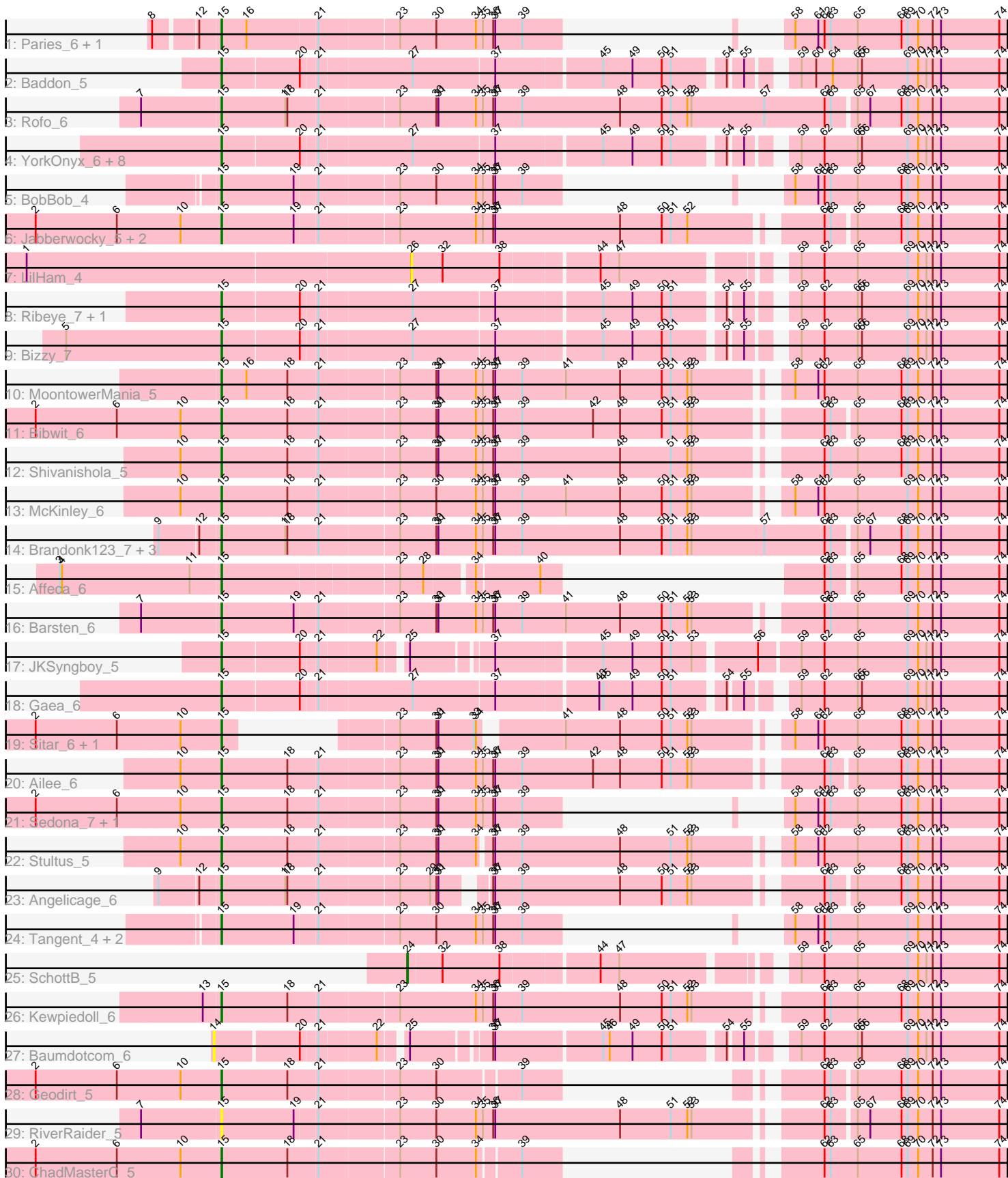


Pham 161927



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 161927 Report

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

Pham number 161927 has 49 members, 9 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, Gustavo_6, Kroos_6, Ashertheman_6, Saronaya_6, Tangerine_6, Kwobi_6
- Track 5 : BobBob_4
- Track 6 : Jabberwocky_5, Fitzgerald_5, Sanjuju_5
- Track 7 : LilHam_4
- Track 8 : Ribeye_7, StorminNorm_6
- Track 9 : Bizzy_7
- Track 10 : MoontowerMania_5
- Track 11 : Bibwit_6
- Track 12 : Shivanishola_5
- Track 13 : McKinley_6
- Track 14 : Brandonk123_7, Love_7, Thing3_6, Kamashten_6
- Track 15 : Affeca_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 : Stultus_5
- Track 23 : Angelicage_6
- Track 24 : Tangent_4, Fosterous_4, Charming_4
- Track 25 : SchottB_5
- Track 26 : Kewpiedoll_6
- Track 27 : Baumdotcom_6
- Track 28 : Geodirt_5
- Track 29 : RiverRaider_5
- Track 30 : ChadMasterC_5

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

The start number called the most often in the published annotations is 15, it was called in 39 of the 40 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, ChadMasterC_5, Charming_4, Fitzgerald_5, Flatwoods_7, Fosterous_4, 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, 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, LilHam_4, SchottB_5,

Summary by start number:

Start 14:

- Found in 1 of 49 (2.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Baumdotcom_6 (DE1),

Start 15:

- Found in 46 of 49 (93.9%) of genes in pham
- Manual Annotations of this start: 39 of 40
- 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), ChadMasterC_5 (DE1), Charming_4 (DE1), Fitzgerald_5 (DE1), Flatwoods_7 (DE1), Fosterous_4 (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), 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 24:

- Found in 1 of 49 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SchottB_5 (DE1),

Start 26:

- Found in 1 of 49 (2.0%) of genes in pham
