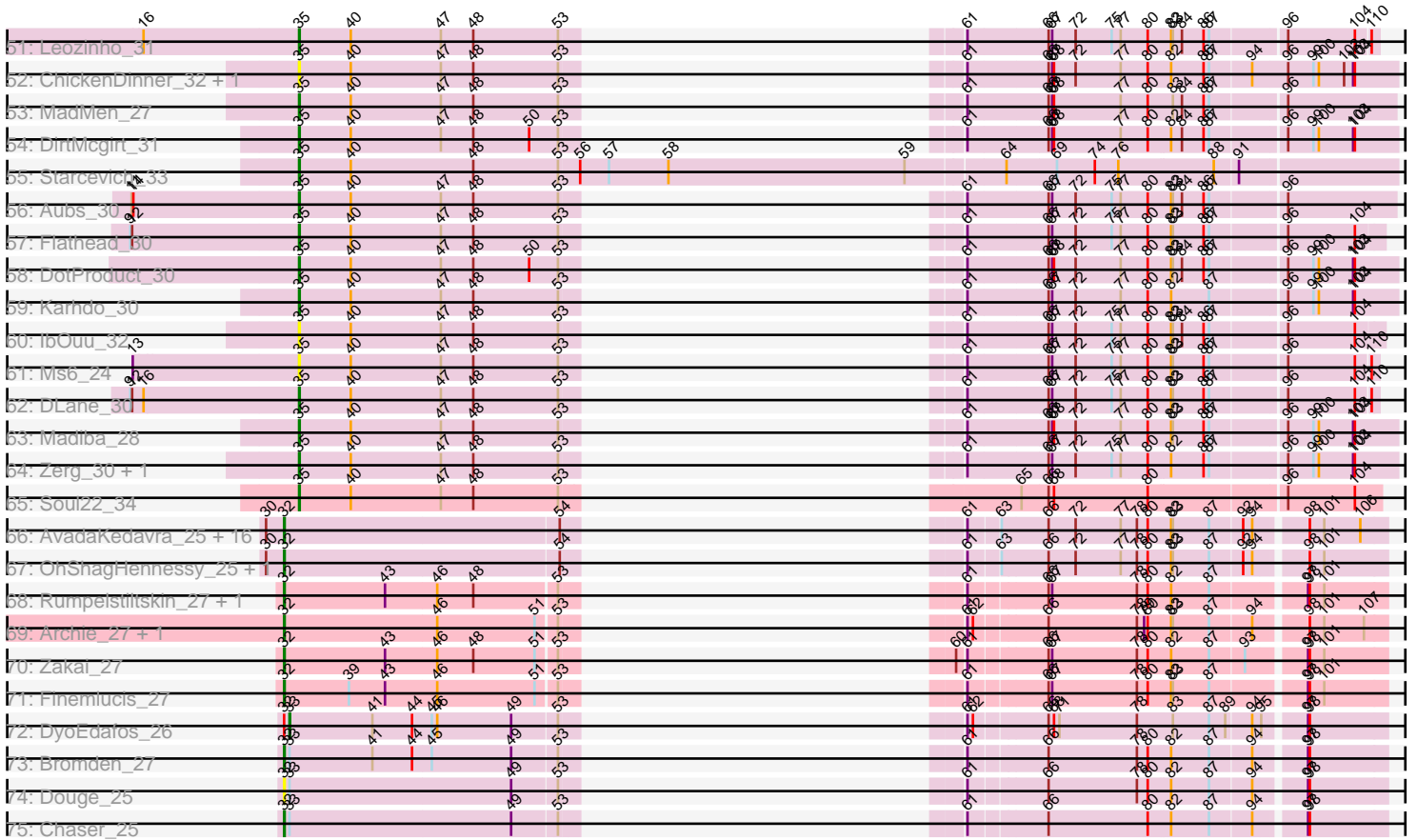


Pham 154505



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 154505 Report

This analysis was run 04/12/24 on database version 558.

Pham number 154505 has 177 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Nozo\_46, ChaChing\_46
- Track 2 : Halfpint\_45, Kamiyu\_46
- Track 3 : Yahalom\_46, Chandler\_46, Daisy\_46, Deenasa\_46, RomaT\_46, Phlyer\_46, Yinz\_46, Corofin\_46, Akoma\_46, Heathcliff\_46, SynergyX\_46, RagingRooster\_46, Tydolla\_46, Kronus\_45
- Track 4 : MmasiCarm\_46, Phayeta\_47, Mortcellus\_45, Devonte\_46, Casbah\_45, Rita1961\_46, Obutu\_46, Gervas\_46, LestyG\_46, Ben11\_45, Marley1013\_46, SlippinJimmy\_46
- Track 5 : Pipefish\_48
- Track 6 : Briakila\_47, Gadget\_47, Neos5\_46, OrangeOswald\_46, Athena\_47, Jackstina\_43, HarveySr\_46, Philly\_45, Compostia\_47
- Track 7 : Abinghost\_46, Baloo\_46, Audrey\_46
- Track 8 : Bernardo\_47
- Track 9 : Phaedrus\_44
- Track 10 : GlenHope\_47
- Track 11 : Morty007\_46
- Track 12 : Shauna1\_27, MilleniumForce\_31, Phanphagia\_27, Taj\_30, Wee\_31, Kenuha5\_27, DeadP\_30, Ardmore\_29
- Track 13 : Fruitloop\_29, Filuzino\_30, Batiatus\_30, Melissauren88\_30
- Track 14 : Veteran\_30, GigiOuiOui\_30, Phasih\_31, GUmbie\_30, Mantra\_30
- Track 15 : Chevrolet\_29, ArcusAngelus\_30
- Track 16 : Daenerys\_30, JoeyJr\_30, Scottish\_31, Doomphist\_30, Poenanya\_30
- Track 17 : Bobi\_32
- Track 18 : Hegedechwinu\_31, Juice456\_31
- Track 19 : Akhila\_24, MilanaBonita\_24
- Track 20 : Eish\_30
- Track 21 : Piper2020\_32
- Track 22 : Florinda\_30, Quico\_31, Girafales\_31
- Track 23 : Awesomesauce\_31, Misha28\_31, TootsiePop\_31
- Track 24 : StAnnes\_28
- Track 25 : ShroomBoi\_27, Mova\_31
- Track 26 : Hlubikazi\_30, Mandlovu\_30, Strokeseat\_30
- Track 27 : Rockne\_30, Phatniss\_31, PMC\_30, UncleRicky\_33, Llij\_30, Drago\_31
- Track 28 : Bipolar\_27
- Track 29 : Coco12\_29, JalFarm20\_32
- Track 30 : Fancypants\_30
- Track 31 : Ogopogo\_30

- Track 32 : DaWorst\_32
- Track 33 : Brocalys\_25, Pippy\_24
- Track 34 : Tweety\_30
- Track 35 : Seabastian\_30, OfUltron\_30, Llama\_30, Jinglebell\_30, Modragons\_30, Oksu\_31, AlpineSix\_31
- Track 36 : Kingsley\_28
- Track 37 : BlueCrab\_30, Nimbo\_30
- Track 38 : OwlsT2W\_31
- Track 39 : QuickMath\_31, Kimberlium\_32
- Track 40 : Latretium\_31
- Track 41 : Donkeykong\_30
- Track 42 : Crumble\_24
- Track 43 : Hamulus\_30
- Track 44 : Ibhubesi\_30, Harley\_30
- Track 45 : Geralt\_30, Deb65\_30
- Track 46 : Juniper1\_30
- Track 47 : Ochi17\_28
- Track 48 : KingMidas\_31
- Track 49 : PHappiness\_30
- Track 50 : Kersh\_29
- Track 51 : Leozinho\_31
- Track 52 : ChickenDinner\_32, DocMcStuffins\_31
- Track 53 : MadMen\_27
- Track 54 : DirtMcgirt\_31
- Track 55 : Starcevich\_33
- Track 56 : Aubs\_30
- Track 57 : Flathead\_30
- Track 58 : DotProduct\_30
- Track 59 : Karhdo\_30
- Track 60 : IbOuu\_32
- Track 61 : Ms6\_24
- Track 62 : DLane\_30
- Track 63 : Madiba\_28
- Track 64 : Zerg\_30, RockyHorror\_31
- Track 65 : Soul22\_34
- Track 66 : AvadaKedavra\_25, Calm\_25, Tyson\_25, CicholasNage\_25, Halena\_25, Wyatt2\_25, Wamburggrxpress\_25, MAckerman\_25, Zaria\_25, Acquire49\_25, Appletree2\_25, UPIE\_25, Enceladus\_25, DirkDirk\_25, Rose5\_25, Silverleaf\_25, LeBron\_25
- Track 67 : OhShagHennessy\_25, JoeDirt\_25
- Track 68 : Rumpelstiltskin\_27, Gabriela\_27
- Track 69 : Archie\_27, Bazzle\_27
- Track 70 : Zakai\_27
- Track 71 : Finemlucis\_27
- Track 72 : DyoEdafos\_26
- Track 73 : Bromden\_27
- Track 74 : Douge\_25
- Track 75 : Chaser\_25

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

The start number called the most often in the published annotations is 35, it was called in 90 of the 161 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila\_24, AlpineSix\_31, ArcusAngelus\_30, Ardmore\_29, Aubs\_30, Awesomesauce\_31, Batiatus\_30, Bipolar\_27, BlueCrab\_30, Bobi\_32, Brocalys\_25, Chevrolet\_29, ChickenDinner\_32, Coco12\_29, Crumble\_24, DLane\_30, DaWorst\_32, Daenerys\_30, DeadP\_30, Deb65\_30, DirtMcgirt\_31, DocMcStuffins\_31, Donkeykong\_30, Doomphist\_30, DotProduct\_30, Drago\_31, Eish\_30, Fancypants\_30, Filuzino\_30, Flathead\_30, Florinda\_30, Fruitloop\_29, GUmbie\_30, Geralt\_30, GigiOuiOui\_30, Girafales\_31, Hamulus\_30, Harley\_30, Hegedechwinu\_31, Hlubikazi\_30, IbOuu\_32, Ibhubesi\_30, JalFarm20\_32, Jinglebell\_30, JoeyJr\_30, Juice456\_31, Juniper1\_30, Karhdo\_30, Kenuha5\_27, Kersh\_29, Kimberlium\_32, KingMidas\_31, Kingsley\_28, Latretium\_31, Leozinho\_31, Llama\_30, Llij\_30, MadMen\_27, Madiba\_28, Mandlovu\_30, Mantra\_30, Melissauren88\_30, MilanaBonita\_24, MilleniumForce\_31, Misha28\_31, Modragons\_30, Mova\_31, Ms6\_24, Nimbo\_30, Ochi17\_28, OfUltron\_30, Ogopogo\_30, Oksu\_31, OwlsT2W\_31, PHappiness\_30, PMC\_30, Phanphagia\_27, Phasih\_31, Phatniss\_31, Piper2020\_32, Pippy\_24, Poenanya\_30, QuickMath\_31, Quico\_31, Rockne\_30, RockyHorror\_31, Scottish\_31, Seabastian\_30, Shauna1\_27, ShroomBoi\_27, Soul22\_34, StAnnes\_28, Starceвич\_33, Strokeseat\_30, Taj\_30, TootsiePop\_31, Tweety\_30, UncleRicky\_33, Veteran\_30, Wee\_31, Zerg\_30,

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

- 

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

- Abinghost\_46, Acquire49\_25, Akoma\_46, Appletree2\_25, Archie\_27, Athena\_47, Audrey\_46, AvadaKedavra\_25, Baloo\_46, Bazzle\_27, Ben11\_45, Bernardo\_47, Briakila\_47, Bromden\_27, Calm\_25, Casbah\_45, ChaChing\_46, Chandler\_46, Chaser\_25, CicholasNage\_25, Compostia\_47, Corofin\_46, Daisy\_46, Deenasa\_46, Devonte\_46, DirkDirk\_25, Douge\_25, DyoEdafos\_26, Enceladus\_25, Finemlucis\_27, Gabriela\_27, Gadget\_47, Gervas\_46, GlenHope\_47, Halena\_25, Halfpint\_45, HarveySr\_46, Heathcliff\_46, Jackstina\_43, JoeDirt\_25, Kamiyu\_46, Kronus\_45, LeBron\_25, LestyG\_46, MAckerman\_25, Marley1013\_46, MmasiCarm\_46, Mortcellus\_45, Morty007\_46, Neos5\_46, Nozo\_46, Obutu\_46, OhShagHennessy\_25, OrangeOswald\_46, Phaedrus\_44, Phayeta\_47, Philly\_45, Phlyer\_46, Pipefish\_48, RagingRooster\_46, Rita1961\_46, RomaT\_46, Rose5\_25, Rumpelstiltskin\_27, Silverleaf\_25, SlippinJimmy\_46, SynergyX\_46, Tydolla\_46, Tyson\_25, UPIE\_25, Wamburgxpress\_25, Wyatt2\_25, Yahalom\_46, Yinz\_46, Zakai\_27, Zaria\_25,

### Summary by start number:

Start 22:

- Found in 15 of 177 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 1 of 161
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Bernardo\_47 (B3),

Start 24:

- Found in 2 of 177 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 161

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Halfpint\_45 (B3), Kamiyu\_46 (B3),

#### Start 27:

- Found in 27 of 177 ( 15.3% ) of genes in pham
- Manual Annotations of this start: 10 of 161
- Called 37.0% of time when present
- Phage (with cluster) where this start called: Athena\_47 (B3), Briakila\_47 (B3), Compostia\_47 (B3), Gadget\_47 (B3), GlenHope\_47 (B3), HarveySr\_46 (B3), Jackstina\_43 (B3), Neos5\_46 (B3), OrangeOswald\_46 (B3), Philly\_45 (B3),

#### Start 29:

- Found in 27 of 177 ( 15.3% ) of genes in pham
- Manual Annotations of this start: 14 of 161
- Called 51.9% of time when present
- Phage (with cluster) where this start called: Akoma\_46 (B3), Chandler\_46 (B3), Corofin\_46 (B3), Daisy\_46 (B3), Deenasa\_46 (B3), Heathcliff\_46 (B3), Kronus\_45 (B3), Phlyer\_46 (B3), RagingRooster\_46 (B3), RomaT\_46 (B3), SynergyX\_46 (B3), Tydolla\_46 (B3), Yahalom\_46 (B3), Yinz\_46 (B3),

#### Start 31:

- Found in 47 of 177 ( 26.6% ) of genes in pham
- Manual Annotations of this start: 16 of 161
- Called 38.3% of time when present
- Phage (with cluster) where this start called: Abinghost\_46 (B3), Audrey\_46 (B3), Baloo\_46 (B3), Ben11\_45 (B3), Casbah\_45 (B3), ChaChing\_46 (B3), Devonte\_46 (B3), Gervas\_46 (B3), LestyG\_46 (B3), Marley1013\_46 (B3), MmasiCarm\_46 (B3), Mortcellus\_45 (B3), Nozo\_46 (B3), Obutu\_46 (B3), Phayeta\_47 (B3), Pipefish\_48 (B3), Rita1961\_46 (B3), SlippinJimmy\_46 (B3),

