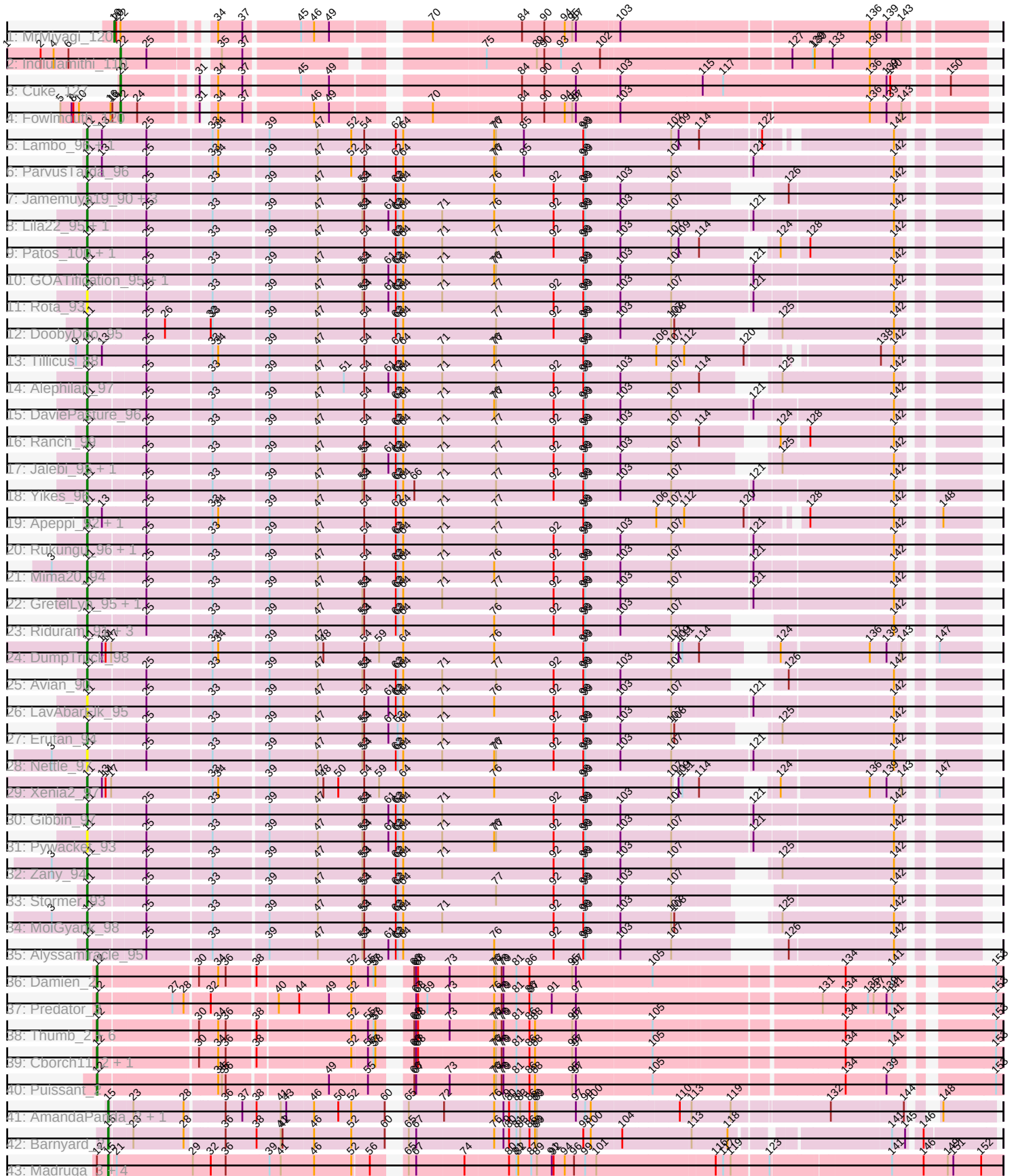




Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 330819 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330819 has 69 members, 9 are drafts.

Phages represented in each track:

- Track 1 : MrMiyagi_120
- Track 2 : Indlulamithi_110
- Track 3 : Cuke_127
- Track 4 : Fowlmouth_120
- Track 5 : Lambo_96, Wojtek_88
- Track 6 : ParvusTarda_96
- Track 7 : Jamemuya19_90, Genamy16_95, Astralis_92, RazorC_92
- Track 8 : Lila22_95, BirthdayBoy_97
- Track 9 : Patos_100, NorManre_100
- Track 10 : GOATification_95, Fulcrum_95
- Track 11 : Rota_93
- Track 12 : DoobyDoo_95
- Track 13 : Tillicus_88
- Track 14 : Alephilan_97
- Track 15 : DaviePasture_96
- Track 16 : Ranch_99
- Track 17 : Jalebi_95, Sampudon_97
- Track 18 : Yikes_96
- Track 19 : Apeppi_92, LuckyLeo_94
- Track 20 : Rukungu_96, OtterstedtS21_96
- Track 21 : Mima20_94
- Track 22 : GretelLyn_95, Sadboi_95
- Track 23 : Riduram_91, Rumi_93, NovaSharks_94, Charminar_91
- Track 24 : DumpTruck_98
- Track 25 : Avian_90
- Track 26 : LavAbarElk_95
- Track 27 : Erutan_94
- Track 28 : Nettle_97
- Track 29 : Xenia2_97
- Track 30 : Gibbin_97
- Track 31 : Pywacket_93
- Track 32 : Zany_94
- Track 33 : Stormer_93
- Track 34 : MoiGyank_98
- Track 35 : Alyssamiracle_95
- Track 36 : Damien_2
- Track 37 : Predator_3

