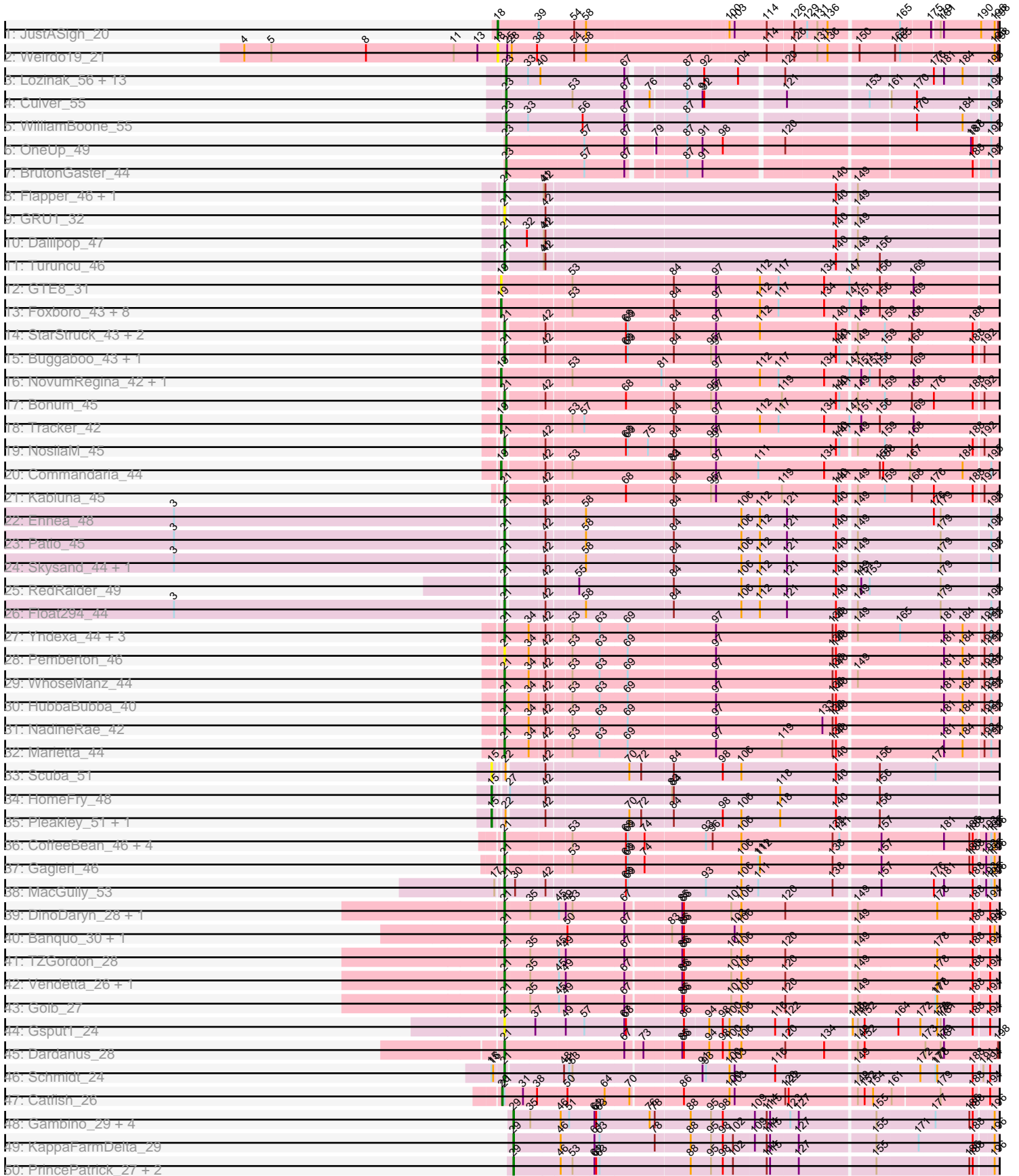
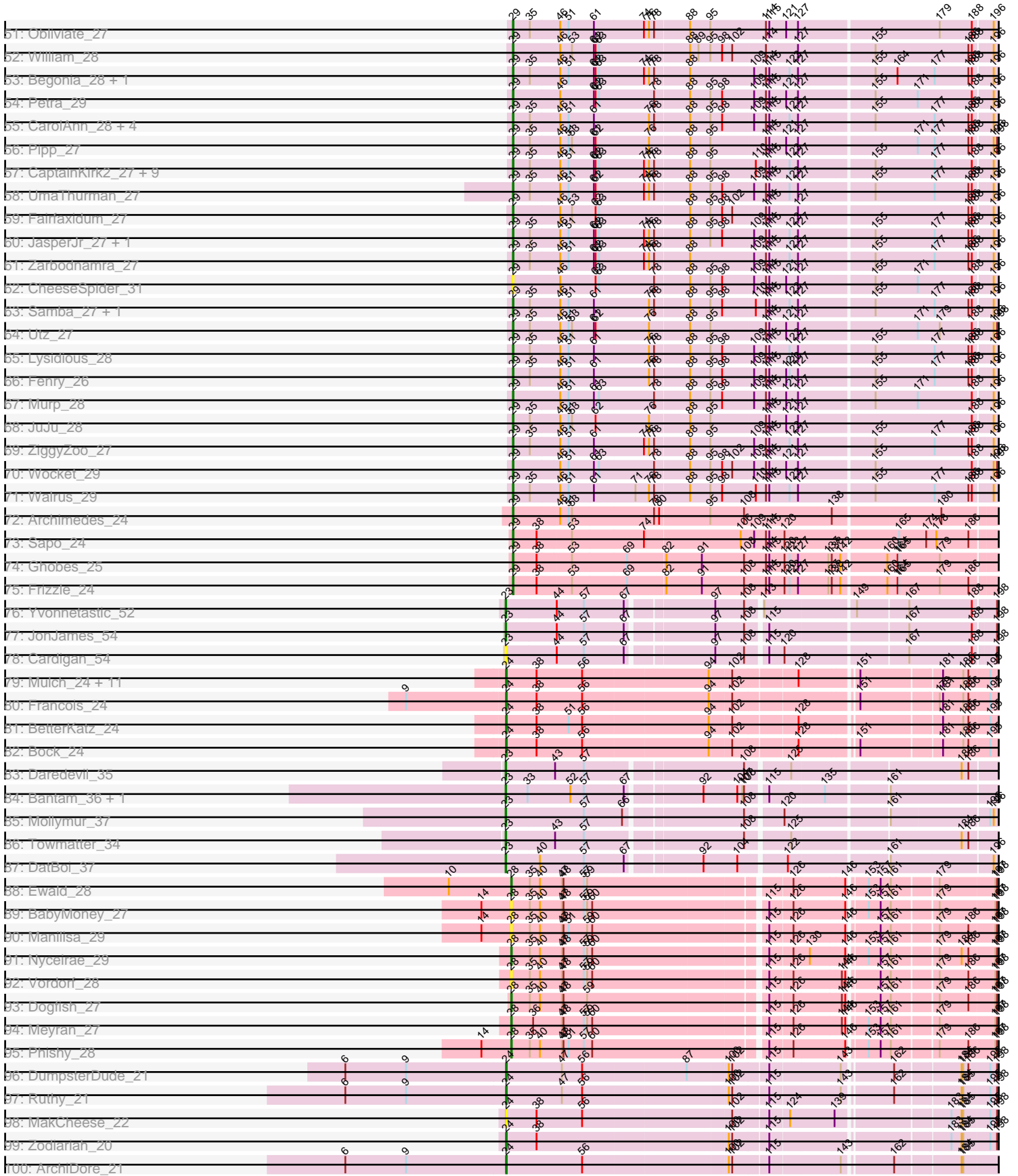


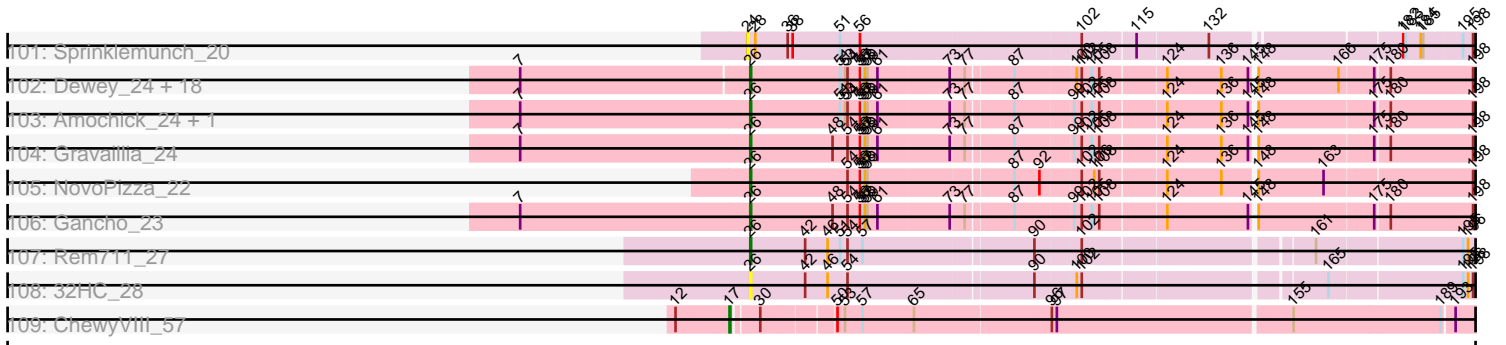
# Zoomed Pham 303108



# Zoomed Pham 303108



# Zoomed Pham 303108



Source	Read Label	Alignment Position
IRU1	Sprinklemunch_20	1, 38, 51, 56, 73, 77, 87, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190
IRU2	Dewey_24 + 18	1, 38, 51, 56, 73, 77, 87, 90, 99, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190
IRU3	Amochick_24 + 1	1, 38, 51, 56, 73, 77, 87, 90, 99, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190
IRU4	Gravallia_24	1, 38, 51, 56, 73, 77, 87, 90, 99, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190
IRU5	NovoPizza_22	1, 38, 51, 56, 73, 77, 87, 90, 99, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190
IRU6	Gancho_23	1, 38, 51, 56, 73, 77, 87, 90, 99, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190
IRU7	Rem711_27	1, 38, 51, 56, 73, 77, 87, 90, 99, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190
IRU8	32HC_28	12, 17, 30, 38, 51, 56, 65, 87, 90, 99, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190
IRU9	ChewyVIII_57	12, 17, 30, 38, 51, 56, 65, 87, 90, 99, 102, 104, 106, 115, 124, 132, 136, 140, 146, 161, 163, 173, 180, 186, 190

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 303108 Report

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

Pham number 303108 has 200 members, 19 are drafts.

Phages represented in each track:

- Track 1 : JustASigh\_20
- Track 2 : Weirido19\_21
- Track 3 : Lozinak\_56, ClubL\_55, Bachita\_57, Geeche\_54, Engineer\_57, Miskis\_53, Dusty\_54, Norvs\_56, PhinkBoden\_55, Cucurbita\_57, Aphelion\_55, Smoothie\_57, Abscondus\_54, Toniann\_55
- Track 4 : Culver\_55
- Track 5 : WilliamBoone\_55
- Track 6 : OneUp\_49
- Track 7 : BrutonGaster\_44
- Track 8 : Flapper\_46, GTE5\_33
- Track 9 : GRU1\_32
- Track 10 : Dalilpop\_47
- Track 11 : Turuncu\_46
- Track 12 : GTE8\_31
- Track 13 : Foxboro\_43, Kurt\_42, KidneyBean\_42, Emianna\_42, Arti\_42, Wheezy\_42, Jifall16\_41, Phomeo\_41, NatB6\_42
- Track 14 : StarStruck\_43, MerCougar\_43, Outis\_43
- Track 15 : Buggaboo\_43, SuperSulley\_43
- Track 16 : NovumRegina\_42, GrootJr\_44
- Track 17 : Bonum\_45
- Track 18 : Tracker\_42
- Track 19 : NosilaM\_45
- Track 20 : Commandaria\_44
- Track 21 : Kabluna\_45
- Track 22 : Ennea\_48
- Track 23 : Patio\_45
- Track 24 : Skysand\_44, Lollipop1437\_47
- Track 25 : RedRaider\_49
- Track 26 : Float294\_44
- Track 27 : Yndexa\_44, BiPauneto\_45, IDyn\_43, Sukkupi\_44
- Track 28 : Pemberton\_46
- Track 29 : WhoseManz\_44
- Track 30 : HubbaBubba\_40
- Track 31 : NadineRae\_42
- Track 32 : Marietta\_44
- Track 33 : Scuba\_51
- Track 34 : HomeFry\_48

- Track 35 : Pleakley\_51, Fury\_51
- Track 36 : CoffeeBean\_46, Braxoaddie\_46, Polyyuki\_46, Maselop\_46, Apiary\_46
- Track 37 : Gagieri\_46
- Track 38 : MacGully\_53
- Track 39 : DinoDaryn\_28, Huffy\_28
- Track 40 : Banquo\_30, TinaLin\_29
- Track 41 : TZGordon\_28
- Track 42 : Vendetta\_26, Splinter\_26
- Track 43 : Goib\_27
- Track 44 : Gsput1\_24
- Track 45 : Dardanus\_28
- Track 46 : Schmidt\_24
- Track 47 : Catfish\_26
- Track 48 : Gambino\_29, Azula\_29, Blueberry\_29, MissRona\_29, Frokostdame\_27
- Track 49 : KappaFarmDelta\_29
- Track 50 : PrincePatrick\_27, PCoral7\_28, Toast\_28
- Track 51 : Obliviate\_27
- Track 52 : William\_28
- Track 53 : Begonia\_28, Malachai\_28
- Track 54 : Petra\_29
- Track 55 : CarolAnn\_28, Jalammah\_29, Mellie\_26, Soilmate\_29, Blino\_28
- Track 56 : Pipp\_27
- Track 57 : CaptainKirk2\_27, Wisp\_26, Zilla\_27, Archis\_28, BlingBling\_27, PhrostedPhlake\_29, Delian\_28, Melba\_27, Barco\_27, MintFen\_27
- Track 58 : UmaThurman\_27
- Track 59 : Fairfaxidum\_27
- Track 60 : JasperJr\_27, Guacamole\_27
- Track 61 : Zarbodnamra\_27
- Track 62 : CheeseSpider\_31
- Track 63 : Samba\_27, Hitter\_27
- Track 64 : Utz\_27
- Track 65 : Lysidious\_28
- Track 66 : Fenry\_26
- Track 67 : Murp\_28
- Track 68 : JuJu\_28
- Track 69 : ZiggyZoo\_27
- Track 70 : Wocket\_29
- Track 71 : Walrus\_29
- Track 72 : Archimedes\_24
- Track 73 : Sapo\_24
- Track 74 : Ghobes\_25
- Track 75 : Frizzle\_24
- Track 76 : Yvonnetastic\_52
- Track 77 : JonJames\_54
- Track 78 : Cardigan\_54
- Track 79 : Mulch\_24, Chop\_24, Parada\_24, NancyRae\_24, DelRio\_25, WheatThin\_24, Nadeem\_24, Ayotoya\_24, Brylie\_24, Pimento\_25, GrandSlam\_24, Hamood\_24
- Track 80 : Francois\_24
- Track 81 : BetterKatz\_24
- Track 82 : Bock\_24
- Track 83 : Daredevil\_35
- Track 84 : Bantam\_36, SpeedDemon\_380

