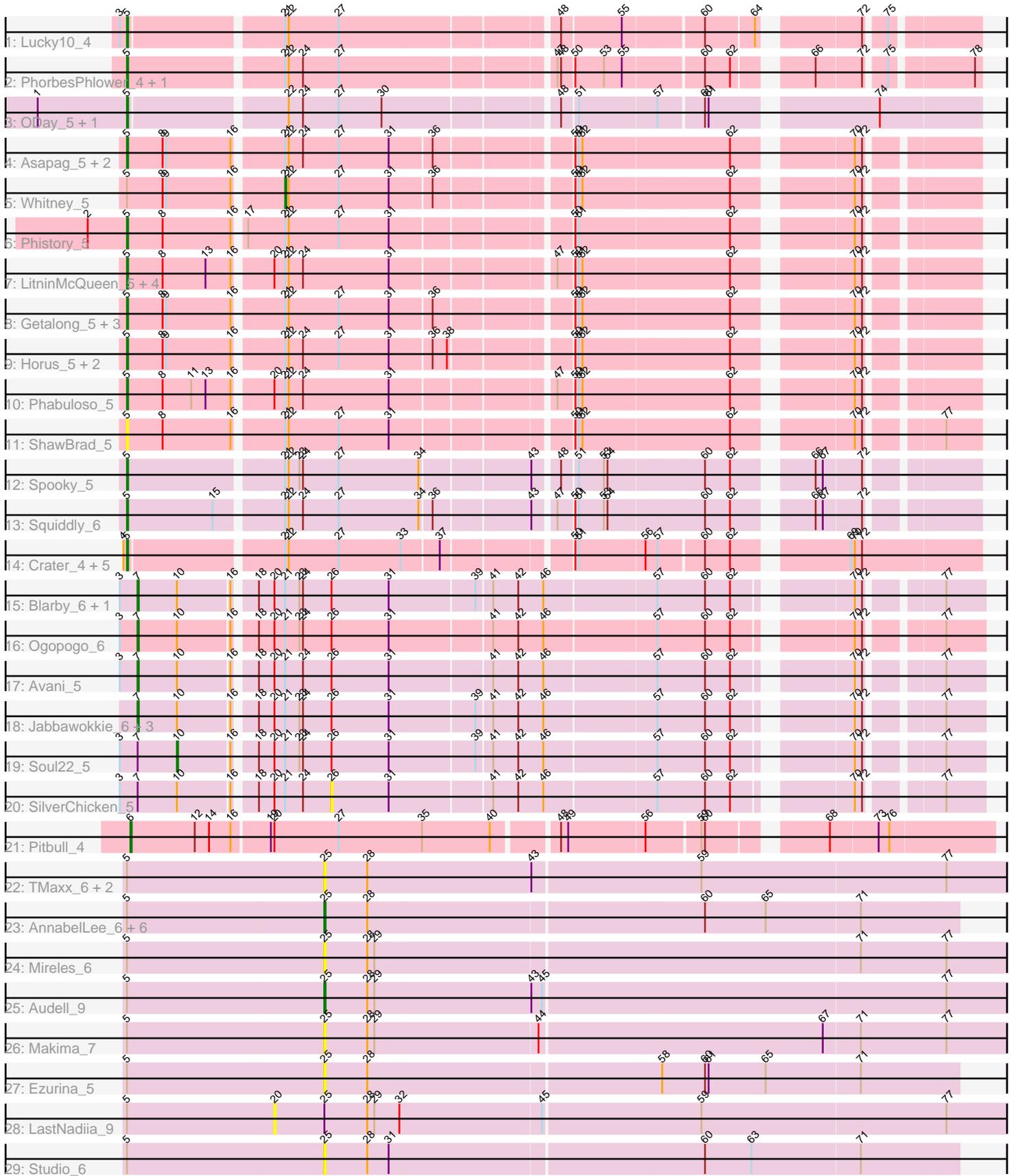# Pham 283831

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 283831 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283831 has 59 members, 18 are drafts.

