

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 308587 Report

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

Pham number 308587 has 66 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Abscondus_139, Dusty_138, Geeche_140
- Track 2 : WilliamBoone_138
- Track 3 : OneUp_125
- Track 4 : BrutonGaster_115
- Track 5 : PantheRoc_66
- Track 6 : Wizard_7, Egi03_7, Fireball_7, Sendy_7, Gezellig_7, Phlop_7, PullumCavea_7
- Track 7 : Cardigan_164
- Track 8 : MoontowerMania_81
- Track 9 : Ribeye_81, Bizzy_82, Gustavo_83, Flatwoods_82, Tycho_81, Kroos_82, Tangerine_82, Kwobi_84, Saronaya_83, Derg_74
- Track 10 : Stichling_78
- Track 11 : Jabberwocky_80
- Track 12 : FuegoCuervo_85
- Track 13 : Ailee_79, Shivanishola_83
- Track 14 : Angelicage_80
- Track 15 : Barsten_83
- Track 16 : Affeca_83
- Track 17 : Sitar_81
- Track 18 : Phinally_78, Leonard_78, Phauci_70, Hans_79
- Track 19 : Inspectinfecti_79, Ali17_75
- Track 20 : BigHunkinEater_80, Zitch_81
- Track 21 : Tardus_83
- Track 22 : DoctorFroggo_80, Verity_79, Delrey21_80
- Track 23 : Pumpkiney_79
- Track 24 : Nekros_59, Thibault_54, Rearden_56
- Track 25 : Colossa_82
- Track 26 : RedRaider77_105, JoieB_106, Blackbeetle_106, Gattaca_104, GoongGoong_105, Raela_107, Poise_106, Tesla_101, MosMoris_101
- Track 27 : Marvin_99
- Track 28 : Beelzebub_109, Pringar_101
- Track 29 : VasuNzinga_103
- Track 30 : Ibantik_30

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

The start number called the most often in the published annotations is 20, it was called in 33 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Affeca_83, Ailee_79, Ali17_75, Angelicage_80, Barsten_83, BigHunkinEater_80, Bizzy_82, Colossa_82, Delrey21_80, Derg_74, DoctorFroggo_80, Flatwoods_82, FuegoCuervo_85, Gustavo_83, Hans_79, Inspectinfecti_79, Jabberwocky_80, Kroos_82, Kwobi_84, Leonard_78, MoontowerMania_81, PantheRoc_66, Phauci_70, Phinally_78, Pumpkiney_79, Ribeye_81, Saronaya_83, Shivanishola_83, Sitar_81, Tangerine_82, Tardus_83, Tycho_81, Verity_79, Zitch_81,

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

- Stichling_78,

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

- Abscondus_139, Beelzebub_109, Blackbeetle_106, BrutonGaster_115, Cardigan_164, Dusty_138, Egi03_7, Fireball_7, Gattaca_104, Geeche_140, Gezellig_7, GoongGoong_105, Ibantik_30, JoieB_106, Marvin_99, MosMoris_101, Nekros_59, OneUp_125, Phlop_7, Poise_106, Pringar_101, PullumCavea_7, Raela_107, Rearden_56, RedRaider77_105, Sendy_7, Tesla_101, Thibault_54, VasuNzinga_103, WilliamBoone_138, Wizard_7,

Summary by start number:

Start 20:

- Found in 35 of 66 (53.0%) of genes in pham
- Manual Annotations of this start: 33 of 59
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Affeca_83 (DE1), Ailee_79 (DE1), Ali17_75 (DE2), Angelicage_80 (DE1), Barsten_83 (DE1), BigHunkinEater_80 (DE4), Bizzy_82 (DE1), Colossa_82 (KA), Delrey21_80 (DE4), Derg_74 (DE1), DoctorFroggo_80 (DE4), Flatwoods_82 (DE1), FuegoCuervo_85 (DE1), Gustavo_83 (DE1), Hans_79 (DE2), Inspectinfecti_79 (DE2), Jabberwocky_80 (DE1), Kroos_82 (DE1), Kwobi_84 (DE1), Leonard_78 (DE2), MoontowerMania_81 (DE1), PantheRoc_66 (CZ3), Phauci_70 (DE2), Phinally_78 (DE2), Pumpkiney_79 (DE4), Ribeye_81 (DE1), Saronaya_83 (DE1), Shivanishola_83 (DE1), Sitar_81 (DE1), Tangerine_82 (DE1), Tardus_83 (DE4), Tycho_81 (DE1), Verity_79 (DE4), Zitch_81 (DE4),

