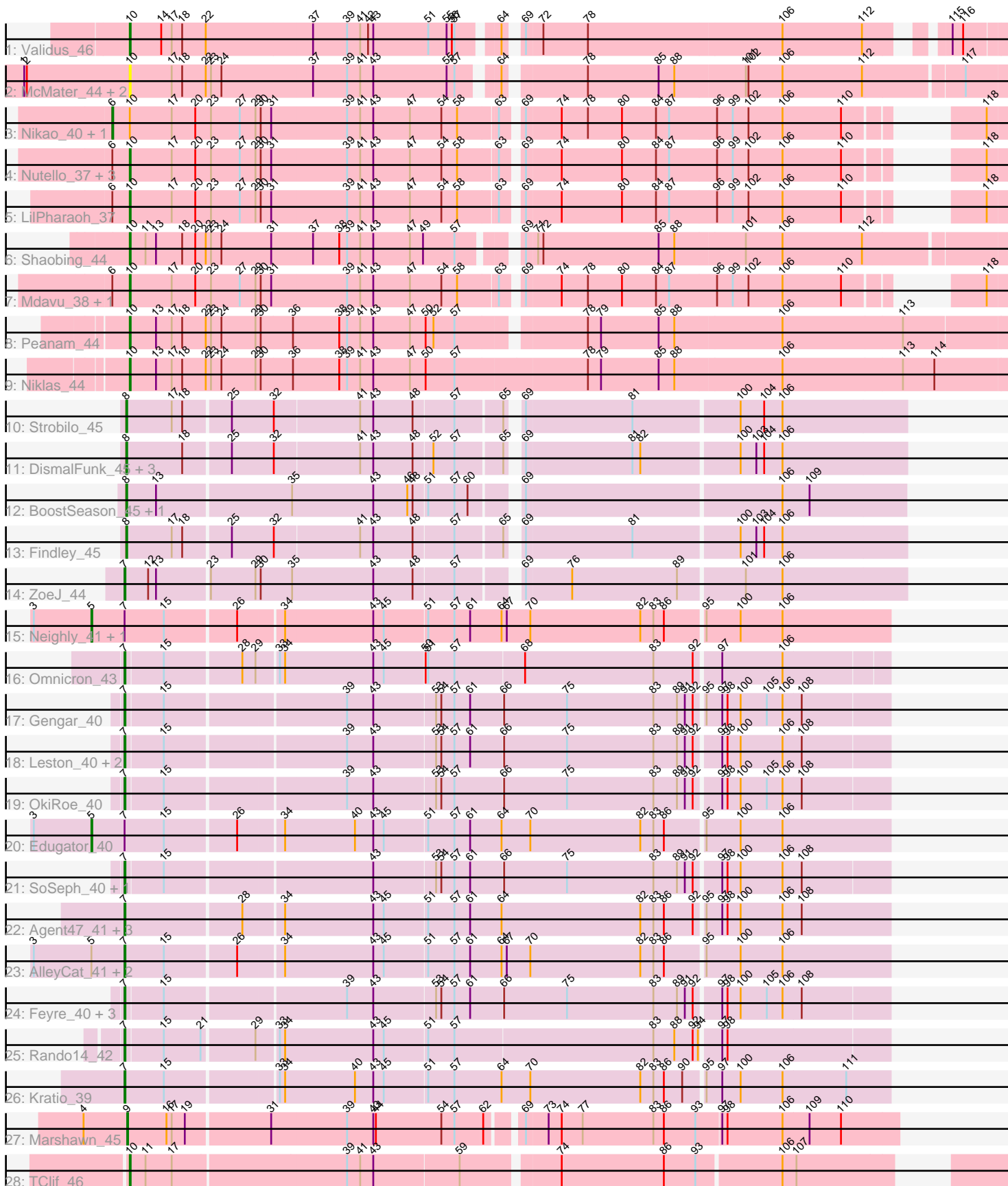


Pham 203005



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 203005 Report

This analysis was run 01/18/25 on database version 583.

