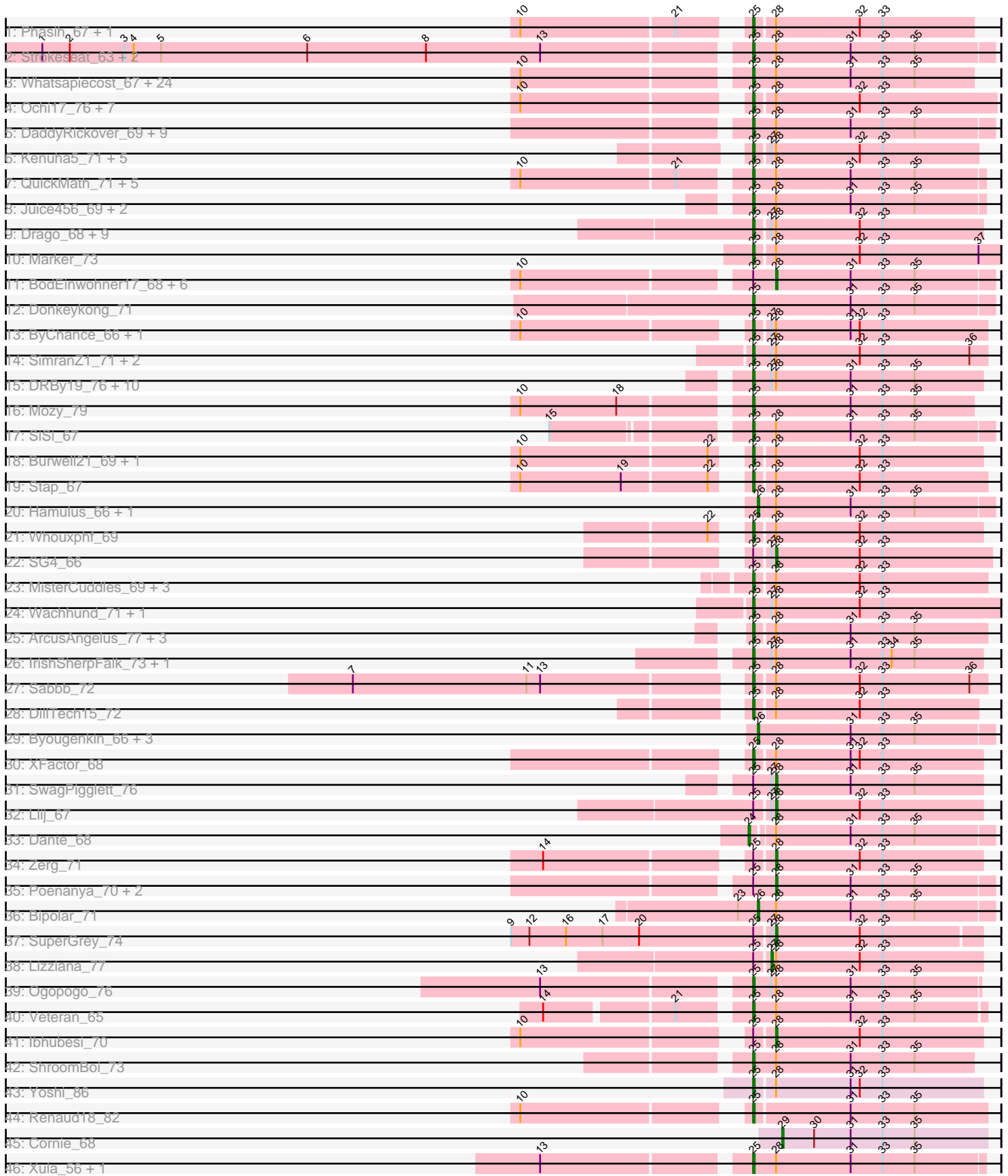


Pham 197898



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 197898 Report

This analysis was run 01/18/25 on database version 583.

Pham number 197898 has 145 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Phasih\_67, Byougenkin\_71
- Track 2 : Strokeseat\_63, Hlubikazi\_63, Mandlovu\_63
- Track 3 : Whatsapiecost\_67, Melissauren88\_65, Wee\_73, Scottish\_66, Ovechkin\_67, DotProduct\_62, Nimbo\_61, Hegedechwinu\_69, Gandalph\_72, KingMidas\_67, Akhila\_58, Ms6\_64, Seagreen\_66, Filuzino\_66, IbOuu\_70, Fruitloop\_64, Shauna1\_65, Deb65\_62, DLane\_63, StAnnes\_67, Rialto\_73, Empress\_66, Quico\_75, Geralt\_62, Taj\_73
- Track 4 : Ochi17\_76, Llama\_77, Jinglebell\_77, AlpineSix\_77, Bubbles123\_68, MadMen\_70, Seabastian\_78, OfUltron\_78
- Track 5 : DaddyRickover\_69, Daenerys\_67, Sassafras\_68, JoeyJr\_68, PHappiness\_68, Inventum\_65, RedBird\_68, Dorothy\_68, Kingsley\_68, RitaG\_68
- Track 6 : Kenuha5\_71, Vivum\_76, Totinger\_70, GigiOuiOui\_68, Madiba\_76, Tweety\_73
- Track 7 : QuickMath\_71, Blarby\_80, Soul22\_76, Kimberlium\_72, Zapner\_81, Jabbawokkie\_82
- Track 8 : Juice456\_69, JalFarm20\_81, KristaRAM\_71
- Track 9 : Drago\_68, DirtMcgirt\_70, UncleRicky\_70, Demsculpinboyz\_83, Leozinho\_72, Martik\_74, Alexphander\_74, Enby\_72, Maravista\_74, Lorde\_71
- Track 10 : Marker\_73
- Track 11 : BodEinwohner17\_68, DeadP\_74, Florinda\_78, Girafales\_75, MilanaBonita\_57, OldBen\_65, Phanphagia\_63
- Track 12 : Donkeykong\_71
- Track 13 : ByChance\_66, ShowerHandel\_76
- Track 14 : SimranZ1\_71, Radiance\_69, Karhdo\_69
- Track 15 : DRBy19\_76, Zizzle\_75, OlympiaSaint\_72, Jarcob\_72, BobaPhett\_75, Clifton\_65, Saal\_72, LastJedi\_64, Philus\_75, Gorge\_74, Mattes\_74
- Track 16 : Mozy\_79
- Track 17 : SiSi\_67
- Track 18 : Burwell21\_69, DoRead\_76
- Track 19 : Stap\_67
- Track 20 : Hamulus\_66, Ardmore\_58
- Track 21 : Whouxphf\_69
- Track 22 : SG4\_66
- Track 23 : MisterCuddles\_69, Girr\_69, Krakatau\_67, Ruby\_67
- Track 24 : Wachhund\_71, Avani\_79
- Track 25 : ArcusAngelus\_77, Flathead\_70, Chevrolet\_79, ThetaBob\_76
- Track 26 : IrishSherpFalk\_73, WillSterrel\_73

- Track 27 : Sabbb\_72
- Track 28 : DillTech15\_72
- Track 29 : Byougenkin\_66, Bobi\_70, Batiatus\_64, Brushbloom\_73
- Track 30 : XFactor\_68
- Track 31 : SwagPigglett\_76
- Track 32 : Llij\_67
- Track 33 : Dante\_68
- Track 34 : Zerg\_71
- Track 35 : Poenanya\_70, Leperchaun\_65, Polka14\_71
- Track 36 : Bipolar\_71
- Track 37 : SuperGrey\_74
- Track 38 : Lizziana\_77
- Track 39 : Ogopogo\_76
- Track 40 : Veteran\_65
- Track 41 : lbhubesi\_70
- Track 42 : ShroomBoi\_73
- Track 43 : Yoshi\_86
- Track 44 : Renaud18\_82
- Track 45 : Cornie\_68
- Track 46 : Xula\_56, QueenHazel\_57

