

1: GMA7_1	0	11	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
2: GIE7_1	0	11	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
3: Austin_10	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
4: HayZem	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
5: Amore2_10	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
6: Adgers_10 + 5	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
7: Breezie_9 + 14	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
8: Diabla_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
9: Lizzo_9 + 1	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
10: BenoitCake_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
11: PokyPuppy_8	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
12: Chelms_9 + 2	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
13: Eggsie_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
14: Hotoroko_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
15: BirksAppSocks_9 + 2	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
16: BigSha_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
17: BillyBoyJr_10 + 1	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
18: Linetti_10	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
19: RoyalC_10	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
20: SteveFench_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
21: Crete_10	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
22: Woese_6 + 2	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
23: Guillaume_6	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
24: MrWormie_6	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
25: Ham2Pit_6 + 2	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
26: Shelley_6 + 2	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
27: Alamyka_6 +	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
28: Lidong_6 + 3	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
29: Luker_6	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
30: Halo_6	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
31: Neoevie_6	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
32: Niagara_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
33: ASerpRocky_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
34: Kvothe_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
35: Hollow_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
36: Tredge_9 +	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
37: Demosthen_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
38: Philon_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
39: Katyusha_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
40: Teech_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103
41: Vitaandri_9	1	1	13	24	27	34	41	45	49	54	60	72	78	79	86	88	96	99	103

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 311500 Report

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

Pham number 311500 has 83 members, 7 are drafts.

Phages represented in each track:

- Track 1 : GMA7_1
- Track 2 : GTE7_1
- Track 3 : Austin_10
- Track 4 : HayZem_10
- Track 5 : Amore2_10
- Track 6 : Adgers_10, Jellybones_9, FelixAlejandro_10, Msay19_10, Poland_10, Sombrero_9
- Track 7 : Breezic_9, Monty_8, Exiguo_9, RemRem_9, Ekhein_9, Flakey_9, Gorko_9, Barbochs_9, Squibbles_9, Sam12_9, Beaver_9, John316_9, GourdThymes_9, Kelzog_9, Worcestershire_9
- Track 8 : Diabla_8
- Track 9 : Lizzo_9, CathyBurgh_9
- Track 10 : BenoitCattle_9
- Track 11 : PokyPuppy_8
- Track 12 : Chelms_9, Dakiti_9, PierreThree_9
- Track 13 : Eggsie_9
- Track 14 : Hotorobo_9
- Track 15 : BirksAndSocks_9, Boneham_9, Butterball_9
- Track 16 : BigShaq_9
- Track 17 : BillyBobJr_10, CinnamonToast_10
- Track 18 : Linetti_10
- Track 19 : RoyalG_10
- Track 20 : SteveFrench_8
- Track 21 : Crete_10
- Track 22 : Woes_6, Sticker17_6, Newt_6
- Track 23 : Guillaume_6
- Track 24 : MrWormie_6, Bianmat_6, Teal_6, Minos_6, Jams_6, Damp_6
- Track 25 : Hail2Pitt_6, Harambe_6, Lahirium_6
- Track 26 : Shelley_6, Kaseim_6, Charianelly_6
- Track 27 : Anamika_6, Jormungandr_6
- Track 28 : Lidong_6, Nimi13_6, GalacticEye_6, Berries_6
- Track 29 : Luker_6
- Track 30 : Hello_6
- Track 31 : Neoevie_6
- Track 32 : Niagara_9
- Track 33 : ASerpRocky_9
- Track 34 : Kvothe_9

- Track 35 : Hollow_9
- Track 36 : Tredge_9, Teatealatte_9
- Track 37 : Demosthenes_9
- Track 38 : Philon9_9
- Track 39 : Katyusha_9, Benczkowski14_9
- Track 40 : Teech_9
- Track 41 : Vitaenoi_9

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

The start number called the most often in the published annotations is 13, it was called in 73 of the 76 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ASerpRocky_9, Adgers_10, Amore2_10, Austin_10, Barbochs_9, Beaver_9, Benczkowski14_9, BenoitCattle_9, Berries_6, Bianmat_6, BigShaq_9, BillyBobJr_10, BirksAndSocks_9, Boneham_9, Breezic_9, Butterball_9, CathyBurgh_9, Charianelly_6, Chelms_9, CinnamonToast_10, Crete_10, Dakiti_9, Damp_6, Demosthenes_9, Diabla_8, Eggsie_9, Ekhein_9, Exiguo_9, FelixAlejandro_10, Flakey_9, GTE7_1, GalacticEye_6, Gorko_9, GourdThymes_9, Guillaume_6, Hail2Pitt_6, Harambe_6, HayZem_10, Hello_6, Hollow_9, Jams_6, Jellybones_9, John316_9, Kaseim_6, Katyusha_9, Kelzog_9, Kvothe_9, Lahirium_6, Lidong_6, Linetti_10, Lizzo_9, Luker_6, Minos_6, Monty_8, MrWormie_6, Msay19_10, Neevie_6, Newt_6, Niagara_9, Nimi13_6, Philon9_9, PierreThree_9, PokyPuppy_8, Poland_10, RemRem_9, RoyalG_10, Sam12_9, Shelley_6, Sombrero_9, Squibbles_9, SteveFrench_8, Sticker17_6, Teal_6, Teatealatte_9, Teech_9, Tredge_9, Vitaenoi_9, Woes_6, Worcestershire_9,

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

- Anamika_6, GMA7_1, Hotorobo_9, Jormungandr_6,

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

-

Summary by start number:

Start 7:

- Found in 41 of 83 (49.4%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Hotorobo_9 (CS2),

Start 11:

- Found in 5 of 83 (6.0%) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: GMA7_1 (CS1),

Start 13:

- Found in 83 of 83 (100.0%) of genes in pham

- Manual Annotations of this start: 73 of 76
- Called 95.2% of time when present
- Phage (with cluster) where this start called: ASerpRocky_9 (CS4), Adgers_10 (CS2), Amore2_10 (CS1), Austin_10 (CS1), Barbochs_9 (CS2), Beaver_9 (CS2), Benczkowski14_9 (CS4), BenoitCattle_9 (CS2), Berries_6 (CS3), Bianmat_6 (CS3), BigShaq_9 (CS2), BillyBobJr_10 (CS2), BirksAndSocks_9 (CS2), Boneham_9 (CS2), Breezic_9 (CS2), Butterball_9 (CS2), CathyBurgh_9 (CS2), Charianelly_6 (CS3), Chelms_9 (CS2), CinnamonToast_10 (CS2), Crete_10 (CS2), Dakiti_9 (CS2), Damp_6 (CS3), Demosthenes_9 (CS4), Diabla_8 (CS2), Eggsie_9 (CS2), Ekhein_9 (CS2), Exiguo_9 (CS2), FelixAlejandro_10 (CS2), Flakey_9 (CS2), GTE7_1 (CS1), GalacticEye_6 (CS3), Gorko_9 (CS2), GourdThymes_9 (CS2), Guillaume_6 (CS3), Hail2Pitt_6 (CS3), Harambe_6 (CS3), HayZem_10 (CS1), Hello_6 (CS3), Hollow_9 (CS4), Jams_6 (CS3), Jellybones_9 (CS2), John316_9 (CS2), Kaseim_6 (CS3), Katyusha_9 (CS4), Kelzog_9 (CS2), Kvothe_9 (CS4), Lahirium_6 (CS3), Lidong_6 (CS3), Linetti_10 (CS2), Lizzo_9 (CS2), Luker_6 (CS3), Minos_6 (CS3), Monty_8 (CS2), MrWormie_6 (CS3), Msay19_10 (CS2), Neoevie_6 (CS3), Newt_6 (CS3), Niagara_9 (CS4), Nimi13_6 (CS3), Philon9_9 (CS4), PierreThree_9 (CS2), PokyPuppy_8 (CS2), Poland_10 (CS2), RemRem_9 (CS2), RoyalG_10 (CS2), Sam12_9 (CS2), Shelley_6 (CS3), Sombrero_9 (CS2), Squibbles_9 (CS2), SteveFrench_8 (CS2), Sticker17_6 (CS3), Teal_6 (CS3), Teatealatte_9 (CS4), Teech_9 (CS4), Tredge_9 (CS4), Vitaenoi_9 (CS4), Woes_6 (CS3), Worcestershire_9 (CS2),

Start 14:

- Found in 35 of 83 (42.2%) of genes in pham
- Manual Annotations of this start: 2 of 76
- Called 5.7% of time when present
- Phage (with cluster) where this start called: Anamika_6 (CS3), Jormungandr_6 (CS3),

Summary by clusters:

There are 4 clusters represented in this pham: CS4, CS1, CS3, CS2,

Info for manual annotations of cluster CS1:

- Start number 13 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 7 was manually annotated 1 time for cluster CS2.
- Start number 13 was manually annotated 35 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 13 was manually annotated 23 times for cluster CS3.
- Start number 14 was manually annotated 2 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 13 was manually annotated 12 times for cluster CS4.