Pham number 203005 has 51 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Validus_46
- Track 2 : McMater_44, Dartin_44, Richo_44
- Track 3 : Nikao_40, Torres_40
- Track 4 : Nutello_37, SgtBeansprout_37, Binglebops_37, Amelie_37
- Track 5 : LilPharaoh_37
- Track 6 : Shaobing_44
- Track 7 : Mdavu_38, Enkosi_40
- Track 8 : Peanam_44
- Track 9 : Niklas_44
- Track 10 : Strobilo_45
- Track 11 : DismalFunk_45, DismalStressor_45, Marcoliusprime_45, Milly_45
- Track 12 : BoostSeason_45, Mufasa_45
- Track 13 : Findley_45
- Track 14 : ZoeJ_44
- Track 15 : Neighly_41, Psycho_41
- Track 16 : Omnicron_43
- Track 17 : Gengar_40
- Track 18 : Leston_40, Thyatira_42, Waterfoul_41
- Track 19 : OkiRoe_40
- Track 20 : Edugator_40
- Track 21 : SoSeph_40, Heftyboy_40
- Track 22 : Agent47_41, InvictusManeo_40, ViviJ_40, Collard_40
- Track 23 : AlleyCat_41, Larva_41, Dadosky_41
- Track 24 : Feyre_40, Miryou_42, Guillsminger_41, Paola_40
- Track 25 : Rando14_42
- Track 26 : Kratio_39
- Track 27 : Marshawn_45
- Track 28 : TClif_46

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

The start number called the most often in the published annotations is 7, it was called in 21 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agent47_41, AlleyCat_41, Collard_40, Dadosky_41, Feyre_40, Gengar_40, Guillsminger_41, Heftyboy_40, InvictusManeo_40, Kratio_39, Larva_41, Leston_40, Miryou_42, OkiRoe_40, Omnicron_43, Paola_40, Rando14_42, SoSeph_40, Thyatira_42, ViviJ_40, Waterfoul_41, ZoeJ_44,

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

- Edugator_40, Neighly_41, Psycho_41,

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

- Amelie_37, Binglebops_37, BoostSeason_45, Dartin_44, DismalFunk_45, DismalStressor_45, Enkosi_40, Findley_45, LilPharaoh_37, Marcoliusprime_45, Marshawn_45, McMater_44, Mdavu_38, Milly_45, Mufasa_45, Nikao_40, Niklas_44, Nutello_37, Peanam_44, Richo_44, SgtBeansprout_37, Shaobing_44, Strobilo_45, TClif_46, Torres_40, Validus_46,

Summary by start number:

Start 5:

- Found in 6 of 51 (11.8%) of genes in pham
- Manual Annotations of this start: 2 of 45
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Edugator_40 (K5), Neighly_41 (K3), Psycho_41 (K5),

Start 6:

- Found in 9 of 51 (17.6%) of genes in pham
- Manual Annotations of this start: 1 of 45
- Called 22.2% of time when present
- Phage (with cluster) where this start called: Nikao_40 (K1), Torres_40 (K1),

Start 7:

- Found in 25 of 51 (49.0%) of genes in pham
- Manual Annotations of this start: 21 of 45
- Called 88.0% of time when present
- Phage (with cluster) where this start called: Agent47_41 (K5), AlleyCat_41 (K5), Collard_40 (K5), Dadosky_41 (K5), Feyre_40 (K5), Gengar_40 (K5), Guillsminger_41 (K5), Heftyboy_40 (K5), InvictusManeo_40 (K5), Kratio_39 (K5), Larva_41 (K5), Leston_40 (K5), Miryou_42 (K5), OkiRoe_40 (K5), Omnicron_43 (K5), Paola_40 (K5), Rando14_42 (K5), SoSeph_40 (K5), Thyatira_42 (K5), ViviJ_40 (K5), Waterfoul_41 (K5), ZoeJ_44 (K2),

Start 8:

- Found in 8 of 51 (15.7%) of genes in pham
- Manual Annotations of this start: 8 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BoostSeason_45 (K2), DismalFunk_45 (K2), DismalStressor_45 (K2), Findley_45 (K2), Marcoliusprime_45 (K2), Milly_45 (K2), Mufasa_45 (K2), Strobilo_45 (K2),

Start 9:

- Found in 1 of 51 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 45

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Marshawn_45 (K6),

Start 10:

- Found in 17 of 51 (33.3%) of genes in pham
- Manual Annotations of this start: 12 of 45
- Called 88.2% of time when present
- Phage (with cluster) where this start called: Amelie_37 (K1), Binglebops_37 (K1), Dartin_44 (K1), Enkosi_40 (K1), LilPharaoh_37 (K1), McMater_44 (K1), Mdavu_38 (K1), Niklas_44 (K1), Nutello_37 (K1), Peanam_44 (K1), Richo_44 (K1), SgtBeansprout_37 (K1), Shaobing_44 (K1), TClif_46 (K6), Validus_46 (K1),

Summary by clusters:

There are 5 clusters represented in this pham: K3, K2, K1, K6, K5,

Info for manual annotations of cluster K1:

- Start number 6 was manually annotated 1 time for cluster K1.
- Start number 10 was manually annotated 11 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 7 was manually annotated 1 time for cluster K2.
- Start number 8 was manually annotated 8 times for cluster K2.

