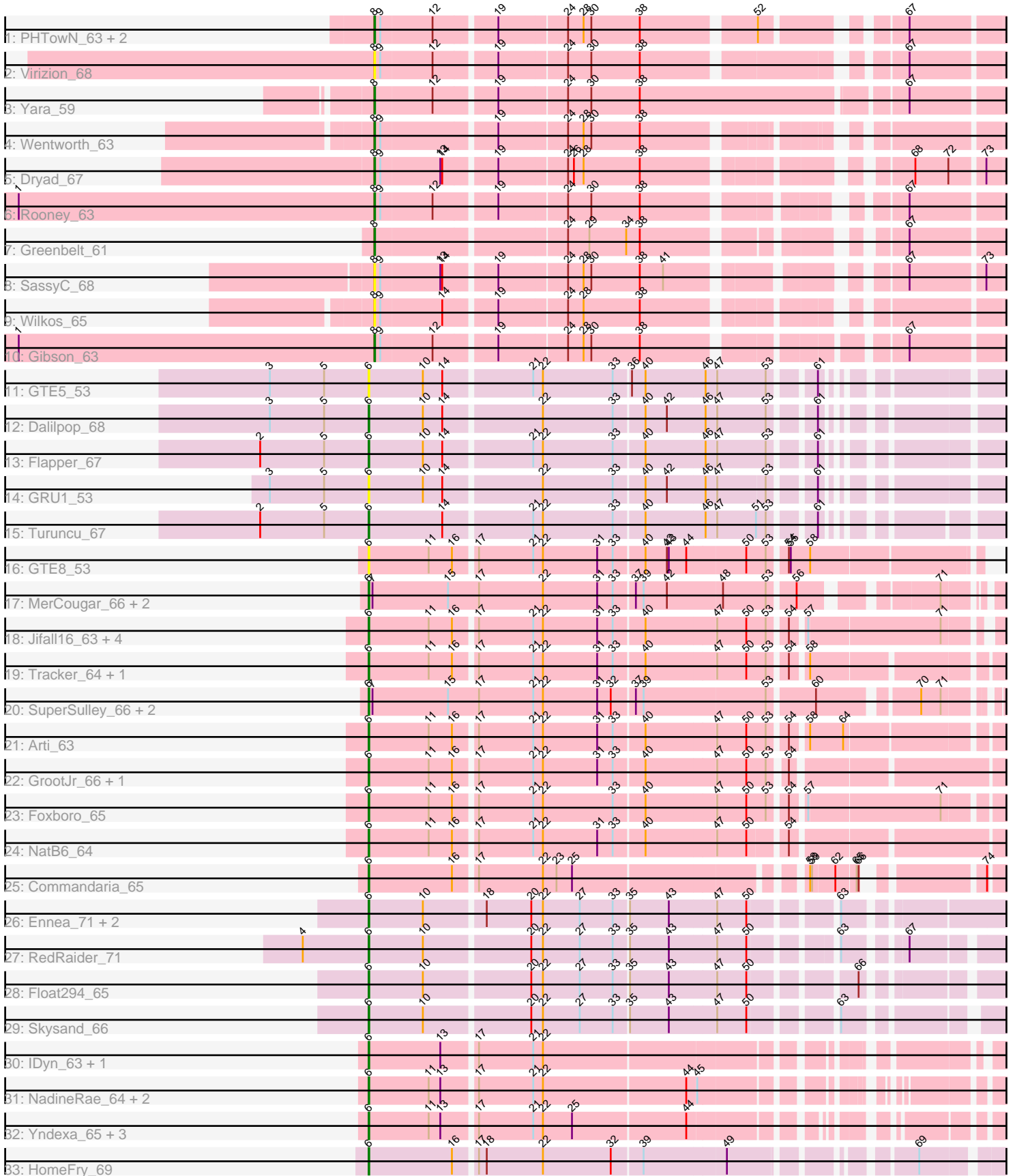


Pham 311676



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 311676 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311676 has 53 members, 7 are drafts.