Gene Information:

Gene: ASerpRocky_9 Start: 7341, Stop: 8738, Start Num: 13

Candidate Starts for ASerpRocky_9:

(12, 7320), (Start: 13 @7341 has 73 MA's), (Start: 14 @7350 has 2 MA's), (15, 7374), (16, 7410), (17, 7434), (22, 7488), (28, 7581), (43, 7785), (48, 7845), (51, 7857), (55, 7926), (57, 7932), (59, 7950), (65, 8049), (69, 8148), (70, 8160), (75, 8277), (76, 8286), (79, 8346), (81, 8355), (83, 8370), (84, 8376), (92, 8562), (93, 8571), (94, 8595), (97, 8610), (98, 8634), (99, 8661), (100, 8676), (102, 8688), (103, 8712),

Gene: Adgers_10 Start: 5844, Stop: 7247, Start Num: 13

Candidate Starts for Adgers_10:

(Start: 7 @5769 has 1 MA's), (Start: 13 @5844 has 73 MA's), (16, 5913), (22, 5991), (26, 6054), (29, 6102), (30, 6147), (36, 6228), (37, 6243), (47, 6327), (49, 6354), (57, 6438), (61, 6471), (62, 6522), (64, 6546), (69, 6660), (70, 6672), (71, 6690), (75, 6786), (76, 6795), (78, 6834), (81, 6864), (88, 6960), (89, 6972), (90, 7032), (95, 7104), (98, 7137), (99, 7164), (100, 7179), (103, 7218),

Gene: Amore2_10 Start: 5892, Stop: 7310, Start Num: 13

Candidate Starts for Amore2_10:

(9, 5826), (11, 5853), (Start: 13 @5892 has 73 MA's), (21, 6033), (22, 6039), (34, 6231), (37, 6291), (43, 6336), (45, 6354), (49, 6399), (50, 6405), (54, 6474), (64, 6591), (69, 6723), (70, 6735), (72, 6759), (75, 6852), (76, 6861), (79, 6921), (81, 6930), (86, 6978), (88, 7029), (96, 7173), (99, 7227), (103, 7281),

Gene: Anamika_6 Start: 4923, Stop: 6311, Start Num: 14

Candidate Starts for Anamika_6:

(2, 4785), (3, 4803), (Start: 13 @4914 has 73 MA's), (Start: 14 @4923 has 2 MA's), (18, 5010), (19, 5025), (20, 5028), (22, 5061), (25, 5103), (29, 5172), (30, 5217), (35, 5271), (36, 5298), (49, 5421), (56, 5502), (59, 5523), (60, 5529), (61, 5538), (62, 5589), (63, 5607), (64, 5613), (69, 5727), (70, 5739), (74, 5826), (75, 5853), (76, 5862), (77, 5895), (79, 5922), (81, 5931), (83, 5946), (88, 6030), (90, 6102), (95, 6174), (99, 6234), (100, 6249),

Gene: Austin_10 Start: 5892, Stop: 7310, Start Num: 13

Candidate Starts for Austin_10:

(9, 5826), (11, 5853), (Start: 13 @5892 has 73 MA's), (21, 6033), (22, 6039), (34, 6231), (37, 6291), (43, 6336), (45, 6354), (49, 6399), (50, 6405), (54, 6474), (64, 6591), (69, 6723), (70, 6735), (72, 6759), (75, 6852), (76, 6861), (79, 6921), (81, 6930), (86, 6978), (88, 7029), (99, 7227), (103, 7281),

Gene: Barbochs_9 Start: 5679, Stop: 7082, Start Num: 13

Candidate Starts for Barbochs_9:

(Start: 7 @5604 has 1 MA's), (Start: 13 @5679 has 73 MA's), (16, 5748), (22, 5826), (23, 5847), (26, 5889), (29, 5937), (30, 5982), (36, 6063), (37, 6078), (43, 6126), (47, 6162), (49, 6189), (62, 6357), (64, 6381), (69, 6495), (70, 6507), (71, 6525), (75, 6621), (76, 6630), (78, 6669), (81, 6699), (88, 6795), (89, 6807), (90, 6867), (95, 6939), (98, 6972), (99, 6999), (100, 7014), (103, 7053),

Gene: Beaver_9 Start: 5690, Stop: 7093, Start Num: 13

Candidate Starts for Beaver_9:

(Start: 7 @5615 has 1 MA's), (Start: 13 @5690 has 73 MA's), (16, 5759), (22, 5837), (23, 5858), (26, 5900), (29, 5948), (30, 5993), (36, 6074), (37, 6089), (43, 6137), (47, 6173), (49, 6200), (62, 6368), (64, 6392), (69, 6506), (70, 6518), (71, 6536), (75, 6632), (76, 6641), (78, 6680), (81, 6710), (88, 6806), (89, 6818), (90, 6878), (95, 6950), (98, 6983), (99, 7010), (100, 7025), (103, 7064),

Gene: Benczkowski14_9 Start: 7404, Stop: 8801, Start Num: 13

Candidate Starts for Benczkowski14_9:

(12, 7383), (Start: 13 @7404 has 73 MA's), (Start: 14 @7413 has 2 MA's), (15, 7437), (16, 7473), (17, 7497), (22, 7551), (23, 7572), (28, 7644), (43, 7848), (46, 7878), (48, 7908), (51, 7920), (55, 7989), (57, 7995), (59, 8013), (65, 8112), (69, 8211), (70, 8223), (75, 8340), (76, 8349), (79, 8409), (81, 8418), (84,

8439), (89, 8532), (92, 8625), (93, 8634), (94, 8658), (96, 8670), (97, 8673), (98, 8697), (99, 8724), (100, 8739), (103, 8775),

Gene: BenoitCattle_9 Start: 5668, Stop: 7074, Start Num: 13

Candidate Starts for BenoitCattle_9:

(Start: 7 @5593 has 1 MA's), (Start: 13 @5668 has 73 MA's), (19, 5779), (22, 5815), (23, 5836), (24, 5854), (25, 5857), (29, 5926), (36, 6052), (41, 6091), (49, 6178), (52, 6232), (56, 6259), (61, 6295), (63, 6364), (64, 6370), (68, 6463), (69, 6487), (70, 6499), (71, 6517), (73, 6556), (74, 6586), (75, 6613), (76, 6622), (77, 6655), (79, 6682), (81, 6691), (82, 6703), (88, 6790), (90, 6862), (91, 6880), (95, 6931), (96, 6937), (99, 6991), (103, 7045),

Gene: Berries_6 Start: 4898, Stop: 6295, Start Num: 13

Candidate Starts for Berries_6:

(6, 4814), (Start: 13 @4898 has 73 MA's), (Start: 14 @4907 has 2 MA's), (16, 4967), (18, 4994), (19, 5009), (20, 5012), (22, 5045), (25, 5087), (29, 5156), (30, 5201), (35, 5255), (36, 5282), (49, 5405), (56, 5486), (59, 5507), (60, 5513), (61, 5522), (62, 5573), (64, 5597), (69, 5711), (70, 5723), (74, 5810), (75, 5837), (76, 5846), (77, 5879), (79, 5906), (81, 5915), (83, 5930), (88, 6014), (90, 6086), (95, 6158), (99, 6218), (100, 6233),

Gene: Bianmat_6 Start: 4921, Stop: 6318, Start Num: 13

Candidate Starts for Bianmat_6:

(6, 4837), (Start: 13 @4921 has 73 MA's), (Start: 14 @4930 has 2 MA's), (18, 5017), (19, 5032), (20, 5035), (22, 5068), (25, 5110), (29, 5179), (30, 5224), (35, 5278), (36, 5305), (49, 5428), (56, 5509), (59, 5530), (60, 5536), (61, 5545), (62, 5596), (63, 5614), (64, 5620), (69, 5734), (70, 5746), (74, 5833), (75, 5860), (76, 5869), (77, 5902), (79, 5929), (81, 5938), (83, 5953), (88, 6037), (90, 6109), (95, 6181), (99, 6241), (100, 6256),

Gene: BigShaq_9 Start: 5670, Stop: 7076, Start Num: 13

Candidate Starts for BigShaq_9:

(Start: 7 @5595 has 1 MA's), (Start: 13 @5670 has 73 MA's), (19, 5781), (22, 5817), (23, 5838), (24, 5856), (25, 5859), (29, 5928), (36, 6054), (41, 6093), (49, 6180), (52, 6234), (56, 6261), (61, 6297), (63, 6366), (64, 6372), (69, 6489), (70, 6501), (71, 6519), (73, 6558), (74, 6588), (75, 6615), (76, 6624), (77, 6657), (79, 6684), (81, 6693), (82, 6705), (88, 6792), (90, 6864), (91, 6882), (95, 6933), (96, 6939), (99, 6993), (103, 7047),

