

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 191143 Report

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

Pham number 191143 has 130 members, 30 are drafts.

Phages represented in each track:

- Track 1 : Indlulamithi_25
- Track 2 : Onyinye_38, Leopard_37, Aikoy_37
- Track 3 : Soondubu_16, Exile_16
- Track 4 : AinMach_16
- Track 5 : Joemato_17, AGrandiflora_17, Lego_17, YesChef_17, Simpson_19, Cyan_17, Kaylissa_17, Powerpuff_17
- Track 6 : Cassia_17
- Track 7 : Iter_17, Ascela_17
- Track 8 : TforTroy_17
- Track 9 : JohnDoe_17, Warda_17, Tutumahutu_17, Tbone_17, Mudpuppy_17
- Track 10 : Turab_17, Adumb2043_17, AEgle_17
- Track 11 : Jstan_18, Eraser_17, London_17, Niobe_17, Asa16_17
- Track 12 : Berrie_17
- Track 13 : Lizalica_17
- Track 14 : Elezi_17
- Track 15 : Nitro_17
- Track 16 : Pumpkins_17
- Track 17 : Pixelle_17
- Track 18 : Tian_17, Amyev_17
- Track 19 : JuneStar_17
- Track 20 : Tallboi_17
- Track 21 : Tuck_18, Community_17
- Track 22 : Yang_17
- Track 23 : Janeemi_18
- Track 24 : Phives_18
- Track 25 : Maureen_16, Liebe_16
- Track 26 : MaGuCo_16
- Track 27 : Emotion_16
- Track 28 : MiniMommy_16, JasmineDragon_16, ShakeltOph_17
- Track 29 : VroomVroom_16
- Track 30 : Ashes_19, SpecialK_19, Mysterium_17, Halsey_21, Cappuccino_17, Donkey_17, Kalimba_17, Gambol_17, Moss_19, Sooty_17
- Track 31 : Madi_23, BiteSize_23, Terapin_23, Beyoncage_23, Djokovic_23
- Track 32 : Suzy_23
- Track 33 : LilyPad_24
- Track 34 : Sienna_23
- Track 35 : LittleFella_25

- Track 36 : Patos_29, Sampudon_28, ParvusTarda_28, OtterstedtS21_28, Lila22_27, Gibbin_29, Ranch_28, Zany_27, NorManre_29, Jalebi_27
- Track 37 : Yikes_29, MoiGyank_30, Fulcrum_29, Mima20_28, GretelLyn_28, Sadboi_28, BirthdayBoy_29, GOATification_29, Erutan_28
- Track 38 : Lambo_28
- Track 39 : DaviePasture_28
- Track 40 : Alephilan_25
- Track 41 : DumpTruck_27
- Track 42 : Alyssamiracle_28, Genamy16_28, Rumi_27, Jamemuya19_26, NovaSharks_27, Avian_26
- Track 43 : Xenia2_24
- Track 44 : LuckyLeo_27, Apeppi_25
- Track 45 : Wojtek_27
- Track 46 : Tillicus_28
- Track 47 : DoobyDoo_27
- Track 48 : EvenBluerMoon_23, Aoka_18
- Track 49 : JanetJ_18
- Track 50 : DrLupo_36
- Track 51 : Barnyard_34
- Track 52 : Candle_28, Send513_28, Papyrus_28, MontyDev_28, Nilo_29, Rope_28
- Track 53 : Yelo_28
- Track 54 : Weiss13_28, Riparian_28
- Track 55 : Zenon_29
- Track 56 : Labelle_34, Madruga_33
- Track 57 : Patience_35
- Track 58 : Gilgamesh_68
- Track 59 : LuckyBarnes_24
- Track 60 : pZL12_50c

