

1: Laurie_32	20	21	23	31	40	44	50	59	66	73	74	80	88	91	97	100	103	107	110	116	143	149	153	162	168	171	176	185	196	197	216	222	230	234	238	243
2: Gssut1_25	45	50	51	59	64	76	83	86	89	90	100	106	115	121	127	135	143	149	153	156	162	163	170	176	183	193	196	197	201	211	213	219	226	240		
3: Loodkade_13	39	53	64	76	83	88	89	90	100	106	115	121	127	135	143	149	153	156	162	168	171	176	183	193	196	197	201	211	213	219	226	240				
4: MariaBusta_19 + 1	39	53	64	76	83	88	89	90	100	106	115	121	127	135	143	149	153	156	162	168	171	176	183	193	196	197	201	211	213	219	226	240				
5: Mss6_18	39	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
6: Ckale_24	39	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
7: Babsiele_21 + 1	39	53	64	76	83	88	89	90	100	106	115	121	127	135	143	149	153	156	162	169	176	183	184	193	196	197	200	212	219	223	231	234	238	243		
8: DudenHusel_21	39	53	64	76	83	88	89	90	100	106	115	121	127	135	143	149	153	156	162	169	176	183	185	196	197	200	212	219	223	231	234	238	243			
9: Kula_20	39	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
10: Bluvaa_121	51	63	69	71	78	100	106	118	124	130	143	149	153	162	168	176	183	185	196	197	216	222	230	234	238	243										
11: Diminikus_20 + 3	51	63	69	71	78	100	106	118	124	130	143	149	153	162	168	176	183	185	196	197	216	222	230	234	238	243										
12: Glasko_16	51	63	69	71	78	100	106	118	124	130	143	149	153	162	168	176	183	185	196	197	216	222	230	234	238	243										
13: Bongo_30 + 5	51	63	69	71	78	100	106	118	124	130	143	149	153	162	168	176	183	185	196	197	216	222	230	234	238	243										
14: SlimJimm_20	51	63	69	71	78	100	106	118	124	130	143	149	153	162	168	176	183	185	196	197	216	222	230	234	238	243										
15: Bricolo_30 + 1	51	63	69	71	78	100	106	118	124	130	143	149	153	162	168	176	183	185	196	197	216	222	230	234	238	243										
16: KleeveKIS_19	51	63	69	71	78	100	106	118	124	130	143	149	153	162	168	176	183	185	196	197	216	222	230	234	238	243										
17: Skinny_23	51	63	69	71	78	100	106	118	124	130	143	149	153	162	168	176	183	185	196	197	216	222	230	234	238	243										
18: Spinack_20 + 7	45	50	51	59	64	76	83	86	89	90	100	106	115	121	127	135	143	149	153	156	162	163	170	176	183	193	196	197	201	211	213	219	226	240		
19: Snekmgedon_20 + 2	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
20: Rebel_12	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
21: Majeke_21 + 3	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
22: StevieRay_21	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
23: Camster_21 + 3	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
24: Sonah_21 + 18	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
25: Bunnies_21 + 1	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
26: Venti_23	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
27: Malithi_21	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	184	193	196	197	200	212	219	223	231	234	238	243	
28: Greaselghtnin_21	53	62	68	75	79	83	88	89	90	100	106	118	124	130	143	149	153	156	162	168	171	176	183	185	196	197	216	222	230	234	238	243				
29: Jung_21	21	29	36	43	47	59	66	74	82	87	91	100	103	107	110	116	126	143	149	153	162	168	171	176	185	196	197	216	222	230	234	238	243			
30: Taptic_24	21	29	36	43	47	59	66	74	82	87	91	100	103	107	110	116	126	143	149	153	162	168	171	176	185	196	197	216	222	230	234	238	243			
31: Argie_25	21	29	36	43	47	59	66	74	82	87	91	100	103	107	110	116	126	143	149	153	162	168	171	176	185	196	197	216	222	230	234	238	243			
32: Cepens_24 + 1	21	29	36	43	47	59	66	74	82	87	91	100	103	107	110	116	126	143	149	153	162	168	171	176	185	196	197	216	222	230	234	238	243			

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 330771 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330771 has 78 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Laurie_32
- Track 2 : Gspu1_25
- Track 3 : LordVader_19
- Track 4 : MilanaBonita_19, Akhila_19
- Track 5 : Ms6_18
- Track 6 : Okabe_20
- Track 7 : Babsiella_21, HC_21
- Track 8 : QueenHazel_21
- Track 9 : Xula_20
- Track 10 : Bluvara_21
- Track 11 : Diminimus_31, Dulcita_31, Auspice_30, Izel_31
- Track 12 : Glaske16_31
- Track 13 : Bongo_30, TyDawg_30, IPhane7_30, FreakyGoo_31, TpudiCK_31, LilhomieP_29
- Track 14 : SlimJimmy_29
- Track 15 : Bricole_30, PegLeg_30
- Track 16 : KleverKiS_30
- Track 17 : Skinny_31
- Track 18 : Spinach_20, BabeRuth_20, ShrimpFriedEgg_20, Hanako_20, Nenae_20, Redi_20, PhancyPhin_20, Purgamenstris_20
- Track 19 : Snekmaggedon_20, Jamie19_20, SpongeBob_20
- Track 20 : Rebel_20
- Track 21 : Majeke_21, Brusacoram_21, Mangethe_21, Thespis_21
- Track 22 : StevieRay_21
- Track 23 : Camster_21, PeanutPie_21, Arib1_21, Bhagsy_21
- Track 24 : Sonah_21, HUHilltop_21, Chubbello_21, Kari_21, Vidya_21, Ksquared_21, Phegasus_21, FirstPlacePfu_21, Juniormint_21, Fishburne_21, Jebeks_21, Etoile_21, Polkaroo_21, Techage_21, Langerak_21, GaloreK_21, Zilizebeth_21, Donovan_21, Necropolis_21
- Track 25 : Bunnies_21, Bartholomew_21
- Track 26 : Venti_21
- Track 27 : Malithi_21
- Track 28 : GreaseLightnin_21
- Track 29 : Jung_21
- Track 30 : Taptic_24
- Track 31 : Argie_25
- Track 32 : Cepens_24, Megabear_24

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

The start number called the most often in the published annotations is 4, it was called in 32 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1_21, Babsiella_21, Bartholomew_21, Bhagsy_21, Bluvara_21, Brusacoram_21, Bunnies_21, Camster_21, Chubbello_21, Donovan_21, Etoile_21, FirstPlacePfu_21, Fishburne_21, GaloreK_21, HC_21, HUHilltop_21, Jebeks_21, Jung_21, Juniormint_21, Kari_21, Ksquared_21, Langerak_21, Majeke_21, Malithi_21, Mangethe_21, Necropolis_21, Okabe_20, PeanutPie_21, Phegasus_21, Polkaro_21, QueenHazel_21, Sonah_21, StevieRay_21, Techage_21, Thespi_21, Venti_21, Vidya_21, Xula_20, Zilizebeth_21,

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

-

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

- Akhila_19, Argie_25, Auspice_30, BabeRuth_20, Bongo_30, Bricole_30, Cepens_24, Diminimus_31, Dulcita_31, FreakyGoo_31, Glaske16_31, GreaseLightnin_21, Gspu1_25, Hanako_20, IPane7_30, Izel_31, Jamie19_20, KleverKiS_30, Laurie_32, LilhomieP_29, LordVader_19, Megabear_24, MilanaBonita_19, Ms6_18, Nene_20, PegLeg_30, PhancyPhin_20, Purgamenstris_20, Rebel_20, Redi_20, ShrimpFriedEgg_20, Skinny_31, SlimJimmy_29, Snekmaggon_20, Spinach_20, SpongeBob_20, Taptic_24, TpudICK_31, TyDawg_30,

Summary by start number:

Start 3:

- Found in 14 of 78 (17.9%) of genes in pham
- Manual Annotations of this start: 13 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabeRuth_20 (N), GreaseLightnin_21 (P1), Hanako_20 (N), Jamie19_20 (N), Ms6_18 (F1), Nene_20 (N), PhancyPhin_20 (N), Purgamenstris_20 (N), Rebel_20 (N), Redi_20 (N), ShrimpFriedEgg_20 (N), Snekmaggon_20 (N), Spinach_20 (N), SpongeBob_20 (N),

Start 4:

- Found in 39 of 78 (50.0%) of genes in pham
- Manual Annotations of this start: 32 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1_21 (P1), Babsiella_21 (I1), Bartholomew_21 (P1), Bhagsy_21 (P1), Bluvara_21 (I3), Brusacoram_21 (P1), Bunnies_21 (P1), Camster_21 (P1), Chubbello_21 (P1), Donovan_21 (P1), Etoile_21 (P1), FirstPlacePfu_21 (P1), Fishburne_21 (P1), GaloreK_21 (P1), HC_21 (I1), HUHilltop_21 (P1), Jebeks_21 (P1), Jung_21 (P1), Juniormint_21 (P1), Kari_21 (P1), Ksquared_21 (P1), Langerak_21 (P1), Majeke_21 (P1), Malithi_21 (P1), Mangethe_21 (P1), Necropolis_21 (P1), Okabe_20 (F8), PeanutPie_21 (P1),