Start 21:

- Found in 13 of 66 (19.7%) of genes in pham
- Manual Annotations of this start: 11 of 59
- Called 84.6% of time when present
- Phage (with cluster) where this start called: Beelzebub_109 (S), Blackbeetle_106 (S), Gattaca_104 (S), GoongGoong_105 (S), JoieB_106 (S), MosMoris_101 (S), Poise_106 (S), Pringar_101 (S), Raela_107 (S), RedRaider77_105 (S), Tesla_101 (S),

Start 22:

- Found in 7 of 66 (10.6%) of genes in pham
- Manual Annotations of this start: 6 of 59
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Egi03_7 (DC1), Fireball_7 (DC1), Gezellig_7 (DC1), Phlop_7 (DC1), PullumCavea_7 (DC1), Sendy_7 (DC1), Wizard_7 (DC1),

Start 24:

- Found in 13 of 66 (19.7%) of genes in pham
- Manual Annotations of this start: 2 of 59
- Called 15.4% of time when present
- Phage (with cluster) where this start called: Marvin_99 (S), VasuNzinga_103 (S),

Start 25:

- Found in 11 of 66 (16.7%) 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: Abscondus_139 (CQ1), BrutonGaster_115 (CQ2), Cardigan_164 (DD), Dusty_138 (CQ1), Geeche_140 (CQ1), Ibantik_30 (singleton), Nekros_59 (J), OneUp_125 (CQ2), Rearden_56 (J), Thibault_54 (J), WilliamBoone_138 (CQ1),

Start 26:

- Found in 33 of 66 (50.0%) of genes in pham
- No Manual Annotations of this start.
- Called 3.0% of time when present
- Phage (with cluster) where this start called: Stichling_78 (DE1),

Summary by clusters:

There are 12 clusters represented in this pham: KA, DE1, DE2, J, DE4, singleton, S, CZ3, CQ2, CQ1, DD, DC1,

Info for manual annotations of cluster CQ1:

- Start number 25 was manually annotated 3 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 25 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster CZ3:

- Start number 20 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster DC1:

- Start number 22 was manually annotated 6 times for cluster DC1.

Info for manual annotations of cluster DE1:

- Start number 20 was manually annotated 19 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 20 was manually annotated 6 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 20 was manually annotated 6 times for cluster DE4.

Info for manual annotations of cluster J:

- Start number 25 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster KA:

- Start number 20 was manually annotated 1 time for cluster KA.

Info for manual annotations of cluster S:

- Start number 21 was manually annotated 11 times for cluster S.
- Start number 24 was manually annotated 2 times for cluster S.

Gene Information:

Gene: Abscondus_139 Start: 76350, Stop: 76565, Start Num: 25

Candidate Starts for Abscondus_139:

(Start: 25 @76350 has 7 MA's), (26, 76356), (27, 76365), (29, 76374),

Gene: Affeca_83 Start: 57314, Stop: 57556, Start Num: 20

Candidate Starts for Affeca_83:

(12, 57248), (17, 57296), (Start: 20 @57314 has 33 MA's), (26, 57329), (40, 57431), (42, 57437),

Gene: Ailee_79 Start: 56341, Stop: 56583, Start Num: 20

Candidate Starts for Ailee_79:

(12, 56275), (17, 56323), (Start: 20 @56341 has 33 MA's), (40, 56467), (42, 56473),

Gene: Ali17_75 Start: 54408, Stop: 54647, Start Num: 20

Candidate Starts for Ali17_75:

(Start: 20 @54408 has 33 MA's), (26, 54426), (32, 54456),

Gene: Angelicage_80 Start: 57282, Stop: 57524, Start Num: 20

Candidate Starts for Angelicage_80:

(12, 57216), (17, 57264), (Start: 20 @57282 has 33 MA's), (40, 57408), (42, 57414),

