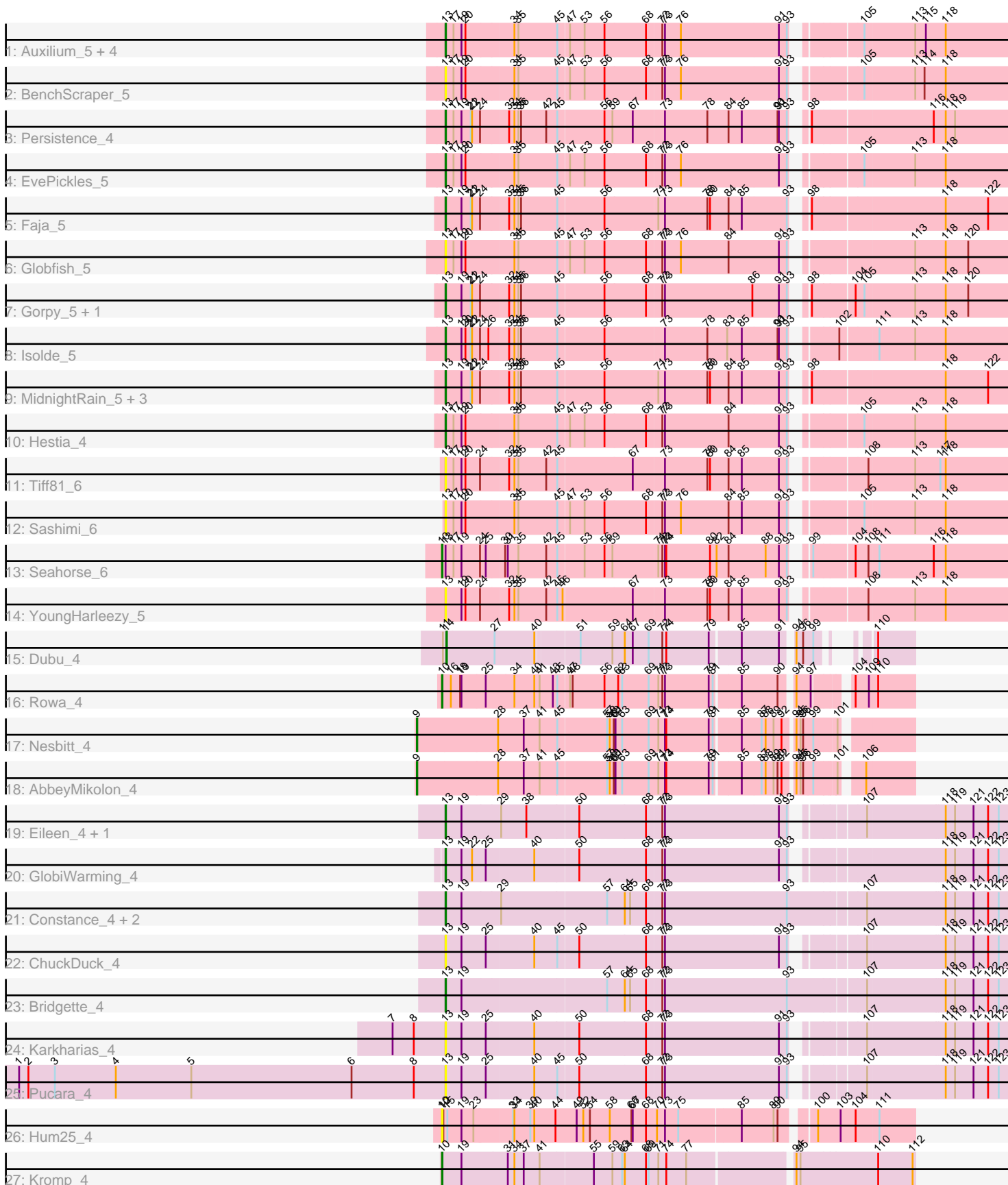


Pham 162008



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 162008 Report

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

Pham number 162008 has 38 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Auxilium_5, Richie_5, BillyTP_5, Raphaella_5, CookieBear_5
- Track 2 : BenchScraper_5
- Track 3 : Persistence_4
- Track 4 : EvePickles_5
- Track 5 : Faja_5
- Track 6 : Globfish_5
- Track 7 : Gorpy_5, Sakai_5
- Track 8 : Isolde_5
- Track 9 : MidnightRain_5, RadFad_5, Aikyam_5, Hillester_5
- Track 10 : Hestia_4
- Track 11 : Tiff81_6
- Track 12 : Sashimi_6
- Track 13 : Seahorse_6
- Track 14 : YoungHarleezy_5
- Track 15 : Dubu_4
- Track 16 : Rowa_4
- Track 17 : Nesbitt_4
- Track 18 : AbbeyMikolon_4
- Track 19 : Eileen_4, Peas_4
- Track 20 : GlobiWarming_4
- Track 21 : Constance_4, PeggyLeg03_4, Judy_4
- Track 22 : ChuckDuck_4
- Track 23 : Bridgette_4
- Track 24 : Karkharias_4
- Track 25 : Pucara_4
- Track 26 : Hum25_4
- Track 27 : Kromp_4

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

The start number called the most often in the published annotations is 13, it was called in 18 of the 24 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aikyam_5, Auxilium_5, BenchScraper_5, BillyTP_5, Bridgette_4, ChuckDuck_4, Constance_4, CookieBear_5, Eileen_4, EvePickles_5, Faja_5, Globfish_5, GlobiWarming_4, Gorpy_5, Hestia_4, Hillester_5, Isolde_5, Judy_4, Karkharias_4, MidnightRain_5, Peas_4, PeggyLeg03_4, Persistence_4, Pucara_4, RadFad_5, Raphaella_5, Richie_5, Sakai_5, Sashimi_6, Tiff81_6, YoungHarleezy_5,

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

- Seahorse_6,

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

- AbbeyMikolon_4, Dubu_4, Hum25_4, Kromp_4, Nesbitt_4, Rowa_4,