Info for manual annotations of cluster K5:

- Start number 5 was manually annotated 2 times for cluster K5.
- Start number 7 was manually annotated 20 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 9 was manually annotated 1 time for cluster K6.
- Start number 10 was manually annotated 1 time for cluster K6.

Gene Information:

Gene: Agent47_41 Start: 34000, Stop: 33149, Start Num: 7

Candidate Starts for Agent47_41:

(Start: 7 @34000 has 21 MA's), (28, 33871), (34, 33829), (43, 33730), (45, 33718), (51, 33670), (57, 33640), (61, 33622), (64, 33586), (82, 33427), (83, 33412), (86, 33400), (92, 33367), (95, 33358), (97, 33340), (98, 33334), (100, 33319), (106, 33271), (108, 33250),

Gene: AlleyCat_41 Start: 33853, Stop: 33002, Start Num: 7

Candidate Starts for AlleyCat_41:

(3, 33955), (Start: 5 @33889 has 2 MA's), (Start: 7 @33853 has 21 MA's), (15, 33808), (26, 33730), (34, 33682), (43, 33583), (45, 33571), (51, 33523), (57, 33493), (61, 33475), (64, 33439), (67, 33433), (70, 33406), (82, 33280), (83, 33265), (86, 33253), (95, 33211), (100, 33172), (106, 33124),

Gene: Amelie_37 Start: 34082, Stop: 33180, Start Num: 10

Candidate Starts for Amelie_37:

(Start: 6 @34100 has 1 MA's), (Start: 10 @34082 has 12 MA's), (17, 34034), (20, 34007), (23, 33989), (27, 33956), (29, 33938), (30, 33932), (31, 33920), (39, 33836), (41, 33821), (43, 33806), (47, 33764),

(54, 33728), (58, 33710), (63, 33668), (69, 33650), (74, 33611), (80, 33542), (84, 33503), (87, 33488), (96, 33434), (99, 33416), (102, 33398), (106, 33359), (110, 33293), (118, 33203),

Gene: Biglebops_37 Start: 34082, Stop: 33180, Start Num: 10

Candidate Starts for Biglebops_37:

(Start: 6 @34100 has 1 MA's), (Start: 10 @34082 has 12 MA's), (17, 34034), (20, 34007), (23, 33989), (27, 33956), (29, 33938), (30, 33932), (31, 33920), (39, 33836), (41, 33821), (43, 33806), (47, 33764), (54, 33728), (58, 33710), (63, 33668), (69, 33650), (74, 33611), (80, 33542), (84, 33503), (87, 33488), (96, 33434), (99, 33416), (102, 33398), (106, 33359), (110, 33293), (118, 33203),

Gene: BoostSeason_45 Start: 36162, Stop: 35314, Start Num: 8

Candidate Starts for BoostSeason_45:

(Start: 8 @36162 has 8 MA's), (13, 36129), (35, 35979), (43, 35886), (46, 35847), (48, 35841), (51, 35826), (57, 35796), (60, 35781), (69, 35736), (106, 35451), (109, 35421),

Gene: Collard_40 Start: 33961, Stop: 33110, Start Num: 7

Candidate Starts for Collard_40:

(Start: 7 @33961 has 21 MA's), (28, 33832), (34, 33790), (43, 33691), (45, 33679), (51, 33631), (57, 33601), (61, 33583), (64, 33547), (82, 33388), (83, 33373), (86, 33361), (92, 33328), (95, 33319), (97, 33301), (98, 33295), (100, 33280), (106, 33232), (108, 33211),

Gene: Dadosky_41 Start: 33855, Stop: 33004, Start Num: 7

Candidate Starts for Dadosky_41:

(3, 33957), (Start: 5 @33891 has 2 MA's), (Start: 7 @33855 has 21 MA's), (15, 33810), (26, 33732), (34, 33684), (43, 33585), (45, 33573), (51, 33525), (57, 33495), (61, 33477), (64, 33441), (67, 33435), (70, 33408), (82, 33282), (83, 33267), (86, 33255), (95, 33213), (100, 33174), (106, 33126),

Gene: Dartin_44 Start: 35155, Stop: 34205, Start Num: 10

Candidate Starts for Dartin_44:

(1, 35275), (2, 35272), (Start: 10 @35155 has 12 MA's), (17, 35107), (18, 35095), (22, 35068), (23, 35062), (24, 35050), (37, 34948), (39, 34909), (41, 34894), (43, 34879), (55, 34795), (57, 34786), (64, 34750), (78, 34669), (85, 34588), (88, 34570), (101, 34492), (102, 34489), (106, 34450), (112, 34360), (117, 34252),