- Track 38 : Thumb_2, Beckerton_2, Phreeze_2, Oaker_2, Megatron06_2, BobtimousPrime_2, Konstantine_2
- Track 39 : Cborch11_2, Nish23_2
- Track 40 : Puissant_2
- Track 41 : AmandaPanda_2, DrLupo_2
- Track 42 : Barnyard_2
- Track 43 : Madruga_3, Patience_3, Demikore_3, Labelle_3, SuperSonics_3

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

The start number called the most often in the published annotations is 11, it was called in 40 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alephilan_97, Alyssamiracle_95, Apeppi_92, Astralis_92, Avian_90, BirthdayBoy_97, Charminar_91, DaviePasture_96, DoobyDoo_95, DumpTruck_98, Erutan_94, Fulcrum_95, GOATification_95, Genamy16_95, Gibbin_97, GretellLyn_95, Jalebi_95, Jamemuya19_90, Lambo_96, LavAbarElk_95, Lila22_95, LuckyLeo_94, Mima20_94, MoiGyank_98, Nettle_97, NorManre_100, NovaSharks_94, OtterstedtS21_96, ParvusTarda_96, Patos_100, Pywacket_93, Ranch_99, RazorC_92, Riduram_91, Rota_93, Rukungu_96, Rumi_93, Sadboi_95, Sampudon_97, Stormer_93, Tillicus_88, Wojtek_88, Xenia2_97, Yikes_96, Zany_94,

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

•

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

- AmandaPanda_2, Barnyard_2, Beckerton_2, BobtimousPrime_2, Cborch11_2, Cuke_127, Damien_2, Demikore_3, DrLupo_2, Fowlmouth_120, Indlulamithi_110, Konstantine_2, Labelle_3, Madruga_3, Megatron06_2, MrMiyagi_120, Nish23_2, Oaker_2, Patience_3, Phreeze_2, Predator_3, Puissant_2, SuperSonics_3, Thumb_2,

Summary by start number:

Start 11:

- Found in 45 of 69 (65.2%) of genes in pham
- Manual Annotations of this start: 40 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alephilan_97 (DV), Alyssamiracle_95 (DV), Apeppi_92 (DV), Astralis_92 (DV), Avian_90 (DV), BirthdayBoy_97 (DV), Charminar_91 (DV), DaviePasture_96 (DV), DoobyDoo_95 (DV), DumpTruck_98 (DV), Erutan_94 (DV), Fulcrum_95 (DV), GOATification_95 (DV), Genamy16_95 (DV), Gibbin_97 (DV), GretellLyn_95 (DV), Jalebi_95 (DV), Jamemuya19_90 (DV), Lambo_96 (DV), LavAbarElk_95 (DV), Lila22_95 (DV), LuckyLeo_94 (DV), Mima20_94 (DV), MoiGyank_98 (DV), Nettle_97 (DV), NorManre_100 (DV), NovaSharks_94 (DV), OtterstedtS21_96 (DV), ParvusTarda_96 (DV), Patos_100 (DV), Pywacket_93 (DV), Ranch_99 (DV), RazorC_92 (DV), Riduram_91 (DV), Rota_93 (DV), Rukungu_96 (DV), Rumi_93 (DV), Sadboi_95 (DV), Sampudon_97 (DV), Stormer_93 (DV), Tillicus_88 (DV), Wojtek_88 (DV), Xenia2_97 (DV), Yikes_96

(DV), Zany_94 (DV),

Start 12:

- Found in 17 of 69 (24.6%) of genes in pham
- Manual Annotations of this start: 11 of 60
- Called 70.6% of time when present
- Phage (with cluster) where this start called: Beckerton_2 (H1), BobtimousPrime_2 (H1), Cborch11_2 (H1), Damien_2 (H1), Konstantine_2 (H1), Megatron06_2 (H1), Nish23_2 (H1), Oaker_2 (H1), Phreeze_2 (H1), Predator_3 (H1), Puissant_2 (H1), Thumb_2 (H1),

Start 15:

- Found in 8 of 69 (11.6%) of genes in pham
- Manual Annotations of this start: 5 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AmandaPanda_2 (H2), Barnyard_2 (H2), Demikore_3 (U), DrLupo_2 (H2), Labelle_3 (U), Madruga_3 (U), Patience_3 (U), SuperSonics_3 (U),

Start 19:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MrMiyagi_120 (AC),

Start 22:

- Found in 4 of 69 (5.8%) of genes in pham
- Manual Annotations of this start: 3 of 60
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Cuke_127 (AC), Fowlmouth_120 (AC), Indlulamithi_110 (AC),

Summary by clusters:

There are 5 clusters represented in this pham: DV, H2, AC, H1, U,

Info for manual annotations of cluster AC:

- Start number 19 was manually annotated 1 time for cluster AC.
- Start number 22 was manually annotated 3 times for cluster AC.

Info for manual annotations of cluster DV:

- Start number 11 was manually annotated 40 times for cluster DV.

Info for manual annotations of cluster H1:

- Start number 12 was manually annotated 11 times for cluster H1.

Info for manual annotations of cluster H2:

- Start number 15 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster U:

- Start number 15 was manually annotated 3 times for cluster U.

