

Pham 171455



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 171455 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171455 has 64 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Sejanus_52
- Track 2 : DocMcStuffins_49, Piper2020_51, ChickenDinner_52, Awesomesauce_51, TootsiePop_49, Misha28_49
- Track 3 : Frankie_56
- Track 4 : Squirty_47
- Track 5 : Brujita_37, Island3_37, QueenHazel_33, Xula_32
- Track 6 : HC_35, Babsiella_37
- Track 7 : Che9c_51
- Track 8 : Sbash_48
- Track 9 : Jung_34, KilKor_35, Phalm_35, Polkaroo_35, Megiddo_35, StressBall_35, CactusJack_35, Glaske_35, Willsammy_34
- Track 10 : Venti_35, Fishburne_35, FirstPlacePfu_35, Dynamo_35, Phineas_35, Zilizebeth_35, Vidya_35, Kari_35, Bartholomew_34
- Track 11 : Necropolis_35, Jebeks_36, Majeke_35, Langerak_35, Donovan_35, Techage_35, Mangethe_35, Phegasus_35, Arib1_35
- Track 12 : Bogie_37, Pygmy_37, Bunnies_35, Ksquared_35, Malithi_35, Camster_35, Juniormint_35, Shipwreck_37
- Track 13 : Brusacoram_35, GreaseLightnin_35, Thespis_35, Atcoo_35
- Track 14 : StevieRay_35
- Track 15 : Sonah_35, HUHilltop_35
- Track 16 : Nazo_39
- Track 17 : BigNuz_38
- Track 18 : Phayonce_37
- Track 19 : Purky_42
- Track 20 : LilSpotty_51

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

The start number called the most often in the published annotations is 16, it was called in 50 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1_35, Atcoo_35, Babsiella_37, Bartholomew_34, BigNuz_38, Bogie_37, Brujita_37, Brusacoram_35, Bunnies_35, CactusJack_35, Camster_35, Donovan_35,

Dynamo_35, FirstPlacePfu_35, Fishburne_35, Glaske_35, GreaseLightnin_35, HC_35, HUHilltop_35, Island3_37, Jebeks_36, Jung_34, Juniormint_35, Kari_35, KilKor_35, Ksquared_35, Langerak_35, Majeke_35, Malithi_35, Mangethe_35, Megiddo_35, Nazo_39, Necropolis_35, Phalm_35, Phayonce_37, Phegasus_35, Phineas_35, Polkaroo_35, Purky_42, Pygmy_37, QueenHazel_33, Sejanus_52, Shipwreck_37, Sonah_35, StevieRay_35, StressBall_35, Techage_35, Thespis_35, Venti_35, Vidya_35, Willsammy_34, Xula_32, Zilizebeth_35,

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

-

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

- Awesomesauce_51, Che9c_51, ChickenDinner_52, DocMcStuffins_49, Frankie_56, LilSpotty_51, Misha28_49, Piper2020_51, Sbash_48, Squirty_47, TootsiePop_49,

Summary by start number:

Start 14:

- Found in 2 of 64 (3.1%) of genes in pham
- Manual Annotations of this start: 2 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che9c_51 (I2), Sbash_48 (I2),

Start 15:

- Found in 9 of 64 (14.1%) of genes in pham
- Manual Annotations of this start: 7 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Awesomesauce_51 (F1), ChickenDinner_52 (F1), DocMcStuffins_49 (F1), Frankie_56 (F1), LilSpotty_51 (singleton), Misha28_49 (F1), Piper2020_51 (F1), Squirty_47 (F3), TootsiePop_49 (F1),

Start 16:

- Found in 53 of 64 (82.8%) of genes in pham
- Manual Annotations of this start: 50 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1_35 (P1), Atcoo_35 (P1), Babsiella_37 (I1), Bartholomew_34 (P1), BigNuz_38 (P4), Bogie_37 (P1), Brujita_37 (I1), Brusacoram_35 (P1), Bunnies_35 (P1), CactusJack_35 (P1), Camster_35 (P1), Donovan_35 (P1), Dynamo_35 (P1), FirstPlacePfu_35 (P1), Fishburne_35 (P1), Glaske_35 (P1), GreaseLightnin_35 (P1), HC_35 (I1), HUHilltop_35 (P1), Island3_37 (I1), Jebeks_36 (P1), Jung_34 (P1), Juniormint_35 (P1), Kari_35 (P1), KilKor_35 (P1), Ksquared_35 (P1), Langerak_35 (P1), Majeke_35 (P1), Malithi_35 (P1), Mangethe_35 (P1), Megiddo_35 (P1), Nazo_39 (P4), Necropolis_35 (P1), Phalm_35 (P1), Phayonce_37 (P5), Phegasus_35 (P1), Phineas_35 (P1), Polkaroo_35 (P1), Purky_42 (P6), Pygmy_37 (P1), QueenHazel_33 (I1), Sejanus_52 (AD), Shipwreck_37 (P1), Sonah_35 (P1), StevieRay_35 (P1), StressBall_35 (P1), Techage_35 (P1), Thespis_35 (P1), Venti_35 (P1), Vidya_35 (P1), Willsammy_34 (P1), Xula_32 (I1), Zilizebeth_35 (P1),

Summary by clusters:

There are 10 clusters represented in this pham: F1, singleton, P1, P6, AD, P4, P5, I1, I2, F3,

Info for manual annotations of cluster AD:

- Start number 16 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster F1:

- Start number 15 was manually annotated 5 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 15 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster I1:

- Start number 16 was manually annotated 6 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 14 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster P1:

- Start number 16 was manually annotated 39 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 16 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 16 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 16 was manually annotated 1 time for cluster P6.

Gene Information:

Gene: Arib1_35 Start: 28805, Stop: 29104, Start Num: 16

Candidate Starts for Arib1_35:

(Start: 16 @28805 has 50 MA's), (22, 28865), (29, 28910), (35, 28967), (38, 29036), (41, 29093),

Gene: Atcoo_35 Start: 29289, Stop: 29588, Start Num: 16

Candidate Starts for Atcoo_35:

(Start: 16 @29289 has 50 MA's), (17, 29316), (18, 29319), (22, 29349), (29, 29394), (35, 29451), (38, 29520), (39, 29541), (41, 29577),

Gene: Awesomesauce_51 Start: 35718, Stop: 36032, Start Num: 15

Candidate Starts for Awesomesauce_51:

(4, 35583), (7, 35646), (8, 35664), (10, 35685), (11, 35688), (12, 35697), (Start: 15 @35718 has 7 MA's), (18, 35748), (19, 35757), (21, 35778), (23, 35790), (26, 35802), (27, 35823), (30, 35841), (37, 35949),

Gene: Babsiella_37 Start: 29743, Stop: 30042, Start Num: 16

Candidate Starts for Babsiella_37:

(1, 29308), (2, 29404), (Start: 16 @29743 has 50 MA's), (22, 29803), (29, 29848), (35, 29905), (38, 29974), (41, 30031),

Gene: Bartholomew_34 Start: 28802, Stop: 29101, Start Num: 16

Candidate Starts for Bartholomew_34:

(Start: 16 @28802 has 50 MA's), (18, 28832), (22, 28862), (29, 28907), (35, 28964), (38, 29033), (41, 29090),

Gene: BigNuz_38 Start: 30860, Stop: 31159, Start Num: 16

Candidate Starts for BigNuz_38:

(Start: 16 @30860 has 50 MA's), (17, 30887), (18, 30890), (28, 30959), (29, 30965), (33, 31007), (34, 31019), (35, 31022), (37, 31082), (38, 31091),

Gene: Bogie_37 Start: 30585, Stop: 30884, Start Num: 16

Candidate Starts for Bogie_37:

(Start: 16 @30585 has 50 MA's), (18, 30615), (29, 30690), (35, 30747), (38, 30816), (39, 30837), (41, 30873),

Gene: Brujita_37 Start: 30641, Stop: 30940, Start Num: 16

Candidate Starts for Brujita_37:

(1, 30206), (2, 30302), (3, 30425), (Start: 16 @30641 has 50 MA's), (22, 30701), (29, 30746), (35, 30803), (38, 30872), (41, 30929),

Gene: Brusacoram_35 Start: 28795, Stop: 29094, Start Num: 16

Candidate Starts for Brusacoram_35:

(Start: 16 @28795 has 50 MA's), (17, 28822), (18, 28825), (22, 28855), (29, 28900), (35, 28957), (38, 29026), (39, 29047), (41, 29083),

Gene: Bunnies_35 Start: 28816, Stop: 29115, Start Num: 16

Candidate Starts for Bunnies_35:

(Start: 16 @28816 has 50 MA's), (18, 28846), (29, 28921), (35, 28978), (38, 29047), (39, 29068), (41, 29104),

Gene: CactusJack_35 Start: 29056, Stop: 29355, Start Num: 16

Candidate Starts for CactusJack_35:

(Start: 16 @29056 has 50 MA's), (17, 29083), (18, 29086), (22, 29116), (29, 29161), (35, 29218), (38, 29287),

Gene: Camster_35 Start: 28832, Stop: 29131, Start Num: 16

Candidate Starts for Camster_35:

(Start: 16 @28832 has 50 MA's), (18, 28862), (29, 28937), (35, 28994), (38, 29063), (39, 29084), (41, 29120),

Gene: Che9c_51 Start: 40069, Stop: 40380, Start Num: 14

Candidate Starts for Che9c_51:

(9, 40030), (Start: 14 @40069 has 2 MA's), (17, 40102), (24, 40147), (31, 40207), (38, 40312), (41, 40369),

Gene: ChickenDinner_52 Start: 36456, Stop: 36770, Start Num: 15

Candidate Starts for ChickenDinner_52:

(4, 36321), (7, 36384), (8, 36402), (10, 36423), (11, 36426), (12, 36435), (Start: 15 @36456 has 7 MA's), (18, 36486), (19, 36495), (21, 36516), (23, 36528), (26, 36540), (27, 36561), (30, 36579), (37, 36687),

Gene: DocMcStuffins_49 Start: 36456, Stop: 36770, Start Num: 15

Candidate Starts for DocMcStuffins_49:

(4, 36321), (7, 36384), (8, 36402), (10, 36423), (11, 36426), (12, 36435), (Start: 15 @36456 has 7 MA's), (18, 36486), (19, 36495), (21, 36516), (23, 36528), (26, 36540), (27, 36561), (30, 36579), (37, 36687),

Gene: Donovan_35 Start: 28821, Stop: 29120, Start Num: 16

Candidate Starts for Donovan_35:

(Start: 16 @28821 has 50 MA's), (22, 28881), (29, 28926), (35, 28983), (38, 29052), (41, 29109),

Gene: Dynamo_35 Start: 29210, Stop: 29509, Start Num: 16

Candidate Starts for Dynamo_35:

(Start: 16 @29210 has 50 MA's), (18, 29240), (22, 29270), (29, 29315), (35, 29372), (38, 29441), (41, 29498),

Gene: FirstPlacePfu_35 Start: 28834, Stop: 29133, Start Num: 16

Candidate Starts for FirstPlacePfu_35:

(Start: 16 @28834 has 50 MA's), (18, 28864), (22, 28894), (29, 28939), (35, 28996), (38, 29065), (41, 29122),

Gene: Fishburne_35 Start: 28802, Stop: 29101, Start Num: 16

Candidate Starts for Fishburne_35:

(Start: 16 @28802 has 50 MA's), (18, 28832), (22, 28862), (29, 28907), (35, 28964), (38, 29033), (41, 29090),

Gene: Frankie_56 Start: 38493, Stop: 38807, Start Num: 15

Candidate Starts for Frankie_56:

(13, 38475), (Start: 15 @38493 has 7 MA's), (18, 38523), (19, 38532), (21, 38553), (23, 38565), (26, 38577), (27, 38598), (30, 38616), (37, 38724),

Gene: Glaske_35 Start: 29056, Stop: 29355, Start Num: 16

Candidate Starts for Glaske_35:

(Start: 16 @29056 has 50 MA's), (17, 29083), (18, 29086), (22, 29116), (29, 29161), (35, 29218), (38, 29287),

Gene: GreaseLightnin_35 Start: 29042, Stop: 29341, Start Num: 16

Candidate Starts for GreaseLightnin_35:

(Start: 16 @29042 has 50 MA's), (17, 29069), (18, 29072), (22, 29102), (29, 29147), (35, 29204), (38, 29273), (39, 29294), (41, 29330),

Gene: HC_35 Start: 28524, Stop: 28823, Start Num: 16

Candidate Starts for HC_35:

(1, 28089), (2, 28185), (Start: 16 @28524 has 50 MA's), (22, 28584), (29, 28629), (35, 28686), (38, 28755), (41, 28812),

Gene: HUHilltop_35 Start: 28832, Stop: 29131, Start Num: 16

Candidate Starts for HUHilltop_35:

(Start: 16 @28832 has 50 MA's), (18, 28862), (29, 28937), (35, 28994), (38, 29063), (41, 29120),

Gene: Island3_37 Start: 30641, Stop: 30940, Start Num: 16

Candidate Starts for Island3_37:

(1, 30206), (2, 30302), (3, 30425), (Start: 16 @30641 has 50 MA's), (22, 30701), (29, 30746), (35, 30803), (38, 30872), (41, 30929),

Gene: Jebeks_36 Start: 28787, Stop: 29086, Start Num: 16
Candidate Starts for Jebeks_36:
(Start: 16 @28787 has 50 MA's), (22, 28847), (29, 28892), (35, 28949), (38, 29018), (41, 29075),

Gene: Jung_34 Start: 28763, Stop: 29062, Start Num: 16
Candidate Starts for Jung_34:
(Start: 16 @28763 has 50 MA's), (17, 28790), (18, 28793), (22, 28823), (29, 28868), (35, 28925), (38, 28994),

Gene: Juniormint_35 Start: 28838, Stop: 29137, Start Num: 16
Candidate Starts for Juniormint_35:
(Start: 16 @28838 has 50 MA's), (18, 28868), (29, 28943), (35, 29000), (38, 29069), (39, 29090), (41, 29126),

Gene: Kari_35 Start: 28799, Stop: 29098, Start Num: 16
Candidate Starts for Kari_35:
(Start: 16 @28799 has 50 MA's), (18, 28829), (22, 28859), (29, 28904), (35, 28961), (38, 29030), (41, 29087),

Gene: KilKor_35 Start: 29056, Stop: 29355, Start Num: 16
Candidate Starts for KilKor_35:
(Start: 16 @29056 has 50 MA's), (17, 29083), (18, 29086), (22, 29116), (29, 29161), (35, 29218), (38, 29287),

Gene: Ksquared_35 Start: 28816, Stop: 29115, Start Num: 16
Candidate Starts for Ksquared_35:
(Start: 16 @28816 has 50 MA's), (18, 28846), (29, 28921), (35, 28978), (38, 29047), (39, 29068), (41, 29104),

Gene: Langerak_35 Start: 28815, Stop: 29114, Start Num: 16
Candidate Starts for Langerak_35:
(Start: 16 @28815 has 50 MA's), (22, 28875), (29, 28920), (35, 28977), (38, 29046), (41, 29103),

Gene: LilSpotty_51 Start: 34951, Stop: 35265, Start Num: 15
Candidate Starts for LilSpotty_51:
(13, 34933), (Start: 15 @34951 has 7 MA's), (17, 34978), (19, 34990), (21, 35011), (23, 35023), (25, 35029), (27, 35056), (30, 35074), (31, 35086),

Gene: Majeke_35 Start: 28840, Stop: 29139, Start Num: 16
Candidate Starts for Majeke_35:
(Start: 16 @28840 has 50 MA's), (22, 28900), (29, 28945), (35, 29002), (38, 29071), (41, 29128),

Gene: Malithi_35 Start: 28725, Stop: 29024, Start Num: 16
Candidate Starts for Malithi_35:
(Start: 16 @28725 has 50 MA's), (18, 28755), (29, 28830), (35, 28887), (38, 28956), (39, 28977), (41, 29013),

Gene: Mangethe_35 Start: 28840, Stop: 29139, Start Num: 16
Candidate Starts for Mangethe_35:
(Start: 16 @28840 has 50 MA's), (22, 28900), (29, 28945), (35, 29002), (38, 29071), (41, 29128),

Gene: Megiddo_35 Start: 29056, Stop: 29355, Start Num: 16
Candidate Starts for Megiddo_35:

(Start: 16 @29056 has 50 MA's), (17, 29083), (18, 29086), (22, 29116), (29, 29161), (35, 29218), (38, 29287),

Gene: Misha28_49 Start: 35723, Stop: 36037, Start Num: 15

Candidate Starts for Misha28_49:

(4, 35588), (7, 35651), (8, 35669), (10, 35690), (11, 35693), (12, 35702), (Start: 15 @35723 has 7 MA's), (18, 35753), (19, 35762), (21, 35783), (23, 35795), (26, 35807), (27, 35828), (30, 35846), (37, 35954),

Gene: Nazo_39 Start: 30862, Stop: 31161, Start Num: 16

Candidate Starts for Nazo_39:

(Start: 16 @30862 has 50 MA's), (17, 30889), (18, 30892), (28, 30961), (29, 30967), (33, 31009), (35, 31024), (37, 31084), (38, 31093),

Gene: Necropolis_35 Start: 28799, Stop: 29098, Start Num: 16

Candidate Starts for Necropolis_35:

(Start: 16 @28799 has 50 MA's), (22, 28859), (29, 28904), (35, 28961), (38, 29030), (41, 29087),

Gene: Phalm_35 Start: 29056, Stop: 29355, Start Num: 16

Candidate Starts for Phalm_35:

(Start: 16 @29056 has 50 MA's), (17, 29083), (18, 29086), (22, 29116), (29, 29161), (35, 29218), (38, 29287),

Gene: Phayonce_37 Start: 30764, Stop: 31069, Start Num: 16

Candidate Starts for Phayonce_37:

(5, 30656), (Start: 16 @30764 has 50 MA's), (17, 30791), (18, 30794), (31, 30896), (36, 30986), (38, 31001), (41, 31058),

Gene: Phegasus_35 Start: 28807, Stop: 29106, Start Num: 16

Candidate Starts for Phegasus_35:

(Start: 16 @28807 has 50 MA's), (22, 28867), (29, 28912), (35, 28969), (38, 29038), (41, 29095),

Gene: Phineas_35 Start: 29170, Stop: 29469, Start Num: 16

Candidate Starts for Phineas_35:

(Start: 16 @29170 has 50 MA's), (18, 29200), (22, 29230), (29, 29275), (35, 29332), (38, 29401), (41, 29458),

Gene: Piper2020_51 Start: 36439, Stop: 36753, Start Num: 15

Candidate Starts for Piper2020_51:

(4, 36304), (7, 36367), (8, 36385), (10, 36406), (11, 36409), (12, 36418), (Start: 15 @36439 has 7 MA's), (18, 36469), (19, 36478), (21, 36499), (23, 36511), (26, 36523), (27, 36544), (30, 36562), (37, 36670),

Gene: Polkaroo_35 Start: 28813, Stop: 29112, Start Num: 16

Candidate Starts for Polkaroo_35:

(Start: 16 @28813 has 50 MA's), (17, 28840), (18, 28843), (22, 28873), (29, 28918), (35, 28975), (38, 29044),

Gene: Purky_42 Start: 31473, Stop: 31778, Start Num: 16

Candidate Starts for Purky_42:

(13, 31446), (Start: 16 @31473 has 50 MA's), (17, 31500), (24, 31545), (31, 31605), (36, 31695), (41, 31767),

Gene: Pygmy_37 Start: 30641, Stop: 30940, Start Num: 16
Candidate Starts for Pygmy_37:
(Start: 16 @30641 has 50 MA's), (18, 30671), (29, 30746), (35, 30803), (38, 30872), (39, 30893), (41, 30929),

Gene: QueenHazel_33 Start: 28677, Stop: 28976, Start Num: 16
Candidate Starts for QueenHazel_33:
(1, 28242), (2, 28338), (3, 28461), (Start: 16 @28677 has 50 MA's), (22, 28737), (29, 28782), (35, 28839), (38, 28908), (41, 28965),

Gene: Sbash_48 Start: 37773, Stop: 38084, Start Num: 14
Candidate Starts for Sbash_48:
(9, 37734), (13, 37755), (Start: 14 @37773 has 2 MA's), (29, 37884), (34, 37938), (36, 37995), (37, 38001), (40, 38043),