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

The start number called the most often in the published annotations is 6, it was called in 40 of the 100 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle_17, AGrandiflora_17, Adumb2043_17, AinMach_16, Amyev_17, Asa16_17, Ascela_17, Ashes_19, Berrie_17, Cappuccino_17, Cassia_17, Community_17, Cyan_17, Donkey_17, Elezi_17, Emotion_16, Eraser_17, Exile_16, Gambol_17, Halsey_21, Iter_17, Janeemi_18, JasmineDragon_16, Joemato_17, JohnDoe_17, Jstan_18, JuneStar_17, Kalimba_17, Kaylissa_17, Lego_17, Liebe_16, Lizalica_17, London_17, MaGuCo_16, Maureen_16, MiniMommy_16, Moss_19, Mudpuppy_17, Mysterium_17, Niobe_17, Nitro_17, Phives_18, Pixelle_17, Powerpuff_17, Pumpkins_17, ShakeltOph_17, Simpson_19, Soondubu_16, Sooty_17, SpecialK_19, Tallboi_17, Tbone_17, TforTroy_17, Tian_17, Tuck_18, Turab_17, Tutumahutu_17, VroomVroom_16, Warda_17, Yang_17, YesChef_17,

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

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

- Aikoy_37, Alephilan_25, Alyssamiracle_28, Aoka_18, Apeppi_25, Avian_26, Barnyard_34, Beyoncage_23, BirthdayBoy_29, BiteSize_23, Candle_28, DaviePasture_28, Djokovic_23, DoobyDoo_27, DrLupo_36, DumpTruck_27, Erutan_28, EvenBluerMoon_23, Fulcrum_29, GOATification_29, Genamy16_28, Gibbin_29, Gilgamesh_68, Gretellyn_28, Indlulamithi_25, Jalebi_27, Jamemuya19_26, JanetJ_18, Labelle_34, Lambo_28, Leopard_37, Lila22_27, LilyPad_24, LittleFella_25, LuckyBarnes_24, LuckyLeo_27, Madi_23, Madruga_33, Mima20_28, MoiGyank_30, MontyDev_28, Nilo_29, NorManre_29, NovaSharks_27, Onyinye_38, OtterstedtS21_28, Papyrus_28, ParvusTarda_28, Patience_35, Patos_29, Ranch_28, Riparian_28, Rope_28, Rumi_27, Sadboi_28, Sampudon_28, Send513_28, Sienna_23, Suzy_23, Terapin_23, Tillicus_28, Weiss13_28, Wojtek_27, Xenia2_24, Yelo_28, Yikes_29, Zany_27, Zenon_29, pZL12_50c,

Summary by start number:

Start 2:

- Found in 1 of 130 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gilgamesh_68 (singleton),

Start 3:

- Found in 1 of 130 (0.8%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: pZL12_50c (singleton),

Start 4:

- Found in 11 of 130 (8.5%) of genes in pham
- Manual Annotations of this start: 10 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Candle_28 (R), Indlulamithi_25 (AC), MontyDev_28 (R), Nilo_29 (R), Papyrus_28 (R), Riparian_28 (R), Rope_28 (R), Send513_28 (R), Weiss13_28 (R), Yelo_28 (R), Zenon_29 (R),

Start 5:

- Found in 5 of 130 (3.8%) of genes in pham
- Manual Annotations of this start: 5 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_34 (H2), DrLupo_36 (H2), Labelle_34 (U), Madruga_33 (U), Patience_35 (U),

Start 6:

- Found in 61 of 130 (46.9%) of genes in pham
- Manual Annotations of this start: 40 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle_17 (AZ1), AGrandiflora_17 (AZ1), Adumb2043_17 (AZ1), AinMach_16 (AZ), Amyev_17 (AZ1), Asa16_17 (AZ1), Ascela_17 (AZ1), Ashes_19 (AZ5), Berrie_17 (AZ1), Cappuccino_17 (AZ5), Cassia_17 (AZ1), Community_17 (AZ1), Cyan_17 (AZ1), Donkey_17 (AZ5), Elezi_17 (AZ1), Emotion_16 (AZ4), Eraser_17 (AZ1), Exile_16 (AZ), Gambol_17 (AZ5), Halsey_21 (AZ5), Iter_17 (AZ1), Janeemi_18 (AZ1), JasmineDragon_16 (AZ4), Joemato_17 (AZ1), JohnDoe_17 (AZ1), Jstan_18 (AZ1), JuneStar_17 (AZ1),

