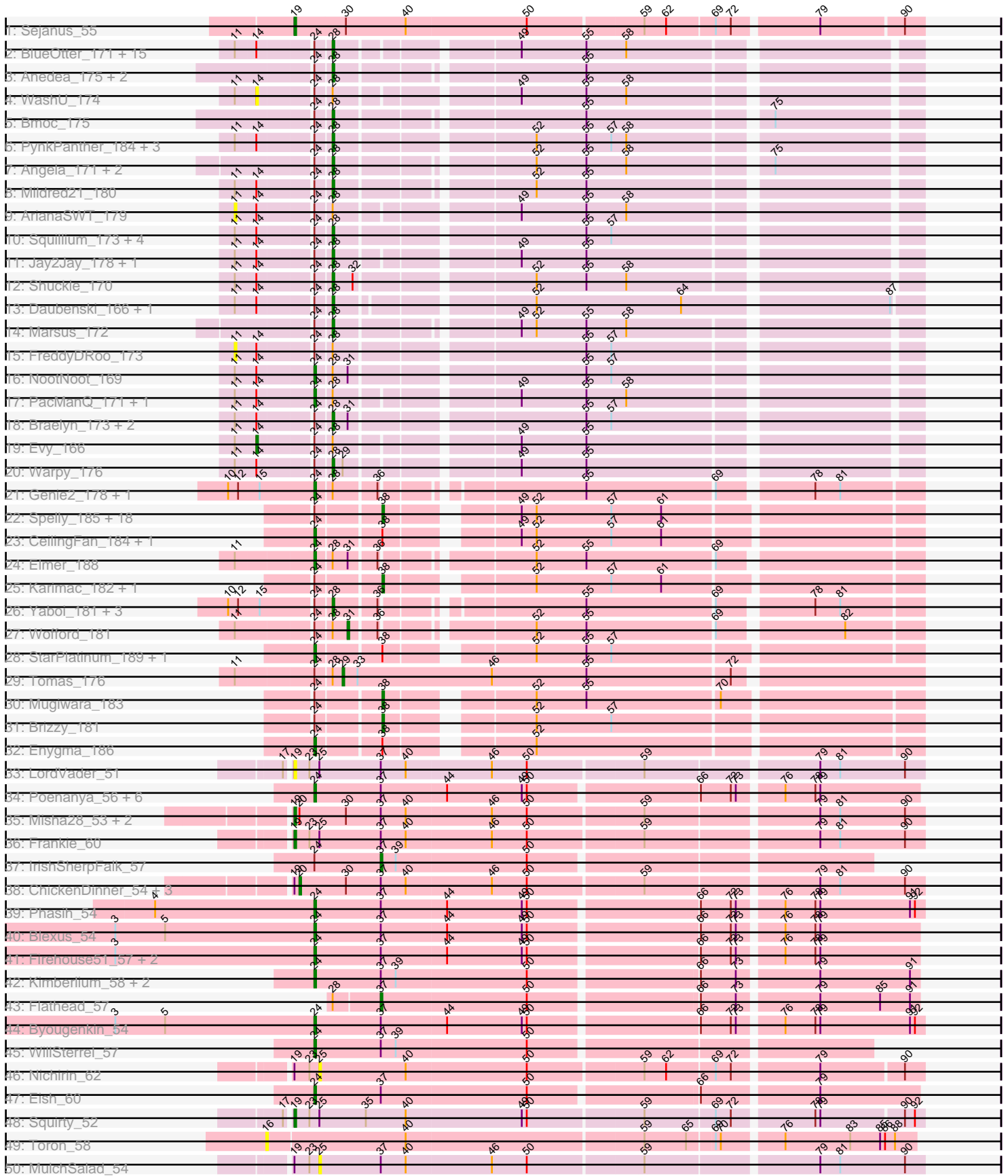
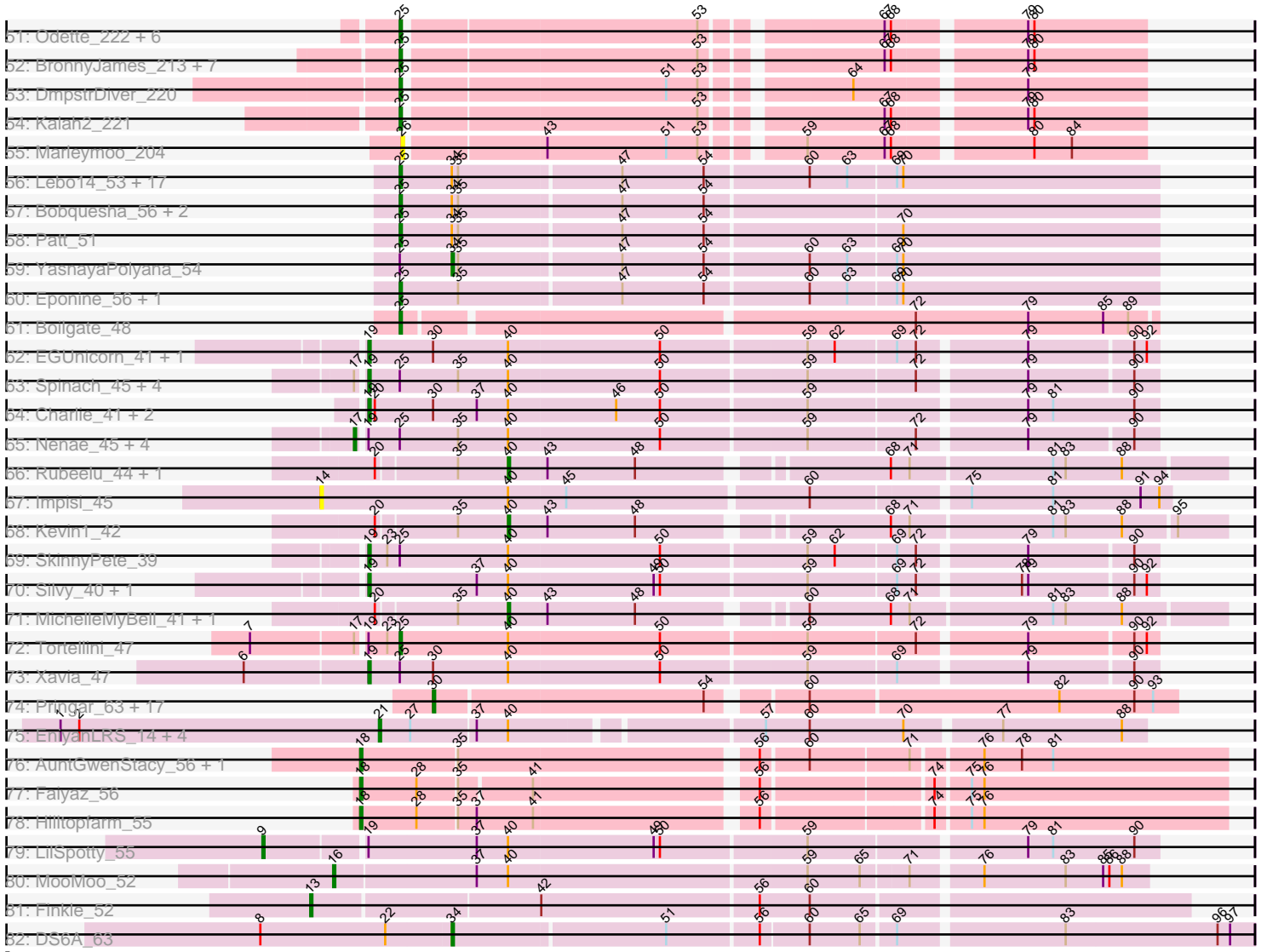


Pham 311223



Pham 311223



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 311223 Report

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

Pham number 311223 has 222 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Sejanus\_55
- Track 2 : BlueOtter\_171, Peebs\_170, Leo04\_173, Cursive\_171, Samisti12\_174, Teutsch\_171, Larnav\_172, Tribute\_170, Pepperwood\_171, Scheme\_175, EGole\_174, HangryHippo\_171, Sushi23\_172, Cross\_172, Coogler\_171, Watermoore\_171
- Track 3 : Anedea\_175, LilSaint\_167, Riptide\_168
- Track 4 : WashU\_174
- Track 5 : Bmoc\_175
- Track 6 : PynkPanther\_184, WhereRU\_172, Davielle\_173, Persimmon\_173
- Track 7 : Angela\_171, LilMartin\_169, MulchMansion\_170
- Track 8 : Mildred21\_180
- Track 9 : ArianaSWT\_179
- Track 10 : Squillium\_173, Liandry\_172, PinkiePie\_170, Bartholomune\_172, Eliot67\_173
- Track 11 : Jay2Jay\_178, Targaryen\_172
- Track 12 : Shuckle\_170
- Track 13 : Daubenski\_166, Cadmus\_167
- Track 14 : Marsus\_172
- Track 15 : FreddyDRoo\_173
- Track 16 : NootNoot\_169
- Track 17 : PacManQ\_171, Lululemon\_171
- Track 18 : Braelyn\_173, Navo\_170, Paradiddles\_166
- Track 19 : Evy\_166
- Track 20 : Warpy\_176
- Track 21 : Genie2\_178, BoomerJR\_178
- Track 22 : Spelly\_185, AcciDwight\_190, JimJam\_188, Daisy123\_190, Amabiko\_185, Jollison\_180, KentuckyRacer\_186, Birchlyn\_181, IchabodCrane\_177, Quaran19\_182, Battuta\_182, Rikishi\_183, PumpkinSpice\_184, Starbow\_180, Wipeout\_175, Gibbi\_190, SaltySpittoon\_182, TomSawyer\_186, Bordeaux\_181
- Track 23 : CeilingFan\_184, MindFlayer\_176
- Track 24 : Elmer\_188
- Track 25 : Karimac\_182, Spilled\_187
- Track 26 : Yaboi\_181, Sollertia\_178, Stanimal\_177, AngryGiraffe\_176
- Track 27 : Wofford\_181
- Track 28 : StarPlatinum\_189, LukeCage\_181
- Track 29 : Tomas\_176
- Track 30 : Mugiwara\_183

- Track 31 : Brizzy\_181
- Track 32 : Enygma\_186
- Track 33 : LordVader\_51
- Track 34 : Poenanya\_56, Spoonbill\_53, Stap\_54, Empress\_54, Polka14\_54, BodEinwohner17\_56, Doomphist\_56
- Track 35 : Misha28\_53, Piper2020\_55, TootsiePop\_53
- Track 36 : Frankie\_60
- Track 37 : IrishSherpFalk\_57
- Track 38 : ChickenDinner\_54, DocMcStuffins\_54, Aloeri\_55, Awesomesauce\_55
- Track 39 : Phasih\_54
- Track 40 : Blexus\_54
- Track 41 : Firehouse51\_57, DotProduct\_51, Mutaforma13\_60
- Track 42 : Kimberlium\_58, QuickMath\_57, MulchExplorer\_58
- Track 43 : Flathead\_57
- Track 44 : Byougenkin\_54
- Track 45 : WillSterrel\_57
- Track 46 : Nichirin\_62
- Track 47 : Eish\_60
- Track 48 : Squirty\_52
- Track 49 : Toron\_58
- Track 50 : MulchSalad\_54
- Track 51 : Odette\_222, Duke13\_223, Minerva\_218, KashFlow\_213, Hannaconda\_212, Pound\_210, Schatzie\_212
- Track 52 : BronnyJames\_213, Lucky2013\_216, Nekros\_222, Nibley\_211, ThreeRngTarjay\_220, MiaZeal\_228, Porcelain\_219, Shaboozey\_219
- Track 53 : DmpstrDiver\_220
- Track 54 : Kalah2\_221
- Track 55 : Marleymoo\_204
- Track 56 : Lebo14\_53, OmniCritical\_53, SamScheppers\_52, Fionnbharth\_54, Juliette\_56, Kraw\_54, DanSyl44\_57, Taquito\_54, Slarp\_54, JF1\_54, Wintermute\_54, Cheetobro\_54, Malthus\_55, Y10\_53, Qhanda\_56, Chancellor\_54, Mitti\_54, Y2\_53
- Track 57 : Bobquesha\_56, Reptar3000\_52, MissDaisy\_52
- Track 58 : Patt\_51
- Track 59 : YasnayaPolyana\_54
- Track 60 : Eponine\_56, Ruthiejr\_55
- Track 61 : Boilgate\_48
- Track 62 : EGUnicorn\_41, Bosection6\_40
- Track 63 : Spinach\_45, Rebel\_37, Purgamenstris\_45, BabeRuth\_46, Raymond7\_39
- Track 64 : Charlie\_41, Journey\_40, Cubone\_43
- Track 65 : Nenae\_45, Redi\_45, Hanako\_45, PhancyPhin\_45, ShrimpFriedEgg\_45
- Track 66 : Rubeelu\_44, Butters\_44
- Track 67 : Impisi\_45
- Track 68 : Kevin1\_42
- Track 69 : SkinnyPete\_39
- Track 70 : Silvy\_40, Aggie\_40
- Track 71 : MichelleMyBell\_41, Philonius\_41
- Track 72 : Tortellini\_47
- Track 73 : Xavia\_47
- Track 74 : Pringar\_63, FeliMaine\_66, Beelzebub\_68, JoieB\_65, Corazon\_62, Marvin\_60, Blackbeetle\_64, MosMoris\_61, GoongGoong\_63, RedRaider77\_63, Caprice\_59, Poise\_64, Clarkson\_65, VasuNzinga\_63, Huphlepuuff\_66, Raela\_64, Tesla\_61, Gattaca\_62
- Track 75 : EniyanLRS\_14, Azrael100\_17, Cosmo\_17, Wildcat\_17, MaryV\_17

