



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 311371 Report

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

Pham number 311371 has 126 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Liandry\_51, Paradiddles\_48, NootNoot\_48, Eliot67\_49, Squillum\_51, Persimmon\_48, PinkiePie\_50, Bartholomune\_50, Davielle\_49, Braelyn\_51, FreddyDRoo\_49, PynkPanther\_57, WhereRU\_49
- Track 2 : Tribute\_50, Teutsch\_52, Samisti12\_52
- Track 3 : Navo\_50
- Track 4 : Leo04\_53, EGole\_53, Sushi23\_52, Scheme\_53, Cross\_52, Watermoore\_52, Lululemon\_51, BlueOtter\_52, WashU\_55, Shuckle\_50, ArianaSWT\_55, Larnav\_52, HangryHippo\_52, Coogler\_52, Cursive\_50, PacManQ\_51, Peebs\_51, Pepperwood\_52
- Track 5 : Warpy\_56
- Track 6 : LilSaint\_51, Riptide\_49, Anedea\_50
- Track 7 : Jay2Jay\_57, Evy\_53
- Track 8 : Angela\_49, MulchMansion\_49, LilMartin\_49
- Track 9 : Marsus\_50
- Track 10 : Bmoc\_50
- Track 11 : Cadmus\_50, Daubenski\_53
- Track 12 : Mildred21\_50
- Track 13 : Targaryen\_53
- Track 14 : BoomerJR\_54, Stanimal\_54, Yaboi\_54, Sollertia\_54, Genie2\_54, AngryGiraffe\_53
- Track 15 : PumpkinSpice\_53, Jollison\_53, AcciDwight\_58, Spelly\_54, Rikishi\_54, Daisy123\_58, Quarant19\_54
- Track 16 : TomSawyer\_52, Gibbi\_58, Karimac\_53, Brizzy\_53, Wipeout\_52, Birchlyn\_51, KentuckyRacer\_54, JimJam\_54, Bordeaux\_52, MindFlayer\_52, Amabiko\_54, IchabodCrane\_51, Starbow\_52, CeilingFan\_53, Spilled\_55, Battuta\_52
- Track 17 : Wofford\_53, Elmer\_56
- Track 18 : LukeCage\_53, StarPlatinum\_54
- Track 19 : SaltySpittoon\_54
- Track 20 : Mugiwara\_53
- Track 21 : Tomas\_56
- Track 22 : Enygma\_54
- Track 23 : DeluluLabubu\_31, Forrest\_33, Jada\_31, Emma1919\_33
- Track 24 : SparkleGoddess\_32
- Track 25 : MeganTheeKilla\_31, Maupel\_33, Gilson\_33
- Track 26 : Francob\_31
- Track 27 : Stigma\_32, Belfort\_33, Westy\_32, Comrade\_32, Karp\_31
- Track 28 : Patelgo\_32

- Track 29 : Beuffert\_30
- Track 30 : Blueeyedbeauty\_31
- Track 31 : Sham\_29
- Track 32 : Annadreamy\_29, Limpid\_29
- Track 33 : Phredrick\_31
- Track 34 : TunaTartare\_31
- Track 35 : SeresaTree\_32, Faust\_32
- Track 36 : Kenrey\_33
- Track 37 : Moab\_32
- Track 38 : Muntaha\_28
- Track 39 : Chaewon\_31
- Track 40 : Circinus\_29, BillNye\_27
- Track 41 : Wakanda\_28
- Track 42 : Weasels2\_81
- Track 43 : Grayson\_81
- Track 44 : Peregrin\_79
- Track 45 : NiceHouse\_63
- Track 46 : Trina\_74
- Track 47 : Francesca\_47, Dorin\_48
- Track 48 : Nova53\_45

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

The start number called the most often in the published annotations is 3, it was called in 107 of the 115 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• AcciDwight\_58, Amabiko\_54, Anedea\_50, Angela\_49, AngryGiraffe\_53, Annadreamy\_29, ArianaSWT\_55, Bartholomune\_50, Battuta\_52, Belfort\_33, Beuffert\_30, BillNye\_27, Birchlyn\_51, BlueOtter\_52, Blueeyedbeauty\_31, Bmoc\_50, BoomerJR\_54, Bordeaux\_52, Braelyn\_51, Brizzy\_53, Cadmus\_50, CeilingFan\_53, Chaewon\_31, Circinus\_29, Comrade\_32, Coogler\_52, Cross\_52, Cursive\_50, Daisy123\_58, Daubenski\_53, Davielle\_49, DeluluLabubu\_31, EGole\_53, Eliot67\_49, Elmer\_56, Emma1919\_33, Enygma\_54, Evy\_53, Faust\_32, Forrest\_33, Francob\_31, FreddyDRoo\_49, Genie2\_54, Gibbi\_58, Gilson\_33, HangryHippo\_52, IchabodCrane\_51, Jada\_31, Jay2Jay\_57, JimJam\_54, Jollison\_53, Karimac\_53, Karp\_31, Kenrey\_33, KentuckyRacer\_54, Larnav\_52, Leo04\_53, Liandry\_51, LilMartin\_49, LilSaint\_51, Limpid\_29, LukeCage\_53, Lululemon\_51, Marsus\_50, Maupel\_33, MeganTheeKilla\_31, Mildred21\_50, MindFlayer\_52, Moab\_32, Mugiwara\_53, MulchMansion\_49, Muntaha\_28, Navo\_50, NootNoot\_48, PacManQ\_51, Paradiddles\_48, Patelgo\_32, Peebs\_51, Pepperwood\_52, Persimmon\_48, Phredrick\_31, PinkiePie\_50, PumpkinSpice\_53, PynkPanther\_57, Quarant19\_54, Rikishi\_54, Riptide\_49, SaltySpittoon\_54, Samisti12\_52, Scheme\_53, SeresaTree\_32, Sham\_29, Shuckle\_50, Sollertia\_54, SparkleGoddess\_32, Spelly\_54, Spilled\_55, Squillium\_51, Stanimal\_54, StarPlatinum\_54, Starbow\_52, Stigma\_32, Sushi23\_52, Targaryen\_53, Teutsch\_52, TomSawyer\_52, Tomas\_56, Tribute\_50, TunaTartare\_31, Wakanda\_28, Warpy\_56, WashU\_55, Watermoore\_52, Westy\_32, WhereRU\_49, Wipeout\_52, Wofford\_53, Yaboi\_54,

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

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

- Dorin\_48, Francesca\_47, Grayson\_81, NiceHouse\_63, Nova53\_45, Peregrin\_79, Trina\_74, Weasels2\_81,

### Summary by start number:

Start 1:

- Found in 3 of 126 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 3 of 115
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dorin\_48 (CG), Francesca\_47 (CG), Nova53\_45 (CG),

Start 2:

- Found in 5 of 126 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 5 of 115
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Grayson\_81 (CB), NiceHouse\_63 (CE), Peregrin\_79 (CB), Trina\_74 (CE), Weasels2\_81 (CB),

Start 3:

