

Pham 304665



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 304665 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304665 has 286 members, 27 are drafts.

Phages represented in each track:

- Track 1 : BeesKnees\_77, Bigchungu\_77, Rubeus\_77, Alsfro\_83, PacerPaul\_81, Adahisdi\_72, Marco3\_79, Wilkins\_73, Topgun\_72, Alvin\_74, Traft412\_76, BigMau\_79, Ciao\_73, Gyzlar\_69, Bircsak\_77, Dreamboat\_76, Seanderson\_76, Iqorha\_68, Monet\_80, Arcanine\_80, Phlippers\_74, BillKnuckles\_70, Bexan\_71, Lamina13\_80, Ichabod\_79, Slagathor\_77, Peterson\_75, Dynamix\_76, Michley\_77, Squee\_77, Beatrix\_73, GMonster\_74, Sagefire\_73, Francis47\_78, Bigfoot\_71, Anglerfish\_78, Ajay\_73, Treddle\_78, McGuire\_76, HermioneGrange\_80, Marcell\_69, StrongArm\_72, Petp2012\_77, Oogway\_75, Fascinus\_72, Marchy\_68, DD5\_74, Blue\_73, Solon\_72, Crispicous1\_71, Hami1\_69, Thor\_80, Rajelicia\_78, HanShotFirst\_74, GageAP\_79, Kugel\_78, SarFire\_80, Edtherson\_75, Violet\_71, SkiPole\_85, Rufus\_79, Chanagan\_73, TheloniousMonk\_78, Agaliana\_74, Briton15\_79, CactusRose\_79, Switzer\_75, Fenn\_79, Naira\_78, Rohr\_79, Paraselene\_74, Bob3\_77, Jerm2\_78, Fushigi\_70, Scowl\_77, Zephyr\_78, Maroc7\_78, PherrisBueller\_75, Bruns\_79, Jasper\_75, Pippin\_77, Whitspit\_69, DreamCatcher\_80, Teodoridan\_74, Inyanga\_68, ProMouse\_76, Gompeii16\_77, Pepe\_70, PinkPlastic\_72, Norz\_72, PowerRanger\_72, Papez\_78, Snazzy\_77, Bones\_72, ILeeKay\_74, Seabiscuit\_77, ShortQueendom\_71, Carlyle\_77
- Track 2 : Espresso\_70, PattyP\_76, Lockley\_73, Tote\_72, Niza\_76, Dulcie\_77, Acme\_80, Levia\_70, Ohno789\_79, BPBiebs31\_81, Sibs6\_76, Burton\_77, Puppet\_71, U2\_70, PSullivan\_74, NEHalo\_72, Sumter\_73, Arlo\_76, Magnar\_72, Makemake\_79, PhineBark\_72, Sorpresa\_75, Abbysshoes\_76, Forsytheast\_78, PascalRango\_74, HarryOW\_77, Paphu\_71, Swole\_77, Dussy\_75, AFIS\_73, Smairt\_80, STLscum\_82, Moose\_78, Gwendoluna\_80, Pelly\_79, Fajezeel\_79, Perseus\_76, MaryBeth\_74, Zeeculate\_72, BarrowTuph\_79, Museum\_76, PhrostyMug\_78, BluSpix\_74, Lesedi\_73, SwissCheese\_80, KyMonks1A\_82, Corvo\_78, DrFeelGood\_72, Eyeball\_75, SpikeBT\_73, Pita2\_77, Tasp14\_75, Mryolo\_71, Parliament\_77, Gandalf20\_75, Lopton\_75, Molly\_76, Greg\_79, Watermelon\_79, Sandaddy\_74, MetalQZJ\_73, MPlant7149\_76, Bethlehem\_79, Mule\_75, JuliaChild\_77, Aeneas\_81, Pari\_81, EnzoK\_77, Kenmech\_78
- Track 3 : Rutherferd\_78
- Track 4 : Euphoria\_77, GrecoEtereo\_80, BaconJack\_78, Manatee\_74
- Track 5 : Blackflame\_72, BK1\_70, Bxb1\_70, Tripl3t\_79, LilBib\_73, Raid\_73, Sunshine924\_77, Marsha\_76, Graduation\_79, Magnito\_75, KSSJEB\_73, Petruccio\_76, A6\_70
- Track 6 : JackSparrow\_77
- Track 7 : Dexes\_77, Applejack\_75, Barriga\_83, Hope4ever\_77
- Track 8 : Abrogate\_730

- Track 9 : Smeagol\_79
- Track 10 : Doom\_69, ChristmasHams\_67, Licorice\_77, Atkinbua\_82, Altman\_79, Kanely\_78, ConceptII\_81
- Track 11 : Ashballer\_78
- Track 12 : JC27\_77, Zeuska\_78, Jorgensen\_83, MilleFeuille\_76
- Track 13 : MrGordo\_77, Big3\_77
- Track 14 : Wheeler\_81
- Track 15 : Trouble\_76
- Track 16 : CartmannCramer\_72, Rhynn\_72
- Track 17 : IgnatiusPatJac\_76, StewieG\_72
- Track 18 : Target\_76, Marge\_73
- Track 19 : TwoPeat\_76
- Track 20 : Homines\_64
- Track 21 : Killigrew\_73
- Track 22 : McSinger\_75
- Track 23 : Turj99\_72
- Track 24 : BigPaolini\_74, KBG\_74
- Track 25 : Sanya\_71
- Track 26 : Ringer\_76, Nhonho\_72, Blesser\_70
- Track 27 : Ruotula\_80
- Track 28 : Nerujay\_80
- Track 29 : Kykar\_76
- Track 30 : Mkhusele\_73
- Track 31 : Pinto\_76
- Track 32 : Zimmer\_79
- Track 33 : Duplo\_84, AN9\_82, Kerberos\_83, DBQu4n\_83, Travvers\_83, Pomar16\_83, C3\_75, VC3\_81, AN18\_82, Tomathan\_83, StarStuff\_83
- Track 34 : Jsquared\_87
- Track 35 : L5\_76, Koduck\_83
- Track 36 : Serenity\_86, TipsytheTRex\_82
- Track 37 : Quokka\_85, Bradman\_86, MajorMajor\_80
- Track 38 : Aragog\_70, PickleBack\_71, Lev2\_71
- Track 39 : Phlorence\_69, AgentM\_70
- Track 40 : Tarynearal\_69
- Track 41 : Zolita\_69
- Track 42 : Theia\_69, Micasa\_70, Dublin\_70
- Track 43 : Ghouboy\_70, Archetta\_68, Bluefalcon\_66, SydNat\_70
- Track 44 : Swirley\_70, Prinashe11\_68, Twigg\_69
- Track 45 : Milcery\_70
- Track 46 : MarysWell\_70
- Track 47 : SheaKeira\_82
- Track 48 : Fruitloop\_38, SeaLumen\_44, Batiatus\_39, Hermia\_71, CatBus\_68, KikiBouba\_72, LunaBlu\_43, Aldrich\_68, Enzomatic\_45, Melissauren88\_39, Noxious\_72, QTRlifeCrisis\_75, GroundGoblin\_70, Polo2Bam\_44, DirtDevil\_70, Buttons\_73

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

The start number called the most often in the published annotations is 20, it was called in 225 of the 259 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6\_70, AFIS\_73, Abbyshoes\_76, Abrogate\_730, Acme\_80, Adahisdi\_72, Aeneas\_81, Agaliana\_74, Ajay\_73, Aldrich\_68, Alsfro\_83, Altman\_79, Alvin\_74, Anglerfish\_78, Applejack\_75, Arcanine\_80, Archetta\_68, Arlo\_76, Ashballer\_78, Atkinbua\_82, BK1\_70, BPBiebs31\_81, BaconJack\_78, Barriga\_83, BarrowTuph\_79, Batiatus\_39, Beatrix\_73, BeesKnees\_77, Bethlehem\_79, Bexan\_71, Big3\_77, BigMau\_79, Bigchungj\_77, Bigfoot\_71, BillKnuckles\_70, Bircsak\_77, Blackflame\_72, Blesser\_70, BluSpix\_74, Blue\_73, Bluefalcon\_66, Bob3\_77, Bones\_72, Briton15\_79, Bruns\_79, Burton\_77, Buttons\_73, Bxb1\_70, CactusRose\_79, Carlyle\_77, CartmannCramer\_72, CatBus\_68, Chanagan\_73, ChristmasHams\_67, Ciao\_73, ConceptII\_81, Corvo\_78, Crispicous1\_71, DD5\_74, Dexes\_77, DirtDevil\_70, Doom\_69, DrFeelGood\_72, DreamCatcher\_80, Dreamboat\_76, Dublin\_70, Dulcie\_77, Dussy\_75, Dynamix\_76, Edtherson\_75, EnzoK\_77, Enzomatic\_45, Espresso\_70, Euphoria\_77, Eyeball\_75, Fajezeel\_79, Fascinus\_72, Fenn\_79, Forsytheast\_78, Francis47\_78, Fruitloop\_38, Fushigi\_70, GMonster\_74, GageAP\_79, Gandalf20\_75, Ghoulyboy\_70, Gompeii16\_77, Graduation\_79, GrecoEtereo\_80, Greg\_79, GroundGoblin\_70, Gwendoluna\_80, Gyzlar\_69, Hami1\_69, HanShotFirst\_74, HarryOW\_77, Hermia\_71, HermioneGrange\_80, Homines\_64, Hope4ever\_77, ILeeKay\_74, Ichabod\_79, Inyanga\_68, Iqorha\_68, JackSparrow\_77, Jasper\_75, Jerm2\_78, JuliaChild\_77, KSSJEB\_73, Kanely\_78, Kenmech\_78, KikiBouba\_72, Killigrew\_73, Kugel\_78, KyMonks1A\_82, Kykar\_76, Lamina13\_80, Lesedi\_73, Levia\_70, Licorice\_77, LilBib\_73, Lockley\_73, Lopton\_75, LunaBlu\_43, MPlant7149\_76, Magnar\_72, Magnito\_75, Makemake\_79, Manatee\_74, Marcell\_69, Marchy\_68, Marco3\_79, Marge\_73, Maroc7\_78, Marsha\_76, MaryBeth\_74, MarysWell\_70, McGuire\_76, McSinger\_75, Melissauren88\_39, MetalQZJ\_73, Micasa\_70, Michley\_77, Mkhuseleli\_73, Molly\_76, Monet\_80, Moose\_78, MrGordo\_77, Mryolo\_71, Mule\_75, Museum\_76, NEHalo\_72, Naira\_78, Nerujay\_80, Nhonho\_72, Niza\_76, Norz\_72, Noxious\_72, Ohno789\_79, Oogway\_75, PSullivan\_74, PacerPaul\_81, Papez\_78, Paphu\_71, Paraselene\_74, Pari\_81, Parliament\_77, PascalRango\_74, PattyP\_76, Pelly\_79, Pepe\_70, Perseus\_76, Peterson\_75, Petp2012\_77, Petruccio\_76, PherrisBueller\_75, PhineBark\_72, Phlippers\_74, PhrostyMug\_78, PinkPlastic\_72, Pinto\_76, Pippin\_77, Pita2\_77, Polo2Bam\_44, PowerRanger\_72, ProMouse\_76, Puppet\_71, QTRlifeCrisis\_75, Raid\_73, Rajelicia\_78, Rhynn\_72, Ringer\_76, Rohr\_79, Rubeus\_77, Rufus\_79, Ruotula\_80, Rutherford\_78, STLscum\_82, Sagefire\_73, Sandaddy\_74, Sanya\_71, SarFire\_80, Scowl\_77, SeaLumen\_44, Seabiscuit\_77, Seanderson\_76, ShortQueendom\_71, Sibs6\_76, SkiPole\_85, Slagathor\_77, Smairt\_80, Smeagol\_79, Snazzy\_77, Solon\_72, Sorpresa\_75, SpikeBT\_73, Squee\_77, StrongArm\_72, Sumter\_73, Sunshine924\_77, SwissCheese\_80, Switzer\_75, Swole\_77, SydNat\_70, Target\_76, Tasp14\_75, Teodoridan\_74, Theia\_69, TheloniousMonk\_78, Thor\_80, Topgun\_72, Tote\_72, Traft412\_76, Tredde\_78, Tripl3t\_79, Trouble\_76, Turj99\_72, TwoPeat\_76, U2\_70, Violet\_71, Watermelon\_79, Wheeler\_81, Whitspit\_69, Wilkins\_73, Zeeculate\_72, Zephyr\_78,

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

- BigPaolini\_74, IgnatiusPatJac\_76, KBG\_74, StewieG\_72, Zolita\_69,

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

- AN9\_82, ANI8\_82, AgentM\_70, Aragog\_70, Bradman\_86, C3\_75, DBQu4n\_83, Duplo\_84, JC27\_77, Jorgensen\_83, Jsquared\_87, Kerberos\_83, Koduck\_83, L5\_76, Lev2\_71, MajorMajor\_80, Milcery\_70, MilleFeuille\_76, Phlorence\_69, PickleBack\_71, Pomar16\_83, Prinash11\_68, Quokka\_85, Serenity\_86, SheaKeira\_82, StarStuff\_83,

