA's), (8, 17166), (9, 17193), (13, 17310), (15, 17325),

Gene: ScottMcG\_66 Start: 22428, Stop: 22634, Start Num: 6

Candidate Starts for ScottMcG\_66:

(3, 22299), (Start: 6 @22428 has 161 MA's), (7, 22458), (11, 22578), (12, 22605), (14, 22611),

Gene: Sebata\_69 Start: 23179, Stop: 23385, Start Num: 6

Candidate Starts for Sebata\_69:

(Start: 6 @23179 has 161 MA's), (7, 23209), (11, 23329), (12, 23356), (14, 23362),

Gene: Shaqnato\_62 Start: 20776, Stop: 20982, Start Num: 6

Candidate Starts for Shaqnato\_62:

(Start: 6 @20776 has 161 MA's), (7, 20806), (11, 20926), (12, 20953), (14, 20959),

Gene: Shelob\_71 Start: 23642, Stop: 23848, Start Num: 6

Candidate Starts for Shelob\_71:

(3, 23513), (Start: 6 @23642 has 161 MA's), (7, 23672), (11, 23792), (12, 23819), (14, 23825),

Gene: ShiaLabeouf\_68 Start: 22033, Stop: 22239, Start Num: 6

Candidate Starts for ShiaLabeouf\_68:

(3, 21904), (Start: 6 @22033 has 161 MA's), (7, 22063), (11, 22183), (12, 22210), (14, 22216),

Gene: Shifa\_60 Start: 21161, Stop: 21367, Start Num: 6

Candidate Starts for Shifa\_60:

(Start: 6 @21161 has 161 MA's), (7, 21191), (11, 21311), (12, 21338), (14, 21344),

Gene: Shnickers\_68 Start: 21592, Stop: 21798, Start Num: 6

Candidate Starts for Shnickers\_68:

(3, 21463), (Start: 6 @21592 has 161 MA's), (7, 21622), (11, 21742), (12, 21769), (14, 21775),

Gene: SilverDipper\_69 Start: 21596, Stop: 21802, Start Num: 6  
Candidate Starts for SilverDipper\_69:  
(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: SmallFry\_68 Start: 21592, Stop: 21798, Start Num: 6  
Candidate Starts for SmallFry\_68:  
(3, 21463), (Start: 6 @21592 has 161 MA's), (7, 21622), (11, 21742), (12, 21769), (14, 21775),

Gene: Spec\_65 Start: 21736, Stop: 21942, Start Num: 6  
Candidate Starts for Spec\_65:  
(3, 21607), (Start: 6 @21736 has 161 MA's), (7, 21766), (11, 21886), (12, 21913), (14, 21919),

Gene: Specks\_74 Start: 24125, Stop: 24331, Start Num: 6  
Candidate Starts for Specks\_74:  
(1, 23918), (2, 23930), (3, 23996), (Start: 6 @24125 has 161 MA's), (7, 24155), (11, 24275), (12, 24302), (14, 24308),

Gene: Sprinklers\_65 Start: 21626, Stop: 21832, Start Num: 6  
Candidate Starts for Sprinklers\_65:  
(1, 21419), (2, 21431), (3, 21497), (Start: 6 @21626 has 161 MA's), (7, 21656), (11, 21776), (12, 21803), (14, 21809),

Gene: SrishMeg2525\_68 Start: 22361, Stop: 22567, Start Num: 6  
Candidate Starts for SrishMeg2525\_68:  
(3, 22232), (Start: 6 @22361 has 161 MA's), (7, 22391), (11, 22511), (12, 22538), (14, 22544),

Gene: StephanieG\_68 Start: 23026, Stop: 23232, Start Num: 6  
Candidate Starts for StephanieG\_68:  
(1, 22819), (2, 22831), (3, 22897), (Start: 6 @23026 has 161 MA's), (7, 23056), (11, 23176), (12, 23203), (14, 23209),

Gene: Stubby\_63 Start: 21945, Stop: 22151, Start Num: 6  
Candidate Starts for Stubby\_63:  
(Start: 6 @21945 has 161 MA's), (7, 21975), (11, 22095), (12, 22122), (14, 22128),

Gene: StubbySaigey\_69 Start: 21290, Stop: 21496, Start Num: 6  
Candidate Starts for StubbySaigey\_69:  
(3, 21161), (Start: 6 @21290 has 161 MA's), (7, 21320), (11, 21440), (12, 21467), (14, 21473),

Gene: Substance289\_64 Start: 21066, Stop: 21272, Start Num: 6  
Candidate Starts for Substance289\_64:  
(3, 20937), (Start: 6 @21066 has 161 MA's), (7, 21096), (11, 21216), (12, 21243), (14, 21249),