Gene Information:

Gene: Alephilan_97 Start: 65669, Stop: 66970, Start Num: 11

Candidate Starts for Alephilan_97:

(Start: 11 @65669 has 40 MA's), (25, 65756), (33, 65855), (39, 65939), (47, 66014), (51, 66056), (54, 66089), (61, 66128), (62, 66140), (63, 66143), (64, 66152), (71, 66215), (77, 66302), (92, 66395), (98, 66443), (99, 66446), (103, 66497), (107, 66578), (114, 66617), (125, 66692), (142, 66866),

Gene: Alyssamiracle_95 Start: 63627, Stop: 64913, Start Num: 11

Candidate Starts for Alyssamiracle_95:

(Start: 11 @63627 has 40 MA's), (25, 63714), (33, 63813), (39, 63897), (47, 63972), (53, 64044), (54, 64047), (61, 64086), (62, 64098), (63, 64101), (64, 64110), (76, 64257), (92, 64353), (98, 64401), (99, 64404), (103, 64455), (107, 64536), (126, 64647), (142, 64809),

Gene: AmandaPanda_2 Start: 334, Stop: 1617, Start Num: 15

Candidate Starts for AmandaPanda_2:

(Start: 15 @334 has 5 MA's), (23, 367), (28, 448), (36, 505), (37, 532), (38, 553), (41, 592), (43, 601), (46, 643), (50, 682), (52, 703), (60, 757), (65, 766), (72, 820), (76, 898), (79, 913), (80, 922), (81, 934), (83, 940), (86, 955), (88, 964), (89, 967), (97, 1030), (99, 1045), (100, 1054), (110, 1183), (113, 1198), (119, 1258), (132, 1402), (144, 1513), (148, 1534),

Gene: Apeppi_92 Start: 65297, Stop: 66625, Start Num: 11

Candidate Starts for Apeppi_92:

(Start: 11 @65297 has 40 MA's), (13, 65321), (25, 65390), (33, 65489), (34, 65498), (39, 65573), (47, 65648), (54, 65723), (62, 65771), (64, 65783), (71, 65846), (77, 65933), (98, 66074), (99, 66077), (106, 66185), (107, 66209), (112, 66227), (120, 66320), (128, 66389), (142, 66521), (148, 66566),

Gene: Astralis_92 Start: 63154, Stop: 64440, Start Num: 11

Candidate Starts for Astralis_92:

(Start: 11 @63154 has 40 MA's), (25, 63241), (33, 63340), (39, 63424), (47, 63499), (53, 63571), (54, 63574), (62, 63625), (63, 63628), (64, 63637), (76, 63784), (92, 63880), (98, 63928), (99, 63931), (103, 63982), (107, 64063), (126, 64174), (142, 64336),

Gene: Avian_90 Start: 63389, Stop: 64675, Start Num: 11

Candidate Starts for Avian_90:

(Start: 11 @63389 has 40 MA's), (25, 63476), (33, 63575), (39, 63659), (47, 63734), (53, 63806), (54, 63809), (62, 63860), (63, 63863), (64, 63872), (71, 63935), (77, 64022), (92, 64115), (98, 64163), (99, 64166), (103, 64217), (107, 64298), (126, 64409), (142, 64571),

Gene: Barnyard_2 Start: 356, Stop: 1642, Start Num: 15

Candidate Starts for Barnyard_2:

(Start: 15 @356 has 5 MA's), (23, 389), (28, 470), (36, 527), (38, 575), (41, 614), (42, 617), (46, 665), (52, 725), (60, 779), (65, 788), (67, 800), (76, 920), (79, 935), (80, 944), (81, 956), (83, 962), (86, 977), (88, 986), (89, 989), (98, 1064), (100, 1076), (104, 1124), (113, 1226), (118, 1280), (141, 1493), (145, 1514), (146, 1532),

Gene: Beckerton_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Beckerton_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (73, 856), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: BirthdayBoy_97 Start: 65681, Stop: 67027, Start Num: 11

Candidate Starts for BirthdayBoy_97:

(Start: 11 @65681 has 40 MA's), (25, 65768), (33, 65867), (39, 65951), (47, 66026), (53, 66098), (54, 66101), (61, 66140), (62, 66152), (63, 66155), (64, 66164), (71, 66227), (76, 66311), (92, 66407), (98, 66455), (99, 66458), (103, 66509), (107, 66590), (121, 66710), (142, 66923),

Gene: BobtimousPrime_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for BobtimousPrime_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (73, 856), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: Cborch11_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Cborch11_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: Charminar_91 Start: 62946, Stop: 64232, Start Num: 11

Candidate Starts for Charminar_91:

(Start: 11 @62946 has 40 MA's), (25, 63033), (33, 63132), (39, 63216), (47, 63291), (53, 63363), (54, 63366), (62, 63417), (63, 63420), (64, 63429), (76, 63576), (92, 63672), (98, 63720), (99, 63723), (103, 63774), (107, 63855), (142, 64128),

Gene: Cuke_127 Start: 67055, Stop: 68323, Start Num: 22

Candidate Starts for Cuke_127:

(Start: 22 @67055 has 3 MA's), (31, 67160), (34, 67172), (37, 67211), (45, 67295), (49, 67337), (84, 67604), (90, 67640), (97, 67691), (103, 67757), (115, 67886), (117, 67919), (136, 68153), (139, 68180), (140, 68186), (150, 68264),

Gene: Damien_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Damien_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (73, 856), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: DaviePasture_96 Start: 65655, Stop: 67001, Start Num: 11