- Track 85 : Mollymur\_37
- Track 86 : Towmatter\_34
- Track 87 : DatBoi\_37
- Track 88 : Ewald\_28
- Track 89 : BabyMoney\_27
- Track 90 : Manilisa\_29
- Track 91 : Nyceirae\_29
- Track 92 : Vordorf\_28
- Track 93 : Dogfish\_27
- Track 94 : Meyran\_27
- Track 95 : Phishy\_28
- Track 96 : DumpsterDude\_21
- Track 97 : Ruthy\_21
- Track 98 : MakCheese\_22
- Track 99 : Zodiariah\_20
- Track 100 : ArchiDore\_21
- Track 101 : Sprinklemunch\_20
- Track 102 : Dewey\_24, Hadrien\_24, LilHazelnut\_24, Luke\_24, HH92\_24, Hail\_24, Evanesce\_24, Amymech\_24, Wishmaker\_24, Ubuntu\_24, Kinbote\_24, BloominB\_24, Forge\_24, DeepSoil15\_24, Webster2\_24, Ein37\_24, Giles\_24, OBUpride\_24, Luna22\_24
- Track 103 : Amochick\_24, Daegal\_25
- Track 104 : Gravaillia\_24
- Track 105 : NovoPizza\_22
- Track 106 : Gancho\_23
- Track 107 : Rem711\_27
- Track 108 : 32HC\_28
- Track 109 : ChewyVIII\_57

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

The start number called the most often in the published annotations is 29, it was called in 47 of the 181 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archimedes\_24, Archis\_28, Azula\_29, Barco\_27, Begonia\_28, BlingBling\_27, Blino\_28, Blueberry\_29, CaptainKirk2\_27, CarolAnn\_28, CheeseSpider\_31, Delian\_28, Fairfaxidum\_27, Fenry\_26, Frizzle\_24, Frokostdame\_27, Gambino\_29, Ghobes\_25, Guacamole\_27, Hitter\_27, Jalammah\_29, JasperJr\_27, JuJu\_28, KappaFarmDelta\_29, Lysidious\_28, Malachai\_28, Melba\_27, Mellie\_26, MintFen\_27, MissRona\_29, Murp\_28, Obliviate\_27, PCoral7\_28, Petra\_29, PhrostedPhlake\_29, Pipp\_27, PrincePatrick\_27, Samba\_27, Sapo\_24, Soilmate\_29, Toast\_28, UmaThurman\_27, Utz\_27, Walrus\_29, William\_28, Wisp\_26, Wocket\_29, Zarbodnamra\_27, ZiggyZoo\_27, Zilla\_27,

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

- 

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

- 32HC\_28, Abscondus\_54, Amochick\_24, Amymech\_24, Aphelion\_55, Apiary\_46, ArchiDore\_21, Arti\_42, Ayotoya\_24, BabyMoney\_27, Bachita\_57, Banquo\_30, Bantam\_36, BetterKatz\_24, BiPauneto\_45, BloominB\_24, Bock\_24, Bonum\_45, Braxoaddie\_46, BrutonGaster\_44, Brylie\_24, Buggaboo\_43, Cardigan\_54, Catfish\_26, ChewyVIII\_57, Chop\_24, ClubL\_55, CoffeeBean\_46, Commandaria\_44, Cucurbita\_57, Culver\_55, Daegal\_25, Dalilpop\_47, Dardanus\_28, Daredevil\_35, DatBoi\_37, DeepSoil15\_24, DelRio\_25, Dewey\_24, DinoDaryn\_28, Dogfish\_27, DumpsterDude\_21, Dusty\_54, Ein37\_24, Emianna\_42, Engineer\_57, Ennea\_48, Evanesce\_24, Ewald\_28, Flapper\_46, Float294\_44, Forge\_24, Foxboro\_43, Francois\_24, Fury\_51, GRU1\_32, GTE5\_33, GTE8\_31, Gagieri\_46, Gancho\_23, Geeche\_54, Giles\_24, Goib\_27, GrandSlam\_24, Gravallia\_24, GrootJr\_44, Gspu1\_24, HH92\_24, Hadrien\_24, Hail\_24, Hamood\_24, HomeFry\_48, HubbaBubba\_40, Huffy\_28, IDyn\_43, Jifall16\_41, JonJames\_54, JustASigh\_20, Kabluna\_45, KidneyBean\_42, Kinbote\_24, Kurt\_42, LilHazelNut\_24, Lollipop1437\_47, Lozinak\_56, Luke\_24, Luna22\_24, MacGully\_53, MakCheese\_22, Manilisa\_29, Marietta\_44, Maselop\_46, MerCougar\_43, Meyran\_27, Miskis\_53, Mollymur\_37, Mulch\_24, Nadeem\_24, NadineRae\_42, NancyRae\_24, NatB6\_42, Norvs\_56, NosilaM\_45, NovoPizza\_22, NovumRegina\_42, Nyceirae\_29, OBUpride\_24, OneUp\_49, Outis\_43, Parada\_24, Patio\_45, Pemberton\_46, PhinkBoden\_55, Phishy\_28, Phomeo\_41, Pimento\_25, Pleakley\_51, Polyyuki\_46, RedRaider\_49, Rem711\_27, Ruthy\_21, Schmidt\_24, Scuba\_51, Skysand\_44, Smoothie\_57, SpeedDemon\_380, Splinter\_26, Sprinklemunch\_20, StarStruck\_43, Sukkupi\_44, SuperSulley\_43, TZGordon\_28, TinaLin\_29, Toniann\_55, Towmatter\_34, Tracker\_42, Turuncu\_46, Ubuntu\_24, Vendetta\_26, Vordorf\_28, Webster2\_24, Weirdo19\_21, WheatThin\_24, Wheezy\_42, WhoseManz\_44, WilliamBoone\_55, Wishmaker\_24, Yndexa\_44, Yvonnestic\_52, Zodiariah\_20,

### Summary by start number:

#### Start 15:

- Found in 5 of 200 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 3 of 181
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Fury\_51 (CR5), HomeFry\_48 (CR5), Pleakley\_51 (CR5), Scuba\_51 (CR5),

#### Start 17:

- Found in 2 of 200 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 50.0% of time when present
- Phage (with cluster) where this start called: ChewyVIII\_57 (singleton),

#### Start 18:

- Found in 2 of 200 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JustASigh\_20 (AH), Weirdo19\_21 (AH),

#### Start 19:

- Found in 14 of 200 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 13 of 181
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Arti\_42 (CR2), Commandaria\_44 (CR2), Emianna\_42 (CR2), Foxboro\_43 (CR2), GTE8\_31 (CR2), GrootJr\_44 (CR2), Jifall16\_41 (CR2), KidneyBean\_42 (CR2), Kurt\_42 (CR2), NatB6\_42 (CR2), NovumRegina\_42 (CR2), Phomeo\_41 (CR2), Tracker\_42 (CR2), Wheezy\_42 (CR2),

#### Start 20:

- Found in 1 of 200 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Catfish\_26 (CU5),

#### Start 21:

- Found in 47 of 200 ( 23.5% ) of genes in pham
- Manual Annotations of this start: 42 of 181
- Called 97.9% of time when present
- Phage (with cluster) where this start called: Apiary\_46 (CR6), Banquo\_30 (CU1), BiPauneto\_45 (CR4), Bonum\_45 (CR2), Braxoaddie\_46 (CR6), Buggaboo\_43 (CR2), CoffeeBean\_46 (CR6), Dalilpop\_47 (CR1), Dardanus\_28 (CU3), DinoDaryn\_28 (CU1), Ennea\_48 (CR3), Flapper\_46 (CR1), Float294\_44 (CR3), GRU1\_32 (CR1), GTE5\_33 (CR1), Gagieri\_46 (CR6), Goib\_27 (CU1), Gspu1\_24 (CU2), HubbaBubba\_40 (CR4), Huffy\_28 (CU1), IDyn\_43 (CR4), Kabluna\_45 (CR2), Lollipop1437\_47 (CR3), MacGully\_53 (CR7), Marietta\_44 (CR4), Maselop\_46 (CR6), MerCougar\_43 (CR2), NadineRae\_42 (CR4), NosilaM\_45 (CR2), Outis\_43 (CR2), Patio\_45 (CR3), Pemberton\_46 (CR4), Polyyuki\_46 (CR6), RedRaider\_49 (CR3), Schmidt\_24 (CU4), Skysand\_44 (CR3), Splinter\_26 (CU1), StarStruck\_43 (CR2), Sukkupi\_44 (CR4), SuperSulley\_43 (CR2), TZGordon\_28 (CU1), TinaLin\_29 (CU1), Turuncu\_46 (CR1), Vendetta\_26 (CU1), WhoseManz\_44 (CR4), Yndexa\_44 (CR4),

#### Start 23:

- Found in 27 of 200 ( 13.5% ) of genes in pham
- Manual Annotations of this start: 25 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus\_54 (CQ1), Aphelion\_55 (CQ1), Bachita\_57 (CQ1), Bantam\_36 (DL), BrutonGaster\_44 (CQ2), Cardigan\_54 (DD), ClubL\_55 (CQ1), Cucurbita\_57 (CQ1), Culver\_55 (CQ1), Daredevil\_35 (DL), DatBoi\_37 (DL), Dusty\_54 (CQ1), Engineer\_57 (CQ1), Geeche\_54 (CQ1), JonJames\_54 (DD), Lozinak\_56 (CQ1), Miskis\_53 (CQ1), Mollymur\_37 (DL), Norvs\_56 (CQ1), OneUp\_49 (CQ2), PhinkBoden\_55 (CQ1), Smoothie\_57 (CQ1), SpeedDemon\_380 (DL), Toniann\_55 (CQ1), Towmatter\_34 (DL), WilliamBoone\_55 (CQ1), Yvonnetastic\_52 (DD),

#### Start 24:

- Found in 21 of 200 ( 10.5% ) of genes in pham
- Manual Annotations of this start: 19 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArchiDore\_21 (DW), Ayotoya\_24 (DI), BetterKatz\_24 (DI), Bock\_24 (DI), Brylie\_24 (DI), Chop\_24 (DI), DelRio\_25 (DI), DumpsterDude\_21 (DW), Francois\_24 (DI), GrandSlam\_24 (DI), Hamood\_24 (DI), MakCheese\_22 (DW), Mulch\_24 (DI), Nadeem\_24 (DI), NancyRae\_24 (DI), Parada\_24 (DI), Pimento\_25 (DI), Ruthy\_21 (DW), Sprinklemunch\_20 (DW), WheatThin\_24 (DI), Zodiariah\_20 (DW),

#### Start 26:

- Found in 26 of 200 ( 13.0% ) of genes in pham
- Manual Annotations of this start: 24 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC\_28 (Z), Amochick\_24 (Q), Amymech\_24 (Q), BloominB\_24 (Q), Daegal\_25 (Q), DeepSoil15\_24 (Q), Dewey\_24 (Q), Ein37\_24 (Q), Evanesce\_24 (Q), Forge\_24 (Q), Gancho\_23 (Q), Giles\_24 (Q), Gravaillia\_24 (Q), HH92\_24 (Q), Hadrien\_24 (Q), Hail\_24 (Q), Kinbote\_24 (Q), LilHazelNut\_24 (Q), Luke\_24 (Q), Luna22\_24 (Q), NovoPizza\_22 (Q), OBUpride\_24 (Q), Rem711\_27 (Z), Ubuntu\_24 (Q), Webster2\_24 (Q), Wishmaker\_24 (Q),

#### Start 28:

- Found in 10 of 200 ( 5.0% ) of genes in pham
- Manual Annotations of this start: 5 of 181
- Called 80.0% of time when present
- Phage (with cluster) where this start called: BabyMoney\_27 (DT), Dogfish\_27 (DT), Ewald\_28 (DT), Manilisa\_29 (DT), Meyran\_27 (DT), Nyceirae\_29 (DT), Phishy\_28 (DT), Vordorf\_28 (DT),

#### Start 29:

- Found in 50 of 200 ( 25.0% ) of genes in pham
- Manual Annotations of this start: 47 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archimedes\_24 (DA), Archis\_28 (CV), Azula\_29 (CV), Barco\_27 (CV), Begonia\_28 (CV), BlingBling\_27 (CV), Blino\_28 (CV), Blueberry\_29 (CV), CaptainKirk2\_27 (CV), CarolAnn\_28 (CV), CheeseSpider\_31 (CV), Delian\_28 (CV), Fairfaxidum\_27 (CV), Fenry\_26 (CV), Frizzle\_24 (DA), Frokostdame\_27 (CV), Gambino\_29 (CV), Ghobes\_25 (DA), Guacamole\_27 (CV), Hitter\_27 (CV), Jalammah\_29 (CV), JasperJr\_27 (CV), JuJu\_28 (CV), KappaFarmDelta\_29 (CV), Lysidious\_28 (CV), Malachai\_28 (CV), Melba\_27 (CV), Mellie\_26 (CV), MintFen\_27 (CV), MissRona\_29 (CV), Murp\_28 (CV), Obliviate\_27 (CV), PCoral7\_28 (CV), Petra\_29 (CV), PhrostedPhlake\_29 (CV), Pipp\_27 (CV), PrincePatrick\_27 (CV), Samba\_27 (CV), Sapo\_24 (DA), Soilmate\_29 (CV), Toast\_28 (CV), UmaThurman\_27 (CV), Utz\_27 (CV), Walrus\_29 (CV), William\_28 (CV), Wisp\_26 (CV), Wocket\_29 (CV), Zarbodnamra\_27 (CV), ZiggyZoo\_27 (CV), Zilla\_27 (CV),

### Summary by clusters:

There are 25 clusters represented in this pham: DL, DI, DD, singleton, DA, DW, DT, CU5, CU4, CU3, CU2, CU1, CQ2, CQ1, AH, Q, Z, CV, CR2, CR3, CR1, CR6, CR7, CR4, CR5,

Info for manual annotations of cluster AH:

- Start number 18 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster CQ1:

- Start number 23 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 23 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster CR1:

- Start number 21 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 19 was manually annotated 13 times for cluster CR2.
- Start number 21 was manually annotated 8 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 21 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 21 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 15 was manually annotated 3 times for cluster CR5.

Info for manual annotations of cluster CR6:

- Start number 21 was manually annotated 6 times for cluster CR6.

Info for manual annotations of cluster CR7:

- Start number 21 was manually annotated 1 time for cluster CR7.

Info for manual annotations of cluster CU1:

- Start number 21 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 21 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 21 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 20 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CV:

- Start number 29 was manually annotated 43 times for cluster CV.

Info for manual annotations of cluster DA:

- Start number 29 was manually annotated 4 times for cluster DA.