- Found in 118 of 126 ( 93.7% ) of genes in pham
- Manual Annotations of this start: 107 of 115
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AcciDwight\_58 (BE2), Amabiko\_54 (BE2), Anedea\_50 (BE1), Angela\_49 (BE1), AngryGiraffe\_53 (BE2), Annadreamy\_29 (BK1), ArianaSWT\_55 (BE1), Bartholomune\_50 (BE1), Battuta\_52 (BE2), Belfort\_33 (BK1), Beuffert\_30 (BK1), BillNye\_27 (BK2), Birchlyn\_51 (BE2), BlueOtter\_52 (BE1), Blueeyedbeauty\_31 (BK1), Bmoc\_50 (BE1), BoomerJR\_54 (BE2), Bordeaux\_52 (BE2), Braelyn\_51 (BE1), Brizzy\_53 (BE2), Cadmus\_50 (BE1), CeilingFan\_53 (BE2), Chaewon\_31 (BK2), Circinus\_29 (BK2), Comrade\_32 (BK1), Coogler\_52 (BE1), Cross\_52 (BE1), Cursive\_50 (BE1), Daisy123\_58 (BE2), Daubenski\_53 (BE1), Davielle\_49 (BE1), DeluluLabubu\_31 (BK1), EGole\_53 (BE1), Eliot67\_49 (BE1), Elmer\_56 (BE2), Emma1919\_33 (BK1), Enygma\_54 (BE2), Evy\_53 (BE1), Faust\_32 (BK1), Forrest\_33 (BK1), Francob\_31 (BK1), FreddyDRoo\_49 (BE1), Genie2\_54 (BE2), Gibbi\_58 (BE2), Gilson\_33 (BK1), HangryHippo\_52 (BE1), IchabodCrane\_51 (BE2), Jada\_31 (BK1), Jay2Jay\_57 (BE1), JimJam\_54 (BE2), Jollison\_53 (BE2), Karimac\_53 (BE2), Karp\_31 (BK1), Kenrey\_33 (BK1), KentuckyRacer\_54 (BE2), Larnav\_52 (BE1), Leo04\_53 (BE1), Liandry\_51 (BE1), LilMartin\_49 (BE1), LilSaint\_51 (BE1), Limpid\_29 (BK1), LukeCage\_53 (BE2), Lululemon\_51 (BE1), Marsus\_50 (BE1), Maupel\_33 (BK1), MeganTheeKilla\_31 (BK1), Mildred21\_50 (BE1), MindFlayer\_52 (BE2), Moab\_32 (BK1), Mugiwara\_53 (BE2), MulchMansion\_49 (BE1), Muntaha\_28 (BK2), Navo\_50 (BE1), NootNoot\_48 (BE1), PacManQ\_51 (BE1), Paradiddles\_48 (BE1), Patelgo\_32 (BK1), Peebs\_51 (BE1), Pepperwood\_52 (BE1), Persimmon\_48 (BE1), Phredrick\_31 (BK1), PinkiePie\_50 (BE1), PumpkinSpice\_53 (BE2), PynkPanther\_57 (BE1), Quarant19\_54 (BE2), Rikishi\_54 (BE2), Riptide\_49 (BE1), SaltySpittoon\_54 (BE2), Samisti12\_52 (BE1), Scheme\_53 (BE1), SeresaTree\_32 (BK1), Sham\_29 (BK1), Shuckle\_50 (BE1), Sollertia\_54 (BE2), SparkleGoddess\_32 (BK1), Spelly\_54 (BE2), Spilled\_55 (BE2), Squillium\_51 (BE1), Stanimal\_54 (BE2), StarPlatinum\_54 (BE2), Starbow\_52 (BE2), Stigma\_32 (BK1), Sushi23\_52 (BE1), Targaryen\_53 (BE1), Teutsch\_52 (BE1), TomSawyer\_52 (BE2),

Tomas\_56 (BE2), Tribute\_50 (BE1), TunaTartare\_31 (BK1), Wakanda\_28 (BK2), Warpy\_56 (BE1), WashU\_55 (BE1), Watermoore\_52 (BE1), Westy\_32 (BK1), WhereRU\_49 (BE1), Wipeout\_52 (BE2), Wofford\_53 (BE2), Yaboi\_54 (BE2),

### **Summary by clusters:**

There are 7 clusters represented in this pham: CB, CG, CE, BK1, BK2, BE2, BE1,

Info for manual annotations of cluster BE1:

- Start number 3 was manually annotated 45 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 3 was manually annotated 34 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 3 was manually annotated 24 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 3 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster CB:

- Start number 2 was manually annotated 3 times for cluster CB.

Info for manual annotations of cluster CE:

- Start number 2 was manually annotated 2 times for cluster CE.

Info for manual annotations of cluster CG:

- Start number 1 was manually annotated 3 times for cluster CG.

### **Gene Information:**

Gene: AcciDwight\_58 Start: 29538, Stop: 30407, Start Num: 3

Candidate Starts for AcciDwight\_58:

(Start: 3 @29538 has 107 MA's), (5, 29565), (17, 29628), (30, 29715), (33, 29724), (42, 29769), (81, 29976), (82, 29988), (117, 30234), (122, 30291), (133, 30393), (134, 30396),

Gene: Amabiko\_54 Start: 29583, Stop: 30452, Start Num: 3

Candidate Starts for Amabiko\_54:

(Start: 3 @29583 has 107 MA's), (5, 29610), (17, 29673), (30, 29760), (42, 29814), (81, 30021), (82, 30033), (117, 30279), (122, 30336), (133, 30438), (134, 30441),

Gene: Anedea\_50 Start: 29113, Stop: 29985, Start Num: 3

Candidate Starts for Anedea\_50:

(Start: 3 @29113 has 107 MA's), (17, 29203), (45, 29362), (76, 29527), (81, 29551), (116, 29809), (122, 29869), (133, 29971), (134, 29974),

Gene: Angela\_49 Start: 28594, Stop: 29463, Start Num: 3

Candidate Starts for Angela\_49:

(Start: 3 @28594 has 107 MA's), (17, 28684), (39, 28816), (44, 28837), (45, 28843), (49, 28861), (91, 29095), (98, 29149), (113, 29269), (114, 29272), (116, 29287), (122, 29347), (133, 29449),

Gene: AngryGiraffe\_53 Start: 29554, Stop: 30426, Start Num: 3

Candidate Starts for AngryGiraffe\_53:

(Start: 3 @29554 has 107 MA's), (17, 29644), (30, 29731), (37, 29767), (76, 29968), (80, 29983), (81, 29992), (113, 30232), (116, 30250), (122, 30310), (133, 30412), (134, 30415),

Gene: Annadreamy\_29 Start: 18085, Stop: 18990, Start Num: 3

Candidate Starts for Annadreamy\_29:

(Start: 3 @18085 has 107 MA's), (18, 18187), (24, 18232), (38, 18337), (42, 18349), (45, 18367), (104, 18715), (108, 18745), (133, 18976), (135, 18982),

Gene: ArianaSWT\_55 Start: 30224, Stop: 31096, Start Num: 3

Candidate Starts for ArianaSWT\_55:

(Start: 3 @30224 has 107 MA's), (14, 30299), (17, 30314), (30, 30401), (42, 30455), (73, 30602), (81, 30662), (116, 30920), (122, 30980), (133, 31082), (134, 31085),

Gene: Bartholomune\_50 Start: 28895, Stop: 29767, Start Num: 3

Candidate Starts for Bartholomune\_50:

(Start: 3 @28895 has 107 MA's), (14, 28970), (17, 28985), (28, 29051), (32, 29078), (39, 29117), (45, 29144), (73, 29273), (76, 29309), (81, 29333), (122, 29651), (133, 29753), (134, 29756),