- Track 76 : AuntGwenStacy\_56, Typha\_55
- Track 77 : Faiyaz\_56
- Track 78 : Hilltopfarm\_55
- Track 79 : LilSpotty\_55
- Track 80 : MooMoo\_52
- Track 81 : Finkle\_52
- Track 82 : DS6A\_63

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

The start number called the most often in the published annotations is 28, it was called in 45 of the 198 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anedeaa\_175, Angela\_171, AngryGiraffe\_176, Bartholomune\_172, BlueOtter\_171, Bmoc\_175, Braelyn\_173, Cadmus\_167, Coogler\_171, Cross\_172, Cursive\_171, Daubenski\_166, Davielle\_173, EGole\_174, Eliot67\_173, HangryHippo\_171, Jay2Jay\_178, Larnav\_172, Leo04\_173, Liandry\_172, LilMartin\_169, LilSaint\_167, Marsus\_172, Mildred21\_180, MulchMansion\_170, Navo\_170, Paradiddles\_166, Peebs\_170, Pepperwood\_171, Persimmon\_173, PinkiePie\_170, PynkPanther\_184, Riptide\_168, Samisti12\_174, Scheme\_175, Shuckle\_170, Sollertia\_178, Squillium\_173, Stanimal\_177, Sushi23\_172, Targaryen\_172, Teutsch\_171, Tribute\_170, Warpy\_176, Watermoore\_171, WhereRU\_172, Yaboi\_181,

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

- ArianaSWT\_179, BoomerJR\_178, Elmer\_188, Evy\_166, Faiyaz\_56, Flathead\_57, FreddyDRoo\_173, Genie2\_178, Hilltopfarm\_55, Lululemon\_171, NootNoot\_169, PacManQ\_171, Tomas\_176, WashU\_174, Wofford\_181,

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

- AcciDwight\_190, Aggie\_40, Aloeri\_55, Amabiko\_185, AuntGwenStacy\_56, Awesomesauce\_55, Azrael100\_17, BabeRuth\_46, Battuta\_182, Beelzebub\_68, Birchlyn\_181, Blackbeetle\_64, Blexus\_54, Bobquesha\_56, BodEinwohner17\_56, Boilgate\_48, Bordeaux\_181, Bosection6\_40, Brizzy\_181, BronnyJames\_213, Butters\_44, Byougenkin\_54, Caprice\_59, CeilingFan\_184, Chancellor\_54, Charlie\_41, Cheetobro\_54, ChickenDinner\_54, Clarkson\_65, Corazon\_62, Cosmo\_17, Cubone\_43, DS6A\_63, Daisy123\_190, DanSyl44\_57, DmpstrDiver\_220, DocMcStuffins\_54, Doomphist\_56, DotProduct\_51, Duke13\_223, EGUnicorn\_41, Eish\_60, Empress\_54, EniyanLRS\_14, Enygma\_186, Eponine\_56, FeliMaine\_66, Finkle\_52, Fionnbharth\_54, Firehouse51\_57, Frankie\_60, Gattaca\_62, Gibbi\_190, GoongGoong\_63, Hanako\_45, Hannaconda\_212, Huphlepuuff\_66, IchabodCrane\_177, Impisi\_45, IrishSherpFalk\_57, JF1\_54, JimJam\_188, JoieB\_65, Jollison\_180, Journey\_40, Juliette\_56, Kalah2\_221, Karimac\_182, KashFlow\_213, KentuckyRacer\_186, Kevin1\_42, Kimberlium\_58, Kraw\_54, Lebo14\_53, LilSpotty\_55, LordVader\_51, Lucky2013\_216, LukeCage\_181, Malthus\_55, Marleymoo\_204, Marvin\_60, MaryV\_17, MiaZeal\_228, MichelleMyBell\_41, MindFlayer\_176, Minerva\_218, Misha28\_53, MissDaisy\_52, Mitti\_54, MooMoo\_52, MosMoris\_61, Mugiwara\_183, MulchExplorer\_58, MulchSalad\_54, Mutaforma13\_60, Nekros\_222, Nenae\_45, Nibley\_211, Nichirin\_62, Odette\_222, OmniCritical\_53, Patt\_51, PhancyPhin\_45, Phasih\_54, Philonius\_41, Piper2020\_55, Poenanya\_56, Poise\_64,

Polka14\_54, Porcelain\_219, Pound\_210, Pringar\_63, PumpkinSpice\_184, Purgamenstris\_45, Qhanda\_56, Quarant19\_182, QuickMath\_57, Raela\_64, Raymond7\_39, Rebel\_37, RedRaider77\_63, Redi\_45, Reptar3000\_52, Rikishi\_183, Rubeelu\_44, Ruthiejr\_55, SaltySpittoon\_182, SamScheppers\_52, Schatzie\_212, Sejanus\_55, Shaboozey\_219, ShrimpFriedEgg\_45, Silvy\_40, SkinnyPete\_39, Slarp\_54, Spelly\_185, Spilled\_187, Spinach\_45, Spoonbill\_53, Squirty\_52, Stap\_54, StarPlatinum\_189, Starbow\_180, Taquito\_54, Tesla\_61, ThreeRngTarjay\_220, TomSawyer\_186, TootsiePop\_53, Toron\_58, Tortellini\_47, Typha\_55, VasuNzinga\_63, Wildcat\_17, WillSterrel\_57, Wintermute\_54, Wipeout\_175, Xavia\_47, Y10\_53, Y2\_53, YasnayaPolyana\_54,

### Summary by start number:

#### Start 9:

- Found in 1 of 222 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilSpotty\_55 (singleton),

#### Start 11:

- Found in 45 of 222 ( 20.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.4% of time when present
- Phage (with cluster) where this start called: ArianaSWT\_179 (BE1), FreddyDRoo\_173 (BE1),

#### Start 13:

- Found in 1 of 222 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finkle\_52 (singleton),

#### Start 14:

- Found in 43 of 222 ( 19.4% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 7.0% of time when present
- Phage (with cluster) where this start called: Evy\_166 (BE1), Impisi\_45 (N), WashU\_174 (BE1),

#### Start 16:

- Found in 2 of 222 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MooMoo\_52 (singleton), Toron\_58 (F6),

#### Start 17:

- Found in 13 of 222 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 5 of 198
- Called 38.5% of time when present
- Phage (with cluster) where this start called: Hanako\_45 (N), Nenae\_45 (N), PhancyPhin\_45 (N), Redi\_45 (N), ShrimpFriedEgg\_45 (N),

#### Start 18:

- Found in 4 of 222 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 4 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy\_56 (Y), Faiyaz\_56 (Y), Hilltopfarm\_55 (Y), Typha\_55 (Y),

#### Start 19:

- Found in 34 of 222 ( 15.3% ) of genes in pham
- Manual Annotations of this start: 19 of 198
- Called 61.8% of time when present
- Phage (with cluster) where this start called: Aggie\_40 (N), BabeRuth\_46 (N), Bosection6\_40 (N), Charlie\_41 (N), Cubone\_43 (N), EGUnicorn\_41 (N), Frankie\_60 (F1), Journey\_40 (N), LordVader\_51 (F), Misha28\_53 (F1), Piper2020\_55 (F1), Purgamenstris\_45 (N), Raymond7\_39 (N), Rebel\_37 (N), Sejanus\_55 (AD), Silvy\_40 (N), SkinnyPete\_39 (N), Spinach\_45 (N), Squirty\_52 (F3), TootsiePop\_53 (F1), Xavia\_47 (P3),

#### Start 20:

- Found in 15 of 222 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 4 of 198
- Called 26.7% of time when present
- Phage (with cluster) where this start called: Aloeri\_55 (F1), Awesomesauce\_55 (F1), ChickenDinner\_54 (F1), DocMcStuffins\_54 (F1),

#### Start 21:

- Found in 5 of 222 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 5 of 198
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azrael100\_17 (V), Cosmo\_17 (V), EniyanLRS\_14 (V), MaryV\_17 (V), Wildcat\_17 (V),

#### Start 24:

- Found in 106 of 222 ( 47.7% ) of genes in pham
- Manual Annotations of this start: 29 of 198
- Called 27.4% of time when present
- Phage (with cluster) where this start called: Blexus\_54 (F1), BodEinwohner17\_56 (F1), BoomerJR\_178 (BE2), Byougenkin\_54 (F1), CeilingFan\_184 (BE2), Doomphist\_56 (F1), DotProduct\_51 (F1), Eish\_60 (F1), Elmer\_188 (BE2), Empress\_54 (F1), Enygma\_186 (BE2), Firehouse51\_57 (F1), Genie2\_178 (BE2), Kimberlium\_58 (F1), LukeCage\_181 (BE2), Lululemon\_171 (BE1), MindFlayer\_176 (BE2), MulchExplorer\_58 (F1), Mutaforma13\_60 (F1), NootNoot\_169 (BE1), PacManQ\_171 (BE1), Phasih\_54 (F1), Poenanya\_56 (F1), Polka14\_54 (F1), QuickMath\_57 (F1), Spoonbill\_53 (F1), Stap\_54 (F1), StarPlatinum\_189 (BE2), WillSterrel\_57 (F1),

#### Start 25:

- Found in 61 of 222 ( 27.5% ) of genes in pham
- Manual Annotations of this start: 35 of 198
- Called 73.8% of time when present
- Phage (with cluster) where this start called: Bobquesha\_56 (K4), Boilgate\_48 (K8), BronnyJames\_213 (J), Chancellor\_54 (K4), Cheetobro\_54 (K4), DanSyl44\_57 (K4), DmpstrDiver\_220 (J), Duke13\_223 (J), Eponine\_56 (K4), Fionnbharth\_54 (K4), Hannaconda\_212 (J), JF1\_54 (K4), Juliette\_56 (K4), Kalah2\_221 (J), KashFlow\_213

(J), Kraw\_54 (K4), Lebo14\_53 (K4), Lucky2013\_216 (J), Malthus\_55 (K4), MiaZeal\_228 (J), Minerva\_218 (J), MissDaisy\_52 (K4), Mitti\_54 (K4), MulchSalad\_54 (F7), Nekros\_222 (J), Nibley\_211 (J), Nichirin\_62 (F1), Odette\_222 (J), OmniCritical\_53 (K4), Patt\_51 (K4), Porcelain\_219 (J), Pound\_210 (J), Qhanda\_56 (K4), Reptar3000\_52 (K4), Ruthiejr\_55 (K4), SamScheppers\_52 (K4), Schatzie\_212 (J), Shaboozey\_219 (J), Slarp\_54 (K4), Taquito\_54 (K4), ThreeRngTarjay\_220 (J), Tortellini\_47 (P2), Wintermute\_54 (K4), Y10\_53 (K4), Y2\_53 (K4),

#### Start 26:

- Found in 1 of 222 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Marleymoo\_204 (J),

#### Start 28:

- Found in 62 of 222 ( 27.9% ) of genes in pham
- Manual Annotations of this start: 45 of 198
- Called 75.8% of time when present
- Phage (with cluster) where this start called: Anedea\_175 (BE1), Angela\_171 (BE1), AngryGiraffe\_176 (BE2), Bartholomune\_172 (BE1), BlueOtter\_171 (BE1), Bmoc\_175 (BE1), Braelyn\_173 (BE1), Cadmus\_167 (BE1), Coogler\_171 (BE1), Cross\_172 (BE1), Cursive\_171 (BE1), Daubenski\_166 (BE1), Davielle\_173 (BE1), EGole\_174 (BE1), Elliot67\_173 (BE1), HangryHippo\_171 (BE1), Jay2Jay\_178 (BE1), Larnav\_172 (BE1), Leo04\_173 (BE1), Liandry\_172 (BE1), LilMartin\_169 (BE1), LilSaint\_167 (BE1), Marsus\_172 (BE1), Mildred21\_180 (BE1), MulchMansion\_170 (BE1), Navo\_170 (BE1), Paradiddles\_166 (BE1), Peebs\_170 (BE1), Pepperwood\_171 (BE1), Persimmon\_173 (BE1), PinkiePie\_170 (BE1), PynkPanther\_184 (BE1), Riptide\_168 (BE1), Samisti12\_174 (BE1), Scheme\_175 (BE1), Shuckle\_170 (BE1), Sollertia\_178 (BE2), Squillium\_173 (BE1), Stanimal\_177 (BE2), Sushi23\_172 (BE1), Targaryen\_172 (BE1), Teutsch\_171 (BE1), Tribute\_170 (BE1), Warpy\_176 (BE1), Watermoore\_171 (BE1), WhereRU\_172 (BE1), Yaboi\_181 (BE2),

#### Start 29:

- Found in 2 of 222 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Tomas\_176 (BE2),

