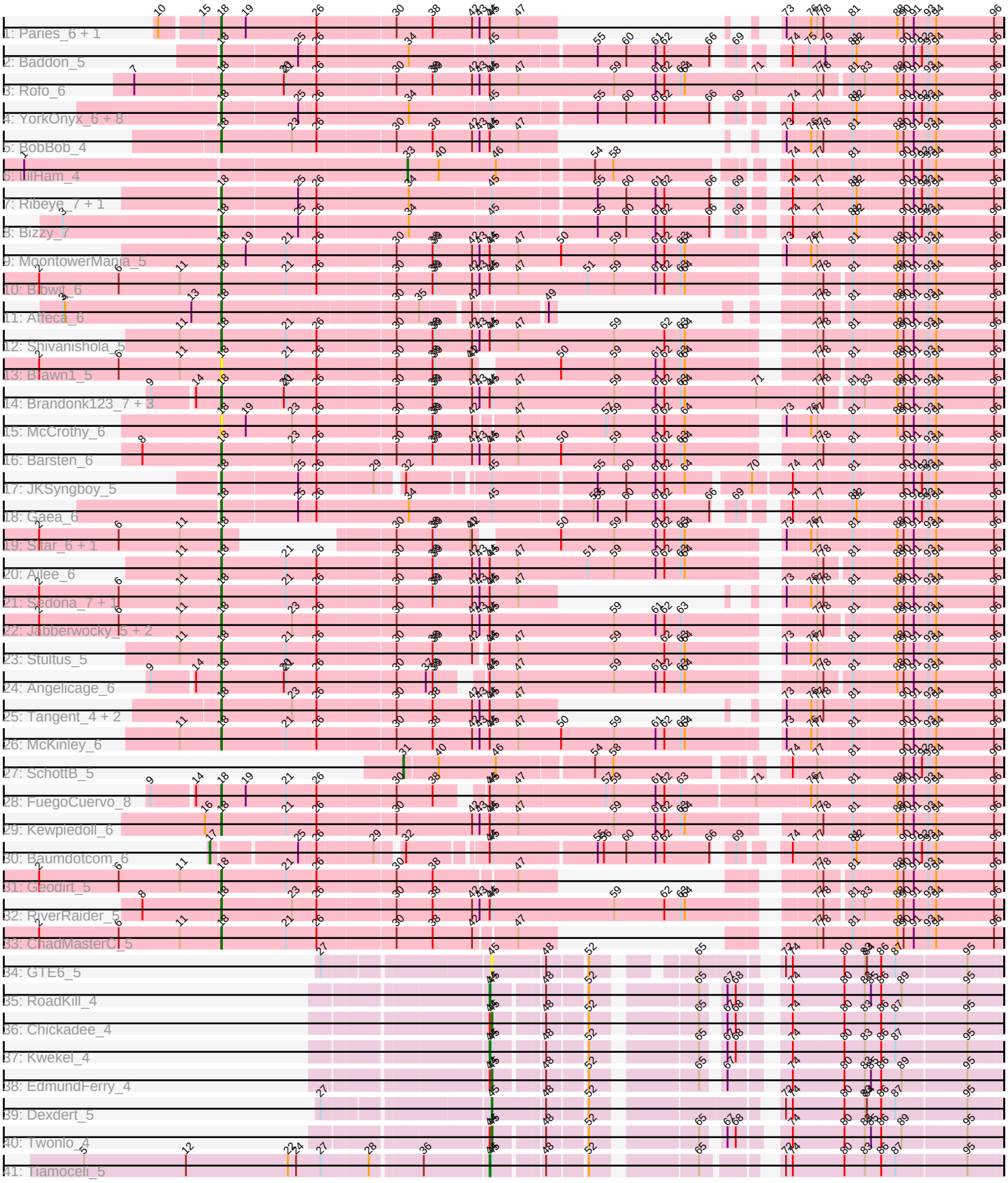
Pham 347649


1: Paries_6 + 1
2: Baddon_5
3: Rofo_6
4: YorkOnyx_6 + 8
5: BobBob_4
6: DillHam_4
7: Ribeye_7 + 1
8: Bizzy_7
9: MoontowerMania_5
10: Bbwit_6
11: Affeca_6
12: Shivanishola_5
13: Brawn1_5
14: Brandonk123_7 + 3
15: McCrothy_6
16: Barsten_6
17: JKSyngboy_5
18: Gaea_6
19: Sfar_6 + 1
20: Ailee_6
21: Sedona_7 + 1
22: Jabberwocky_5 + 2
23: Stultus_5
24: Angelicage_6
25: Tangent_4 + 2
26: McKinley_6
27: SchottB_5
28: FuegoCuervo_8
29: Kewpiedoll_6
30: Baumdotcom_6
31: Geodirt_5
32: RiverRaider_5
33: ChadMasterCT_5
34: GTE6_5
35: RoadKill_4
36: Chickadee_4
37: Kwekel_4
38: EdmundFerry_4
39: Dexdert_5
40: Twonlo_4
41: Tiamocelli_5

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 347649 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347649 has 60 members, 3 are drafts.

