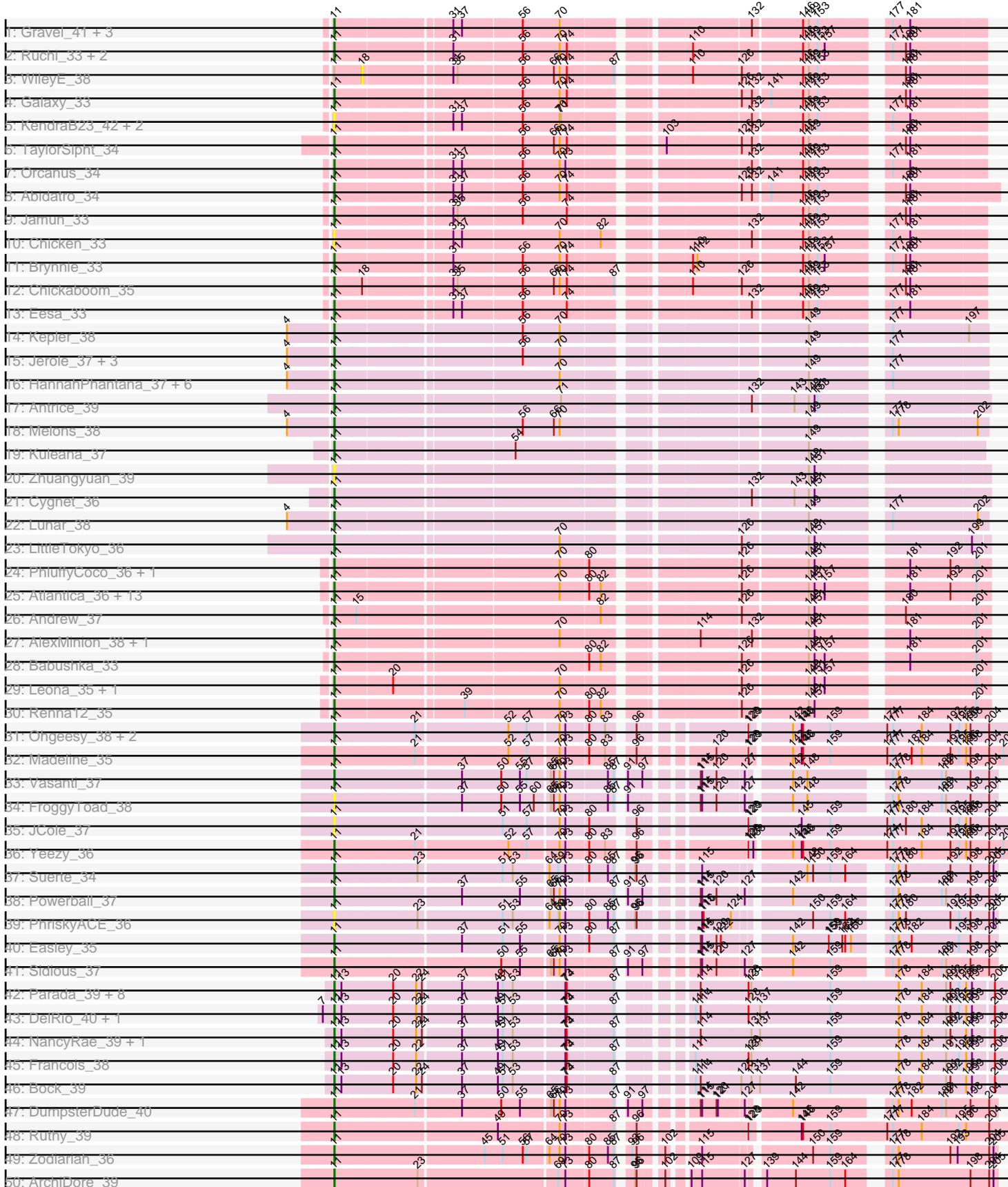
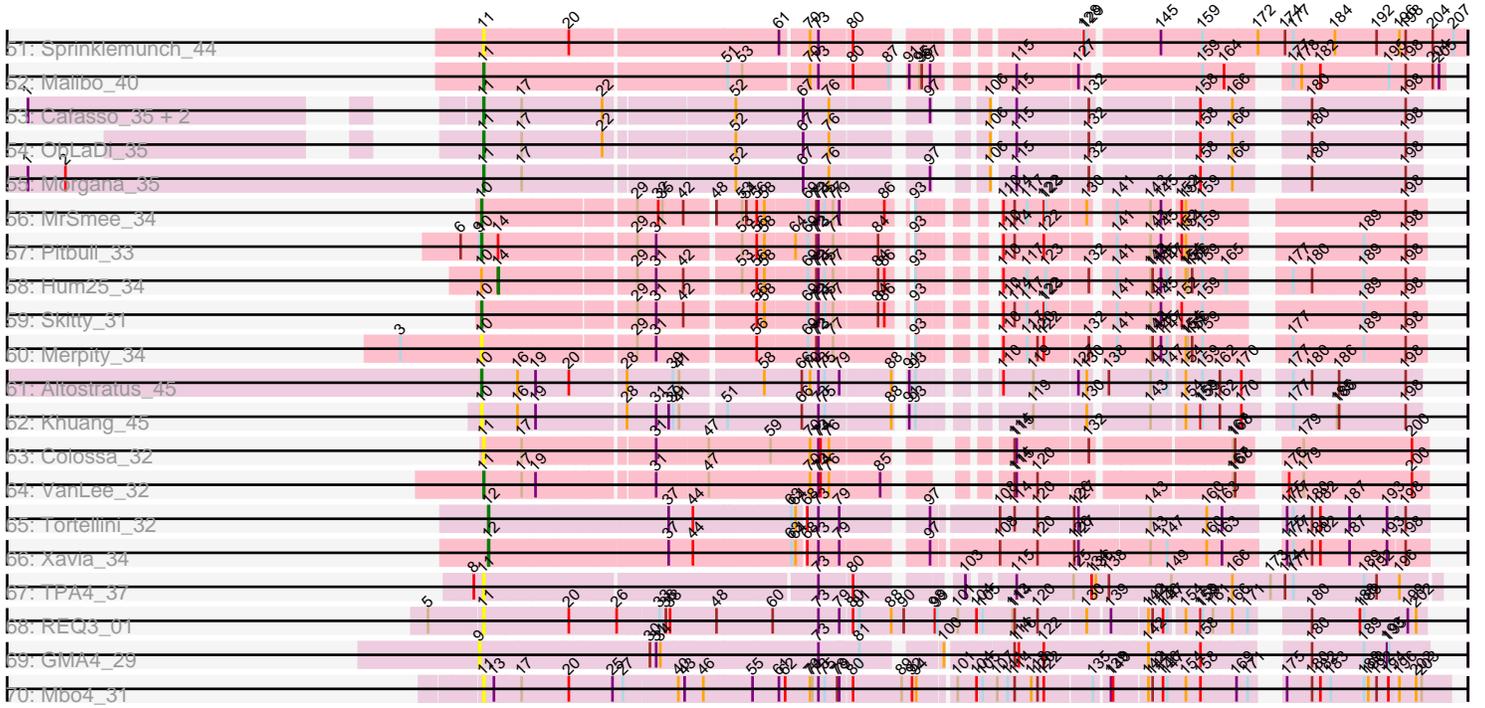


Pham 283633



Pham 283633



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 283633 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283633 has 116 members, 32 are drafts.