Swirley\_70, Tarynearal\_69, TipsytheTRex\_82, Tomathan\_83, Travvers\_83, Twigg\_69, VC3\_81, Zeuska\_78, Zimmer\_79,

### Summary by start number:

#### Start 14:

- Found in 77 of 286 ( 26.9% ) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 2.6% of time when present
- Phage (with cluster) where this start called: IgnatiusPatJac\_76 (A1), StewieG\_72 (A1),

#### Start 19:

- Found in 9 of 286 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 2 of 259
- Called 22.2% of time when present
- Phage (with cluster) where this start called: BigPaolini\_74 (A1), KBG\_74 (A1),

#### Start 20:

- Found in 251 of 286 ( 87.8% ) of genes in pham
- Manual Annotations of this start: 225 of 259
- Called 98.0% of time when present
- Phage (with cluster) where this start called: A6\_70 (A1), AFIS\_73 (A1), Abbyshoes\_76 (A1), Abrogate\_730 (A1), Acme\_80 (A1), Adahisdi\_72 (A1), Aeneas\_81 (A1), Agaliana\_74 (A1), Ajay\_73 (A1), Aldrich\_68 (A1), Alsfro\_83 (A1), Altman\_79 (A1), Alvin\_74 (A1), Anglerfish\_78 (A1), Applejack\_75 (A1), Arcanine\_80 (A1), Archetta\_68 (A5), Arlo\_76 (A1), Ashballer\_78 (A1), Atkinbua\_82 (A1), BK1\_70 (A1), BPBiabs31\_81 (A1), BaconJack\_78 (A1), Barriga\_83 (A1), BarrowTuph\_79 (A1), Batiatus\_39 (F1), Beatrix\_73 (A1), BeesKnees\_77 (A1), Bethlehem\_79 (A1), Bexan\_71 (A1), Big3\_77 (A1), BigMau\_79 (A1), Bigchungi\_77 (A1), Bigfoot\_71 (A1), BillKnuckles\_70 (A1), Bircsak\_77 (A1), Blackflame\_72 (A1), Blessor\_70 (A1), BluSpix\_74 (A1), Blue\_73 (A1), Bluefalcon\_66 (A5), Bob3\_77 (A1), Bones\_72 (A1), Briton15\_79 (A1), Bruns\_79 (A1), Burton\_77 (A1), Buttons\_73 (A1), Bxb1\_70 (A1), CactusRose\_79 (A1), Carlyle\_77 (A1), CartmannCramer\_72 (A1), CatBus\_68 (A1), Chanagan\_73 (A1), ChristmasHams\_67 (A1), Ciao\_73 (A1), ConceptIII\_81 (A1), Corvo\_78 (A1), Crispicous1\_71 (A1), DD5\_74 (A1), Dexes\_77 (A1), DirtDevil\_70 (A1), Doom\_69 (A1), DrFeelGood\_72 (A1), DreamCatcher\_80 (A1), Dreamboat\_76 (A1), Dublin\_70 (A5), Dulcie\_77 (A1), Dussy\_75 (A1), Dynamix\_76 (A1), Edtherson\_75 (A1), EnzoK\_77 (A1), Enzomatic\_45 (F1), Espresso\_70 (A1), Euphoria\_77 (A1), Eyeball\_75 (A1), Fajezeel\_79 (A1), Fascinus\_72 (A1), Fenn\_79 (A1), Forsytheast\_78 (A1), Francis47\_78 (A1), Fruitloop\_38 (F1), Fushigi\_70 (A1), GMonster\_74 (A1), GageAP\_79 (A1), Gandalf20\_75 (A1), Ghouboy\_70 (A5), Gompeii16\_77 (A1), Graduation\_79 (A1), GrecoEtereo\_80 (A1), Greg\_79 (A1), GroundGoblin\_70 (A1), Gwendoluna\_80 (A1), Gyzlar\_69 (A1), Hami1\_69 (A1), HanShotFirst\_74 (A1), HarryOW\_77 (A1), Hermia\_71 (A1), HermioneGrange\_80 (A1), Homines\_64 (A1), Hope4ever\_77 (A1), ILeeKay\_74 (A1), Ichabod\_79 (A1), Inyanga\_68 (A1), Iqorha\_68 (A1), JackSparrow\_77 (A1), Jasper\_75 (A1), Jerm2\_78 (A1), JuliaChild\_77 (A1), KSSJEB\_73 (A1), Kanely\_78 (A1), Kenmech\_78 (A1), KikiBouba\_72 (A1), Killigrew\_73 (A1), Kugel\_78 (A1), KyMonks1A\_82 (A1), Kykar\_76 (A1), Lamina13\_80 (A1), Lesedi\_73 (A1), Levia\_70 (A1), Licorice\_77 (A1), LilBib\_73 (A1), Lockley\_73 (A1), Lopton\_75 (A1), LunaBlu\_43 (F1), MPlant7149\_76 (A1), Magnar\_72 (A1), Magnito\_75 (A1), Makemake\_79 (A1), Manatee\_74 (A1), Marcell\_69 (A1), Marchy\_68 (A1), Marco3\_79 (A1), Marge\_73 (A1), Maroc7\_78 (A1),

Marsha\_76 (A1), MaryBeth\_74 (A1), MarysWell\_70 (A5), McGuire\_76 (A1), McSinger\_75 (A1), Melissauren88\_39 (F1), MetalQZJ\_73 (A1), Micasa\_70 (A5), Michley\_77 (A1), Mkhuseleli\_73 (A1), Molly\_76 (A1), Monet\_80 (A1), Moose\_78 (A1), MrGordo\_77 (A1), Mryolo\_71 (A1), Mule\_75 (A1), Museum\_76 (A1), NEHalo\_72 (A1), Naira\_78 (A1), Nerujay\_80 (A1), Nhonho\_72 (A1), Niza\_76 (A1), Norz\_72 (A1), Noxious\_72 (A1), Ohno789\_79 (A1), Oogway\_75 (A1), PSullivan\_74 (A1), PacerPaul\_81 (A1), Papez\_78 (A1), Paphu\_71 (A1), Paraselene\_74 (A1), Pari\_81 (A1), Parliament\_77 (A1), PascalRango\_74 (A1), PattyP\_76 (A1), Pelly\_79 (A1), Pepe\_70 (A1), Perseus\_76 (A1), Peterson\_75 (A1), Petp2012\_77 (A1), Petruccio\_76 (A1), PherrisBueller\_75 (A1), PhineBark\_72 (A1), Philippers\_74 (A1), PhrostyMug\_78 (A1), PinkPlastic\_72 (A1), Pinto\_76 (A1), Pippin\_77 (A1), Pita2\_77 (A1), Polo2Bam\_44 (F1), PowerRanger\_72 (A1), ProMouse\_76 (A1), Puppet\_71 (A1), QTRLifeCrisis\_75 (A1), Raid\_73 (A1), Rajelicia\_78 (A1), Rhynn\_72 (A1), Ringer\_76 (A1), Rohr\_79 (A1), Rubeus\_77 (A1), Rufus\_79 (A1), Ruotula\_80 (A1), Rutherford\_78 (A1), STLscum\_82 (A1), Sagefire\_73 (A1), Sandaddy\_74 (A1), Sanya\_71 (A1), SarFire\_80 (A1), Scowl\_77 (A1), SeaLumen\_44 (F1), Seabiscuit\_77 (A1), Seanderson\_76 (A1), ShortQueendom\_71 (A1), Sibs6\_76 (A1), SkiPole\_85 (A1), Slagathor\_77 (A1), Smairt\_80 (A1), Smeagol\_79 (A1), Snazzy\_77 (A1), Solon\_72 (A1), Sorpresa\_75 (A1), SpikeBT\_73 (A1), Squee\_77 (A1), StrongArm\_72 (A1), Sumter\_73 (A1), Sunshine924\_77 (A1), SwissCheese\_80 (A1), Switzer\_75 (A1), Swole\_77 (A1), SydNat\_70 (A5), Target\_76 (A1), Tasp14\_75 (A1), Teodoridan\_74 (A1), Theia\_69 (A5), TheloniousMonk\_78 (A1), Thor\_80 (A1), Topgun\_72 (A1), Tote\_72 (A1), Traft412\_76 (A1), Treddle\_78 (A1), Tripl3t\_79 (A1), Trouble\_76 (A1), Turj99\_72 (A1), TwoPeat\_76 (A1), U2\_70 (A1), Violet\_71 (A1), Watermelon\_79 (A1), Wheeler\_81 (A1), Whitspit\_69 (A1), Wilkins\_73 (A1), Zeeculate\_72 (A1), Zephyr\_78 (A1),

#### Start 21:

- Found in 10 of 286 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 9 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AgentM\_70 (A5), Aragog\_70 (A5), Lev2\_71 (A5), Milcery\_70 (A5), Phlorence\_69 (A5), PickleBack\_71 (A5), Prinashe11\_68 (A5), Swirley\_70 (A5), Tarynearal\_69 (A5), Twigg\_69 (A5),

#### Start 22:

- Found in 9 of 286 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Zolita\_69 (A5),

#### Start 23:

- Found in 1 of 286 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zimmer\_79 (A12),

#### Start 25:

- Found in 5 of 286 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 5 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JC27\_77 (A1), Jorgensen\_83 (A1), MilleFeuille\_76 (A1), SheaKeira\_82 (A9), Zeuska\_78 (A1),

Start 26:

- Found in 20 of 286 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 15 of 259
- Called 95.0% of time when present
- Phage (with cluster) where this start called: AN9\_82 (A2), ANI8\_82 (A2), Bradman\_86 (A2), C3\_75 (A2), DBQu4n\_83 (A2), Duplo\_84 (A2), Jsquared\_87 (A2), Kerberos\_83 (A2), Koduck\_83 (A2), L5\_76 (A2), MajorMajor\_80 (A2), Pomar16\_83 (A2), Quokka\_85 (A2), Serenity\_86 (A2), StarStuff\_83 (A2), TipsytheTRex\_82 (A2), Tomathan\_83 (A2), Travvers\_83 (A2), VC3\_81 (A2),

**Summary by clusters:**

There are 6 clusters represented in this pham: F1, A12, A1, A2, A5, A9,

Info for manual annotations of cluster A1:

- Start number 14 was manually annotated 1 time for cluster A1.
- Start number 19 was manually annotated 2 times for cluster A1.
- Start number 20 was manually annotated 213 times for cluster A1.
- Start number 25 was manually annotated 4 times for cluster A1.

Info for manual annotations of cluster A12:

- Start number 23 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster A2:

- Start number 26 was manually annotated 15 times for cluster A2.

Info for manual annotations of cluster A5:

- Start number 20 was manually annotated 8 times for cluster A5.
- Start number 21 was manually annotated 9 times for cluster A5.
- Start number 22 was manually annotated 1 time for cluster A5.

Info for manual annotations of cluster A9:

- Start number 25 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster F1:

- Start number 20 was manually annotated 4 times for cluster F1.