Gene: DismalFunk_45 Start: 36592, Stop: 35744, Start Num: 8

Candidate Starts for DismalFunk_45:

(Start: 8 @36592 has 8 MA's), (18, 36529), (25, 36478), (32, 36430), (41, 36334), (43, 36319), (48, 36274), (52, 36253), (57, 36229), (65, 36178), (69, 36169), (81, 36049), (82, 36040), (100, 35932), (103, 35914), (104, 35905), (106, 35884),

Gene: DismalStressor_45 Start: 36592, Stop: 35744, Start Num: 8

Candidate Starts for DismalStressor_45:

(Start: 8 @36592 has 8 MA's), (18, 36529), (25, 36478), (32, 36430), (41, 36334), (43, 36319), (48, 36274), (52, 36253), (57, 36229), (65, 36178), (69, 36169), (81, 36049), (82, 36040), (100, 35932), (103, 35914), (104, 35905), (106, 35884),

Gene: Edugator_40 Start: 34316, Stop: 33429, Start Num: 5

Candidate Starts for Edugator_40:

(3, 34382), (Start: 5 @34316 has 2 MA's), (Start: 7 @34280 has 21 MA's), (15, 34235), (26, 34157), (34, 34109), (40, 34031), (43, 34010), (45, 33998), (51, 33950), (57, 33920), (61, 33902), (64, 33866), (70, 33833), (82, 33707), (83, 33692), (86, 33680), (95, 33638), (100, 33599), (106, 33551),

Gene: Enkosi_40 Start: 36695, Stop: 35793, Start Num: 10

Candidate Starts for Enkosi_40:

(Start: 6 @36713 has 1 MA's), (Start: 10 @36695 has 12 MA's), (17, 36647), (20, 36620), (23, 36602), (27, 36569), (29, 36551), (30, 36545), (31, 36533), (39, 36449), (41, 36434), (43, 36419), (47, 36377), (54, 36341), (58, 36323), (63, 36281), (69, 36263), (74, 36224), (78, 36194), (80, 36155), (84, 36116), (87, 36101), (96, 36047), (99, 36029), (102, 36011), (106, 35972), (110, 35906), (118, 35816),

Gene: Feyre_40 Start: 33712, Stop: 32870, Start Num: 7

Candidate Starts for Feyre_40:

(Start: 7 @33712 has 21 MA's), (15, 33670), (39, 33475), (43, 33445), (53, 33376), (54, 33370), (57, 33355), (61, 33337), (66, 33301), (75, 33229), (83, 33130), (89, 33103), (91, 33094), (92, 33085), (97, 33058), (98, 33052), (100, 33037), (105, 33007), (106, 32989), (108, 32968),

Gene: Findley_45 Start: 36585, Stop: 35737, Start Num: 8

Candidate Starts for Findley_45:

(Start: 8 @36585 has 8 MA's), (17, 36534), (18, 36522), (25, 36471), (32, 36423), (41, 36327), (43, 36312), (48, 36267), (57, 36222), (65, 36171), (69, 36162), (81, 36042), (100, 35925), (103, 35907), (104, 35898), (106, 35877),

Gene: Gengar_40 Start: 33822, Stop: 32980, Start Num: 7

Candidate Starts for Gengar_40:

(Start: 7 @33822 has 21 MA's), (15, 33780), (39, 33585), (43, 33555), (53, 33486), (54, 33480), (57, 33465), (61, 33447), (66, 33411), (75, 33339), (83, 33240), (89, 33213), (91, 33204), (92, 33195), (95, 33186), (97, 33168), (98, 33162), (100, 33147), (105, 33117), (106, 33099), (108, 33078),

Gene: Guillsminger_41 Start: 33793, Stop: 32951, Start Num: 7

Candidate Starts for Guillsminger_41:

(Start: 7 @33793 has 21 MA's), (15, 33751), (39, 33556), (43, 33526), (53, 33457), (54, 33451), (57, 33436), (61, 33418), (66, 33382), (75, 33310), (83, 33211), (89, 33184), (91, 33175), (92, 33166), (97, 33139), (98, 33133), (100, 33118), (105, 33088), (106, 33070), (108, 33049),

Gene: Heftyboy_40 Start: 33939, Stop: 33097, Start Num: 7

Candidate Starts for Heftyboy_40:

(Start: 7 @33939 has 21 MA's), (15, 33897), (43, 33672), (53, 33603), (54, 33597), (57, 33582), (61, 33564), (66, 33528), (75, 33456), (83, 33357), (89, 33330), (91, 33321), (92, 33312), (97, 33285), (98, 33279), (100, 33264), (106, 33216), (108, 33195),

Gene: InvictusManeo_40 Start: 34004, Stop: 33153, Start Num: 7

Candidate Starts for InvictusManeo_40:

(Start: 7 @34004 has 21 MA's), (28, 33875), (34, 33833), (43, 33734), (45, 33722), (51, 33674), (57, 33644), (61, 33626), (64, 33590), (82, 33431), (83, 33416), (86, 33404), (92, 33371), (95, 33362), (97, 33344), (98, 33338), (100, 33323), (106, 33275), (108, 33254),

Gene: Kratio_39 Start: 33552, Stop: 32701, Start Num: 7

Candidate Starts for Kratio_39:

(Start: 7 @33552 has 21 MA's), (15, 33507), (33, 33387), (34, 33381), (40, 33303), (43, 33282), (45, 33270), (51, 33222), (57, 33192), (64, 33138), (70, 33105), (82, 32979), (83, 32964), (86, 32952), (90, 32931), (95, 32910), (97, 32892), (100, 32871), (106, 32823), (111, 32751),

Gene: Larva_41 Start: 33722, Stop: 32871, Start Num: 7

Candidate Starts for Larva_41:

(3, 33824), (Start: 5 @33758 has 2 MA's), (Start: 7 @33722 has 21 MA's), (15, 33677), (26, 33599), (34, 33551), (43, 33452), (45, 33440), (51, 33392), (57, 33362), (61, 33344), (64, 33308), (67, 33302), (70, 33275), (82, 33149), (83, 33134), (86, 33122), (95, 33080), (100, 33041), (106, 32993),

Gene: Leston_40 Start: 33923, Stop: 33081, Start Num: 7

Candidate Starts for Leston_40:

(Start: 7 @33923 has 21 MA's), (15, 33881), (39, 33686), (43, 33656), (53, 33587), (54, 33581), (57, 33566), (61, 33548), (66, 33512), (75, 33440), (83, 33341), (89, 33314), (91, 33305), (92, 33296), (97, 33269), (98, 33263), (100, 33248), (106, 33200), (108, 33179),

Gene: LilPharaoh_37 Start: 34082, Stop: 33180, Start Num: 10

Candidate Starts for LilPharaoh_37:

(Start: 6 @34100 has 1 MA's), (Start: 10 @34082 has 12 MA's), (17, 34034), (20, 34007), (23, 33989), (27, 33956), (29, 33938), (30, 33932), (31, 33920), (39, 33836), (41, 33821), (43, 33806), (47, 33764), (54, 33728), (58, 33710), (63, 33668), (69, 33650), (74, 33611), (80, 33542), (84, 33503), (87, 33488), (96, 33434), (99, 33416), (102, 33398), (106, 33359), (110, 33293), (118, 33203),

Gene: Marcoliusprime_45 Start: 36592, Stop: 35744, Start Num: 8

Candidate Starts for Marcoliusprime_45:

(Start: 8 @36592 has 8 MA's), (18, 36529), (25, 36478), (32, 36430), (41, 36334), (43, 36319), (48, 36274), (52, 36253), (57, 36229), (65, 36178), (69, 36169), (81, 36049), (82, 36040), (100, 35932), (103, 35914), (104, 35905), (106, 35884),

Gene: Marshawn_45 Start: 35460, Stop: 34612, Start Num: 9

Candidate Starts for Marshawn_45:

(4, 35508), (Start: 9 @35460 has 1 MA's), (16, 35415), (17, 35409), (19, 35394), (31, 35301), (39, 35217), (43, 35187), (44, 35184), (54, 35109), (57, 35094), (62, 35064), (69, 35031), (73, 35007), (74, 34992), (77, 34968), (83, 34887), (86, 34875), (93, 34839), (97, 34812), (98, 34806), (106, 34743), (109, 34713), (110, 34677),

Gene: McMater_44 Start: 35155, Stop: 34205, Start Num: 10

Candidate Starts for McMater_44:

(1, 35275), (2, 35272), (Start: 10 @35155 has 12 MA's), (17, 35107), (18, 35095), (22, 35068), (23, 35062), (24, 35050), (37, 34948), (39, 34909), (41, 34894), (43, 34879), (55, 34795), (57, 34786), (64, 34750), (78, 34669), (85, 34588), (88, 34570), (101, 34492), (102, 34489), (106, 34450), (112, 34360), (117, 34252),