Gene: Tainan\_73 Start: 24163, Stop: 24366, Start Num: 6  
Candidate Starts for Tainan\_73:  
(3, 24034), (Start: 6 @24163 has 161 MA's), (7, 24193), (11, 24313), (12, 24340), (15, 24358),

Gene: Teardrop\_68 Start: 21449, Stop: 21655, Start Num: 6  
Candidate Starts for Teardrop\_68:  
(1, 21242), (2, 21254), (3, 21320), (Start: 6 @21449 has 161 MA's), (7, 21479), (11, 21599), (12, 21626), (14, 21632),

Gene: TinyTim\_69 Start: 22650, Stop: 22856, Start Num: 6

Candidate Starts for TinyTim\_69:

(3, 22521), (Start: 6 @22650 has 161 MA's), (7, 22680), (11, 22800), (12, 22827), (14, 22833),

Gene: Tortoise16\_66 Start: 22100, Stop: 22306, Start Num: 6

Candidate Starts for Tortoise16\_66:

(3, 21971), (Start: 6 @22100 has 161 MA's), (7, 22130), (11, 22250), (12, 22277), (14, 22283),

Gene: Trinitium\_64 Start: 21111, Stop: 21317, Start Num: 6

Candidate Starts for Trinitium\_64:

(1, 20904), (2, 20916), (3, 20982), (Start: 6 @21111 has 161 MA's), (7, 21141), (11, 21261), (12, 21288), (14, 21294),

Gene: Turret\_63 Start: 20777, Stop: 20983, Start Num: 6

Candidate Starts for Turret\_63:

(3, 20648), (Start: 6 @20777 has 161 MA's), (7, 20807), (11, 20927), (12, 20954), (14, 20960),

Gene: Tyke\_70 Start: 23004, Stop: 23210, Start Num: 6

Candidate Starts for Tyke\_70:

(3, 22875), (Start: 6 @23004 has 161 MA's), (7, 23034), (11, 23154), (12, 23181), (14, 23187),

Gene: ValleyTerrace\_68 Start: 21596, Stop: 21802, Start Num: 6

Candidate Starts for ValleyTerrace\_68:

(3, 21467), (Start: 6 @21596 has 161 MA's), (7, 21626), (11, 21746), (12, 21773), (14, 21779),

Gene: Willis\_69 Start: 22545, Stop: 22751, Start Num: 6

Candidate Starts for Willis\_69:

(3, 22416), (Start: 6 @22545 has 161 MA's), (7, 22575), (11, 22695), (12, 22722), (14, 22728),

Gene: Yassified\_65 Start: 21613, Stop: 21819, Start Num: 6

Candidate Starts for Yassified\_65:

(Start: 6 @21613 has 161 MA's), (7, 21643), (11, 21763), (12, 21790), (14, 21796),

Gene: YemiJoy2021\_69 Start: 22331, Stop: 22537, Start Num: 6

Candidate Starts for YemiJoy2021\_69:

(3, 22202), (Start: 6 @22331 has 161 MA's), (7, 22361), (11, 22481), (12, 22508), (14, 22514),

Gene: YoungMoneyMata\_68 Start: 21347, Stop: 21553, Start Num: 6

Candidate Starts for YoungMoneyMata\_68:

(3, 21218), (Start: 6 @21347 has 161 MA's), (7, 21377), (11, 21497), (12, 21524), (14, 21530),

Gene: Yucca\_68 Start: 22572, Stop: 22778, Start Num: 6

Candidate Starts for Yucca\_68:

(3, 22443), (Start: 6 @22572 has 161 MA's), (7, 22602), (11, 22722), (12, 22749), (14, 22755),

Gene: Zalkecks\_70 Start: 22335, Stop: 22541, Start Num: 6

Candidate Starts for Zalkecks\_70:

(3, 22206), (Start: 6 @22335 has 161 MA's), (7, 22365), (11, 22485), (12, 22512), (14, 22518),

Gene: Zeenon\_70 Start: 22637, Stop: 22843, Start Num: 6

Candidate Starts for Zeenon\_70:

(3, 22508), (Start: 6 @22637 has 161 MA's), (7, 22667), (11, 22787), (12, 22814), (14, 22820),

Gene: ZygoTaiga\_68 Start: 22651, Stop: 22857, Start Num: 6

Candidate Starts for ZygoTaiga\_68:

(3, 22522), (Start: 6 @22651 has 161 MA's), (7, 22681), (11, 22801), (12, 22828), (14, 22834),