- No Manual Annotations of this start.

- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilHam_4 (DE1),

Summary by clusters:

There is one cluster represented in this pham: DE1

Info for manual annotations of cluster DE1:

- Start number 15 was manually annotated 39 times for cluster DE1.
- Start number 24 was manually annotated 1 time for cluster DE1.

Gene Information:

Gene: Affeca_6 Start: 3776, Stop: 4534, Start Num: 15

Candidate Starts for Affeca_6:

(3, 3548), (4, 3551), (11, 3734), (Start: 15 @3776 has 39 MA's), (23, 4016), (28, 4049), (34, 4109), (40, 4193), (62, 4280), (63, 4289), (65, 4319), (68, 4382), (69, 4391), (70, 4406), (72, 4427), (73, 4439), (74, 4523),

Gene: Ailee_6 Start: 4306, Stop: 5376, Start Num: 15

Candidate Starts for Ailee_6:

(10, 4249), (Start: 15 @4306 has 39 MA's), (18, 4399), (21, 4441), (23, 4552), (30, 4603), (31, 4606), (34, 4660), (35, 4669), (36, 4684), (37, 4687), (39, 4726), (42, 4828), (48, 4867), (50, 4927), (51, 4939), (52, 4963), (53, 4969), (62, 5122), (63, 5131), (65, 5161), (68, 5224), (69, 5233), (70, 5248), (72, 5269), (73, 5281), (74, 5365),

Gene: Angelicage_6 Start: 3903, Stop: 4943, Start Num: 15

Candidate Starts for Angelicage_6:

(9, 3822), (12, 3876), (Start: 15 @3903 has 39 MA's), (17, 3993), (18, 3996), (21, 4038), (23, 4149), (29, 4191), (30, 4200), (31, 4203), (36, 4251), (37, 4254), (39, 4293), (48, 4434), (50, 4494), (51, 4506), (52, 4530), (53, 4536), (62, 4689), (63, 4698), (65, 4728), (68, 4791), (69, 4800), (70, 4815), (72, 4836), (73, 4848), (74, 4932),

Gene: Ashertheman_6 Start: 3009, Stop: 4040, Start Num: 15

Candidate Starts for Ashertheman_6:

(Start: 15 @3009 has 39 MA's), (20, 3114), (21, 3135), (27, 3261), (37, 3375), (45, 3519), (49, 3558), (50, 3600), (51, 3612), (54, 3678), (55, 3696), (59, 3744), (62, 3777), (65, 3825), (66, 3831), (69, 3897), (70, 3912), (71, 3924), (72, 3933), (73, 3945), (74, 4029),

Gene: Baddon_5 Start: 3646, Stop: 4677, Start Num: 15

Candidate Starts for Baddon_5:

(Start: 15 @3646 has 39 MA's), (20, 3751), (21, 3772), (27, 3898), (37, 4012), (45, 4156), (49, 4195), (50, 4237), (51, 4249), (54, 4315), (55, 4333), (59, 4381), (60, 4402), (64, 4426), (65, 4462), (66, 4468), (69, 4534), (70, 4549), (71, 4561), (72, 4570), (73, 4582), (74, 4666),

Gene: Barsten_6 Start: 2980, Stop: 4056, Start Num: 15

Candidate Starts for Barsten_6:

(7, 2869), (Start: 15 @2980 has 39 MA's), (19, 3082), (21, 3112), (23, 3223), (30, 3274), (31, 3277), (34, 3331), (35, 3340), (36, 3355), (37, 3358), (39, 3397), (41, 3460), (48, 3538), (50, 3598), (51, 3610), (52, 3634), (53, 3640), (62, 3793), (63, 3802), (65, 3841), (69, 3913), (70, 3928), (72, 3949), (73, 3961), (74, 4045),

Gene: Baumdotcom_6 Start: 3056, Stop: 4063, Start Num: 14

Candidate Starts for Baumdotcom_6:

(14, 3056), (20, 3167), (21, 3188), (22, 3266), (25, 3296), (36, 3392), (37, 3395), (45, 3542), (46, 3551), (49, 3581), (50, 3623), (51, 3635), (54, 3701), (55, 3719), (59, 3767), (62, 3800), (65, 3848), (66, 3854), (69, 3920), (70, 3935), (71, 3947), (72, 3956), (73, 3968), (74, 4052),

Gene: Bibwit_6 Start: 4139, Stop: 5209, Start Num: 15

Candidate Starts for Bibwit_6:

(2, 3875), (6, 3992), (10, 4082), (Start: 15 @4139 has 39 MA's), (18, 4232), (21, 4274), (23, 4385), (30, 4436), (31, 4439), (34, 4493), (35, 4502), (36, 4517), (37, 4520), (39, 4559), (42, 4661), (48, 4700), (50, 4760), (51, 4772), (52, 4796), (53, 4802), (62, 4955), (63, 4964), (65, 4994), (68, 5057), (69, 5066), (70, 5081), (72, 5102), (73, 5114), (74, 5198),

Gene: Bizzy_7 Start: 3206, Stop: 4237, Start Num: 15

Candidate Starts for Bizzy_7:

(5, 2984), (Start: 15 @3206 has 39 MA's), (20, 3311), (21, 3332), (27, 3458), (37, 3572), (45, 3716), (49, 3755), (50, 3797), (51, 3809), (54, 3875), (55, 3893), (59, 3941), (62, 3974), (65, 4022), (66, 4028), (69, 4094), (70, 4109), (71, 4121), (72, 4130), (73, 4142), (74, 4226),

Gene: BobBob_4 Start: 3078, Stop: 3878, Start Num: 15

Candidate Starts for BobBob_4:

(Start: 15 @3078 has 39 MA's), (19, 3180), (21, 3210), (23, 3321), (30, 3372), (34, 3429), (35, 3438), (36, 3453), (37, 3456), (39, 3495), (58, 3573), (61, 3606), (62, 3615), (63, 3624), (65, 3663), (68, 3726), (69, 3735), (70, 3750), (72, 3771), (73, 3783), (74, 3867),

Gene: Brandonk123_7 Start: 3107, Stop: 4216, Start Num: 15

Candidate Starts for Brandonk123_7:

(9, 3026), (12, 3080), (Start: 15 @3107 has 39 MA's), (17, 3197), (18, 3200), (21, 3242), (23, 3353), (30, 3404), (31, 3407), (34, 3461), (35, 3470), (36, 3485), (37, 3488), (39, 3527), (48, 3668), (50, 3728), (51, 3740), (52, 3764), (53, 3770), (57, 3875), (62, 3962), (63, 3971), (65, 4001), (67, 4019), (68, 4064), (69, 4073), (70, 4088), (72, 4109), (73, 4121), (74, 4205),

Gene: ChadMasterC_5 Start: 3596, Stop: 4417, Start Num: 15

Candidate Starts for ChadMasterC_5:

(2, 3332), (6, 3449), (10, 3539), (Start: 15 @3596 has 39 MA's), (18, 3689), (21, 3731), (23, 3842), (30, 3893), (34, 3950), (39, 4004), (62, 4154), (63, 4163), (65, 4202), (68, 4265), (69, 4274), (70, 4289), (72, 4310), (73, 4322), (74, 4406),

Gene: Charming_4 Start: 3078, Stop: 3878, Start Num: 15

Candidate Starts for Charming_4:

(Start: 15 @3078 has 39 MA's), (19, 3180), (21, 3210), (23, 3321), (30, 3372), (34, 3429), (35, 3438), (36, 3453), (37, 3456), (39, 3495), (58, 3573), (61, 3606), (62, 3615), (63, 3624), (65, 3663), (69, 3735), (70, 3750), (72, 3771), (73, 3783), (74, 3867),

Gene: Fitzgerald_5 Start: 3728, Stop: 4804, Start Num: 15

Candidate Starts for Fitzgerald_5:

(2, 3464), (6, 3581), (10, 3671), (Start: 15 @3728 has 39 MA's), (19, 3830), (21, 3860), (23, 3971), (34, 4079), (35, 4088), (36, 4103), (37, 4106), (48, 4286), (50, 4346), (51, 4358), (52, 4382), (62, 4541), (63, 4550), (65, 4589), (68, 4652), (69, 4661), (70, 4676), (72, 4697), (73, 4709), (74, 4793),

Gene: Flatwoods_7 Start: 3206, Stop: 4237, Start Num: 15

Candidate Starts for Flatwoods_7:

(Start: 15 @3206 has 39 MA's), (20, 3311), (21, 3332), (27, 3458), (37, 3572), (45, 3716), (49, 3755), (50, 3797), (51, 3809), (54, 3875), (55, 3893), (59, 3941), (62, 3974), (65, 4022), (66, 4028), (69, 4094), (70, 4109), (71, 4121), (72, 4130), (73, 4142), (74, 4226),

Gene: Fosterous_4 Start: 3078, Stop: 3878, Start Num: 15

Candidate Starts for Fosterous_4:

(Start: 15 @3078 has 39 MA's), (19, 3180), (21, 3210), (23, 3321), (30, 3372), (34, 3429), (35, 3438), (36, 3453), (37, 3456), (39, 3495), (58, 3573), (61, 3606), (62, 3615), (63, 3624), (65, 3663), (69, 3735), (70, 3750), (72, 3771), (73, 3783), (74, 3867),

Gene: Gaea_6 Start: 3012, Stop: 4043, Start Num: 15

Candidate Starts for Gaea_6:

(Start: 15 @3012 has 39 MA's), (20, 3117), (21, 3138), (27, 3264), (37, 3378), (43, 3516), (45, 3522), (49, 3561), (50, 3603), (51, 3615), (54, 3681), (55, 3699), (59, 3747), (62, 3780), (65, 3828), (66, 3834), (69, 3900), (70, 3915), (71, 3927), (72, 3936), (73, 3948), (74, 4032),

Gene: Galadriel_7 Start: 3107, Stop: 3907, Start Num: 15

Candidate Starts for Galadriel_7:

(8, 3026), (12, 3080), (Start: 15 @3107 has 39 MA's), (16, 3143), (21, 3239), (23, 3350), (30, 3401), (34, 3458), (35, 3467), (36, 3482), (37, 3485), (39, 3524), (58, 3602), (61, 3635), (62, 3644), (63, 3653), (65, 3692), (68, 3755), (69, 3764), (70, 3779), (72, 3800), (73, 3812), (74, 3896),

Gene: Geodirt_5 Start: 3648, Stop: 4460, Start Num: 15

Candidate Starts for Geodirt_5:

(2, 3384), (6, 3501), (10, 3591), (Start: 15 @3648 has 39 MA's), (18, 3741), (21, 3783), (23, 3894), (30, 3945), (39, 4056), (62, 4206), (63, 4215), (65, 4245), (68, 4308), (69, 4317), (70, 4332), (72, 4353), (73, 4365), (74, 4449),

Gene: Gustavo_6 Start: 3012, Stop: 4040, Start Num: 15

Candidate Starts for Gustavo_6:

(Start: 15 @3012 has 39 MA's), (20, 3117), (21, 3138), (27, 3264), (37, 3378), (45, 3519), (49, 3558), (50, 3600), (51, 3612), (54, 3678), (55, 3696), (59, 3744), (62, 3777), (65, 3825), (66, 3831), (69, 3897), (70, 3912), (71, 3924), (72, 3933), (73, 3945), (74, 4029),

Gene: JKSyngboy_5 Start: 3640, Stop: 4671, Start Num: 15

Candidate Starts for JKSyngboy_5:

(Start: 15 @3640 has 39 MA's), (20, 3745), (21, 3766), (22, 3844), (25, 3874), (37, 3973), (45, 4117), (49, 4156), (50, 4198), (51, 4210), (53, 4240), (56, 4321), (59, 4375), (62, 4408), (65, 4456), (69, 4528), (70, 4543), (71, 4555), (72, 4564), (73, 4576), (74, 4660),

Gene: Jabberwocky_5 Start: 3728, Stop: 4795, Start Num: 15

Candidate Starts for Jabberwocky_5:

(2, 3464), (6, 3581), (10, 3671), (Start: 15 @3728 has 39 MA's), (19, 3830), (21, 3860), (23, 3971), (34, 4079), (35, 4088), (36, 4103), (37, 4106), (48, 4286), (50, 4346), (51, 4358), (52, 4382), (62, 4541), (63, 4550), (65, 4580), (68, 4643), (69, 4652), (70, 4667), (72, 4688), (73, 4700), (74, 4784),

Gene: Kamashten_6 Start: 3108, Stop: 4217, Start Num: 15

Candidate Starts for Kamashten_6:

(9, 3027), (12, 3081), (Start: 15 @3108 has 39 MA's), (17, 3198), (18, 3201), (21, 3243), (23, 3354), (30, 3405), (31, 3408), (34, 3462), (35, 3471), (36, 3486), (37, 3489), (39, 3528), (48, 3669), (50, 3729), (51, 3741), (52, 3765), (53, 3771), (57, 3876), (62, 3963), (63, 3972), (65, 4002), (67, 4020), (68, 4065), (69, 4074), (70, 4089), (72, 4110), (73, 4122), (74, 4206),

Gene: Keitabear_6 Start: 5048, Stop: 5851, Start Num: 15

Candidate Starts for Keitabear_6:

(2, 4784), (6, 4901), (10, 4991), (Start: 15 @5048 has 39 MA's), (18, 5141), (21, 5183), (23, 5294), (30, 5345), (31, 5348), (34, 5402), (35, 5411), (36, 5426), (37, 5429), (39, 5468), (58, 5546), (61, 5579), (62, 5588), (63, 5597), (65, 5636), (68, 5699), (69, 5708), (70, 5723), (72, 5744), (73, 5756), (74, 5840),

Gene: Kewpiedoll_6 Start: 2983, Stop: 4062, Start Num: 15

Candidate Starts for Kewpiedoll_6:

(13, 2959), (Start: 15 @2983 has 39 MA's), (18, 3076), (21, 3118), (23, 3229), (34, 3337), (35, 3346), (36, 3361), (37, 3364), (39, 3403), (48, 3544), (50, 3604), (51, 3616), (52, 3640), (53, 3646), (62, 3799), (63, 3808), (65, 3847), (68, 3910), (69, 3919), (70, 3934), (72, 3955), (73, 3967), (74, 4051),

Gene: Kroos_6 Start: 3173, Stop: 4204, Start Num: 15

Candidate Starts for Kroos_6:

(Start: 15 @3173 has 39 MA's), (20, 3278), (21, 3299), (27, 3425), (37, 3539), (45, 3683), (49, 3722), (50, 3764), (51, 3776), (54, 3842), (55, 3860), (59, 3908), (62, 3941), (65, 3989), (66, 3995), (69, 4061), (70, 4076), (71, 4088), (72, 4097), (73, 4109), (74, 4193),

Gene: Kwobi_6 Start: 3012, Stop: 4043, Start Num: 15

Candidate Starts for Kwobi_6:

(Start: 15 @3012 has 39 MA's), (20, 3117), (21, 3138), (27, 3264), (37, 3378), (45, 3522), (49, 3561), (50, 3603), (51, 3615), (54, 3681), (55, 3699), (59, 3747), (62, 3780), (65, 3828), (66, 3834), (69, 3900), (70, 3915), (71, 3927), (72, 3936), (73, 3948), (74, 4032),

Gene: Lennon_6 Start: 4140, Stop: 5048, Start Num: 15

Candidate Starts for Lennon_6:

(2, 3876), (6, 3993), (10, 4083), (Start: 15 @4140 has 39 MA's), (23, 4245), (30, 4296), (31, 4299), (33, 4347), (34, 4350), (41, 4452), (48, 4530), (50, 4590), (51, 4602), (52, 4626), (53, 4632), (58, 4743), (61, 4776), (62, 4785), (65, 4833), (68, 4896), (69, 4905), (70, 4920), (72, 4941), (73, 4953), (74, 5037),

Gene: LilHam_4 Start: 2583, Stop: 3359, Start Num: 26

Candidate Starts for LilHam_4:

(1, 2040), (26, 2583), (32, 2628), (38, 2709), (44, 2835), (47, 2859), (59, 3063), (62, 3096), (65, 3144), (69, 3216), (70, 3231), (71, 3243), (72, 3252), (73, 3264), (74, 3348),

Gene: Love_7 Start: 3107, Stop: 4216, Start Num: 15

Candidate Starts for Love_7:

(9, 3026), (12, 3080), (Start: 15 @3107 has 39 MA's), (17, 3197), (18, 3200), (21, 3242), (23, 3353), (30, 3404), (31, 3407), (34, 3461), (35, 3470), (36, 3485), (37, 3488), (39, 3527), (48, 3668), (50, 3728), (51, 3740), (52, 3764), (53, 3770), (57, 3875), (62, 3962), (63, 3971), (65, 4001), (67, 4019), (68, 4064), (69, 4073), (70, 4088), (72, 4109), (73, 4121), (74, 4205),

Gene: McKinley_6 Start: 3980, Stop: 5059, Start Num: 15

Candidate Starts for McKinley_6:

(10, 3923), (Start: 15 @3980 has 39 MA's), (18, 4073), (21, 4115), (23, 4226), (30, 4277), (34, 4334), (35, 4343), (36, 4358), (37, 4361), (39, 4400), (41, 4463), (48, 4541), (50, 4601), (51, 4613), (52, 4637), (53, 4643), (58, 4754), (61, 4787), (62, 4796), (65, 4844), (69, 4916), (70, 4931), (72, 4952), (73, 4964), (74, 5048),

Gene: MoontowerMania_5 Start: 2725, Stop: 3804, Start Num: 15

Candidate Starts for MoontowerMania_5:

(Start: 15 @2725 has 39 MA's), (16, 2761), (18, 2818), (21, 2860), (23, 2971), (30, 3022), (31, 3025), (34, 3079), (35, 3088), (36, 3103), (37, 3106), (39, 3145), (41, 3208), (48, 3286), (50, 3346), (51, 3358), (52, 3382), (53, 3388), (58, 3499), (61, 3532), (62, 3541), (65, 3589), (68, 3652), (69, 3661), (70, 3676), (72, 3697), (73, 3709), (74, 3793),

Gene: Paries_6 Start: 3108, Stop: 3908, Start Num: 15

Candidate Starts for Paries_6:

(8, 3027), (12, 3081), (Start: 15 @3108 has 39 MA's), (16, 3144), (21, 3240), (23, 3351), (30, 3402), (34, 3459), (35, 3468), (36, 3483), (37, 3486), (39, 3525), (58, 3603), (61, 3636), (62, 3645), (63, 3654), (65, 3693), (68, 3756), (69, 3765), (70, 3780), (72, 3801), (73, 3813), (74, 3897),

Gene: Ribeye_7 Start: 3207, Stop: 4238, Start Num: 15

Candidate Starts for Ribeye_7:

(Start: 15 @3207 has 39 MA's), (20, 3312), (21, 3333), (27, 3459), (37, 3573), (45, 3717), (49, 3756), (50, 3798), (51, 3810), (54, 3876), (55, 3894), (59, 3942), (62, 3975), (65, 4023), (66, 4029), (69, 4095), (70, 4110), (71, 4122), (72, 4131), (73, 4143), (74, 4227),