Kalimba_17 (AZ5), Kaylissa_17 (AZ1), Lego_17 (AZ1), Liebe_16 (AZ2), Lizalica_17 (AZ1), London_17 (AZ1), MaGuCo_16 (AZ2), Maureen_16 (AZ2), MiniMommy_16 (AZ4), Moss_19 (AZ5), Mudpuppy_17 (AZ1), Mysterium_17 (AZ5), Niobe_17 (AZ1), Nitro_17 (AZ1), Phives_18 (AZ1), Pixelle_17 (AZ1), Powerpuff_17 (AZ1), Pumpkins_17 (AZ1), ShakeltOph_17 (AZ4), Simpson_19 (AZ1), Soondubu_16 (AZ), Sooty_17 (AZ5), SpecialK_19 (AZ5), Tallboi_17 (AZ1), Tbone_17 (AZ1), TforTroy_17 (AZ1), Tian_17 (AZ1), Tuck_18 (AZ1), Turab_17 (AZ1), Tutumahutu_17 (AZ1), VroomVroom_16 (AZ4), Warda_17 (AZ1), Yang_17 (AZ1), YesChef_17 (AZ1),

Start 7:

- Found in 3 of 130 (2.3%) of genes in pham
- Manual Annotations of this start: 3 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aikoy_37 (AE), Leopard_37 (AE), Onyinye_38 (AE),

Start 8:

- Found in 1 of 130 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LuckyBarnes_24 (singleton),

Start 9:

- Found in 44 of 130 (33.8%) of genes in pham
- Manual Annotations of this start: 38 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alephilan_25 (DV), Alyssamiracle_28 (DV), Apeppi_25 (DV), Avian_26 (DV), Beyoncage_23 (DG1), BirthdayBoy_29 (DV), BiteSize_23 (DG1), DaviePasture_28 (DV), Djokovic_23 (DG1), DoobyDoo_27 (DV), DumpTruck_27 (DV), Erutan_28 (DV), Fulcrum_29 (DV), GOATification_29 (DV), Genamy16_28 (DV), Gibbin_29 (DV), GretelLyn_28 (DV), Jalebi_27 (DV), Jamemuya19_26 (DV), Lambo_28 (DV), Lila22_27 (DV), LilyPad_24 (DG1), LittleFella_25 (DG2), LuckyLeo_27 (DV), Madi_23 (DG1), Mima20_28 (DV), MoiGyank_30 (DV), NorManre_29 (DV), NovaSharks_27 (DV), OtterstedtS21_28 (DV), ParvusTarda_28 (DV), Patos_29 (DV), Ranch_28 (DV), Rumi_27 (DV), Sadboi_28 (DV), Sampudon_28 (DV), Sienna_23 (DG1), Suzy_23 (DG1), Terapin_23 (DG1), Tillicus_28 (DV), Wojtek_27 (DV), Xenia2_24 (DV), Yikes_29 (DV), Zany_27 (DV),

Start 12:

- Found in 3 of 130 (2.3%) of genes in pham
- Manual Annotations of this start: 2 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aoka_18 (FO), EvenBluerMoon_23 (FO), JanetJ_18 (FO),

Summary by clusters:

There are 15 clusters represented in this pham: singleton, AE, H2, AC, DG2, AZ2, DG1, U, DV, AZ1, R, AZ, AZ4, AZ5, FO,

Info for manual annotations of cluster AC:

- Start number 4 was manually annotated 1 time for cluster AC.

Info for manual annotations of cluster AE:

- Start number 7 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster AZ:

- Start number 6 was manually annotated 1 time for cluster AZ.

