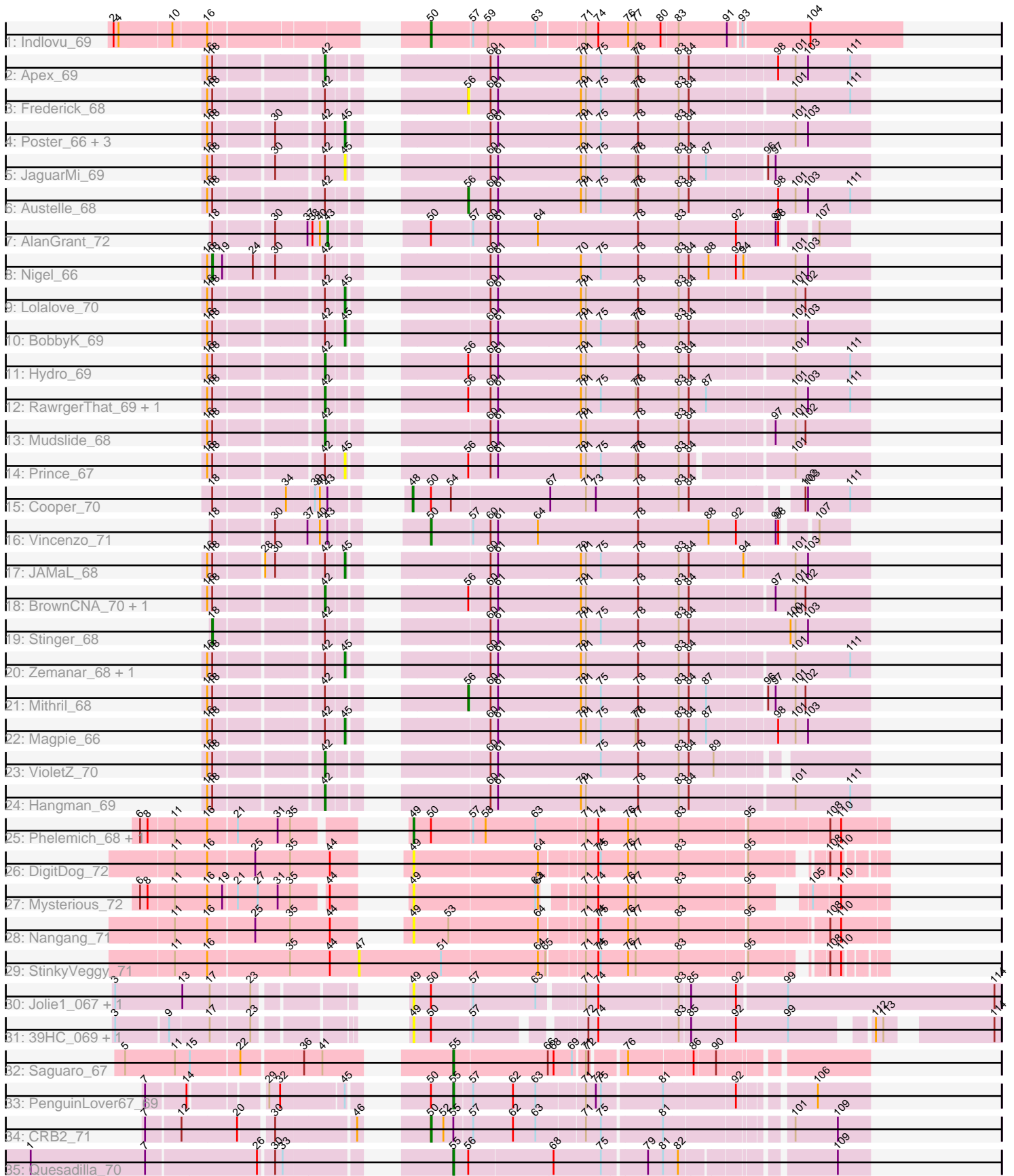


Pham 171580



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 171580 Report

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

Pham number 171580 has 44 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Indlovu_69
- Track 2 : Apex_69
- Track 3 : Frederick_68
- Track 4 : Poster_66, ChrisnMich_68, Ahwei_66, Nanao_67
- Track 5 : JaguarMi_69
- Track 6 : Austelle_68
- Track 7 : AlanGrant_72
- Track 8 : Nigel_66
- Track 9 : Lolalove_70
- Track 10 : BobbyK_69
- Track 11 : Hydro_69
- Track 12 : RawrgerThat_69, Fortunato_69
- Track 13 : Mudslide_68
- Track 14 : Prince_67
- Track 15 : Cooper_70
- Track 16 : Vincenzo_71
- Track 17 : JAMaL_68
- Track 18 : BrownCNA_70, Waleliano_68
- Track 19 : Stinger_68
- Track 20 : Zemanar_68, Heath_68
- Track 21 : Mithril_68
- Track 22 : Magpie_66
- Track 23 : VioletZ_70
- Track 24 : Hangman_69
- Track 25 : Phelemich_68, Reprobate_70
- Track 26 : DigitDog_72
- Track 27 : Mysterious_72
- Track 28 : Nangang_71
- Track 29 : StinkyVeggy_71
- Track 30 : Jolie1_067, Hosp_065
- Track 31 : 39HC_069, 40BC_069
- Track 32 : Saguaro_67
- Track 33 : PenguinLover67_69
- Track 34 : CRB2_71
- Track 35 : Quesadilla_70

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

The start number called the most often in the published annotations is 42, it was called in 9 of the 30 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Apex_69, BrownCNA_70, Fortunato_69, Hangman_69, Hydro_69, Mudslide_68, RawrgerThat_69, VioletZ_70, Waleliano_68,

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