Info for manual annotations of cluster DD:

- Start number 23 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DI:

- Start number 24 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DL:

- Start number 23 was manually annotated 6 times for cluster DL.

Info for manual annotations of cluster DT:

- Start number 28 was manually annotated 5 times for cluster DT.

Info for manual annotations of cluster DW:

- Start number 24 was manually annotated 4 times for cluster DW.

Info for manual annotations of cluster Q:

- Start number 26 was manually annotated 23 times for cluster Q.

Info for manual annotations of cluster Z:

- Start number 26 was manually annotated 1 time for cluster Z.

### **Gene Information:**

Gene: 32HC\_28 Start: 21299, Stop: 22384, Start Num: 26

Candidate Starts for 32HC\_28:

(Start: 26 @21299 has 24 MA's), (42, 21362), (46, 21389), (54, 21413), (90, 21617), (100, 21662), (102, 21668), (165, 21926), (195, 22079), (196, 22085), (198, 22091), (223, 22238), (235, 22295), (247, 22355), (251, 22367), (254, 22376),

Gene: Abscondus\_54 Start: 34012, Stop: 35094, Start Num: 23

Candidate Starts for Abscondus\_54:

(Start: 23 @34012 has 25 MA's), (33, 34051), (40, 34072), (67, 34219), (87, 34309), (92, 34339), (104, 34399), (120, 34468), (176, 34705), (181, 34723), (184, 34756), (195, 34798), (212, 34891), (220, 34936), (236, 35011), (237, 35014), (249, 35074), (250, 35077),

Gene: Amochick\_24 Start: 19756, Stop: 20859, Start Num: 26

Candidate Starts for Amochick\_24:

(7, 19486), (Start: 26 @19756 has 24 MA's), (51, 19861), (53, 19867), (54, 19870), (56, 19885), (57, 19888), (58, 19891), (59, 19894), (61, 19903), (73, 19987), (77, 20002), (87, 20053), (99, 20119), (102, 20128), (105, 20140), (108, 20149), (124, 20221), (136, 20284), (145, 20314), (148, 20317), (175, 20452), (180, 20467), (198, 20566), (200, 20575), (211, 20647), (227, 20731), (234, 20764), (235, 20770), (254, 20851),

Gene: Amymech\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Amymech\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Aphelion\_55 Start: 34281, Stop: 35363, Start Num: 23

Candidate Starts for Aphelion\_55:

(Start: 23 @34281 has 25 MA's), (33, 34320), (40, 34341), (67, 34488), (87, 34578), (92, 34608), (104, 34668), (120, 34737), (176, 34974), (181, 34992), (184, 35025), (195, 35067), (212, 35160), (220, 35205), (236, 35280), (237, 35283), (249, 35343), (250, 35346),

Gene: Apiary\_46 Start: 32958, Stop: 34064, Start Num: 21

Candidate Starts for Apiary\_46:

(Start: 21 @32958 has 42 MA's), (53, 33057), (68, 33150), (69, 33153), (74, 33183), (93, 33288), (96, 33300), (106, 33351), (138, 33513), (141, 33525), (157, 33591), (181, 33699), (186, 33744), (188, 33750), (193, 33768), (195, 33777), (196, 33783), (216, 33879), (219, 33888), (223, 33903), (231, 33942),

Gene: ArchiDore\_21 Start: 18396, Stop: 19496, Start Num: 24

Candidate Starts for ArchiDore\_21:

(6, 18114), (9, 18222), (Start: 24 @18396 has 19 MA's), (56, 18528), (100, 18771), (102, 18777), (115, 18837), (143, 18954), (162, 19032), (184, 19140), (185, 19143), (201, 19215), (203, 19233), (223, 19350), (235, 19407), (254, 19488),

Gene: Archimedes\_24 Start: 20193, Stop: 21275, Start Num: 29

Candidate Starts for Archimedes\_24:

(Start: 29 @20193 has 47 MA's), (46, 20271), (51, 20286), (53, 20292), (78, 20433), (80, 20442), (95, 20529), (108, 20589), (138, 20739), (180, 20913), (215, 21096), (222, 21120), (228, 21150), (253, 21267),

Gene: Archis\_28 Start: 22530, Stop: 23597, Start Num: 29

Candidate Starts for Archis\_28:

(Start: 29 @22530 has 47 MA's), (35, 22560), (46, 22608), (51, 22623), (61, 22665), (62, 22668), (63, 22674), (74, 22752), (76, 22761), (78, 22770), (88, 22830), (95, 22866), (110, 22944), (114, 22962), (115, 22968), (123, 23001), (127, 23016), (155, 23142), (177, 23238), (188, 23304), (196, 23334), (252, 23580),

Gene: Arti\_42 Start: 31466, Stop: 32593, Start Num: 19

Candidate Starts for Arti\_42:

(Start: 19 @31466 has 13 MA's), (53, 31571), (84, 31745), (97, 31820), (112, 31898), (117, 31931), (134, 32012), (147, 32057), (151, 32078), (156, 32111), (169, 32171), (242, 32525), (251, 32558),

Gene: Ayotoya\_24 Start: 20291, Stop: 21391, Start Num: 24

Candidate Starts for Ayotoya\_24:

(Start: 24 @20291 has 19 MA's), (38, 20342), (56, 20423), (94, 20636), (102, 20672), (128, 20780), (151, 20867), (181, 21002), (185, 21038), (186, 21047), (195, 21083), (207, 21149), (213, 21194), (223, 21245), (229, 21272), (232, 21290), (249, 21368), (254, 21383),

Gene: Azula\_29 Start: 22628, Stop: 23695, Start Num: 29

Candidate Starts for Azula\_29:

(Start: 29 @22628 has 47 MA's), (35, 22658), (46, 22706), (51, 22721), (61, 22763), (62, 22766), (63, 22772), (76, 22859), (78, 22868), (88, 22928), (95, 22964), (98, 22985), (109, 23039), (114, 23060), (115, 23066), (123, 23099), (127, 23114), (155, 23240), (177, 23336), (186, 23396), (188, 23402), (196, 23432), (215, 23513), (252, 23678),

Gene: BabyMoney\_27 Start: 22309, Stop: 23373, Start Num: 28

Candidate Starts for BabyMoney\_27:

(14, 22258), (Start: 28 @22309 has 5 MA's), (35, 22342), (40, 22360), (47, 22399), (48, 22402), (57, 22438), (59, 22444), (60, 22450), (115, 22738), (126, 22777), (146, 22864), (153, 22891), (157, 22912), (161, 22930), (179, 23005), (197, 23101), (198, 23104), (229, 23251), (235, 23281), (249, 23347), (254, 23365),

Gene: Bachita\_57 Start: 34714, Stop: 35796, Start Num: 23

Candidate Starts for Bachita\_57:

(Start: 23 @34714 has 25 MA's), (33, 34753), (40, 34774), (67, 34921), (87, 35011), (92, 35041), (104, 35101), (120, 35170), (176, 35407), (181, 35425), (184, 35458), (195, 35500), (212, 35593), (220, 35638), (236, 35713), (237, 35716), (249, 35776), (250, 35779),

Gene: Banquo\_30 Start: 20886, Stop: 22001, Start Num: 21

Candidate Starts for Banquo\_30:

(Start: 21 @20886 has 42 MA's), (50, 20991), (67, 21090), (83, 21159), (85, 21177), (86, 21180), (103, 21270), (106, 21282), (149, 21477), (188, 21675), (194, 21699), (196, 21705), (212, 21780), (213,

21789), (221, 21825), (228, 21858), (240, 21924),

Gene: Bantam\_36 Start: 31839, Stop: 32912, Start Num: 23

Candidate Starts for Bantam\_36:

(Start: 23 @31839 has 25 MA's), (33, 31878), (52, 31950), (57, 31974), (67, 32043), (92, 32163), (104, 32223), (107, 32232), (108, 32235), (115, 32268), (135, 32361), (161, 32457), (224, 32775),

Gene: Barco\_27 Start: 22319, Stop: 23386, Start Num: 29

Candidate Starts for Barco\_27:

(Start: 29 @22319 has 47 MA's), (35, 22349), (46, 22397), (51, 22412), (61, 22454), (62, 22457), (63, 22463), (74, 22541), (76, 22550), (78, 22559), (88, 22619), (95, 22655), (110, 22733), (114, 22751), (115, 22757), (123, 22790), (127, 22805), (155, 22931), (177, 23027), (188, 23093), (196, 23123), (252, 23369),

Gene: Begonia\_28 Start: 22800, Stop: 23867, Start Num: 29

Candidate Starts for Begonia\_28:

(Start: 29 @22800 has 47 MA's), (35, 22830), (46, 22878), (51, 22893), (61, 22935), (62, 22938), (63, 22944), (74, 23022), (76, 23031), (78, 23040), (88, 23100), (109, 23211), (114, 23232), (115, 23238), (123, 23271), (127, 23286), (155, 23412), (164, 23448), (177, 23508), (186, 23568), (188, 23574), (196, 23604), (215, 23685), (252, 23850),

Gene: BetterKatz\_24 Start: 19764, Stop: 20864, Start Num: 24

Candidate Starts for BetterKatz\_24:

(Start: 24 @19764 has 19 MA's), (38, 19815), (51, 19872), (56, 19896), (94, 20109), (102, 20145), (128, 20253), (181, 20475), (185, 20511), (186, 20520), (195, 20556), (207, 20622), (213, 20667), (223, 20718), (229, 20745), (232, 20763), (249, 20841), (254, 20856),

Gene: BiPauneto\_45 Start: 31223, Stop: 32338, Start Num: 21

Candidate Starts for BiPauneto\_45:

(Start: 21 @31223 has 42 MA's), (34, 31265), (42, 31289), (53, 31325), (63, 31373), (69, 31421), (97, 31574), (138, 31781), (140, 31787), (149, 31817), (165, 31892), (181, 31967), (184, 32000), (192, 32033), (195, 32045), (229, 32201), (239, 32255), (242, 32270), (249, 32297),

Gene: BlingBling\_27 Start: 22319, Stop: 23386, Start Num: 29

Candidate Starts for BlingBling\_27:

(Start: 29 @22319 has 47 MA's), (35, 22349), (46, 22397), (51, 22412), (61, 22454), (62, 22457), (63, 22463), (74, 22541), (76, 22550), (78, 22559), (88, 22619), (95, 22655), (110, 22733), (114, 22751), (115, 22757), (123, 22790), (127, 22805), (155, 22931), (177, 23027), (188, 23093), (196, 23123), (252, 23369),

Gene: Blino\_28 Start: 22410, Stop: 23477, Start Num: 29

Candidate Starts for Blino\_28:

(Start: 29 @22410 has 47 MA's), (35, 22440), (46, 22488), (51, 22503), (61, 22545), (76, 22641), (78, 22650), (88, 22710), (95, 22746), (98, 22767), (109, 22821), (114, 22842), (115, 22848), (123, 22881), (127, 22896), (155, 23022), (177, 23118), (186, 23178), (188, 23184), (196, 23214), (252, 23460),

Gene: BloominB\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for BloominB\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Blueberry\_29 Start: 22628, Stop: 23695, Start Num: 29

Candidate Starts for Blueberry\_29:

(Start: 29 @22628 has 47 MA's), (35, 22658), (46, 22706), (51, 22721), (61, 22763), (62, 22766), (63, 22772), (76, 22859), (78, 22868), (88, 22928), (95, 22964), (98, 22985), (109, 23039), (114, 23060), (115, 23066), (123, 23099), (127, 23114), (155, 23240), (177, 23336), (186, 23396), (188, 23402), (196, 23432), (215, 23513), (252, 23678),

Gene: Bock\_24 Start: 19514, Stop: 20614, Start Num: 24

Candidate Starts for Bock\_24:

(Start: 24 @19514 has 19 MA's), (38, 19565), (56, 19646), (94, 19859), (102, 19895), (128, 20003), (151, 20090), (181, 20225), (185, 20261), (186, 20270), (195, 20306), (203, 20351), (207, 20372), (213, 20417), (223, 20468), (229, 20495), (232, 20513), (249, 20591), (254, 20606),

Gene: Bonum\_45 Start: 31797, Stop: 32906, Start Num: 21

Candidate Starts for Bonum\_45:

(Start: 21 @31797 has 42 MA's), (42, 31857), (68, 31986), (84, 32067), (95, 32133), (97, 32142), (119, 32259), (140, 32355), (141, 32361), (149, 32385), (159, 32433), (168, 32481), (176, 32517), (188, 32586), (192, 32601), (204, 32652), (223, 32742), (236, 32802),

Gene: Braxoaddie\_46 Start: 32947, Stop: 34053, Start Num: 21

Candidate Starts for Braxoaddie\_46:

(Start: 21 @32947 has 42 MA's), (53, 33046), (68, 33139), (69, 33142), (74, 33172), (93, 33277), (96, 33289), (106, 33340), (138, 33502), (141, 33514), (157, 33580), (181, 33688), (186, 33733), (188, 33739), (193, 33757), (195, 33766), (196, 33772), (216, 33868), (219, 33877), (223, 33892), (231, 33931),

Gene: BrutonGaster\_44 Start: 31359, Stop: 32438, Start Num: 23

Candidate Starts for BrutonGaster\_44:

(Start: 23 @31359 has 25 MA's), (57, 31494), (67, 31563), (87, 31653), (91, 31680), (188, 32118), (195, 32142),

Gene: Brylie\_24 Start: 19505, Stop: 20605, Start Num: 24

Candidate Starts for Brylie\_24:

(Start: 24 @19505 has 19 MA's), (38, 19556), (56, 19637), (94, 19850), (102, 19886), (128, 19994), (151, 20081), (181, 20216), (185, 20252), (186, 20261), (195, 20297), (207, 20363), (213, 20408), (223, 20459), (229, 20486), (232, 20504), (249, 20582), (254, 20597),

Gene: Buggaboo\_43 Start: 32276, Stop: 33385, Start Num: 21

Candidate Starts for Buggaboo\_43:

(Start: 21 @32276 has 42 MA's), (42, 32336), (68, 32465), (69, 32468), (84, 32546), (95, 32612), (97, 32621), (140, 32834), (141, 32840), (149, 32864), (159, 32912), (168, 32960), (188, 33065), (192, 33080), (204, 33131), (223, 33221), (236, 33281),

Gene: CaptainKirk2\_27 Start: 22340, Stop: 23407, Start Num: 29

Candidate Starts for CaptainKirk2\_27:

(Start: 29 @22340 has 47 MA's), (35, 22370), (46, 22418), (51, 22433), (61, 22475), (62, 22478), (63, 22484), (74, 22562), (76, 22571), (78, 22580), (88, 22640), (95, 22676), (110, 22754), (114, 22772), (115, 22778), (123, 22811), (127, 22826), (155, 22952), (177, 23048), (188, 23114), (196, 23144), (252, 23390),

Gene: Cardigan\_54 Start: 37401, Stop: 38477, Start Num: 23

Candidate Starts for Cardigan\_54:

(Start: 23 @37401 has 25 MA's), (44, 37491), (57, 37539), (67, 37608), (97, 37749), (108, 37800), (115, 37833), (120, 37857), (167, 38058), (188, 38163), (198, 38199), (214, 38289), (239, 38418), (247, 38454),

Gene: CarolAnn\_28 Start: 22409, Stop: 23476, Start Num: 29

Candidate Starts for CarolAnn\_28:

(Start: 29 @22409 has 47 MA's), (35, 22439), (46, 22487), (51, 22502), (61, 22544), (76, 22640), (78, 22649), (88, 22709), (95, 22745), (98, 22766), (109, 22820), (114, 22841), (115, 22847), (123, 22880), (127, 22895), (155, 23021), (177, 23117), (186, 23177), (188, 23183), (196, 23213), (252, 23459),

Gene: Catfish\_26 Start: 21557, Stop: 22666, Start Num: 20

Candidate Starts for Catfish\_26:

(Start: 20 @21557 has 1 MA's), (Start: 21 @21560 has 42 MA's), (31, 21593), (38, 21617), (50, 21668), (64, 21734), (70, 21776), (86, 21857), (100, 21938), (103, 21947), (120, 22034), (122, 22040), (149, 22154), (152, 22163), (154, 22178), (161, 22208), (179, 22289), (188, 22346), (194, 22370), (227, 22514), (240, 22586), (242, 22595), (243, 22601), (245, 22613), (248, 22619), (255, 22643),

Gene: CheeseSpider\_31 Start: 22876, Stop: 23943, Start Num: 29

Candidate Starts for CheeseSpider\_31:

(Start: 29 @22876 has 47 MA's), (46, 22954), (62, 23014), (63, 23020), (78, 23116), (88, 23176), (95, 23212), (98, 23233), (109, 23287), (114, 23308), (115, 23314), (121, 23341), (127, 23362), (155, 23488), (171, 23560), (188, 23650), (196, 23680), (228, 23815), (232, 23836), (252, 23926),

Gene: ChewyVIII\_57 Start: 39792, Stop: 40907, Start Num: 17

Candidate Starts for ChewyVIII\_57:

(12, 39729), (Start: 17 @39792 has 1 MA's), (30, 39816), (50, 39891), (53, 39900), (57, 39921), (65, 39981), (96, 40140), (97, 40146), (155, 40422), (189, 40596), (193, 40608), (202, 40644), (216, 40719), (223, 40743), (236, 40803),

Gene: Chop\_24 Start: 20039, Stop: 21139, Start Num: 24

Candidate Starts for Chop\_24:

(Start: 24 @20039 has 19 MA's), (38, 20090), (56, 20171), (94, 20384), (102, 20420), (128, 20528), (151, 20615), (181, 20750), (185, 20786), (186, 20795), (195, 20831), (207, 20897), (213, 20942), (223, 20993), (229, 21020), (232, 21038), (249, 21116), (254, 21131),

Gene: ClubL\_55 Start: 34203, Stop: 35285, Start Num: 23

Candidate Starts for ClubL\_55:

(Start: 23 @34203 has 25 MA's), (33, 34242), (40, 34263), (67, 34410), (87, 34500), (92, 34530), (104, 34590), (120, 34659), (176, 34896), (181, 34914), (184, 34947), (195, 34989), (212, 35082), (220, 35127), (236, 35202), (237, 35205), (249, 35265), (250, 35268),

Gene: CoffeeBean\_46 Start: 32905, Stop: 34011, Start Num: 21

Candidate Starts for CoffeeBean\_46:

(Start: 21 @32905 has 42 MA's), (53, 33004), (68, 33097), (69, 33100), (74, 33130), (93, 33235), (96, 33247), (106, 33298), (138, 33460), (141, 33472), (157, 33538), (181, 33646), (186, 33691), (188, 33697), (193, 33715), (195, 33724), (196, 33730), (216, 33826), (219, 33835), (223, 33850), (231, 33889),

Gene: Commandaria\_44 Start: 32797, Stop: 33921, Start Num: 19

Candidate Starts for Commandaria\_44:

(Start: 19 @32797 has 13 MA's), (42, 32863), (53, 32899), (83, 33070), (84, 33073), (97, 33148), (111, 33223), (134, 33340), (156, 33439), (158, 33445), (167, 33493), (184, 33583), (195, 33628), (242, 33853), (251, 33886),

Gene: Cucurbita\_57 Start: 35573, Stop: 36655, Start Num: 23

Candidate Starts for Cucurbita\_57:

(Start: 23 @35573 has 25 MA's), (33, 35612), (40, 35633), (67, 35780), (87, 35870), (92, 35900), (104, 35960), (120, 36029), (176, 36266), (181, 36284), (184, 36317), (195, 36359), (212, 36452), (220, 36497), (236, 36572), (237, 36575), (249, 36635), (250, 36638),

Gene: Culver\_55 Start: 34012, Stop: 35187, Start Num: 23

Candidate Starts for Culver\_55:

(Start: 23 @34012 has 25 MA's), (53, 34129), (67, 34219), (76, 34252), (87, 34309), (91, 34336), (92, 34339), (121, 34471), (153, 34603), (161, 34636), (170, 34681), (195, 34798), (206, 34852), (212, 34891), (220, 34936), (235, 35008), (258, 35176),

Gene: Daegal\_25 Start: 20044, Stop: 21147, Start Num: 26

Candidate Starts for Daegal\_25:

(7, 19774), (Start: 26 @20044 has 24 MA's), (51, 20149), (53, 20155), (54, 20158), (56, 20173), (57, 20176), (58, 20179), (59, 20182), (61, 20191), (73, 20275), (77, 20290), (87, 20341), (99, 20407), (102, 20416), (105, 20428), (108, 20437), (124, 20509), (136, 20572), (145, 20602), (148, 20605), (175, 20740), (180, 20755), (198, 20854), (200, 20863), (211, 20935), (227, 21019), (234, 21052), (235, 21058), (254, 21139),

Gene: Dalilpop\_47 Start: 33773, Stop: 34882, Start Num: 21

Candidate Starts for Dalilpop\_47:

(Start: 21 @33773 has 42 MA's), (32, 33806), (41, 33830), (42, 33833), (140, 34331), (149, 34361), (229, 34745), (236, 34778),

Gene: Dardanus\_28 Start: 19721, Stop: 20836, Start Num: 21

Candidate Starts for Dardanus\_28:

(Start: 21 @19721 has 42 MA's), (67, 19928), (73, 19955), (85, 20015), (86, 20018), (94, 20063), (98, 20087), (100, 20099), (106, 20120), (120, 20195), (134, 20264), (149, 20315), (152, 20324), (173, 20429), (179, 20456), (181, 20462), (198, 20549), (208, 20591), (209, 20597), (222, 20660), (227, 20684), (229, 20693), (230, 20696), (240, 20756), (242, 20765),

Gene: Daredevil\_35 Start: 30347, Stop: 31420, Start Num: 23

Candidate Starts for Daredevil\_35:

(Start: 23 @30347 has 25 MA's), (43, 30434), (57, 30482), (108, 30743), (125, 30812), (184, 31085), (186, 31097), (238, 31340),

Gene: DatBoi\_37 Start: 32569, Stop: 33642, Start Num: 23

Candidate Starts for DatBoi\_37:

(Start: 23 @32569 has 25 MA's), (40, 32629), (57, 32704), (67, 32773), (92, 32893), (104, 32953), (122, 33028), (161, 33187), (196, 33358), (199, 33370), (226, 33511),

Gene: DeepSoil15\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for DeepSoil15\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: DelRio\_25 Start: 20513, Stop: 21613, Start Num: 24

Candidate Starts for DelRio\_25:

(Start: 24 @20513 has 19 MA's), (38, 20564), (56, 20645), (94, 20858), (102, 20894), (128, 21002), (151, 21089), (181, 21224), (185, 21260), (186, 21269), (195, 21305), (207, 21371), (213, 21416), (223, 21467), (229, 21494), (232, 21512), (249, 21590), (254, 21605),

Gene: Delian\_28 Start: 22338, Stop: 23405, Start Num: 29

Candidate Starts for Delian\_28:

(Start: 29 @22338 has 47 MA's), (35, 22368), (46, 22416), (51, 22431), (61, 22473), (62, 22476), (63, 22482), (74, 22560), (76, 22569), (78, 22578), (88, 22638), (95, 22674), (110, 22752), (114, 22770), (115, 22776), (123, 22809), (127, 22824), (155, 22950), (177, 23046), (188, 23112), (196, 23142), (252, 23388),

Gene: Dewey\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Dewey\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: DinoDaryn\_28 Start: 19747, Stop: 20865, Start Num: 21

Candidate Starts for DinoDaryn\_28:

(Start: 21 @19747 has 42 MA's), (35, 19789), (45, 19837), (49, 19849), (53, 19861), (67, 19951), (85, 20038), (86, 20041), (101, 20125), (106, 20143), (120, 20218), (149, 20338), (178, 20473), (188, 20536), (194, 20560), (212, 20641), (213, 20650), (228, 20719), (229, 20722), (230, 20725), (240, 20785), (242, 20794),

Gene: Dogfish\_27 Start: 22608, Stop: 23672, Start Num: 28

Candidate Starts for Dogfish\_27:

(Start: 28 @22608 has 5 MA's), (35, 22641), (40, 22659), (47, 22698), (48, 22701), (59, 22743), (115, 23037), (126, 23076), (144, 23157), (146, 23163), (157, 23211), (161, 23229), (179, 23304), (186, 23355), (197, 23400), (198, 23403), (229, 23550), (235, 23580), (249, 23646), (254, 23664),

Gene: DumpsterDude\_21 Start: 18369, Stop: 19469, Start Num: 24

Candidate Starts for DumpsterDude\_21:

(6, 18087), (9, 18195), (Start: 24 @18369 has 19 MA's), (47, 18465), (56, 18501), (87, 18675), (100, 18744), (102, 18750), (115, 18810), (143, 18927), (162, 19005), (184, 19113), (185, 19116), (186, 19125), (195, 19161), (198, 19173), (201, 19188), (223, 19323), (234, 19374), (235, 19380), (254, 19461),

Gene: Dusty\_54 Start: 34012, Stop: 35094, Start Num: 23

Candidate Starts for Dusty\_54:

(Start: 23 @34012 has 25 MA's), (33, 34051), (40, 34072), (67, 34219), (87, 34309), (92, 34339), (104, 34399), (120, 34468), (176, 34705), (181, 34723), (184, 34756), (195, 34798), (212, 34891), (220, 34936), (236, 35011), (237, 35014), (249, 35074), (250, 35077),

Gene: Ein37\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Ein37\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Emianna\_42 Start: 32479, Stop: 33606, Start Num: 19

Candidate Starts for Emianna\_42:

(Start: 19 @32479 has 13 MA's), (53, 32584), (84, 32758), (97, 32833), (112, 32911), (117, 32944), (134, 33025), (147, 33070), (151, 33091), (156, 33124), (169, 33184), (242, 33538), (251, 33571),

Gene: Engineer\_57 Start: 34687, Stop: 35769, Start Num: 23

Candidate Starts for Engineer\_57:

(Start: 23 @34687 has 25 MA's), (33, 34726), (40, 34747), (67, 34894), (87, 34984), (92, 35014), (104, 35074), (120, 35143), (176, 35380), (181, 35398), (184, 35431), (195, 35473), (212, 35566), (220, 35611), (236, 35686), (237, 35689), (249, 35749), (250, 35752),

Gene: Ennea\_48 Start: 33125, Stop: 34234, Start Num: 21

Candidate Starts for Ennea\_48:

(1, 32039), (2, 32072), (3, 32552), (Start: 21 @33125 has 42 MA's), (42, 33185), (58, 33245), (84, 33395), (106, 33515), (112, 33548), (121, 33596), (140, 33683), (149, 33713), (176, 33845), (179, 33857), (195, 33941), (229, 34097), (249, 34193),

Gene: Evanesce\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Evanesce\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Ewald\_28 Start: 22994, Stop: 24058, Start Num: 28

Candidate Starts for Ewald\_28:

(10, 22886), (Start: 28 @22994 has 5 MA's), (35, 23027), (40, 23045), (47, 23084), (48, 23087), (57, 23123), (59, 23129), (126, 23462), (146, 23549), (153, 23576), (157, 23597), (161, 23615), (179, 23690), (197, 23786), (198, 23789), (229, 23936), (235, 23966), (249, 24032), (254, 24050),

Gene: Fairfaxidum\_27 Start: 22634, Stop: 23698, Start Num: 29

Candidate Starts for Fairfaxidum\_27:

(Start: 29 @22634 has 47 MA's), (46, 22712), (53, 22733), (62, 22772), (63, 22778), (88, 22934), (95, 22970), (98, 22991), (102, 23009), (114, 23063), (115, 23069), (127, 23117), (186, 23399), (188, 23405), (196, 23435), (228, 23570), (235, 23603), (247, 23666), (252, 23681), (253, 23687),

Gene: Fenry\_26 Start: 22038, Stop: 23105, Start Num: 29

Candidate Starts for Fenry\_26:

(Start: 29 @22038 has 47 MA's), (35, 22068), (46, 22116), (51, 22131), (61, 22173), (76, 22269), (78, 22278), (88, 22338), (95, 22374), (98, 22395), (109, 22449), (114, 22470), (115, 22476), (121, 22503), (123, 22509), (127, 22524), (155, 22650), (177, 22746), (186, 22806), (188, 22812), (196, 22842), (252, 23088),

Gene: Flapper\_46 Start: 32840, Stop: 33949, Start Num: 21

Candidate Starts for Flapper\_46:

(Start: 21 @32840 has 42 MA's), (41, 32897), (42, 32900), (140, 33398), (149, 33428), (229, 33812), (236, 33845), (249, 33908),

Gene: Float294\_44 Start: 32567, Stop: 33676, Start Num: 21

Candidate Starts for Float294\_44:

(1, 31481), (2, 31514), (3, 31994), (Start: 21 @32567 has 42 MA's), (42, 32627), (58, 32687), (84, 32837), (106, 32957), (112, 32990), (121, 33038), (140, 33125), (149, 33155), (179, 33299), (195,

33383), (229, 33539), (249, 33635),

Gene: Forge\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Forge\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Foxboro\_43 Start: 32985, Stop: 34112, Start Num: 19

Candidate Starts for Foxboro\_43:

(Start: 19 @32985 has 13 MA's), (53, 33090), (84, 33264), (97, 33339), (112, 33417), (117, 33450), (134, 33531), (147, 33576), (151, 33597), (156, 33630), (169, 33690), (242, 34044), (251, 34077),

Gene: Francois\_24 Start: 19528, Stop: 20628, Start Num: 24

Candidate Starts for Francois\_24:

(9, 19357), (Start: 24 @19528 has 19 MA's), (38, 19579), (56, 19660), (94, 19873), (102, 19909), (151, 20104), (179, 20233), (181, 20239), (185, 20275), (186, 20284), (195, 20320), (203, 20365), (213, 20431), (223, 20482), (229, 20509), (232, 20527), (249, 20605), (254, 20620),