Gene: RiverRaider_5 Start: 2737, Stop: 3804, Start Num: 15

Candidate Starts for RiverRaider_5:

(7, 2626), (Start: 15 @2737 has 39 MA's), (19, 2839), (21, 2869), (23, 2980), (30, 3031), (34, 3088), (35, 3097), (36, 3112), (37, 3115), (48, 3295), (51, 3367), (52, 3391), (53, 3397), (62, 3550), (63, 3559), (65, 3589), (67, 3607), (68, 3652), (69, 3661), (70, 3676), (72, 3697), (73, 3709), (74, 3793),

Gene: Rofo_6 Start: 3776, Stop: 4885, Start Num: 15

Candidate Starts for Rofo_6:

(7, 3665), (Start: 15 @3776 has 39 MA's), (17, 3866), (18, 3869), (21, 3911), (23, 4022), (30, 4073), (31, 4076), (34, 4130), (35, 4139), (36, 4154), (37, 4157), (39, 4196), (48, 4337), (50, 4397), (51, 4409), (52, 4433), (53, 4439), (57, 4544), (62, 4631), (63, 4640), (65, 4670), (67, 4688), (68, 4733), (69, 4742), (70, 4757), (72, 4778), (73, 4790), (74, 4874),

Gene: Sanjuju_5 Start: 3766, Stop: 4833, Start Num: 15

Candidate Starts for Sanjuju_5:

(2, 3502), (6, 3619), (10, 3709), (Start: 15 @3766 has 39 MA's), (19, 3868), (21, 3898), (23, 4009), (34, 4117), (35, 4126), (36, 4141), (37, 4144), (48, 4324), (50, 4384), (51, 4396), (52, 4420), (62, 4579), (63, 4588), (65, 4618), (68, 4681), (69, 4690), (70, 4705), (72, 4726), (73, 4738), (74, 4822),

Gene: Saronaya_6 Start: 3012, Stop: 4040, Start Num: 15

Candidate Starts for Saronaya_6:

(Start: 15 @3012 has 39 MA's), (20, 3117), (21, 3138), (27, 3264), (37, 3378), (45, 3519), (49, 3558), (50, 3600), (51, 3612), (54, 3678), (55, 3696), (59, 3744), (62, 3777), (65, 3825), (66, 3831), (69, 3897), (70, 3912), (71, 3924), (72, 3933), (73, 3945), (74, 4029),

Gene: SchottB_5 Start: 3650, Stop: 4426, Start Num: 24

Candidate Starts for SchottB_5:

(Start: 24 @3650 has 1 MA's), (32, 3695), (38, 3776), (44, 3902), (47, 3926), (59, 4130), (62, 4163), (65, 4211), (69, 4283), (70, 4298), (71, 4310), (72, 4319), (73, 4331), (74, 4415),

Gene: Sedona_7 Start: 5048, Stop: 5851, Start Num: 15

Candidate Starts for Sedona_7:

(2, 4784), (6, 4901), (10, 4991), (Start: 15 @5048 has 39 MA's), (18, 5141), (21, 5183), (23, 5294), (30, 5345), (31, 5348), (34, 5402), (35, 5411), (36, 5426), (37, 5429), (39, 5468), (58, 5546), (61, 5579), (62, 5588), (63, 5597), (65, 5636), (68, 5699), (69, 5708), (70, 5723), (72, 5744), (73, 5756), (74, 5840),

Gene: Shivanishola_5 Start: 3816, Stop: 4895, Start Num: 15

Candidate Starts for Shivanishola_5:

(10, 3759), (Start: 15 @3816 has 39 MA's), (18, 3909), (21, 3951), (23, 4062), (30, 4113), (31, 4116), (34, 4170), (35, 4179), (36, 4194), (37, 4197), (39, 4236), (48, 4377), (51, 4449), (52, 4473), (53, 4479), (62, 4632), (63, 4641), (65, 4680), (68, 4743), (69, 4752), (70, 4767), (72, 4788), (73, 4800), (74, 4884),

Gene: Sitar_6 Start: 4140, Stop: 5048, Start Num: 15

Candidate Starts for Sitar_6:

(2, 3876), (6, 3993), (10, 4083), (Start: 15 @4140 has 39 MA's), (23, 4245), (30, 4296), (31, 4299), (33, 4347), (34, 4350), (41, 4452), (48, 4530), (50, 4590), (51, 4602), (52, 4626), (53, 4632), (58, 4743), (61, 4776), (62, 4785), (65, 4833), (68, 4896), (69, 4905), (70, 4920), (72, 4941), (73, 4953), (74, 5037),

Gene: StorminNorm_6 Start: 3012, Stop: 4043, Start Num: 15

Candidate Starts for StorminNorm_6:

(Start: 15 @3012 has 39 MA's), (20, 3117), (21, 3138), (27, 3264), (37, 3378), (45, 3522), (49, 3561), (50, 3603), (51, 3615), (54, 3681), (55, 3699), (59, 3747), (62, 3780), (65, 3828), (66, 3834), (69, 3900), (70, 3915), (71, 3927), (72, 3936), (73, 3948), (74, 4032),

Gene: Stultus_5 Start: 3815, Stop: 4885, Start Num: 15

Candidate Starts for Stultus_5:

(10, 3758), (Start: 15 @3815 has 39 MA's), (18, 3908), (21, 3950), (23, 4061), (30, 4112), (31, 4115), (34, 4169), (36, 4184), (37, 4187), (39, 4226), (48, 4367), (51, 4439), (52, 4463), (53, 4469), (58, 4580), (61, 4613), (62, 4622), (65, 4670), (68, 4733), (69, 4742), (70, 4757), (72, 4778), (73, 4790), (74, 4874),

Gene: Tangent_4 Start: 3078, Stop: 3878, Start Num: 15

Candidate Starts for Tangent_4:

(Start: 15 @3078 has 39 MA's), (19, 3180), (21, 3210), (23, 3321), (30, 3372), (34, 3429), (35, 3438), (36, 3453), (37, 3456), (39, 3495), (58, 3573), (61, 3606), (62, 3615), (63, 3624), (65, 3663), (69, 3735), (70, 3750), (72, 3771), (73, 3783), (74, 3867),

Gene: Tangerine_6 Start: 3012, Stop: 4043, Start Num: 15

Candidate Starts for Tangerine_6:

(Start: 15 @3012 has 39 MA's), (20, 3117), (21, 3138), (27, 3264), (37, 3378), (45, 3522), (49, 3561), (50, 3603), (51, 3615), (54, 3681), (55, 3699), (59, 3747), (62, 3780), (65, 3828), (66, 3834), (69, 3900), (70, 3915), (71, 3927), (72, 3936), (73, 3948), (74, 4032),

Gene: Thing3_6 Start: 3108, Stop: 4217, Start Num: 15

Candidate Starts for Thing3_6:

(9, 3027), (12, 3081), (Start: 15 @3108 has 39 MA's), (17, 3198), (18, 3201), (21, 3243), (23, 3354), (30, 3405), (31, 3408), (34, 3462), (35, 3471), (36, 3486), (37, 3489), (39, 3528), (48, 3669), (50, 3729), (51, 3741), (52, 3765), (53, 3771), (57, 3876), (62, 3963), (63, 3972), (65, 4002), (67, 4020), (68, 4065), (69, 4074), (70, 4089), (72, 4110), (73, 4122), (74, 4206),

Gene: Tycho_6 Start: 3012, Stop: 4043, Start Num: 15

Candidate Starts for Tycho_6:

(Start: 15 @3012 has 39 MA's), (20, 3117), (21, 3138), (27, 3264), (37, 3378), (45, 3522), (49, 3561), (50, 3603), (51, 3615), (54, 3681), (55, 3699), (59, 3747), (62, 3780), (65, 3828), (66, 3834), (69, 3900), (70, 3915), (71, 3927), (72, 3936), (73, 3948), (74, 4032),

Gene: YorkOnyx_6 Start: 2970, Stop: 4001, Start Num: 15

Candidate Starts for YorkOnyx_6:

(Start: 15 @2970 has 39 MA's), (20, 3075), (21, 3096), (27, 3222), (37, 3336), (45, 3480), (49, 3519), (50, 3561), (51, 3573), (54, 3639), (55, 3657), (59, 3705), (62, 3738), (65, 3786), (66, 3792), (69, 3858), (70, 3873), (71, 3885), (72, 3894), (73, 3906), (74, 3990),