Gene: BillyBobJr_10 Start: 5714, Stop: 7117, Start Num: 13

Candidate Starts for BillyBobJr_10:

(Start: 7 @5639 has 1 MA's), (Start: 13 @5714 has 73 MA's), (16, 5783), (22, 5861), (26, 5924), (29, 5972), (30, 6017), (36, 6098), (37, 6113), (47, 6197), (49, 6224), (57, 6308), (61, 6341), (62, 6392), (64, 6416), (69, 6530), (70, 6542), (71, 6560), (75, 6656), (76, 6665), (78, 6704), (81, 6734), (88, 6830), (89, 6842), (90, 6902), (95, 6974), (99, 7034), (100, 7049), (103, 7088),

Gene: BirksAndSocks_9 Start: 5679, Stop: 7082, Start Num: 13

Candidate Starts for BirksAndSocks_9:

(Start: 7 @5604 has 1 MA's), (Start: 13 @5679 has 73 MA's), (16, 5748), (22, 5826), (26, 5889), (29, 5937), (30, 5982), (36, 6063), (37, 6078), (47, 6162), (49, 6189), (57, 6273), (61, 6306), (62, 6357), (64, 6381), (69, 6495), (70, 6507), (71, 6525), (75, 6621), (76, 6630), (78, 6669), (81, 6699), (88, 6795), (90, 6867), (95, 6939), (98, 6972), (99, 6999), (100, 7014), (103, 7053),

Gene: Boneham_9 Start: 5678, Stop: 7081, Start Num: 13

Candidate Starts for Boneham_9:

(Start: 7 @5603 has 1 MA's), (Start: 13 @5678 has 73 MA's), (16, 5747), (22, 5825), (26, 5888), (29, 5936), (30, 5981), (36, 6062), (37, 6077), (47, 6161), (49, 6188), (57, 6272), (61, 6305), (62, 6356), (64,

6380), (69, 6494), (70, 6506), (71, 6524), (75, 6620), (76, 6629), (78, 6668), (81, 6698), (88, 6794), (90, 6866), (95, 6938), (98, 6971), (99, 6998), (100, 7013), (103, 7052),

Gene: Breezic_9 Start: 5690, Stop: 7093, Start Num: 13

Candidate Starts for Breezic_9:

(Start: 7 @5615 has 1 MA's), (Start: 13 @5690 has 73 MA's), (16, 5759), (22, 5837), (23, 5858), (26, 5900), (29, 5948), (30, 5993), (36, 6074), (37, 6089), (43, 6137), (47, 6173), (49, 6200), (62, 6368), (64, 6392), (69, 6506), (70, 6518), (71, 6536), (75, 6632), (76, 6641), (78, 6680), (81, 6710), (88, 6806), (89, 6818), (90, 6878), (95, 6950), (98, 6983), (99, 7010), (100, 7025), (103, 7064),

Gene: Butterball_9 Start: 5678, Stop: 7081, Start Num: 13

Candidate Starts for Butterball_9:

(Start: 7 @5603 has 1 MA's), (Start: 13 @5678 has 73 MA's), (16, 5747), (22, 5825), (26, 5888), (29, 5936), (30, 5981), (36, 6062), (37, 6077), (47, 6161), (49, 6188), (57, 6272), (61, 6305), (62, 6356), (64, 6380), (69, 6494), (70, 6506), (71, 6524), (75, 6620), (76, 6629), (78, 6668), (81, 6698), (88, 6794), (90, 6866), (95, 6938), (98, 6971), (99, 6998), (100, 7013), (103, 7052),

Gene: CathyBurgh_9 Start: 5678, Stop: 7081, Start Num: 13

Candidate Starts for CathyBurgh_9:

(Start: 7 @5603 has 1 MA's), (Start: 13 @5678 has 73 MA's), (16, 5747), (22, 5825), (23, 5846), (26, 5888), (29, 5936), (30, 5981), (37, 6077), (43, 6125), (47, 6161), (49, 6188), (62, 6356), (64, 6380), (69, 6494), (70, 6506), (71, 6524), (75, 6620), (76, 6629), (78, 6668), (81, 6698), (88, 6794), (89, 6806), (90, 6866), (95, 6938), (98, 6971), (99, 6998), (100, 7013), (103, 7052),

Gene: Charianelly_6 Start: 4909, Stop: 6306, Start Num: 13

Candidate Starts for Charianelly_6:

(6, 4825), (Start: 13 @4909 has 73 MA's), (Start: 14 @4918 has 2 MA's), (18, 5005), (19, 5020), (20, 5023), (22, 5056), (29, 5167), (30, 5212), (35, 5266), (36, 5293), (49, 5416), (56, 5497), (59, 5518), (60, 5524), (61, 5533), (62, 5584), (63, 5602), (64, 5608), (69, 5722), (70, 5734), (74, 5821), (75, 5848), (76, 5857), (77, 5890), (79, 5917), (81, 5926), (83, 5941), (88, 6025), (90, 6097), (95, 6169), (99, 6229), (100, 6244),

Gene: Chelms_9 Start: 5670, Stop: 7076, Start Num: 13

Candidate Starts for Chelms_9:

(Start: 7 @5595 has 1 MA's), (Start: 13 @5670 has 73 MA's), (19, 5781), (22, 5817), (23, 5838), (25, 5859), (29, 5928), (31, 5979), (35, 6027), (36, 6054), (41, 6093), (49, 6180), (52, 6234), (56, 6261), (63, 6366), (64, 6372), (68, 6465), (69, 6489), (70, 6501), (71, 6519), (73, 6558), (74, 6588), (75, 6615), (76, 6624), (77, 6657), (79, 6684), (81, 6693), (82, 6705), (88, 6792), (90, 6864), (91, 6882), (95, 6933), (96, 6939), (99, 6993), (103, 7047),

Gene: CinnamonToast_10 Start: 5714, Stop: 7117, Start Num: 13

Candidate Starts for CinnamonToast_10:

(Start: 7 @5639 has 1 MA's), (Start: 13 @5714 has 73 MA's), (16, 5783), (22, 5861), (26, 5924), (29, 5972), (30, 6017), (36, 6098), (37, 6113), (47, 6197), (49, 6224), (57, 6308), (61, 6341), (62, 6392), (64, 6416), (69, 6530), (70, 6542), (71, 6560), (75, 6656), (76, 6665), (78, 6704), (81, 6734), (88, 6830), (89, 6842), (90, 6902), (95, 6974), (99, 7034), (100, 7049), (103, 7088),

Gene: Crete_10 Start: 5921, Stop: 7327, Start Num: 13

Candidate Starts for Crete_10:

(Start: 7 @5846 has 1 MA's), (Start: 13 @5921 has 73 MA's), (19, 6032), (22, 6068), (23, 6089), (24, 6107), (25, 6110), (29, 6179), (36, 6305), (41, 6344), (45, 6386), (49, 6431), (52, 6485), (56, 6512), (61, 6548), (63, 6617), (64, 6623), (68, 6716), (69, 6740), (70, 6752), (71, 6770), (73, 6809), (74, 6839), (75, 6866), (76, 6875), (77, 6908), (79, 6935), (81, 6944), (82, 6956), (88, 7043), (90, 7115), (91, 7133), (95,

7184), (96, 7190), (99, 7244), (103, 7298),

Gene: Dakiti_9 Start: 5670, Stop: 7076, Start Num: 13

Candidate Starts for Dakiti_9:

(Start: 7 @5595 has 1 MA's), (Start: 13 @5670 has 73 MA's), (19, 5781), (22, 5817), (23, 5838), (25, 5859), (29, 5928), (31, 5979), (35, 6027), (36, 6054), (41, 6093), (49, 6180), (52, 6234), (56, 6261), (63, 6366), (64, 6372), (68, 6465), (69, 6489), (70, 6501), (71, 6519), (73, 6558), (74, 6588), (75, 6615), (76, 6624), (77, 6657), (79, 6684), (81, 6693), (82, 6705), (88, 6792), (90, 6864), (91, 6882), (95, 6933), (96, 6939), (99, 6993), (103, 7047),

Gene: Damp_6 Start: 4898, Stop: 6295, Start Num: 13

Candidate Starts for Damp_6:

(6, 4814), (Start: 13 @4898 has 73 MA's), (Start: 14 @4907 has 2 MA's), (18, 4994), (19, 5009), (20, 5012), (22, 5045), (25, 5087), (29, 5156), (30, 5201), (35, 5255), (36, 5282), (49, 5405), (56, 5486), (59, 5507), (60, 5513), (61, 5522), (62, 5573), (63, 5591), (64, 5597), (69, 5711), (70, 5723), (74, 5810), (75, 5837), (76, 5846), (77, 5879), (79, 5906), (81, 5915), (83, 5930), (88, 6014), (90, 6086), (95, 6158), (99, 6218), (100, 6233),