Phegasus_21 (P1), Polkaroo_21 (P1), QueenHazel_21 (I1), Sonah_21 (P1), StevieRay_21 (P1), Techage_21 (P1), Thespiis_21 (P1), Venti_21 (P1), Vidya_21 (P1), Xula_20 (I1), Zilizebeth_21 (P1),

Start 5:

- Found in 3 of 78 (3.8%) of genes in pham
- Manual Annotations of this start: 3 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akhila_19 (F1), LordVader_19 (F), MilanaBonita_19 (F1),

Start 6:

- Found in 39 of 78 (50.0%) of genes in pham
- Manual Annotations of this start: 14 of 67
- Called 41.0% of time when present
- Phage (with cluster) where this start called: Auspice_30 (M1), Bongo_30 (M1), Bricole_30 (M1), Diminimus_31 (M1), Dulcita_31 (M1), FreakyGoo_31 (M1), Glaske16_31 (M1), IPhane7_30 (M1), Izel_31 (M1), KleverKiS_30 (M1), LilhomieP_29 (M1), PegLeg_30 (M1), Skinny_31 (M1), SlimJimmy_29 (M1), TpudiCK_31 (M1), TyDawg_30 (M1),

Start 20:

- Found in 1 of 78 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Laurie_32 (B2),

Start 21:

- Found in 4 of 78 (5.1%) of genes in pham
- Manual Annotations of this start: 4 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Argie_25 (W), Cepens_24 (W), Megabear_24 (W), Taptic_24 (W),

Start 48:

- Found in 1 of 78 (1.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gsput1_25 (CU2),

Summary by clusters:

There are 11 clusters represented in this pham: F1, P1, B2, F, I1, I3, N, F8, M1, W, CU2,

Info for manual annotations of cluster B2:

- Start number 20 was manually annotated 1 time for cluster B2.

Info for manual annotations of cluster F:

- Start number 5 was manually annotated 1 time for cluster F.

Info for manual annotations of cluster F1:

- Start number 5 was manually annotated 2 times for cluster F1.

Info for manual annotations of cluster I1:

- Start number 4 was manually annotated 4 times for cluster I1.

Info for manual annotations of cluster M1:

- Start number 6 was manually annotated 14 times for cluster M1.

Info for manual annotations of cluster N:

- Start number 3 was manually annotated 12 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 3 was manually annotated 1 time for cluster P1.
- Start number 4 was manually annotated 28 times for cluster P1.

Info for manual annotations of cluster W:

- Start number 21 was manually annotated 4 times for cluster W.

Gene Information:

Gene: Akhila_19 Start: 18067, Stop: 20265, Start Num: 5

Candidate Starts for Akhila_19:

(2, 18055), (Start: 5 @18067 has 3 MA's), (8, 18088), (10, 18109), (14, 18148), (19, 18217), (22, 18226), (23, 18229), (28, 18280), (31, 18295), (39, 18370), (51, 18505), (53, 18517), (57, 18538), (64, 18571), (76, 18718), (83, 18781), (88, 18820), (89, 18844), (93, 18859), (94, 18868), (99, 18895), (100, 18898), (101, 18901), (106, 18970), (109, 18991), (111, 18997), (115, 19033), (117, 19051), (143, 19327), (149, 19393), (151, 19411), (153, 19429), (162, 19588), (183, 19714), (195, 19855), (196, 19870), (197, 19921), (202, 19948), (203, 19969), (219, 20071), (221, 20086), (223, 20092), (231, 20137), (234, 20155), (235, 20161), (240, 20224),

Gene: Argie_25 Start: 27496, Stop: 29625, Start Num: 21

Candidate Starts for Argie_25:

(Start: 21 @27496 has 4 MA's), (29, 27565), (34, 27598), (36, 27619), (43, 27676), (46, 27706), (47, 27724), (58, 27817), (59, 27820), (66, 27874), (74, 27958), (80, 27994), (82, 28015), (87, 28063), (91, 28102), (100, 28156), (103, 28210), (105, 28222), (107, 28246), (110, 28270), (112, 28282), (114, 28297), (116, 28312), (119, 28354), (126, 28435), (143, 28606), (149, 28672), (151, 28690), (153, 28708), (162, 28867), (165, 28894), (168, 28912), (171, 28939), (173, 28975), (175, 28993), (176, 28999), (178, 29026), (179, 29032), (185, 29074), (196, 29215), (197, 29266), (216, 29410), (222, 29446), (223, 29449), (230, 29497), (234, 29521), (237, 29557), (238, 29560), (239, 29569), (242, 29605), (243, 29620),

Gene: Arib1_21 Start: 19044, Stop: 21305, Start Num: 4

Candidate Starts for Arib1_21:

(Start: 4 @19044 has 32 MA's), (23, 19197), (51, 19470), (53, 19482), (57, 19503), (62, 19527), (68, 19602), (75, 19674), (79, 19704), (83, 19740), (89, 19803), (93, 19818), (98, 19845), (99, 19851), (106, 19926), (109, 19950), (111, 19956), (117, 20010), (118, 20016), (143, 20286), (149, 20352), (151, 20370), (153, 20388), (162, 20547), (165, 20574), (168, 20592), (171, 20619), (173, 20655), (175, 20673), (176, 20679), (178, 20706), (179, 20712), (185, 20754), (196, 20895), (197, 20946), (216, 21090), (222, 21126), (223, 21129), (230, 21177), (234, 21201), (237, 21237), (238, 21240), (239,

21249), (242, 21285), (243, 21300),

Gene: Auspice_30 Start: 24622, Stop: 26973, Start Num: 6

Candidate Starts for Auspice_30:

(Start: 6 @24622 has 14 MA's), (15, 24742), (17, 24757), (26, 24829), (28, 24850), (30, 24862), (33, 24889), (35, 24898), (51, 25084), (63, 25147), (68, 25216), (71, 25243), (79, 25318), (81, 25339), (100, 25474), (106, 25555), (108, 25570), (109, 25579), (111, 25585), (124, 25708), (137, 25864), (140, 25882), (141, 25897), (149, 25981), (151, 25999), (152, 26008), (153, 26017), (161, 26164), (162, 26176), (169, 26242), (173, 26284), (176, 26308), (179, 26341), (187, 26395), (190, 26434), (192, 26446), (199, 26578), (204, 26623), (218, 26749), (222, 26773), (224, 26782), (226, 26791), (227, 26803), (229, 26815), (230, 26830), (237, 26890), (244, 26959),

Gene: BabeRuth_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for BabeRuth_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (51, 17992), (53, 18004), (57, 18025), (65, 18070), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (88, 18307), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (139, 18772), (143, 18814), (150, 18895), (151, 18898), (153, 18916), (156, 18982), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: Babsiella_21 Start: 19025, Stop: 21313, Start Num: 4

Candidate Starts for Babsiella_21:

(Start: 4 @19025 has 32 MA's), (8, 19049), (16, 19160), (18, 19169), (23, 19196), (39, 19343), (51, 19478), (53, 19490), (57, 19511), (62, 19535), (68, 19610), (75, 19682), (79, 19712), (83, 19748), (89, 19811), (93, 19826), (98, 19853), (99, 19859), (100, 19862), (106, 19934), (109, 19958), (111, 19964), (117, 20018), (118, 20024), (143, 20294), (149, 20360), (151, 20378), (153, 20396), (162, 20555), (165, 20582), (168, 20600), (171, 20627), (173, 20663), (175, 20681), (176, 20687), (178, 20714), (179, 20720), (185, 20762), (196, 20903), (197, 20954), (216, 21098), (222, 21134), (223, 21137), (230, 21185), (234, 21209), (237, 21245), (238, 21248), (239, 21257), (242, 21293), (243, 21308),

Gene: Bartholomew_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Bartholomew_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: Bhagsy_21 Start: 19045, Stop: 21306, Start Num: 4

Candidate Starts for Bhagsy_21:

(Start: 4 @19045 has 32 MA's), (23, 19198), (51, 19471), (53, 19483), (57, 19504), (62, 19528), (68, 19603), (75, 19675), (79, 19705), (83, 19741), (89, 19804), (93, 19819), (98, 19846), (99, 19852), (106, 19927), (109, 19951), (111, 19957), (117, 20011), (118, 20017), (143, 20287), (149, 20353), (151, 20371), (153, 20389), (162, 20548), (165, 20575), (168, 20593), (171, 20620), (173, 20656), (175, 20674), (176, 20680), (178, 20707), (179, 20713), (185, 20755), (196, 20896), (197, 20947), (216, 21091), (222, 21127), (223, 21130), (230, 21178), (234, 21202), (237, 21238), (238, 21241), (239, 21250), (242, 21286), (243, 21301),

Gene: Bluvara_21 Start: 19092, Stop: 21380, Start Num: 4

Candidate Starts for Bluvara_21:

(Start: 4 @19092 has 32 MA's), (8, 19116), (16, 19227), (18, 19236), (23, 19263), (39, 19410), (51, 19545), (53, 19557), (57, 19578), (62, 19602), (68, 19677), (75, 19749), (79, 19779), (83, 19815), (89, 19878), (93, 19893), (98, 19920), (99, 19926), (100, 19929), (106, 20001), (109, 20025), (111, 20031), (117, 20085), (118, 20091), (143, 20361), (149, 20427), (151, 20445), (153, 20463), (162, 20622), (165, 20649), (168, 20667), (171, 20694), (173, 20730), (175, 20748), (176, 20754), (178, 20781), (179, 20787), (185, 20829), (196, 20970), (197, 21021), (216, 21165), (222, 21201), (223, 21204), (230, 21252), (234, 21276), (237, 21312), (238, 21315), (239, 21324), (242, 21360), (243, 21375),

Gene: Bongo_30 Start: 24622, Stop: 26973, Start Num: 6

Candidate Starts for Bongo_30:

(Start: 6 @24622 has 14 MA's), (15, 24742), (17, 24757), (26, 24829), (28, 24850), (30, 24862), (33, 24889), (35, 24898), (51, 25084), (63, 25147), (68, 25216), (71, 25243), (78, 25315), (79, 25318), (81, 25339), (100, 25474), (106, 25555), (108, 25570), (109, 25579), (111, 25585), (124, 25708), (137, 25864), (140, 25882), (141, 25897), (149, 25981), (151, 25999), (152, 26008), (153, 26017), (161, 26164), (162, 26176), (169, 26242), (173, 26284), (176, 26308), (179, 26341), (187, 26395), (190, 26434), (192, 26446), (199, 26578), (204, 26623), (218, 26749), (222, 26773), (224, 26782), (226, 26791), (227, 26803), (229, 26815), (230, 26830), (237, 26890), (244, 26959),

Gene: Bricole_30 Start: 24608, Stop: 26959, Start Num: 6

Candidate Starts for Bricole_30:

(Start: 6 @24608 has 14 MA's), (15, 24728), (17, 24743), (26, 24815), (28, 24836), (30, 24848), (33, 24875), (35, 24884), (51, 25070), (63, 25133), (68, 25202), (71, 25229), (78, 25301), (79, 25304), (81, 25325), (100, 25460), (106, 25541), (108, 25556), (109, 25565), (111, 25571), (124, 25694), (137, 25850), (140, 25868), (141, 25883), (149, 25967), (151, 25985), (152, 25994), (161, 26150), (162, 26162), (169, 26228), (173, 26270), (176, 26294), (179, 26327), (187, 26381), (190, 26420), (192, 26432), (199, 26564), (204, 26609), (218, 26735), (222, 26759), (224, 26768), (226, 26777), (227, 26789), (229, 26801), (230, 26816), (237, 26876), (244, 26945),

Gene: Brusacoram_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Brusacoram_21:

(Start: 4 @19038 has 32 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (113, 19962), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: Bunnies_21 Start: 19060, Stop: 21321, Start Num: 4

Candidate Starts for Bunnies_21:

(Start: 4 @19060 has 32 MA's), (Start: 6 @19069 has 14 MA's), (23, 19213), (51, 19486), (53, 19498), (57, 19519), (62, 19543), (68, 19618), (75, 19690), (79, 19720), (83, 19756), (89, 19819), (93, 19834), (98, 19861), (99, 19867), (106, 19942), (109, 19966), (111, 19972), (117, 20026), (118, 20032), (143, 20302), (149, 20368), (153, 20404), (162, 20563), (165, 20590), (168, 20608), (171, 20635), (173, 20671), (175, 20689), (176, 20695), (178, 20722), (179, 20728), (185, 20770), (196, 20911), (197, 20962), (216, 21106), (222, 21142), (223, 21145), (230, 21193), (234, 21217), (237, 21253), (238, 21256), (239, 21265), (242, 21301), (243, 21316),

Gene: Camster_21 Start: 19039, Stop: 21300, Start Num: 4

Candidate Starts for Camster_21:

(Start: 4 @19039 has 32 MA's), (23, 19192), (51, 19465), (53, 19477), (57, 19498), (62, 19522), (68, 19597), (75, 19669), (79, 19699), (83, 19735), (89, 19798), (93, 19813), (98, 19840), (99, 19846), (106, 19921), (109, 19945), (111, 19951), (117, 20005), (118, 20011), (143, 20281), (149, 20347), (151, 20365), (153, 20383), (162, 20542), (165, 20569), (168, 20587), (171, 20614), (173, 20650), (175, 20668), (176, 20674), (178, 20701), (179, 20707), (185, 20749), (196, 20890), (197, 20941), (216, 21085), (222, 21121), (223, 21124), (230, 21172), (234, 21196), (237, 21232), (238, 21235), (239, 21244), (242, 21280), (243, 21295),

Gene: Cepens_24 Start: 27217, Stop: 29346, Start Num: 21

Candidate Starts for Cepens_24:

(Start: 21 @27217 has 4 MA's), (29, 27286), (34, 27319), (36, 27340), (43, 27397), (46, 27427), (47, 27445), (58, 27538), (59, 27541), (66, 27595), (74, 27679), (80, 27715), (81, 27733), (82, 27736), (87, 27784), (91, 27823), (96, 27859), (100, 27877), (103, 27931), (105, 27943), (107, 27967), (110, 27991), (112, 28003), (114, 28018), (116, 28033), (119, 28075), (125, 28132), (126, 28156), (143, 28327), (149, 28393), (151, 28411), (153, 28429), (162, 28588), (165, 28615), (168, 28633), (171, 28660), (173, 28696), (175, 28714), (176, 28720), (178, 28747), (179, 28753), (185, 28795), (196, 28936), (197, 28987), (216, 29131), (222, 29167), (223, 29170), (230, 29218), (234, 29242), (237, 29278), (238, 29281), (239, 29290), (242, 29326), (243, 29341),

Gene: Chubbello_21 Start: 19037, Stop: 21298, Start Num: 4

Candidate Starts for Chubbello_21:

(Start: 4 @19037 has 32 MA's), (Start: 6 @19046 has 14 MA's), (23, 19190), (51, 19463), (53, 19475), (57, 19496), (62, 19520), (68, 19595), (75, 19667), (79, 19697), (83, 19733), (89, 19796), (93, 19811), (98, 19838), (99, 19844), (106, 19919), (109, 19943), (111, 19949), (117, 20003), (118, 20009), (143, 20279), (149, 20345), (151, 20363), (153, 20381), (162, 20540), (165, 20567), (168, 20585), (171, 20612), (173, 20648), (175, 20666), (176, 20672), (178, 20699), (179, 20705), (185, 20747), (196, 20888), (197, 20939), (216, 21083), (222, 21119), (223, 21122), (230, 21170), (234, 21194), (237, 21230), (238, 21233), (239, 21242), (242, 21278), (243, 21293),

Gene: Diminimus_31 Start: 24621, Stop: 26972, Start Num: 6

Candidate Starts for Diminimus_31:

(Start: 6 @24621 has 14 MA's), (15, 24741), (17, 24756), (26, 24828), (28, 24849), (30, 24861), (33, 24888), (35, 24897), (51, 25083), (63, 25146), (68, 25215), (71, 25242), (79, 25317), (81, 25338), (100, 25473), (106, 25554), (108, 25569), (109, 25578), (111, 25584), (124, 25707), (137, 25863), (140, 25881), (141, 25896), (149, 25980), (151, 25998), (152, 26007), (153, 26016), (161, 26163), (162, 26175), (169, 26241), (173, 26283), (176, 26307), (179, 26340), (187, 26394), (190, 26433), (192, 26445), (199, 26577), (204, 26622), (218, 26748), (222, 26772), (224, 26781), (226, 26790), (227, 26802), (229, 26814), (230, 26829), (237, 26889), (244, 26958),

Gene: Donovan_21 Start: 19027, Stop: 21288, Start Num: 4

Candidate Starts for Donovan_21:

(Start: 4 @19027 has 32 MA's), (Start: 6 @19036 has 14 MA's), (23, 19180), (51, 19453), (53, 19465), (57, 19486), (62, 19510), (68, 19585), (75, 19657), (79, 19687), (83, 19723), (89, 19786), (93, 19801), (98, 19828), (99, 19834), (106, 19909), (109, 19933), (111, 19939), (117, 19993), (118, 19999), (143, 20269), (149, 20335), (151, 20353), (153, 20371), (162, 20530), (165, 20557), (168, 20575), (171, 20602), (173, 20638), (175, 20656), (176, 20662), (178, 20689), (179, 20695), (185, 20737), (196, 20878), (197, 20929), (216, 21073), (222, 21109), (223, 21112), (230, 21160), (234, 21184), (237, 21220), (238, 21223), (239, 21232), (242, 21268), (243, 21283),

Gene: Dulcita_31 Start: 24621, Stop: 26972, Start Num: 6

Candidate Starts for Dulcita_31:

(Start: 6 @24621 has 14 MA's), (15, 24741), (17, 24756), (26, 24828), (28, 24849), (30, 24861), (33, 24888), (35, 24897), (51, 25083), (63, 25146), (68, 25215), (71, 25242), (79, 25317), (81, 25338), (100,