Phages represented in each track:
• Track 1 : Lucky10_4
• Track 2 : PhorbesPhlower_4, Morkie_4
• Track 3 : ODay_5, Ecliptus_5
• Track 4 : Asapag_5, BotCity_5, BENtherdunthat_5
• Track 5 : Whitney_5
• Track 6 : Phistory_5
• Track 7 : LitninMcQueen_5, Budski_5, Kamaru_5, Holliday_5, CheeseTouch_5
• Track 8 : Getalong_5, Lutum_5, Kenna_5, Periwinkle_5
• Track 9 : Horus_5, Leroy_5, Frickyeah_5
• Track 10 : Phabuloso_5
• Track 11 : ShawBrad_5
• Track 12 : Spooky_5
• Track 13 : Squiddly_6
• Track 14 : Crater_4, Apricot_4, BearBQ_4, Kuwabara_4, MortyNRick_4, Birdsong_4
• Track 15 : Blarby_6, Demsculpinboyz_5
• Track 16 : Ogopogo_6
• Track 17 : Avani_5
• Track 18 : Jabbawokkie_6, Zapner_6, Che9d_5, Yoshi_5
• Track 19 : Soul22_5
• Track 20 : SilverChicken_5
• Track 21 : Pitbull_4
• Track 22 : TMaxx_6, TripleC_9, Agamotto_8
• Track 23 : AnnabelLee_6, ChamoyPickle_6, Gerri43_6, Neuvillette_6, Roberts_6, CardboardBox_6, ChipsNGuac_6
• Track 24 : Mireles_6
• Track 25 : Audell_9
• Track 26 : Makima_7
• Track 27 : Ezurina_5
• Track 28 : LastNadiia_9
• Track 29 : Studio_6

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

The start number called the most often in the published annotations is 5, it was called in 29 of the 41 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Apricot_4, Asapag_5, BENtherdunthat_5, BearBQ_4, Birdsong_4, BotCity_5, Budski_5, CheeseTouch_5, Crater_4, Ecliptus_5, Frickyeah_5, Getalong_5, Holliday_5, Horus_5, Kamaru_5, Kenna_5, Kuwabara_4, Leroy_5, LitninMcQueen_5, Lucky10_4, Lutum_5, Morkie_4, MortyNRick_4, ODay_5, Periwinkle_5, Phabuloso_5, Phistory_5, PhorbesPhlower_4, ShawBrad_5, Spooky_5, Squiddly_6,

Genes that have the "Most Annotated" start but do not call it:
• Agamotto_8, AnnabelLee_6, Audell_9, CardboardBox_6, ChamoyPickle_6, ChipsNGuac_6, Ezurina_5, Gerri43_6, LastNadiia_9, Makima_7, Mireles_6, Neuvillette_6, Roberts_6, Studio_6, TMaxx_6, TripleC_9, Whitney_5,

Genes that do not have the "Most Annotated" start:
• Avani_5, Blarby_6, Che9d_5, Demsculpinboyz_5, Jabbawokkie_6, Ogopogo_6, Pitbull_4, SilverChicken_5, Soul22_5, Yoshi_5, Zapner_6,

Summary by start number:

Start 5:
• Found in 48 of 59 (81.4%) of genes in pham
• Manual Annotations of this start: 29 of 41
• Called 64.6% of time when present
• Phage (with cluster) where this start called: Apricot_4 (DN3), Asapag_5 (DN1), BENtherdunthat_5 (DN1), BearBQ_4 (DN), Birdsong_4 (DN), BotCity_5 (DN), Budski_5 (DN), CheeseTouch_5 (DN1), Crater_4 (DN3), Ecliptus_5 (DN), Frickyeah_5 (DN1), Getalong_5 (DN1), Holliday_5 (DN1), Horus_5 (DN1), Kamaru_5 (DN1), Kenna_5 (DN1), Kuwabara_4 (DN4), Leroy_5 (DN1), LitninMcQueen_5 (DN1), Lucky10_4 (DH), Lutum_5 (DN1), Morkie_4 (DH), MortyNRick_4 (DN), ODay_5 (DN), Periwinkle_5 (DN1), Phabuloso_5 (DN1), Phistory_5 (DN1), PhorbesPhlower_4 (DH), ShawBrad_5 (DN1), Spooky_5 (DN2), Squiddly_6 (DN2),

Start 6:
• Found in 1 of 59 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Pitbull_4 (FQ),