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

The start number called the most often in the published annotations is 25, it was called in 113 of the 137 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Akhila\_58, Alexphander\_74, AlpineSix\_77, ArcusAngelus\_77, Avani\_79, Blarby\_80, BobaPhett\_75, Bubbles123\_68, Burwell21\_69, ByChance\_66, Byougenkin\_71, Chevrolet\_79, Clifton\_65, DLane\_63, DRBy19\_76, DaddyRickover\_69, Daenerys\_67, Deb65\_62, Demsculpinboyz\_83, DillTech15\_72, DirtMcgirt\_70, DoRead\_76, Donkeykong\_71, Dorothy\_68, DotProduct\_62, Drago\_68, Empress\_66, Enby\_72, Filuzino\_66, Flathead\_70, Fruitloop\_64, Gandalph\_72, Geralt\_62, GigiOuiOui\_68, Girr\_69, Gorge\_74, Hegedechwinu\_69, Hlubikazi\_63, lbOuu\_70, Inventum\_65, IrishSherpFalk\_73, Jabbawokkie\_82, JalFarm20\_81, Jarcob\_72, Jinglebell\_77, JoeyJr\_68, Juice456\_69, Karhdo\_69, Kenuha5\_71, Kimberlium\_72, KingMidas\_67, Kingsley\_68, Krakatau\_67, KristaRAM\_71, LastJedi\_64, Leozinho\_72, Llama\_77, Lorde\_71, MadMen\_70, Madiba\_76, Mandlovu\_63, Maravista\_74, Marker\_73, Martik\_74, Mattes\_74, Melissauren88\_65, MisterCuddles\_69, Mozy\_79, Ms6\_64, Nimbo\_61, Ochi17\_76, OfUltron\_78, Ogopogo\_76, OlympiaSaint\_72, Ovechkin\_67, PHappiness\_68, Phasih\_67, Philus\_75, QueenHazel\_57, QuickMath\_71, Quico\_75, Radiance\_69, RedBird\_68, Renaud18\_82, Rialto\_73, RitaG\_68, Ruby\_67, Saal\_72, Sabbb\_72, Sassafras\_68, Scottish\_66, Sebastian\_78, Seagreen\_66, Shauna1\_65, ShowerHandel\_76, ShroomBoi\_73, SiSi\_67, SimranZ1\_71, Soul22\_76, StAnnes\_67, Stap\_67, Strokeseat\_63, Taj\_73, ThetaBob\_76, Totinger\_70, Tweety\_73, UncleRicky\_70, Veteran\_65, Vivum\_76, Wachhund\_71, Wee\_73, Whatsapiecost\_67, Whouxphf\_69, WillSterrel\_73, XFactor\_68, Xula\_56, Yoshi\_86, Zapner\_81, Zizzle\_75,

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

- BodEinwohner17\_68, DeadP\_74, Florinda\_78, Girafales\_75, Ibhubesi\_70, Leperchaun\_65, Lizziana\_77, Llij\_67, MilanaBonita\_57, OldBen\_65, Phanphagia\_63, Poenanya\_70, Polka14\_71, SG4\_66, SuperGrey\_74, SwagPigglett\_76, Zerg\_71,

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

- Ardmore\_58, Batiatus\_64, Bipolar\_71, Bobi\_70, Brushbloom\_73, Byougenkin\_66, Cornie\_68, Dante\_68, Hamulus\_66,

### Summary by start number:

Start 24:

- Found in 1 of 145 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 137
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dante\_68 (F1),

Start 25:

- Found in 136 of 145 ( 93.8% ) of genes in pham
- Manual Annotations of this start: 113 of 137
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Akhila\_58 (F1), Alexphander\_74 (F1), AlpineSix\_77 (F1), ArcusAngelus\_77 (F1), Avani\_79 (F2), Blarby\_80 (F), BobaPhett\_75 (F1), Bubbles123\_68 (F1), Burwell21\_69 (F1), ByChance\_66 (F1), Byougenkin\_71 (F1), Chevrolet\_79 (F1), Clifton\_65 (F1), DLane\_63 (F1), DRBy19\_76 (F1), DaddyRickover\_69 (F1), Daenerys\_67 (F1), Deb65\_62 (F1), Demsculpinboyz\_83 (F2), DillTech15\_72 (F1), DirtMcgirt\_70 (F1), DoRead\_76 (F1), Donkeykong\_71 (F1), Dorothy\_68 (F1), DotProduct\_62 (F1), Drago\_68 (F1), Empress\_66 (F1), Enby\_72 (F1), Filuzino\_66 (F1), Flathead\_70 (F1), Fruitloop\_64 (F1), Gandolph\_72 (F1), Geralt\_62 (F1), GigiOuiOui\_68 (F1), Girr\_69 (F1), Gorge\_74 (F1), Hegedechwinu\_69 (F1), Hlubikazi\_63 (F1), IbOuu\_70 (F1), Inventum\_65 (F1), IrishSherpFalk\_73 (F1), Jabbawokkie\_82 (F2), JalFarm20\_81 (F1), Jarcob\_72 (F1), Jinglebell\_77 (F1), JoeyJr\_68 (F1), Juice456\_69 (F1), Karhdo\_69 (F1), Kenuha5\_71 (F1), Kimberlium\_72 (F1), KingMidas\_67 (F1), Kingsley\_68 (F1), Krakatau\_67 (F1), KristaRAM\_71 (F1), LastJedi\_64 (F1), Leozinho\_72 (F1), Llama\_77 (F1), Lorde\_71 (F1), MadMen\_70 (F1), Madiba\_76 (F1), Mandlovu\_63 (F1), Maravista\_74 (F1), Marker\_73 (F1), Martik\_74 (F1), Mattes\_74 (F1), Melissauren88\_65 (F1), MisterCuddles\_69 (F1), Mozy\_79 (F1), Ms6\_64 (F1), Nimbo\_61 (F1), Ochi17\_76 (F1), OfUltron\_78 (F1), Ogopogo\_76 (F1), OlympiaSaint\_72 (F1), Ovechkin\_67 (F1), PHappiness\_68 (F1), Phasih\_67 (F1), Philus\_75 (F1), QueenHazel\_57 (I1), QuickMath\_71 (F1), Quico\_75 (F1), Radiance\_69 (F1), RedBird\_68 (F1), Renaud18\_82 (F4), Rialto\_73 (F1), RitaG\_68 (F1), Ruby\_67 (F1), Saal\_72 (F1), Sabbb\_72 (F1), Sassafras\_68 (F1), Scottish\_66 (F1), Seabastian\_78 (F1), Seagreen\_66 (F1), Shauna1\_65 (F1), ShowerHandel\_76 (F1), ShroomBoi\_73 (F1), SiSi\_67 (F1), SimranZ1\_71 (F1), Soul22\_76 (F2), StAnnes\_67 (F1), Stap\_67 (F1), Strokeseat\_63 (F1), Taj\_73 (F1), ThetaBob\_76 (F4), Totinger\_70 (F1), Tweety\_73 (F1), UncleRicky\_70 (F1), Veteran\_65 (F1), Vivum\_76 (F1), Wachhund\_71 (F1), Wee\_73 (F1), Whatsapiecost\_67 (F1), Whouxphf\_69 (F1), WillSterrel\_73 (F1), XFactor\_68 (F1), Xula\_56 (I1), Yoshi\_86 (F2), Zapner\_81 (F2), Zizzle\_75 (F1),