- Ahwei_66, Austelle_68, BobbyK_69, ChrisnMich_68, Frederick_68, Heath_68, JAMaL_68, JaguarMi_69, Lolalove_70, Magpie_66, Mithril_68, Nanao_67, Nigel_66, Poster_66, Prince_67, Stinger_68, Zemanar_68,

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

- 39HC_069, 40BC_069, AlanGrant_72, CRB2_71, Cooper_70, DigitDog_72, Hosp_065, Indlovu_69, Jolie1_067, Mysterious_72, Nangang_71, PenguinLover67_69, Phelemich_68, Quesadilla_70, Reprobate_70, Saguaro_67, StinkyVeggy_71, Vincenzo_71,

Summary by start number:

Start 18:

- Found in 29 of 44 (65.9%) of genes in pham
- Manual Annotations of this start: 2 of 30
- Called 6.9% of time when present
- Phage (with cluster) where this start called: Nigel_66 (B4), Stinger_68 (B4),

Start 42:

- Found in 26 of 44 (59.1%) of genes in pham
- Manual Annotations of this start: 9 of 30
- Called 34.6% of time when present
- Phage (with cluster) where this start called: Apex_69 (B4), BrownCNA_70 (B4), Fortunato_69 (B4), Hangman_69 (B4), Hydro_69 (B4), Mudslide_68 (B4), RawrgerThat_69 (B4), VioletZ_70 (B4), Waleliano_68 (B4),

Start 43:

- Found in 3 of 44 (6.8%) of genes in pham
- Manual Annotations of this start: 1 of 30
- Called 33.3% of time when present
- Phage (with cluster) where this start called: AlanGrant_72 (B4),

Start 45:

- Found in 13 of 44 (29.5%) of genes in pham
- Manual Annotations of this start: 7 of 30
- Called 92.3% of time when present
- Phage (with cluster) where this start called: Ahwei_66 (B4), BobbyK_69 (B4), ChrisnMich_68 (B4), Heath_68 (B4), JAMaL_68 (B4), JaguarMi_69 (B4), Lolalove_70 (B4), Magpie_66 (B4), Nanao_67 (B4), Poster_66 (B4), Prince_67 (B4), Zemanar_68 (B4),