Start 7:
• Found in 10 of 59 (16.9%) of genes in pham
• Manual Annotations of this start: 7 of 41
• Called 80.0% of time when present
• Phage (with cluster) where this start called: Avani_5 (F2), Blarby_6 (F), Che9d_5 (F2), Demsculpinboyz_5 (F2), Jabbawokkie_6 (F2), Ogopogo_6 (F1), Yoshi_5 (F2), Zapner_6 (F2),

Start 10:
• Found in 10 of 59 (16.9%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 10.0% of time when present
• Phage (with cluster) where this start called: Soul22_5 (F2),

Start 20:
• Found in 18 of 59 (30.5%) of genes in pham
• No Manual Annotations of this start.
• Called 5.6% of time when present
• Phage (with cluster) where this start called: LastNadiia_9 (FR),

Start 21:
• Found in 40 of 59 (67.8%) of genes in pham
• Manual Annotations of this start: 1 of 41
• Called 2.5% of time when present
• Phage (with cluster) where this start called: Whitney_5 (DN1),

Start 25:
• Found in 16 of 59 (27.1%) of genes in pham
• Manual Annotations of this start: 2 of 41
• Called 93.8% of time when present
• Phage (with cluster) where this start called: Agamotto_8 (FR), AnnabelLee_6 (FR), Audell_9 (FR), CardboardBox_6 (FR), ChamoyPickle_6 (FR), ChipsNGuac_6 (FR), Ezurina_5 (FR), Gerri43_6 (FR), Makima_7 (FR), Mireles_6 (FR), Neuvillette_6 (FR), Roberts_6 (FR), Studio_6 (FR), TMaxx_6 (FR), TripleC_9 (FR),

Start 26:
• Found in 10 of 59 (16.9%) of genes in pham
• No Manual Annotations of this start.
• Called 10.0% of time when present
• Phage (with cluster) where this start called: SilverChicken_5 (F2),

Summary by clusters:

There are 11 clusters represented in this pham: DN, FQ, FR, DH, F, F2, F1, DN4, DN1, DN3, DN2,

Info for manual annotations of cluster DH:
•Start number 5 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster DN:
•Start number 5 was manually annotated 7 times for cluster DN.

Info for manual annotations of cluster DN1:
•Start number 5 was manually annotated 14 times for cluster DN1.
•Start number 21 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN2:
•Start number 5 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:
•Start number 5 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:
•Start number 5 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F1:
•Start number 7 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:
•Start number 7 was manually annotated 6 times for cluster F2.
•Start number 10 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster FQ:
•Start number 6 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster FR:
•Start number 25 was manually annotated 2 times for cluster FR.

Gene Information:

Gene: Agamotto_8 Start: 7462, Stop: 8025, Start Num: 25
Candidate Starts for Agamotto_8:
(Start: 5 @7297 has 29 MA's), (Start: 25 @7462 has 2 MA's), (28, 7498), (43, 7633), (59, 7771), (77, 7975),

Gene: AnnabelLee_6 Start: 4338, Stop: 4859, Start Num: 25
Candidate Starts for AnnabelLee_6:
(Start: 5 @4173 has 29 MA's), (Start: 25 @4338 has 2 MA's), (28, 4374), (60, 4650), (65, 4701), (71, 4779),

Gene: Apricot_4 Start: 3576, Stop: 4232, Start Num: 5
Candidate Starts for Apricot_4:
(4, 3573), (Start: 5 @3576 has 29 MA's), (Start: 21 @3696 has 1 MA's), (22, 3699), (27, 3741), (33, 3792), (37, 3822), (50, 3918), (51, 3921), (56, 3975), (57, 3984), (60, 4020), (62, 4041), (69, 4125), (70, 4128), (72, 4134),

Gene: Asapag_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for Asapag_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (24, 3737), (27, 3767), (31, 3809), (36, 3842), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: Audell_9 Start: 7732, Stop: 8295, Start Num: 25
Candidate Starts for Audell_9:
(Start: 5 @7567 has 29 MA's), (Start: 25 @7732 has 2 MA's), (28, 7768), (29, 7774), (43, 7903), (45, 7912), (77, 8245),