Gene: Battuta\_52 Start: 29557, Stop: 30426, Start Num: 3

Candidate Starts for Battuta\_52:

(Start: 3 @29557 has 107 MA's), (5, 29584), (17, 29647), (30, 29734), (42, 29788), (81, 29995), (82, 30007), (117, 30253), (122, 30310), (133, 30412), (134, 30415),

Gene: Belfort\_33 Start: 20606, Stop: 21514, Start Num: 3

Candidate Starts for Belfort\_33:

(Start: 3 @20606 has 107 MA's), (7, 20642), (9, 20648), (17, 20705), (26, 20759), (31, 20795), (39, 20861), (51, 20915), (70, 21014), (84, 21107), (104, 21239), (108, 21269), (133, 21500), (135, 21506),

Gene: Beuffert\_30 Start: 19180, Stop: 20085, Start Num: 3

Candidate Starts for Beuffert\_30:

(Start: 3 @19180 has 107 MA's), (9, 19222), (30, 19366), (42, 19444), (58, 19516), (77, 19642), (95, 19747), (104, 19810), (108, 19840), (111, 19852), (119, 19927), (121, 19960), (133, 20071), (135, 20077),

Gene: BillNye\_27 Start: 21510, Stop: 22409, Start Num: 3

Candidate Starts for BillNye\_27:

(Start: 3 @21510 has 107 MA's), (9, 21552), (21, 21630), (41, 21771), (42, 21774), (70, 21918), (78, 21978), (86, 22020), (95, 22071), (104, 22134), (117, 22236), (124, 22323), (127, 22353), (135, 22401),

Gene: Birchlyn\_51 Start: 27440, Stop: 28309, Start Num: 3

Candidate Starts for Birchlyn\_51:

(Start: 3 @27440 has 107 MA's), (5, 27467), (17, 27530), (30, 27617), (42, 27671), (81, 27878), (82, 27890), (117, 28136), (122, 28193), (133, 28295), (134, 28298),

Gene: BlueOtter\_52 Start: 30262, Stop: 31134, Start Num: 3

Candidate Starts for BlueOtter\_52:

(Start: 3 @30262 has 107 MA's), (14, 30337), (17, 30352), (30, 30439), (42, 30493), (73, 30640), (81, 30700), (116, 30958), (122, 31018), (133, 31120), (134, 31123),

Gene: Blueeyedbeauty\_31 Start: 18576, Stop: 19481, Start Num: 3

Candidate Starts for Blueeyedbeauty\_31:

(Start: 3 @18576 has 107 MA's), (18, 18678), (36, 18789), (42, 18840), (44, 18852), (45, 18858), (74, 19020), (75, 19026), (101, 19185), (104, 19206), (108, 19236), (133, 19467), (135, 19473),

Gene: Bmoc\_50 Start: 28898, Stop: 29770, Start Num: 3

Candidate Starts for Bmoc\_50:

(Start: 3 @28898 has 107 MA's), (17, 28988), (45, 29147), (63, 29210), (76, 29312), (81, 29336), (116, 29594), (122, 29654), (133, 29756), (134, 29759),

Gene: BoomerJR\_54 Start: 29443, Stop: 30315, Start Num: 3

Candidate Starts for BoomerJR\_54:

(Start: 3 @29443 has 107 MA's), (17, 29533), (30, 29620), (37, 29656), (76, 29857), (80, 29872), (81, 29881), (113, 30121), (116, 30139), (122, 30199), (133, 30301), (134, 30304),

Gene: Bordeaux\_52 Start: 29712, Stop: 30581, Start Num: 3

Candidate Starts for Bordeaux\_52:

(Start: 3 @29712 has 107 MA's), (5, 29739), (17, 29802), (30, 29889), (42, 29943), (81, 30150), (82, 30162), (117, 30408), (122, 30465), (133, 30567), (134, 30570),

Gene: Braelyn\_51 Start: 29662, Stop: 30534, Start Num: 3

Candidate Starts for Braelyn\_51:

(Start: 3 @29662 has 107 MA's), (14, 29737), (17, 29752), (28, 29818), (32, 29845), (39, 29884), (45, 29911), (73, 30040), (76, 30076), (81, 30100), (122, 30418), (133, 30520), (134, 30523),

Gene: Brizzy\_53 Start: 29231, Stop: 30100, Start Num: 3

Candidate Starts for Brizzy\_53:

(Start: 3 @29231 has 107 MA's), (5, 29258), (17, 29321), (30, 29408), (42, 29462), (81, 29669), (82, 29681), (117, 29927), (122, 29984), (133, 30086), (134, 30089),

Gene: Cadmus\_50 Start: 29247, Stop: 30116, Start Num: 3

Candidate Starts for Cadmus\_50:

(Start: 3 @29247 has 107 MA's), (26, 29391), (45, 29496), (72, 29622), (81, 29685), (82, 29697), (98, 29802),

Gene: CeilingFan\_53 Start: 29472, Stop: 30341, Start Num: 3

Candidate Starts for CeilingFan\_53:

(Start: 3 @29472 has 107 MA's), (5, 29499), (17, 29562), (30, 29649), (42, 29703), (81, 29910), (82, 29922), (117, 30168), (122, 30225), (133, 30327), (134, 30330),

Gene: Chaewon\_31 Start: 21632, Stop: 22531, Start Num: 3

Candidate Starts for Chaewon\_31:

(Start: 3 @21632 has 107 MA's), (9, 21674), (41, 21893), (42, 21896), (70, 22040), (78, 22100), (95, 22193), (104, 22256), (117, 22358), (124, 22445), (127, 22475), (135, 22523),

Gene: Circinus\_29 Start: 21646, Stop: 22545, Start Num: 3

Candidate Starts for Circinus\_29:

(Start: 3 @21646 has 107 MA's), (9, 21688), (21, 21766), (41, 21907), (42, 21910), (70, 22054), (78, 22114), (86, 22156), (95, 22207), (104, 22270), (117, 22372), (124, 22459), (127, 22489), (135, 22537),

Gene: Comrade\_32 Start: 20221, Stop: 21129, Start Num: 3

Candidate Starts for Comrade\_32:

(Start: 3 @20221 has 107 MA's), (7, 20257), (9, 20263), (17, 20320), (26, 20374), (31, 20410), (39, 20476), (51, 20530), (70, 20629), (84, 20722), (104, 20854), (108, 20884), (133, 21115), (135, 21121),

Gene: Coogler\_52 Start: 30288, Stop: 31160, Start Num: 3

Candidate Starts for Coogler\_52:

(Start: 3 @30288 has 107 MA's), (14, 30363), (17, 30378), (30, 30465), (42, 30519), (73, 30666), (81, 30726), (116, 30984), (122, 31044), (133, 31146), (134, 31149),

Gene: Cross\_52 Start: 30263, Stop: 31135, Start Num: 3

Candidate Starts for Cross\_52:

(Start: 3 @30263 has 107 MA's), (14, 30338), (17, 30353), (30, 30440), (42, 30494), (73, 30641), (81, 30701), (116, 30959), (122, 31019), (133, 31121), (134, 31124),

Gene: Cursive\_50 Start: 29788, Stop: 30660, Start Num: 3

Candidate Starts for Cursive\_50:

(Start: 3 @29788 has 107 MA's), (14, 29863), (17, 29878), (30, 29965), (42, 30019), (73, 30166), (81, 30226), (116, 30484), (122, 30544), (133, 30646), (134, 30649),

Gene: Daisy123\_58 Start: 29331, Stop: 30200, Start Num: 3

Candidate Starts for Daisy123\_58:

(Start: 3 @29331 has 107 MA's), (5, 29358), (17, 29421), (30, 29508), (33, 29517), (42, 29562), (81, 29769), (82, 29781), (117, 30027), (122, 30084), (133, 30186), (134, 30189),

Gene: Daubenski\_53 Start: 30011, Stop: 30880, Start Num: 3

Candidate Starts for Daubenski\_53:

(Start: 3 @30011 has 107 MA's), (26, 30155), (45, 30260), (72, 30386), (81, 30449), (82, 30461), (98, 30566),

Gene: Davielle\_49 Start: 29079, Stop: 29951, Start Num: 3

Candidate Starts for Davielle\_49:

(Start: 3 @29079 has 107 MA's), (14, 29154), (17, 29169), (28, 29235), (32, 29262), (39, 29301), (45, 29328), (73, 29457), (76, 29493), (81, 29517), (122, 29835), (133, 29937), (134, 29940),

Gene: DeluluLabubu\_31 Start: 18307, Stop: 19212, Start Num: 3

Candidate Starts for DeluluLabubu\_31:

(Start: 3 @18307 has 107 MA's), (7, 18343), (9, 18349), (17, 18406), (24, 18454), (60, 18655), (89, 18841), (113, 19018), (115, 19033), (121, 19087), (133, 19198), (135, 19204),

Gene: Dorin\_48 Start: 29329, Stop: 30198, Start Num: 1

Candidate Starts for Dorin\_48:

(Start: 1 @29329 has 3 MA's), (10, 29389), (18, 29434), (22, 29455), (47, 29596), (52, 29620), (87, 29821), (103, 29923), (105, 29929), (111, 29959), (112, 29986), (130, 30163), (132, 30181), (135, 30190),

Gene: EGole\_53 Start: 31167, Stop: 32039, Start Num: 3

Candidate Starts for EGole\_53:

(Start: 3 @31167 has 107 MA's), (14, 31242), (17, 31257), (30, 31344), (42, 31398), (73, 31545), (81, 31605), (116, 31863), (122, 31923), (133, 32025), (134, 32028),

Gene: Eliot67\_49 Start: 28892, Stop: 29764, Start Num: 3

Candidate Starts for Eliot67\_49:

(Start: 3 @28892 has 107 MA's), (14, 28967), (17, 28982), (28, 29048), (32, 29075), (39, 29114), (45, 29141), (73, 29270), (76, 29306), (81, 29330), (122, 29648), (133, 29750), (134, 29753),

Gene: Elmer\_56 Start: 30619, Stop: 31491, Start Num: 3

Candidate Starts for Elmer\_56:

(Start: 3 @30619 has 107 MA's), (17, 30709), (20, 30724), (33, 30805), (37, 30832), (45, 30868), (76, 31033), (81, 31057), (82, 31069), (121, 31366), (131, 31468), (133, 31477), (134, 31480),

Gene: Emma1919\_33 Start: 19002, Stop: 19907, Start Num: 3

Candidate Starts for Emma1919\_33:

(Start: 3 @19002 has 107 MA's), (7, 19038), (9, 19044), (17, 19101), (24, 19149), (60, 19350), (89, 19536), (113, 19713), (115, 19728), (121, 19782), (133, 19893), (135, 19899),

Gene: Enygma\_54 Start: 31358, Stop: 32263, Start Num: 3

Candidate Starts for Enygma\_54:

(Start: 3 @31358 has 107 MA's), (4, 31379), (7, 31394), (9, 31400), (17, 31457), (23, 31487), (36, 31571), (42, 31622), (45, 31640), (49, 31658), (54, 31670), (79, 31817), (81, 31829), (98, 31946), (122, 32147), (133, 32249), (134, 32252),

Gene: Evy\_53 Start: 30261, Stop: 31133, Start Num: 3

Candidate Starts for Evy\_53:

(Start: 3 @30261 has 107 MA's), (17, 30351), (37, 30474), (76, 30675), (81, 30699), (109, 30891), (112, 30927), (116, 30957), (122, 31017), (133, 31119), (134, 31122),

Gene: Faust\_32 Start: 19602, Stop: 20504, Start Num: 3

Candidate Starts for Faust\_32:

(Start: 3 @19602 has 107 MA's), (9, 19644), (24, 19749), (28, 19767), (58, 19938), (133, 20490), (135, 20496),

Gene: Forrest\_33 Start: 19125, Stop: 20030, Start Num: 3

Candidate Starts for Forrest\_33:

(Start: 3 @19125 has 107 MA's), (7, 19161), (9, 19167), (17, 19224), (24, 19272), (60, 19473), (89, 19659), (113, 19836), (115, 19851), (121, 19905), (133, 20016), (135, 20022),

Gene: Francesca\_47 Start: 29461, Stop: 30330, Start Num: 1

Candidate Starts for Francesca\_47:

(Start: 1 @29461 has 3 MA's), (10, 29521), (18, 29566), (22, 29587), (47, 29728), (52, 29752), (87, 29953), (103, 30055), (105, 30061), (111, 30091), (112, 30118), (130, 30295), (132, 30313), (135, 30322),

Gene: Francob\_31 Start: 19130, Stop: 20038, Start Num: 3

Candidate Starts for Francob\_31:

(Start: 3 @19130 has 107 MA's), (7, 19166), (9, 19172), (17, 19229), (24, 19277), (25, 19280), (60, 19478), (104, 19763), (111, 19805), (133, 20024), (135, 20030),

Gene: FreddyDRoo\_49 Start: 28892, Stop: 29764, Start Num: 3

Candidate Starts for FreddyDRoo\_49:

(Start: 3 @28892 has 107 MA's), (14, 28967), (17, 28982), (28, 29048), (32, 29075), (39, 29114), (45, 29141), (73, 29270), (76, 29306), (81, 29330), (122, 29648), (133, 29750), (134, 29753),

Gene: Genie2\_54 Start: 29557, Stop: 30429, Start Num: 3

Candidate Starts for Genie2\_54:

(Start: 3 @29557 has 107 MA's), (17, 29647), (30, 29734), (37, 29770), (76, 29971), (80, 29986), (81, 29995), (113, 30235), (116, 30253), (122, 30313), (133, 30415), (134, 30418),

Gene: Gibbi\_58 Start: 29695, Stop: 30564, Start Num: 3

Candidate Starts for Gibbi\_58:

(Start: 3 @29695 has 107 MA's), (5, 29722), (17, 29785), (30, 29872), (42, 29926), (81, 30133), (82, 30145), (117, 30391), (122, 30448), (133, 30550), (134, 30553),

Gene: Gilson\_33 Start: 18955, Stop: 19860, Start Num: 3

Candidate Starts for Gilson\_33:

(Start: 3 @18955 has 107 MA's), (7, 18991), (9, 18997), (12, 19030), (17, 19054), (24, 19102), (60, 19303), (89, 19489), (113, 19666), (115, 19681), (121, 19735), (133, 19846), (135, 19852),

Gene: Grayson\_81 Start: 41792, Stop: 42712, Start Num: 2

Candidate Starts for Grayson\_81:

(Start: 2 @41792 has 5 MA's), (6, 41825), (13, 41867), (30, 41969), (31, 41972), (35, 41993), (40, 42035), (43, 42050), (61, 42140), (63, 42149), (68, 42176), (85, 42305), (99, 42392), (100, 42398), (110, 42467), (118, 42539), (126, 42629), (129, 42674),

Gene: HangryHippo\_52 Start: 30262, Stop: 31134, Start Num: 3

Candidate Starts for HangryHippo\_52:

(Start: 3 @30262 has 107 MA's), (14, 30337), (17, 30352), (30, 30439), (42, 30493), (73, 30640), (81, 30700), (116, 30958), (122, 31018), (133, 31120), (134, 31123),

Gene: IchabodCrane\_51 Start: 29284, Stop: 30153, Start Num: 3

Candidate Starts for IchabodCrane\_51:

(Start: 3 @29284 has 107 MA's), (5, 29311), (17, 29374), (30, 29461), (42, 29515), (81, 29722), (82, 29734), (117, 29980), (122, 30037), (133, 30139), (134, 30142),

Gene: Jada\_31 Start: 18307, Stop: 19212, Start Num: 3

Candidate Starts for Jada\_31:

(Start: 3 @18307 has 107 MA's), (7, 18343), (9, 18349), (17, 18406), (24, 18454), (60, 18655), (89, 18841), (113, 19018), (115, 19033), (121, 19087), (133, 19198), (135, 19204),

Gene: Jay2Jay\_57 Start: 31069, Stop: 31941, Start Num: 3

Candidate Starts for Jay2Jay\_57:

(Start: 3 @31069 has 107 MA's), (17, 31159), (37, 31282), (76, 31483), (81, 31507), (109, 31699), (112, 31735), (116, 31765), (122, 31825), (133, 31927), (134, 31930),

Gene: JimJam\_54 Start: 29658, Stop: 30527, Start Num: 3

Candidate Starts for JimJam\_54:

(Start: 3 @29658 has 107 MA's), (5, 29685), (17, 29748), (30, 29835), (42, 29889), (81, 30096), (82, 30108), (117, 30354), (122, 30411), (133, 30513), (134, 30516),

Gene: Jollison\_53 Start: 29540, Stop: 30409, Start Num: 3

Candidate Starts for Jollison\_53:

(Start: 3 @29540 has 107 MA's), (5, 29567), (17, 29630), (30, 29717), (33, 29726), (42, 29771), (81, 29978), (82, 29990), (117, 30236), (122, 30293), (133, 30395), (134, 30398),

Gene: Karimac\_53 Start: 29689, Stop: 30558, Start Num: 3

Candidate Starts for Karimac\_53:

(Start: 3 @29689 has 107 MA's), (5, 29716), (17, 29779), (30, 29866), (42, 29920), (81, 30127), (82, 30139), (117, 30385), (122, 30442), (133, 30544), (134, 30547),

Gene: Karp\_31 Start: 19821, Stop: 20729, Start Num: 3

Candidate Starts for Karp\_31:

(Start: 3 @19821 has 107 MA's), (7, 19857), (9, 19863), (17, 19920), (26, 19974), (31, 20010), (39, 20076), (51, 20130), (70, 20229), (84, 20322), (104, 20454), (108, 20484), (133, 20715), (135, 20721),

Gene: Kenrey\_33 Start: 19004, Stop: 19909, Start Num: 3

Candidate Starts for Kenrey\_33:

(Start: 3 @19004 has 107 MA's), (7, 19040), (9, 19046), (12, 19079), (17, 19103), (24, 19151), (38, 19256), (64, 19364), (78, 19472), (89, 19538), (115, 19730), (133, 19895), (135, 19901),

Gene: KentuckyRacer\_54 Start: 29473, Stop: 30342, Start Num: 3

Candidate Starts for KentuckyRacer\_54:

(Start: 3 @29473 has 107 MA's), (5, 29500), (17, 29563), (30, 29650), (42, 29704), (81, 29911), (82, 29923), (117, 30169), (122, 30226), (133, 30328), (134, 30331),

Gene: Larnav\_52 Start: 30247, Stop: 31119, Start Num: 3

Candidate Starts for Larnav\_52:

(Start: 3 @30247 has 107 MA's), (14, 30322), (17, 30337), (30, 30424), (42, 30478), (73, 30625), (81, 30685), (116, 30943), (122, 31003), (133, 31105), (134, 31108),

Gene: Leo04\_53 Start: 30762, Stop: 31634, Start Num: 3

Candidate Starts for Leo04\_53:

(Start: 3 @30762 has 107 MA's), (14, 30837), (17, 30852), (30, 30939), (42, 30993), (73, 31140), (81, 31200), (116, 31458), (122, 31518), (133, 31620), (134, 31623),

Gene: Liandry\_51 Start: 29599, Stop: 30471, Start Num: 3

Candidate Starts for Liandry\_51:

(Start: 3 @29599 has 107 MA's), (14, 29674), (17, 29689), (28, 29755), (32, 29782), (39, 29821), (45, 29848), (73, 29977), (76, 30013), (81, 30037), (122, 30355), (133, 30457), (134, 30460),

Gene: LilMartin\_49 Start: 28542, Stop: 29411, Start Num: 3

Candidate Starts for LilMartin\_49:

(Start: 3 @28542 has 107 MA's), (17, 28632), (39, 28764), (44, 28785), (45, 28791), (49, 28809), (91, 29043), (98, 29097), (113, 29217), (114, 29220), (116, 29235), (122, 29295), (133, 29397),

Gene: LilSaint\_51 Start: 28785, Stop: 29657, Start Num: 3

Candidate Starts for LilSaint\_51:

(Start: 3 @28785 has 107 MA's), (17, 28875), (45, 29034), (76, 29199), (81, 29223), (116, 29481), (122, 29541), (133, 29643), (134, 29646),

Gene: Limpid\_29 Start: 18084, Stop: 18989, Start Num: 3

Candidate Starts for Limpid\_29:

(Start: 3 @18084 has 107 MA's), (18, 18186), (24, 18231), (38, 18336), (42, 18348), (45, 18366), (104, 18714), (108, 18744), (133, 18975), (135, 18981),

Gene: LukeCage\_53 Start: 29437, Stop: 30309, Start Num: 3

Candidate Starts for LukeCage\_53:

(Start: 3 @29437 has 107 MA's), (17, 29527), (24, 29575), (30, 29614), (33, 29623), (37, 29650), (81, 29875), (82, 29887), (102, 30016), (104, 30037), (113, 30115), (116, 30133), (122, 30193), (133, 30295), (134, 30298),

Gene: Lululemon\_51 Start: 29643, Stop: 30515, Start Num: 3

Candidate Starts for Lululemon\_51:

(Start: 3 @29643 has 107 MA's), (14, 29718), (17, 29733), (30, 29820), (42, 29874), (73, 30021), (81, 30081), (116, 30339), (122, 30399), (133, 30501), (134, 30504),

Gene: Marsus\_50 Start: 28814, Stop: 29683, Start Num: 3

Candidate Starts for Marsus\_50:

(Start: 3 @28814 has 107 MA's), (17, 28904), (44, 29057), (45, 29063), (49, 29081), (98, 29369), (113, 29489), (114, 29492), (116, 29507), (122, 29567), (133, 29669),