#### Start 32:

- Found in 29 of 177 ( 16.4% ) of genes in pham
- Manual Annotations of this start: 26 of 161
- Called 96.6% of time when present
- Phage (with cluster) where this start called: Acquire49\_25 (L1), Appletree2\_25 (L1), Archie\_27 (L2), AvadaKedavra\_25 (L1), Bazzle\_27 (L2), Bromden\_27 (L4), Calm\_25 (L1), Chaser\_25 (L4), CicholasNage\_25 (L1), DirkDirk\_25 (L1), Douge\_25 (L4), Enceladus\_25 (L1), Finemlucis\_27 (L2), Gabriela\_27 (L2), Halena\_25 (L1), JoeDirt\_25 (L1), LeBron\_25 (L1), MAckerman\_25 (L1), OhShagHennessy\_25 (L1), Rose5\_25 (L1), Rumpelstiltskin\_27 (L2), Silverleaf\_25 (L1), Tyson\_25 (L1), UPIE\_25 (L1), Wamburgrxpress\_25 (L1), Wyatt2\_25 (L1), Zakai\_27 (L2), Zaria\_25 (L1),

#### Start 33:

- Found in 4 of 177 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 1 of 161
- Called 25.0% of time when present
- Phage (with cluster) where this start called: DyoEdafos\_26 (L4),

#### Start 34:

- Found in 47 of 177 ( 26.6% ) of genes in pham
- Manual Annotations of this start: 1 of 161
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Morty007\_46 (B3),

Start 35:

- Found in 101 of 177 ( 57.1% ) of genes in pham
- Manual Annotations of this start: 90 of 161
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akhila\_24 (F1), AlpineSix\_31 (F1), ArcusAngelus\_30 (F1), Ardmore\_29 (F1), Aubs\_30 (F1), Awesomesauce\_31 (F1), Batiatus\_30 (F1), Bipolar\_27 (F1), BlueCrab\_30 (F1), Bobi\_32 (F1), Brocalys\_25 (F1), Chevrolet\_29 (F1), ChickenDinner\_32 (F1), Coco12\_29 (F1), Crumble\_24 (F1), DLane\_30 (F1), DaWorst\_32 (F1), Daenerys\_30 (F1), DeadP\_30 (F1), Deb65\_30 (F1), DirtMcgirt\_31 (F1), DocMcStuffins\_31 (F1), Donkeykong\_30 (F1), Doomphist\_30 (F1), DotProduct\_30 (F1), Drago\_31 (F1), Eish\_30 (F1), Fancypants\_30 (F1), Filuzino\_30 (F1), Flathead\_30 (F1), Florinda\_30 (F1), Fruitloop\_29 (F1), GUmbie\_30 (F1), Geralt\_30 (F1), GigiOuiOui\_30 (F1), Girafales\_31 (F1), Hamulus\_30 (F1), Harley\_30 (F1), Hegedechwinu\_31 (F1), Hlubikazi\_30 (F1), IbOuu\_32 (F1), Ibhubes\_i\_30 (F1), JalFarm20\_32 (F1), Jinglebell\_30 (F1), JoeyJr\_30 (F1), Juice456\_31 (F1), Juniper1\_30 (F1), Karhdo\_30 (F1), Kenuha5\_27 (F1), Kersh\_29 (F1), Kimberlium\_32 (F1), KingMidas\_31 (F1), Kingsley\_28 (F1), Latretium\_31 (F1), Leozinho\_31 (F1), Llama\_30 (F1), Llij\_30 (F1), MadMen\_27 (F1), Madiba\_28 (F1), Mandlovu\_30 (F1), Mantra\_30 (F1), Melissauren88\_30 (F1), MilanaBonita\_24 (F1), MilleniumForce\_31 (F1), Misha28\_31 (F1), Modragons\_30 (F1), Mova\_31 (F1), Ms6\_24 (F1), Nimbo\_30 (F1), Ochi17\_28 (F1), OfUltron\_30 (F1), Ogopogo\_30 (F1), Oksu\_31 (F1), OwlsT2W\_31 (F1), PHappiness\_30 (F1), PMC\_30 (F1), Phanphagia\_27 (F1), Phasih\_31 (F1), Phatniss\_31 (F1), Piper2020\_32 (F1), Pippy\_24 (F1), Poenanya\_30 (F1), QuickMath\_31 (F1), Quico\_31 (F1), Rockne\_30 (F1), RockyHorror\_31 (F1), Scottish\_31 (F1), Seabastian\_30 (F1), Shauna1\_27 (F1), ShroomBoi\_27 (F1), Soul22\_34 (F2), StAnnes\_28 (F1), Starceвич\_33 (F1), Strokeseat\_30 (F1), Taj\_30 (F1), TootsiePop\_31 (F1), Tweety\_30 (F1), UncleRicky\_33 (F1), Veteran\_30 (F1), Wee\_31 (F1), Zerg\_30 (F1),

Start 42:

- Found in 47 of 177 ( 26.6% ) of genes in pham
- Manual Annotations of this start: 1 of 161
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Phaedrus\_44 (B3),

**Summary by clusters:**

There are 6 clusters represented in this pham: F1, F2, B3, L4, L2, L1,

Info for manual annotations of cluster B3:

- Start number 22 was manually annotated 1 time for cluster B3.
- Start number 24 was manually annotated 1 time for cluster B3.
- Start number 27 was manually annotated 10 times for cluster B3.
- Start number 29 was manually annotated 14 times for cluster B3.
- Start number 31 was manually annotated 16 times for cluster B3.
- Start number 34 was manually annotated 1 time for cluster B3.
- Start number 42 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster F1:

- Start number 35 was manually annotated 89 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 35 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster L1:

- Start number 32 was manually annotated 18 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 32 was manually annotated 6 times for cluster L2.

Info for manual annotations of cluster L4:

- Start number 32 was manually annotated 2 times for cluster L4.
- Start number 33 was manually annotated 1 time for cluster L4.

### **Gene Information:**

Gene: Abinghost\_46 Start: 40308, Stop: 41531, Start Num: 31

Candidate Starts for Abinghost\_46:

(Start: 31 @40308 has 16 MA's), (Start: 34 @40329 has 1 MA's), (36, 40356), (37, 40371), (38, 40413), (Start: 42 @40464 has 1 MA's), (45, 40554), (47, 40569), (49, 40683), (55, 40785), (65, 40947), (66, 40992), (67, 40998), (68, 41001), (70, 41007), (72, 41037), (78, 41139), (82, 41196), (86, 41247), (89, 41283), (90, 41295), (94, 41328), (95, 41343), (105, 41493),

Gene: Acquire49\_25 Start: 24375, Stop: 25547, Start Num: 32

Candidate Starts for Acquire49\_25:

(30, 24345), (Start: 32 @24375 has 26 MA's), (54, 24822), (61, 24900), (63, 24945), (66, 25020), (72, 25065), (77, 25140), (78, 25167), (80, 25185), (82, 25221), (83, 25224), (87, 25284), (92, 25335), (94, 25350), (98, 25419), (101, 25443), (106, 25503),

Gene: Akhila\_24 Start: 22445, Stop: 23599, Start Num: 35

Candidate Starts for Akhila\_24:

(Start: 35 @22445 has 90 MA's), (40, 22529), (47, 22679), (48, 22733), (53, 22874), (61, 22955), (66, 23081), (67, 23087), (72, 23126), (75, 23186), (77, 23201), (80, 23243), (82, 23279), (83, 23282), (86, 23333), (87, 23342), (96, 23456), (104, 23567), (110, 23588),

Gene: Akoma\_46 Start: 40271, Stop: 41536, Start Num: 29

Candidate Starts for Akoma\_46:

(26, 40241), (Start: 27 @40259 has 10 MA's), (28, 40262), (Start: 29 @40271 has 14 MA's), (Start: 31 @40313 has 16 MA's), (Start: 34 @40334 has 1 MA's), (36, 40361), (37, 40376), (38, 40418), (Start: 42 @40469 has 1 MA's), (45, 40559), (47, 40574), (49, 40688), (55, 40790), (65, 40952), (66, 40997), (67, 41003), (68, 41006), (70, 41012), (72, 41042), (78, 41144), (82, 41201), (86, 41252), (89, 41288), (90, 41300), (94, 41333), (95, 41348), (105, 41498),

Gene: AlpineSix\_31 Start: 26536, Stop: 27729, Start Num: 35

Candidate Starts for AlpineSix\_31:

(Start: 35 @26536 has 90 MA's), (40, 26620), (47, 26770), (48, 26824), (53, 26965), (61, 27046), (66, 27172), (75, 27277), (77, 27292), (80, 27334), (82, 27370), (83, 27373), (86, 27424), (87, 27433), (96, 27547), (99, 27589), (100, 27598), (103, 27655), (104, 27658),

Gene: Appletree2\_25 Start: 24318, Stop: 25490, Start Num: 32

Candidate Starts for Appletree2\_25:



(30, 24288), (Start: 32 @24318 has 26 MA's), (54, 24765), (61, 24843), (63, 24888), (66, 24963), (72, 25008), (77, 25083), (78, 25110), (80, 25128), (82, 25164), (83, 25167), (87, 25227), (92, 25278), (94, 25293), (98, 25362), (101, 25386), (106, 25446),

Gene: Archie\_27 Start: 25565, Stop: 26734, Start Num: 32

Candidate Starts for Archie\_27:

(Start: 32 @25565 has 26 MA's), (46, 25817), (51, 25979), (53, 26006), (61, 26087), (62, 26096), (66, 26207), (78, 26354), (79, 26366), (80, 26372), (82, 26408), (83, 26411), (87, 26471), (94, 26537), (98, 26606), (101, 26630), (107, 26696),

Gene: ArcusAngelus\_30 Start: 26307, Stop: 27473, Start Num: 35

Candidate Starts for ArcusAngelus\_30:

(Start: 35 @26307 has 90 MA's), (40, 26391), (47, 26541), (48, 26595), (53, 26736), (61, 26817), (66, 26943), (67, 26949), (72, 26988), (77, 27063), (80, 27105), (82, 27141), (83, 27144), (86, 27195), (87, 27204), (96, 27318),

Gene: Ardmore\_29 Start: 26362, Stop: 27516, Start Num: 35

Candidate Starts for Ardmore\_29:

(9, 26089), (16, 26110), (Start: 35 @26362 has 90 MA's), (40, 26446), (47, 26596), (48, 26650), (53, 26791), (61, 26872), (66, 26998), (67, 27004), (72, 27043), (75, 27103), (77, 27118), (80, 27160), (82, 27196), (83, 27199), (86, 27250), (87, 27259), (96, 27373), (104, 27484), (110, 27505),

Gene: Athena\_47 Start: 41006, Stop: 42283, Start Num: 27

Candidate Starts for Athena\_47:

(26, 40988), (Start: 27 @41006 has 10 MA's), (28, 41009), (Start: 29 @41018 has 14 MA's), (Start: 31 @41060 has 16 MA's), (Start: 34 @41081 has 1 MA's), (36, 41108), (37, 41123), (38, 41165), (Start: 42 @41216 has 1 MA's), (45, 41306), (47, 41321), (49, 41435), (55, 41537), (65, 41699), (66, 41744), (67, 41750), (68, 41753), (70, 41759), (72, 41789), (78, 41891), (82, 41948), (86, 41999), (89, 42035), (90, 42047), (94, 42080), (95, 42095), (105, 42245),

Gene: Aubs\_30 Start: 26472, Stop: 27662, Start Num: 35

Candidate Starts for Aubs\_30:

(11, 26199), (14, 26202), (Start: 35 @26472 has 90 MA's), (40, 26556), (47, 26706), (48, 26760), (53, 26901), (61, 26982), (66, 27108), (67, 27114), (72, 27153), (75, 27213), (77, 27228), (80, 27270), (82, 27306), (83, 27309), (84, 27324), (86, 27360), (87, 27369), (96, 27483),

Gene: Audrey\_46 Start: 40308, Stop: 41531, Start Num: 31

Candidate Starts for Audrey\_46:

(Start: 31 @40308 has 16 MA's), (Start: 34 @40329 has 1 MA's), (36, 40356), (37, 40371), (38, 40413), (Start: 42 @40464 has 1 MA's), (45, 40554), (47, 40569), (49, 40683), (55, 40785), (65, 40947), (66, 40992), (67, 40998), (68, 41001), (70, 41007), (72, 41037), (78, 41139), (82, 41196), (86, 41247), (89, 41283), (90, 41295), (94, 41328), (95, 41343), (105, 41493),

Gene: AvadaKedavra\_25 Start: 24385, Stop: 25557, Start Num: 32

Candidate Starts for AvadaKedavra\_25:

(30, 24355), (Start: 32 @24385 has 26 MA's), (54, 24832), (61, 24910), (63, 24955), (66, 25030), (72, 25075), (77, 25150), (78, 25177), (80, 25195), (82, 25231), (83, 25234), (87, 25294), (92, 25345), (94, 25360), (98, 25429), (101, 25453), (106, 25513),

Gene: Awesomesauce\_31 Start: 26200, Stop: 27402, Start Num: 35

Candidate Starts for Awesomesauce\_31:

(Start: 35 @26200 has 90 MA's), (40, 26284), (47, 26434), (48, 26488), (53, 26629), (61, 26710), (66, 26836), (67, 26842), (68, 26845), (72, 26881), (77, 26956), (80, 26998), (82, 27034), (86, 27088), (87,

27097), (94, 27163), (96, 27220), (99, 27262), (100, 27271), (102, 27313), (103, 27328), (104, 27331),

Gene: Baloo\_46 Start: 40311, Stop: 41534, Start Num: 31

Candidate Starts for Baloo\_46:

(Start: 31 @40311 has 16 MA's), (Start: 34 @40332 has 1 MA's), (36, 40359), (37, 40374), (38, 40416), (Start: 42 @40467 has 1 MA's), (45, 40557), (47, 40572), (49, 40686), (55, 40788), (65, 40950), (66, 40995), (67, 41001), (68, 41004), (70, 41010), (72, 41040), (78, 41142), (82, 41199), (86, 41250), (89, 41286), (90, 41298), (94, 41331), (95, 41346), (105, 41496),

Gene: Batiatus\_30 Start: 26355, Stop: 27509, Start Num: 35

Candidate Starts for Batiatus\_30:

(9, 26082), (12, 26085), (Start: 35 @26355 has 90 MA's), (40, 26439), (47, 26589), (48, 26643), (53, 26784), (61, 26865), (66, 26991), (67, 26997), (72, 27036), (75, 27096), (77, 27111), (80, 27153), (82, 27189), (83, 27192), (86, 27243), (87, 27252), (96, 27366), (104, 27477), (110, 27498),