Phages represented in each track:
- Track 1 : Paries_6, Galadriel_7
- Track 2 : Baddon_5
- Track 3 : Rofo_6
- Track 4 : YorkOnyx_6, Tycho_6, Flatwoods_7, Kroos_6, Gustavo_6, Ashertheman_6, Saronaya_6, Tangerine_6, Kwobi_6
- Track 5 : BobBob_4
- Track 6 : LilHam_4
- Track 7 : Ribeye_7, StorminNorm_6
- Track 8 : Bizzy_7
- Track 9 : MoontowerMania_5
- Track 10 : Bibwit_6
- Track 11 : Affeca_6
- Track 12 : Shivanishola_5
- Track 13 : Brawn1_5
- Track 14 : Brandonk123_7, Love_7, Thing3_6, Kamashten_6
- Track 15 : McCrothy_6
- Track 16 : Barsten_6
- Track 17 : JKSyngboy_5
- Track 18 : Gaea_6
- Track 19 : Sitar_6, Lennon_6
- Track 20 : Ailee_6
- Track 21 : Sedona_7, Keitabear_6
- Track 22 : Jabberwocky_5, Fitzgerald_5, Sanjuju_5
- Track 23 : Stultus_5
- Track 24 : Angelicage_6
- Track 25 : Tangent_4, Charming_4, Fosterous_4
- Track 26 : McKinley_6
- Track 27 : SchottB_5
- Track 28 : FuegoCuervo_8
- Track 29 : Kewpiedoll_6
- Track 30 : Baumdotcom_6
- Track 31 : Geodirt_5
- Track 32 : RiverRaider_5
- Track 33 : ChadMasterC_5
- Track 34 : GTE6_5
- Track 35 : RoadKill_4
- Track 36 : Chickadee_4

• Track 37 : Kwekel_4
• Track 38 : EdmundFerry_4
• Track 39 : Dexdert_5
• Track 40 : Twonlo_4
• Track 41 : Tiamoceli_5

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

The start number called the most often in the published annotations is 18, it was called in 47 of the 57 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Affeca_6, Ailee_6, Angelicage_6, Ashertheman_6, Baddon_5, Barsten_6, Bibwit_6, Bizzy_7, BobBob_4, Brandonk123_7, Brawn1_5, ChadMasterC_5, Charming_4, Fitzgerald_5, Flatwoods_7, Fosterous_4, FuegoCuervo_8, Gaea_6, Galadriel_7, Geodirt_5, Gustavo_6, JKSyngboy_5, Jabberwocky_5, Kamashten_6, Keitabear_6, Kewpiedoll_6, Kroos_6, Kwobi_6, Lennon_6, Love_7, McCrothy_6, McKinley_6, MoontowerMania_5, Paries_6, Ribeye_7, RiverRaider_5, Rofo_6, Sanjuju_5, Saronaya_6, Sedona_7, Shivanishola_5, Sitar_6, StorminNorm_6, Stultus_5, Tangent_4, Tangerine_6, Thing3_6, Tycho_6, YorkOnyx_6,

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

Genes that do not have the "Most Annotated" start:
• Baumdotcom_6, Chickadee_4, Dexdert_5, EdmundFerry_4, GTE6_5, Kwekel_4, LilHam_4, RoadKill_4, SchottB_5, Tiamoceli_5, Twonlo_4,

Summary by start number:

Start 17:
• Found in 1 of 60 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Baumdotcom_6 (DE1),

Start 18:
• Found in 49 of 60 (81.7%) of genes in pham
• Manual Annotations of this start: 47 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Affeca_6 (DE1), Ailee_6 (DE1), Angelicage_6 (DE1), Ashertheman_6 (DE1), Baddon_5 (DE1), Barsten_6 (DE1), Bibwit_6 (DE1), Bizzy_7 (DE1), BobBob_4 (DE1), Brandonk123_7 (DE1), Brawn1_5 (DE1), ChadMasterC_5 (DE1), Charming_4 (DE1), Fitzgerald_5 (DE1), Flatwoods_7 (DE1), Fosterous_4 (DE1), FuegoCuervo_8 (DE1), Gaea_6 (DE1), Galadriel_7 (DE1), Geodirt_5 (DE1), Gustavo_6 (DE1), JKSyngboy_5 (DE1), Jabberwocky_5 (DE1), Kamashten_6 (DE1), Keitabear_6 (DE1), Kewpiedoll_6 (DE1), Kroos_6 (DE1), Kwobi_6 (DE1), Lennon_6 (DE1), Love_7 (DE1), McCrothy_6 (DE1), McKinley_6 (DE1), MoontowerMania_5 (DE1), Paries_6 (DE1), Ribeye_7 (DE1), RiverRaider_5 (DE1), Rofo_6 (DE1), Sanjuju_5 (DE1), Saronaya_6 (DE1), Sedona_7 (DE1),

Shivanishola_5 (DE1), Sitar_6 (DE1), StorminNorm_6 (DE1), Stultus_5 (DE1), Tangent_4 (DE1), Tangerine_6 (DE1), Thing3_6 (DE1), Tycho_6 (DE1), YorkOnyx_6 (DE1),

Start 31:
• Found in 1 of 60 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: SchottB_5 (DE1),

Start 33:
• Found in 1 of 60 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 57
• Called 100.0% of time when present
• Phage (with cluster) where this start called: LilHam_4 (DE1),

Start 44:
• Found in 34 of 60 (56.7%) of genes in pham
• Manual Annotations of this start: 3 of 57
• Called 8.8% of time when present
• Phage (with cluster) where this start called: Kwekel_4 (DE3), RoadKill_4 (DE3), Tiamoceli_5 (DE3),

Start 45:
• Found in 51 of 60 (85.0%) of genes in pham
• Manual Annotations of this start: 4 of 57
• Called 9.8% of time when present
• Phage (with cluster) where this start called: Chickadee_4 (DE3), Dexdert_5 (DE3), EdmundFerry_4 (DE3), GTE6_5 (DE3), Twonlo_4 (DE3),

Summary by clusters:

There are 2 clusters represented in this pham: DE1, DE3,

Info for manual annotations of cluster DE1:
•Start number 17 was manually annotated 1 time for cluster DE1.
•Start number 18 was manually annotated 47 times for cluster DE1.
•Start number 31 was manually annotated 1 time for cluster DE1.
•Start number 33 was manually annotated 1 time for cluster DE1.

Info for manual annotations of cluster DE3:
•Start number 44 was manually annotated 3 times for cluster DE3.
•Start number 45 was manually annotated 4 times for cluster DE3.