Gene: Avani_5 Start: 3585, Stop: 4229, Start Num: 7
Candidate Starts for Avani_5:
(3, 3570), (Start: 7 @3585 has 7 MA's), (Start: 10 @3618 has 1 MA's), (16, 3660), (18, 3675), (20, 3687), (Start: 21 @3696 has 1 MA's), (24, 3711), (26, 3735), (31, 3783), (41, 3864), (42, 3885), (46, 3906), (57, 3996), (60, 4035), (62, 4056), (70, 4137), (72, 4143), (77, 4197),

Gene: BENtherdunthat_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for BENtherdunthat_5:

(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (24, 3737), (27, 3767), (31, 3809), (36, 3842), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: BearBQ_4 Start: 3576, Stop: 4232, Start Num: 5
Candidate Starts for BearBQ_4:
(4, 3573), (Start: 5 @3576 has 29 MA's), (Start: 21 @3696 has 1 MA's), (22, 3699), (27, 3741), (33, 3792), (37, 3822), (50, 3918), (51, 3921), (56, 3975), (57, 3984), (60, 4020), (62, 4041), (69, 4125), (70, 4128), (72, 4134),

Gene: Birdsong_4 Start: 3576, Stop: 4232, Start Num: 5
Candidate Starts for Birdsong_4:
(4, 3573), (Start: 5 @3576 has 29 MA's), (Start: 21 @3696 has 1 MA's), (22, 3699), (27, 3741), (33, 3792), (37, 3822), (50, 3918), (51, 3921), (56, 3975), (57, 3984), (60, 4020), (62, 4041), (69, 4125), (70, 4128), (72, 4134),

Gene: Blarby_6 Start: 4110, Stop: 4754, Start Num: 7
Candidate Starts for Blarby_6:
(3, 4095), (Start: 7 @4110 has 7 MA's), (Start: 10 @4143 has 1 MA's), (16, 4185), (18, 4200), (20, 4212), (Start: 21 @4221 has 1 MA's), (23, 4233), (24, 4236), (26, 4260), (31, 4308), (39, 4377), (41, 4389), (42, 4410), (46, 4431), (57, 4521), (60, 4560), (62, 4581), (70, 4662), (72, 4668), (77, 4722),

Gene: BotCity_5 Start: 3597, Stop: 4241, Start Num: 5
Candidate Starts for BotCity_5:
(Start: 5 @3597 has 29 MA's), (8, 3627), (9, 3630), (16, 3684), (Start: 21 @3720 has 1 MA's), (22, 3723), (24, 3735), (27, 3765), (31, 3807), (36, 3840), (50, 3942), (51, 3945), (52, 3948), (62, 4068), (70, 4152), (72, 4158),

Gene: Budski_5 Start: 3597, Stop: 4241, Start Num: 5
Candidate Starts for Budski_5:
(Start: 5 @3597 has 29 MA's), (8, 3627), (13, 3663), (16, 3684), (20, 3711), (Start: 21 @3720 has 1 MA's), (22, 3723), (24, 3735), (31, 3807), (47, 3930), (50, 3942), (51, 3945), (52, 3948), (62, 4068), (70, 4152), (72, 4158),

Gene: CardboardBox_6 Start: 4338, Stop: 4859, Start Num: 25
Candidate Starts for CardboardBox_6:
(Start: 5 @4173 has 29 MA's), (Start: 25 @4338 has 2 MA's), (28, 4374), (60, 4650), (65, 4701), (71, 4779),

Gene: ChamoyPickle_6 Start: 4338, Stop: 4859, Start Num: 25
Candidate Starts for ChamoyPickle_6:
(Start: 5 @4173 has 29 MA's), (Start: 25 @4338 has 2 MA's), (28, 4374), (60, 4650), (65, 4701), (71, 4779),

Gene: Che9d_5 Start: 3595, Stop: 4239, Start Num: 7
Candidate Starts for Che9d_5:
(Start: 7 @3595 has 7 MA's), (Start: 10 @3628 has 1 MA's), (16, 3670), (18, 3685), (20, 3697), (Start: 21 @3706 has 1 MA's), (23, 3718), (24, 3721), (26, 3745), (31, 3793), (39, 3862), (41, 3874), (42, 3895), (46, 3916), (57, 4006), (60, 4045), (62, 4066), (70, 4147), (72, 4153), (77, 4207),

Gene: CheeseTouch_5 Start: 3597, Stop: 4241, Start Num: 5
Candidate Starts for CheeseTouch_5:

(Start: 5 @3597 has 29 MA's), (8, 3627), (13, 3663), (16, 3684), (20, 3711), (Start: 21 @3720 has 1 MA's), (22, 3723), (24, 3735), (31, 3807), (47, 3930), (50, 3942), (51, 3945), (52, 3948), (62, 4068), (70, 4152), (72, 4158),

Gene: ChipsNGuac_6 Start: 4338, Stop: 4859, Start Num: 25
Candidate Starts for ChipsNGuac_6:
(Start: 5 @4173 has 29 MA's), (Start: 25 @4338 has 2 MA's), (28, 4374), (60, 4650), (65, 4701), (71, 4779),

Gene: Crater_4 Start: 3576, Stop: 4232, Start Num: 5
Candidate Starts for Crater_4:
(4, 3573), (Start: 5 @3576 has 29 MA's), (Start: 21 @3696 has 1 MA's), (22, 3699), (27, 3741), (33, 3792), (37, 3822), (50, 3918), (51, 3921), (56, 3975), (57, 3984), (60, 4020), (62, 4041), (69, 4125), (70, 4128), (72, 4134),

Gene: Demsculpinboyz_5 Start: 3586, Stop: 4230, Start Num: 7
Candidate Starts for Demsculpinboyz_5:
(3, 3571), (Start: 7 @3586 has 7 MA's), (Start: 10 @3619 has 1 MA's), (16, 3661), (18, 3676), (20, 3688), (Start: 21 @3697 has 1 MA's), (23, 3709), (24, 3712), (26, 3736), (31, 3784), (39, 3853), (41, 3865), (42, 3886), (46, 3907), (57, 3997), (60, 4036), (62, 4057), (70, 4138), (72, 4144), (77, 4198),

Gene: Ecliptus_5 Start: 3608, Stop: 4267, Start Num: 5
Candidate Starts for Ecliptus_5:
(1, 3533), (Start: 5 @3608 has 29 MA's), (22, 3731), (24, 3743), (27, 3773), (30, 3809), (48, 3944), (51, 3956), (57, 4019), (60, 4055), (61, 4058), (74, 4184),

Gene: Ezurina_5 Start: 3952, Stop: 4473, Start Num: 25
Candidate Starts for Ezurina_5:
(Start: 5 @3787 has 29 MA's), (Start: 25 @3952 has 2 MA's), (28, 3988), (58, 4228), (60, 4264), (61, 4267), (65, 4315), (71, 4393),

Gene: Frickyeah_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for Frickyeah_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (24, 3737), (27, 3767), (31, 3809), (36, 3842), (38, 3854), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: Gerri43_6 Start: 4338, Stop: 4859, Start Num: 25
Candidate Starts for Gerri43_6:
(Start: 5 @4173 has 29 MA's), (Start: 25 @4338 has 2 MA's), (28, 4374), (60, 4650), (65, 4701), (71, 4779),

Gene: Getalong_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for Getalong_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (27, 3767), (31, 3809), (36, 3842), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: Holliday_5 Start: 3597, Stop: 4241, Start Num: 5
Candidate Starts for Holliday_5:
(Start: 5 @3597 has 29 MA's), (8, 3627), (13, 3663), (16, 3684), (20, 3711), (Start: 21 @3720 has 1 MA's), (22, 3723), (24, 3735), (31, 3807), (47, 3930), (50, 3942), (51, 3945), (52, 3948), (62, 4068), (70, 4152), (72, 4158),

Gene: Horus_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for Horus_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (24, 3737), (27, 3767), (31, 3809), (36, 3842), (38, 3854), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: Jabbawokkie_6 Start: 4109, Stop: 4753, Start Num: 7
Candidate Starts for Jabbawokkie_6:
(Start: 7 @4109 has 7 MA's), (Start: 10 @4142 has 1 MA's), (16, 4184), (18, 4199), (20, 4211), (Start: 21 @4220 has 1 MA's), (23, 4232), (24, 4235), (26, 4259), (31, 4307), (39, 4376), (41, 4388), (42, 4409), (46, 4430), (57, 4520), (60, 4559), (62, 4580), (70, 4661), (72, 4667), (77, 4721),