Start 26:

- Found in 7 of 145 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 5 of 137
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Ardmore\_58 (F1), Batiatus\_64 (F1), Bipolar\_71 (F1), Bobi\_70 (F1), Brushbloom\_73 (F1), Byougenkin\_66 (F1), Hamulus\_66 (F1),

Start 27:

- Found in 42 of 145 ( 29.0% ) of genes in pham
- Manual Annotations of this start: 1 of 137
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Lizziana\_77 (F1),

Start 28:

- Found in 137 of 145 ( 94.5% ) of genes in pham
- Manual Annotations of this start: 16 of 137
- Called 11.7% of time when present
- Phage (with cluster) where this start called: BodEinwohner17\_68 (F1), DeadP\_74 (F1), Florinda\_78 (F1), Girafales\_75 (F1), Ibhubesi\_70 (F1), Leperchaun\_65 (F1), Llij\_67 (F1), MilanaBonita\_57 (F1), OldBen\_65 (F1), Phanphagia\_63 (F1), Poenanya\_70 (F1), Polka14\_71 (F1), SG4\_66 (F1), SuperGrey\_74 (F1), SwagPigglett\_76 (F1), Zerg\_71 (F1),

Start 29:

- Found in 1 of 145 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 137
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cornie\_68 (F5),

**Summary by clusters:**

There are 6 clusters represented in this pham: F1, F2, F4, F5, F, I1,

Info for manual annotations of cluster F1:

- Start number 24 was manually annotated 1 time for cluster F1.
- Start number 25 was manually annotated 103 times for cluster F1.
- Start number 26 was manually annotated 5 times for cluster F1.
- Start number 27 was manually annotated 1 time for cluster F1.
- Start number 28 was manually annotated 16 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 25 was manually annotated 6 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 25 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 29 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster I1:

- Start number 25 was manually annotated 2 times for cluster I1.

**Gene Information:**

Gene: Akhila\_58 Start: 38471, Stop: 38626, Start Num: 25

Candidate Starts for Akhila\_58:

(10, 38333), (Start: 25 @38471 has 113 MA's), (Start: 28 @38486 has 16 MA's), (31, 38534), (33, 38555), (35, 38576),

Gene: Alexphander\_74 Start: 46512, Stop: 46661, Start Num: 25

Candidate Starts for Alexphander\_74:

(Start: 25 @46512 has 113 MA's), (Start: 27 @46521 has 1 MA's), (Start: 28 @46524 has 16 MA's), (32, 46578), (33, 46593),

Gene: AlpineSix\_77 Start: 47155, Stop: 47310, Start Num: 25

Candidate Starts for AlpineSix\_77:

(10, 47023), (Start: 25 @47155 has 113 MA's), (Start: 28 @47167 has 16 MA's), (32, 47221), (33, 47236),

Gene: ArcusAngelus\_77 Start: 47419, Stop: 47568, Start Num: 25

Candidate Starts for ArcusAngelus\_77:

(Start: 25 @47419 has 113 MA's), (Start: 28 @47431 has 16 MA's), (31, 47479), (33, 47500), (35, 47521),

Gene: Ardmore\_58 Start: 40412, Stop: 40564, Start Num: 26

Candidate Starts for Ardmore\_58:

(Start: 26 @40412 has 5 MA's), (Start: 28 @40424 has 16 MA's), (31, 40472), (33, 40493), (35, 40514),

Gene: Avani\_79 Start: 44144, Stop: 44293, Start Num: 25

Candidate Starts for Avani\_79:

(Start: 25 @44144 has 113 MA's), (Start: 27 @44156 has 1 MA's), (Start: 28 @44159 has 16 MA's), (32, 44213), (33, 44228),

Gene: Batiatus\_64 Start: 42288, Stop: 42440, Start Num: 26

Candidate Starts for Batiatus\_64:

(Start: 26 @42288 has 5 MA's), (31, 42348), (33, 42369), (35, 42390),

Gene: Bipolar\_71 Start: 44507, Stop: 44659, Start Num: 26

Candidate Starts for Bipolar\_71:

(23, 44495), (Start: 26 @44507 has 5 MA's), (Start: 28 @44519 has 16 MA's), (31, 44567), (33, 44588), (35, 44609),

Gene: Blarby\_80 Start: 44685, Stop: 44834, Start Num: 25

Candidate Starts for Blarby\_80:

(10, 44547), (21, 44646), (Start: 25 @44685 has 113 MA's), (Start: 28 @44700 has 16 MA's), (31, 44748), (33, 44769), (35, 44790),

Gene: BobaPhett\_75 Start: 48236, Stop: 48385, Start Num: 25

Candidate Starts for BobaPhett\_75:

(Start: 25 @48236 has 113 MA's), (Start: 27 @48248 has 1 MA's), (Start: 28 @48251 has 16 MA's), (31, 48299), (33, 48320), (35, 48341),

Gene: Bobi\_70 Start: 43891, Stop: 44043, Start Num: 26

Candidate Starts for Bobi\_70:

(Start: 26 @43891 has 5 MA's), (31, 43951), (33, 43972), (35, 43993),

Gene: BodEinwohner17\_68 Start: 43061, Stop: 43201, Start Num: 28

Candidate Starts for BodEinwohner17\_68:

(10, 42908), (Start: 25 @43046 has 113 MA's), (Start: 28 @43061 has 16 MA's), (31, 43109), (33, 43130), (35, 43151),

Gene: Brushbloom\_73 Start: 43220, Stop: 43372, Start Num: 26

Candidate Starts for Brushbloom\_73:

(Start: 26 @43220 has 5 MA's), (31, 43280), (33, 43301), (35, 43322),

Gene: Bubbles123\_68 Start: 45742, Stop: 45888, Start Num: 25

Candidate Starts for Bubbles123\_68:

(10, 45610), (Start: 25 @45742 has 113 MA's), (Start: 28 @45754 has 16 MA's), (32, 45808), (33, 45823),

Gene: Burwell21\_69 Start: 45551, Stop: 45697, Start Num: 25

Candidate Starts for Burwell21\_69:

(10, 45419), (22, 45539), (Start: 25 @45551 has 113 MA's), (Start: 28 @45563 has 16 MA's), (32, 45617), (33, 45632),

Gene: ByChance\_66 Start: 42651, Stop: 42800, Start Num: 25

Candidate Starts for ByChance\_66:

(10, 42519), (Start: 25 @42651 has 113 MA's), (Start: 27 @42660 has 1 MA's), (Start: 28 @42663 has 16 MA's), (31, 42711), (32, 42717), (33, 42732),

Gene: Byougenkin\_71 Start: 43611, Stop: 43757, Start Num: 25

Candidate Starts for Byougenkin\_71:

(10, 43479), (21, 43578), (Start: 25 @43611 has 113 MA's), (Start: 28 @43623 has 16 MA's), (32, 43677), (33, 43692),

Gene: Byougenkin\_66 Start: 42551, Stop: 42703, Start Num: 26

Candidate Starts for Byougenkin\_66:

(Start: 26 @42551 has 5 MA's), (31, 42611), (33, 42632), (35, 42653),

Gene: Chevrolet\_79 Start: 47420, Stop: 47569, Start Num: 25

Candidate Starts for Chevrolet\_79:

(Start: 25 @47420 has 113 MA's), (Start: 28 @47432 has 16 MA's), (31, 47480), (33, 47501), (35, 47522),

Gene: Clifton\_65 Start: 44067, Stop: 44216, Start Num: 25

Candidate Starts for Clifton\_65:

(Start: 25 @44067 has 113 MA's), (Start: 27 @44079 has 1 MA's), (Start: 28 @44082 has 16 MA's), (31, 44130), (33, 44151), (35, 44172),