Candidate Starts for DaviePasture_96:

(Start: 11 @65655 has 40 MA's), (25, 65742), (33, 65841), (39, 65925), (47, 66000), (54, 66075), (62, 66126), (63, 66129), (64, 66138), (71, 66201), (76, 66285), (77, 66288), (92, 66381), (98, 66429), (99, 66432), (103, 66483), (107, 66564), (121, 66684), (142, 66897),

Gene: Demikore_3 Start: 668, Stop: 2029, Start Num: 15

Candidate Starts for Demikore_3:

(Start: 12 @650 has 11 MA's), (Start: 15 @668 has 5 MA's), (21, 677), (29, 800), (32, 827), (36, 851), (39, 920), (41, 938), (46, 992), (52, 1052), (56, 1076), (65, 1109), (67, 1121), (74, 1196), (80, 1265), (81, 1277), (82, 1280), (87, 1301), (89, 1310), (91, 1334), (92, 1337), (94, 1355), (96, 1370), (99, 1388), (101, 1406), (116, 1592), (117, 1604), (119, 1616), (123, 1673), (141, 1853), (146, 1904), (149, 1943), (151, 1952), (152, 1997),

Gene: DoobyDoo_95 Start: 64434, Stop: 65735, Start Num: 11

Candidate Starts for DoobyDoo_95:

(Start: 11 @64434 has 40 MA's), (25, 64521), (26, 64551), (32, 64617), (33, 64620), (39, 64704), (47, 64779), (54, 64854), (62, 64905), (63, 64908), (64, 64917), (77, 65067), (92, 65160), (98, 65208), (99,

65211), (103, 65262), (107, 65343), (108, 65346), (125, 65457), (142, 65631),

Gene: DrLupo_2 Start: 334, Stop: 1617, Start Num: 15

Candidate Starts for DrLupo_2:

(Start: 15 @334 has 5 MA's), (23, 367), (28, 448), (36, 505), (37, 532), (38, 553), (41, 592), (43, 601), (46, 643), (50, 682), (52, 703), (60, 757), (65, 766), (72, 820), (76, 898), (79, 913), (80, 922), (81, 934), (83, 940), (86, 955), (88, 964), (89, 967), (97, 1030), (99, 1045), (100, 1054), (110, 1183), (113, 1198), (119, 1258), (132, 1402), (144, 1513), (148, 1534),

Gene: DumpTruck_98 Start: 65883, Stop: 67190, Start Num: 11

Candidate Starts for DumpTruck_98:

(Start: 11 @65883 has 40 MA's), (13, 65907), (14, 65913), (17, 65922), (33, 66078), (34, 66087), (39, 66162), (47, 66237), (48, 66246), (54, 66312), (59, 66333), (64, 66372), (76, 66519), (98, 66663), (99, 66666), (107, 66798), (109, 66801), (111, 66807), (114, 66831), (124, 66918), (136, 67053), (139, 67077), (143, 67098), (147, 67125),

Gene: Erutan_94 Start: 65045, Stop: 66346, Start Num: 11

Candidate Starts for Erutan_94:

(Start: 11 @65045 has 40 MA's), (25, 65132), (33, 65231), (39, 65315), (47, 65390), (53, 65462), (54, 65465), (61, 65504), (63, 65519), (64, 65528), (71, 65591), (92, 65771), (98, 65819), (99, 65822), (103, 65873), (107, 65954), (108, 65957), (125, 66068), (142, 66242),

Gene: Fowlmouth_120 Start: 67859, Stop: 69115, Start Num: 22

Candidate Starts for Fowlmouth_120:

(5, 67763), (7, 67781), (8, 67784), (10, 67793), (16, 67844), (18, 67847), (Start: 22 @67859 has 3 MA's), (24, 67886), (31, 67964), (34, 67976), (37, 68015), (46, 68117), (49, 68141), (70, 68270), (84, 68408), (90, 68444), (94, 68477), (95, 68489), (97, 68495), (103, 68561), (136, 68945), (139, 68972), (143, 68996),

Gene: Fulcrum_95 Start: 65648, Stop: 66994, Start Num: 11

Candidate Starts for Fulcrum_95:

(Start: 11 @65648 has 40 MA's), (25, 65735), (33, 65834), (39, 65918), (47, 65993), (53, 66065), (54, 66068), (61, 66107), (62, 66119), (63, 66122), (64, 66131), (71, 66194), (76, 66278), (77, 66281), (98, 66422), (99, 66425), (103, 66476), (107, 66557), (121, 66677), (142, 66890),

Gene: GOATification_95 Start: 65648, Stop: 66994, Start Num: 11

Candidate Starts for GOATification_95:

(Start: 11 @65648 has 40 MA's), (25, 65735), (33, 65834), (39, 65918), (47, 65993), (53, 66065), (54, 66068), (61, 66107), (62, 66119), (63, 66122), (64, 66131), (71, 66194), (76, 66278), (77, 66281), (98, 66422), (99, 66425), (103, 66476), (107, 66557), (121, 66677), (142, 66890),

Gene: Genamy16_95 Start: 63676, Stop: 64962, Start Num: 11

Candidate Starts for Genamy16_95:

(Start: 11 @63676 has 40 MA's), (25, 63763), (33, 63862), (39, 63946), (47, 64021), (53, 64093), (54, 64096), (62, 64147), (63, 64150), (64, 64159), (76, 64306), (92, 64402), (98, 64450), (99, 64453), (103, 64504), (107, 64585), (126, 64696), (142, 64858),

