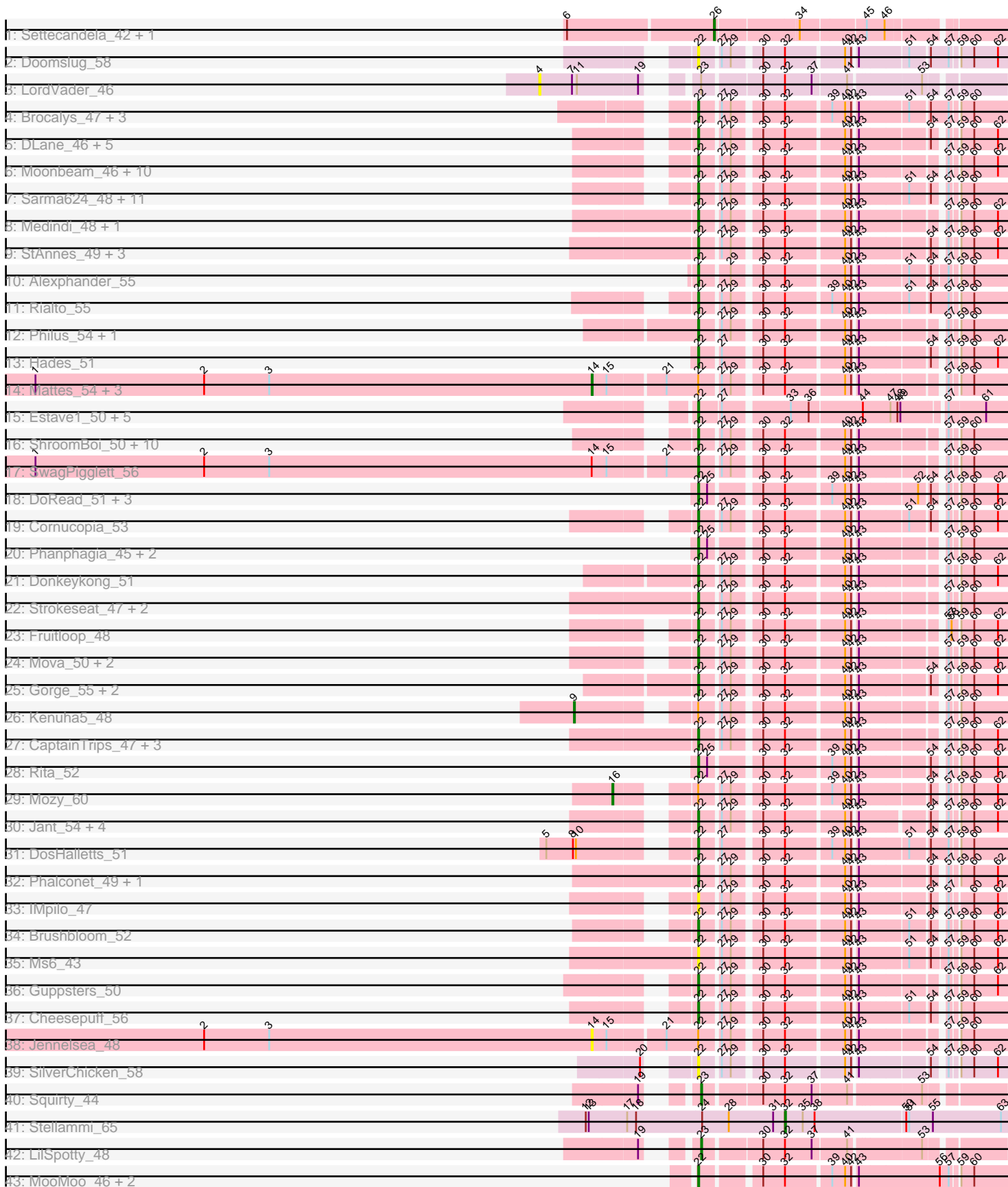


Pham 308309



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 308309 Report

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

Pham number 308309 has 117 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Settecandela\_42, Phrappuccino\_42
- Track 2 : Doomslug\_58
- Track 3 : LordVader\_46
- Track 4 : Brocalys\_47, Pippy\_50, Clifton\_47, LastJedi\_46
- Track 5 : DLane\_46, Corium\_47, Akhila\_42, KingJulian\_49, MilanaBonita\_42, PatoPoderoso\_47
- Track 6 : Moonbeam\_46, EleanorGeorge\_48, Ardmore\_41, Mutaforma13\_53, Whatsapiecost\_49, Filuzino\_48, Batiatus\_48, Emma\_50, Juice456\_52, Soul22\_54, MilleniumForce\_50
- Track 7 : Sarma624\_48, Minnie\_55, IrishSherpFalk\_51, Kingsley\_47, Velveteen\_45, BigPhil\_46, Violac\_53, WillSterrel\_51, Brookers\_47, Cerasum\_46, Spartacus\_52, Coco12\_49
- Track 8 : Medindi\_48, Ovechkin\_47
- Track 9 : StAnnes\_49, XFactor\_48, Melissauren88\_48, Bobi\_52
- Track 10 : Alexphander\_55
- Track 11 : Rialto\_55
- Track 12 : Philus\_54, DRBy19\_54
- Track 13 : Hades\_51
- Track 14 : Mattes\_54, James\_54, Zizzle\_56, BobaPhett\_54
- Track 15 : Estave1\_50, Renaud18\_55, DeadP\_55, Blarby\_61, Taj\_53, Wee\_52
- Track 16 : ShroomBoi\_50, Enzomatic\_58, Polo2Bam\_57, LunaBlu\_54, SuperGrey\_50, Wachhund\_52, NewHope4\_53, KristaRAM\_49, Galactic\_51, SeaLumen\_56, Clank\_53
- Track 17 : SwagPigglett\_56
- Track 18 : DoRead\_51, Juniper1\_48, SimranZ1\_49, Byougenkin\_48
- Track 19 : Cornucopia\_53
- Track 20 : Phanphagia\_45, Shauna1\_45, Bipolar\_47
- Track 21 : Donkeykong\_51
- Track 22 : Strokeseat\_47, Mandlovu\_47, Hlubikazi\_47
- Track 23 : Fruitloop\_48
- Track 24 : Mova\_50, VRedHorse\_50, Okabe\_45
- Track 25 : Gorge\_55, Saal\_53, ByChance\_42
- Track 26 : Kenuha5\_48
- Track 27 : CaptainTrips\_47, Beakin\_52, MinionDave\_49, Hegedechwinu\_50
- Track 28 : Rita\_52
- Track 29 : Mozy\_60
- Track 30 : Jant\_54, Flathead\_49, SG4\_47, Enby\_51, Lorde\_51

- Track 31 : DosHalletts\_51
- Track 32 : Phalconet\_49, PhesterPhotato\_52
- Track 33 : IMpilo\_47
- Track 34 : Brushbloom\_52
- Track 35 : Ms6\_43
- Track 36 : Guppsters\_50
- Track 37 : Cheesepuff\_56
- Track 38 : Jennelsea\_48
- Track 39 : SilverChicken\_58
- Track 40 : Squirty\_44
- Track 41 : Stellammi\_65
- Track 42 : LilSpotty\_48
- Track 43 : MooMoo\_46, TChen\_50, LunaStella\_48