Gene: Barsten_83 Start: 57245, Stop: 57487, Start Num: 20

Candidate Starts for Barsten_83:

(12, 57179), (17, 57227), (Start: 20 @57245 has 33 MA's), (36, 57317), (42, 57377),

Gene: Beelzebub_109 Start: 59235, Stop: 59002, Start Num: 21

Candidate Starts for Beelzebub_109:

(7, 59370), (10, 59328), (Start: 21 @59235 has 11 MA's), (Start: 24 @59229 has 2 MA's), (27, 59205), (28, 59199), (34, 59175), (35, 59169), (39, 59115), (45, 59046),

Gene: BigHunkinEater_80 Start: 55013, Stop: 55252, Start Num: 20

Candidate Starts for BigHunkinEater_80:

(1, 53909), (2, 53927), (3, 54008), (4, 54797), (5, 54890), (8, 54899), (Start: 20 @55013 has 33 MA's), (26, 55031), (32, 55061), (47, 55241),

Gene: Bizzy_82 Start: 55643, Stop: 55882, Start Num: 20

Candidate Starts for Bizzy_82:

(Start: 20 @55643 has 33 MA's), (26, 55658), (38, 55751), (44, 55790),

Gene: Blackbeetle_106 Start: 58732, Stop: 58499, Start Num: 21

Candidate Starts for Blackbeetle_106:

(7, 58867), (10, 58825), (Start: 21 @58732 has 11 MA's), (Start: 24 @58726 has 2 MA's), (27, 58702), (34, 58672), (35, 58666), (39, 58612), (43, 58594), (45, 58543),

Gene: BrutonGaster_115 Start: 71154, Stop: 71369, Start Num: 25

Candidate Starts for BrutonGaster_115:

(18, 71130), (Start: 25 @71154 has 7 MA's), (27, 71169), (34, 71199), (46, 71346),

Gene: Cardigan_164 Start: 86618, Stop: 86845, Start Num: 25

Candidate Starts for Cardigan_164:

(Start: 25 @86618 has 7 MA's), (29, 86642), (35, 86669),

Gene: Colossa_82 Start: 46578, Stop: 46835, Start Num: 20

Candidate Starts for Colossa_82:

(7, 46455), (10, 46497), (11, 46506), (14, 46542), (Start: 20 @46578 has 33 MA's), (26, 46596), (30, 46620), (31, 46623), (37, 46671), (46, 46791),

Gene: Delrey21_80 Start: 57154, Stop: 57393, Start Num: 20

Candidate Starts for Delrey21_80:

(5, 57031), (8, 57040), (Start: 20 @57154 has 33 MA's), (26, 57172), (32, 57202),

Gene: Derg_74 Start: 54265, Stop: 54504, Start Num: 20

Candidate Starts for Derg_74:

(Start: 20 @54265 has 33 MA's), (26, 54280), (38, 54373), (44, 54412),

Gene: DoctorFroggo_80 Start: 57154, Stop: 57393, Start Num: 20

Candidate Starts for DoctorFroggo_80:

(5, 57031), (8, 57040), (Start: 20 @57154 has 33 MA's), (26, 57172), (32, 57202),

Gene: Dusty_138 Start: 76177, Stop: 76392, Start Num: 25

Candidate Starts for Dusty_138:

(Start: 25 @76177 has 7 MA's), (26, 76183), (27, 76192), (29, 76201),

Gene: Egi03_7 Start: 3557, Stop: 3793, Start Num: 22

Candidate Starts for Egi03_7:

(6, 3416), (Start: 22 @3557 has 6 MA's), (31, 3602), (41, 3683), (46, 3770),

Gene: Fireball_7 Start: 3557, Stop: 3793, Start Num: 22

Candidate Starts for Fireball_7:

(6, 3416), (Start: 22 @3557 has 6 MA's), (31, 3602), (41, 3683), (46, 3770),

Gene: Flatwoods_82 Start: 55178, Stop: 55417, Start Num: 20

Candidate Starts for Flatwoods_82:

(Start: 20 @55178 has 33 MA's), (26, 55193), (38, 55286), (44, 55325),

Gene: FuegoCuervo_85 Start: 56784, Stop: 57026, Start Num: 20

Candidate Starts for FuegoCuervo_85:

(12, 56718), (17, 56766), (Start: 20 @56784 has 33 MA's), (26, 56799), (31, 56826), (40, 56901), (42, 56907),

Gene: Gattaca_104 Start: 59145, Stop: 58912, Start Num: 21

Candidate Starts for Gattaca_104:

(7, 59280), (10, 59238), (Start: 21 @59145 has 11 MA's), (Start: 24 @59139 has 2 MA's), (27, 59115), (34, 59085), (35, 59079), (39, 59025), (43, 59007), (45, 58956),

Gene: Geeche_140 Start: 76400, Stop: 76615, Start Num: 25
Candidate Starts for Geeche_140:
(Start: 25 @76400 has 7 MA's), (26, 76406), (27, 76415), (29, 76424),

Gene: Gezellig_7 Start: 3557, Stop: 3793, Start Num: 22
Candidate Starts for Gezellig_7:
(6, 3416), (Start: 22 @3557 has 6 MA's), (31, 3602), (41, 3683), (46, 3770),

Gene: GoongGoong_105 Start: 58950, Stop: 58717, Start Num: 21
Candidate Starts for GoongGoong_105:
(7, 59085), (10, 59043), (Start: 21 @58950 has 11 MA's), (Start: 24 @58944 has 2 MA's), (27, 58920),
(34, 58890), (35, 58884), (39, 58830), (43, 58812), (45, 58761),

Gene: Gustavo_83 Start: 56361, Stop: 56600, Start Num: 20
Candidate Starts for Gustavo_83:
(Start: 20 @56361 has 33 MA's), (26, 56376), (38, 56469), (44, 56508),

Gene: Hans_79 Start: 55335, Stop: 55574, Start Num: 20
Candidate Starts for Hans_79:
(5, 55212), (9, 55257), (Start: 20 @55335 has 33 MA's), (26, 55353), (32, 55383), (47, 55563),

Gene: Ibantik_30 Start: 14992, Stop: 14777, Start Num: 25
Candidate Starts for Ibantik_30:
(19, 15019), (Start: 25 @14992 has 7 MA's), (28, 14971), (35, 14941),

Gene: Inspectinfecti_79 Start: 55312, Stop: 55551, Start Num: 20
Candidate Starts for Inspectinfecti_79:
(Start: 20 @55312 has 33 MA's), (26, 55330), (32, 55360),

Gene: Jabberwocky_80 Start: 57354, Stop: 57596, Start Num: 20
Candidate Starts for Jabberwocky_80:
(12, 57288), (17, 57336), (Start: 20 @57354 has 33 MA's), (40, 57480), (42, 57486),

Gene: JoieB_106 Start: 59319, Stop: 59086, Start Num: 21
Candidate Starts for JoieB_106:
(7, 59454), (10, 59412), (Start: 21 @59319 has 11 MA's), (Start: 24 @59313 has 2 MA's), (27, 59289),
(34, 59259), (35, 59253), (39, 59199), (43, 59181), (45, 59130),

Gene: Kroos_82 Start: 56304, Stop: 56543, Start Num: 20
Candidate Starts for Kroos_82:
(Start: 20 @56304 has 33 MA's), (26, 56319), (38, 56412), (44, 56451),

Gene: Kwobi_84 Start: 56813, Stop: 57052, Start Num: 20
Candidate Starts for Kwobi_84:
(Start: 20 @56813 has 33 MA's), (26, 56828), (38, 56921), (44, 56960),

Gene: Leonard_78 Start: 55375, Stop: 55614, Start Num: 20
Candidate Starts for Leonard_78:
(5, 55252), (9, 55297), (Start: 20 @55375 has 33 MA's), (26, 55393), (32, 55423), (47, 55603),

Gene: Marvin_99 Start: 58798, Stop: 58571, Start Num: 24
Candidate Starts for Marvin_99:

(7, 58939), (10, 58897), (Start: 21 @58804 has 11 MA's), (Start: 24 @58798 has 2 MA's), (27, 58774), (34, 58744), (35, 58738), (39, 58684), (43, 58666), (45, 58615),

Gene: MoontowerMania_81 Start: 57695, Stop: 57937, Start Num: 20

Candidate Starts for MoontowerMania_81:

(12, 57629), (17, 57677), (Start: 20 @57695 has 33 MA's), (26, 57710), (31, 57737), (40, 57812), (42, 57818),

Gene: MosMoris_101 Start: 59151, Stop: 58918, Start Num: 21

Candidate Starts for MosMoris_101:

(7, 59286), (10, 59244), (Start: 21 @59151 has 11 MA's), (Start: 24 @59145 has 2 MA's), (27, 59121), (34, 59091), (35, 59085), (39, 59031), (43, 59013), (45, 58962),

Gene: Nekros_59 Start: 45877, Stop: 45659, Start Num: 25

Candidate Starts for Nekros_59:

(Start: 25 @45877 has 7 MA's), (33, 45835), (34, 45832), (45, 45706),

Gene: OneUp_125 Start: 75136, Stop: 75351, Start Num: 25

Candidate Starts for OneUp_125:

(18, 75103), (Start: 25 @75136 has 7 MA's), (34, 75181), (46, 75328),

Gene: PantheRoc_66 Start: 44024, Stop: 44269, Start Num: 20

Candidate Starts for PantheRoc_66:

(13, 43970), (Start: 20 @44024 has 33 MA's), (26, 44042), (30, 44066),

Gene: Phauci_70 Start: 52412, Stop: 52651, Start Num: 20

Candidate Starts for Phauci_70:

(5, 52289), (9, 52334), (Start: 20 @52412 has 33 MA's), (26, 52430), (32, 52460), (47, 52640),

Gene: Phinally_78 Start: 55372, Stop: 55611, Start Num: 20

Candidate Starts for Phinally_78:

(5, 55249), (9, 55294), (Start: 20 @55372 has 33 MA's), (26, 55390), (32, 55420), (47, 55600),

Gene: Phlop_7 Start: 3557, Stop: 3793, Start Num: 22

Candidate Starts for Phlop_7:

(6, 3416), (Start: 22 @3557 has 6 MA's), (31, 3602), (41, 3683), (46, 3770),

Gene: Poise_106 Start: 58732, Stop: 58499, Start Num: 21

Candidate Starts for Poise_106:

(7, 58867), (10, 58825), (Start: 21 @58732 has 11 MA's), (Start: 24 @58726 has 2 MA's), (27, 58702), (34, 58672), (35, 58666), (39, 58612), (43, 58594), (45, 58543),

Gene: Pringar_101 Start: 58522, Stop: 58289, Start Num: 21

Candidate Starts for Pringar_101:

(7, 58657), (10, 58615), (Start: 21 @58522 has 11 MA's), (Start: 24 @58516 has 2 MA's), (27, 58492), (28, 58486), (34, 58462), (35, 58456), (39, 58402), (45, 58333),

Gene: PullumCavea_7 Start: 3557, Stop: 3793, Start Num: 22

Candidate Starts for PullumCavea_7:

(6, 3416), (Start: 22 @3557 has 6 MA's), (31, 3602), (41, 3683), (46, 3770),

Gene: Pumpkiney_79 Start: 53976, Stop: 54215, Start Num: 20

Candidate Starts for Pumpkiney_79:

(Start: 20 @53976 has 33 MA's), (26, 53994), (32, 54024), (47, 54204),

Gene: Raela_107 Start: 59287, Stop: 59054, Start Num: 21

Candidate Starts for Raela_107:

(7, 59422), (10, 59380), (Start: 21 @59287 has 11 MA's), (Start: 24 @59281 has 2 MA's), (27, 59257), (34, 59227), (35, 59221), (39, 59167), (43, 59149), (45, 59098),

Gene: Rearden_56 Start: 43382, Stop: 43164, Start Num: 25

Candidate Starts for Rearden_56:

(Start: 25 @43382 has 7 MA's), (33, 43340), (34, 43337), (45, 43211),

Gene: RedRaider77_105 Start: 58680, Stop: 58447, Start Num: 21

Candidate Starts for RedRaider77_105:

(7, 58815), (10, 58773), (Start: 21 @58680 has 11 MA's), (Start: 24 @58674 has 2 MA's), (27, 58650), (34, 58620), (35, 58614), (39, 58560), (43, 58542), (45, 58491),

