

Pham 304915

1: Shrubaron_31 + 3	12	13	31	32	31	51	54	59	88	86	105	113	116	123	139	135	140	144	166						
2: Paschalis_24 + 6	12	13	31	32	31	51	54	59	88	86	108	110	113	121	136	136	143	144	151	166					
3: Ganandorf_34 + 1	12	13	31	32	31	51	54	59	88	86	108	110	113	121	136	136	143	144	151	166					
4: Rockwell_24 + 21	12	13	31	32	31	51	54	59	88	86	108	110	113	121	136	136	143	144	151	166					
5: Yeti_25	12	13	31	34	32	51	54	59	88	86	105	110	116	123	139	136	140	144	151	166					
6: Ariadne_33 + 1	12	13	31	32	31	51	54	59	88	86	108	110	113	122	136	136	143	144	151	166					
7: ClearAsMud_27	12	13	31	32	31	51	54	59	88	86	105	108	113	116	123	139	140	144	151	166					
8: Skugga_23	12	13	31	32	31	51	54	59	88	86	104	105	113	116	123	139	140	144	151	166					
9: Jayden_26	12	18	30	30	34	51	58	59	78	87	98	119	123	123	133	135	143	148	155	166					
10: Megan_19	12	13	31	32	31	51	54	59	88	86	108	110	113	121	136	136	143	144	151	166					
11: Onika_24	12	13	31	32	31	51	54	59	88	86	108	110	113	122	136	136	143	144	151	166					
12: SirFrank_24 + 1	12	13	31	32	31	51	54	59	88	86	108	110	113	121	136	136	143	144	151	166					
13: PhedwardAllen_31 + 1	12	13	31	32	31	51	54	59	88	86	105	108	116	123	139	135	140	144	151	166					
14: Gina_26	12	13	31	32	31	51	54	59	88	86	105	108	116	123	139	135	140	144	151	166					
15: Teamocil_26	12	13	31	32	31	51	54	59	88	86	103	108	113	123	139	135	142	144	151	166					
16: Merry_ +	12	18	30	30	34	51	58	59	78	79	87	91	98	100	113	119	123	123	133	131	153	151	166		
17: Nicole72	12	13	31	32	31	51	54	59	88	86	105	110	113	116	123	139	136	140	144	166					
18: Fireman_24	12	13	31	32	31	51	54	59	88	86	104	108	110	113	121	136	136	143	144	151	166				
19: Shotgun_24	12	13	31	32	31	51	54	59	88	86	104	105	113	116	123	139	136	140	144	151	166				
20: Zapato_24	12	13	31	32	34	51	54	59	71	85	88	98	101	111	113	121	123	136	139	140	144	151	166		
21: Cinna_20	12	13	30	31	34	51	58	59	71	85	88	98	101	111	113	121	123	136	139	140	144	151	166		
22: Margaery_69	12	13	30	32	34	51	54	59	71	85	88	98	101	111	113	121	123	136	139	140	144	151	166		
23: Cressida_24	12	13	30	32	34	51	54	59	71	85	88	98	101	111	113	121	123	136	139	140	144	151	166		
24: Matzah_21	12	13	30	32	34	51	54	59	71	85	88	98	101	111	113	121	123	136	139	140	144	151	166		
25: MementoMori_26	12	16	23	30	30	51	58	59	71	85	88	98	101	111	113	121	123	136	139	140	144	151	166		
26: Kozie_21	12	16	23	30	32	34	51	54	59	71	85	88	98	108	111	113	121	123	130	136	139	144	158	162	166
27: Terij_20	12	16	23	30	32	34	51	54	59	71	85	88	98	108	111	113	121	123	130	136	139	144	158	162	161
28: KSunshine22_73 + 6	12	16	23	30	32	34	51	54	59	71	85	88	92	96	102	113	115	124	129	148	162	161	161		
29: FrostedClock_33 + 4	12	16	23	30	32	34	51	54	59	71	85	88	92	96	102	113	115	124	129	148	162	161	161		
30: Chilianis177	12	16	23	30	32	34	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161		
31: Phrampa_72	12	16	23	36	41	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161			
32: Sireid_33	12	16	23	36	41	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161			
33: Rockatyle_82	12	16	23	36	41	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161			
34: ReginaGlobina_30 + 1	12	16	23	36	41	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161			
35: Panchaali_73	12	16	23	36	41	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161			
36: FloraSnap32_30 + 1	12	16	23	36	41	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161			
37: LeoJr_80	12	16	23	36	41	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161			
38: GoldenEssence_66	12	16	23	36	41	51	54	59	71	85	88	92	96	108	113	115	124	129	148	162	161	161			
39: Stewart25555_71	12	16	23	36	41	51	54	59	71	85	88	92	96	106	113	116	123	139	136	145	151	166			
40: MisoSoup_14	12	18	24	36	41	51	54	59	71	85	88	92	96	106	113	116	123	139	136	145	151	166			
41: FuzzBuster_27	12	18	24	36	41	51	54	59	71	85	88	92	96	102	113	116	118	128	134	145	151	166			
42: Laure_82	12	18	24	36	41	51	54	59	71	85	88	92	96	102	113	116	118	128	134	145	151	166			

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 304915 Report

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

Pham number 304915 has 89 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Shrubaron\_25, Metamorphoo\_25, Tyrumbra\_23, RobsFeet\_26
- Track 2 : Paschalis\_24, Jollipop\_25, PiperSansNom\_25, Glorp\_26, Phrancesco\_25, PierreOrion\_25, Piperis\_25
- Track 3 : Ganandorf\_24, Busephilis\_24
- Track 4 : Rockwell\_24, Hermeonysus\_24, LittleFortune\_26, Jefe\_25, Cranjis\_26, BeagleBug\_24, KaiHaiDragon\_25, Selwyn23\_26, Pulchra\_26, Ramiel05\_24, Lucretia\_25, EarickHC\_25, Savannah\_24, BrazzalePHS\_24, Antares\_25, Scumberland\_26, Germa\_26, CrazyRich\_24, Crisis\_26, Quhwah\_27, Honeyfin\_26, Kowalski\_24
- Track 5 : Yeti\_25
- Track 6 : Ariadne\_33, Smarties\_33
- Track 7 : ClearAsMud\_27
- Track 8 : Skugga\_23
- Track 9 : Jayden\_26
- Track 10 : Megan\_19
- Track 11 : Onika\_24
- Track 12 : SirFrank\_24, NoodlelyBoi\_24
- Track 13 : PhedwardCullen\_24, Phorgeous\_24
- Track 14 : Gina\_26
- Track 15 : Teamocil\_26
- Track 16 : Merry\_, Sunny\_
- Track 17 : Nicole72\_20
- Track 18 : Fireman\_25
- Track 19 : Shotgun\_24
- Track 20 : Zapato\_24
- Track 21 : Cinna\_20
- Track 22 : Margaery\_19
- Track 23 : Cressida\_22
- Track 24 : Matzah\_21
- Track 25 : MementoMori\_21
- Track 26 : Kozie\_21
- Track 27 : Terij\_20
- Track 28 : KSunshine22\_75, Ellewin\_69, Emmetator\_73, WaddleDee\_68, DunneganBoMo\_70, Artu\_73, BooTeria\_77
- Track 29 : FrostedClock\_83, Bloom\_84, Racecar\_81, Mimi\_80, Talia1610\_80
- Track 30 : Chilliams\_77
- Track 31 : Phrampa\_72

- Track 32 : SJReid\_83
- Track 33 : Rockabye\_82
- Track 34 : ReginaGlobina\_80, Atuin\_75
- Track 35 : Panchaali\_73
- Track 36 : FloraSnap32\_80, Patbob\_79
- Track 37 : LeoJr\_80
- Track 38 : GoldenEssence\_66
- Track 39 : Stewart25555\_71
- Track 40 : MisoSoup\_14
- Track 41 : FuzzBuster\_27
- Track 42 : Laure\_82

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

The start number called the most often in the published annotations is 12, it was called in 55 of the 68 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antares\_25, Ariadne\_33, BeagleBug\_24, BrazzalePHS\_24, Busephilis\_24, Cinna\_20, ClearAsMud\_27, Cranjis\_26, CrazyRich\_24, Cressida\_22, Crisis\_26, EarickHC\_25, Fireman\_25, Ganandorf\_24, Germa\_26, Gina\_26, Glorp\_26, Hermeonysus\_24, Honeyfin\_26, Jayden\_26, Jefe\_25, Jollipop\_25, KaiHaiDragon\_25, Kowalski\_24, Kozi\_21, LittleFortune\_26, Lucretia\_25, Margaery\_19, Matzah\_21, Megan\_19, MementoMori\_21, Merry\_, Metamorphoo\_25, Nicole72\_20, NoodlelyBoi\_24, Onika\_24, Paschalis\_24, PhedwardCullen\_24, Phorgeous\_24, Phrancesco\_25, PierreOrion\_25, PiperSansNom\_25, Piperis\_25, Pulchra\_26, Quhwah\_27, Ramiel05\_24, RobsFeet\_26, Rockwell\_24, Savannah\_24, Scumberland\_26, Selwyn23\_26, Shotgun\_24, Shrubaron\_25, SirFrank\_24, Skugga\_23, Smarties\_33, Sunny\_, Teamocil\_26, Terij\_20, Tyrumbra\_23, Yeti\_25, Zapato\_24,

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

- 

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

- Artu\_73, Atuin\_75, Bloom\_84, BooTeria\_77, Chilliams\_77, DunneganBoMo\_70, Ellewin\_69, Emmetator\_73, FloraSnap32\_80, FrostedClock\_83, FuzzBuster\_27, GoldenEssence\_66, KSunshine22\_75, Laure\_82, LeoJr\_80, Mimi\_80, MisoSoup\_14, Panchaali\_73, Patbob\_79, Phrampa\_72, Racecar\_81, ReginaGlobina\_80, Rockabye\_82, SJReid\_83, Stewart25555\_71, Talia1610\_80, WaddleDee\_68,

