

Pham 163612

1: Onika_36 + 2	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
2: Scumbriand_38 + 2	27	28	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
3: RobsFeet_38	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
4: Yeti_37 + 6	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
5: Pipers_37	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
6: Pulchra_38 + 3	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
7: Ariadne_45 + 1	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
8: Firehan_37	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
9: Megan_31	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
10: Kowalski_36 + 2	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
11: Antares_37	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
12: PiperSansNom_37	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
13: EarickHC_37 + 1	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
14: Quhwah_40	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
15: NoodlelyBoi_37	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
16: Paschalis_36	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
17: Jayden_38	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
18: Teamocil_38 + 1	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
19: Crisis_38	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
20: Lyrumbra_35	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
21: PierreOrtiz_37	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
22: Metamorphoo_37	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
23: Shotgun_36	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
24: Nicole72_32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
25: OneinaGillian_36	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
26: Tempo_36 + 2	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
27: Phinky_43	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
28: BabyDotz_36	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
29: RobinRose_38 + 2	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
30: Marcje_41	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
31: SadLad_41 + 2	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
32: Cinna_32	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
33: Matzah_33	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
34: Cressida_34	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
35: MementoMori_33	30	41	69	73	80	84	125	137	146	171	210	225	228	246	255	279	288	299	311	315	319	343	347	350	371
36: Margaery_32	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
37: Kozie_33	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
38: Hendrix_71	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
39: Rasputia_72	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57

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 163612 Report

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

Pham number 163612 has 63 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Onika_36, Cranjjs_38, CrazyRich_36
- Track 2 : Scumberland_38, Selwyn23_38, LittleFortune_38
- Track 3 : RobsFeet_38
- Track 4 : Yeti_37, Honeyfin_38, Phrancesco_37, Ganandorf_36, Jefe_37, Phorgeous_36, Busephilis_36
- Track 5 : Piperis_37
- Track 6 : Pulchra_38, Jollipop_37, Hermeonysus_36, BrazzalePHS_36
- Track 7 : Ariadne_45, Smarties_45
- Track 8 : Fireman_37
- Track 9 : Megan_31
- Track 10 : Kowalski_36, Ramiel05_36, Savannah_36
- Track 11 : Antares_37
- Track 12 : PiperSansNom_37
- Track 13 : EarickHC_37, KaiHaiDragon_37
- Track 14 : Quhwah_40
- Track 15 : NoodlelyBoi_37
- Track 16 : Paschalis_36
- Track 17 : Jayden_38
- Track 18 : Teamocil_38, Gina_38
- Track 19 : Crisis_38
- Track 20 : Tyumbra_35
- Track 21 : PierreOrion_37
- Track 22 : Metamorphoo_37
- Track 23 : Shotgun_36
- Track 24 : Nicole72_32
- Track 25 : OneinaGillian_36
- Track 26 : Tempo_36, Fregley_37, CandC_35
- Track 27 : Phinky_43
- Track 28 : BabyDotz_36
- Track 29 : RobinRose_38, Romm_38, Kelcole_35
- Track 30 : Marcie_41
- Track 31 : SadLad_41, RubyRalph_39, Fransoyer_39
- Track 32 : Cinna_32
- Track 33 : Matzah_33
- Track 34 : Cressida_34
- Track 35 : MementoMori_33
- Track 36 : Margaery_32

- Track 37 : Kozie_33
- Track 38 : Hendrix_71
- Track 39 : Rasputia_72

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

The start number called the most often in the published annotations is 30, it was called in 32 of the 58 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antares_37, BrazzalePHS_36, Busephilis_36, Cinna_32, Cranjjs_38, CrazyRich_36, Cressida_34, Crisis_38, EarickHC_37, Ganandorf_36, Hermeonysus_36, Honeyfin_38, Jefe_37, Jollipop_37, KaiHaiDragon_37, Kowalski_36, LittleFortune_38, Margaery_32, Matzah_33, MementoMori_33, NoodlelyBoi_37, Onika_36, Paschalis_36, Phorgeous_36, Phrancesco_37, PierreOrion_37, PiperSansNom_37, Piperis_37, Pulchra_38, Quhwah_40, Ramiel05_36, Savannah_36, Scumberland_38, Selwyn23_38, Shotgun_36, Yeti_37,

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

-

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

- Ariadne_45, BabyDotz_36, CandC_35, Fireman_37, Fransoyer_39, Fregley_37, Gina_38, Hendrix_71, Jayden_38, Kelcole_35, Kozie_33, Marcie_41, Megan_31, Metamorphoo_37, Nicole72_32, OneinaGillian_36, Phinky_43, Rasputia_72, RobinRose_38, RobsFeet_38, Romm_38, RubyRalph_39, SadLad_41, Smarties_45, Teamocil_38, Tempo_36, Tyrumbra_35,

Summary by start number:

Start 1:

- Found in 3 of 63 (4.8%) of genes in pham
- Manual Annotations of this start: 3 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fransoyer_39 (EG), RubyRalph_39 (EG), SadLad_41 (EG),

Start 2:

- Found in 5 of 63 (7.9%) of genes in pham
- Manual Annotations of this start: 5 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fireman_37 (EC), Jayden_38 (EC), Metamorphoo_37 (EC), RobsFeet_38 (EC), Tyrumbra_35 (EC),

Start 30:

- Found in 36 of 63 (57.1%) of genes in pham
- Manual Annotations of this start: 32 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antares_37 (EC), BrazzalePHS_36 (EC), Busephilis_36 (EC), Cinna_32 (EI), Cranjjs_38 (EC), CrazyRich_36 (EC),

Cressida_34 (EI), Crisis_38 (EC), EarickHC_37 (EC), Ganandorf_36 (EC), Hermeonysus_36 (EC), Honeyfin_38 (EC), Jefe_37 (EC), Jollipop_37 (EC), KaiHaiDragon_37 (EC), Kowalski_36 (EC), LittleFortune_38 (EC), Margaery_32 (EI), Matzah_33 (EI), MementoMori_33 (EI), NoodlelyBoi_37 (EC), Onika_36 (EC), Paschalis_36 (EC), Phorgeous_36 (EC), Phrancesco_37 (EC), PierreOrion_37 (EC), PiperSansNom_37 (EC), Piperis_37 (EC), Pulchra_38 (EC), Quhwah_40 (EC), Ramiel05_36 (EC), Savannah_36 (EC), Scumberland_38 (EC), Selwyn23_38 (EC), Shotgun_36 (EC), Yeti_37 (EC),

Start 32:

- Found in 12 of 63 (19.0%) of genes in pham
- Manual Annotations of this start: 11 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyDotz_36 (EG), CandC_35 (EG), Fregley_37 (EG), Hendrix_71 (GC), Kelcole_35 (EG), Marcie_41 (EG), OneinaGillian_36 (EG), Phinky_43 (EG), Rasputia_72 (GC), RobinRose_38 (EG), Romm_38 (EG), Tempo_36 (EG),

Start 33:

- Found in 7 of 63 (11.1%) of genes in pham
- Manual Annotations of this start: 7 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariadne_45 (EC), Gina_38 (EC), Kozie_33 (EI), Megan_31 (EC), Nicole72_32 (EC), Smarties_45 (EC), Teamocil_38 (EC),

Summary by clusters:

There are 4 clusters represented in this pham: EI, EG, GC, EC,

Info for manual annotations of cluster EC:

- Start number 2 was manually annotated 5 times for cluster EC.
- Start number 30 was manually annotated 27 times for cluster EC.
- Start number 33 was manually annotated 6 times for cluster EC.