Phages represented in each track:

- Track 1 : PHTowN_63, Lizz_63, ShakeNBake_63
- Track 2 : Virizion_68
- Track 3 : Yara_59
- Track 4 : Wentworth_63
- Track 5 : Dryad_67
- Track 6 : Rooney_63
- Track 7 : Greenbelt_61
- Track 8 : SassyC_68
- Track 9 : Wilkos_65
- Track 10 : Gibson_63
- Track 11 : GTE5_53
- Track 12 : Dalilpop_68
- Track 13 : Flapper_67
- Track 14 : GRU1_53
- Track 15 : Turuncu_67
- Track 16 : GTE8_53
- Track 17 : MerCougar_66, StarStruck_65, Outis_65
- Track 18 : Jifall16_63, Emianna_64, Kurt_64, Phomeo_63, KidneyBean_64
- Track 19 : Tracker_64, Wheezy_64
- Track 20 : SuperSulley_66, NosilaM_66, Buggaboo_66
- Track 21 : Arti_63
- Track 22 : GrootJr_66, NovumRegina_64
- Track 23 : Foxboro_65
- Track 24 : NatB6_64
- Track 25 : Commandaria_65
- Track 26 : Ennea_71, Lollipop1437_68, Patio_66
- Track 27 : RedRaider_71
- Track 28 : Float294_65
- Track 29 : Skysand_66
- Track 30 : IDyn_63, HubbaBubba_59
- Track 31 : NadineRae_64, Marietta_65, WhoseManz_64
- Track 32 : Yndexa_65, Sukkupi_65, Pemberton_67, BiPauneto_67
- Track 33 : HomeFry_69

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

The start number called the most often in the published annotations is 6, it was called in 37 of the 46 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arti_63, BiPauneto_67, Buggaboo_66, Commandaria_65, Dalilpop_68, Emianna_64, Ennea_71, Flapper_67, Float294_65, Foxboro_65, GRU1_53, GTE5_53, GTE8_53, GrootJr_66, HomeFry_69, HubbaBubba_59, IDyn_63, Jifall16_63, KidneyBean_64, Kurt_64, Lollipop1437_68, Marietta_65, MerCougar_66, NadineRae_64, NatB6_64, NosilaM_66, NovumRegina_64, Outis_65, Patio_66, Pemberton_67, Phomeo_63, RedRaider_71, Skysand_66, StarStruck_65, Sukkupi_65, SuperSulley_66, Tracker_64, Turuncu_67, Wheezy_64, WhoseManz_64, Yndexa_65,

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

-

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

- Dryad_67, Gibson_63, Greenbelt_61, Lizz_63, PHTowN_63, Rooney_63, SassyC_68, ShakeNBake_63, Virizion_68, Wentworth_63, Wilkos_65, Yara_59,

Summary by start number:

Start 6:

- Found in 41 of 53 (77.4%) of genes in pham
- Manual Annotations of this start: 37 of 46
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arti_63 (CR2), BiPauneto_67 (CR4), Buggaboo_66 (CR2), Commandaria_65 (CR2), Dalilpop_68 (CR1), Emianna_64 (CR2), Ennea_71 (CR3), Flapper_67 (CR1), Float294_65 (CR3), Foxboro_65 (CR2), GRU1_53 (CR1), GTE5_53 (CR1), GTE8_53 (CR2), GrootJr_66 (CR2), HomeFry_69 (CR5), HubbaBubba_59 (CR4), IDyn_63 (CR4), Jifall16_63 (CR2), KidneyBean_64 (CR2), Kurt_64 (CR2), Lollipop1437_68 (CR3), Marietta_65 (CR4), MerCougar_66 (CR2), NadineRae_64 (CR4), NatB6_64 (CR2), NosilaM_66 (CR2), NovumRegina_64 (CR2), Outis_65 (CR2), Patio_66 (CR3), Pemberton_67 (CR4), Phomeo_63 (CR2), RedRaider_71 (CR3), Skysand_66 (CR3), StarStruck_65 (CR2), Sukkupi_65 (CR4), SuperSulley_66 (CR2), Tracker_64 (CR2), Turuncu_67 (CR1), Wheezy_64 (CR2), WhoseManz_64 (CR4), Yndexa_65 (CR4),