**Summary by start number:**

Start 12:

- Found in 62 of 89 ( 69.7% ) of genes in pham
- Manual Annotations of this start: 55 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antares\_25 (EC), Ariadne\_33 (EC), BeagleBug\_24 (EC), BrazzalePHS\_24 (EC), Busephilis\_24 (EC), Cinna\_20 (EI), ClearAsMud\_27 (EC), Cranjis\_26 (EC), CrazyRich\_24 (EC), Cressida\_22 (EI),

Crisis\_26 (EC), EarickHC\_25 (EC), Fireman\_25 (EC), Ganandorf\_24 (EC), Germa\_26 (EC), Gina\_26 (EC), Glorp\_26 (EC), Hermeonysus\_24 (EC), Honeyfin\_26 (EC), Jayden\_26 (EC), Jefe\_25 (EI), Jollipop\_25 (EC), KaiHaiDragon\_25 (EC), Kowalski\_24 (EC), Kozi\_21 (EI), LittleFortune\_26 (EC), Lucretia\_25 (EC), Margaery\_19 (EI), Matzah\_21 (EI), Megan\_19 (EC), MementoMori\_21 (EI), Merry\_ (EC), Metamorphoo\_25 (EC), Nicole72\_20 (EC), NoodlelyBoi\_24 (EC), Onika\_24 (EC), Paschalis\_24 (EC), PhedwardCullen\_24 (EC), Phorgeous\_24 (EC), Phrancesco\_25 (EC), PierreOrion\_25 (EC), PiperSansNom\_25 (EC), Piperis\_25 (EC), Pulchra\_26 (EC), Quhwah\_27 (EC), Ramiel05\_24 (EC), RobsFeet\_26 (EC), Rockwell\_24 (EC), Savannah\_24 (EC), Scumberland\_26 (EC), Selwyn23\_26 (EC), Shotgun\_24 (EC), Shrubaron\_25 (EC), SirFrank\_24 (EC), Skugga\_23 (EC), Smarties\_33 (EC), Sunny\_ (EC), Teamocil\_26 (EC), Terij\_20 (EI), Tyumbra\_23 (EC), Yeti\_25 (EC), Zapato\_24 (EC),

Start 16:

- Found in 9 of 89 ( 10.1% ) of genes in pham
- Manual Annotations of this start: 4 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artu\_73 (FC), BooTeria\_77 (FC), DunneganBoMo\_70 (FC), Ellewin\_69 (FC), Emmetator\_73 (FC), KSunshine22\_75 (FC), Panchaali\_73 (FC), Stewart25555\_71 (FC), WaddleDee\_68 (FC),

Start 17:

- Found in 16 of 89 ( 18.0% ) of genes in pham
- Manual Annotations of this start: 8 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Atuin\_75 (FC), Bloom\_84 (FC), Chilliams\_77 (FC), FloraSnap32\_80 (FC), FrostedClock\_83 (FC), GoldenEssence\_66 (FC), Laure\_82 (UNK), LeoJr\_80 (FC), Mimi\_80 (FC), Patbob\_79 (FC), Phrampa\_72 (FC), Racecar\_81 (FC), ReginaGlobina\_80 (FC), Rockabye\_82 (FC), SJReid\_83 (FC), Talia1610\_80 (FC),

Start 18:

- Found in 51 of 89 ( 57.3% ) of genes in pham
- Manual Annotations of this start: 1 of 68
- Called 3.9% of time when present
- Phage (with cluster) where this start called: FuzzBuster\_27 (GM), MisoSoup\_14 (GM),

### Summary by clusters:

There are 5 clusters represented in this pham: FC, GM, UNK, EI, EC,

Info for manual annotations of cluster EC:

- Start number 12 was manually annotated 48 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 12 was manually annotated 7 times for cluster EI.

Info for manual annotations of cluster FC:

- Start number 16 was manually annotated 4 times for cluster FC.
- Start number 17 was manually annotated 8 times for cluster FC.

Info for manual annotations of cluster GM:

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

### **Gene Information:**

Gene: Antares\_25 Start: 12156, Stop: 13625, Start Num: 12

Candidate Starts for Antares\_25:

(Start: 12 @12156 has 55 MA's), (Start: 18 @12213 has 1 MA's), (20, 12225), (23, 12237), (31, 12333), (32, 12351), (37, 12387), (40, 12411), (42, 12423), (47, 12459), (51, 12489), (54, 12516), (62, 12582), (63, 12588), (64, 12597), (66, 12615), (70, 12639), (71, 12648), (72, 12651), (76, 12660), (82, 12723), (86, 12738), (87, 12756), (88, 12759), (95, 12804), (108, 12903), (110, 12930), (113, 12981), (121, 13119), (127, 13212), (129, 13224), (130, 13230), (136, 13308), (143, 13383), (144, 13398), (146, 13419), (147, 13437), (151, 13461), (166, 13590),

Gene: Ariadne\_33 Start: 13624, Stop: 15117, Start Num: 12

Candidate Starts for Ariadne\_33:

(Start: 12 @13624 has 55 MA's), (20, 13693), (23, 13705), (31, 13801), (32, 13819), (34, 13840), (42, 13891), (47, 13927), (54, 13984), (59, 14020), (61, 14044), (62, 14050), (63, 14056), (64, 14065), (70, 14107), (71, 14116), (72, 14119), (87, 14224), (88, 14227), (105, 14368), (116, 14536), (123, 14632), (129, 14716), (130, 14722), (131, 14743), (135, 14788), (138, 14845), (140, 14854), (144, 14890), (152, 14956), (166, 15082),

Gene: Artu\_73 Start: 42522, Stop: 44036, Start Num: 16

Candidate Starts for Artu\_73:

(9, 42429), (Start: 16 @42522 has 4 MA's), (22, 42555), (24, 42582), (39, 42690), (43, 42708), (48, 42747), (50, 42777), (52, 42789), (56, 42819), (67, 42918), (92, 43065), (93, 43071), (96, 43113), (108, 43233), (115, 43353), (162, 43890), (167, 43956),

Gene: Atuin\_75 Start: 45156, Stop: 46664, Start Num: 17

Candidate Starts for Atuin\_75:

(13, 45114), (14, 45117), (Start: 17 @45156 has 8 MA's), (19, 45165), (24, 45216), (50, 45411), (52, 45423), (55, 45450), (67, 45552), (92, 45693), (97, 45744), (115, 45981), (126, 46131), (128, 46161), (141, 46314), (162, 46518), (167, 46584), (168, 46587),

Gene: BeagleBug\_24 Start: 11934, Stop: 13403, Start Num: 12

Candidate Starts for BeagleBug\_24:

(Start: 12 @11934 has 55 MA's), (Start: 18 @11991 has 1 MA's), (20, 12003), (23, 12015), (31, 12111), (32, 12129), (37, 12165), (40, 12189), (42, 12201), (47, 12237), (51, 12267), (54, 12294), (62, 12360), (63, 12366), (64, 12375), (66, 12393), (70, 12417), (71, 12426), (72, 12429), (76, 12438), (82, 12501), (86, 12516), (87, 12534), (88, 12537), (95, 12582), (108, 12681), (110, 12708), (113, 12759), (121, 12897), (127, 12990), (129, 13002), (130, 13008), (136, 13086), (143, 13161), (144, 13176), (146, 13197), (147, 13215), (151, 13239), (166, 13368),

Gene: Bloom\_84 Start: 46467, Stop: 48026, Start Num: 17

Candidate Starts for Bloom\_84:

(Start: 17 @46467 has 8 MA's), (24, 46527), (26, 46542), (50, 46752), (67, 46893), (85, 47007), (92, 47058), (96, 47106), (114, 47340), (124, 47475), (129, 47538), (148, 47757), (162, 47883), (167, 47949),

Gene: BooTeria\_77 Start: 42590, Stop: 44104, Start Num: 16

Candidate Starts for BooTeria\_77:

(9, 42497), (Start: 16 @42590 has 4 MA's), (22, 42623), (24, 42650), (39, 42758), (43, 42776), (48, 42815), (50, 42845), (52, 42857), (56, 42887), (67, 42986), (92, 43133), (93, 43139), (96, 43181), (108, 43301), (115, 43421), (162, 43958), (167, 44024),

Gene: BrazzalePHS\_24 Start: 11949, Stop: 13418, Start Num: 12

Candidate Starts for BrazzalePHS\_24:

(Start: 12 @11949 has 55 MA's), (Start: 18 @12006 has 1 MA's), (20, 12018), (23, 12030), (31, 12126), (32, 12144), (37, 12180), (40, 12204), (42, 12216), (47, 12252), (51, 12282), (54, 12309), (62, 12375), (63, 12381), (64, 12390), (66, 12408), (70, 12432), (71, 12441), (72, 12444), (76, 12453), (82, 12516), (86, 12531), (87, 12549), (88, 12552), (95, 12597), (108, 12696), (110, 12723), (113, 12774), (121, 12912), (127, 13005), (129, 13017), (130, 13023), (136, 13101), (143, 13176), (144, 13191), (146, 13212), (147, 13230), (151, 13254), (166, 13383),

Gene: Busephilis\_24 Start: 11887, Stop: 13356, Start Num: 12

Candidate Starts for Busephilis\_24:

(Start: 12 @11887 has 55 MA's), (Start: 18 @11944 has 1 MA's), (20, 11956), (23, 11968), (31, 12064), (32, 12082), (37, 12118), (40, 12142), (42, 12154), (47, 12190), (51, 12220), (54, 12247), (62, 12313), (63, 12319), (64, 12328), (66, 12346), (70, 12370), (71, 12379), (72, 12382), (76, 12391), (82, 12454), (86, 12469), (87, 12487), (88, 12490), (94, 12529), (95, 12535), (108, 12634), (110, 12661), (113, 12712), (121, 12850), (127, 12943), (129, 12955), (130, 12961), (136, 13039), (143, 13114), (144, 13129), (146, 13150), (147, 13168), (151, 13192), (166, 13321),

Gene: Chilliams\_77 Start: 48357, Stop: 49904, Start Num: 17

Candidate Starts for Chilliams\_77:

(3, 48171), (5, 48201), (7, 48237), (10, 48264), (13, 48315), (14, 48318), (Start: 17 @48357 has 8 MA's), (19, 48366), (24, 48417), (26, 48432), (50, 48642), (67, 48783), (81, 48870), (92, 48933), (96, 48981), (102, 49026), (113, 49179), (115, 49221), (162, 49758), (167, 49824),

Gene: Cinna\_20 Start: 11368, Stop: 12846, Start Num: 12

Candidate Starts for Cinna\_20:

(Start: 12 @11368 has 55 MA's), (23, 11461), (25, 11488), (28, 11506), (30, 11542), (32, 11572), (44, 11668), (51, 11713), (54, 11740), (62, 11806), (64, 11821), (66, 11839), (71, 11863), (85, 11923), (88, 11950), (89, 11953), (91, 11971), (93, 11980), (95, 11995), (98, 12028), (99, 12046), (107, 12100), (111, 12145), (112, 12175), (113, 12193), (121, 12331), (123, 12352), (129, 12436), (130, 12442), (136, 12520), (139, 12571), (142, 12589), (143, 12595), (144, 12610), (146, 12631), (147, 12649), (149, 12658), (150, 12670), (152, 12676), (153, 12682), (157, 12721), (161, 12775), (163, 12778), (165, 12796), (166, 12802),

Gene: ClearAsMud\_27 Start: 12684, Stop: 14153, Start Num: 12

Candidate Starts for ClearAsMud\_27:

(Start: 12 @12684 has 55 MA's), (Start: 18 @12741 has 1 MA's), (20, 12753), (23, 12765), (31, 12861), (32, 12879), (37, 12915), (40, 12939), (42, 12951), (47, 12987), (51, 13017), (54, 13044), (62, 13110), (63, 13116), (64, 13125), (66, 13143), (70, 13167), (71, 13176), (72, 13179), (82, 13248), (86, 13263), (87, 13281), (88, 13284), (95, 13329), (108, 13428), (110, 13455), (113, 13506), (122, 13650), (127, 13737), (129, 13749), (130, 13755), (132, 13779), (134, 13806), (136, 13833), (143, 13908), (147, 13962), (149, 13971), (151, 13986), (166, 14115),

Gene: Cranjis\_26 Start: 12111, Stop: 13580, Start Num: 12

Candidate Starts for Cranjis\_26:

(Start: 12 @12111 has 55 MA's), (Start: 18 @12168 has 1 MA's), (20, 12180), (23, 12192), (31, 12288), (32, 12306), (37, 12342), (40, 12366), (42, 12378), (47, 12414), (51, 12444), (54, 12471), (62, 12537), (63, 12543), (64, 12552), (66, 12570), (70, 12594), (71, 12603), (72, 12606), (76, 12615), (82, 12678),

(86, 12693), (87, 12711), (88, 12714), (95, 12759), (108, 12858), (110, 12885), (113, 12936), (121, 13074), (127, 13167), (129, 13179), (130, 13185), (136, 13263), (143, 13338), (144, 13353), (146, 13374), (147, 13392), (151, 13416), (166, 13545),

Gene: CrazyRich\_24 Start: 11921, Stop: 13390, Start Num: 12

Candidate Starts for CrazyRich\_24:

(Start: 12 @11921 has 55 MA's), (Start: 18 @11978 has 1 MA's), (20, 11990), (23, 12002), (31, 12098), (32, 12116), (37, 12152), (40, 12176), (42, 12188), (47, 12224), (51, 12254), (54, 12281), (62, 12347), (63, 12353), (64, 12362), (66, 12380), (70, 12404), (71, 12413), (72, 12416), (76, 12425), (82, 12488), (86, 12503), (87, 12521), (88, 12524), (95, 12569), (108, 12668), (110, 12695), (113, 12746), (121, 12884), (127, 12977), (129, 12989), (130, 12995), (136, 13073), (143, 13148), (144, 13163), (146, 13184), (147, 13202), (151, 13226), (166, 13355),

Gene: Cressida\_22 Start: 11398, Stop: 12870, Start Num: 12

Candidate Starts for Cressida\_22:

(Start: 12 @11398 has 55 MA's), (23, 11491), (24, 11512), (25, 11518), (30, 11575), (32, 11605), (44, 11701), (51, 11746), (54, 11773), (62, 11839), (64, 11854), (66, 11872), (71, 11896), (85, 11956), (88, 11983), (91, 12004), (93, 12013), (95, 12028), (98, 12061), (107, 12136), (111, 12181), (112, 12211), (113, 12229), (121, 12367), (123, 12388), (129, 12472), (130, 12478), (136, 12556), (139, 12607), (142, 12625), (144, 12646), (146, 12667), (147, 12685), (149, 12694), (150, 12706), (152, 12712), (153, 12718), (157, 12757), (163, 12814),

Gene: Crisis\_26 Start: 11906, Stop: 13375, Start Num: 12

Candidate Starts for Crisis\_26:

(Start: 12 @11906 has 55 MA's), (Start: 18 @11963 has 1 MA's), (20, 11975), (23, 11987), (31, 12083), (32, 12101), (37, 12137), (40, 12161), (42, 12173), (47, 12209), (51, 12239), (54, 12266), (62, 12332), (63, 12338), (64, 12347), (66, 12365), (70, 12389), (71, 12398), (72, 12401), (76, 12410), (82, 12473), (86, 12488), (87, 12506), (88, 12509), (95, 12554), (108, 12653), (110, 12680), (113, 12731), (121, 12869), (127, 12962), (129, 12974), (130, 12980), (136, 13058), (143, 13133), (144, 13148), (146, 13169), (147, 13187), (151, 13211), (166, 13340),

Gene: DunneganBoMo\_70 Start: 42015, Stop: 43529, Start Num: 16

Candidate Starts for DunneganBoMo\_70:

(9, 41922), (Start: 16 @42015 has 4 MA's), (22, 42048), (24, 42075), (39, 42183), (43, 42201), (48, 42240), (50, 42270), (52, 42282), (56, 42312), (67, 42411), (92, 42558), (93, 42564), (96, 42606), (108, 42726), (115, 42846), (162, 43383), (167, 43449),

Gene: EarickHC\_25 Start: 11832, Stop: 13301, Start Num: 12

Candidate Starts for EarickHC\_25:

(Start: 12 @11832 has 55 MA's), (Start: 18 @11889 has 1 MA's), (20, 11901), (23, 11913), (31, 12009), (32, 12027), (37, 12063), (40, 12087), (42, 12099), (47, 12135), (51, 12165), (54, 12192), (62, 12258), (63, 12264), (64, 12273), (66, 12291), (70, 12315), (71, 12324), (72, 12327), (76, 12336), (82, 12399), (86, 12414), (87, 12432), (88, 12435), (95, 12480), (108, 12579), (110, 12606), (113, 12657), (121, 12795), (127, 12888), (129, 12900), (130, 12906), (136, 12984), (143, 13059), (144, 13074), (146, 13095), (147, 13113), (151, 13137), (166, 13266),

Gene: Ellewin\_69 Start: 41610, Stop: 43124, Start Num: 16

Candidate Starts for Ellewin\_69:

(9, 41517), (Start: 16 @41610 has 4 MA's), (22, 41643), (24, 41670), (39, 41778), (43, 41796), (48, 41835), (50, 41865), (52, 41877), (56, 41907), (67, 42006), (92, 42153), (93, 42159), (96, 42201), (108, 42321), (115, 42441), (162, 42978), (167, 43044),

Gene: Emmetator\_73 Start: 42762, Stop: 44276, Start Num: 16

Candidate Starts for Emmetator\_73:

(9, 42669), (Start: 16 @42762 has 4 MA's), (22, 42795), (24, 42822), (39, 42930), (43, 42948), (48, 42987), (50, 43017), (52, 43029), (56, 43059), (67, 43158), (92, 43305), (93, 43311), (96, 43353), (108, 43473), (115, 43593), (162, 44130), (167, 44196),

Gene: Fireman\_25 Start: 11529, Stop: 13022, Start Num: 12

Candidate Starts for Fireman\_25:

(Start: 12 @11529 has 55 MA's), (Start: 18 @11586 has 1 MA's), (20, 11598), (23, 11610), (31, 11706), (32, 11724), (37, 11760), (40, 11784), (42, 11796), (47, 11832), (54, 11889), (59, 11925), (62, 11955), (63, 11961), (64, 11970), (66, 11988), (70, 12012), (71, 12021), (72, 12024), (86, 12111), (87, 12129), (88, 12132), (105, 12270), (113, 12375), (116, 12438), (123, 12534), (127, 12606), (129, 12618), (130, 12624), (131, 12645), (135, 12690), (140, 12756), (144, 12792), (166, 12984),

Gene: FloraSnap32\_80 Start: 45495, Stop: 47063, Start Num: 17

Candidate Starts for FloraSnap32\_80:

(Start: 17 @45495 has 8 MA's), (24, 45555), (26, 45570), (27, 45573), (50, 45780), (67, 45921), (85, 46035), (92, 46086), (96, 46134), (114, 46377), (124, 46512), (129, 46575), (148, 46794), (162, 46920), (167, 46986),