Info for manual annotations of cluster EG:

- Start number 1 was manually annotated 3 times for cluster EG.
- Start number 32 was manually annotated 9 times for cluster EG.

Info for manual annotations of cluster EI:

- Start number 30 was manually annotated 5 times for cluster EI.
- Start number 33 was manually annotated 1 time for cluster EI.

Info for manual annotations of cluster GC:

- Start number 32 was manually annotated 2 times for cluster GC.

Gene Information:

Gene: Antares_37 Start: 23711, Stop: 25657, Start Num: 30

Candidate Starts for Antares_37:

(Start: 30 @23711 has 32 MA's), (41, 23756), (43, 23780), (46, 23807), (49, 23828), (73, 23984), (80, 24020), (89, 24053), (91, 24059), (94, 24074), (125, 24218), (137, 24260), (146, 24305), (171, 24338), (202, 24446), (210, 24473), (211, 24476), (225, 24521), (227, 24548), (229, 24551), (246, 24641), (255, 24680), (256, 24689), (259, 24704), (279, 24851), (282, 24890), (283, 24902), (298, 24992), (299, 24995), (300, 25019), (301, 25028), (304, 25058), (311, 25133), (315, 25166), (319, 25196), (343, 25403), (347, 25442), (350, 25472), (371, 25589),

Gene: Ariadne_45 Start: 25427, Stop: 27295, Start Num: 33

Candidate Starts for Ariadne_45:

(Start: 33 @25427 has 7 MA's), (38, 25457), (39, 25463), (59, 25580), (60, 25595), (93, 25742), (96, 25754), (98, 25766), (99, 25769), (124, 25865), (128, 25883), (131, 25895), (149, 25949), (160, 25979), (195, 26075), (209, 26126), (212, 26132), (235, 26249), (250, 26312), (257, 26345), (258, 26351), (260, 26360), (286, 26570), (296, 26630), (300, 26666), (303, 26687), (304, 26705), (307, 26741), (314, 26801), (330, 26903), (331, 26924), (338, 26981), (367, 27209), (369, 27215),

Gene: BabyDotz_36 Start: 26482, Stop: 28446, Start Num: 32

Candidate Starts for BabyDotz_36:

(Start: 32 @26482 has 11 MA's), (37, 26506), (48, 26578), (51, 26593), (88, 26809), (91, 26824), (103, 26881), (115, 26932), (182, 27151), (189, 27166), (232, 27319), (239, 27361), (258, 27451), (260, 27460), (282, 27640), (284, 27661), (289, 27694), (291, 27703), (300, 27769), (305, 27817), (306, 27820), (311, 27883), (330, 28018), (342, 28147), (347, 28204), (350, 28252), (366, 28345), (368, 28354), (379, 28432),

Gene: BrazzalePHS_36 Start: 23506, Stop: 25452, Start Num: 30

Candidate Starts for BrazzalePHS_36:

(Start: 30 @23506 has 32 MA's), (41, 23551), (43, 23575), (46, 23602), (49, 23623), (73, 23779), (80, 23815), (89, 23848), (91, 23854), (94, 23869), (125, 24013), (137, 24055), (171, 24133), (210, 24268), (211, 24271), (225, 24316), (227, 24343), (229, 24346), (246, 24436), (255, 24475), (256, 24484), (259, 24499), (279, 24646), (282, 24685), (283, 24697), (298, 24787), (299, 24790), (300, 24814), (301, 24823), (311, 24928), (315, 24961), (319, 24991), (343, 25198), (347, 25237), (350, 25267), (371, 25384),

Gene: Busephilis_36 Start: 23441, Stop: 25393, Start Num: 30

Candidate Starts for Busephilis_36:

(Start: 30 @23441 has 32 MA's), (41, 23486), (43, 23510), (46, 23537), (49, 23558), (73, 23714), (80, 23750), (89, 23783), (91, 23789), (94, 23804), (125, 23948), (137, 23990), (138, 23993), (171, 24074), (211, 24212), (214, 24218), (225, 24257), (227, 24284), (232, 24305), (233, 24314), (244, 24368), (246, 24377), (251, 24392), (255, 24416), (256, 24425), (259, 24440), (277, 24566), (279, 24587), (282, 24626), (283, 24638), (298, 24728), (299, 24731), (300, 24755), (301, 24764), (304, 24794), (310, 24866), (311, 24869), (315, 24902), (319, 24932), (343, 25139), (347, 25178), (350, 25208), (371, 25325),

Gene: CandC_35 Start: 24614, Stop: 26587, Start Num: 32

Candidate Starts for CandC_35:

(Start: 32 @24614 has 11 MA's), (34, 24617), (55, 24752), (88, 24944), (91, 24959), (103, 25016), (116, 25070), (118, 25082), (125, 25115), (157, 25220), (232, 25454), (241, 25511), (258, 25586), (284, 25796), (286, 25811), (300, 25910), (301, 25919), (306, 25961), (316, 26063), (330, 26159), (342, 26288), (350, 26393), (366, 26486), (368, 26495), (379, 26573),

Gene: Cinna_32 Start: 22859, Stop: 25375, Start Num: 30

Candidate Starts for Cinna_32:

(8, 22466), (Start: 30 @22859 has 32 MA's), (46, 22952), (54, 22985), (57, 23009), (58, 23027), (70, 23111), (77, 23141), (79, 23150), (81, 23168), (85, 23177), (89, 23198), (91, 23204), (94, 23219),

(101, 23252), (103, 23261), (119, 23336), (125, 23363), (155, 23570), (162, 23630), (165, 23663), (168, 23735), (169, 23738), (173, 23771), (174, 23774), (176, 23786), (184, 23825), (194, 23870), (196, 23876), (197, 23885), (200, 23942), (222, 24053), (230, 24101), (236, 24140), (243, 24194), (262, 24296), (267, 24407), (274, 24476), (278, 24512), (282, 24569), (287, 24608), (293, 24641), (297, 24665), (299, 24674), (301, 24707), (306, 24749), (310, 24809), (322, 24884), (336, 25019), (341, 25076), (369, 25289), (375, 25334),

Gene: Cranjjs_38 Start: 23666, Stop: 25612, Start Num: 30

Candidate Starts for Cranjjs_38:

(Start: 30 @23666 has 32 MA's), (41, 23711), (43, 23735), (46, 23762), (49, 23783), (73, 23939), (80, 23975), (89, 24008), (91, 24014), (94, 24029), (125, 24173), (137, 24215), (146, 24260), (171, 24293), (210, 24428), (211, 24431), (225, 24476), (227, 24503), (229, 24506), (246, 24596), (255, 24635), (256, 24644), (259, 24659), (279, 24806), (282, 24845), (283, 24857), (298, 24947), (299, 24950), (300, 24974), (301, 24983), (311, 25088), (315, 25121), (319, 25151), (343, 25358), (347, 25397), (350, 25427), (371, 25544),

Gene: CrazyRich_36 Start: 23475, Stop: 25421, Start Num: 30

Candidate Starts for CrazyRich_36:

(Start: 30 @23475 has 32 MA's), (41, 23520), (43, 23544), (46, 23571), (49, 23592), (73, 23748), (80, 23784), (89, 23817), (91, 23823), (94, 23838), (125, 23982), (137, 24024), (146, 24069), (171, 24102), (210, 24237), (211, 24240), (225, 24285), (227, 24312), (229, 24315), (246, 24405), (255, 24444), (256, 24453), (259, 24468), (279, 24615), (282, 24654), (283, 24666), (298, 24756), (299, 24759), (300, 24783), (301, 24792), (311, 24897), (315, 24930), (319, 24960), (343, 25167), (347, 25206), (350, 25236), (371, 25353),