Start 47:

- Found in 1 of 44 (2.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: StinkyVeggy_71 (B5),

Start 48:

- Found in 1 of 44 (2.3%) of genes in pham
- Manual Annotations of this start: 1 of 30
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cooper_70 (B4),

Start 49:

- Found in 9 of 44 (20.5%) of genes in pham
- Manual Annotations of this start: 2 of 30
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC_069 (B6), 40BC_069 (B6), DigitDog_72 (B5), Hosp_065 (B6), Jolie1_067 (B6), Mysterious_72 (B5), Nangang_71 (B5), Phelemich_68 (B5), Reprobate_70 (B5),

Start 50:

- Found in 12 of 44 (27.3%) of genes in pham
- Manual Annotations of this start: 3 of 30
- Called 25.0% of time when present
- Phage (with cluster) where this start called: CRB2_71 (B9), Indlovu_69 (B11), Vincenzo_71 (B4),

Start 55:

- Found in 4 of 44 (9.1%) of genes in pham
- Manual Annotations of this start: 3 of 30
- Called 75.0% of time when present
- Phage (with cluster) where this start called: PenguinLover67_69 (B9), Quesadilla_70 (B9), Saguaro_67 (B7),

Start 56:

- Found in 10 of 44 (22.7%) of genes in pham
- Manual Annotations of this start: 2 of 30
- Called 30.0% of time when present
- Phage (with cluster) where this start called: Austelle_68 (B4), Frederick_68 (B4), Mithril_68 (B4),

Summary by clusters:

There are 6 clusters represented in this pham: B4, B5, B6, B7, B11, B9,

Info for manual annotations of cluster B11:

- Start number 50 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B4:

- Start number 18 was manually annotated 2 times for cluster B4.
- Start number 42 was manually annotated 9 times for cluster B4.
- Start number 43 was manually annotated 1 time for cluster B4.
- Start number 45 was manually annotated 7 times for cluster B4.
- Start number 48 was manually annotated 1 time for cluster B4.

- Start number 50 was manually annotated 1 time for cluster B4.
- Start number 56 was manually annotated 2 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 49 was manually annotated 2 times for cluster B5.

Info for manual annotations of cluster B7:

- Start number 55 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 50 was manually annotated 1 time for cluster B9.
- Start number 55 was manually annotated 2 times for cluster B9.

Gene Information:

Gene: 39HC_069 Start: 58780, Stop: 59388, Start Num: 49

Candidate Starts for 39HC_069:

(3, 58525), (9, 58585), (17, 58630), (23, 58675), (Start: 49 @58780 has 2 MA's), (Start: 50 @58801 has 3 MA's), (57, 58849), (72, 58957), (74, 58969), (83, 59062), (85, 59074), (92, 59125), (99, 59188), (112, 59266), (113, 59275), (114, 59380),

Gene: 40BC_069 Start: 58780, Stop: 59388, Start Num: 49

Candidate Starts for 40BC_069:

(3, 58525), (9, 58585), (17, 58630), (23, 58675), (Start: 49 @58780 has 2 MA's), (Start: 50 @58801 has 3 MA's), (57, 58849), (72, 58957), (74, 58969), (83, 59062), (85, 59074), (92, 59125), (99, 59188), (112, 59266), (113, 59275), (114, 59380),

Gene: Ahwei_66 Start: 59056, Stop: 59619, Start Num: 45

Candidate Starts for Ahwei_66:

(16, 58912), (Start: 18 @58918 has 2 MA's), (30, 58984), (Start: 42 @59035 has 9 MA's), (Start: 45 @59056 has 7 MA's), (60, 59176), (61, 59185), (70, 59284), (71, 59290), (75, 59308), (78, 59353), (83, 59398), (84, 59410), (101, 59530), (103, 59545),

Gene: AlanGrant_72 Start: 61390, Stop: 61929, Start Num: 43

Candidate Starts for AlanGrant_72:

(Start: 18 @61264 has 2 MA's), (30, 61330), (37, 61366), (38, 61372), (40, 61381), (Start: 43 @61390 has 1 MA's), (Start: 50 @61456 has 3 MA's), (57, 61504), (60, 61525), (61, 61534), (64, 61582), (78, 61702), (83, 61747), (92, 61816), (97, 61858), (98, 61861), (107, 61894),

Gene: Apex_69 Start: 60138, Stop: 60722, Start Num: 42

Candidate Starts for Apex_69:

(16, 60015), (Start: 18 @60021 has 2 MA's), (Start: 42 @60138 has 9 MA's), (60, 60279), (61, 60288), (70, 60387), (71, 60393), (75, 60411), (77, 60453), (78, 60456), (83, 60501), (84, 60513), (98, 60612), (101, 60633), (103, 60648), (111, 60699),

Gene: Austelle_68 Start: 60772, Stop: 61239, Start Num: 56

Candidate Starts for Austelle_68:

(16, 60532), (Start: 18 @60538 has 2 MA's), (Start: 42 @60655 has 9 MA's), (Start: 56 @60772 has 2 MA's), (60, 60796), (61, 60805), (70, 60904), (71, 60910), (75, 60928), (77, 60970), (78, 60973), (83, 61018), (84, 61030), (98, 61129), (101, 61150), (103, 61165), (111, 61216),

Gene: BobbyK_69 Start: 59936, Stop: 60499, Start Num: 45

Candidate Starts for BobbyK_69:

(16, 59792), (Start: 18 @59798 has 2 MA's), (Start: 42 @59915 has 9 MA's), (Start: 45 @59936 has 7 MA's), (60, 60056), (61, 60065), (70, 60164), (71, 60170), (75, 60188), (77, 60230), (78, 60233), (83, 60278), (84, 60290), (101, 60410), (103, 60425),

Gene: BrownCNA_70 Start: 60292, Stop: 60873, Start Num: 42

Candidate Starts for BrownCNA_70:

(16, 60169), (Start: 18 @60175 has 2 MA's), (Start: 42 @60292 has 9 MA's), (Start: 56 @60409 has 2 MA's), (60, 60433), (61, 60442), (70, 60541), (71, 60547), (78, 60610), (83, 60655), (84, 60667), (97, 60760), (101, 60784), (102, 60796),

Gene: CRB2_71 Start: 61691, Stop: 62164, Start Num: 50

Candidate Starts for CRB2_71:

(7, 61424), (12, 61463), (20, 61526), (30, 61559), (46, 61649), (Start: 50 @61691 has 3 MA's), (52, 61706), (Start: 55 @61718 has 3 MA's), (57, 61739), (62, 61787), (63, 61814), (71, 61868), (75, 61886), (81, 61949), (101, 62075), (109, 62126),

Gene: ChrisnMich_68 Start: 59038, Stop: 59601, Start Num: 45

Candidate Starts for ChrisnMich_68:

(16, 58894), (Start: 18 @58900 has 2 MA's), (30, 58966), (Start: 42 @59017 has 9 MA's), (Start: 45 @59038 has 7 MA's), (60, 59158), (61, 59167), (70, 59266), (71, 59272), (75, 59290), (78, 59335), (83, 59380), (84, 59392), (101, 59512), (103, 59527),

Gene: Cooper_70 Start: 59759, Stop: 60271, Start Num: 48

Candidate Starts for Cooper_70:

(Start: 18 @59591 has 2 MA's), (34, 59669), (39, 59699), (40, 59705), (Start: 43 @59714 has 1 MA's), (Start: 48 @59759 has 1 MA's), (Start: 50 @59780 has 3 MA's), (54, 59804), (67, 59921), (71, 59963), (73, 59975), (78, 60026), (83, 60071), (84, 60083), (102, 60194), (103, 60197), (111, 60248),