Summary by start number:

Start 9:

- Found in 2 of 38 (5.3%) of genes in pham
- Manual Annotations of this start: 2 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon_4 (BL), Nesbitt_4 (BL),

Start 10:

- Found in 4 of 38 (10.5%) of genes in pham
- Manual Annotations of this start: 3 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hum25_4 (FQ), Kromp_4 (singleton), Rowa_4 (BL), Seahorse_6 (AY),

Start 13:

- Found in 32 of 38 (84.2%) of genes in pham
- Manual Annotations of this start: 18 of 24
- Called 96.9% of time when present
- Phage (with cluster) where this start called: Aikyam_5 (AY), Auxilium_5 (AY), BenchScraper_5 (AY), BillyTP_5 (AY), Bridgette_4 (FA), ChuckDuck_4 (FA), Constance_4 (FA), CookieBear_5 (AY), Eileen_4 (FA), EvePickles_5 (AY), Faja_5 (AY), Globfish_5 (AY), GlobiWarming_4 (FA), Gorpy_5 (AY), Hestia_4 (AY), Hillester_5 (AY), Isolde_5 (AY), Judy_4 (FA), Karkharias_4 (FA), MidnightRain_5 (AY), Peas_4 (FA), PeggyLeg03_4 (FA), Persistence_4 (AY), Pucara_4 (FA), RadFad_5 (AY), Raphaella_5 (AY), Richie_5 (AY), Sakai_5 (AY), Sashimi_6 (AY), Tiff81_6 (AY), YoungHarleezy_5 (AY),

Start 14:

- Found in 1 of 38 (2.6%) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dubu_4 (BJ),

Summary by clusters:

There are 6 clusters represented in this pham: FQ, singleton, BL, BJ, FA, AY,

Info for manual annotations of cluster AY:

- Start number 10 was manually annotated 1 time for cluster AY.
- Start number 13 was manually annotated 11 times for cluster AY.

Info for manual annotations of cluster BJ:

- Start number 14 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster BL:

- Start number 9 was manually annotated 2 times for cluster BL.
- Start number 10 was manually annotated 1 time for cluster BL.