#### Start 30:

- Found in 32 of 222 ( 14.4% ) of genes in pham
- Manual Annotations of this start: 17 of 198
- Called 56.2% of time when present
- Phage (with cluster) where this start called: Beelzebub\_68 (S), Blackbeetle\_64 (S), Caprice\_59 (S), Clarkson\_65 (S), Corazon\_62 (S), FeliMaine\_66 (S), Gattaca\_62 (S), GoongGoong\_63 (S), Huphlepuuff\_66 (S), JoieB\_65 (S), Marvin\_60 (S), MosMoris\_61 (S), Poise\_64 (S), Pringar\_63 (S), Raela\_64 (S), RedRaider77\_63 (S), Tesla\_61 (S), VasuNzinga\_63 (S),

#### Start 31:

- Found in 6 of 222 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 1 of 198
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Wofford\_181 (BE2),

Start 34:

- Found in 24 of 222 ( 10.8% ) of genes in pham
- Manual Annotations of this start: 2 of 198
- Called 8.3% of time when present
- Phage (with cluster) where this start called: DS6A\_63 (singleton), YasnayaPolyana\_54 (K4),

Start 37:

- Found in 43 of 222 ( 19.4% ) of genes in pham
- Manual Annotations of this start: 2 of 198
- Called 4.7% of time when present
- Phage (with cluster) where this start called: Flathead\_57 (F1), IrishSherpFalk\_57 (F1),

Start 38:

- Found in 28 of 222 ( 12.6% ) of genes in pham
- Manual Annotations of this start: 20 of 198
- Called 82.1% of time when present
- Phage (with cluster) where this start called: AcciDwight\_190 (BE2), Amabiko\_185 (BE2), Battuta\_182 (BE2), Birchlyn\_181 (BE2), Bordeaux\_181 (BE2), Brizzy\_181 (BE2), Daisy123\_190 (BE2), Gibbi\_190 (BE2), IchabodCrane\_177 (BE2), JimJam\_188 (BE2), Jollison\_180 (BE2), Karimac\_182 (BE2), KentuckyRacer\_186 (BE2), Mugiwara\_183 (BE2), PumpkinSpice\_184 (BE2), Quaran19\_182 (BE2), Rikishi\_183 (BE2), SaltySpitoon\_182 (BE2), Spelly\_185 (BE2), Spilled\_187 (BE2), Starbow\_180 (BE2), TomSawyer\_186 (BE2), Wipeout\_175 (BE2),

Start 40:

- Found in 47 of 222 ( 21.2% ) of genes in pham
- Manual Annotations of this start: 5 of 198
- Called 10.6% of time when present
- Phage (with cluster) where this start called: Butters\_44 (N), Kevin1\_42 (N), MichelleMyBell\_41 (N), Philonius\_41 (N), Rubeelu\_44 (N),

**Summary by clusters:**

There are 18 clusters represented in this pham: P2, F1, singleton, K8, AD, F7, P3, V, J, N, F6, Y, S, F3, F, K4, BE2, BE1,

Info for manual annotations of cluster AD:

- Start number 19 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster BE1:

- Start number 14 was manually annotated 1 time for cluster BE1.
- Start number 24 was manually annotated 3 times for cluster BE1.
- Start number 28 was manually annotated 41 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 24 was manually annotated 8 times for cluster BE2.
- Start number 28 was manually annotated 4 times for cluster BE2.
- Start number 29 was manually annotated 1 time for cluster BE2.
- Start number 31 was manually annotated 1 time for cluster BE2.
- Start number 38 was manually annotated 20 times for cluster BE2.

Info for manual annotations of cluster F1:

- Start number 19 was manually annotated 4 times for cluster F1.
- Start number 20 was manually annotated 4 times for cluster F1.
- Start number 24 was manually annotated 18 times for cluster F1.
- Start number 37 was manually annotated 2 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 19 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster J:

- Start number 25 was manually annotated 12 times for cluster J.

Info for manual annotations of cluster K4:

- Start number 25 was manually annotated 21 times for cluster K4.
- Start number 34 was manually annotated 1 time for cluster K4.

Info for manual annotations of cluster K8:

- Start number 25 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster N:

- Start number 17 was manually annotated 5 times for cluster N.
- Start number 19 was manually annotated 12 times for cluster N.
- Start number 40 was manually annotated 5 times for cluster N.

Info for manual annotations of cluster P2:

- Start number 25 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 19 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster S:

- Start number 30 was manually annotated 17 times for cluster S.

Info for manual annotations of cluster V:

- Start number 21 was manually annotated 5 times for cluster V.

Info for manual annotations of cluster Y:

- Start number 18 was manually annotated 4 times for cluster Y.

### ***Gene Information:***

Gene: AcciDwight\_190 Start: 95637, Stop: 95933, Start Num: 38

Candidate Starts for AcciDwight\_190:

(Start: 24 @95601 has 29 MA's), (Start: 38 @95637 has 20 MA's), (49, 95703), (52, 95712), (57, 95757), (61, 95787),

Gene: Aggie\_40 Start: 29489, Stop: 29848, Start Num: 19

Candidate Starts for Aggie\_40:

(Start: 19 @29489 has 19 MA's), (Start: 37 @29540 has 2 MA's), (Start: 40 @29555 has 5 MA's), (49, 29624), (50, 29627), (59, 29693), (69, 29732), (72, 29741), (78, 29786), (79, 29789), (90, 29837), (92, 29843),

Gene: Aloeri\_55 Start: 37992, Stop: 38351, Start Num: 20

Candidate Starts for Aloeri\_55:

(Start: 19 @37989 has 19 MA's), (Start: 20 @37992 has 4 MA's), (Start: 30 @38019 has 17 MA's), (Start: 37 @38040 has 2 MA's), (Start: 40 @38055 has 5 MA's), (46, 38106), (50, 38127), (59, 38193), (79, 38289), (81, 38301), (90, 38340),

Gene: Amabiko\_185 Start: 95064, Stop: 95360, Start Num: 38

Candidate Starts for Amabiko\_185:

(Start: 24 @95028 has 29 MA's), (Start: 38 @95064 has 20 MA's), (49, 95130), (52, 95139), (57, 95184), (61, 95214),

Gene: Anedea\_175 Start: 94252, Stop: 94572, Start Num: 28

Candidate Starts for Anedea\_175:

(Start: 24 @94243 has 29 MA's), (Start: 28 @94252 has 45 MA's), (55, 94387),

Gene: Angela\_171 Start: 93836, Stop: 94156, Start Num: 28

Candidate Starts for Angela\_171:

(Start: 24 @93827 has 29 MA's), (Start: 28 @93836 has 45 MA's), (52, 93941), (55, 93971), (58, 93995), (75, 94073),

Gene: AngryGiraffe\_176 Start: 94241, Stop: 94558, Start Num: 28

Candidate Starts for AngryGiraffe\_176:

(10, 94184), (12, 94190), (15, 94202), (Start: 24 @94232 has 29 MA's), (Start: 28 @94241 has 45 MA's), (36, 94265), (55, 94370), (69, 94445), (78, 94496), (81, 94511),

Gene: ArianaSWT\_179 Start: 94822, Stop: 95193, Start Num: 11

Candidate Starts for ArianaSWT\_179:

(11, 94822), (Start: 14 @94834 has 1 MA's), (Start: 24 @94864 has 29 MA's), (Start: 28 @94873 has 45 MA's), (49, 94969), (55, 95008), (58, 95032),

Gene: AuntGwenStacy\_56 Start: 41882, Stop: 42274, Start Num: 18

Candidate Starts for AuntGwenStacy\_56:

(Start: 18 @41882 has 4 MA's), (35, 41927), (56, 42062), (60, 42083), (71, 42128), (76, 42158), (78, 42176), (81, 42191),

Gene: Awesomesauce\_55 Start: 37254, Stop: 37613, Start Num: 20

Candidate Starts for Awesomesauce\_55:

(Start: 19 @37251 has 19 MA's), (Start: 20 @37254 has 4 MA's), (Start: 30 @37281 has 17 MA's), (Start: 37 @37302 has 2 MA's), (Start: 40 @37317 has 5 MA's), (46, 37368), (50, 37389), (59, 37455), (79, 37551), (81, 37563), (90, 37602),

Gene: Azrael100\_17 Start: 5547, Stop: 5200, Start Num: 21

Candidate Starts for Azrael100\_17:

(1, 5700), (2, 5691), (Start: 21 @5547 has 5 MA's), (27, 5532), (Start: 37 @5502 has 2 MA's), (Start: 40 @5487 has 5 MA's), (57, 5376), (60, 5355), (70, 5310), (77, 5268), (88, 5211),

Gene: BabeRuth\_46 Start: 31707, Stop: 32066, Start Num: 19

Candidate Starts for BabeRuth\_46:

(Start: 17 @31704 has 5 MA's), (Start: 19 @31707 has 19 MA's), (Start: 25 @31722 has 35 MA's), (35, 31749), (Start: 40 @31773 has 5 MA's), (50, 31845), (59, 31911), (72, 31959), (79, 32007), (90, 32055),

Gene: Bartholomune\_172 Start: 93699, Stop: 94022, Start Num: 28

Candidate Starts for Bartholomune\_172:

(11, 93648), (Start: 14 @93660 has 1 MA's), (Start: 24 @93690 has 29 MA's), (Start: 28 @93699 has 45 MA's), (55, 93837), (57, 93852),

Gene: Battuta\_182 Start: 94846, Stop: 95142, Start Num: 38

Candidate Starts for Battuta\_182:

(Start: 24 @94810 has 29 MA's), (Start: 38 @94846 has 20 MA's), (49, 94912), (52, 94921), (57, 94966), (61, 94996),

Gene: Beelzebub\_68 Start: 36994, Stop: 37332, Start Num: 30

Candidate Starts for Beelzebub\_68:

(Start: 30 @36994 has 17 MA's), (54, 37120), (60, 37159), (82, 37276), (90, 37312), (93, 37321),

Gene: Birchlyn\_181 Start: 92703, Stop: 92999, Start Num: 38

Candidate Starts for Birchlyn\_181:

(Start: 24 @92667 has 29 MA's), (Start: 38 @92703 has 20 MA's), (49, 92769), (52, 92778), (57, 92823), (61, 92853),

Gene: Blackbeetle\_64 Start: 36039, Stop: 36377, Start Num: 30

Candidate Starts for Blackbeetle\_64:

(Start: 30 @36039 has 17 MA's), (54, 36165), (60, 36204), (82, 36321), (90, 36357), (93, 36366),

Gene: Blexus\_54 Start: 39072, Stop: 39419, Start Num: 24

Candidate Starts for Blexus\_54:

(3, 38952), (5, 38982), (Start: 24 @39072 has 29 MA's), (Start: 37 @39111 has 2 MA's), (44, 39150), (49, 39195), (50, 39198), (66, 39294), (72, 39312), (73, 39315), (76, 39339), (78, 39357), (79, 39360),

Gene: BlueOtter\_171 Start: 94910, Stop: 95230, Start Num: 28

Candidate Starts for BlueOtter\_171:

(11, 94859), (Start: 14 @94871 has 1 MA's), (Start: 24 @94901 has 29 MA's), (Start: 28 @94910 has 45 MA's), (49, 95006), (55, 95045), (58, 95069),

Gene: Bmoc\_175 Start: 94581, Stop: 94901, Start Num: 28

Candidate Starts for Bmoc\_175:

(Start: 24 @94572 has 29 MA's), (Start: 28 @94581 has 45 MA's), (55, 94716), (75, 94818),

Gene: Bobquesha\_56 Start: 37125, Stop: 37478, Start Num: 25

Candidate Starts for Bobquesha\_56:

(Start: 25 @37125 has 35 MA's), (Start: 34 @37149 has 2 MA's), (35, 37152), (47, 37227), (54, 37266),

Gene: BodEinwohner17\_56 Start: 38142, Stop: 38489, Start Num: 24

Candidate Starts for BodEinwohner17\_56:

(Start: 24 @38142 has 29 MA's), (Start: 37 @38181 has 2 MA's), (44, 38220), (49, 38265), (50, 38268), (66, 38364), (72, 38382), (73, 38385), (76, 38409), (78, 38427), (79, 38430),

Gene: Boilgate\_48 Start: 37518, Stop: 37862, Start Num: 25

Candidate Starts for Boilgate\_48:

(Start: 25 @37518 has 35 MA's), (72, 37749), (79, 37803), (85, 37839), (89, 37851),

Gene: BoomerJR\_178 Start: 94666, Stop: 94992, Start Num: 24  
Candidate Starts for BoomerJR\_178:  
(10, 94618), (12, 94624), (15, 94636), (Start: 24 @94666 has 29 MA's), (Start: 28 @94675 has 45 MA's), (36, 94699), (55, 94804), (69, 94879), (78, 94930), (81, 94945),

Gene: Bordeaux\_181 Start: 95353, Stop: 95649, Start Num: 38  
Candidate Starts for Bordeaux\_181:  
(Start: 24 @95317 has 29 MA's), (Start: 38 @95353 has 20 MA's), (49, 95419), (52, 95428), (57, 95473), (61, 95503),

Gene: Bosection6\_40 Start: 29385, Stop: 29744, Start Num: 19  
Candidate Starts for Bosection6\_40:  
(Start: 19 @29385 has 19 MA's), (Start: 30 @29415 has 17 MA's), (Start: 40 @29451 has 5 MA's), (50, 29523), (59, 29589), (62, 29601), (69, 29628), (72, 29637), (79, 29685), (90, 29733), (92, 29739),

