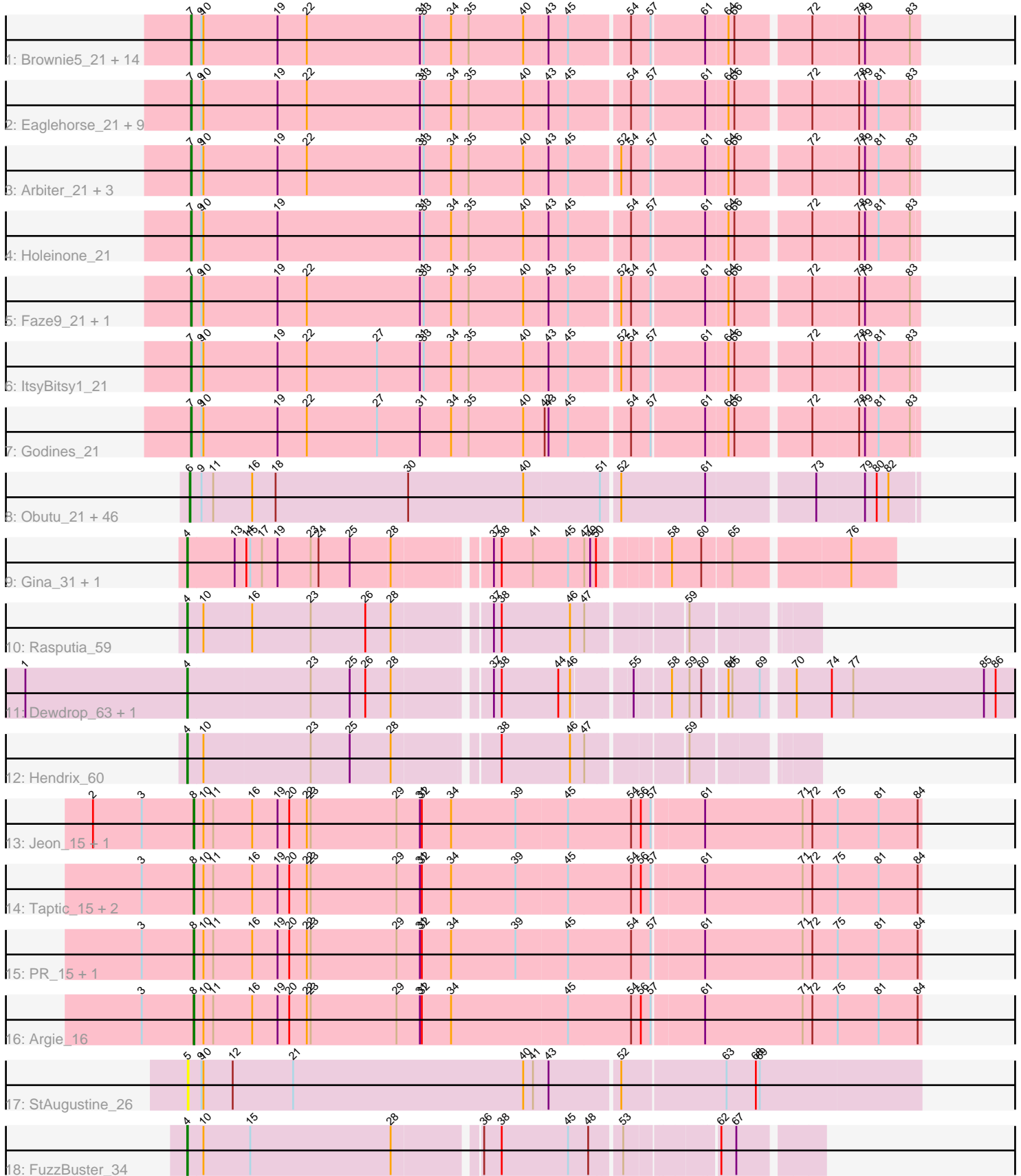


# Pham 161771



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 161771 Report

This analysis was run 04/28/24 on database version 559.

Pham number 161771 has 97 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Brownie5\_21, Boyle\_21, Tres\_21, Opia\_21, Rosebush\_21, Hedgerow\_21, Lars\_21, Tinciduntolum\_22, Glass\_21, West99\_21, Sabella\_21, Blocker23\_21, Ares\_21, Kheth\_21, MasterPo\_21
- Track 2 : Eaglehorse\_21, Coffee\_21, Laurie\_21, Kaleb\_21, Allegro\_21, Calamitous\_21, Lephleur\_21, TA17A\_21, Rhinoforte\_21, Bananafish\_21
- Track 3 : Arbiter\_21, Phantasmagoria\_21, Qyrzula\_20, LizLemon\_21
- Track 4 : Holeinone\_21
- Track 5 : Faze9\_21, FrenchFry\_21
- Track 6 : ItsyBitsy1\_21
- Track 7 : Godines\_21
- Track 8 : Obutu\_21, Bernardo\_21, RagingRooster\_21, Tydolla\_21, Baloo\_21, Gervas\_21, HarveySr\_21, Briakila\_21, OrangeOswald\_21, Morty007\_21, RomaT\_21, Audrey\_21, Rita1961\_21, Phlyer\_21, Pipefish\_21, ChaChing\_21, Phayeta\_21, Athena\_22, Mortcellus\_20, Daisy\_21, Marley1013\_21, Ben11\_20, Devonte\_21, Neos5\_21, Heathcliff\_21, Casbah\_20, GlenHope\_22, SynergyX\_21, Akoma\_21, LestyG\_21, Philly\_20, Jackstina\_20, Deenasa\_21, Kronus\_20, Yahalom\_21, Halfpint\_20, MmasiCarm\_21, YinZ\_21, SlippinJimmy\_21, Chandler\_21, Compostia\_22, Phaedrus\_20, Abinghost\_21, Gadget\_22, Corofin\_21, Nozo\_21, Kamiyu\_21
- Track 9 : Gina\_31, Teamocil\_31
- Track 10 : Rasputia\_59
- Track 11 : Dewdrop\_63, Leaf\_63
- Track 12 : Hendrix\_60
- Track 13 : Jeon\_15, GodPhather\_16
- Track 14 : Taptic\_15, Megabear\_15, Cepens\_15
- Track 15 : PR\_15, D12\_15
- Track 16 : Argie\_16
- Track 17 : StAugustine\_26
- Track 18 : FuzzBuster\_34

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

The start number called the most often in the published annotations is 6, it was called in 44 of the 91 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost\_21, Akoma\_21, Athena\_22, Audrey\_21, Baloo\_21, Ben11\_20, Bernardo\_21, Briakila\_21, Casbah\_20, ChaChing\_21, Chandler\_21, Compostia\_22, Corofin\_21, Daisy\_21, Deenasa\_21, Devonte\_21, Gadget\_22, Gervas\_21, GlenHope\_22, Halfpint\_20, HarveySr\_21, Heathcliff\_21, Jackstina\_20, Kamiyu\_21, Kronus\_20, LestyG\_21, Marley1013\_21, MmasiCarm\_21, Mortcellus\_20, Morty007\_21, Neos5\_21, Nozo\_21, Obutu\_21, OrangeOswald\_21, Phaedrus\_20, Phayeta\_21, Philly\_20, Phlyer\_21, Pipefish\_21, RagingRooster\_21, Rita1961\_21, RomaT\_21, SlippinJimmy\_21, SynergyX\_21, Tydolla\_21, Yahalom\_21, Yinz\_21,