Info for manual annotations of cluster FA:

- Start number 13 was manually annotated 7 times for cluster FA.

Gene Information:

Gene: AbbeyMikolon_4 Start: 3796, Stop: 4842, Start Num: 9

Candidate Starts for AbbeyMikolon_4:

(Start: 9 @3796 has 2 MA's), (28, 3976), (37, 4033), (41, 4069), (45, 4108), (57, 4216), (58, 4222), (60, 4231), (61, 4234), (63, 4249), (69, 4309), (71, 4330), (73, 4345), (74, 4348), (79, 4444), (81, 4453), (85, 4507), (87, 4549), (88, 4558), (89, 4576), (90, 4585), (92, 4594), (94, 4615), (95, 4624), (96, 4630), (99, 4651), (101, 4696), (106, 4735),

Gene: Aikyam_5 Start: 3608, Stop: 4822, Start Num: 13

Candidate Starts for Aikyam_5:

(Start: 13 @3608 has 18 MA's), (19, 3644), (21, 3665), (22, 3668), (24, 3686), (32, 3746), (34, 3758), (35, 3767), (36, 3773), (45, 3854), (56, 3956), (71, 4073), (73, 4088), (78, 4184), (80, 4190), (84, 4232), (85, 4262), (91, 4343), (93, 4361), (98, 4376), (118, 4664), (122, 4760),

Gene: Auxilium_5 Start: 3615, Stop: 4829, Start Num: 13

Candidate Starts for Auxilium_5:

(Start: 13 @3615 has 18 MA's), (17, 3633), (19, 3651), (20, 3660), (34, 3765), (35, 3774), (45, 3861), (47, 3885), (53, 3918), (56, 3963), (68, 4056), (72, 4089), (73, 4095), (76, 4131), (91, 4350), (93, 4368), (105, 4491), (113, 4602), (115, 4626), (118, 4671),

Gene: BenchScraper_5 Start: 3615, Stop: 4829, Start Num: 13

Candidate Starts for BenchScraper_5:

(Start: 13 @3615 has 18 MA's), (17, 3633), (19, 3651), (20, 3660), (34, 3765), (35, 3774), (45, 3861), (47, 3885), (53, 3918), (56, 3963), (68, 4056), (72, 4089), (73, 4095), (76, 4131), (91, 4350), (93, 4368), (105, 4491), (113, 4602), (114, 4623), (118, 4671),

Gene: BillyTP_5 Start: 3609, Stop: 4823, Start Num: 13

Candidate Starts for BillyTP_5:

(Start: 13 @3609 has 18 MA's), (17, 3627), (19, 3645), (20, 3654), (34, 3759), (35, 3768), (45, 3855), (47, 3879), (53, 3912), (56, 3957), (68, 4050), (72, 4083), (73, 4089), (76, 4125), (91, 4344), (93, 4362), (105, 4485), (113, 4596), (115, 4620), (118, 4665),

Gene: Bridgette_4 Start: 3744, Stop: 4985, Start Num: 13

Candidate Starts for Bridgette_4:

(Start: 13 @3744 has 18 MA's), (19, 3780), (57, 4098), (64, 4137), (65, 4149), (68, 4185), (72, 4218), (73, 4224), (93, 4497), (107, 4662), (118, 4833), (119, 4854), (121, 4896), (122, 4923), (123, 4947),

Gene: ChuckDuck_4 Start: 3747, Stop: 4946, Start Num: 13

Candidate Starts for ChuckDuck_4:

(Start: 13 @3747 has 18 MA's), (19, 3783), (25, 3837), (40, 3942), (45, 3993), (50, 4038), (68, 4188), (72, 4221), (73, 4227), (91, 4482), (93, 4500), (107, 4623), (118, 4794), (119, 4815), (121, 4857), (122, 4884), (123, 4908),

Gene: Constance_4 Start: 3745, Stop: 4986, Start Num: 13

Candidate Starts for Constance_4:

(Start: 13 @3745 has 18 MA's), (19, 3781), (29, 3865), (57, 4099), (64, 4138), (65, 4150), (68, 4186), (72, 4219), (73, 4225), (93, 4498), (107, 4663), (118, 4834), (119, 4855), (121, 4897), (122, 4924), (123, 4948),

Gene: CookieBear_5 Start: 3615, Stop: 4829, Start Num: 13

Candidate Starts for CookieBear_5:

(Start: 13 @3615 has 18 MA's), (17, 3633), (19, 3651), (20, 3660), (34, 3765), (35, 3774), (45, 3861), (47, 3885), (53, 3918), (56, 3963), (68, 4056), (72, 4089), (73, 4095), (76, 4131), (91, 4350), (93, 4368), (105, 4491), (113, 4602), (115, 4626), (118, 4671),

Gene: Dubu_4 Start: 3635, Stop: 4543, Start Num: 14

Candidate Starts for Dubu_4:

(11, 3629), (Start: 14 @3635 has 1 MA's), (27, 3743), (40, 3833), (51, 3923), (59, 3995), (64, 4022), (67, 4040), (69, 4076), (72, 4106), (74, 4115), (79, 4211), (85, 4274), (91, 4355), (94, 4373), (96, 4388), (99, 4409), (110, 4460),

Gene: Eileen_4 Start: 3747, Stop: 4946, Start Num: 13

Candidate Starts for Eileen_4:

(Start: 13 @3747 has 18 MA's), (19, 3783), (29, 3867), (38, 3924), (50, 4038), (68, 4188), (72, 4221), (73, 4227), (91, 4482), (93, 4500), (107, 4623), (118, 4794), (119, 4815), (121, 4857), (122, 4884), (123, 4908),

Gene: EvePickles_5 Start: 3615, Stop: 4829, Start Num: 13

Candidate Starts for EvePickles_5:

(Start: 13 @3615 has 18 MA's), (17, 3633), (19, 3651), (20, 3660), (34, 3765), (35, 3774), (45, 3861), (47, 3885), (53, 3918), (56, 3963), (68, 4056), (72, 4089), (73, 4095), (76, 4131), (91, 4350), (93, 4368), (105, 4491), (113, 4602), (118, 4671),

Gene: Faja_5 Start: 3608, Stop: 4822, Start Num: 13

Candidate Starts for Faja_5:

(Start: 13 @3608 has 18 MA's), (19, 3644), (21, 3665), (22, 3668), (24, 3686), (32, 3746), (34, 3758), (35, 3767), (36, 3773), (45, 3854), (56, 3956), (71, 4073), (73, 4088), (78, 4184), (80, 4190), (84, 4232), (85, 4262), (93, 4361), (98, 4376), (118, 4664), (122, 4760),

Gene: Globfish_5 Start: 3615, Stop: 4829, Start Num: 13

Candidate Starts for Globfish_5:

(Start: 13 @3615 has 18 MA's), (17, 3633), (19, 3651), (20, 3660), (34, 3765), (35, 3774), (45, 3861), (47, 3885), (53, 3918), (56, 3963), (68, 4056), (72, 4089), (73, 4095), (76, 4131), (84, 4239), (91, 4350), (93, 4368), (113, 4602), (118, 4671), (120, 4722),

Gene: GlobiWarming_4 Start: 3741, Stop: 4940, Start Num: 13

Candidate Starts for GlobiWarming_4:

(Start: 13 @3741 has 18 MA's), (19, 3777), (22, 3801), (25, 3831), (40, 3936), (50, 4032), (68, 4182), (72, 4215), (73, 4221), (91, 4476), (93, 4494), (118, 4788), (119, 4809), (121, 4851), (122, 4878), (123, 4902),

Gene: Gorpy_5 Start: 3609, Stop: 4823, Start Num: 13

Candidate Starts for Gorpy_5:

(Start: 13 @3609 has 18 MA's), (19, 3645), (21, 3666), (22, 3669), (24, 3687), (32, 3747), (34, 3759), (35, 3768), (36, 3774), (45, 3855), (56, 3957), (68, 4050), (72, 4083), (73, 4089), (86, 4287), (91, 4344), (93, 4362), (98, 4377), (104, 4467), (105, 4485), (113, 4596), (118, 4665), (120, 4716),