Gene: Cornie\_68 Start: 44347, Stop: 44481, Start Num: 29

Candidate Starts for Cornie\_68:

(Start: 29 @44347 has 1 MA's), (30, 44368), (31, 44392), (33, 44413), (35, 44434),

Gene: DLane\_63 Start: 42015, Stop: 42170, Start Num: 25

Candidate Starts for DLane\_63:

(10, 41877), (Start: 25 @42015 has 113 MA's), (Start: 28 @42030 has 16 MA's), (31, 42078), (33, 42099), (35, 42120),

Gene: DRBy19\_76 Start: 47796, Stop: 47945, Start Num: 25

Candidate Starts for DRBy19\_76:

(Start: 25 @47796 has 113 MA's), (Start: 27 @47808 has 1 MA's), (Start: 28 @47811 has 16 MA's), (31, 47859), (33, 47880), (35, 47901),

Gene: DaddyRickover\_69 Start: 43982, Stop: 44137, Start Num: 25

Candidate Starts for DaddyRickover\_69:

(Start: 25 @43982 has 113 MA's), (Start: 28 @43997 has 16 MA's), (31, 44045), (33, 44066), (35, 44087),

Gene: Daenerys\_67 Start: 44101, Stop: 44256, Start Num: 25

Candidate Starts for Daenerys\_67:

(Start: 25 @44101 has 113 MA's), (Start: 28 @44116 has 16 MA's), (31, 44164), (33, 44185), (35, 44206),

Gene: Dante\_68 Start: 43688, Stop: 43840, Start Num: 24

Candidate Starts for Dante\_68:

(Start: 24 @43688 has 1 MA's), (Start: 28 @43700 has 16 MA's), (31, 43748), (33, 43769), (35, 43790),

Gene: DeadP\_74 Start: 45444, Stop: 45578, Start Num: 28

Candidate Starts for DeadP\_74:

(10, 45291), (Start: 25 @45429 has 113 MA's), (Start: 28 @45444 has 16 MA's), (31, 45492), (33, 45513), (35, 45534),

Gene: Deb65\_62 Start: 41821, Stop: 41976, Start Num: 25

Candidate Starts for Deb65\_62:

(10, 41683), (Start: 25 @41821 has 113 MA's), (Start: 28 @41836 has 16 MA's), (31, 41884), (33, 41905), (35, 41926),

Gene: Demsculpinboyz\_83 Start: 44211, Stop: 44369, Start Num: 25

Candidate Starts for Demsculpinboyz\_83:

(Start: 25 @44211 has 113 MA's), (Start: 27 @44223 has 1 MA's), (Start: 28 @44226 has 16 MA's), (32, 44280), (33, 44295),

Gene: DillTech15\_72 Start: 44035, Stop: 44178, Start Num: 25

Candidate Starts for DillTech15\_72:

(Start: 25 @44035 has 113 MA's), (Start: 28 @44047 has 16 MA's), (32, 44101), (33, 44116),

Gene: DirtMcgirt\_70 Start: 42990, Stop: 43136, Start Num: 25

Candidate Starts for DirtMcgirt\_70:

(Start: 25 @42990 has 113 MA's), (Start: 27 @42999 has 1 MA's), (Start: 28 @43002 has 16 MA's), (32, 43056), (33, 43071),

Gene: DoRead\_76 Start: 44318, Stop: 44464, Start Num: 25

Candidate Starts for DoRead\_76:

(10, 44186), (22, 44306), (Start: 25 @44318 has 113 MA's), (Start: 28 @44330 has 16 MA's), (32, 44384), (33, 44399),

Gene: Donkeykong\_71 Start: 45836, Stop: 45991, Start Num: 25

Candidate Starts for Donkeykong\_71:

(Start: 25 @45836 has 113 MA's), (31, 45899), (33, 45920), (35, 45941),

Gene: Dorothy\_68 Start: 43156, Stop: 43311, Start Num: 25

Candidate Starts for Dorothy\_68:



(Start: 25 @43156 has 113 MA's), (Start: 28 @43171 has 16 MA's), (31, 43219), (33, 43240), (35, 43261),

Gene: DotProduct\_62 Start: 41324, Stop: 41479, Start Num: 25

Candidate Starts for DotProduct\_62:

(10, 41186), (Start: 25 @41324 has 113 MA's), (Start: 28 @41339 has 16 MA's), (31, 41387), (33, 41408), (35, 41429),

Gene: Drago\_68 Start: 42993, Stop: 43139, Start Num: 25

Candidate Starts for Drago\_68:

(Start: 25 @42993 has 113 MA's), (Start: 27 @43002 has 1 MA's), (Start: 28 @43005 has 16 MA's), (32, 43059), (33, 43074),

Gene: Empress\_66 Start: 43265, Stop: 43420, Start Num: 25

Candidate Starts for Empress\_66:

(10, 43127), (Start: 25 @43265 has 113 MA's), (Start: 28 @43280 has 16 MA's), (31, 43328), (33, 43349), (35, 43370),

Gene: Enby\_72 Start: 43269, Stop: 43415, Start Num: 25

Candidate Starts for Enby\_72:

(Start: 25 @43269 has 113 MA's), (Start: 27 @43278 has 1 MA's), (Start: 28 @43281 has 16 MA's), (32, 43335), (33, 43350),

Gene: Filuzino\_66 Start: 42350, Stop: 42505, Start Num: 25

Candidate Starts for Filuzino\_66:

(10, 42212), (Start: 25 @42350 has 113 MA's), (Start: 28 @42365 has 16 MA's), (31, 42413), (33, 42434), (35, 42455),

Gene: Flathead\_70 Start: 44683, Stop: 44823, Start Num: 25

Candidate Starts for Flathead\_70:

(Start: 25 @44683 has 113 MA's), (Start: 28 @44695 has 16 MA's), (31, 44743), (33, 44764), (35, 44785),

Gene: Florinda\_78 Start: 44511, Stop: 44651, Start Num: 28

Candidate Starts for Florinda\_78:

(10, 44358), (Start: 25 @44496 has 113 MA's), (Start: 28 @44511 has 16 MA's), (31, 44559), (33, 44580), (35, 44601),

Gene: Fruitloop\_64 Start: 43656, Stop: 43811, Start Num: 25

Candidate Starts for Fruitloop\_64:

(10, 43518), (Start: 25 @43656 has 113 MA's), (Start: 28 @43671 has 16 MA's), (31, 43719), (33, 43740), (35, 43761),

Gene: Gandalph\_72 Start: 43639, Stop: 43785, Start Num: 25

Candidate Starts for Gandalph\_72:

(10, 43501), (Start: 25 @43639 has 113 MA's), (Start: 28 @43654 has 16 MA's), (31, 43702), (33, 43723), (35, 43744),

Gene: Geralt\_62 Start: 41820, Stop: 41975, Start Num: 25

Candidate Starts for Geralt\_62:

(10, 41682), (Start: 25 @41820 has 113 MA's), (Start: 28 @41835 has 16 MA's), (31, 41883), (33, 41904), (35, 41925),

Gene: GigiOuiOui\_68 Start: 45285, Stop: 45428, Start Num: 25  
Candidate Starts for GigiOuiOui\_68:  
(Start: 25 @45285 has 113 MA's), (Start: 27 @45294 has 1 MA's), (Start: 28 @45297 has 16 MA's),  
(32, 45351), (33, 45366),

Gene: Girafales\_75 Start: 44302, Stop: 44442, Start Num: 28  
Candidate Starts for Girafales\_75:  
(10, 44149), (Start: 25 @44287 has 113 MA's), (Start: 28 @44302 has 16 MA's), (31, 44350), (33,  
44371), (35, 44392),