Gene: Gibbin_97 Start: 65825, Stop: 67171, Start Num: 11

Candidate Starts for Gibbin_97:

(Start: 11 @65825 has 40 MA's), (25, 65912), (33, 66011), (39, 66095), (47, 66170), (53, 66242), (54, 66245), (61, 66284), (62, 66296), (63, 66299), (64, 66308), (71, 66371), (92, 66551), (98, 66599), (99, 66602), (103, 66653), (107, 66734), (121, 66854), (142, 67067),

Gene: Gretellyn_95 Start: 65652, Stop: 66998, Start Num: 11

Candidate Starts for Gretellyn_95:

(Start: 11 @65652 has 40 MA's), (25, 65739), (33, 65838), (39, 65922), (47, 65997), (53, 66069), (54, 66072), (62, 66123), (63, 66126), (64, 66135), (71, 66198), (77, 66285), (92, 66378), (98, 66426), (99, 66429), (103, 66480), (107, 66561), (121, 66681), (142, 66894),

Gene: Indlulamithi_110 Start: 69658, Stop: 70902, Start Num: 22

Candidate Starts for Indlulamithi_110:

(1, 69475), (2, 69529), (4, 69550), (6, 69574), (Start: 22 @69658 has 3 MA's), (25, 69700), (35, 69790), (37, 69823), (75, 70141), (89, 70222), (90, 70234), (93, 70261), (102, 70324), (127, 70612), (129, 70645), (130, 70648), (133, 70675), (136, 70735),

Gene: Jalebi_95 Start: 66593, Stop: 67894, Start Num: 11

Candidate Starts for Jalebi_95:

(Start: 11 @66593 has 40 MA's), (25, 66680), (33, 66779), (39, 66863), (47, 66938), (53, 67010), (54, 67013), (61, 67052), (62, 67064), (63, 67067), (64, 67076), (71, 67139), (77, 67226), (92, 67319), (98, 67367), (99, 67370), (103, 67421), (107, 67502), (125, 67616), (142, 67790),

Gene: Jamemuya19_90 Start: 63301, Stop: 64587, Start Num: 11

Candidate Starts for Jamemuya19_90:

(Start: 11 @63301 has 40 MA's), (25, 63388), (33, 63487), (39, 63571), (47, 63646), (53, 63718), (54, 63721), (62, 63772), (63, 63775), (64, 63784), (76, 63931), (92, 64027), (98, 64075), (99, 64078), (103, 64129), (107, 64210), (126, 64321), (142, 64483),

Gene: Konstantine_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Konstantine_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (73, 856), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: Labelle_3 Start: 668, Stop: 2029, Start Num: 15

Candidate Starts for Labelle_3:

(Start: 12 @650 has 11 MA's), (Start: 15 @668 has 5 MA's), (21, 677), (29, 800), (32, 827), (36, 851), (39, 920), (41, 938), (46, 992), (52, 1052), (56, 1076), (65, 1109), (67, 1121), (74, 1196), (80, 1265), (81, 1277), (82, 1280), (87, 1301), (89, 1310), (91, 1334), (92, 1337), (94, 1355), (96, 1370), (99, 1388), (101, 1406), (116, 1592), (117, 1604), (119, 1616), (123, 1673), (141, 1853), (146, 1904), (149, 1943), (151, 1952), (152, 1997),

Gene: Lambo_96 Start: 65885, Stop: 67201, Start Num: 11

Candidate Starts for Lambo_96:

(Start: 11 @65885 has 40 MA's), (13, 65909), (25, 65978), (33, 66077), (34, 66086), (39, 66161), (47, 66236), (52, 66290), (54, 66311), (62, 66359), (64, 66371), (76, 66518), (77, 66521), (85, 66566), (98, 66662), (99, 66665), (107, 66797), (109, 66809), (114, 66839), (122, 66926), (142, 67097),

Gene: LavAbarElk_95 Start: 64771, Stop: 66117, Start Num: 11

Candidate Starts for LavAbarElk_95:

(Start: 11 @64771 has 40 MA's), (25, 64858), (33, 64957), (39, 65041), (47, 65116), (54, 65191), (61, 65230), (62, 65242), (63, 65245), (64, 65254), (71, 65317), (76, 65401), (92, 65497), (98, 65545), (99, 65548), (103, 65599), (107, 65680), (121, 65800), (142, 66013),

Gene: Lila22_95 Start: 65625, Stop: 66971, Start Num: 11

Candidate Starts for Lila22_95:

(Start: 11 @65625 has 40 MA's), (25, 65712), (33, 65811), (39, 65895), (47, 65970), (53, 66042), (54, 66045), (61, 66084), (62, 66096), (63, 66099), (64, 66108), (71, 66171), (76, 66255), (92, 66351), (98, 66399), (99, 66402), (103, 66453), (107, 66534), (121, 66654), (142, 66867),

Gene: LuckyLeo_94 Start: 65297, Stop: 66625, Start Num: 11

Candidate Starts for LuckyLeo_94:

(Start: 11 @65297 has 40 MA's), (13, 65321), (25, 65390), (33, 65489), (34, 65498), (39, 65573), (47, 65648), (54, 65723), (62, 65771), (64, 65783), (71, 65846), (77, 65933), (98, 66074), (99, 66077), (106, 66185), (107, 66209), (112, 66227), (120, 66320), (128, 66389), (142, 66521), (148, 66566),