Start 8:

- Found in 12 of 53 (22.6%) of genes in pham
- Manual Annotations of this start: 9 of 46
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dryad_67 (BN), Gibson_63 (BN), Greenbelt_61 (BN), Lizz_63 (BN), PHTowN_63 (BN), Rooney_63 (BN), SassyC_68 (BN), ShakeNBake_63 (BN), Virizion_68 (BN), Wentworth_63 (BN), Wilkos_65 (BN), Yara_59 (BN),

Summary by clusters:

There are 6 clusters represented in this pham: CR2, CR3, CR1, CR4, CR5, BN,

Info for manual annotations of cluster BN:

•Start number 8 was manually annotated 9 times for cluster BN.

Info for manual annotations of cluster CR1:

•Start number 6 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

•Start number 6 was manually annotated 19 times for cluster CR2.

Info for manual annotations of cluster CR3:

•Start number 6 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:

•Start number 6 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:

•Start number 6 was manually annotated 1 time for cluster CR5.

Gene Information:

Gene: Arti_63 Start: 49955, Stop: 49029, Start Num: 6

Candidate Starts for Arti_63:

(Start: 6 @49955 has 37 MA's), (11, 49862), (16, 49826), (17, 49796), (21, 49712), (22, 49697), (31, 49613), (33, 49589), (40, 49544), (47, 49439), (50, 49394), (53, 49364), (54, 49340), (58, 49319), (64, 49268),

Gene: BiPauneto_67 Start: 49589, Stop: 48723, Start Num: 6

Candidate Starts for BiPauneto_67:

(Start: 6 @49589 has 37 MA's), (11, 49496), (13, 49478), (17, 49430), (21, 49346), (22, 49331), (25, 49286), (44, 49115),

Gene: Buggaboo_66 Start: 51377, Stop: 50454, Start Num: 6

Candidate Starts for Buggaboo_66:

(Start: 6 @51377 has 37 MA's), (7, 51371), (15, 51254), (17, 51206), (21, 51122), (22, 51107), (31, 51023), (32, 51002), (37, 50969), (39, 50957), (53, 50771), (60, 50705), (70, 50570), (71, 50540),

Gene: Commandaria_65 Start: 51201, Stop: 50332, Start Num: 6

Candidate Starts for Commandaria_65:

(Start: 6 @51201 has 37 MA's), (16, 51072), (17, 51042), (22, 50943), (23, 50922), (25, 50898), (58, 50583), (59, 50580), (62, 50547), (65, 50520), (66, 50517), (74, 50373),

Gene: Dalilpop_68 Start: 52146, Stop: 51265, Start Num: 6

Candidate Starts for Dalilpop_68:

(3, 52299), (5, 52215), (Start: 6 @52146 has 37 MA's), (10, 52062), (14, 52032), (22, 51888), (33, 51780), (40, 51735), (42, 51702), (46, 51645), (47, 51630), (53, 51555), (61, 51498),

Gene: Dryad_67 Start: 46108, Stop: 45242, Start Num: 8

Candidate Starts for Dryad_67:

(Start: 8 @46108 has 9 MA's), (9, 46099), (13, 46009), (14, 46006), (19, 45934), (24, 45835), (26, 45826), (28, 45811), (38, 45724), (68, 45391), (72, 45340), (73, 45292),

Gene: Emianna_64 Start: 51187, Stop: 50270, Start Num: 6

Candidate Starts for Emianna_64:

(Start: 6 @51187 has 37 MA's), (11, 51094), (16, 51058), (17, 51028), (21, 50944), (22, 50929), (31, 50845), (33, 50821), (40, 50776), (47, 50671), (50, 50626), (53, 50596), (54, 50572), (57, 50554), (71, 50356),

Gene: Ennea_71 Start: 52225, Stop: 51320, Start Num: 6

Candidate Starts for Ennea_71:

(Start: 6 @52225 has 37 MA's), (10, 52141), (18, 52054), (20, 51985), (22, 51967), (27, 51910), (33, 51859), (35, 51838), (43, 51778), (47, 51709), (50, 51664), (63, 51556),

Gene: Flapper_67 Start: 51337, Stop: 50456, Start Num: 6

Candidate Starts for Flapper_67:

(2, 51505), (5, 51406), (Start: 6 @51337 has 37 MA's), (10, 51253), (14, 51223), (21, 51094), (22, 51079), (33, 50971), (40, 50926), (46, 50836), (47, 50821), (53, 50746), (61, 50689),

Gene: Float294_65 Start: 51940, Stop: 51053, Start Num: 6

Candidate Starts for Float294_65:

(Start: 6 @51940 has 37 MA's), (10, 51856), (20, 51700), (22, 51682), (27, 51625), (33, 51574), (35, 51553), (43, 51493), (47, 51424), (50, 51379), (66, 51244),

Gene: Foxboro_65 Start: 51712, Stop: 50783, Start Num: 6

Candidate Starts for Foxboro_65:

(Start: 6 @51712 has 37 MA's), (11, 51619), (16, 51583), (17, 51553), (21, 51469), (22, 51454), (33, 51346), (40, 51301), (47, 51196), (50, 51151), (53, 51121), (54, 51097), (57, 51079), (71, 50881),

Gene: GRU1_53 Start: 43185, Stop: 42307, Start Num: 6

Candidate Starts for GRU1_53:

(3, 43338), (5, 43254), (Start: 6 @43185 has 37 MA's), (10, 43101), (14, 43071), (22, 42927), (33, 42819), (40, 42774), (42, 42741), (46, 42684), (47, 42669), (53, 42597), (61, 42540),

Gene: GTE5_53 Start: 44217, Stop: 43333, Start Num: 6

Candidate Starts for GTE5_53:

(3, 44370), (5, 44286), (Start: 6 @44217 has 37 MA's), (10, 44133), (14, 44103), (21, 43974), (22, 43959), (33, 43851), (36, 43827), (40, 43806), (46, 43716), (47, 43701), (53, 43626), (61, 43569),

Gene: GTE8_53 Start: 44425, Stop: 43535, Start Num: 6

Candidate Starts for GTE8_53:

(Start: 6 @44425 has 37 MA's), (11, 44332), (16, 44296), (17, 44266), (21, 44182), (22, 44167), (31, 44083), (33, 44059), (40, 44014), (42, 43981), (43, 43978), (44, 43951), (50, 43864), (53, 43834), (54, 43810), (55, 43807), (58, 43777),

Gene: Gibson_63 Start: 45374, Stop: 44490, Start Num: 8

Candidate Starts for Gibson_63:

(1, 45923), (Start: 8 @45374 has 9 MA's), (9, 45365), (12, 45287), (19, 45200), (24, 45101), (28, 45077), (30, 45065), (38, 44990), (67, 44648),

Gene: Greenbelt_61 Start: 41479, Stop: 40616, Start Num: 8

Candidate Starts for Greenbelt_61:

(Start: 8 @41479 has 9 MA's), (24, 41206), (29, 41173), (34, 41116), (38, 41095), (67, 40777),

Gene: GrootJr_66 Start: 50581, Stop: 49652, Start Num: 6

Candidate Starts for GrootJr_66:

(Start: 6 @50581 has 37 MA's), (11, 50488), (16, 50452), (17, 50422), (21, 50338), (22, 50323), (31, 50239), (33, 50215), (40, 50170), (47, 50065), (50, 50020), (53, 49990), (54, 49969),

Gene: HomeFry_69 Start: 49149, Stop: 48265, Start Num: 6

Candidate Starts for HomeFry_69:

(Start: 6 @49149 has 37 MA's), (16, 49020), (17, 48990), (18, 48978), (22, 48891), (32, 48786), (39, 48741), (49, 48618), (69, 48393),

Gene: HubbaBubba_59 Start: 46075, Stop: 45227, Start Num: 6

Candidate Starts for HubbaBubba_59:

(Start: 6 @46075 has 37 MA's), (13, 45964), (17, 45916), (21, 45832), (22, 45817),