Phages represented in each track:

- Track 1 : Gravel_41, Pelletreau_41, Westrich_40, Toad24_36
- Track 2 : Ruchi_33, Vulpecula_33, Basilisk_34
- Track 3 : WileyE_38
- Track 4 : Galaxy_33
- Track 5 : KendraB23_42, Shen_33, Zixiang_36
- Track 6 : TaylorSipht_34
- Track 7 : Orcanus_34
- Track 8 : Abidatro_34
- Track 9 : Jamun_33
- Track 10 : Chicken_33
- Track 11 : Brynnie_33
- Track 12 : Chickaboom_35
- Track 13 : Eesa_33
- Track 14 : Kepler_38
- Track 15 : Jerole_37, Amelia_36, Daob_38, Colusalem_37
- Track 16 : HannahPhantana_37, Cote_38, Bedetta_40, Coral_36, OtsoOtso_37, Polka_36, Pineda_38
- Track 17 : Antrice_39
- Track 18 : Melons_38
- Track 19 : Kuleana_37
- Track 20 : Zhuangyuan_39
- Track 21 : Cygnet_36
- Track 22 : Lunar_38
- Track 23 : LittleTokyo_36
- Track 24 : PhluffyCoco_36, Rattail_36
- Track 25 : Atlantica_36, RedFox_36, AdoptaAdorbs_35, HamCheese_36, Camara_36, Glotell_37, Oppalora_35, KHumphrey_36, Laphuphu24k_35, Fingolfin_36, Amphitrite_36, AmiCi24_35, Juno112_35, DanHam62_36
- Track 26 : Andrew_37
- Track 27 : AlexMinion_38, StuartMinion_28
- Track 28 : Babushka_33
- Track 29 : Leona_35, Azaz_37
- Track 30 : Renna12_35
- Track 31 : Ohgeesy_38, BaxterFox_37, PantheRoc_37
- Track 32 : Madeline_35
- Track 33 : Vasanti_37
- Track 34 : FroggyToad_38

- Track 35 : JCole_37
- Track 36 : Yeezy_36
- Track 37 : Suerte_34
- Track 38 : Powerball_37
- Track 39 : PhriskyACE_36
- Track 40 : Easley_35
- Track 41 : Sidious_37
- Track 42 : Parada_39, Hamood_39, Chop_39, Nadeem_39, WheatThin_39, Brylie_39, Ayotoya_39, GrandSlam_39, Mulch_39
- Track 43 : DelRio_40, Pimento_39
- Track 44 : NancyRae_39, BetterKatz_39
- Track 45 : Francois_38
- Track 46 : Bock_39
- Track 47 : DumpsterDude_40
- Track 48 : Ruthy_39
- Track 49 : Zodiariah_36
- Track 50 : ArchiDore_39
- Track 51 : Sprinklemunch_44
- Track 52 : Malibo_40
- Track 53 : Cafasso_35, Aleemily_34, ModicumRichard_35
- Track 54 : ObLaDi_35
- Track 55 : Morgana_35
- Track 56 : MrSmee_34
- Track 57 : Pitbull_33
- Track 58 : Hum25_34
- Track 59 : Skitty_31
- Track 60 : Merpity_34
- Track 61 : Altostratus_45
- Track 62 : Khuang_45
- Track 63 : Colossa_32
- Track 64 : VanLee_32
- Track 65 : Tortellini_32
- Track 66 : Xavia_34
- Track 67 : TPA4_37
- Track 68 : REQ3_01
- Track 69 : GMA4_29
- Track 70 : Mbo4_31

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 77 of the 84 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro_34, AdoptaAdorbs_35, Aleemily_34, AlexMinion_38, Amelia_36, AmiCi24_35, Amphitrite_36, Andrew_37, Antrice_39, ArchiDore_39, Atlantica_36, Ayotoya_39, Azaz_37, Babushka_33, Basilisk_34, BaxterFox_37, Bedetta_40, BetterKatz_39, Bock_39, Brylie_39, Brynnie_33, Cafasso_35, Camara_36, Chickaboom_35, Chicken_33, Chop_39, Colossa_32, Colusalem_37, Coral_36, Cote_38, Cygnet_36, DanHam62_36, Daob_38, DelRio_40, DumpsterDude_40,

Easley_35, Eesa_33, Fingolfin_36, Francois_38, FroggyToad_38, Galaxy_33, Glotell_37, GrandSlam_39, Gravel_41, HamCheese_36, Hamood_39, HannahPhantana_37, JCole_37, Jamun_33, Jerole_37, Juno112_35, KHumphrey_36, KendraB23_42, Kepler_38, Kuleana_37, Laphuphu24k_35, Leona_35, LittleTokyo_36, Lunar_38, Madeline_35, Malibo_40, Mbo4_31, Melons_38, ModicumRichard_35, Morgana_35, Mulch_39, Nadeem_39, NancyRae_39, ObLaDi_35, Ohgeesy_38, Oppalora_35, Orcanus_34, OtsoOtso_37, PantheRoc_37, Parada_39, Pelletreau_41, PhluffyCoco_36, PhriskyACE_36, Pimento_39, Pineda_38, Polka_36, Powerball_37, REQ3_01, Rattail_36, RedFox_36, Renna12_35, Ruchi_33, Ruthy_39, Shen_33, Sidious_37, Sprinklemunch_44, StuartMinion_28, Suerte_34, TPA4_37, TaylorSipht_34, Toad24_36, VanLee_32, Vasanti_37, Vulpecula_33, Westrich_40, WheatThin_39, Yeezy_36, Zhuangyuan_39, Zixiang_36, Zodiariah_36,

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

- WileyE_38,

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

- Altostratus_45, GMA4_29, Hum25_34, Khuang_45, Merpity_34, MrSmee_34, Pitbull_33, Skitty_31, Tortellini_32, Xavia_34,

Summary by start number:

Start 9:

- Found in 2 of 116 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: GMA4_29 (singleton),

Start 10:

- Found in 7 of 116 (6.0%) of genes in pham
- Manual Annotations of this start: 4 of 84
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Altostratus_45 (FS), Khuang_45 (FS), Merpity_34 (FQ), MrSmee_34 (FQ), Pitbull_33 (FQ), Skitty_31 (FQ),

Start 11:

- Found in 106 of 116 (91.4%) of genes in pham
- Manual Annotations of this start: 77 of 84
- Called 99.1% of time when present
- Phage (with cluster) where this start called: Abidatro_34 (AS1), AdoptaAdorbs_35 (AS3), Aleemily_34 (DZ), AlexMinion_38 (AS3), Amelia_36 (AS2), AmiCi24_35 (AS3), Amphitrite_36 (AS3), Andrew_37 (AS3), Antrice_39 (AS2), ArchiDore_39 (DW), Atlantica_36 (AS3), Ayotoya_39 (DI), Azaz_37 (AS3), Babushka_33 (AS3), Basilisk_34 (AS1), BaxterFox_37 (CZ3), Bedetta_40 (AS2), BetterKatz_39 (DI), Bock_39 (DI), Brylie_39 (DI), Brynnie_33 (AS1), Cafasso_35 (DZ), Camara_36 (AS3), Chickaboom_35 (AS1), Chicken_33 (AS1), Chop_39 (DI), Colossa_32 (KA), Colusalem_37 (AS2), Coral_36 (AS2), Cote_38 (AS2), Cygnet_36 (AS2), DanHam62_36 (AS3), Daob_38 (AS2), DelRio_40 (DI), DumpsterDude_40 (DW), Easley_35 (CZ4), Eesa_33 (AS1), Fingolfin_36 (AS3), Francois_38 (DI), FroggyToad_38 (CZ2), Galaxy_33 (AS1), Glotell_37 (AS3), GrandSlam_39 (DI), Gravel_41 (AS1), HamCheese_36 (AS3), Hamood_39 (DI), HannahPhantana_37 (AS2), JCole_37 (CZ2), Jamun_33 (AS1), Jerole_37 (AS2), Juno112_35 (AS3),

KHumphrey_36 (AS3), KendraB23_42 (AS1), Kepler_38 (AS2), Kuleana_37 (AS2), Laphuphu24k_35 (AS3), Leona_35 (AS3), LittleTokyo_36 (AS2), Lunar_38 (AS2), Madeline_35 (CZ1), Malibo_40 (DW), Mbo4_31 (singleton), Melons_38 (AS2), ModicumRichard_35 (DZ), Morgana_35 (DZ), Mulch_39 (DI), Nadeem_39 (DI), NancyRae_39 (DI), ObLaDi_35 (DZ), Ohgeesy_38 (CZ), Oppalora_35 (AS3), Orcanus_34 (AS1), OtsoOtso_37 (AS2), PantheRoc_37 (CZ3), Parada_39 (DI), Pelletreau_41 (AS1), PhluffyCoco_36 (AS3), PhriskyACE_36 (CZ4), Pimento_39 (DI), Pineda_38 (AS2), Polka_36 (AS2), Powerball_37 (CZ4), REQ3_01 (singleton), Rattail_36 (AS3), RedFox_36 (AS3), Renna12_35 (AS3), Ruchi_33 (AS1), Ruthy_39 (DW), Shen_33 (AS1), Sidious_37 (CZ7), Sprinklemunch_44 (DW), StuartMinion_28 (AS3), Suerte_34 (CZ4), TPA4_37 (singleton), TaylorSipht_34 (AS1), Toad24_36 (AS1), VanLee_32 (KA), Vasanti_37 (CZ2), Vulpecula_33 (AS1), Westrich_40 (AS1), WheatThin_39 (DI), Yeezy_36 (CZ3), Zhuangyuan_39 (AS2), Zixiang_36 (AS1), Zodiariah_36 (DW),

Start 12:

- Found in 2 of 116 (1.7%) of genes in pham
- Manual Annotations of this start: 2 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tortellini_32 (P2), Xavia_34 (P3),

Start 14:

- Found in 2 of 116 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 84
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hum25_34 (FQ),

Start 18:

- Found in 2 of 116 (1.7%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: WileyE_38 (AS1),

Summary by clusters:

There are 18 clusters represented in this pham: AS3, AS2, AS1, FS, P2, DI, CZ2, CZ3, P3, CZ1, FQ, singleton, CZ4, CZ7, CZ, DZ, DW, KA,

Info for manual annotations of cluster AS1:

- Start number 11 was manually annotated 12 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 11 was manually annotated 16 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 11 was manually annotated 14 times for cluster AS3.