Gene: Braelyn\_173 Start: 94759, Stop: 95082, Start Num: 28  
Candidate Starts for Braelyn\_173:  
(11, 94708), (Start: 14 @94720 has 1 MA's), (Start: 24 @94750 has 29 MA's), (Start: 28 @94759 has 45 MA's), (Start: 31 @94768 has 1 MA's), (55, 94897), (57, 94912),

Gene: Brizzy\_181 Start: 95508, Stop: 95804, Start Num: 38  
Candidate Starts for Brizzy\_181:  
(Start: 24 @95472 has 29 MA's), (Start: 38 @95508 has 20 MA's), (52, 95583), (57, 95628),

Gene: BronnyJames\_213 Start: 102094, Stop: 101768, Start Num: 25  
Candidate Starts for BronnyJames\_213:  
(Start: 25 @102094 has 35 MA's), (53, 101959), (67, 101884), (68, 101881), (79, 101824), (80, 101821),

Gene: Butters\_44 Start: 31386, Stop: 31709, Start Num: 40  
Candidate Starts for Butters\_44:  
(Start: 20 @31326 has 4 MA's), (35, 31362), (Start: 40 @31386 has 5 MA's), (43, 31404), (48, 31446), (68, 31554), (71, 31563), (81, 31629), (83, 31635), (88, 31662),

Gene: Byougenkin\_54 Start: 38377, Stop: 38727, Start Num: 24  
Candidate Starts for Byougenkin\_54:  
(3, 38257), (5, 38287), (Start: 24 @38377 has 29 MA's), (Start: 37 @38416 has 2 MA's), (44, 38455), (49, 38500), (50, 38503), (66, 38599), (72, 38617), (73, 38620), (76, 38644), (78, 38662), (79, 38665), (91, 38719), (92, 38722),

Gene: Cadmus\_167 Start: 94240, Stop: 94566, Start Num: 28  
Candidate Starts for Cadmus\_167:  
(11, 94189), (Start: 14 @94201 has 1 MA's), (Start: 24 @94231 has 29 MA's), (Start: 28 @94240 has 45 MA's), (52, 94345), (64, 94432), (87, 94549),

Gene: Caprice\_59 Start: 36353, Stop: 36691, Start Num: 30  
Candidate Starts for Caprice\_59:  
(Start: 30 @36353 has 17 MA's), (54, 36479), (60, 36518), (82, 36635), (90, 36671), (93, 36680),

Gene: CeilingFan\_184 Start: 95551, Stop: 95883, Start Num: 24  
Candidate Starts for CeilingFan\_184:

(Start: 24 @95551 has 29 MA's), (Start: 38 @95587 has 20 MA's), (49, 95653), (52, 95662), (57, 95707), (61, 95737),

Gene: Chancellor\_54 Start: 37618, Stop: 37968, Start Num: 25

Candidate Starts for Chancellor\_54:

(Start: 25 @37618 has 35 MA's), (Start: 34 @37642 has 2 MA's), (35, 37645), (47, 37720), (54, 37759), (60, 37804), (63, 37822), (69, 37843), (70, 37846),

Gene: Charlie\_41 Start: 29383, Stop: 29745, Start Num: 19

Candidate Starts for Charlie\_41:

(Start: 19 @29383 has 19 MA's), (Start: 20 @29386 has 4 MA's), (Start: 30 @29413 has 17 MA's), (Start: 37 @29434 has 2 MA's), (Start: 40 @29449 has 5 MA's), (46, 29500), (50, 29521), (59, 29587), (79, 29683), (81, 29695), (90, 29734),

Gene: Cheetobro\_54 Start: 37615, Stop: 37965, Start Num: 25

Candidate Starts for Cheetobro\_54:

(Start: 25 @37615 has 35 MA's), (Start: 34 @37639 has 2 MA's), (35, 37642), (47, 37717), (54, 37756), (60, 37801), (63, 37819), (69, 37840), (70, 37843),

Gene: ChickenDinner\_54 Start: 37992, Stop: 38351, Start Num: 20

Candidate Starts for ChickenDinner\_54:

(Start: 19 @37989 has 19 MA's), (Start: 20 @37992 has 4 MA's), (Start: 30 @38019 has 17 MA's), (Start: 37 @38040 has 2 MA's), (Start: 40 @38055 has 5 MA's), (46, 38106), (50, 38127), (59, 38193), (79, 38289), (81, 38301), (90, 38340),

Gene: Clarkson\_65 Start: 36722, Stop: 37060, Start Num: 30

Candidate Starts for Clarkson\_65:

(Start: 30 @36722 has 17 MA's), (54, 36848), (60, 36887), (82, 37004), (90, 37040), (93, 37049),

Gene: Coogler\_171 Start: 95579, Stop: 95899, Start Num: 28

Candidate Starts for Coogler\_171:

(11, 95528), (Start: 14 @95540 has 1 MA's), (Start: 24 @95570 has 29 MA's), (Start: 28 @95579 has 45 MA's), (49, 95675), (55, 95714), (58, 95738),

Gene: Corazon\_62 Start: 36916, Stop: 37254, Start Num: 30

Candidate Starts for Corazon\_62:

(Start: 30 @36916 has 17 MA's), (54, 37042), (60, 37081), (82, 37198), (90, 37234), (93, 37243),

Gene: Cosmo\_17 Start: 5547, Stop: 5200, Start Num: 21

Candidate Starts for Cosmo\_17:

(1, 5700), (2, 5691), (Start: 21 @5547 has 5 MA's), (27, 5532), (Start: 37 @5502 has 2 MA's), (Start: 40 @5487 has 5 MA's), (57, 5376), (60, 5355), (70, 5310), (77, 5268), (88, 5211),

Gene: Cross\_172 Start: 95555, Stop: 95875, Start Num: 28

Candidate Starts for Cross\_172:

(11, 95504), (Start: 14 @95516 has 1 MA's), (Start: 24 @95546 has 29 MA's), (Start: 28 @95555 has 45 MA's), (49, 95651), (55, 95690), (58, 95714),

Gene: Cubone\_43 Start: 29405, Stop: 29767, Start Num: 19

Candidate Starts for Cubone\_43:

(Start: 19 @29405 has 19 MA's), (Start: 20 @29408 has 4 MA's), (Start: 30 @29435 has 17 MA's), (Start: 37 @29456 has 2 MA's), (Start: 40 @29471 has 5 MA's), (46, 29522), (50, 29543), (59, 29609), (79, 29705), (81, 29717), (90, 29756),

Gene: Cursive\_171 Start: 93764, Stop: 94084, Start Num: 28

Candidate Starts for Cursive\_171:

(11, 93713), (Start: 14 @93725 has 1 MA's), (Start: 24 @93755 has 29 MA's), (Start: 28 @93764 has 45 MA's), (49, 93860), (55, 93899), (58, 93923),

Gene: DS6A\_63 Start: 41803, Stop: 42168, Start Num: 34

Candidate Starts for DS6A\_63:

(8, 41713), (22, 41773), (Start: 34 @41803 has 2 MA's), (51, 41902), (56, 41944), (60, 41965), (65, 41989), (69, 42004), (83, 42079), (96, 42151), (97, 42157),

Gene: Daisy123\_190 Start: 95841, Stop: 96137, Start Num: 38

Candidate Starts for Daisy123\_190:

(Start: 24 @95805 has 29 MA's), (Start: 38 @95841 has 20 MA's), (49, 95907), (52, 95916), (57, 95961), (61, 95991),

Gene: DanSyl44\_57 Start: 38740, Stop: 39093, Start Num: 25

Candidate Starts for DanSyl44\_57:

(Start: 25 @38740 has 35 MA's), (Start: 34 @38764 has 2 MA's), (35, 38767), (47, 38842), (54, 38881), (60, 38929), (63, 38947), (69, 38968), (70, 38971),

Gene: Daubenski\_166 Start: 95477, Stop: 95803, Start Num: 28

Candidate Starts for Daubenski\_166:

(11, 95426), (Start: 14 @95438 has 1 MA's), (Start: 24 @95468 has 29 MA's), (Start: 28 @95477 has 45 MA's), (52, 95582), (64, 95669), (87, 95786),

Gene: Davielle\_173 Start: 94426, Stop: 94749, Start Num: 28

Candidate Starts for Davielle\_173:

(11, 94375), (Start: 14 @94387 has 1 MA's), (Start: 24 @94417 has 29 MA's), (Start: 28 @94426 has 45 MA's), (52, 94534), (55, 94564), (57, 94579), (58, 94588),

Gene: DmpstrDiver\_220 Start: 105699, Stop: 105373, Start Num: 25

Candidate Starts for DmpstrDiver\_220:

(Start: 25 @105699 has 35 MA's), (51, 105579), (53, 105564), (64, 105504), (79, 105429),

Gene: DocMcStuffins\_54 Start: 37992, Stop: 38351, Start Num: 20

Candidate Starts for DocMcStuffins\_54:

(Start: 19 @37989 has 19 MA's), (Start: 20 @37992 has 4 MA's), (Start: 30 @38019 has 17 MA's), (Start: 37 @38040 has 2 MA's), (Start: 40 @38055 has 5 MA's), (46, 38106), (50, 38127), (59, 38193), (79, 38289), (81, 38301), (90, 38340),

Gene: Doomphist\_56 Start: 39792, Stop: 40139, Start Num: 24

Candidate Starts for Doomphist\_56:

(Start: 24 @39792 has 29 MA's), (Start: 37 @39831 has 2 MA's), (44, 39870), (49, 39915), (50, 39918), (66, 40014), (72, 40032), (73, 40035), (76, 40059), (78, 40077), (79, 40080),

Gene: DotProduct\_51 Start: 37410, Stop: 37757, Start Num: 24

Candidate Starts for DotProduct\_51:

(3, 37290), (Start: 24 @37410 has 29 MA's), (Start: 37 @37449 has 2 MA's), (44, 37488), (49, 37533), (50, 37536), (66, 37632), (72, 37650), (73, 37653), (76, 37677), (78, 37695), (79, 37698),

Gene: Duke13\_223 Start: 106493, Stop: 106167, Start Num: 25

Candidate Starts for Duke13\_223:

(Start: 25 @106493 has 35 MA's), (53, 106358), (67, 106283), (68, 106280), (79, 106223), (80, 106220),

Gene: EGUunicorn\_41 Start: 29430, Stop: 29789, Start Num: 19

Candidate Starts for EGUunicorn\_41:

(Start: 19 @29430 has 19 MA's), (Start: 30 @29460 has 17 MA's), (Start: 40 @29496 has 5 MA's), (50, 29568), (59, 29634), (62, 29646), (69, 29673), (72, 29682), (79, 29730), (90, 29778), (92, 29784),

Gene: EGole\_174 Start: 96572, Stop: 96892, Start Num: 28

Candidate Starts for EGole\_174:

(11, 96521), (Start: 14 @96533 has 1 MA's), (Start: 24 @96563 has 29 MA's), (Start: 28 @96572 has 45 MA's), (49, 96668), (55, 96707), (58, 96731),

Gene: Eish\_60 Start: 39608, Stop: 39955, Start Num: 24

Candidate Starts for Eish\_60:

(Start: 24 @39608 has 29 MA's), (Start: 37 @39647 has 2 MA's), (50, 39734), (66, 39830), (79, 39896),

Gene: Eliot67\_173 Start: 93735, Stop: 94058, Start Num: 28

Candidate Starts for Eliot67\_173:

(11, 93684), (Start: 14 @93696 has 1 MA's), (Start: 24 @93726 has 29 MA's), (Start: 28 @93735 has 45 MA's), (55, 93873), (57, 93888),

Gene: Elmer\_188 Start: 98199, Stop: 98528, Start Num: 24

Candidate Starts for Elmer\_188:

(11, 98157), (Start: 24 @98199 has 29 MA's), (Start: 28 @98208 has 45 MA's), (Start: 31 @98217 has 1 MA's), (36, 98232), (52, 98310), (55, 98340), (69, 98415),

Gene: Empress\_54 Start: 38361, Stop: 38708, Start Num: 24

Candidate Starts for Empress\_54:

(Start: 24 @38361 has 29 MA's), (Start: 37 @38400 has 2 MA's), (44, 38439), (49, 38484), (50, 38487), (66, 38583), (72, 38601), (73, 38604), (76, 38628), (78, 38646), (79, 38649),

Gene: EniyanLRS\_14 Start: 5245, Stop: 4898, Start Num: 21

Candidate Starts for EniyanLRS\_14:

(1, 5398), (2, 5389), (Start: 21 @5245 has 5 MA's), (27, 5230), (Start: 37 @5200 has 2 MA's), (Start: 40 @5185 has 5 MA's), (57, 5074), (60, 5053), (70, 5008), (77, 4966), (88, 4909),

Gene: Enygma\_186 Start: 97654, Stop: 97986, Start Num: 24

Candidate Starts for Enygma\_186:

(Start: 24 @97654 has 29 MA's), (Start: 38 @97690 has 20 MA's), (52, 97765),

Gene: Eponine\_56 Start: 38452, Stop: 38805, Start Num: 25

Candidate Starts for Eponine\_56:

(Start: 25 @38452 has 35 MA's), (35, 38479), (47, 38554), (54, 38593), (60, 38641), (63, 38659), (69, 38680), (70, 38683),

Gene: Evy\_166 Start: 94943, Stop: 95302, Start Num: 14

Candidate Starts for Evy\_166:

(11, 94931), (Start: 14 @94943 has 1 MA's), (Start: 24 @94973 has 29 MA's), (Start: 28 @94982 has 45 MA's), (49, 95078), (55, 95117),