**Gene Information:**

Gene: A6\_70 Start: 44506, Stop: 44207, Start Num: 20

Candidate Starts for A6\_70:

(Start: 20 @44506 has 225 MA's), (33, 44461), (34, 44458), (42, 44389), (46, 44338),

Gene: AFIS\_73 Start: 47515, Stop: 47216, Start Num: 20

Candidate Starts for AFIS\_73:

(Start: 14 @47545 has 1 MA's), (Start: 20 @47515 has 225 MA's), (33, 47470), (34, 47467), (42, 47398), (46, 47347),

Gene: AN9\_82 Start: 46132, Stop: 45854, Start Num: 26

Candidate Starts for AN9\_82:

(Start: 26 @46132 has 15 MA's), (35, 46099), (37, 46093), (47, 45958),

Gene: ANI8\_82 Start: 46132, Stop: 45854, Start Num: 26

Candidate Starts for ANI8\_82:

(Start: 26 @46132 has 15 MA's), (35, 46099), (37, 46093), (47, 45958),

Gene: Abbysshoes\_76 Start: 46768, Stop: 46469, Start Num: 20

Candidate Starts for Abbysshoes\_76:

(Start: 14 @46798 has 1 MA's), (Start: 20 @46768 has 225 MA's), (33, 46723), (34, 46720), (42, 46651), (46, 46600),

Gene: Abrogate\_730 Start: 47383, Stop: 47084, Start Num: 20

Candidate Starts for Abrogate\_730:

(Start: 20 @47383 has 225 MA's), (33, 47338), (34, 47335), (42, 47266), (46, 47215),

Gene: Acme\_80 Start: 48839, Stop: 48540, Start Num: 20

Candidate Starts for Acme\_80:

(Start: 14 @48869 has 1 MA's), (Start: 20 @48839 has 225 MA's), (33, 48794), (34, 48791), (42, 48722), (46, 48671),

Gene: Adahisdi\_72 Start: 46838, Stop: 46539, Start Num: 20

Candidate Starts for Adahisdi\_72:

(12, 46898), (Start: 20 @46838 has 225 MA's), (33, 46793), (34, 46790), (42, 46721), (46, 46670),

Gene: Aeneas\_81 Start: 49127, Stop: 48828, Start Num: 20

Candidate Starts for Aeneas\_81:

(Start: 14 @49157 has 1 MA's), (Start: 20 @49127 has 225 MA's), (33, 49082), (34, 49079), (42, 49010), (46, 48959),

Gene: Agaliana\_74 Start: 45656, Stop: 45357, Start Num: 20

Candidate Starts for Agaliana\_74:

(12, 45716), (Start: 20 @45656 has 225 MA's), (33, 45611), (34, 45608), (42, 45539), (46, 45488),

Gene: AgentM\_70 Start: 44113, Stop: 43817, Start Num: 21

Candidate Starts for AgentM\_70:

(Start: 21 @44113 has 9 MA's), (27, 44092),

Gene: Ajay\_73 Start: 46039, Stop: 45740, Start Num: 20

Candidate Starts for Ajay\_73:

(12, 46099), (Start: 20 @46039 has 225 MA's), (33, 45994), (34, 45991), (42, 45922), (46, 45871),

Gene: Aldrich\_68 Start: 45340, Stop: 45041, Start Num: 20

Candidate Starts for Aldrich\_68:

(Start: 20 @45340 has 225 MA's), (33, 45295), (34, 45292), (42, 45223), (46, 45172),

Gene: Alsfro\_83 Start: 47402, Stop: 47103, Start Num: 20

Candidate Starts for Alsfro\_83:

(12, 47462), (Start: 20 @47402 has 225 MA's), (33, 47357), (34, 47354), (42, 47285), (46, 47234),

Gene: Altman\_79 Start: 47847, Stop: 47548, Start Num: 20

Candidate Starts for Altman\_79:

(Start: 19 @47853 has 2 MA's), (Start: 20 @47847 has 225 MA's), (33, 47802), (34, 47799), (42, 47730), (46, 47679),

Gene: Alvin\_74 Start: 46259, Stop: 45960, Start Num: 20

Candidate Starts for Alvin\_74:

(12, 46319), (Start: 20 @46259 has 225 MA's), (33, 46214), (34, 46211), (42, 46142), (46, 46091),

Gene: Anglerfish\_78 Start: 48170, Stop: 47871, Start Num: 20

Candidate Starts for Anglerfish\_78:

(12, 48230), (Start: 20 @48170 has 225 MA's), (33, 48125), (34, 48122), (42, 48053), (46, 48002),

Gene: Applejack\_75 Start: 45021, Stop: 44722, Start Num: 20

Candidate Starts for Applejack\_75:

(2, 45228), (3, 45201), (5, 45159), (6, 45156), (7, 45129), (8, 45117), (9, 45108), (10, 45093), (16, 45039), (Start: 20 @45021 has 225 MA's), (33, 44976), (34, 44973), (42, 44904), (46, 44853),

Gene: Aragog\_70 Start: 44131, Stop: 43835, Start Num: 21

Candidate Starts for Aragog\_70:

(Start: 21 @44131 has 9 MA's), (27, 44110), (47, 43951),

Gene: Arcanine\_80 Start: 48772, Stop: 48473, Start Num: 20

Candidate Starts for Arcanine\_80:

(12, 48832), (Start: 20 @48772 has 225 MA's), (33, 48727), (34, 48724), (42, 48655), (46, 48604),

Gene: Archetta\_68 Start: 44079, Stop: 43762, Start Num: 20

Candidate Starts for Archetta\_68:

(11, 44151), (15, 44100), (18, 44091), (Start: 20 @44079 has 225 MA's), (Start: 22 @44073 has 1 MA's), (32, 44037), (35, 44025),

Gene: Arlo\_76 Start: 47562, Stop: 47263, Start Num: 20

Candidate Starts for Arlo\_76:

(Start: 14 @47592 has 1 MA's), (Start: 20 @47562 has 225 MA's), (33, 47517), (34, 47514), (42, 47445), (46, 47394),

Gene: Ashballer\_78 Start: 47615, Stop: 47316, Start Num: 20

Candidate Starts for Ashballer\_78:

(Start: 20 @47615 has 225 MA's), (33, 47570), (34, 47567), (42, 47498), (43, 47486), (46, 47447),

Gene: Atkinbua\_82 Start: 48174, Stop: 47875, Start Num: 20

Candidate Starts for Atkinbua\_82:

(Start: 19 @48180 has 2 MA's), (Start: 20 @48174 has 225 MA's), (33, 48129), (34, 48126), (42, 48057), (46, 48006),

Gene: BK1\_70 Start: 44506, Stop: 44207, Start Num: 20

Candidate Starts for BK1\_70:

(Start: 20 @44506 has 225 MA's), (33, 44461), (34, 44458), (42, 44389), (46, 44338),

Gene: BPBiebs31\_81 Start: 48674, Stop: 48375, Start Num: 20

Candidate Starts for BPBiebs31\_81:

(Start: 14 @48704 has 1 MA's), (Start: 20 @48674 has 225 MA's), (33, 48629), (34, 48626), (42, 48557), (46, 48506),

Gene: BaconJack\_78 Start: 48829, Stop: 48530, Start Num: 20

Candidate Starts for BaconJack\_78:

(Start: 14 @48859 has 1 MA's), (Start: 20 @48829 has 225 MA's), (33, 48784), (34, 48781), (42, 48712),

Gene: Barriga\_83 Start: 47568, Stop: 47269, Start Num: 20

Candidate Starts for Barriga\_83:

(2, 47775), (3, 47748), (5, 47706), (6, 47703), (7, 47676), (8, 47664), (9, 47655), (10, 47640), (16, 47586), (Start: 20 @47568 has 225 MA's), (33, 47523), (34, 47520), (42, 47451), (46, 47400),

Gene: BarrowTuph\_79 Start: 47875, Stop: 47576, Start Num: 20

Candidate Starts for BarrowTuph\_79:

(Start: 14 @47905 has 1 MA's), (Start: 20 @47875 has 225 MA's), (33, 47830), (34, 47827), (42, 47758), (46, 47707),

Gene: Batiatus\_39 Start: 31386, Stop: 31150, Start Num: 20

Candidate Starts for Batiatus\_39:

(Start: 20 @31386 has 225 MA's), (33, 31341), (34, 31338), (42, 31269), (46, 31218),

Gene: Beatrix\_73 Start: 46834, Stop: 46535, Start Num: 20

Candidate Starts for Beatrix\_73:

(12, 46894), (Start: 20 @46834 has 225 MA's), (33, 46789), (34, 46786), (42, 46717), (46, 46666),

Gene: BeesKnees\_77 Start: 45937, Stop: 45638, Start Num: 20

Candidate Starts for BeesKnees\_77:

(12, 45997), (Start: 20 @45937 has 225 MA's), (33, 45892), (34, 45889), (42, 45820), (46, 45769),

Gene: Bethlehem\_79 Start: 49714, Stop: 49415, Start Num: 20

Candidate Starts for Bethlehem\_79:

(Start: 14 @49744 has 1 MA's), (Start: 20 @49714 has 225 MA's), (33, 49669), (34, 49666), (42, 49597), (46, 49546),

Gene: Bexan\_71 Start: 46608, Stop: 46309, Start Num: 20

Candidate Starts for Bexan\_71:

(12, 46668), (Start: 20 @46608 has 225 MA's), (33, 46563), (34, 46560), (42, 46491), (46, 46440),

Gene: Big3\_77 Start: 48641, Stop: 48342, Start Num: 20

Candidate Starts for Big3\_77:

(16, 48659), (Start: 20 @48641 has 225 MA's), (33, 48596), (34, 48593), (42, 48524), (46, 48473),

Gene: BigMau\_79 Start: 48424, Stop: 48125, Start Num: 20

Candidate Starts for BigMau\_79:

(12, 48484), (Start: 20 @48424 has 225 MA's), (33, 48379), (34, 48376), (42, 48307), (46, 48256),

Gene: BigPaolini\_74 Start: 45813, Stop: 45508, Start Num: 19

Candidate Starts for BigPaolini\_74:

(Start: 19 @45813 has 2 MA's), (Start: 20 @45807 has 225 MA's), (33, 45762), (34, 45759), (42, 45690), (46, 45639),

Gene: Bigchungji\_77 Start: 48249, Stop: 47950, Start Num: 20

Candidate Starts for Bigchungji\_77:

(12, 48309), (Start: 20 @48249 has 225 MA's), (33, 48204), (34, 48201), (42, 48132), (46, 48081),

Gene: Bigfoot\_71 Start: 46904, Stop: 46605, Start Num: 20

Candidate Starts for Bigfoot\_71:

(12, 46964), (Start: 20 @46904 has 225 MA's), (33, 46859), (34, 46856), (42, 46787), (46, 46736),

Gene: BillKnuckles\_70 Start: 46811, Stop: 46512, Start Num: 20

Candidate Starts for BillKnuckles\_70:

(12, 46871), (Start: 20 @46811 has 225 MA's), (33, 46766), (34, 46763), (42, 46694), (46, 46643),

Gene: Bircsak\_77 Start: 49499, Stop: 49200, Start Num: 20

Candidate Starts for Bircsak\_77:

(12, 49559), (Start: 20 @49499 has 225 MA's), (33, 49454), (34, 49451), (42, 49382), (46, 49331),

Gene: Blackflame\_72 Start: 47047, Stop: 46748, Start Num: 20

Candidate Starts for Blackflame\_72:

(Start: 20 @47047 has 225 MA's), (33, 47002), (34, 46999), (42, 46930), (46, 46879),

Gene: Blesser\_70 Start: 45160, Stop: 44861, Start Num: 20

Candidate Starts for Blesser\_70:

(18, 45169), (Start: 20 @45160 has 225 MA's), (33, 45115), (34, 45112), (42, 45043), (46, 44992),

Gene: BluSpix\_74 Start: 42363, Stop: 42064, Start Num: 20

Candidate Starts for BluSpix\_74:

(Start: 14 @42393 has 1 MA's), (Start: 20 @42363 has 225 MA's), (33, 42318), (34, 42315), (42, 42246), (46, 42195),

Gene: Blue\_73 Start: 46715, Stop: 46416, Start Num: 20

Candidate Starts for Blue\_73:

(12, 46775), (Start: 20 @46715 has 225 MA's), (33, 46670), (34, 46667), (42, 46598), (46, 46547),

Gene: Bluefalcon\_66 Start: 44078, Stop: 43782, Start Num: 20

Candidate Starts for Bluefalcon\_66:

(11, 44150), (15, 44099), (18, 44090), (Start: 20 @44078 has 225 MA's), (Start: 22 @44072 has 1 MA's), (32, 44036), (35, 44024),

Gene: Bob3\_77 Start: 47691, Stop: 47392, Start Num: 20

Candidate Starts for Bob3\_77:

(12, 47751), (Start: 20 @47691 has 225 MA's), (33, 47646), (34, 47643), (42, 47574), (46, 47523),

Gene: Bones\_72 Start: 46997, Stop: 46698, Start Num: 20

Candidate Starts for Bones\_72:

(12, 47057), (Start: 20 @46997 has 225 MA's), (33, 46952), (34, 46949), (42, 46880), (46, 46829),

Gene: Bradman\_86 Start: 46814, Stop: 46539, Start Num: 26

Candidate Starts for Bradman\_86:

(1, 47063), (Start: 26 @46814 has 15 MA's), (32, 46793), (35, 46781),

Gene: Briton15\_79 Start: 48077, Stop: 47778, Start Num: 20

Candidate Starts for Briton15\_79:

(12, 48137), (Start: 20 @48077 has 225 MA's), (33, 48032), (34, 48029), (42, 47960), (46, 47909),

Gene: Bruns\_79 Start: 46940, Stop: 46641, Start Num: 20

Candidate Starts for Bruns\_79:

(12, 47000), (Start: 20 @46940 has 225 MA's), (33, 46895), (34, 46892), (42, 46823), (46, 46772),

Gene: Burton\_77 Start: 49106, Stop: 48807, Start Num: 20

Candidate Starts for Burton\_77:

(Start: 14 @49136 has 1 MA's), (Start: 20 @49106 has 225 MA's), (33, 49061), (34, 49058), (42, 48989), (46, 48938),

Gene: Buttons\_73 Start: 45207, Stop: 44908, Start Num: 20

Candidate Starts for Buttons\_73:

(Start: 20 @45207 has 225 MA's), (33, 45162), (34, 45159), (42, 45090), (46, 45039),

Gene: Bxb1\_70 Start: 45323, Stop: 45024, Start Num: 20

Candidate Starts for Bxb1\_70:

(Start: 20 @45323 has 225 MA's), (33, 45278), (34, 45275), (42, 45206), (46, 45155),

Gene: C3\_75 Start: 46132, Stop: 45854, Start Num: 26

Candidate Starts for C3\_75:

(Start: 26 @46132 has 15 MA's), (35, 46099), (37, 46093), (47, 45958),

Gene: CactusRose\_79 Start: 47921, Stop: 47622, Start Num: 20

Candidate Starts for CactusRose\_79:

(12, 47981), (Start: 20 @47921 has 225 MA's), (33, 47876), (34, 47873), (42, 47804), (46, 47753),

Gene: Carlyle\_77 Start: 46395, Stop: 46096, Start Num: 20

Candidate Starts for Carlyle\_77:

(12, 46455), (Start: 20 @46395 has 225 MA's), (33, 46350), (34, 46347), (42, 46278), (46, 46227),

Gene: CartmannCramer\_72 Start: 47850, Stop: 47551, Start Num: 20

Candidate Starts for CartmannCramer\_72:

(Start: 14 @47880 has 1 MA's), (Start: 20 @47850 has 225 MA's), (33, 47805), (34, 47802), (42, 47733), (43, 47721), (46, 47682),

Gene: CatBus\_68 Start: 45532, Stop: 45233, Start Num: 20

Candidate Starts for CatBus\_68:

(Start: 20 @45532 has 225 MA's), (33, 45487), (34, 45484), (42, 45415), (46, 45364),

Gene: Chanagan\_73 Start: 45356, Stop: 45057, Start Num: 20

Candidate Starts for Chanagan\_73:

(12, 45416), (Start: 20 @45356 has 225 MA's), (33, 45311), (34, 45308), (42, 45239), (46, 45188),

Gene: ChristmasHams\_67 Start: 43552, Stop: 43253, Start Num: 20

Candidate Starts for ChristmasHams\_67:

(Start: 19 @43558 has 2 MA's), (Start: 20 @43552 has 225 MA's), (33, 43507), (34, 43504), (42, 43435), (46, 43384),

Gene: Ciao\_73 Start: 45516, Stop: 45217, Start Num: 20

Candidate Starts for Ciao\_73:

(12, 45576), (Start: 20 @45516 has 225 MA's), (33, 45471), (34, 45468), (42, 45399), (46, 45348),

Gene: ConceptII\_81 Start: 48948, Stop: 48649, Start Num: 20

Candidate Starts for ConceptII\_81:

(Start: 19 @48954 has 2 MA's), (Start: 20 @48948 has 225 MA's), (33, 48903), (34, 48900), (42, 48831), (46, 48780),

Gene: Corvo\_78 Start: 48597, Stop: 48298, Start Num: 20

Candidate Starts for Corvo\_78:

(Start: 14 @48627 has 1 MA's), (Start: 20 @48597 has 225 MA's), (33, 48552), (34, 48549), (42, 48480), (46, 48429),

Gene: Crispicous1\_71 Start: 45038, Stop: 44739, Start Num: 20

Candidate Starts for Crispicous1\_71:

(12, 45098), (Start: 20 @45038 has 225 MA's), (33, 44993), (34, 44990), (42, 44921), (46, 44870),

Gene: DBQu4n\_83 Start: 47177, Stop: 46899, Start Num: 26

Candidate Starts for DBQu4n\_83:

(Start: 26 @47177 has 15 MA's), (35, 47144), (37, 47138), (47, 47003),

Gene: DD5\_74 Start: 47123, Stop: 46824, Start Num: 20

Candidate Starts for DD5\_74:

(12, 47183), (Start: 20 @47123 has 225 MA's), (33, 47078), (34, 47075), (42, 47006), (46, 46955),

Gene: Dexes\_77 Start: 49539, Stop: 49240, Start Num: 20

Candidate Starts for Dexes\_77:

(2, 49746), (3, 49719), (5, 49677), (6, 49674), (7, 49647), (8, 49635), (9, 49626), (10, 49611), (16, 49557), (Start: 20 @49539 has 225 MA's), (33, 49494), (34, 49491), (42, 49422), (46, 49371),

Gene: DirtDevil\_70 Start: 45340, Stop: 45041, Start Num: 20

Candidate Starts for DirtDevil\_70:

(Start: 20 @45340 has 225 MA's), (33, 45295), (34, 45292), (42, 45223), (46, 45172),

Gene: Doom\_69 Start: 45750, Stop: 45451, Start Num: 20

Candidate Starts for Doom\_69:

(Start: 19 @45756 has 2 MA's), (Start: 20 @45750 has 225 MA's), (33, 45705), (34, 45702), (42, 45633), (46, 45582),

Gene: DrFeelGood\_72 Start: 45126, Stop: 44827, Start Num: 20

Candidate Starts for DrFeelGood\_72:

(Start: 14 @45156 has 1 MA's), (Start: 20 @45126 has 225 MA's), (33, 45081), (34, 45078), (42, 45009), (46, 44958),

Gene: DreamCatcher\_80 Start: 47927, Stop: 47628, Start Num: 20

Candidate Starts for DreamCatcher\_80:

(12, 47987), (Start: 20 @47927 has 225 MA's), (33, 47882), (34, 47879), (42, 47810), (46, 47759),

Gene: Dreamboat\_76 Start: 45409, Stop: 45110, Start Num: 20

Candidate Starts for Dreamboat\_76:

(12, 45469), (Start: 20 @45409 has 225 MA's), (33, 45364), (34, 45361), (42, 45292), (46, 45241),

Gene: Dublin\_70 Start: 44258, Stop: 43959, Start Num: 20

Candidate Starts for Dublin\_70:

(18, 44270), (Start: 20 @44258 has 225 MA's), (Start: 22 @44252 has 1 MA's), (32, 44216), (35, 44204), (44, 44114), (47, 44075),

Gene: Dulcie\_77 Start: 49203, Stop: 48904, Start Num: 20

Candidate Starts for Dulcie\_77:

(Start: 14 @49233 has 1 MA's), (Start: 20 @49203 has 225 MA's), (33, 49158), (34, 49155), (42, 49086), (46, 49035),

Gene: Duplo\_84 Start: 47234, Stop: 46956, Start Num: 26

Candidate Starts for Duplo\_84:

(Start: 26 @47234 has 15 MA's), (35, 47201), (37, 47195), (47, 47060),

Gene: Dussy\_75 Start: 46788, Stop: 46489, Start Num: 20

Candidate Starts for Dussy\_75:

(Start: 14 @46818 has 1 MA's), (Start: 20 @46788 has 225 MA's), (33, 46743), (34, 46740), (42, 46671), (46, 46620),

Gene: Dynamix\_76 Start: 45843, Stop: 45544, Start Num: 20

Candidate Starts for Dynamix\_76:

(12, 45903), (Start: 20 @45843 has 225 MA's), (33, 45798), (34, 45795), (42, 45726), (46, 45675),

Gene: Edtherson\_75 Start: 47019, Stop: 46720, Start Num: 20

Candidate Starts for Edtherson\_75:

(12, 47079), (Start: 20 @47019 has 225 MA's), (33, 46974), (34, 46971), (42, 46902), (46, 46851),

Gene: EnzoK\_77 Start: 45129, Stop: 44830, Start Num: 20

Candidate Starts for EnzoK\_77:

(Start: 14 @45159 has 1 MA's), (Start: 20 @45129 has 225 MA's), (33, 45084), (34, 45081), (42, 45012), (46, 44961),

Gene: Enzomatic\_45 Start: 31582, Stop: 31346, Start Num: 20

Candidate Starts for Enzomatic\_45:

(Start: 20 @31582 has 225 MA's), (33, 31537), (34, 31534), (42, 31465), (46, 31414),

Gene: Espresso\_70 Start: 45691, Stop: 45392, Start Num: 20

Candidate Starts for Espresso\_70:

(Start: 14 @45721 has 1 MA's), (Start: 20 @45691 has 225 MA's), (33, 45646), (34, 45643), (42, 45574), (46, 45523),

Gene: Euphoria\_77 Start: 47608, Stop: 47309, Start Num: 20

Candidate Starts for Euphoria\_77:

(Start: 14 @47638 has 1 MA's), (Start: 20 @47608 has 225 MA's), (33, 47563), (34, 47560), (42, 47491),

Gene: Eyeball\_75 Start: 46893, Stop: 46594, Start Num: 20

Candidate Starts for Eyeball\_75:

(Start: 14 @46923 has 1 MA's), (Start: 20 @46893 has 225 MA's), (33, 46848), (34, 46845), (42, 46776), (46, 46725),

Gene: Fajezeel\_79 Start: 48129, Stop: 47830, Start Num: 20

Candidate Starts for Fajezeel\_79:

(Start: 14 @48159 has 1 MA's), (Start: 20 @48129 has 225 MA's), (33, 48084), (34, 48081), (42, 48012), (46, 47961),

Gene: Fascinus\_72 Start: 47417, Stop: 47118, Start Num: 20

Candidate Starts for Fascinus\_72:

(12, 47477), (Start: 20 @47417 has 225 MA's), (33, 47372), (34, 47369), (42, 47300), (46, 47249),

Gene: Fenn\_79 Start: 47948, Stop: 47649, Start Num: 20

Candidate Starts for Fenn\_79:

(12, 48008), (Start: 20 @47948 has 225 MA's), (33, 47903), (34, 47900), (42, 47831), (46, 47780),

Gene: Forsytheast\_78 Start: 47631, Stop: 47332, Start Num: 20  
Candidate Starts for Forsytheast\_78:  
(Start: 14 @47661 has 1 MA's), (Start: 20 @47631 has 225 MA's), (33, 47586), (34, 47583), (42, 47514), (46, 47463),

Gene: Francis47\_78 Start: 49500, Stop: 49201, Start Num: 20  
Candidate Starts for Francis47\_78:  
(12, 49560), (Start: 20 @49500 has 225 MA's), (33, 49455), (34, 49452), (42, 49383), (46, 49332),

Gene: Fruitloop\_38 Start: 31549, Stop: 31313, Start Num: 20  
Candidate Starts for Fruitloop\_38:  
(Start: 20 @31549 has 225 MA's), (33, 31504), (34, 31501), (42, 31432), (46, 31381),

Gene: Fushigi\_70 Start: 43949, Stop: 43650, Start Num: 20  
Candidate Starts for Fushigi\_70:  
(12, 44009), (Start: 20 @43949 has 225 MA's), (33, 43904), (34, 43901), (42, 43832), (46, 43781),

Gene: GMonster\_74 Start: 46795, Stop: 46496, Start Num: 20  
Candidate Starts for GMonster\_74:  
(12, 46855), (Start: 20 @46795 has 225 MA's), (33, 46750), (34, 46747), (42, 46678), (46, 46627),

Gene: GageAP\_79 Start: 48853, Stop: 48554, Start Num: 20  
Candidate Starts for GageAP\_79:  
(12, 48913), (Start: 20 @48853 has 225 MA's), (33, 48808), (34, 48805), (42, 48736), (46, 48685),

Gene: Gandalf20\_75 Start: 46976, Stop: 46677, Start Num: 20  
Candidate Starts for Gandalf20\_75:  
(Start: 14 @47006 has 1 MA's), (Start: 20 @46976 has 225 MA's), (33, 46931), (34, 46928), (42, 46859), (46, 46808),

Gene: Ghoulboy\_70 Start: 44353, Stop: 44036, Start Num: 20  
Candidate Starts for Ghoulboy\_70:  
(11, 44425), (15, 44374), (18, 44365), (Start: 20 @44353 has 225 MA's), (Start: 22 @44347 has 1 MA's), (32, 44311), (35, 44299),

Gene: Gompeii16\_77 Start: 49500, Stop: 49201, Start Num: 20  
Candidate Starts for Gompeii16\_77:  
(12, 49560), (Start: 20 @49500 has 225 MA's), (33, 49455), (34, 49452), (42, 49383), (46, 49332),

Gene: Graduation\_79 Start: 47476, Stop: 47177, Start Num: 20  
Candidate Starts for Graduation\_79:  
(Start: 20 @47476 has 225 MA's), (33, 47431), (34, 47428), (42, 47359), (46, 47308),

Gene: GrecoEtereo\_80 Start: 48605, Stop: 48306, Start Num: 20  
Candidate Starts for GrecoEtereo\_80:  
(Start: 14 @48635 has 1 MA's), (Start: 20 @48605 has 225 MA's), (33, 48560), (34, 48557), (42, 48488),

Gene: Greg\_79 Start: 48129, Stop: 47830, Start Num: 20  
Candidate Starts for Greg\_79:  
(Start: 14 @48159 has 1 MA's), (Start: 20 @48129 has 225 MA's), (33, 48084), (34, 48081), (42, 48012), (46, 47961),