Gene: Demosthenes_9 Start: 7302, Stop: 8699, Start Num: 13

Candidate Starts for Demosthenes_9:

(12, 7281), (Start: 13 @7302 has 73 MA's), (Start: 14 @7311 has 2 MA's), (15, 7335), (16, 7371), (17, 7395), (22, 7449), (28, 7542), (32, 7629), (43, 7746), (48, 7806), (51, 7818), (55, 7887), (57, 7893), (65, 8010), (69, 8109), (75, 8238), (76, 8247), (79, 8307), (81, 8316), (83, 8331), (84, 8337), (88, 8418), (92, 8523), (93, 8532), (94, 8556), (96, 8568), (97, 8571), (98, 8595), (99, 8622), (100, 8637), (102, 8649), (103, 8673),

Gene: Diabla_8 Start: 5490, Stop: 6896, Start Num: 13

Candidate Starts for Diabla_8:

(Start: 7 @5415 has 1 MA's), (10, 5439), (Start: 13 @5490 has 73 MA's), (19, 5601), (20, 5604), (22, 5637), (23, 5658), (25, 5679), (36, 5874), (47, 5973), (49, 6000), (51, 6009), (52, 6054), (62, 6168), (63, 6186), (64, 6192), (66, 6273), (67, 6279), (69, 6309), (70, 6321), (71, 6339), (73, 6378), (75, 6435), (76, 6444), (77, 6477), (80, 6507), (81, 6513), (82, 6525), (85, 6549), (88, 6612), (90, 6684), (95, 6753), (96, 6759), (98, 6786), (99, 6813), (104, 6870), (105, 6882),

Gene: Eggsie_9 Start: 5690, Stop: 7096, Start Num: 13

Candidate Starts for Eggsie_9:

(Start: 7 @5615 has 1 MA's), (Start: 13 @5690 has 73 MA's), (20, 5804), (22, 5837), (23, 5858), (25, 5879), (36, 6074), (47, 6173), (49, 6200), (51, 6209), (52, 6254), (62, 6368), (63, 6386), (64, 6392), (66, 6473), (67, 6479), (69, 6509), (70, 6521), (71, 6539), (73, 6578), (75, 6635), (76, 6644), (77, 6677), (80, 6707), (81, 6713), (82, 6725), (85, 6749), (88, 6812), (90, 6884), (95, 6953), (96, 6959), (99, 7013), (104, 7070), (105, 7082),

Gene: Ekhein_9 Start: 5678, Stop: 7081, Start Num: 13

Candidate Starts for Ekhein_9:

(Start: 7 @5603 has 1 MA's), (Start: 13 @5678 has 73 MA's), (16, 5747), (22, 5825), (23, 5846), (26, 5888), (29, 5936), (30, 5981), (36, 6062), (37, 6077), (43, 6125), (47, 6161), (49, 6188), (62, 6356), (64, 6380), (69, 6494), (70, 6506), (71, 6524), (75, 6620), (76, 6629), (78, 6668), (81, 6698), (88, 6794), (89, 6806), (90, 6866), (95, 6938), (98, 6971), (99, 6998), (100, 7013), (103, 7052),

Gene: Exiguo_9 Start: 5690, Stop: 7093, Start Num: 13

Candidate Starts for Exiguo_9:

(Start: 7 @5615 has 1 MA's), (Start: 13 @5690 has 73 MA's), (16, 5759), (22, 5837), (23, 5858), (26, 5900), (29, 5948), (30, 5993), (36, 6074), (37, 6089), (43, 6137), (47, 6173), (49, 6200), (62, 6368), (64,

6392), (69, 6506), (70, 6518), (71, 6536), (75, 6632), (76, 6641), (78, 6680), (81, 6710), (88, 6806), (89, 6818), (90, 6878), (95, 6950), (98, 6983), (99, 7010), (100, 7025), (103, 7064),

Gene: FelixAlejandro_10 Start: 5876, Stop: 7279, Start Num: 13

Candidate Starts for FelixAlejandro_10:

(Start: 7 @5801 has 1 MA's), (Start: 13 @5876 has 73 MA's), (16, 5945), (22, 6023), (26, 6086), (29, 6134), (30, 6179), (36, 6260), (37, 6275), (47, 6359), (49, 6386), (57, 6470), (61, 6503), (62, 6554), (64, 6578), (69, 6692), (70, 6704), (71, 6722), (75, 6818), (76, 6827), (78, 6866), (81, 6896), (88, 6992), (89, 7004), (90, 7064), (95, 7136), (98, 7169), (99, 7196), (100, 7211), (103, 7250),

Gene: Flakey_9 Start: 5679, Stop: 7082, Start Num: 13

Candidate Starts for Flakey_9:

(Start: 7 @5604 has 1 MA's), (Start: 13 @5679 has 73 MA's), (16, 5748), (22, 5826), (23, 5847), (26, 5889), (29, 5937), (30, 5982), (36, 6063), (37, 6078), (43, 6126), (47, 6162), (49, 6189), (62, 6357), (64, 6381), (69, 6495), (70, 6507), (71, 6525), (75, 6621), (76, 6630), (78, 6669), (81, 6699), (88, 6795), (89, 6807), (90, 6867), (95, 6939), (98, 6972), (99, 6999), (100, 7014), (103, 7053),

Gene: GMA7_1 Start: 42, Stop: 1499, Start Num: 11

Candidate Starts for GMA7_1:

(9, 15), (11, 42), (Start: 13 @81 has 73 MA's), (21, 222), (22, 228), (27, 294), (34, 420), (37, 480), (43, 525), (45, 543), (49, 588), (50, 594), (54, 663), (64, 780), (69, 912), (70, 924), (72, 948), (75, 1041), (76, 1050), (79, 1110), (81, 1119), (86, 1167), (88, 1218), (96, 1362), (99, 1416), (103, 1470),

Gene: GTE7_1 Start: 66, Stop: 1484, Start Num: 13

Candidate Starts for GTE7_1:

(11, 27), (Start: 13 @66 has 73 MA's), (21, 207), (22, 213), (34, 405), (37, 465), (43, 510), (45, 528), (49, 573), (50, 579), (54, 648), (64, 765), (69, 897), (70, 909), (72, 933), (75, 1026), (76, 1035), (79, 1095), (81, 1104), (86, 1152), (88, 1203), (96, 1347), (99, 1401), (103, 1455),

Gene: GalacticEye_6 Start: 4898, Stop: 6295, Start Num: 13

Candidate Starts for GalacticEye_6:

(6, 4814), (Start: 13 @4898 has 73 MA's), (Start: 14 @4907 has 2 MA's), (16, 4967), (18, 4994), (19, 5009), (20, 5012), (22, 5045), (25, 5087), (29, 5156), (30, 5201), (35, 5255), (36, 5282), (49, 5405), (56, 5486), (59, 5507), (60, 5513), (61, 5522), (62, 5573), (64, 5597), (69, 5711), (70, 5723), (74, 5810), (75, 5837), (76, 5846), (77, 5879), (79, 5906), (81, 5915), (83, 5930), (88, 6014), (90, 6086), (95, 6158), (99, 6218), (100, 6233),

Gene: Gorko_9 Start: 5679, Stop: 7082, Start Num: 13

Candidate Starts for Gorko_9:

(Start: 7 @5604 has 1 MA's), (Start: 13 @5679 has 73 MA's), (16, 5748), (22, 5826), (23, 5847), (26, 5889), (29, 5937), (30, 5982), (36, 6063), (37, 6078), (43, 6126), (47, 6162), (49, 6189), (62, 6357), (64, 6381), (69, 6495), (70, 6507), (71, 6525), (75, 6621), (76, 6630), (78, 6669), (81, 6699), (88, 6795), (89, 6807), (90, 6867), (95, 6939), (98, 6972), (99, 6999), (100, 7014), (103, 7053),

Gene: GourdThymes_9 Start: 5678, Stop: 7081, Start Num: 13

Candidate Starts for GourdThymes_9:

(Start: 7 @5603 has 1 MA's), (Start: 13 @5678 has 73 MA's), (16, 5747), (22, 5825), (23, 5846), (26, 5888), (29, 5936), (30, 5981), (36, 6062), (37, 6077), (43, 6125), (47, 6161), (49, 6188), (62, 6356), (64, 6380), (69, 6494), (70, 6506), (71, 6524), (75, 6620), (76, 6629), (78, 6668), (81, 6698), (88, 6794), (89, 6806), (90, 6866), (95, 6938), (98, 6971), (99, 6998), (100, 7013), (103, 7052),