Gene: Sejanus_52 Start: 45964, Stop: 46290, Start Num: 16
Candidate Starts for Sejanus_52:
(6, 45880), (Start: 16 @45964 has 50 MA's), (20, 46015), (31, 46090), (32, 46102), (34, 46123),

Gene: Shipwreck_37 Start: 30616, Stop: 30915, Start Num: 16
Candidate Starts for Shipwreck_37:
(Start: 16 @30616 has 50 MA's), (18, 30646), (29, 30721), (35, 30778), (38, 30847), (39, 30868), (41, 30904),

Gene: Sonah_35 Start: 28788, Stop: 29087, Start Num: 16
Candidate Starts for Sonah_35:
(Start: 16 @28788 has 50 MA's), (18, 28818), (29, 28893), (35, 28950), (38, 29019), (41, 29076),

Gene: Squirty_47 Start: 34608, Stop: 34922, Start Num: 15
Candidate Starts for Squirty_47:
(13, 34590), (Start: 15 @34608 has 7 MA's), (17, 34635), (21, 34668), (24, 34683), (27, 34713), (30, 34731),

Gene: StevieRay_35 Start: 28755, Stop: 29054, Start Num: 16
Candidate Starts for StevieRay_35:
(Start: 16 @28755 has 50 MA's), (17, 28782), (18, 28785), (22, 28815), (29, 28860), (35, 28917), (38, 28986), (39, 29007),

Gene: StressBall_35 Start: 29056, Stop: 29355, Start Num: 16
Candidate Starts for StressBall_35:
(Start: 16 @29056 has 50 MA's), (17, 29083), (18, 29086), (22, 29116), (29, 29161), (35, 29218), (38, 29287),

Gene: Techage_35 Start: 28825, Stop: 29124, Start Num: 16
Candidate Starts for Techage_35:
(Start: 16 @28825 has 50 MA's), (22, 28885), (29, 28930), (35, 28987), (38, 29056), (41, 29113),

Gene: Thespis_35 Start: 28795, Stop: 29094, Start Num: 16
Candidate Starts for Thespis_35:
(Start: 16 @28795 has 50 MA's), (17, 28822), (18, 28825), (22, 28855), (29, 28900), (35, 28957), (38, 29026), (39, 29047), (41, 29083),

Gene: TootsiePop_49 Start: 35723, Stop: 36037, Start Num: 15

Candidate Starts for TootsiePop_49:

(4, 35588), (7, 35651), (8, 35669), (10, 35690), (11, 35693), (12, 35702), (Start: 15 @35723 has 7 MA's), (18, 35753), (19, 35762), (21, 35783), (23, 35795), (26, 35807), (27, 35828), (30, 35846), (37, 35954),

Gene: Venti_35 Start: 28802, Stop: 29101, Start Num: 16

Candidate Starts for Venti_35:

(Start: 16 @28802 has 50 MA's), (18, 28832), (22, 28862), (29, 28907), (35, 28964), (38, 29033), (41, 29090),

Gene: Vidya_35 Start: 28835, Stop: 29134, Start Num: 16

Candidate Starts for Vidya_35:

(Start: 16 @28835 has 50 MA's), (18, 28865), (22, 28895), (29, 28940), (35, 28997), (38, 29066), (41, 29123),

Gene: Willsammy_34 Start: 28539, Stop: 28838, Start Num: 16

Candidate Starts for Willsammy_34:

(Start: 16 @28539 has 50 MA's), (17, 28566), (18, 28569), (22, 28599), (29, 28644), (35, 28701), (38, 28770),

Gene: Xula_32 Start: 28201, Stop: 28500, Start Num: 16

Candidate Starts for Xula_32:

(1, 27766), (2, 27862), (3, 27985), (Start: 16 @28201 has 50 MA's), (22, 28261), (29, 28306), (35, 28363), (38, 28432), (41, 28489),

Gene: Zilizebeth_35 Start: 28834, Stop: 29133, Start Num: 16

Candidate Starts for Zilizebeth_35:

(Start: 16 @28834 has 50 MA's), (18, 28864), (22, 28894), (29, 28939), (35, 28996), (38, 29065), (41, 29122),