Gene: Faiyaz\_56 Start: 41875, Stop: 42264, Start Num: 18

Candidate Starts for Faiyaz\_56:

(Start: 18 @41875 has 4 MA's), (Start: 28 @41902 has 45 MA's), (35, 41920), (41, 41953), (56, 42052), (74, 42127), (75, 42142), (76, 42148),

Gene: FeliMaine\_66 Start: 36964, Stop: 37302, Start Num: 30

Candidate Starts for FeliMaine\_66:

(Start: 30 @36964 has 17 MA's), (54, 37090), (60, 37129), (82, 37246), (90, 37282), (93, 37291),

Gene: Finkle\_52 Start: 35374, Stop: 35778, Start Num: 13

Candidate Starts for Finkle\_52:

(Start: 13 @35374 has 1 MA's), (42, 35479), (56, 35581), (60, 35605),

Gene: Fionnbharth\_54 Start: 37850, Stop: 38203, Start Num: 25

Candidate Starts for Fionnbharth\_54:

(Start: 25 @37850 has 35 MA's), (Start: 34 @37874 has 2 MA's), (35, 37877), (47, 37952), (54, 37991), (60, 38039), (63, 38057), (69, 38078), (70, 38081),

Gene: Firehouse51\_57 Start: 42210, Stop: 42557, Start Num: 24

Candidate Starts for Firehouse51\_57:

(3, 42090), (Start: 24 @42210 has 29 MA's), (Start: 37 @42249 has 2 MA's), (44, 42288), (49, 42333), (50, 42336), (66, 42432), (72, 42450), (73, 42453), (76, 42477), (78, 42495), (79, 42498),

Gene: Flathead\_57 Start: 39563, Stop: 39871, Start Num: 37

Candidate Starts for Flathead\_57:

(Start: 28 @39536 has 45 MA's), (Start: 37 @39563 has 2 MA's), (50, 39650), (66, 39746), (73, 39767), (79, 39812), (85, 39848), (91, 39866),

Gene: Frankie\_60 Start: 40470, Stop: 40832, Start Num: 19

Candidate Starts for Frankie\_60:

(Start: 19 @40470 has 19 MA's), (23, 40479), (Start: 25 @40485 has 35 MA's), (Start: 37 @40521 has 2 MA's), (Start: 40 @40536 has 5 MA's), (46, 40587), (50, 40608), (59, 40674), (79, 40770), (81, 40782), (90, 40821),

Gene: FreddyDRoo\_173 Start: 93684, Stop: 94058, Start Num: 11

Candidate Starts for FreddyDRoo\_173:

(11, 93684), (Start: 14 @93696 has 1 MA's), (Start: 24 @93726 has 29 MA's), (Start: 28 @93735 has 45 MA's), (55, 93873), (57, 93888),

Gene: Gattaca\_62 Start: 36143, Stop: 36481, Start Num: 30

Candidate Starts for Gattaca\_62:

(Start: 30 @36143 has 17 MA's), (54, 36269), (60, 36308), (82, 36425), (90, 36461), (93, 36470),

Gene: Genie2\_178 Start: 94780, Stop: 95106, Start Num: 24

Candidate Starts for Genie2\_178:

(10, 94732), (12, 94738), (15, 94750), (Start: 24 @94780 has 29 MA's), (Start: 28 @94789 has 45 MA's), (36, 94813), (55, 94918), (69, 94993), (78, 95044), (81, 95059),

Gene: Gibbi\_190 Start: 95641, Stop: 95937, Start Num: 38

Candidate Starts for Gibbi\_190:

(Start: 24 @95605 has 29 MA's), (Start: 38 @95641 has 20 MA's), (49, 95707), (52, 95716), (57, 95761), (61, 95791),

Gene: GoongGoong\_63 Start: 35942, Stop: 36280, Start Num: 30

Candidate Starts for GoongGoong\_63:

(Start: 30 @35942 has 17 MA's), (54, 36068), (60, 36107), (82, 36224), (90, 36260), (93, 36269),

Gene: Hanako\_45 Start: 31703, Stop: 32065, Start Num: 17

Candidate Starts for Hanako\_45:

(Start: 17 @31703 has 5 MA's), (Start: 19 @31706 has 19 MA's), (Start: 25 @31721 has 35 MA's), (35, 31748), (Start: 40 @31772 has 5 MA's), (50, 31844), (59, 31910), (72, 31958), (79, 32006), (90, 32054),

Gene: HangryHippo\_171 Start: 94910, Stop: 95230, Start Num: 28

Candidate Starts for HangryHippo\_171:

(11, 94859), (Start: 14 @94871 has 1 MA's), (Start: 24 @94901 has 29 MA's), (Start: 28 @94910 has 45 MA's), (49, 95006), (55, 95045), (58, 95069),

Gene: Hannaconda\_212 Start: 105480, Stop: 105154, Start Num: 25

Candidate Starts for Hannaconda\_212:

(Start: 25 @105480 has 35 MA's), (53, 105345), (67, 105270), (68, 105267), (79, 105210), (80, 105207),

Gene: Hilltopfarm\_55 Start: 41574, Stop: 41966, Start Num: 18

Candidate Starts for Hilltopfarm\_55:

(Start: 18 @41574 has 4 MA's), (Start: 28 @41601 has 45 MA's), (35, 41619), (Start: 37 @41628 has 2 MA's), (41, 41655), (56, 41754), (74, 41829), (75, 41844), (76, 41850),

Gene: Huphlebuff\_66 Start: 36527, Stop: 36865, Start Num: 30

Candidate Starts for Huphlebuff\_66:

(Start: 30 @36527 has 17 MA's), (54, 36653), (60, 36692), (82, 36809), (90, 36845), (93, 36854),

Gene: IchabodCrane\_177 Start: 94765, Stop: 95061, Start Num: 38

Candidate Starts for IchabodCrane\_177:

(Start: 24 @94729 has 29 MA's), (Start: 38 @94765 has 20 MA's), (49, 94831), (52, 94840), (57, 94885), (61, 94915),

Gene: Impisi\_45 Start: 31232, Stop: 31618, Start Num: 14

Candidate Starts for Impisi\_45:

(Start: 14 @31232 has 1 MA's), (Start: 40 @31319 has 5 MA's), (45, 31346), (60, 31454), (75, 31523), (81, 31562), (91, 31604), (94, 31613),

Gene: IrishSherpFalk\_57 Start: 40408, Stop: 40689, Start Num: 37

Candidate Starts for IrishSherpFalk\_57:

(Start: 24 @40369 has 29 MA's), (Start: 37 @40408 has 2 MA's), (39, 40417), (50, 40495),

Gene: JF1\_54 Start: 37767, Stop: 38120, Start Num: 25

Candidate Starts for JF1\_54:

(Start: 25 @37767 has 35 MA's), (Start: 34 @37791 has 2 MA's), (35, 37794), (47, 37869), (54, 37908), (60, 37956), (63, 37974), (69, 37995), (70, 37998),

Gene: Jay2Jay\_178 Start: 95781, Stop: 96101, Start Num: 28

Candidate Starts for Jay2Jay\_178:

(11, 95730), (Start: 14 @95742 has 1 MA's), (Start: 24 @95772 has 29 MA's), (Start: 28 @95781 has 45 MA's), (49, 95877), (55, 95916),

Gene: JimJam\_188 Start: 96686, Stop: 96982, Start Num: 38

Candidate Starts for JimJam\_188:

(Start: 24 @96650 has 29 MA's), (Start: 38 @96686 has 20 MA's), (49, 96752), (52, 96761), (57, 96806), (61, 96836),

Gene: JoieB\_65 Start: 36960, Stop: 37298, Start Num: 30

Candidate Starts for JoieB\_65:

(Start: 30 @36960 has 17 MA's), (54, 37086), (60, 37125), (82, 37242), (90, 37278), (93, 37287),

Gene: Jollison\_180 Start: 95287, Stop: 95583, Start Num: 38

Candidate Starts for Jollison\_180:

(Start: 24 @95251 has 29 MA's), (Start: 38 @95287 has 20 MA's), (49, 95353), (52, 95362), (57, 95407), (61, 95437),

Gene: Journey\_40 Start: 29383, Stop: 29745, Start Num: 19

Candidate Starts for Journey\_40:

(Start: 19 @29383 has 19 MA's), (Start: 20 @29386 has 4 MA's), (Start: 30 @29413 has 17 MA's), (Start: 37 @29434 has 2 MA's), (Start: 40 @29449 has 5 MA's), (46, 29500), (50, 29521), (59, 29587), (79, 29683), (81, 29695), (90, 29734),

Gene: Juliette\_56 Start: 37923, Stop: 38273, Start Num: 25

Candidate Starts for Juliette\_56:

(Start: 25 @37923 has 35 MA's), (Start: 34 @37947 has 2 MA's), (35, 37950), (47, 38025), (54, 38064), (60, 38109), (63, 38127), (69, 38148), (70, 38151),

Gene: Kalah2\_221 Start: 107782, Stop: 107456, Start Num: 25

Candidate Starts for Kalah2\_221:

(Start: 25 @107782 has 35 MA's), (53, 107647), (67, 107572), (68, 107569), (79, 107512), (80, 107509),

Gene: Karimac\_182 Start: 95481, Stop: 95777, Start Num: 38

Candidate Starts for Karimac\_182:

(Start: 24 @95445 has 29 MA's), (Start: 38 @95481 has 20 MA's), (52, 95556), (57, 95601), (61, 95631),

Gene: KashFlow\_213 Start: 105374, Stop: 105048, Start Num: 25

Candidate Starts for KashFlow\_213:

(Start: 25 @105374 has 35 MA's), (53, 105239), (67, 105164), (68, 105161), (79, 105104), (80, 105101),

Gene: KentuckyRacer\_186 Start: 96432, Stop: 96728, Start Num: 38

Candidate Starts for KentuckyRacer\_186:

(Start: 24 @96396 has 29 MA's), (Start: 38 @96432 has 20 MA's), (49, 96498), (52, 96507), (57, 96552), (61, 96582),

Gene: Kevin1\_42 Start: 30562, Stop: 30885, Start Num: 40

Candidate Starts for Kevin1\_42:

(Start: 20 @30502 has 4 MA's), (35, 30538), (Start: 40 @30562 has 5 MA's), (43, 30580), (48, 30622), (68, 30730), (71, 30739), (81, 30805), (83, 30811), (88, 30838), (95, 30862),

Gene: Kimberlium\_58 Start: 40279, Stop: 40626, Start Num: 24

Candidate Starts for Kimberlium\_58:

(Start: 24 @40279 has 29 MA's), (Start: 37 @40318 has 2 MA's), (39, 40327), (50, 40405), (66, 40501), (73, 40522), (79, 40567), (91, 40621),

Gene: Kraw\_54 Start: 37611, Stop: 37961, Start Num: 25

Candidate Starts for Kraw\_54:

(Start: 25 @37611 has 35 MA's), (Start: 34 @37635 has 2 MA's), (35, 37638), (47, 37713), (54, 37752), (60, 37797), (63, 37815), (69, 37836), (70, 37839),

Gene: Larnav\_172 Start: 95529, Stop: 95849, Start Num: 28

Candidate Starts for Larnav\_172:

(11, 95478), (Start: 14 @95490 has 1 MA's), (Start: 24 @95520 has 29 MA's), (Start: 28 @95529 has 45 MA's), (49, 95625), (55, 95664), (58, 95688),

Gene: Lebo14\_53 Start: 37875, Stop: 38228, Start Num: 25

Candidate Starts for Lebo14\_53:

(Start: 25 @37875 has 35 MA's), (Start: 34 @37899 has 2 MA's), (35, 37902), (47, 37977), (54, 38016), (60, 38064), (63, 38082), (69, 38103), (70, 38106),

Gene: Leo04\_173 Start: 95410, Stop: 95730, Start Num: 28

Candidate Starts for Leo04\_173:

(11, 95359), (Start: 14 @95371 has 1 MA's), (Start: 24 @95401 has 29 MA's), (Start: 28 @95410 has 45 MA's), (49, 95506), (55, 95545), (58, 95569),

Gene: Liandry\_172 Start: 94442, Stop: 94765, Start Num: 28

Candidate Starts for Liandry\_172:

(11, 94391), (Start: 14 @94403 has 1 MA's), (Start: 24 @94433 has 29 MA's), (Start: 28 @94442 has 45 MA's), (55, 94580), (57, 94595),

Gene: LilMartin\_169 Start: 93455, Stop: 93775, Start Num: 28

Candidate Starts for LilMartin\_169:

(Start: 24 @93446 has 29 MA's), (Start: 28 @93455 has 45 MA's), (52, 93560), (55, 93590), (58, 93614), (75, 93692),

Gene: LilSaint\_167 Start: 92888, Stop: 93208, Start Num: 28

Candidate Starts for LilSaint\_167:

(Start: 24 @92879 has 29 MA's), (Start: 28 @92888 has 45 MA's), (55, 93023),

Gene: LilSpotty\_55 Start: 36520, Stop: 36927, Start Num: 9

Candidate Starts for LilSpotty\_55:

(Start: 9 @36520 has 1 MA's), (Start: 19 @36565 has 19 MA's), (Start: 37 @36616 has 2 MA's), (Start: 40 @36631 has 5 MA's), (49, 36700), (50, 36703), (59, 36769), (79, 36865), (81, 36877), (90, 36916),