Gene: Frizzle\_24 Start: 20324, Stop: 21406, Start Num: 29

Candidate Starts for Frizzle\_24:

(Start: 29 @20324 has 47 MA's), (38, 20366), (53, 20423), (69, 20516), (82, 20582), (91, 20645), (108, 20720), (114, 20756), (115, 20762), (120, 20786), (123, 20795), (127, 20810), (137, 20864), (138, 20870), (142, 20882), (160, 20957), (164, 20972), (165, 20975), (179, 21041), (186, 21092), (215, 21227), (222, 21251), (229, 21284), (234, 21308), (253, 21398),

Gene: Frokostdame\_27 Start: 22282, Stop: 23349, Start Num: 29

Candidate Starts for Frokostdame\_27:

(Start: 29 @22282 has 47 MA's), (35, 22312), (46, 22360), (51, 22375), (61, 22417), (62, 22420), (63, 22426), (76, 22513), (78, 22522), (88, 22582), (95, 22618), (98, 22639), (109, 22693), (114, 22714), (115, 22720), (123, 22753), (127, 22768), (155, 22894), (177, 22990), (186, 23050), (188, 23056), (196, 23086), (215, 23167), (252, 23332),

Gene: Fury\_51 Start: 32338, Stop: 33456, Start Num: 15

Candidate Starts for Fury\_51:

(Start: 15 @32338 has 3 MA's), (22, 32350), (42, 32407), (70, 32542), (72, 32563), (84, 32617), (98, 32704), (106, 32737), (118, 32806), (140, 32905), (156, 32974), (210, 33229), (223, 33292), (249, 33415), (250, 33418), (251, 33421),

Gene: GRU1\_32 Start: 24740, Stop: 25849, Start Num: 21

Candidate Starts for GRU1\_32:

(Start: 21 @24740 has 42 MA's), (42, 24800), (140, 25298), (149, 25328), (229, 25712), (236, 25745), (239, 25766),

Gene: GTE5\_33 Start: 25695, Stop: 26804, Start Num: 21

Candidate Starts for GTE5\_33:

(Start: 21 @25695 has 42 MA's), (41, 25752), (42, 25755), (140, 26253), (149, 26283), (229, 26667), (236, 26700), (249, 26763),

Gene: GTE8\_31 Start: 25738, Stop: 26865, Start Num: 19

Candidate Starts for GTE8\_31:

(Start: 19 @25738 has 13 MA's), (53, 25843), (84, 26017), (97, 26092), (112, 26170), (117, 26203), (134, 26284), (147, 26329), (156, 26383), (169, 26443), (242, 26797), (251, 26830),

Gene: Gagieri\_46 Start: 32782, Stop: 33885, Start Num: 21

Candidate Starts for Gagieri\_46:

(Start: 21 @32782 has 42 MA's), (53, 32878), (68, 32971), (69, 32974), (74, 33004), (106, 33172), (111, 33202), (112, 33205), (138, 33334), (157, 33412), (186, 33565), (188, 33571), (193, 33589), (195, 33598), (196, 33604), (216, 33700), (223, 33724),

Gene: Gambino\_29 Start: 22628, Stop: 23695, Start Num: 29

Candidate Starts for Gambino\_29:

(Start: 29 @22628 has 47 MA's), (35, 22658), (46, 22706), (51, 22721), (61, 22763), (62, 22766), (63, 22772), (76, 22859), (78, 22868), (88, 22928), (95, 22964), (98, 22985), (109, 23039), (114, 23060), (115, 23066), (123, 23099), (127, 23114), (155, 23240), (177, 23336), (186, 23396), (188, 23402), (196, 23432), (215, 23513), (252, 23678),

Gene: Gancho\_23 Start: 19474, Stop: 20577, Start Num: 26

Candidate Starts for Gancho\_23:

(7, 19204), (Start: 26 @19474 has 24 MA's), (48, 19570), (54, 19588), (56, 19603), (57, 19606), (58, 19609), (59, 19612), (61, 19621), (73, 19705), (77, 19720), (87, 19771), (99, 19837), (102, 19846), (105, 19858), (108, 19867), (124, 19939), (145, 20032), (148, 20035), (175, 20170), (180, 20185), (198, 20284), (200, 20293), (205, 20332), (211, 20365), (227, 20449), (235, 20488), (254, 20569),

Gene: Geeche\_54 Start: 34103, Stop: 35185, Start Num: 23

Candidate Starts for Geeche\_54:

(Start: 23 @34103 has 25 MA's), (33, 34142), (40, 34163), (67, 34310), (87, 34400), (92, 34430), (104, 34490), (120, 34559), (176, 34796), (181, 34814), (184, 34847), (195, 34889), (212, 34982), (220, 35027), (236, 35102), (237, 35105), (249, 35165), (250, 35168),

Gene: Ghobes\_25 Start: 20324, Stop: 21406, Start Num: 29

Candidate Starts for Ghobes\_25:

(Start: 29 @20324 has 47 MA's), (38, 20366), (53, 20423), (69, 20516), (82, 20582), (91, 20645), (108, 20720), (114, 20756), (115, 20762), (120, 20786), (123, 20795), (127, 20810), (137, 20864), (138, 20870), (142, 20882), (160, 20957), (164, 20972), (165, 20975), (179, 21041), (215, 21227), (222, 21251), (229, 21284), (234, 21308), (253, 21398),

Gene: Giles\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Giles\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Goib\_27 Start: 19531, Stop: 20649, Start Num: 21

Candidate Starts for Goib\_27:

(Start: 21 @19531 has 42 MA's), (35, 19573), (45, 19621), (49, 19633), (67, 19735), (85, 19822), (86, 19825), (101, 19909), (106, 19927), (120, 20002), (149, 20122), (177, 20254), (178, 20257), (188, 20320), (194, 20344), (212, 20425), (213, 20434), (222, 20473), (225, 20491), (228, 20503), (229, 20506), (230, 20509), (240, 20569),

Gene: GrandSlam\_24 Start: 20039, Stop: 21139, Start Num: 24

Candidate Starts for GrandSlam\_24:

(Start: 24 @20039 has 19 MA's), (38, 20090), (56, 20171), (94, 20384), (102, 20420), (128, 20528), (151, 20615), (181, 20750), (185, 20786), (186, 20795), (195, 20831), (207, 20897), (213, 20942), (223, 20993), (229, 21020), (232, 21038), (249, 21116), (254, 21131),

Gene: Gravaillia\_24 Start: 19480, Stop: 20583, Start Num: 26

Candidate Starts for Gravaillia\_24:

(7, 19210), (Start: 26 @19480 has 24 MA's), (48, 19576), (54, 19594), (56, 19609), (57, 19612), (58, 19615), (59, 19618), (61, 19627), (73, 19711), (77, 19726), (87, 19777), (99, 19843), (102, 19852), (105, 19864), (108, 19873), (124, 19945), (136, 20008), (145, 20038), (148, 20041), (175, 20176), (180, 20191), (198, 20290), (200, 20299), (205, 20338), (211, 20371), (227, 20455), (235, 20494), (254, 20575),

Gene: GrootJr\_44 Start: 31861, Stop: 32988, Start Num: 19

Candidate Starts for GrootJr\_44:

(Start: 19 @31861 has 13 MA's), (53, 31966), (81, 32122), (97, 32215), (112, 32293), (117, 32326), (134, 32407), (147, 32452), (151, 32473), (153, 32488), (156, 32506), (169, 32566), (242, 32920), (251, 32953),

Gene: Gspu1\_24 Start: 18864, Stop: 19922, Start Num: 21

Candidate Starts for Gspu1\_24:

(Start: 21 @18864 has 42 MA's), (37, 18915), (49, 18966), (57, 18999), (67, 19068), (68, 19071), (86, 19158), (94, 19197), (98, 19221), (100, 19233), (106, 19254), (116, 19314), (122, 19335), (148, 19440), (149, 19449), (152, 19458), (164, 19515), (172, 19554), (178, 19584), (179, 19590), (181, 19596), (188, 19647), (194, 19671), (204, 19710), (213, 19761), (217, 19782), (222, 19800), (227, 19824), (229, 19833), (230, 19836), (240, 19896), (242, 19905), (244, 19914),

Gene: Guacamole\_27 Start: 22323, Stop: 23390, Start Num: 29

Candidate Starts for Guacamole\_27:

(Start: 29 @22323 has 47 MA's), (35, 22353), (46, 22401), (51, 22416), (61, 22458), (62, 22461), (63, 22467), (74, 22545), (76, 22554), (78, 22563), (88, 22623), (95, 22659), (98, 22680), (109, 22734), (114, 22755), (115, 22761), (123, 22794), (127, 22809), (155, 22935), (177, 23031), (186, 23091), (188, 23097), (196, 23127), (252, 23373),

Gene: HH92\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for HH92\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Hadrien\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Hadrien\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Hail\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Hail\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116),

(102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Hamood\_24 Start: 20039, Stop: 21139, Start Num: 24

Candidate Starts for Hamood\_24:

(Start: 24 @20039 has 19 MA's), (38, 20090), (56, 20171), (94, 20384), (102, 20420), (128, 20528), (151, 20615), (181, 20750), (185, 20786), (186, 20795), (195, 20831), (207, 20897), (213, 20942), (223, 20993), (229, 21020), (232, 21038), (249, 21116), (254, 21131),

Gene: Hitter\_27 Start: 22319, Stop: 23386, Start Num: 29

Candidate Starts for Hitter\_27:

(Start: 29 @22319 has 47 MA's), (35, 22349), (46, 22397), (51, 22412), (61, 22454), (76, 22550), (78, 22559), (88, 22619), (95, 22655), (98, 22676), (110, 22733), (114, 22751), (115, 22757), (123, 22790), (127, 22805), (155, 22931), (177, 23027), (186, 23087), (188, 23093), (196, 23123), (252, 23369),

Gene: HomeFry\_48 Start: 30949, Stop: 32070, Start Num: 15

Candidate Starts for HomeFry\_48:

(Start: 15 @30949 has 3 MA's), (27, 30964), (42, 31021), (83, 31228), (84, 31231), (118, 31420), (140, 31519), (156, 31588), (210, 31843), (223, 31906), (249, 32029), (250, 32032), (251, 32035),

Gene: HubbaBubba\_40 Start: 28235, Stop: 29350, Start Num: 21

Candidate Starts for HubbaBubba\_40:

(Start: 21 @28235 has 42 MA's), (34, 28277), (42, 28301), (53, 28337), (63, 28385), (69, 28433), (97, 28586), (138, 28793), (140, 28799), (181, 28979), (184, 29012), (192, 29045), (195, 29057), (229, 29213), (239, 29267), (242, 29282), (249, 29309),

Gene: Huff\_28 Start: 19747, Stop: 20865, Start Num: 21

Candidate Starts for Huff\_28:

(Start: 21 @19747 has 42 MA's), (35, 19789), (45, 19837), (49, 19849), (53, 19861), (67, 19951), (85, 20038), (86, 20041), (101, 20125), (106, 20143), (120, 20218), (149, 20338), (178, 20473), (188, 20536), (194, 20560), (212, 20641), (213, 20650), (228, 20719), (229, 20722), (230, 20725), (240, 20785), (242, 20794),

Gene: IDyn\_43 Start: 29631, Stop: 30746, Start Num: 21

Candidate Starts for IDyn\_43:

(Start: 21 @29631 has 42 MA's), (34, 29673), (42, 29697), (53, 29733), (63, 29781), (69, 29829), (97, 29982), (138, 30189), (140, 30195), (149, 30225), (165, 30300), (181, 30375), (184, 30408), (192, 30441), (195, 30453), (229, 30609), (239, 30663), (242, 30678), (249, 30705),

Gene: Jalamah\_29 Start: 23113, Stop: 24180, Start Num: 29

Candidate Starts for Jalamah\_29:

(Start: 29 @23113 has 47 MA's), (35, 23143), (46, 23191), (51, 23206), (61, 23248), (76, 23344), (78, 23353), (88, 23413), (95, 23449), (98, 23470), (109, 23524), (114, 23545), (115, 23551), (123, 23584), (127, 23599), (155, 23725), (177, 23821), (186, 23881), (188, 23887), (196, 23917), (252, 24163),

Gene: JasperJr\_27 Start: 22323, Stop: 23390, Start Num: 29

Candidate Starts for JasperJr\_27:

(Start: 29 @22323 has 47 MA's), (35, 22353), (46, 22401), (51, 22416), (61, 22458), (62, 22461), (63, 22467), (74, 22545), (76, 22554), (78, 22563), (88, 22623), (95, 22659), (98, 22680), (109, 22734), (114, 22755), (115, 22761), (123, 22794), (127, 22809), (155, 22935), (177, 23031), (186, 23091), (188, 23097), (196, 23127), (252, 23373),

Gene: Jifall16\_41 Start: 32133, Stop: 33260, Start Num: 19

Candidate Starts for Jifall16\_41:

(Start: 19 @32133 has 13 MA's), (53, 32238), (84, 32412), (97, 32487), (112, 32565), (117, 32598), (134, 32679), (147, 32724), (151, 32745), (156, 32778), (169, 32838), (242, 33192), (251, 33225),

Gene: JonJames\_54 Start: 38302, Stop: 39378, Start Num: 23

Candidate Starts for JonJames\_54:

(Start: 23 @38302 has 25 MA's), (44, 38392), (57, 38440), (67, 38509), (97, 38650), (108, 38701), (115, 38734), (167, 38959), (188, 39064), (198, 39100), (214, 39190), (234, 39289), (247, 39355),

Gene: JuJu\_28 Start: 22382, Stop: 23449, Start Num: 29

Candidate Starts for JuJu\_28:

(Start: 29 @22382 has 47 MA's), (35, 22412), (46, 22460), (51, 22475), (53, 22481), (62, 22520), (76, 22613), (88, 22682), (95, 22718), (114, 22814), (115, 22820), (121, 22847), (127, 22868), (188, 23156), (196, 23186), (238, 23363), (252, 23432),

Gene: JustASigh\_20 Start: 18675, Stop: 19814, Start Num: 18

Candidate Starts for JustASigh\_20:

(Start: 18 @18675 has 1 MA's), (39, 18744), (54, 18807), (58, 18828), (100, 19071), (103, 19080), (114, 19137), (126, 19182), (129, 19203), (131, 19221), (136, 19239), (165, 19356), (175, 19407), (179, 19419), (181, 19425), (190, 19491), (196, 19515), (198, 19521), (205, 19569), (207, 19572), (232, 19713), (244, 19773), (249, 19791), (254, 19806),

Gene: Kabluna\_45 Start: 31212, Stop: 32321, Start Num: 21

Candidate Starts for Kabluna\_45:

(Start: 21 @31212 has 42 MA's), (42, 31272), (68, 31401), (84, 31482), (95, 31548), (97, 31557), (119, 31674), (140, 31770), (141, 31776), (149, 31800), (159, 31848), (168, 31896), (176, 31932), (188, 32001), (192, 32016), (204, 32067), (223, 32157), (236, 32217),

Gene: KappaFarmDelta\_29 Start: 22801, Stop: 23868, Start Num: 29

Candidate Starts for KappaFarmDelta\_29:

(Start: 29 @22801 has 47 MA's), (46, 22879), (61, 22936), (63, 22945), (78, 23041), (88, 23101), (95, 23137), (98, 23158), (102, 23176), (109, 23212), (114, 23233), (115, 23239), (127, 23287), (155, 23413), (171, 23485), (188, 23575), (196, 23605), (228, 23740), (232, 23761), (238, 23782), (252, 23851),

Gene: KidneyBean\_42 Start: 32257, Stop: 33384, Start Num: 19

Candidate Starts for KidneyBean\_42:

(Start: 19 @32257 has 13 MA's), (53, 32362), (84, 32536), (97, 32611), (112, 32689), (117, 32722), (134, 32803), (147, 32848), (151, 32869), (156, 32902), (169, 32962), (242, 33316), (251, 33349),

Gene: Kinbote\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Kinbote\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Kurt\_42 Start: 32494, Stop: 33621, Start Num: 19

Candidate Starts for Kurt\_42:

(Start: 19 @32494 has 13 MA's), (53, 32599), (84, 32773), (97, 32848), (112, 32926), (117, 32959), (134, 33040), (147, 33085), (151, 33106), (156, 33139), (169, 33199), (242, 33553), (251, 33586),

Gene: LilHazelnut\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for LilHazelnut\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Lollipop1437\_47 Start: 33113, Stop: 34222, Start Num: 21

Candidate Starts for Lollipop1437\_47:

(1, 32027), (2, 32060), (3, 32540), (Start: 21 @33113 has 42 MA's), (42, 33173), (58, 33233), (84, 33383), (106, 33503), (112, 33536), (121, 33584), (140, 33671), (149, 33701), (179, 33845), (195, 33929), (229, 34085), (236, 34118), (249, 34181),

Gene: Lozinak\_56 Start: 34742, Stop: 35824, Start Num: 23

Candidate Starts for Lozinak\_56:

(Start: 23 @34742 has 25 MA's), (33, 34781), (40, 34802), (67, 34949), (87, 35039), (92, 35069), (104, 35129), (120, 35198), (176, 35435), (181, 35453), (184, 35486), (195, 35528), (212, 35621), (220, 35666), (236, 35741), (237, 35744), (249, 35804), (250, 35807),

Gene: Luke\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Luke\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Luna22\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Luna22\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Lysidious\_28 Start: 22840, Stop: 23907, Start Num: 29

Candidate Starts for Lysidious\_28:

(Start: 29 @22840 has 47 MA's), (35, 22870), (46, 22918), (51, 22933), (61, 22975), (76, 23071), (78, 23080), (88, 23140), (95, 23176), (98, 23197), (109, 23251), (114, 23272), (115, 23278), (123, 23311), (127, 23326), (155, 23452), (177, 23548), (186, 23608), (188, 23614), (196, 23644), (215, 23725), (252, 23890),

Gene: MacGully\_53 Start: 35504, Stop: 36610, Start Num: 21

Candidate Starts for MacGully\_53:

(Start: 17 @35498 has 1 MA's), (Start: 21 @35504 has 42 MA's), (30, 35519), (42, 35567), (68, 35696), (69, 35699), (93, 35834), (106, 35897), (111, 35927), (138, 36059), (157, 36137), (176, 36227), (181, 36245), (188, 36296), (193, 36314), (195, 36323), (196, 36329), (223, 36449),

Gene: MakCheese\_22 Start: 18216, Stop: 19319, Start Num: 24

Candidate Starts for MakCheese\_22:

(Start: 24 @18216 has 19 MA's), (38, 18270), (56, 18351), (102, 18600), (115, 18660), (124, 18693), (139, 18768), (183, 18945), (184, 18963), (185, 18966), (195, 19011), (198, 19023), (203, 19056), (207, 19077), (223, 19173), (234, 19224), (235, 19230), (254, 19311),

Gene: Malachai\_28 Start: 22800, Stop: 23867, Start Num: 29

Candidate Starts for Malachai\_28:

(Start: 29 @22800 has 47 MA's), (35, 22830), (46, 22878), (51, 22893), (61, 22935), (62, 22938), (63, 22944), (74, 23022), (76, 23031), (78, 23040), (88, 23100), (109, 23211), (114, 23232), (115, 23238), (123, 23271), (127, 23286), (155, 23412), (164, 23448), (177, 23508), (186, 23568), (188, 23574), (196, 23604), (215, 23685), (252, 23850),

Gene: Manilisa\_29 Start: 23389, Stop: 24453, Start Num: 28

Candidate Starts for Manilisa\_29:

(14, 23338), (Start: 28 @23389 has 5 MA's), (35, 23422), (40, 23440), (47, 23479), (48, 23482), (51, 23491), (59, 23524), (60, 23530), (115, 23818), (126, 23857), (146, 23944), (157, 23992), (161, 24010), (179, 24085), (186, 24136), (197, 24181), (198, 24184), (229, 24331), (235, 24361), (249, 24427), (254, 24445),

Gene: Marietta\_44 Start: 29547, Stop: 30662, Start Num: 21

Candidate Starts for Marietta\_44:

(Start: 21 @29547 has 42 MA's), (34, 29589), (42, 29613), (53, 29649), (63, 29697), (69, 29745), (97, 29898), (119, 30015), (138, 30105), (140, 30111), (181, 30291), (184, 30324), (192, 30357), (195, 30369), (229, 30525), (239, 30579), (242, 30594), (249, 30621),

Gene: Maselop\_46 Start: 32981, Stop: 34087, Start Num: 21

Candidate Starts for Maselop\_46:

(Start: 21 @32981 has 42 MA's), (53, 33080), (68, 33173), (69, 33176), (74, 33206), (93, 33311), (96, 33323), (106, 33374), (138, 33536), (141, 33548), (157, 33614), (181, 33722), (186, 33767), (188, 33773), (193, 33791), (195, 33800), (196, 33806), (216, 33902), (219, 33911), (223, 33926), (231, 33965),

Gene: Melba\_27 Start: 22319, Stop: 23386, Start Num: 29

Candidate Starts for Melba\_27:

(Start: 29 @22319 has 47 MA's), (35, 22349), (46, 22397), (51, 22412), (61, 22454), (62, 22457), (63, 22463), (74, 22541), (76, 22550), (78, 22559), (88, 22619), (95, 22655), (110, 22733), (114, 22751), (115, 22757), (123, 22790), (127, 22805), (155, 22931), (177, 23027), (188, 23093), (196, 23123), (252, 23369),

Gene: Mellie\_26 Start: 22080, Stop: 23147, Start Num: 29

Candidate Starts for Mellie\_26:

(Start: 29 @22080 has 47 MA's), (35, 22110), (46, 22158), (51, 22173), (61, 22215), (76, 22311), (78, 22320), (88, 22380), (95, 22416), (98, 22437), (109, 22491), (114, 22512), (115, 22518), (123, 22551), (127, 22566), (155, 22692), (177, 22788), (186, 22848), (188, 22854), (196, 22884), (252, 23130),

Gene: MerCougar\_43 Start: 32394, Stop: 33503, Start Num: 21

Candidate Starts for MerCougar\_43:

(Start: 21 @32394 has 42 MA's), (42, 32454), (68, 32583), (69, 32586), (84, 32664), (97, 32739), (112, 32817), (140, 32952), (149, 32982), (159, 33030), (168, 33078), (188, 33183), (202, 33237), (223, 33339), (236, 33399),

Gene: Meyran\_27 Start: 23460, Stop: 24524, Start Num: 28

Candidate Starts for Meyran\_27:

(Start: 28 @23460 has 5 MA's), (36, 23499), (47, 23550), (48, 23553), (57, 23589), (59, 23595), (60, 23601), (115, 23889), (126, 23928), (144, 24009), (146, 24015), (153, 24042), (157, 24063), (161, 24081), (179, 24156), (197, 24252), (198, 24255), (229, 24402), (235, 24432), (249, 24498), (254, 24516),

Gene: MintFen\_27 Start: 22319, Stop: 23386, Start Num: 29

Candidate Starts for MintFen\_27:

(Start: 29 @22319 has 47 MA's), (35, 22349), (46, 22397), (51, 22412), (61, 22454), (62, 22457), (63, 22463), (74, 22541), (76, 22550), (78, 22559), (88, 22619), (95, 22655), (110, 22733), (114, 22751), (115, 22757), (123, 22790), (127, 22805), (155, 22931), (177, 23027), (188, 23093), (196, 23123), (252, 23369),

Gene: Miskis\_53 Start: 34047, Stop: 35129, Start Num: 23

Candidate Starts for Miskis\_53:

(Start: 23 @34047 has 25 MA's), (33, 34086), (40, 34107), (67, 34254), (87, 34344), (92, 34374), (104, 34434), (120, 34503), (176, 34740), (181, 34758), (184, 34791), (195, 34833), (212, 34926), (220, 34971), (236, 35046), (237, 35049), (249, 35109), (250, 35112),

Gene: MissRona\_29 Start: 22628, Stop: 23695, Start Num: 29

Candidate Starts for MissRona\_29:

(Start: 29 @22628 has 47 MA's), (35, 22658), (46, 22706), (51, 22721), (61, 22763), (62, 22766), (63, 22772), (76, 22859), (78, 22868), (88, 22928), (95, 22964), (98, 22985), (109, 23039), (114, 23060), (115, 23066), (123, 23099), (127, 23114), (155, 23240), (177, 23336), (186, 23396), (188, 23402), (196, 23432), (215, 23513), (252, 23678),

Gene: Mollymur\_37 Start: 33053, Stop: 34123, Start Num: 23

Candidate Starts for Mollymur\_37:

(Start: 23 @33053 has 25 MA's), (57, 33188), (66, 33254), (108, 33449), (120, 33506), (161, 33671), (195, 33833), (196, 33839), (241, 34067),

Gene: Mulch\_24 Start: 19505, Stop: 20605, Start Num: 24

Candidate Starts for Mulch\_24:

(Start: 24 @19505 has 19 MA's), (38, 19556), (56, 19637), (94, 19850), (102, 19886), (128, 19994), (151, 20081), (181, 20216), (185, 20252), (186, 20261), (195, 20297), (207, 20363), (213, 20408), (223, 20459), (229, 20486), (232, 20504), (249, 20582), (254, 20597),

Gene: Murp\_28 Start: 22578, Stop: 23645, Start Num: 29

Candidate Starts for Murp\_28:

(Start: 29 @22578 has 47 MA's), (46, 22656), (51, 22671), (61, 22713), (63, 22722), (78, 22818), (88, 22878), (95, 22914), (98, 22935), (109, 22989), (114, 23010), (115, 23016), (121, 23043), (127, 23064), (155, 23190), (171, 23262), (188, 23352), (196, 23382), (228, 23517), (232, 23538), (238, 23559), (252, 23628),

Gene: Nadeem\_24 Start: 19505, Stop: 20605, Start Num: 24

Candidate Starts for Nadeem\_24:

(Start: 24 @19505 has 19 MA's), (38, 19556), (56, 19637), (94, 19850), (102, 19886), (128, 19994), (151, 20081), (181, 20216), (185, 20252), (186, 20261), (195, 20297), (207, 20363), (213, 20408), (223, 20459), (229, 20486), (232, 20504), (249, 20582), (254, 20597),

Gene: NadineRae\_42 Start: 28800, Stop: 29915, Start Num: 21

Candidate Starts for NadineRae\_42:

(Start: 21 @28800 has 42 MA's), (34, 28842), (42, 28866), (53, 28902), (63, 28950), (69, 28998), (97, 29151), (133, 29340), (138, 29358), (140, 29364), (181, 29544), (184, 29577), (192, 29610), (195,

29622), (229, 29778), (239, 29832), (242, 29847), (249, 29874),

Gene: NancyRae\_24 Start: 19511, Stop: 20611, Start Num: 24

Candidate Starts for NancyRae\_24:

(Start: 24 @19511 has 19 MA's), (38, 19562), (56, 19643), (94, 19856), (102, 19892), (128, 20000), (151, 20087), (181, 20222), (185, 20258), (186, 20267), (195, 20303), (207, 20369), (213, 20414), (223, 20465), (229, 20492), (232, 20510), (249, 20588), (254, 20603),

Gene: NatB6\_42 Start: 31530, Stop: 32657, Start Num: 19

Candidate Starts for NatB6\_42:

(Start: 19 @31530 has 13 MA's), (53, 31635), (84, 31809), (97, 31884), (112, 31962), (117, 31995), (134, 32076), (147, 32121), (151, 32142), (156, 32175), (169, 32235), (242, 32589), (251, 32622),

Gene: Norvs\_56 Start: 34286, Stop: 35368, Start Num: 23

Candidate Starts for Norvs\_56:

(Start: 23 @34286 has 25 MA's), (33, 34325), (40, 34346), (67, 34493), (87, 34583), (92, 34613), (104, 34673), (120, 34742), (176, 34979), (181, 34997), (184, 35030), (195, 35072), (212, 35165), (220, 35210), (236, 35285), (237, 35288), (249, 35348), (250, 35351),

Gene: NosilaM\_45 Start: 32109, Stop: 33218, Start Num: 21

Candidate Starts for NosilaM\_45:

(Start: 21 @32109 has 42 MA's), (42, 32169), (68, 32298), (69, 32301), (75, 32337), (84, 32379), (95, 32445), (97, 32454), (140, 32667), (141, 32673), (149, 32697), (159, 32745), (168, 32793), (188, 32898), (192, 32913), (204, 32964), (223, 33054), (236, 33114),

Gene: NovoPizza\_22 Start: 20727, Stop: 21830, Start Num: 26

Candidate Starts for NovoPizza\_22:

(Start: 26 @20727 has 24 MA's), (54, 20841), (56, 20856), (57, 20859), (58, 20862), (59, 20865), (87, 21024), (92, 21054), (102, 21099), (106, 21114), (108, 21120), (124, 21192), (136, 21255), (148, 21288), (163, 21366), (198, 21537), (200, 21546), (234, 21735), (243, 21786), (249, 21807), (254, 21822),

Gene: NovumRegina\_42 Start: 31860, Stop: 32987, Start Num: 19

Candidate Starts for NovumRegina\_42:

(Start: 19 @31860 has 13 MA's), (53, 31965), (81, 32121), (97, 32214), (112, 32292), (117, 32325), (134, 32406), (147, 32451), (151, 32472), (153, 32487), (156, 32505), (169, 32565), (242, 32919), (251, 32952),

Gene: Nyceirae\_29 Start: 23200, Stop: 24264, Start Num: 28

Candidate Starts for Nyceirae\_29:

(Start: 28 @23200 has 5 MA's), (35, 23233), (40, 23251), (47, 23290), (48, 23293), (57, 23329), (59, 23335), (60, 23341), (115, 23629), (126, 23668), (130, 23695), (146, 23755), (153, 23782), (157, 23803), (161, 23821), (179, 23896), (184, 23935), (186, 23947), (197, 23992), (198, 23995), (229, 24142), (235, 24172), (249, 24238), (254, 24256),