Gene: Cressida_34 Start: 22922, Stop: 24850, Start Num: 30

Candidate Starts for Cressida_34:

(Start: 30 @22922 has 32 MA's), (54, 23048), (68, 23165), (77, 23204), (79, 23213), (81, 23231), (85, 23240), (91, 23267), (101, 23315), (119, 23399), (125, 23426), (142, 23495), (151, 23522), (172, 23558), (174, 23564), (188, 23615), (199, 23651), (204, 23678), (206, 23684), (224, 23738), (228, 23765), (243, 23816), (252, 23837), (258, 23867), (265, 23900), (278, 23990), (282, 24047), (287, 24086), (288, 24101), (290, 24107), (299, 24152), (300, 24176), (301, 24185), (303, 24197), (306, 24227), (323, 24362), (328, 24401), (332, 24473), (336, 24494), (338, 24512), (341, 24551), (343, 24569), (346, 24602), (348, 24617), (349, 24620), (359, 24704), (367, 24758), (369, 24764),

Gene: Crisis_38 Start: 23460, Stop: 25412, Start Num: 30

Candidate Starts for Crisis_38:

(Start: 30 @23460 has 32 MA's), (41, 23505), (43, 23529), (46, 23556), (49, 23577), (73, 23733), (80, 23769), (89, 23802), (91, 23808), (94, 23823), (125, 23967), (137, 24009), (138, 24012), (171, 24093), (211, 24231), (214, 24237), (225, 24276), (227, 24303), (232, 24324), (233, 24333), (244, 24387), (246, 24396), (251, 24411), (255, 24435), (256, 24444), (259, 24459), (277, 24585), (279, 24606), (282, 24645), (283, 24657), (298, 24747), (299, 24750), (300, 24774), (301, 24783), (304, 24813), (310, 24885), (311, 24888), (315, 24921), (319, 24951), (347, 25197), (350, 25227), (371, 25344),

Gene: EarickHC_37 Start: 23386, Stop: 25338, Start Num: 30

Candidate Starts for EarickHC_37:

(Start: 30 @23386 has 32 MA's), (41, 23431), (43, 23455), (46, 23482), (49, 23503), (80, 23695), (89, 23728), (91, 23734), (94, 23749), (125, 23893), (137, 23935), (138, 23938), (141, 23956), (171, 24019), (211, 24157), (214, 24163), (225, 24202), (227, 24229), (244, 24313), (246, 24322), (251, 24337), (255, 24361), (256, 24370), (259, 24385), (277, 24511), (279, 24532), (282, 24571), (283, 24583), (298, 24673), (299, 24676), (300, 24700), (301, 24709), (310, 24811), (311, 24814), (315, 24847), (319, 24877), (343, 25084), (347, 25123), (350, 25153), (371, 25270),

Gene: Fireman_37 Start: 24038, Stop: 26530, Start Num: 2

Candidate Starts for Fireman_37:

(Start: 2 @24038 has 5 MA's), (4, 24068), (6, 24131), (9, 24191), (17, 24401), (18, 24419), (20, 24437), (23, 24470), (28, 24548), (31, 24578), (40, 24620), (47, 24671), (50, 24689), (56, 24725), (65, 24794), (68, 24818), (95, 24932), (107, 24977), (110, 24989), (111, 24995), (121, 25043), (136, 25103), (140, 25112), (147, 25157), (212, 25352), (235, 25469), (240, 25493), (257, 25565), (260, 25580), (280, 25718), (285, 25784), (302, 25901), (304, 25925), (307, 25961), (333, 26186), (338, 26219), (341, 26258), (352, 26351), (357, 26381),

Gene: Fransoyer_39 Start: 25911, Stop: 28880, Start Num: 1

Candidate Starts for Fransoyer_39:

(Start: 1 @25911 has 3 MA's), (3, 25941), (7, 26073), (10, 26112), (11, 26157), (13, 26235), (19, 26337), (21, 26361), (22, 26367), (29, 26463), (45, 26559), (57, 26643), (91, 26841), (108, 26916), (113, 26943), (130, 27033), (132, 27036), (134, 27045), (135, 27057), (140, 27090), (143, 27117), (153, 27183), (154, 27189), (161, 27234), (164, 27255), (174, 27384), (183, 27429), (192, 27471), (196, 27486), (197, 27495), (198, 27528), (226, 27660), (234, 27720), (248, 27816), (251, 27834), (254, 27858), (255, 27861), (277, 28047), (282, 28107), (284, 28128), (286, 28143), (292, 28176), (294, 28194), (297, 28209), (303, 28263), (306, 28293), (310, 28353), (311, 28356), (317, 28413), (325, 28443), (328, 28461), (337, 28545), (342, 28602), (347, 28656), (366, 28788), (373, 28836), (374, 28839),

Gene: Fregley_37 Start: 25184, Stop: 27157, Start Num: 32

Candidate Starts for Fregley_37:

(Start: 32 @25184 has 11 MA's), (34, 25187), (55, 25322), (88, 25514), (91, 25529), (103, 25586), (116, 25640), (118, 25652), (125, 25685), (157, 25790), (232, 26024), (241, 26081), (258, 26156), (284, 26366), (286, 26381), (300, 26480), (301, 26489), (306, 26531), (316, 26633), (330, 26729), (342, 26858), (350, 26963), (366, 27056), (368, 27065), (379, 27143),

Gene: Ganandorf_36 Start: 23522, Stop: 25474, Start Num: 30

Candidate Starts for Ganandorf_36:

(Start: 30 @23522 has 32 MA's), (41, 23567), (43, 23591), (46, 23618), (49, 23639), (73, 23795), (80, 23831), (89, 23864), (91, 23870), (94, 23885), (125, 24029), (137, 24071), (138, 24074), (171, 24155), (211, 24293), (214, 24299), (225, 24338), (227, 24365), (232, 24386), (233, 24395), (244, 24449), (246, 24458), (251, 24473), (255, 24497), (256, 24506), (259, 24521), (277, 24647), (279, 24668), (282, 24707), (283, 24719), (298, 24809), (299, 24812), (300, 24836), (301, 24845), (304, 24875), (310, 24947), (311, 24950), (315, 24983), (319, 25013), (343, 25220), (347, 25259), (350, 25289), (371, 25406),

Gene: Gina_38 Start: 23314, Stop: 25212, Start Num: 33

Candidate Starts for Gina_38:

(Start: 33 @23314 has 7 MA's), (38, 23344), (39, 23350), (59, 23467), (82, 23590), (84, 23596), (90, 23614), (104, 23677), (106, 23683), (107, 23689), (120, 23752), (125, 23770), (144, 23848), (185, 23959), (190, 23971), (195, 23992), (205, 24028), (212, 24049), (213, 24052), (250, 24229), (257, 24262), (258, 24268), (260, 24277), (270, 24325), (295, 24541), (296, 24547), (300, 24583), (304, 24622), (307, 24658), (314, 24718), (315, 24733), (331, 24841), (338, 24898), (342, 24943), (351, 25030), (369, 25132), (380, 25204),

Gene: Hendrix_71 Start: 44066, Stop: 46000, Start Num: 32

Candidate Starts for Hendrix_71:

(Start: 32 @44066 has 11 MA's), (41, 44108), (46, 44156), (76, 44342), (89, 44402), (91, 44408), (101, 44456), (103, 44465), (104, 44471), (117, 44528), (122, 44555), (170, 44684), (173, 44690), (175, 44696), (179, 44726), (181, 44729), (207, 44792), (215, 44813), (218, 44825), (227, 44876), (242, 44951), (245, 44963), (261, 45026), (284, 45209), (286, 45224), (297, 45284), (299, 45293), (301,