Gene: FrostedClock\_83 Start: 45955, Stop: 47514, Start Num: 17

Candidate Starts for FrostedClock\_83:

(Start: 17 @45955 has 8 MA's), (24, 46015), (26, 46030), (50, 46240), (67, 46381), (85, 46495), (92, 46546), (96, 46594), (114, 46828), (124, 46963), (129, 47026), (148, 47245), (162, 47371), (167, 47437),

Gene: FuzzBuster\_27 Start: 11648, Stop: 13237, Start Num: 18

Candidate Starts for FuzzBuster\_27:

(Start: 18 @11648 has 1 MA's), (45, 11912), (46, 11915), (49, 11993), (53, 12041), (57, 12056), (60, 12089), (62, 12110), (65, 12137), (72, 12179), (76, 12188), (80, 12239), (83, 12254), (88, 12287), (89, 12290), (90, 12293), (116, 12635), (117, 12656), (123, 12731), (134, 12872), (135, 12887), (137, 12932), (143, 12974), (147, 13031), (151, 13055), (154, 13073), (166, 13181),

Gene: Ganandorf\_24 Start: 11968, Stop: 13437, Start Num: 12

Candidate Starts for Ganandorf\_24:

(Start: 12 @11968 has 55 MA's), (Start: 18 @12025 has 1 MA's), (20, 12037), (23, 12049), (31, 12145), (32, 12163), (37, 12199), (40, 12223), (42, 12235), (47, 12271), (51, 12301), (54, 12328), (62, 12394), (63, 12400), (64, 12409), (66, 12427), (70, 12451), (71, 12460), (72, 12463), (76, 12472), (82, 12535), (86, 12550), (87, 12568), (88, 12571), (94, 12610), (95, 12616), (108, 12715), (110, 12742), (113, 12793), (121, 12931), (127, 13024), (129, 13036), (130, 13042), (136, 13120), (143, 13195), (144, 13210), (146, 13231), (147, 13249), (151, 13273), (166, 13402),

Gene: Germa\_26 Start: 11797, Stop: 13266, Start Num: 12

Candidate Starts for Germa\_26:

(Start: 12 @11797 has 55 MA's), (Start: 18 @11854 has 1 MA's), (20, 11866), (23, 11878), (31, 11974), (32, 11992), (37, 12028), (40, 12052), (42, 12064), (47, 12100), (51, 12130), (54, 12157), (62, 12223), (63, 12229), (64, 12238), (66, 12256), (70, 12280), (71, 12289), (72, 12292), (76, 12301), (82, 12364), (86, 12379), (87, 12397), (88, 12400), (95, 12445), (108, 12544), (110, 12571), (113, 12622), (121, 12760), (127, 12853), (129, 12865), (130, 12871), (136, 12949), (143, 13024), (144, 13039), (146, 13060), (147, 13078), (151, 13102), (166, 13231),

Gene: Gina\_26 Start: 11315, Stop: 12709, Start Num: 12

Candidate Starts for Gina\_26:

(Start: 12 @11315 has 55 MA's), (Start: 18 @11372 has 1 MA's), (31, 11393), (32, 11411), (37, 11447), (42, 11483), (47, 11519), (54, 11576), (59, 11612), (62, 11642), (63, 11648), (64, 11657), (70, 11699), (71, 11708), (72, 11711), (74, 11717), (87, 11822), (88, 11825), (95, 11870), (105, 11960), (109, 11990), (116, 12128), (123, 12224), (129, 12308), (130, 12314), (131, 12335), (135, 12380), (140, 12446), (166, 12674),

Gene: Glorp\_26 Start: 11970, Stop: 13439, Start Num: 12

Candidate Starts for Glorp\_26:

(Start: 12 @11970 has 55 MA's), (Start: 18 @12027 has 1 MA's), (20, 12039), (23, 12051), (31, 12147), (32, 12165), (37, 12201), (40, 12225), (42, 12237), (47, 12273), (51, 12303), (54, 12330), (62, 12396), (63, 12402), (64, 12411), (66, 12429), (70, 12453), (71, 12462), (72, 12465), (76, 12474), (86, 12552), (87, 12570), (88, 12573), (95, 12618), (108, 12717), (110, 12744), (113, 12795), (121, 12933), (127, 13026), (129, 13038), (130, 13044), (136, 13122), (143, 13197), (144, 13212), (146, 13233), (147, 13251), (151, 13275), (166, 13404),

Gene: GoldenEssence\_66 Start: 40260, Stop: 41819, Start Num: 17

Candidate Starts for GoldenEssence\_66:

(Start: 17 @40260 has 8 MA's), (24, 40320), (26, 40335), (50, 40545), (67, 40686), (85, 40800), (92, 40851), (96, 40899), (114, 41133), (124, 41268), (148, 41550), (162, 41676), (167, 41742),

Gene: Hermeonysus\_24 Start: 11838, Stop: 13307, Start Num: 12

Candidate Starts for Hermeonysus\_24:

(Start: 12 @11838 has 55 MA's), (Start: 18 @11895 has 1 MA's), (20, 11907), (23, 11919), (31, 12015), (32, 12033), (37, 12069), (40, 12093), (42, 12105), (47, 12141), (51, 12171), (54, 12198), (62, 12264), (63, 12270), (64, 12279), (66, 12297), (70, 12321), (71, 12330), (72, 12333), (76, 12342), (82, 12405), (86, 12420), (87, 12438), (88, 12441), (95, 12486), (108, 12585), (110, 12612), (113, 12663), (121, 12801), (127, 12894), (129, 12906), (130, 12912), (136, 12990), (143, 13065), (144, 13080), (146, 13101), (147, 13119), (151, 13143), (166, 13272),

Gene: Honeyfin\_26 Start: 12153, Stop: 13622, Start Num: 12

Candidate Starts for Honeyfin\_26:

(Start: 12 @12153 has 55 MA's), (Start: 18 @12210 has 1 MA's), (20, 12222), (23, 12234), (31, 12330), (32, 12348), (37, 12384), (40, 12408), (42, 12420), (47, 12456), (51, 12486), (54, 12513), (62, 12579), (63, 12585), (64, 12594), (66, 12612), (70, 12636), (71, 12645), (72, 12648), (76, 12657), (82, 12720), (86, 12735), (87, 12753), (88, 12756), (95, 12801), (108, 12900), (110, 12927), (113, 12978), (121, 13116), (127, 13209), (129, 13221), (130, 13227), (136, 13305), (143, 13380), (144, 13395), (146, 13416), (147, 13434), (151, 13458), (166, 13587),

Gene: Jayden\_26 Start: 11599, Stop: 13095, Start Num: 12

Candidate Starts for Jayden\_26:

(Start: 12 @11599 has 55 MA's), (23, 11680), (31, 11776), (32, 11794), (37, 11830), (42, 11866), (47, 11902), (54, 11959), (62, 12025), (63, 12031), (64, 12040), (70, 12082), (71, 12091), (72, 12094), (87, 12202), (88, 12205), (95, 12250), (104, 12328), (105, 12346), (113, 12451), (116, 12514), (123, 12610), (129, 12694), (130, 12700), (131, 12721), (135, 12766), (140, 12832), (149, 12916), (150, 12928), (152, 12934), (155, 12955), (157, 12979), (166, 13060),

Gene: Jefe\_25 Start: 11891, Stop: 13360, Start Num: 12

Candidate Starts for Jefe\_25:

(Start: 12 @11891 has 55 MA's), (Start: 18 @11948 has 1 MA's), (20, 11960), (23, 11972), (31, 12068), (32, 12086), (37, 12122), (40, 12146), (42, 12158), (47, 12194), (51, 12224), (54, 12251), (62, 12317), (63, 12323), (64, 12332), (66, 12350), (70, 12374), (71, 12383), (72, 12386), (76, 12395), (82, 12458), (86, 12473), (87, 12491), (88, 12494), (95, 12539), (108, 12638), (110, 12665), (113, 12716), (121, 12854), (127, 12947), (129, 12959), (130, 12965), (136, 13043), (143, 13118), (144, 13133), (146,

13154), (147, 13172), (151, 13196), (166, 13325),

Gene: Jollipop\_25 Start: 12239, Stop: 13708, Start Num: 12

Candidate Starts for Jollipop\_25:

(Start: 12 @12239 has 55 MA's), (Start: 18 @12296 has 1 MA's), (20, 12308), (23, 12320), (31, 12416), (32, 12434), (37, 12470), (40, 12494), (42, 12506), (47, 12542), (51, 12572), (54, 12599), (62, 12665), (63, 12671), (64, 12680), (66, 12698), (70, 12722), (71, 12731), (72, 12734), (76, 12743), (86, 12821), (87, 12839), (88, 12842), (95, 12887), (108, 12986), (110, 13013), (113, 13064), (121, 13202), (127, 13295), (129, 13307), (130, 13313), (136, 13391), (143, 13466), (144, 13481), (146, 13502), (147, 13520), (151, 13544), (166, 13673),

Gene: KSunshine22\_75 Start: 43249, Stop: 44763, Start Num: 16

Candidate Starts for KSunshine22\_75:

(9, 43156), (Start: 16 @43249 has 4 MA's), (22, 43282), (24, 43309), (39, 43417), (43, 43435), (48, 43474), (50, 43504), (52, 43516), (56, 43546), (67, 43645), (92, 43792), (93, 43798), (96, 43840), (108, 43960), (115, 44080), (162, 44617), (167, 44683),

Gene: KaiHaiDragon\_25 Start: 11832, Stop: 13301, Start Num: 12

Candidate Starts for KaiHaiDragon\_25:

(Start: 12 @11832 has 55 MA's), (Start: 18 @11889 has 1 MA's), (20, 11901), (23, 11913), (31, 12009), (32, 12027), (37, 12063), (40, 12087), (42, 12099), (47, 12135), (51, 12165), (54, 12192), (62, 12258), (63, 12264), (64, 12273), (66, 12291), (70, 12315), (71, 12324), (72, 12327), (76, 12336), (82, 12399), (86, 12414), (87, 12432), (88, 12435), (95, 12480), (108, 12579), (110, 12606), (113, 12657), (121, 12795), (127, 12888), (129, 12900), (130, 12906), (136, 12984), (143, 13059), (144, 13074), (146, 13095), (147, 13113), (151, 13137), (166, 13266),

Gene: Kowalski\_24 Start: 11948, Stop: 13417, Start Num: 12

Candidate Starts for Kowalski\_24:

(Start: 12 @11948 has 55 MA's), (Start: 18 @12005 has 1 MA's), (20, 12017), (23, 12029), (31, 12125), (32, 12143), (37, 12179), (40, 12203), (42, 12215), (47, 12251), (51, 12281), (54, 12308), (62, 12374), (63, 12380), (64, 12389), (66, 12407), (70, 12431), (71, 12440), (72, 12443), (76, 12452), (82, 12515), (86, 12530), (87, 12548), (88, 12551), (95, 12596), (108, 12695), (110, 12722), (113, 12773), (121, 12911), (127, 13004), (129, 13016), (130, 13022), (136, 13100), (143, 13175), (144, 13190), (146, 13211), (147, 13229), (151, 13253), (166, 13382),

Gene: Kozie\_21 Start: 11363, Stop: 12874, Start Num: 12

Candidate Starts for Kozie\_21:

(Start: 12 @11363 has 55 MA's), (15, 11420), (21, 11459), (29, 11525), (30, 11561), (31, 11573), (36, 11621), (38, 11645), (40, 11654), (54, 11759), (59, 11795), (62, 11825), (63, 11831), (64, 11840), (66, 11858), (71, 11891), (87, 12002), (88, 12005), (91, 12026), (94, 12044), (95, 12050), (101, 12119), (113, 12233), (120, 12368), (122, 12377), (123, 12392), (129, 12476), (135, 12548), (146, 12671), (147, 12689), (152, 12716), (166, 12842),

Gene: Laure\_82 Start: 46131, Stop: 47720, Start Num: 17

Candidate Starts for Laure\_82:

(Start: 17 @46131 has 8 MA's), (19, 46140), (24, 46191), (39, 46371), (50, 46458), (59, 46527), (67, 46602), (68, 46605), (75, 46635), (81, 46692), (92, 46749), (96, 46797), (102, 46842), (115, 47037), (116, 47052), (118, 47100), (128, 47220), (162, 47574), (164, 47586), (167, 47640),

Gene: LeoJr\_80 Start: 45284, Stop: 46792, Start Num: 17

Candidate Starts for LeoJr\_80:

(13, 45242), (14, 45245), (Start: 17 @45284 has 8 MA's), (19, 45293), (24, 45344), (50, 45539), (52, 45551), (55, 45578), (67, 45680), (92, 45821), (97, 45872), (115, 46109), (126, 46259), (128, 46289),

(134, 46355), (162, 46646), (167, 46712), (168, 46715),

Gene: LittleFortune\_26 Start: 12195, Stop: 13664, Start Num: 12

Candidate Starts for LittleFortune\_26:

(Start: 12 @12195 has 55 MA's), (Start: 18 @12252 has 1 MA's), (20, 12264), (23, 12276), (31, 12372), (32, 12390), (37, 12426), (40, 12450), (42, 12462), (47, 12498), (51, 12528), (54, 12555), (62, 12621), (63, 12627), (64, 12636), (66, 12654), (70, 12678), (71, 12687), (72, 12690), (76, 12699), (82, 12762), (86, 12777), (87, 12795), (88, 12798), (95, 12843), (108, 12942), (110, 12969), (113, 13020), (121, 13158), (127, 13251), (129, 13263), (130, 13269), (136, 13347), (143, 13422), (144, 13437), (146, 13458), (147, 13476), (151, 13500), (166, 13629),

Gene: Lucretia\_25 Start: 11885, Stop: 13354, Start Num: 12

Candidate Starts for Lucretia\_25:

(Start: 12 @11885 has 55 MA's), (Start: 18 @11942 has 1 MA's), (20, 11954), (23, 11966), (31, 12062), (32, 12080), (37, 12116), (40, 12140), (42, 12152), (47, 12188), (51, 12218), (54, 12245), (62, 12311), (63, 12317), (64, 12326), (66, 12344), (70, 12368), (71, 12377), (72, 12380), (76, 12389), (82, 12452), (86, 12467), (87, 12485), (88, 12488), (95, 12533), (108, 12632), (110, 12659), (113, 12710), (121, 12848), (127, 12941), (129, 12953), (130, 12959), (136, 13037), (143, 13112), (144, 13127), (146, 13148), (147, 13166), (151, 13190), (166, 13319),

Gene: Margaery\_19 Start: 11140, Stop: 12612, Start Num: 12

Candidate Starts for Margaery\_19:

(Start: 12 @11140 has 55 MA's), (23, 11233), (25, 11260), (30, 11314), (32, 11344), (44, 11440), (54, 11512), (59, 11548), (62, 11578), (66, 11611), (71, 11635), (85, 11695), (88, 11722), (91, 11743), (93, 11752), (95, 11767), (98, 11800), (107, 11878), (111, 11923), (112, 11953), (113, 11971), (121, 12109), (123, 12130), (129, 12214), (130, 12220), (136, 12298), (139, 12349), (144, 12388), (147, 12427), (153, 12460), (157, 12499),

Gene: Matzah\_21 Start: 11345, Stop: 12823, Start Num: 12

Candidate Starts for Matzah\_21:

(Start: 12 @11345 has 55 MA's), (23, 11438), (25, 11465), (28, 11483), (30, 11519), (32, 11549), (44, 11645), (51, 11690), (54, 11717), (62, 11783), (64, 11798), (66, 11816), (71, 11840), (85, 11900), (88, 11927), (91, 11948), (93, 11957), (95, 11972), (98, 12005), (99, 12023), (107, 12077), (111, 12122), (112, 12152), (113, 12170), (121, 12308), (123, 12329), (129, 12413), (130, 12419), (136, 12497), (139, 12548), (142, 12566), (143, 12572), (144, 12587), (146, 12608), (147, 12626), (149, 12635), (150, 12647), (152, 12653), (153, 12659), (157, 12698), (161, 12752), (163, 12755), (165, 12773), (166, 12779),

Gene: Megan\_19 Start: 12956, Stop: 14425, Start Num: 12

Candidate Starts for Megan\_19:

(4, 12860), (6, 12875), (11, 12947), (Start: 12 @12956 has 55 MA's), (Start: 18 @13013 has 1 MA's), (30, 13112), (36, 13172), (38, 13196), (40, 13205), (42, 13217), (44, 13238), (54, 13310), (58, 13343), (61, 13370), (62, 13376), (64, 13391), (69, 13424), (71, 13436), (78, 13457), (87, 13532), (88, 13535), (91, 13556), (95, 13580), (98, 13613), (119, 13895), (122, 13922), (123, 13937), (125, 13964), (129, 14021), (132, 14051), (133, 14066), (135, 14093), (143, 14180), (152, 14261), (153, 14267), (155, 14282), (166, 14387),

Gene: MementoMori\_21 Start: 11058, Stop: 12539, Start Num: 12

Candidate Starts for MementoMori\_21:

(Start: 12 @11058 has 55 MA's), (23, 11151), (25, 11178), (28, 11196), (30, 11232), (32, 11262), (44, 11358), (51, 11403), (54, 11430), (59, 11466), (62, 11496), (64, 11511), (66, 11529), (71, 11553), (85, 11613), (88, 11640), (91, 11661), (93, 11670), (95, 11685), (98, 11718), (99, 11736), (107, 11793), (111, 11838), (112, 11868), (113, 11886), (121, 12024), (123, 12045), (129, 12129), (130, 12135),

(136, 12213), (139, 12264), (142, 12282), (144, 12303), (146, 12324), (147, 12342), (149, 12351), (150, 12363), (152, 12369), (153, 12375), (157, 12414), (161, 12468), (163, 12471), (165, 12489), (166, 12495),

Gene: Merry\_ Start: 12177, Stop: 13676, Start Num: 12

Candidate Starts for Merry\_:

(Start: 12 @12177 has 55 MA's), (20, 12246), (23, 12258), (31, 12354), (32, 12372), (44, 12465), (47, 12480), (54, 12537), (59, 12573), (62, 12603), (63, 12609), (64, 12618), (70, 12660), (71, 12669), (72, 12672), (77, 12684), (84, 12753), (88, 12783), (95, 12828), (103, 12906), (108, 12954), (113, 13032), (123, 13191), (127, 13263), (129, 13275), (130, 13281), (131, 13302), (132, 13305), (135, 13347), (142, 13428), (157, 13560), (166, 13641),

Gene: Metamorphoo\_25 Start: 11518, Stop: 13008, Start Num: 12

Candidate Starts for Metamorphoo\_25:

(Start: 12 @11518 has 55 MA's), (Start: 18 @11575 has 1 MA's), (20, 11587), (23, 11599), (31, 11695), (32, 11713), (37, 11749), (40, 11773), (42, 11785), (47, 11821), (54, 11878), (59, 11914), (62, 11944), (63, 11950), (64, 11959), (66, 11977), (70, 12001), (71, 12010), (72, 12013), (86, 12100), (87, 12118), (88, 12121), (105, 12256), (113, 12361), (116, 12424), (123, 12520), (129, 12604), (130, 12610), (131, 12631), (135, 12676), (140, 12742), (144, 12778), (166, 12970),

Gene: Mimi\_80 Start: 45814, Stop: 47373, Start Num: 17

Candidate Starts for Mimi\_80:

(Start: 17 @45814 has 8 MA's), (24, 45874), (26, 45889), (50, 46099), (67, 46240), (85, 46354), (92, 46405), (96, 46453), (114, 46687), (124, 46822), (129, 46885), (148, 47104), (162, 47230), (167, 47296),

Gene: MisoSoup\_14 Start: 7399, Stop: 8979, Start Num: 18

Candidate Starts for MisoSoup\_14:

(Start: 18 @7399 has 1 MA's), (49, 7741), (53, 7789), (62, 7858), (66, 7891), (72, 7927), (76, 7936), (88, 8035), (90, 8041), (95, 8080), (106, 8212), (112, 8290), (113, 8308), (116, 8374), (123, 8470), (128, 8545), (129, 8554), (134, 8611), (135, 8626), (145, 8749), (151, 8794),

Gene: Nicole72\_20 Start: 13339, Stop: 14817, Start Num: 12

Candidate Starts for Nicole72\_20:

(2, 13222), (Start: 12 @13339 has 55 MA's), (Start: 18 @13396 has 1 MA's), (30, 13495), (36, 13555), (38, 13579), (42, 13600), (44, 13621), (54, 13693), (61, 13753), (62, 13759), (64, 13774), (69, 13807), (71, 13819), (78, 13840), (79, 13864), (87, 13921), (88, 13924), (91, 13945), (95, 13969), (98, 14002), (100, 14032), (112, 14152), (113, 14170), (119, 14287), (122, 14314), (123, 14329), (125, 14356), (127, 14401), (129, 14413), (133, 14458), (137, 14530), (155, 14674), (157, 14698), (166, 14779),

Gene: NoodlelyBoi\_24 Start: 11989, Stop: 13458, Start Num: 12

Candidate Starts for NoodlelyBoi\_24:

(Start: 12 @11989 has 55 MA's), (Start: 18 @12046 has 1 MA's), (20, 12058), (23, 12070), (31, 12166), (32, 12184), (37, 12220), (40, 12244), (42, 12256), (47, 12292), (51, 12322), (54, 12349), (62, 12415), (63, 12421), (64, 12430), (66, 12448), (70, 12472), (71, 12481), (72, 12484), (82, 12553), (86, 12568), (87, 12586), (88, 12589), (95, 12634), (108, 12733), (110, 12760), (113, 12811), (122, 12955), (129, 13054), (130, 13060), (132, 13084), (136, 13138), (143, 13213), (147, 13267), (149, 13276), (151, 13291), (166, 13420),

Gene: Onika\_24 Start: 11922, Stop: 13391, Start Num: 12

Candidate Starts for Onika\_24:

(Start: 12 @11922 has 55 MA's), (Start: 18 @11979 has 1 MA's), (20, 11991), (23, 12003), (31, 12099), (32, 12117), (37, 12153), (40, 12177), (42, 12189), (47, 12225), (51, 12255), (54, 12282), (62, 12348),

(63, 12354), (64, 12363), (66, 12381), (70, 12405), (71, 12414), (72, 12417), (76, 12426), (82, 12489), (86, 12504), (87, 12522), (88, 12525), (95, 12570), (108, 12669), (110, 12696), (113, 12747), (121, 12885), (127, 12978), (129, 12990), (130, 12996), (136, 13074), (139, 13125), (143, 13149), (144, 13164), (146, 13185), (147, 13203), (151, 13227), (166, 13356),

Gene: Panchaali\_73 Start: 42946, Stop: 44454, Start Num: 16

Candidate Starts for Panchaali\_73:

(Start: 16 @42946 has 4 MA's), (24, 43006), (33, 43063), (39, 43114), (40, 43117), (50, 43201), (52, 43213), (56, 43243), (67, 43342), (73, 43369), (88, 43459), (92, 43483), (93, 43489), (96, 43531), (108, 43651), (115, 43771), (129, 43960), (162, 44308), (167, 44374),

Gene: Paschalis\_24 Start: 11937, Stop: 13406, Start Num: 12

Candidate Starts for Paschalis\_24:

(Start: 12 @11937 has 55 MA's), (Start: 18 @11994 has 1 MA's), (20, 12006), (23, 12018), (31, 12114), (32, 12132), (37, 12168), (40, 12192), (42, 12204), (47, 12240), (51, 12270), (54, 12297), (62, 12363), (63, 12369), (64, 12378), (66, 12396), (70, 12420), (71, 12429), (72, 12432), (76, 12441), (86, 12519), (87, 12537), (88, 12540), (95, 12585), (108, 12684), (110, 12711), (113, 12762), (121, 12900), (127, 12993), (129, 13005), (130, 13011), (136, 13089), (143, 13164), (144, 13179), (146, 13200), (147, 13218), (151, 13242), (166, 13371),

Gene: Patbob\_79 Start: 46680, Stop: 48245, Start Num: 17

Candidate Starts for Patbob\_79:

(Start: 17 @46680 has 8 MA's), (24, 46740), (26, 46755), (27, 46758), (50, 46965), (67, 47106), (85, 47220), (92, 47271), (96, 47319), (114, 47559), (124, 47694), (129, 47757), (148, 47976), (162, 48102), (167, 48168),

Gene: PhedwardCullen\_24 Start: 11681, Stop: 13150, Start Num: 12

Candidate Starts for PhedwardCullen\_24:

(Start: 12 @11681 has 55 MA's), (Start: 18 @11738 has 1 MA's), (20, 11750), (23, 11762), (31, 11858), (32, 11876), (37, 11912), (40, 11936), (42, 11948), (47, 11984), (51, 12014), (54, 12041), (62, 12107), (63, 12113), (64, 12122), (66, 12140), (70, 12164), (71, 12173), (72, 12176), (76, 12185), (82, 12248), (86, 12263), (87, 12281), (88, 12284), (108, 12428), (110, 12455), (113, 12506), (121, 12644), (127, 12737), (129, 12749), (130, 12755), (136, 12833), (143, 12908), (144, 12923), (146, 12944), (147, 12962), (151, 12986), (166, 13115),

Gene: Phorgeous\_24 Start: 11789, Stop: 13258, Start Num: 12

Candidate Starts for Phorgeous\_24:

(Start: 12 @11789 has 55 MA's), (Start: 18 @11846 has 1 MA's), (20, 11858), (23, 11870), (31, 11966), (32, 11984), (37, 12020), (40, 12044), (42, 12056), (47, 12092), (51, 12122), (54, 12149), (62, 12215), (63, 12221), (64, 12230), (66, 12248), (70, 12272), (71, 12281), (72, 12284), (76, 12293), (82, 12356), (86, 12371), (87, 12389), (88, 12392), (108, 12536), (110, 12563), (113, 12614), (121, 12752), (127, 12845), (129, 12857), (130, 12863), (136, 12941), (143, 13016), (144, 13031), (146, 13052), (147, 13070), (151, 13094), (166, 13223),

Gene: Phrampa\_72 Start: 43330, Stop: 44889, Start Num: 17

Candidate Starts for Phrampa\_72:

(Start: 17 @43330 has 8 MA's), (24, 43390), (26, 43405), (50, 43615), (67, 43756), (85, 43870), (92, 43921), (96, 43969), (108, 44089), (114, 44203), (124, 44338), (156, 44668), (162, 44746), (167, 44812),

Gene: Phrancesco\_25 Start: 12068, Stop: 13537, Start Num: 12

Candidate Starts for Phrancesco\_25:

(Start: 12 @12068 has 55 MA's), (Start: 18 @12125 has 1 MA's), (20, 12137), (23, 12149), (31, 12245), (32, 12263), (37, 12299), (40, 12323), (42, 12335), (47, 12371), (51, 12401), (54, 12428), (62, 12494), (63, 12500), (64, 12509), (66, 12527), (70, 12551), (71, 12560), (72, 12563), (76, 12572), (86, 12650), (87, 12668), (88, 12671), (95, 12716), (108, 12815), (110, 12842), (113, 12893), (121, 13031), (127, 13124), (129, 13136), (130, 13142), (136, 13220), (143, 13295), (144, 13310), (146, 13331), (147, 13349), (151, 13373), (166, 13502),

Gene: PierreOrion\_25 Start: 12092, Stop: 13561, Start Num: 12

Candidate Starts for PierreOrion\_25:

(Start: 12 @12092 has 55 MA's), (Start: 18 @12149 has 1 MA's), (20, 12161), (23, 12173), (31, 12269), (32, 12287), (37, 12323), (40, 12347), (42, 12359), (47, 12395), (51, 12425), (54, 12452), (62, 12518), (63, 12524), (64, 12533), (66, 12551), (70, 12575), (71, 12584), (72, 12587), (76, 12596), (86, 12674), (87, 12692), (88, 12695), (95, 12740), (108, 12839), (110, 12866), (113, 12917), (121, 13055), (127, 13148), (129, 13160), (130, 13166), (136, 13244), (143, 13319), (144, 13334), (146, 13355), (147, 13373), (151, 13397), (166, 13526),

Gene: PiperSansNom\_25 Start: 12244, Stop: 13713, Start Num: 12

Candidate Starts for PiperSansNom\_25:

(Start: 12 @12244 has 55 MA's), (Start: 18 @12301 has 1 MA's), (20, 12313), (23, 12325), (31, 12421), (32, 12439), (37, 12475), (40, 12499), (42, 12511), (47, 12547), (51, 12577), (54, 12604), (62, 12670), (63, 12676), (64, 12685), (66, 12703), (70, 12727), (71, 12736), (72, 12739), (76, 12748), (86, 12826), (87, 12844), (88, 12847), (95, 12892), (108, 12991), (110, 13018), (113, 13069), (121, 13207), (127, 13300), (129, 13312), (130, 13318), (136, 13396), (143, 13471), (144, 13486), (146, 13507), (147, 13525), (151, 13549), (166, 13678),