Gene: LordVader\_51 Start: 33831, Stop: 34193, Start Num: 19

Candidate Starts for LordVader\_51:

(Start: 17 @33828 has 5 MA's), (Start: 19 @33831 has 19 MA's), (23, 33840), (Start: 25 @33846 has 35 MA's), (Start: 37 @33882 has 2 MA's), (Start: 40 @33897 has 5 MA's), (46, 33948), (50, 33969), (59, 34035), (79, 34131), (81, 34143), (90, 34182),

Gene: Lucky2013\_216 Start: 102433, Stop: 102107, Start Num: 25

Candidate Starts for Lucky2013\_216:

(Start: 25 @102433 has 35 MA's), (53, 102298), (67, 102223), (68, 102220), (79, 102163), (80, 102160),

Gene: LukeCage\_181 Start: 96206, Stop: 96538, Start Num: 24

Candidate Starts for LukeCage\_181:

(Start: 24 @96206 has 29 MA's), (Start: 38 @96242 has 20 MA's), (52, 96317), (55, 96347), (57, 96362),

Gene: Lululemon\_171 Start: 94282, Stop: 94611, Start Num: 24

Candidate Starts for Lululemon\_171:

(11, 94240), (Start: 14 @94252 has 1 MA's), (Start: 24 @94282 has 29 MA's), (Start: 28 @94291 has 45 MA's), (49, 94387), (55, 94426), (58, 94450),

Gene: Malthus\_55 Start: 37611, Stop: 37961, Start Num: 25

Candidate Starts for Malthus\_55:

(Start: 25 @37611 has 35 MA's), (Start: 34 @37635 has 2 MA's), (35, 37638), (47, 37713), (54, 37752), (60, 37797), (63, 37815), (69, 37836), (70, 37839),

Gene: Marleymoo\_204 Start: 103967, Stop: 103641, Start Num: 26

Candidate Starts for Marleymoo\_204:

(26, 103967), (43, 103904), (51, 103847), (53, 103832), (59, 103793), (67, 103757), (68, 103754), (80, 103694), (84, 103676),

Gene: Marsus\_172 Start: 94098, Stop: 94418, Start Num: 28

Candidate Starts for Marsus\_172:

(Start: 24 @94089 has 29 MA's), (Start: 28 @94098 has 45 MA's), (49, 94194), (52, 94203), (55, 94233), (58, 94257),

Gene: Marvin\_60 Start: 36210, Stop: 36548, Start Num: 30

Candidate Starts for Marvin\_60:

(Start: 30 @36210 has 17 MA's), (54, 36336), (60, 36375), (82, 36492), (90, 36528), (93, 36537),

Gene: MaryV\_17 Start: 5511, Stop: 5164, Start Num: 21

Candidate Starts for MaryV\_17:

(1, 5664), (2, 5655), (Start: 21 @5511 has 5 MA's), (27, 5496), (Start: 37 @5466 has 2 MA's), (Start: 40 @5451 has 5 MA's), (57, 5340), (60, 5319), (70, 5274), (77, 5232), (88, 5175),

Gene: MiaZeal\_228 Start: 104572, Stop: 104246, Start Num: 25

Candidate Starts for MiaZeal\_228:

(Start: 25 @104572 has 35 MA's), (53, 104437), (67, 104362), (68, 104359), (79, 104302), (80, 104299),

Gene: MichelleMyBell\_41 Start: 29657, Stop: 29980, Start Num: 40

Candidate Starts for MichelleMyBell\_41:

(Start: 20 @29597 has 4 MA's), (35, 29633), (Start: 40 @29657 has 5 MA's), (43, 29675), (48, 29717), (60, 29786), (68, 29825), (71, 29834), (81, 29900), (83, 29906), (88, 29933),

Gene: Mildred21\_180 Start: 93826, Stop: 94146, Start Num: 28

Candidate Starts for Mildred21\_180:

(11, 93775), (Start: 14 @93787 has 1 MA's), (Start: 24 @93817 has 29 MA's), (Start: 28 @93826 has 45 MA's), (52, 93931), (55, 93961),

Gene: MindFlayer\_176 Start: 94636, Stop: 94968, Start Num: 24

Candidate Starts for MindFlayer\_176:

(Start: 24 @94636 has 29 MA's), (Start: 38 @94672 has 20 MA's), (49, 94738), (52, 94747), (57, 94792), (61, 94822),

Gene: Minerva\_218 Start: 104286, Stop: 103960, Start Num: 25

Candidate Starts for Minerva\_218:

(Start: 25 @104286 has 35 MA's), (53, 104151), (67, 104076), (68, 104073), (79, 104016), (80, 104013),

Gene: Misha28\_53 Start: 37256, Stop: 37618, Start Num: 19

Candidate Starts for Misha28\_53:

(Start: 19 @37256 has 19 MA's), (Start: 20 @37259 has 4 MA's), (Start: 30 @37286 has 17 MA's), (Start: 37 @37307 has 2 MA's), (Start: 40 @37322 has 5 MA's), (46, 37373), (50, 37394), (59, 37460), (79, 37556), (81, 37568), (90, 37607),

Gene: MissDaisy\_52 Start: 37140, Stop: 37493, Start Num: 25

Candidate Starts for MissDaisy\_52:

(Start: 25 @37140 has 35 MA's), (Start: 34 @37164 has 2 MA's), (35, 37167), (47, 37242), (54, 37281),

Gene: Mitti\_54 Start: 37787, Stop: 38140, Start Num: 25

Candidate Starts for Mitti\_54:

(Start: 25 @37787 has 35 MA's), (Start: 34 @37811 has 2 MA's), (35, 37814), (47, 37889), (54, 37928), (60, 37976), (63, 37994), (69, 38015), (70, 38018),

Gene: MooMoo\_52 Start: 37750, Stop: 38121, Start Num: 16

Candidate Starts for MooMoo\_52:

(Start: 16 @37750 has 1 MA's), (Start: 37 @37816 has 2 MA's), (Start: 40 @37831 has 5 MA's), (59, 37969), (65, 37993), (71, 38014), (76, 38044), (83, 38083), (85, 38101), (86, 38104), (88, 38110),

Gene: MosMoris\_61 Start: 36143, Stop: 36481, Start Num: 30

Candidate Starts for MosMoris\_61:

(Start: 30 @36143 has 17 MA's), (54, 36269), (60, 36308), (82, 36425), (90, 36461), (93, 36470),

Gene: Mugiwara\_183 Start: 96069, Stop: 96365, Start Num: 38

Candidate Starts for Mugiwara\_183:

(Start: 24 @96033 has 29 MA's), (Start: 38 @96069 has 20 MA's), (52, 96144), (55, 96174), (70, 96252),

Gene: MulchExplorer\_58 Start: 40278, Stop: 40625, Start Num: 24

Candidate Starts for MulchExplorer\_58:

(Start: 24 @40278 has 29 MA's), (Start: 37 @40317 has 2 MA's), (39, 40326), (50, 40404), (66, 40500), (73, 40521), (79, 40566), (91, 40620),

Gene: MulchMansion\_170 Start: 94098, Stop: 94418, Start Num: 28

Candidate Starts for MulchMansion\_170:

(Start: 24 @94089 has 29 MA's), (Start: 28 @94098 has 45 MA's), (52, 94203), (55, 94233), (58, 94257), (75, 94335),

Gene: MulchSalad\_54 Start: 36454, Stop: 36801, Start Num: 25

Candidate Starts for MulchSalad\_54:

(Start: 19 @36439 has 19 MA's), (23, 36448), (Start: 25 @36454 has 35 MA's), (Start: 37 @36490 has 2 MA's), (Start: 40 @36505 has 5 MA's), (46, 36556), (50, 36577), (59, 36643), (79, 36739), (81, 36751), (90, 36790),

Gene: Mutaforma13\_60 Start: 41520, Stop: 41867, Start Num: 24

Candidate Starts for Mutaforma13\_60:

(3, 41400), (Start: 24 @41520 has 29 MA's), (Start: 37 @41559 has 2 MA's), (44, 41598), (49, 41643), (50, 41646), (66, 41742), (72, 41760), (73, 41763), (76, 41787), (78, 41805), (79, 41808),

Gene: Navo\_170 Start: 94140, Stop: 94463, Start Num: 28

Candidate Starts for Navo\_170:

(11, 94089), (Start: 14 @94101 has 1 MA's), (Start: 24 @94131 has 29 MA's), (Start: 28 @94140 has 45 MA's), (Start: 31 @94149 has 1 MA's), (55, 94278), (57, 94293),

Gene: Nekros\_222 Start: 106378, Stop: 106052, Start Num: 25

Candidate Starts for Nekros\_222:

(Start: 25 @106378 has 35 MA's), (53, 106243), (67, 106168), (68, 106165), (79, 106108), (80, 106105),

Gene: Nenae\_45 Start: 31706, Stop: 32068, Start Num: 17

Candidate Starts for Nenae\_45:

(Start: 17 @31706 has 5 MA's), (Start: 19 @31709 has 19 MA's), (Start: 25 @31724 has 35 MA's), (35, 31751), (Start: 40 @31775 has 5 MA's), (50, 31847), (59, 31913), (72, 31961), (79, 32009), (90, 32057),

Gene: Nibley\_211 Start: 101671, Stop: 101345, Start Num: 25

Candidate Starts for Nibley\_211:

(Start: 25 @101671 has 35 MA's), (53, 101536), (67, 101461), (68, 101458), (79, 101401), (80, 101398),

Gene: Nichirin\_62 Start: 42111, Stop: 42455, Start Num: 25

Candidate Starts for Nichirin\_62:

(Start: 19 @42096 has 19 MA's), (23, 42105), (Start: 25 @42111 has 35 MA's), (Start: 40 @42162 has 5 MA's), (50, 42234), (59, 42300), (62, 42312), (69, 42339), (72, 42348), (79, 42396), (90, 42444),

Gene: NootNoot\_169 Start: 93493, Stop: 93825, Start Num: 24

Candidate Starts for NootNoot\_169:

(11, 93451), (Start: 14 @93463 has 1 MA's), (Start: 24 @93493 has 29 MA's), (Start: 28 @93502 has 45 MA's), (Start: 31 @93511 has 1 MA's), (55, 93640), (57, 93655),

Gene: Odette\_222 Start: 107131, Stop: 106805, Start Num: 25

Candidate Starts for Odette\_222:

(Start: 25 @107131 has 35 MA's), (53, 106996), (67, 106921), (68, 106918), (79, 106861), (80, 106858),

Gene: OmniCritical\_53 Start: 37596, Stop: 37949, Start Num: 25

Candidate Starts for OmniCritical\_53:

(Start: 25 @37596 has 35 MA's), (Start: 34 @37620 has 2 MA's), (35, 37623), (47, 37698), (54, 37737), (60, 37785), (63, 37803), (69, 37824), (70, 37827),

Gene: PacManQ\_171 Start: 94282, Stop: 94611, Start Num: 24

Candidate Starts for PacManQ\_171:

(11, 94240), (Start: 14 @94252 has 1 MA's), (Start: 24 @94282 has 29 MA's), (Start: 28 @94291 has 45 MA's), (49, 94387), (55, 94426), (58, 94450),

Gene: Paradiddles\_166 Start: 95805, Stop: 96128, Start Num: 28

Candidate Starts for Paradiddles\_166:

(11, 95754), (Start: 14 @95766 has 1 MA's), (Start: 24 @95796 has 29 MA's), (Start: 28 @95805 has 45 MA's), (Start: 31 @95814 has 1 MA's), (55, 95943), (57, 95958),

Gene: Patt\_51 Start: 36864, Stop: 37217, Start Num: 25

Candidate Starts for Patt\_51:

(Start: 25 @36864 has 35 MA's), (Start: 34 @36888 has 2 MA's), (35, 36891), (47, 36966), (54, 37005), (70, 37095),

Gene: Peebs\_170 Start: 95232, Stop: 95552, Start Num: 28

Candidate Starts for Peebs\_170:

(11, 95181), (Start: 14 @95193 has 1 MA's), (Start: 24 @95223 has 29 MA's), (Start: 28 @95232 has 45 MA's), (49, 95328), (55, 95367), (58, 95391),

Gene: Pepperwood\_171 Start: 95176, Stop: 95496, Start Num: 28

Candidate Starts for Pepperwood\_171:

(11, 95125), (Start: 14 @95137 has 1 MA's), (Start: 24 @95167 has 29 MA's), (Start: 28 @95176 has 45 MA's), (49, 95272), (55, 95311), (58, 95335),

Gene: Persimmon\_173 Start: 93674, Stop: 93997, Start Num: 28

Candidate Starts for Persimmon\_173:

(11, 93623), (Start: 14 @93635 has 1 MA's), (Start: 24 @93665 has 29 MA's), (Start: 28 @93674 has 45 MA's), (52, 93782), (55, 93812), (57, 93827), (58, 93836),

Gene: PhancyPhin\_45 Start: 31700, Stop: 32062, Start Num: 17

Candidate Starts for PhancyPhin\_45:

(Start: 17 @31700 has 5 MA's), (Start: 19 @31703 has 19 MA's), (Start: 25 @31718 has 35 MA's), (35, 31745), (Start: 40 @31769 has 5 MA's), (50, 31841), (59, 31907), (72, 31955), (79, 32003), (90, 32051),