45323), (305, 45362), (306, 45365), (311, 45428), (315, 45461), (329, 45554), (331, 45584), (332, 45614), (336, 45638), (338, 45656), (340, 45686), (358, 45848), (363, 45872), (366, 45899), (370, 45917), (378, 45983), (379, 45986), (380, 45992),

Gene: Hermeonysus_36 Start: 23395, Stop: 25341, Start Num: 30

Candidate Starts for Hermeonysus_36:

(Start: 30 @23395 has 32 MA's), (41, 23440), (43, 23464), (46, 23491), (49, 23512), (73, 23668), (80, 23704), (89, 23737), (91, 23743), (94, 23758), (125, 23902), (137, 23944), (171, 24022), (210, 24157), (211, 24160), (225, 24205), (227, 24232), (229, 24235), (246, 24325), (255, 24364), (256, 24373), (259, 24388), (279, 24535), (282, 24574), (283, 24586), (298, 24676), (299, 24679), (300, 24703), (301, 24712), (311, 24817), (315, 24850), (319, 24880), (343, 25087), (347, 25126), (350, 25156), (371, 25273),

Gene: Honeyfin_38 Start: 23710, Stop: 25662, Start Num: 30

Candidate Starts for Honeyfin_38:

(Start: 30 @23710 has 32 MA's), (41, 23755), (43, 23779), (46, 23806), (49, 23827), (73, 23983), (80, 24019), (89, 24052), (91, 24058), (94, 24073), (125, 24217), (137, 24259), (138, 24262), (171, 24343), (211, 24481), (214, 24487), (225, 24526), (227, 24553), (232, 24574), (233, 24583), (244, 24637), (246, 24646), (251, 24661), (255, 24685), (256, 24694), (259, 24709), (277, 24835), (279, 24856), (282, 24895), (283, 24907), (298, 24997), (299, 25000), (300, 25024), (301, 25033), (304, 25063), (310, 25135), (311, 25138), (315, 25171), (319, 25201), (343, 25408), (347, 25447), (350, 25477), (371, 25594),

Gene: Jayden_38 Start: 23468, Stop: 25918, Start Num: 2

Candidate Starts for Jayden_38:

(Start: 2 @23468 has 5 MA's), (4, 23498), (5, 23504), (13, 23768), (16, 23834), (19, 23870), (27, 23972), (35, 24026), (52, 24125), (63, 24206), (67, 24233), (70, 24251), (72, 24260), (76, 24278), (78, 24287), (87, 24320), (114, 24425), (129, 24506), (148, 24569), (158, 24602), (195, 24698), (250, 24935), (257, 24968), (260, 24983), (286, 25193), (296, 25253), (303, 25310), (304, 25328), (307, 25364), (312, 25406), (314, 25424), (315, 25439), (321, 25472), (330, 25526), (331, 25547), (333, 25571), (335, 25583), (338, 25604), (339, 25619), (349, 25712), (351, 25736), (369, 25838), (380, 25910),

Gene: Jefe_37 Start: 23447, Stop: 25399, Start Num: 30

Candidate Starts for Jefe_37:

(Start: 30 @23447 has 32 MA's), (41, 23492), (43, 23516), (46, 23543), (49, 23564), (73, 23720), (80, 23756), (89, 23789), (91, 23795), (94, 23810), (125, 23954), (137, 23996), (138, 23999), (171, 24080), (211, 24218), (214, 24224), (225, 24263), (227, 24290), (232, 24311), (233, 24320), (244, 24374), (246, 24383), (251, 24398), (255, 24422), (256, 24431), (259, 24446), (277, 24572), (279, 24593), (282, 24632), (283, 24644), (298, 24734), (299, 24737), (300, 24761), (301, 24770), (304, 24800), (310, 24872), (311, 24875), (315, 24908), (319, 24938), (343, 25145), (347, 25184), (350, 25214), (371, 25331),

Gene: Jollipop_37 Start: 23792, Stop: 25738, Start Num: 30

Candidate Starts for Jollipop_37:

(Start: 30 @23792 has 32 MA's), (41, 23837), (43, 23861), (46, 23888), (49, 23909), (73, 24065), (80, 24101), (89, 24134), (91, 24140), (94, 24155), (125, 24299), (137, 24341), (171, 24419), (210, 24554), (211, 24557), (225, 24602), (227, 24629), (229, 24632), (246, 24722), (255, 24761), (256, 24770), (259, 24785), (279, 24932), (282, 24971), (283, 24983), (298, 25073), (299, 25076), (300, 25100), (301, 25109), (311, 25214), (315, 25247), (319, 25277), (343, 25484), (347, 25523), (350, 25553), (371, 25670),

Gene: KaiHaiDragon_37 Start: 23386, Stop: 25338, Start Num: 30

Candidate Starts for KaiHaiDragon_37:

(Start: 30 @23386 has 32 MA's), (41, 23431), (43, 23455), (46, 23482), (49, 23503), (80, 23695), (89, 23728), (91, 23734), (94, 23749), (125, 23893), (137, 23935), (138, 23938), (141, 23956), (171, 24019), (211, 24157), (214, 24163), (225, 24202), (227, 24229), (244, 24313), (246, 24322), (251, 24337), (255, 24361), (256, 24370), (259, 24385), (277, 24511), (279, 24532), (282, 24571), (283, 24583), (298, 24673), (299, 24676), (300, 24700), (301, 24709), (310, 24811), (311, 24814), (315, 24847), (319, 24877), (343, 25084), (347, 25123), (350, 25153), (371, 25270),

Gene: Kelcole_35 Start: 25066, Stop: 27039, Start Num: 32

Candidate Starts for Kelcole_35:

(Start: 32 @25066 has 11 MA's), (34, 25069), (55, 25204), (88, 25396), (91, 25411), (103, 25468), (116, 25522), (118, 25534), (157, 25672), (232, 25906), (241, 25963), (258, 26038), (284, 26248), (286, 26263), (300, 26362), (301, 26371), (306, 26413), (316, 26515), (330, 26611), (342, 26740), (350, 26845), (366, 26938), (368, 26947), (379, 27025),

Gene: Kowalski_36 Start: 23502, Stop: 25448, Start Num: 30

Candidate Starts for Kowalski_36:

(Start: 30 @23502 has 32 MA's), (41, 23547), (43, 23571), (46, 23598), (49, 23619), (73, 23775), (80, 23811), (89, 23844), (91, 23850), (94, 23865), (125, 24009), (137, 24051), (171, 24129), (210, 24264), (211, 24267), (225, 24312), (227, 24339), (229, 24342), (246, 24432), (255, 24471), (256, 24480), (259, 24495), (279, 24642), (282, 24681), (283, 24693), (298, 24783), (299, 24786), (300, 24810), (301, 24819), (310, 24921), (311, 24924), (315, 24957), (319, 24987), (343, 25194), (347, 25233), (350, 25263), (371, 25380),

Gene: Kozie_33 Start: 23180, Stop: 25093, Start Num: 33

Candidate Starts for Kozie_33:

(26, 23129), (Start: 33 @23180 has 7 MA's), (59, 23333), (66, 23381), (75, 23432), (102, 23546), (107, 23570), (120, 23633), (150, 23741), (203, 23903), (235, 24047), (250, 24110), (257, 24143), (258, 24149), (260, 24158), (286, 24368), (296, 24428), (300, 24464), (304, 24503), (307, 24539), (314, 24599), (321, 24647), (331, 24722), (333, 24746), (338, 24779), (367, 25007), (369, 25013), (380, 25085),