Info for manual annotations of cluster CZ:

- Start number 11 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 11 was manually annotated 1 time for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 11 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 11 was manually annotated 3 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 11 was manually annotated 3 times for cluster CZ4.

Info for manual annotations of cluster CZ7:

- Start number 11 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster DI:

- Start number 11 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DW:

- Start number 11 was manually annotated 5 times for cluster DW.

Info for manual annotations of cluster DZ:

- Start number 11 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster FQ:

- Start number 10 was manually annotated 3 times for cluster FQ.
- Start number 14 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster FS:

- Start number 10 was manually annotated 1 time for cluster FS.

Info for manual annotations of cluster KA:

- Start number 11 was manually annotated 1 time for cluster KA.

Info for manual annotations of cluster P2:

- Start number 12 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 12 was manually annotated 1 time for cluster P3.

Gene Information:

Gene: Abidatro_34 Start: 24278, Stop: 23067, Start Num: 11

Candidate Starts for Abidatro_34:

(Start: 11 @24278 has 77 MA's), (31, 24059), (37, 24041), (56, 23924), (70, 23849), (74, 23834), (126, 23540), (132, 23519), (141, 23492), (146, 23426), (149, 23414), (153, 23396), (180, 23252), (181, 23243),

Gene: AdoptaAdorbs_35 Start: 23914, Stop: 22721, Start Num: 11

Candidate Starts for AdoptaAdorbs_35:

(Start: 11 @23914 has 77 MA's), (70, 23485), (80, 23428), (82, 23404), (126, 23176), (149, 23050), (151, 23038), (157, 23017), (181, 22879), (192, 22798), (201, 22750),

Gene: Aleemily_34 Start: 29847, Stop: 28720, Start Num: 11

Candidate Starts for Aleemily_34:

(1, 30327), (Start: 11 @29847 has 77 MA's), (17, 29793), (22, 29688), (52, 29517), (67, 29427), (76, 29391), (97, 29277), (106, 29238), (115, 29214), (132, 29118), (158, 28986), (166, 28941), (180, 28869), (198, 28743),

Gene: AlexMinion_38 Start: 24097, Stop: 22904, Start Num: 11

Candidate Starts for AlexMinion_38:

(Start: 11 @24097 has 77 MA's), (70, 23668), (114, 23437), (132, 23338), (149, 23233), (151, 23221), (181, 23062), (201, 22933),

Gene: Altostratus_45 Start: 28384, Stop: 27227, Start Num: 10

Candidate Starts for Altostratus_45:

(Start: 10 @28384 has 4 MA's), (16, 28333), (19, 28309), (20, 28264), (28, 28189), (39, 28126), (41, 28117), (58, 28012), (66, 27961), (70, 27949), (73, 27937), (75, 27928), (79, 27907), (88, 27838), (91, 27832), (93, 27823), (110, 27748), (119, 27706), (127, 27649), (130, 27637), (138, 27622), (143, 27568), (147, 27544), (154, 27526), (159, 27505), (162, 27481), (170, 27451), (177, 27400), (180, 27373), (186, 27337), (198, 27247),

Gene: Amelia_36 Start: 24019, Stop: 22832, Start Num: 11

Candidate Starts for Amelia_36:

(4, 24109), (Start: 11 @24019 has 77 MA's), (56, 23665), (70, 23590), (149, 23155), (177, 23020),

Gene: AmiCi24_35 Start: 23912, Stop: 22719, Start Num: 11

Candidate Starts for AmiCi24_35:

(Start: 11 @23912 has 77 MA's), (70, 23483), (80, 23426), (82, 23402), (126, 23174), (149, 23048), (151, 23036), (157, 23015), (181, 22877), (192, 22796), (201, 22748),

Gene: Amphitrite_36 Start: 23913, Stop: 22720, Start Num: 11

Candidate Starts for Amphitrite_36:

(Start: 11 @23913 has 77 MA's), (70, 23484), (80, 23427), (82, 23403), (126, 23175), (149, 23049), (151, 23037), (157, 23016), (181, 22878), (192, 22797), (201, 22749),

Gene: Andrew_37 Start: 23839, Stop: 22646, Start Num: 11

Candidate Starts for Andrew_37:

(Start: 11 @23839 has 77 MA's), (15, 23794), (82, 23329), (126, 23101), (149, 22975), (151, 22963), (180, 22813), (201, 22675),

Gene: Antrice_39 Start: 25191, Stop: 23998, Start Num: 11

Candidate Starts for Antrice_39:

(Start: 11 @25191 has 77 MA's), (71, 24756), (132, 24429), (143, 24354), (149, 24324), (151, 24312), (153, 24306),

Gene: ArchiDore_39 Start: 34244, Stop: 33075, Start Num: 11

Candidate Starts for ArchiDore_39:

(Start: 11 @34244 has 77 MA's), (23, 34082), (69, 33818), (73, 33803), (80, 33758), (87, 33710), (95, 33689), (96, 33686), (102, 33650), (109, 33623), (115, 33602), (127, 33521), (139, 33500), (144, 33443), (159, 33371), (164, 33341), (177, 33284), (178, 33272), (198, 33131), (204, 33092), (205, 33083),

Gene: Atlantica_36 Start: 23914, Stop: 22721, Start Num: 11

Candidate Starts for Atlantica_36:

(Start: 11 @23914 has 77 MA's), (70, 23485), (80, 23428), (82, 23404), (126, 23176), (149, 23050), (151, 23038), (157, 23017), (181, 22879), (192, 22798), (201, 22750),

Gene: Ayotoya_39 Start: 32055, Stop: 30784, Start Num: 11

Candidate Starts for Ayotoya_39:

(Start: 11 @32055 has 77 MA's), (13, 32040), (20, 31938), (22, 31896), (24, 31884), (37, 31809), (49, 31734), (51, 31725), (53, 31707), (73, 31608), (74, 31605), (87, 31515), (114, 31410), (128, 31314), (131, 31308), (159, 31146), (178, 31005), (184, 30960), (191, 30909), (192, 30900), (195, 30885), (196, 30873), (199, 30861), (206, 30822),

Gene: Azaz_37 Start: 23984, Stop: 22791, Start Num: 11

Candidate Starts for Azaz_37:

(Start: 11 @23984 has 77 MA's), (20, 23870), (70, 23555), (126, 23246), (149, 23120), (151, 23108), (157, 23087), (201, 22820),

Gene: Babushka_33 Start: 23843, Stop: 22650, Start Num: 11

Candidate Starts for Babushka_33:

(Start: 11 @23843 has 77 MA's), (80, 23357), (82, 23333), (126, 23105), (149, 22979), (151, 22967), (157, 22946), (181, 22808), (201, 22679),

Gene: Basilisk_34 Start: 24758, Stop: 23574, Start Num: 11

Candidate Starts for Basilisk_34:

(Start: 11 @24758 has 77 MA's), (31, 24539), (56, 24404), (70, 24329), (74, 24314), (110, 24113), (146, 23906), (149, 23894), (153, 23876), (157, 23861), (177, 23759), (180, 23732), (181, 23723),

Gene: BaxterFox_37 Start: 31379, Stop: 30117, Start Num: 11

Candidate Starts for BaxterFox_37:

(Start: 11 @31379 has 77 MA's), (21, 31223), (52, 31040), (57, 31004), (70, 30944), (73, 30932), (80, 30887), (83, 30854), (96, 30812), (128, 30644), (129, 30641), (142, 30566), (145, 30548), (146, 30545), (159, 30488), (174, 30371), (177, 30359), (184, 30302), (192, 30242), (195, 30227), (196, 30215), (198, 30206), (204, 30167),

Gene: Bedetta_40 Start: 24167, Stop: 22980, Start Num: 11

Candidate Starts for Bedetta_40:

(4, 24257), (Start: 11 @24167 has 77 MA's), (70, 23738), (149, 23303), (177, 23168),

Gene: BetterKatz_39 Start: 31582, Stop: 30311, Start Num: 11

Candidate Starts for BetterKatz_39:

(Start: 11 @31582 has 77 MA's), (13, 31567), (20, 31465), (22, 31423), (24, 31411), (37, 31336), (49, 31261), (51, 31252), (53, 31234), (73, 31135), (74, 31132), (87, 31042), (114, 30937), (131, 30835), (137, 30817), (159, 30673), (178, 30532), (184, 30487), (191, 30436), (192, 30427), (196, 30400), (199, 30388), (206, 30349),

Gene: Bock_39 Start: 31274, Stop: 30003, Start Num: 11

Candidate Starts for Bock_39:

(Start: 11 @31274 has 77 MA's), (13, 31259), (20, 31157), (22, 31115), (24, 31103), (37, 31028), (49, 30953), (51, 30944), (53, 30926), (73, 30827), (74, 30824), (87, 30734), (111, 30638), (114, 30629), (125, 30548), (131, 30527), (137, 30509), (144, 30434), (159, 30365), (178, 30224), (184, 30179), (191, 30128), (192, 30119), (196, 30092), (199, 30080), (206, 30041),

Gene: Brylie_39 Start: 31322, Stop: 30051, Start Num: 11

Candidate Starts for Brylie_39:

(Start: 11 @31322 has 77 MA's), (13, 31307), (20, 31205), (22, 31163), (24, 31151), (37, 31076), (49, 31001), (51, 30992), (53, 30974), (73, 30875), (74, 30872), (87, 30782), (114, 30677), (128, 30581), (131, 30575), (159, 30413), (178, 30272), (184, 30227), (191, 30176), (192, 30167), (195, 30152),

(196, 30140), (199, 30128), (206, 30089),

Gene: Brynnie_33 Start: 24636, Stop: 23452, Start Num: 11

Candidate Starts for Brynnie_33:

(Start: 11 @24636 has 77 MA's), (31, 24417), (56, 24282), (70, 24207), (74, 24192), (110, 23991), (112, 23982), (146, 23784), (149, 23772), (153, 23754), (157, 23739), (177, 23637), (180, 23610), (181, 23601),

Gene: Cafasso_35 Start: 30421, Stop: 29294, Start Num: 11

Candidate Starts for Cafasso_35:

(1, 30901), (Start: 11 @30421 has 77 MA's), (17, 30367), (22, 30262), (52, 30091), (67, 30001), (76, 29965), (97, 29851), (106, 29812), (115, 29788), (132, 29692), (158, 29560), (166, 29515), (180, 29443), (198, 29317),

Gene: Camara_36 Start: 23916, Stop: 22723, Start Num: 11

Candidate Starts for Camara_36:

(Start: 11 @23916 has 77 MA's), (70, 23487), (80, 23430), (82, 23406), (126, 23178), (149, 23052), (151, 23040), (157, 23019), (181, 22881), (192, 22800), (201, 22752),

Gene: Chickaboom_35 Start: 24249, Stop: 23065, Start Num: 11

Candidate Starts for Chickaboom_35:

(Start: 11 @24249 has 77 MA's), (18, 24192), (31, 24030), (35, 24021), (56, 23895), (66, 23832), (70, 23820), (74, 23805), (87, 23715), (110, 23604), (126, 23511), (146, 23397), (149, 23385), (153, 23367), (180, 23223), (181, 23214),

Gene: Chicken_33 Start: 24581, Stop: 23397, Start Num: 11

Candidate Starts for Chicken_33:

(Start: 11 @24581 has 77 MA's), (31, 24362), (37, 24344), (70, 24152), (82, 24071), (132, 23822), (146, 23729), (149, 23717), (153, 23699), (177, 23582), (181, 23546),

Gene: Chop_39 Start: 31803, Stop: 30532, Start Num: 11

Candidate Starts for Chop_39:

(Start: 11 @31803 has 77 MA's), (13, 31788), (20, 31686), (22, 31644), (24, 31632), (37, 31557), (49, 31482), (51, 31473), (53, 31455), (73, 31356), (74, 31353), (87, 31263), (114, 31158), (128, 31062), (131, 31056), (159, 30894), (178, 30753), (184, 30708), (191, 30657), (192, 30648), (195, 30633), (196, 30621), (199, 30609), (206, 30570),

Gene: Colossa_32 Start: 27893, Stop: 26754, Start Num: 11

Candidate Starts for Colossa_32:

(Start: 11 @27893 has 77 MA's), (17, 27839), (31, 27671), (47, 27599), (59, 27512), (70, 27458), (73, 27446), (74, 27443), (76, 27431), (114, 27260), (115, 27257), (132, 27161), (167, 26984), (168, 26981), (179, 26924), (200, 26777),

Gene: Colusalem_37 Start: 23996, Stop: 22809, Start Num: 11

Candidate Starts for Colusalem_37:

(4, 24086), (Start: 11 @23996 has 77 MA's), (56, 23642), (70, 23567), (149, 23132), (177, 22997),

Gene: Coral_36 Start: 23868, Stop: 22681, Start Num: 11

Candidate Starts for Coral_36:

(4, 23958), (Start: 11 @23868 has 77 MA's), (70, 23439), (149, 23004), (177, 22869),

Gene: Cote_38 Start: 24345, Stop: 23158, Start Num: 11

Candidate Starts for Cote_38:

(4, 24435), (Start: 11 @24345 has 77 MA's), (70, 23916), (149, 23481), (177, 23346),

Gene: Cygnet_36 Start: 24788, Stop: 23595, Start Num: 11

Candidate Starts for Cygnet_36:

(Start: 11 @24788 has 77 MA's), (132, 24026), (143, 23951), (149, 23921), (151, 23909),

Gene: DanHam62_36 Start: 23913, Stop: 22720, Start Num: 11

Candidate Starts for DanHam62_36:

(Start: 11 @23913 has 77 MA's), (70, 23484), (80, 23427), (82, 23403), (126, 23175), (149, 23049), (151, 23037), (157, 23016), (181, 22878), (192, 22797), (201, 22749),

Gene: Daob_38 Start: 24353, Stop: 23166, Start Num: 11

Candidate Starts for Daob_38:

(4, 24443), (Start: 11 @24353 has 77 MA's), (56, 23999), (70, 23924), (149, 23489), (177, 23354),

Gene: DelRio_40 Start: 32511, Stop: 31240, Start Num: 11

Candidate Starts for DelRio_40:

(7, 32535), (Start: 11 @32511 has 77 MA's), (13, 32496), (20, 32394), (22, 32352), (24, 32340), (37, 32265), (49, 32190), (51, 32181), (53, 32163), (73, 32064), (74, 32061), (87, 31971), (111, 31875), (114, 31866), (128, 31770), (137, 31746), (159, 31602), (178, 31461), (184, 31416), (191, 31365), (192, 31356), (195, 31341), (196, 31329), (199, 31317), (206, 31278),

Gene: DumpsterDude_40 Start: 35157, Stop: 33988, Start Num: 11

Candidate Starts for DumpsterDude_40:

(Start: 11 @35157 has 77 MA's), (21, 35001), (37, 34914), (50, 34833), (55, 34797), (65, 34743), (66, 34737), (70, 34725), (73, 34713), (87, 34620), (91, 34614), (97, 34584), (114, 34515), (115, 34512), (120, 34482), (121, 34479), (127, 34431), (142, 34359), (177, 34197), (178, 34185), (182, 34158), (189, 34098), (191, 34089), (198, 34044), (204, 34005),

Gene: Easley_35 Start: 28370, Stop: 27201, Start Num: 11

Candidate Starts for Easley_35:

(Start: 11 @28370 has 77 MA's), (37, 28127), (51, 28043), (55, 28010), (70, 27938), (73, 27926), (80, 27881), (87, 27833), (114, 27728), (115, 27725), (120, 27695), (122, 27686), (142, 27572), (158, 27500), (159, 27497), (162, 27473), (164, 27467), (166, 27455), (177, 27410), (178, 27398), (182, 27371), (195, 27278), (198, 27257), (204, 27218),

Gene: Eesa_33 Start: 25111, Stop: 23927, Start Num: 11

Candidate Starts for Eesa_33:

(Start: 11 @25111 has 77 MA's), (31, 24892), (37, 24874), (56, 24757), (74, 24667), (132, 24352), (146, 24259), (149, 24247), (153, 24229), (177, 24112), (181, 24076),

Gene: Fingolfin_36 Start: 23916, Stop: 22723, Start Num: 11

Candidate Starts for Fingolfin_36:

(Start: 11 @23916 has 77 MA's), (70, 23487), (80, 23430), (82, 23406), (126, 23178), (149, 23052), (151, 23040), (157, 23019), (181, 22881), (192, 22800), (201, 22752),

Gene: Francois_38 Start: 31405, Stop: 30134, Start Num: 11

Candidate Starts for Francois_38:

(Start: 11 @31405 has 77 MA's), (13, 31390), (20, 31288), (22, 31246), (37, 31159), (49, 31084), (51, 31075), (53, 31057), (73, 30958), (74, 30955), (87, 30865), (111, 30769), (128, 30664), (131, 30658), (159, 30496), (178, 30355), (184, 30310), (191, 30259), (195, 30235), (196, 30223), (199, 30211), (206, 30172),

Gene: FroggyToad_38 Start: 30081, Stop: 28912, Start Num: 11

Candidate Starts for FroggyToad_38:

(Start: 11 @30081 has 77 MA's), (37, 29838), (50, 29757), (55, 29721), (60, 29694), (65, 29667), (66, 29661), (70, 29649), (73, 29637), (85, 29553), (87, 29544), (91, 29538), (114, 29439), (115, 29436), (120, 29406), (127, 29355), (142, 29283), (148, 29253), (177, 29121), (178, 29109), (189, 29022), (191, 29013), (198, 28968), (204, 28929),

Gene: GMA4_29 Start: 26449, Stop: 25217, Start Num: 9

Candidate Starts for GMA4_29:

(9, 26449), (30, 26212), (31, 26203), (34, 26197), (73, 25981), (81, 25924), (100, 25837), (114, 25753), (116, 25747), (122, 25711), (142, 25570), (158, 25498), (180, 25381), (189, 25309), (193, 25276), (195, 25273),

Gene: Galaxy_33 Start: 24046, Stop: 22862, Start Num: 11

Candidate Starts for Galaxy_33:

(Start: 11 @24046 has 77 MA's), (56, 23692), (70, 23617), (74, 23602), (126, 23308), (132, 23287), (141, 23260), (146, 23194), (149, 23182), (153, 23164), (180, 23020), (181, 23011),

Gene: Glotell_37 Start: 24072, Stop: 22879, Start Num: 11

Candidate Starts for Glotell_37:

(Start: 11 @24072 has 77 MA's), (70, 23643), (80, 23586), (82, 23562), (126, 23334), (149, 23208), (151, 23196), (157, 23175), (181, 23037), (192, 22956), (201, 22908),

Gene: GrandSlam_39 Start: 31803, Stop: 30532, Start Num: 11

Candidate Starts for GrandSlam_39:

(Start: 11 @31803 has 77 MA's), (13, 31788), (20, 31686), (22, 31644), (24, 31632), (37, 31557), (49, 31482), (51, 31473), (53, 31455), (73, 31356), (74, 31353), (87, 31263), (114, 31158), (128, 31062), (131, 31056), (159, 30894), (178, 30753), (184, 30708), (191, 30657), (192, 30648), (195, 30633), (196, 30621), (199, 30609), (206, 30570),

Gene: Gravel_41 Start: 25089, Stop: 23905, Start Num: 11

Candidate Starts for Gravel_41:

(Start: 11 @25089 has 77 MA's), (31, 24870), (37, 24852), (56, 24735), (70, 24660), (132, 24330), (146, 24237), (149, 24225), (153, 24207), (177, 24090), (181, 24054),

Gene: HamCheese_36 Start: 23900, Stop: 22707, Start Num: 11

Candidate Starts for HamCheese_36:

(Start: 11 @23900 has 77 MA's), (70, 23471), (80, 23414), (82, 23390), (126, 23162), (149, 23036), (151, 23024), (157, 23003), (181, 22865), (192, 22784), (201, 22736),

Gene: Hamood_39 Start: 31803, Stop: 30532, Start Num: 11

Candidate Starts for Hamood_39:

(Start: 11 @31803 has 77 MA's), (13, 31788), (20, 31686), (22, 31644), (24, 31632), (37, 31557), (49, 31482), (51, 31473), (53, 31455), (73, 31356), (74, 31353), (87, 31263), (114, 31158), (128, 31062), (131, 31056), (159, 30894), (178, 30753), (184, 30708), (191, 30657), (192, 30648), (195, 30633), (196, 30621), (199, 30609), (206, 30570),

Gene: HannahPhantana_37 Start: 24015, Stop: 22828, Start Num: 11

Candidate Starts for HannahPhantana_37:

(4, 24105), (Start: 11 @24015 has 77 MA's), (70, 23586), (149, 23151), (177, 23016),

Gene: Hum25_34 Start: 25182, Stop: 24091, Start Num: 14

Candidate Starts for Hum25_34:

(Start: 10 @25206 has 4 MA's), (Start: 14 @25182 has 1 MA's), (29, 25011), (31, 24984), (42, 24945), (53, 24876), (56, 24855), (58, 24846), (69, 24789), (72, 24777), (73, 24774), (75, 24765), (77, 24753), (84, 24693), (86, 24684), (93, 24669), (110, 24603), (117, 24570), (123, 24543), (132, 24489), (141, 24468), (143, 24420), (144, 24417), (145, 24405), (147, 24396), (154, 24378), (155, 24375), (156, 24369), (159, 24357), (165, 24324), (177, 24270), (180, 24243), (189, 24171), (198, 24117),

Gene: JCole_37 Start: 29060, Stop: 27801, Start Num: 11

Candidate Starts for JCole_37:

(Start: 11 @29060 has 77 MA's), (51, 28730), (57, 28685), (70, 28625), (73, 28613), (80, 28568), (96, 28496), (128, 28328), (129, 28325), (145, 28232), (159, 28172), (174, 28055), (177, 28043), (180, 28016), (184, 27986), (192, 27926), (195, 27911), (196, 27899), (198, 27890), (204, 27851),

Gene: Jamun_33 Start: 24299, Stop: 23115, Start Num: 11

Candidate Starts for Jamun_33:

(Start: 11 @24299 has 77 MA's), (31, 24080), (35, 24071), (56, 23945), (74, 23855), (146, 23447), (149, 23435), (153, 23417), (180, 23273), (181, 23264),

Gene: Jerole_37 Start: 24138, Stop: 22951, Start Num: 11

Candidate Starts for Jerole_37:

(4, 24228), (Start: 11 @24138 has 77 MA's), (56, 23784), (70, 23709), (149, 23274), (177, 23139),

Gene: Juno112_35 Start: 23916, Stop: 22723, Start Num: 11

Candidate Starts for Juno112_35:

(Start: 11 @23916 has 77 MA's), (70, 23487), (80, 23430), (82, 23406), (126, 23178), (149, 23052), (151, 23040), (157, 23019), (181, 22881), (192, 22800), (201, 22752),

Gene: KHumphrey_36 Start: 23915, Stop: 22722, Start Num: 11

Candidate Starts for KHumphrey_36:

(Start: 11 @23915 has 77 MA's), (70, 23486), (80, 23429), (82, 23405), (126, 23177), (149, 23051), (151, 23039), (157, 23018), (181, 22880), (192, 22799), (201, 22751),

Gene: KendraB23_42 Start: 25277, Stop: 24093, Start Num: 11

Candidate Starts for KendraB23_42:

(Start: 11 @25277 has 77 MA's), (31, 25058), (37, 25040), (56, 24923), (70, 24848), (71, 24845), (132, 24518), (146, 24425), (149, 24413), (153, 24395), (177, 24278), (181, 24242),

Gene: Kepler_38 Start: 24761, Stop: 23574, Start Num: 11

Candidate Starts for Kepler_38:

(4, 24851), (Start: 11 @24761 has 77 MA's), (56, 24407), (70, 24332), (149, 23897), (177, 23762), (197, 23612),

Gene: Khuang_45 Start: 28583, Stop: 27426, Start Num: 10

Candidate Starts for Khuang_45:

(Start: 10 @28583 has 4 MA's), (16, 28532), (19, 28508), (28, 28388), (31, 28349), (37, 28331), (39, 28325), (41, 28316), (51, 28259), (66, 28160), (73, 28136), (75, 28127), (88, 28037), (91, 28031), (93, 28022), (119, 27905), (130, 27836), (143, 27767), (154, 27725), (158, 27707), (159, 27704), (162, 27680), (170, 27650), (177, 27599), (185, 27539), (186, 27536), (198, 27446),

Gene: Kuleana_37 Start: 24189, Stop: 23008, Start Num: 11

Candidate Starts for Kuleana_37:

(Start: 11 @24189 has 77 MA's), (54, 23850), (149, 23325),

Gene: Laphuphu24k_35 Start: 23900, Stop: 22707, Start Num: 11

Candidate Starts for Laphuphu24k_35:

(Start: 11 @23900 has 77 MA's), (70, 23471), (80, 23414), (82, 23390), (126, 23162), (149, 23036), (151, 23024), (157, 23003), (181, 22865), (192, 22784), (201, 22736),

Gene: Leona_35 Start: 23984, Stop: 22791, Start Num: 11

Candidate Starts for Leona_35:

(Start: 11 @23984 has 77 MA's), (20, 23870), (70, 23555), (126, 23246), (149, 23120), (151, 23108), (157, 23087), (201, 22820),

Gene: LittleTokyo_36 Start: 23859, Stop: 22669, Start Num: 11

Candidate Starts for LittleTokyo_36:

(Start: 11 @23859 has 77 MA's), (70, 23427), (126, 23118), (149, 22992), (151, 22980), (199, 22701),

Gene: Lunar_38 Start: 24679, Stop: 23492, Start Num: 11

Candidate Starts for Lunar_38:

(4, 24769), (Start: 11 @24679 has 77 MA's), (149, 23815), (177, 23680), (202, 23512),

Gene: Madeline_35 Start: 31541, Stop: 30279, Start Num: 11

Candidate Starts for Madeline_35:

(Start: 11 @31541 has 77 MA's), (21, 31385), (52, 31202), (57, 31166), (70, 31106), (73, 31094), (80, 31049), (83, 31016), (96, 30974), (120, 30860), (128, 30806), (129, 30803), (142, 30728), (145, 30710), (146, 30707), (159, 30650), (174, 30533), (177, 30521), (182, 30482), (184, 30464), (192, 30404), (195, 30389), (196, 30377), (198, 30368), (204, 30329), (207, 30299),

Gene: Malibo_40 Start: 32774, Stop: 31605, Start Num: 11

Candidate Starts for Malibo_40:

(Start: 11 @32774 has 77 MA's), (51, 32450), (53, 32432), (70, 32345), (73, 32333), (80, 32288), (87, 32240), (91, 32234), (95, 32219), (96, 32216), (97, 32204), (115, 32132), (127, 32051), (159, 31901), (164, 31871), (177, 31814), (178, 31802), (182, 31775), (195, 31682), (198, 31661), (204, 31622), (205, 31613),

Gene: Mbo4_31 Start: 29712, Stop: 28447, Start Num: 11

Candidate Starts for Mbo4_31:

(Start: 11 @29712 has 77 MA's), (13, 29697), (17, 29658), (20, 29595), (25, 29538), (27, 29523), (40, 29448), (43, 29439), (46, 29412), (55, 29346), (61, 29310), (62, 29301), (70, 29265), (71, 29262), (73, 29253), (75, 29244), (78, 29226), (79, 29223), (80, 29208), (89, 29142), (92, 29127), (94, 29121), (101, 29076), (104, 29052), (105, 29043), (107, 29022), (111, 29007), (114, 28998), (118, 28974), (120, 28965), (122, 28956), (135, 28893), (139, 28875), (140, 28872), (142, 28830), (144, 28824), (146, 28809), (147, 28803), (154, 28779), (158, 28758), (169, 28707), (171, 28692), (175, 28674), (180, 28638), (182, 28626), (183, 28611), (189, 28563), (190, 28557), (192, 28545), (194, 28530), (196, 28518), (202, 28494), (203, 28488),

Gene: Melons_38 Start: 24495, Stop: 23308, Start Num: 11

Candidate Starts for Melons_38:

(4, 24585), (Start: 11 @24495 has 77 MA's), (56, 24141), (66, 24078), (70, 24066), (149, 23631), (177, 23496), (178, 23484), (202, 23328),

Gene: Merpity_34 Start: 25482, Stop: 24364, Start Num: 10

Candidate Starts for Merpity_34:

(3, 25599), (Start: 10 @25482 has 4 MA's), (29, 25287), (31, 25260), (56, 25131), (69, 25065), (72, 25053), (73, 25050), (77, 25029), (93, 24945), (110, 24879), (117, 24846), (120, 24831), (122, 24822), (132, 24765), (141, 24744), (143, 24696), (144, 24693), (145, 24681), (147, 24672), (154, 24654), (155, 24651), (156, 24645), (159, 24633), (177, 24546), (189, 24447), (198, 24393),

Gene: ModicumRichard_35 Start: 30420, Stop: 29293, Start Num: 11

Candidate Starts for ModicumRichard_35:

(1, 30900), (Start: 11 @30420 has 77 MA's), (17, 30366), (22, 30261), (52, 30090), (67, 30000), (76, 29964), (97, 29850), (106, 29811), (115, 29787), (132, 29691), (158, 29559), (166, 29514), (180, 29442), (198, 29316),

Gene: Morgana_35 Start: 30175, Stop: 29048, Start Num: 11

Candidate Starts for Morgana_35:

(1, 30832), (2, 30778), (Start: 11 @30175 has 77 MA's), (17, 30121), (52, 29845), (67, 29755), (76, 29719), (97, 29605), (106, 29566), (115, 29542), (132, 29446), (158, 29314), (166, 29269), (180, 29197), (198, 29071),

Gene: MrSmee_34 Start: 25508, Stop: 24390, Start Num: 10

Candidate Starts for MrSmee_34:

(Start: 10 @25508 has 4 MA's), (29, 25313), (32, 25283), (35, 25277), (42, 25247), (48, 25211), (53, 25178), (54, 25172), (56, 25157), (58, 25148), (69, 25091), (72, 25079), (73, 25076), (75, 25067), (77, 25055), (79, 25046), (86, 24986), (93, 24971), (110, 24905), (114, 24890), (117, 24872), (122, 24848), (123, 24845), (130, 24794), (141, 24770), (143, 24722), (145, 24707), (152, 24686), (154, 24680), (159, 24659), (198, 24419),

Gene: Mulch_39 Start: 31322, Stop: 30051, Start Num: 11

Candidate Starts for Mulch_39:

(Start: 11 @31322 has 77 MA's), (13, 31307), (20, 31205), (22, 31163), (24, 31151), (37, 31076), (49, 31001), (51, 30992), (53, 30974), (73, 30875), (74, 30872), (87, 30782), (114, 30677), (128, 30581), (131, 30575), (159, 30413), (178, 30272), (184, 30227), (191, 30176), (192, 30167), (195, 30152), (196, 30140), (199, 30128), (206, 30089),

Gene: Nadeem_39 Start: 31322, Stop: 30051, Start Num: 11

Candidate Starts for Nadeem_39:

(Start: 11 @31322 has 77 MA's), (13, 31307), (20, 31205), (22, 31163), (24, 31151), (37, 31076), (49, 31001), (51, 30992), (53, 30974), (73, 30875), (74, 30872), (87, 30782), (114, 30677), (128, 30581), (131, 30575), (159, 30413), (178, 30272), (184, 30227), (191, 30176), (192, 30167), (195, 30152), (196, 30140), (199, 30128), (206, 30089),

Gene: NancyRae_39 Start: 31331, Stop: 30060, Start Num: 11

Candidate Starts for NancyRae_39:

(Start: 11 @31331 has 77 MA's), (13, 31316), (20, 31214), (22, 31172), (24, 31160), (37, 31085), (49, 31010), (51, 31001), (53, 30983), (73, 30884), (74, 30881), (87, 30791), (114, 30686), (131, 30584), (137, 30566), (159, 30422), (178, 30281), (184, 30236), (191, 30185), (192, 30176), (196, 30149), (199, 30137), (206, 30098),

Gene: ObLaDi_35 Start: 30398, Stop: 29271, Start Num: 11

Candidate Starts for ObLaDi_35:

(Start: 11 @30398 has 77 MA's), (17, 30344), (22, 30239), (52, 30068), (67, 29978), (76, 29942), (106, 29789), (115, 29765), (132, 29669), (158, 29537), (166, 29492), (180, 29420), (198, 29294),

Gene: Ohgeesy_38 Start: 32336, Stop: 31074, Start Num: 11

Candidate Starts for Ohgeesy_38:

(Start: 11 @32336 has 77 MA's), (21, 32180), (52, 31997), (57, 31961), (70, 31901), (73, 31889), (80, 31844), (83, 31811), (96, 31769), (128, 31601), (129, 31598), (142, 31523), (145, 31505), (146, 31502), (159, 31445), (174, 31328), (177, 31316), (184, 31259), (192, 31199), (195, 31184), (196, 31172), (198, 31163), (204, 31124),

Gene: Oppalora_35 Start: 23914, Stop: 22721, Start Num: 11

Candidate Starts for Oppalora_35:

(Start: 11 @23914 has 77 MA's), (70, 23485), (80, 23428), (82, 23404), (126, 23176), (149, 23050), (151, 23038), (157, 23017), (181, 22879), (192, 22798), (201, 22750),

Gene: Orcanus_34 Start: 24639, Stop: 23455, Start Num: 11

Candidate Starts for Orcanus_34:

(Start: 11 @24639 has 77 MA's), (31, 24420), (37, 24402), (56, 24285), (70, 24210), (73, 24198), (132, 23880), (146, 23787), (149, 23775), (153, 23757), (177, 23640), (181, 23604),