Gene Information:

Gene: Affeca_6 Start: 3776, Stop: 4534, Start Num: 18
Candidate Starts for Affeca_6:
(3, 3548), (4, 3551), (13, 3734), (Start: 18 @3776 has 47 MA's), (30, 4016), (35, 4049), (42, 4109), (49, 4193), (77, 4280), (78, 4289), (81, 4319), (88, 4382), (90, 4391), (91, 4406), (93, 4427), (94, 4439), (96, 4523),

Gene: Ailee_6 Start: 4306, Stop: 5376, Start Num: 18
Candidate Starts for Ailee_6:
(11, 4249), (Start: 18 @4306 has 47 MA's), (21, 4399), (26, 4441), (30, 4552), (38, 4603), (39, 4606), (42, 4660), (43, 4669), (Start: 44 @4684 has 3 MA's), (Start: 45 @4687 has 4 MA's), (47, 4726), (51, 4828), (59, 4867), (61, 4927), (62, 4939), (63, 4963), (64, 4969), (77, 5122), (78, 5131), (81, 5161), (88, 5224), (90, 5233), (91, 5248), (93, 5269), (94, 5281), (96, 5365),

Gene: Angelicage_6 Start: 3903, Stop: 4943, Start Num: 18
Candidate Starts for Angelicage_6:
(9, 3822), (14, 3876), (Start: 18 @3903 has 47 MA's), (20, 3993), (21, 3996), (26, 4038), (30, 4149), (37, 4191), (38, 4200), (39, 4203), (Start: 44 @4251 has 3 MA's), (Start: 45 @4254 has 4 MA's), (47, 4293), (59, 4434), (61, 4494), (62, 4506), (63, 4530), (64, 4536), (77, 4689), (78, 4698), (81, 4728), (88, 4791), (90, 4800), (91, 4815), (93, 4836), (94, 4848), (96, 4932),

Gene: Ashertheman_6 Start: 3009, Stop: 4040, Start Num: 18
Candidate Starts for Ashertheman_6:
(Start: 18 @3009 has 47 MA's), (25, 3114), (26, 3135), (34, 3261), (Start: 45 @3375 has 4 MA's), (55, 3519), (60, 3558), (61, 3600), (62, 3612), (66, 3678), (69, 3696), (74, 3744), (77, 3777), (81, 3825), (82, 3831), (90, 3897), (91, 3912), (92, 3924), (93, 3933), (94, 3945), (96, 4029),

Gene: Baddon_5 Start: 3646, Stop: 4677, Start Num: 18
Candidate Starts for Baddon_5:
(Start: 18 @3646 has 47 MA's), (25, 3751), (26, 3772), (34, 3898), (Start: 45 @4012 has 4 MA's), (55, 4156), (60, 4195), (61, 4237), (62, 4249), (66, 4315), (69, 4333), (74, 4381), (75, 4402), (79, 4426), (81, 4462), (82, 4468), (90, 4534), (91, 4549), (92, 4561), (93, 4570), (94, 4582), (96, 4666),

Gene: Barsten_6 Start: 2980, Stop: 4056, Start Num: 18
Candidate Starts for Barsten_6:
(8, 2869), (Start: 18 @2980 has 47 MA's), (23, 3082), (26, 3112), (30, 3223), (38, 3274), (39, 3277), (42, 3331), (43, 3340), (Start: 44 @3355 has 3 MA's), (Start: 45 @3358 has 4 MA's), (47, 3397), (50, 3460), (59, 3538), (61, 3598), (62, 3610), (63, 3634), (64, 3640), (77, 3793), (78, 3802), (81, 3841), (90, 3913), (91, 3928), (93, 3949), (94, 3961), (96, 4045),

Gene: Baumdotcom_6 Start: 3056, Stop: 4063, Start Num: 17
Candidate Starts for Baumdotcom_6:
(Start: 17 @3056 has 1 MA's), (25, 3167), (26, 3188), (29, 3266), (32, 3296), (Start: 44 @3392 has 3 MA's), (Start: 45 @3395 has 4 MA's), (55, 3542), (56, 3551), (60, 3581), (61, 3623), (62, 3635), (66, 3701), (69, 3719), (74, 3767), (77, 3800), (81, 3848), (82, 3854), (90, 3920), (91, 3935), (92, 3947), (93, 3956), (94, 3968), (96, 4052),

Gene: Bibwit_6 Start: 4139, Stop: 5209, Start Num: 18
Candidate Starts for Bibwit_6:
(2, 3875), (6, 3992), (11, 4082), (Start: 18 @4139 has 47 MA's), (21, 4232), (26, 4274), (30, 4385), (38, 4436), (39, 4439), (42, 4493), (43, 4502), (Start: 44 @4517 has 3 MA's), (Start: 45 @4520 has 4 MA's), (47, 4559), (51, 4661), (59, 4700), (61, 4760), (62, 4772), (63, 4796), (64, 4802), (77, 4955), (78, 4964), (81, 4994), (88, 5057), (90, 5066), (91, 5081), (93, 5102), (94, 5114), (96, 5198),

Gene: Bizzy_7 Start: 3206, Stop: 4237, Start Num: 18
Candidate Starts for Bizzy_7:
(3, 2984), (Start: 18 @3206 has 47 MA's), (25, 3311), (26, 3332), (34, 3458), (Start: 45 @3572 has 4 MA's), (55, 3716), (60, 3755), (61, 3797), (62, 3809), (66, 3875), (69, 3893), (74, 3941), (77, 3974), (81, 4022), (82, 4028), (90, 4094), (91, 4109), (92, 4121), (93, 4130), (94, 4142), (96, 4226),