Gene: Bazzle\_27 Start: 25314, Stop: 26483, Start Num: 32

Candidate Starts for Bazzle\_27:

(Start: 32 @25314 has 26 MA's), (46, 25566), (51, 25728), (53, 25755), (61, 25836), (62, 25845), (66, 25956), (78, 26103), (79, 26115), (80, 26121), (82, 26157), (83, 26160), (87, 26220), (94, 26286), (98, 26355), (101, 26379), (107, 26445),

Gene: Ben11\_45 Start: 40131, Stop: 41354, Start Num: 31

Candidate Starts for Ben11\_45:

(Start: 22 @40017 has 1 MA's), (23, 40020), (Start: 31 @40131 has 16 MA's), (Start: 34 @40152 has 1 MA's), (36, 40179), (37, 40194), (38, 40236), (Start: 42 @40287 has 1 MA's), (45, 40377), (47, 40392), (49, 40506), (55, 40608), (65, 40770), (66, 40815), (67, 40821), (68, 40824), (70, 40830), (72, 40860), (78, 40962), (82, 41019), (86, 41070), (89, 41106), (90, 41118), (94, 41151), (95, 41166), (105, 41316),

Gene: Bernardo\_47 Start: 40743, Stop: 42080, Start Num: 22

Candidate Starts for Bernardo\_47:

(Start: 22 @40743 has 1 MA's), (23, 40746), (Start: 31 @40857 has 16 MA's), (Start: 34 @40878 has 1 MA's), (36, 40905), (37, 40920), (38, 40962), (Start: 42 @41013 has 1 MA's), (45, 41103), (47, 41118), (49, 41232), (55, 41334), (65, 41496), (66, 41541), (67, 41547), (70, 41556), (72, 41586), (78, 41688), (82, 41745), (86, 41796), (89, 41832), (90, 41844), (94, 41877), (95, 41892), (105, 42042),

Gene: Bipolar\_27 Start: 25385, Stop: 26593, Start Num: 35

Candidate Starts for Bipolar\_27:

(Start: 35 @25385 has 90 MA's), (40, 25469), (47, 25619), (48, 25673), (53, 25814), (65, 25991), (66, 26033), (68, 26042), (78, 26180), (96, 26411), (99, 26453), (100, 26462), (103, 26519), (104, 26522), (111, 26576),

Gene: BlueCrab\_30 Start: 26494, Stop: 27687, Start Num: 35

Candidate Starts for BlueCrab\_30:

(Start: 35 @26494 has 90 MA's), (40, 26578), (47, 26728), (48, 26782), (53, 26923), (61, 27004), (66, 27130), (72, 27175), (77, 27250), (80, 27292), (82, 27328), (83, 27331), (86, 27382), (87, 27391), (96, 27505), (99, 27547), (100, 27556), (103, 27613), (104, 27616),

Gene: Bobi\_32 Start: 27069, Stop: 28223, Start Num: 35

Candidate Starts for Bobi\_32:

(1, 26622), (16, 26817), (Start: 35 @27069 has 90 MA's), (40, 27153), (47, 27303), (48, 27357), (53, 27498), (61, 27579), (66, 27705), (67, 27711), (72, 27750), (75, 27810), (77, 27825), (80, 27867), (82, 27903), (83, 27906), (86, 27957), (87, 27966), (96, 28080), (104, 28191), (110, 28212),

Gene: Briakila\_47 Start: 41025, Stop: 42302, Start Num: 27

Candidate Starts for Briakila\_47:

(26, 41007), (Start: 27 @41025 has 10 MA's), (28, 41028), (Start: 29 @41037 has 14 MA's), (Start: 31 @41079 has 16 MA's), (Start: 34 @41100 has 1 MA's), (36, 41127), (37, 41142), (38, 41184), (Start: 42 @41235 has 1 MA's), (45, 41325), (47, 41340), (49, 41454), (55, 41556), (65, 41718), (66, 41763), (67, 41769), (68, 41772), (70, 41778), (72, 41808), (78, 41910), (82, 41967), (86, 42018), (89, 42054), (90, 42066), (94, 42099), (95, 42114), (105, 42264),

Gene: Brocalys\_25 Start: 22152, Stop: 23312, Start Num: 35

Candidate Starts for Brocalys\_25:

(12, 21882), (Start: 35 @22152 has 90 MA's), (40, 22236), (47, 22386), (48, 22440), (50, 22533), (52, 22563), (54, 22584), (61, 22662), (66, 22788), (67, 22794), (77, 22908), (80, 22950), (81, 22983), (83, 22989), (87, 23049),

Gene: Bromden\_27 Start: 24744, Stop: 25913, Start Num: 32

Candidate Starts for Bromden\_27:

(Start: 32 @24744 has 26 MA's), (Start: 33 @24753 has 1 MA's), (41, 24888), (44, 24954), (45, 24984), (49, 25116), (53, 25185), (61, 25266), (66, 25386), (78, 25533), (80, 25551), (82, 25587), (87, 25650), (94, 25716), (97, 25782), (98, 25785),

Gene: Calm\_25 Start: 24389, Stop: 25561, Start Num: 32

Candidate Starts for Calm\_25:

(30, 24359), (Start: 32 @24389 has 26 MA's), (54, 24836), (61, 24914), (63, 24959), (66, 25034), (72, 25079), (77, 25154), (78, 25181), (80, 25199), (82, 25235), (83, 25238), (87, 25298), (92, 25349), (94, 25364), (98, 25433), (101, 25457), (106, 25517),

Gene: Casbah\_45 Start: 40161, Stop: 41384, Start Num: 31

Candidate Starts for Casbah\_45:

(Start: 22 @40047 has 1 MA's), (23, 40050), (Start: 31 @40161 has 16 MA's), (Start: 34 @40182 has 1 MA's), (36, 40209), (37, 40224), (38, 40266), (Start: 42 @40317 has 1 MA's), (45, 40407), (47, 40422), (49, 40536), (55, 40638), (65, 40800), (66, 40845), (67, 40851), (68, 40854), (70, 40860), (72, 40890), (78, 40992), (82, 41049), (86, 41100), (89, 41136), (90, 41148), (94, 41181), (95, 41196), (105, 41346),

Gene: ChaChing\_46 Start: 40324, Stop: 41547, Start Num: 31

Candidate Starts for ChaChing\_46:

(26, 40252), (Start: 27 @40270 has 10 MA's), (28, 40273), (Start: 29 @40282 has 14 MA's), (Start: 31 @40324 has 16 MA's), (Start: 34 @40345 has 1 MA's), (36, 40372), (37, 40387), (38, 40429), (Start: 42 @40480 has 1 MA's), (45, 40570), (47, 40585), (49, 40699), (55, 40801), (65, 40963), (66, 41008), (67, 41014), (68, 41017), (70, 41023), (72, 41053), (78, 41155), (82, 41212), (86, 41263), (89, 41299), (90, 41311), (94, 41344), (95, 41359), (105, 41509),

Gene: Chandler\_46 Start: 41050, Stop: 42315, Start Num: 29

Candidate Starts for Chandler\_46:

(26, 41020), (Start: 27 @41038 has 10 MA's), (28, 41041), (Start: 29 @41050 has 14 MA's), (Start: 31 @41092 has 16 MA's), (Start: 34 @41113 has 1 MA's), (36, 41140), (37, 41155), (38, 41197), (Start: 42 @41248 has 1 MA's), (45, 41338), (47, 41353), (49, 41467), (55, 41569), (65, 41731), (66, 41776), (67, 41782), (68, 41785), (70, 41791), (72, 41821), (78, 41923), (82, 41980), (86, 42031), (89, 42067), (90, 42079), (94, 42112), (95, 42127), (105, 42277),

Gene: Chaser\_25 Start: 24155, Stop: 25327, Start Num: 32

Candidate Starts for Chaser\_25:

(Start: 32 @24155 has 26 MA's), (Start: 33 @24164 has 1 MA's), (49, 24530), (53, 24599), (61, 24680), (66, 24800), (80, 24965), (82, 25001), (87, 25064), (94, 25130), (97, 25196), (98, 25199),

Gene: Chevrolet\_29 Start: 26308, Stop: 27474, Start Num: 35

Candidate Starts for Chevrolet\_29:

(Start: 35 @26308 has 90 MA's), (40, 26392), (47, 26542), (48, 26596), (53, 26737), (61, 26818), (66, 26944), (67, 26950), (72, 26989), (77, 27064), (80, 27106), (82, 27142), (83, 27145), (86, 27196), (87, 27205), (96, 27319),

Gene: ChickenDinner\_32 Start: 26938, Stop: 28140, Start Num: 35

Candidate Starts for ChickenDinner\_32:

(Start: 35 @26938 has 90 MA's), (40, 27022), (47, 27172), (48, 27226), (53, 27367), (61, 27448), (66, 27574), (67, 27580), (68, 27583), (72, 27619), (77, 27694), (80, 27736), (82, 27772), (86, 27826), (87, 27835), (94, 27901), (96, 27958), (99, 28000), (100, 28009), (102, 28051), (103, 28066), (104, 28069),

Gene: CicholasNage\_25 Start: 24377, Stop: 25549, Start Num: 32

Candidate Starts for CicholasNage\_25:

(30, 24347), (Start: 32 @24377 has 26 MA's), (54, 24824), (61, 24902), (63, 24947), (66, 25022), (72, 25067), (77, 25142), (78, 25169), (80, 25187), (82, 25223), (83, 25226), (87, 25286), (92, 25337), (94, 25352), (98, 25421), (101, 25445), (106, 25505),

Gene: Coco12\_29 Start: 25845, Stop: 27582, Start Num: 35

Candidate Starts for Coco12\_29:

(9, 25572), (16, 25593), (Start: 35 @25845 has 90 MA's), (40, 25929), (47, 26079), (48, 26133), (53, 26274), (56, 26307), (57, 26355), (58, 26454), (59, 26847), (64, 27000), (69, 27078), (74, 27141), (76, 27180), (85, 27312), (88, 27333), (91, 27369),

Gene: Compostia\_47 Start: 40686, Stop: 41963, Start Num: 27

Candidate Starts for Compostia\_47:

(26, 40668), (Start: 27 @40686 has 10 MA's), (28, 40689), (Start: 29 @40698 has 14 MA's), (Start: 31 @40740 has 16 MA's), (Start: 34 @40761 has 1 MA's), (36, 40788), (37, 40803), (38, 40845), (Start: 42 @40896 has 1 MA's), (45, 40986), (47, 41001), (49, 41115), (55, 41217), (65, 41379), (66, 41424), (67, 41430), (68, 41433), (70, 41439), (72, 41469), (78, 41571), (82, 41628), (86, 41679), (89, 41715), (90, 41727), (94, 41760), (95, 41775), (105, 41925),

Gene: Corofin\_46 Start: 40293, Stop: 41558, Start Num: 29

Candidate Starts for Corofin\_46:

(26, 40263), (Start: 27 @40281 has 10 MA's), (28, 40284), (Start: 29 @40293 has 14 MA's), (Start: 31 @40335 has 16 MA's), (Start: 34 @40356 has 1 MA's), (36, 40383), (37, 40398), (38, 40440), (Start: 42 @40491 has 1 MA's), (45, 40581), (47, 40596), (49, 40710), (55, 40812), (65, 40974), (66, 41019), (67, 41025), (68, 41028), (70, 41034), (72, 41064), (78, 41166), (82, 41223), (86, 41274), (89, 41310), (90, 41322), (94, 41355), (95, 41370), (105, 41520),

Gene: Crumble\_24 Start: 22512, Stop: 23705, Start Num: 35

Candidate Starts for Crumble\_24:

(12, 22242), (Start: 35 @22512 has 90 MA's), (40, 22596), (47, 22746), (48, 22800), (50, 22893), (52, 22923), (54, 22944), (61, 23022), (66, 23148), (67, 23154), (68, 23157), (77, 23268), (80, 23310), (82, 23346), (83, 23349), (86, 23400), (87, 23409), (96, 23523), (99, 23565), (100, 23574), (103, 23631), (104, 23634),

Gene: DLane\_30 Start: 26332, Stop: 27486, Start Num: 35

Candidate Starts for DLane\_30:

(9, 26059), (12, 26062), (16, 26080), (Start: 35 @26332 has 90 MA's), (40, 26416), (47, 26566), (48, 26620), (53, 26761), (61, 26842), (66, 26968), (67, 26974), (72, 27013), (75, 27073), (77, 27088), (80, 27130), (82, 27166), (83, 27169), (86, 27220), (87, 27229), (96, 27343), (104, 27454), (110, 27475),

Gene: DaWorst\_32 Start: 26862, Stop: 28055, Start Num: 35

Candidate Starts for DaWorst\_32:

(11, 26589), (17, 26610), (Start: 35 @26862 has 90 MA's), (40, 26946), (47, 27096), (48, 27150), (53, 27291), (61, 27372), (66, 27498), (67, 27504), (68, 27507), (72, 27543), (77, 27618), (80, 27660), (82, 27696), (87, 27759), (96, 27873), (99, 27915), (100, 27924), (103, 27981), (104, 27984),

Gene: Daenerys\_30 Start: 26326, Stop: 27519, Start Num: 35

Candidate Starts for Daenerys\_30:

(Start: 35 @26326 has 90 MA's), (40, 26410), (47, 26560), (48, 26614), (53, 26755), (61, 26836), (66, 26962), (67, 26968), (68, 26971), (77, 27082), (80, 27124), (82, 27160), (86, 27214), (87, 27223), (96, 27337), (99, 27379), (100, 27388), (103, 27445), (104, 27448),

Gene: Daisy\_46 Start: 40294, Stop: 41559, Start Num: 29

Candidate Starts for Daisy\_46:

(26, 40264), (Start: 27 @40282 has 10 MA's), (28, 40285), (Start: 29 @40294 has 14 MA's), (Start: 31 @40336 has 16 MA's), (Start: 34 @40357 has 1 MA's), (36, 40384), (37, 40399), (38, 40441), (Start: 42 @40492 has 1 MA's), (45, 40582), (47, 40597), (49, 40711), (55, 40813), (65, 40975), (66, 41020), (67, 41026), (68, 41029), (70, 41035), (72, 41065), (78, 41167), (82, 41224), (86, 41275), (89, 41311), (90, 41323), (94, 41356), (95, 41371), (105, 41521),

Gene: DeadP\_30 Start: 26529, Stop: 27683, Start Num: 35

Candidate Starts for DeadP\_30:

(9, 26256), (16, 26277), (Start: 35 @26529 has 90 MA's), (40, 26613), (47, 26763), (48, 26817), (53, 26958), (61, 27039), (66, 27165), (67, 27171), (72, 27210), (75, 27270), (77, 27285), (80, 27327), (82, 27363), (83, 27366), (86, 27417), (87, 27426), (96, 27540), (104, 27651), (110, 27672),