Gene: IDyn_63 Start: 47510, Stop: 46650, Start Num: 6

Candidate Starts for IDyn_63:

(Start: 6 @47510 has 37 MA's), (13, 47399), (17, 47351), (21, 47267), (22, 47252),

Gene: Jifall16_63 Start: 50843, Stop: 49926, Start Num: 6

Candidate Starts for Jifall16_63:

(Start: 6 @50843 has 37 MA's), (11, 50750), (16, 50714), (17, 50684), (21, 50600), (22, 50585), (31, 50501), (33, 50477), (40, 50432), (47, 50327), (50, 50282), (53, 50252), (54, 50228), (57, 50210), (71, 50012),

Gene: KidneyBean_64 Start: 50967, Stop: 50050, Start Num: 6

Candidate Starts for KidneyBean_64:

(Start: 6 @50967 has 37 MA's), (11, 50874), (16, 50838), (17, 50808), (21, 50724), (22, 50709), (31, 50625), (33, 50601), (40, 50556), (47, 50451), (50, 50406), (53, 50376), (54, 50352), (57, 50334), (71, 50136),

Gene: Kurt_64 Start: 51202, Stop: 50285, Start Num: 6

Candidate Starts for Kurt_64:

(Start: 6 @51202 has 37 MA's), (11, 51109), (16, 51073), (17, 51043), (21, 50959), (22, 50944), (31, 50860), (33, 50836), (40, 50791), (47, 50686), (50, 50641), (53, 50611), (54, 50587), (57, 50569), (71, 50371),

Gene: Lizz_63 Start: 45200, Stop: 44328, Start Num: 8

Candidate Starts for Lizz_63:

(Start: 8 @45200 has 9 MA's), (9, 45191), (12, 45113), (19, 45026), (24, 44927), (28, 44903), (30, 44891), (38, 44816), (52, 44657), (67, 44486),

Gene: Lollipop1437_68 Start: 51905, Stop: 51018, Start Num: 6

Candidate Starts for Lollipop1437_68:

(Start: 6 @51905 has 37 MA's), (10, 51821), (18, 51734), (20, 51665), (22, 51647), (27, 51590), (33, 51539), (35, 51518), (43, 51458), (47, 51389), (50, 51344), (63, 51236),

Gene: Marietta_65 Start: 47622, Stop: 46780, Start Num: 6

Candidate Starts for Marietta_65:

(Start: 6 @47622 has 37 MA's), (11, 47529), (13, 47511), (17, 47463), (21, 47379), (22, 47364), (44, 47148), (45, 47136),

Gene: MerCougar_66 Start: 51512, Stop: 50613, Start Num: 6

Candidate Starts for MerCougar_66:

(Start: 6 @51512 has 37 MA's), (7, 51506), (15, 51389), (17, 51341), (22, 51242), (31, 51158), (33, 51134), (37, 51104), (39, 51092), (42, 51056), (48, 50972), (53, 50906), (56, 50870), (71, 50699),

Gene: NadineRae_64 Start: 47231, Stop: 46386, Start Num: 6

Candidate Starts for NadineRae_64:

(Start: 6 @47231 has 37 MA's), (11, 47138), (13, 47120), (17, 47072), (21, 46988), (22, 46973), (44, 46757), (45, 46745),

Gene: NatB6_64 Start: 50271, Stop: 49339, Start Num: 6

Candidate Starts for NatB6_64:

(Start: 6 @50271 has 37 MA's), (11, 50178), (16, 50142), (17, 50112), (21, 50028), (22, 50013), (31, 49929), (33, 49905), (40, 49860), (47, 49755), (50, 49710), (54, 49659),

Gene: NosilaM_66 Start: 50826, Stop: 49909, Start Num: 6

Candidate Starts for NosilaM_66:

(Start: 6 @50826 has 37 MA's), (7, 50820), (15, 50703), (17, 50655), (21, 50571), (22, 50556), (31, 50472), (32, 50451), (37, 50418), (39, 50406), (53, 50220), (60, 50154), (70, 50019), (71, 49989),