Gene: Kamaru_5 Start: 3597, Stop: 4241, Start Num: 5
Candidate Starts for Kamaru_5:
(Start: 5 @3597 has 29 MA's), (8, 3627), (13, 3663), (16, 3684), (20, 3711), (Start: 21 @3720 has 1 MA's), (22, 3723), (24, 3735), (31, 3807), (47, 3930), (50, 3942), (51, 3945), (52, 3948), (62, 4068), (70, 4152), (72, 4158),

Gene: Kenna_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for Kenna_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (27, 3767), (31, 3809), (36, 3842), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: Kuwabara_4 Start: 3576, Stop: 4232, Start Num: 5
Candidate Starts for Kuwabara_4:
(4, 3573), (Start: 5 @3576 has 29 MA's), (Start: 21 @3696 has 1 MA's), (22, 3699), (27, 3741), (33, 3792), (37, 3822), (50, 3918), (51, 3921), (56, 3975), (57, 3984), (60, 4020), (62, 4041), (69, 4125), (70, 4128), (72, 4134),

Gene: LastNadiia_9 Start: 6642, Stop: 7247, Start Num: 20
Candidate Starts for LastNadiia_9:
(Start: 5 @6519 has 29 MA's), (20, 6642), (Start: 25 @6684 has 2 MA's), (28, 6720), (29, 6726), (32, 6747), (45, 6864), (59, 6993), (77, 7197),

Gene: Leroy_5 Start: 3600, Stop: 4244, Start Num: 5
Candidate Starts for Leroy_5:
(Start: 5 @3600 has 29 MA's), (8, 3630), (9, 3633), (16, 3687), (Start: 21 @3723 has 1 MA's), (22, 3726), (24, 3738), (27, 3768), (31, 3810), (36, 3843), (38, 3855), (50, 3945), (51, 3948), (52, 3951), (62, 4071), (70, 4155), (72, 4161),

Gene: LitninMcQueen_5 Start: 3597, Stop: 4241, Start Num: 5
Candidate Starts for LitninMcQueen_5:
(Start: 5 @3597 has 29 MA's), (8, 3627), (13, 3663), (16, 3684), (20, 3711), (Start: 21 @3720 has 1 MA's), (22, 3723), (24, 3735), (31, 3807), (47, 3930), (50, 3942), (51, 3945), (52, 3948), (62, 4068), (70, 4152), (72, 4158),

Gene: Lucky10_4 Start: 3151, Stop: 3789, Start Num: 5
Candidate Starts for Lucky10_4:
(3, 3145), (Start: 5 @3151 has 29 MA's), (Start: 21 @3271 has 1 MA's), (22, 3274), (27, 3316), (48, 3487), (55, 3535), (60, 3598), (64, 3637), (72, 3706), (75, 3721),

Gene: Lutum_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for Lutum_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (27, 3767), (31, 3809), (36, 3842), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: Makima_7 Start: 5797, Stop: 6360, Start Num: 25
Candidate Starts for Makima_7:
(Start: 5 @5632 has 29 MA's), (Start: 25 @5797 has 2 MA's), (28, 5833), (29, 5839), (44, 5974), (67, 6208), (71, 6238), (77, 6310),

Gene: Mireles_6 Start: 4203, Stop: 4766, Start Num: 25
Candidate Starts for Mireles_6:
(Start: 5 @4038 has 29 MA's), (Start: 25 @4203 has 2 MA's), (28, 4239), (29, 4245), (71, 4644), (77, 4716),

Gene: Morkie_4 Start: 3159, Stop: 3800, Start Num: 5
Candidate Starts for Morkie_4:
(Start: 5 @3159 has 29 MA's), (Start: 21 @3282 has 1 MA's), (22, 3285), (24, 3297), (27, 3327), (47, 3495), (48, 3498), (50, 3507), (53, 3531), (55, 3546), (60, 3609), (62, 3630), (66, 3681), (72, 3717), (75, 3732), (78, 3795),

Gene: MortyNRick_4 Start: 3576, Stop: 4232, Start Num: 5
Candidate Starts for MortyNRick_4:
(4, 3573), (Start: 5 @3576 has 29 MA's), (Start: 21 @3696 has 1 MA's), (22, 3699), (27, 3741), (33, 3792), (37, 3822), (50, 3918), (51, 3921), (56, 3975), (57, 3984), (60, 4020), (62, 4041), (69, 4125), (70, 4128), (72, 4134),