Gene: LittleFortune_38 Start: 23752, Stop: 25704, Start Num: 30

Candidate Starts for LittleFortune_38:

(Start: 30 @23752 has 32 MA's), (41, 23797), (43, 23821), (46, 23848), (49, 23869), (73, 24025), (80, 24061), (89, 24094), (91, 24100), (94, 24115), (125, 24259), (137, 24301), (138, 24304), (171, 24385), (211, 24523), (214, 24529), (225, 24568), (227, 24595), (232, 24616), (233, 24625), (244, 24679), (246, 24688), (251, 24703), (255, 24727), (256, 24736), (259, 24751), (277, 24877), (279, 24898), (282, 24937), (283, 24949), (298, 25039), (299, 25042), (300, 25066), (301, 25075), (304, 25105), (310, 25177), (311, 25180), (315, 25213), (319, 25243), (343, 25450), (345, 25471), (347, 25489), (350, 25519), (371, 25636),

Gene: Marcie_41 Start: 25722, Stop: 27695, Start Num: 32

Candidate Starts for Marcie_41:

(Start: 32 @25722 has 11 MA's), (34, 25725), (55, 25860), (88, 26052), (91, 26067), (103, 26124), (116, 26178), (125, 26223), (170, 26340), (173, 26349), (217, 26484), (241, 26619), (284, 26904), (286, 26919), (289, 26940), (297, 26985), (300, 27018), (305, 27066), (306, 27069), (316, 27171), (342, 27396), (345, 27438), (347, 27456), (362, 27561), (363, 27567), (366, 27594), (379, 27681),

Gene: Margaery_32 Start: 22803, Stop: 24701, Start Num: 30

Candidate Starts for Margaery_32:

(8, 22407), (Start: 30 @22803 has 32 MA's), (46, 22899), (48, 22908), (62, 23007), (71, 23061), (74, 23079), (80, 23112), (89, 23145), (91, 23151), (94, 23166), (106, 23220), (117, 23271), (123, 23307),

(125, 23310), (151, 23406), (177, 23466), (200, 23529), (201, 23535), (208, 23562), (227, 23625), (234, 23649), (238, 23673), (258, 23751), (271, 23820), (272, 23841), (275, 23859), (276, 23868), (285, 23976), (298, 24048), (299, 24051), (300, 24075), (303, 24096), (307, 24150), (310, 24186), (318, 24249), (319, 24252), (325, 24273), (330, 24315), (342, 24432), (345, 24468), (376, 24666), (379, 24687),

Gene: Matzah_33 Start: 22835, Stop: 25315, Start Num: 30

Candidate Starts for Matzah_33:

(Start: 30 @22835 has 32 MA's), (46, 22928), (54, 22961), (57, 22985), (58, 23003), (70, 23087), (77, 23117), (79, 23126), (81, 23144), (85, 23153), (89, 23174), (91, 23180), (94, 23195), (101, 23228), (103, 23237), (119, 23312), (125, 23339), (133, 23396), (145, 23495), (155, 23543), (156, 23558), (163, 23600), (166, 23645), (167, 23651), (180, 23747), (187, 23777), (216, 23963), (220, 23978), (223, 23993), (231, 24041), (237, 24080), (243, 24131), (250, 24188), (252, 24206), (253, 24212), (266, 24314), (268, 24362), (269, 24371), (273, 24419), (287, 24560), (293, 24593), (297, 24617), (299, 24626), (301, 24659), (306, 24701), (310, 24761), (324, 24839), (328, 24875), (341, 25025), (345, 25070), (355, 25154), (356, 25157),

Gene: Megan_31 Start: 24332, Stop: 26239, Start Num: 33

Candidate Starts for Megan_31:

(Start: 33 @24332 has 7 MA's), (53, 24440), (60, 24500), (69, 24557), (74, 24581), (82, 24617), (104, 24704), (107, 24716), (112, 24743), (152, 24896), (170, 24926), (201, 25034), (235, 25193), (240, 25217), (242, 25229), (257, 25289), (258, 25295), (260, 25304), (261, 25310), (263, 25322), (297, 25577), (300, 25610), (304, 25649), (307, 25685), (308, 25706), (331, 25868), (336, 25907), (338, 25925), (342, 25970), (369, 26159), (372, 26183), (375, 26198), (380, 26231),

Gene: MementoMori_33 Start: 22559, Stop: 25063, Start Num: 30

Candidate Starts for MementoMori_33:

(Start: 30 @22559 has 32 MA's), (46, 22652), (54, 22685), (57, 22709), (58, 22727), (70, 22811), (77, 22841), (79, 22850), (81, 22868), (85, 22877), (89, 22898), (91, 22904), (94, 22919), (101, 22952), (103, 22961), (125, 23063), (142, 23186), (155, 23270), (165, 23363), (169, 23438), (174, 23474), (184, 23525), (196, 23576), (197, 23585), (200, 23642), (222, 23753), (230, 23801), (236, 23840), (243, 23894), (267, 24107), (274, 24176), (278, 24212), (282, 24269), (287, 24308), (293, 24341), (297, 24365), (299, 24374), (301, 24407), (306, 24449), (310, 24509), (324, 24587), (328, 24623), (341, 24773), (345, 24818), (353, 24884), (355, 24902), (356, 24905),

Gene: Metamorphoo_37 Start: 23324, Stop: 25813, Start Num: 2

Candidate Starts for Metamorphoo_37:

(Start: 2 @23324 has 5 MA's), (9, 23477), (11, 23540), (12, 23552), (24, 23792), (25, 23813), (28, 23834), (38, 23897), (40, 23906), (42, 23924), (44, 23933), (50, 23975), (56, 24011), (61, 24059), (64, 24077), (83, 24167), (85, 24173), (86, 24176), (100, 24245), (127, 24365), (139, 24395), (193, 24569), (198, 24581), (212, 24635), (235, 24752), (240, 24776), (250, 24815), (257, 24848), (260, 24863), (270, 24911), (280, 25001), (285, 25067), (300, 25169), (302, 25184), (304, 25208), (307, 25244), (309, 25277), (313, 25289), (321, 25370), (330, 25424), (331, 25445), (333, 25469), (338, 25502), (341, 25541), (365, 25718), (380, 25805),

Gene: Nicole72_32 Start: 25270, Stop: 27153, Start Num: 33

Candidate Starts for Nicole72_32:

(Start: 33 @25270 has 7 MA's), (59, 25423), (79, 25537), (91, 25582), (92, 25588), (97, 25612), (107, 25648), (109, 25657), (124, 25711), (159, 25834), (173, 25852), (178, 25876), (203, 25963), (235, 26107), (240, 26131), (250, 26170), (257, 26203), (258, 26209), (260, 26218), (295, 26482), (297, 26491), (300, 26524), (307, 26599), (308, 26620), (314, 26659), (331, 26782), (338, 26839), (342, 26884), (351, 26971), (364, 27040), (369, 27073), (380, 27145),

Gene: NoodlelyBoi_37 Start: 23832, Stop: 25775, Start Num: 30

Candidate Starts for NoodlelyBoi_37:

(Start: 30 @23832 has 32 MA's), (41, 23877), (46, 23928), (49, 23949), (62, 24036), (71, 24090), (80, 24141), (89, 24174), (91, 24180), (94, 24195), (125, 24339), (126, 24348), (137, 24381), (171, 24459), (186, 24522), (191, 24537), (200, 24558), (211, 24597), (214, 24603), (227, 24669), (244, 24750), (249, 24765), (251, 24774), (253, 24792), (255, 24798), (256, 24807), (259, 24822), (270, 24882), (277, 24948), (279, 24969), (283, 25020), (284, 25029), (285, 25038), (297, 25104), (298, 25110), (299, 25113), (300, 25137), (310, 25248), (311, 25251), (315, 25284), (319, 25314), (343, 25521), (355, 25617), (361, 25647), (366, 25683), (367, 25689), (380, 25767),