Gene: BobBob_4 Start: 3078, Stop: 3878, Start Num: 18
Candidate Starts for BobBob_4:
(Start: 18 @3078 has 47 MA's), (23, 3180), (26, 3210), (30, 3321), (38, 3372), (42, 3429), (43, 3438), (Start: 44 @3453 has 3 MA's), (Start: 45 @3456 has 4 MA's), (47, 3495), (73, 3573), (76, 3606), (77, 3615), (78, 3624), (81, 3663), (88, 3726), (90, 3735), (91, 3750), (93, 3771), (94, 3783), (96, 3867),

Gene: Brandonk123_7 Start: 3107, Stop: 4216, Start Num: 18
Candidate Starts for Brandonk123_7:
(9, 3026), (14, 3080), (Start: 18 @3107 has 47 MA's), (20, 3197), (21, 3200), (26, 3242), (30, 3353), (38, 3404), (39, 3407), (42, 3461), (43, 3470), (Start: 44 @3485 has 3 MA's), (Start: 45 @3488 has 4 MA's), (47, 3527), (59, 3668), (61, 3728), (62, 3740), (63, 3764), (64, 3770), (71, 3875), (77, 3962), (78, 3971), (81, 4001), (83, 4019), (88, 4064), (90, 4073), (91, 4088), (93, 4109), (94, 4121), (96, 4205),

Gene: Brawn1_5 Start: 3652, Stop: 4695, Start Num: 18
Candidate Starts for Brawn1_5:
(2, 3388), (6, 3505), (11, 3595), (Start: 18 @3652 has 47 MA's), (21, 3745), (26, 3787), (30, 3898), (38, 3949), (39, 3952), (41, 4003), (42, 4006), (50, 4108), (59, 4186), (61, 4246), (62, 4258), (63, 4282), (64, 4288), (77, 4441), (78, 4450), (81, 4480), (88, 4543), (90, 4552), (91, 4567), (93, 4588), (94, 4600), (96, 4684),

Gene: ChadMasterC_5 Start: 3596, Stop: 4417, Start Num: 18
Candidate Starts for ChadMasterC_5:
(2, 3332), (6, 3449), (11, 3539), (Start: 18 @3596 has 47 MA's), (21, 3689), (26, 3731), (30, 3842), (38, 3893), (42, 3950), (47, 4004), (77, 4154), (78, 4163), (81, 4202), (88, 4265), (90, 4274), (91, 4289), (93, 4310), (94, 4322), (96, 4406),

Gene: Charming_4 Start: 3078, Stop: 3878, Start Num: 18
Candidate Starts for Charming_4:
(Start: 18 @3078 has 47 MA's), (23, 3180), (26, 3210), (30, 3321), (38, 3372), (42, 3429), (43, 3438), (Start: 44 @3453 has 3 MA's), (Start: 45 @3456 has 4 MA's), (47, 3495), (73, 3573), (76, 3606), (77, 3615), (78, 3624), (81, 3663), (90, 3735), (91, 3750), (93, 3771), (94, 3783), (96, 3867),

Gene: Chickadee_4 Start: 2419, Stop: 3039, Start Num: 45
Candidate Starts for Chickadee_4:
(Start: 44 @2416 has 3 MA's), (Start: 45 @2419 has 4 MA's), (48, 2479), (52, 2530), (65, 2662), (67, 2683), (68, 2692), (74, 2743), (80, 2818), (83, 2848), (86, 2872), (87, 2893), (95, 2989),

Gene: Dexdert_5 Start: 2859, Stop: 3503, Start Num: 45
Candidate Starts for Dexdert_5:
(27, 2649), (Start: 45 @2859 has 4 MA's), (48, 2928), (52, 2979), (72, 3198), (74, 3207), (80, 3282), (83, 3312), (84, 3315), (86, 3336), (87, 3357), (95, 3453),

Gene: EdmundFerry_4 Start: 2419, Stop: 3042, Start Num: 45
Candidate Starts for EdmundFerry_4:
(Start: 44 @2416 has 3 MA's), (Start: 45 @2419 has 4 MA's), (48, 2479), (52, 2530), (65, 2662), (67, 2683), (74, 2743), (80, 2818), (83, 2848), (85, 2857), (86, 2872), (89, 2902), (95, 2989),

Gene: Fitzgerald_5 Start: 3728, Stop: 4804, Start Num: 18
Candidate Starts for Fitzgerald_5:
(2, 3464), (6, 3581), (11, 3671), (Start: 18 @3728 has 47 MA's), (23, 3830), (26, 3860), (30, 3971), (42, 4079), (43, 4088), (Start: 44 @4103 has 3 MA's), (Start: 45 @4106 has 4 MA's), (59, 4286), (61, 4346), (62, 4358), (63, 4382), (77, 4541), (78, 4550), (81, 4589), (88, 4652), (90, 4661), (91, 4676), (93, 4697),

(94, 4709), (96, 4793),

Gene: Flatwoods_7 Start: 3206, Stop: 4237, Start Num: 18
Candidate Starts for Flatwoods_7:
(Start: 18 @3206 has 47 MA's), (25, 3311), (26, 3332), (34, 3458), (Start: 45 @3572 has 4 MA's), (55, 3716), (60, 3755), (61, 3797), (62, 3809), (66, 3875), (69, 3893), (74, 3941), (77, 3974), (81, 4022), (82, 4028), (90, 4094), (91, 4109), (92, 4121), (93, 4130), (94, 4142), (96, 4226),

Gene: Fosterous_4 Start: 3078, Stop: 3878, Start Num: 18
Candidate Starts for Fosterous_4:
(Start: 18 @3078 has 47 MA's), (23, 3180), (26, 3210), (30, 3321), (38, 3372), (42, 3429), (43, 3438), (Start: 44 @3453 has 3 MA's), (Start: 45 @3456 has 4 MA's), (47, 3495), (73, 3573), (76, 3606), (77, 3615), (78, 3624), (81, 3663), (90, 3735), (91, 3750), (93, 3771), (94, 3783), (96, 3867),