Gene: Maupel\_33 Start: 18955, Stop: 19860, Start Num: 3

Candidate Starts for Maupel\_33:

(Start: 3 @18955 has 107 MA's), (7, 18991), (9, 18997), (12, 19030), (17, 19054), (24, 19102), (60, 19303), (89, 19489), (113, 19666), (115, 19681), (121, 19735), (133, 19846), (135, 19852),

Gene: MeganTheeKilla\_31 Start: 18316, Stop: 19221, Start Num: 3

Candidate Starts for MeganTheeKilla\_31:

(Start: 3 @18316 has 107 MA's), (7, 18352), (9, 18358), (12, 18391), (17, 18415), (24, 18463), (60, 18664), (89, 18850), (113, 19027), (115, 19042), (121, 19096), (133, 19207), (135, 19213),

Gene: Mildred21\_50 Start: 28735, Stop: 29604, Start Num: 3

Candidate Starts for Mildred21\_50:

(Start: 3 @28735 has 107 MA's), (28, 28891), (30, 28912), (33, 28921), (45, 28984), (54, 29014), (98, 29290), (116, 29428), (122, 29488),

Gene: MindFlayer\_52 Start: 29191, Stop: 30060, Start Num: 3

Candidate Starts for MindFlayer\_52:

(Start: 3 @29191 has 107 MA's), (5, 29218), (17, 29281), (30, 29368), (42, 29422), (81, 29629), (82, 29641), (117, 29887), (122, 29944), (133, 30046), (134, 30049),

Gene: Moab\_32 Start: 20156, Stop: 21058, Start Num: 3

Candidate Starts for Moab\_32:

(Start: 3 @20156 has 107 MA's), (9, 20198), (18, 20258), (64, 20513), (66, 20525), (75, 20606), (133, 21044), (135, 21050),

Gene: Mugiwara\_53 Start: 29936, Stop: 30808, Start Num: 3

Candidate Starts for Mugiwara\_53:

(Start: 3 @29936 has 107 MA's), (17, 30026), (30, 30113), (45, 30185), (76, 30350), (80, 30365), (81, 30374), (114, 30617), (117, 30635), (122, 30692), (133, 30794), (134, 30797),

Gene: MulchMansion\_49 Start: 28542, Stop: 29411, Start Num: 3

Candidate Starts for MulchMansion\_49:

(Start: 3 @28542 has 107 MA's), (17, 28632), (39, 28764), (44, 28785), (45, 28791), (49, 28809), (91, 29043), (98, 29097), (113, 29217), (114, 29220), (116, 29235), (122, 29295), (133, 29397),

Gene: Muntaha\_28 Start: 19983, Stop: 20870, Start Num: 3

Candidate Starts for Muntaha\_28:

(Start: 3 @19983 has 107 MA's), (6, 20013), (7, 20019), (12, 20058), (18, 20085), (29, 20151), (48, 20277), (58, 20319), (104, 20595), (124, 20784), (133, 20856), (135, 20862),

Gene: Navo\_50 Start: 29557, Stop: 30429, Start Num: 3

Candidate Starts for Navo\_50:

(Start: 3 @29557 has 107 MA's), (7, 29593), (14, 29632), (17, 29647), (28, 29713), (32, 29740), (39, 29779), (45, 29806), (73, 29935), (76, 29971), (81, 29995), (122, 30313), (133, 30415), (134, 30418),

Gene: NiceHouse\_63 Start: 35669, Stop: 36550, Start Num: 2

Candidate Starts for NiceHouse\_63:

(Start: 2 @35669 has 5 MA's), (13, 35744), (15, 35750), (16, 35759), (24, 35810), (39, 35891), (56, 35966), (59, 35990), (62, 36005), (67, 36011), (71, 36047), (92, 36188), (107, 36299), (117, 36374), (119, 36389), (132, 36533), (136, 36545),

Gene: NootNoot\_48 Start: 28513, Stop: 29385, Start Num: 3

Candidate Starts for NootNoot\_48:

(Start: 3 @28513 has 107 MA's), (14, 28588), (17, 28603), (28, 28669), (32, 28696), (39, 28735), (45, 28762), (73, 28891), (76, 28927), (81, 28951), (122, 29269), (133, 29371), (134, 29374),

Gene: Nova53\_45 Start: 29468, Stop: 30337, Start Num: 1

Candidate Starts for Nova53\_45:

(Start: 1 @29468 has 3 MA's), (8, 29519), (11, 29546), (18, 29573), (21, 29591), (34, 29654), (56, 29774), (59, 29798), (84, 29939), (87, 29960), (90, 29969), (92, 29984), (93, 29990), (106, 30077), (113, 30137), (119, 30173), (120, 30185), (129, 30299), (132, 30320), (135, 30329),

Gene: PacManQ\_51 Start: 29643, Stop: 30515, Start Num: 3

Candidate Starts for PacManQ\_51:

(Start: 3 @29643 has 107 MA's), (14, 29718), (17, 29733), (30, 29820), (42, 29874), (73, 30021), (81, 30081), (116, 30339), (122, 30399), (133, 30501), (134, 30504),

Gene: Paradiddles\_48 Start: 28774, Stop: 29646, Start Num: 3

Candidate Starts for Paradiddles\_48:

(Start: 3 @28774 has 107 MA's), (14, 28849), (17, 28864), (28, 28930), (32, 28957), (39, 28996), (45, 29023), (73, 29152), (76, 29188), (81, 29212), (122, 29530), (133, 29632), (134, 29635),

Gene: Patelgo\_32 Start: 20346, Stop: 21248, Start Num: 3

Candidate Starts for Patelgo\_32:

(Start: 3 @20346 has 107 MA's), (9, 20388), (18, 20448), (64, 20703), (66, 20715), (133, 21234), (135, 21240),

Gene: Peebs\_51 Start: 30000, Stop: 30872, Start Num: 3

Candidate Starts for Peebs\_51:

(Start: 3 @30000 has 107 MA's), (14, 30075), (17, 30090), (30, 30177), (42, 30231), (73, 30378), (81, 30438), (116, 30696), (122, 30756), (133, 30858), (134, 30861),

Gene: Pepperwood\_52 Start: 30133, Stop: 31005, Start Num: 3

Candidate Starts for Pepperwood\_52:

(Start: 3 @30133 has 107 MA's), (14, 30208), (17, 30223), (30, 30310), (42, 30364), (73, 30511), (81, 30571), (116, 30829), (122, 30889), (133, 30991), (134, 30994),

Gene: Peregrin\_79 Start: 40572, Stop: 41492, Start Num: 2

Candidate Starts for Peregrin\_79:

(Start: 2 @40572 has 5 MA's), (6, 40605), (13, 40647), (30, 40749), (31, 40752), (35, 40773), (43, 40830), (63, 40929), (68, 40956), (85, 41085), (100, 41178), (110, 41247), (118, 41319), (126, 41409), (129, 41454),

Gene: Persimmon\_48 Start: 28488, Stop: 29360, Start Num: 3

Candidate Starts for Persimmon\_48:

(Start: 3 @28488 has 107 MA's), (14, 28563), (17, 28578), (28, 28644), (32, 28671), (39, 28710), (45, 28737), (73, 28866), (76, 28902), (81, 28926), (122, 29244), (133, 29346), (134, 29349),