Gene: Madruga_3 Start: 668, Stop: 2029, Start Num: 15

Candidate Starts for Madruga_3:

(Start: 12 @650 has 11 MA's), (Start: 15 @668 has 5 MA's), (21, 677), (29, 800), (32, 827), (36, 851), (39, 920), (41, 938), (46, 992), (52, 1052), (56, 1076), (65, 1109), (67, 1121), (74, 1196), (80, 1265), (81, 1277), (82, 1280), (87, 1301), (89, 1310), (91, 1334), (92, 1337), (94, 1355), (96, 1370), (99, 1388), (101, 1406), (116, 1592), (117, 1604), (119, 1616), (123, 1673), (141, 1853), (146, 1904), (149, 1943), (151, 1952), (152, 1997),

Gene: Megatron06_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Megatron06_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (73, 856), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: Mima20_94 Start: 65382, Stop: 66728, Start Num: 11

Candidate Starts for Mima20_94:

(3, 65325), (Start: 11 @65382 has 40 MA's), (25, 65469), (33, 65568), (39, 65652), (47, 65727), (54, 65802), (62, 65853), (63, 65856), (64, 65865), (71, 65928), (76, 66012), (92, 66108), (98, 66156), (99, 66159), (103, 66210), (107, 66291), (121, 66411), (142, 66624),

Gene: MoiGyank_98 Start: 65906, Stop: 67207, Start Num: 11

Candidate Starts for MoiGyank_98:

(3, 65849), (Start: 11 @65906 has 40 MA's), (25, 65993), (33, 66092), (39, 66176), (47, 66251), (53, 66323), (54, 66326), (62, 66377), (63, 66380), (64, 66389), (71, 66452), (92, 66632), (98, 66680), (99, 66683), (103, 66734), (107, 66815), (108, 66818), (125, 66929), (142, 67103),

Gene: MrMiyagi_120 Start: 68238, Stop: 69503, Start Num: 19

Candidate Starts for MrMiyagi_120:

(Start: 19 @68238 has 1 MA's), (20, 68241), (Start: 22 @68247 has 3 MA's), (34, 68364), (37, 68403), (45, 68487), (46, 68505), (49, 68529), (70, 68658), (84, 68796), (90, 68832), (94, 68865), (95, 68877), (97, 68883), (103, 68949), (136, 69333), (139, 69360), (143, 69384),

Gene: Nettle_97 Start: 66304, Stop: 67650, Start Num: 11

Candidate Starts for Nettle_97:

(3, 66247), (Start: 11 @66304 has 40 MA's), (25, 66391), (33, 66490), (39, 66574), (47, 66649), (53, 66721), (54, 66724), (62, 66775), (63, 66778), (64, 66787), (71, 66850), (76, 66934), (77, 66937), (92, 67030), (98, 67078), (99, 67081), (103, 67132), (107, 67213), (121, 67333), (142, 67546),

Gene: Nish23_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Nish23_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: NorManre_100 Start: 66924, Stop: 68237, Start Num: 11

Candidate Starts for NorManre_100:

(Start: 11 @66924 has 40 MA's), (25, 67011), (33, 67110), (39, 67194), (47, 67269), (54, 67344), (62, 67395), (63, 67398), (64, 67407), (71, 67470), (77, 67557), (92, 67650), (98, 67698), (99, 67701), (103, 67752), (107, 67833), (109, 67845), (114, 67875), (124, 67962), (128, 68001), (142, 68133),

Gene: NovaSharks_94 Start: 63376, Stop: 64662, Start Num: 11

Candidate Starts for NovaSharks_94:

(Start: 11 @63376 has 40 MA's), (25, 63463), (33, 63562), (39, 63646), (47, 63721), (53, 63793), (54, 63796), (62, 63847), (63, 63850), (64, 63859), (76, 64006), (92, 64102), (98, 64150), (99, 64153), (103, 64204), (107, 64285), (142, 64558),

Gene: Oaker_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Oaker_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (73, 856), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: OtterstedtS21_96 Start: 65736, Stop: 67082, Start Num: 11

Candidate Starts for OtterstedtS21_96:

(Start: 11 @65736 has 40 MA's), (25, 65823), (33, 65922), (39, 66006), (47, 66081), (54, 66156), (62, 66207), (63, 66210), (64, 66219), (71, 66282), (77, 66369), (92, 66462), (98, 66510), (99, 66513), (103, 66564), (107, 66645), (121, 66765), (142, 66978),

Gene: ParvusTarda_96 Start: 65318, Stop: 66667, Start Num: 11

Candidate Starts for ParvusTarda_96:

(Start: 11 @65318 has 40 MA's), (13, 65342), (25, 65411), (33, 65510), (34, 65519), (39, 65594), (47, 65669), (52, 65723), (54, 65744), (62, 65792), (64, 65804), (76, 65951), (77, 65954), (85, 65999), (98, 66095), (99, 66098), (107, 66230), (121, 66350), (142, 66563),

Gene: Patience_3 Start: 668, Stop: 2029, Start Num: 15

Candidate Starts for Patience_3:

(Start: 12 @650 has 11 MA's), (Start: 15 @668 has 5 MA's), (21, 677), (29, 800), (32, 827), (36, 851), (39, 920), (41, 938), (46, 992), (52, 1052), (56, 1076), (65, 1109), (67, 1121), (74, 1196), (80, 1265), (81, 1277), (82, 1280), (87, 1301), (89, 1310), (91, 1334), (92, 1337), (94, 1355), (96, 1370), (99, 1388), (101, 1406), (116, 1592), (117, 1604), (119, 1616), (123, 1673), (141, 1853), (146, 1904), (149, 1943), (151, 1952), (152, 1997),

Gene: Patos_100 Start: 66923, Stop: 68236, Start Num: 11

Candidate Starts for Patos_100:

(Start: 11 @66923 has 40 MA's), (25, 67010), (33, 67109), (39, 67193), (47, 67268), (54, 67343), (62, 67394), (63, 67397), (64, 67406), (71, 67469), (77, 67556), (92, 67649), (98, 67697), (99, 67700), (103, 67751), (107, 67832), (109, 67844), (114, 67874), (124, 67961), (128, 68000), (142, 68132),

Gene: Phreeze_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Phreeze_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (73, 856), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: Predator_3 Start: 690, Stop: 2009, Start Num: 12

Candidate Starts for Predator_3:

(Start: 12 @690 has 11 MA's), (27, 804), (28, 822), (32, 858), (40, 954), (44, 987), (49, 1032), (52, 1068), (67, 1140), (68, 1143), (69, 1158), (73, 1191), (76, 1260), (78, 1272), (79, 1275), (81, 1296), (86, 1317), (87, 1320), (91, 1353), (97, 1392), (131, 1764), (134, 1800), (135, 1836), (137, 1845), (139, 1863), (141, 1872), (153, 1998),

Gene: Puissant_2 Start: 356, Stop: 1669, Start Num: 12

Candidate Starts for Puissant_2:

(Start: 12 @356 has 11 MA's), (34, 536), (35, 542), (36, 548), (49, 698), (55, 758), (66, 803), (67, 806), (73, 857), (76, 926), (77, 929), (78, 938), (79, 941), (81, 962), (86, 983), (88, 992), (95, 1052), (97, 1058), (105, 1178), (134, 1460), (139, 1523), (153, 1658),

Gene: Pywacket_93 Start: 65738, Stop: 67084, Start Num: 11

Candidate Starts for Pywacket_93:

(Start: 11 @65738 has 40 MA's), (25, 65825), (33, 65924), (39, 66008), (47, 66083), (53, 66155), (54, 66158), (61, 66197), (62, 66209), (63, 66212), (64, 66221), (71, 66284), (76, 66368), (77, 66371), (92, 66464), (98, 66512), (99, 66515), (103, 66566), (107, 66647), (121, 66767), (142, 66980),

Gene: Ranch_99 Start: 64973, Stop: 66283, Start Num: 11

Candidate Starts for Ranch_99:

(Start: 11 @64973 has 40 MA's), (25, 65060), (33, 65159), (39, 65243), (47, 65318), (54, 65393), (62, 65444), (63, 65447), (64, 65456), (71, 65519), (77, 65606), (92, 65699), (98, 65747), (99, 65750), (103, 65801), (107, 65882), (114, 65921), (124, 66008), (128, 66047), (142, 66179),

Gene: RazorC_92 Start: 63309, Stop: 64595, Start Num: 11

Candidate Starts for RazorC_92:

(Start: 11 @63309 has 40 MA's), (25, 63396), (33, 63495), (39, 63579), (47, 63654), (53, 63726), (54, 63729), (62, 63780), (63, 63783), (64, 63792), (76, 63939), (92, 64035), (98, 64083), (99, 64086), (103, 64137), (107, 64218), (126, 64329), (142, 64491),

Gene: Riduram_91 Start: 63016, Stop: 64302, Start Num: 11

Candidate Starts for Riduram_91:

(Start: 11 @63016 has 40 MA's), (25, 63103), (33, 63202), (39, 63286), (47, 63361), (53, 63433), (54, 63436), (62, 63487), (63, 63490), (64, 63499), (76, 63646), (92, 63742), (98, 63790), (99, 63793), (103, 63844), (107, 63925), (142, 64198),

Gene: Rota_93 Start: 65378, Stop: 66724, Start Num: 11

Candidate Starts for Rota_93:

(Start: 11 @65378 has 40 MA's), (25, 65465), (33, 65564), (39, 65648), (47, 65723), (53, 65795), (54, 65798), (61, 65837), (62, 65849), (63, 65852), (64, 65861), (71, 65924), (77, 66011), (92, 66104), (98, 66152), (99, 66155), (103, 66206), (107, 66287), (121, 66407), (142, 66620),

Gene: Rukungu_96 Start: 66314, Stop: 67660, Start Num: 11

Candidate Starts for Rukungu_96:

(Start: 11 @66314 has 40 MA's), (25, 66401), (33, 66500), (39, 66584), (47, 66659), (54, 66734), (62, 66785), (63, 66788), (64, 66797), (71, 66860), (77, 66947), (92, 67040), (98, 67088), (99, 67091), (103, 67142), (107, 67223), (121, 67343), (142, 67556),

Gene: Rumi_93 Start: 62971, Stop: 64257, Start Num: 11

Candidate Starts for Rumi_93:

(Start: 11 @62971 has 40 MA's), (25, 63058), (33, 63157), (39, 63241), (47, 63316), (53, 63388), (54, 63391), (62, 63442), (63, 63445), (64, 63454), (76, 63601), (92, 63697), (98, 63745), (99, 63748), (103, 63799), (107, 63880), (142, 64153),