Gene: Mdavu_38 Start: 34071, Stop: 33169, Start Num: 10

Candidate Starts for Mdavu_38:

(Start: 6 @34089 has 1 MA's), (Start: 10 @34071 has 12 MA's), (17, 34023), (20, 33996), (23, 33978), (27, 33945), (29, 33927), (30, 33921), (31, 33909), (39, 33825), (41, 33810), (43, 33795), (47, 33753), (54, 33717), (58, 33699), (63, 33657), (69, 33639), (74, 33600), (78, 33570), (80, 33531), (84, 33492), (87, 33477), (96, 33423), (99, 33405), (102, 33387), (106, 33348), (110, 33282), (118, 33192),

Gene: Milly_45 Start: 36565, Stop: 35717, Start Num: 8

Candidate Starts for Milly_45:

(Start: 8 @36565 has 8 MA's), (18, 36502), (25, 36451), (32, 36403), (41, 36307), (43, 36292), (48, 36247), (52, 36226), (57, 36202), (65, 36151), (69, 36142), (81, 36022), (82, 36013), (100, 35905), (103, 35887), (104, 35878), (106, 35857),

Gene: Miryou_42 Start: 36125, Stop: 35283, Start Num: 7

Candidate Starts for Miryou_42:

(Start: 7 @36125 has 21 MA's), (15, 36083), (39, 35888), (43, 35858), (53, 35789), (54, 35783), (57, 35768), (61, 35750), (66, 35714), (75, 35642), (83, 35543), (89, 35516), (91, 35507), (92, 35498), (97, 35471), (98, 35465), (100, 35450), (105, 35420), (106, 35402), (108, 35381),

Gene: Mufasa_45 Start: 36153, Stop: 35305, Start Num: 8

Candidate Starts for Mufasa_45:

(Start: 8 @36153 has 8 MA's), (13, 36120), (35, 35970), (43, 35877), (46, 35838), (48, 35832), (51, 35817), (57, 35787), (60, 35772), (69, 35727), (106, 35442), (109, 35412),

Gene: Neighly_41 Start: 33757, Stop: 32870, Start Num: 5

Candidate Starts for Neighly_41:

(3, 33823), (Start: 5 @33757 has 2 MA's), (Start: 7 @33721 has 21 MA's), (15, 33676), (26, 33598), (34, 33550), (43, 33451), (45, 33439), (51, 33391), (57, 33361), (61, 33343), (64, 33307), (67, 33301), (70, 33274), (82, 33148), (83, 33133), (86, 33121), (95, 33079), (100, 33040), (106, 32992),

Gene: Nikao_40 Start: 36713, Stop: 35793, Start Num: 6

Candidate Starts for Nikao_40:

(Start: 6 @36713 has 1 MA's), (Start: 10 @36695 has 12 MA's), (17, 36647), (20, 36620), (23, 36602), (27, 36569), (29, 36551), (30, 36545), (31, 36533), (39, 36449), (41, 36434), (43, 36419), (47, 36377), (54, 36341), (58, 36323), (63, 36281), (69, 36263), (74, 36224), (78, 36194), (80, 36155), (84, 36116), (87, 36101), (96, 36047), (99, 36029), (102, 36011), (106, 35972), (110, 35906), (118, 35816),

Gene: Niklas_44 Start: 35225, Stop: 34236, Start Num: 10

Candidate Starts for Niklas_44:

(Start: 10 @35225 has 12 MA's), (13, 35195), (17, 35177), (18, 35165), (22, 35138), (23, 35132), (24, 35120), (29, 35081), (30, 35075), (36, 35039), (38, 34988), (39, 34979), (41, 34964), (43, 34949), (47, 34907), (50, 34889), (57, 34856), (78, 34709), (79, 34694), (85, 34628), (88, 34610), (106, 34490), (113, 34355), (114, 34319),

Gene: Nutello_37 Start: 34082, Stop: 33180, Start Num: 10

Candidate Starts for Nutello_37:

(Start: 6 @34100 has 1 MA's), (Start: 10 @34082 has 12 MA's), (17, 34034), (20, 34007), (23, 33989), (27, 33956), (29, 33938), (30, 33932), (31, 33920), (39, 33836), (41, 33821), (43, 33806), (47, 33764), (54, 33728), (58, 33710), (63, 33668), (69, 33650), (74, 33611), (80, 33542), (84, 33503), (87, 33488), (96, 33434), (99, 33416), (102, 33398), (106, 33359), (110, 33293), (118, 33203),

Gene: OkiRoe_40 Start: 33795, Stop: 32953, Start Num: 7

Candidate Starts for OkiRoe_40:

(Start: 7 @33795 has 21 MA's), (15, 33753), (39, 33558), (43, 33528), (53, 33459), (54, 33453), (57, 33438), (66, 33384), (75, 33312), (83, 33213), (89, 33186), (91, 33177), (92, 33168), (97, 33141), (98, 33135), (100, 33120), (105, 33090), (106, 33072), (108, 33051),

Gene: Omnicron_43 Start: 33409, Stop: 32570, Start Num: 7

Candidate Starts for Omnicron_43:

(Start: 7 @33409 has 21 MA's), (15, 33367), (28, 33283), (29, 33268), (33, 33247), (34, 33241), (43, 33142), (45, 33130), (50, 33085), (51, 33082), (57, 33052), (68, 32974), (83, 32827), (92, 32782), (97, 32755), (106, 32686),

Gene: Paola_40 Start: 33793, Stop: 32951, Start Num: 7

Candidate Starts for Paola_40:

(Start: 7 @33793 has 21 MA's), (15, 33751), (39, 33556), (43, 33526), (53, 33457), (54, 33451), (57, 33436), (61, 33418), (66, 33382), (75, 33310), (83, 33211), (89, 33184), (91, 33175), (92, 33166), (97, 33139), (98, 33133), (100, 33118), (105, 33088), (106, 33070), (108, 33049),

Gene: Peanam_44 Start: 35181, Stop: 34210, Start Num: 10

Candidate Starts for Peanam_44:

(Start: 10 @35181 has 12 MA's), (13, 35151), (17, 35133), (18, 35121), (22, 35094), (23, 35088), (24, 35076), (29, 35037), (30, 35031), (36, 34995), (38, 34944), (39, 34935), (41, 34920), (43, 34905), (47, 34863), (50, 34845), (52, 34836), (57, 34812), (78, 34680), (79, 34665), (85, 34599), (88, 34581), (106, 34461), (113, 34326),

Gene: Psycho_41 Start: 33888, Stop: 33001, Start Num: 5

Candidate Starts for Psycho_41:

(3, 33954), (Start: 5 @33888 has 2 MA's), (Start: 7 @33852 has 21 MA's), (15, 33807), (26, 33729), (34, 33681), (43, 33582), (45, 33570), (51, 33522), (57, 33492), (61, 33474), (64, 33438), (67, 33432), (70, 33405), (82, 33279), (83, 33264), (86, 33252), (95, 33210), (100, 33171), (106, 33123),

Gene: Rando14_42 Start: 32984, Stop: 32142, Start Num: 7

Candidate Starts for Rando14_42:

(Start: 7 @32984 has 21 MA's), (15, 32942), (21, 32900), (29, 32843), (33, 32822), (34, 32816), (43, 32717), (45, 32705), (51, 32657), (57, 32627), (83, 32402), (88, 32378), (92, 32357), (94, 32351), (97, 32330), (98, 32324),

Gene: Richo_44 Start: 35155, Stop: 34205, Start Num: 10

Candidate Starts for Richo_44:

(1, 35275), (2, 35272), (Start: 10 @35155 has 12 MA's), (17, 35107), (18, 35095), (22, 35068), (23, 35062), (24, 35050), (37, 34948), (39, 34909), (41, 34894), (43, 34879), (55, 34795), (57, 34786), (64, 34750), (78, 34669), (85, 34588), (88, 34570), (101, 34492), (102, 34489), (106, 34450), (112, 34360), (117, 34252),

Gene: SgtBeansprout_37 Start: 34082, Stop: 33180, Start Num: 10

Candidate Starts for SgtBeansprout_37:

(Start: 6 @34100 has 1 MA's), (Start: 10 @34082 has 12 MA's), (17, 34034), (20, 34007), (23, 33989), (27, 33956), (29, 33938), (30, 33932), (31, 33920), (39, 33836), (41, 33821), (43, 33806), (47, 33764), (54, 33728), (58, 33710), (63, 33668), (69, 33650), (74, 33611), (80, 33542), (84, 33503), (87, 33488), (96, 33434), (99, 33416), (102, 33398), (106, 33359), (110, 33293), (118, 33203),

Gene: Shaobing_44 Start: 35188, Stop: 34232, Start Num: 10

Candidate Starts for Shaobing_44:

(Start: 10 @35188 has 12 MA's), (11, 35170), (13, 35158), (18, 35128), (20, 35113), (22, 35101), (23, 35095), (24, 35083), (31, 35026), (37, 34981), (38, 34951), (39, 34942), (41, 34927), (43, 34912), (47, 34870), (49, 34855), (57, 34819), (69, 34765), (71, 34753), (72, 34747), (85, 34615), (88, 34597), (101, 34519), (106, 34477), (112, 34387),