Gene: Hestia_4 Start: 3687, Stop: 4901, Start Num: 13

Candidate Starts for Hestia_4:

(Start: 13 @3687 has 18 MA's), (17, 3705), (19, 3723), (20, 3732), (34, 3837), (35, 3846), (45, 3933), (47, 3957), (53, 3990), (56, 4035), (68, 4128), (72, 4161), (73, 4167), (84, 4311), (91, 4422), (93, 4440), (105, 4563), (113, 4674), (118, 4743),

Gene: Hillester_5 Start: 3608, Stop: 4822, Start Num: 13

Candidate Starts for Hillester_5:

(Start: 13 @3608 has 18 MA's), (19, 3644), (21, 3665), (22, 3668), (24, 3686), (32, 3746), (34, 3758), (35, 3767), (36, 3773), (45, 3854), (56, 3956), (71, 4073), (73, 4088), (78, 4184), (80, 4190), (84, 4232), (85, 4262), (91, 4343), (93, 4361), (98, 4376), (118, 4664), (122, 4760),

Gene: Hum25_4 Start: 3433, Stop: 4440, Start Num: 10

Candidate Starts for Hum25_4:

(Start: 10 @3433 has 3 MA's), (12, 3436), (15, 3445), (19, 3475), (23, 3502), (33, 3586), (34, 3589), (39, 3625), (40, 3634), (44, 3679), (49, 3727), (52, 3742), (54, 3757), (58, 3802), (66, 3850), (67, 3853), (68, 3883), (70, 3904), (73, 3922), (75, 3952), (85, 4087), (89, 4159), (90, 4168), (100, 4228), (103, 4279), (104, 4312), (111, 4360),

Gene: Isolde_5 Start: 3614, Stop: 4828, Start Num: 13

Candidate Starts for Isolde_5:

(Start: 13 @3614 has 18 MA's), (19, 3650), (20, 3659), (21, 3671), (22, 3674), (24, 3692), (26, 3710), (32, 3752), (34, 3764), (35, 3773), (36, 3779), (45, 3860), (56, 3962), (73, 4094), (78, 4190), (83, 4235), (85, 4268), (90, 4346), (91, 4349), (93, 4367), (102, 4442), (111, 4520), (113, 4601), (118, 4670),

Gene: Judy_4 Start: 3744, Stop: 4985, Start Num: 13

Candidate Starts for Judy_4:

(Start: 13 @3744 has 18 MA's), (19, 3780), (29, 3864), (57, 4098), (64, 4137), (65, 4149), (68, 4185), (72, 4218), (73, 4224), (93, 4497), (107, 4662), (118, 4833), (119, 4854), (121, 4896), (122, 4923), (123, 4947),

Gene: Karkharias_4 Start: 3747, Stop: 4946, Start Num: 13

Candidate Starts for Karkharias_4:

(7, 3627), (8, 3675), (Start: 13 @3747 has 18 MA's), (19, 3783), (25, 3837), (40, 3942), (50, 4038), (68, 4188), (72, 4221), (73, 4227), (91, 4482), (93, 4500), (107, 4623), (118, 4794), (119, 4815), (121, 4857), (122, 4884), (123, 4908),

Gene: Kromp_4 Start: 3866, Stop: 4882, Start Num: 10

Candidate Starts for Kromp_4:

(Start: 10 @3866 has 3 MA's), (19, 3908), (31, 4010), (34, 4025), (37, 4046), (41, 4082), (55, 4199), (59, 4241), (63, 4262), (64, 4268), (68, 4316), (69, 4322), (71, 4343), (74, 4361), (77, 4406), (94, 4619), (95, 4628), (110, 4799), (112, 4877),

Gene: MidnightRain_5 Start: 3608, Stop: 4822, Start Num: 13

Candidate Starts for MidnightRain_5:

(Start: 13 @3608 has 18 MA's), (19, 3644), (21, 3665), (22, 3668), (24, 3686), (32, 3746), (34, 3758), (35, 3767), (36, 3773), (45, 3854), (56, 3956), (71, 4073), (73, 4088), (78, 4184), (80, 4190), (84, 4232), (85, 4262), (91, 4343), (93, 4361), (98, 4376), (118, 4664), (122, 4760),

Gene: Nesbitt_4 Start: 3796, Stop: 4842, Start Num: 9

Candidate Starts for Nesbitt_4:

(Start: 9 @3796 has 2 MA's), (28, 3976), (37, 4033), (41, 4069), (45, 4108), (57, 4216), (58, 4222), (60, 4231), (61, 4234), (63, 4249), (69, 4309), (71, 4330), (73, 4345), (74, 4348), (79, 4444), (81, 4453), (85, 4507), (87, 4549), (88, 4558), (89, 4576), (92, 4594), (94, 4615), (95, 4624), (96, 4630), (99, 4651), (101, 4696),

Gene: Peas_4 Start: 3747, Stop: 4946, Start Num: 13

Candidate Starts for Peas_4:

(Start: 13 @3747 has 18 MA's), (19, 3783), (29, 3867), (38, 3924), (50, 4038), (68, 4188), (72, 4221), (73, 4227), (91, 4482), (93, 4500), (107, 4623), (118, 4794), (119, 4815), (121, 4857), (122, 4884), (123, 4908),

Gene: PeggyLeg03_4 Start: 3745, Stop: 4986, Start Num: 13

Candidate Starts for PeggyLeg03_4:

(Start: 13 @3745 has 18 MA's), (19, 3781), (29, 3865), (57, 4099), (64, 4138), (65, 4150), (68, 4186), (72, 4219), (73, 4225), (93, 4498), (107, 4663), (118, 4834), (119, 4855), (121, 4897), (122, 4924), (123, 4948),

Gene: Persistence_4 Start: 3686, Stop: 4900, Start Num: 13

Candidate Starts for Persistence_4:

(Start: 13 @3686 has 18 MA's), (17, 3704), (19, 3722), (21, 3743), (22, 3746), (24, 3764), (32, 3824), (34, 3836), (35, 3845), (36, 3851), (42, 3908), (45, 3932), (56, 4034), (59, 4052), (67, 4097), (73, 4166), (78, 4262), (84, 4310), (85, 4340), (90, 4418), (91, 4421), (93, 4439), (98, 4454), (116, 4715), (118, 4742), (119, 4763),

Gene: Pucara_4 Start: 3749, Stop: 4948, Start Num: 13

Candidate Starts for Pucara_4:

(1, 2786), (2, 2807), (3, 2867), (4, 3005), (5, 3176), (6, 3539), (8, 3680), (Start: 13 @3749 has 18 MA's), (19, 3785), (25, 3839), (40, 3944), (45, 3995), (50, 4040), (68, 4190), (72, 4223), (73, 4229), (91, 4484), (93, 4502), (107, 4625), (118, 4796), (119, 4817), (121, 4859), (122, 4886), (123, 4910),

Gene: RadFad_5 Start: 3608, Stop: 4822, Start Num: 13

Candidate Starts for RadFad_5:

(Start: 13 @3608 has 18 MA's), (19, 3644), (21, 3665), (22, 3668), (24, 3686), (32, 3746), (34, 3758), (35, 3767), (36, 3773), (45, 3854), (56, 3956), (71, 4073), (73, 4088), (78, 4184), (80, 4190), (84, 4232), (85, 4262), (91, 4343), (93, 4361), (98, 4376), (118, 4664), (122, 4760),

Gene: Raphaella_5 Start: 3615, Stop: 4829, Start Num: 13

Candidate Starts for Raphaella_5:

(Start: 13 @3615 has 18 MA's), (17, 3633), (19, 3651), (20, 3660), (34, 3765), (35, 3774), (45, 3861), (47, 3885), (53, 3918), (56, 3963), (68, 4056), (72, 4089), (73, 4095), (76, 4131), (91, 4350), (93, 4368), (105, 4491), (113, 4602), (115, 4626), (118, 4671),