Gene: Phasih\_54 Start: 39031, Stop: 39381, Start Num: 24

Candidate Starts for Phasih\_54:

(4, 38935), (Start: 24 @39031 has 29 MA's), (Start: 37 @39070 has 2 MA's), (44, 39109), (49, 39154), (50, 39157), (66, 39253), (72, 39271), (73, 39274), (76, 39298), (78, 39316), (79, 39319), (91, 39373), (92, 39376),

Gene: Philonius\_41 Start: 29325, Stop: 29648, Start Num: 40

Candidate Starts for Philonius\_41:

(Start: 20 @29265 has 4 MA's), (35, 29301), (Start: 40 @29325 has 5 MA's), (43, 29343), (48, 29385), (60, 29454), (68, 29493), (71, 29502), (81, 29568), (83, 29574), (88, 29601),

Gene: PinkiePie\_170 Start: 94442, Stop: 94765, Start Num: 28

Candidate Starts for PinkiePie\_170:

(11, 94391), (Start: 14 @94403 has 1 MA's), (Start: 24 @94433 has 29 MA's), (Start: 28 @94442 has 45 MA's), (55, 94580), (57, 94595),

Gene: Piper2020\_55 Start: 37972, Stop: 38334, Start Num: 19

Candidate Starts for Piper2020\_55:

(Start: 19 @37972 has 19 MA's), (Start: 20 @37975 has 4 MA's), (Start: 30 @38002 has 17 MA's), (Start: 37 @38023 has 2 MA's), (Start: 40 @38038 has 5 MA's), (46, 38089), (50, 38110), (59, 38176), (79, 38272), (81, 38284), (90, 38323),

Gene: Poenanya\_56 Start: 39792, Stop: 40139, Start Num: 24

Candidate Starts for Poenanya\_56:

(Start: 24 @39792 has 29 MA's), (Start: 37 @39831 has 2 MA's), (44, 39870), (49, 39915), (50, 39918), (66, 40014), (72, 40032), (73, 40035), (76, 40059), (78, 40077), (79, 40080),

Gene: Poise\_64 Start: 36039, Stop: 36377, Start Num: 30

Candidate Starts for Poise\_64:

(Start: 30 @36039 has 17 MA's), (54, 36165), (60, 36204), (82, 36321), (90, 36357), (93, 36366),

Gene: Polka14\_54 Start: 37988, Stop: 38335, Start Num: 24

Candidate Starts for Polka14\_54:

(Start: 24 @37988 has 29 MA's), (Start: 37 @38027 has 2 MA's), (44, 38066), (49, 38111), (50, 38114), (66, 38210), (72, 38228), (73, 38231), (76, 38255), (78, 38273), (79, 38276),

Gene: Porcelain\_219 Start: 103380, Stop: 103054, Start Num: 25

Candidate Starts for Porcelain\_219:

(Start: 25 @103380 has 35 MA's), (53, 103245), (67, 103170), (68, 103167), (79, 103110), (80, 103107),

Gene: Pound\_210 Start: 104474, Stop: 104148, Start Num: 25

Candidate Starts for Pound\_210:

(Start: 25 @104474 has 35 MA's), (53, 104339), (67, 104264), (68, 104261), (79, 104204), (80, 104201),

Gene: Pringar\_63 Start: 36328, Stop: 36666, Start Num: 30

Candidate Starts for Pringar\_63:

(Start: 30 @36328 has 17 MA's), (54, 36454), (60, 36493), (82, 36610), (90, 36646), (93, 36655),

Gene: PumpkinSpice\_184 Start: 95893, Stop: 96189, Start Num: 38

Candidate Starts for PumpkinSpice\_184:

(Start: 24 @95857 has 29 MA's), (Start: 38 @95893 has 20 MA's), (49, 95959), (52, 95968), (57, 96013), (61, 96043),

Gene: Purgamenstris\_45 Start: 31707, Stop: 32066, Start Num: 19

Candidate Starts for Purgamenstris\_45:

(Start: 17 @31704 has 5 MA's), (Start: 19 @31707 has 19 MA's), (Start: 25 @31722 has 35 MA's), (35, 31749), (Start: 40 @31773 has 5 MA's), (50, 31845), (59, 31911), (72, 31959), (79, 32007), (90, 32055),

Gene: PynkPanther\_184 Start: 95281, Stop: 95604, Start Num: 28

Candidate Starts for PynkPanther\_184:

(11, 95230), (Start: 14 @95242 has 1 MA's), (Start: 24 @95272 has 29 MA's), (Start: 28 @95281 has 45 MA's), (52, 95389), (55, 95419), (57, 95434), (58, 95443),

Gene: Qhanda\_56 Start: 37627, Stop: 37977, Start Num: 25

Candidate Starts for Qhanda\_56:

(Start: 25 @37627 has 35 MA's), (Start: 34 @37651 has 2 MA's), (35, 37654), (47, 37729), (54, 37768), (60, 37813), (63, 37831), (69, 37852), (70, 37855),

Gene: Quaran19\_182 Start: 95332, Stop: 95628, Start Num: 38

Candidate Starts for Quaran19\_182:

(Start: 24 @95296 has 29 MA's), (Start: 38 @95332 has 20 MA's), (49, 95398), (52, 95407), (57, 95452), (61, 95482),

Gene: QuickMath\_57 Start: 40502, Stop: 40849, Start Num: 24

Candidate Starts for QuickMath\_57:

(Start: 24 @40502 has 29 MA's), (Start: 37 @40541 has 2 MA's), (39, 40550), (50, 40628), (66, 40724), (73, 40745), (79, 40790), (91, 40844),

Gene: Raela\_64 Start: 36596, Stop: 36934, Start Num: 30

Candidate Starts for Raela\_64:

(Start: 30 @36596 has 17 MA's), (54, 36722), (60, 36761), (82, 36878), (90, 36914), (93, 36923),

Gene: Raymond7\_39 Start: 31495, Stop: 31854, Start Num: 19

Candidate Starts for Raymond7\_39:

(Start: 17 @31492 has 5 MA's), (Start: 19 @31495 has 19 MA's), (Start: 25 @31510 has 35 MA's), (35, 31537), (Start: 40 @31561 has 5 MA's), (50, 31633), (59, 31699), (72, 31747), (79, 31795), (90, 31843),

Gene: Rebel\_37 Start: 27837, Stop: 28196, Start Num: 19

Candidate Starts for Rebel\_37:

(Start: 17 @27834 has 5 MA's), (Start: 19 @27837 has 19 MA's), (Start: 25 @27852 has 35 MA's), (35, 27879), (Start: 40 @27903 has 5 MA's), (50, 27975), (59, 28041), (72, 28089), (79, 28137), (90, 28185),

Gene: RedRaider77\_63 Start: 35984, Stop: 36322, Start Num: 30

Candidate Starts for RedRaider77\_63:

(Start: 30 @35984 has 17 MA's), (54, 36110), (60, 36149), (82, 36266), (90, 36302), (93, 36311),

Gene: Redi\_45 Start: 31703, Stop: 32065, Start Num: 17

Candidate Starts for Redi\_45:

(Start: 17 @31703 has 5 MA's), (Start: 19 @31706 has 19 MA's), (Start: 25 @31721 has 35 MA's), (35, 31748), (Start: 40 @31772 has 5 MA's), (50, 31844), (59, 31910), (72, 31958), (79, 32006), (90, 32054),

Gene: Reptar3000\_52 Start: 36852, Stop: 37205, Start Num: 25

Candidate Starts for Reptar3000\_52:

(Start: 25 @36852 has 35 MA's), (Start: 34 @36876 has 2 MA's), (35, 36879), (47, 36954), (54, 36993),

Gene: Rikishi\_183 Start: 95445, Stop: 95741, Start Num: 38

Candidate Starts for Rikishi\_183:

(Start: 24 @95409 has 29 MA's), (Start: 38 @95445 has 20 MA's), (49, 95511), (52, 95520), (57, 95565), (61, 95595),

Gene: Riptide\_168 Start: 92891, Stop: 93211, Start Num: 28

Candidate Starts for Riptide\_168:

(Start: 24 @92882 has 29 MA's), (Start: 28 @92891 has 45 MA's), (55, 93026),

Gene: Rubeelu\_44 Start: 31386, Stop: 31709, Start Num: 40

Candidate Starts for Rubeelu\_44:

(Start: 20 @31326 has 4 MA's), (35, 31362), (Start: 40 @31386 has 5 MA's), (43, 31404), (48, 31446), (68, 31554), (71, 31563), (81, 31629), (83, 31635), (88, 31662),

Gene: Ruthiejr\_55 Start: 37661, Stop: 38011, Start Num: 25

Candidate Starts for Ruthiejr\_55:

(Start: 25 @37661 has 35 MA's), (35, 37688), (47, 37763), (54, 37802), (60, 37847), (63, 37865), (69, 37886), (70, 37889),

Gene: SaltySpittoon\_182 Start: 94876, Stop: 95172, Start Num: 38

Candidate Starts for SaltySpittoon\_182:

(Start: 24 @94840 has 29 MA's), (Start: 38 @94876 has 20 MA's), (49, 94942), (52, 94951), (57, 94996), (61, 95026),

Gene: SamScheppers\_52 Start: 38090, Stop: 38440, Start Num: 25

Candidate Starts for SamScheppers\_52:

(Start: 25 @38090 has 35 MA's), (Start: 34 @38114 has 2 MA's), (35, 38117), (47, 38192), (54, 38231), (60, 38276), (63, 38294), (69, 38315), (70, 38318),

Gene: Samisti12\_174 Start: 96616, Stop: 96936, Start Num: 28

Candidate Starts for Samisti12\_174:

(11, 96565), (Start: 14 @96577 has 1 MA's), (Start: 24 @96607 has 29 MA's), (Start: 28 @96616 has 45 MA's), (49, 96712), (55, 96751), (58, 96775),

Gene: Schatzie\_212 Start: 105010, Stop: 104684, Start Num: 25

Candidate Starts for Schatzie\_212:

(Start: 25 @105010 has 35 MA's), (53, 104875), (67, 104800), (68, 104797), (79, 104740), (80, 104737),

Gene: Scheme\_175 Start: 96797, Stop: 97117, Start Num: 28

Candidate Starts for Scheme\_175:

(11, 96746), (Start: 14 @96758 has 1 MA's), (Start: 24 @96788 has 29 MA's), (Start: 28 @96797 has 45 MA's), (49, 96893), (55, 96932), (58, 96956),

Gene: Sejanus\_55 Start: 46982, Stop: 47341, Start Num: 19

Candidate Starts for Sejanus\_55:

(Start: 19 @46982 has 19 MA's), (Start: 30 @47012 has 17 MA's), (Start: 40 @47048 has 5 MA's), (50, 47120), (59, 47186), (62, 47198), (69, 47225), (72, 47234), (79, 47282), (90, 47330),

Gene: Shaboozey\_219 Start: 102942, Stop: 102616, Start Num: 25

Candidate Starts for Shaboozey\_219:

(Start: 25 @102942 has 35 MA's), (53, 102807), (67, 102732), (68, 102729), (79, 102672), (80, 102669),

Gene: ShrimpFriedEgg\_45 Start: 31703, Stop: 32065, Start Num: 17

Candidate Starts for ShrimpFriedEgg\_45:

(Start: 17 @31703 has 5 MA's), (Start: 19 @31706 has 19 MA's), (Start: 25 @31721 has 35 MA's), (35, 31748), (Start: 40 @31772 has 5 MA's), (50, 31844), (59, 31910), (72, 31958), (79, 32006), (90, 32054),

Gene: Shuckle\_170 Start: 94834, Stop: 95157, Start Num: 28

Candidate Starts for Shuckle\_170:

(11, 94783), (Start: 14 @94795 has 1 MA's), (Start: 24 @94825 has 29 MA's), (Start: 28 @94834 has 45 MA's), (32, 94846), (52, 94942), (55, 94972), (58, 94996),

Gene: Silvy\_40 Start: 29489, Stop: 29848, Start Num: 19

Candidate Starts for Silvy\_40:

(Start: 19 @29489 has 19 MA's), (Start: 37 @29540 has 2 MA's), (Start: 40 @29555 has 5 MA's), (49, 29624), (50, 29627), (59, 29693), (69, 29732), (72, 29741), (78, 29786), (79, 29789), (90, 29837), (92, 29843),

Gene: SkinnyPete\_39 Start: 29165, Stop: 29524, Start Num: 19

Candidate Starts for SkinnyPete\_39:

(Start: 19 @29165 has 19 MA's), (23, 29174), (Start: 25 @29180 has 35 MA's), (Start: 40 @29231 has 5 MA's), (50, 29303), (59, 29369), (62, 29381), (69, 29408), (72, 29417), (79, 29465), (90, 29513),

Gene: Slarp\_54 Start: 37618, Stop: 37968, Start Num: 25

Candidate Starts for Slarp\_54:

(Start: 25 @37618 has 35 MA's), (Start: 34 @37642 has 2 MA's), (35, 37645), (47, 37720), (54, 37759), (60, 37804), (63, 37822), (69, 37843), (70, 37846),

Gene: Sollertia\_178 Start: 94789, Stop: 95106, Start Num: 28

Candidate Starts for Sollertia\_178:

(10, 94732), (12, 94738), (15, 94750), (Start: 24 @94780 has 29 MA's), (Start: 28 @94789 has 45 MA's), (36, 94813), (55, 94918), (69, 94993), (78, 95044), (81, 95059),