Gene: OneinaGillian_36 Start: 24713, Stop: 26689, Start Num: 32

Candidate Starts for OneinaGillian_36:

(Start: 32 @24713 has 11 MA's), (34, 24716), (55, 24851), (88, 25043), (91, 25058), (103, 25115), (116, 25169), (118, 25181), (157, 25319), (232, 25553), (241, 25610), (258, 25685), (284, 25895), (286, 25910), (300, 26009), (301, 26018), (306, 26060), (316, 26162), (330, 26258), (342, 26387), (347, 26447), (350, 26495), (366, 26588), (368, 26597), (379, 26675),

Gene: Onika_36 Start: 23477, Stop: 25423, Start Num: 30

Candidate Starts for Onika_36:

(Start: 30 @23477 has 32 MA's), (41, 23522), (43, 23546), (46, 23573), (49, 23594), (73, 23750), (80, 23786), (89, 23819), (91, 23825), (94, 23840), (125, 23984), (137, 24026), (146, 24071), (171, 24104), (210, 24239), (211, 24242), (225, 24287), (227, 24314), (229, 24317), (246, 24407), (255, 24446), (256, 24455), (259, 24470), (279, 24617), (282, 24656), (283, 24668), (298, 24758), (299, 24761), (300, 24785), (301, 24794), (311, 24899), (315, 24932), (319, 24962), (343, 25169), (347, 25208), (350, 25238), (371, 25355),

Gene: Paschalis_36 Start: 23490, Stop: 25430, Start Num: 30

Candidate Starts for Paschalis_36:

(Start: 30 @23490 has 32 MA's), (41, 23535), (43, 23559), (46, 23586), (49, 23607), (73, 23763), (80, 23799), (89, 23832), (91, 23838), (94, 23853), (125, 23997), (137, 24039), (146, 24084), (171, 24117), (202, 24225), (210, 24252), (211, 24255), (225, 24300), (227, 24327), (229, 24330), (246, 24420), (255, 24459), (256, 24468), (259, 24483), (279, 24630), (282, 24669), (283, 24681), (298, 24771), (299, 24774), (300, 24798), (301, 24807), (304, 24837), (311, 24912), (330, 25041), (337, 25110), (338, 25122), (344, 25191), (361, 25302), (366, 25338), (380, 25422),

Gene: Phinky_43 Start: 27523, Stop: 29499, Start Num: 32

Candidate Starts for Phinky_43:

(Start: 32 @27523 has 11 MA's), (37, 27547), (88, 27850), (98, 27901), (105, 27931), (115, 27973), (201, 28234), (217, 28285), (234, 28378), (239, 28405), (258, 28495), (275, 28597), (285, 28714), (300, 28813), (306, 28864), (317, 28984), (326, 29029), (334, 29128), (345, 29242), (347, 29260), (379, 29485),

Gene: Phorgeous_36 Start: 23344, Stop: 25296, Start Num: 30

Candidate Starts for Phorgeous_36:

(Start: 30 @23344 has 32 MA's), (41, 23389), (43, 23413), (46, 23440), (49, 23461), (73, 23617), (80, 23653), (89, 23686), (91, 23692), (94, 23707), (125, 23851), (137, 23893), (138, 23896), (171, 23977), (211, 24115), (214, 24121), (225, 24160), (227, 24187), (232, 24208), (233, 24217), (244, 24271), (246, 24280), (251, 24295), (255, 24319), (256, 24328), (259, 24343), (277, 24469), (279, 24490), (282, 24529), (283, 24541), (298, 24631), (299, 24634), (300, 24658), (301, 24667), (304, 24697), (310, 24769), (311, 24772), (315, 24805), (319, 24835), (343, 25042), (347, 25081), (350, 25111), (371, 25228),

Gene: Phrancesco_37 Start: 23622, Stop: 25574, Start Num: 30

Candidate Starts for Phrancesco_37:

(Start: 30 @23622 has 32 MA's), (41, 23667), (43, 23691), (46, 23718), (49, 23739), (73, 23895), (80, 23931), (89, 23964), (91, 23970), (94, 23985), (125, 24129), (137, 24171), (138, 24174), (171, 24255), (211, 24393), (214, 24399), (225, 24438), (227, 24465), (232, 24486), (233, 24495), (244, 24549), (246, 24558), (251, 24573), (255, 24597), (256, 24606), (259, 24621), (277, 24747), (279, 24768), (282, 24807), (283, 24819), (298, 24909), (299, 24912), (300, 24936), (301, 24945), (304, 24975), (310, 25047), (311, 25050), (315, 25083), (319, 25113), (343, 25320), (347, 25359), (350, 25389), (371, 25506),

Gene: PierreOrion_37 Start: 23645, Stop: 25597, Start Num: 30

Candidate Starts for PierreOrion_37:

(Start: 30 @23645 has 32 MA's), (41, 23690), (43, 23714), (46, 23741), (49, 23762), (73, 23918), (80, 23954), (89, 23987), (91, 23993), (94, 24008), (125, 24152), (137, 24194), (138, 24197), (171, 24278), (211, 24416), (214, 24422), (225, 24461), (232, 24509), (233, 24518), (244, 24572), (246, 24581), (251, 24596), (255, 24620), (256, 24629), (259, 24644), (277, 24770), (279, 24791), (282, 24830), (283, 24842), (298, 24932), (299, 24935), (300, 24959), (301, 24968), (304, 24998), (310, 25070), (311, 25073), (315, 25106), (319, 25136), (343, 25343), (347, 25382), (350, 25412), (371, 25529),

Gene: PiperSansNom_37 Start: 23797, Stop: 25737, Start Num: 30

Candidate Starts for PiperSansNom_37:

(Start: 30 @23797 has 32 MA's), (41, 23842), (43, 23866), (46, 23893), (49, 23914), (73, 24070), (80, 24106), (89, 24139), (91, 24145), (94, 24160), (125, 24304), (137, 24346), (146, 24391), (171, 24424), (202, 24532), (210, 24559), (211, 24562), (225, 24607), (227, 24634), (229, 24637), (246, 24727), (255, 24766), (256, 24775), (259, 24790), (282, 24976), (298, 25078), (299, 25081), (300, 25105), (301, 25114), (304, 25144), (311, 25219), (330, 25348), (337, 25417), (338, 25429), (344, 25498), (361, 25609), (366, 25645), (380, 25729),

Gene: Piperis_37 Start: 23467, Stop: 25419, Start Num: 30

Candidate Starts for Piperis_37:

(Start: 30 @23467 has 32 MA's), (41, 23512), (43, 23536), (46, 23563), (49, 23584), (73, 23740), (80, 23776), (89, 23809), (91, 23815), (94, 23830), (125, 23974), (137, 24016), (138, 24019), (171, 24100), (211, 24238), (214, 24244), (225, 24283), (227, 24310), (244, 24394), (246, 24403), (251, 24418), (255, 24442), (256, 24451), (259, 24466), (277, 24592), (279, 24613), (282, 24652), (283, 24664), (298, 24754), (299, 24757), (300, 24781), (301, 24790), (304, 24820), (310, 24892), (311, 24895), (315, 24928), (319, 24958), (327, 24994), (343, 25165), (345, 25186), (350, 25234), (371, 25351),