Gene: Richie_5 Start: 3615, Stop: 4829, Start Num: 13

Candidate Starts for Richie_5:

(Start: 13 @3615 has 18 MA's), (17, 3633), (19, 3651), (20, 3660), (34, 3765), (35, 3774), (45, 3861), (47, 3885), (53, 3918), (56, 3963), (68, 4056), (72, 4089), (73, 4095), (76, 4131), (91, 4350), (93, 4368), (105, 4491), (113, 4602), (115, 4626), (118, 4671),

Gene: Rowa_4 Start: 3720, Stop: 4694, Start Num: 10

Candidate Starts for Rowa_4:

(Start: 10 @3720 has 3 MA's), (16, 3738), (18, 3759), (19, 3762), (25, 3816), (34, 3879), (40, 3924), (41, 3936), (43, 3966), (45, 3975), (47, 3999), (48, 4005), (56, 4077), (62, 4107), (63, 4116), (69, 4176), (71, 4197), (72, 4206), (73, 4212), (79, 4311), (81, 4320), (85, 4374), (90, 4452), (94, 4473), (97, 4500), (104, 4563), (109, 4593), (110, 4611),

Gene: Sakai_5 Start: 3609, Stop: 4823, Start Num: 13

Candidate Starts for Sakai_5:

(Start: 13 @3609 has 18 MA's), (19, 3645), (21, 3666), (22, 3669), (24, 3687), (32, 3747), (34, 3759), (35, 3768), (36, 3774), (45, 3855), (56, 3957), (68, 4050), (72, 4083), (73, 4089), (86, 4287), (91, 4344), (93, 4362), (98, 4377), (104, 4467), (105, 4485), (113, 4596), (118, 4665), (120, 4716),

Gene: Sashimi_6 Start: 3777, Stop: 4991, Start Num: 13

Candidate Starts for Sashimi_6:

(Start: 13 @3777 has 18 MA's), (17, 3795), (19, 3813), (20, 3822), (34, 3927), (35, 3936), (45, 4023), (47, 4047), (53, 4080), (56, 4125), (68, 4218), (72, 4251), (73, 4257), (76, 4293), (84, 4401), (85, 4431), (91, 4512), (93, 4530), (105, 4653), (113, 4764), (118, 4833),

Gene: Seahorse_6 Start: 3775, Stop: 4995, Start Num: 10

Candidate Starts for Seahorse_6:

(Start: 10 @3775 has 3 MA's), (Start: 13 @3781 has 18 MA's), (17, 3799), (19, 3817), (24, 3859), (25, 3871), (30, 3910), (31, 3916), (35, 3940), (42, 4003), (45, 4027), (53, 4084), (56, 4129), (59, 4147), (71, 4246), (72, 4255), (73, 4261), (74, 4264), (80, 4363), (82, 4378), (84, 4405), (88, 4486), (91, 4516), (93, 4534), (99, 4552), (104, 4639), (108, 4666), (111, 4687), (116, 4810), (118, 4837),

Gene: Tiff81_6 Start: 3773, Stop: 4987, Start Num: 13

Candidate Starts for Tiff81_6:

(Start: 13 @3773 has 18 MA's), (17, 3791), (19, 3809), (20, 3818), (24, 3851), (32, 3911), (34, 3923), (35, 3932), (42, 3995), (45, 4019), (67, 4184), (73, 4253), (78, 4349), (80, 4355), (84, 4397), (85, 4427), (91, 4508), (93, 4526), (108, 4658), (113, 4760), (117, 4817), (118, 4829),

Gene: YoungHarleezy_5 Start: 3613, Stop: 4827, Start Num: 13

Candidate Starts for YoungHarleezy_5:

(Start: 13 @3613 has 18 MA's), (19, 3649), (20, 3658), (24, 3691), (32, 3751), (34, 3763), (35, 3772), (42, 3835), (45, 3859), (46, 3871), (67, 4024), (73, 4093), (78, 4189), (80, 4195), (84, 4237), (85, 4267), (91, 4348), (93, 4366), (108, 4498), (113, 4600), (118, 4669),