Gene: Deb65\_30 Start: 26328, Stop: 27521, Start Num: 35

Candidate Starts for Deb65\_30:

(17, 26076), (Start: 35 @26328 has 90 MA's), (40, 26412), (47, 26562), (48, 26616), (53, 26757), (61, 26838), (66, 26964), (72, 27009), (77, 27084), (80, 27126), (82, 27162), (83, 27165), (86, 27216), (87, 27225), (96, 27339), (99, 27381), (100, 27390), (103, 27447), (104, 27450),

Gene: Deenasa\_46 Start: 41029, Stop: 42294, Start Num: 29

Candidate Starts for Deenasa\_46:

(26, 40999), (Start: 27 @41017 has 10 MA's), (28, 41020), (Start: 29 @41029 has 14 MA's), (Start: 31 @41071 has 16 MA's), (Start: 34 @41092 has 1 MA's), (36, 41119), (37, 41134), (38, 41176), (Start: 42 @41227 has 1 MA's), (45, 41317), (47, 41332), (49, 41446), (55, 41548), (65, 41710), (66, 41755), (67, 41761), (68, 41764), (70, 41770), (72, 41800), (78, 41902), (82, 41959), (86, 42010), (89, 42046), (90, 42058), (94, 42091), (95, 42106), (105, 42256),

Gene: Devonte\_46 Start: 40300, Stop: 41523, Start Num: 31

Candidate Starts for Devonte\_46:

(Start: 22 @40186 has 1 MA's), (23, 40189), (Start: 31 @40300 has 16 MA's), (Start: 34 @40321 has 1 MA's), (36, 40348), (37, 40363), (38, 40405), (Start: 42 @40456 has 1 MA's), (45, 40546), (47, 40561), (49, 40675), (55, 40777), (65, 40939), (66, 40984), (67, 40990), (68, 40993), (70, 40999), (72, 41029), (78, 41131), (82, 41188), (86, 41239), (89, 41275), (90, 41287), (94, 41320), (95, 41335), (105, 41485),

Gene: DirkDirk\_25 Start: 24358, Stop: 25530, Start Num: 32

Candidate Starts for DirkDirk\_25:

(30, 24328), (Start: 32 @24358 has 26 MA's), (54, 24805), (61, 24883), (63, 24928), (66, 25003), (72, 25048), (77, 25123), (78, 25150), (80, 25168), (82, 25204), (83, 25207), (87, 25267), (92, 25318), (94, 25333), (98, 25402), (101, 25426), (106, 25486),

Gene: DirtMcgirt\_31 Start: 26149, Stop: 27342, Start Num: 35

Candidate Starts for DirtMcgirt\_31:

(Start: 35 @26149 has 90 MA's), (40, 26233), (47, 26383), (48, 26437), (50, 26530), (53, 26578), (61, 26659), (66, 26785), (67, 26791), (68, 26794), (77, 26905), (80, 26947), (82, 26983), (84, 27001), (86, 27037), (87, 27046), (96, 27160), (99, 27202), (100, 27211), (103, 27268), (104, 27271),

Gene: DocMcStuffins\_31 Start: 26938, Stop: 28140, Start Num: 35

Candidate Starts for DocMcStuffins\_31:

(Start: 35 @26938 has 90 MA's), (40, 27022), (47, 27172), (48, 27226), (53, 27367), (61, 27448), (66, 27574), (67, 27580), (68, 27583), (72, 27619), (77, 27694), (80, 27736), (82, 27772), (86, 27826), (87, 27835), (94, 27901), (96, 27958), (99, 28000), (100, 28009), (102, 28051), (103, 28066), (104, 28069),

Gene: Donkeykong\_30 Start: 26497, Stop: 27708, Start Num: 35

Candidate Starts for Donkeykong\_30:

(Start: 35 @26497 has 90 MA's), (40, 26581), (47, 26731), (48, 26785), (50, 26878), (53, 26926), (61, 27007), (66, 27133), (67, 27139), (72, 27178), (75, 27238), (77, 27253), (80, 27295), (82, 27331), (83, 27334), (84, 27349), (86, 27385), (87, 27394), (96, 27508), (104, 27619),

Gene: Doomphist\_30 Start: 26448, Stop: 27641, Start Num: 35

Candidate Starts for Doomphist\_30:

(Start: 35 @26448 has 90 MA's), (40, 26532), (47, 26682), (48, 26736), (53, 26877), (61, 26958), (66, 27084), (67, 27090), (68, 27093), (77, 27204), (80, 27246), (82, 27282), (86, 27336), (87, 27345), (96, 27459), (99, 27501), (100, 27510), (103, 27567), (104, 27570),

Gene: DotProduct\_30 Start: 26315, Stop: 27508, Start Num: 35

Candidate Starts for DotProduct\_30:

(Start: 35 @26315 has 90 MA's), (40, 26399), (47, 26549), (48, 26603), (50, 26696), (53, 26744), (61, 26825), (66, 26951), (67, 26957), (68, 26960), (72, 26996), (77, 27071), (80, 27113), (82, 27149), (83, 27152), (84, 27167), (86, 27203), (87, 27212), (96, 27326), (99, 27368), (100, 27377), (103, 27434), (104, 27437),

Gene: Douge\_25 Start: 24093, Stop: 25265, Start Num: 32

Candidate Starts for Douge\_25:

(Start: 32 @24093 has 26 MA's), (Start: 33 @24102 has 1 MA's), (49, 24468), (53, 24537), (61, 24618), (66, 24738), (78, 24885), (80, 24903), (82, 24939), (87, 25002), (94, 25068), (97, 25134), (98, 25137),

Gene: Drago\_31 Start: 26142, Stop: 27335, Start Num: 35

Candidate Starts for Drago\_31:

(Start: 35 @26142 has 90 MA's), (40, 26226), (47, 26376), (48, 26430), (53, 26571), (61, 26652), (66, 26778), (67, 26784), (77, 26898), (80, 26940), (82, 26976), (84, 26994), (86, 27030), (87, 27039), (96, 27153), (99, 27195), (100, 27204), (103, 27261), (104, 27264),

Gene: DyoEdafos\_26 Start: 24309, Stop: 25472, Start Num: 33

Candidate Starts for DyoEdafos\_26:

(Start: 32 @24300 has 26 MA's), (Start: 33 @24309 has 1 MA's), (41, 24444), (44, 24510), (45, 24540), (46, 24549), (49, 24672), (53, 24744), (61, 24825), (62, 24834), (66, 24945), (68, 24954), (71, 24963), (78, 25092), (83, 25149), (87, 25209), (89, 25236), (94, 25275), (95, 25287), (97, 25341), (98,

25344),

Gene: Eish\_30 Start: 26467, Stop: 27633, Start Num: 35

Candidate Starts for Eish\_30:

(9, 26194), (12, 26197), (Start: 35 @26467 has 90 MA's), (40, 26551), (47, 26701), (48, 26755), (53, 26896), (61, 26977), (66, 27103), (67, 27109), (72, 27148), (75, 27208), (77, 27223), (80, 27265), (82, 27301), (83, 27304), (86, 27355), (87, 27364), (96, 27478),

Gene: Enceladus\_25 Start: 24359, Stop: 25531, Start Num: 32

Candidate Starts for Enceladus\_25:

(30, 24329), (Start: 32 @24359 has 26 MA's), (54, 24806), (61, 24884), (63, 24929), (66, 25004), (72, 25049), (77, 25124), (78, 25151), (80, 25169), (82, 25205), (83, 25208), (87, 25268), (92, 25319), (94, 25334), (98, 25403), (101, 25427), (106, 25487),

Gene: Fancypants\_30 Start: 26335, Stop: 27528, Start Num: 35

Candidate Starts for Fancypants\_30:

(17, 26083), (Start: 35 @26335 has 90 MA's), (40, 26419), (47, 26569), (48, 26623), (53, 26764), (61, 26845), (66, 26971), (67, 26977), (72, 27016), (73, 27046), (77, 27091), (80, 27133), (82, 27169), (83, 27172), (86, 27223), (87, 27232), (96, 27346), (99, 27388), (100, 27397), (103, 27454), (104, 27457),

Gene: Filuzino\_30 Start: 26324, Stop: 27478, Start Num: 35

Candidate Starts for Filuzino\_30:

(9, 26051), (12, 26054), (Start: 35 @26324 has 90 MA's), (40, 26408), (47, 26558), (48, 26612), (53, 26753), (61, 26834), (66, 26960), (67, 26966), (72, 27005), (75, 27065), (77, 27080), (80, 27122), (82, 27158), (83, 27161), (86, 27212), (87, 27221), (96, 27335), (104, 27446), (110, 27467),

Gene: Finemlucis\_27 Start: 25356, Stop: 26525, Start Num: 32

Candidate Starts for Finemlucis\_27:

(Start: 32 @25356 has 26 MA's), (39, 25464), (43, 25524), (46, 25608), (51, 25770), (53, 25797), (61, 25878), (66, 25998), (67, 26004), (78, 26145), (80, 26163), (82, 26199), (83, 26202), (87, 26262), (97, 26394), (98, 26397), (101, 26421),

Gene: Flathead\_30 Start: 26362, Stop: 27528, Start Num: 35

Candidate Starts for Flathead\_30:

(9, 26089), (12, 26092), (Start: 35 @26362 has 90 MA's), (40, 26446), (47, 26596), (48, 26650), (53, 26791), (61, 26872), (66, 26998), (67, 27004), (72, 27043), (75, 27103), (77, 27118), (80, 27160), (82, 27196), (83, 27199), (86, 27250), (87, 27259), (96, 27373), (104, 27484),

Gene: Florinda\_30 Start: 26327, Stop: 27520, Start Num: 35

Candidate Starts for Florinda\_30:

(Start: 35 @26327 has 90 MA's), (40, 26411), (47, 26561), (48, 26615), (53, 26756), (61, 26837), (66, 26963), (67, 26969), (68, 26972), (77, 27083), (80, 27125), (82, 27161), (84, 27179), (86, 27215), (87, 27224), (96, 27338), (99, 27380), (100, 27389), (103, 27446), (104, 27449),

Gene: Fruitloop\_29 Start: 26518, Stop: 27672, Start Num: 35

Candidate Starts for Fruitloop\_29:

(9, 26245), (12, 26248), (Start: 35 @26518 has 90 MA's), (40, 26602), (47, 26752), (48, 26806), (53, 26947), (61, 27028), (66, 27154), (67, 27160), (72, 27199), (75, 27259), (77, 27274), (80, 27316), (82, 27352), (83, 27355), (86, 27406), (87, 27415), (96, 27529), (104, 27640), (110, 27661),

Gene: GUmbie\_30 Start: 26344, Stop: 27537, Start Num: 35

Candidate Starts for GUmbie\_30:

(Start: 35 @26344 has 90 MA's), (40, 26428), (47, 26578), (48, 26632), (53, 26773), (61, 26854), (66, 26980), (67, 26986), (68, 26989), (72, 27025), (77, 27100), (80, 27142), (82, 27178), (87, 27241), (96, 27355), (99, 27397), (100, 27406), (103, 27463), (104, 27466),

Gene: Gabriela\_27 Start: 25348, Stop: 26517, Start Num: 32

Candidate Starts for Gabriela\_27:

(Start: 32 @25348 has 26 MA's), (43, 25516), (46, 25600), (48, 25660), (53, 25789), (61, 25870), (66, 25990), (67, 25996), (78, 26137), (80, 26155), (82, 26191), (87, 26254), (97, 26386), (98, 26389), (101, 26413),

Gene: Gadjet\_47 Start: 40269, Stop: 41546, Start Num: 27

Candidate Starts for Gadjet\_47:

(26, 40251), (Start: 27 @40269 has 10 MA's), (28, 40272), (Start: 29 @40281 has 14 MA's), (Start: 31 @40323 has 16 MA's), (Start: 34 @40344 has 1 MA's), (36, 40371), (37, 40386), (38, 40428), (Start: 42 @40479 has 1 MA's), (45, 40569), (47, 40584), (49, 40698), (55, 40800), (65, 40962), (66, 41007), (67, 41013), (68, 41016), (70, 41022), (72, 41052), (78, 41154), (82, 41211), (86, 41262), (89, 41298), (90, 41310), (94, 41343), (95, 41358), (105, 41508),

Gene: Geralt\_30 Start: 26327, Stop: 27520, Start Num: 35

Candidate Starts for Geralt\_30:

(17, 26075), (Start: 35 @26327 has 90 MA's), (40, 26411), (47, 26561), (48, 26615), (53, 26756), (61, 26837), (66, 26963), (72, 27008), (77, 27083), (80, 27125), (82, 27161), (83, 27164), (86, 27215), (87, 27224), (96, 27338), (99, 27380), (100, 27389), (103, 27446), (104, 27449),

Gene: Gervas\_46 Start: 40290, Stop: 41513, Start Num: 31

Candidate Starts for Gervas\_46:

(Start: 22 @40176 has 1 MA's), (23, 40179), (Start: 31 @40290 has 16 MA's), (Start: 34 @40311 has 1 MA's), (36, 40338), (37, 40353), (38, 40395), (Start: 42 @40446 has 1 MA's), (45, 40536), (47, 40551), (49, 40665), (55, 40767), (65, 40929), (66, 40974), (67, 40980), (68, 40983), (70, 40989), (72, 41019), (78, 41121), (82, 41178), (86, 41229), (89, 41265), (90, 41277), (94, 41310), (95, 41325), (105, 41475),

Gene: GigiOuiOui\_30 Start: 26456, Stop: 27649, Start Num: 35

Candidate Starts for GigiOuiOui\_30:

(Start: 35 @26456 has 90 MA's), (40, 26540), (47, 26690), (48, 26744), (53, 26885), (61, 26966), (66, 27092), (67, 27098), (68, 27101), (72, 27137), (77, 27212), (80, 27254), (82, 27290), (87, 27353), (96, 27467), (99, 27509), (100, 27518), (103, 27575), (104, 27578),

Gene: Girafales\_31 Start: 26135, Stop: 27328, Start Num: 35

Candidate Starts for Girafales\_31:

(Start: 35 @26135 has 90 MA's), (40, 26219), (47, 26369), (48, 26423), (53, 26564), (61, 26645), (66, 26771), (67, 26777), (68, 26780), (77, 26891), (80, 26933), (82, 26969), (84, 26987), (86, 27023), (87, 27032), (96, 27146), (99, 27188), (100, 27197), (103, 27254), (104, 27257),

Gene: GlenHope\_47 Start: 40249, Stop: 41526, Start Num: 27

Candidate Starts for GlenHope\_47:

(26, 40231), (Start: 27 @40249 has 10 MA's), (28, 40252), (Start: 29 @40261 has 14 MA's), (Start: 31 @40303 has 16 MA's), (Start: 34 @40324 has 1 MA's), (36, 40351), (37, 40366), (38, 40408), (Start: 42 @40459 has 1 MA's), (45, 40549), (47, 40564), (49, 40678), (55, 40780), (65, 40942), (66, 40987), (67, 40993), (70, 41002), (72, 41032), (78, 41134), (82, 41191), (86, 41242), (89, 41278), (90, 41290), (94, 41323), (95, 41338), (105, 41488),

Gene: Halena\_25 Start: 24386, Stop: 25558, Start Num: 32



Candidate Starts for Halena\_25:

(30, 24356), (Start: 32 @24386 has 26 MA's), (54, 24833), (61, 24911), (63, 24956), (66, 25031), (72, 25076), (77, 25151), (78, 25178), (80, 25196), (82, 25232), (83, 25235), (87, 25295), (92, 25346), (94, 25361), (98, 25430), (101, 25454), (106, 25514),

Gene: Halfpint\_45 Start: 40023, Stop: 41351, Start Num: 24

Candidate Starts for Halfpint\_45:

(3, 39747), (5, 39768), (6, 39786), (8, 39792), (10, 39879), (18, 39927), (19, 39942), (20, 40002), (21, 40005), (Start: 24 @40023 has 1 MA's), (25, 40026), (Start: 31 @40128 has 16 MA's), (Start: 34 @40149 has 1 MA's), (36, 40176), (37, 40191), (38, 40233), (Start: 42 @40284 has 1 MA's), (45, 40374), (47, 40389), (49, 40503), (55, 40605), (65, 40767), (66, 40812), (67, 40818), (68, 40821), (70, 40827), (72, 40857), (78, 40959), (82, 41016), (86, 41067), (89, 41103), (90, 41115), (94, 41148), (95, 41163), (105, 41313),

Gene: Hamulus\_30 Start: 26480, Stop: 27646, Start Num: 35

Candidate Starts for Hamulus\_30:

(4, 26087), (Start: 35 @26480 has 90 MA's), (40, 26564), (47, 26714), (48, 26768), (53, 26909), (61, 26990), (66, 27116), (67, 27122), (68, 27125), (72, 27161), (73, 27191), (77, 27236), (80, 27278), (82, 27314), (83, 27317), (86, 27368), (87, 27377), (96, 27491), (104, 27602),

Gene: Harley\_30 Start: 26264, Stop: 27457, Start Num: 35

Candidate Starts for Harley\_30:

(Start: 35 @26264 has 90 MA's), (40, 26348), (47, 26498), (48, 26552), (53, 26693), (61, 26774), (66, 26900), (67, 26906), (72, 26945), (77, 27020), (80, 27062), (82, 27098), (83, 27101), (86, 27152), (87, 27161), (96, 27275), (99, 27317), (100, 27326), (103, 27383), (104, 27386),

Gene: HarveySr\_46 Start: 40242, Stop: 41519, Start Num: 27

Candidate Starts for HarveySr\_46:

(26, 40224), (Start: 27 @40242 has 10 MA's), (28, 40245), (Start: 29 @40254 has 14 MA's), (Start: 31 @40296 has 16 MA's), (Start: 34 @40317 has 1 MA's), (36, 40344), (37, 40359), (38, 40401), (Start: 42 @40452 has 1 MA's), (45, 40542), (47, 40557), (49, 40671), (55, 40773), (65, 40935), (66, 40980), (67, 40986), (68, 40989), (70, 40995), (72, 41025), (78, 41127), (82, 41184), (86, 41235), (89, 41271), (90, 41283), (94, 41316), (95, 41331), (105, 41481),

Gene: Heathcliff\_46 Start: 40232, Stop: 41497, Start Num: 29

Candidate Starts for Heathcliff\_46:

(26, 40202), (Start: 27 @40220 has 10 MA's), (28, 40223), (Start: 29 @40232 has 14 MA's), (Start: 31 @40274 has 16 MA's), (Start: 34 @40295 has 1 MA's), (36, 40322), (37, 40337), (38, 40379), (Start: 42 @40430 has 1 MA's), (45, 40520), (47, 40535), (49, 40649), (55, 40751), (65, 40913), (66, 40958), (67, 40964), (68, 40967), (70, 40973), (72, 41003), (78, 41105), (82, 41162), (86, 41213), (89, 41249), (90, 41261), (94, 41294), (95, 41309), (105, 41459),

Gene: Hegedechwinu\_31 Start: 26345, Stop: 27553, Start Num: 35

Candidate Starts for Hegedechwinu\_31:

(Start: 35 @26345 has 90 MA's), (40, 26429), (47, 26579), (48, 26633), (53, 26774), (61, 26852), (66, 26978), (67, 26984), (72, 27023), (75, 27083), (77, 27098), (80, 27140), (82, 27176), (83, 27179), (86, 27230), (87, 27239), (96, 27353), (104, 27464),

Gene: Hlubikazi\_30 Start: 26587, Stop: 27753, Start Num: 35

Candidate Starts for Hlubikazi\_30:

(9, 26314), (12, 26317), (Start: 35 @26587 has 90 MA's), (40, 26671), (47, 26821), (48, 26875), (53, 27016), (61, 27097), (66, 27223), (67, 27229), (72, 27268), (77, 27343), (80, 27385), (82, 27421), (84, 27439), (86, 27475), (87, 27484), (96, 27598),

Gene: lbOuu\_32 Start: 26343, Stop: 27509, Start Num: 35

Candidate Starts for lbOuu\_32:

(Start: 35 @26343 has 90 MA's), (40, 26427), (47, 26577), (48, 26631), (53, 26772), (61, 26853), (66, 26979), (67, 26985), (72, 27024), (75, 27084), (77, 27099), (80, 27141), (82, 27177), (83, 27180), (84, 27195), (86, 27231), (87, 27240), (96, 27354), (104, 27465),

Gene: lbhubesi\_30 Start: 26271, Stop: 27464, Start Num: 35

Candidate Starts for lbhubesi\_30:

(Start: 35 @26271 has 90 MA's), (40, 26355), (47, 26505), (48, 26559), (53, 26700), (61, 26781), (66, 26907), (67, 26913), (72, 26952), (77, 27027), (80, 27069), (82, 27105), (83, 27108), (86, 27159), (87, 27168), (96, 27282), (99, 27324), (100, 27333), (103, 27390), (104, 27393),

Gene: Jackstina\_43 Start: 40179, Stop: 41456, Start Num: 27

Candidate Starts for Jackstina\_43:

(26, 40161), (Start: 27 @40179 has 10 MA's), (28, 40182), (Start: 29 @40191 has 14 MA's), (Start: 31 @40233 has 16 MA's), (Start: 34 @40254 has 1 MA's), (36, 40281), (37, 40296), (38, 40338), (Start: 42 @40389 has 1 MA's), (45, 40479), (47, 40494), (49, 40608), (55, 40710), (65, 40872), (66, 40917), (67, 40923), (68, 40926), (70, 40932), (72, 40962), (78, 41064), (82, 41121), (86, 41172), (89, 41208), (90, 41220), (94, 41253), (95, 41268), (105, 41418),

Gene: JalFarm20\_32 Start: 26866, Stop: 28603, Start Num: 35

Candidate Starts for JalFarm20\_32:

(9, 26593), (16, 26614), (Start: 35 @26866 has 90 MA's), (40, 26950), (47, 27100), (48, 27154), (53, 27295), (56, 27328), (57, 27376), (58, 27475), (59, 27868), (64, 28021), (69, 28099), (74, 28162), (76, 28201), (85, 28333), (88, 28354), (91, 28390),

Gene: Jinglebell\_30 Start: 26535, Stop: 27728, Start Num: 35

Candidate Starts for Jinglebell\_30:

(Start: 35 @26535 has 90 MA's), (40, 26619), (47, 26769), (48, 26823), (53, 26964), (61, 27045), (66, 27171), (75, 27276), (77, 27291), (80, 27333), (82, 27369), (83, 27372), (86, 27423), (87, 27432), (96, 27546), (99, 27588), (100, 27597), (103, 27654), (104, 27657),

Gene: JoeDirt\_25 Start: 24357, Stop: 25529, Start Num: 32

Candidate Starts for JoeDirt\_25:

(30, 24327), (Start: 32 @24357 has 26 MA's), (54, 24804), (61, 24882), (63, 24927), (66, 25002), (72, 25047), (77, 25122), (78, 25149), (80, 25167), (82, 25203), (83, 25206), (87, 25266), (92, 25317), (94, 25332), (98, 25401), (101, 25425),

Gene: JoeyJr\_30 Start: 26494, Stop: 27687, Start Num: 35

Candidate Starts for JoeyJr\_30:

(Start: 35 @26494 has 90 MA's), (40, 26578), (47, 26728), (48, 26782), (53, 26923), (61, 27004), (66, 27130), (67, 27136), (68, 27139), (77, 27250), (80, 27292), (82, 27328), (86, 27382), (87, 27391), (96, 27505), (99, 27547), (100, 27556), (103, 27613), (104, 27616),

Gene: Juice456\_31 Start: 27616, Stop: 28824, Start Num: 35

Candidate Starts for Juice456\_31:

(Start: 35 @27616 has 90 MA's), (40, 27700), (47, 27850), (48, 27904), (53, 28045), (61, 28123), (66, 28249), (67, 28255), (72, 28294), (75, 28354), (77, 28369), (80, 28411), (82, 28447), (83, 28450), (86, 28501), (87, 28510), (96, 28624), (104, 28735),

Gene: Juniper1\_30 Start: 26293, Stop: 27486, Start Num: 35

Candidate Starts for Juniper1\_30:

(Start: 35 @26293 has 90 MA's), (40, 26377), (47, 26527), (48, 26581), (53, 26722), (61, 26803), (66, 26929), (67, 26935), (77, 27049), (80, 27091), (82, 27127), (86, 27181), (87, 27190), (96, 27304), (99, 27346), (100, 27355), (103, 27412), (104, 27415),

Gene: Kamiyu\_46 Start: 40176, Stop: 41504, Start Num: 24

Candidate Starts for Kamiyu\_46:

(3, 39900), (5, 39921), (6, 39939), (8, 39945), (10, 40032), (18, 40080), (19, 40095), (20, 40155), (21, 40158), (Start: 24 @40176 has 1 MA's), (25, 40179), (Start: 31 @40281 has 16 MA's), (Start: 34 @40302 has 1 MA's), (36, 40329), (37, 40344), (38, 40386), (Start: 42 @40437 has 1 MA's), (45, 40527), (47, 40542), (49, 40656), (55, 40758), (65, 40920), (66, 40965), (67, 40971), (68, 40974), (70, 40980), (72, 41010), (78, 41112), (82, 41169), (86, 41220), (89, 41256), (90, 41268), (94, 41301), (95, 41316), (105, 41466),

Gene: Karhdo\_30 Start: 26458, Stop: 27651, Start Num: 35

Candidate Starts for Karhdo\_30:

(Start: 35 @26458 has 90 MA's), (40, 26542), (47, 26692), (48, 26746), (53, 26887), (61, 26968), (66, 27094), (67, 27100), (72, 27139), (77, 27214), (80, 27256), (82, 27292), (87, 27355), (96, 27469), (99, 27511), (100, 27520), (103, 27577), (104, 27580),

Gene: Kenuha5\_27 Start: 25482, Stop: 26636, Start Num: 35

Candidate Starts for Kenuha5\_27:

(9, 25209), (16, 25230), (Start: 35 @25482 has 90 MA's), (40, 25566), (47, 25716), (48, 25770), (53, 25911), (61, 25992), (66, 26118), (67, 26124), (72, 26163), (75, 26223), (77, 26238), (80, 26280), (82, 26316), (83, 26319), (86, 26370), (87, 26379), (96, 26493), (104, 26604), (110, 26625),

Gene: Kersh\_29 Start: 27534, Stop: 28727, Start Num: 35

Candidate Starts for Kersh\_29:

(Start: 35 @27534 has 90 MA's), (40, 27618), (47, 27768), (48, 27822), (53, 27963), (61, 28044), (66, 28170), (67, 28176), (68, 28179), (75, 28275), (77, 28290), (80, 28332), (82, 28368), (86, 28422), (87, 28431), (96, 28545), (99, 28587), (100, 28596), (103, 28653), (104, 28656),

Gene: Kimberlium\_32 Start: 27454, Stop: 28644, Start Num: 35

Candidate Starts for Kimberlium\_32:

(Start: 35 @27454 has 90 MA's), (40, 27538), (47, 27688), (48, 27742), (53, 27883), (61, 27961), (66, 28087), (67, 28093), (72, 28132), (75, 28192), (77, 28207), (80, 28249), (82, 28285), (83, 28288), (86, 28339), (87, 28348), (96, 28462), (99, 28504), (100, 28513), (103, 28570), (104, 28573),

Gene: KingMidas\_31 Start: 27622, Stop: 28776, Start Num: 35

Candidate Starts for KingMidas\_31:

(Start: 35 @27622 has 90 MA's), (40, 27706), (47, 27856), (48, 27910), (53, 28051), (61, 28132), (66, 28258), (67, 28264), (72, 28303), (75, 28363), (77, 28378), (80, 28420), (82, 28456), (83, 28459), (86, 28510), (87, 28519), (96, 28633), (104, 28744), (109, 28765),

Gene: Kingsley\_28 Start: 25309, Stop: 26475, Start Num: 35

Candidate Starts for Kingsley\_28:

(9, 25036), (16, 25057), (Start: 35 @25309 has 90 MA's), (40, 25393), (47, 25543), (48, 25597), (50, 25690), (53, 25738), (61, 25819), (66, 25945), (67, 25951), (75, 26050), (77, 26065), (80, 26107), (82, 26143), (83, 26146), (86, 26197), (87, 26206), (96, 26320), (104, 26431),

Gene: Kronus\_45 Start: 40850, Stop: 42115, Start Num: 29

Candidate Starts for Kronus\_45:

(26, 40820), (Start: 27 @40838 has 10 MA's), (28, 40841), (Start: 29 @40850 has 14 MA's), (Start: 31 @40892 has 16 MA's), (Start: 34 @40913 has 1 MA's), (36, 40940), (37, 40955), (38, 40997), (Start:

42 @41048 has 1 MA's), (45, 41138), (47, 41153), (49, 41267), (55, 41369), (65, 41531), (66, 41576), (67, 41582), (68, 41585), (70, 41591), (72, 41621), (78, 41723), (82, 41780), (86, 41831), (89, 41867), (90, 41879), (94, 41912), (95, 41927), (105, 42077),

Gene: Latretium\_31 Start: 27137, Stop: 28306, Start Num: 35

Candidate Starts for Latretium\_31:

(Start: 35 @27137 has 90 MA's), (40, 27221), (47, 27371), (48, 27425), (53, 27566), (65, 27743), (66, 27785), (68, 27794), (78, 27932), (96, 28163), (104, 28274), (108, 28295),

Gene: LeBron\_25 Start: 24401, Stop: 25573, Start Num: 32

Candidate Starts for LeBron\_25:

(30, 24371), (Start: 32 @24401 has 26 MA's), (54, 24848), (61, 24926), (63, 24971), (66, 25046), (72, 25091), (77, 25166), (78, 25193), (80, 25211), (82, 25247), (83, 25250), (87, 25310), (92, 25361), (94, 25376), (98, 25445), (101, 25469), (106, 25529),

Gene: Leozinho\_31 Start: 26186, Stop: 27340, Start Num: 35

Candidate Starts for Leozinho\_31:

(16, 25934), (Start: 35 @26186 has 90 MA's), (40, 26270), (47, 26420), (48, 26474), (53, 26615), (61, 26696), (66, 26822), (67, 26828), (72, 26867), (75, 26927), (77, 26942), (80, 26984), (82, 27020), (83, 27023), (84, 27038), (86, 27074), (87, 27083), (96, 27197), (104, 27308), (110, 27329),

Gene: LestyG\_46 Start: 40313, Stop: 41536, Start Num: 31

Candidate Starts for LestyG\_46:

(Start: 22 @40199 has 1 MA's), (23, 40202), (Start: 31 @40313 has 16 MA's), (Start: 34 @40334 has 1 MA's), (36, 40361), (37, 40376), (38, 40418), (Start: 42 @40469 has 1 MA's), (45, 40559), (47, 40574), (49, 40688), (55, 40790), (65, 40952), (66, 40997), (67, 41003), (68, 41006), (70, 41012), (72, 41042), (78, 41144), (82, 41201), (86, 41252), (89, 41288), (90, 41300), (94, 41333), (95, 41348), (105, 41498),

Gene: Llama\_30 Start: 26534, Stop: 27727, Start Num: 35

Candidate Starts for Llama\_30:

(Start: 35 @26534 has 90 MA's), (40, 26618), (47, 26768), (48, 26822), (53, 26963), (61, 27044), (66, 27170), (75, 27275), (77, 27290), (80, 27332), (82, 27368), (83, 27371), (86, 27422), (87, 27431), (96, 27545), (99, 27587), (100, 27596), (103, 27653), (104, 27656),

Gene: Llij\_30 Start: 26306, Stop: 27499, Start Num: 35

Candidate Starts for Llij\_30:

(Start: 35 @26306 has 90 MA's), (40, 26390), (47, 26540), (48, 26594), (53, 26735), (61, 26816), (66, 26942), (67, 26948), (77, 27062), (80, 27104), (82, 27140), (84, 27158), (86, 27194), (87, 27203), (96, 27317), (99, 27359), (100, 27368), (103, 27425), (104, 27428),

Gene: MAckerman\_25 Start: 24375, Stop: 25547, Start Num: 32

Candidate Starts for MAckerman\_25:

(30, 24345), (Start: 32 @24375 has 26 MA's), (54, 24822), (61, 24900), (63, 24945), (66, 25020), (72, 25065), (77, 25140), (78, 25167), (80, 25185), (82, 25221), (83, 25224), (87, 25284), (92, 25335), (94, 25350), (98, 25419), (101, 25443), (106, 25503),

Gene: MadMen\_27 Start: 25582, Stop: 26772, Start Num: 35

Candidate Starts for MadMen\_27:

(Start: 35 @25582 has 90 MA's), (40, 25666), (47, 25816), (48, 25870), (53, 26011), (61, 26092), (66, 26218), (67, 26224), (68, 26227), (77, 26338), (80, 26380), (83, 26419), (84, 26434), (86, 26470), (87, 26479), (96, 26593),

Gene: Madiba\_28 Start: 25236, Stop: 26429, Start Num: 35

Candidate Starts for Madiba\_28:

(Start: 35 @25236 has 90 MA's), (40, 25320), (47, 25470), (48, 25524), (53, 25665), (61, 25746), (66, 25872), (67, 25878), (68, 25881), (72, 25917), (77, 25992), (80, 26034), (82, 26070), (83, 26073), (86, 26124), (87, 26133), (96, 26247), (99, 26289), (100, 26298), (103, 26355), (104, 26358),

Gene: Mandlovu\_30 Start: 26529, Stop: 27695, Start Num: 35

Candidate Starts for Mandlovu\_30:

(9, 26256), (12, 26259), (Start: 35 @26529 has 90 MA's), (40, 26613), (47, 26763), (48, 26817), (53, 26958), (61, 27039), (66, 27165), (67, 27171), (72, 27210), (77, 27285), (80, 27327), (82, 27363), (84, 27381), (86, 27417), (87, 27426), (96, 27540),

Gene: Mantra\_30 Start: 26425, Stop: 27618, Start Num: 35

Candidate Starts for Mantra\_30:

(Start: 35 @26425 has 90 MA's), (40, 26509), (47, 26659), (48, 26713), (53, 26854), (61, 26935), (66, 27061), (67, 27067), (68, 27070), (72, 27106), (77, 27181), (80, 27223), (82, 27259), (87, 27322), (96, 27436), (99, 27478), (100, 27487), (103, 27544), (104, 27547),

Gene: Marley1013\_46 Start: 41091, Stop: 42314, Start Num: 31

Candidate Starts for Marley1013\_46:

(Start: 22 @40977 has 1 MA's), (23, 40980), (Start: 31 @41091 has 16 MA's), (Start: 34 @41112 has 1 MA's), (36, 41139), (37, 41154), (38, 41196), (Start: 42 @41247 has 1 MA's), (45, 41337), (47, 41352), (49, 41466), (55, 41568), (65, 41730), (66, 41775), (67, 41781), (68, 41784), (70, 41790), (72, 41820), (78, 41922), (82, 41979), (86, 42030), (89, 42066), (90, 42078), (94, 42111), (95, 42126), (105, 42276),

Gene: Melissauren88\_30 Start: 26514, Stop: 27668, Start Num: 35

Candidate Starts for Melissauren88\_30:

(9, 26241), (12, 26244), (Start: 35 @26514 has 90 MA's), (40, 26598), (47, 26748), (48, 26802), (53, 26943), (61, 27024), (66, 27150), (67, 27156), (72, 27195), (75, 27255), (77, 27270), (80, 27312), (82, 27348), (83, 27351), (86, 27402), (87, 27411), (96, 27525), (104, 27636), (110, 27657),

Gene: MilanaBonita\_24 Start: 22445, Stop: 23599, Start Num: 35

Candidate Starts for MilanaBonita\_24:

(Start: 35 @22445 has 90 MA's), (40, 22529), (47, 22679), (48, 22733), (53, 22874), (61, 22955), (66, 23081), (67, 23087), (72, 23126), (75, 23186), (77, 23201), (80, 23243), (82, 23279), (83, 23282), (86, 23333), (87, 23342), (96, 23456), (104, 23567), (110, 23588),

Gene: MilleniumForce\_31 Start: 27306, Stop: 28460, Start Num: 35

Candidate Starts for MilleniumForce\_31:

(9, 27033), (16, 27054), (Start: 35 @27306 has 90 MA's), (40, 27390), (47, 27540), (48, 27594), (53, 27735), (61, 27816), (66, 27942), (67, 27948), (72, 27987), (75, 28047), (77, 28062), (80, 28104), (82, 28140), (83, 28143), (86, 28194), (87, 28203), (96, 28317), (104, 28428), (110, 28449),

Gene: Misha28\_31 Start: 26205, Stop: 27407, Start Num: 35

Candidate Starts for Misha28\_31:

(Start: 35 @26205 has 90 MA's), (40, 26289), (47, 26439), (48, 26493), (53, 26634), (61, 26715), (66, 26841), (67, 26847), (68, 26850), (72, 26886), (77, 26961), (80, 27003), (82, 27039), (86, 27093), (87, 27102), (94, 27168), (96, 27225), (99, 27267), (100, 27276), (102, 27318), (103, 27333), (104, 27336),

Gene: MmasiCarm\_46 Start: 40295, Stop: 41518, Start Num: 31

Candidate Starts for MmasiCarm\_46:

(Start: 22 @40181 has 1 MA's), (23, 40184), (Start: 31 @40295 has 16 MA's), (Start: 34 @40316 has 1 MA's), (36, 40343), (37, 40358), (38, 40400), (Start: 42 @40451 has 1 MA's), (45, 40541), (47, 40556), (49, 40670), (55, 40772), (65, 40934), (66, 40979), (67, 40985), (68, 40988), (70, 40994), (72, 41024), (78, 41126), (82, 41183), (86, 41234), (89, 41270), (90, 41282), (94, 41315), (95, 41330), (105, 41480),

Gene: Modragons\_30 Start: 26379, Stop: 27572, Start Num: 35

Candidate Starts for Modragons\_30:

(Start: 35 @26379 has 90 MA's), (40, 26463), (47, 26613), (48, 26667), (53, 26808), (61, 26889), (66, 27015), (75, 27120), (77, 27135), (80, 27177), (82, 27213), (83, 27216), (86, 27267), (87, 27276), (96, 27390), (99, 27432), (100, 27441), (103, 27498), (104, 27501),

Gene: Mortcellus\_45 Start: 40947, Stop: 42170, Start Num: 31

Candidate Starts for Mortcellus\_45:

(Start: 22 @40833 has 1 MA's), (23, 40836), (Start: 31 @40947 has 16 MA's), (Start: 34 @40968 has 1 MA's), (36, 40995), (37, 41010), (38, 41052), (Start: 42 @41103 has 1 MA's), (45, 41193), (47, 41208), (49, 41322), (55, 41424), (65, 41586), (66, 41631), (67, 41637), (68, 41640), (70, 41646), (72, 41676), (78, 41778), (82, 41835), (86, 41886), (89, 41922), (90, 41934), (94, 41967), (95, 41982), (105, 42132),

Gene: Morty007\_46 Start: 41112, Stop: 42314, Start Num: 34

Candidate Starts for Morty007\_46:

(Start: 22 @40977 has 1 MA's), (23, 40980), (Start: 31 @41091 has 16 MA's), (Start: 34 @41112 has 1 MA's), (36, 41139), (37, 41154), (38, 41196), (Start: 42 @41247 has 1 MA's), (45, 41337), (47, 41352), (49, 41466), (55, 41568), (65, 41730), (66, 41775), (67, 41781), (68, 41784), (70, 41790), (72, 41820), (78, 41922), (82, 41979), (86, 42030), (89, 42066), (90, 42078), (94, 42111), (95, 42126), (105, 42276),

Gene: Mova\_31 Start: 26196, Stop: 27350, Start Num: 35

Candidate Starts for Mova\_31:

(Start: 35 @26196 has 90 MA's), (40, 26280), (47, 26430), (48, 26484), (53, 26625), (61, 26706), (66, 26832), (67, 26838), (72, 26877), (75, 26937), (77, 26952), (80, 26994), (82, 27030), (83, 27033), (86, 27084), (87, 27093), (96, 27207), (104, 27318), (110, 27339),

Gene: Ms6\_24 Start: 21977, Stop: 23131, Start Num: 35

Candidate Starts for Ms6\_24:

(13, 21710), (Start: 35 @21977 has 90 MA's), (40, 22061), (47, 22211), (48, 22265), (53, 22406), (61, 22487), (66, 22613), (67, 22619), (72, 22658), (75, 22718), (77, 22733), (80, 22775), (82, 22811), (83, 22814), (86, 22865), (87, 22874), (96, 22988), (104, 23099), (110, 23120),

Gene: Neos5\_46 Start: 41052, Stop: 42329, Start Num: 27

Candidate Starts for Neos5\_46:

(26, 41034), (Start: 27 @41052 has 10 MA's), (28, 41055), (Start: 29 @41064 has 14 MA's), (Start: 31 @41106 has 16 MA's), (Start: 34 @41127 has 1 MA's), (36, 41154), (37, 41169), (38, 41211), (Start: 42 @41262 has 1 MA's), (45, 41352), (47, 41367), (49, 41481), (55, 41583), (65, 41745), (66, 41790), (67, 41796), (68, 41799), (70, 41805), (72, 41835), (78, 41937), (82, 41994), (86, 42045), (89, 42081), (90, 42093), (94, 42126), (95, 42141), (105, 42291),

Gene: Nimbo\_30 Start: 26331, Stop: 27524, Start Num: 35

Candidate Starts for Nimbo\_30:

(Start: 35 @26331 has 90 MA's), (40, 26415), (47, 26565), (48, 26619), (53, 26760), (61, 26841), (66, 26967), (72, 27012), (77, 27087), (80, 27129), (82, 27165), (83, 27168), (86, 27219), (87, 27228), (96, 27342), (99, 27384), (100, 27393), (103, 27450), (104, 27453),

Gene: Nozo\_46 Start: 41071, Stop: 42294, Start Num: 31

Candidate Starts for Nozo\_46:

(26, 40999), (Start: 27 @41017 has 10 MA's), (28, 41020), (Start: 29 @41029 has 14 MA's), (Start: 31 @41071 has 16 MA's), (Start: 34 @41092 has 1 MA's), (36, 41119), (37, 41134), (38, 41176), (Start: 42 @41227 has 1 MA's), (45, 41317), (47, 41332), (49, 41446), (55, 41548), (65, 41710), (66, 41755), (67, 41761), (68, 41764), (70, 41770), (72, 41800), (78, 41902), (82, 41959), (86, 42010), (89, 42046), (90, 42058), (94, 42091), (95, 42106), (105, 42256),

Gene: Obutu\_46 Start: 40295, Stop: 41518, Start Num: 31

Candidate Starts for Obutu\_46:

(Start: 22 @40181 has 1 MA's), (23, 40184), (Start: 31 @40295 has 16 MA's), (Start: 34 @40316 has 1 MA's), (36, 40343), (37, 40358), (38, 40400), (Start: 42 @40451 has 1 MA's), (45, 40541), (47, 40556), (49, 40670), (55, 40772), (65, 40934), (66, 40979), (67, 40985), (68, 40988), (70, 40994), (72, 41024), (78, 41126), (82, 41183), (86, 41234), (89, 41270), (90, 41282), (94, 41315), (95, 41330), (105, 41480),

Gene: Ochi17\_28 Start: 25986, Stop: 27179, Start Num: 35

Candidate Starts for Ochi17\_28:

(Start: 35 @25986 has 90 MA's), (40, 26070), (47, 26220), (48, 26274), (53, 26415), (61, 26496), (66, 26622), (75, 26727), (77, 26742), (80, 26784), (82, 26820), (83, 26823), (86, 26874), (87, 26883), (96, 26997), (99, 27039), (100, 27048), (103, 27105), (104, 27108),

Gene: OfUltron\_30 Start: 26535, Stop: 27728, Start Num: 35

Candidate Starts for OfUltron\_30:

(Start: 35 @26535 has 90 MA's), (40, 26619), (47, 26769), (48, 26823), (53, 26964), (61, 27045), (66, 27171), (75, 27276), (77, 27291), (80, 27333), (82, 27369), (83, 27372), (86, 27423), (87, 27432), (96, 27546), (99, 27588), (100, 27597), (103, 27654), (104, 27657),