Gene: NovumRegina_64 Start: 50580, Stop: 49651, Start Num: 6

Candidate Starts for NovumRegina_64:

(Start: 6 @50580 has 37 MA's), (11, 50487), (16, 50451), (17, 50421), (21, 50337), (22, 50322), (31, 50238), (33, 50214), (40, 50169), (47, 50064), (50, 50019), (53, 49989), (54, 49968),

Gene: Outis_65 Start: 51027, Stop: 50125, Start Num: 6

Candidate Starts for Outis_65:

(Start: 6 @51027 has 37 MA's), (7, 51021), (15, 50904), (17, 50856), (22, 50757), (31, 50673), (33, 50649), (37, 50619), (39, 50607), (42, 50571), (48, 50487), (53, 50421), (56, 50385), (71, 50217),

Gene: PHTowN_63 Start: 45198, Stop: 44326, Start Num: 8

Candidate Starts for PHTowN_63:

(Start: 8 @45198 has 9 MA's), (9, 45189), (12, 45111), (19, 45024), (24, 44925), (28, 44901), (30, 44889), (38, 44814), (52, 44655), (67, 44484),

Gene: Patio_66 Start: 50962, Stop: 50075, Start Num: 6

Candidate Starts for Patio_66:

(Start: 6 @50962 has 37 MA's), (10, 50878), (18, 50791), (20, 50722), (22, 50704), (27, 50647), (33, 50596), (35, 50575), (43, 50515), (47, 50446), (50, 50401), (63, 50293),

Gene: Pemberton_67 Start: 47984, Stop: 47130, Start Num: 6

Candidate Starts for Pemberton_67:

(Start: 6 @47984 has 37 MA's), (11, 47891), (13, 47873), (17, 47825), (21, 47741), (22, 47726), (25, 47681), (44, 47510),

Gene: Phomeo_63 Start: 50839, Stop: 49922, Start Num: 6

Candidate Starts for Phomeo_63:

(Start: 6 @50839 has 37 MA's), (11, 50746), (16, 50710), (17, 50680), (21, 50596), (22, 50581), (31, 50497), (33, 50473), (40, 50428), (47, 50323), (50, 50278), (53, 50248), (54, 50224), (57, 50206), (71, 50008),

Gene: RedRaider_71 Start: 53281, Stop: 52397, Start Num: 6

Candidate Starts for RedRaider_71:

(4, 53383), (Start: 6 @53281 has 37 MA's), (10, 53197), (20, 53041), (22, 53023), (27, 52966), (33, 52915), (35, 52894), (43, 52834), (47, 52765), (50, 52720), (63, 52615), (67, 52540),

Gene: Rooney_63 Start: 45350, Stop: 44487, Start Num: 8

Candidate Starts for Rooney_63:

(1, 45899), (Start: 8 @45350 has 9 MA's), (9, 45341), (12, 45263), (19, 45176), (24, 45077), (30, 45041), (38, 44966), (67, 44645),

Gene: SassyC_68 Start: 46281, Stop: 45415, Start Num: 8

Candidate Starts for SassyC_68:

(Start: 8 @46281 has 9 MA's), (9, 46272), (13, 46182), (14, 46179), (19, 46107), (24, 46008), (28, 45984), (30, 45972), (38, 45897), (41, 45861), (67, 45573), (73, 45465),

Gene: ShakeNBake_63 Start: 45225, Stop: 44344, Start Num: 8

Candidate Starts for ShakeNBake_63:

(Start: 8 @45225 has 9 MA's), (9, 45216), (12, 45138), (19, 45051), (24, 44952), (28, 44928), (30, 44916), (38, 44841), (52, 44682), (67, 44502),

Gene: Skysand_66 Start: 51440, Stop: 50556, Start Num: 6

Candidate Starts for Skysand_66:

(Start: 6 @51440 has 37 MA's), (10, 51356), (20, 51200), (22, 51182), (27, 51125), (33, 51074), (35, 51053), (43, 50993), (47, 50924), (50, 50879), (63, 50771),