Gene: OtsoOtso_37 Start: 23869, Stop: 22682, Start Num: 11

Candidate Starts for OtsoOtso_37:

(4, 23959), (Start: 11 @23869 has 77 MA's), (70, 23440), (149, 23005), (177, 22870),

Gene: PantheRoc_37 Start: 30354, Stop: 29092, Start Num: 11

Candidate Starts for PantheRoc_37:

(Start: 11 @30354 has 77 MA's), (21, 30198), (52, 30015), (57, 29979), (70, 29919), (73, 29907), (80, 29862), (83, 29829), (96, 29787), (128, 29619), (129, 29616), (142, 29541), (145, 29523), (146, 29520), (159, 29463), (174, 29346), (177, 29334), (184, 29277), (192, 29217), (195, 29202), (196, 29190), (198, 29181), (204, 29142),

Gene: Parada_39 Start: 31322, Stop: 30051, Start Num: 11

Candidate Starts for Parada_39:

(Start: 11 @31322 has 77 MA's), (13, 31307), (20, 31205), (22, 31163), (24, 31151), (37, 31076), (49, 31001), (51, 30992), (53, 30974), (73, 30875), (74, 30872), (87, 30782), (114, 30677), (128, 30581), (131, 30575), (159, 30413), (178, 30272), (184, 30227), (191, 30176), (192, 30167), (195, 30152), (196, 30140), (199, 30128), (206, 30089),

Gene: Pelletreau_41 Start: 25089, Stop: 23905, Start Num: 11

Candidate Starts for Pelletreau_41:

(Start: 11 @25089 has 77 MA's), (31, 24870), (37, 24852), (56, 24735), (70, 24660), (132, 24330), (146, 24237), (149, 24225), (153, 24207), (177, 24090), (181, 24054),

Gene: PhluffyCoco_36 Start: 23912, Stop: 22719, Start Num: 11

Candidate Starts for PhluffyCoco_36:

(Start: 11 @23912 has 77 MA's), (70, 23483), (80, 23426), (126, 23174), (149, 23048), (151, 23036), (181, 22877), (192, 22796), (201, 22748),

Gene: PhriskyACE_36 Start: 30974, Stop: 29805, Start Num: 11

Candidate Starts for PhriskyACE_36:

(Start: 11 @30974 has 77 MA's), (23, 30812), (51, 30650), (53, 30632), (64, 30566), (69, 30548), (70, 30545), (73, 30533), (80, 30488), (85, 30449), (87, 30440), (95, 30419), (96, 30416), (115, 30332), (116, 30329), (124, 30272), (150, 30137), (159, 30101), (164, 30071), (177, 30014), (178, 30002), (180, 29987), (192, 29897), (195, 29882), (198, 29861), (204, 29822), (205, 29813),

Gene: Pimento_39 Start: 30980, Stop: 29709, Start Num: 11

Candidate Starts for Pimento_39:

(7, 31004), (Start: 11 @30980 has 77 MA's), (13, 30965), (20, 30863), (22, 30821), (24, 30809), (37, 30734), (49, 30659), (51, 30650), (53, 30632), (73, 30533), (74, 30530), (87, 30440), (111, 30344), (114, 30335), (128, 30239), (137, 30215), (159, 30071), (178, 29930), (184, 29885), (191, 29834), (192, 29825), (195, 29810), (196, 29798), (199, 29786), (206, 29747),

Gene: Pineda_38 Start: 24165, Stop: 22978, Start Num: 11

Candidate Starts for Pineda_38:

(4, 24255), (Start: 11 @24165 has 77 MA's), (70, 23736), (149, 23301), (177, 23166),

Gene: Pitbull_33 Start: 24636, Stop: 23518, Start Num: 10

Candidate Starts for Pitbull_33:

(6, 24666), (9, 24639), (Start: 10 @24636 has 4 MA's), (Start: 14 @24612 has 1 MA's), (29, 24441), (31, 24414), (53, 24306), (56, 24285), (58, 24276), (64, 24237), (69, 24219), (72, 24207), (73, 24204), (77, 24183), (84, 24123), (93, 24099), (110, 24033), (114, 24018), (122, 23976), (141, 23898), (143, 23850), (145, 23835), (152, 23814), (154, 23808), (159, 23787), (189, 23601), (198, 23547),

Gene: Polka_36 Start: 23869, Stop: 22682, Start Num: 11

Candidate Starts for Polka_36:

(4, 23959), (Start: 11 @23869 has 77 MA's), (70, 23440), (149, 23005), (177, 22870),

Gene: Powerball_37 Start: 30563, Stop: 29394, Start Num: 11

Candidate Starts for Powerball_37:

(Start: 11 @30563 has 77 MA's), (37, 30320), (55, 30203), (65, 30149), (66, 30143), (70, 30131), (73, 30119), (87, 30026), (91, 30020), (97, 29990), (114, 29921), (115, 29918), (120, 29888), (127, 29837), (142, 29765), (177, 29603), (178, 29591), (189, 29504), (191, 29495), (198, 29450), (204, 29411),

Gene: REQ3_01 Start: 1320, Stop: 82, Start Num: 11

Candidate Starts for REQ3_01:

(5, 1395), (Start: 11 @1320 has 77 MA's), (20, 1203), (26, 1137), (33, 1083), (36, 1074), (38, 1068), (48, 1002), (60, 927), (73, 861), (79, 831), (80, 816), (81, 807), (88, 765), (90, 747), (98, 702), (99, 699), (101, 669), (104, 642), (105, 633), (113, 591), (114, 588), (120, 555), (130, 492), (139, 465), (142, 423), (144, 417), (146, 402), (147, 396), (154, 378), (158, 360), (159, 357), (161, 342), (166, 315), (171, 294), (180, 240), (188, 171), (189, 165), (199, 108), (202, 96),

Gene: Rattail_36 Start: 23998, Stop: 22805, Start Num: 11

Candidate Starts for Rattail_36:

(Start: 11 @23998 has 77 MA's), (70, 23569), (80, 23512), (126, 23260), (149, 23134), (151, 23122), (181, 22963), (192, 22882), (201, 22834),

Gene: RedFox_36 Start: 23911, Stop: 22718, Start Num: 11

Candidate Starts for RedFox_36:

(Start: 11 @23911 has 77 MA's), (70, 23482), (80, 23425), (82, 23401), (126, 23173), (149, 23047), (151, 23035), (157, 23014), (181, 22876), (192, 22795), (201, 22747),

Gene: Renna12_35 Start: 23953, Stop: 22760, Start Num: 11

Candidate Starts for Renna12_35:

(Start: 11 @23953 has 77 MA's), (39, 23710), (70, 23524), (80, 23467), (82, 23443), (126, 23215), (149, 23089), (151, 23077), (201, 22789),

Gene: Ruchi_33 Start: 24704, Stop: 23520, Start Num: 11

Candidate Starts for Ruchi_33:

(Start: 11 @24704 has 77 MA's), (31, 24485), (56, 24350), (70, 24275), (74, 24260), (110, 24059), (146, 23852), (149, 23840), (153, 23822), (157, 23807), (177, 23705), (180, 23678), (181, 23669),

Gene: Ruthy_39 Start: 33142, Stop: 31883, Start Num: 11

Candidate Starts for Ruthy_39:

(Start: 11 @33142 has 77 MA's), (49, 32821), (70, 32707), (73, 32695), (87, 32602), (96, 32578), (128, 32410), (129, 32407), (145, 32314), (146, 32311), (159, 32254), (174, 32137), (177, 32125), (184,

32068), (195, 31993), (196, 31981), (204, 31933),

Gene: Shen_33 Start: 23191, Stop: 22007, Start Num: 11

Candidate Starts for Shen_33:

(Start: 11 @23191 has 77 MA's), (31, 22972), (37, 22954), (56, 22837), (70, 22762), (71, 22759), (132, 22432), (146, 22339), (149, 22327), (153, 22309), (177, 22192), (181, 22156),

Gene: Sidious_37 Start: 31771, Stop: 30602, Start Num: 11

Candidate Starts for Sidious_37:

(Start: 11 @31771 has 77 MA's), (50, 31447), (55, 31411), (65, 31357), (66, 31351), (70, 31339), (73, 31327), (87, 31234), (91, 31228), (97, 31198), (114, 31129), (115, 31126), (120, 31096), (127, 31045), (142, 30973), (159, 30898), (177, 30811), (178, 30799), (189, 30712), (191, 30703), (198, 30658), (204, 30619),

Gene: Skitty_31 Start: 24174, Stop: 23056, Start Num: 10

Candidate Starts for Skitty_31:

(Start: 10 @24174 has 4 MA's), (29, 23979), (31, 23952), (42, 23913), (56, 23823), (58, 23814), (69, 23757), (72, 23745), (73, 23742), (75, 23733), (77, 23721), (84, 23661), (86, 23652), (93, 23637), (110, 23571), (114, 23556), (117, 23538), (122, 23514), (123, 23511), (141, 23436), (143, 23388), (145, 23373), (152, 23352), (159, 23325), (189, 23139), (198, 23085),

Gene: Sprinklemunch_44 Start: 33982, Stop: 32723, Start Num: 11

Candidate Starts for Sprinklemunch_44:

(Start: 11 @33982 has 77 MA's), (20, 33865), (61, 33583), (70, 33547), (73, 33535), (80, 33490), (128, 33250), (129, 33247), (145, 33154), (159, 33094), (172, 33016), (174, 32977), (177, 32965), (184, 32908), (192, 32848), (196, 32821), (198, 32812), (204, 32773), (207, 32743),

Gene: StuartMinion_28 Start: 20996, Stop: 19803, Start Num: 11

Candidate Starts for StuartMinion_28:

(Start: 11 @20996 has 77 MA's), (70, 20567), (114, 20336), (132, 20237), (149, 20132), (151, 20120), (181, 19961), (201, 19832),

Gene: Suerte_34 Start: 29564, Stop: 28395, Start Num: 11

Candidate Starts for Suerte_34:

(Start: 11 @29564 has 77 MA's), (23, 29402), (51, 29240), (53, 29222), (64, 29156), (69, 29138), (73, 29123), (80, 29078), (85, 29039), (87, 29030), (95, 29009), (96, 29006), (115, 28922), (148, 28739), (150, 28727), (159, 28691), (164, 28661), (177, 28604), (178, 28592), (180, 28577), (192, 28487), (198, 28451), (204, 28412), (205, 28403),

Gene: TPA4_37 Start: 32608, Stop: 31376, Start Num: 11

Candidate Starts for TPA4_37:

(8, 32614), (Start: 11 @32608 has 77 MA's), (73, 32161), (80, 32116), (103, 32005), (115, 31960), (125, 31879), (134, 31855), (136, 31849), (138, 31831), (149, 31741), (166, 31654), (173, 31603), (174, 31582), (177, 31570), (189, 31471), (192, 31453), (196, 31426),

Gene: TaylorSipht_34 Start: 24061, Stop: 22877, Start Num: 11

Candidate Starts for TaylorSipht_34:

(Start: 11 @24061 has 77 MA's), (56, 23707), (66, 23644), (70, 23632), (74, 23617), (103, 23464), (126, 23323), (132, 23302), (146, 23209), (149, 23197), (180, 23035), (181, 23026),

Gene: Toad24_36 Start: 25330, Stop: 24146, Start Num: 11

Candidate Starts for Toad24_36:

(Start: 11 @25330 has 77 MA's), (31, 25111), (37, 25093), (56, 24976), (70, 24901), (132, 24571), (146, 24478), (149, 24466), (153, 24448), (177, 24331), (181, 24295),

Gene: Tortellini_32 Start: 30878, Stop: 29682, Start Num: 12

Candidate Starts for Tortellini_32:

(Start: 12 @30878 has 2 MA's), (37, 30632), (44, 30599), (63, 30461), (64, 30455), (68, 30446), (73, 30434), (79, 30404), (97, 30305), (108, 30233), (114, 30212), (120, 30179), (126, 30128), (127, 30122), (143, 30029), (160, 29954), (163, 29933), (175, 29876), (177, 29867), (180, 29840), (182, 29828), (187, 29789), (193, 29735), (198, 29714),

Gene: VanLee_32 Start: 27924, Stop: 26788, Start Num: 11

Candidate Starts for VanLee_32:

(Start: 11 @27924 has 77 MA's), (17, 27870), (19, 27852), (31, 27702), (47, 27630), (70, 27489), (73, 27477), (74, 27474), (76, 27462), (85, 27393), (114, 27291), (115, 27288), (120, 27258), (167, 27015), (168, 27012), (176, 26976), (179, 26955), (200, 26808),

Gene: Vasanti_37 Start: 29057, Stop: 27888, Start Num: 11

Candidate Starts for Vasanti_37:

(Start: 11 @29057 has 77 MA's), (37, 28814), (50, 28733), (55, 28697), (57, 28685), (65, 28643), (66, 28637), (70, 28625), (73, 28613), (85, 28529), (87, 28520), (91, 28514), (97, 28484), (114, 28415), (115, 28412), (120, 28382), (127, 28331), (142, 28259), (148, 28229), (177, 28097), (178, 28085), (189, 27998), (191, 27989), (198, 27944), (204, 27905),

Gene: Vulpecula_33 Start: 24379, Stop: 23195, Start Num: 11

Candidate Starts for Vulpecula_33:

(Start: 11 @24379 has 77 MA's), (31, 24160), (56, 24025), (70, 23950), (74, 23935), (110, 23734), (146, 23527), (149, 23515), (153, 23497), (157, 23482), (177, 23380), (180, 23353), (181, 23344),

Gene: Westrich_40 Start: 25013, Stop: 23829, Start Num: 11

Candidate Starts for Westrich_40:

(Start: 11 @25013 has 77 MA's), (31, 24794), (37, 24776), (56, 24659), (70, 24584), (132, 24254), (146, 24161), (149, 24149), (153, 24131), (177, 24014), (181, 23978),

Gene: WheatThin_39 Start: 31322, Stop: 30051, Start Num: 11

Candidate Starts for WheatThin_39:

(Start: 11 @31322 has 77 MA's), (13, 31307), (20, 31205), (22, 31163), (24, 31151), (37, 31076), (49, 31001), (51, 30992), (53, 30974), (73, 30875), (74, 30872), (87, 30782), (114, 30677), (128, 30581), (131, 30575), (159, 30413), (178, 30272), (184, 30227), (191, 30176), (192, 30167), (195, 30152), (196, 30140), (199, 30128), (206, 30089),

Gene: WileyE_38 Start: 24192, Stop: 23065, Start Num: 18

Candidate Starts for WileyE_38:

(Start: 11 @24249 has 77 MA's), (18, 24192), (31, 24030), (35, 24021), (56, 23895), (66, 23832), (70, 23820), (74, 23805), (87, 23715), (110, 23604), (126, 23511), (146, 23397), (149, 23385), (153, 23367), (180, 23223), (181, 23214),

Gene: Xavia_34 Start: 31565, Stop: 30369, Start Num: 12

Candidate Starts for Xavia_34:

(Start: 12 @31565 has 2 MA's), (37, 31319), (44, 31286), (63, 31148), (64, 31142), (68, 31133), (73, 31121), (79, 31091), (97, 30992), (108, 30920), (120, 30866), (126, 30815), (127, 30809), (143, 30716), (147, 30692), (160, 30641), (163, 30620), (175, 30563), (177, 30554), (180, 30527), (182, 30515), (187, 30476), (193, 30422), (198, 30401),

Gene: Yeezy_36 Start: 30168, Stop: 28906, Start Num: 11

Candidate Starts for Yeezy_36:

(Start: 11 @30168 has 77 MA's), (21, 30012), (52, 29829), (57, 29793), (70, 29733), (73, 29721), (80, 29676), (83, 29643), (96, 29601), (128, 29433), (129, 29430), (133, 29424), (142, 29355), (145, 29337), (146, 29334), (159, 29277), (174, 29160), (177, 29148), (184, 29091), (192, 29031), (195, 29016), (196, 29004), (198, 28995), (204, 28956), (207, 28926),

Gene: Zhuangyuan_39 Start: 24716, Stop: 23526, Start Num: 11

Candidate Starts for Zhuangyuan_39:

(Start: 11 @24716 has 77 MA's), (149, 23849), (151, 23837),

Gene: Zixiang_36 Start: 24695, Stop: 23511, Start Num: 11

Candidate Starts for Zixiang_36:

(Start: 11 @24695 has 77 MA's), (31, 24476), (37, 24458), (56, 24341), (70, 24266), (71, 24263), (132, 23936), (146, 23843), (149, 23831), (153, 23813), (177, 23696), (181, 23660),

Gene: Zodiariah_36 Start: 32793, Stop: 31624, Start Num: 11

Candidate Starts for Zodiariah_36:

(Start: 11 @32793 has 77 MA's), (45, 32505), (51, 32469), (56, 32430), (57, 32424), (64, 32385), (70, 32364), (73, 32352), (80, 32307), (85, 32268), (87, 32259), (93, 32244), (96, 32235), (102, 32199), (115, 32151), (150, 31956), (159, 31920), (177, 31833), (178, 31821), (192, 31716), (193, 31704), (204, 31641), (205, 31632),