25473), (106, 25554), (108, 25569), (109, 25578), (111, 25584), (124, 25707), (137, 25863), (140, 25881), (141, 25896), (149, 25980), (151, 25998), (152, 26007), (153, 26016), (161, 26163), (162, 26175), (169, 26241), (173, 26283), (176, 26307), (179, 26340), (187, 26394), (190, 26433), (192, 26445), (199, 26577), (204, 26622), (218, 26748), (222, 26772), (224, 26781), (226, 26790), (227, 26802), (229, 26814), (230, 26829), (237, 26889), (244, 26958),

Gene: Etoile_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Etoile_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: FirstPlacePfu_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for FirstPlacePfu_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: Fishburne_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Fishburne_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: FreakyGoo_31 Start: 24622, Stop: 26973, Start Num: 6

Candidate Starts for FreakyGoo_31:

(Start: 6 @24622 has 14 MA's), (15, 24742), (17, 24757), (26, 24829), (28, 24850), (30, 24862), (33, 24889), (35, 24898), (51, 25084), (63, 25147), (68, 25216), (71, 25243), (78, 25315), (79, 25318), (81, 25339), (100, 25474), (106, 25555), (108, 25570), (109, 25579), (111, 25585), (124, 25708), (137, 25864), (140, 25882), (141, 25897), (149, 25981), (151, 25999), (152, 26008), (153, 26017), (161, 26164), (162, 26176), (169, 26242), (173, 26284), (176, 26308), (179, 26341), (187, 26395), (190, 26434), (192, 26446), (199, 26578), (204, 26623), (218, 26749), (222, 26773), (224, 26782), (226, 26791), (227, 26803), (229, 26815), (230, 26830), (237, 26890), (244, 26959),

Gene: GaloreK_21 Start: 19034, Stop: 21295, Start Num: 4

Candidate Starts for GaloreK_21:

(Start: 4 @19034 has 32 MA's), (Start: 6 @19043 has 14 MA's), (23, 19187), (51, 19460), (53, 19472), (57, 19493), (62, 19517), (68, 19592), (75, 19664), (79, 19694), (83, 19730), (89, 19793), (93, 19808), (98, 19835), (99, 19841), (106, 19916), (109, 19940), (111, 19946), (117, 20000), (118, 20006), (143, 20276), (149, 20342), (151, 20360), (153, 20378), (162, 20537), (165, 20564), (168, 20582), (171, 20609), (173, 20645), (175, 20663), (176, 20669), (178, 20696), (179, 20702), (185, 20744), (196,

20885), (197, 20936), (216, 21080), (222, 21116), (223, 21119), (230, 21167), (234, 21191), (237, 21227), (238, 21230), (239, 21239), (242, 21275), (243, 21290),

Gene: Glaske16_31 Start: 24621, Stop: 26972, Start Num: 6

Candidate Starts for Glaske16_31:

(Start: 6 @24621 has 14 MA's), (15, 24741), (17, 24756), (26, 24828), (28, 24849), (30, 24861), (33, 24888), (35, 24897), (51, 25083), (63, 25146), (68, 25215), (71, 25242), (79, 25317), (81, 25338), (100, 25473), (106, 25554), (108, 25569), (109, 25578), (111, 25584), (124, 25707), (137, 25863), (140, 25881), (141, 25896), (149, 25980), (151, 25998), (152, 26007), (161, 26163), (162, 26175), (169, 26241), (173, 26283), (176, 26307), (179, 26340), (187, 26394), (190, 26433), (192, 26445), (199, 26577), (204, 26622), (218, 26748), (222, 26772), (224, 26781), (226, 26790), (227, 26802), (229, 26814), (230, 26829), (237, 26889), (244, 26958),

Gene: GreaseLightnin_21 Start: 19044, Stop: 21344, Start Num: 3

Candidate Starts for GreaseLightnin_21:

(Start: 3 @19044 has 13 MA's), (7, 19053), (23, 19197), (51, 19470), (53, 19482), (57, 19503), (76, 19683), (81, 19731), (83, 19746), (84, 19761), (86, 19767), (88, 19785), (89, 19809), (93, 19824), (94, 19833), (99, 19860), (101, 19866), (103, 19911), (106, 19935), (108, 19947), (109, 19956), (111, 19962), (115, 19998), (117, 20016), (139, 20250), (143, 20292), (149, 20358), (151, 20376), (153, 20394), (162, 20553), (165, 20580), (167, 20595), (168, 20598), (173, 20661), (174, 20670), (176, 20685), (184, 20751), (191, 20814), (192, 20823), (197, 20949), (200, 20970), (205, 21006), (206, 21012), (208, 21024), (209, 21027), (212, 21066), (218, 21129), (220, 21138), (223, 21156),

Gene: Gspu1_25 Start: 19933, Stop: 21690, Start Num: 48

Candidate Starts for Gspu1_25:

(48, 19933), (56, 19987), (59, 20002), (66, 20056), (67, 20080), (69, 20098), (72, 20131), (77, 20194), (81, 20218), (85, 20248), (90, 20302), (92, 20305), (95, 20332), (102, 20374), (106, 20428), (115, 20488), (120, 20536), (122, 20551), (123, 20566), (127, 20626), (128, 20659), (129, 20665), (131, 20671), (133, 20680), (134, 20683), (135, 20710), (138, 20740), (142, 20773), (144, 20785), (145, 20803), (150, 20860), (156, 20947), (160, 21019), (163, 21049), (170, 21067), (173, 21082), (180, 21148), (182, 21163), (184, 21172), (193, 21256), (201, 21394), (211, 21487), (225, 21592), (232, 21637),

Gene: HC_21 Start: 19081, Stop: 21369, Start Num: 4

Candidate Starts for HC_21:

(Start: 4 @19081 has 32 MA's), (8, 19105), (16, 19216), (18, 19225), (23, 19252), (39, 19399), (51, 19534), (53, 19546), (57, 19567), (62, 19591), (68, 19666), (75, 19738), (79, 19768), (83, 19804), (89, 19867), (93, 19882), (98, 19909), (99, 19915), (100, 19918), (106, 19990), (109, 20014), (111, 20020), (117, 20074), (118, 20080), (143, 20350), (149, 20416), (151, 20434), (153, 20452), (162, 20611), (165, 20638), (168, 20656), (171, 20683), (173, 20719), (175, 20737), (176, 20743), (178, 20770), (179, 20776), (185, 20818), (196, 20959), (197, 21010), (216, 21154), (222, 21190), (223, 21193), (230, 21241), (234, 21265), (237, 21301), (238, 21304), (239, 21313), (242, 21349), (243, 21364),

Gene: HUHilltop_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for HUHilltop_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: Hanako_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for Hanako_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (51, 17992), (53, 18004), (57, 18025), (65, 18070), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (88, 18307), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (139, 18772), (143, 18814), (150, 18895), (151, 18898), (153, 18916), (156, 18982), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: IPhone7_30 Start: 24622, Stop: 26973, Start Num: 6

Candidate Starts for IPhone7_30:

(Start: 6 @24622 has 14 MA's), (15, 24742), (17, 24757), (26, 24829), (28, 24850), (30, 24862), (33, 24889), (35, 24898), (51, 25084), (63, 25147), (68, 25216), (71, 25243), (78, 25315), (79, 25318), (81, 25339), (100, 25474), (106, 25555), (108, 25570), (109, 25579), (111, 25585), (124, 25708), (137, 25864), (140, 25882), (141, 25897), (149, 25981), (151, 25999), (152, 26008), (153, 26017), (161, 26164), (162, 26176), (169, 26242), (173, 26284), (176, 26308), (179, 26341), (187, 26395), (190, 26434), (192, 26446), (199, 26578), (204, 26623), (218, 26749), (222, 26773), (224, 26782), (226, 26791), (227, 26803), (229, 26815), (230, 26830), (237, 26890), (244, 26959),

Gene: Izel_31 Start: 24621, Stop: 26972, Start Num: 6

Candidate Starts for Izel_31:

(Start: 6 @24621 has 14 MA's), (15, 24741), (17, 24756), (26, 24828), (28, 24849), (30, 24861), (33, 24888), (35, 24897), (51, 25083), (63, 25146), (68, 25215), (71, 25242), (79, 25317), (81, 25338), (100, 25473), (106, 25554), (108, 25569), (109, 25578), (111, 25584), (124, 25707), (137, 25863), (140, 25881), (141, 25896), (149, 25980), (151, 25998), (152, 26007), (153, 26016), (161, 26163), (162, 26175), (169, 26241), (173, 26283), (176, 26307), (179, 26340), (187, 26394), (190, 26433), (192, 26445), (199, 26577), (204, 26622), (218, 26748), (222, 26772), (224, 26781), (226, 26790), (227, 26802), (229, 26814), (230, 26829), (237, 26889), (244, 26958),

Gene: Jamie19_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for Jamie19_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (45, 17920), (51, 17992), (53, 18004), (57, 18025), (60, 18037), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (87, 18304), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (104, 18442), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (112, 18493), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (143, 18814), (149, 18880), (151, 18898), (153, 18916), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: Jebeks_21 Start: 19023, Stop: 21284, Start Num: 4

Candidate Starts for Jebeks_21:

(Start: 4 @19023 has 32 MA's), (Start: 6 @19032 has 14 MA's), (23, 19176), (51, 19449), (53, 19461), (57, 19482), (62, 19506), (68, 19581), (75, 19653), (79, 19683), (83, 19719), (89, 19782), (93, 19797), (98, 19824), (99, 19830), (106, 19905), (109, 19929), (111, 19935), (117, 19989), (118, 19995), (143, 20265), (149, 20331), (151, 20349), (153, 20367), (162, 20526), (165, 20553), (168, 20571), (171, 20598), (173, 20634), (175, 20652), (176, 20658), (178, 20685), (179, 20691), (185, 20733), (196, 20874), (197, 20925), (216, 21069), (222, 21105), (223, 21108), (230, 21156), (234, 21180), (237, 21216), (238, 21219), (239, 21228), (242, 21264), (243, 21279),

Gene: Jung_21 Start: 18964, Stop: 21225, Start Num: 4

Candidate Starts for Jung_21:

(Start: 4 @18964 has 32 MA's), (Start: 6 @18973 has 14 MA's), (23, 19117), (51, 19390), (53, 19402), (57, 19423), (61, 19444), (68, 19522), (75, 19594), (79, 19624), (83, 19660), (89, 19723), (93, 19738), (99, 19771), (100, 19774), (106, 19846), (109, 19870), (111, 19876), (117, 19930), (118, 19936), (143, 20206), (149, 20272), (151, 20290), (153, 20308), (162, 20467), (168, 20512), (171, 20539), (173, 20575), (175, 20593), (176, 20599), (178, 20626), (179, 20632), (185, 20674), (196, 20815), (197, 20866), (216, 21010), (222, 21046), (223, 21049), (230, 21097), (234, 21121), (237, 21157), (238, 21160), (239, 21169), (242, 21205), (243, 21220),

Gene: Juniormint_21 Start: 19064, Stop: 21325, Start Num: 4

Candidate Starts for Juniormint_21:

(Start: 4 @19064 has 32 MA's), (Start: 6 @19073 has 14 MA's), (23, 19217), (51, 19490), (53, 19502), (57, 19523), (62, 19547), (68, 19622), (75, 19694), (79, 19724), (83, 19760), (89, 19823), (93, 19838), (98, 19865), (99, 19871), (106, 19946), (109, 19970), (111, 19976), (117, 20030), (118, 20036), (143, 20306), (149, 20372), (151, 20390), (153, 20408), (162, 20567), (165, 20594), (168, 20612), (171, 20639), (173, 20675), (175, 20693), (176, 20699), (178, 20726), (179, 20732), (185, 20774), (196, 20915), (197, 20966), (216, 21110), (222, 21146), (223, 21149), (230, 21197), (234, 21221), (237, 21257), (238, 21260), (239, 21269), (242, 21305), (243, 21320),

Gene: Kari_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Kari_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: KleverKiS_30 Start: 24605, Stop: 26953, Start Num: 6

Candidate Starts for KleverKiS_30:

(Start: 6 @24605 has 14 MA's), (15, 24725), (17, 24740), (26, 24812), (28, 24833), (30, 24845), (33, 24872), (35, 24881), (38, 24911), (40, 24938), (42, 24965), (50, 25061), (51, 25067), (55, 25091), (65, 25145), (71, 25226), (78, 25298), (79, 25301), (81, 25322), (100, 25457), (101, 25460), (106, 25538), (111, 25565), (115, 25601), (116, 25604), (118, 25625), (132, 25790), (136, 25826), (137, 25844), (141, 25877), (149, 25961), (151, 25979), (152, 25988), (161, 26144), (162, 26156), (169, 26222), (173, 26264), (176, 26288), (179, 26321), (187, 26375), (190, 26414), (192, 26426), (199, 26558), (204, 26603), (218, 26729), (222, 26753), (224, 26762), (226, 26771), (227, 26783), (229, 26795), (230, 26810), (237, 26870), (244, 26939),

Gene: Ksquared_21 Start: 19060, Stop: 21321, Start Num: 4

Candidate Starts for Ksquared_21:

(Start: 4 @19060 has 32 MA's), (Start: 6 @19069 has 14 MA's), (23, 19213), (51, 19486), (53, 19498), (57, 19519), (62, 19543), (68, 19618), (75, 19690), (79, 19720), (83, 19756), (89, 19819), (93, 19834), (98, 19861), (99, 19867), (106, 19942), (109, 19966), (111, 19972), (117, 20026), (118, 20032), (143, 20302), (149, 20368), (151, 20386), (153, 20404), (162, 20563), (165, 20590), (168, 20608), (171, 20635), (173, 20671), (175, 20689), (176, 20695), (178, 20722), (179, 20728), (185, 20770), (196, 20911), (197, 20962), (216, 21106), (222, 21142), (223, 21145), (230, 21193), (234, 21217), (237, 21253), (238, 21256), (239, 21265), (242, 21301), (243, 21316),

Gene: Langerak_21 Start: 19022, Stop: 21283, Start Num: 4

Candidate Starts for Langerak_21:

(Start: 4 @19022 has 32 MA's), (Start: 6 @19031 has 14 MA's), (23, 19175), (51, 19448), (53, 19460), (57, 19481), (62, 19505), (68, 19580), (75, 19652), (79, 19682), (83, 19718), (89, 19781), (93, 19796), (98, 19823), (99, 19829), (106, 19904), (109, 19928), (111, 19934), (117, 19988), (118, 19994), (143, 20264), (149, 20330), (151, 20348), (153, 20366), (162, 20525), (165, 20552), (168, 20570), (171, 20597), (173, 20633), (175, 20651), (176, 20657), (178, 20684), (179, 20690), (185, 20732), (196, 20873), (197, 20924), (216, 21068), (222, 21104), (223, 21107), (230, 21155), (234, 21179), (237, 21215), (238, 21218), (239, 21227), (242, 21263), (243, 21278),

Gene: Laurie_32 Start: 29962, Stop: 32097, Start Num: 20

Candidate Starts for Laurie_32:

(Start: 20 @29962 has 1 MA's), (27, 30016), (32, 30055), (34, 30073), (37, 30100), (40, 30124), (41, 30127), (44, 30160), (54, 30268), (58, 30289), (59, 30292), (66, 30346), (73, 30406), (74, 30430), (80, 30466), (84, 30514), (87, 30535), (91, 30574), (97, 30613), (100, 30628), (103, 30682), (105, 30694), (107, 30718), (110, 30742), (112, 30754), (114, 30769), (116, 30784), (119, 30826), (121, 30844), (125, 30883), (126, 30907), (143, 31078), (149, 31144), (151, 31162), (153, 31180), (162, 31339), (165, 31366), (168, 31384), (171, 31411), (173, 31447), (175, 31465), (176, 31471), (178, 31498), (179, 31504), (185, 31546), (196, 31687), (197, 31738), (216, 31882), (222, 31918), (223, 31921), (230, 31969), (234, 31993), (237, 32029), (238, 32032), (239, 32041), (242, 32077), (243, 32092),

Gene: LilhomieP_29 Start: 24622, Stop: 26973, Start Num: 6

Candidate Starts for LilhomieP_29:

(Start: 6 @24622 has 14 MA's), (15, 24742), (17, 24757), (26, 24829), (28, 24850), (30, 24862), (33, 24889), (35, 24898), (51, 25084), (63, 25147), (68, 25216), (71, 25243), (78, 25315), (79, 25318), (81, 25339), (100, 25474), (106, 25555), (108, 25570), (109, 25579), (111, 25585), (124, 25708), (137, 25864), (140, 25882), (141, 25897), (149, 25981), (151, 25999), (152, 26008), (153, 26017), (161, 26164), (162, 26176), (169, 26242), (173, 26284), (176, 26308), (179, 26341), (187, 26395), (190, 26434), (192, 26446), (199, 26578), (204, 26623), (218, 26749), (222, 26773), (224, 26782), (226, 26791), (227, 26803), (229, 26815), (230, 26830), (237, 26890), (244, 26959),

Gene: LordVader_19 Start: 17314, Stop: 19476, Start Num: 5

Candidate Starts for LordVader_19:

(Start: 5 @17314 has 3 MA's), (8, 17335), (10, 17356), (14, 17395), (19, 17464), (22, 17473), (23, 17476), (25, 17494), (28, 17527), (31, 17542), (45, 17644), (49, 17701), (52, 17725), (64, 17782), (76, 17929), (81, 17977), (83, 17992), (86, 18013), (89, 18055), (93, 18070), (94, 18079), (99, 18106), (101, 18112), (106, 18181), (109, 18202), (111, 18208), (112, 18217), (115, 18244), (143, 18538), (146, 18565), (149, 18604), (151, 18622), (153, 18640), (157, 18733), (176, 18865), (183, 18925), (197, 19132), (202, 19159), (203, 19180), (213, 19243), (219, 19282), (222, 19300), (231, 19348), (234, 19366), (235, 19372),

Gene: Majeke_21 Start: 19044, Stop: 21305, Start Num: 4

Candidate Starts for Majeke_21:

(Start: 4 @19044 has 32 MA's), (23, 19197), (51, 19470), (53, 19482), (57, 19503), (62, 19527), (68, 19602), (75, 19674), (79, 19704), (83, 19740), (89, 19803), (93, 19818), (98, 19845), (99, 19851), (106, 19926), (109, 19950), (111, 19956), (113, 19968), (117, 20010), (118, 20016), (143, 20286), (149, 20352), (151, 20370), (153, 20388), (162, 20547), (165, 20574), (168, 20592), (171, 20619), (173, 20655), (175, 20673), (176, 20679), (178, 20706), (179, 20712), (185, 20754), (196, 20895), (197, 20946), (216, 21090), (222, 21126), (223, 21129), (230, 21177), (234, 21201), (237, 21237), (238, 21240), (239, 21249), (242, 21285), (243, 21300),

Gene: Malithi_21 Start: 18963, Stop: 21224, Start Num: 4

Candidate Starts for Malithi_21:

(Start: 4 @18963 has 32 MA's), (Start: 6 @18972 has 14 MA's), (23, 19116), (50, 19383), (51, 19389), (53, 19401), (57, 19422), (62, 19446), (68, 19521), (75, 19593), (79, 19623), (83, 19659), (89, 19722), (93, 19737), (98, 19764), (99, 19770), (106, 19845), (109, 19869), (111, 19875), (117, 19929), (118, 19935), (143, 20205), (149, 20271), (151, 20289), (153, 20307), (162, 20466), (165, 20493), (168, 20511), (171, 20538), (173, 20574), (175, 20592), (176, 20598), (178, 20625), (179, 20631), (185, 20673), (196, 20814), (197, 20865), (216, 21009), (222, 21045), (223, 21048), (230, 21096), (234, 21120), (237, 21156), (238, 21159), (239, 21168), (242, 21204), (243, 21219),

Gene: Mangethe_21 Start: 19044, Stop: 21305, Start Num: 4

Candidate Starts for Mangethe_21:

(Start: 4 @19044 has 32 MA's), (23, 19197), (51, 19470), (53, 19482), (57, 19503), (62, 19527), (68, 19602), (75, 19674), (79, 19704), (83, 19740), (89, 19803), (93, 19818), (98, 19845), (99, 19851), (106, 19926), (109, 19950), (111, 19956), (113, 19968), (117, 20010), (118, 20016), (143, 20286), (149, 20352), (151, 20370), (153, 20388), (162, 20547), (165, 20574), (168, 20592), (171, 20619), (173, 20655), (175, 20673), (176, 20679), (178, 20706), (179, 20712), (185, 20754), (196, 20895), (197, 20946), (216, 21090), (222, 21126), (223, 21129), (230, 21177), (234, 21201), (237, 21237), (238, 21240), (239, 21249), (242, 21285), (243, 21300),

Gene: Megabear_24 Start: 27160, Stop: 29289, Start Num: 21

Candidate Starts for Megabear_24:

(Start: 21 @27160 has 4 MA's), (29, 27229), (34, 27262), (36, 27283), (43, 27340), (46, 27370), (47, 27388), (58, 27481), (59, 27484), (66, 27538), (74, 27622), (80, 27658), (81, 27676), (82, 27679), (87, 27727), (91, 27766), (96, 27802), (100, 27820), (103, 27874), (105, 27886), (107, 27910), (110, 27934), (112, 27946), (114, 27961), (116, 27976), (119, 28018), (125, 28075), (126, 28099), (143, 28270), (149, 28336), (151, 28354), (153, 28372), (162, 28531), (165, 28558), (168, 28576), (171, 28603), (173, 28639), (175, 28657), (176, 28663), (178, 28690), (179, 28696), (185, 28738), (196, 28879), (197, 28930), (216, 29074), (222, 29110), (223, 29113), (230, 29161), (234, 29185), (237, 29221), (238, 29224), (239, 29233), (242, 29269), (243, 29284),

Gene: MilanaBonita_19 Start: 18067, Stop: 20265, Start Num: 5

Candidate Starts for MilanaBonita_19:

(2, 18055), (Start: 5 @18067 has 3 MA's), (8, 18088), (10, 18109), (14, 18148), (19, 18217), (22, 18226), (23, 18229), (28, 18280), (31, 18295), (39, 18370), (51, 18505), (53, 18517), (57, 18538), (64, 18571), (76, 18718), (83, 18781), (88, 18820), (89, 18844), (93, 18859), (94, 18868), (99, 18895), (100, 18898), (101, 18901), (106, 18970), (109, 18991), (111, 18997), (115, 19033), (117, 19051), (143, 19327), (149, 19393), (151, 19411), (153, 19429), (162, 19588), (183, 19714), (195, 19855), (196, 19870), (197, 19921), (202, 19948), (203, 19969), (219, 20071), (221, 20086), (223, 20092), (231, 20137), (234, 20155), (235, 20161), (240, 20224),

Gene: Ms6_18 Start: 17407, Stop: 19719, Start Num: 3

Candidate Starts for Ms6_18:

(1, 17395), (Start: 3 @17407 has 13 MA's), (7, 17428), (9, 17449), (12, 17488), (19, 17557), (22, 17566), (23, 17569), (28, 17620), (31, 17635), (39, 17710), (51, 17845), (53, 17857), (57, 17878), (64, 17911), (76, 18058), (81, 18106), (83, 18121), (86, 18142), (87, 18157), (89, 18184), (93, 18199), (94, 18208), (99, 18235), (101, 18241), (103, 18286), (104, 18295), (106, 18310), (108, 18322), (109, 18331), (111, 18337), (112, 18346), (115, 18373), (117, 18391), (124, 18460), (130, 18550), (143, 18667), (149, 18733), (151, 18751), (153, 18769), (161, 18916), (162, 18928), (165, 18955), (167, 18970), (168, 18973), (173, 19036), (174, 19045), (176, 19060), (184, 19126), (191, 19189), (192, 19198), (194, 19252), (197, 19324), (200, 19345), (205, 19381), (206, 19387), (208, 19399), (209, 19402), (212, 19441), (218, 19504), (220, 19513), (223, 19531),

Gene: Necropolis_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Necropolis_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: Nenae_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for Nenae_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (51, 17992), (53, 18004), (57, 18025), (65, 18070), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (88, 18307), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (139, 18772), (143, 18814), (150, 18895), (151, 18898), (153, 18916), (156, 18982), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: Okabe_20 Start: 18189, Stop: 20462, Start Num: 4

Candidate Starts for Okabe_20:

(Start: 4 @18189 has 32 MA's), (8, 18210), (10, 18231), (13, 18270), (19, 18339), (22, 18348), (23, 18351), (25, 18369), (28, 18402), (39, 18492), (51, 18627), (53, 18639), (57, 18660), (62, 18684), (68, 18759), (75, 18831), (79, 18861), (83, 18897), (89, 18960), (93, 18975), (98, 19002), (99, 19008), (106, 19083), (109, 19107), (111, 19113), (117, 19167), (118, 19173), (143, 19443), (149, 19509), (153, 19545), (162, 19704), (165, 19731), (168, 19749), (171, 19776), (173, 19812), (175, 19830), (176, 19836), (178, 19863), (179, 19869), (185, 19911), (196, 20052), (197, 20103), (216, 20247), (222, 20283), (223, 20286), (230, 20334), (234, 20358), (237, 20394), (238, 20397), (239, 20406), (242, 20442), (243, 20457),

Gene: PeanutPie_21 Start: 19045, Stop: 21306, Start Num: 4

Candidate Starts for PeanutPie_21:

(Start: 4 @19045 has 32 MA's), (23, 19198), (51, 19471), (53, 19483), (57, 19504), (62, 19528), (68, 19603), (75, 19675), (79, 19705), (83, 19741), (89, 19804), (93, 19819), (98, 19846), (99, 19852), (106, 19927), (109, 19951), (111, 19957), (117, 20011), (118, 20017), (143, 20287), (149, 20353), (151, 20371), (153, 20389), (162, 20548), (165, 20575), (168, 20593), (171, 20620), (173, 20656), (175, 20674), (176, 20680), (178, 20707), (179, 20713), (185, 20755), (196, 20896), (197, 20947), (216, 21091), (222, 21127), (223, 21130), (230, 21178), (234, 21202), (237, 21238), (238, 21241), (239, 21250), (242, 21286), (243, 21301),

Gene: PegLeg_30 Start: 24621, Stop: 26972, Start Num: 6

Candidate Starts for PegLeg_30:

(Start: 6 @24621 has 14 MA's), (15, 24741), (17, 24756), (26, 24828), (28, 24849), (30, 24861), (33, 24888), (35, 24897), (51, 25083), (63, 25146), (68, 25215), (71, 25242), (78, 25314), (79, 25317), (81, 25338), (100, 25473), (106, 25554), (108, 25569), (109, 25578), (111, 25584), (124, 25707), (137, 25863), (140, 25881), (141, 25896), (149, 25980), (151, 25998), (152, 26007), (161, 26163), (162, 26175), (169, 26241), (173, 26283), (176, 26307), (179, 26340), (187, 26394), (190, 26433), (192, 26445), (199, 26577), (204, 26622), (218, 26748), (222, 26772), (224, 26781), (226, 26790), (227, 26802), (229, 26814), (230, 26829), (237, 26889), (244, 26958),