Gene: Neuvillette_6 Start: 4338, Stop: 4859, Start Num: 25
Candidate Starts for Neuvillette_6:
(Start: 5 @4173 has 29 MA's), (Start: 25 @4338 has 2 MA's), (28, 4374), (60, 4650), (65, 4701), (71, 4779),

Gene: ODay_5 Start: 3606, Stop: 4265, Start Num: 5
Candidate Starts for ODay_5:
(1, 3531), (Start: 5 @3606 has 29 MA's), (22, 3729), (24, 3741), (27, 3771), (30, 3807), (48, 3942), (51, 3954), (57, 4017), (60, 4053), (61, 4056), (74, 4182),

Gene: Ogopogo_6 Start: 3847, Stop: 4491, Start Num: 7
Candidate Starts for Ogopogo_6:
(3, 3832), (Start: 7 @3847 has 7 MA's), (Start: 10 @3880 has 1 MA's), (16, 3922), (18, 3937), (20, 3949), (Start: 21 @3958 has 1 MA's), (23, 3970), (24, 3973), (26, 3997), (31, 4045), (41, 4126), (42, 4147), (46, 4168), (57, 4258), (60, 4297), (62, 4318), (70, 4399), (72, 4405), (77, 4459),

Gene: Periwinkle_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for Periwinkle_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (27, 3767), (31, 3809), (36, 3842), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: Phabuloso_5 Start: 3597, Stop: 4241, Start Num: 5
Candidate Starts for Phabuloso_5:

(Start: 5 @3597 has 29 MA's), (8, 3627), (11, 3651), (13, 3663), (16, 3684), (20, 3711), (Start: 21 @3720 has 1 MA's), (22, 3723), (24, 3735), (31, 3807), (47, 3930), (50, 3942), (51, 3945), (52, 3948), (62, 4068), (70, 4152), (72, 4158),

Gene: Phistory_5 Start: 3598, Stop: 4242, Start Num: 5
Candidate Starts for Phistory_5:
(2, 3565), (Start: 5 @3598 has 29 MA's), (8, 3628), (16, 3685), (17, 3691), (Start: 21 @3721 has 1 MA's), (22, 3724), (27, 3766), (31, 3808), (50, 3943), (51, 3946), (62, 4069), (70, 4153), (72, 4159),

Gene: PhorbesPhlower_4 Start: 3159, Stop: 3800, Start Num: 5
Candidate Starts for PhorbesPhlower_4:
(Start: 5 @3159 has 29 MA's), (Start: 21 @3282 has 1 MA's), (22, 3285), (24, 3297), (27, 3327), (47, 3495), (48, 3498), (50, 3507), (53, 3531), (55, 3546), (60, 3609), (62, 3630), (66, 3681), (72, 3717), (75, 3732), (78, 3795),

Gene: Pitbull_4 Start: 3185, Stop: 3862, Start Num: 6
Candidate Starts for Pitbull_4:
(Start: 6 @3185 has 1 MA's), (12, 3239), (14, 3251), (16, 3269), (19, 3299), (20, 3302), (27, 3356), (35, 3425), (40, 3482), (48, 3530), (49, 3536), (56, 3599), (59, 3641), (60, 3644), (68, 3728), (73, 3767), (76, 3776),

Gene: Roberts_6 Start: 4338, Stop: 4859, Start Num: 25
Candidate Starts for Roberts_6:
(Start: 5 @4173 has 29 MA's), (Start: 25 @4338 has 2 MA's), (28, 4374), (60, 4650), (65, 4701), (71, 4779),

Gene: ShawBrad_5 Start: 3599, Stop: 4243, Start Num: 5
Candidate Starts for ShawBrad_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (27, 3767), (31, 3809), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160), (77, 4214),

Gene: SilverChicken_5 Start: 3735, Stop: 4229, Start Num: 26
Candidate Starts for SilverChicken_5:
(3, 3570), (Start: 7 @3585 has 7 MA's), (Start: 10 @3618 has 1 MA's), (16, 3660), (18, 3675), (20, 3687), (Start: 21 @3696 has 1 MA's), (24, 3711), (26, 3735), (31, 3783), (41, 3864), (42, 3885), (46, 3906), (57, 3996), (60, 4035), (62, 4056), (70, 4137), (72, 4143), (77, 4197),

