

Pham 193992



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 193992 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193992 has 68 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Dori_54
- Track 2 : Sejanus_52
- Track 3 : MulchSalad_50
- Track 4 : DocMcStuffins_50, Piper2020_51, ChickenDinner_52, Awesomesauce_51, TootsiePop_49, Misha28_49
- Track 5 : Frankie_56
- Track 6 : Squirty_47
- Track 7 : Brujita_37, Island3_37, QueenHazel_33, Xula_32
- Track 8 : HC_35, Babsiella_37
- Track 9 : Che9c_51
- Track 10 : Sbash_48
- Track 11 : Jung_34, Phalm_35, KilKor_35, Polkaroo_35, Megiddo_35, StressBall_35, CactusJack_35, Glaske_35, Willsammy_34
- Track 12 : Venti_35, Fishburne_35, FirstPlacePfu_35, Dynamo_35, Phineas_35, Zilizebeth_35, Vidya_35, Kari_35, Bartholomew_34
- Track 13 : Necropolis_35, Jebeks_36, Majeke_35, Langerak_35, Donovan_35, Techage_35, Mangethe_35, Phegasus_35, Arib1_35
- Track 14 : Bogie_37, Pygmy_37, Bunnies_35, Ksquared_35, Malithi_35, Camster_35, Juniormint_35, Shipwreck_37
- Track 15 : Brusacoram_35, GreaseLightnin_35, Thespis_35, Atcoo_35
- Track 16 : StevieRay_35
- Track 17 : Sonah_35, HUHilltop_35
- Track 18 : Tortellini_42
- Track 19 : Xavia_44
- Track 20 : Nazo_39
- Track 21 : BigNuz_38
- Track 22 : Phayonce_37
- Track 23 : Purky_42
- Track 24 : 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 19, it was called in 61 of the 63 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1_35, Atcoo_35, Awesomesauce_51, Babsiella_37, Bartholomew_34, BigNuz_38, Bogie_37, Brujita_37, Brusacoram_35, Bunnies_35, CactusJack_35, Camster_35, ChickenDinner_52, DocMcStuffins_50, Donovan_35, Dori_54, Dynamo_35, FirstPlacePfu_35, Fishburne_35, Frankie_56, Glaske_35, GreaseLightnin_35, HC_35, HUHilltop_35, Island3_37, Jebeks_36, Jung_34, Juniormint_35, Kari_35, KilKor_35, Ksquared_35, Langerak_35, LilSpotty_51, Majeke_35, Malithi_35, Mangethe_35, Megiddo_35, Misha28_49, MulchSalad_50, Nazo_39, Necropolis_35, Phalm_35, Phayonce_37, Phegasus_35, Phineas_35, Piper2020_51, Polkaroo_35, Purky_42, Pygmy_37, QueenHazel_33, Sejanus_52, Shipwreck_37, Sonah_35, Squirty_47, StevieRay_35, StressBall_35, Techage_35, Thespis_35, TootsiePop_49, Tortellini_42, Venti_35, Vidya_35, Willsammy_34, Xavia_44, Xula_32, Zilizebeth_35,

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

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

- Che9c_51, Sbash_48,

Summary by start number:

Start 18:

- Found in 2 of 68 (2.9%) of genes in pham
- Manual Annotations of this start: 2 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che9c_51 (I2), Sbash_48 (I2),

Start 19:

- Found in 66 of 68 (97.1%) of genes in pham
- Manual Annotations of this start: 61 of 63
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1_35 (P1), Atcoo_35 (P1), Awesomesauce_51 (F1), 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), ChickenDinner_52 (F1), DocMcStuffins_50 (F1), Donovan_35 (P1), Dori_54 (AD), Dynamo_35 (P1), FirstPlacePfu_35 (P1), Fishburne_35 (P1), Frankie_56 (F1), 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), LilSpotty_51 (singleton), Majeke_35 (P1), Malithi_35 (P1), Mangethe_35 (P1), Megiddo_35 (P1), Misha28_49 (F1), MulchSalad_50 (F), Nazo_39 (P4), Necropolis_35 (P1), Phalm_35 (P1), Phayonce_37 (P5), Phegasus_35 (P1), Phineas_35 (P1), Piper2020_51 (F1), Polkaroo_35 (P1), Purky_42 (P6), Pygmy_37 (P1), QueenHazel_33 (I1), Sejanus_52 (AD), Shipwreck_37 (P1), Sonah_35 (P1), Squirty_47 (F3), StevieRay_35 (P1), StressBall_35 (P1), Techage_35 (P1), Thespis_35 (P1), TootsiePop_49 (F1), Tortellini_42 (P2), Venti_35 (P1), Vidya_35 (P1), Willsammy_34 (P1), Xavia_44 (P3), Xula_32 (I1), Zilizebeth_35 (P1),