Gene: Piperis\_25 Start: 11914, Stop: 13383, Start Num: 12

Candidate Starts for Piperis\_25:

(Start: 12 @11914 has 55 MA's), (Start: 18 @11971 has 1 MA's), (20, 11983), (23, 11995), (31, 12091), (32, 12109), (37, 12145), (40, 12169), (42, 12181), (47, 12217), (51, 12247), (54, 12274), (62, 12340), (63, 12346), (64, 12355), (66, 12373), (70, 12397), (71, 12406), (72, 12409), (76, 12418), (86, 12496), (87, 12514), (88, 12517), (95, 12562), (108, 12661), (110, 12688), (113, 12739), (121, 12877), (127, 12970), (129, 12982), (130, 12988), (136, 13066), (143, 13141), (144, 13156), (146, 13177), (147, 13195), (151, 13219), (166, 13348),

Gene: Pulchra\_26 Start: 12313, Stop: 13782, Start Num: 12

Candidate Starts for Pulchra\_26:

(Start: 12 @12313 has 55 MA's), (Start: 18 @12370 has 1 MA's), (20, 12382), (23, 12394), (31, 12490), (32, 12508), (37, 12544), (40, 12568), (42, 12580), (47, 12616), (51, 12646), (54, 12673), (62, 12739), (63, 12745), (64, 12754), (66, 12772), (70, 12796), (71, 12805), (72, 12808), (76, 12817), (82, 12880), (86, 12895), (87, 12913), (88, 12916), (95, 12961), (108, 13060), (110, 13087), (113, 13138), (121, 13276), (127, 13369), (129, 13381), (130, 13387), (136, 13465), (143, 13540), (144, 13555), (146, 13576), (147, 13594), (151, 13618), (166, 13747),

Gene: Quhwah\_27 Start: 12304, Stop: 13773, Start Num: 12

Candidate Starts for Quhwah\_27:

(Start: 12 @12304 has 55 MA's), (Start: 18 @12361 has 1 MA's), (20, 12373), (23, 12385), (31, 12481), (32, 12499), (37, 12535), (40, 12559), (42, 12571), (47, 12607), (51, 12637), (54, 12664), (62, 12730), (63, 12736), (64, 12745), (66, 12763), (70, 12787), (71, 12796), (72, 12799), (76, 12808), (82, 12871), (86, 12886), (87, 12904), (88, 12907), (95, 12952), (108, 13051), (110, 13078), (113, 13129), (121, 13267), (127, 13360), (129, 13372), (130, 13378), (136, 13456), (143, 13531), (144, 13546), (146, 13567), (147, 13585), (151, 13609), (166, 13738),

Gene: Racecar\_81 Start: 46467, Stop: 48026, Start Num: 17

Candidate Starts for Racecar\_81:

(Start: 17 @46467 has 8 MA's), (24, 46527), (26, 46542), (50, 46752), (67, 46893), (85, 47007), (92, 47058), (96, 47106), (114, 47340), (124, 47475), (129, 47538), (148, 47757), (162, 47883), (167, 47949),

Gene: Ramiel05\_24 Start: 11948, Stop: 13417, Start Num: 12

Candidate Starts for Ramiel05\_24:

(Start: 12 @11948 has 55 MA's), (Start: 18 @12005 has 1 MA's), (20, 12017), (23, 12029), (31, 12125), (32, 12143), (37, 12179), (40, 12203), (42, 12215), (47, 12251), (51, 12281), (54, 12308), (62, 12374), (63, 12380), (64, 12389), (66, 12407), (70, 12431), (71, 12440), (72, 12443), (76, 12452), (82, 12515), (86, 12530), (87, 12548), (88, 12551), (95, 12596), (108, 12695), (110, 12722), (113, 12773), (121, 12911), (127, 13004), (129, 13016), (130, 13022), (136, 13100), (143, 13175), (144, 13190), (146, 13211), (147, 13229), (151, 13253), (166, 13382),

Gene: ReginaGlobina\_80 Start: 46036, Stop: 47544, Start Num: 17

Candidate Starts for ReginaGlobina\_80:

(13, 45994), (14, 45997), (Start: 17 @46036 has 8 MA's), (19, 46045), (24, 46096), (50, 46291), (52, 46303), (55, 46330), (67, 46432), (92, 46573), (97, 46624), (115, 46861), (126, 47011), (128, 47041), (141, 47194), (162, 47398), (167, 47464), (168, 47467),

Gene: RobsFeet\_26 Start: 11796, Stop: 13289, Start Num: 12

Candidate Starts for RobsFeet\_26:

(Start: 12 @11796 has 55 MA's), (Start: 18 @11853 has 1 MA's), (20, 11865), (23, 11877), (31, 11973), (32, 11991), (37, 12027), (40, 12051), (42, 12063), (47, 12099), (54, 12156), (59, 12192), (62, 12222), (63, 12228), (64, 12237), (66, 12255), (70, 12279), (71, 12288), (72, 12291), (86, 12378), (87, 12396), (88, 12399), (105, 12537), (113, 12642), (116, 12705), (123, 12801), (129, 12885), (130, 12891), (131, 12912), (135, 12957), (140, 13023), (144, 13059), (166, 13251),

Gene: Rockabye\_82 Start: 48709, Stop: 50256, Start Num: 17

Candidate Starts for Rockabye\_82:

(1, 48484), (3, 48523), (5, 48553), (7, 48589), (8, 48604), (13, 48667), (14, 48670), (Start: 17 @48709 has 8 MA's), (19, 48718), (24, 48769), (26, 48784), (35, 48874), (50, 48994), (57, 49039), (67, 49135), (81, 49222), (92, 49285), (96, 49333), (108, 49453), (115, 49573), (128, 49756), (159, 50089), (162, 50110), (167, 50176),

Gene: Rockwell\_24 Start: 11948, Stop: 13417, Start Num: 12

Candidate Starts for Rockwell\_24:

(Start: 12 @11948 has 55 MA's), (Start: 18 @12005 has 1 MA's), (20, 12017), (23, 12029), (31, 12125), (32, 12143), (37, 12179), (40, 12203), (42, 12215), (47, 12251), (51, 12281), (54, 12308), (62, 12374), (63, 12380), (64, 12389), (66, 12407), (70, 12431), (71, 12440), (72, 12443), (76, 12452), (82, 12515), (86, 12530), (87, 12548), (88, 12551), (95, 12596), (108, 12695), (110, 12722), (113, 12773), (121, 12911), (127, 13004), (129, 13016), (130, 13022), (136, 13100), (143, 13175), (144, 13190), (146, 13211), (147, 13229), (151, 13253), (166, 13382),

Gene: SJReid\_83 Start: 47777, Stop: 49324, Start Num: 17

Candidate Starts for SJReid\_83:

(8, 47672), (13, 47735), (14, 47738), (Start: 17 @47777 has 8 MA's), (19, 47786), (24, 47837), (26, 47852), (35, 47942), (41, 47981), (50, 48062), (57, 48107), (67, 48203), (81, 48290), (92, 48353), (96, 48401), (115, 48641), (158, 49130), (162, 49178), (167, 49244),

Gene: Savannah\_24 Start: 11972, Stop: 13441, Start Num: 12

Candidate Starts for Savannah\_24:

(Start: 12 @11972 has 55 MA's), (Start: 18 @12029 has 1 MA's), (20, 12041), (23, 12053), (31, 12149), (32, 12167), (37, 12203), (40, 12227), (42, 12239), (47, 12275), (51, 12305), (54, 12332), (62, 12398), (63, 12404), (64, 12413), (66, 12431), (70, 12455), (71, 12464), (72, 12467), (76, 12476), (82, 12539), (86, 12554), (87, 12572), (88, 12575), (95, 12620), (108, 12719), (110, 12746), (113, 12797), (121, 12935), (127, 13028), (129, 13040), (130, 13046), (136, 13124), (143, 13199), (144, 13214), (146, 13235), (147, 13253), (151, 13277), (166, 13406),

Gene: Scumberland\_26 Start: 12163, Stop: 13632, Start Num: 12

Candidate Starts for Scumberland\_26:

(Start: 12 @12163 has 55 MA's), (Start: 18 @12220 has 1 MA's), (20, 12232), (23, 12244), (31, 12340), (32, 12358), (37, 12394), (40, 12418), (42, 12430), (47, 12466), (51, 12496), (54, 12523), (62, 12589), (63, 12595), (64, 12604), (66, 12622), (70, 12646), (71, 12655), (72, 12658), (76, 12667), (82, 12730), (86, 12745), (87, 12763), (88, 12766), (95, 12811), (108, 12910), (110, 12937), (113, 12988), (121, 13126), (127, 13219), (129, 13231), (130, 13237), (136, 13315), (143, 13390), (144, 13405), (146, 13426), (147, 13444), (151, 13468), (166, 13597),

Gene: Selwyn23\_26 Start: 12141, Stop: 13610, Start Num: 12

Candidate Starts for Selwyn23\_26:

(Start: 12 @12141 has 55 MA's), (Start: 18 @12198 has 1 MA's), (20, 12210), (23, 12222), (31, 12318), (32, 12336), (37, 12372), (40, 12396), (42, 12408), (47, 12444), (51, 12474), (54, 12501), (62, 12567), (63, 12573), (64, 12582), (66, 12600), (70, 12624), (71, 12633), (72, 12636), (76, 12645), (82, 12708), (86, 12723), (87, 12741), (88, 12744), (95, 12789), (108, 12888), (110, 12915), (113, 12966), (121, 13104), (127, 13197), (129, 13209), (130, 13215), (136, 13293), (143, 13368), (144, 13383), (146, 13404), (147, 13422), (151, 13446), (166, 13575),