Gene: GroundGoblin\_70 Start: 45482, Stop: 45183, Start Num: 20  
Candidate Starts for GroundGoblin\_70:  
(Start: 20 @45482 has 225 MA's), (33, 45437), (34, 45434), (42, 45365), (46, 45314),

Gene: Gwendoluna\_80 Start: 48442, Stop: 48143, Start Num: 20  
Candidate Starts for Gwendoluna\_80:  
(Start: 14 @48472 has 1 MA's), (Start: 20 @48442 has 225 MA's), (33, 48397), (34, 48394), (42, 48325), (46, 48274),

Gene: Gyzlar\_69 Start: 43801, Stop: 43514, Start Num: 20  
Candidate Starts for Gyzlar\_69:  
(12, 43861), (Start: 20 @43801 has 225 MA's), (33, 43768), (34, 43765), (42, 43696), (46, 43645),

Gene: Hami1\_69 Start: 41842, Stop: 41543, Start Num: 20  
Candidate Starts for Hami1\_69:  
(12, 41902), (Start: 20 @41842 has 225 MA's), (33, 41797), (34, 41794), (42, 41725), (46, 41674),

Gene: HanShotFirst\_74 Start: 47407, Stop: 47108, Start Num: 20  
Candidate Starts for HanShotFirst\_74:  
(12, 47467), (Start: 20 @47407 has 225 MA's), (33, 47362), (34, 47359), (42, 47290), (46, 47239),

Gene: HarryOW\_77 Start: 48653, Stop: 48354, Start Num: 20  
Candidate Starts for HarryOW\_77:  
(Start: 14 @48683 has 1 MA's), (Start: 20 @48653 has 225 MA's), (33, 48608), (34, 48605), (42, 48536), (46, 48485),

Gene: Hermia\_71 Start: 45532, Stop: 45233, Start Num: 20  
Candidate Starts for Hermia\_71:  
(Start: 20 @45532 has 225 MA's), (33, 45487), (34, 45484), (42, 45415), (46, 45364),

Gene: HermioneGrange\_80 Start: 48918, Stop: 48619, Start Num: 20  
Candidate Starts for HermioneGrange\_80:  
(12, 48978), (Start: 20 @48918 has 225 MA's), (33, 48873), (34, 48870), (42, 48801), (46, 48750),

Gene: Homines\_64 Start: 41862, Stop: 41563, Start Num: 20  
Candidate Starts for Homines\_64:  
(Start: 20 @41862 has 225 MA's), (33, 41817), (34, 41814), (42, 41745), (44, 41718), (46, 41694),

Gene: Hope4ever\_77 Start: 47133, Stop: 46834, Start Num: 20  
Candidate Starts for Hope4ever\_77:  
(2, 47340), (3, 47313), (5, 47271), (6, 47268), (7, 47241), (8, 47229), (9, 47220), (10, 47205), (16, 47151), (Start: 20 @47133 has 225 MA's), (33, 47088), (34, 47085), (42, 47016), (46, 46965),

Gene: ILeeKay\_74 Start: 45443, Stop: 45144, Start Num: 20  
Candidate Starts for ILeeKay\_74:  
(12, 45503), (Start: 20 @45443 has 225 MA's), (33, 45398), (34, 45395), (42, 45326), (46, 45275),

Gene: Ichabod\_79 Start: 47690, Stop: 47391, Start Num: 20  
Candidate Starts for Ichabod\_79:  
(12, 47750), (Start: 20 @47690 has 225 MA's), (33, 47645), (34, 47642), (42, 47573), (46, 47522),

Gene: IgnatiusPatJac\_76 Start: 46338, Stop: 46009, Start Num: 14  
Candidate Starts for IgnatiusPatJac\_76:

(Start: 14 @46338 has 1 MA's), (Start: 20 @46308 has 225 MA's), (33, 46263), (34, 46260), (42, 46191), (46, 46140),

Gene: Inyanga\_68 Start: 45636, Stop: 45337, Start Num: 20

Candidate Starts for Inyanga\_68:

(12, 45696), (Start: 20 @45636 has 225 MA's), (33, 45591), (34, 45588), (42, 45519), (46, 45468),

Gene: Iqorha\_68 Start: 45635, Stop: 45336, Start Num: 20

Candidate Starts for Iqorha\_68:

(12, 45695), (Start: 20 @45635 has 225 MA's), (33, 45590), (34, 45587), (42, 45518), (46, 45467),

Gene: JC27\_77 Start: 46703, Stop: 46419, Start Num: 25

Candidate Starts for JC27\_77:

(17, 46733), (Start: 25 @46703 has 5 MA's), (29, 46691), (42, 46601), (46, 46550),

Gene: JackSparrow\_77 Start: 46543, Stop: 46244, Start Num: 20

Candidate Starts for JackSparrow\_77:

(12, 46603), (Start: 20 @46543 has 225 MA's), (33, 46498), (34, 46495), (46, 46375),

Gene: Jasper\_75 Start: 45295, Stop: 44996, Start Num: 20

Candidate Starts for Jasper\_75:

(12, 45355), (Start: 20 @45295 has 225 MA's), (33, 45250), (34, 45247), (42, 45178), (46, 45127),

Gene: Jerm2\_78 Start: 48988, Stop: 48689, Start Num: 20

Candidate Starts for Jerm2\_78:

(12, 49048), (Start: 20 @48988 has 225 MA's), (33, 48943), (34, 48940), (42, 48871), (46, 48820),

Gene: Jorgensen\_83 Start: 48562, Stop: 48278, Start Num: 25

Candidate Starts for Jorgensen\_83:

(17, 48592), (Start: 25 @48562 has 5 MA's), (29, 48550), (42, 48460), (46, 48409),

Gene: Jsquared\_87 Start: 47057, Stop: 46782, Start Num: 26

Candidate Starts for Jsquared\_87:

(1, 47306), (Start: 26 @47057 has 15 MA's), (32, 47036), (35, 47024), (37, 47018),

Gene: JuliaChild\_77 Start: 47536, Stop: 47237, Start Num: 20

Candidate Starts for JuliaChild\_77:

(Start: 14 @47566 has 1 MA's), (Start: 20 @47536 has 225 MA's), (33, 47491), (34, 47488), (42, 47419), (46, 47368),

Gene: KBG\_74 Start: 47890, Stop: 47585, Start Num: 19

Candidate Starts for KBG\_74:

(Start: 19 @47890 has 2 MA's), (Start: 20 @47884 has 225 MA's), (33, 47839), (34, 47836), (42, 47767), (46, 47716),

Gene: KSSJEB\_73 Start: 45768, Stop: 45469, Start Num: 20

Candidate Starts for KSSJEB\_73:

(Start: 20 @45768 has 225 MA's), (33, 45723), (34, 45720), (42, 45651), (46, 45600),

Gene: Kanely\_78 Start: 47624, Stop: 47325, Start Num: 20

Candidate Starts for Kanely\_78:

(Start: 19 @47630 has 2 MA's), (Start: 20 @47624 has 225 MA's), (33, 47579), (34, 47576), (42, 47507), (46, 47456),

Gene: Kenmech\_78 Start: 47914, Stop: 47615, Start Num: 20

Candidate Starts for Kenmech\_78:

(Start: 14 @47944 has 1 MA's), (Start: 20 @47914 has 225 MA's), (33, 47869), (34, 47866), (42, 47797), (46, 47746),

Gene: Kerberos\_83 Start: 47197, Stop: 46919, Start Num: 26

Candidate Starts for Kerberos\_83:

(Start: 26 @47197 has 15 MA's), (35, 47164), (37, 47158), (47, 47023),

Gene: KikiBouba\_72 Start: 45341, Stop: 45042, Start Num: 20

Candidate Starts for KikiBouba\_72:

(Start: 20 @45341 has 225 MA's), (33, 45296), (34, 45293), (42, 45224), (46, 45173),

Gene: Killigrew\_73 Start: 46134, Stop: 45835, Start Num: 20

Candidate Starts for Killigrew\_73:

(12, 46194), (Start: 20 @46134 has 225 MA's), (33, 46089), (34, 46086), (41, 46044), (42, 46017), (46, 45966),

Gene: Koduck\_83 Start: 46399, Stop: 46124, Start Num: 26

Candidate Starts for Koduck\_83:

(1, 46648), (Start: 26 @46399 has 15 MA's), (33, 46372), (35, 46366), (37, 46360),

Gene: Kugel\_78 Start: 47776, Stop: 47477, Start Num: 20

Candidate Starts for Kugel\_78:

(12, 47836), (Start: 20 @47776 has 225 MA's), (33, 47731), (34, 47728), (42, 47659), (46, 47608),

Gene: KyMonks1A\_82 Start: 48245, Stop: 47946, Start Num: 20

Candidate Starts for KyMonks1A\_82:

(Start: 14 @48275 has 1 MA's), (Start: 20 @48245 has 225 MA's), (33, 48200), (34, 48197), (42, 48128), (46, 48077),

Gene: Kykar\_76 Start: 46815, Stop: 46522, Start Num: 20

Candidate Starts for Kykar\_76:

(12, 46875), (Start: 20 @46815 has 225 MA's), (Start: 26 @46794 has 15 MA's), (42, 46704), (46, 46653),

Gene: L5\_76 Start: 46290, Stop: 46015, Start Num: 26

Candidate Starts for L5\_76:

(1, 46539), (Start: 26 @46290 has 15 MA's), (33, 46263), (35, 46257), (37, 46251),

Gene: Lamina13\_80 Start: 49268, Stop: 48969, Start Num: 20

Candidate Starts for Lamina13\_80:

(12, 49328), (Start: 20 @49268 has 225 MA's), (33, 49223), (34, 49220), (42, 49151), (46, 49100),

Gene: Lesedi\_73 Start: 45402, Stop: 45103, Start Num: 20

Candidate Starts for Lesedi\_73:

(Start: 14 @45432 has 1 MA's), (Start: 20 @45402 has 225 MA's), (33, 45357), (34, 45354), (42, 45285), (46, 45234),

Gene: Lev2\_71 Start: 44266, Stop: 43970, Start Num: 21

Candidate Starts for Lev2\_71:

(Start: 21 @44266 has 9 MA's), (27, 44245), (47, 44086),

Gene: Levia\_70 Start: 44940, Stop: 44641, Start Num: 20

Candidate Starts for Levia\_70:

(Start: 14 @44970 has 1 MA's), (Start: 20 @44940 has 225 MA's), (33, 44895), (34, 44892), (42, 44823), (46, 44772),

Gene: Licorice\_77 Start: 48925, Stop: 48626, Start Num: 20

Candidate Starts for Licorice\_77:

(Start: 19 @48931 has 2 MA's), (Start: 20 @48925 has 225 MA's), (33, 48880), (34, 48877), (42, 48808), (46, 48757),

Gene: LilBib\_73 Start: 47156, Stop: 46857, Start Num: 20

Candidate Starts for LilBib\_73:

(Start: 20 @47156 has 225 MA's), (33, 47111), (34, 47108), (42, 47039), (46, 46988),

Gene: Lockley\_73 Start: 46285, Stop: 45986, Start Num: 20

Candidate Starts for Lockley\_73:

(Start: 14 @46315 has 1 MA's), (Start: 20 @46285 has 225 MA's), (33, 46240), (34, 46237), (42, 46168), (46, 46117),

Gene: Lopton\_75 Start: 48247, Stop: 47948, Start Num: 20

Candidate Starts for Lopton\_75:

(Start: 14 @48277 has 1 MA's), (Start: 20 @48247 has 225 MA's), (33, 48202), (34, 48199), (42, 48130), (46, 48079),

Gene: LunaBlu\_43 Start: 32418, Stop: 32182, Start Num: 20

Candidate Starts for LunaBlu\_43:

(Start: 20 @32418 has 225 MA's), (33, 32373), (34, 32370), (42, 32301), (46, 32250),

Gene: MPlant7149\_76 Start: 46801, Stop: 46502, Start Num: 20

Candidate Starts for MPlant7149\_76:

(Start: 14 @46831 has 1 MA's), (Start: 20 @46801 has 225 MA's), (33, 46756), (34, 46753), (42, 46684), (46, 46633),

Gene: Magnar\_72 Start: 45929, Stop: 45630, Start Num: 20

Candidate Starts for Magnar\_72:

(Start: 14 @45959 has 1 MA's), (Start: 20 @45929 has 225 MA's), (33, 45884), (34, 45881), (42, 45812), (46, 45761),

Gene: Magnito\_75 Start: 46242, Stop: 45943, Start Num: 20

Candidate Starts for Magnito\_75:

(Start: 20 @46242 has 225 MA's), (33, 46197), (34, 46194), (42, 46125), (46, 46074),