Gene: Pulchra_38 Start: 23867, Stop: 25813, Start Num: 30

Candidate Starts for Pulchra_38:

(Start: 30 @23867 has 32 MA's), (41, 23912), (43, 23936), (46, 23963), (49, 23984), (73, 24140), (80, 24176), (89, 24209), (91, 24215), (94, 24230), (125, 24374), (137, 24416), (171, 24494), (210, 24629), (211, 24632), (225, 24677), (227, 24704), (229, 24707), (246, 24797), (255, 24836), (256, 24845), (259, 24860), (279, 25007), (282, 25046), (283, 25058), (298, 25148), (299, 25151), (300, 25175), (301, 25184), (311, 25289), (315, 25322), (319, 25352), (343, 25559), (347, 25598), (350, 25628), (371, 25745),

Gene: Quhwah_40 Start: 24093, Stop: 26045, Start Num: 30

Candidate Starts for Quhwah_40:

(Start: 30 @24093 has 32 MA's), (41, 24138), (43, 24162), (46, 24189), (49, 24210), (73, 24366), (80, 24402), (89, 24435), (91, 24441), (94, 24456), (125, 24600), (137, 24642), (138, 24645), (141, 24663), (171, 24726), (211, 24864), (214, 24870), (225, 24909), (227, 24936), (232, 24957), (233, 24966), (244, 25020), (246, 25029), (251, 25044), (255, 25068), (256, 25077), (259, 25092), (277, 25218), (279, 25239), (282, 25278), (283, 25290), (298, 25380), (299, 25383), (300, 25407), (301, 25416), (304, 25446), (310, 25518), (311, 25521), (315, 25554), (347, 25830), (350, 25860), (371, 25977),

Gene: Ramiel05_36 Start: 23502, Stop: 25448, Start Num: 30

Candidate Starts for Ramiel05_36:

(Start: 30 @23502 has 32 MA's), (41, 23547), (43, 23571), (46, 23598), (49, 23619), (73, 23775), (80, 23811), (89, 23844), (91, 23850), (94, 23865), (125, 24009), (137, 24051), (171, 24129), (210, 24264), (211, 24267), (225, 24312), (227, 24339), (229, 24342), (246, 24432), (255, 24471), (256, 24480), (259, 24495), (279, 24642), (282, 24681), (283, 24693), (298, 24783), (299, 24786), (300, 24810), (301, 24819), (310, 24921), (311, 24924), (315, 24957), (319, 24987), (343, 25194), (347, 25233), (350, 25263), (371, 25380),

Gene: Rasputia_72 Start: 44029, Stop: 45960, Start Num: 32

Candidate Starts for Rasputia_72:

(Start: 32 @44029 has 11 MA's), (36, 44047), (41, 44071), (46, 44119), (76, 44305), (80, 44332), (89, 44365), (91, 44371), (101, 44419), (103, 44428), (104, 44434), (111, 44464), (117, 44491), (175, 44659), (179, 44692), (207, 44758), (217, 44785), (219, 44794), (220, 44797), (221, 44800), (227, 44842), (247, 44935), (264, 45007), (281, 45118), (284, 45175), (286, 45190), (297, 45250), (299, 45259), (305, 45328), (306, 45331), (324, 45469), (338, 45616), (340, 45646), (341, 45652), (342, 45658), (347, 45718), (350, 45766), (360, 45817), (363, 45832), (366, 45859), (370, 45877), (377, 45940), (379, 45946), (380, 45952),

Gene: RobinRose_38 Start: 25217, Stop: 27190, Start Num: 32

Candidate Starts for RobinRose_38:

(Start: 32 @25217 has 11 MA's), (34, 25220), (55, 25355), (88, 25547), (91, 25562), (103, 25619), (116, 25673), (118, 25685), (157, 25823), (232, 26057), (241, 26114), (258, 26189), (284, 26399), (286, 26414), (300, 26513), (301, 26522), (306, 26564), (316, 26666), (330, 26762), (342, 26891), (350, 26996), (366, 27089), (368, 27098), (379, 27176),

Gene: RobsFeet_38 Start: 23605, Stop: 26094, Start Num: 2

Candidate Starts for RobsFeet_38:

(Start: 2 @23605 has 5 MA's), (9, 23758), (11, 23821), (12, 23833), (24, 24073), (25, 24094), (28, 24115), (38, 24178), (40, 24187), (42, 24205), (44, 24214), (50, 24256), (56, 24292), (61, 24340), (64, 24358), (83, 24448), (85, 24454), (86, 24457), (100, 24526), (127, 24646), (139, 24676), (172, 24775), (193, 24850), (198, 24862), (212, 24916), (235, 25033), (240, 25057), (250, 25096), (257, 25129), (260, 25144), (270, 25192), (280, 25282), (285, 25348), (300, 25450), (302, 25465), (304, 25489), (307, 25525), (309, 25558), (313, 25570), (321, 25651), (330, 25705), (331, 25726), (333, 25750), (338, 25783), (341, 25822), (365, 25999), (380, 26086),

Gene: Romm_38 Start: 25217, Stop: 27190, Start Num: 32

Candidate Starts for Romm_38:

(Start: 32 @25217 has 11 MA's), (34, 25220), (55, 25355), (88, 25547), (91, 25562), (103, 25619), (116, 25673), (118, 25685), (157, 25823), (232, 26057), (241, 26114), (258, 26189), (284, 26399), (286, 26414), (300, 26513), (301, 26522), (306, 26564), (316, 26666), (330, 26762), (342, 26891), (350, 26996), (366, 27089), (368, 27098), (379, 27176),

Gene: RubyRalph_39 Start: 25839, Stop: 28808, Start Num: 1

Candidate Starts for RubyRalph_39:

(Start: 1 @25839 has 3 MA's), (3, 25869), (7, 26001), (10, 26040), (11, 26085), (13, 26163), (19, 26265), (21, 26289), (22, 26295), (29, 26391), (45, 26487), (57, 26571), (91, 26769), (108, 26844), (113, 26871), (130, 26961), (132, 26964), (134, 26973), (135, 26985), (140, 27018), (143, 27045), (153, 27111), (154, 27117), (161, 27162), (164, 27183), (174, 27312), (183, 27357), (192, 27399), (196, 27414), (197, 27423), (198, 27456), (226, 27588), (234, 27648), (248, 27744), (251, 27762), (254, 27786), (255, 27789), (277, 27975), (282, 28035), (284, 28056), (286, 28071), (292, 28104), (294, 28122), (297, 28137), (303, 28191), (306, 28221), (310, 28281), (311, 28284), (317, 28341),

(325, 28371), (328, 28389), (337, 28473), (342, 28530), (347, 28584), (366, 28716), (373, 28764), (374, 28767),

Gene: SadLad_41 Start: 26782, Stop: 29751, Start Num: 1

Candidate Starts for SadLad_41:

(Start: 1 @26782 has 3 MA's), (3, 26812), (7, 26944), (10, 26983), (11, 27028), (13, 27106), (19, 27208), (21, 27232), (22, 27238), (29, 27334), (45, 27430), (57, 27514), (91, 27712), (108, 27787), (113, 27814), (130, 27904), (132, 27907), (134, 27916), (135, 27928), (140, 27961), (143, 27988), (153, 28054), (154, 28060), (161, 28105), (164, 28126), (174, 28255), (183, 28300), (192, 28342), (196, 28357), (197, 28366), (198, 28399), (226, 28531), (234, 28591), (248, 28687), (251, 28705), (254, 28729), (255, 28732), (277, 28918), (282, 28978), (284, 28999), (286, 29014), (292, 29047), (294, 29065), (297, 29080), (303, 29134), (306, 29164), (310, 29224), (311, 29227), (317, 29284), (325, 29314), (328, 29332), (337, 29416), (342, 29473), (347, 29527), (366, 29659), (373, 29707), (374, 29710),