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

- 

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

- Allegro\_21, Arbiter\_21, Ares\_21, Argie\_16, Bananafish\_21, Blocker23\_21, Boyle\_21, Brownie5\_21, Calamitous\_21, Cepens\_15, Coffee\_21, D12\_15, Dewdrop\_63, Eaglehorse\_21, Faze9\_21, FrenchFry\_21, FuzzBuster\_34, Gina\_31, Glass\_21, GodPhather\_16, Godines\_21, Hedgerow\_21, Hendrix\_60, Holeinone\_21, ItsyBitsy1\_21, Jeon\_15, Kaleb\_21, Kheth\_21, Lars\_21, Laurie\_21, Leaf\_63, Lephleur\_21, LizLemon\_21, MasterPo\_21, Megabear\_15, Opia\_21, PR\_15, Phantasmagoria\_21, Qyrzula\_20, Rasputia\_59, Rhinoforte\_21, Rosebush\_21, Sabella\_21, StAugustine\_26, TA17A\_21, Taptic\_15, Teamocil\_31, Tinciduntolum\_22, Tres\_21, West99\_21,

### Summary by start number:

Start 4:

- Found in 7 of 97 ( 7.2% ) of genes in pham
- Manual Annotations of this start: 7 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dewdrop\_63 (GC), FuzzBuster\_34 (singleton), Gina\_31 (EC), Hendrix\_60 (GC), Leaf\_63 (GC), Rasputia\_59 (GC), Teamocil\_31 (EC),

Start 5:

- Found in 1 of 97 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: StAugustine\_26 (singleton),

Start 6:

- Found in 47 of 97 ( 48.5% ) of genes in pham
- Manual Annotations of this start: 44 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abinghost\_21 (B3), Akoma\_21 (B3), Athena\_22 (B3), Audrey\_21 (B3), Baloo\_21 (B3), Ben11\_20 (B3), Bernardo\_21 (B3), Briakila\_21 (B3), Casbah\_20 (B3), ChaChing\_21 (B3), Chandler\_21 (B3), Compostia\_22 (B3), Corofin\_21 (B3), Daisy\_21 (B3), Deenasa\_21 (B3), Devonte\_21 (B3), Gadget\_22 (B3), Gervas\_21 (B3), GlenHope\_22 (B3), Halfpint\_20 (B3), HarveySr\_21 (B3), Heathcliff\_21 (B3), Jackstina\_20 (B3), Kamiyu\_21 (B3), Kronus\_20 (B3), LestyG\_21 (B3), Marley1013\_21 (B3), MmasiCarm\_21 (B3), Mortcellus\_20 (B3), Morty007\_21 (B3), Neos5\_21 (B3), Nozo\_21 (B3), Obutu\_21

(B3), OrangeOswald\_21 (B3), Phaedrus\_20 (B3), Phayeta\_21 (B3), Philly\_20 (B3), Phlyer\_21 (B3), Pipefish\_21 (B3), RagingRooster\_21 (B3), Rita1961\_21 (B3), RomaT\_21 (B3), SlippinJimmy\_21 (B3), SynergyX\_21 (B3), Tydolla\_21 (B3), Yahalom\_21 (B3), Yinz\_21 (B3),

Start 7:

- Found in 34 of 97 ( 35.1% ) of genes in pham
- Manual Annotations of this start: 32 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Allegro\_21 (B2), Arbiter\_21 (B2), Ares\_21 (B2), Bananafish\_21 (B2), Blocker23\_21 (B2), Boyle\_21 (B2), Brownie5\_21 (B2), Calamitous\_21 (B2), Coffee\_21 (B2), Eaglehorse\_21 (B2), Faze9\_21 (B2), FrenchFry\_21 (B2), Glass\_21 (B2), Godines\_21 (B2), Hedgerow\_21 (B2), Holeinone\_21 (B2), ItsyBitsy1\_21 (B2), Kaleb\_21 (B2), Kheth\_21 (B2), Lars\_21 (B2), Laurie\_21 (B2), Lephleur\_21 (B2), LizLemon\_21 (B2), MasterPo\_21 (B2), Opia\_21 (B2), Phantasmagoria\_21 (B2), Qyrzula\_20 (B2), Rhinoforte\_21 (B2), Rosebush\_21 (B2), Sabella\_21 (B2), TA17A\_21 (B2), Tinciduntolum\_22 (B2), Tres\_21 (B2), West99\_21 (B2),

Start 8:

- Found in 8 of 97 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 8 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Argie\_16 (W), Cepens\_15 (W), D12\_15 (W), GodPhather\_16 (W), Jeon\_15 (W), Megabear\_15 (W), PR\_15 (W), Taptic\_15 (W),

### **Summary by clusters:**

There are 6 clusters represented in this pham: singleton, B2, EC, GC, W, B3,

Info for manual annotations of cluster B2:

- Start number 7 was manually annotated 32 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 6 was manually annotated 44 times for cluster B3.

Info for manual annotations of cluster EC:

- Start number 4 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster GC:

- Start number 4 was manually annotated 4 times for cluster GC.

Info for manual annotations of cluster W:

- Start number 8 was manually annotated 8 times for cluster W.

### **Gene Information:**

Gene: Abinghost\_21 Start: 16357, Stop: 17436, Start Num: 6

Candidate Starts for Abinghost\_21:

(Start: 6 @16357 has 44 MA's), (9, 16375), (11, 16393), (16, 16453), (18, 16489), (30, 16693), (40, 16870), (51, 16984), (52, 17008), (61, 17137), (73, 17290), (79, 17359), (80, 17377), (82, 17395),

Gene: Akoma\_21 Start: 16357, Stop: 17436, Start Num: 6

Candidate Starts for Akoma\_21:

(Start: 6 @16357 has 44 MA's), (9, 16375), (11, 16393), (16, 16453), (18, 16489), (30, 16693), (40, 16870), (51, 16984), (52, 17008), (61, 17137), (73, 17290), (79, 17359), (80, 17377), (82, 17395),

Gene: Allegro\_21 Start: 17579, Stop: 18655, Start Num: 7

Candidate Starts for Allegro\_21:

(Start: 7 @17579 has 32 MA's), (9, 17594), (10, 17597), (19, 17711), (22, 17756), (31, 17930), (33, 17936), (34, 17978), (35, 18005), (40, 18089), (43, 18125), (45, 18155), (54, 18242), (57, 18272), (61, 18350), (64, 18383), (66, 18392), (72, 18497), (78, 18566), (79, 18575), (81, 18596), (83, 18644),

Gene: Arbiter\_21 Start: 17666, Stop: 18742, Start Num: 7

Candidate Starts for Arbiter\_21:

(Start: 7 @17666 has 32 MA's), (9, 17681), (10, 17684), (19, 17798), (22, 17843), (31, 18017), (33, 18023), (34, 18065), (35, 18092), (40, 18176), (43, 18212), (45, 18242), (52, 18314), (54, 18329), (57, 18359), (61, 18437), (64, 18470), (66, 18479), (72, 18584), (78, 18653), (79, 18662), (81, 18683), (83, 18731),

Gene: Ares\_21 Start: 17579, Stop: 18658, Start Num: 7

Candidate Starts for Ares\_21:

(Start: 7 @17579 has 32 MA's), (9, 17594), (10, 17597), (19, 17711), (22, 17756), (31, 17930), (33, 17936), (34, 17978), (35, 18005), (40, 18089), (43, 18125), (45, 18155), (54, 18242), (57, 18272), (61, 18350), (64, 18383), (66, 18392), (72, 18497), (78, 18566), (79, 18575), (83, 18644),

Gene: Argie\_16 Start: 15691, Stop: 16797, Start Num: 8

Candidate Starts for Argie\_16:

(3, 15613), (Start: 8 @15691 has 8 MA's), (10, 15706), (11, 15721), (16, 15781), (19, 15820), (20, 15838), (22, 15865), (23, 15871), (29, 16003), (31, 16039), (32, 16042), (34, 16087), (45, 16264), (54, 16360), (56, 16375), (57, 16390), (61, 16465), (71, 16615), (72, 16630), (75, 16669), (81, 16732), (84, 16792),

Gene: Athena\_22 Start: 17120, Stop: 18199, Start Num: 6

Candidate Starts for Athena\_22:

(Start: 6 @17120 has 44 MA's), (9, 17138), (11, 17156), (16, 17216), (18, 17252), (30, 17456), (40, 17633), (51, 17747), (52, 17771), (61, 17900), (73, 18053), (79, 18122), (80, 18140), (82, 18158),

Gene: Audrey\_21 Start: 16357, Stop: 17436, Start Num: 6

Candidate Starts for Audrey\_21:

(Start: 6 @16357 has 44 MA's), (9, 16375), (11, 16393), (16, 16453), (18, 16489), (30, 16693), (40, 16870), (51, 16984), (52, 17008), (61, 17137), (73, 17290), (79, 17359), (80, 17377), (82, 17395),

Gene: Baloo\_21 Start: 16354, Stop: 17433, Start Num: 6

Candidate Starts for Baloo\_21:

(Start: 6 @16354 has 44 MA's), (9, 16372), (11, 16390), (16, 16450), (18, 16486), (30, 16690), (40, 16867), (51, 16981), (52, 17005), (61, 17134), (73, 17287), (79, 17356), (80, 17374), (82, 17392),

Gene: Bananafish\_21 Start: 17576, Stop: 18652, Start Num: 7

Candidate Starts for Bananafish\_21:

(Start: 7 @17576 has 32 MA's), (9, 17591), (10, 17594), (19, 17708), (22, 17753), (31, 17927), (33, 17933), (34, 17975), (35, 18002), (40, 18086), (43, 18122), (45, 18152), (54, 18239), (57, 18269), (61,

18347), (64, 18380), (66, 18389), (72, 18494), (78, 18563), (79, 18572), (81, 18593), (83, 18641),

Gene: Ben11\_20 Start: 16181, Stop: 17260, Start Num: 6

Candidate Starts for Ben11\_20:

(Start: 6 @16181 has 44 MA's), (9, 16199), (11, 16217), (16, 16277), (18, 16313), (30, 16517), (40, 16694), (51, 16808), (52, 16832), (61, 16961), (73, 17114), (79, 17183), (80, 17201), (82, 17219),

Gene: Bernardo\_21 Start: 16356, Stop: 17435, Start Num: 6

Candidate Starts for Bernardo\_21:

(Start: 6 @16356 has 44 MA's), (9, 16374), (11, 16392), (16, 16452), (18, 16488), (30, 16692), (40, 16869), (51, 16983), (52, 17007), (61, 17136), (73, 17289), (79, 17358), (80, 17376), (82, 17394),

Gene: Blocker23\_21 Start: 17696, Stop: 18775, Start Num: 7

Candidate Starts for Blocker23\_21:

(Start: 7 @17696 has 32 MA's), (9, 17711), (10, 17714), (19, 17828), (22, 17873), (31, 18047), (33, 18053), (34, 18095), (35, 18122), (40, 18206), (43, 18242), (45, 18272), (54, 18359), (57, 18389), (61, 18467), (64, 18500), (66, 18509), (72, 18614), (78, 18683), (79, 18692), (83, 18761),

Gene: Boyle\_21 Start: 17697, Stop: 18776, Start Num: 7

Candidate Starts for Boyle\_21:

(Start: 7 @17697 has 32 MA's), (9, 17712), (10, 17715), (19, 17829), (22, 17874), (31, 18048), (33, 18054), (34, 18096), (35, 18123), (40, 18207), (43, 18243), (45, 18273), (54, 18360), (57, 18390), (61, 18468), (64, 18501), (66, 18510), (72, 18615), (78, 18684), (79, 18693), (83, 18762),

Gene: Briakila\_21 Start: 17122, Stop: 18201, Start Num: 6

Candidate Starts for Briakila\_21:

(Start: 6 @17122 has 44 MA's), (9, 17140), (11, 17158), (16, 17218), (18, 17254), (30, 17458), (40, 17635), (51, 17749), (52, 17773), (61, 17902), (73, 18055), (79, 18124), (80, 18142), (82, 18160),

Gene: Brownie5\_21 Start: 17696, Stop: 18775, Start Num: 7

Candidate Starts for Brownie5\_21:

(Start: 7 @17696 has 32 MA's), (9, 17711), (10, 17714), (19, 17828), (22, 17873), (31, 18047), (33, 18053), (34, 18095), (35, 18122), (40, 18206), (43, 18242), (45, 18272), (54, 18359), (57, 18389), (61, 18467), (64, 18500), (66, 18509), (72, 18614), (78, 18683), (79, 18692), (83, 18761),

Gene: Calamitous\_21 Start: 17576, Stop: 18655, Start Num: 7

Candidate Starts for Calamitous\_21:

(Start: 7 @17576 has 32 MA's), (9, 17591), (10, 17594), (19, 17708), (22, 17753), (31, 17927), (33, 17933), (34, 17975), (35, 18002), (40, 18086), (43, 18122), (45, 18152), (54, 18239), (57, 18269), (61, 18347), (64, 18380), (66, 18389), (72, 18494), (78, 18563), (79, 18572), (81, 18593), (83, 18641),

Gene: Casbah\_20 Start: 16209, Stop: 17288, Start Num: 6

Candidate Starts for Casbah\_20:

(Start: 6 @16209 has 44 MA's), (9, 16227), (11, 16245), (16, 16305), (18, 16341), (30, 16545), (40, 16722), (51, 16836), (52, 16860), (61, 16989), (73, 17142), (79, 17211), (80, 17229), (82, 17247),

Gene: Cepens\_15 Start: 15415, Stop: 16521, Start Num: 8

Candidate Starts for Cepens\_15:

(3, 15337), (Start: 8 @15415 has 8 MA's), (10, 15430), (11, 15445), (16, 15505), (19, 15544), (20, 15562), (22, 15589), (23, 15595), (29, 15727), (31, 15763), (32, 15766), (34, 15811), (39, 15910), (45, 15988), (54, 16084), (56, 16099), (57, 16114), (61, 16189), (71, 16339), (72, 16354), (75, 16393), (81, 16456), (84, 16516),

Gene: ChaChing\_21 Start: 16372, Stop: 17451, Start Num: 6

Candidate Starts for ChaChing\_21:

(Start: 6 @16372 has 44 MA's), (9, 16390), (11, 16408), (16, 16468), (18, 16504), (30, 16708), (40, 16885), (51, 16999), (52, 17023), (61, 17152), (73, 17305), (79, 17374), (80, 17392), (82, 17410),

Gene: Chandler\_21 Start: 17131, Stop: 18210, Start Num: 6

Candidate Starts for Chandler\_21:

(Start: 6 @17131 has 44 MA's), (9, 17149), (11, 17167), (16, 17227), (18, 17263), (30, 17467), (40, 17644), (51, 17758), (52, 17782), (61, 17911), (73, 18064), (79, 18133), (80, 18151), (82, 18169),

Gene: Coffee\_21 Start: 17693, Stop: 18769, Start Num: 7

Candidate Starts for Coffee\_21:

(Start: 7 @17693 has 32 MA's), (9, 17708), (10, 17711), (19, 17825), (22, 17870), (31, 18044), (33, 18050), (34, 18092), (35, 18119), (40, 18203), (43, 18239), (45, 18269), (54, 18356), (57, 18386), (61, 18464), (64, 18497), (66, 18506), (72, 18611), (78, 18680), (79, 18689), (81, 18710), (83, 18758),

Gene: Compostia\_22 Start: 16790, Stop: 17869, Start Num: 6

Candidate Starts for Compostia\_22:

(Start: 6 @16790 has 44 MA's), (9, 16808), (11, 16826), (16, 16886), (18, 16922), (30, 17126), (40, 17303), (51, 17417), (52, 17441), (61, 17570), (73, 17723), (79, 17792), (80, 17810), (82, 17828),

Gene: Corofin\_21 Start: 16382, Stop: 17461, Start Num: 6

Candidate Starts for Corofin\_21:

(Start: 6 @16382 has 44 MA's), (9, 16400), (11, 16418), (16, 16478), (18, 16514), (30, 16718), (40, 16895), (51, 17009), (52, 17033), (61, 17162), (73, 17315), (79, 17384), (80, 17402), (82, 17420),

Gene: D12\_15 Start: 15408, Stop: 16514, Start Num: 8

Candidate Starts for D12\_15:

(3, 15330), (Start: 8 @15408 has 8 MA's), (10, 15423), (11, 15438), (16, 15498), (19, 15537), (20, 15555), (22, 15582), (23, 15588), (29, 15720), (31, 15756), (32, 15759), (34, 15804), (39, 15903), (45, 15981), (54, 16077), (57, 16107), (61, 16182), (71, 16332), (72, 16347), (75, 16386), (81, 16449), (84, 16509),

Gene: Daisy\_21 Start: 16378, Stop: 17457, Start Num: 6

Candidate Starts for Daisy\_21:

(Start: 6 @16378 has 44 MA's), (9, 16396), (11, 16414), (16, 16474), (18, 16510), (30, 16714), (40, 16891), (51, 17005), (52, 17029), (61, 17158), (73, 17311), (79, 17380), (80, 17398), (82, 17416),

Gene: Deenasa\_21 Start: 17120, Stop: 18199, Start Num: 6

Candidate Starts for Deenasa\_21:

(Start: 6 @17120 has 44 MA's), (9, 17138), (11, 17156), (16, 17216), (18, 17252), (30, 17456), (40, 17633), (51, 17747), (52, 17771), (61, 17900), (73, 18053), (79, 18122), (80, 18140), (82, 18158),

Gene: Devonte\_21 Start: 16357, Stop: 17436, Start Num: 6

Candidate Starts for Devonte\_21:

(Start: 6 @16357 has 44 MA's), (9, 16375), (11, 16393), (16, 16453), (18, 16489), (30, 16693), (40, 16870), (51, 16984), (52, 17008), (61, 17137), (73, 17290), (79, 17359), (80, 17377), (82, 17395),

Gene: Dewdrop\_63 Start: 33239, Stop: 34438, Start Num: 4

Candidate Starts for Dewdrop\_63:

(1, 32990), (Start: 4 @33239 has 7 MA's), (23, 33425), (25, 33485), (26, 33509), (28, 33548), (37, 33680), (38, 33692), (44, 33779), (46, 33797), (55, 33878), (58, 33929), (59, 33956), (60, 33974), (64, 34007), (65, 34013), (69, 34055), (70, 34097), (74, 34151), (77, 34184), (85, 34385), (86, 34403),

Gene: Eaglehorse\_21 Start: 17600, Stop: 18676, Start Num: 7

Candidate Starts for Eaglehorse\_21:

(Start: 7 @17600 has 32 MA's), (9, 17615), (10, 17618), (19, 17732), (22, 17777), (31, 17951), (33, 17957), (34, 17999), (35, 18026), (40, 18110), (43, 18146), (45, 18176), (54, 18263), (57, 18293), (61, 18371), (64, 18404), (66, 18413), (72, 18518), (78, 18587), (79, 18596), (81, 18617), (83, 18665),

Gene: Faze9\_21 Start: 17693, Stop: 18772, Start Num: 7

Candidate Starts for Faze9\_21:

(Start: 7 @17693 has 32 MA's), (9, 17708), (10, 17711), (19, 17825), (22, 17870), (31, 18044), (33, 18050), (34, 18092), (35, 18119), (40, 18203), (43, 18239), (45, 18269), (52, 18341), (54, 18356), (57, 18386), (61, 18464), (64, 18497), (66, 18506), (72, 18611), (78, 18680), (79, 18689), (83, 18758),

Gene: FrenchFry\_21 Start: 17696, Stop: 18775, Start Num: 7

Candidate Starts for FrenchFry\_21:

(Start: 7 @17696 has 32 MA's), (9, 17711), (10, 17714), (19, 17828), (22, 17873), (31, 18047), (33, 18053), (34, 18095), (35, 18122), (40, 18206), (43, 18242), (45, 18272), (52, 18344), (54, 18359), (57, 18389), (61, 18467), (64, 18500), (66, 18509), (72, 18614), (78, 18683), (79, 18692), (83, 18761),

Gene: FuzzBuster\_34 Start: 17131, Stop: 18030, Start Num: 4

Candidate Starts for FuzzBuster\_34:

(Start: 4 @17131 has 7 MA's), (10, 17155), (15, 17227), (28, 17443), (36, 17563), (38, 17590), (45, 17692), (48, 17722), (53, 17764), (62, 17890), (67, 17911),

Gene: Gadget\_22 Start: 16361, Stop: 17440, Start Num: 6

Candidate Starts for Gadget\_22:

(Start: 6 @16361 has 44 MA's), (9, 16379), (11, 16397), (16, 16457), (18, 16493), (30, 16697), (40, 16874), (51, 16988), (52, 17012), (61, 17141), (73, 17294), (79, 17363), (80, 17381), (82, 17399),

Gene: Gervas\_21 Start: 16340, Stop: 17419, Start Num: 6

Candidate Starts for Gervas\_21:

(Start: 6 @16340 has 44 MA's), (9, 16358), (11, 16376), (16, 16436), (18, 16472), (30, 16676), (40, 16853), (51, 16967), (52, 16991), (61, 17120), (73, 17273), (79, 17342), (80, 17360), (82, 17378),

Gene: Gina\_31 Start: 16779, Stop: 17786, Start Num: 4

Candidate Starts for Gina\_31:

(Start: 4 @16779 has 7 MA's), (13, 16851), (14, 16866), (15, 16872), (17, 16890), (19, 16914), (23, 16965), (24, 16977), (25, 17025), (28, 17085), (37, 17214), (38, 17226), (41, 17274), (45, 17328), (47, 17352), (49, 17361), (50, 17370), (58, 17466), (60, 17511), (65, 17553), (76, 17718),

Gene: Glass\_21 Start: 17696, Stop: 18775, Start Num: 7

Candidate Starts for Glass\_21:

(Start: 7 @17696 has 32 MA's), (9, 17711), (10, 17714), (19, 17828), (22, 17873), (31, 18047), (33, 18053), (34, 18095), (35, 18122), (40, 18206), (43, 18242), (45, 18272), (54, 18359), (57, 18389), (61, 18467), (64, 18500), (66, 18509), (72, 18614), (78, 18683), (79, 18692), (83, 18761),

Gene: GlenHope\_22 Start: 16347, Stop: 17426, Start Num: 6

Candidate Starts for GlenHope\_22:

(Start: 6 @16347 has 44 MA's), (9, 16365), (11, 16383), (16, 16443), (18, 16479), (30, 16683), (40, 16860), (51, 16974), (52, 16998), (61, 17127), (73, 17280), (79, 17349), (80, 17367), (82, 17385),

Gene: GodPhather\_16 Start: 15673, Stop: 16779, Start Num: 8

Candidate Starts for GodPhather\_16:



(2, 15520), (3, 15595), (Start: 8 @15673 has 8 MA's), (10, 15688), (11, 15703), (16, 15763), (19, 15802), (20, 15820), (22, 15847), (23, 15853), (29, 15985), (31, 16021), (32, 16024), (34, 16069), (39, 16168), (45, 16246), (54, 16342), (56, 16357), (57, 16372), (61, 16447), (71, 16597), (72, 16612), (75, 16651), (81, 16714), (84, 16774),

Gene: Godines\_21 Start: 17591, Stop: 18667, Start Num: 7

Candidate Starts for Godines\_21:

(Start: 7 @17591 has 32 MA's), (9, 17606), (10, 17609), (19, 17723), (22, 17768), (27, 17876), (31, 17942), (34, 17990), (35, 18017), (40, 18101), (42, 18131), (43, 18137), (45, 18167), (54, 18254), (57, 18284), (61, 18362), (64, 18395), (66, 18404), (72, 18509), (78, 18578), (79, 18587), (81, 18608), (83, 18656),

Gene: Halfpint\_20 Start: 16182, Stop: 17261, Start Num: 6

Candidate Starts for Halfpint\_20:

(Start: 6 @16182 has 44 MA's), (9, 16200), (11, 16218), (16, 16278), (18, 16314), (30, 16518), (40, 16695), (51, 16809), (52, 16833), (61, 16962), (73, 17115), (79, 17184), (80, 17202), (82, 17220),

Gene: HarveySr\_21 Start: 16334, Stop: 17413, Start Num: 6

Candidate Starts for HarveySr\_21:

(Start: 6 @16334 has 44 MA's), (9, 16352), (11, 16370), (16, 16430), (18, 16466), (30, 16670), (40, 16847), (51, 16961), (52, 16985), (61, 17114), (73, 17267), (79, 17336), (80, 17354), (82, 17372),

Gene: Heathcliff\_21 Start: 16319, Stop: 17398, Start Num: 6

Candidate Starts for Heathcliff\_21:

(Start: 6 @16319 has 44 MA's), (9, 16337), (11, 16355), (16, 16415), (18, 16451), (30, 16655), (40, 16832), (51, 16946), (52, 16970), (61, 17099), (73, 17252), (79, 17321), (80, 17339), (82, 17357),

Gene: Hedgerow\_21 Start: 17678, Stop: 18757, Start Num: 7

Candidate Starts for Hedgerow\_21:

(Start: 7 @17678 has 32 MA's), (9, 17693), (10, 17696), (19, 17810), (22, 17855), (31, 18029), (33, 18035), (34, 18077), (35, 18104), (40, 18188), (43, 18224), (45, 18254), (54, 18341), (57, 18371), (61, 18449), (64, 18482), (66, 18491), (72, 18596), (78, 18665), (79, 18674), (83, 18743),

Gene: Hendrix\_60 Start: 33192, Stop: 34076, Start Num: 4

Candidate Starts for Hendrix\_60:

(Start: 4 @33192 has 7 MA's), (10, 33216), (23, 33378), (25, 33438), (28, 33501), (38, 33645), (46, 33750), (47, 33771), (59, 33906),

Gene: Holeinone\_21 Start: 17578, Stop: 18654, Start Num: 7

Candidate Starts for Holeinone\_21:

(Start: 7 @17578 has 32 MA's), (9, 17593), (10, 17596), (19, 17710), (31, 17929), (33, 17935), (34, 17977), (35, 18004), (40, 18088), (43, 18124), (45, 18154), (54, 18241), (57, 18271), (61, 18349), (64, 18382), (66, 18391), (72, 18496), (78, 18565), (79, 18574), (81, 18595), (83, 18643),

Gene: ItsyBitsy1\_21 Start: 17570, Stop: 18646, Start Num: 7

Candidate Starts for ItsyBitsy1\_21:

(Start: 7 @17570 has 32 MA's), (9, 17585), (10, 17588), (19, 17702), (22, 17747), (27, 17855), (31, 17921), (33, 17927), (34, 17969), (35, 17996), (40, 18080), (43, 18116), (45, 18146), (52, 18218), (54, 18233), (57, 18263), (61, 18341), (64, 18374), (66, 18383), (72, 18488), (78, 18557), (79, 18566), (81, 18587), (83, 18635),

Gene: Jackstina\_20 Start: 16283, Stop: 17362, Start Num: 6

Candidate Starts for Jackstina\_20:

(Start: 6 @16283 has 44 MA's), (9, 16301), (11, 16319), (16, 16379), (18, 16415), (30, 16619), (40, 16796), (51, 16910), (52, 16934), (61, 17063), (73, 17216), (79, 17285), (80, 17303), (82, 17321),

Gene: Jeon\_15 Start: 15415, Stop: 16521, Start Num: 8

Candidate Starts for Jeon\_15:

(2, 15262), (3, 15337), (Start: 8 @15415 has 8 MA's), (10, 15430), (11, 15445), (16, 15505), (19, 15544), (20, 15562), (22, 15589), (23, 15595), (29, 15727), (31, 15763), (32, 15766), (34, 15811), (39, 15910), (45, 15988), (54, 16084), (56, 16099), (57, 16114), (61, 16189), (71, 16339), (72, 16354), (75, 16393), (81, 16456), (84, 16516),

Gene: Kaleb\_21 Start: 17696, Stop: 18772, Start Num: 7

Candidate Starts for Kaleb\_21:

(Start: 7 @17696 has 32 MA's), (9, 17711), (10, 17714), (19, 17828), (22, 17873), (31, 18047), (33, 18053), (34, 18095), (35, 18122), (40, 18206), (43, 18242), (45, 18272), (54, 18359), (57, 18389), (61, 18467), (64, 18500), (66, 18509), (72, 18614), (78, 18683), (79, 18692), (81, 18713), (83, 18761),

Gene: Kamiyu\_21 Start: 16328, Stop: 17407, Start Num: 6

Candidate Starts for Kamiyu\_21:

(Start: 6 @16328 has 44 MA's), (9, 16346), (11, 16364), (16, 16424), (18, 16460), (30, 16664), (40, 16841), (51, 16955), (52, 16979), (61, 17108), (73, 17261), (79, 17330), (80, 17348), (82, 17366),

Gene: Kheth\_21 Start: 17579, Stop: 18658, Start Num: 7

Candidate Starts for Kheth\_21:

(Start: 7 @17579 has 32 MA's), (9, 17594), (10, 17597), (19, 17711), (22, 17756), (31, 17930), (33, 17936), (34, 17978), (35, 18005), (40, 18089), (43, 18125), (45, 18155), (54, 18242), (57, 18272), (61, 18350), (64, 18383), (66, 18392), (72, 18497), (78, 18566), (79, 18575), (83, 18644),

Gene: Kronus\_20 Start: 16940, Stop: 18019, Start Num: 6

Candidate Starts for Kronus\_20:

(Start: 6 @16940 has 44 MA's), (9, 16958), (11, 16976), (16, 17036), (18, 17072), (30, 17276), (40, 17453), (51, 17567), (52, 17591), (61, 17720), (73, 17873), (79, 17942), (80, 17960), (82, 17978),

Gene: Lars\_21 Start: 17696, Stop: 18775, Start Num: 7

Candidate Starts for Lars\_21:

(Start: 7 @17696 has 32 MA's), (9, 17711), (10, 17714), (19, 17828), (22, 17873), (31, 18047), (33, 18053), (34, 18095), (35, 18122), (40, 18206), (43, 18242), (45, 18272), (54, 18359), (57, 18389), (61, 18467), (64, 18500), (66, 18509), (72, 18614), (78, 18683), (79, 18692), (83, 18761),

Gene: Laurie\_21 Start: 17574, Stop: 18650, Start Num: 7

Candidate Starts for Laurie\_21:

(Start: 7 @17574 has 32 MA's), (9, 17589), (10, 17592), (19, 17706), (22, 17751), (31, 17925), (33, 17931), (34, 17973), (35, 18000), (40, 18084), (43, 18120), (45, 18150), (54, 18237), (57, 18267), (61, 18345), (64, 18378), (66, 18387), (72, 18492), (78, 18561), (79, 18570), (81, 18591), (83, 18639),

Gene: Leaf\_63 Start: 33239, Stop: 34438, Start Num: 4

Candidate Starts for Leaf\_63:

(1, 32990), (Start: 4 @33239 has 7 MA's), (23, 33425), (25, 33485), (26, 33509), (28, 33548), (37, 33680), (38, 33692), (44, 33779), (46, 33797), (55, 33878), (58, 33929), (59, 33956), (60, 33974), (64, 34007), (65, 34013), (69, 34055), (70, 34097), (74, 34151), (77, 34184), (85, 34385), (86, 34403),

Gene: Lephleur\_21 Start: 17576, Stop: 18655, Start Num: 7

Candidate Starts for Lephleur\_21:

(Start: 7 @17576 has 32 MA's), (9, 17591), (10, 17594), (19, 17708), (22, 17753), (31, 17927), (33, 17933), (34, 17975), (35, 18002), (40, 18086), (43, 18122), (45, 18152), (54, 18239), (57, 18269), (61, 18347), (64, 18380), (66, 18389), (72, 18494), (78, 18563), (79, 18572), (81, 18593), (83, 18641),

Gene: LestyG\_21 Start: 16361, Stop: 17440, Start Num: 6

Candidate Starts for LestyG\_21:

(Start: 6 @16361 has 44 MA's), (9, 16379), (11, 16397), (16, 16457), (18, 16493), (30, 16697), (40, 16874), (51, 16988), (52, 17012), (61, 17141), (73, 17294), (79, 17363), (80, 17381), (82, 17399),

Gene: LizLemon\_21 Start: 17696, Stop: 18772, Start Num: 7

Candidate Starts for LizLemon\_21:

(Start: 7 @17696 has 32 MA's), (9, 17711), (10, 17714), (19, 17828), (22, 17873), (31, 18047), (33, 18053), (34, 18095), (35, 18122), (40, 18206), (43, 18242), (45, 18272), (52, 18344), (54, 18359), (57, 18389), (61, 18467), (64, 18500), (66, 18509), (72, 18614), (78, 18683), (79, 18692), (81, 18713), (83, 18761),

Gene: Marley1013\_21 Start: 17141, Stop: 18220, Start Num: 6

Candidate Starts for Marley1013\_21:

(Start: 6 @17141 has 44 MA's), (9, 17159), (11, 17177), (16, 17237), (18, 17273), (30, 17477), (40, 17654), (51, 17768), (52, 17792), (61, 17921), (73, 18074), (79, 18143), (80, 18161), (82, 18179),

Gene: MasterPo\_21 Start: 17576, Stop: 18655, Start Num: 7

Candidate Starts for MasterPo\_21:

(Start: 7 @17576 has 32 MA's), (9, 17591), (10, 17594), (19, 17708), (22, 17753), (31, 17927), (33, 17933), (34, 17975), (35, 18002), (40, 18086), (43, 18122), (45, 18152), (54, 18239), (57, 18269), (61, 18347), (64, 18380), (66, 18389), (72, 18494), (78, 18563), (79, 18572), (83, 18641),

Gene: Megabear\_15 Start: 15358, Stop: 16464, Start Num: 8

Candidate Starts for Megabear\_15:

(3, 15280), (Start: 8 @15358 has 8 MA's), (10, 15373), (11, 15388), (16, 15448), (19, 15487), (20, 15505), (22, 15532), (23, 15538), (29, 15670), (31, 15706), (32, 15709), (34, 15754), (39, 15853), (45, 15931), (54, 16027), (56, 16042), (57, 16057), (61, 16132), (71, 16282), (72, 16297), (75, 16336), (81, 16399), (84, 16459),

Gene: MmasiCarm\_21 Start: 16354, Stop: 17433, Start Num: 6

Candidate Starts for MmasiCarm\_21:

(Start: 6 @16354 has 44 MA's), (9, 16372), (11, 16390), (16, 16450), (18, 16486), (30, 16690), (40, 16867), (51, 16981), (52, 17005), (61, 17134), (73, 17287), (79, 17356), (80, 17374), (82, 17392),

Gene: Mortcellus\_20 Start: 16995, Stop: 18074, Start Num: 6

Candidate Starts for Mortcellus\_20:

(Start: 6 @16995 has 44 MA's), (9, 17013), (11, 17031), (16, 17091), (18, 17127), (30, 17331), (40, 17508), (51, 17622), (52, 17646), (61, 17775), (73, 17928), (79, 17997), (80, 18015), (82, 18033),

Gene: Morty007\_21 Start: 17141, Stop: 18220, Start Num: 6

Candidate Starts for Morty007\_21:

(Start: 6 @17141 has 44 MA's), (9, 17159), (11, 17177), (16, 17237), (18, 17273), (30, 17477), (40, 17654), (51, 17768), (52, 17792), (61, 17921), (73, 18074), (79, 18143), (80, 18161), (82, 18179),

Gene: Neos5\_21 Start: 17149, Stop: 18228, Start Num: 6

Candidate Starts for Neos5\_21:

(Start: 6 @17149 has 44 MA's), (9, 17167), (11, 17185), (16, 17245), (18, 17281), (30, 17485), (40, 17662), (51, 17776), (52, 17800), (61, 17929), (73, 18082), (79, 18151), (80, 18169), (82, 18187),

Gene: Nozo\_21 Start: 17119, Stop: 18198, Start Num: 6

Candidate Starts for Nozo\_21:

(Start: 6 @17119 has 44 MA's), (9, 17137), (11, 17155), (16, 17215), (18, 17251), (30, 17455), (40, 17632), (51, 17746), (52, 17770), (61, 17899), (73, 18052), (79, 18121), (80, 18139), (82, 18157),

Gene: Obutu\_21 Start: 16352, Stop: 17431, Start Num: 6

Candidate Starts for Obutu\_21:

(Start: 6 @16352 has 44 MA's), (9, 16370), (11, 16388), (16, 16448), (18, 16484), (30, 16688), (40, 16865), (51, 16979), (52, 17003), (61, 17132), (73, 17285), (79, 17354), (80, 17372), (82, 17390),

Gene: Opia\_21 Start: 17576, Stop: 18655, Start Num: 7

Candidate Starts for Opia\_21:

(Start: 7 @17576 has 32 MA's), (9, 17591), (10, 17594), (19, 17708), (22, 17753), (31, 17927), (33, 17933), (34, 17975), (35, 18002), (40, 18086), (43, 18122), (45, 18152), (54, 18239), (57, 18269), (61, 18347), (64, 18380), (66, 18389), (72, 18494), (78, 18563), (79, 18572), (83, 18641),

Gene: OrangeOswald\_21 Start: 16357, Stop: 17436, Start Num: 6

Candidate Starts for OrangeOswald\_21:

(Start: 6 @16357 has 44 MA's), (9, 16375), (11, 16393), (16, 16453), (18, 16489), (30, 16693), (40, 16870), (51, 16984), (52, 17008), (61, 17137), (73, 17290), (79, 17359), (80, 17377), (82, 17395),

Gene: PR\_15 Start: 15385, Stop: 16491, Start Num: 8

Candidate Starts for PR\_15:

(3, 15307), (Start: 8 @15385 has 8 MA's), (10, 15400), (11, 15415), (16, 15475), (19, 15514), (20, 15532), (22, 15559), (23, 15565), (29, 15697), (31, 15733), (32, 15736), (34, 15781), (39, 15880), (45, 15958), (54, 16054), (57, 16084), (61, 16159), (71, 16309), (72, 16324), (75, 16363), (81, 16426), (84, 16486),

Gene: Phaedrus\_20 Start: 16275, Stop: 17354, Start Num: 6

Candidate Starts for Phaedrus\_20:

(Start: 6 @16275 has 44 MA's), (9, 16293), (11, 16311), (16, 16371), (18, 16407), (30, 16611), (40, 16788), (51, 16902), (52, 16926), (61, 17055), (73, 17208), (79, 17277), (80, 17295), (82, 17313),

Gene: Phantasmagoria\_21 Start: 17576, Stop: 18652, Start Num: 7

Candidate Starts for Phantasmagoria\_21:

(Start: 7 @17576 has 32 MA's), (9, 17591), (10, 17594), (19, 17708), (22, 17753), (31, 17927), (33, 17933), (34, 17975), (35, 18002), (40, 18086), (43, 18122), (45, 18152), (52, 18224), (54, 18239), (57, 18269), (61, 18347), (64, 18380), (66, 18389), (72, 18494), (78, 18563), (79, 18572), (81, 18593), (83, 18641),

Gene: Phayeta\_21 Start: 16233, Stop: 17312, Start Num: 6

Candidate Starts for Phayeta\_21:

(Start: 6 @16233 has 44 MA's), (9, 16251), (11, 16269), (16, 16329), (18, 16365), (30, 16569), (40, 16746), (51, 16860), (52, 16884), (61, 17013), (73, 17166), (79, 17235), (80, 17253), (82, 17271),

Gene: Philly\_20 Start: 16223, Stop: 17302, Start Num: 6

Candidate Starts for Philly\_20:

(Start: 6 @16223 has 44 MA's), (9, 16241), (11, 16259), (16, 16319), (18, 16355), (30, 16559), (40, 16736), (51, 16850), (52, 16874), (61, 17003), (73, 17156), (79, 17225), (80, 17243), (82, 17261),

Gene: Phlyer\_21 Start: 17092, Stop: 18171, Start Num: 6

Candidate Starts for Phlyer\_21:

(Start: 6 @17092 has 44 MA's), (9, 17110), (11, 17128), (16, 17188), (18, 17224), (30, 17428), (40, 17605), (51, 17719), (52, 17743), (61, 17872), (73, 18025), (79, 18094), (80, 18112), (82, 18130),

Gene: Pipefish\_21 Start: 17241, Stop: 18320, Start Num: 6

Candidate Starts for Pipefish\_21:

(Start: 6 @17241 has 44 MA's), (9, 17259), (11, 17277), (16, 17337), (18, 17373), (30, 17577), (40, 17754), (51, 17868), (52, 17892), (61, 18021), (73, 18174), (79, 18243), (80, 18261), (82, 18279),

Gene: Qyrzula\_20 Start: 17666, Stop: 18742, Start Num: 7

Candidate Starts for Qyrzula\_20:

(Start: 7 @17666 has 32 MA's), (9, 17681), (10, 17684), (19, 17798), (22, 17843), (31, 18017), (33, 18023), (34, 18065), (35, 18092), (40, 18176), (43, 18212), (45, 18242), (52, 18314), (54, 18329), (57, 18359), (61, 18437), (64, 18470), (66, 18479), (72, 18584), (78, 18653), (79, 18662), (81, 18683), (83, 18731),

Gene: RagingRooster\_21 Start: 16358, Stop: 17437, Start Num: 6

Candidate Starts for RagingRooster\_21:

(Start: 6 @16358 has 44 MA's), (9, 16376), (11, 16394), (16, 16454), (18, 16490), (30, 16694), (40, 16871), (51, 16985), (52, 17009), (61, 17138), (73, 17291), (79, 17360), (80, 17378), (82, 17396),

Gene: Rasputia\_59 Start: 32882, Stop: 33766, Start Num: 4

Candidate Starts for Rasputia\_59:

(Start: 4 @32882 has 7 MA's), (10, 32906), (16, 32978), (23, 33068), (26, 33152), (28, 33191), (37, 33323), (38, 33335), (46, 33440), (47, 33461), (59, 33596),

Gene: Rhinoforte\_21 Start: 17693, Stop: 18772, Start Num: 7

Candidate Starts for Rhinoforte\_21:

(Start: 7 @17693 has 32 MA's), (9, 17708), (10, 17711), (19, 17825), (22, 17870), (31, 18044), (33, 18050), (34, 18092), (35, 18119), (40, 18203), (43, 18239), (45, 18269), (54, 18356), (57, 18386), (61, 18464), (64, 18497), (66, 18506), (72, 18611), (78, 18680), (79, 18689), (81, 18710), (83, 18758),

Gene: Rita1961\_21 Start: 16353, Stop: 17432, Start Num: 6

Candidate Starts for Rita1961\_21:

(Start: 6 @16353 has 44 MA's), (9, 16371), (11, 16389), (16, 16449), (18, 16485), (30, 16689), (40, 16866), (51, 16980), (52, 17004), (61, 17133), (73, 17286), (79, 17355), (80, 17373), (82, 17391),

Gene: RomaT\_21 Start: 17139, Stop: 18218, Start Num: 6

Candidate Starts for RomaT\_21:

(Start: 6 @17139 has 44 MA's), (9, 17157), (11, 17175), (16, 17235), (18, 17271), (30, 17475), (40, 17652), (51, 17766), (52, 17790), (61, 17919), (73, 18072), (79, 18141), (80, 18159), (82, 18177),

Gene: Rosebush\_21 Start: 17693, Stop: 18772, Start Num: 7

Candidate Starts for Rosebush\_21:

(Start: 7 @17693 has 32 MA's), (9, 17708), (10, 17711), (19, 17825), (22, 17870), (31, 18044), (33, 18050), (34, 18092), (35, 18119), (40, 18203), (43, 18239), (45, 18269), (54, 18356), (57, 18386), (61, 18464), (64, 18497), (66, 18506), (72, 18611), (78, 18680), (79, 18689), (83, 18758),

Gene: Sabella\_21 Start: 17579, Stop: 18658, Start Num: 7

Candidate Starts for Sabella\_21:

(Start: 7 @17579 has 32 MA's), (9, 17594), (10, 17597), (19, 17711), (22, 17756), (31, 17930), (33, 17936), (34, 17978), (35, 18005), (40, 18089), (43, 18125), (45, 18155), (54, 18242), (57, 18272), (61, 18350), (64, 18383), (66, 18392), (72, 18497), (78, 18566), (79, 18575), (83, 18644),

Gene: SlippinJimmy\_21 Start: 17122, Stop: 18201, Start Num: 6

Candidate Starts for SlippinJimmy\_21:

(Start: 6 @17122 has 44 MA's), (9, 17140), (11, 17158), (16, 17218), (18, 17254), (30, 17458), (40, 17635), (51, 17749), (52, 17773), (61, 17902), (73, 18055), (79, 18124), (80, 18142), (82, 18160),

Gene: StAugustine\_26 Start: 18871, Stop: 19977, Start Num: 5

Candidate Starts for StAugustine\_26:

(5, 18871), (9, 18892), (10, 18895), (12, 18940), (21, 19033), (40, 19387), (41, 19402), (43, 19423), (52, 19525), (63, 19681), (68, 19726), (69, 19732),

Gene: SynergyX\_21 Start: 16358, Stop: 17437, Start Num: 6

Candidate Starts for SynergyX\_21:

(Start: 6 @16358 has 44 MA's), (9, 16376), (11, 16394), (16, 16454), (18, 16490), (30, 16694), (40, 16871), (51, 16985), (52, 17009), (61, 17138), (73, 17291), (79, 17360), (80, 17378), (82, 17396),

Gene: TA17A\_21 Start: 17576, Stop: 18652, Start Num: 7

Candidate Starts for TA17A\_21:

(Start: 7 @17576 has 32 MA's), (9, 17591), (10, 17594), (19, 17708), (22, 17753), (31, 17927), (33, 17933), (34, 17975), (35, 18002), (40, 18086), (43, 18122), (45, 18152), (54, 18239), (57, 18269), (61, 18347), (64, 18380), (66, 18389), (72, 18494), (78, 18563), (79, 18572), (81, 18593), (83, 18641),

Gene: Taptic\_15 Start: 15358, Stop: 16464, Start Num: 8

Candidate Starts for Taptic\_15:

(3, 15280), (Start: 8 @15358 has 8 MA's), (10, 15373), (11, 15388), (16, 15448), (19, 15487), (20, 15505), (22, 15532), (23, 15538), (29, 15670), (31, 15706), (32, 15709), (34, 15754), (39, 15853), (45, 15931), (54, 16027), (56, 16042), (57, 16057), (61, 16132), (71, 16282), (72, 16297), (75, 16336), (81, 16399), (84, 16459),

Gene: Teamocil\_31 Start: 16878, Stop: 17885, Start Num: 4

Candidate Starts for Teamocil\_31:

(Start: 4 @16878 has 7 MA's), (13, 16950), (14, 16965), (15, 16971), (17, 16989), (19, 17013), (23, 17064), (24, 17076), (25, 17124), (28, 17184), (37, 17313), (38, 17325), (41, 17373), (45, 17427), (47, 17451), (49, 17460), (50, 17469), (58, 17565), (60, 17610), (65, 17652), (76, 17817),

Gene: Tinciduntolum\_22 Start: 17695, Stop: 18774, Start Num: 7

Candidate Starts for Tinciduntolum\_22:

(Start: 7 @17695 has 32 MA's), (9, 17710), (10, 17713), (19, 17827), (22, 17872), (31, 18046), (33, 18052), (34, 18094), (35, 18121), (40, 18205), (43, 18241), (45, 18271), (54, 18358), (57, 18388), (61, 18466), (64, 18499), (66, 18508), (72, 18613), (78, 18682), (79, 18691), (83, 18760),

Gene: Tres\_21 Start: 17576, Stop: 18655, Start Num: 7

Candidate Starts for Tres\_21:

(Start: 7 @17576 has 32 MA's), (9, 17591), (10, 17594), (19, 17708), (22, 17753), (31, 17927), (33, 17933), (34, 17975), (35, 18002), (40, 18086), (43, 18122), (45, 18152), (54, 18239), (57, 18269), (61, 18347), (64, 18380), (66, 18389), (72, 18494), (78, 18563), (79, 18572), (83, 18641),

Gene: Tydolla\_21 Start: 17095, Stop: 18174, Start Num: 6

Candidate Starts for Tydolla\_21:

(Start: 6 @17095 has 44 MA's), (9, 17113), (11, 17131), (16, 17191), (18, 17227), (30, 17431), (40, 17608), (51, 17722), (52, 17746), (61, 17875), (73, 18028), (79, 18097), (80, 18115), (82, 18133),

Gene: West99\_21 Start: 17696, Stop: 18775, Start Num: 7

Candidate Starts for West99\_21:

(Start: 7 @17696 has 32 MA's), (9, 17711), (10, 17714), (19, 17828), (22, 17873), (31, 18047), (33, 18053), (34, 18095), (35, 18122), (40, 18206), (43, 18242), (45, 18272), (54, 18359), (57, 18389), (61, 18467), (64, 18500), (66, 18509), (72, 18614), (78, 18683), (79, 18692), (83, 18761),

Gene: Yahalom\_21 Start: 16369, Stop: 17448, Start Num: 6

Candidate Starts for Yahalom\_21:

(Start: 6 @16369 has 44 MA's), (9, 16387), (11, 16405), (16, 16465), (18, 16501), (30, 16705), (40, 16882), (51, 16996), (52, 17020), (61, 17149), (73, 17302), (79, 17371), (80, 17389), (82, 17407),

Gene: Yinz\_21 Start: 16396, Stop: 17475, Start Num: 6

Candidate Starts for Yinz\_21:

(Start: 6 @16396 has 44 MA's), (9, 16414), (11, 16432), (16, 16492), (18, 16528), (30, 16732), (40, 16909), (51, 17023), (52, 17047), (61, 17176), (73, 17329), (79, 17398), (80, 17416), (82, 17434),