Gene: MajorMajor\_80 Start: 45106, Stop: 44831, Start Num: 26

Candidate Starts for MajorMajor\_80:

(1, 45355), (Start: 26 @45106 has 15 MA's), (32, 45085), (35, 45073),

Gene: Makemake\_79 Start: 47852, Stop: 47553, Start Num: 20

Candidate Starts for Makemake\_79:

(Start: 14 @47882 has 1 MA's), (Start: 20 @47852 has 225 MA's), (33, 47807), (34, 47804), (42, 47735), (46, 47684),

Gene: Manatee\_74 Start: 45782, Stop: 45483, Start Num: 20

Candidate Starts for Manatee\_74:

(Start: 14 @45812 has 1 MA's), (Start: 20 @45782 has 225 MA's), (33, 45737), (34, 45734), (42, 45665),

Gene: Marcell\_69 Start: 44549, Stop: 44250, Start Num: 20

Candidate Starts for Marcell\_69:

(12, 44609), (Start: 20 @44549 has 225 MA's), (33, 44504), (34, 44501), (42, 44432), (46, 44381),

Gene: Marchy\_68 Start: 43353, Stop: 43054, Start Num: 20

Candidate Starts for Marchy\_68:

(12, 43413), (Start: 20 @43353 has 225 MA's), (33, 43308), (34, 43305), (42, 43236), (46, 43185),

Gene: Marco3\_79 Start: 48503, Stop: 48204, Start Num: 20

Candidate Starts for Marco3\_79:

(12, 48563), (Start: 20 @48503 has 225 MA's), (33, 48458), (34, 48455), (42, 48386), (46, 48335),

Gene: Marge\_73 Start: 46046, Stop: 45747, Start Num: 20

Candidate Starts for Marge\_73:

(12, 46106), (Start: 20 @46046 has 225 MA's), (33, 46001), (34, 45998), (42, 45929), (43, 45917), (46, 45878),

Gene: Maroc7\_78 Start: 48845, Stop: 48546, Start Num: 20

Candidate Starts for Maroc7\_78:

(12, 48905), (Start: 20 @48845 has 225 MA's), (33, 48800), (34, 48797), (42, 48728), (46, 48677),

Gene: Marsha\_76 Start: 48488, Stop: 48189, Start Num: 20

Candidate Starts for Marsha\_76:

(Start: 20 @48488 has 225 MA's), (33, 48443), (34, 48440), (42, 48371), (46, 48320),

Gene: MaryBeth\_74 Start: 47072, Stop: 46773, Start Num: 20

Candidate Starts for MaryBeth\_74:

(Start: 14 @47102 has 1 MA's), (Start: 20 @47072 has 225 MA's), (33, 47027), (34, 47024), (42, 46955), (46, 46904),

Gene: MarysWell\_70 Start: 44501, Stop: 44202, Start Num: 20

Candidate Starts for MarysWell\_70:

(18, 44513), (Start: 20 @44501 has 225 MA's), (Start: 22 @44495 has 1 MA's), (47, 44318),

Gene: McGuire\_76 Start: 46085, Stop: 45786, Start Num: 20

Candidate Starts for McGuire\_76:

(12, 46145), (Start: 20 @46085 has 225 MA's), (33, 46040), (34, 46037), (42, 45968), (46, 45917),

Gene: McSinger\_75 Start: 47215, Stop: 46916, Start Num: 20

Candidate Starts for McSinger\_75:

(12, 47275), (Start: 20 @47215 has 225 MA's), (33, 47170), (34, 47167), (42, 47098), (46, 47047),

Gene: Melissauren88\_39 Start: 31545, Stop: 31309, Start Num: 20

Candidate Starts for Melissauren88\_39:

(Start: 20 @31545 has 225 MA's), (33, 31500), (34, 31497), (42, 31428), (46, 31377),

Gene: MetalQZJ\_73 Start: 47072, Stop: 46773, Start Num: 20

Candidate Starts for MetalQZJ\_73:

(Start: 14 @47102 has 1 MA's), (Start: 20 @47072 has 225 MA's), (33, 47027), (34, 47024), (42, 46955), (46, 46904),

Gene: Micasa\_70 Start: 44223, Stop: 43924, Start Num: 20

Candidate Starts for Micasa\_70:

(18, 44235), (Start: 20 @44223 has 225 MA's), (Start: 22 @44217 has 1 MA's), (32, 44181), (35, 44169), (44, 44079), (47, 44040),

Gene: Michley\_77 Start: 46813, Stop: 46514, Start Num: 20

Candidate Starts for Michley\_77:

(12, 46873), (Start: 20 @46813 has 225 MA's), (33, 46768), (34, 46765), (42, 46696), (46, 46645),

Gene: Milcery\_70 Start: 44007, Stop: 43711, Start Num: 21

Candidate Starts for Milcery\_70:

(Start: 21 @44007 has 9 MA's), (27, 43986), (29, 43980), (44, 43866), (45, 43851), (47, 43827),

Gene: MilleFeuille\_76 Start: 45821, Stop: 45537, Start Num: 25

Candidate Starts for MilleFeuille\_76:

(17, 45851), (Start: 25 @45821 has 5 MA's), (29, 45809), (42, 45719), (46, 45668),

Gene: Mkhuseleli\_73 Start: 44816, Stop: 44517, Start Num: 20

Candidate Starts for Mkhuseleli\_73:

(Start: 20 @44816 has 225 MA's), (33, 44771), (34, 44768), (42, 44699), (44, 44672), (46, 44648),

Gene: Molly\_76 Start: 46458, Stop: 46159, Start Num: 20

Candidate Starts for Molly\_76:

(Start: 14 @46488 has 1 MA's), (Start: 20 @46458 has 225 MA's), (33, 46413), (34, 46410), (42, 46341), (46, 46290),

Gene: Monet\_80 Start: 48495, Stop: 48196, Start Num: 20

Candidate Starts for Monet\_80:

(12, 48555), (Start: 20 @48495 has 225 MA's), (33, 48450), (34, 48447), (42, 48378), (46, 48327),

Gene: Moose\_78 Start: 47631, Stop: 47332, Start Num: 20

Candidate Starts for Moose\_78:

(Start: 14 @47661 has 1 MA's), (Start: 20 @47631 has 225 MA's), (33, 47586), (34, 47583), (42, 47514), (46, 47463),

Gene: MrGordo\_77 Start: 46387, Stop: 46088, Start Num: 20

Candidate Starts for MrGordo\_77:

(16, 46405), (Start: 20 @46387 has 225 MA's), (33, 46342), (34, 46339), (42, 46270), (46, 46219),

Gene: Mryolo\_71 Start: 45416, Stop: 45117, Start Num: 20

Candidate Starts for Mryolo\_71:

(Start: 14 @45446 has 1 MA's), (Start: 20 @45416 has 225 MA's), (33, 45371), (34, 45368), (42, 45299), (46, 45248),

Gene: Mule\_75 Start: 46498, Stop: 46199, Start Num: 20

Candidate Starts for Mule\_75:

(Start: 14 @46528 has 1 MA's), (Start: 20 @46498 has 225 MA's), (33, 46453), (34, 46450), (42, 46381), (46, 46330),

Gene: Museum\_76 Start: 47521, Stop: 47222, Start Num: 20

Candidate Starts for Museum\_76:

(Start: 14 @47551 has 1 MA's), (Start: 20 @47521 has 225 MA's), (33, 47476), (34, 47473), (42, 47404), (46, 47353),

Gene: NEHalo\_72 Start: 46331, Stop: 46032, Start Num: 20

Candidate Starts for NEHalo\_72:

(Start: 14 @46361 has 1 MA's), (Start: 20 @46331 has 225 MA's), (33, 46286), (34, 46283), (42, 46214), (46, 46163),

Gene: Naira\_78 Start: 48004, Stop: 47705, Start Num: 20

Candidate Starts for Naira\_78:

(12, 48064), (Start: 20 @48004 has 225 MA's), (33, 47959), (34, 47956), (42, 47887), (46, 47836),

Gene: Nerujay\_80 Start: 48773, Stop: 48474, Start Num: 20

Candidate Starts for Nerujay\_80:

(2, 48980), (3, 48953), (5, 48911), (6, 48908), (7, 48881), (8, 48869), (9, 48860), (10, 48845), (13, 48830), (16, 48791), (Start: 20 @48773 has 225 MA's), (33, 48728), (34, 48725), (42, 48656), (46, 48605),

Gene: Nhonho\_72 Start: 46492, Stop: 46193, Start Num: 20

Candidate Starts for Nhonho\_72:

(18, 46501), (Start: 20 @46492 has 225 MA's), (33, 46447), (34, 46444), (42, 46375), (46, 46324),

Gene: Niza\_76 Start: 47804, Stop: 47505, Start Num: 20

Candidate Starts for Niza\_76:

(Start: 14 @47834 has 1 MA's), (Start: 20 @47804 has 225 MA's), (33, 47759), (34, 47756), (42, 47687), (46, 47636),

Gene: Norz\_72 Start: 47994, Stop: 47695, Start Num: 20

Candidate Starts for Norz\_72:

(12, 48054), (Start: 20 @47994 has 225 MA's), (33, 47949), (34, 47946), (42, 47877), (46, 47826),

Gene: Noxious\_72 Start: 45532, Stop: 45233, Start Num: 20

Candidate Starts for Noxious\_72:

(Start: 20 @45532 has 225 MA's), (33, 45487), (34, 45484), (42, 45415), (46, 45364),

Gene: Ohno789\_79 Start: 48554, Stop: 48255, Start Num: 20

Candidate Starts for Ohno789\_79:

(Start: 14 @48584 has 1 MA's), (Start: 20 @48554 has 225 MA's), (33, 48509), (34, 48506), (42, 48437), (46, 48386),

Gene: Oogway\_75 Start: 47385, Stop: 47086, Start Num: 20

Candidate Starts for Oogway\_75:

(12, 47445), (Start: 20 @47385 has 225 MA's), (33, 47340), (34, 47337), (42, 47268), (46, 47217),

Gene: PSullivan\_74 Start: 45604, Stop: 45305, Start Num: 20

Candidate Starts for PSullivan\_74:

(Start: 14 @45634 has 1 MA's), (Start: 20 @45604 has 225 MA's), (33, 45559), (34, 45556), (42, 45487), (46, 45436),

Gene: PacerPaul\_81 Start: 48867, Stop: 48568, Start Num: 20

Candidate Starts for PacerPaul\_81:

(12, 48927), (Start: 20 @48867 has 225 MA's), (33, 48822), (34, 48819), (42, 48750), (46, 48699),

Gene: Papez\_78 Start: 47995, Stop: 47696, Start Num: 20  
Candidate Starts for Papez\_78:  
(12, 48055), (Start: 20 @47995 has 225 MA's), (33, 47950), (34, 47947), (42, 47878), (46, 47827),

Gene: Paphu\_71 Start: 46029, Stop: 45730, Start Num: 20  
Candidate Starts for Paphu\_71:  
(Start: 14 @46059 has 1 MA's), (Start: 20 @46029 has 225 MA's), (33, 45984), (34, 45981), (42, 45912), (46, 45861),

Gene: Paraselene\_74 Start: 46678, Stop: 46379, Start Num: 20  
Candidate Starts for Paraselene\_74:  
(12, 46738), (Start: 20 @46678 has 225 MA's), (33, 46633), (34, 46630), (42, 46561), (46, 46510),

Gene: Pari\_81 Start: 47398, Stop: 47099, Start Num: 20  
Candidate Starts for Pari\_81:  
(Start: 14 @47428 has 1 MA's), (Start: 20 @47398 has 225 MA's), (33, 47353), (34, 47350), (42, 47281), (46, 47230),

Gene: Parliament\_77 Start: 49579, Stop: 49280, Start Num: 20  
Candidate Starts for Parliament\_77:  
(Start: 14 @49609 has 1 MA's), (Start: 20 @49579 has 225 MA's), (33, 49534), (34, 49531), (42, 49462), (46, 49411),

Gene: PascalRango\_74 Start: 46673, Stop: 46374, Start Num: 20  
Candidate Starts for PascalRango\_74:  
(Start: 14 @46703 has 1 MA's), (Start: 20 @46673 has 225 MA's), (33, 46628), (34, 46625), (42, 46556), (46, 46505),

Gene: PattyP\_76 Start: 47227, Stop: 46928, Start Num: 20  
Candidate Starts for PattyP\_76:  
(Start: 14 @47257 has 1 MA's), (Start: 20 @47227 has 225 MA's), (33, 47182), (34, 47179), (42, 47110), (46, 47059),

Gene: Pelly\_79 Start: 49760, Stop: 49461, Start Num: 20  
Candidate Starts for Pelly\_79:  
(Start: 14 @49790 has 1 MA's), (Start: 20 @49760 has 225 MA's), (33, 49715), (34, 49712), (42, 49643), (46, 49592),