Gene: PhancyPhin_20 Start: 17557, Stop: 19863, Start Num: 3

Candidate Starts for PhancyPhin_20:

(1, 17545), (Start: 3 @17557 has 13 MA's), (7, 17569), (18, 17680), (22, 17704), (23, 17707), (24, 17716), (51, 17989), (53, 18001), (57, 18022), (65, 18067), (76, 18202), (81, 18250), (83, 18265), (86, 18286), (88, 18304), (89, 18328), (93, 18343), (94, 18352), (99, 18379), (101, 18385), (103, 18430), (106, 18454), (108, 18466), (109, 18475), (111, 18481), (115, 18517), (117, 18535), (124, 18604), (130, 18694), (139, 18769), (143, 18811), (150, 18892), (151, 18895), (153, 18913), (156, 18979), (161, 19060), (162, 19072), (165, 19099), (167, 19114), (168, 19117), (173, 19180), (174, 19189), (176, 19204), (184, 19270), (191, 19333), (192, 19342), (194, 19396), (197, 19468), (200, 19489), (205, 19525), (206, 19531), (208, 19543), (209, 19546), (212, 19585), (218, 19648), (220, 19657), (223, 19675),

Gene: Phegasus_21 Start: 19044, Stop: 21305, Start Num: 4

Candidate Starts for Phegasus_21:

(Start: 4 @19044 has 32 MA's), (Start: 6 @19053 has 14 MA's), (23, 19197), (51, 19470), (53, 19482), (57, 19503), (62, 19527), (68, 19602), (75, 19674), (79, 19704), (83, 19740), (89, 19803), (93, 19818), (98, 19845), (99, 19851), (106, 19926), (109, 19950), (111, 19956), (117, 20010), (118, 20016), (143, 20286), (149, 20352), (151, 20370), (153, 20388), (162, 20547), (165, 20574), (168, 20592), (171, 20619), (173, 20655), (175, 20673), (176, 20679), (178, 20706), (179, 20712), (185, 20754), (196, 20895), (197, 20946), (216, 21090), (222, 21126), (223, 21129), (230, 21177), (234, 21201), (237, 21237), (238, 21240), (239, 21249), (242, 21285), (243, 21300),

Gene: Polkaroo_21 Start: 19054, Stop: 21315, Start Num: 4

Candidate Starts for Polkaroo_21:

(Start: 4 @19054 has 32 MA's), (Start: 6 @19063 has 14 MA's), (23, 19207), (51, 19480), (53, 19492), (57, 19513), (62, 19537), (68, 19612), (75, 19684), (79, 19714), (83, 19750), (89, 19813), (93, 19828), (98, 19855), (99, 19861), (106, 19936), (109, 19960), (111, 19966), (117, 20020), (118, 20026), (143, 20296), (149, 20362), (151, 20380), (153, 20398), (162, 20557), (165, 20584), (168, 20602), (171, 20629), (173, 20665), (175, 20683), (176, 20689), (178, 20716), (179, 20722), (185, 20764), (196, 20905), (197, 20956), (216, 21100), (222, 21136), (223, 21139), (230, 21187), (234, 21211), (237, 21247), (238, 21250), (239, 21259), (242, 21295), (243, 21310),

Gene: Purgamenstris_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for Purgamenstris_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (51, 17992), (53, 18004), (57, 18025), (65, 18070), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (88, 18307), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (139, 18772), (143, 18814), (150, 18895), (151, 18898), (153, 18916), (156, 18982), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: QueenHazel_21 Start: 19085, Stop: 21412, Start Num: 4

Candidate Starts for QueenHazel_21:

(Start: 4 @19085 has 32 MA's), (8, 19109), (11, 19145), (16, 19220), (18, 19229), (23, 19256), (39, 19403), (51, 19538), (53, 19550), (57, 19571), (64, 19604), (76, 19751), (83, 19814), (88, 19853), (89, 19877), (93, 19892), (94, 19901), (99, 19928), (100, 19931), (101, 19934), (106, 20003), (109, 20024), (111, 20030), (115, 20066), (117, 20084), (143, 20360), (146, 20387), (149, 20426), (151, 20444), (162, 20621), (169, 20687), (173, 20729), (174, 20738), (176, 20753), (184, 20819), (191, 20882), (192, 20891), (197, 21017), (200, 21038), (205, 21074), (206, 21080), (208, 21092), (209, 21095), (212, 21134), (218, 21197), (220, 21206), (223, 21224),

Gene: Rebel_20 Start: 17557, Stop: 19857, Start Num: 3

Candidate Starts for Rebel_20:

(1, 17545), (Start: 3 @17557 has 13 MA's), (7, 17569), (18, 17680), (22, 17704), (23, 17707), (24, 17716), (51, 17989), (53, 18001), (57, 18022), (62, 18046), (68, 18121), (75, 18193), (79, 18223), (83, 18259), (89, 18322), (93, 18337), (98, 18364), (99, 18370), (100, 18373), (106, 18445), (109, 18469), (111, 18475), (117, 18529), (118, 18535), (143, 18805), (149, 18871), (151, 18889), (153, 18907), (162, 19066), (165, 19093), (167, 19108), (168, 19111), (173, 19174), (174, 19183), (176, 19198), (184, 19264), (191, 19327), (192, 19336), (194, 19390), (197, 19462), (200, 19483), (205, 19519), (206, 19525), (208, 19537), (209, 19540), (212, 19579), (218, 19642), (220, 19651), (223, 19669),

Gene: Redi_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for Redi_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (51, 17992), (53, 18004), (57, 18025), (65, 18070), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (88, 18307), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (139, 18772), (143, 18814), (150, 18895), (151, 18898), (153, 18916), (156, 18982), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: ShrimpFriedEgg_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for ShrimpFriedEgg_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (51, 17992), (53, 18004), (57, 18025), (65, 18070), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (88, 18307), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (139, 18772), (143, 18814), (150, 18895), (151, 18898), (153, 18916), (156, 18982), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: Skinny_31 Start: 24622, Stop: 27432, Start Num: 6

Candidate Starts for Skinny_31:

(Start: 6 @24622 has 14 MA's), (15, 24742), (17, 24757), (26, 24829), (28, 24850), (30, 24862), (33, 24889), (35, 24898), (51, 25084), (63, 25147), (68, 25216), (71, 25243), (78, 25315), (79, 25318), (81, 25339), (100, 25474), (106, 25555), (108, 25570), (109, 25579), (111, 25585), (124, 25708), (137, 25864), (140, 25882), (141, 25897), (143, 25915), (145, 25939), (146, 25942), (147, 25963), (148, 25984), (151, 26008), (154, 26029), (155, 26038), (157, 26119), (158, 26146), (159, 26161), (164, 26236), (166, 26242), (169, 26278), (172, 26305), (177, 26365), (181, 26389), (186, 26425), (188, 26434), (189, 26452), (194, 26554), (198, 26632), (204, 26683), (207, 26707), (210, 26722), (214, 26767), (215, 26782), (217, 26809), (218, 26818), (222, 26842), (224, 26851), (228, 26881), (233, 26923), (236, 26947), (241, 27022), (245, 27076), (246, 27100), (247, 27148), (248, 27166), (249, 27184), (250, 27196), (251, 27232), (252, 27271), (253, 27298), (254, 27334), (255, 27352), (256, 27388), (257, 27394), (258, 27424),

Gene: SlimJimmy_29 Start: 24608, Stop: 26956, Start Num: 6

Candidate Starts for SlimJimmy_29:

(Start: 6 @24608 has 14 MA's), (15, 24728), (17, 24743), (26, 24815), (28, 24836), (30, 24848), (33, 24875), (35, 24884), (38, 24914), (40, 24941), (42, 24968), (50, 25064), (51, 25070), (55, 25094), (65, 25148), (70, 25211), (71, 25229), (78, 25301), (79, 25304), (81, 25325), (100, 25460), (101, 25463), (106, 25541), (111, 25568), (115, 25604), (116, 25607), (118, 25628), (132, 25793), (136, 25829),

(137, 25847), (141, 25880), (149, 25964), (151, 25982), (152, 25991), (153, 26000), (161, 26147), (162, 26159), (169, 26225), (173, 26267), (176, 26291), (179, 26324), (187, 26378), (190, 26417), (192, 26429), (199, 26561), (204, 26606), (218, 26732), (222, 26756), (224, 26765), (226, 26774), (227, 26786), (229, 26798), (230, 26813), (237, 26873), (244, 26942),

Gene: Snekmaggedon_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for Snekmaggedon_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (45, 17920), (51, 17992), (53, 18004), (57, 18025), (60, 18037), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (87, 18304), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (104, 18442), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (112, 18493), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (143, 18814), (149, 18880), (151, 18898), (153, 18916), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: Sonah_21 Start: 19028, Stop: 21289, Start Num: 4

Candidate Starts for Sonah_21:

(Start: 4 @19028 has 32 MA's), (Start: 6 @19037 has 14 MA's), (23, 19181), (51, 19454), (53, 19466), (57, 19487), (62, 19511), (68, 19586), (75, 19658), (79, 19688), (83, 19724), (89, 19787), (93, 19802), (98, 19829), (99, 19835), (106, 19910), (109, 19934), (111, 19940), (117, 19994), (118, 20000), (143, 20270), (149, 20336), (151, 20354), (153, 20372), (162, 20531), (165, 20558), (168, 20576), (171, 20603), (173, 20639), (175, 20657), (176, 20663), (178, 20690), (179, 20696), (185, 20738), (196, 20879), (197, 20930), (216, 21074), (222, 21110), (223, 21113), (230, 21161), (234, 21185), (237, 21221), (238, 21224), (239, 21233), (242, 21269), (243, 21284),

Gene: Spinach_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for Spinach_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (51, 17992), (53, 18004), (57, 18025), (65, 18070), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (88, 18307), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (139, 18772), (143, 18814), (150, 18895), (151, 18898), (153, 18916), (156, 18982), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: SpongeBob_20 Start: 17560, Stop: 19866, Start Num: 3

Candidate Starts for SpongeBob_20:

(1, 17548), (Start: 3 @17560 has 13 MA's), (7, 17572), (18, 17683), (22, 17707), (23, 17710), (24, 17719), (45, 17920), (51, 17992), (53, 18004), (57, 18025), (60, 18037), (76, 18205), (81, 18253), (83, 18268), (86, 18289), (87, 18304), (89, 18331), (93, 18346), (94, 18355), (99, 18382), (101, 18388), (103, 18433), (104, 18442), (106, 18457), (108, 18469), (109, 18478), (111, 18484), (112, 18493), (115, 18520), (117, 18538), (124, 18607), (130, 18697), (143, 18814), (149, 18880), (151, 18898), (153, 18916), (161, 19063), (162, 19075), (165, 19102), (167, 19117), (168, 19120), (173, 19183), (174, 19192), (176, 19207), (184, 19273), (191, 19336), (192, 19345), (194, 19399), (197, 19471), (200, 19492), (205, 19528), (206, 19534), (208, 19546), (209, 19549), (212, 19588), (218, 19651), (220, 19660), (223, 19678),

Gene: StevieRay_21 Start: 19029, Stop: 21290, Start Num: 4

Candidate Starts for StevieRay_21:

(Start: 4 @19029 has 32 MA's), (23, 19182), (51, 19455), (53, 19467), (57, 19488), (62, 19512), (65, 19533), (68, 19587), (75, 19659), (79, 19689), (83, 19725), (89, 19788), (93, 19803), (98, 19830), (99, 19836), (106, 19911), (109, 19935), (111, 19941), (117, 19995), (118, 20001), (143, 20271), (149, 20337), (151, 20355), (153, 20373), (162, 20532), (165, 20559), (168, 20577), (171, 20604), (173, 20640), (175, 20658), (176, 20664), (178, 20691), (179, 20697), (185, 20739), (196, 20880), (197, 20931), (216, 21075), (222, 21111), (223, 21114), (230, 21162), (234, 21186), (237, 21222), (238, 21225), (239, 21234), (242, 21270), (243, 21285),

Gene: Taptic_24 Start: 27160, Stop: 29289, Start Num: 21

Candidate Starts for Taptic_24:

(Start: 21 @27160 has 4 MA's), (29, 27229), (34, 27262), (36, 27283), (43, 27340), (46, 27370), (47, 27388), (58, 27481), (59, 27484), (74, 27622), (80, 27658), (82, 27679), (84, 27706), (87, 27727), (91, 27766), (100, 27820), (103, 27874), (105, 27886), (107, 27910), (110, 27934), (112, 27946), (114, 27961), (116, 27976), (119, 28018), (125, 28075), (126, 28099), (143, 28270), (149, 28336), (151, 28354), (153, 28372), (162, 28531), (165, 28558), (168, 28576), (171, 28603), (173, 28639), (175, 28657), (176, 28663), (178, 28690), (179, 28696), (185, 28738), (196, 28879), (197, 28930), (216, 29074), (222, 29110), (223, 29113), (230, 29161), (234, 29185), (237, 29221), (238, 29224), (239, 29233), (242, 29269), (243, 29284),

Gene: Techage_21 Start: 19029, Stop: 21290, Start Num: 4

Candidate Starts for Techage_21:

(Start: 4 @19029 has 32 MA's), (Start: 6 @19038 has 14 MA's), (23, 19182), (51, 19455), (53, 19467), (57, 19488), (62, 19512), (68, 19587), (75, 19659), (79, 19689), (83, 19725), (89, 19788), (93, 19803), (98, 19830), (99, 19836), (106, 19911), (109, 19935), (111, 19941), (117, 19995), (118, 20001), (143, 20271), (149, 20337), (151, 20355), (153, 20373), (162, 20532), (165, 20559), (168, 20577), (171, 20604), (173, 20640), (175, 20658), (176, 20664), (178, 20691), (179, 20697), (185, 20739), (196, 20880), (197, 20931), (216, 21075), (222, 21111), (223, 21114), (230, 21162), (234, 21186), (237, 21222), (238, 21225), (239, 21234), (242, 21270), (243, 21285),

Gene: Thespis_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Thespis_21:

(Start: 4 @19038 has 32 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (113, 19962), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: TpudiCK_31 Start: 24621, Stop: 26972, Start Num: 6

Candidate Starts for TpudiCK_31:

(Start: 6 @24621 has 14 MA's), (15, 24741), (17, 24756), (26, 24828), (28, 24849), (30, 24861), (33, 24888), (35, 24897), (51, 25083), (63, 25146), (68, 25215), (71, 25242), (78, 25314), (79, 25317), (81, 25338), (100, 25473), (106, 25554), (108, 25569), (109, 25578), (111, 25584), (124, 25707), (137, 25863), (140, 25881), (141, 25896), (149, 25980), (151, 25998), (152, 26007), (153, 26016), (161, 26163), (162, 26175), (169, 26241), (173, 26283), (176, 26307), (179, 26340), (187, 26394), (190, 26433), (192, 26445), (199, 26577), (204, 26622), (218, 26748), (222, 26772), (224, 26781), (226, 26790), (227, 26802), (229, 26814), (230, 26829), (237, 26889), (244, 26958),

Gene: TyDawg_30 Start: 24622, Stop: 26973, Start Num: 6

Candidate Starts for TyDawg_30:

(Start: 6 @24622 has 14 MA's), (15, 24742), (17, 24757), (26, 24829), (28, 24850), (30, 24862), (33, 24889), (35, 24898), (51, 25084), (63, 25147), (68, 25216), (71, 25243), (78, 25315), (79, 25318), (81,

25339), (100, 25474), (106, 25555), (108, 25570), (109, 25579), (111, 25585), (124, 25708), (137, 25864), (140, 25882), (141, 25897), (149, 25981), (151, 25999), (152, 26008), (153, 26017), (161, 26164), (162, 26176), (169, 26242), (173, 26284), (176, 26308), (179, 26341), (187, 26395), (190, 26434), (192, 26446), (199, 26578), (204, 26623), (218, 26749), (222, 26773), (224, 26782), (226, 26791), (227, 26803), (229, 26815), (230, 26830), (237, 26890), (244, 26959),

Gene: Venti_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Venti_21:

(Start: 4 @19038 has 32 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: Vidya_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Vidya_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),

Gene: Xula_20 Start: 18717, Stop: 20930, Start Num: 4

Candidate Starts for Xula_20:

(Start: 4 @18717 has 32 MA's), (8, 18741), (11, 18777), (16, 18852), (18, 18861), (23, 18888), (39, 19035), (51, 19170), (53, 19182), (57, 19203), (64, 19236), (76, 19383), (83, 19446), (88, 19485), (89, 19509), (93, 19524), (94, 19533), (99, 19560), (100, 19563), (101, 19566), (106, 19635), (109, 19656), (111, 19662), (115, 19698), (117, 19716), (143, 19992), (146, 20019), (149, 20058), (151, 20076), (176, 20319), (183, 20379), (195, 20520), (197, 20586), (202, 20613), (203, 20634), (219, 20736), (222, 20754), (231, 20802), (234, 20820), (235, 20826),

Gene: Zilizebeth_21 Start: 19038, Stop: 21299, Start Num: 4

Candidate Starts for Zilizebeth_21:

(Start: 4 @19038 has 32 MA's), (Start: 6 @19047 has 14 MA's), (23, 19191), (51, 19464), (53, 19476), (57, 19497), (62, 19521), (68, 19596), (75, 19668), (79, 19698), (83, 19734), (89, 19797), (93, 19812), (98, 19839), (99, 19845), (106, 19920), (109, 19944), (111, 19950), (117, 20004), (118, 20010), (143, 20280), (149, 20346), (151, 20364), (153, 20382), (162, 20541), (165, 20568), (168, 20586), (171, 20613), (173, 20649), (175, 20667), (176, 20673), (178, 20700), (179, 20706), (185, 20748), (196, 20889), (197, 20940), (216, 21084), (222, 21120), (223, 21123), (230, 21171), (234, 21195), (237, 21231), (238, 21234), (239, 21243), (242, 21279), (243, 21294),