Gene: Phredrick\_31 Start: 18210, Stop: 19115, Start Num: 3

Candidate Starts for Phredrick\_31:

(Start: 3 @18210 has 107 MA's), (7, 18246), (9, 18252), (12, 18285), (17, 18309), (24, 18357), (38, 18462), (78, 18678), (89, 18744), (119, 18957), (133, 19101), (135, 19107),

Gene: PinkiePie\_50 Start: 29599, Stop: 30471, Start Num: 3

Candidate Starts for PinkiePie\_50:

(Start: 3 @29599 has 107 MA's), (14, 29674), (17, 29689), (28, 29755), (32, 29782), (39, 29821), (45, 29848), (73, 29977), (76, 30013), (81, 30037), (122, 30355), (133, 30457), (134, 30460),

Gene: PumpkinSpice\_53 Start: 29583, Stop: 30452, Start Num: 3

Candidate Starts for PumpkinSpice\_53:

(Start: 3 @29583 has 107 MA's), (5, 29610), (17, 29673), (30, 29760), (33, 29769), (42, 29814), (81, 30021), (82, 30033), (117, 30279), (122, 30336), (133, 30438), (134, 30441),

Gene: PynkPanther\_57 Start: 29627, Stop: 30499, Start Num: 3

Candidate Starts for PynkPanther\_57:

(Start: 3 @29627 has 107 MA's), (14, 29702), (17, 29717), (28, 29783), (32, 29810), (39, 29849), (45, 29876), (73, 30005), (76, 30041), (81, 30065), (122, 30383), (133, 30485), (134, 30488),

Gene: Quaran19\_54 Start: 29574, Stop: 30443, Start Num: 3

Candidate Starts for Quaran19\_54:

(Start: 3 @29574 has 107 MA's), (5, 29601), (17, 29664), (30, 29751), (33, 29760), (42, 29805), (81, 30012), (82, 30024), (117, 30270), (122, 30327), (133, 30429), (134, 30432),

Gene: Rikishi\_54 Start: 29489, Stop: 30358, Start Num: 3

Candidate Starts for Rikishi\_54:

(Start: 3 @29489 has 107 MA's), (5, 29516), (17, 29579), (30, 29666), (33, 29675), (42, 29720), (81, 29927), (82, 29939), (117, 30185), (122, 30242), (133, 30344), (134, 30347),

Gene: Riptide\_49 Start: 28334, Stop: 29206, Start Num: 3

Candidate Starts for Riptide\_49:

(Start: 3 @28334 has 107 MA's), (17, 28424), (45, 28583), (76, 28748), (81, 28772), (116, 29030), (122, 29090), (133, 29192), (134, 29195),

Gene: SaltySpittoon\_54 Start: 29583, Stop: 30452, Start Num: 3

Candidate Starts for SaltySpittoon\_54:

(Start: 3 @29583 has 107 MA's), (5, 29610), (10, 29631), (17, 29673), (30, 29760), (42, 29814), (81, 30021), (82, 30033), (117, 30279), (122, 30336), (133, 30438), (134, 30441),

Gene: Samisti12\_52 Start: 31436, Stop: 32308, Start Num: 3

Candidate Starts for Samisti12\_52:

(Start: 3 @31436 has 107 MA's), (14, 31511), (17, 31526), (30, 31613), (42, 31667), (81, 31874), (116, 32132), (122, 32192), (133, 32294), (134, 32297),

Gene: Scheme\_53 Start: 30847, Stop: 31719, Start Num: 3

Candidate Starts for Scheme\_53:

(Start: 3 @30847 has 107 MA's), (14, 30922), (17, 30937), (30, 31024), (42, 31078), (73, 31225), (81, 31285), (116, 31543), (122, 31603), (133, 31705), (134, 31708),

Gene: SeresaTree\_32 Start: 18992, Stop: 19894, Start Num: 3

Candidate Starts for SeresaTree\_32:

(Start: 3 @18992 has 107 MA's), (9, 19034), (24, 19139), (28, 19157), (58, 19328), (133, 19880), (135, 19886),

Gene: Sham\_29 Start: 20050, Stop: 20970, Start Num: 3

Candidate Starts for Sham\_29:

(Start: 3 @20050 has 107 MA's), (9, 20092), (53, 20365), (54, 20371), (57, 20392), (133, 20956), (135, 20962),

Gene: Shuckle\_50 Start: 30453, Stop: 31325, Start Num: 3

Candidate Starts for Shuckle\_50:

(Start: 3 @30453 has 107 MA's), (14, 30528), (17, 30543), (30, 30630), (42, 30684), (73, 30831), (81, 30891), (116, 31149), (122, 31209), (133, 31311), (134, 31314),

Gene: Sollertia\_54 Start: 29557, Stop: 30429, Start Num: 3

Candidate Starts for Sollertia\_54:

(Start: 3 @29557 has 107 MA's), (17, 29647), (30, 29734), (37, 29770), (76, 29971), (80, 29986), (81, 29995), (113, 30235), (116, 30253), (122, 30313), (133, 30415), (134, 30418),

Gene: SparkleGoddess\_32 Start: 20223, Stop: 21131, Start Num: 3

Candidate Starts for SparkleGoddess\_32:

(Start: 3 @20223 has 107 MA's), (7, 20259), (9, 20265), (17, 20322), (31, 20412), (39, 20478), (51, 20532), (70, 20631), (84, 20724), (104, 20856), (108, 20886), (133, 21117), (135, 21123),

Gene: Spelly\_54 Start: 29538, Stop: 30407, Start Num: 3

Candidate Starts for Spelly\_54:

(Start: 3 @29538 has 107 MA's), (5, 29565), (17, 29628), (30, 29715), (33, 29724), (42, 29769), (81, 29976), (82, 29988), (117, 30234), (122, 30291), (133, 30393), (134, 30396),

Gene: Spilled\_55 Start: 29655, Stop: 30524, Start Num: 3

Candidate Starts for Spilled\_55:

(Start: 3 @29655 has 107 MA's), (5, 29682), (17, 29745), (30, 29832), (42, 29886), (81, 30093), (82, 30105), (117, 30351), (122, 30408), (133, 30510), (134, 30513),

Gene: Squillium\_51 Start: 29600, Stop: 30472, Start Num: 3

Candidate Starts for Squillium\_51:

(Start: 3 @29600 has 107 MA's), (14, 29675), (17, 29690), (28, 29756), (32, 29783), (39, 29822), (45, 29849), (73, 29978), (76, 30014), (81, 30038), (122, 30356), (133, 30458), (134, 30461),

Gene: Stanimal\_54 Start: 29446, Stop: 30318, Start Num: 3

Candidate Starts for Stanimal\_54:

(Start: 3 @29446 has 107 MA's), (17, 29536), (30, 29623), (37, 29659), (76, 29860), (80, 29875), (81, 29884), (113, 30124), (116, 30142), (122, 30202), (133, 30304), (134, 30307),

Gene: StarPlatinum\_54 Start: 30080, Stop: 30952, Start Num: 3

Candidate Starts for StarPlatinum\_54:

(Start: 3 @30080 has 107 MA's), (17, 30170), (24, 30218), (30, 30257), (33, 30266), (37, 30293), (81, 30518), (82, 30530), (102, 30659), (104, 30680), (113, 30758), (116, 30776), (122, 30836), (133, 30938), (134, 30941),