Gene: FuegoCuervo_8 Start: 3282, Stop: 4364, Start Num: 18
Candidate Starts for FuegoCuervo_8:
(9, 3201), (14, 3255), (Start: 18 @3282 has 47 MA's), (19, 3318), (21, 3375), (26, 3417), (30, 3528), (38, 3579), (Start: 44 @3630 has 3 MA's), (Start: 45 @3633 has 4 MA's), (47, 3672), (57, 3798), (59, 3810), (61, 3870), (62, 3882), (63, 3906), (71, 4011), (76, 4089), (77, 4098), (81, 4149), (88, 4212), (90, 4221), (91, 4236), (93, 4257), (94, 4269), (96, 4353),

Gene: GTE6_5 Start: 2923, Stop: 3546, Start Num: 45
Candidate Starts for GTE6_5:
(27, 2713), (Start: 45 @2923 has 4 MA's), (48, 2992), (52, 3043), (65, 3154), (72, 3241), (74, 3250), (80, 3325), (83, 3355), (84, 3358), (86, 3379), (87, 3400), (95, 3496),

Gene: Gaea_6 Start: 3012, Stop: 4043, Start Num: 18
Candidate Starts for Gaea_6:
(Start: 18 @3012 has 47 MA's), (25, 3117), (26, 3138), (34, 3264), (Start: 45 @3378 has 4 MA's), (53, 3516), (55, 3522), (60, 3561), (61, 3603), (62, 3615), (66, 3681), (69, 3699), (74, 3747), (77, 3780), (81, 3828), (82, 3834), (90, 3900), (91, 3915), (92, 3927), (93, 3936), (94, 3948), (96, 4032),

Gene: Galadriel_7 Start: 3107, Stop: 3907, Start Num: 18
Candidate Starts for Galadriel_7:
(10, 3026), (15, 3080), (Start: 18 @3107 has 47 MA's), (19, 3143), (26, 3239), (30, 3350), (38, 3401), (42, 3458), (43, 3467), (Start: 44 @3482 has 3 MA's), (Start: 45 @3485 has 4 MA's), (47, 3524), (73, 3602), (76, 3635), (77, 3644), (78, 3653), (81, 3692), (88, 3755), (90, 3764), (91, 3779), (93, 3800), (94, 3812), (96, 3896),

Gene: Geodirt_5 Start: 3648, Stop: 4460, Start Num: 18
Candidate Starts for Geodirt_5:
(2, 3384), (6, 3501), (11, 3591), (Start: 18 @3648 has 47 MA's), (21, 3741), (26, 3783), (30, 3894), (38, 3945), (47, 4056), (77, 4206), (78, 4215), (81, 4245), (88, 4308), (90, 4317), (91, 4332), (93, 4353), (94, 4365), (96, 4449),

Gene: Gustavo_6 Start: 3012, Stop: 4040, Start Num: 18
Candidate Starts for Gustavo_6:
(Start: 18 @3012 has 47 MA's), (25, 3117), (26, 3138), (34, 3264), (Start: 45 @3378 has 4 MA's), (55, 3519), (60, 3558), (61, 3600), (62, 3612), (66, 3678), (69, 3696), (74, 3744), (77, 3777), (81, 3825), (82, 3831), (90, 3897), (91, 3912), (92, 3924), (93, 3933), (94, 3945), (96, 4029),

Gene: JKSyngboy_5 Start: 3640, Stop: 4671, Start Num: 18
Candidate Starts for JKSyngboy_5:

(Start: 18 @3640 has 47 MA's), (25, 3745), (26, 3766), (29, 3844), (32, 3874), (Start: 45 @3973 has 4 MA's), (55, 4117), (60, 4156), (61, 4198), (62, 4210), (64, 4240), (70, 4321), (74, 4375), (77, 4408), (81, 4456), (90, 4528), (91, 4543), (92, 4555), (93, 4564), (94, 4576), (96, 4660),

Gene: Jabberwocky_5 Start: 3728, Stop: 4795, Start Num: 18
Candidate Starts for Jabberwocky_5:
(2, 3464), (6, 3581), (11, 3671), (Start: 18 @3728 has 47 MA's), (23, 3830), (26, 3860), (30, 3971), (42, 4079), (43, 4088), (Start: 44 @4103 has 3 MA's), (Start: 45 @4106 has 4 MA's), (59, 4286), (61, 4346), (62, 4358), (63, 4382), (77, 4541), (78, 4550), (81, 4580), (88, 4643), (90, 4652), (91, 4667), (93, 4688), (94, 4700), (96, 4784),

Gene: Kamashten_6 Start: 3108, Stop: 4217, Start Num: 18
Candidate Starts for Kamashten_6:
(9, 3027), (14, 3081), (Start: 18 @3108 has 47 MA's), (20, 3198), (21, 3201), (26, 3243), (30, 3354), (38, 3405), (39, 3408), (42, 3462), (43, 3471), (Start: 44 @3486 has 3 MA's), (Start: 45 @3489 has 4 MA's), (47, 3528), (59, 3669), (61, 3729), (62, 3741), (63, 3765), (64, 3771), (71, 3876), (77, 3963), (78, 3972), (81, 4002), (83, 4020), (88, 4065), (90, 4074), (91, 4089), (93, 4110), (94, 4122), (96, 4206),

Gene: Keitabear_6 Start: 5048, Stop: 5851, Start Num: 18
Candidate Starts for Keitabear_6:
(2, 4784), (6, 4901), (11, 4991), (Start: 18 @5048 has 47 MA's), (21, 5141), (26, 5183), (30, 5294), (38, 5345), (39, 5348), (42, 5402), (43, 5411), (Start: 44 @5426 has 3 MA's), (Start: 45 @5429 has 4 MA's), (47, 5468), (73, 5546), (76, 5579), (77, 5588), (78, 5597), (81, 5636), (88, 5699), (90, 5708), (91, 5723), (93, 5744), (94, 5756), (96, 5840),