Gene: Ogopogo\_30 Start: 25685, Stop: 26878, Start Num: 35

Candidate Starts for Ogopogo\_30:

(Start: 35 @25685 has 90 MA's), (40, 25769), (47, 25919), (48, 25973), (53, 26114), (61, 26195), (66, 26321), (67, 26327), (68, 26330), (77, 26441), (80, 26483), (83, 26522), (84, 26537), (86, 26573), (87, 26582), (96, 26696), (99, 26738), (100, 26747), (103, 26804), (104, 26807),

Gene: OhShagHennessy\_25 Start: 24340, Stop: 25512, Start Num: 32

Candidate Starts for OhShagHennessy\_25:

(30, 24310), (Start: 32 @24340 has 26 MA's), (54, 24787), (61, 24865), (63, 24910), (66, 24985), (72, 25030), (77, 25105), (78, 25132), (80, 25150), (82, 25186), (83, 25189), (87, 25249), (92, 25300), (94, 25315), (98, 25384), (101, 25408),

Gene: Oksu\_31 Start: 26379, Stop: 27572, Start Num: 35

Candidate Starts for Oksu\_31:

(Start: 35 @26379 has 90 MA's), (40, 26463), (47, 26613), (48, 26667), (53, 26808), (61, 26889), (66, 27015), (75, 27120), (77, 27135), (80, 27177), (82, 27213), (83, 27216), (86, 27267), (87, 27276), (96, 27390), (99, 27432), (100, 27441), (103, 27498), (104, 27501),

Gene: OrangeOswald\_46 Start: 40258, Stop: 41535, Start Num: 27

Candidate Starts for OrangeOswald\_46:

(26, 40240), (Start: 27 @40258 has 10 MA's), (28, 40261), (Start: 29 @40270 has 14 MA's), (Start: 31 @40312 has 16 MA's), (Start: 34 @40333 has 1 MA's), (36, 40360), (37, 40375), (38, 40417), (Start: 42 @40468 has 1 MA's), (45, 40558), (47, 40573), (49, 40687), (55, 40789), (65, 40951), (66, 40996), (67, 41002), (68, 41005), (70, 41011), (72, 41041), (78, 41143), (82, 41200), (86, 41251), (89, 41287),

(90, 41299), (94, 41332), (95, 41347), (105, 41497),

Gene: OwlsT2W\_31 Start: 26780, Stop: 27949, Start Num: 35

Candidate Starts for OwlsT2W\_31:

(Start: 35 @26780 has 90 MA's), (40, 26864), (47, 27014), (48, 27068), (53, 27209), (65, 27386), (66, 27428), (68, 27437), (100, 27857), (104, 27917), (108, 27938),

Gene: PHappiness\_30 Start: 26304, Stop: 27497, Start Num: 35

Candidate Starts for PHappiness\_30:

(7, 25938), (Start: 35 @26304 has 90 MA's), (40, 26388), (47, 26538), (48, 26592), (53, 26733), (61, 26814), (66, 26940), (72, 26985), (77, 27060), (80, 27102), (82, 27138), (83, 27141), (86, 27192), (87, 27201), (96, 27315), (99, 27357), (100, 27366), (103, 27423), (104, 27426),

Gene: PMC\_30 Start: 26306, Stop: 27499, Start Num: 35

Candidate Starts for PMC\_30:

(Start: 35 @26306 has 90 MA's), (40, 26390), (47, 26540), (48, 26594), (53, 26735), (61, 26816), (66, 26942), (67, 26948), (77, 27062), (80, 27104), (82, 27140), (84, 27158), (86, 27194), (87, 27203), (96, 27317), (99, 27359), (100, 27368), (103, 27425), (104, 27428),

Gene: Phaedrus\_44 Start: 40388, Stop: 41455, Start Num: 42

Candidate Starts for Phaedrus\_44:

(26, 40160), (Start: 27 @40178 has 10 MA's), (28, 40181), (Start: 29 @40190 has 14 MA's), (Start: 31 @40232 has 16 MA's), (Start: 34 @40253 has 1 MA's), (36, 40280), (37, 40295), (38, 40337), (Start: 42 @40388 has 1 MA's), (45, 40478), (47, 40493), (49, 40607), (55, 40709), (65, 40871), (66, 40916), (67, 40922), (68, 40925), (70, 40931), (72, 40961), (78, 41063), (82, 41120), (86, 41171), (89, 41207), (90, 41219), (94, 41252), (95, 41267), (105, 41417),

Gene: Phanphagia\_27 Start: 25503, Stop: 26657, Start Num: 35

Candidate Starts for Phanphagia\_27:

(9, 25230), (16, 25251), (Start: 35 @25503 has 90 MA's), (40, 25587), (47, 25737), (48, 25791), (53, 25932), (61, 26013), (66, 26139), (67, 26145), (72, 26184), (75, 26244), (77, 26259), (80, 26301), (82, 26337), (83, 26340), (86, 26391), (87, 26400), (96, 26514), (104, 26625), (110, 26646),

Gene: Phasih\_31 Start: 26881, Stop: 28074, Start Num: 35

Candidate Starts for Phasih\_31:

(Start: 35 @26881 has 90 MA's), (40, 26965), (47, 27115), (48, 27169), (53, 27310), (61, 27391), (66, 27517), (67, 27523), (68, 27526), (72, 27562), (77, 27637), (80, 27679), (82, 27715), (87, 27778), (96, 27892), (99, 27934), (100, 27943), (103, 28000), (104, 28003),

Gene: Phatniss\_31 Start: 26823, Stop: 28016, Start Num: 35

Candidate Starts for Phatniss\_31:

(Start: 35 @26823 has 90 MA's), (40, 26907), (47, 27057), (48, 27111), (53, 27252), (61, 27333), (66, 27459), (67, 27465), (77, 27579), (80, 27621), (82, 27657), (84, 27675), (86, 27711), (87, 27720), (96, 27834), (99, 27876), (100, 27885), (103, 27942), (104, 27945),

Gene: Phayeta\_47 Start: 40177, Stop: 41400, Start Num: 31

Candidate Starts for Phayeta\_47:

(Start: 22 @40063 has 1 MA's), (23, 40066), (Start: 31 @40177 has 16 MA's), (Start: 34 @40198 has 1 MA's), (36, 40225), (37, 40240), (38, 40282), (Start: 42 @40333 has 1 MA's), (45, 40423), (47, 40438), (49, 40552), (55, 40654), (65, 40816), (66, 40861), (67, 40867), (68, 40870), (70, 40876), (72, 40906), (78, 41008), (82, 41065), (86, 41116), (89, 41152), (90, 41164), (94, 41197), (95, 41212), (105, 41362),



Gene: Philly\_45 Start: 40109, Stop: 41386, Start Num: 27

Candidate Starts for Philly\_45:

(26, 40091), (Start: 27 @40109 has 10 MA's), (28, 40112), (Start: 29 @40121 has 14 MA's), (Start: 31 @40163 has 16 MA's), (Start: 34 @40184 has 1 MA's), (36, 40211), (37, 40226), (38, 40268), (Start: 42 @40319 has 1 MA's), (45, 40409), (47, 40424), (49, 40538), (55, 40640), (65, 40802), (66, 40847), (67, 40853), (68, 40856), (70, 40862), (72, 40892), (78, 40994), (82, 41051), (86, 41102), (89, 41138), (90, 41150), (94, 41183), (95, 41198), (105, 41348),

Gene: Phlyer\_46 Start: 41009, Stop: 42274, Start Num: 29

Candidate Starts for Phlyer\_46:

(26, 40979), (Start: 27 @40997 has 10 MA's), (28, 41000), (Start: 29 @41009 has 14 MA's), (Start: 31 @41051 has 16 MA's), (Start: 34 @41072 has 1 MA's), (36, 41099), (37, 41114), (38, 41156), (Start: 42 @41207 has 1 MA's), (45, 41297), (47, 41312), (49, 41426), (55, 41528), (65, 41690), (66, 41735), (67, 41741), (68, 41744), (70, 41750), (72, 41780), (78, 41882), (82, 41939), (86, 41990), (89, 42026), (90, 42038), (94, 42071), (95, 42086), (105, 42236),

Gene: Pipefish\_48 Start: 41704, Stop: 42927, Start Num: 31

Candidate Starts for Pipefish\_48:

(Start: 22 @41590 has 1 MA's), (23, 41593), (Start: 31 @41704 has 16 MA's), (Start: 34 @41725 has 1 MA's), (36, 41752), (37, 41767), (38, 41809), (Start: 42 @41860 has 1 MA's), (45, 41950), (47, 41965), (49, 42079), (55, 42181), (65, 42343), (66, 42388), (67, 42394), (70, 42403), (72, 42433), (78, 42535), (82, 42592), (86, 42643), (89, 42679), (90, 42691), (94, 42724), (95, 42739), (105, 42889),

Gene: Piper2020\_32 Start: 26915, Stop: 28126, Start Num: 35

Candidate Starts for Piper2020\_32:

(Start: 35 @26915 has 90 MA's), (40, 26999), (47, 27149), (48, 27203), (53, 27344), (61, 27425), (66, 27551), (67, 27557), (68, 27560), (72, 27596), (75, 27656), (77, 27671), (80, 27713), (82, 27749), (83, 27752), (86, 27803), (87, 27812), (96, 27926), (104, 28037),

Gene: Pippy\_24 Start: 22504, Stop: 23664, Start Num: 35

Candidate Starts for Pippy\_24:

(12, 22234), (Start: 35 @22504 has 90 MA's), (40, 22588), (47, 22738), (48, 22792), (50, 22885), (52, 22915), (54, 22936), (61, 23014), (66, 23140), (67, 23146), (77, 23260), (80, 23302), (81, 23335), (83, 23341), (87, 23401),

Gene: Poenanya\_30 Start: 26448, Stop: 27641, Start Num: 35

Candidate Starts for Poenanya\_30:

(Start: 35 @26448 has 90 MA's), (40, 26532), (47, 26682), (48, 26736), (53, 26877), (61, 26958), (66, 27084), (67, 27090), (68, 27093), (77, 27204), (80, 27246), (82, 27282), (86, 27336), (87, 27345), (96, 27459), (99, 27501), (100, 27510), (103, 27567), (104, 27570),

Gene: QuickMath\_31 Start: 27678, Stop: 28868, Start Num: 35

Candidate Starts for QuickMath\_31:

(Start: 35 @27678 has 90 MA's), (40, 27762), (47, 27912), (48, 27966), (53, 28107), (61, 28185), (66, 28311), (67, 28317), (72, 28356), (75, 28416), (77, 28431), (80, 28473), (82, 28509), (83, 28512), (86, 28563), (87, 28572), (96, 28686), (99, 28728), (100, 28737), (103, 28794), (104, 28797),

Gene: Quico\_31 Start: 26135, Stop: 27328, Start Num: 35

Candidate Starts for Quico\_31:

(Start: 35 @26135 has 90 MA's), (40, 26219), (47, 26369), (48, 26423), (53, 26564), (61, 26645), (66, 26771), (67, 26777), (68, 26780), (77, 26891), (80, 26933), (82, 26969), (84, 26987), (86, 27023), (87, 27032), (96, 27146), (99, 27188), (100, 27197), (103, 27254), (104, 27257),

Gene: RagingRooster\_46 Start: 40271, Stop: 41536, Start Num: 29

Candidate Starts for RagingRooster\_46:

(26, 40241), (Start: 27 @40259 has 10 MA's), (28, 40262), (Start: 29 @40271 has 14 MA's), (Start: 31 @40313 has 16 MA's), (Start: 34 @40334 has 1 MA's), (36, 40361), (37, 40376), (38, 40418), (Start: 42 @40469 has 1 MA's), (45, 40559), (47, 40574), (49, 40688), (55, 40790), (65, 40952), (66, 40997), (67, 41003), (68, 41006), (70, 41012), (72, 41042), (78, 41144), (82, 41201), (86, 41252), (89, 41288), (90, 41300), (94, 41333), (95, 41348), (105, 41498),

Gene: Rita1961\_46 Start: 40296, Stop: 41519, Start Num: 31

Candidate Starts for Rita1961\_46:

(Start: 22 @40182 has 1 MA's), (23, 40185), (Start: 31 @40296 has 16 MA's), (Start: 34 @40317 has 1 MA's), (36, 40344), (37, 40359), (38, 40401), (Start: 42 @40452 has 1 MA's), (45, 40542), (47, 40557), (49, 40671), (55, 40773), (65, 40935), (66, 40980), (67, 40986), (68, 40989), (70, 40995), (72, 41025), (78, 41127), (82, 41184), (86, 41235), (89, 41271), (90, 41283), (94, 41316), (95, 41331), (105, 41481),

Gene: Rockne\_30 Start: 26306, Stop: 27499, Start Num: 35

Candidate Starts for Rockne\_30:

(Start: 35 @26306 has 90 MA's), (40, 26390), (47, 26540), (48, 26594), (53, 26735), (61, 26816), (66, 26942), (67, 26948), (77, 27062), (80, 27104), (82, 27140), (84, 27158), (86, 27194), (87, 27203), (96, 27317), (99, 27359), (100, 27368), (103, 27425), (104, 27428),

Gene: RockyHorror\_31 Start: 26248, Stop: 27441, Start Num: 35

Candidate Starts for RockyHorror\_31:

(Start: 35 @26248 has 90 MA's), (40, 26332), (47, 26482), (48, 26536), (53, 26677), (61, 26758), (66, 26884), (67, 26890), (72, 26929), (75, 26989), (77, 27004), (80, 27046), (82, 27082), (86, 27136), (87, 27145), (96, 27259), (99, 27301), (100, 27310), (103, 27367), (104, 27370),

Gene: RomaT\_46 Start: 41044, Stop: 42309, Start Num: 29

Candidate Starts for RomaT\_46:

(26, 41014), (Start: 27 @41032 has 10 MA's), (28, 41035), (Start: 29 @41044 has 14 MA's), (Start: 31 @41086 has 16 MA's), (Start: 34 @41107 has 1 MA's), (36, 41134), (37, 41149), (38, 41191), (Start: 42 @41242 has 1 MA's), (45, 41332), (47, 41347), (49, 41461), (55, 41563), (65, 41725), (66, 41770), (67, 41776), (68, 41779), (70, 41785), (72, 41815), (78, 41917), (82, 41974), (86, 42025), (89, 42061), (90, 42073), (94, 42106), (95, 42121), (105, 42271),

Gene: Rose5\_25 Start: 24375, Stop: 25547, Start Num: 32

Candidate Starts for Rose5\_25:

(30, 24345), (Start: 32 @24375 has 26 MA's), (54, 24822), (61, 24900), (63, 24945), (66, 25020), (72, 25065), (77, 25140), (78, 25167), (80, 25185), (82, 25221), (83, 25224), (87, 25284), (92, 25335), (94, 25350), (98, 25419), (101, 25443), (106, 25503),