Gene: Soul22_5 Start: 3618, Stop: 4229, Start Num: 10
Candidate Starts for Soul22_5:
(3, 3570), (Start: 7 @3585 has 7 MA's), (Start: 10 @3618 has 1 MA's), (16, 3660), (18, 3675), (20, 3687), (Start: 21 @3696 has 1 MA's), (23, 3708), (24, 3711), (26, 3735), (31, 3783), (39, 3852), (41, 3864), (42, 3885), (46, 3906), (57, 3996), (60, 4035), (62, 4056), (70, 4137), (72, 4143), (77, 4197),

Gene: Spooky_5 Start: 3598, Stop: 4242, Start Num: 5
Candidate Starts for Spooky_5:
(Start: 5 @3598 has 29 MA's), (Start: 21 @3721 has 1 MA's), (22, 3724), (23, 3733), (24, 3736), (27, 3766), (34, 3832), (43, 3916), (48, 3934), (51, 3946), (53, 3967), (54, 3970), (60, 4048), (62, 4069), (66, 4123), (67, 4129), (72, 4159),

Gene: Squiddly_6 Start: 4291, Stop: 4935, Start Num: 5
Candidate Starts for Squiddly_6:
(Start: 5 @4291 has 29 MA's), (15, 4363), (Start: 21 @4414 has 1 MA's), (22, 4417), (24, 4429), (27, 4459), (34, 4525), (36, 4534), (43, 4609), (47, 4624), (50, 4636), (51, 4639), (53, 4660), (54, 4663), (60,

4741), (62, 4762), (66, 4816), (67, 4822), (72, 4852),

Gene: Studio_6 Start: 4142, Stop: 4663, Start Num: 25
Candidate Starts for Studio_6:
(Start: 5 @3977 has 29 MA's), (Start: 25 @4142 has 2 MA's), (28, 4178), (31, 4196), (60, 4454), (63, 4493), (71, 4583),

Gene: TMaxx_6 Start: 4276, Stop: 4839, Start Num: 25
Candidate Starts for TMaxx_6:
(Start: 5 @4111 has 29 MA's), (Start: 25 @4276 has 2 MA's), (28, 4312), (43, 4447), (59, 4585), (77, 4789),

Gene: TripleC_9 Start: 7743, Stop: 8306, Start Num: 25
Candidate Starts for TripleC_9:
(Start: 5 @7578 has 29 MA's), (Start: 25 @7743 has 2 MA's), (28, 7779), (43, 7914), (59, 8052), (77, 8256),

Gene: Whitney_5 Start: 3722, Stop: 4243, Start Num: 21
Candidate Starts for Whitney_5:
(Start: 5 @3599 has 29 MA's), (8, 3629), (9, 3632), (16, 3686), (Start: 21 @3722 has 1 MA's), (22, 3725), (27, 3767), (31, 3809), (36, 3842), (50, 3944), (51, 3947), (52, 3950), (62, 4070), (70, 4154), (72, 4160),

Gene: Yoshi_5 Start: 3585, Stop: 4229, Start Num: 7
Candidate Starts for Yoshi_5:
(Start: 7 @3585 has 7 MA's), (Start: 10 @3618 has 1 MA's), (16, 3660), (18, 3675), (20, 3687), (Start: 21 @3696 has 1 MA's), (23, 3708), (24, 3711), (26, 3735), (31, 3783), (39, 3852), (41, 3864), (42, 3885), (46, 3906), (57, 3996), (60, 4035), (62, 4056), (70, 4137), (72, 4143), (77, 4197),

Gene: Zapner_6 Start: 4110, Stop: 4754, Start Num: 7
Candidate Starts for Zapner_6:
(Start: 7 @4110 has 7 MA's), (Start: 10 @4143 has 1 MA's), (16, 4185), (18, 4200), (20, 4212), (Start: 21 @4221 has 1 MA's), (23, 4233), (24, 4236), (26, 4260), (31, 4308), (39, 4377), (41, 4389), (42, 4410), (46, 4431), (57, 4521), (60, 4560), (62, 4581), (70, 4662), (72, 4668), (77, 4722),