Gene: Pepe\_70 Start: 44682, Stop: 44383, Start Num: 20  
Candidate Starts for Pepe\_70:  
(12, 44742), (Start: 20 @44682 has 225 MA's), (33, 44637), (34, 44634), (42, 44565), (46, 44514),

Gene: Perseus\_76 Start: 48660, Stop: 48361, Start Num: 20  
Candidate Starts for Perseus\_76:  
(Start: 14 @48690 has 1 MA's), (Start: 20 @48660 has 225 MA's), (33, 48615), (34, 48612), (42, 48543), (46, 48492),

Gene: Peterson\_75 Start: 47826, Stop: 47527, Start Num: 20  
Candidate Starts for Peterson\_75:  
(12, 47886), (Start: 20 @47826 has 225 MA's), (33, 47781), (34, 47778), (42, 47709), (46, 47658),

Gene: Petp2012\_77 Start: 48008, Stop: 47709, Start Num: 20

Candidate Starts for Petp2012\_77:  
(12, 48068), (Start: 20 @48008 has 225 MA's), (33, 47963), (34, 47960), (42, 47891), (46, 47840),

Gene: Petruccio\_76 Start: 46087, Stop: 45788, Start Num: 20  
Candidate Starts for Petruccio\_76:  
(Start: 20 @46087 has 225 MA's), (33, 46042), (34, 46039), (42, 45970), (46, 45919),

Gene: PherrisBueller\_75 Start: 44946, Stop: 44647, Start Num: 20  
Candidate Starts for PherrisBueller\_75:  
(12, 45006), (Start: 20 @44946 has 225 MA's), (33, 44901), (34, 44898), (42, 44829), (46, 44778),

Gene: PhineBark\_72 Start: 45958, Stop: 45659, Start Num: 20  
Candidate Starts for PhineBark\_72:  
(Start: 14 @45988 has 1 MA's), (Start: 20 @45958 has 225 MA's), (33, 45913), (34, 45910), (42, 45841), (46, 45790),

Gene: Phlippers\_74 Start: 48309, Stop: 48010, Start Num: 20  
Candidate Starts for Phlippers\_74:  
(12, 48369), (Start: 20 @48309 has 225 MA's), (33, 48264), (34, 48261), (42, 48192), (46, 48141),

Gene: Phlorence\_69 Start: 44013, Stop: 43717, Start Num: 21  
Candidate Starts for Phlorence\_69:  
(Start: 21 @44013 has 9 MA's), (27, 43992),

Gene: PhrostyMug\_78 Start: 48672, Stop: 48373, Start Num: 20  
Candidate Starts for PhrostyMug\_78:  
(Start: 14 @48702 has 1 MA's), (Start: 20 @48672 has 225 MA's), (33, 48627), (34, 48624), (42, 48555), (46, 48504),

Gene: PickleBack\_71 Start: 44188, Stop: 43892, Start Num: 21  
Candidate Starts for PickleBack\_71:  
(Start: 21 @44188 has 9 MA's), (27, 44167), (47, 44008),

Gene: PinkPlastic\_72 Start: 45594, Stop: 45295, Start Num: 20  
Candidate Starts for PinkPlastic\_72:  
(12, 45654), (Start: 20 @45594 has 225 MA's), (33, 45549), (34, 45546), (42, 45477), (46, 45426),

Gene: Pinto\_76 Start: 47457, Stop: 47158, Start Num: 20  
Candidate Starts for Pinto\_76:  
(12, 47517), (Start: 20 @47457 has 225 MA's), (33, 47412), (34, 47409), (40, 47391), (42, 47340), (46, 47289),

Gene: Pippin\_77 Start: 47099, Stop: 46800, Start Num: 20  
Candidate Starts for Pippin\_77:  
(12, 47159), (Start: 20 @47099 has 225 MA's), (33, 47054), (34, 47051), (42, 46982), (46, 46931),

Gene: Pita2\_77 Start: 47100, Stop: 46801, Start Num: 20  
Candidate Starts for Pita2\_77:  
(Start: 14 @47130 has 1 MA's), (Start: 20 @47100 has 225 MA's), (33, 47055), (34, 47052), (42, 46983), (46, 46932),

Gene: Polo2Bam\_44 Start: 31582, Stop: 31346, Start Num: 20  
Candidate Starts for Polo2Bam\_44:

(Start: 20 @31582 has 225 MA's), (33, 31537), (34, 31534), (42, 31465), (46, 31414),

Gene: Pomar16\_83 Start: 47270, Stop: 46992, Start Num: 26

Candidate Starts for Pomar16\_83:

(Start: 26 @47270 has 15 MA's), (35, 47237), (37, 47231), (47, 47096),

Gene: PowerRanger\_72 Start: 47032, Stop: 46733, Start Num: 20

Candidate Starts for PowerRanger\_72:

(12, 47092), (Start: 20 @47032 has 225 MA's), (33, 46987), (34, 46984), (42, 46915), (46, 46864),

Gene: Prinash11\_68 Start: 43827, Stop: 43531, Start Num: 21

Candidate Starts for Prinash11\_68:

(Start: 21 @43827 has 9 MA's), (27, 43806), (29, 43800), (47, 43647),

Gene: ProMouse\_76 Start: 46599, Stop: 46300, Start Num: 20

Candidate Starts for ProMouse\_76:

(12, 46659), (Start: 20 @46599 has 225 MA's), (33, 46554), (34, 46551), (42, 46482), (46, 46431),

Gene: Puppet\_71 Start: 47317, Stop: 47018, Start Num: 20

Candidate Starts for Puppet\_71:

(Start: 14 @47347 has 1 MA's), (Start: 20 @47317 has 225 MA's), (33, 47272), (34, 47269), (42, 47200), (46, 47149),

Gene: QTRlifeCrisis\_75 Start: 46442, Stop: 46143, Start Num: 20

Candidate Starts for QTRlifeCrisis\_75:

(Start: 20 @46442 has 225 MA's), (33, 46397), (34, 46394), (42, 46325), (46, 46274),

Gene: Quokka\_85 Start: 46815, Stop: 46540, Start Num: 26

Candidate Starts for Quokka\_85:

(1, 47064), (Start: 26 @46815 has 15 MA's), (32, 46794), (35, 46782),

Gene: Raid\_73 Start: 46344, Stop: 46045, Start Num: 20

Candidate Starts for Raid\_73:

(Start: 20 @46344 has 225 MA's), (33, 46299), (34, 46296), (42, 46227), (46, 46176),

Gene: Rajelicia\_78 Start: 49280, Stop: 48981, Start Num: 20

Candidate Starts for Rajelicia\_78:

(12, 49340), (Start: 20 @49280 has 225 MA's), (33, 49235), (34, 49232), (42, 49163), (46, 49112),

Gene: Rhynn\_72 Start: 46867, Stop: 46568, Start Num: 20

Candidate Starts for Rhynn\_72:

(Start: 14 @46897 has 1 MA's), (Start: 20 @46867 has 225 MA's), (33, 46822), (34, 46819), (42, 46750), (43, 46738), (46, 46699),

Gene: Ringer\_76 Start: 47812, Stop: 47513, Start Num: 20

Candidate Starts for Ringer\_76:

(18, 47821), (Start: 20 @47812 has 225 MA's), (33, 47767), (34, 47764), (42, 47695), (46, 47644),

Gene: Rohr\_79 Start: 49063, Stop: 48764, Start Num: 20

Candidate Starts for Rohr\_79:

(12, 49123), (Start: 20 @49063 has 225 MA's), (33, 49018), (34, 49015), (42, 48946), (46, 48895),

Gene: Rubeus\_77 Start: 45563, Stop: 45264, Start Num: 20

Candidate Starts for Rubeus\_77:

(12, 45623), (Start: 20 @45563 has 225 MA's), (33, 45518), (34, 45515), (42, 45446), (46, 45395),

Gene: Rufus\_79 Start: 48252, Stop: 47953, Start Num: 20

Candidate Starts for Rufus\_79:

(12, 48312), (Start: 20 @48252 has 225 MA's), (33, 48207), (34, 48204), (42, 48135), (46, 48084),

Gene: Ruotula\_80 Start: 48665, Stop: 48366, Start Num: 20

Candidate Starts for Ruotula\_80:

(Start: 20 @48665 has 225 MA's), (24, 48653), (33, 48620), (34, 48617), (42, 48548), (46, 48497),

Gene: Rutherferd\_78 Start: 47832, Stop: 47533, Start Num: 20

Candidate Starts for Rutherferd\_78:

(Start: 20 @47832 has 225 MA's), (33, 47787), (34, 47784), (42, 47715), (46, 47664),

Gene: STLscum\_82 Start: 47874, Stop: 47575, Start Num: 20

Candidate Starts for STLscum\_82:

(Start: 14 @47904 has 1 MA's), (Start: 20 @47874 has 225 MA's), (33, 47829), (34, 47826), (42, 47757), (46, 47706),

Gene: Sagefire\_73 Start: 46922, Stop: 46623, Start Num: 20

Candidate Starts for Sagefire\_73:

(12, 46982), (Start: 20 @46922 has 225 MA's), (33, 46877), (34, 46874), (42, 46805), (46, 46754),

Gene: Sandaddy\_74 Start: 47254, Stop: 46955, Start Num: 20

Candidate Starts for Sandaddy\_74:

(Start: 14 @47284 has 1 MA's), (Start: 20 @47254 has 225 MA's), (33, 47209), (34, 47206), (42, 47137), (46, 47086),

Gene: Sanya\_71 Start: 47559, Stop: 47260, Start Num: 20

Candidate Starts for Sanya\_71:

(12, 47619), (Start: 20 @47559 has 225 MA's), (33, 47514), (34, 47511), (42, 47442),

Gene: SarFire\_80 Start: 48896, Stop: 48597, Start Num: 20

Candidate Starts for SarFire\_80:

(12, 48956), (Start: 20 @48896 has 225 MA's), (33, 48851), (34, 48848), (42, 48779), (46, 48728),

Gene: Scowl\_77 Start: 47219, Stop: 46920, Start Num: 20

Candidate Starts for Scowl\_77:

(12, 47279), (Start: 20 @47219 has 225 MA's), (33, 47174), (34, 47171), (42, 47102), (46, 47051),

Gene: SeaLumen\_44 Start: 31582, Stop: 31346, Start Num: 20

Candidate Starts for SeaLumen\_44:

(Start: 20 @31582 has 225 MA's), (33, 31537), (34, 31534), (42, 31465), (46, 31414),

Gene: Seabiscuit\_77 Start: 46319, Stop: 46020, Start Num: 20

Candidate Starts for Seabiscuit\_77:

(12, 46379), (Start: 20 @46319 has 225 MA's), (33, 46274), (34, 46271), (42, 46202), (46, 46151),

Gene: Seanderson\_76 Start: 48623, Stop: 48324, Start Num: 20

Candidate Starts for Seanderson\_76:

(12, 48683), (Start: 20 @48623 has 225 MA's), (33, 48578), (34, 48575), (42, 48506), (46, 48455),

Gene: Serenity\_86 Start: 46855, Stop: 46580, Start Num: 26  
Candidate Starts for Serenity\_86:  
(1, 47104), (Start: 26 @46855 has 15 MA's), (33, 46828), (35, 46822), (37, 46816),

Gene: SheaKeira\_82 Start: 47212, Stop: 46940, Start Num: 25  
Candidate Starts for SheaKeira\_82:  
(Start: 25 @47212 has 5 MA's), (31, 47194), (37, 47173),

Gene: ShortQueendom\_71 Start: 44928, Stop: 44629, Start Num: 20  
Candidate Starts for ShortQueendom\_71:  
(12, 44988), (Start: 20 @44928 has 225 MA's), (33, 44883), (34, 44880), (42, 44811), (46, 44760),

Gene: Sibs6\_76 Start: 44568, Stop: 44269, Start Num: 20  
Candidate Starts for Sibs6\_76:  
(Start: 14 @44598 has 1 MA's), (Start: 20 @44568 has 225 MA's), (33, 44523), (34, 44520), (42, 44451), (46, 44400),

Gene: SkiPole\_85 Start: 48224, Stop: 47925, Start Num: 20  
Candidate Starts for SkiPole\_85:  
(12, 48284), (Start: 20 @48224 has 225 MA's), (33, 48179), (34, 48176), (42, 48107), (46, 48056),

Gene: Slagathor\_77 Start: 48080, Stop: 47781, Start Num: 20  
Candidate Starts for Slagathor\_77:  
(12, 48140), (Start: 20 @48080 has 225 MA's), (33, 48035), (34, 48032), (42, 47963), (46, 47912),

Gene: Smairt\_80 Start: 49688, Stop: 49389, Start Num: 20  
Candidate Starts for Smairt\_80:  
(Start: 14 @49718 has 1 MA's), (Start: 20 @49688 has 225 MA's), (33, 49643), (34, 49640), (42, 49571), (46, 49520),