Gene: Guillaume_6 Start: 4909, Stop: 6306, Start Num: 13

Candidate Starts for Guillaume_6:

(6, 4825), (Start: 13 @4909 has 73 MA's), (Start: 14 @4918 has 2 MA's), (16, 4978), (18, 5005), (19, 5020), (20, 5023), (22, 5056), (25, 5098), (29, 5167), (30, 5212), (35, 5266), (36, 5293), (49, 5416), (56, 5497), (59, 5518), (60, 5524), (61, 5533), (62, 5584), (63, 5602), (64, 5608), (69, 5722), (70, 5734), (74, 5821), (75, 5848), (76, 5857), (77, 5890), (79, 5917), (81, 5926), (83, 5941), (88, 6025), (90, 6097), (95, 6169), (99, 6229), (100, 6244),

Gene: Hail2Pitt_6 Start: 4892, Stop: 6289, Start Num: 13

Candidate Starts for Hail2Pitt_6:

(2, 4763), (3, 4781), (Start: 13 @4892 has 73 MA's), (Start: 14 @4901 has 2 MA's), (18, 4988), (19, 5003), (20, 5006), (22, 5039), (25, 5081), (29, 5150), (30, 5195), (35, 5249), (36, 5276), (49, 5399), (56, 5480), (59, 5501), (60, 5507), (61, 5516), (62, 5567), (63, 5585), (64, 5591), (69, 5705), (70, 5717), (74, 5804), (75, 5831), (76, 5840), (77, 5873), (79, 5900), (81, 5909), (83, 5924), (88, 6008), (90, 6080), (95, 6152), (99, 6212), (100, 6227),

Gene: Harambe_6 Start: 4913, Stop: 6310, Start Num: 13

Candidate Starts for Harambe_6:

(2, 4784), (3, 4802), (Start: 13 @4913 has 73 MA's), (Start: 14 @4922 has 2 MA's), (18, 5009), (19, 5024), (20, 5027), (22, 5060), (25, 5102), (29, 5171), (30, 5216), (35, 5270), (36, 5297), (49, 5420), (56, 5501), (59, 5522), (60, 5528), (61, 5537), (62, 5588), (63, 5606), (64, 5612), (69, 5726), (70, 5738), (74, 5825), (75, 5852), (76, 5861), (77, 5894), (79, 5921), (81, 5930), (83, 5945), (88, 6029), (90, 6101), (95, 6173), (99, 6233), (100, 6248),

Gene: HayZem_10 Start: 5892, Stop: 7310, Start Num: 13

Candidate Starts for HayZem_10:

(9, 5826), (11, 5853), (Start: 13 @5892 has 73 MA's), (21, 6033), (22, 6039), (27, 6105), (34, 6231), (37, 6291), (43, 6336), (45, 6354), (49, 6399), (50, 6405), (54, 6474), (64, 6591), (69, 6723), (70, 6735), (72, 6759), (75, 6852), (76, 6861), (79, 6921), (81, 6930), (86, 6978), (88, 7029), (96, 7173), (99, 7227), (103, 7281),

Gene: Hello_6 Start: 4899, Stop: 6296, Start Num: 13

Candidate Starts for Hello_6:

(1, 4740), (2, 4770), (3, 4788), (Start: 13 @4899 has 73 MA's), (Start: 14 @4908 has 2 MA's), (18, 4995), (19, 5010), (20, 5013), (22, 5046), (25, 5088), (29, 5157), (30, 5202), (35, 5256), (36, 5283), (49, 5406), (56, 5487), (59, 5508), (60, 5514), (61, 5523), (62, 5574), (63, 5592), (64, 5598), (69, 5712), (70, 5724), (74, 5811), (75, 5838), (76, 5847), (77, 5880), (79, 5907), (81, 5916), (83, 5931), (88, 6015), (90, 6087), (95, 6159), (99, 6219), (100, 6234),

Gene: Hollow_9 Start: 7339, Stop: 8736, Start Num: 13

Candidate Starts for Hollow_9:

(12, 7318), (Start: 13 @7339 has 73 MA's), (Start: 14 @7348 has 2 MA's), (15, 7372), (16, 7408), (17, 7432), (22, 7486), (28, 7579), (42, 7765), (43, 7783), (48, 7843), (51, 7855), (55, 7924), (57, 7930), (59, 7948), (65, 8047), (69, 8146), (70, 8158), (75, 8275), (76, 8284), (79, 8344), (81, 8353), (83, 8368), (84, 8374), (92, 8560), (93, 8569), (94, 8593), (96, 8605), (97, 8608), (98, 8632), (99, 8659), (100, 8674), (102, 8686), (103, 8710),

Gene: Hotorobo_9 Start: 5614, Stop: 7092, Start Num: 7

Candidate Starts for Hotorobo_9:

(Start: 7 @5614 has 1 MA's), (Start: 13 @5689 has 73 MA's), (16, 5758), (22, 5836), (23, 5857), (26, 5899), (29, 5947), (30, 5992), (36, 6073), (37, 6088), (43, 6136), (47, 6172), (49, 6199), (62, 6367), (64, 6391), (69, 6505), (70, 6517), (71, 6535), (75, 6631), (76, 6640), (78, 6679), (81, 6709), (88, 6805), (89, 6817), (90, 6877), (95, 6949), (98, 6982), (99, 7009), (100, 7024), (103, 7063),

Gene: Jams_6 Start: 4918, Stop: 6315, Start Num: 13

Candidate Starts for Jams_6:

(6, 4834), (Start: 13 @4918 has 73 MA's), (Start: 14 @4927 has 2 MA's), (18, 5014), (19, 5029), (20, 5032), (22, 5065), (25, 5107), (29, 5176), (30, 5221), (35, 5275), (36, 5302), (49, 5425), (56, 5506), (59, 5527), (60, 5533), (61, 5542), (62, 5593), (63, 5611), (64, 5617), (69, 5731), (70, 5743), (74, 5830), (75, 5857), (76, 5866), (77, 5899), (79, 5926), (81, 5935), (83, 5950), (88, 6034), (90, 6106), (95, 6178), (99, 6238), (100, 6253),

Gene: Jellybones_9 Start: 5713, Stop: 7116, Start Num: 13

Candidate Starts for Jellybones_9:

(Start: 7 @5638 has 1 MA's), (Start: 13 @5713 has 73 MA's), (16, 5782), (22, 5860), (26, 5923), (29, 5971), (30, 6016), (36, 6097), (37, 6112), (47, 6196), (49, 6223), (57, 6307), (61, 6340), (62, 6391), (64, 6415), (69, 6529), (70, 6541), (71, 6559), (75, 6655), (76, 6664), (78, 6703), (81, 6733), (88, 6829), (89, 6841), (90, 6901), (95, 6973), (98, 7006), (99, 7033), (100, 7048), (103, 7087),

Gene: John316_9 Start: 5678, Stop: 7081, Start Num: 13

Candidate Starts for John316_9:

(Start: 7 @5603 has 1 MA's), (Start: 13 @5678 has 73 MA's), (16, 5747), (22, 5825), (23, 5846), (26, 5888), (29, 5936), (30, 5981), (36, 6062), (37, 6077), (43, 6125), (47, 6161), (49, 6188), (62, 6356), (64, 6380), (69, 6494), (70, 6506), (71, 6524), (75, 6620), (76, 6629), (78, 6668), (81, 6698), (88, 6794), (89, 6806), (90, 6866), (95, 6938), (98, 6971), (99, 6998), (100, 7013), (103, 7052),

Gene: Jormungandr_6 Start: 4921, Stop: 6309, Start Num: 14

Candidate Starts for Jormungandr_6:

(2, 4783), (3, 4801), (Start: 13 @4912 has 73 MA's), (Start: 14 @4921 has 2 MA's), (18, 5008), (19, 5023), (20, 5026), (22, 5059), (25, 5101), (29, 5170), (30, 5215), (35, 5269), (36, 5296), (49, 5419), (56, 5500), (59, 5521), (60, 5527), (61, 5536), (62, 5587), (63, 5605), (64, 5611), (69, 5725), (70, 5737), (74, 5824), (75, 5851), (76, 5860), (77, 5893), (79, 5920), (81, 5929), (83, 5944), (88, 6028), (90, 6100), (95, 6172), (99, 6232), (100, 6247),

Gene: Kaseim_6 Start: 4909, Stop: 6306, Start Num: 13

Candidate Starts for Kaseim_6:

(6, 4825), (Start: 13 @4909 has 73 MA's), (Start: 14 @4918 has 2 MA's), (18, 5005), (19, 5020), (20, 5023), (22, 5056), (29, 5167), (30, 5212), (35, 5266), (36, 5293), (49, 5416), (56, 5497), (59, 5518), (60, 5524), (61, 5533), (62, 5584), (63, 5602), (64, 5608), (69, 5722), (70, 5734), (74, 5821), (75, 5848), (76, 5857), (77, 5890), (79, 5917), (81, 5926), (83, 5941), (88, 6025), (90, 6097), (95, 6169), (99, 6229), (100, 6244),