Gene: SoSeph_40 Start: 33939, Stop: 33097, Start Num: 7

Candidate Starts for SoSeph_40:

(Start: 7 @33939 has 21 MA's), (15, 33897), (43, 33672), (53, 33603), (54, 33597), (57, 33582), (61, 33564), (66, 33528), (75, 33456), (83, 33357), (89, 33330), (91, 33321), (92, 33312), (97, 33285), (98, 33279), (100, 33264), (106, 33216), (108, 33195),

Gene: Strobilo_45 Start: 36567, Stop: 35719, Start Num: 8

Candidate Starts for Strobilo_45:

(Start: 8 @36567 has 8 MA's), (17, 36516), (18, 36504), (25, 36453), (32, 36405), (41, 36309), (43, 36294), (48, 36249), (57, 36204), (65, 36153), (69, 36144), (81, 36024), (100, 35907), (104, 35880), (106, 35859),

Gene: TClif_46 Start: 35608, Stop: 34700, Start Num: 10

Candidate Starts for TClif_46:

(Start: 10 @35608 has 12 MA's), (11, 35590), (17, 35560), (39, 35368), (41, 35353), (43, 35338), (59, 35242), (74, 35140), (86, 35023), (93, 34987), (106, 34894), (107, 34879),

Gene: Thyatira_42 Start: 36140, Stop: 35298, Start Num: 7

Candidate Starts for Thyatira_42:

(Start: 7 @36140 has 21 MA's), (15, 36098), (39, 35903), (43, 35873), (53, 35804), (54, 35798), (57, 35783), (61, 35765), (66, 35729), (75, 35657), (83, 35558), (89, 35531), (91, 35522), (92, 35513), (97, 35486), (98, 35480), (100, 35465), (106, 35417), (108, 35396),

Gene: Torres_40 Start: 36714, Stop: 35794, Start Num: 6

Candidate Starts for Torres_40:

(Start: 6 @36714 has 1 MA's), (Start: 10 @36696 has 12 MA's), (17, 36648), (20, 36621), (23, 36603), (27, 36570), (29, 36552), (30, 36546), (31, 36534), (39, 36450), (41, 36435), (43, 36420), (47, 36378), (54, 36342), (58, 36324), (63, 36282), (69, 36264), (74, 36225), (78, 36195), (80, 36156), (84, 36117), (87, 36102), (96, 36048), (99, 36030), (102, 36012), (106, 35973), (110, 35907), (118, 35817),

Gene: Validus_46 Start: 35225, Stop: 34305, Start Num: 10

Candidate Starts for Validus_46:

(Start: 10 @35225 has 12 MA's), (14, 35189), (17, 35177), (18, 35165), (22, 35138), (37, 35018), (39, 34979), (41, 34964), (42, 34955), (43, 34949), (51, 34886), (55, 34865), (56, 34859), (57, 34856), (64, 34817), (69, 34805), (72, 34787), (78, 34736), (106, 34517), (112, 34427), (115, 34364), (116, 34352),

Gene: ViviJ_40 Start: 33761, Stop: 32910, Start Num: 7

Candidate Starts for ViviJ_40:

(Start: 7 @33761 has 21 MA's), (28, 33632), (34, 33590), (43, 33491), (45, 33479), (51, 33431), (57, 33401), (61, 33383), (64, 33347), (82, 33188), (83, 33173), (86, 33161), (92, 33128), (95, 33119), (97, 33101), (98, 33095), (100, 33080), (106, 33032), (108, 33011),

Gene: Waterfoul_41 Start: 34034, Stop: 33192, Start Num: 7

Candidate Starts for Waterfoul_41:

(Start: 7 @34034 has 21 MA's), (15, 33992), (39, 33797), (43, 33767), (53, 33698), (54, 33692), (57, 33677), (61, 33659), (66, 33623), (75, 33551), (83, 33452), (89, 33425), (91, 33416), (92, 33407), (97, 33380), (98, 33374), (100, 33359), (106, 33311), (108, 33290),

Gene: ZoeJ_44 Start: 36029, Stop: 35175, Start Num: 7

Candidate Starts for ZoeJ_44:

(Start: 7 @36029 has 21 MA's), (12, 36002), (13, 35993), (23, 35936), (29, 35885), (30, 35879), (35, 35843), (43, 35750), (48, 35705), (57, 35660), (69, 35600), (76, 35549), (89, 35429), (101, 35357), (106, 35315),