Summary by clusters:

There are 13 clusters represented in this pham: P2, F1, singleton, P1, P6, AD, P4, P5, I1, P3, I2, F3, F,

Info for manual annotations of cluster AD:

- Start number 19 was manually annotated 2 times for cluster AD.

Info for manual annotations of cluster F1:

- Start number 19 was manually annotated 6 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 19 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster I1:

- Start number 19 was manually annotated 6 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 18 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster P1:

- Start number 19 was manually annotated 39 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 19 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 19 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 19 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 19 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 19 was manually annotated 1 time for cluster P6.

Gene Information:

Gene: Arib1_35 Start: 28805, Stop: 29104, Start Num: 19

Candidate Starts for Arib1_35:

(Start: 19 @28805 has 61 MA's), (25, 28865), (32, 28910), (40, 28967), (44, 29036), (47, 29093),

Gene: Atcoo_35 Start: 29289, Stop: 29588, Start Num: 19

Candidate Starts for Atcoo_35:

(Start: 19 @29289 has 61 MA's), (20, 29316), (21, 29319), (25, 29349), (32, 29394), (40, 29451), (44, 29520), (45, 29541), (47, 29577),

Gene: Awesomesauce_51 Start: 35718, Stop: 36032, Start Num: 19

Candidate Starts for Awesomesauce_51:

(8, 35583), (12, 35646), (13, 35664), (14, 35685), (15, 35688), (16, 35697), (Start: 19 @35718 has 61 MA's), (21, 35748), (22, 35757), (24, 35778), (26, 35790), (29, 35802), (30, 35823), (33, 35841), (43, 35949),

Gene: Babsiella_37 Start: 29743, Stop: 30042, Start Num: 19

Candidate Starts for Babsiella_37:

(1, 29308), (2, 29404), (Start: 19 @29743 has 61 MA's), (25, 29803), (32, 29848), (40, 29905), (44, 29974), (47, 30031),

Gene: Bartholomew_34 Start: 28802, Stop: 29101, Start Num: 19

Candidate Starts for Bartholomew_34:

(Start: 19 @28802 has 61 MA's), (21, 28832), (25, 28862), (32, 28907), (40, 28964), (44, 29033), (47, 29090),

Gene: BigNuz_38 Start: 30860, Stop: 31159, Start Num: 19

Candidate Starts for BigNuz_38:

(Start: 19 @30860 has 61 MA's), (20, 30887), (21, 30890), (31, 30959), (32, 30965), (38, 31007), (39, 31019), (40, 31022), (43, 31082), (44, 31091),

Gene: Bogie_37 Start: 30585, Stop: 30884, Start Num: 19

Candidate Starts for Bogie_37:

(Start: 19 @30585 has 61 MA's), (21, 30615), (32, 30690), (40, 30747), (44, 30816), (45, 30837), (47, 30873),

Gene: Brujita_37 Start: 30641, Stop: 30940, Start Num: 19

Candidate Starts for Brujita_37:

(1, 30206), (2, 30302), (5, 30425), (Start: 19 @30641 has 61 MA's), (25, 30701), (32, 30746), (40, 30803), (44, 30872), (47, 30929),

Gene: Brusacoram_35 Start: 28795, Stop: 29094, Start Num: 19

Candidate Starts for Brusacoram_35:

(Start: 19 @28795 has 61 MA's), (20, 28822), (21, 28825), (25, 28855), (32, 28900), (40, 28957), (44, 29026), (45, 29047), (47, 29083),

Gene: Bunnies_35 Start: 28816, Stop: 29115, Start Num: 19

Candidate Starts for Bunnies_35:

(Start: 19 @28816 has 61 MA's), (21, 28846), (32, 28921), (40, 28978), (44, 29047), (45, 29068), (47, 29104),

Gene: CactusJack_35 Start: 29056, Stop: 29355, Start Num: 19

Candidate Starts for CactusJack_35:

(Start: 19 @29056 has 61 MA's), (20, 29083), (21, 29086), (25, 29116), (32, 29161), (40, 29218), (44, 29287),

Gene: Camster_35 Start: 28832, Stop: 29131, Start Num: 19

Candidate Starts for Camster_35:

(Start: 19 @28832 has 61 MA's), (21, 28862), (32, 28937), (40, 28994), (44, 29063), (45, 29084), (47, 29120),

Gene: Che9c_51 Start: 40069, Stop: 40380, Start Num: 18

Candidate Starts for Che9c_51:

(13, 40030), (Start: 18 @40069 has 2 MA's), (20, 40102), (26, 40147), (35, 40207), (44, 40312), (47, 40369),

Gene: ChickenDinner_52 Start: 36456, Stop: 36770, Start Num: 19

Candidate Starts for ChickenDinner_52:

(8, 36321), (12, 36384), (13, 36402), (14, 36423), (15, 36426), (16, 36435), (Start: 19 @36456 has 61 MA's), (21, 36486), (22, 36495), (24, 36516), (26, 36528), (29, 36540), (30, 36561), (33, 36579), (43, 36687),

Gene: DocMcStuffins_50 Start: 36456, Stop: 36770, Start Num: 19

Candidate Starts for DocMcStuffins_50:

(8, 36321), (12, 36384), (13, 36402), (14, 36423), (15, 36426), (16, 36435), (Start: 19 @36456 has 61 MA's), (21, 36486), (22, 36495), (24, 36516), (26, 36528), (29, 36540), (30, 36561), (33, 36579), (43, 36687),

Gene: Donovan_35 Start: 28821, Stop: 29120, Start Num: 19

Candidate Starts for Donovan_35:

(Start: 19 @28821 has 61 MA's), (25, 28881), (32, 28926), (40, 28983), (44, 29052), (47, 29109),

Gene: Dori_54 Start: 46186, Stop: 46512, Start Num: 19

Candidate Starts for Dori_54:

(6, 45976), (7, 45985), (11, 46102), (Start: 19 @46186 has 61 MA's), (33, 46321), (41, 46390), (42, 46423), (46, 46471),

Gene: Dynamo_35 Start: 29210, Stop: 29509, Start Num: 19

Candidate Starts for Dynamo_35:

(Start: 19 @29210 has 61 MA's), (21, 29240), (25, 29270), (32, 29315), (40, 29372), (44, 29441), (47, 29498),

Gene: FirstPlacePfu_35 Start: 28834, Stop: 29133, Start Num: 19

Candidate Starts for FirstPlacePfu_35:

(Start: 19 @28834 has 61 MA's), (21, 28864), (25, 28894), (32, 28939), (40, 28996), (44, 29065), (47, 29122),

Gene: Fishburne_35 Start: 28802, Stop: 29101, Start Num: 19

Candidate Starts for Fishburne_35:

(Start: 19 @28802 has 61 MA's), (21, 28832), (25, 28862), (32, 28907), (40, 28964), (44, 29033), (47, 29090),

Gene: Frankie_56 Start: 38493, Stop: 38807, Start Num: 19

Candidate Starts for Frankie_56:

(17, 38475), (Start: 19 @38493 has 61 MA's), (21, 38523), (22, 38532), (24, 38553), (26, 38565), (29, 38577), (30, 38598), (33, 38616), (43, 38724),

Gene: Glaske_35 Start: 29056, Stop: 29355, Start Num: 19

Candidate Starts for Glaske_35:

(Start: 19 @29056 has 61 MA's), (20, 29083), (21, 29086), (25, 29116), (32, 29161), (40, 29218), (44, 29287),

Gene: GreaseLightnin_35 Start: 29042, Stop: 29341, Start Num: 19

Candidate Starts for GreaseLightnin_35:

(Start: 19 @29042 has 61 MA's), (20, 29069), (21, 29072), (25, 29102), (32, 29147), (40, 29204), (44, 29273), (45, 29294), (47, 29330),

Gene: HC_35 Start: 28524, Stop: 28823, Start Num: 19

Candidate Starts for HC_35:

(1, 28089), (2, 28185), (Start: 19 @28524 has 61 MA's), (25, 28584), (32, 28629), (40, 28686), (44, 28755), (47, 28812),

Gene: HUHilltop_35 Start: 28832, Stop: 29131, Start Num: 19

Candidate Starts for HUHilltop_35:

(Start: 19 @28832 has 61 MA's), (21, 28862), (32, 28937), (40, 28994), (44, 29063), (47, 29120),

Gene: Island3_37 Start: 30641, Stop: 30940, Start Num: 19

Candidate Starts for Island3_37:

(1, 30206), (2, 30302), (5, 30425), (Start: 19 @30641 has 61 MA's), (25, 30701), (32, 30746), (40, 30803), (44, 30872), (47, 30929),

Gene: Jebeks_36 Start: 28787, Stop: 29086, Start Num: 19

Candidate Starts for Jebeks_36:

(Start: 19 @28787 has 61 MA's), (25, 28847), (32, 28892), (40, 28949), (44, 29018), (47, 29075),

Gene: Jung_34 Start: 28763, Stop: 29062, Start Num: 19

Candidate Starts for Jung_34:

(Start: 19 @28763 has 61 MA's), (20, 28790), (21, 28793), (25, 28823), (32, 28868), (40, 28925), (44, 28994),

Gene: Juniormint_35 Start: 28838, Stop: 29137, Start Num: 19

Candidate Starts for Juniormint_35:

(Start: 19 @28838 has 61 MA's), (21, 28868), (32, 28943), (40, 29000), (44, 29069), (45, 29090), (47, 29126),

Gene: Kari_35 Start: 28799, Stop: 29098, Start Num: 19

Candidate Starts for Kari_35:

(Start: 19 @28799 has 61 MA's), (21, 28829), (25, 28859), (32, 28904), (40, 28961), (44, 29030), (47, 29087),

Gene: KilKor_35 Start: 29056, Stop: 29355, Start Num: 19

Candidate Starts for KilKor_35:

(Start: 19 @29056 has 61 MA's), (20, 29083), (21, 29086), (25, 29116), (32, 29161), (40, 29218), (44, 29287),

Gene: Ksquared_35 Start: 28816, Stop: 29115, Start Num: 19

Candidate Starts for Ksquared_35:

(Start: 19 @28816 has 61 MA's), (21, 28846), (32, 28921), (40, 28978), (44, 29047), (45, 29068), (47, 29104),

Gene: Langerak_35 Start: 28815, Stop: 29114, Start Num: 19

Candidate Starts for Langerak_35:

(Start: 19 @28815 has 61 MA's), (25, 28875), (32, 28920), (40, 28977), (44, 29046), (47, 29103),

Gene: LilSpotty_51 Start: 34951, Stop: 35265, Start Num: 19

Candidate Starts for LilSpotty_51:

(17, 34933), (Start: 19 @34951 has 61 MA's), (20, 34978), (22, 34990), (24, 35011), (26, 35023), (28, 35029), (30, 35056), (33, 35074), (35, 35086),

Gene: Majeke_35 Start: 28840, Stop: 29139, Start Num: 19

Candidate Starts for Majeke_35:

(Start: 19 @28840 has 61 MA's), (25, 28900), (32, 28945), (40, 29002), (44, 29071), (47, 29128),

Gene: Malithi_35 Start: 28725, Stop: 29024, Start Num: 19

Candidate Starts for Malithi_35:

(Start: 19 @28725 has 61 MA's), (21, 28755), (32, 28830), (40, 28887), (44, 28956), (45, 28977), (47, 29013),

Gene: Mangethe_35 Start: 28840, Stop: 29139, Start Num: 19

Candidate Starts for Mangethe_35:

(Start: 19 @28840 has 61 MA's), (25, 28900), (32, 28945), (40, 29002), (44, 29071), (47, 29128),

Gene: Megiddo_35 Start: 29056, Stop: 29355, Start Num: 19

Candidate Starts for Megiddo_35:

(Start: 19 @29056 has 61 MA's), (20, 29083), (21, 29086), (25, 29116), (32, 29161), (40, 29218), (44, 29287),

Gene: Misha28_49 Start: 35723, Stop: 36037, Start Num: 19

Candidate Starts for Misha28_49:

(8, 35588), (12, 35651), (13, 35669), (14, 35690), (15, 35693), (16, 35702), (Start: 19 @35723 has 61 MA's), (21, 35753), (22, 35762), (24, 35783), (26, 35795), (29, 35807), (30, 35828), (33, 35846), (43, 35954),

Gene: MulchSalad_50 Start: 34298, Stop: 34651, Start Num: 19

Candidate Starts for MulchSalad_50:

(17, 34280), (Start: 19 @34298 has 61 MA's), (20, 34325), (24, 34358), (27, 34373), (30, 34403), (33, 34421), (48, 34613), (49, 34640),

Gene: Nazo_39 Start: 30862, Stop: 31161, Start Num: 19

Candidate Starts for Nazo_39:

(Start: 19 @30862 has 61 MA's), (20, 30889), (21, 30892), (31, 30961), (32, 30967), (38, 31009), (40, 31024), (43, 31084), (44, 31093),

Gene: Necropolis_35 Start: 28799, Stop: 29098, Start Num: 19

Candidate Starts for Necropolis_35:

(Start: 19 @28799 has 61 MA's), (25, 28859), (32, 28904), (40, 28961), (44, 29030), (47, 29087),

Gene: Phalm_35 Start: 29056, Stop: 29355, Start Num: 19

Candidate Starts for Phalm_35:

(Start: 19 @29056 has 61 MA's), (20, 29083), (21, 29086), (25, 29116), (32, 29161), (40, 29218), (44, 29287),

Gene: Phayonce_37 Start: 30764, Stop: 31069, Start Num: 19

Candidate Starts for Phayonce_37:

(10, 30656), (Start: 19 @30764 has 61 MA's), (20, 30791), (21, 30794), (35, 30896), (42, 30986), (44, 31001), (47, 31058),

Gene: Phegasus_35 Start: 28807, Stop: 29106, Start Num: 19

Candidate Starts for Phegasus_35:

(Start: 19 @28807 has 61 MA's), (25, 28867), (32, 28912), (40, 28969), (44, 29038), (47, 29095),

Gene: Phineas_35 Start: 29170, Stop: 29469, Start Num: 19

Candidate Starts for Phineas_35:

(Start: 19 @29170 has 61 MA's), (21, 29200), (25, 29230), (32, 29275), (40, 29332), (44, 29401), (47, 29458),

Gene: Piper2020_51 Start: 36439, Stop: 36753, Start Num: 19

Candidate Starts for Piper2020_51:

(8, 36304), (12, 36367), (13, 36385), (14, 36406), (15, 36409), (16, 36418), (Start: 19 @36439 has 61 MA's), (21, 36469), (22, 36478), (24, 36499), (26, 36511), (29, 36523), (30, 36544), (33, 36562), (43, 36670),

Gene: Polkaroo_35 Start: 28813, Stop: 29112, Start Num: 19

Candidate Starts for Polkaroo_35:

(Start: 19 @28813 has 61 MA's), (20, 28840), (21, 28843), (25, 28873), (32, 28918), (40, 28975), (44, 29044),

Gene: Purky_42 Start: 31473, Stop: 31778, Start Num: 19

Candidate Starts for Purky_42:

(14, 31446), (Start: 19 @31473 has 61 MA's), (20, 31500), (26, 31545), (35, 31605), (42, 31695), (47, 31767),

Gene: Pygmy_37 Start: 30641, Stop: 30940, Start Num: 19

Candidate Starts for Pygmy_37:

(Start: 19 @30641 has 61 MA's), (21, 30671), (32, 30746), (40, 30803), (44, 30872), (45, 30893), (47, 30929),

Gene: QueenHazel_33 Start: 28677, Stop: 28976, Start Num: 19

Candidate Starts for QueenHazel_33:

(1, 28242), (2, 28338), (5, 28461), (Start: 19 @28677 has 61 MA's), (25, 28737), (32, 28782), (40, 28839), (44, 28908), (47, 28965),

Gene: Sbash_48 Start: 37773, Stop: 38084, Start Num: 18

Candidate Starts for Sbash_48:

(13, 37734), (14, 37755), (Start: 18 @37773 has 2 MA's), (32, 37884), (39, 37938), (42, 37995), (43, 38001), (46, 38043),

Gene: Sejanus_52 Start: 45964, Stop: 46290, Start Num: 19

Candidate Starts for Sejanus_52:

(11, 45880), (Start: 19 @45964 has 61 MA's), (23, 46015), (32, 46090), (34, 46102), (36, 46123),

Gene: Shipwreck_37 Start: 30616, Stop: 30915, Start Num: 19

Candidate Starts for Shipwreck_37:

(Start: 19 @30616 has 61 MA's), (21, 30646), (32, 30721), (40, 30778), (44, 30847), (45, 30868), (47, 30904),