Gene: Katyusha_9 Start: 7404, Stop: 8801, Start Num: 13

Candidate Starts for Katyusha_9:

(12, 7383), (Start: 13 @7404 has 73 MA's), (Start: 14 @7413 has 2 MA's), (15, 7437), (16, 7473), (17, 7497), (22, 7551), (23, 7572), (28, 7644), (43, 7848), (46, 7878), (48, 7908), (51, 7920), (55, 7989), (57, 7995), (59, 8013), (65, 8112), (69, 8211), (70, 8223), (75, 8340), (76, 8349), (79, 8409), (81, 8418), (84, 8439), (89, 8532), (92, 8625), (93, 8634), (94, 8658), (96, 8670), (97, 8673), (98, 8697), (99, 8724), (100, 8739), (103, 8775),

Gene: Kelzog_9 Start: 5690, Stop: 7093, Start Num: 13

Candidate Starts for Kelzog_9:

(Start: 7 @5615 has 1 MA's), (Start: 13 @5690 has 73 MA's), (16, 5759), (22, 5837), (23, 5858), (26, 5900), (29, 5948), (30, 5993), (36, 6074), (37, 6089), (43, 6137), (47, 6173), (49, 6200), (62, 6368), (64, 6392), (69, 6506), (70, 6518), (71, 6536), (75, 6632), (76, 6641), (78, 6680), (81, 6710), (88, 6806), (89, 6818), (90, 6878), (95, 6950), (98, 6983), (99, 7010), (100, 7025), (103, 7064),

Gene: Kvothe_9 Start: 7341, Stop: 8738, Start Num: 13

Candidate Starts for Kvothe_9:

(12, 7320), (Start: 13 @7341 has 73 MA's), (Start: 14 @7350 has 2 MA's), (15, 7374), (16, 7410), (17, 7434), (22, 7488), (23, 7509), (43, 7785), (48, 7845), (51, 7857), (55, 7926), (57, 7932), (59, 7950), (65, 8049), (69, 8148), (70, 8160), (75, 8277), (76, 8286), (79, 8346), (81, 8355), (84, 8376), (89, 8469), (92, 8562), (93, 8571), (94, 8595), (96, 8607), (97, 8610), (98, 8634), (99, 8661), (100, 8676), (103, 8712),

Gene: Lahirium_6 Start: 4913, Stop: 6310, Start Num: 13

Candidate Starts for Lahirium_6:

(2, 4784), (3, 4802), (Start: 13 @4913 has 73 MA's), (Start: 14 @4922 has 2 MA's), (18, 5009), (19, 5024), (20, 5027), (22, 5060), (25, 5102), (29, 5171), (30, 5216), (35, 5270), (36, 5297), (49, 5420), (56, 5501), (59, 5522), (60, 5528), (61, 5537), (62, 5588), (63, 5606), (64, 5612), (69, 5726), (70, 5738), (74, 5825), (75, 5852), (76, 5861), (77, 5894), (79, 5921), (81, 5930), (83, 5945), (88, 6029), (90, 6101), (95, 6173), (99, 6233), (100, 6248),

Gene: Lidong_6 Start: 4898, Stop: 6295, Start Num: 13

Candidate Starts for Lidong_6:

(6, 4814), (Start: 13 @4898 has 73 MA's), (Start: 14 @4907 has 2 MA's), (16, 4967), (18, 4994), (19, 5009), (20, 5012), (22, 5045), (25, 5087), (29, 5156), (30, 5201), (35, 5255), (36, 5282), (49, 5405), (56, 5486), (59, 5507), (60, 5513), (61, 5522), (62, 5573), (64, 5597), (69, 5711), (70, 5723), (74, 5810), (75, 5837), (76, 5846), (77, 5879), (79, 5906), (81, 5915), (83, 5930), (88, 6014), (90, 6086), (95, 6158), (99, 6218), (100, 6233),

Gene: Linetti_10 Start: 5823, Stop: 7229, Start Num: 13

Candidate Starts for Linetti_10:

(Start: 7 @5748 has 1 MA's), (Start: 13 @5823 has 73 MA's), (19, 5934), (22, 5970), (23, 5991), (25, 6012), (29, 6081), (35, 6180), (36, 6207), (41, 6246), (49, 6333), (52, 6387), (56, 6414), (61, 6450), (63, 6519), (64, 6525), (68, 6618), (69, 6642), (70, 6654), (71, 6672), (73, 6711), (74, 6741), (75, 6768), (76, 6777), (77, 6810), (79, 6837), (81, 6846), (82, 6858), (88, 6945), (90, 7017), (91, 7035), (95, 7086), (96, 7092), (99, 7146), (103, 7200),

Gene: Lizzo_9 Start: 5678, Stop: 7081, Start Num: 13

Candidate Starts for Lizzo_9:

(Start: 7 @5603 has 1 MA's), (Start: 13 @5678 has 73 MA's), (16, 5747), (22, 5825), (23, 5846), (26, 5888), (29, 5936), (30, 5981), (37, 6077), (43, 6125), (47, 6161), (49, 6188), (62, 6356), (64, 6380), (69, 6494), (70, 6506), (71, 6524), (75, 6620), (76, 6629), (78, 6668), (81, 6698), (88, 6794), (89, 6806), (90, 6866), (95, 6938), (98, 6971), (99, 6998), (100, 7013), (103, 7052),

Gene: Luker_6 Start: 4892, Stop: 6289, Start Num: 13

Candidate Starts for Luker_6:

(2, 4763), (3, 4781), (Start: 13 @4892 has 73 MA's), (Start: 14 @4901 has 2 MA's), (16, 4961), (18, 4988), (19, 5003), (20, 5006), (22, 5039), (25, 5081), (29, 5150), (30, 5195), (35, 5249), (36, 5276), (49, 5399), (56, 5480), (59, 5501), (60, 5507), (61, 5516), (62, 5567), (64, 5591), (69, 5705), (70, 5717), (74, 5804), (75, 5831), (76, 5840), (77, 5873), (79, 5900), (81, 5909), (83, 5924), (88, 6008), (90, 6080), (95, 6152), (99, 6212), (100, 6227),

Gene: Minos_6 Start: 4898, Stop: 6295, Start Num: 13

Candidate Starts for Minos_6:

(6, 4814), (Start: 13 @4898 has 73 MA's), (Start: 14 @4907 has 2 MA's), (18, 4994), (19, 5009), (20, 5012), (22, 5045), (25, 5087), (29, 5156), (30, 5201), (35, 5255), (36, 5282), (49, 5405), (56, 5486), (59, 5507), (60, 5513), (61, 5522), (62, 5573), (63, 5591), (64, 5597), (69, 5711), (70, 5723), (74, 5810), (75, 5837), (76, 5846), (77, 5879), (79, 5906), (81, 5915), (83, 5930), (88, 6014), (90, 6086), (95, 6158), (99, 6218), (100, 6233),

Gene: Monty_8 Start: 5691, Stop: 7094, Start Num: 13

Candidate Starts for Monty_8:

(Start: 7 @5616 has 1 MA's), (Start: 13 @5691 has 73 MA's), (16, 5760), (22, 5838), (23, 5859), (26, 5901), (29, 5949), (30, 5994), (36, 6075), (37, 6090), (43, 6138), (47, 6174), (49, 6201), (62, 6369), (64, 6393), (69, 6507), (70, 6519), (71, 6537), (75, 6633), (76, 6642), (78, 6681), (81, 6711), (88, 6807), (89, 6819), (90, 6879), (95, 6951), (98, 6984), (99, 7011), (100, 7026), (103, 7065),

Gene: MrWormie_6 Start: 4887, Stop: 6284, Start Num: 13

Candidate Starts for MrWormie_6:

(6, 4803), (Start: 13 @4887 has 73 MA's), (Start: 14 @4896 has 2 MA's), (18, 4983), (19, 4998), (20, 5001), (22, 5034), (25, 5076), (29, 5145), (30, 5190), (35, 5244), (36, 5271), (49, 5394), (56, 5475), (59, 5496), (60, 5502), (61, 5511), (62, 5562), (63, 5580), (64, 5586), (69, 5700), (70, 5712), (74, 5799), (75, 5826), (76, 5835), (77, 5868), (79, 5895), (81, 5904), (83, 5919), (88, 6003), (90, 6075), (95, 6147), (99, 6207), (100, 6222),

Gene: Msay19_10 Start: 5868, Stop: 7271, Start Num: 13

Candidate Starts for Msay19_10:

(Start: 7 @5793 has 1 MA's), (Start: 13 @5868 has 73 MA's), (16, 5937), (22, 6015), (26, 6078), (29, 6126), (30, 6171), (36, 6252), (37, 6267), (47, 6351), (49, 6378), (57, 6462), (61, 6495), (62, 6546), (64, 6570), (69, 6684), (70, 6696), (71, 6714), (75, 6810), (76, 6819), (78, 6858), (81, 6888), (88, 6984), (89, 6996), (90, 7056), (95, 7128), (98, 7161), (99, 7188), (100, 7203), (103, 7242),

Gene: Neoevie_6 Start: 4890, Stop: 6287, Start Num: 13

Candidate Starts for Neoevie_6:

(2, 4761), (3, 4779), (Start: 13 @4890 has 73 MA's), (Start: 14 @4899 has 2 MA's), (18, 4986), (19, 5001), (20, 5004), (22, 5037), (25, 5079), (29, 5148), (30, 5193), (35, 5247), (36, 5274), (49, 5397), (56, 5478), (59, 5499), (60, 5505), (61, 5514), (62, 5565), (64, 5589), (69, 5703), (70, 5715), (74, 5802), (75, 5829), (76, 5838), (77, 5871), (79, 5898), (81, 5907), (83, 5922), (88, 6006), (90, 6078), (95, 6150), (99, 6210), (100, 6225),

Gene: Newt_6 Start: 4909, Stop: 6306, Start Num: 13

Candidate Starts for Newt_6:

(6, 4825), (Start: 13 @4909 has 73 MA's), (Start: 14 @4918 has 2 MA's), (18, 5005), (19, 5020), (20, 5023), (22, 5056), (25, 5098), (29, 5167), (30, 5212), (35, 5266), (36, 5293), (49, 5416), (56, 5497), (59, 5518), (60, 5524), (61, 5533), (62, 5584), (64, 5608), (69, 5722), (70, 5734), (74, 5821), (75, 5848), (76, 5857), (77, 5890), (79, 5917), (81, 5926), (83, 5941), (88, 6025), (90, 6097), (95, 6169), (99, 6229), (100, 6244),

Gene: Niagara_9 Start: 7361, Stop: 8758, Start Num: 13

Candidate Starts for Niagara_9:

(12, 7340), (Start: 13 @7361 has 73 MA's), (Start: 14 @7370 has 2 MA's), (15, 7394), (16, 7430), (17, 7454), (22, 7508), (23, 7529), (28, 7601), (43, 7805), (48, 7865), (51, 7877), (55, 7946), (57, 7952), (65, 8069), (69, 8168), (70, 8180), (75, 8297), (76, 8306), (79, 8366), (81, 8375), (84, 8396), (89, 8489), (92, 8582), (93, 8591), (94, 8615), (96, 8627), (97, 8630), (98, 8654), (99, 8681), (100, 8696), (103, 8732),

Gene: Nimi13_6 Start: 4910, Stop: 6307, Start Num: 13

Candidate Starts for Nimi13_6:

(6, 4826), (Start: 13 @4910 has 73 MA's), (Start: 14 @4919 has 2 MA's), (16, 4979), (18, 5006), (19, 5021), (20, 5024), (22, 5057), (25, 5099), (29, 5168), (30, 5213), (35, 5267), (36, 5294), (49, 5417), (56, 5498), (59, 5519), (60, 5525), (61, 5534), (62, 5585), (64, 5609), (69, 5723), (70, 5735), (74, 5822), (75, 5849), (76, 5858), (77, 5891), (79, 5918), (81, 5927), (83, 5942), (88, 6026), (90, 6098), (95, 6170), (99, 6230), (100, 6245),

Gene: Philon9_9 Start: 6900, Stop: 8300, Start Num: 13

Candidate Starts for Philon9_9:

(5, 6801), (12, 6879), (Start: 13 @6900 has 73 MA's), (16, 6969), (22, 7047), (23, 7068), (32, 7227), (43, 7344), (44, 7347), (46, 7374), (51, 7416), (53, 7467), (57, 7491), (58, 7503), (65, 7608), (69, 7707), (75, 7836), (76, 7845), (77, 7878), (79, 7905), (81, 7914), (82, 7926), (83, 7929), (84, 7935), (87, 8001), (89, 8022), (90, 8082), (93, 8127), (94, 8151), (97, 8166), (98, 8190), (99, 8217), (101, 8235),

Gene: PierreThree_9 Start: 5670, Stop: 7076, Start Num: 13

Candidate Starts for PierreThree_9:

(Start: 7 @5595 has 1 MA's), (Start: 13 @5670 has 73 MA's), (19, 5781), (22, 5817), (23, 5838), (25, 5859), (29, 5928), (31, 5979), (35, 6027), (36, 6054), (41, 6093), (49, 6180), (52, 6234), (56, 6261), (63, 6366), (64, 6372), (68, 6465), (69, 6489), (70, 6501), (71, 6519), (73, 6558), (74, 6588), (75, 6615), (76, 6624), (77, 6657), (79, 6684), (81, 6693), (82, 6705), (88, 6792), (90, 6864), (91, 6882), (95, 6933), (96, 6939), (99, 6993), (103, 7047),

Gene: PokyPuppy_8 Start: 5571, Stop: 6974, Start Num: 13

Candidate Starts for PokyPuppy_8:

(Start: 7 @5496 has 1 MA's), (10, 5520), (Start: 13 @5571 has 73 MA's), (16, 5640), (19, 5682), (22, 5718), (23, 5739), (30, 5874), (33, 5901), (35, 5928), (36, 5955), (37, 5970), (47, 6054), (49, 6081), (62, 6249), (64, 6273), (69, 6387), (70, 6399), (73, 6456), (75, 6513), (76, 6522), (77, 6555), (78, 6561), (79, 6582), (80, 6585), (81, 6591), (90, 6762), (91, 6780), (95, 6831), (96, 6837), (99, 6891), (100, 6906),

Gene: Poland_10 Start: 5844, Stop: 7247, Start Num: 13

Candidate Starts for Poland_10:

(Start: 7 @5769 has 1 MA's), (Start: 13 @5844 has 73 MA's), (16, 5913), (22, 5991), (26, 6054), (29, 6102), (30, 6147), (36, 6228), (37, 6243), (47, 6327), (49, 6354), (57, 6438), (61, 6471), (62, 6522), (64, 6546), (69, 6660), (70, 6672), (71, 6690), (75, 6786), (76, 6795), (78, 6834), (81, 6864), (88, 6960), (89, 6972), (90, 7032), (95, 7104), (98, 7137), (99, 7164), (100, 7179), (103, 7218),

Gene: RemRem_9 Start: 5690, Stop: 7093, Start Num: 13

Candidate Starts for RemRem_9:

(Start: 7 @5615 has 1 MA's), (Start: 13 @5690 has 73 MA's), (16, 5759), (22, 5837), (23, 5858), (26, 5900), (29, 5948), (30, 5993), (36, 6074), (37, 6089), (43, 6137), (47, 6173), (49, 6200), (62, 6368), (64, 6392), (69, 6506), (70, 6518), (71, 6536), (75, 6632), (76, 6641), (78, 6680), (81, 6710), (88, 6806), (89, 6818), (90, 6878), (95, 6950), (98, 6983), (99, 7010), (100, 7025), (103, 7064),

Gene: RoyalG_10 Start: 5885, Stop: 7291, Start Num: 13

Candidate Starts for RoyalG_10:

(Start: 7 @5810 has 1 MA's), (10, 5834), (Start: 13 @5885 has 73 MA's), (16, 5954), (20, 5999), (22, 6032), (23, 6053), (25, 6074), (36, 6269), (38, 6287), (47, 6368), (49, 6395), (51, 6404), (52, 6449), (62, 6563), (63, 6581), (64, 6587), (66, 6668), (67, 6674), (69, 6704), (70, 6716), (71, 6734), (73, 6773), (75, 6830), (76, 6839), (77, 6872), (80, 6902), (81, 6908), (82, 6920), (85, 6944), (88, 7007), (90, 7079), (95, 7148), (96, 7154), (99, 7208), (105, 7277),

Gene: Sam12_9 Start: 5690, Stop: 7093, Start Num: 13

Candidate Starts for Sam12_9:

(Start: 7 @5615 has 1 MA's), (Start: 13 @5690 has 73 MA's), (16, 5759), (22, 5837), (23, 5858), (26, 5900), (29, 5948), (30, 5993), (36, 6074), (37, 6089), (43, 6137), (47, 6173), (49, 6200), (62, 6368), (64, 6392), (69, 6506), (70, 6518), (71, 6536), (75, 6632), (76, 6641), (78, 6680), (81, 6710), (88, 6806), (89, 6818), (90, 6878), (95, 6950), (98, 6983), (99, 7010), (100, 7025), (103, 7064),

Gene: Shelley_6 Start: 4932, Stop: 6329, Start Num: 13

Candidate Starts for Shelley_6:

(6, 4848), (Start: 13 @4932 has 73 MA's), (Start: 14 @4941 has 2 MA's), (18, 5028), (19, 5043), (20, 5046), (22, 5079), (29, 5190), (30, 5235), (35, 5289), (36, 5316), (49, 5439), (56, 5520), (59, 5541), (60, 5547), (61, 5556), (62, 5607), (63, 5625), (64, 5631), (69, 5745), (70, 5757), (74, 5844), (75, 5871), (76, 5880), (77, 5913), (79, 5940), (81, 5949), (83, 5964), (88, 6048), (90, 6120), (95, 6192), (99, 6252), (100, 6267),

Gene: Sombrero_9 Start: 5724, Stop: 7127, Start Num: 13

Candidate Starts for Sombrero_9:

(Start: 7 @5649 has 1 MA's), (Start: 13 @5724 has 73 MA's), (16, 5793), (22, 5871), (26, 5934), (29, 5982), (30, 6027), (36, 6108), (37, 6123), (47, 6207), (49, 6234), (57, 6318), (61, 6351), (62, 6402), (64, 6426), (69, 6540), (70, 6552), (71, 6570), (75, 6666), (76, 6675), (78, 6714), (81, 6744), (88, 6840), (89, 6852), (90, 6912), (95, 6984), (98, 7017), (99, 7044), (100, 7059), (103, 7098),

Gene: Squibbles_9 Start: 5678, Stop: 7081, Start Num: 13

Candidate Starts for Squibbles_9:

(Start: 7 @5603 has 1 MA's), (Start: 13 @5678 has 73 MA's), (16, 5747), (22, 5825), (23, 5846), (26, 5888), (29, 5936), (30, 5981), (36, 6062), (37, 6077), (43, 6125), (47, 6161), (49, 6188), (62, 6356), (64, 6380), (69, 6494), (70, 6506), (71, 6524), (75, 6620), (76, 6629), (78, 6668), (81, 6698), (88, 6794), (89, 6806), (90, 6866), (95, 6938), (98, 6971), (99, 6998), (100, 7013), (103, 7052),

Gene: SteveFrench_8 Start: 5479, Stop: 6885, Start Num: 13

Candidate Starts for SteveFrench_8:

(Start: 7 @5404 has 1 MA's), (10, 5428), (Start: 13 @5479 has 73 MA's), (16, 5548), (20, 5593), (22, 5626), (23, 5647), (25, 5668), (36, 5863), (38, 5881), (47, 5962), (49, 5989), (51, 5998), (52, 6043), (62, 6157), (63, 6175), (64, 6181), (66, 6262), (67, 6268), (69, 6298), (70, 6310), (71, 6328), (73, 6367), (75, 6424), (76, 6433), (77, 6466), (80, 6496), (81, 6502), (82, 6514), (85, 6538), (88, 6601), (90, 6673), (95, 6742), (96, 6748), (99, 6802), (104, 6859), (105, 6871),

Gene: Sticker17_6 Start: 4909, Stop: 6306, Start Num: 13

Candidate Starts for Sticker17_6:

(6, 4825), (Start: 13 @4909 has 73 MA's), (Start: 14 @4918 has 2 MA's), (18, 5005), (19, 5020), (20, 5023), (22, 5056), (25, 5098), (29, 5167), (30, 5212), (35, 5266), (36, 5293), (49, 5416), (56, 5497), (59, 5518), (60, 5524), (61, 5533), (62, 5584), (64, 5608), (69, 5722), (70, 5734), (74, 5821), (75, 5848), (76, 5857), (77, 5890), (79, 5917), (81, 5926), (83, 5941), (88, 6025), (90, 6097), (95, 6169), (99, 6229), (100, 6244),

Gene: Teal_6 Start: 4886, Stop: 6283, Start Num: 13

Candidate Starts for Teal_6:

(6, 4802), (Start: 13 @4886 has 73 MA's), (Start: 14 @4895 has 2 MA's), (18, 4982), (19, 4997), (20, 5000), (22, 5033), (25, 5075), (29, 5144), (30, 5189), (35, 5243), (36, 5270), (49, 5393), (56, 5474), (59, 5495), (60, 5501), (61, 5510), (62, 5561), (63, 5579), (64, 5585), (69, 5699), (70, 5711), (74, 5798), (75, 5825), (76, 5834), (77, 5867), (79, 5894), (81, 5903), (83, 5918), (88, 6002), (90, 6074), (95, 6146), (99, 6206), (100, 6221),

Gene: Teatealatte_9 Start: 7324, Stop: 8721, Start Num: 13

Candidate Starts for Teatealatte_9:

(12, 7303), (Start: 13 @7324 has 73 MA's), (Start: 14 @7333 has 2 MA's), (15, 7357), (16, 7393), (17, 7417), (22, 7471), (28, 7564), (43, 7768), (48, 7828), (51, 7840), (55, 7909), (65, 8032), (69, 8131), (75, 8260), (76, 8269), (79, 8329), (81, 8338), (83, 8353), (84, 8359), (92, 8545), (93, 8554), (94, 8578), (96, 8590), (97, 8593), (98, 8617), (99, 8644), (100, 8659), (103, 8695),

Gene: Teech_9 Start: 7396, Stop: 8793, Start Num: 13

Candidate Starts for Teech_9:

(12, 7375), (Start: 13 @7396 has 73 MA's), (Start: 14 @7405 has 2 MA's), (15, 7429), (16, 7465), (17, 7489), (22, 7543), (28, 7636), (43, 7840), (48, 7900), (51, 7912), (55, 7981), (57, 7987), (65, 8104), (69, 8203), (75, 8332), (76, 8341), (79, 8401), (81, 8410), (83, 8425), (84, 8431), (92, 8617), (93, 8626), (94, 8650), (97, 8665), (98, 8689), (99, 8716), (100, 8731), (103, 8767),

Gene: Tredge_9 Start: 7324, Stop: 8721, Start Num: 13

Candidate Starts for Tredge_9:

(12, 7303), (Start: 13 @7324 has 73 MA's), (Start: 14 @7333 has 2 MA's), (15, 7357), (16, 7393), (17, 7417), (22, 7471), (28, 7564), (43, 7768), (48, 7828), (51, 7840), (55, 7909), (65, 8032), (69, 8131), (75, 8260), (76, 8269), (79, 8329), (81, 8338), (83, 8353), (84, 8359), (92, 8545), (93, 8554), (94, 8578), (96, 8590), (97, 8593), (98, 8617), (99, 8644), (100, 8659), (103, 8695),

Gene: Vitaenoi_9 Start: 6899, Stop: 8299, Start Num: 13

Candidate Starts for Vitaenoi_9:

(4, 6797), (8, 6827), (12, 6878), (Start: 13 @6899 has 73 MA's), (16, 6968), (22, 7046), (23, 7067), (28, 7139), (32, 7226), (39, 7310), (40, 7316), (43, 7343), (44, 7346), (46, 7373), (51, 7415), (53, 7466), (58, 7502), (65, 7607), (69, 7706), (75, 7835), (76, 7844), (77, 7877), (79, 7904), (81, 7913), (82, 7925), (83, 7928), (84, 7934), (87, 8000), (90, 8081), (93, 8126), (94, 8150), (97, 8165), (98, 8189), (99, 8216), (101, 8234),

Gene: Woes_6 Start: 4922, Stop: 6319, Start Num: 13

Candidate Starts for Woes_6:

(6, 4838), (Start: 13 @4922 has 73 MA's), (Start: 14 @4931 has 2 MA's), (18, 5018), (19, 5033), (20, 5036), (22, 5069), (25, 5111), (29, 5180), (30, 5225), (35, 5279), (36, 5306), (49, 5429), (56, 5510), (59, 5531), (60, 5537), (61, 5546), (62, 5597), (64, 5621), (69, 5735), (70, 5747), (74, 5834), (75, 5861), (76, 5870), (77, 5903), (79, 5930), (81, 5939), (83, 5954), (88, 6038), (90, 6110), (95, 6182), (99, 6242), (100, 6257),

Gene: Worcestershire_9 Start: 5689, Stop: 7092, Start Num: 13

Candidate Starts for Worcestershire_9:

(Start: 7 @5614 has 1 MA's), (Start: 13 @5689 has 73 MA's), (16, 5758), (22, 5836), (23, 5857), (26, 5899), (29, 5947), (30, 5992), (36, 6073), (37, 6088), (43, 6136), (47, 6172), (49, 6199), (62, 6367), (64, 6391), (69, 6505), (70, 6517), (71, 6535), (75, 6631), (76, 6640), (78, 6679), (81, 6709), (88, 6805), (89, 6817), (90, 6877), (95, 6949), (98, 6982), (99, 7009), (100, 7024), (103, 7063),