Gene: Ribeye_81 Start: 55504, Stop: 55743, Start Num: 20

Candidate Starts for Ribeye_81:

(Start: 20 @55504 has 33 MA's), (26, 55519), (38, 55612), (44, 55651),

Gene: Saronaya_83 Start: 56361, Stop: 56600, Start Num: 20

Candidate Starts for Saronaya_83:

(Start: 20 @56361 has 33 MA's), (26, 56376), (38, 56469), (44, 56508),

Gene: Sendy_7 Start: 3557, Stop: 3793, Start Num: 22

Candidate Starts for Sendy_7:

(6, 3416), (Start: 22 @3557 has 6 MA's), (31, 3602), (41, 3683), (46, 3770),

Gene: Shivanishola_83 Start: 55640, Stop: 55882, Start Num: 20

Candidate Starts for Shivanishola_83:

(12, 55574), (17, 55622), (Start: 20 @55640 has 33 MA's), (40, 55766), (42, 55772),

Gene: Sitar_81 Start: 57762, Stop: 58004, Start Num: 20

Candidate Starts for Sitar_81:

(12, 57696), (17, 57744), (Start: 20 @57762 has 33 MA's), (42, 57894),

Gene: Stichling_78 Start: 55322, Stop: 55546, Start Num: 26

Candidate Starts for Stichling_78:

(Start: 20 @55307 has 33 MA's), (26, 55322), (38, 55415), (44, 55454),

Gene: Tangerine_82 Start: 55637, Stop: 55876, Start Num: 20

Candidate Starts for Tangerine_82:

(Start: 20 @55637 has 33 MA's), (26, 55652), (38, 55745), (44, 55784),

Gene: Tardus_83 Start: 56466, Stop: 56705, Start Num: 20

Candidate Starts for Tardus_83:

(5, 56343), (8, 56352), (Start: 20 @56466 has 33 MA's), (26, 56484), (32, 56514),

Gene: Tesla_101 Start: 58527, Stop: 58294, Start Num: 21

Candidate Starts for Tesla_101:

(7, 58662), (10, 58620), (Start: 21 @58527 has 11 MA's), (Start: 24 @58521 has 2 MA's), (27, 58497), (34, 58467), (35, 58461), (39, 58407), (43, 58389), (45, 58338),

Gene: Thibault_54 Start: 44229, Stop: 44011, Start Num: 25
Candidate Starts for Thibault_54:
(Start: 25 @44229 has 7 MA's), (33, 44187), (34, 44184), (45, 44058),

Gene: Tycho_81 Start: 55839, Stop: 56078, Start Num: 20
Candidate Starts for Tycho_81:
(Start: 20 @55839 has 33 MA's), (26, 55854), (38, 55947), (44, 55986),

Gene: VasuNzinga_103 Start: 58610, Stop: 58383, Start Num: 24
Candidate Starts for VasuNzinga_103:
(7, 58751), (10, 58709), (Start: 21 @58616 has 11 MA's), (Start: 24 @58610 has 2 MA's), (27, 58586),
(34, 58556), (35, 58550), (39, 58496), (45, 58427),

Gene: Verity_79 Start: 57016, Stop: 57255, Start Num: 20
Candidate Starts for Verity_79:
(5, 56893), (8, 56902), (Start: 20 @57016 has 33 MA's), (26, 57034), (32, 57064),

Gene: WilliamBoone_138 Start: 74263, Stop: 74478, Start Num: 25
Candidate Starts for WilliamBoone_138:
(15, 74206), (16, 74215), (23, 74257), (Start: 25 @74263 has 7 MA's), (26, 74269), (27, 74278),

Gene: Wizard_7 Start: 3557, Stop: 3793, Start Num: 22
Candidate Starts for Wizard_7:
(6, 3416), (Start: 22 @3557 has 6 MA's), (31, 3602), (41, 3683), (46, 3770),

Gene: Zitch_81 Start: 55195, Stop: 55434, Start Num: 20
Candidate Starts for Zitch_81:
(1, 54091), (2, 54109), (3, 54190), (4, 54979), (5, 55072), (8, 55081), (Start: 20 @55195 has 33 MA's),
(26, 55213), (32, 55243), (47, 55423),