Gene: Rumpelstiltskin\_27 Start: 25354, Stop: 26523, Start Num: 32

Candidate Starts for Rumpelstiltskin\_27:

(Start: 32 @25354 has 26 MA's), (43, 25522), (46, 25606), (48, 25666), (53, 25795), (61, 25876), (66, 25996), (67, 26002), (78, 26143), (80, 26161), (82, 26197), (87, 26260), (97, 26392), (98, 26395), (101, 26419),

Gene: Scottish\_31 Start: 27627, Stop: 28820, Start Num: 35

Candidate Starts for Scottish\_31:

(Start: 35 @27627 has 90 MA's), (40, 27711), (47, 27861), (48, 27915), (53, 28056), (61, 28137), (66, 28263), (67, 28269), (68, 28272), (77, 28383), (80, 28425), (82, 28461), (86, 28515), (87, 28524), (96, 28638), (99, 28680), (100, 28689), (103, 28746), (104, 28749),

Gene: Seabastian\_30 Start: 26535, Stop: 27728, Start Num: 35

Candidate Starts for Seabastian\_30:

(Start: 35 @26535 has 90 MA's), (40, 26619), (47, 26769), (48, 26823), (53, 26964), (61, 27045), (66, 27171), (75, 27276), (77, 27291), (80, 27333), (82, 27369), (83, 27372), (86, 27423), (87, 27432), (96, 27546), (99, 27588), (100, 27597), (103, 27654), (104, 27657),

Gene: Shauna1\_27 Start: 25506, Stop: 26660, Start Num: 35

Candidate Starts for Shauna1\_27:

(9, 25233), (16, 25254), (Start: 35 @25506 has 90 MA's), (40, 25590), (47, 25740), (48, 25794), (53, 25935), (61, 26016), (66, 26142), (67, 26148), (72, 26187), (75, 26247), (77, 26262), (80, 26304), (82, 26340), (83, 26343), (86, 26394), (87, 26403), (96, 26517), (104, 26628), (110, 26649),

Gene: ShroomBoi\_27 Start: 25443, Stop: 26597, Start Num: 35

Candidate Starts for ShroomBoi\_27:

(Start: 35 @25443 has 90 MA's), (40, 25527), (47, 25677), (48, 25731), (53, 25872), (61, 25953), (66, 26079), (67, 26085), (72, 26124), (75, 26184), (77, 26199), (80, 26241), (82, 26277), (83, 26280), (86, 26331), (87, 26340), (96, 26454), (104, 26565), (110, 26586),

Gene: Silverleaf\_25 Start: 24375, Stop: 25547, Start Num: 32

Candidate Starts for Silverleaf\_25:

(30, 24345), (Start: 32 @24375 has 26 MA's), (54, 24822), (61, 24900), (63, 24945), (66, 25020), (72, 25065), (77, 25140), (78, 25167), (80, 25185), (82, 25221), (83, 25224), (87, 25284), (92, 25335), (94, 25350), (98, 25419), (101, 25443), (106, 25503),

Gene: SlippinJimmy\_46 Start: 41078, Stop: 42301, Start Num: 31

Candidate Starts for SlippinJimmy\_46:

(Start: 22 @40964 has 1 MA's), (23, 40967), (Start: 31 @41078 has 16 MA's), (Start: 34 @41099 has 1 MA's), (36, 41126), (37, 41141), (38, 41183), (Start: 42 @41234 has 1 MA's), (45, 41324), (47, 41339), (49, 41453), (55, 41555), (65, 41717), (66, 41762), (67, 41768), (68, 41771), (70, 41777), (72, 41807), (78, 41909), (82, 41966), (86, 42017), (89, 42053), (90, 42065), (94, 42098), (95, 42113), (105, 42263),

Gene: Soul22\_34 Start: 25851, Stop: 27032, Start Num: 35

Candidate Starts for Soul22\_34:

(Start: 35 @25851 has 90 MA's), (40, 25935), (47, 26085), (48, 26139), (53, 26280), (65, 26457), (66, 26499), (68, 26508), (80, 26664), (96, 26877), (104, 26988),

Gene: StAnnes\_28 Start: 26065, Stop: 27231, Start Num: 35

Candidate Starts for StAnnes\_28:

(2, 25657), (15, 25801), (Start: 35 @26065 has 90 MA's), (40, 26149), (47, 26299), (48, 26353), (53, 26494), (61, 26575), (66, 26701), (67, 26707), (72, 26746), (75, 26806), (77, 26821), (80, 26863), (82, 26899), (83, 26902), (86, 26953), (87, 26962), (96, 27076), (104, 27187),

Gene: Starcevich\_33 Start: 26624, Stop: 28400, Start Num: 35

Candidate Starts for Starcevich\_33:

(Start: 35 @26624 has 90 MA's), (40, 26708), (48, 26912), (53, 27053), (56, 27086), (57, 27134), (58, 27233), (59, 27626), (64, 27779), (69, 27857), (74, 27920), (76, 27959), (88, 28112), (91, 28148),

Gene: Strokeseat\_30 Start: 26586, Stop: 27752, Start Num: 35

Candidate Starts for Strokeseat\_30:

(9, 26313), (12, 26316), (Start: 35 @26586 has 90 MA's), (40, 26670), (47, 26820), (48, 26874), (53, 27015), (61, 27096), (66, 27222), (67, 27228), (72, 27267), (77, 27342), (80, 27384), (82, 27420), (84,

27438), (86, 27474), (87, 27483), (96, 27597),

Gene: SynergyX\_46 Start: 40271, Stop: 41536, Start Num: 29

Candidate Starts for SynergyX\_46:

(26, 40241), (Start: 27 @40259 has 10 MA's), (28, 40262), (Start: 29 @40271 has 14 MA's), (Start: 31 @40313 has 16 MA's), (Start: 34 @40334 has 1 MA's), (36, 40361), (37, 40376), (38, 40418), (Start: 42 @40469 has 1 MA's), (45, 40559), (47, 40574), (49, 40688), (55, 40790), (65, 40952), (66, 40997), (67, 41003), (68, 41006), (70, 41012), (72, 41042), (78, 41144), (82, 41201), (86, 41252), (89, 41288), (90, 41300), (94, 41333), (95, 41348), (105, 41498),

Gene: Taj\_30 Start: 26531, Stop: 27685, Start Num: 35

Candidate Starts for Taj\_30:

(9, 26258), (16, 26279), (Start: 35 @26531 has 90 MA's), (40, 26615), (47, 26765), (48, 26819), (53, 26960), (61, 27041), (66, 27167), (67, 27173), (72, 27212), (75, 27272), (77, 27287), (80, 27329), (82, 27365), (83, 27368), (86, 27419), (87, 27428), (96, 27542), (104, 27653), (110, 27674),

Gene: TootsiePop\_31 Start: 26205, Stop: 27407, Start Num: 35

Candidate Starts for TootsiePop\_31:

(Start: 35 @26205 has 90 MA's), (40, 26289), (47, 26439), (48, 26493), (53, 26634), (61, 26715), (66, 26841), (67, 26847), (68, 26850), (72, 26886), (77, 26961), (80, 27003), (82, 27039), (86, 27093), (87, 27102), (94, 27168), (96, 27225), (99, 27267), (100, 27276), (102, 27318), (103, 27333), (104, 27336),

Gene: Tweety\_30 Start: 26532, Stop: 27743, Start Num: 35

Candidate Starts for Tweety\_30:

(9, 26259), (16, 26280), (Start: 35 @26532 has 90 MA's), (40, 26616), (47, 26766), (48, 26820), (53, 26961), (61, 27042), (66, 27168), (67, 27174), (68, 27177), (77, 27288), (80, 27330), (82, 27366), (86, 27420), (87, 27429), (96, 27543), (104, 27654),

Gene: Tydolla\_46 Start: 41005, Stop: 42270, Start Num: 29

Candidate Starts for Tydolla\_46:

(26, 40975), (Start: 27 @40993 has 10 MA's), (28, 40996), (Start: 29 @41005 has 14 MA's), (Start: 31 @41047 has 16 MA's), (Start: 34 @41068 has 1 MA's), (36, 41095), (37, 41110), (38, 41152), (Start: 42 @41203 has 1 MA's), (45, 41293), (47, 41308), (49, 41422), (55, 41524), (65, 41686), (66, 41731), (67, 41737), (68, 41740), (70, 41746), (72, 41776), (78, 41878), (82, 41935), (86, 41986), (89, 42022), (90, 42034), (94, 42067), (95, 42082), (105, 42232),

Gene: Tyson\_25 Start: 24375, Stop: 25547, Start Num: 32

Candidate Starts for Tyson\_25:

(30, 24345), (Start: 32 @24375 has 26 MA's), (54, 24822), (61, 24900), (63, 24945), (66, 25020), (72, 25065), (77, 25140), (78, 25167), (80, 25185), (82, 25221), (83, 25224), (87, 25284), (92, 25335), (94, 25350), (98, 25419), (101, 25443), (106, 25503),

Gene: UPIE\_25 Start: 24373, Stop: 25545, Start Num: 32

Candidate Starts for UPIE\_25:

(30, 24343), (Start: 32 @24373 has 26 MA's), (54, 24820), (61, 24898), (63, 24943), (66, 25018), (72, 25063), (77, 25138), (78, 25165), (80, 25183), (82, 25219), (83, 25222), (87, 25282), (92, 25333), (94, 25348), (98, 25417), (101, 25441), (106, 25501),

Gene: UncleRicky\_33 Start: 27639, Stop: 28832, Start Num: 35

Candidate Starts for UncleRicky\_33:

(Start: 35 @27639 has 90 MA's), (40, 27723), (47, 27873), (48, 27927), (53, 28068), (61, 28149), (66, 28275), (67, 28281), (77, 28395), (80, 28437), (82, 28473), (84, 28491), (86, 28527), (87, 28536), (96, 28650), (99, 28692), (100, 28701), (103, 28758), (104, 28761),

Gene: Veteran\_30 Start: 26344, Stop: 27537, Start Num: 35

Candidate Starts for Veteran\_30:

(Start: 35 @26344 has 90 MA's), (40, 26428), (47, 26578), (48, 26632), (53, 26773), (61, 26854), (66, 26980), (67, 26986), (68, 26989), (72, 27025), (77, 27100), (80, 27142), (82, 27178), (87, 27241), (96, 27355), (99, 27397), (100, 27406), (103, 27463), (104, 27466),

Gene: Wamburgxpress\_25 Start: 24388, Stop: 25560, Start Num: 32

Candidate Starts for Wamburgxpress\_25:

(30, 24358), (Start: 32 @24388 has 26 MA's), (54, 24835), (61, 24913), (63, 24958), (66, 25033), (72, 25078), (77, 25153), (78, 25180), (80, 25198), (82, 25234), (83, 25237), (87, 25297), (92, 25348), (94, 25363), (98, 25432), (101, 25456), (106, 25516),

Gene: Wee\_31 Start: 27069, Stop: 28223, Start Num: 35

Candidate Starts for Wee\_31:

(9, 26796), (16, 26817), (Start: 35 @27069 has 90 MA's), (40, 27153), (47, 27303), (48, 27357), (53, 27498), (61, 27579), (66, 27705), (67, 27711), (72, 27750), (75, 27810), (77, 27825), (80, 27867), (82, 27903), (83, 27906), (86, 27957), (87, 27966), (96, 28080), (104, 28191), (110, 28212),

Gene: Wyatt2\_25 Start: 24375, Stop: 25547, Start Num: 32

Candidate Starts for Wyatt2\_25:

(30, 24345), (Start: 32 @24375 has 26 MA's), (54, 24822), (61, 24900), (63, 24945), (66, 25020), (72, 25065), (77, 25140), (78, 25167), (80, 25185), (82, 25221), (83, 25224), (87, 25284), (92, 25335), (94, 25350), (98, 25419), (101, 25443), (106, 25503),

Gene: Yahalom\_46 Start: 40281, Stop: 41546, Start Num: 29

Candidate Starts for Yahalom\_46:

(26, 40251), (Start: 27 @40269 has 10 MA's), (28, 40272), (Start: 29 @40281 has 14 MA's), (Start: 31 @40323 has 16 MA's), (Start: 34 @40344 has 1 MA's), (36, 40371), (37, 40386), (38, 40428), (Start: 42 @40479 has 1 MA's), (45, 40569), (47, 40584), (49, 40698), (55, 40800), (65, 40962), (66, 41007), (67, 41013), (68, 41016), (70, 41022), (72, 41052), (78, 41154), (82, 41211), (86, 41262), (89, 41298), (90, 41310), (94, 41343), (95, 41358), (105, 41508),

Gene: Yinz\_46 Start: 40307, Stop: 41572, Start Num: 29

Candidate Starts for Yinz\_46:

(26, 40277), (Start: 27 @40295 has 10 MA's), (28, 40298), (Start: 29 @40307 has 14 MA's), (Start: 31 @40349 has 16 MA's), (Start: 34 @40370 has 1 MA's), (36, 40397), (37, 40412), (38, 40454), (Start: 42 @40505 has 1 MA's), (45, 40595), (47, 40610), (49, 40724), (55, 40826), (65, 40988), (66, 41033), (67, 41039), (68, 41042), (70, 41048), (72, 41078), (78, 41180), (82, 41237), (86, 41288), (89, 41324), (90, 41336), (94, 41369), (95, 41384), (105, 41534),

Gene: Zakai\_27 Start: 25342, Stop: 26511, Start Num: 32

Candidate Starts for Zakai\_27:

(Start: 32 @25342 has 26 MA's), (43, 25510), (46, 25594), (48, 25654), (51, 25756), (53, 25783), (60, 25852), (61, 25864), (66, 25984), (67, 25990), (78, 26131), (80, 26149), (82, 26185), (87, 26248), (93, 26302), (97, 26380), (98, 26383), (101, 26407),

Gene: Zaria\_25 Start: 24389, Stop: 25561, Start Num: 32

Candidate Starts for Zaria\_25:

(30, 24359), (Start: 32 @24389 has 26 MA's), (54, 24836), (61, 24914), (63, 24959), (66, 25034), (72, 25079), (77, 25154), (78, 25181), (80, 25199), (82, 25235), (83, 25238), (87, 25298), (92, 25349), (94, 25364), (98, 25433), (101, 25457), (106, 25517),

Gene: Zerg\_30 Start: 26357, Stop: 27550, Start Num: 35

Candidate Starts for Zerg\_30:

(Start: 35 @26357 has 90 MA's), (40, 26441), (47, 26591), (48, 26645), (53, 26786), (61, 26867), (66, 26993), (67, 26999), (72, 27038), (75, 27098), (77, 27113), (80, 27155), (82, 27191), (86, 27245), (87, 27254), (96, 27368), (99, 27410), (100, 27419), (103, 27476), (104, 27479),