Gene: Kewpiedoll_6 Start: 2983, Stop: 4062, Start Num: 18
Candidate Starts for Kewpiedoll_6:
(16, 2959), (Start: 18 @2983 has 47 MA's), (21, 3076), (26, 3118), (30, 3229), (42, 3337), (43, 3346), (Start: 44 @3361 has 3 MA's), (Start: 45 @3364 has 4 MA's), (47, 3403), (59, 3544), (61, 3604), (62, 3616), (63, 3640), (64, 3646), (77, 3799), (78, 3808), (81, 3847), (88, 3910), (90, 3919), (91, 3934), (93, 3955), (94, 3967), (96, 4051),

Gene: Kroos_6 Start: 3173, Stop: 4204, Start Num: 18
Candidate Starts for Kroos_6:
(Start: 18 @3173 has 47 MA's), (25, 3278), (26, 3299), (34, 3425), (Start: 45 @3539 has 4 MA's), (55, 3683), (60, 3722), (61, 3764), (62, 3776), (66, 3842), (69, 3860), (74, 3908), (77, 3941), (81, 3989), (82, 3995), (90, 4061), (91, 4076), (92, 4088), (93, 4097), (94, 4109), (96, 4193),

Gene: Kwekel_4 Start: 2416, Stop: 3039, Start Num: 44
Candidate Starts for Kwekel_4:
(Start: 44 @2416 has 3 MA's), (Start: 45 @2419 has 4 MA's), (48, 2479), (52, 2530), (65, 2662), (67, 2683), (68, 2692), (74, 2743), (80, 2818), (83, 2848), (86, 2872), (87, 2893), (95, 2989),

Gene: Kwobi_6 Start: 3012, Stop: 4043, Start Num: 18
Candidate Starts for Kwobi_6:
(Start: 18 @3012 has 47 MA's), (25, 3117), (26, 3138), (34, 3264), (Start: 45 @3378 has 4 MA's), (55, 3522), (60, 3561), (61, 3603), (62, 3615), (66, 3681), (69, 3699), (74, 3747), (77, 3780), (81, 3828), (82, 3834), (90, 3900), (91, 3915), (92, 3927), (93, 3936), (94, 3948), (96, 4032),

Gene: Lennon_6 Start: 4140, Stop: 5048, Start Num: 18
Candidate Starts for Lennon_6:
(2, 3876), (6, 3993), (11, 4083), (Start: 18 @4140 has 47 MA's), (30, 4245), (38, 4296), (39, 4299), (41, 4347), (42, 4350), (50, 4452), (59, 4530), (61, 4590), (62, 4602), (63, 4626), (64, 4632), (73, 4743), (76,

4776), (77, 4785), (81, 4833), (88, 4896), (90, 4905), (91, 4920), (93, 4941), (94, 4953), (96, 5037),

Gene: LilHam_4 Start: 2583, Stop: 3359, Start Num: 33
Candidate Starts for LilHam_4:
(1, 2040), (Start: 33 @2583 has 1 MA's), (40, 2628), (46, 2709), (54, 2835), (58, 2859), (74, 3063), (77, 3096), (81, 3144), (90, 3216), (91, 3231), (92, 3243), (93, 3252), (94, 3264), (96, 3348),

Gene: Love_7 Start: 3107, Stop: 4216, Start Num: 18
Candidate Starts for Love_7:
(9, 3026), (14, 3080), (Start: 18 @3107 has 47 MA's), (20, 3197), (21, 3200), (26, 3242), (30, 3353), (38, 3404), (39, 3407), (42, 3461), (43, 3470), (Start: 44 @3485 has 3 MA's), (Start: 45 @3488 has 4 MA's), (47, 3527), (59, 3668), (61, 3728), (62, 3740), (63, 3764), (64, 3770), (71, 3875), (77, 3962), (78, 3971), (81, 4001), (83, 4019), (88, 4064), (90, 4073), (91, 4088), (93, 4109), (94, 4121), (96, 4205),

Gene: McCrothy_6 Start: 3023, Stop: 4084, Start Num: 18
Candidate Starts for McCrothy_6:
(Start: 18 @3023 has 47 MA's), (19, 3059), (23, 3125), (26, 3155), (30, 3266), (38, 3317), (39, 3320), (42, 3374), (47, 3428), (57, 3554), (59, 3566), (61, 3626), (62, 3638), (64, 3668), (73, 3779), (76, 3812), (77, 3821), (81, 3869), (88, 3932), (90, 3941), (91, 3956), (93, 3977), (94, 3989), (96, 4073),

Gene: McKinley_6 Start: 3980, Stop: 5059, Start Num: 18
Candidate Starts for McKinley_6:
(11, 3923), (Start: 18 @3980 has 47 MA's), (21, 4073), (26, 4115), (30, 4226), (38, 4277), (42, 4334), (43, 4343), (Start: 44 @4358 has 3 MA's), (Start: 45 @4361 has 4 MA's), (47, 4400), (50, 4463), (59, 4541), (61, 4601), (62, 4613), (63, 4637), (64, 4643), (73, 4754), (76, 4787), (77, 4796), (81, 4844), (90, 4916), (91, 4931), (93, 4952), (94, 4964), (96, 5048),

Gene: MoontowerMania_5 Start: 2725, Stop: 3804, Start Num: 18
Candidate Starts for MoontowerMania_5:
(Start: 18 @2725 has 47 MA's), (19, 2761), (21, 2818), (26, 2860), (30, 2971), (38, 3022), (39, 3025), (42, 3079), (43, 3088), (Start: 44 @3103 has 3 MA's), (Start: 45 @3106 has 4 MA's), (47, 3145), (50, 3208), (59, 3286), (61, 3346), (62, 3358), (63, 3382), (64, 3388), (73, 3499), (76, 3532), (77, 3541), (81, 3589), (88, 3652), (90, 3661), (91, 3676), (93, 3697), (94, 3709), (96, 3793),