Gene: Shotgun\_24 Start: 11770, Stop: 13239, Start Num: 12

Candidate Starts for Shotgun\_24:

(Start: 12 @11770 has 55 MA's), (Start: 18 @11827 has 1 MA's), (20, 11839), (23, 11851), (31, 11947), (32, 11965), (37, 12001), (40, 12025), (42, 12037), (47, 12073), (51, 12103), (54, 12130), (62, 12196), (63, 12202), (64, 12211), (66, 12229), (70, 12253), (71, 12262), (72, 12265), (76, 12274), (82, 12337), (86, 12352), (87, 12370), (88, 12373), (95, 12418), (108, 12517), (110, 12544), (113, 12595), (121, 12733), (127, 12826), (129, 12838), (130, 12844), (136, 12922), (143, 12997), (144, 13012), (146, 13033), (147, 13051), (166, 13204),

Gene: Shrubaron\_25 Start: 11431, Stop: 12921, Start Num: 12

Candidate Starts for Shrubaron\_25:

(Start: 12 @11431 has 55 MA's), (Start: 18 @11488 has 1 MA's), (20, 11500), (23, 11512), (31, 11608), (32, 11626), (37, 11662), (40, 11686), (42, 11698), (47, 11734), (54, 11791), (59, 11827), (62, 11857), (63, 11863), (64, 11872), (66, 11890), (70, 11914), (71, 11923), (72, 11926), (86, 12013), (87, 12031), (88, 12034), (105, 12169), (113, 12274), (116, 12337), (123, 12433), (129, 12517), (130, 12523), (131, 12544), (135, 12589), (140, 12655), (144, 12691), (166, 12883),

Gene: SirFrank\_24 Start: 11839, Stop: 13308, Start Num: 12

Candidate Starts for SirFrank\_24:

(Start: 12 @11839 has 55 MA's), (Start: 18 @11896 has 1 MA's), (20, 11908), (23, 11920), (31, 12016), (32, 12034), (37, 12070), (40, 12094), (42, 12106), (47, 12142), (51, 12172), (54, 12199), (62, 12265), (63, 12271), (64, 12280), (66, 12298), (70, 12322), (71, 12331), (72, 12334), (82, 12403), (86, 12418), (87, 12436), (88, 12439), (95, 12484), (108, 12583), (110, 12610), (113, 12661), (122, 12805), (129, 12904), (130, 12910), (132, 12934), (136, 12988), (143, 13063), (147, 13117), (149, 13126), (151, 13141), (166, 13270),

Gene: Skugga\_23 Start: 11150, Stop: 12640, Start Num: 12

Candidate Starts for Skugga\_23:

(Start: 12 @11150 has 55 MA's), (Start: 18 @11207 has 1 MA's), (20, 11219), (23, 11231), (31, 11327), (32, 11345), (42, 11417), (47, 11453), (54, 11510), (62, 11576), (63, 11582), (64, 11591), (66, 11609), (70, 11633), (71, 11642), (72, 11645), (87, 11750), (88, 11753), (95, 11798), (105, 11891), (108, 11918), (113, 11996), (116, 12059), (123, 12155), (129, 12239), (130, 12245), (131, 12266), (135, 12311), (140, 12377), (151, 12476), (155, 12500), (166, 12605),

Gene: Smarties\_33 Start: 13624, Stop: 15117, Start Num: 12

Candidate Starts for Smarties\_33:

(Start: 12 @13624 has 55 MA's), (20, 13693), (23, 13705), (31, 13801), (32, 13819), (34, 13840), (42, 13891), (47, 13927), (54, 13984), (59, 14020), (61, 14044), (62, 14050), (63, 14056), (64, 14065), (70, 14107), (71, 14116), (72, 14119), (87, 14224), (88, 14227), (105, 14368), (116, 14536), (123, 14632), (129, 14716), (130, 14722), (131, 14743), (135, 14788), (138, 14845), (140, 14854), (144, 14890), (152, 14956), (166, 15082),

Gene: Stewart25555\_71 Start: 42369, Stop: 43883, Start Num: 16

Candidate Starts for Stewart25555\_71:

(4, 42207), (Start: 16 @42369 has 4 MA's), (22, 42402), (24, 42429), (33, 42486), (39, 42537), (43, 42555), (50, 42624), (52, 42636), (56, 42666), (67, 42765), (92, 42912), (93, 42918), (96, 42960), (115, 43200), (162, 43737), (164, 43749), (167, 43803),

Gene: Sunny\_ Start: 12177, Stop: 13676, Start Num: 12

Candidate Starts for Sunny\_:

(Start: 12 @12177 has 55 MA's), (20, 12246), (23, 12258), (31, 12354), (32, 12372), (44, 12465), (47, 12480), (54, 12537), (59, 12573), (62, 12603), (63, 12609), (64, 12618), (70, 12660), (71, 12669), (72, 12672), (77, 12684), (84, 12753), (88, 12783), (95, 12828), (103, 12906), (108, 12954), (113, 13032), (123, 13191), (127, 13263), (129, 13275), (130, 13281), (131, 13302), (132, 13305), (135, 13347), (142, 13428), (157, 13560), (166, 13641),

Gene: Talia1610\_80 Start: 45832, Stop: 47391, Start Num: 17

Candidate Starts for Talia1610\_80:

(Start: 17 @45832 has 8 MA's), (24, 45892), (26, 45907), (50, 46117), (67, 46258), (85, 46372), (92, 46423), (96, 46471), (114, 46705), (124, 46840), (129, 46903), (148, 47122), (162, 47248), (167, 47314),

Gene: Teamocil\_26 Start: 11315, Stop: 12808, Start Num: 12

Candidate Starts for Teamocil\_26:

(Start: 12 @11315 has 55 MA's), (Start: 18 @11372 has 1 MA's), (20, 11384), (23, 11396), (31, 11492), (32, 11510), (37, 11546), (42, 11582), (47, 11618), (54, 11675), (59, 11711), (62, 11741), (63, 11747), (64, 11756), (70, 11798), (71, 11807), (72, 11810), (74, 11816), (87, 11921), (88, 11924), (95, 11969), (105, 12059), (109, 12089), (116, 12227), (123, 12323), (129, 12407), (130, 12413), (131, 12434), (135, 12479), (140, 12545), (166, 12773),

Gene: Terij\_20 Start: 11194, Stop: 12684, Start Num: 12

Candidate Starts for Terij\_20:

(Start: 12 @11194 has 55 MA's), (25, 11311), (30, 11368), (32, 11398), (44, 11494), (54, 11566), (62, 11632), (64, 11647), (66, 11665), (71, 11689), (85, 11749), (88, 11776), (91, 11797), (93, 11806), (94, 11815), (95, 11821), (98, 11854), (99, 11872), (111, 11983), (113, 12031), (121, 12169), (123, 12190), (130, 12280), (136, 12358), (139, 12409), (144, 12448), (150, 12508), (152, 12514), (153, 12520), (158, 12568), (160, 12604), (163, 12616), (165, 12634), (166, 12640),

Gene: Tyrumbra\_23 Start: 10872, Stop: 12365, Start Num: 12

Candidate Starts for Tyrumbra\_23:

(Start: 12 @10872 has 55 MA's), (Start: 18 @10929 has 1 MA's), (20, 10941), (23, 10953), (31, 11049), (32, 11067), (37, 11103), (40, 11127), (42, 11139), (47, 11175), (54, 11232), (59, 11268), (62, 11298), (63, 11304), (64, 11313), (66, 11331), (70, 11355), (71, 11364), (72, 11367), (86, 11454), (87, 11472), (88, 11475), (105, 11613), (113, 11718), (116, 11781), (123, 11877), (129, 11961), (130, 11967), (131, 11988), (135, 12033), (140, 12099), (144, 12135), (166, 12327),

Gene: WaddleDee\_68 Start: 41867, Stop: 43381, Start Num: 16

Candidate Starts for WaddleDee\_68:

(9, 41774), (Start: 16 @41867 has 4 MA's), (22, 41900), (24, 41927), (39, 42035), (43, 42053), (48, 42092), (50, 42122), (52, 42134), (56, 42164), (67, 42263), (92, 42410), (93, 42416), (96, 42458), (108, 42578), (115, 42698), (162, 43235), (167, 43301),

Gene: Yeti\_25 Start: 11944, Stop: 13413, Start Num: 12

Candidate Starts for Yeti\_25:

(Start: 12 @11944 has 55 MA's), (Start: 18 @12001 has 1 MA's), (20, 12013), (23, 12025), (31, 12121), (32, 12139), (37, 12175), (40, 12199), (42, 12211), (47, 12247), (54, 12304), (62, 12370), (63, 12376), (64, 12385), (66, 12403), (70, 12427), (71, 12436), (72, 12439), (76, 12448), (86, 12526), (87, 12544), (88, 12547), (95, 12592), (108, 12691), (110, 12718), (113, 12769), (121, 12907), (127, 13000), (129, 13012), (130, 13018), (136, 13096), (143, 13171), (144, 13186), (146, 13207), (147, 13225), (151, 13249), (166, 13378),

Gene: Zapato\_24 Start: 11539, Stop: 13032, Start Num: 12

Candidate Starts for Zapato\_24:

(Start: 12 @11539 has 55 MA's), (23, 11620), (31, 11716), (32, 11734), (42, 11806), (47, 11842), (54, 11899), (62, 11965), (63, 11971), (64, 11980), (66, 11998), (70, 12022), (71, 12031), (72, 12034), (87, 12139), (88, 12142), (95, 12187), (104, 12265), (105, 12283), (113, 12388), (116, 12451), (123, 12547), (129, 12631), (130, 12637), (131, 12658), (135, 12703), (140, 12769), (150, 12865), (151, 12868), (152, 12871), (157, 12916), (166, 12997),