Gene: Starbow\_52 Start: 29559, Stop: 30428, Start Num: 3

Candidate Starts for Starbow\_52:

(Start: 3 @29559 has 107 MA's), (5, 29586), (17, 29649), (30, 29736), (42, 29790), (81, 29997), (82, 30009), (117, 30255), (122, 30312), (133, 30414), (134, 30417),

Gene: Stigma\_32 Start: 20224, Stop: 21132, Start Num: 3

Candidate Starts for Stigma\_32:

(Start: 3 @20224 has 107 MA's), (7, 20260), (9, 20266), (17, 20323), (26, 20377), (31, 20413), (39, 20479), (51, 20533), (70, 20632), (84, 20725), (104, 20857), (108, 20887), (133, 21118), (135, 21124),

Gene: Sushi23\_52 Start: 30358, Stop: 31230, Start Num: 3

Candidate Starts for Sushi23\_52:

(Start: 3 @30358 has 107 MA's), (14, 30433), (17, 30448), (30, 30535), (42, 30589), (73, 30736), (81, 30796), (116, 31054), (122, 31114), (133, 31216), (134, 31219),

Gene: Targaryen\_53 Start: 31118, Stop: 31990, Start Num: 3

Candidate Starts for Targaryen\_53:

(Start: 3 @31118 has 107 MA's), (17, 31208), (37, 31331), (76, 31532), (81, 31556), (112, 31784), (116, 31814), (122, 31874), (133, 31976), (134, 31979),

Gene: Teutsch\_52 Start: 30627, Stop: 31499, Start Num: 3

Candidate Starts for Teutsch\_52:

(Start: 3 @30627 has 107 MA's), (14, 30702), (17, 30717), (30, 30804), (42, 30858), (81, 31065), (116, 31323), (122, 31383), (133, 31485), (134, 31488),

Gene: TomSawyer\_52 Start: 29177, Stop: 30046, Start Num: 3

Candidate Starts for TomSawyer\_52:

(Start: 3 @29177 has 107 MA's), (5, 29204), (17, 29267), (30, 29354), (42, 29408), (81, 29615), (82, 29627), (117, 29873), (122, 29930), (133, 30032), (134, 30035),

Gene: Tomas\_56 Start: 31900, Stop: 32775, Start Num: 3

Candidate Starts for Tomas\_56:

(Start: 3 @31900 has 107 MA's), (17, 31990), (42, 32131), (45, 32149), (50, 32170), (81, 32338), (104, 32503), (114, 32584), (122, 32659), (125, 32695), (133, 32761), (134, 32764),

Gene: Tribute\_50 Start: 29827, Stop: 30699, Start Num: 3

Candidate Starts for Tribute\_50:

(Start: 3 @29827 has 107 MA's), (14, 29902), (17, 29917), (30, 30004), (42, 30058), (81, 30265), (116, 30523), (122, 30583), (133, 30685), (134, 30688),

Gene: Trina\_74 Start: 39179, Stop: 40060, Start Num: 2

Candidate Starts for Trina\_74:

(Start: 2 @39179 has 5 MA's), (27, 39326), (43, 39416), (55, 39470), (83, 39641), (85, 39656), (88, 39674), (94, 39713), (96, 39719), (105, 39791), (112, 39851), (113, 39863), (116, 39881), (128, 40019), (136, 40055),

Gene: TunaTartare\_31 Start: 20343, Stop: 21263, Start Num: 3

Candidate Starts for TunaTartare\_31:

(Start: 3 @20343 has 107 MA's), (9, 20385), (17, 20442), (44, 20619), (53, 20658), (54, 20664), (57, 20685), (65, 20727), (133, 21249), (135, 21255),

Gene: Wakanda\_28 Start: 19921, Stop: 20808, Start Num: 3

Candidate Starts for Wakanda\_28:

(Start: 3 @19921 has 107 MA's), (6, 19951), (7, 19957), (18, 20023), (29, 20089), (48, 20215), (104, 20533), (124, 20722), (133, 20794), (135, 20800),

Gene: Warpy\_56 Start: 30582, Stop: 31454, Start Num: 3

Candidate Starts for Warpy\_56:

(Start: 3 @30582 has 107 MA's), (17, 30672), (37, 30795), (44, 30825), (76, 30996), (81, 31020), (109, 31212), (112, 31248), (116, 31278), (122, 31338), (133, 31440), (134, 31443),

Gene: WashU\_55 Start: 30136, Stop: 31008, Start Num: 3

Candidate Starts for WashU\_55:

(Start: 3 @30136 has 107 MA's), (14, 30211), (17, 30226), (30, 30313), (42, 30367), (73, 30514), (81, 30574), (116, 30832), (122, 30892), (133, 30994), (134, 30997),

Gene: Watermoore\_52 Start: 30834, Stop: 31706, Start Num: 3

Candidate Starts for Watermoore\_52:

(Start: 3 @30834 has 107 MA's), (14, 30909), (17, 30924), (30, 31011), (42, 31065), (73, 31212), (81, 31272), (116, 31530), (122, 31590), (133, 31692), (134, 31695),

Gene: Weasels2\_81 Start: 41424, Stop: 42350, Start Num: 2

Candidate Starts for Weasels2\_81:

(Start: 2 @41424 has 5 MA's), (19, 41526), (46, 41700), (56, 41742), (69, 41823), (85, 41940), (97, 42015), (105, 42072), (123, 42249), (126, 42267), (133, 42336),

Gene: Westy\_32 Start: 20224, Stop: 21132, Start Num: 3

Candidate Starts for Westy\_32:

(Start: 3 @20224 has 107 MA's), (7, 20260), (9, 20266), (17, 20323), (26, 20377), (31, 20413), (39, 20479), (51, 20533), (70, 20632), (84, 20725), (104, 20857), (108, 20887), (133, 21118), (135, 21124),

Gene: WhereRU\_49 Start: 29079, Stop: 29951, Start Num: 3

Candidate Starts for WhereRU\_49:

(Start: 3 @29079 has 107 MA's), (14, 29154), (17, 29169), (28, 29235), (32, 29262), (39, 29301), (45, 29328), (73, 29457), (76, 29493), (81, 29517), (122, 29835), (133, 29937), (134, 29940),

Gene: Wipeout\_52 Start: 29928, Stop: 30797, Start Num: 3

Candidate Starts for Wipeout\_52:

(Start: 3 @29928 has 107 MA's), (5, 29955), (17, 30018), (30, 30105), (42, 30159), (81, 30366), (82, 30378), (117, 30624), (122, 30681), (133, 30783), (134, 30786),

Gene: Wofford\_53 Start: 30582, Stop: 31454, Start Num: 3

Candidate Starts for Wofford\_53:

(Start: 3 @30582 has 107 MA's), (17, 30672), (20, 30687), (33, 30768), (37, 30795), (45, 30831), (76, 30996), (81, 31020), (82, 31032), (121, 31329), (131, 31431), (133, 31440), (134, 31443),

Gene: Yaboi\_54 Start: 29534, Stop: 30406, Start Num: 3

Candidate Starts for Yaboi\_54:

(Start: 3 @29534 has 107 MA's), (17, 29624), (30, 29711), (37, 29747), (76, 29948), (80, 29963), (81, 29972), (113, 30212), (116, 30230), (122, 30290), (133, 30392), (134, 30395),