Gene: Girr\_69 Start: 45990, Stop: 46139, Start Num: 25  
Candidate Starts for Girr\_69:  
(Start: 25 @45990 has 113 MA's), (Start: 28 @46002 has 16 MA's), (32, 46056), (33, 46071),

Gene: Gorge\_74 Start: 47006, Stop: 47155, Start Num: 25  
Candidate Starts for Gorge\_74:  
(Start: 25 @47006 has 113 MA's), (Start: 27 @47018 has 1 MA's), (Start: 28 @47021 has 16 MA's),  
(31, 47069), (33, 47090), (35, 47111),

Gene: Hamulus\_66 Start: 42697, Stop: 42849, Start Num: 26  
Candidate Starts for Hamulus\_66:  
(Start: 26 @42697 has 5 MA's), (Start: 28 @42709 has 16 MA's), (31, 42757), (33, 42778), (35, 42799),

Gene: Hegedechwinu\_69 Start: 42429, Stop: 42584, Start Num: 25  
Candidate Starts for Hegedechwinu\_69:  
(10, 42291), (Start: 25 @42429 has 113 MA's), (Start: 28 @42444 has 16 MA's), (31, 42492), (33,  
42513), (35, 42534),

Gene: Hlubikazi\_63 Start: 40435, Stop: 40590, Start Num: 25  
Candidate Starts for Hlubikazi\_63:  
(1, 39982), (2, 40000), (3, 40036), (4, 40042), (5, 40060), (6, 40156), (8, 40234), (13, 40309), (Start: 25  
@40435 has 113 MA's), (Start: 28 @40450 has 16 MA's), (31, 40498), (33, 40519), (35, 40540),

Gene: IbOuu\_70 Start: 43870, Stop: 44019, Start Num: 25  
Candidate Starts for IbOuu\_70:  
(10, 43732), (Start: 25 @43870 has 113 MA's), (Start: 28 @43885 has 16 MA's), (31, 43933), (33,  
43954), (35, 43975),

Gene: Ibhubesi\_70 Start: 43411, Stop: 43545, Start Num: 28  
Candidate Starts for Ibhubesi\_70:  
(10, 43267), (Start: 25 @43399 has 113 MA's), (Start: 28 @43411 has 16 MA's), (32, 43465), (33,  
43480),

Gene: Inventum\_65 Start: 43354, Stop: 43509, Start Num: 25  
Candidate Starts for Inventum\_65:  
(Start: 25 @43354 has 113 MA's), (Start: 28 @43369 has 16 MA's), (31, 43417), (33, 43438), (35,  
43459),

Gene: IrishSherpFalk\_73 Start: 46468, Stop: 46617, Start Num: 25  
Candidate Starts for IrishSherpFalk\_73:  
(Start: 25 @46468 has 113 MA's), (Start: 27 @46480 has 1 MA's), (Start: 28 @46483 has 16 MA's),  
(31, 46531), (33, 46552), (34, 46558), (35, 46573),

Gene: Jabbawokkie\_82 Start: 44605, Stop: 44754, Start Num: 25  
Candidate Starts for Jabbawokkie\_82:  
(10, 44467), (21, 44566), (Start: 25 @44605 has 113 MA's), (Start: 28 @44620 has 16 MA's), (31, 44668), (33, 44689), (35, 44710),

Gene: JalFarm20\_81 Start: 47224, Stop: 47373, Start Num: 25  
Candidate Starts for JalFarm20\_81:  
(Start: 25 @47224 has 113 MA's), (Start: 28 @47239 has 16 MA's), (31, 47287), (33, 47308), (35, 47329),

Gene: Jarcob\_72 Start: 46728, Stop: 46877, Start Num: 25  
Candidate Starts for Jarcob\_72:  
(Start: 25 @46728 has 113 MA's), (Start: 27 @46740 has 1 MA's), (Start: 28 @46743 has 16 MA's), (31, 46791), (33, 46812), (35, 46833),

Gene: Jinglebell\_77 Start: 47154, Stop: 47309, Start Num: 25  
Candidate Starts for Jinglebell\_77:  
(10, 47022), (Start: 25 @47154 has 113 MA's), (Start: 28 @47166 has 16 MA's), (32, 47220), (33, 47235),

Gene: JoeyJr\_68 Start: 44269, Stop: 44424, Start Num: 25  
Candidate Starts for JoeyJr\_68:  
(Start: 25 @44269 has 113 MA's), (Start: 28 @44284 has 16 MA's), (31, 44332), (33, 44353), (35, 44374),

Gene: Juice456\_69 Start: 45180, Stop: 45329, Start Num: 25  
Candidate Starts for Juice456\_69:  
(Start: 25 @45180 has 113 MA's), (Start: 28 @45195 has 16 MA's), (31, 45243), (33, 45264), (35, 45285),

Gene: Karhdo\_69 Start: 44419, Stop: 44571, Start Num: 25  
Candidate Starts for Karhdo\_69:  
(Start: 25 @44419 has 113 MA's), (Start: 27 @44431 has 1 MA's), (Start: 28 @44434 has 16 MA's), (32, 44488), (33, 44503), (36, 44560),

Gene: Kenuha5\_71 Start: 47003, Stop: 47146, Start Num: 25  
Candidate Starts for Kenuha5\_71:  
(Start: 25 @47003 has 113 MA's), (Start: 27 @47012 has 1 MA's), (Start: 28 @47015 has 16 MA's), (32, 47069), (33, 47084),

Gene: Kimberlium\_72 Start: 44776, Stop: 44925, Start Num: 25  
Candidate Starts for Kimberlium\_72:  
(10, 44638), (21, 44737), (Start: 25 @44776 has 113 MA's), (Start: 28 @44791 has 16 MA's), (31, 44839), (33, 44860), (35, 44881),

Gene: KingMidas\_67 Start: 43681, Stop: 43836, Start Num: 25  
Candidate Starts for KingMidas\_67:  
(10, 43543), (Start: 25 @43681 has 113 MA's), (Start: 28 @43696 has 16 MA's), (31, 43744), (33, 43765), (35, 43786),

Gene: Kingsley\_68 Start: 45553, Stop: 45708, Start Num: 25  
Candidate Starts for Kingsley\_68:

(Start: 25 @45553 has 113 MA's), (Start: 28 @45568 has 16 MA's), (31, 45616), (33, 45637), (35, 45658),

Gene: Krakatau\_67 Start: 42370, Stop: 42519, Start Num: 25

Candidate Starts for Krakatau\_67:

(Start: 25 @42370 has 113 MA's), (Start: 28 @42382 has 16 MA's), (32, 42436), (33, 42451),

Gene: KristaRAM\_71 Start: 45549, Stop: 45698, Start Num: 25

Candidate Starts for KristaRAM\_71:

(Start: 25 @45549 has 113 MA's), (Start: 28 @45564 has 16 MA's), (31, 45612), (33, 45633), (35, 45654),

Gene: LastJedi\_64 Start: 44110, Stop: 44259, Start Num: 25

Candidate Starts for LastJedi\_64:

(Start: 25 @44110 has 113 MA's), (Start: 27 @44122 has 1 MA's), (Start: 28 @44125 has 16 MA's), (31, 44173), (33, 44194), (35, 44215),

Gene: Leozinho\_72 Start: 43788, Stop: 43934, Start Num: 25

Candidate Starts for Leozinho\_72:

(Start: 25 @43788 has 113 MA's), (Start: 27 @43797 has 1 MA's), (Start: 28 @43800 has 16 MA's), (32, 43854), (33, 43869),

Gene: Leperchaun\_65 Start: 43514, Stop: 43654, Start Num: 28

Candidate Starts for Leperchaun\_65:

(Start: 25 @43499 has 113 MA's), (Start: 28 @43514 has 16 MA's), (31, 43562), (33, 43583), (35, 43604),

Gene: Lizziana\_77 Start: 47466, Stop: 47603, Start Num: 27

Candidate Starts for Lizziana\_77:

(Start: 25 @47457 has 113 MA's), (Start: 27 @47466 has 1 MA's), (Start: 28 @47469 has 16 MA's), (32, 47523), (33, 47538),

Gene: Llama\_77 Start: 47009, Stop: 47164, Start Num: 25

Candidate Starts for Llama\_77:

(10, 46877), (Start: 25 @47009 has 113 MA's), (Start: 28 @47021 has 16 MA's), (32, 47075), (33, 47090),

Gene: Llij\_67 Start: 43159, Stop: 43293, Start Num: 28

Candidate Starts for Llij\_67:

(Start: 25 @43147 has 113 MA's), (Start: 27 @43156 has 1 MA's), (Start: 28 @43159 has 16 MA's), (32, 43213), (33, 43228),

Gene: Lorde\_71 Start: 42434, Stop: 42580, Start Num: 25

Candidate Starts for Lorde\_71:

(Start: 25 @42434 has 113 MA's), (Start: 27 @42443 has 1 MA's), (Start: 28 @42446 has 16 MA's), (32, 42500), (33, 42515),

Gene: MadMen\_70 Start: 44751, Stop: 44891, Start Num: 25

Candidate Starts for MadMen\_70:

(10, 44619), (Start: 25 @44751 has 113 MA's), (Start: 28 @44763 has 16 MA's), (32, 44817), (33, 44832),

Gene: Madiba\_76 Start: 47567, Stop: 47716, Start Num: 25

Candidate Starts for Madiba\_76:

(Start: 25 @47567 has 113 MA's), (Start: 27 @47576 has 1 MA's), (Start: 28 @47579 has 16 MA's), (32, 47633), (33, 47648),

Gene: Mandlovu\_63 Start: 40377, Stop: 40532, Start Num: 25

Candidate Starts for Mandlovu\_63:

(1, 39924), (2, 39942), (3, 39978), (4, 39984), (5, 40002), (6, 40098), (8, 40176), (13, 40251), (Start: 25 @40377 has 113 MA's), (Start: 28 @40392 has 16 MA's), (31, 40440), (33, 40461), (35, 40482),

Gene: Maravista\_74 Start: 48467, Stop: 48613, Start Num: 25

Candidate Starts for Maravista\_74:

(Start: 25 @48467 has 113 MA's), (Start: 27 @48476 has 1 MA's), (Start: 28 @48479 has 16 MA's), (32, 48533), (33, 48548),

Gene: Marker\_73 Start: 45397, Stop: 45555, Start Num: 25

Candidate Starts for Marker\_73:

(Start: 25 @45397 has 113 MA's), (Start: 28 @45409 has 16 MA's), (32, 45463), (33, 45478), (37, 45541),

Gene: Martik\_74 Start: 47948, Stop: 48094, Start Num: 25

Candidate Starts for Martik\_74:

(Start: 25 @47948 has 113 MA's), (Start: 27 @47957 has 1 MA's), (Start: 28 @47960 has 16 MA's), (32, 48014), (33, 48029),

Gene: Mattes\_74 Start: 47131, Stop: 47280, Start Num: 25

Candidate Starts for Mattes\_74:

(Start: 25 @47131 has 113 MA's), (Start: 27 @47143 has 1 MA's), (Start: 28 @47146 has 16 MA's), (31, 47194), (33, 47215), (35, 47236),

Gene: Melissauren88\_65 Start: 41894, Stop: 42049, Start Num: 25

Candidate Starts for Melissauren88\_65:

(10, 41756), (Start: 25 @41894 has 113 MA's), (Start: 28 @41909 has 16 MA's), (31, 41957), (33, 41978), (35, 41999),

Gene: MilanaBonita\_57 Start: 38486, Stop: 38626, Start Num: 28

Candidate Starts for MilanaBonita\_57:

(10, 38333), (Start: 25 @38471 has 113 MA's), (Start: 28 @38486 has 16 MA's), (31, 38534), (33, 38555), (35, 38576),

Gene: MisterCuddles\_69 Start: 45990, Stop: 46139, Start Num: 25

Candidate Starts for MisterCuddles\_69:

(Start: 25 @45990 has 113 MA's), (Start: 28 @46002 has 16 MA's), (32, 46056), (33, 46071),

Gene: Mozy\_79 Start: 45595, Stop: 45738, Start Num: 25

Candidate Starts for Mozy\_79:

(10, 45457), (18, 45520), (Start: 25 @45595 has 113 MA's), (31, 45658), (33, 45679), (35, 45700),

Gene: Ms6\_64 Start: 38259, Stop: 38414, Start Num: 25

Candidate Starts for Ms6\_64:

(10, 38121), (Start: 25 @38259 has 113 MA's), (Start: 28 @38274 has 16 MA's), (31, 38322), (33, 38343), (35, 38364),

Gene: Nimbo\_61 Start: 41823, Stop: 41978, Start Num: 25

Candidate Starts for Nimbo\_61:

(10, 41685), (Start: 25 @41823 has 113 MA's), (Start: 28 @41838 has 16 MA's), (31, 41886), (33, 41907), (35, 41928),

Gene: Ochi17\_76 Start: 46605, Stop: 46760, Start Num: 25

Candidate Starts for Ochi17\_76:

(10, 46473), (Start: 25 @46605 has 113 MA's), (Start: 28 @46617 has 16 MA's), (32, 46671), (33, 46686),

Gene: OfUltron\_78 Start: 47154, Stop: 47309, Start Num: 25

Candidate Starts for OfUltron\_78:

(10, 47022), (Start: 25 @47154 has 113 MA's), (Start: 28 @47166 has 16 MA's), (32, 47220), (33, 47235),

Gene: Ogopogo\_76 Start: 44956, Stop: 45102, Start Num: 25

Candidate Starts for Ogopogo\_76:

(13, 44830), (Start: 25 @44956 has 113 MA's), (Start: 27 @44968 has 1 MA's), (Start: 28 @44971 has 16 MA's), (31, 45019), (33, 45040), (35, 45061),

Gene: OldBen\_65 Start: 43231, Stop: 43371, Start Num: 28

Candidate Starts for OldBen\_65:

(10, 43078), (Start: 25 @43216 has 113 MA's), (Start: 28 @43231 has 16 MA's), (31, 43279), (33, 43300), (35, 43321),

Gene: OlympiaSaint\_72 Start: 46073, Stop: 46222, Start Num: 25

Candidate Starts for OlympiaSaint\_72:

(Start: 25 @46073 has 113 MA's), (Start: 27 @46085 has 1 MA's), (Start: 28 @46088 has 16 MA's), (31, 46136), (33, 46157), (35, 46178),

Gene: Ovechkin\_67 Start: 43210, Stop: 43365, Start Num: 25

Candidate Starts for Ovechkin\_67:

(10, 43072), (Start: 25 @43210 has 113 MA's), (Start: 28 @43225 has 16 MA's), (31, 43273), (33, 43294), (35, 43315),

Gene: PHappiness\_68 Start: 44045, Stop: 44200, Start Num: 25

Candidate Starts for PHappiness\_68:

(Start: 25 @44045 has 113 MA's), (Start: 28 @44060 has 16 MA's), (31, 44108), (33, 44129), (35, 44150),

Gene: Phanphagia\_63 Start: 42771, Stop: 42911, Start Num: 28

Candidate Starts for Phanphagia\_63:

(10, 42618), (Start: 25 @42756 has 113 MA's), (Start: 28 @42771 has 16 MA's), (31, 42819), (33, 42840), (35, 42861),

Gene: Phasih\_67 Start: 44273, Stop: 44413, Start Num: 25

Candidate Starts for Phasih\_67:

(10, 44141), (21, 44240), (Start: 25 @44273 has 113 MA's), (Start: 28 @44285 has 16 MA's), (32, 44339), (33, 44354),

Gene: Philus\_75 Start: 47772, Stop: 47921, Start Num: 25

Candidate Starts for Philus\_75:

(Start: 25 @47772 has 113 MA's), (Start: 27 @47784 has 1 MA's), (Start: 28 @47787 has 16 MA's), (31, 47835), (33, 47856), (35, 47877),

Gene: Poenanya\_70 Start: 44545, Stop: 44685, Start Num: 28

Candidate Starts for Poenanya\_70:

(Start: 25 @44530 has 113 MA's), (Start: 28 @44545 has 16 MA's), (31, 44593), (33, 44614), (35, 44635),

Gene: Polka14\_71 Start: 45261, Stop: 45401, Start Num: 28

Candidate Starts for Polka14\_71:

(Start: 25 @45246 has 113 MA's), (Start: 28 @45261 has 16 MA's), (31, 45309), (33, 45330), (35, 45351),

Gene: QueenHazel\_57 Start: 39547, Stop: 39696, Start Num: 25

Candidate Starts for QueenHazel\_57:

(13, 39421), (Start: 25 @39547 has 113 MA's), (Start: 28 @39562 has 16 MA's), (31, 39610), (33, 39631), (35, 39652),

Gene: QuickMath\_71 Start: 44999, Stop: 45148, Start Num: 25

Candidate Starts for QuickMath\_71:

(10, 44861), (21, 44960), (Start: 25 @44999 has 113 MA's), (Start: 28 @45014 has 16 MA's), (31, 45062), (33, 45083), (35, 45104),

Gene: Quico\_75 Start: 44316, Stop: 44471, Start Num: 25

Candidate Starts for Quico\_75:

(10, 44178), (Start: 25 @44316 has 113 MA's), (Start: 28 @44331 has 16 MA's), (31, 44379), (33, 44400), (35, 44421),

Gene: Radiance\_69 Start: 46419, Stop: 46571, Start Num: 25

Candidate Starts for Radiance\_69:

(Start: 25 @46419 has 113 MA's), (Start: 27 @46431 has 1 MA's), (Start: 28 @46434 has 16 MA's), (32, 46488), (33, 46503), (36, 46560),

Gene: RedBird\_68 Start: 43035, Stop: 43190, Start Num: 25

Candidate Starts for RedBird\_68:

(Start: 25 @43035 has 113 MA's), (Start: 28 @43050 has 16 MA's), (31, 43098), (33, 43119), (35, 43140),

Gene: Renaud18\_82 Start: 46991, Stop: 47140, Start Num: 25

Candidate Starts for Renaud18\_82:

(10, 46859), (Start: 25 @46991 has 113 MA's), (31, 47051), (33, 47072), (35, 47093),

Gene: Rialto\_73 Start: 45931, Stop: 46086, Start Num: 25

Candidate Starts for Rialto\_73:

(10, 45793), (Start: 25 @45931 has 113 MA's), (Start: 28 @45946 has 16 MA's), (31, 45994), (33, 46015), (35, 46036),

Gene: RitaG\_68 Start: 44390, Stop: 44545, Start Num: 25

Candidate Starts for RitaG\_68:

(Start: 25 @44390 has 113 MA's), (Start: 28 @44405 has 16 MA's), (31, 44453), (33, 44474), (35, 44495),

Gene: Ruby\_67 Start: 45991, Stop: 46140, Start Num: 25

Candidate Starts for Ruby\_67:

(Start: 25 @45991 has 113 MA's), (Start: 28 @46003 has 16 MA's), (32, 46057), (33, 46072),

Gene: SG4\_66 Start: 42817, Stop: 42957, Start Num: 28

Candidate Starts for SG4\_66:

(Start: 25 @42805 has 113 MA's), (Start: 27 @42814 has 1 MA's), (Start: 28 @42817 has 16 MA's), (32, 42871), (33, 42886),

Gene: Saal\_72 Start: 46825, Stop: 46974, Start Num: 25

Candidate Starts for Saal\_72:

(Start: 25 @46825 has 113 MA's), (Start: 27 @46837 has 1 MA's), (Start: 28 @46840 has 16 MA's), (31, 46888), (33, 46909), (35, 46930),

Gene: Sabbb\_72 Start: 43583, Stop: 43732, Start Num: 25

Candidate Starts for Sabbb\_72:

(7, 43340), (11, 43454), (13, 43463), (Start: 25 @43583 has 113 MA's), (Start: 28 @43595 has 16 MA's), (32, 43649), (33, 43664), (36, 43721),

Gene: Sassafras\_68 Start: 43353, Stop: 43508, Start Num: 25

Candidate Starts for Sassafras\_68:

(Start: 25 @43353 has 113 MA's), (Start: 28 @43368 has 16 MA's), (31, 43416), (33, 43437), (35, 43458),

Gene: Scottish\_66 Start: 42936, Stop: 43091, Start Num: 25

Candidate Starts for Scottish\_66:

(10, 42798), (Start: 25 @42936 has 113 MA's), (Start: 28 @42951 has 16 MA's), (31, 42999), (33, 43020), (35, 43041),

Gene: Seabastian\_78 Start: 47155, Stop: 47310, Start Num: 25

Candidate Starts for Seabastian\_78:

(10, 47023), (Start: 25 @47155 has 113 MA's), (Start: 28 @47167 has 16 MA's), (32, 47221), (33, 47236),

Gene: Seagreen\_66 Start: 42125, Stop: 42280, Start Num: 25

Candidate Starts for Seagreen\_66:

(10, 41987), (Start: 25 @42125 has 113 MA's), (Start: 28 @42140 has 16 MA's), (31, 42188), (33, 42209), (35, 42230),

Gene: Shauna1\_65 Start: 42665, Stop: 42820, Start Num: 25

Candidate Starts for Shauna1\_65:

(10, 42527), (Start: 25 @42665 has 113 MA's), (Start: 28 @42680 has 16 MA's), (31, 42728), (33, 42749), (35, 42770),

Gene: ShowerHandel\_76 Start: 46591, Stop: 46740, Start Num: 25

Candidate Starts for ShowerHandel\_76:

(10, 46459), (Start: 25 @46591 has 113 MA's), (Start: 27 @46600 has 1 MA's), (Start: 28 @46603 has 16 MA's), (31, 46651), (32, 46657), (33, 46672),

Gene: ShroomBoi\_73 Start: 46320, Stop: 46463, Start Num: 25

Candidate Starts for ShroomBoi\_73:

(Start: 25 @46320 has 113 MA's), (Start: 28 @46335 has 16 MA's), (31, 46383), (33, 46404), (35, 46425),

Gene: SiSi\_67 Start: 44560, Stop: 44715, Start Num: 25

Candidate Starts for SiSi\_67:



(15, 44446), (Start: 25 @44560 has 113 MA's), (Start: 28 @44575 has 16 MA's), (31, 44623), (33, 44644), (35, 44665),

Gene: SimranZ1\_71 Start: 45018, Stop: 45170, Start Num: 25

Candidate Starts for SimranZ1\_71:

(Start: 25 @45018 has 113 MA's), (Start: 27 @45030 has 1 MA's), (Start: 28 @45033 has 16 MA's), (32, 45087), (33, 45102), (36, 45159),