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

The start number called the most often in the published annotations is 22, it was called in 89 of the 100 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila\_42, Alexphander\_55, Ardmore\_41, Batiatus\_48, Beakin\_52, BigPhil\_46, Bipolar\_47, Blarby\_61, Bobi\_52, Brocalys\_47, Brookers\_47, Brushbloom\_52, ByChance\_42, Byougenkin\_48, CaptainTrips\_47, Cerasum\_46, Cheesepuff\_56, Clank\_53, Clifton\_47, Coco12\_49, Corium\_47, Cornucopia\_53, DLane\_46, DRBy19\_54, DeadP\_55, DoRead\_51, Donkeykong\_51, Doomslug\_58, DosHalletts\_51, EleanorGeorge\_48, Emma\_50, Enby\_51, Enzomatic\_58, Estave1\_50, Filuzino\_48, Flathead\_49, Fruitloop\_48, Galactic\_51, Gorge\_55, Guppsters\_50, Hades\_51, Hegedechwinu\_50, Hlubikazi\_47, IMpilo\_47, IrishSherpFalk\_51, Jant\_54, Juice456\_52, Juniper1\_48, KingJulian\_49, Kingsley\_47, KristaRAM\_49, LastJedi\_46, Lorde\_51, LunaBlu\_54, LunaStella\_48, Mandlovu\_47, Medindi\_48, Melissauren88\_48, MilanaBonita\_42, MilleniumForce\_50, MinionDave\_49, Minnie\_55, MooMoo\_46, Moonbeam\_46, Mova\_50, Ms6\_43, Mutaforma13\_53, NewHope4\_53, Okabe\_45, Ovechkin\_47, PatoPoderoso\_47, Phalconet\_49, Phanphagia\_45, PhesterPhotato\_52, Philus\_54, Pippy\_50, Polo2Bam\_57, Renaud18\_55, Rialto\_55, Rita\_52, SG4\_47, Saal\_53, Sarma624\_48, SeaLumen\_56, Shauna1\_45, ShroomBoi\_50, SilverChicken\_58, SimranZ1\_49, Soul22\_54, Spartacus\_52, StAnnes\_49, Strokeseat\_47, SuperGrey\_50, SwagPigglett\_56, TChen\_50, Taj\_53, VRedHorse\_50, Velveteen\_45, Violac\_53, Wachhund\_52, Wee\_52, Whatsapiecost\_49, WillSterrel\_51, XFactor\_48,

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

- BobaPhett\_54, James\_54, Jennelsea\_48, Kenuha5\_48, Mattes\_54, Mozy\_60, Zizzle\_56,

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

- LilSpotty\_48, LordVader\_46, Phrappuccino\_42, Settecandela\_42, Squirty\_44, Stellammi\_65,

**Summary by start number:**

Start 4:

- Found in 1 of 117 ( 0.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LordVader\_46 (F),

Start 9:

- Found in 1 of 117 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kenuha5\_48 (F1),

Start 14:

- Found in 6 of 117 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 4 of 100
- Called 83.3% of time when present
- Phage (with cluster) where this start called: BobaPhett\_54 (F1), James\_54 (F1), Jennelsea\_48 (F1), Mattes\_54 (F1), Zizzle\_56 (F1),

Start 16:

- Found in 1 of 117 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mozy\_60 (F1),

Start 22:

- Found in 111 of 117 ( 94.9% ) of genes in pham
- Manual Annotations of this start: 89 of 100
- Called 93.7% of time when present
- Phage (with cluster) where this start called: Akhila\_42 (F1), Alexphander\_55 (F1), Ardmore\_41 (F1), Batiatus\_48 (F1), Beakin\_52 (F1), BigPhil\_46 (F1), Bipolar\_47 (F1), Blarby\_61 (F), Bobi\_52 (F1), Brocalys\_47 (F1), Brookers\_47 (F1), Brushbloom\_52 (F1), ByChance\_42 (F1), Byougenkin\_48 (F1), CaptainTrips\_47 (F1), Cerasum\_46 (F1), Cheesepuff\_56 (F1), Clank\_53 (F), Clifton\_47 (F1), Coco12\_49 (F1), Corium\_47 (F1), Cornucopia\_53 (F1), DLane\_46 (F1), DRBy19\_54 (F1), DeadP\_55 (F1), DoRead\_51 (F1), Donkeykong\_51 (F1), Doomslug\_58 (F), DosHalletts\_51 (F1), EleanorGeorge\_48 (F1), Emma\_50 (F1), Enby\_51 (F1), Enzomatic\_58 (F1), Estave1\_50 (F1), Filuzino\_48 (F1), Flathead\_49 (F1), Fruitloop\_48 (F1), Galactic\_51 (F1), Gorge\_55 (F1), Guppsters\_50 (F1), Hades\_51 (F1), Hegedechwinu\_50 (F1), Hlubikazi\_47 (F1), IMpilo\_47 (F1), IrishSherpFalk\_51 (F1), Jant\_54 (F1), Juice456\_52 (F1), Juniper1\_48 (F1), KingJulian\_49 (F1), Kingsley\_47 (F1), KristaRAM\_49 (F1), LastJedi\_46 (F1), Lorde\_51 (F1), LunaBlu\_54 (F1), LunaStella\_48 (F4), Mandlovu\_47 (F1), Medindi\_48 (F1), Melissauren88\_48 (F1), MilanaBonita\_42 (F1), MilleniumForce\_50 (F1), MinionDave\_49 (F1), Minnie\_55 (F1), MooMoo\_46 (singleton), Moonbeam\_46 (F1), Mova\_50 (F1), Ms6\_43 (F1), Mutaforma13\_53 (F1), NewHope4\_53 (F1), Okabe\_45 (F8), Ovechkin\_47 (F1), PatoPoderoso\_47 (F1), Phalconet\_49 (F1), Phanphagia\_45 (F1), PhesterPhotato\_52 (F1), Philus\_54 (F1), Pippy\_50 (F1), Polo2Bam\_57 (F1), Renaud18\_55 (F4), Rialto\_55 (F1), Rita\_52 (F1), SG4\_47 (F1), Saal\_53 (F1), Sarma624\_48 (F1), SeaLumen\_56 (F1), Shauna1\_45 (F1), ShroomBoi\_50 (F1), SilverChicken\_58 (F2), SimranZ1\_49 (F1), Soul22\_54 (F2), Spartacus\_52 (F1), StAnnes\_49 (F1), Strokeseat\_47 (F1), SuperGrey\_50 (F1), SwagPigglett\_56 (F1), TChen\_50 (F4), Taj\_53 (F1), VRedHorse\_50 (F1), Velveteen\_45 (F1), Violac\_53 (F1), Wachhund\_52

(F1), Wee\_52 (F1), Whatsapiecost\_49 (F1), WillSterrel\_51 (F1), XFactor\_48 (F1),

Start 23:

- Found in 3 of 117 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 2 of 100
- Called 66.7% of time when present
- Phage (with cluster) where this start called: LilSpotty\_48 (singleton), Squirty\_44 (F3),

Start 26:

- Found in 2 of 117 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 2 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phrappuccino\_42 (AA), Settecandela\_42 (AA),

Start 32:

- Found in 109 of 117 ( 93.2% ) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 0.9% of time when present
- Phage (with cluster) where this start called: Stellammi\_65 (UNK),

### **Summary by clusters:**

There are 9 clusters represented in this pham: AA, F1, singleton, F3, F4, F, F8, F2, UNK,

Info for manual annotations of cluster AA:

- Start number 26 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster F1:

- Start number 9 was manually annotated 1 time for cluster F1.
- Start number 14 was manually annotated 4 times for cluster F1.
- Start number 16 was manually annotated 1 time for cluster F1.
- Start number 22 was manually annotated 84 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 22 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F3:

- Start number 23 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 22 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster UNK:

- Start number 32 was manually annotated 1 time for cluster UNK.