Gene: StarStruck_65 Start: 51027, Stop: 50125, Start Num: 6

Candidate Starts for StarStruck_65:

(Start: 6 @51027 has 37 MA's), (7, 51021), (15, 50904), (17, 50856), (22, 50757), (31, 50673), (33, 50649), (37, 50619), (39, 50607), (42, 50571), (48, 50487), (53, 50421), (56, 50385), (71, 50217),

Gene: Sukkupi_65 Start: 49462, Stop: 48614, Start Num: 6

Candidate Starts for Sukkupi_65:

(Start: 6 @49462 has 37 MA's), (11, 49369), (13, 49351), (17, 49303), (21, 49219), (22, 49204), (25, 49159), (44, 48988),

Gene: SuperSulley_66 Start: 51377, Stop: 50454, Start Num: 6

Candidate Starts for SuperSulley_66:

(Start: 6 @51377 has 37 MA's), (7, 51371), (15, 51254), (17, 51206), (21, 51122), (22, 51107), (31, 51023), (32, 51002), (37, 50969), (39, 50957), (53, 50771), (60, 50705), (70, 50570), (71, 50540),

Gene: Tracker_64 Start: 50015, Stop: 49095, Start Num: 6

Candidate Starts for Tracker_64:

(Start: 6 @50015 has 37 MA's), (11, 49922), (16, 49886), (17, 49856), (21, 49772), (22, 49757), (31, 49673), (33, 49649), (40, 49604), (47, 49499), (50, 49454), (53, 49424), (54, 49400), (58, 49379),

Gene: Turuncu_67 Start: 51020, Stop: 50145, Start Num: 6

Candidate Starts for Turuncu_67:

(2, 51188), (5, 51089), (Start: 6 @51020 has 37 MA's), (14, 50906), (21, 50777), (22, 50762), (33, 50654), (40, 50609), (46, 50519), (47, 50504), (51, 50444), (53, 50429), (61, 50372),

Gene: Virizion_68 Start: 45570, Stop: 44686, Start Num: 8

Candidate Starts for Virizion_68:

(Start: 8 @45570 has 9 MA's), (9, 45561), (12, 45483), (19, 45396), (24, 45297), (30, 45261), (38, 45186), (67, 44844),

Gene: Wentworth_63 Start: 45342, Stop: 44485, Start Num: 8

Candidate Starts for Wentworth_63:

(Start: 8 @45342 has 9 MA's), (9, 45333), (19, 45168), (24, 45069), (28, 45045), (30, 45033), (38, 44958),

Gene: Wheezy_64 Start: 50229, Stop: 49303, Start Num: 6

Candidate Starts for Wheezy_64:

(Start: 6 @50229 has 37 MA's), (11, 50136), (16, 50100), (17, 50070), (21, 49986), (22, 49971), (31, 49887), (33, 49863), (40, 49818), (47, 49713), (50, 49668), (53, 49638), (54, 49614), (58, 49593),

Gene: WhoseManz_64 Start: 47289, Stop: 46396, Start Num: 6

Candidate Starts for WhoseManz_64:

(Start: 6 @47289 has 37 MA's), (11, 47196), (13, 47178), (17, 47130), (21, 47046), (22, 47031), (44, 46815), (45, 46803),

Gene: Wilkos_65 Start: 45498, Stop: 44635, Start Num: 8

Candidate Starts for Wilkos_65:

(Start: 8 @45498 has 9 MA's), (9, 45489), (14, 45396), (19, 45324), (24, 45225), (28, 45201), (38, 45114),

Gene: Yara_59 Start: 44209, Stop: 43277, Start Num: 8

Candidate Starts for Yara_59:

(Start: 8 @44209 has 9 MA's), (12, 44122), (19, 44035), (24, 43936), (30, 43900), (38, 43825), (67, 43438),

Gene: Yndexa_65 Start: 49462, Stop: 48614, Start Num: 6

Candidate Starts for Yndexa_65:

(Start: 6 @49462 has 37 MA's), (11, 49369), (13, 49351), (17, 49303), (21, 49219), (22, 49204), (25, 49159), (44, 48988),