Gene: Soul22\_76 Start: 44557, Stop: 44706, Start Num: 25

Candidate Starts for Soul22\_76:

(10, 44419), (21, 44518), (Start: 25 @44557 has 113 MA's), (Start: 28 @44572 has 16 MA's), (31, 44620), (33, 44641), (35, 44662),

Gene: StAnnes\_67 Start: 43879, Stop: 44034, Start Num: 25

Candidate Starts for StAnnes\_67:

(10, 43741), (Start: 25 @43879 has 113 MA's), (Start: 28 @43894 has 16 MA's), (31, 43942), (33, 43963), (35, 43984),

Gene: Stap\_67 Start: 43236, Stop: 43385, Start Num: 25

Candidate Starts for Stap\_67:

(10, 43104), (19, 43170), (22, 43224), (Start: 25 @43236 has 113 MA's), (Start: 28 @43248 has 16 MA's), (32, 43302), (33, 43317),

Gene: Strokeseat\_63 Start: 40434, Stop: 40589, Start Num: 25

Candidate Starts for Strokeseat\_63:

(1, 39981), (2, 39999), (3, 40035), (4, 40041), (5, 40059), (6, 40155), (8, 40233), (13, 40308), (Start: 25 @40434 has 113 MA's), (Start: 28 @40449 has 16 MA's), (31, 40497), (33, 40518), (35, 40539),

Gene: SuperGrey\_74 Start: 48498, Stop: 48629, Start Num: 28

Candidate Starts for SuperGrey\_74:

(9, 48330), (12, 48342), (16, 48366), (17, 48390), (20, 48414), (Start: 25 @48486 has 113 MA's), (Start: 27 @48495 has 1 MA's), (Start: 28 @48498 has 16 MA's), (32, 48552), (33, 48567),

Gene: SwagPiggett\_76 Start: 47881, Stop: 48015, Start Num: 28

Candidate Starts for SwagPiggett\_76:

(Start: 25 @47866 has 113 MA's), (Start: 27 @47878 has 1 MA's), (Start: 28 @47881 has 16 MA's), (31, 47929), (33, 47950), (35, 47971),

Gene: Taj\_73 Start: 45199, Stop: 45354, Start Num: 25

Candidate Starts for Taj\_73:

(10, 45061), (Start: 25 @45199 has 113 MA's), (Start: 28 @45214 has 16 MA's), (31, 45262), (33, 45283), (35, 45304),

Gene: ThetaBob\_76 Start: 46222, Stop: 46368, Start Num: 25

Candidate Starts for ThetaBob\_76:

(Start: 25 @46222 has 113 MA's), (Start: 28 @46234 has 16 MA's), (31, 46282), (33, 46303), (35, 46324),

Gene: Totinger\_70 Start: 44700, Stop: 44843, Start Num: 25

Candidate Starts for Totinger\_70:

(Start: 25 @44700 has 113 MA's), (Start: 27 @44709 has 1 MA's), (Start: 28 @44712 has 16 MA's), (32, 44766), (33, 44781),

Gene: Tweety\_73 Start: 47076, Stop: 47234, Start Num: 25  
Candidate Starts for Tweety\_73:  
(Start: 25 @47076 has 113 MA's), (Start: 27 @47085 has 1 MA's), (Start: 28 @47088 has 16 MA's),  
(32, 47142), (33, 47157),

Gene: UncleRicky\_70 Start: 44490, Stop: 44636, Start Num: 25  
Candidate Starts for UncleRicky\_70:  
(Start: 25 @44490 has 113 MA's), (Start: 27 @44499 has 1 MA's), (Start: 28 @44502 has 16 MA's),  
(32, 44556), (33, 44571),

Gene: Veteran\_65 Start: 44909, Stop: 45058, Start Num: 25  
Candidate Starts for Veteran\_65:  
(14, 44792), (21, 44870), (Start: 25 @44909 has 113 MA's), (Start: 28 @44924 has 16 MA's), (31,  
44972), (33, 44993), (35, 45014),

Gene: Vivum\_76 Start: 48329, Stop: 48472, Start Num: 25  
Candidate Starts for Vivum\_76:  
(Start: 25 @48329 has 113 MA's), (Start: 27 @48338 has 1 MA's), (Start: 28 @48341 has 16 MA's),  
(32, 48395), (33, 48410),

Gene: Wachhund\_71 Start: 44201, Stop: 44362, Start Num: 25  
Candidate Starts for Wachhund\_71:  
(Start: 25 @44201 has 113 MA's), (Start: 27 @44213 has 1 MA's), (Start: 28 @44216 has 16 MA's),  
(32, 44270), (33, 44285),

Gene: Wee\_73 Start: 45275, Stop: 45430, Start Num: 25  
Candidate Starts for Wee\_73:  
(10, 45137), (Start: 25 @45275 has 113 MA's), (Start: 28 @45290 has 16 MA's), (31, 45338), (33,  
45359), (35, 45380),

Gene: Whatsapiecost\_67 Start: 41846, Stop: 41989, Start Num: 25  
Candidate Starts for Whatsapiecost\_67:  
(10, 41708), (Start: 25 @41846 has 113 MA's), (Start: 28 @41861 has 16 MA's), (31, 41909), (33,  
41930), (35, 41951),

Gene: Whouxphf\_69 Start: 45627, Stop: 45773, Start Num: 25  
Candidate Starts for Whouxphf\_69:  
(22, 45615), (Start: 25 @45627 has 113 MA's), (Start: 28 @45639 has 16 MA's), (32, 45693), (33,  
45708),

Gene: WillSterrel\_73 Start: 46501, Stop: 46650, Start Num: 25  
Candidate Starts for WillSterrel\_73:  
(Start: 25 @46501 has 113 MA's), (Start: 27 @46513 has 1 MA's), (Start: 28 @46516 has 16 MA's),  
(31, 46564), (33, 46585), (34, 46591), (35, 46606),

Gene: XFactor\_68 Start: 44921, Stop: 45067, Start Num: 25  
Candidate Starts for XFactor\_68:  
(Start: 25 @44921 has 113 MA's), (Start: 28 @44933 has 16 MA's), (31, 44981), (32, 44987), (33,  
45002),

Gene: Xula\_56 Start: 39168, Stop: 39317, Start Num: 25  
Candidate Starts for Xula\_56:

(13, 39042), (Start: 25 @39168 has 113 MA's), (Start: 28 @39183 has 16 MA's), (31, 39231), (33, 39252), (35, 39273),

Gene: Yoshi\_86 Start: 46688, Stop: 46834, Start Num: 25

Candidate Starts for Yoshi\_86:

(Start: 25 @46688 has 113 MA's), (Start: 28 @46700 has 16 MA's), (31, 46748), (32, 46754), (33, 46769),

Gene: Zapner\_81 Start: 44699, Stop: 44848, Start Num: 25

Candidate Starts for Zapner\_81:

(10, 44561), (21, 44660), (Start: 25 @44699 has 113 MA's), (Start: 28 @44714 has 16 MA's), (31, 44762), (33, 44783), (35, 44804),

Gene: Zerg\_71 Start: 45778, Stop: 45912, Start Num: 28

Candidate Starts for Zerg\_71:

(14, 45649), (Start: 25 @45766 has 113 MA's), (Start: 28 @45778 has 16 MA's), (32, 45832), (33, 45847),

Gene: Zizzle\_75 Start: 47154, Stop: 47303, Start Num: 25

Candidate Starts for Zizzle\_75:

(Start: 25 @47154 has 113 MA's), (Start: 27 @47166 has 1 MA's), (Start: 28 @47169 has 16 MA's), (31, 47217), (33, 47238), (35, 47259),