### **Gene Information:**

Gene: Akhila\_42 Start: 32431, Stop: 32691, Start Num: 22

Candidate Starts for Akhila\_42:

(Start: 22 @32431 has 89 MA's), (27, 32449), (29, 32458), (30, 32482), (Start: 32 @32503 has 1 MA's), (40, 32557), (42, 32563), (43, 32566), (54, 32629), (57, 32638), (59, 32644), (60, 32656), (62, 32680),

Gene: Alexphander\_55 Start: 37472, Stop: 37738, Start Num: 22

Candidate Starts for Alexphander\_55:

(Start: 22 @37472 has 89 MA's), (29, 37499), (30, 37523), (Start: 32 @37544 has 1 MA's), (40, 37598), (42, 37604), (43, 37607), (51, 37652), (54, 37670), (57, 37685), (59, 37691), (60, 37703),

Gene: Ardmore\_41 Start: 34224, Stop: 34484, Start Num: 22

Candidate Starts for Ardmore\_41:

(Start: 22 @34224 has 89 MA's), (27, 34242), (29, 34251), (30, 34275), (Start: 32 @34296 has 1 MA's), (40, 34350), (42, 34356), (43, 34359), (57, 34431), (59, 34437), (60, 34449), (62, 34473),

Gene: Batiatus\_48 Start: 36640, Stop: 36903, Start Num: 22

Candidate Starts for Batiatus\_48:

(Start: 22 @36640 has 89 MA's), (27, 36658), (29, 36667), (30, 36691), (Start: 32 @36712 has 1 MA's), (40, 36766), (42, 36772), (43, 36775), (57, 36847), (59, 36853), (60, 36865), (62, 36889),

Gene: Beakin\_52 Start: 36460, Stop: 36720, Start Num: 22

Candidate Starts for Beakin\_52:

(Start: 22 @36460 has 89 MA's), (27, 36478), (29, 36487), (30, 36511), (Start: 32 @36532 has 1 MA's), (40, 36586), (42, 36592), (43, 36595), (57, 36667), (59, 36673), (60, 36685), (62, 36709),

Gene: BigPhil\_46 Start: 32920, Stop: 33180, Start Num: 22

Candidate Starts for BigPhil\_46:

(Start: 22 @32920 has 89 MA's), (27, 32938), (29, 32947), (30, 32971), (Start: 32 @32992 has 1 MA's), (40, 33046), (42, 33052), (43, 33055), (51, 33100), (54, 33118), (57, 33127), (59, 33133), (60, 33145),

Gene: Bipolar\_47 Start: 36374, Stop: 36634, Start Num: 22

Candidate Starts for Bipolar\_47:

(Start: 22 @36374 has 89 MA's), (25, 36383), (30, 36425), (Start: 32 @36446 has 1 MA's), (40, 36500), (42, 36506), (43, 36509), (57, 36581), (59, 36587), (60, 36599),

Gene: Blarby\_61 Start: 37278, Stop: 37565, Start Num: 22

Candidate Starts for Blarby\_61:

(Start: 22 @37278 has 89 MA's), (27, 37299), (33, 37359), (36, 37377), (44, 37428), (47, 37455), (48, 37461), (49, 37464), (57, 37506), (61, 37542),

Gene: BobaPhett\_54 Start: 39312, Stop: 39671, Start Num: 14

Candidate Starts for BobaPhett\_54:

(1, 38748), (2, 38919), (3, 38985), (Start: 14 @39312 has 4 MA's), (15, 39327), (21, 39381), (Start: 22 @39411 has 89 MA's), (27, 39429), (29, 39438), (30, 39462), (Start: 32 @39483 has 1 MA's), (40, 39537), (42, 39543), (43, 39546), (57, 39618), (59, 39624), (60, 39636),

Gene: Bobi\_52 Start: 37227, Stop: 37487, Start Num: 22

Candidate Starts for Bobi\_52:

(Start: 22 @37227 has 89 MA's), (27, 37245), (29, 37254), (30, 37278), (Start: 32 @37299 has 1 MA's), (40, 37353), (42, 37359), (43, 37362), (54, 37425), (57, 37434), (59, 37440), (60, 37452), (62, 37476),

Gene: Brocalys\_47 Start: 34063, Stop: 34332, Start Num: 22

Candidate Starts for Brocalys\_47:

(Start: 22 @34063 has 89 MA's), (27, 34081), (29, 34090), (30, 34114), (Start: 32 @34135 has 1 MA's), (39, 34177), (40, 34189), (42, 34195), (43, 34198), (51, 34243), (54, 34261), (57, 34279), (59, 34285), (60, 34297),

Gene: Brookers\_47 Start: 35871, Stop: 36131, Start Num: 22

Candidate Starts for Brookers\_47:

(Start: 22 @35871 has 89 MA's), (27, 35889), (29, 35898), (30, 35922), (Start: 32 @35943 has 1 MA's), (40, 35997), (42, 36003), (43, 36006), (51, 36051), (54, 36069), (57, 36078), (59, 36084), (60, 36096),

Gene: Brushbloom\_52 Start: 37079, Stop: 37339, Start Num: 22

Candidate Starts for Brushbloom\_52:

(Start: 22 @37079 has 89 MA's), (27, 37097), (29, 37106), (30, 37130), (Start: 32 @37151 has 1 MA's), (40, 37205), (42, 37211), (43, 37214), (51, 37259), (54, 37277), (57, 37286), (59, 37292), (60, 37304), (62, 37328),

Gene: ByChance\_42 Start: 32434, Stop: 32697, Start Num: 22

Candidate Starts for ByChance\_42:

(Start: 22 @32434 has 89 MA's), (27, 32452), (29, 32461), (30, 32485), (Start: 32 @32506 has 1 MA's), (40, 32560), (42, 32566), (43, 32569), (54, 32632), (57, 32641), (59, 32647), (60, 32659), (62, 32683),

Gene: Byougenkin\_48 Start: 36458, Stop: 36718, Start Num: 22

Candidate Starts for Byougenkin\_48:

(Start: 22 @36458 has 89 MA's), (25, 36467), (30, 36509), (Start: 32 @36530 has 1 MA's), (39, 36572), (40, 36584), (42, 36590), (43, 36593), (52, 36647), (54, 36656), (57, 36665), (59, 36671), (60, 36683), (62, 36707),

Gene: CaptainTrips\_47 Start: 35660, Stop: 35923, Start Num: 22

Candidate Starts for CaptainTrips\_47:

(Start: 22 @35660 has 89 MA's), (27, 35678), (29, 35687), (30, 35711), (Start: 32 @35732 has 1 MA's), (40, 35786), (42, 35792), (43, 35795), (57, 35867), (59, 35873), (60, 35885), (62, 35909),

Gene: Cerasum\_46 Start: 32938, Stop: 33198, Start Num: 22

Candidate Starts for Cerasum\_46:

(Start: 22 @32938 has 89 MA's), (27, 32956), (29, 32965), (30, 32989), (Start: 32 @33010 has 1 MA's), (40, 33064), (42, 33070), (43, 33073), (51, 33118), (54, 33136), (57, 33145), (59, 33151), (60, 33163),

Gene: Cheesepuff\_56 Start: 38596, Stop: 38856, Start Num: 22

Candidate Starts for Cheesepuff\_56:

(Start: 22 @38596 has 89 MA's), (27, 38614), (29, 38623), (30, 38647), (Start: 32 @38668 has 1 MA's), (40, 38722), (42, 38728), (43, 38731), (51, 38776), (54, 38794), (57, 38803), (59, 38809), (60, 38821),

Gene: Clank\_53 Start: 37190, Stop: 37450, Start Num: 22

Candidate Starts for Clank\_53:

(Start: 22 @37190 has 89 MA's), (27, 37208), (29, 37217), (30, 37241), (Start: 32 @37262 has 1 MA's), (40, 37316), (42, 37322), (43, 37325), (57, 37397), (59, 37403), (60, 37415),

Gene: Clifton\_47 Start: 34414, Stop: 34683, Start Num: 22

Candidate Starts for Clifton\_47:

(Start: 22 @34414 has 89 MA's), (27, 34432), (29, 34441), (30, 34465), (Start: 32 @34486 has 1 MA's), (39, 34528), (40, 34540), (42, 34546), (43, 34549), (51, 34594), (54, 34612), (57, 34630), (59, 34636), (60, 34648),

Gene: Coco12\_49 Start: 36995, Stop: 37255, Start Num: 22

Candidate Starts for Coco12\_49:

(Start: 22 @36995 has 89 MA's), (27, 37013), (29, 37022), (30, 37046), (Start: 32 @37067 has 1 MA's), (40, 37121), (42, 37127), (43, 37130), (51, 37175), (54, 37193), (57, 37202), (59, 37208), (60, 37220),

Gene: Corium\_47 Start: 35745, Stop: 36005, Start Num: 22

Candidate Starts for Corium\_47:

(Start: 22 @35745 has 89 MA's), (27, 35763), (29, 35772), (30, 35796), (Start: 32 @35817 has 1 MA's), (40, 35871), (42, 35877), (43, 35880), (54, 35943), (57, 35952), (59, 35958), (60, 35970), (62, 35994),

Gene: Cornucopia\_53 Start: 37702, Stop: 37962, Start Num: 22

Candidate Starts for Cornucopia\_53:

(Start: 22 @37702 has 89 MA's), (27, 37720), (29, 37729), (30, 37753), (Start: 32 @37774 has 1 MA's), (40, 37828), (42, 37834), (43, 37837), (51, 37882), (54, 37900), (57, 37909), (59, 37915), (60, 37927), (62, 37951),

Gene: DLane\_46 Start: 35745, Stop: 36005, Start Num: 22

Candidate Starts for DLane\_46:

(Start: 22 @35745 has 89 MA's), (27, 35763), (29, 35772), (30, 35796), (Start: 32 @35817 has 1 MA's), (40, 35871), (42, 35877), (43, 35880), (54, 35943), (57, 35952), (59, 35958), (60, 35970), (62, 35994),

Gene: DRBy19\_54 Start: 38199, Stop: 38459, Start Num: 22

Candidate Starts for DRBy19\_54:

(Start: 22 @38199 has 89 MA's), (27, 38217), (29, 38226), (30, 38250), (Start: 32 @38271 has 1 MA's), (40, 38325), (42, 38331), (43, 38334), (57, 38406), (59, 38412), (60, 38424),

Gene: DeadP\_55 Start: 37934, Stop: 38218, Start Num: 22

Candidate Starts for DeadP\_55:

(Start: 22 @37934 has 89 MA's), (27, 37955), (33, 38015), (36, 38033), (44, 38084), (47, 38111), (48, 38117), (49, 38120), (57, 38159), (61, 38195),

Gene: DoRead\_51 Start: 35474, Stop: 35734, Start Num: 22

Candidate Starts for DoRead\_51:

(Start: 22 @35474 has 89 MA's), (25, 35483), (30, 35525), (Start: 32 @35546 has 1 MA's), (39, 35588), (40, 35600), (42, 35606), (43, 35609), (52, 35663), (54, 35672), (57, 35681), (59, 35687), (60, 35699), (62, 35723),

Gene: Donkeykong\_51 Start: 38545, Stop: 38805, Start Num: 22

Candidate Starts for Donkeykong\_51:

(Start: 22 @38545 has 89 MA's), (27, 38563), (29, 38572), (30, 38596), (Start: 32 @38617 has 1 MA's), (40, 38671), (42, 38677), (43, 38680), (57, 38752), (59, 38758), (60, 38770), (62, 38794),

Gene: Doomslug\_58 Start: 36353, Stop: 36622, Start Num: 22

Candidate Starts for Doomslug\_58:

(Start: 22 @36353 has 89 MA's), (27, 36371), (29, 36380), (30, 36404), (Start: 32 @36425 has 1 MA's), (40, 36479), (42, 36485), (43, 36488), (51, 36533), (54, 36551), (57, 36569), (59, 36575), (60, 36587), (62, 36611),

Gene: DosHalletts\_51 Start: 37887, Stop: 38156, Start Num: 22

Candidate Starts for DosHalletts\_51:

(5, 37767), (8, 37794), (10, 37797), (Start: 22 @37887 has 89 MA's), (27, 37905), (30, 37938), (Start: 32 @37959 has 1 MA's), (39, 38001), (40, 38013), (42, 38019), (43, 38022), (51, 38067), (54, 38085), (57, 38103), (59, 38109), (60, 38121),

Gene: EleanorGeorge\_48 Start: 36028, Stop: 36288, Start Num: 22

Candidate Starts for EleanorGeorge\_48:

(Start: 22 @36028 has 89 MA's), (27, 36046), (29, 36055), (30, 36079), (Start: 32 @36100 has 1 MA's), (40, 36154), (42, 36160), (43, 36163), (57, 36235), (59, 36241), (60, 36253), (62, 36277),

Gene: Emma\_50 Start: 35972, Stop: 36232, Start Num: 22

Candidate Starts for Emma\_50:

(Start: 22 @35972 has 89 MA's), (27, 35990), (29, 35999), (30, 36023), (Start: 32 @36044 has 1 MA's), (40, 36098), (42, 36104), (43, 36107), (57, 36179), (59, 36185), (60, 36197), (62, 36221),

Gene: Enby\_51 Start: 35146, Stop: 35409, Start Num: 22

Candidate Starts for Enby\_51:

(Start: 22 @35146 has 89 MA's), (27, 35164), (29, 35173), (30, 35197), (Start: 32 @35218 has 1 MA's), (40, 35272), (42, 35278), (43, 35281), (54, 35344), (57, 35353), (59, 35359), (60, 35371), (62, 35395),

Gene: Enzomatic\_58 Start: 37055, Stop: 37315, Start Num: 22

Candidate Starts for Enzomatic\_58:

(Start: 22 @37055 has 89 MA's), (27, 37073), (29, 37082), (30, 37106), (Start: 32 @37127 has 1 MA's), (40, 37181), (42, 37187), (43, 37190), (57, 37262), (59, 37268), (60, 37280),

Gene: Estave1\_50 Start: 36122, Stop: 36406, Start Num: 22

Candidate Starts for Estave1\_50:

(Start: 22 @36122 has 89 MA's), (27, 36143), (33, 36203), (36, 36221), (44, 36272), (47, 36299), (48, 36305), (49, 36308), (57, 36347), (61, 36383),

Gene: Filuzino\_48 Start: 35552, Stop: 35812, Start Num: 22

Candidate Starts for Filuzino\_48:

(Start: 22 @35552 has 89 MA's), (27, 35570), (29, 35579), (30, 35603), (Start: 32 @35624 has 1 MA's), (40, 35678), (42, 35684), (43, 35687), (57, 35759), (59, 35765), (60, 35777), (62, 35801),

Gene: Flathead\_49 Start: 36925, Stop: 37185, Start Num: 22

Candidate Starts for Flathead\_49:

(Start: 22 @36925 has 89 MA's), (27, 36943), (29, 36952), (30, 36976), (Start: 32 @36997 has 1 MA's), (40, 37051), (42, 37057), (43, 37060), (54, 37123), (57, 37132), (59, 37138), (60, 37150), (62, 37174),

Gene: Fruitloop\_48 Start: 37415, Stop: 37678, Start Num: 22

Candidate Starts for Fruitloop\_48:

(Start: 22 @37415 has 89 MA's), (27, 37433), (29, 37442), (30, 37466), (Start: 32 @37487 has 1 MA's), (40, 37541), (42, 37547), (43, 37550), (57, 37622), (58, 37625), (59, 37631), (60, 37643), (62, 37667),

Gene: Galactic\_51 Start: 37171, Stop: 37431, Start Num: 22

Candidate Starts for Galactic\_51:

(Start: 22 @37171 has 89 MA's), (27, 37189), (29, 37198), (30, 37222), (Start: 32 @37243 has 1 MA's), (40, 37297), (42, 37303), (43, 37306), (57, 37378), (59, 37384), (60, 37396),

Gene: Gorge\_55 Start: 38326, Stop: 38589, Start Num: 22

Candidate Starts for Gorge\_55:

(Start: 22 @38326 has 89 MA's), (27, 38344), (29, 38353), (30, 38377), (Start: 32 @38398 has 1 MA's), (40, 38452), (42, 38458), (43, 38461), (54, 38524), (57, 38533), (59, 38539), (60, 38551), (62, 38575),