Gene: OBUpride\_24 Start: 19744, Stop: 20847, Start Num: 26

Candidate Starts for OBUpride\_24:

(7, 19477), (Start: 26 @19744 has 24 MA's), (51, 19849), (53, 19855), (54, 19858), (56, 19873), (57, 19876), (58, 19879), (59, 19882), (61, 19891), (73, 19975), (77, 19990), (87, 20041), (100, 20110), (102, 20116), (105, 20128), (108, 20137), (124, 20209), (136, 20272), (145, 20302), (148, 20305), (166, 20401), (175, 20440), (180, 20455), (198, 20554), (200, 20563), (211, 20635), (227, 20719), (234, 20752), (235, 20758), (254, 20839),

Gene: Obliviate\_27 Start: 22235, Stop: 23302, Start Num: 29

Candidate Starts for Obliviate\_27:

(Start: 29 @22235 has 47 MA's), (35, 22265), (46, 22313), (51, 22328), (61, 22370), (74, 22457), (76, 22466), (78, 22475), (88, 22535), (95, 22571), (114, 22667), (115, 22673), (121, 22700), (127, 22721), (179, 22952), (188, 23009), (196, 23039), (238, 23216), (252, 23285),

Gene: OneUp\_49 Start: 31683, Stop: 32762, Start Num: 23

Candidate Starts for OneUp\_49:

(Start: 23 @31683 has 25 MA's), (57, 31818), (67, 31887), (79, 31926), (87, 31977), (91, 32004), (98, 32040), (120, 32136), (187, 32439), (188, 32442), (195, 32466), (199, 32484),

Gene: Outis\_43 Start: 32088, Stop: 33197, Start Num: 21

Candidate Starts for Outis\_43:

(Start: 21 @32088 has 42 MA's), (42, 32148), (68, 32277), (69, 32280), (84, 32358), (97, 32433), (112, 32511), (140, 32646), (149, 32676), (159, 32724), (168, 32772), (188, 32877), (202, 32931), (223, 33033), (236, 33093),

Gene: PCoral7\_28 Start: 22551, Stop: 23615, Start Num: 29

Candidate Starts for PCoral7\_28:

(Start: 29 @22551 has 47 MA's), (46, 22629), (53, 22650), (61, 22686), (62, 22689), (63, 22695), (88, 22851), (95, 22887), (98, 22908), (102, 22926), (114, 22980), (115, 22986), (127, 23034), (155, 23160), (186, 23316), (188, 23322), (196, 23352), (228, 23487), (235, 23520), (238, 23529), (247, 23583), (252, 23598), (253, 23604),

Gene: Parada\_24 Start: 19505, Stop: 20605, Start Num: 24

Candidate Starts for Parada\_24:

(Start: 24 @19505 has 19 MA's), (38, 19556), (56, 19637), (94, 19850), (102, 19886), (128, 19994), (151, 20081), (181, 20216), (185, 20252), (186, 20261), (195, 20297), (207, 20363), (213, 20408), (223, 20459), (229, 20486), (232, 20504), (249, 20582), (254, 20597),

Gene: Patio\_45 Start: 32349, Stop: 33458, Start Num: 21

Candidate Starts for Patio\_45:

(1, 31263), (3, 31776), (Start: 21 @32349 has 42 MA's), (42, 32409), (58, 32469), (84, 32619), (106, 32739), (112, 32772), (121, 32820), (140, 32907), (149, 32937), (179, 33081), (195, 33165), (229, 33321), (249, 33417),

Gene: Pemberton\_46 Start: 29540, Stop: 30655, Start Num: 21

Candidate Starts for Pemberton\_46:

(Start: 21 @29540 has 42 MA's), (34, 29582), (42, 29606), (53, 29642), (63, 29690), (69, 29738), (97, 29891), (138, 30098), (140, 30104), (181, 30284), (184, 30317), (192, 30350), (195, 30362), (229, 30518), (236, 30551), (242, 30587), (249, 30614),

Gene: Petra\_29 Start: 22304, Stop: 23371, Start Num: 29

Candidate Starts for Petra\_29:

(Start: 29 @22304 has 47 MA's), (46, 22382), (61, 22439), (62, 22442), (63, 22448), (78, 22544), (88, 22604), (95, 22640), (98, 22661), (109, 22715), (114, 22736), (115, 22742), (121, 22769), (127, 22790), (155, 22916), (171, 22988), (188, 23078), (196, 23108), (228, 23243), (232, 23264), (238, 23285), (252, 23354),

Gene: PhinkBoden\_55 Start: 34667, Stop: 35749, Start Num: 23

Candidate Starts for PhinkBoden\_55:

(Start: 23 @34667 has 25 MA's), (33, 34706), (40, 34727), (67, 34874), (87, 34964), (92, 34994), (104, 35054), (120, 35123), (176, 35360), (181, 35378), (184, 35411), (195, 35453), (212, 35546), (220,

35591), (236, 35666), (237, 35669), (249, 35729), (250, 35732),

Gene: Phishy\_28 Start: 23118, Stop: 24182, Start Num: 28

Candidate Starts for Phishy\_28:

(14, 23067), (Start: 28 @23118 has 5 MA's), (35, 23151), (40, 23169), (47, 23208), (48, 23211), (51, 23220), (57, 23247), (60, 23259), (115, 23547), (126, 23586), (146, 23673), (153, 23700), (157, 23721), (161, 23739), (179, 23814), (186, 23865), (197, 23910), (198, 23913), (229, 24060), (235, 24090), (249, 24156), (254, 24174),

Gene: Phomeo\_41 Start: 32129, Stop: 33256, Start Num: 19

Candidate Starts for Phomeo\_41:

(Start: 19 @32129 has 13 MA's), (53, 32234), (84, 32408), (97, 32483), (112, 32561), (117, 32594), (134, 32675), (147, 32720), (151, 32741), (156, 32774), (169, 32834), (242, 33188), (251, 33221),

Gene: PhrostedPhlake\_29 Start: 23012, Stop: 24079, Start Num: 29

Candidate Starts for PhrostedPhlake\_29:

(Start: 29 @23012 has 47 MA's), (35, 23042), (46, 23090), (51, 23105), (61, 23147), (62, 23150), (63, 23156), (74, 23234), (76, 23243), (78, 23252), (88, 23312), (95, 23348), (110, 23426), (114, 23444), (115, 23450), (123, 23483), (127, 23498), (155, 23624), (177, 23720), (188, 23786), (196, 23816), (252, 24062),

Gene: Pimento\_25 Start: 19202, Stop: 20302, Start Num: 24

Candidate Starts for Pimento\_25:

(Start: 24 @19202 has 19 MA's), (38, 19253), (56, 19334), (94, 19547), (102, 19583), (128, 19691), (151, 19778), (181, 19913), (185, 19949), (186, 19958), (195, 19994), (207, 20060), (213, 20105), (223, 20156), (229, 20183), (232, 20201), (249, 20279), (254, 20294),

Gene: Pipp\_27 Start: 22310, Stop: 23377, Start Num: 29

Candidate Starts for Pipp\_27:

(Start: 29 @22310 has 47 MA's), (35, 22340), (46, 22388), (51, 22403), (53, 22409), (61, 22445), (62, 22448), (76, 22541), (88, 22610), (95, 22646), (114, 22742), (115, 22748), (121, 22775), (127, 22796), (171, 22994), (177, 23018), (186, 23078), (188, 23084), (196, 23114), (198, 23120), (238, 23291), (252, 23360),

Gene: Pleakley\_51 Start: 32339, Stop: 33457, Start Num: 15

Candidate Starts for Pleakley\_51:

(Start: 15 @32339 has 3 MA's), (22, 32351), (42, 32408), (70, 32543), (72, 32564), (84, 32618), (98, 32705), (106, 32738), (118, 32807), (140, 32906), (156, 32975), (210, 33230), (223, 33293), (249, 33416), (250, 33419), (251, 33422),

Gene: Polyuyuki\_46 Start: 32970, Stop: 34076, Start Num: 21

Candidate Starts for Polyuyuki\_46:

(Start: 21 @32970 has 42 MA's), (53, 33069), (68, 33162), (69, 33165), (74, 33195), (93, 33300), (96, 33312), (106, 33363), (138, 33525), (141, 33537), (157, 33603), (181, 33711), (186, 33756), (188, 33762), (193, 33780), (195, 33789), (196, 33795), (216, 33891), (219, 33900), (223, 33915), (231, 33954),

Gene: PrincePatrick\_27 Start: 22630, Stop: 23694, Start Num: 29

Candidate Starts for PrincePatrick\_27:

(Start: 29 @22630 has 47 MA's), (46, 22708), (53, 22729), (61, 22765), (62, 22768), (63, 22774), (88, 22930), (95, 22966), (98, 22987), (102, 23005), (114, 23059), (115, 23065), (127, 23113), (155, 23239), (186, 23395), (188, 23401), (196, 23431), (228, 23566), (235, 23599), (238, 23608), (247, 23662), (252, 23677), (253, 23683),

Gene: RedRaider\_49 Start: 34371, Stop: 35480, Start Num: 21

Candidate Starts for RedRaider\_49:

(Start: 21 @34371 has 42 MA's), (42, 34431), (55, 34479), (84, 34641), (106, 34761), (112, 34794), (121, 34842), (140, 34929), (149, 34959), (151, 34965), (153, 34980), (179, 35103), (229, 35343), (236, 35376), (249, 35439),

Gene: Rem711\_27 Start: 21349, Stop: 22434, Start Num: 26

Candidate Starts for Rem711\_27:

(Start: 26 @21349 has 24 MA's), (42, 21412), (46, 21439), (51, 21454), (54, 21463), (57, 21481), (90, 21667), (102, 21718), (161, 21961), (195, 22129), (196, 22135), (218, 22267), (223, 22288), (235, 22345), (247, 22405), (251, 22417), (254, 22426),

Gene: Ruthy\_21 Start: 18482, Stop: 19582, Start Num: 24

Candidate Starts for Ruthy\_21:

(6, 18200), (9, 18308), (Start: 24 @18482 has 19 MA's), (47, 18578), (56, 18614), (100, 18857), (102, 18863), (115, 18923), (143, 19040), (162, 19118), (184, 19226), (185, 19229), (195, 19274), (198, 19286), (201, 19301), (223, 19436), (234, 19487), (235, 19493), (254, 19574),

Gene: Samba\_27 Start: 22397, Stop: 23464, Start Num: 29

Candidate Starts for Samba\_27:

(Start: 29 @22397 has 47 MA's), (35, 22427), (46, 22475), (51, 22490), (61, 22532), (76, 22628), (78, 22637), (88, 22697), (95, 22733), (98, 22754), (110, 22811), (114, 22829), (115, 22835), (123, 22868), (127, 22883), (155, 23009), (177, 23105), (186, 23165), (188, 23171), (196, 23201), (252, 23447),

Gene: Sapo\_24 Start: 20295, Stop: 21383, Start Num: 29

Candidate Starts for Sapo\_24:

(Start: 29 @20295 has 47 MA's), (38, 20337), (53, 20394), (74, 20517), (106, 20685), (109, 20706), (114, 20727), (115, 20733), (120, 20757), (165, 20946), (174, 20991), (178, 21006), (186, 21063), (215, 21198), (222, 21222), (242, 21327), (252, 21363), (253, 21369), (256, 21375),

Gene: Schmidt\_24 Start: 17816, Stop: 18928, Start Num: 21

Candidate Starts for Schmidt\_24:

(Start: 15 @17798 has 3 MA's), (16, 17801), (Start: 21 @17816 has 42 MA's), (48, 17912), (51, 17921), (53, 17927), (91, 18140), (93, 18146), (100, 18188), (103, 18197), (116, 18269), (149, 18404), (172, 18509), (177, 18536), (178, 18539), (188, 18602), (191, 18614), (194, 18626), (206, 18668), (221, 18749), (225, 18770), (229, 18785), (233, 18806), (240, 18848), (242, 18857), (246, 18878), (257, 18920),

Gene: Scuba\_51 Start: 32416, Stop: 33534, Start Num: 15

Candidate Starts for Scuba\_51:

(Start: 15 @32416 has 3 MA's), (22, 32428), (42, 32485), (70, 32620), (72, 32641), (84, 32695), (98, 32782), (106, 32815), (140, 32983), (156, 33052), (177, 33148), (210, 33307), (223, 33370), (249, 33493), (250, 33496), (251, 33499),

Gene: Skysand\_44 Start: 32569, Stop: 33678, Start Num: 21

Candidate Starts for Skysand\_44:

(1, 31483), (2, 31516), (3, 31996), (Start: 21 @32569 has 42 MA's), (42, 32629), (58, 32689), (84, 32839), (106, 32959), (112, 32992), (121, 33040), (140, 33127), (149, 33157), (179, 33301), (195, 33385), (229, 33541), (236, 33574), (249, 33637),

Gene: Smoothie\_57 Start: 34742, Stop: 35824, Start Num: 23

Candidate Starts for Smoothie\_57:

(Start: 23 @34742 has 25 MA's), (33, 34781), (40, 34802), (67, 34949), (87, 35039), (92, 35069), (104, 35129), (120, 35198), (176, 35435), (181, 35453), (184, 35486), (195, 35528), (212, 35621), (220, 35666), (236, 35741), (237, 35744), (249, 35804), (250, 35807),

Gene: Soilmate\_29 Start: 22409, Stop: 23476, Start Num: 29

Candidate Starts for Soilmate\_29:

(Start: 29 @22409 has 47 MA's), (35, 22439), (46, 22487), (51, 22502), (61, 22544), (76, 22640), (78, 22649), (88, 22709), (95, 22745), (98, 22766), (109, 22820), (114, 22841), (115, 22847), (123, 22880), (127, 22895), (155, 23021), (177, 23117), (186, 23177), (188, 23183), (196, 23213), (252, 23459),

Gene: SpeedDemon\_380 Start: 33688, Stop: 34761, Start Num: 23

Candidate Starts for SpeedDemon\_380:

(Start: 23 @33688 has 25 MA's), (33, 33727), (52, 33799), (57, 33823), (67, 33892), (92, 34012), (104, 34072), (107, 34081), (108, 34084), (115, 34117), (135, 34210), (161, 34306), (224, 34624),

Gene: Splinter\_26 Start: 19531, Stop: 20649, Start Num: 21

Candidate Starts for Splinter\_26:

(Start: 21 @19531 has 42 MA's), (35, 19573), (45, 19621), (49, 19633), (67, 19735), (85, 19822), (86, 19825), (101, 19909), (106, 19927), (120, 20002), (149, 20122), (178, 20257), (188, 20320), (194, 20344), (212, 20425), (213, 20434), (222, 20473), (225, 20491), (228, 20503), (229, 20506), (230, 20509), (240, 20569),

Gene: Sprinklemunch\_20 Start: 18246, Stop: 19349, Start Num: 24

Candidate Starts for Sprinklemunch\_20:

(Start: 24 @18246 has 19 MA's), (Start: 28 @18255 has 5 MA's), (36, 18294), (38, 18300), (51, 18357), (56, 18381), (102, 18630), (115, 18690), (132, 18771), (182, 18972), (183, 18975), (184, 18993), (185, 18996), (195, 19041), (198, 19053), (203, 19086), (207, 19107), (223, 19203), (232, 19248), (234, 19254), (235, 19260), (254, 19341),

Gene: StarStruck\_43 Start: 32088, Stop: 33197, Start Num: 21

Candidate Starts for StarStruck\_43:

(Start: 21 @32088 has 42 MA's), (42, 32148), (68, 32277), (69, 32280), (84, 32358), (97, 32433), (112, 32511), (140, 32646), (149, 32676), (159, 32724), (168, 32772), (188, 32877), (202, 32931), (223, 33033), (236, 33093),

Gene: Sukkupi\_44 Start: 31114, Stop: 32229, Start Num: 21

Candidate Starts for Sukkupi\_44:

(Start: 21 @31114 has 42 MA's), (34, 31156), (42, 31180), (53, 31216), (63, 31264), (69, 31312), (97, 31465), (138, 31672), (140, 31678), (149, 31708), (165, 31783), (181, 31858), (184, 31891), (192, 31924), (195, 31936), (229, 32092), (239, 32146), (242, 32161), (249, 32188),

Gene: SuperSulley\_43 Start: 32276, Stop: 33385, Start Num: 21

Candidate Starts for SuperSulley\_43:

(Start: 21 @32276 has 42 MA's), (42, 32336), (68, 32465), (69, 32468), (84, 32546), (95, 32612), (97, 32621), (140, 32834), (141, 32840), (149, 32864), (159, 32912), (168, 32960), (188, 33065), (192, 33080), (204, 33131), (223, 33221), (236, 33281),

Gene: TZGordon\_28 Start: 19670, Stop: 20788, Start Num: 21

Candidate Starts for TZGordon\_28:

(Start: 21 @19670 has 42 MA's), (35, 19712), (45, 19760), (49, 19772), (67, 19874), (85, 19961), (86, 19964), (101, 20048), (106, 20066), (120, 20141), (149, 20261), (178, 20396), (188, 20459), (194, 20483), (212, 20564), (213, 20573), (228, 20642), (229, 20645), (230, 20648), (240, 20708), (242, 20717),

Gene: TinaLin\_29 Start: 20510, Stop: 21625, Start Num: 21

Candidate Starts for TinaLin\_29:

(Start: 21 @20510 has 42 MA's), (50, 20615), (67, 20714), (83, 20783), (85, 20801), (86, 20804), (103, 20894), (106, 20906), (149, 21101), (188, 21299), (194, 21323), (196, 21329), (212, 21404), (213, 21413), (221, 21449), (228, 21482), (240, 21548),

Gene: Toast\_28 Start: 22551, Stop: 23615, Start Num: 29

Candidate Starts for Toast\_28:

(Start: 29 @22551 has 47 MA's), (46, 22629), (53, 22650), (61, 22686), (62, 22689), (63, 22695), (88, 22851), (95, 22887), (98, 22908), (102, 22926), (114, 22980), (115, 22986), (127, 23034), (155, 23160), (186, 23316), (188, 23322), (196, 23352), (228, 23487), (235, 23520), (238, 23529), (247, 23583), (252, 23598), (253, 23604),

Gene: Toniann\_55 Start: 34229, Stop: 35311, Start Num: 23

Candidate Starts for Toniann\_55:

(Start: 23 @34229 has 25 MA's), (33, 34268), (40, 34289), (67, 34436), (87, 34526), (92, 34556), (104, 34616), (120, 34685), (176, 34922), (181, 34940), (184, 34973), (195, 35015), (212, 35108), (220, 35153), (236, 35228), (237, 35231), (249, 35291), (250, 35294),

Gene: Towmatter\_34 Start: 30184, Stop: 31257, Start Num: 23

Candidate Starts for Towmatter\_34:

(Start: 23 @30184 has 25 MA's), (43, 30271), (57, 30319), (108, 30580), (125, 30649), (184, 30922), (186, 30934), (238, 31177),

Gene: Tracker\_42 Start: 31257, Stop: 32384, Start Num: 19

Candidate Starts for Tracker\_42:

(Start: 19 @31257 has 13 MA's), (53, 31362), (57, 31383), (84, 31536), (97, 31611), (112, 31689), (117, 31722), (134, 31803), (147, 31848), (151, 31869), (156, 31902), (169, 31962), (242, 32316), (251, 32349),

Gene: Turuncu\_46 Start: 32551, Stop: 33660, Start Num: 21

Candidate Starts for Turuncu\_46:

(Start: 21 @32551 has 42 MA's), (41, 32608), (42, 32611), (140, 33109), (149, 33139), (156, 33178), (229, 33523), (236, 33556),

Gene: Ubuntu\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Ubuntu\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: UmaThurman\_27 Start: 22444, Stop: 23511, Start Num: 29

Candidate Starts for UmaThurman\_27:

(Start: 29 @22444 has 47 MA's), (35, 22474), (46, 22522), (51, 22537), (61, 22579), (62, 22582), (74, 22666), (76, 22675), (78, 22684), (88, 22744), (95, 22780), (98, 22801), (109, 22855), (114, 22876), (115, 22882), (123, 22915), (127, 22930), (155, 23056), (177, 23152), (186, 23212), (188, 23218), (196, 23248), (252, 23494),

Gene: Utz\_27 Start: 22311, Stop: 23378, Start Num: 29

Candidate Starts for Utz\_27:

(Start: 29 @22311 has 47 MA's), (35, 22341), (46, 22389), (51, 22404), (53, 22410), (61, 22446), (62, 22449), (76, 22542), (88, 22611), (95, 22647), (114, 22743), (115, 22749), (121, 22776), (127, 22797), (171, 22995), (179, 23028), (188, 23085), (196, 23115), (198, 23121), (238, 23292), (252, 23361),

Gene: Vendetta\_26 Start: 19531, Stop: 20649, Start Num: 21

Candidate Starts for Vendetta\_26:

(Start: 21 @19531 has 42 MA's), (35, 19573), (45, 19621), (49, 19633), (67, 19735), (85, 19822), (86, 19825), (101, 19909), (106, 19927), (120, 20002), (149, 20122), (178, 20257), (188, 20320), (194, 20344), (212, 20425), (213, 20434), (222, 20473), (225, 20491), (228, 20503), (229, 20506), (230, 20509), (240, 20569),

Gene: Vordorf\_28 Start: 22926, Stop: 23990, Start Num: 28

Candidate Starts for Vordorf\_28:

(Start: 28 @22926 has 5 MA's), (35, 22959), (40, 22977), (47, 23016), (48, 23019), (57, 23055), (59, 23061), (60, 23067), (115, 23355), (126, 23394), (144, 23475), (146, 23481), (157, 23529), (161, 23547), (179, 23622), (186, 23673), (197, 23718), (198, 23721), (229, 23868), (235, 23898), (249, 23964), (254, 23982),

Gene: Walrus\_29 Start: 22859, Stop: 23926, Start Num: 29

Candidate Starts for Walrus\_29:

(Start: 29 @22859 has 47 MA's), (35, 22889), (46, 22937), (51, 22952), (61, 22994), (71, 23066), (76, 23090), (78, 23099), (88, 23159), (95, 23195), (98, 23216), (110, 23273), (114, 23291), (115, 23297), (123, 23330), (127, 23345), (155, 23471), (177, 23567), (186, 23627), (188, 23633), (196, 23663), (215, 23744), (252, 23909),

Gene: Webster2\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Webster2\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Weirido19\_21 Start: 18379, Stop: 19518, Start Num: 18

Candidate Starts for Weirido19\_21:

(4, 17932), (5, 17980), (8, 18148), (11, 18304), (13, 18346), (Start: 18 @18379 has 1 MA's), (25, 18394), (Start: 28 @18400 has 5 MA's), (38, 18445), (54, 18511), (58, 18532), (114, 18841), (126, 18886), (131, 18925), (136, 18943), (150, 18988), (162, 19051), (165, 19060), (196, 19219), (198, 19225), (223, 19372), (229, 19399), (232, 19417), (235, 19429), (254, 19510),

Gene: WheatThin\_24 Start: 19505, Stop: 20605, Start Num: 24

Candidate Starts for WheatThin\_24:

(Start: 24 @19505 has 19 MA's), (38, 19556), (56, 19637), (94, 19850), (102, 19886), (128, 19994), (151, 20081), (181, 20216), (185, 20252), (186, 20261), (195, 20297), (207, 20363), (213, 20408), (223, 20459), (229, 20486), (232, 20504), (249, 20582), (254, 20597),

Gene: Wheezy\_42 Start: 31462, Stop: 32589, Start Num: 19

Candidate Starts for Wheezy\_42:

(Start: 19 @31462 has 13 MA's), (53, 31567), (84, 31741), (97, 31816), (112, 31894), (117, 31927), (134, 32008), (147, 32053), (151, 32074), (156, 32107), (169, 32167), (242, 32521), (251, 32554),

Gene: WhoseManz\_44 Start: 29160, Stop: 30275, Start Num: 21

Candidate Starts for WhoseManz\_44:

(Start: 21 @29160 has 42 MA's), (34, 29202), (42, 29226), (53, 29262), (63, 29310), (69, 29358), (97, 29511), (138, 29718), (140, 29724), (149, 29754), (181, 29904), (184, 29937), (192, 29970), (195, 29982), (229, 30138), (239, 30192), (242, 30207), (249, 30234),

Gene: William\_28 Start: 22377, Stop: 23441, Start Num: 29

Candidate Starts for William\_28:

(Start: 29 @22377 has 47 MA's), (46, 22455), (53, 22476), (61, 22512), (62, 22515), (63, 22521), (88, 22677), (89, 22692), (95, 22713), (98, 22734), (102, 22752), (114, 22806), (127, 22860), (155, 22986), (186, 23142), (188, 23148), (196, 23178), (228, 23313), (235, 23346), (238, 23355), (247, 23409), (252, 23424), (253, 23430),

Gene: WilliamBoone\_55 Start: 33575, Stop: 34657, Start Num: 23

Candidate Starts for WilliamBoone\_55:

(Start: 23 @33575 has 25 MA's), (33, 33614), (56, 33710), (67, 33782), (87, 33872), (170, 34244), (184, 34319), (195, 34361), (212, 34454), (226, 34529), (250, 34640),

Gene: Wishmaker\_24 Start: 19750, Stop: 20853, Start Num: 26

Candidate Starts for Wishmaker\_24:

(7, 19483), (Start: 26 @19750 has 24 MA's), (51, 19855), (53, 19861), (54, 19864), (56, 19879), (57, 19882), (58, 19885), (59, 19888), (61, 19897), (73, 19981), (77, 19996), (87, 20047), (100, 20116), (102, 20122), (105, 20134), (108, 20143), (124, 20215), (136, 20278), (145, 20308), (148, 20311), (166, 20407), (175, 20446), (180, 20461), (198, 20560), (200, 20569), (211, 20641), (227, 20725), (234, 20758), (235, 20764), (254, 20845),

Gene: Wisp\_26 Start: 22029, Stop: 23096, Start Num: 29

Candidate Starts for Wisp\_26:

(Start: 29 @22029 has 47 MA's), (35, 22059), (46, 22107), (51, 22122), (61, 22164), (62, 22167), (63, 22173), (74, 22251), (76, 22260), (78, 22269), (88, 22329), (95, 22365), (110, 22443), (114, 22461), (115, 22467), (123, 22500), (127, 22515), (155, 22641), (177, 22737), (188, 22803), (196, 22833), (252, 23079),

Gene: Wocket\_29 Start: 22996, Stop: 24063, Start Num: 29

Candidate Starts for Wocket\_29:

(Start: 29 @22996 has 47 MA's), (46, 23074), (51, 23089), (61, 23131), (63, 23140), (78, 23236), (88, 23296), (95, 23332), (98, 23353), (102, 23371), (109, 23407), (114, 23428), (115, 23434), (121, 23461), (127, 23482), (155, 23608), (188, 23770), (196, 23800), (198, 23806), (238, 23977), (252, 24046),

Gene: Yndexa\_44 Start: 31114, Stop: 32229, Start Num: 21

Candidate Starts for Yndexa\_44:

(Start: 21 @31114 has 42 MA's), (34, 31156), (42, 31180), (53, 31216), (63, 31264), (69, 31312), (97, 31465), (138, 31672), (140, 31678), (149, 31708), (165, 31783), (181, 31858), (184, 31891), (192, 31924), (195, 31936), (229, 32092), (239, 32146), (242, 32161), (249, 32188),

Gene: Yvonnetastic\_52 Start: 35837, Stop: 36913, Start Num: 23

Candidate Starts for Yvonnetastic\_52:

(Start: 23 @35837 has 25 MA's), (44, 35927), (57, 35975), (67, 36044), (97, 36185), (108, 36236), (113, 36260), (149, 36407), (167, 36494), (188, 36599), (198, 36635), (214, 36725), (247, 36890),

Gene: Zarbodnamra\_27 Start: 22318, Stop: 23385, Start Num: 29

Candidate Starts for Zarbodnamra\_27:

(Start: 29 @22318 has 47 MA's), (35, 22348), (46, 22396), (51, 22411), (61, 22453), (62, 22456), (63, 22462), (74, 22540), (76, 22549), (78, 22558), (88, 22618), (109, 22729), (114, 22750), (115, 22756),

(123, 22789), (127, 22804), (155, 22930), (177, 23026), (186, 23086), (188, 23092), (196, 23122),  
(215, 23203), (252, 23368),

Gene: ZiggyZoo\_27 Start: 22235, Stop: 23302, Start Num: 29

Candidate Starts for ZiggyZoo\_27:

(Start: 29 @22235 has 47 MA's), (35, 22265), (46, 22313), (51, 22328), (61, 22370), (74, 22457), (76, 22466), (78, 22475), (88, 22535), (95, 22571), (109, 22646), (114, 22667), (115, 22673), (123, 22706), (127, 22721), (155, 22847), (177, 22943), (186, 23003), (188, 23009), (196, 23039), (215, 23120), (252, 23285),

Gene: Zilla\_27 Start: 22336, Stop: 23403, Start Num: 29

Candidate Starts for Zilla\_27:

(Start: 29 @22336 has 47 MA's), (35, 22366), (46, 22414), (51, 22429), (61, 22471), (62, 22474), (63, 22480), (74, 22558), (76, 22567), (78, 22576), (88, 22636), (95, 22672), (110, 22750), (114, 22768), (115, 22774), (123, 22807), (127, 22822), (155, 22948), (177, 23044), (188, 23110), (196, 23140), (252, 23386),

Gene: Zodiariah\_20 Start: 18322, Stop: 19425, Start Num: 24

Candidate Starts for Zodiariah\_20:

(Start: 24 @18322 has 19 MA's), (38, 18376), (100, 18700), (102, 18706), (115, 18766), (183, 19051), (184, 19069), (185, 19072), (195, 19117), (198, 19129), (203, 19162), (207, 19183), (223, 19279), (234, 19330), (235, 19336), (254, 19417),