Gene: Paries_6 Start: 3108, Stop: 3908, Start Num: 18
Candidate Starts for Paries_6:
(10, 3027), (15, 3081), (Start: 18 @3108 has 47 MA's), (19, 3144), (26, 3240), (30, 3351), (38, 3402), (42, 3459), (43, 3468), (Start: 44 @3483 has 3 MA's), (Start: 45 @3486 has 4 MA's), (47, 3525), (73, 3603), (76, 3636), (77, 3645), (78, 3654), (81, 3693), (88, 3756), (90, 3765), (91, 3780), (93, 3801), (94, 3813), (96, 3897),

Gene: Ribeye_7 Start: 3207, Stop: 4238, Start Num: 18
Candidate Starts for Ribeye_7:
(Start: 18 @3207 has 47 MA's), (25, 3312), (26, 3333), (34, 3459), (Start: 45 @3573 has 4 MA's), (55, 3717), (60, 3756), (61, 3798), (62, 3810), (66, 3876), (69, 3894), (74, 3942), (77, 3975), (81, 4023), (82, 4029), (90, 4095), (91, 4110), (92, 4122), (93, 4131), (94, 4143), (96, 4227),

Gene: RiverRaider_5 Start: 2737, Stop: 3804, Start Num: 18
Candidate Starts for RiverRaider_5:
(8, 2626), (Start: 18 @2737 has 47 MA's), (23, 2839), (26, 2869), (30, 2980), (38, 3031), (42, 3088), (43, 3097), (Start: 44 @3112 has 3 MA's), (Start: 45 @3115 has 4 MA's), (59, 3295), (62, 3367), (63, 3391), (64, 3397), (77, 3550), (78, 3559), (81, 3589), (83, 3607), (88, 3652), (90, 3661), (91, 3676), (93, 3697), (94, 3709), (96, 3793),

Gene: RoadKill_4 Start: 2416, Stop: 3042, Start Num: 44
Candidate Starts for RoadKill_4:
(Start: 44 @2416 has 3 MA's), (Start: 45 @2419 has 4 MA's), (48, 2479), (52, 2530), (65, 2662), (67, 2683), (68, 2692), (74, 2743), (80, 2818), (83, 2848), (85, 2857), (86, 2872), (89, 2902), (95, 2989),

Gene: Rofo_6 Start: 3776, Stop: 4885, Start Num: 18
Candidate Starts for Rofo_6:
(7, 3665), (Start: 18 @3776 has 47 MA's), (20, 3866), (21, 3869), (26, 3911), (30, 4022), (38, 4073), (39, 4076), (42, 4130), (43, 4139), (Start: 44 @4154 has 3 MA's), (Start: 45 @4157 has 4 MA's), (47, 4196), (59, 4337), (61, 4397), (62, 4409), (63, 4433), (64, 4439), (71, 4544), (77, 4631), (78, 4640), (81, 4670), (83, 4688), (88, 4733), (90, 4742), (91, 4757), (93, 4778), (94, 4790), (96, 4874),

Gene: Sanjuju_5 Start: 3766, Stop: 4833, Start Num: 18
Candidate Starts for Sanjuju_5:
(2, 3502), (6, 3619), (11, 3709), (Start: 18 @3766 has 47 MA's), (23, 3868), (26, 3898), (30, 4009), (42, 4117), (43, 4126), (Start: 44 @4141 has 3 MA's), (Start: 45 @4144 has 4 MA's), (59, 4324), (61, 4384), (62, 4396), (63, 4420), (77, 4579), (78, 4588), (81, 4618), (88, 4681), (90, 4690), (91, 4705), (93, 4726), (94, 4738), (96, 4822),

Gene: Saronaya_6 Start: 3012, Stop: 4040, Start Num: 18
Candidate Starts for Saronaya_6:
(Start: 18 @3012 has 47 MA's), (25, 3117), (26, 3138), (34, 3264), (Start: 45 @3378 has 4 MA's), (55, 3519), (60, 3558), (61, 3600), (62, 3612), (66, 3678), (69, 3696), (74, 3744), (77, 3777), (81, 3825), (82, 3831), (90, 3897), (91, 3912), (92, 3924), (93, 3933), (94, 3945), (96, 4029),

Gene: SchottB_5 Start: 3650, Stop: 4426, Start Num: 31
Candidate Starts for SchottB_5:
(Start: 31 @3650 has 1 MA's), (40, 3695), (46, 3776), (54, 3902), (58, 3926), (74, 4130), (77, 4163), (81, 4211), (90, 4283), (91, 4298), (92, 4310), (93, 4319), (94, 4331), (96, 4415),

Gene: Sedona_7 Start: 5048, Stop: 5851, Start Num: 18
Candidate Starts for Sedona_7:
(2, 4784), (6, 4901), (11, 4991), (Start: 18 @5048 has 47 MA's), (21, 5141), (26, 5183), (30, 5294), (38, 5345), (39, 5348), (42, 5402), (43, 5411), (Start: 44 @5426 has 3 MA's), (Start: 45 @5429 has 4 MA's), (47, 5468), (73, 5546), (76, 5579), (77, 5588), (78, 5597), (81, 5636), (88, 5699), (90, 5708), (91, 5723), (93, 5744), (94, 5756), (96, 5840),

Gene: Shivanishola_5 Start: 3816, Stop: 4895, Start Num: 18
Candidate Starts for Shivanishola_5:
(11, 3759), (Start: 18 @3816 has 47 MA's), (21, 3909), (26, 3951), (30, 4062), (38, 4113), (39, 4116), (42, 4170), (43, 4179), (Start: 44 @4194 has 3 MA's), (Start: 45 @4197 has 4 MA's), (47, 4236), (59, 4377), (62, 4449), (63, 4473), (64, 4479), (77, 4632), (78, 4641), (81, 4680), (88, 4743), (90, 4752), (91, 4767), (93, 4788), (94, 4800), (96, 4884),