Gene: Guppsters\_50 Start: 36031, Stop: 36291, Start Num: 22

Candidate Starts for Guppsters\_50:

(Start: 22 @36031 has 89 MA's), (27, 36049), (29, 36058), (30, 36082), (Start: 32 @36103 has 1 MA's), (40, 36157), (42, 36163), (43, 36166), (57, 36238), (59, 36244), (60, 36256), (62, 36280),

Gene: Hades\_51 Start: 36925, Stop: 37188, Start Num: 22

Candidate Starts for Hades\_51:

(Start: 22 @36925 has 89 MA's), (27, 36943), (30, 36976), (Start: 32 @36997 has 1 MA's), (40, 37051), (42, 37057), (43, 37060), (54, 37123), (57, 37132), (59, 37138), (60, 37150), (62, 37174),

Gene: Hegedechwinu\_50 Start: 35352, Stop: 35612, Start Num: 22

Candidate Starts for Hegedechwinu\_50:

(Start: 22 @35352 has 89 MA's), (27, 35370), (29, 35379), (30, 35403), (Start: 32 @35424 has 1 MA's), (40, 35478), (42, 35484), (43, 35487), (57, 35559), (59, 35565), (60, 35577), (62, 35601),

Gene: Hlubikazi\_47 Start: 35112, Stop: 35372, Start Num: 22

Candidate Starts for Hlubikazi\_47:

(Start: 22 @35112 has 89 MA's), (27, 35130), (29, 35139), (30, 35163), (Start: 32 @35184 has 1 MA's), (40, 35238), (42, 35244), (43, 35247), (57, 35319), (59, 35325), (60, 35337),

Gene: IMPilo\_47 Start: 35025, Stop: 35282, Start Num: 22

Candidate Starts for IMPilo\_47:

(Start: 22 @35025 has 89 MA's), (27, 35043), (29, 35052), (30, 35076), (Start: 32 @35097 has 1 MA's), (40, 35151), (42, 35157), (43, 35160), (54, 35223), (57, 35232), (60, 35250), (62, 35274),

Gene: IrishSherpFalk\_51 Start: 38088, Stop: 38348, Start Num: 22

Candidate Starts for IrishSherpFalk\_51:

(Start: 22 @38088 has 89 MA's), (27, 38106), (29, 38115), (30, 38139), (Start: 32 @38160 has 1 MA's), (40, 38214), (42, 38220), (43, 38223), (51, 38268), (54, 38286), (57, 38295), (59, 38301), (60, 38313),

Gene: James\_54 Start: 38190, Stop: 38549, Start Num: 14

Candidate Starts for James\_54:

(1, 37626), (2, 37797), (3, 37863), (Start: 14 @38190 has 4 MA's), (15, 38205), (21, 38259), (Start: 22 @38289 has 89 MA's), (27, 38307), (29, 38316), (30, 38340), (Start: 32 @38361 has 1 MA's), (40, 38415), (42, 38421), (43, 38424), (57, 38496), (59, 38502), (60, 38514),

Gene: Jant\_54 Start: 38426, Stop: 38683, Start Num: 22

Candidate Starts for Jant\_54:

(Start: 22 @38426 has 89 MA's), (27, 38444), (29, 38453), (30, 38477), (Start: 32 @38498 has 1 MA's), (40, 38552), (42, 38558), (43, 38561), (54, 38621), (57, 38630), (59, 38636), (60, 38648), (62, 38672),

Gene: Jennelsea\_48 Start: 35620, Stop: 35979, Start Num: 14

Candidate Starts for Jennelsea\_48:

(2, 35227), (3, 35293), (Start: 14 @35620 has 4 MA's), (15, 35635), (21, 35689), (Start: 22 @35719 has 89 MA's), (27, 35737), (29, 35746), (30, 35770), (Start: 32 @35791 has 1 MA's), (40, 35845), (42, 35851), (43, 35854), (57, 35926), (59, 35932), (60, 35944),

Gene: Juice456\_52 Start: 37930, Stop: 38190, Start Num: 22

Candidate Starts for Juice456\_52:

(Start: 22 @37930 has 89 MA's), (27, 37948), (29, 37957), (30, 37981), (Start: 32 @38002 has 1 MA's), (40, 38056), (42, 38062), (43, 38065), (57, 38137), (59, 38143), (60, 38155), (62, 38179),

Gene: Juniper1\_48 Start: 36146, Stop: 36406, Start Num: 22

Candidate Starts for Juniper1\_48:

(Start: 22 @36146 has 89 MA's), (25, 36155), (30, 36197), (Start: 32 @36218 has 1 MA's), (39, 36260), (40, 36272), (42, 36278), (43, 36281), (52, 36335), (54, 36344), (57, 36353), (59, 36359), (60, 36371), (62, 36395),

Gene: Kenuha5\_48 Start: 35550, Stop: 35903, Start Num: 9

Candidate Starts for Kenuha5\_48:

(Start: 9 @35550 has 1 MA's), (Start: 22 @35643 has 89 MA's), (27, 35661), (29, 35670), (30, 35694), (Start: 32 @35715 has 1 MA's), (40, 35769), (42, 35775), (43, 35778), (57, 35850), (59, 35856), (60, 35868),

Gene: KingJulian\_49 Start: 35745, Stop: 36005, Start Num: 22

Candidate Starts for KingJulian\_49:

(Start: 22 @35745 has 89 MA's), (27, 35763), (29, 35772), (30, 35796), (Start: 32 @35817 has 1 MA's), (40, 35871), (42, 35877), (43, 35880), (54, 35943), (57, 35952), (59, 35958), (60, 35970), (62, 35994),

Gene: Kingsley\_47 Start: 35728, Stop: 35988, Start Num: 22

Candidate Starts for Kingsley\_47:

(Start: 22 @35728 has 89 MA's), (27, 35746), (29, 35755), (30, 35779), (Start: 32 @35800 has 1 MA's), (40, 35854), (42, 35860), (43, 35863), (51, 35908), (54, 35926), (57, 35935), (59, 35941), (60, 35953),

Gene: KristaRAM\_49 Start: 37743, Stop: 38003, Start Num: 22

Candidate Starts for KristaRAM\_49:

(Start: 22 @37743 has 89 MA's), (27, 37761), (29, 37770), (30, 37794), (Start: 32 @37815 has 1 MA's), (40, 37869), (42, 37875), (43, 37878), (57, 37950), (59, 37956), (60, 37968),

Gene: LastJedi\_46 Start: 34457, Stop: 34726, Start Num: 22

Candidate Starts for LastJedi\_46:

(Start: 22 @34457 has 89 MA's), (27, 34475), (29, 34484), (30, 34508), (Start: 32 @34529 has 1 MA's), (39, 34571), (40, 34583), (42, 34589), (43, 34592), (51, 34637), (54, 34655), (57, 34673), (59, 34679), (60, 34691),

Gene: LilSpotty\_48 Start: 34139, Stop: 34411, Start Num: 23

Candidate Starts for LilSpotty\_48:

(19, 34112), (Start: 23 @34139 has 2 MA's), (30, 34193), (Start: 32 @34214 has 1 MA's), (37, 34241), (41, 34274), (53, 34340),

Gene: LordVader\_46 Start: 31275, Stop: 31670, Start Num: 4

Candidate Starts for LordVader\_46:

(4, 31275), (7, 31308), (11, 31311), (19, 31371), (Start: 23 @31398 has 2 MA's), (30, 31452), (Start: 32 @31473 has 1 MA's), (37, 31500), (41, 31533), (53, 31599),

Gene: Lorde\_51 Start: 35121, Stop: 35384, Start Num: 22

Candidate Starts for Lorde\_51:

(Start: 22 @35121 has 89 MA's), (27, 35139), (29, 35148), (30, 35172), (Start: 32 @35193 has 1 MA's), (40, 35247), (42, 35253), (43, 35256), (54, 35319), (57, 35328), (59, 35334), (60, 35346), (62, 35370),

Gene: LunaBlu\_54 Start: 37830, Stop: 38090, Start Num: 22

Candidate Starts for LunaBlu\_54:

(Start: 22 @37830 has 89 MA's), (27, 37848), (29, 37857), (30, 37881), (Start: 32 @37902 has 1 MA's), (40, 37956), (42, 37962), (43, 37965), (57, 38037), (59, 38043), (60, 38055),

Gene: LunaStella\_48 Start: 35282, Stop: 35557, Start Num: 22

Candidate Starts for LunaStella\_48:

(Start: 22 @35282 has 89 MA's), (30, 35333), (Start: 32 @35354 has 1 MA's), (39, 35396), (40, 35408), (42, 35414), (43, 35417), (56, 35495), (57, 35504), (59, 35510), (60, 35522),

Gene: Mandlovu\_47 Start: 35054, Stop: 35314, Start Num: 22

Candidate Starts for Mandlovu\_47:

(Start: 22 @35054 has 89 MA's), (27, 35072), (29, 35081), (30, 35105), (Start: 32 @35126 has 1 MA's), (40, 35180), (42, 35186), (43, 35189), (57, 35261), (59, 35267), (60, 35279),

Gene: Mattes\_54 Start: 38190, Stop: 38549, Start Num: 14

Candidate Starts for Mattes\_54:

(1, 37626), (2, 37797), (3, 37863), (Start: 14 @38190 has 4 MA's), (15, 38205), (21, 38259), (Start: 22 @38289 has 89 MA's), (27, 38307), (29, 38316), (30, 38340), (Start: 32 @38361 has 1 MA's), (40, 38415), (42, 38421), (43, 38424), (57, 38496), (59, 38502), (60, 38514),

Gene: Medindi\_48 Start: 34833, Stop: 35093, Start Num: 22

Candidate Starts for Medindi\_48:

(Start: 22 @34833 has 89 MA's), (27, 34851), (29, 34860), (30, 34884), (Start: 32 @34905 has 1 MA's), (40, 34959), (42, 34965), (43, 34968), (57, 35040), (59, 35046), (60, 35058), (62, 35082),

Gene: Melissauren88\_48 Start: 35898, Stop: 36161, Start Num: 22

Candidate Starts for Melissauren88\_48:

(Start: 22 @35898 has 89 MA's), (27, 35916), (29, 35925), (30, 35949), (Start: 32 @35970 has 1 MA's), (40, 36024), (42, 36030), (43, 36033), (54, 36096), (57, 36105), (59, 36111), (60, 36123), (62, 36147),

Gene: MilanaBonita\_42 Start: 32431, Stop: 32691, Start Num: 22

Candidate Starts for MilanaBonita\_42:

(Start: 22 @32431 has 89 MA's), (27, 32449), (29, 32458), (30, 32482), (Start: 32 @32503 has 1 MA's), (40, 32557), (42, 32563), (43, 32566), (54, 32629), (57, 32638), (59, 32644), (60, 32656), (62, 32680),

Gene: MilleniumForce\_50 Start: 37892, Stop: 38152, Start Num: 22

Candidate Starts for MilleniumForce\_50:

(Start: 22 @37892 has 89 MA's), (27, 37910), (29, 37919), (30, 37943), (Start: 32 @37964 has 1 MA's), (40, 38018), (42, 38024), (43, 38027), (57, 38099), (59, 38105), (60, 38117), (62, 38141),

Gene: MinionDave\_49 Start: 36435, Stop: 36698, Start Num: 22

Candidate Starts for MinionDave\_49:

(Start: 22 @36435 has 89 MA's), (27, 36453), (29, 36462), (30, 36486), (Start: 32 @36507 has 1 MA's), (40, 36561), (42, 36567), (43, 36570), (57, 36642), (59, 36648), (60, 36660), (62, 36684),

Gene: Minnie\_55 Start: 38774, Stop: 39034, Start Num: 22

Candidate Starts for Minnie\_55:

(Start: 22 @38774 has 89 MA's), (27, 38792), (29, 38801), (30, 38825), (Start: 32 @38846 has 1 MA's), (40, 38900), (42, 38906), (43, 38909), (51, 38954), (54, 38972), (57, 38981), (59, 38987), (60, 38999),

Gene: MooMoo\_46 Start: 35558, Stop: 35833, Start Num: 22

Candidate Starts for MooMoo\_46:

(Start: 22 @35558 has 89 MA's), (30, 35609), (Start: 32 @35630 has 1 MA's), (39, 35672), (40, 35684), (42, 35690), (43, 35693), (56, 35771), (57, 35780), (59, 35786), (60, 35798),

Gene: Moonbeam\_46 Start: 35928, Stop: 36188, Start Num: 22

Candidate Starts for Moonbeam\_46:

(Start: 22 @35928 has 89 MA's), (27, 35946), (29, 35955), (30, 35979), (Start: 32 @36000 has 1 MA's), (40, 36054), (42, 36060), (43, 36063), (57, 36135), (59, 36141), (60, 36153), (62, 36177),

Gene: Mova\_50 Start: 35691, Stop: 35951, Start Num: 22

Candidate Starts for Mova\_50:

(Start: 22 @35691 has 89 MA's), (27, 35709), (29, 35718), (30, 35742), (Start: 32 @35763 has 1 MA's), (40, 35817), (42, 35823), (43, 35826), (57, 35898), (59, 35904), (60, 35916), (62, 35940),

Gene: Mozy\_60 Start: 39450, Stop: 39764, Start Num: 16

Candidate Starts for Mozy\_60:

(Start: 16 @39450 has 1 MA's), (Start: 22 @39504 has 89 MA's), (27, 39522), (29, 39531), (30, 39555), (Start: 32 @39576 has 1 MA's), (39, 39618), (40, 39630), (42, 39636), (43, 39639), (54, 39702), (57, 39711), (59, 39717), (60, 39729), (62, 39753),

Gene: Ms6\_43 Start: 30964, Stop: 31230, Start Num: 22

Candidate Starts for Ms6\_43:

(Start: 22 @30964 has 89 MA's), (27, 30982), (29, 30991), (30, 31015), (Start: 32 @31036 has 1 MA's), (40, 31090), (42, 31096), (43, 31099), (51, 31144), (54, 31162), (57, 31177), (59, 31183), (60, 31195), (62, 31219),

Gene: Mutaforma13\_53 Start: 38482, Stop: 38742, Start Num: 22

Candidate Starts for Mutaforma13\_53:

(Start: 22 @38482 has 89 MA's), (27, 38500), (29, 38509), (30, 38533), (Start: 32 @38554 has 1 MA's), (40, 38608), (42, 38614), (43, 38617), (57, 38689), (59, 38695), (60, 38707), (62, 38731),

Gene: NewHope4\_53 Start: 37201, Stop: 37461, Start Num: 22

Candidate Starts for NewHope4\_53:

(Start: 22 @37201 has 89 MA's), (27, 37219), (29, 37228), (30, 37252), (Start: 32 @37273 has 1 MA's), (40, 37327), (42, 37333), (43, 37336), (57, 37408), (59, 37414), (60, 37426),

Gene: Okabe\_45 Start: 32290, Stop: 32547, Start Num: 22

Candidate Starts for Okabe\_45:

(Start: 22 @32290 has 89 MA's), (27, 32308), (29, 32317), (30, 32341), (Start: 32 @32362 has 1 MA's), (40, 32416), (42, 32422), (43, 32425), (57, 32494), (59, 32500), (60, 32512), (62, 32536),

Gene: Ovechkin\_47 Start: 36285, Stop: 36545, Start Num: 22

Candidate Starts for Ovechkin\_47:

(Start: 22 @36285 has 89 MA's), (27, 36303), (29, 36312), (30, 36336), (Start: 32 @36357 has 1 MA's), (40, 36411), (42, 36417), (43, 36420), (57, 36492), (59, 36498), (60, 36510), (62, 36534),

Gene: PatoPoderoso\_47 Start: 35745, Stop: 36005, Start Num: 22

Candidate Starts for PatoPoderoso\_47:

(Start: 22 @35745 has 89 MA's), (27, 35763), (29, 35772), (30, 35796), (Start: 32 @35817 has 1 MA's), (40, 35871), (42, 35877), (43, 35880), (54, 35943), (57, 35952), (59, 35958), (60, 35970), (62, 35994),

Gene: Phalconet\_49 Start: 36205, Stop: 36465, Start Num: 22

Candidate Starts for Phalconet\_49:

(Start: 22 @36205 has 89 MA's), (27, 36223), (29, 36232), (30, 36256), (Start: 32 @36277 has 1 MA's), (40, 36331), (42, 36337), (43, 36340), (54, 36403), (57, 36412), (59, 36418), (60, 36430), (62, 36454),

Gene: Phanphagia\_45 Start: 36033, Stop: 36293, Start Num: 22

Candidate Starts for Phanphagia\_45:

(Start: 22 @36033 has 89 MA's), (25, 36042), (30, 36084), (Start: 32 @36105 has 1 MA's), (40, 36159), (42, 36165), (43, 36168), (57, 36240), (59, 36246), (60, 36258),

Gene: PhesterPhotato\_52 Start: 37160, Stop: 37420, Start Num: 22

Candidate Starts for PhesterPhotato\_52:

(Start: 22 @37160 has 89 MA's), (27, 37178), (29, 37187), (30, 37211), (Start: 32 @37232 has 1 MA's), (40, 37286), (42, 37292), (43, 37295), (54, 37358), (57, 37367), (59, 37373), (60, 37385), (62, 37409),

Gene: Philus\_54 Start: 38175, Stop: 38435, Start Num: 22

Candidate Starts for Philus\_54:

(Start: 22 @38175 has 89 MA's), (27, 38193), (29, 38202), (30, 38226), (Start: 32 @38247 has 1 MA's), (40, 38301), (42, 38307), (43, 38310), (57, 38382), (59, 38388), (60, 38400),

Gene: Phrappuccino\_42 Start: 23385, Stop: 23648, Start Num: 26

Candidate Starts for Phrappuccino\_42:

(6, 23241), (Start: 26 @23385 has 2 MA's), (34, 23463), (45, 23523), (46, 23541),

Gene: Pippy\_50 Start: 36021, Stop: 36290, Start Num: 22

Candidate Starts for Pippy\_50:

(Start: 22 @36021 has 89 MA's), (27, 36039), (29, 36048), (30, 36072), (Start: 32 @36093 has 1 MA's), (39, 36135), (40, 36147), (42, 36153), (43, 36156), (51, 36201), (54, 36219), (57, 36237), (59, 36243), (60, 36255),

Gene: Polo2Bam\_57 Start: 37055, Stop: 37315, Start Num: 22

Candidate Starts for Polo2Bam\_57:

(Start: 22 @37055 has 89 MA's), (27, 37073), (29, 37082), (30, 37106), (Start: 32 @37127 has 1 MA's), (40, 37181), (42, 37187), (43, 37190), (57, 37262), (59, 37268), (60, 37280),

Gene: Renaud18\_55 Start: 37223, Stop: 37507, Start Num: 22

Candidate Starts for Renaud18\_55:

(Start: 22 @37223 has 89 MA's), (27, 37244), (33, 37304), (36, 37322), (44, 37373), (47, 37400), (48, 37406), (49, 37409), (57, 37448), (61, 37484),

Gene: Rialto\_55 Start: 39407, Stop: 39676, Start Num: 22

Candidate Starts for Rialto\_55:

(Start: 22 @39407 has 89 MA's), (27, 39425), (29, 39434), (30, 39458), (Start: 32 @39479 has 1 MA's), (39, 39521), (40, 39533), (42, 39539), (43, 39542), (51, 39587), (54, 39605), (57, 39623), (59, 39629), (60, 39641),

Gene: Rita\_52 Start: 36039, Stop: 36299, Start Num: 22

Candidate Starts for Rita\_52:

(Start: 22 @36039 has 89 MA's), (25, 36048), (30, 36090), (Start: 32 @36111 has 1 MA's), (39, 36153), (40, 36165), (42, 36171), (43, 36174), (54, 36237), (57, 36246), (59, 36252), (60, 36264), (62, 36288),

Gene: SG4\_47 Start: 35631, Stop: 35894, Start Num: 22

Candidate Starts for SG4\_47:

(Start: 22 @35631 has 89 MA's), (27, 35649), (29, 35658), (30, 35682), (Start: 32 @35703 has 1 MA's), (40, 35757), (42, 35763), (43, 35766), (54, 35829), (57, 35838), (59, 35844), (60, 35856), (62, 35880),

Gene: Saal\_53 Start: 38145, Stop: 38408, Start Num: 22

Candidate Starts for Saal\_53:

(Start: 22 @38145 has 89 MA's), (27, 38163), (29, 38172), (30, 38196), (Start: 32 @38217 has 1 MA's), (40, 38271), (42, 38277), (43, 38280), (54, 38343), (57, 38352), (59, 38358), (60, 38370), (62, 38394),

Gene: Sarma624\_48 Start: 32920, Stop: 33180, Start Num: 22

Candidate Starts for Sarma624\_48:

(Start: 22 @32920 has 89 MA's), (27, 32938), (29, 32947), (30, 32971), (Start: 32 @32992 has 1 MA's), (40, 33046), (42, 33052), (43, 33055), (51, 33100), (54, 33118), (57, 33127), (59, 33133), (60, 33145),

Gene: SeaLumen\_56 Start: 37055, Stop: 37315, Start Num: 22

Candidate Starts for SeaLumen\_56:

(Start: 22 @37055 has 89 MA's), (27, 37073), (29, 37082), (30, 37106), (Start: 32 @37127 has 1 MA's), (40, 37181), (42, 37187), (43, 37190), (57, 37262), (59, 37268), (60, 37280),

Gene: Settecandela\_42 Start: 23385, Stop: 23648, Start Num: 26

Candidate Starts for Settecandela\_42:

(6, 23241), (Start: 26 @23385 has 2 MA's), (34, 23463), (45, 23523), (46, 23541),

Gene: Shauna1\_45 Start: 36023, Stop: 36283, Start Num: 22

Candidate Starts for Shauna1\_45:

(Start: 22 @36023 has 89 MA's), (25, 36032), (30, 36074), (Start: 32 @36095 has 1 MA's), (40, 36149), (42, 36155), (43, 36158), (57, 36230), (59, 36236), (60, 36248),

Gene: ShroomBoi\_50 Start: 36513, Stop: 36773, Start Num: 22

Candidate Starts for ShroomBoi\_50:

(Start: 22 @36513 has 89 MA's), (27, 36531), (29, 36540), (30, 36564), (Start: 32 @36585 has 1 MA's), (40, 36639), (42, 36645), (43, 36648), (57, 36720), (59, 36726), (60, 36738),

Gene: SilverChicken\_58 Start: 36158, Stop: 36418, Start Num: 22

Candidate Starts for SilverChicken\_58:

(20, 36131), (Start: 22 @36158 has 89 MA's), (27, 36176), (29, 36185), (30, 36209), (Start: 32 @36230 has 1 MA's), (40, 36284), (42, 36290), (43, 36293), (54, 36356), (57, 36365), (59, 36371), (60, 36383), (62, 36407),

Gene: SimranZ1\_49 Start: 35859, Stop: 36119, Start Num: 22

Candidate Starts for SimranZ1\_49:

(Start: 22 @35859 has 89 MA's), (25, 35868), (30, 35910), (Start: 32 @35931 has 1 MA's), (39, 35973), (40, 35985), (42, 35991), (43, 35994), (52, 36048), (54, 36057), (57, 36066), (59, 36072), (60, 36084), (62, 36108),

Gene: Soul22\_54 Start: 36760, Stop: 37020, Start Num: 22

Candidate Starts for Soul22\_54:

(Start: 22 @36760 has 89 MA's), (27, 36778), (29, 36787), (30, 36811), (Start: 32 @36832 has 1 MA's), (40, 36886), (42, 36892), (43, 36895), (57, 36967), (59, 36973), (60, 36985), (62, 37009),

Gene: Spartacus\_52 Start: 37005, Stop: 37265, Start Num: 22

Candidate Starts for Spartacus\_52:

(Start: 22 @37005 has 89 MA's), (27, 37023), (29, 37032), (30, 37056), (Start: 32 @37077 has 1 MA's), (40, 37131), (42, 37137), (43, 37140), (51, 37185), (54, 37203), (57, 37212), (59, 37218), (60, 37230),

Gene: Squirty\_44 Start: 33796, Stop: 34068, Start Num: 23

Candidate Starts for Squirty\_44:

(19, 33769), (Start: 23 @33796 has 2 MA's), (30, 33850), (Start: 32 @33871 has 1 MA's), (37, 33898), (41, 33931), (53, 33997),

Gene: StAnnes\_49 Start: 36877, Stop: 37140, Start Num: 22

Candidate Starts for StAnnes\_49:

(Start: 22 @36877 has 89 MA's), (27, 36895), (29, 36904), (30, 36928), (Start: 32 @36949 has 1 MA's), (40, 37003), (42, 37009), (43, 37012), (54, 37075), (57, 37084), (59, 37090), (60, 37102), (62, 37126),

Gene: Stellammi\_65 Start: 39104, Stop: 39328, Start Num: 32

Candidate Starts for Stellammi\_65:

(12, 38903), (13, 38906), (17, 38945), (18, 38954), (24, 39020), (28, 39047), (31, 39092), (Start: 32 @39104 has 1 MA's), (35, 39122), (38, 39134), (50, 39224), (51, 39227), (55, 39251), (63, 39320),

Gene: Strokeseat\_47 Start: 35111, Stop: 35371, Start Num: 22

Candidate Starts for Strokeseat\_47:

(Start: 22 @35111 has 89 MA's), (27, 35129), (29, 35138), (30, 35162), (Start: 32 @35183 has 1 MA's), (40, 35237), (42, 35243), (43, 35246), (57, 35318), (59, 35324), (60, 35336),

Gene: SuperGrey\_50 Start: 37482, Stop: 37742, Start Num: 22

Candidate Starts for SuperGrey\_50:

(Start: 22 @37482 has 89 MA's), (27, 37500), (29, 37509), (30, 37533), (Start: 32 @37554 has 1 MA's), (40, 37608), (42, 37614), (43, 37617), (57, 37689), (59, 37695), (60, 37707),

Gene: SwagPiggett\_56 Start: 39180, Stop: 39440, Start Num: 22

Candidate Starts for SwagPiggett\_56:

(1, 38517), (2, 38688), (3, 38754), (Start: 14 @39081 has 4 MA's), (15, 39096), (21, 39150), (Start: 22 @39180 has 89 MA's), (27, 39198), (29, 39207), (30, 39231), (Start: 32 @39252 has 1 MA's), (40, 39306), (42, 39312), (43, 39315), (57, 39387), (59, 39393), (60, 39405),

Gene: TChen\_50 Start: 37233, Stop: 37508, Start Num: 22

Candidate Starts for TChen\_50:

(Start: 22 @37233 has 89 MA's), (30, 37284), (Start: 32 @37305 has 1 MA's), (39, 37347), (40, 37359), (42, 37365), (43, 37368), (56, 37446), (57, 37455), (59, 37461), (60, 37473),

Gene: Taj\_53 Start: 37144, Stop: 37428, Start Num: 22

Candidate Starts for Taj\_53:

(Start: 22 @37144 has 89 MA's), (27, 37165), (33, 37225), (36, 37243), (44, 37294), (47, 37321), (48, 37327), (49, 37330), (57, 37369), (61, 37405),

Gene: VRedHorse\_50 Start: 36119, Stop: 36382, Start Num: 22

Candidate Starts for VRedHorse\_50:

(Start: 22 @36119 has 89 MA's), (27, 36137), (29, 36146), (30, 36170), (Start: 32 @36191 has 1 MA's), (40, 36245), (42, 36251), (43, 36254), (57, 36326), (59, 36332), (60, 36344), (62, 36368),

Gene: Velveteen\_45 Start: 32920, Stop: 33180, Start Num: 22

Candidate Starts for Velveteen\_45:

(Start: 22 @32920 has 89 MA's), (27, 32938), (29, 32947), (30, 32971), (Start: 32 @32992 has 1 MA's), (40, 33046), (42, 33052), (43, 33055), (51, 33100), (54, 33118), (57, 33127), (59, 33133), (60, 33145),

Gene: Violac\_53 Start: 38220, Stop: 38480, Start Num: 22

Candidate Starts for Violac\_53:

(Start: 22 @38220 has 89 MA's), (27, 38238), (29, 38247), (30, 38271), (Start: 32 @38292 has 1 MA's), (40, 38346), (42, 38352), (43, 38355), (51, 38400), (54, 38418), (57, 38427), (59, 38433), (60, 38445),

Gene: Wachhund\_52 Start: 36526, Stop: 36786, Start Num: 22

Candidate Starts for Wachhund\_52:

(Start: 22 @36526 has 89 MA's), (27, 36544), (29, 36553), (30, 36577), (Start: 32 @36598 has 1 MA's), (40, 36652), (42, 36658), (43, 36661), (57, 36733), (59, 36739), (60, 36751),

Gene: Wee\_52 Start: 37416, Stop: 37700, Start Num: 22

Candidate Starts for Wee\_52:

(Start: 22 @37416 has 89 MA's), (27, 37437), (33, 37497), (36, 37515), (44, 37566), (47, 37593), (48, 37599), (49, 37602), (57, 37641), (61, 37677),

Gene: Whatsapiecost\_49 Start: 35788, Stop: 36048, Start Num: 22

Candidate Starts for Whatsapiecost\_49:

(Start: 22 @35788 has 89 MA's), (27, 35806), (29, 35815), (30, 35839), (Start: 32 @35860 has 1 MA's), (40, 35914), (42, 35920), (43, 35923), (57, 35995), (59, 36001), (60, 36013), (62, 36037),

Gene: WillSterrel\_51 Start: 38121, Stop: 38381, Start Num: 22

Candidate Starts for WillSterrel\_51:

(Start: 22 @38121 has 89 MA's), (27, 38139), (29, 38148), (30, 38172), (Start: 32 @38193 has 1 MA's), (40, 38247), (42, 38253), (43, 38256), (51, 38301), (54, 38319), (57, 38328), (59, 38334), (60, 38346),

Gene: XFactor\_48 Start: 35606, Stop: 35869, Start Num: 22

Candidate Starts for XFactor\_48:

(Start: 22 @35606 has 89 MA's), (27, 35624), (29, 35633), (30, 35657), (Start: 32 @35678 has 1 MA's), (40, 35732), (42, 35738), (43, 35741), (54, 35804), (57, 35813), (59, 35819), (60, 35831), (62, 35855),

Gene: Zizzle\_56 Start: 38765, Stop: 39124, Start Num: 14

Candidate Starts for Zizzle\_56:

(1, 38201), (2, 38372), (3, 38438), (Start: 14 @38765 has 4 MA's), (15, 38780), (21, 38834), (Start: 22 @38864 has 89 MA's), (27, 38882), (29, 38891), (30, 38915), (Start: 32 @38936 has 1 MA's), (40, 38990), (42, 38996), (43, 38999), (57, 39071), (59, 39077), (60, 39089),