Gene: Sonah_35 Start: 28788, Stop: 29087, Start Num: 19

Candidate Starts for Sonah_35:

(Start: 19 @28788 has 61 MA's), (21, 28818), (32, 28893), (40, 28950), (44, 29019), (47, 29076),

Gene: Squirty_47 Start: 34608, Stop: 34922, Start Num: 19

Candidate Starts for Squirty_47:

(17, 34590), (Start: 19 @34608 has 61 MA's), (20, 34635), (24, 34668), (27, 34683), (30, 34713), (33, 34731),

Gene: StevieRay_35 Start: 28755, Stop: 29054, Start Num: 19

Candidate Starts for StevieRay_35:

(Start: 19 @28755 has 61 MA's), (20, 28782), (21, 28785), (25, 28815), (32, 28860), (40, 28917), (44, 28986), (45, 29007),

Gene: StressBall_35 Start: 29056, Stop: 29355, Start Num: 19

Candidate Starts for StressBall_35:

(Start: 19 @29056 has 61 MA's), (20, 29083), (21, 29086), (25, 29116), (32, 29161), (40, 29218), (44, 29287),

Gene: Techage_35 Start: 28825, Stop: 29124, Start Num: 19

Candidate Starts for Techage_35:

(Start: 19 @28825 has 61 MA's), (25, 28885), (32, 28930), (40, 28987), (44, 29056), (47, 29113),

Gene: Thespis_35 Start: 28795, Stop: 29094, Start Num: 19

Candidate Starts for Thespis_35:

(Start: 19 @28795 has 61 MA's), (20, 28822), (21, 28825), (25, 28855), (32, 28900), (40, 28957), (44, 29026), (45, 29047), (47, 29083),

Gene: TootsiePop_49 Start: 35723, Stop: 36037, Start Num: 19

Candidate Starts for TootsiePop_49:

(8, 35588), (12, 35651), (13, 35669), (14, 35690), (15, 35693), (16, 35702), (Start: 19 @35723 has 61 MA's), (21, 35753), (22, 35762), (24, 35783), (26, 35795), (29, 35807), (30, 35828), (33, 35846), (43, 35954),

Gene: Tortellini_42 Start: 35456, Stop: 35809, Start Num: 19

Candidate Starts for Tortellini_42:

(3, 35216), (4, 35237), (9, 35336), (Start: 19 @35456 has 61 MA's), (22, 35495), (26, 35528), (30, 35561), (33, 35579), (37, 35606), (44, 35696), (49, 35798),

Gene: Venti_35 Start: 28802, Stop: 29101, Start Num: 19

Candidate Starts for Venti_35:

(Start: 19 @28802 has 61 MA's), (21, 28832), (25, 28862), (32, 28907), (40, 28964), (44, 29033), (47, 29090),

Gene: Vidya_35 Start: 28835, Stop: 29134, Start Num: 19

Candidate Starts for Vidya_35:

(Start: 19 @28835 has 61 MA's), (21, 28865), (25, 28895), (32, 28940), (40, 28997), (44, 29066), (47, 29123),

Gene: Willsammy_34 Start: 28539, Stop: 28838, Start Num: 19

Candidate Starts for Willsammy_34:

(Start: 19 @28539 has 61 MA's), (20, 28566), (21, 28569), (25, 28599), (32, 28644), (40, 28701), (44, 28770),

Gene: Xavia_44 Start: 36039, Stop: 36392, Start Num: 19

Candidate Starts for Xavia_44:

(4, 35820), (9, 35919), (Start: 19 @36039 has 61 MA's), (21, 36069), (24, 36099), (26, 36111), (30, 36144), (33, 36162), (35, 36174), (44, 36279), (49, 36381),

Gene: Xula_32 Start: 28201, Stop: 28500, Start Num: 19

Candidate Starts for Xula_32:

(1, 27766), (2, 27862), (5, 27985), (Start: 19 @28201 has 61 MA's), (25, 28261), (32, 28306), (40, 28363), (44, 28432), (47, 28489),

Gene: Zilizebeth_35 Start: 28834, Stop: 29133, Start Num: 19

Candidate Starts for Zilizebeth_35:

(Start: 19 @28834 has 61 MA's), (21, 28864), (25, 28894), (32, 28939), (40, 28996), (44, 29065), (47, 29122),