Gene: DigitDog_72 Start: 59928, Stop: 60428, Start Num: 49

Candidate Starts for DigitDog_72:

(11, 59703), (16, 59742), (25, 59796), (35, 59838), (44, 59886), (Start: 49 @59928 has 2 MA's), (64, 60075), (71, 60123), (74, 60138), (75, 60141), (76, 60174), (77, 60183), (83, 60234), (95, 60309), (108, 60378), (110, 60390),

Gene: Fortunato_69 Start: 60068, Stop: 60652, Start Num: 42

Candidate Starts for Fortunato_69:

(16, 59945), (Start: 18 @59951 has 2 MA's), (Start: 42 @60068 has 9 MA's), (Start: 56 @60185 has 2 MA's), (60, 60209), (61, 60218), (70, 60317), (71, 60323), (75, 60341), (77, 60383), (78, 60386), (83, 60431), (84, 60443), (87, 60464), (101, 60563), (103, 60578), (111, 60629),

Gene: Frederick_68 Start: 60132, Stop: 60596, Start Num: 56

Candidate Starts for Frederick_68:

(16, 59892), (Start: 18 @59898 has 2 MA's), (Start: 42 @60015 has 9 MA's), (Start: 56 @60132 has 2 MA's), (60, 60156), (61, 60165), (70, 60264), (71, 60270), (75, 60288), (77, 60330), (78, 60333), (83, 60378), (84, 60390), (101, 60507), (111, 60573),

Gene: Hangman_69 Start: 60214, Stop: 60795, Start Num: 42

Candidate Starts for Hangman_69:

(16, 60091), (Start: 18 @60097 has 2 MA's), (Start: 42 @60214 has 9 MA's), (60, 60355), (61, 60364), (70, 60463), (71, 60469), (78, 60532), (83, 60577), (84, 60589), (101, 60706), (111, 60772),

Gene: Heath_68 Start: 59862, Stop: 60422, Start Num: 45

Candidate Starts for Heath_68:

(16, 59718), (Start: 18 @59724 has 2 MA's), (Start: 42 @59841 has 9 MA's), (Start: 45 @59862 has 7 MA's), (60, 59982), (61, 59991), (70, 60090), (71, 60096), (78, 60159), (83, 60204), (84, 60216), (101, 60333), (111, 60399),

Gene: Hosp_065 Start: 56539, Stop: 57216, Start Num: 49

Candidate Starts for Hosp_065:

(3, 56272), (13, 56353), (17, 56386), (23, 56431), (Start: 49 @56539 has 2 MA's), (Start: 50 @56560 has 3 MA's), (57, 56608), (63, 56683), (71, 56731), (74, 56746), (83, 56839), (85, 56851), (92, 56902), (99, 56959), (114, 57208),

Gene: Hydro_69 Start: 60152, Stop: 60733, Start Num: 42

Candidate Starts for Hydro_69:

(16, 60029), (Start: 18 @60035 has 2 MA's), (Start: 42 @60152 has 9 MA's), (Start: 56 @60269 has 2 MA's), (60, 60293), (61, 60302), (70, 60401), (71, 60407), (78, 60470), (83, 60515), (84, 60527), (101, 60644), (111, 60710),

Gene: Indlovu_69 Start: 59915, Stop: 60454, Start Num: 50

Candidate Starts for Indlovu_69:

(2, 59609), (4, 59615), (10, 59675), (16, 59714), (Start: 50 @59915 has 3 MA's), (57, 59963), (59, 59981), (63, 60038), (71, 60092), (74, 60107), (76, 60143), (77, 60152), (80, 60182), (83, 60200), (91, 60254), (93, 60266), (104, 60344),

Gene: JAMaL_68 Start: 60063, Stop: 60626, Start Num: 45

Candidate Starts for JAMaL_68:

(16, 59919), (Start: 18 @59925 has 2 MA's), (28, 59979), (30, 59991), (Start: 42 @60042 has 9 MA's), (Start: 45 @60063 has 7 MA's), (60, 60183), (61, 60192), (70, 60291), (71, 60297), (75, 60315), (78, 60360), (83, 60405), (84, 60417), (94, 60480), (101, 60537), (103, 60552),

Gene: JaguarMi_69 Start: 61329, Stop: 61889, Start Num: 45

Candidate Starts for JaguarMi_69:

(16, 61182), (Start: 18 @61188 has 2 MA's), (30, 61254), (Start: 42 @61305 has 9 MA's), (Start: 45 @61329 has 7 MA's), (60, 61449), (61, 61458), (70, 61557), (71, 61563), (75, 61581), (77, 61623), (78, 61626), (83, 61671), (84, 61683), (87, 61704), (96, 61767), (97, 61776),

Gene: Jolie1_067 Start: 58667, Stop: 59344, Start Num: 49

Candidate Starts for Jolie1_067:

(3, 58400), (13, 58481), (17, 58514), (23, 58559), (Start: 49 @58667 has 2 MA's), (Start: 50 @58688 has 3 MA's), (57, 58736), (63, 58811), (71, 58859), (74, 58874), (83, 58967), (85, 58979), (92, 59030), (99, 59087), (114, 59336),

Gene: Lolalove_70 Start: 60244, Stop: 60804, Start Num: 45

Candidate Starts for Lolalove_70:

(16, 60100), (Start: 18 @60106 has 2 MA's), (Start: 42 @60223 has 9 MA's), (Start: 45 @60244 has 7 MA's), (60, 60364), (61, 60373), (70, 60472), (71, 60478), (78, 60541), (83, 60586), (84, 60598), (101, 60715), (102, 60727),

Gene: Magpie_66 Start: 59929, Stop: 60492, Start Num: 45

Candidate Starts for Magpie_66:

(16, 59785), (Start: 18 @59791 has 2 MA's), (Start: 42 @59908 has 9 MA's), (Start: 45 @59929 has 7 MA's), (60, 60049), (61, 60058), (70, 60157), (71, 60163), (75, 60181), (77, 60223), (78, 60226), (83,

60271), (84, 60283), (87, 60304), (98, 60382), (101, 60403), (103, 60418),

Gene: Mithril_68 Start: 60339, Stop: 60803, Start Num: 56

Candidate Starts for Mithril_68:

(16, 60099), (Start: 18 @60105 has 2 MA's), (Start: 42 @60222 has 9 MA's), (Start: 56 @60339 has 2 MA's), (60, 60363), (61, 60372), (70, 60471), (71, 60477), (75, 60495), (78, 60540), (83, 60585), (84, 60597), (87, 60618), (96, 60681), (97, 60690), (101, 60714), (102, 60726),

Gene: Mudslide_68 Start: 60243, Stop: 60824, Start Num: 42

Candidate Starts for Mudslide_68:

(16, 60120), (Start: 18 @60126 has 2 MA's), (Start: 42 @60243 has 9 MA's), (60, 60384), (61, 60393), (70, 60492), (71, 60498), (78, 60561), (83, 60606), (84, 60618), (97, 60711), (101, 60735), (102, 60747),

Gene: Mysterious_72 Start: 59836, Stop: 60333, Start Num: 49

Candidate Starts for Mysterious_72:

(6, 59590), (8, 59599), (11, 59629), (16, 59668), (19, 59686), (21, 59701), (27, 59725), (31, 59749), (35, 59764), (44, 59800), (Start: 49 @59836 has 2 MA's), (63, 59980), (64, 59983), (71, 60019), (74, 60034), (76, 60070), (77, 60079), (83, 60130), (95, 60205), (105, 60250), (110, 60280),

Gene: Nanao_67 Start: 59059, Stop: 59622, Start Num: 45

Candidate Starts for Nanao_67:

(16, 58915), (Start: 18 @58921 has 2 MA's), (30, 58987), (Start: 42 @59038 has 9 MA's), (Start: 45 @59059 has 7 MA's), (60, 59179), (61, 59188), (70, 59287), (71, 59293), (75, 59311), (78, 59356), (83, 59401), (84, 59413), (101, 59533), (103, 59548),

Gene: Nangang_71 Start: 59924, Stop: 60454, Start Num: 49

Candidate Starts for Nangang_71:

(11, 59699), (16, 59738), (25, 59792), (35, 59834), (44, 59882), (Start: 49 @59924 has 2 MA's), (53, 59966), (64, 60071), (71, 60119), (74, 60134), (75, 60137), (76, 60170), (77, 60179), (83, 60230), (95, 60305), (108, 60392), (110, 60404),

Gene: Nigel_66 Start: 58741, Stop: 59442, Start Num: 18

Candidate Starts for Nigel_66:

(16, 58735), (Start: 18 @58741 has 2 MA's), (19, 58753), (24, 58786), (30, 58807), (Start: 42 @58858 has 9 MA's), (60, 58996), (61, 59005), (70, 59104), (75, 59128), (78, 59173), (83, 59218), (84, 59230), (88, 59254), (92, 59284), (94, 59293), (101, 59353), (103, 59368),

Gene: PenguinLover67_69 Start: 59425, Stop: 59871, Start Num: 55

Candidate Starts for PenguinLover67_69:

(7, 59146), (14, 59191), (29, 59266), (32, 59278), (Start: 45 @59347 has 7 MA's), (Start: 50 @59398 has 3 MA's), (Start: 55 @59425 has 3 MA's), (57, 59446), (62, 59494), (63, 59521), (71, 59575), (73, 59587), (75, 59593), (81, 59656), (92, 59737), (106, 59809),

Gene: Phelemich_68 Start: 59668, Stop: 60213, Start Num: 49

Candidate Starts for Phelemich_68:

(6, 59422), (8, 59431), (11, 59461), (16, 59500), (21, 59533), (31, 59581), (35, 59596), (Start: 49 @59668 has 2 MA's), (Start: 50 @59689 has 3 MA's), (57, 59737), (58, 59752), (63, 59812), (71, 59869), (74, 59884), (76, 59920), (77, 59929), (83, 59980), (95, 60055), (108, 60148), (110, 60160),

Gene: Poster_66 Start: 59060, Stop: 59623, Start Num: 45

Candidate Starts for Poster_66:

(16, 58916), (Start: 18 @58922 has 2 MA's), (30, 58988), (Start: 42 @59039 has 9 MA's), (Start: 45 @59060 has 7 MA's), (60, 59180), (61, 59189), (70, 59288), (71, 59294), (75, 59312), (78, 59357), (83, 59402), (84, 59414), (101, 59534), (103, 59549),

Gene: Prince_67 Start: 60174, Stop: 60725, Start Num: 45

Candidate Starts for Prince_67:

(16, 60030), (Start: 18 @60036 has 2 MA's), (Start: 42 @60153 has 9 MA's), (Start: 45 @60174 has 7 MA's), (Start: 56 @60270 has 2 MA's), (60, 60294), (61, 60303), (70, 60402), (71, 60408), (75, 60426), (77, 60468), (78, 60471), (83, 60516), (84, 60528), (101, 60636),

Gene: Quesadilla_70 Start: 59603, Stop: 60055, Start Num: 55

Candidate Starts for Quesadilla_70:

(1, 59162), (7, 59300), (26, 59429), (30, 59444), (33, 59453), (Start: 55 @59603 has 3 MA's), (Start: 56 @59621 has 2 MA's), (68, 59720), (75, 59777), (79, 59825), (81, 59843), (82, 59861), (109, 60017),

Gene: RawrgerThat_69 Start: 60046, Stop: 60630, Start Num: 42

Candidate Starts for RawrgerThat_69:

(16, 59923), (Start: 18 @59929 has 2 MA's), (Start: 42 @60046 has 9 MA's), (Start: 56 @60163 has 2 MA's), (60, 60187), (61, 60196), (70, 60295), (71, 60301), (75, 60319), (77, 60361), (78, 60364), (83, 60409), (84, 60421), (87, 60442), (101, 60541), (103, 60556), (111, 60607),

Gene: Reprobate_70 Start: 59673, Stop: 60218, Start Num: 49

Candidate Starts for Reprobate_70:

(6, 59427), (8, 59436), (11, 59466), (16, 59505), (21, 59538), (31, 59586), (35, 59601), (Start: 49 @59673 has 2 MA's), (Start: 50 @59694 has 3 MA's), (57, 59742), (58, 59757), (63, 59817), (71, 59874), (74, 59889), (76, 59925), (77, 59934), (83, 59985), (95, 60060), (108, 60153), (110, 60165),

Gene: Saguaro_67 Start: 58827, Stop: 59270, Start Num: 55

Candidate Starts for Saguaro_67:

(5, 58491), (11, 58551), (15, 58569), (22, 58626), (36, 58695), (41, 58716), (Start: 55 @58827 has 3 MA's), (66, 58938), (68, 58944), (69, 58965), (71, 58977), (72, 58980), (76, 59016), (86, 59088), (90, 59112),

Gene: Stinger_68 Start: 58864, Stop: 59568, Start Num: 18

Candidate Starts for Stinger_68:

(Start: 18 @58864 has 2 MA's), (Start: 42 @58981 has 9 MA's), (60, 59122), (61, 59131), (70, 59230), (71, 59236), (75, 59254), (78, 59299), (83, 59344), (84, 59356), (100, 59473), (101, 59479), (103, 59494),

Gene: StinkyVeggy_71 Start: 59737, Stop: 60303, Start Num: 47

Candidate Starts for StinkyVeggy_71:

(11, 59521), (16, 59560), (35, 59656), (44, 59704), (47, 59737), (51, 59836), (64, 59950), (65, 59959), (71, 59998), (74, 60013), (75, 60016), (76, 60049), (77, 60058), (83, 60109), (95, 60184), (108, 60253), (110, 60265),

Gene: Vincenzo_71 Start: 61486, Stop: 61959, Start Num: 50

Candidate Starts for Vincenzo_71:

(Start: 18 @61294 has 2 MA's), (30, 61360), (37, 61396), (40, 61411), (Start: 43 @61420 has 1 MA's), (Start: 50 @61486 has 3 MA's), (57, 61534), (60, 61555), (61, 61564), (64, 61612), (78, 61732), (88, 61813), (92, 61846), (97, 61888), (98, 61891), (107, 61924),

Gene: VioletZ_70 Start: 60156, Stop: 60719, Start Num: 42

Candidate Starts for VioletZ_70:

(16, 60033), (Start: 18 @60039 has 2 MA's), (Start: 42 @60156 has 9 MA's), (60, 60297), (61, 60306), (75, 60429), (78, 60474), (83, 60519), (84, 60531), (89, 60561),

Gene: Waleliano_68 Start: 60045, Stop: 60626, Start Num: 42

Candidate Starts for Waleliano_68:

(16, 59922), (Start: 18 @59928 has 2 MA's), (Start: 42 @60045 has 9 MA's), (Start: 56 @60162 has 2 MA's), (60, 60186), (61, 60195), (70, 60294), (71, 60300), (78, 60363), (83, 60408), (84, 60420), (97, 60513), (101, 60537), (102, 60549),

Gene: Zemanar_68 Start: 59964, Stop: 60524, Start Num: 45

Candidate Starts for Zemanar_68:

(16, 59820), (Start: 18 @59826 has 2 MA's), (Start: 42 @59943 has 9 MA's), (Start: 45 @59964 has 7 MA's), (60, 60084), (61, 60093), (70, 60192), (71, 60198), (78, 60261), (83, 60306), (84, 60318), (101, 60435), (111, 60501),