Gene: Savannah_36 Start: 23529, Stop: 25475, Start Num: 30

Candidate Starts for Savannah_36:

(Start: 30 @23529 has 32 MA's), (41, 23574), (43, 23598), (46, 23625), (49, 23646), (73, 23802), (80, 23838), (89, 23871), (91, 23877), (94, 23892), (125, 24036), (137, 24078), (171, 24156), (210, 24291), (211, 24294), (225, 24339), (227, 24366), (229, 24369), (246, 24459), (255, 24498), (256, 24507), (259, 24522), (279, 24669), (282, 24708), (283, 24720), (298, 24810), (299, 24813), (300, 24837), (301, 24846), (310, 24948), (311, 24951), (315, 24984), (319, 25014), (343, 25221), (347, 25260), (350, 25290), (371, 25407),

Gene: Scumberland_38 Start: 23718, Stop: 25670, Start Num: 30

Candidate Starts for Scumberland_38:

(Start: 30 @23718 has 32 MA's), (41, 23763), (43, 23787), (46, 23814), (49, 23835), (73, 23991), (80, 24027), (89, 24060), (91, 24066), (94, 24081), (125, 24225), (137, 24267), (138, 24270), (171, 24351), (211, 24489), (214, 24495), (225, 24534), (227, 24561), (232, 24582), (233, 24591), (244, 24645), (246, 24654), (251, 24669), (255, 24693), (256, 24702), (259, 24717), (277, 24843), (279, 24864), (282, 24903), (283, 24915), (298, 25005), (299, 25008), (300, 25032), (301, 25041), (304, 25071), (310, 25143), (311, 25146), (315, 25179), (319, 25209), (343, 25416), (345, 25437), (347, 25455), (350, 25485), (371, 25602),

Gene: Selwyn23_38 Start: 23695, Stop: 25647, Start Num: 30

Candidate Starts for Selwyn23_38:

(Start: 30 @23695 has 32 MA's), (41, 23740), (43, 23764), (46, 23791), (49, 23812), (73, 23968), (80, 24004), (89, 24037), (91, 24043), (94, 24058), (125, 24202), (137, 24244), (138, 24247), (171, 24328), (211, 24466), (214, 24472), (225, 24511), (227, 24538), (232, 24559), (233, 24568), (244, 24622), (246, 24631), (251, 24646), (255, 24670), (256, 24679), (259, 24694), (277, 24820), (279, 24841), (282, 24880), (283, 24892), (298, 24982), (299, 24985), (300, 25009), (301, 25018), (304, 25048), (310, 25120), (311, 25123), (315, 25156), (319, 25186), (343, 25393), (345, 25414), (347, 25432), (350, 25462), (371, 25579),

Gene: Shotgun_36 Start: 23328, Stop: 25274, Start Num: 30

Candidate Starts for Shotgun_36:

(Start: 30 @23328 has 32 MA's), (41, 23373), (43, 23397), (46, 23424), (49, 23445), (73, 23601), (80, 23637), (89, 23670), (91, 23676), (94, 23691), (125, 23835), (137, 23877), (146, 23922), (171, 23955), (202, 24063), (210, 24090), (211, 24093), (225, 24138), (227, 24165), (229, 24168), (246, 24258), (255, 24297), (256, 24306), (259, 24321), (282, 24507), (298, 24609), (299, 24612), (300, 24636), (301, 24645), (304, 24675), (311, 24750), (315, 24783), (319, 24813), (343, 25020), (347, 25059), (350, 25089), (371, 25206),

Gene: Smarties_45 Start: 25427, Stop: 27295, Start Num: 33

Candidate Starts for Smarties_45:

(Start: 33 @25427 has 7 MA's), (38, 25457), (39, 25463), (59, 25580), (60, 25595), (93, 25742), (96, 25754), (98, 25766), (99, 25769), (124, 25865), (128, 25883), (131, 25895), (149, 25949), (160, 25979), (195, 26075), (209, 26126), (212, 26132), (235, 26249), (250, 26312), (257, 26345), (258, 26351), (260, 26360), (286, 26570), (296, 26630), (300, 26666), (303, 26687), (304, 26705), (307, 26741), (314, 26801), (330, 26903), (331, 26924), (338, 26981), (367, 27209), (369, 27215),

Gene: Teamocil_38 Start: 23413, Stop: 25311, Start Num: 33

Candidate Starts for Teamocil_38:

(Start: 33 @23413 has 7 MA's), (38, 23443), (39, 23449), (59, 23566), (82, 23689), (84, 23695), (90, 23713), (104, 23776), (106, 23782), (107, 23788), (120, 23851), (125, 23869), (144, 23947), (185, 24058), (190, 24070), (195, 24091), (205, 24127), (212, 24148), (213, 24151), (250, 24328), (257, 24361), (258, 24367), (260, 24376), (270, 24424), (295, 24640), (296, 24646), (300, 24682), (304, 24721), (307, 24757), (314, 24817), (315, 24832), (331, 24940), (338, 24997), (342, 25042), (351, 25129), (369, 25231), (380, 25303),

Gene: Tempo_36 Start: 25093, Stop: 27066, Start Num: 32

Candidate Starts for Tempo_36:

(Start: 32 @25093 has 11 MA's), (34, 25096), (55, 25231), (88, 25423), (91, 25438), (103, 25495), (116, 25549), (118, 25561), (125, 25594), (157, 25699), (232, 25933), (241, 25990), (258, 26065), (284, 26275), (286, 26290), (300, 26389), (301, 26398), (306, 26440), (316, 26542), (330, 26638), (342, 26767), (350, 26872), (366, 26965), (368, 26974), (379, 27052),

Gene: Tyrumbra_35 Start: 23381, Stop: 25870, Start Num: 2

Candidate Starts for Tyrumbra_35:

(Start: 2 @23381 has 5 MA's), (4, 23411), (6, 23474), (9, 23534), (14, 23681), (15, 23708), (23, 23813), (40, 23963), (47, 24011), (50, 24029), (56, 24065), (65, 24134), (68, 24158), (74, 24188), (95, 24272), (107, 24317), (110, 24329), (111, 24335), (121, 24383), (140, 24452), (147, 24497), (212, 24692), (235, 24809), (240, 24833), (257, 24905), (260, 24920), (280, 25058), (285, 25124), (300, 25226), (302, 25241), (304, 25265), (307, 25301), (317, 25418), (320, 25421), (338, 25559), (341, 25598), (342, 25604), (354, 25700),

Gene: Yeti_37 Start: 23497, Stop: 25449, Start Num: 30

Candidate Starts for Yeti_37:

(Start: 30 @23497 has 32 MA's), (41, 23542), (43, 23566), (46, 23593), (49, 23614), (73, 23770), (80, 23806), (89, 23839), (91, 23845), (94, 23860), (125, 24004), (137, 24046), (138, 24049), (171, 24130), (211, 24268), (214, 24274), (225, 24313), (227, 24340), (232, 24361), (233, 24370), (244, 24424), (246, 24433), (251, 24448), (255, 24472), (256, 24481), (259, 24496), (277, 24622), (279, 24643), (282, 24682), (283, 24694), (298, 24784), (299, 24787), (300, 24811), (301, 24820), (304, 24850), (310, 24922), (311, 24925), (315, 24958), (319, 24988), (343, 25195), (347, 25234), (350, 25264), (371, 25381),