Gene: Spelly\_185 Start: 94805, Stop: 95101, Start Num: 38

Candidate Starts for Spelly\_185:

(Start: 24 @94769 has 29 MA's), (Start: 38 @94805 has 20 MA's), (49, 94871), (52, 94880), (57, 94925), (61, 94955),

Gene: Spilled\_187 Start: 95618, Stop: 95914, Start Num: 38

Candidate Starts for Spilled\_187:

(Start: 24 @95582 has 29 MA's), (Start: 38 @95618 has 20 MA's), (52, 95693), (57, 95738), (61, 95768),

Gene: Spinach\_45 Start: 31706, Stop: 32065, Start Num: 19

Candidate Starts for Spinach\_45:

(Start: 17 @31703 has 5 MA's), (Start: 19 @31706 has 19 MA's), (Start: 25 @31721 has 35 MA's), (35, 31748), (Start: 40 @31772 has 5 MA's), (50, 31844), (59, 31910), (72, 31958), (79, 32006), (90, 32054),

Gene: Spoonbill\_53 Start: 37196, Stop: 37543, Start Num: 24

Candidate Starts for Spoonbill\_53:

(Start: 24 @37196 has 29 MA's), (Start: 37 @37235 has 2 MA's), (44, 37274), (49, 37319), (50, 37322), (66, 37418), (72, 37436), (73, 37439), (76, 37463), (78, 37481), (79, 37484),

Gene: Squillium\_173 Start: 94444, Stop: 94767, Start Num: 28

Candidate Starts for Squillium\_173:

(11, 94393), (Start: 14 @94405 has 1 MA's), (Start: 24 @94435 has 29 MA's), (Start: 28 @94444 has 45 MA's), (55, 94582), (57, 94597),

Gene: Squirty\_52 Start: 37353, Stop: 37712, Start Num: 19

Candidate Starts for Squirty\_52:

(Start: 17 @37350 has 5 MA's), (Start: 19 @37353 has 19 MA's), (23, 37362), (Start: 25 @37368 has 35 MA's), (35, 37395), (Start: 40 @37419 has 5 MA's), (49, 37488), (50, 37491), (59, 37557), (69, 37596), (72, 37605), (78, 37650), (79, 37653), (90, 37701), (92, 37707),

Gene: Stanimal\_177 Start: 95150, Stop: 95467, Start Num: 28

Candidate Starts for Stanimal\_177:

(10, 95093), (12, 95099), (15, 95111), (Start: 24 @95141 has 29 MA's), (Start: 28 @95150 has 45 MA's), (36, 95174), (55, 95279), (69, 95354), (78, 95405), (81, 95420),

Gene: Stap\_54 Start: 37997, Stop: 38344, Start Num: 24

Candidate Starts for Stap\_54:

(Start: 24 @37997 has 29 MA's), (Start: 37 @38036 has 2 MA's), (44, 38075), (49, 38120), (50, 38123), (66, 38219), (72, 38237), (73, 38240), (76, 38264), (78, 38282), (79, 38285),

Gene: StarPlatinum\_189 Start: 97255, Stop: 97587, Start Num: 24

Candidate Starts for StarPlatinum\_189:

(Start: 24 @97255 has 29 MA's), (Start: 38 @97291 has 20 MA's), (52, 97366), (55, 97396), (57, 97411),

Gene: Starbow\_180 Start: 94849, Stop: 95145, Start Num: 38

Candidate Starts for Starbow\_180:

(Start: 24 @94813 has 29 MA's), (Start: 38 @94849 has 20 MA's), (49, 94915), (52, 94924), (57, 94969), (61, 94999),

Gene: Sushi23\_172 Start: 95590, Stop: 95910, Start Num: 28

Candidate Starts for Sushi23\_172:

(11, 95539), (Start: 14 @95551 has 1 MA's), (Start: 24 @95581 has 29 MA's), (Start: 28 @95590 has 45 MA's), (49, 95686), (55, 95725), (58, 95749),

Gene: Taquito\_54 Start: 37946, Stop: 38296, Start Num: 25

Candidate Starts for Taquito\_54:

(Start: 25 @37946 has 35 MA's), (Start: 34 @37970 has 2 MA's), (35, 37973), (47, 38048), (54, 38087), (60, 38132), (63, 38150), (69, 38171), (70, 38174),

Gene: Targaryen\_172 Start: 96191, Stop: 96511, Start Num: 28

Candidate Starts for Targaryen\_172:

(11, 96140), (Start: 14 @96152 has 1 MA's), (Start: 24 @96182 has 29 MA's), (Start: 28 @96191 has 45 MA's), (49, 96287), (55, 96326),

Gene: Tesla\_61 Start: 35833, Stop: 36171, Start Num: 30

Candidate Starts for Tesla\_61:

(Start: 30 @35833 has 17 MA's), (54, 35959), (60, 35998), (82, 36115), (90, 36151), (93, 36160),

Gene: Teutsch\_171 Start: 95714, Stop: 96034, Start Num: 28

Candidate Starts for Teutsch\_171:

(11, 95663), (Start: 14 @95675 has 1 MA's), (Start: 24 @95705 has 29 MA's), (Start: 28 @95714 has 45 MA's), (49, 95810), (55, 95849), (58, 95873),

Gene: ThreeRngTarjay\_220 Start: 107485, Stop: 107159, Start Num: 25

Candidate Starts for ThreeRngTarjay\_220:

(Start: 25 @107485 has 35 MA's), (53, 107350), (67, 107275), (68, 107272), (79, 107215), (80, 107212),

Gene: TomSawyer\_186 Start: 96537, Stop: 96833, Start Num: 38

Candidate Starts for TomSawyer\_186:

(Start: 24 @96501 has 29 MA's), (Start: 38 @96537 has 20 MA's), (49, 96603), (52, 96612), (57, 96657), (61, 96687),

Gene: Tomas\_176 Start: 95090, Stop: 95428, Start Num: 29

Candidate Starts for Tomas\_176:

(11, 95030), (Start: 24 @95075 has 29 MA's), (Start: 28 @95084 has 45 MA's), (Start: 29 @95090 has 1 MA's), (33, 95099), (46, 95180), (55, 95237), (72, 95321),

Gene: TootsiePop\_53 Start: 37256, Stop: 37618, Start Num: 19

Candidate Starts for TootsiePop\_53:

(Start: 19 @37256 has 19 MA's), (Start: 20 @37259 has 4 MA's), (Start: 30 @37286 has 17 MA's), (Start: 37 @37307 has 2 MA's), (Start: 40 @37322 has 5 MA's), (46, 37373), (50, 37394), (59, 37460), (79, 37556), (81, 37568), (90, 37607),

Gene: Toron\_58 Start: 39897, Stop: 40268, Start Num: 16

Candidate Starts for Toron\_58:

(Start: 16 @39897 has 1 MA's), (Start: 40 @39978 has 5 MA's), (59, 40116), (65, 40140), (69, 40155), (70, 40158), (76, 40191), (83, 40230), (85, 40248), (86, 40251), (88, 40257),

Gene: Tortellini\_47 Start: 37188, Stop: 37532, Start Num: 25

Candidate Starts for Tortellini\_47:

(7, 37122), (Start: 17 @37170 has 5 MA's), (Start: 19 @37173 has 19 MA's), (23, 37182), (Start: 25 @37188 has 35 MA's), (Start: 40 @37239 has 5 MA's), (50, 37311), (59, 37377), (72, 37425), (79, 37473), (90, 37521), (92, 37527),

Gene: Tribute\_170 Start: 95731, Stop: 96051, Start Num: 28

Candidate Starts for Tribute\_170:

(11, 95680), (Start: 14 @95692 has 1 MA's), (Start: 24 @95722 has 29 MA's), (Start: 28 @95731 has 45 MA's), (49, 95827), (55, 95866), (58, 95890),

Gene: Typha\_55 Start: 41882, Stop: 42274, Start Num: 18

Candidate Starts for Typha\_55:

(Start: 18 @41882 has 4 MA's), (35, 41927), (56, 42062), (60, 42083), (71, 42128), (76, 42158), (78, 42176), (81, 42191),

Gene: VasuNzinga\_63 Start: 35902, Stop: 36240, Start Num: 30

Candidate Starts for VasuNzinga\_63:

(Start: 30 @35902 has 17 MA's), (54, 36028), (60, 36067), (82, 36184), (90, 36220), (93, 36229),

Gene: Warpy\_176 Start: 95260, Stop: 95580, Start Num: 28

Candidate Starts for Warpy\_176:

(11, 95209), (Start: 14 @95221 has 1 MA's), (Start: 24 @95251 has 29 MA's), (Start: 28 @95260 has 45 MA's), (Start: 29 @95266 has 1 MA's), (49, 95356), (55, 95395),

Gene: WashU\_174 Start: 95766, Stop: 96125, Start Num: 14

Candidate Starts for WashU\_174:

(11, 95754), (Start: 14 @95766 has 1 MA's), (Start: 24 @95796 has 29 MA's), (Start: 28 @95805 has 45 MA's), (49, 95901), (55, 95940), (58, 95964),

Gene: Watermoore\_171 Start: 96126, Stop: 96446, Start Num: 28

Candidate Starts for Watermoore\_171:

(11, 96075), (Start: 14 @96087 has 1 MA's), (Start: 24 @96117 has 29 MA's), (Start: 28 @96126 has 45 MA's), (49, 96222), (55, 96261), (58, 96285),

Gene: WhereRU\_172 Start: 94426, Stop: 94749, Start Num: 28

Candidate Starts for WhereRU\_172:

(11, 94375), (Start: 14 @94387 has 1 MA's), (Start: 24 @94417 has 29 MA's), (Start: 28 @94426 has 45 MA's), (52, 94534), (55, 94564), (57, 94579), (58, 94588),

Gene: Wildcat\_17 Start: 5521, Stop: 5174, Start Num: 21

Candidate Starts for Wildcat\_17:

(1, 5674), (2, 5665), (Start: 21 @5521 has 5 MA's), (27, 5506), (Start: 37 @5476 has 2 MA's), (Start: 40 @5461 has 5 MA's), (57, 5350), (60, 5329), (70, 5284), (77, 5242), (88, 5185),

Gene: WillSterrel\_57 Start: 40402, Stop: 40722, Start Num: 24

Candidate Starts for WillSterrel\_57:

(Start: 24 @40402 has 29 MA's), (Start: 37 @40441 has 2 MA's), (39, 40450), (50, 40528),

Gene: Wintermute\_54 Start: 37848, Stop: 38198, Start Num: 25

Candidate Starts for Wintermute\_54:

(Start: 25 @37848 has 35 MA's), (Start: 34 @37872 has 2 MA's), (35, 37875), (47, 37950), (54, 37989), (60, 38034), (63, 38052), (69, 38073), (70, 38076),

Gene: Wipeout\_175 Start: 95881, Stop: 96177, Start Num: 38

Candidate Starts for Wipeout\_175:

(Start: 24 @95845 has 29 MA's), (Start: 38 @95881 has 20 MA's), (49, 95947), (52, 95956), (57, 96001), (61, 96031),

Gene: Wofford\_181 Start: 98176, Stop: 98487, Start Num: 31

Candidate Starts for Wofford\_181:

(11, 98116), (Start: 24 @98158 has 29 MA's), (Start: 28 @98167 has 45 MA's), (Start: 31 @98176 has 1 MA's), (36, 98191), (52, 98269), (55, 98299), (69, 98374), (82, 98443),

Gene: Xavia\_47 Start: 37009, Stop: 37368, Start Num: 19

Candidate Starts for Xavia\_47:

(6, 36952), (Start: 19 @37009 has 19 MA's), (Start: 25 @37024 has 35 MA's), (Start: 30 @37039 has 17 MA's), (Start: 40 @37075 has 5 MA's), (50, 37147), (59, 37213), (69, 37252), (79, 37309), (90, 37357),

Gene: Y10\_53 Start: 37767, Stop: 38120, Start Num: 25

Candidate Starts for Y10\_53:

(Start: 25 @37767 has 35 MA's), (Start: 34 @37791 has 2 MA's), (35, 37794), (47, 37869), (54, 37908), (60, 37956), (63, 37974), (69, 37995), (70, 37998),

Gene: Y2\_53 Start: 37767, Stop: 38120, Start Num: 25

Candidate Starts for Y2\_53:

(Start: 25 @37767 has 35 MA's), (Start: 34 @37791 has 2 MA's), (35, 37794), (47, 37869), (54, 37908), (60, 37956), (63, 37974), (69, 37995), (70, 37998),

Gene: Yaboi\_181 Start: 94724, Stop: 95041, Start Num: 28

Candidate Starts for Yaboi\_181:

(10, 94667), (12, 94673), (15, 94685), (Start: 24 @94715 has 29 MA's), (Start: 28 @94724 has 45 MA's), (36, 94748), (55, 94853), (69, 94928), (78, 94979), (81, 94994),

Gene: YasnayaPolyana\_54 Start: 37722, Stop: 38051, Start Num: 34

Candidate Starts for YasnayaPolyana\_54:

(Start: 25 @37698 has 35 MA's), (Start: 34 @37722 has 2 MA's), (35, 37725), (47, 37800), (54, 37839), (60, 37887), (63, 37905), (69, 37926), (70, 37929),