Gene: Smeagol\_79 Start: 49291, Stop: 48989, Start Num: 20  
Candidate Starts for Smeagol\_79:  
(Start: 20 @49291 has 225 MA's), (34, 49243), (38, 49231), (39, 49228), (44, 49144), (46, 49120),

Gene: Snazzy\_77 Start: 47731, Stop: 47432, Start Num: 20  
Candidate Starts for Snazzy\_77:  
(12, 47791), (Start: 20 @47731 has 225 MA's), (33, 47686), (34, 47683), (42, 47614), (46, 47563),

Gene: Solon\_72 Start: 45366, Stop: 45067, Start Num: 20  
Candidate Starts for Solon\_72:  
(12, 45426), (Start: 20 @45366 has 225 MA's), (33, 45321), (34, 45318), (42, 45249), (46, 45198),

Gene: Sorpresa\_75 Start: 47260, Stop: 46961, Start Num: 20  
Candidate Starts for Sorpresa\_75:  
(Start: 14 @47290 has 1 MA's), (Start: 20 @47260 has 225 MA's), (33, 47215), (34, 47212), (42, 47143), (46, 47092),

Gene: SpikeBT\_73 Start: 46188, Stop: 45889, Start Num: 20  
Candidate Starts for SpikeBT\_73:  
(Start: 14 @46218 has 1 MA's), (Start: 20 @46188 has 225 MA's), (33, 46143), (34, 46140), (42, 46071), (46, 46020),

Gene: Squee\_77 Start: 46804, Stop: 46505, Start Num: 20

Candidate Starts for Squee\_77:

(12, 46864), (Start: 20 @46804 has 225 MA's), (33, 46759), (34, 46756), (42, 46687), (46, 46636),

Gene: StarStuff\_83 Start: 47232, Stop: 46954, Start Num: 26

Candidate Starts for StarStuff\_83:

(Start: 26 @47232 has 15 MA's), (35, 47199), (37, 47193), (47, 47058),

Gene: StewieG\_72 Start: 44368, Stop: 44039, Start Num: 14

Candidate Starts for StewieG\_72:

(Start: 14 @44368 has 1 MA's), (Start: 20 @44338 has 225 MA's), (33, 44293), (34, 44290), (42, 44221), (46, 44170),

Gene: StrongArm\_72 Start: 46736, Stop: 46437, Start Num: 20

Candidate Starts for StrongArm\_72:

(12, 46796), (Start: 20 @46736 has 225 MA's), (33, 46691), (34, 46688), (42, 46619), (46, 46568),

Gene: Sumter\_73 Start: 47729, Stop: 47430, Start Num: 20

Candidate Starts for Sumter\_73:

(Start: 14 @47759 has 1 MA's), (Start: 20 @47729 has 225 MA's), (33, 47684), (34, 47681), (42, 47612), (46, 47561),

Gene: Sunshine924\_77 Start: 46251, Stop: 45952, Start Num: 20

Candidate Starts for Sunshine924\_77:

(Start: 20 @46251 has 225 MA's), (33, 46206), (34, 46203), (42, 46134), (46, 46083),

Gene: Swirley\_70 Start: 44157, Stop: 43861, Start Num: 21

Candidate Starts for Swirley\_70:

(Start: 21 @44157 has 9 MA's), (27, 44136), (29, 44130), (47, 43977),

Gene: SwissCheese\_80 Start: 47251, Stop: 46952, Start Num: 20

Candidate Starts for SwissCheese\_80:

(Start: 14 @47281 has 1 MA's), (Start: 20 @47251 has 225 MA's), (33, 47206), (34, 47203), (42, 47134), (46, 47083),

Gene: Switzer\_75 Start: 47195, Stop: 46896, Start Num: 20

Candidate Starts for Switzer\_75:

(12, 47255), (Start: 20 @47195 has 225 MA's), (33, 47150), (34, 47147), (42, 47078), (46, 47027),

Gene: Swole\_77 Start: 47010, Stop: 46711, Start Num: 20

Candidate Starts for Swole\_77:

(Start: 14 @47040 has 1 MA's), (Start: 20 @47010 has 225 MA's), (33, 46965), (34, 46962), (42, 46893), (46, 46842),

Gene: SydNat\_70 Start: 44362, Stop: 44045, Start Num: 20

Candidate Starts for SydNat\_70:

(11, 44434), (15, 44383), (18, 44374), (Start: 20 @44362 has 225 MA's), (Start: 22 @44356 has 1 MA's), (32, 44320), (35, 44308),

Gene: Target\_76 Start: 45828, Stop: 45529, Start Num: 20

Candidate Starts for Target\_76:

(12, 45888), (Start: 20 @45828 has 225 MA's), (33, 45783), (34, 45780), (42, 45711), (43, 45699), (46, 45660),

Gene: Tarynearal\_69 Start: 43993, Stop: 43697, Start Num: 21

Candidate Starts for Tarynearal\_69:

(Start: 21 @43993 has 9 MA's), (27, 43972), (29, 43966), (37, 43936), (47, 43813),

Gene: Tasp14\_75 Start: 47298, Stop: 46999, Start Num: 20

Candidate Starts for Tasp14\_75:

(Start: 14 @47328 has 1 MA's), (Start: 20 @47298 has 225 MA's), (33, 47253), (34, 47250), (42, 47181), (46, 47130),

Gene: Teodoridan\_74 Start: 45135, Stop: 44836, Start Num: 20

Candidate Starts for Teodoridan\_74:

(12, 45195), (Start: 20 @45135 has 225 MA's), (33, 45090), (34, 45087), (42, 45018), (46, 44967),

Gene: Theia\_69 Start: 44485, Stop: 44186, Start Num: 20

Candidate Starts for Theia\_69:

(18, 44497), (Start: 20 @44485 has 225 MA's), (Start: 22 @44479 has 1 MA's), (32, 44443), (35, 44431), (44, 44341), (47, 44302),

Gene: TheloniousMonk\_78 Start: 48520, Stop: 48221, Start Num: 20

Candidate Starts for TheloniousMonk\_78:

(12, 48580), (Start: 20 @48520 has 225 MA's), (33, 48475), (34, 48472), (42, 48403), (46, 48352),

Gene: Thor\_80 Start: 48254, Stop: 47955, Start Num: 20

Candidate Starts for Thor\_80:

(12, 48314), (Start: 20 @48254 has 225 MA's), (33, 48209), (34, 48206), (42, 48137), (46, 48086),

Gene: TipsytheTRex\_82 Start: 46857, Stop: 46582, Start Num: 26

Candidate Starts for TipsytheTRex\_82:

(1, 47106), (Start: 26 @46857 has 15 MA's), (33, 46830), (35, 46824), (37, 46818),

Gene: Tomathan\_83 Start: 47310, Stop: 47032, Start Num: 26

Candidate Starts for Tomathan\_83:

(Start: 26 @47310 has 15 MA's), (35, 47277), (37, 47271), (47, 47136),

Gene: Topgun\_72 Start: 45472, Stop: 45173, Start Num: 20

Candidate Starts for Topgun\_72:

(12, 45532), (Start: 20 @45472 has 225 MA's), (33, 45427), (34, 45424), (42, 45355), (46, 45304),

Gene: Tote\_72 Start: 44278, Stop: 43979, Start Num: 20

Candidate Starts for Tote\_72:

(Start: 14 @44308 has 1 MA's), (Start: 20 @44278 has 225 MA's), (33, 44233), (34, 44230), (42, 44161), (46, 44110),

Gene: Traft412\_76 Start: 47553, Stop: 47254, Start Num: 20

Candidate Starts for Traft412\_76:

(12, 47613), (Start: 20 @47553 has 225 MA's), (33, 47508), (34, 47505), (42, 47436), (46, 47385),

Gene: Travvers\_83 Start: 47227, Stop: 46949, Start Num: 26

Candidate Starts for Travvers\_83:

(Start: 26 @47227 has 15 MA's), (35, 47194), (37, 47188), (47, 47053),

Gene: Treddle\_78 Start: 48283, Stop: 47984, Start Num: 20

Candidate Starts for Treddle\_78:

(12, 48343), (Start: 20 @48283 has 225 MA's), (33, 48238), (34, 48235), (42, 48166), (46, 48115),

Gene: Tripl3t\_79 Start: 49835, Stop: 49536, Start Num: 20

Candidate Starts for Tripl3t\_79:

(Start: 20 @49835 has 225 MA's), (33, 49790), (34, 49787), (42, 49718), (46, 49667),

Gene: Trouble\_76 Start: 47362, Stop: 47063, Start Num: 20

Candidate Starts for Trouble\_76:

(2, 47569), (3, 47542), (4, 47521), (5, 47500), (6, 47497), (7, 47470), (8, 47458), (9, 47449), (10, 47434), (16, 47380), (Start: 20 @47362 has 225 MA's), (33, 47317), (34, 47314), (42, 47245), (46, 47194),

Gene: Turj99\_72 Start: 46853, Stop: 46554, Start Num: 20

Candidate Starts for Turj99\_72:

(Start: 20 @46853 has 225 MA's), (33, 46808), (34, 46805), (46, 46685),

Gene: Twigg\_69 Start: 43805, Stop: 43509, Start Num: 21

Candidate Starts for Twigg\_69:

(Start: 21 @43805 has 9 MA's), (27, 43784), (29, 43778), (47, 43625),

Gene: TwoPeat\_76 Start: 46815, Stop: 46516, Start Num: 20

Candidate Starts for TwoPeat\_76:

(12, 46875), (Start: 20 @46815 has 225 MA's), (33, 46770), (34, 46767), (39, 46752), (42, 46698), (46, 46647),

Gene: U2\_70 Start: 47052, Stop: 46753, Start Num: 20

Candidate Starts for U2\_70:

(Start: 14 @47082 has 1 MA's), (Start: 20 @47052 has 225 MA's), (33, 47007), (34, 47004), (42, 46935), (46, 46884),

Gene: VC3\_81 Start: 46132, Stop: 45854, Start Num: 26

Candidate Starts for VC3\_81:

(Start: 26 @46132 has 15 MA's), (35, 46099), (37, 46093), (47, 45958),

Gene: Violet\_71 Start: 47447, Stop: 47148, Start Num: 20

Candidate Starts for Violet\_71:

(12, 47507), (Start: 20 @47447 has 225 MA's), (33, 47402), (34, 47399), (42, 47330), (46, 47279),

Gene: Watermelon\_79 Start: 48357, Stop: 48058, Start Num: 20

Candidate Starts for Watermelon\_79:

(Start: 14 @48387 has 1 MA's), (Start: 20 @48357 has 225 MA's), (33, 48312), (34, 48309), (42, 48240), (46, 48189),

Gene: Wheeler\_81 Start: 49068, Stop: 48769, Start Num: 20

Candidate Starts for Wheeler\_81:

(Start: 20 @49068 has 225 MA's), (33, 49023), (34, 49020), (42, 48951), (46, 48900),

Gene: Whitspit\_69 Start: 44179, Stop: 43880, Start Num: 20

Candidate Starts for Whitspit\_69:

(12, 44239), (Start: 20 @44179 has 225 MA's), (33, 44134), (34, 44131), (42, 44062), (46, 44011),

Gene: Wilkins\_73 Start: 45402, Stop: 45103, Start Num: 20

Candidate Starts for Wilkins\_73:

(12, 45462), (Start: 20 @45402 has 225 MA's), (33, 45357), (34, 45354), (42, 45285), (46, 45234),

Gene: Zeeculate\_72 Start: 47175, Stop: 46876, Start Num: 20

Candidate Starts for Zeeculate\_72:

(Start: 14 @47205 has 1 MA's), (Start: 20 @47175 has 225 MA's), (33, 47130), (34, 47127), (42, 47058), (46, 47007),

Gene: Zephyr\_78 Start: 47447, Stop: 47148, Start Num: 20

Candidate Starts for Zephyr\_78:

(12, 47507), (Start: 20 @47447 has 225 MA's), (33, 47402), (34, 47399), (42, 47330), (46, 47279),

Gene: Zeuska\_78 Start: 48397, Stop: 48113, Start Num: 25

Candidate Starts for Zeuska\_78:

(17, 48427), (Start: 25 @48397 has 5 MA's), (29, 48385), (42, 48295), (46, 48244),

Gene: Zimmer\_79 Start: 47067, Stop: 46792, Start Num: 23

Candidate Starts for Zimmer\_79:

(Start: 23 @47067 has 1 MA's), (28, 47046), (29, 47043), (30, 47040), (36, 47022), (40, 47010),

Gene: Zolita\_69 Start: 44339, Stop: 44049, Start Num: 22

Candidate Starts for Zolita\_69:

(11, 44417), (15, 44366), (18, 44357), (Start: 20 @44345 has 225 MA's), (Start: 22 @44339 has 1 MA's), (32, 44303), (35, 44291),