Gene: Sadboi_95 Start: 65532, Stop: 66878, Start Num: 11

Candidate Starts for Sadboi_95:

(Start: 11 @65532 has 40 MA's), (25, 65619), (33, 65718), (39, 65802), (47, 65877), (53, 65949), (54, 65952), (62, 66003), (63, 66006), (64, 66015), (71, 66078), (77, 66165), (92, 66258), (98, 66306), (99, 66309), (103, 66360), (107, 66441), (121, 66561), (142, 66774),

Gene: Sampudon_97 Start: 66592, Stop: 67893, Start Num: 11

Candidate Starts for Sampudon_97:

(Start: 11 @66592 has 40 MA's), (25, 66679), (33, 66778), (39, 66862), (47, 66937), (53, 67009), (54, 67012), (61, 67051), (62, 67063), (63, 67066), (64, 67075), (71, 67138), (77, 67225), (92, 67318), (98, 67366), (99, 67369), (103, 67420), (107, 67501), (125, 67615), (142, 67789),

Gene: Stormer_93 Start: 63083, Stop: 64369, Start Num: 11

Candidate Starts for Stormer_93:

(Start: 11 @63083 has 40 MA's), (25, 63170), (33, 63269), (39, 63353), (47, 63428), (53, 63500), (54, 63503), (62, 63554), (63, 63557), (64, 63566), (77, 63716), (92, 63809), (98, 63857), (99, 63860), (103, 63911), (107, 63992), (142, 64265),

Gene: SuperSonics_3 Start: 668, Stop: 2029, Start Num: 15

Candidate Starts for SuperSonics_3:

(Start: 12 @650 has 11 MA's), (Start: 15 @668 has 5 MA's), (21, 677), (29, 800), (32, 827), (36, 851), (39, 920), (41, 938), (46, 992), (52, 1052), (56, 1076), (65, 1109), (67, 1121), (74, 1196), (80, 1265), (81, 1277), (82, 1280), (87, 1301), (89, 1310), (91, 1334), (92, 1337), (94, 1355), (96, 1370), (99, 1388), (101, 1406), (116, 1592), (117, 1604), (119, 1616), (123, 1673), (141, 1853), (146, 1904), (149, 1943), (151, 1952), (152, 1997),

Gene: Thumb_2 Start: 355, Stop: 1668, Start Num: 12

Candidate Starts for Thumb_2:

(Start: 12 @355 has 11 MA's), (30, 505), (34, 535), (36, 547), (38, 589), (52, 733), (55, 757), (57, 766), (58, 769), (66, 802), (67, 805), (68, 808), (73, 856), (76, 925), (77, 928), (78, 937), (79, 940), (81, 961), (86, 982), (88, 991), (95, 1051), (97, 1057), (105, 1177), (134, 1459), (141, 1531), (153, 1657),

Gene: Tillicus_88 Start: 64659, Stop: 65981, Start Num: 11

Candidate Starts for Tillicus_88:

(9, 64641), (Start: 11 @64659 has 40 MA's), (13, 64683), (25, 64752), (33, 64851), (34, 64860), (39, 64935), (47, 65010), (54, 65085), (62, 65133), (64, 65145), (71, 65208), (76, 65292), (77, 65295), (98, 65436), (99, 65439), (106, 65547), (107, 65571), (112, 65589), (120, 65682), (138, 65856), (142, 65877),

Gene: Wojtek_88 Start: 65823, Stop: 67139, Start Num: 11

Candidate Starts for Wojtek_88:

(Start: 11 @65823 has 40 MA's), (13, 65847), (25, 65916), (33, 66015), (34, 66024), (39, 66099), (47, 66174), (52, 66228), (54, 66249), (62, 66297), (64, 66309), (76, 66456), (77, 66459), (85, 66504), (98, 66600), (99, 66603), (107, 66735), (109, 66747), (114, 66777), (122, 66864), (142, 67035),

Gene: Xenia2_97 Start: 66264, Stop: 67571, Start Num: 11

Candidate Starts for Xenia2_97:

(Start: 11 @66264 has 40 MA's), (13, 66288), (14, 66294), (17, 66303), (33, 66459), (34, 66468), (39, 66543), (47, 66618), (48, 66627), (50, 66651), (54, 66693), (59, 66714), (64, 66753), (76, 66900), (98, 67044), (99, 67047), (107, 67179), (109, 67182), (111, 67188), (114, 67212), (124, 67299), (136, 67434), (139, 67458), (143, 67479), (147, 67506),

Gene: Yikes_96 Start: 66196, Stop: 67542, Start Num: 11

Candidate Starts for Yikes_96:

(Start: 11 @66196 has 40 MA's), (25, 66283), (33, 66382), (39, 66466), (47, 66541), (53, 66613), (54, 66616), (62, 66667), (63, 66670), (64, 66679), (66, 66697), (71, 66742), (77, 66829), (92, 66922), (98, 66970), (99, 66973), (103, 67024), (107, 67105), (121, 67225), (142, 67438),

Gene: Zany_94 Start: 66336, Stop: 67637, Start Num: 11

Candidate Starts for Zany_94:

(3, 66279), (Start: 11 @66336 has 40 MA's), (25, 66423), (33, 66522), (39, 66606), (47, 66681), (53, 66753), (54, 66756), (62, 66807), (63, 66810), (64, 66819), (71, 66882), (92, 67062), (98, 67110), (99, 67113), (103, 67164), (107, 67245), (125, 67359), (142, 67533),