Gene: Sitar_6 Start: 4140, Stop: 5048, Start Num: 18
Candidate Starts for Sitar_6:
(2, 3876), (6, 3993), (11, 4083), (Start: 18 @4140 has 47 MA's), (30, 4245), (38, 4296), (39, 4299), (41, 4347), (42, 4350), (50, 4452), (59, 4530), (61, 4590), (62, 4602), (63, 4626), (64, 4632), (73, 4743), (76, 4776), (77, 4785), (81, 4833), (88, 4896), (90, 4905), (91, 4920), (93, 4941), (94, 4953), (96, 5037),

Gene: StorminNorm_6 Start: 3012, Stop: 4043, Start Num: 18
Candidate Starts for StorminNorm_6:

(Start: 18 @3012 has 47 MA's), (25, 3117), (26, 3138), (34, 3264), (Start: 45 @3378 has 4 MA's), (55, 3522), (60, 3561), (61, 3603), (62, 3615), (66, 3681), (69, 3699), (74, 3747), (77, 3780), (81, 3828), (82, 3834), (90, 3900), (91, 3915), (92, 3927), (93, 3936), (94, 3948), (96, 4032),

Gene: Stultus_5 Start: 3815, Stop: 4885, Start Num: 18
Candidate Starts for Stultus_5:
(11, 3758), (Start: 18 @3815 has 47 MA's), (21, 3908), (26, 3950), (30, 4061), (38, 4112), (39, 4115), (42, 4169), (Start: 44 @4184 has 3 MA's), (Start: 45 @4187 has 4 MA's), (47, 4226), (59, 4367), (62, 4439), (63, 4463), (64, 4469), (73, 4580), (76, 4613), (77, 4622), (81, 4670), (88, 4733), (90, 4742), (91, 4757), (93, 4778), (94, 4790), (96, 4874),

Gene: Tangent_4 Start: 3078, Stop: 3878, Start Num: 18
Candidate Starts for Tangent_4:
(Start: 18 @3078 has 47 MA's), (23, 3180), (26, 3210), (30, 3321), (38, 3372), (42, 3429), (43, 3438), (Start: 44 @3453 has 3 MA's), (Start: 45 @3456 has 4 MA's), (47, 3495), (73, 3573), (76, 3606), (77, 3615), (78, 3624), (81, 3663), (90, 3735), (91, 3750), (93, 3771), (94, 3783), (96, 3867),

Gene: Tangerine_6 Start: 3012, Stop: 4043, Start Num: 18
Candidate Starts for Tangerine_6:
(Start: 18 @3012 has 47 MA's), (25, 3117), (26, 3138), (34, 3264), (Start: 45 @3378 has 4 MA's), (55, 3522), (60, 3561), (61, 3603), (62, 3615), (66, 3681), (69, 3699), (74, 3747), (77, 3780), (81, 3828), (82, 3834), (90, 3900), (91, 3915), (92, 3927), (93, 3936), (94, 3948), (96, 4032),

Gene: Thing3_6 Start: 3108, Stop: 4217, Start Num: 18
Candidate Starts for Thing3_6:
(9, 3027), (14, 3081), (Start: 18 @3108 has 47 MA's), (20, 3198), (21, 3201), (26, 3243), (30, 3354), (38, 3405), (39, 3408), (42, 3462), (43, 3471), (Start: 44 @3486 has 3 MA's), (Start: 45 @3489 has 4 MA's), (47, 3528), (59, 3669), (61, 3729), (62, 3741), (63, 3765), (64, 3771), (71, 3876), (77, 3963), (78, 3972), (81, 4002), (83, 4020), (88, 4065), (90, 4074), (91, 4089), (93, 4110), (94, 4122), (96, 4206),

Gene: Tiamoceli_5 Start: 3264, Stop: 3893, Start Num: 44
Candidate Starts for Tiamoceli_5:
(5, 2697), (12, 2847), (22, 2997), (24, 3009), (27, 3045), (28, 3111), (36, 3177), (Start: 44 @3264 has 3 MA's), (Start: 45 @3267 has 4 MA's), (48, 3327), (52, 3378), (65, 3510), (72, 3588), (74, 3597), (80, 3672), (83, 3702), (86, 3726), (87, 3747), (95, 3843),

Gene: Twonlo_4 Start: 2419, Stop: 3042, Start Num: 45
Candidate Starts for Twonlo_4:
(Start: 44 @2416 has 3 MA's), (Start: 45 @2419 has 4 MA's), (48, 2479), (52, 2530), (65, 2662), (67, 2683), (68, 2692), (74, 2743), (80, 2818), (83, 2848), (85, 2857), (86, 2872), (89, 2902), (95, 2989),

Gene: Tycho_6 Start: 3012, Stop: 4043, Start Num: 18
Candidate Starts for Tycho_6:
(Start: 18 @3012 has 47 MA's), (25, 3117), (26, 3138), (34, 3264), (Start: 45 @3378 has 4 MA's), (55, 3522), (60, 3561), (61, 3603), (62, 3615), (66, 3681), (69, 3699), (74, 3747), (77, 3780), (81, 3828), (82, 3834), (90, 3900), (91, 3915), (92, 3927), (93, 3936), (94, 3948), (96, 4032),

Gene: YorkOnyx_6 Start: 2970, Stop: 4001, Start Num: 18
Candidate Starts for YorkOnyx_6:
(Start: 18 @2970 has 47 MA's), (25, 3075), (26, 3096), (34, 3222), (Start: 45 @3336 has 4 MA's), (55, 3480), (60, 3519), (61, 3561), (62, 3573), (66, 3639), (69, 3657), (74, 3705), (77, 3738), (81, 3786), (82, 3792), (90, 3858), (91, 3873), (92, 3885), (93, 3894), (94, 3906), (96, 3990),