Info for manual annotations of cluster AZ1:

- Start number 6 was manually annotated 33 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 6 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ4:

- Start number 6 was manually annotated 3 times for cluster AZ4.

Info for manual annotations of cluster DG1:

- Start number 9 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 9 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 9 was manually annotated 29 times for cluster DV.

Info for manual annotations of cluster FO:

- Start number 12 was manually annotated 2 times for cluster FO.

Info for manual annotations of cluster H2:

- Start number 5 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster R:

- Start number 4 was manually annotated 9 times for cluster R.

Info for manual annotations of cluster U:

- Start number 5 was manually annotated 3 times for cluster U.

Gene Information:

Gene: AEgle_17 Start: 13051, Stop: 13926, Start Num: 6

Candidate Starts for AEgle_17:

(Start: 6 @13051 has 40 MA's), (36, 13222), (54, 13297), (84, 13447), (96, 13501), (106, 13540), (118, 13597), (132, 13675), (135, 13690),

Gene: AGrandiflora_17 Start: 13035, Stop: 13910, Start Num: 6

Candidate Starts for AGrandiflora_17:

(Start: 6 @13035 has 40 MA's), (25, 13146), (41, 13239), (84, 13431), (132, 13659), (135, 13674),

Gene: Adumb2043_17 Start: 13050, Stop: 13925, Start Num: 6

Candidate Starts for Adumb2043_17:

(Start: 6 @13050 has 40 MA's), (36, 13221), (54, 13296), (84, 13446), (96, 13500), (106, 13539), (118, 13596), (132, 13674), (135, 13689),

Gene: Aikoy_37 Start: 27354, Stop: 28244, Start Num: 7

Candidate Starts for Aikoy_37:

(Start: 7 @27354 has 3 MA's), (30, 27471), (37, 27507), (40, 27531), (44, 27552), (50, 27582), (60, 27612), (64, 27636), (72, 27684), (77, 27696), (83, 27759), (112, 27882), (115, 27903), (134, 27999), (138, 28008), (149, 28074), (156, 28140), (158, 28167), (163, 28206), (166, 28215),

Gene: AinMach_16 Start: 12225, Stop: 13082, Start Num: 6

Candidate Starts for AinMach_16:

(Start: 6 @12225 has 40 MA's), (15, 12261), (27, 12330), (30, 12342), (40, 12402), (71, 12516), (73, 12531), (96, 12663), (101, 12675), (113, 12732), (154, 12969), (158, 13005),

Gene: Alephilan_25 Start: 23941, Stop: 24804, Start Num: 9

Candidate Starts for Alephilan_25:

(Start: 9 @23941 has 38 MA's), (14, 23983), (38, 24115), (72, 24262), (76, 24271), (82, 24331), (94, 24382), (135, 24559), (142, 24598), (148, 24631), (154, 24688), (155, 24697),

Gene: Alyssamiracle_28 Start: 22751, Stop: 23614, Start Num: 9

Candidate Starts for Alyssamiracle_28:

(Start: 9 @22751 has 38 MA's), (14, 22793), (32, 22889), (38, 22925), (47, 22961), (63, 23021), (72, 23072), (76, 23081), (82, 23141), (94, 23192), (135, 23369), (140, 23390), (147, 23432), (148, 23441), (154, 23498), (155, 23507),

Gene: Amyev_17 Start: 13063, Stop: 13938, Start Num: 6

Candidate Starts for Amyev_17:

(Start: 6 @13063 has 40 MA's), (84, 13459), (96, 13513), (132, 13687), (135, 13702),

Gene: Aoka_18 Start: 14198, Stop: 15058, Start Num: 12

Candidate Starts for Aoka_18:

(Start: 12 @14198 has 2 MA's), (98, 14639), (117, 14732), (133, 14822),

Gene: Apeppi_25 Start: 24090, Stop: 24947, Start Num: 9

Candidate Starts for Apeppi_25:

(Start: 9 @24090 has 38 MA's), (14, 24132), (38, 24264), (63, 24360), (72, 24411), (76, 24420), (82, 24480), (94, 24531), (135, 24705), (142, 24744), (154, 24834), (155, 24843),

Gene: Asa16_17 Start: 13020, Stop: 13895, Start Num: 6

Candidate Starts for Asa16_17:

(Start: 6 @13020 has 40 MA's), (25, 13131), (36, 13191), (84, 13416), (96, 13470), (102, 13485), (106, 13509), (118, 13566), (132, 13644), (135, 13659),

Gene: Ascela_17 Start: 13047, Stop: 13922, Start Num: 6

Candidate Starts for Ascela_17:

(Start: 6 @13047 has 40 MA's), (84, 13443), (106, 13536), (121, 13611), (135, 13686), (151, 13776),

Gene: Ashes_19 Start: 12748, Stop: 13623, Start Num: 6

Candidate Starts for Ashes_19:

(Start: 6 @12748 has 40 MA's), (18, 12826), (38, 12937), (46, 12979), (75, 13078), (99, 13204), (123, 13327), (129, 13360), (164, 13588),

Gene: Avian_26 Start: 22733, Stop: 23596, Start Num: 9

Candidate Starts for Avian_26:

(Start: 9 @22733 has 38 MA's), (14, 22775), (32, 22871), (38, 22907), (47, 22943), (63, 23003), (72, 23054), (76, 23063), (82, 23123), (94, 23174), (135, 23351), (140, 23372), (147, 23414), (148, 23423), (154, 23480), (155, 23489),

Gene: Barnyard_34 Start: 24251, Stop: 25135, Start Num: 5

Candidate Starts for Barnyard_34:

(Start: 5 @24251 has 5 MA's), (22, 24329), (25, 24353), (26, 24359), (27, 24368), (28, 24374), (32, 24392), (33, 24395), (36, 24413), (56, 24506), (78, 24614), (79, 24617), (97, 24701), (103, 24722), (105, 24737), (107, 24740), (114, 24770), (124, 24809), (126, 24815), (127, 24827), (148, 24953), (155, 25025), (158, 25055), (160, 25061),

Gene: Berrie_17 Start: 13181, Stop: 14056, Start Num: 6

Candidate Starts for Berrie_17:

(Start: 6 @13181 has 40 MA's), (84, 13577), (106, 13670), (132, 13805), (135, 13820),

Gene: Beyoncage_23 Start: 19319, Stop: 20188, Start Num: 9

Candidate Starts for Beyoncage_23:

(Start: 9 @19319 has 38 MA's), (10, 19325), (13, 19355), (21, 19388), (28, 19436), (30, 19442), (38, 19490), (40, 19502), (47, 19535), (61, 19589), (62, 19592), (78, 19688), (79, 19691), (85, 19727), (112, 19838), (130, 19928), (139, 19964), (144, 19991), (152, 20054),

Gene: BirthdayBoy_29 Start: 24794, Stop: 25657, Start Num: 9

Candidate Starts for BirthdayBoy_29:

(Start: 9 @24794 has 38 MA's), (14, 24836), (32, 24932), (38, 24968), (47, 25004), (63, 25064), (72, 25115), (76, 25124), (82, 25184), (94, 25235), (135, 25412), (140, 25433), (142, 25451), (148, 25484), (154, 25541), (155, 25550),

Gene: BiteSize_23 Start: 19319, Stop: 20188, Start Num: 9

Candidate Starts for BiteSize_23:

(Start: 9 @19319 has 38 MA's), (10, 19325), (13, 19355), (21, 19388), (28, 19436), (30, 19442), (38, 19490), (40, 19502), (47, 19535), (61, 19589), (62, 19592), (78, 19688), (79, 19691), (85, 19727), (112, 19838), (130, 19928), (139, 19964), (144, 19991), (152, 20054),

Gene: Candle_28 Start: 22572, Stop: 23444, Start Num: 4

Candidate Starts for Candle_28:

(Start: 4 @22572 has 10 MA's), (15, 22623), (16, 22638), (38, 22752), (39, 22758), (45, 22788), (53, 22821), (69, 22890), (78, 22950), (80, 22974), (122, 23139), (125, 23148), (149, 23271), (151, 23292), (152, 23304), (163, 23403), (165, 23409),

Gene: Cappuccino_17 Start: 12656, Stop: 13531, Start Num: 6

Candidate Starts for Cappuccino_17:

(Start: 6 @12656 has 40 MA's), (18, 12734), (38, 12845), (46, 12887), (75, 12986), (99, 13112), (123, 13235), (129, 13268), (164, 13496),

Gene: Cassia_17 Start: 13143, Stop: 14018, Start Num: 6

Candidate Starts for Cassia_17:

(Start: 6 @13143 has 40 MA's), (36, 13314), (41, 13347), (84, 13539), (96, 13593), (135, 13782), (151, 13872),

Gene: Community_17 Start: 14263, Stop: 15138, Start Num: 6

Candidate Starts for Community_17:

(Start: 6 @14263 has 40 MA's), (24, 14359), (36, 14434), (84, 14659), (106, 14752), (121, 14827), (135, 14902),

Gene: Cyan_17 Start: 13038, Stop: 13913, Start Num: 6

Candidate Starts for Cyan_17:

(Start: 6 @13038 has 40 MA's), (25, 13149), (41, 13242), (84, 13434), (132, 13662), (135, 13677),

Gene: DaviePasture_28 Start: 24560, Stop: 25423, Start Num: 9

Candidate Starts for DaviePasture_28:

(Start: 9 @24560 has 38 MA's), (32, 24698), (38, 24734), (47, 24770), (63, 24830), (72, 24881), (76, 24890), (82, 24950), (94, 25001), (135, 25178), (140, 25199), (142, 25217), (148, 25250), (154, 25307), (155, 25316),

Gene: Djokovic_23 Start: 19319, Stop: 20188, Start Num: 9

Candidate Starts for Djokovic_23:

(Start: 9 @19319 has 38 MA's), (10, 19325), (13, 19355), (21, 19388), (28, 19436), (30, 19442), (38, 19490), (40, 19502), (47, 19535), (61, 19589), (62, 19592), (78, 19688), (79, 19691), (85, 19727), (112, 19838), (130, 19928), (139, 19964), (144, 19991), (152, 20054),

Gene: Donkey_17 Start: 12656, Stop: 13531, Start Num: 6

Candidate Starts for Donkey_17:

(Start: 6 @12656 has 40 MA's), (18, 12734), (38, 12845), (46, 12887), (75, 12986), (99, 13112), (123, 13235), (129, 13268), (164, 13496),

Gene: DoobyDoo_27 Start: 23716, Stop: 24579, Start Num: 9

Candidate Starts for DoobyDoo_27:

(Start: 9 @23716 has 38 MA's), (14, 23758), (32, 23854), (38, 23890), (47, 23926), (63, 23986), (72, 24037), (76, 24046), (82, 24106), (94, 24157), (135, 24334), (142, 24373), (148, 24406), (154, 24463), (155, 24472),

Gene: DrLupo_36 Start: 24651, Stop: 25535, Start Num: 5

Candidate Starts for DrLupo_36:

(Start: 5 @24651 has 5 MA's), (10, 24663), (11, 24666), (25, 24753), (26, 24759), (27, 24768), (32, 24792), (36, 24813), (56, 24906), (62, 24915), (78, 25014), (92, 25083), (114, 25170), (124, 25209), (151, 25383), (158, 25455), (160, 25461),

Gene: DumpTruck_27 Start: 24026, Stop: 24886, Start Num: 9

Candidate Starts for DumpTruck_27:

(Start: 9 @24026 has 38 MA's), (15, 24071), (47, 24236), (58, 24272), (62, 24290), (92, 24455), (93, 24458), (94, 24467), (97, 24473), (105, 24509), (108, 24515), (133, 24638), (140, 24665), (141, 24680), (149, 24719), (155, 24782),

Gene: Elezi_17 Start: 13021, Stop: 13896, Start Num: 6

Candidate Starts for Elezi_17:

(Start: 6 @13021 has 40 MA's), (25, 13132), (36, 13192), (84, 13417), (96, 13471), (102, 13486), (118, 13567), (132, 13645), (135, 13660),

Gene: Emotion_16 Start: 11297, Stop: 12160, Start Num: 6

Candidate Starts for Emotion_16:

(Start: 6 @11297 has 40 MA's), (15, 11333), (19, 11354), (30, 11414), (81, 11672), (122, 11864),

Gene: Eraser_17 Start: 13021, Stop: 13896, Start Num: 6

Candidate Starts for Eraser_17:

(Start: 6 @13021 has 40 MA's), (25, 13132), (36, 13192), (84, 13417), (96, 13471), (102, 13486), (106, 13510), (118, 13567), (132, 13645), (135, 13660),

Gene: Erutan_28 Start: 24238, Stop: 25101, Start Num: 9

Candidate Starts for Erutan_28:

(Start: 9 @24238 has 38 MA's), (14, 24280), (32, 24376), (38, 24412), (47, 24448), (63, 24508), (72, 24559), (76, 24568), (82, 24628), (94, 24679), (135, 24856), (140, 24877), (142, 24895), (148, 24928), (154, 24985), (155, 24994),

Gene: EvenBluerMoon_23 Start: 14233, Stop: 15093, Start Num: 12

Candidate Starts for EvenBluerMoon_23:

(Start: 12 @14233 has 2 MA's), (98, 14674), (117, 14767), (133, 14857),

Gene: Exile_16 Start: 13694, Stop: 14551, Start Num: 6

Candidate Starts for Exile_16:

(Start: 6 @13694 has 40 MA's), (15, 13730), (71, 13985), (81, 14069), (90, 14105), (95, 14129), (101, 14144), (124, 14267),

Gene: Fulcrum_29 Start: 24762, Stop: 25625, Start Num: 9

Candidate Starts for Fulcrum_29:

(Start: 9 @24762 has 38 MA's), (14, 24804), (32, 24900), (38, 24936), (47, 24972), (63, 25032), (72, 25083), (76, 25092), (82, 25152), (94, 25203), (135, 25380), (140, 25401), (142, 25419), (148, 25452), (154, 25509), (155, 25518),

Gene: GOATification_29 Start: 24762, Stop: 25625, Start Num: 9

Candidate Starts for GOATification_29:

(Start: 9 @24762 has 38 MA's), (14, 24804), (32, 24900), (38, 24936), (47, 24972), (63, 25032), (72, 25083), (76, 25092), (82, 25152), (94, 25203), (135, 25380), (140, 25401), (142, 25419), (148, 25452), (154, 25509), (155, 25518),

Gene: Gambol_17 Start: 12656, Stop: 13531, Start Num: 6

Candidate Starts for Gambol_17:

(Start: 6 @12656 has 40 MA's), (18, 12734), (38, 12845), (46, 12887), (75, 12986), (99, 13112), (123, 13235), (129, 13268), (164, 13496),

Gene: Genamy16_28 Start: 22751, Stop: 23614, Start Num: 9

Candidate Starts for Genamy16_28:

(Start: 9 @22751 has 38 MA's), (14, 22793), (32, 22889), (38, 22925), (47, 22961), (63, 23021), (72, 23072), (76, 23081), (82, 23141), (94, 23192), (135, 23369), (140, 23390), (147, 23432), (148, 23441), (154, 23498), (155, 23507),

Gene: Gibbin_29 Start: 24843, Stop: 25706, Start Num: 9

Candidate Starts for Gibbin_29:

(Start: 9 @24843 has 38 MA's), (14, 24885), (38, 25017), (47, 25053), (63, 25113), (72, 25164), (76, 25173), (82, 25233), (94, 25284), (135, 25461), (140, 25482), (142, 25500), (148, 25533), (154, 25590), (155, 25599),

Gene: Gilgamesh_68 Start: 62731, Stop: 63672, Start Num: 2

Candidate Starts for Gilgamesh_68:

(Start: 2 @62731 has 1 MA's), (28, 62884), (41, 62956), (57, 63025), (59, 63028), (87, 63196), (99, 63244), (101, 63250), (111, 63304), (120, 63346), (129, 63406), (148, 63502), (154, 63559), (159, 63598), (163, 63634), (165, 63640),

Gene: GretellLyn_28 Start: 25105, Stop: 25968, Start Num: 9

Candidate Starts for GretellLyn_28:

(Start: 9 @25105 has 38 MA's), (14, 25147), (32, 25243), (38, 25279), (47, 25315), (63, 25375), (72, 25426), (76, 25435), (82, 25495), (94, 25546), (135, 25723), (140, 25744), (142, 25762), (148, 25795), (154, 25852), (155, 25861),

Gene: Halsey_21 Start: 12748, Stop: 13623, Start Num: 6

Candidate Starts for Halsey_21:

(Start: 6 @12748 has 40 MA's), (18, 12826), (38, 12937), (46, 12979), (75, 13078), (99, 13204), (123, 13327), (129, 13360), (164, 13588),

Gene: Indlulamithi_25 Start: 20028, Stop: 20903, Start Num: 4

Candidate Starts for Indlulamithi_25:

(Start: 4 @20028 has 10 MA's), (15, 20082), (25, 20136), (29, 20160), (30, 20163), (38, 20211), (43, 20235), (44, 20244), (48, 20265), (49, 20268), (55, 20286), (76, 20376), (110, 20553), (153, 20766), (158, 20820), (162, 20853), (163, 20862), (166, 20871), (168, 20892), (169, 20895),

Gene: Iter_17 Start: 13047, Stop: 13922, Start Num: 6

Candidate Starts for Iter_17:

(Start: 6 @13047 has 40 MA's), (84, 13443), (106, 13536), (121, 13611), (135, 13686), (151, 13776),

Gene: Jalebi_27 Start: 25272, Stop: 26135, Start Num: 9

Candidate Starts for Jalebi_27:

(Start: 9 @25272 has 38 MA's), (14, 25314), (38, 25446), (47, 25482), (63, 25542), (72, 25593), (76, 25602), (82, 25662), (94, 25713), (135, 25890), (140, 25911), (142, 25929), (148, 25962), (154, 26019), (155, 26028),

Gene: Jamemuya19_26 Start: 22341, Stop: 23204, Start Num: 9

Candidate Starts for Jamemuya19_26:

(Start: 9 @22341 has 38 MA's), (14, 22383), (32, 22479), (38, 22515), (47, 22551), (63, 22611), (72, 22662), (76, 22671), (82, 22731), (94, 22782), (135, 22959), (140, 22980), (147, 23022), (148, 23031), (154, 23088), (155, 23097),

Gene: Janeemi_18 Start: 14291, Stop: 15166, Start Num: 6

Candidate Starts for Janeemi_18:

(Start: 6 @14291 has 40 MA's), (36, 14462), (84, 14687), (106, 14780), (121, 14855), (135, 14930),

Gene: JanetJ_18 Start: 14015, Stop: 14875, Start Num: 12

Candidate Starts for JanetJ_18:

(Start: 12 @14015 has 2 MA's), (13, 14036), (65, 14282), (83, 14396), (88, 14414),

Gene: JasmineDragon_16 Start: 11227, Stop: 12087, Start Num: 6

Candidate Starts for JasmineDragon_16:

(Start: 6 @11227 has 40 MA's), (15, 11263), (17, 11281), (80, 11599), (102, 11680), (116, 11758), (122, 11794), (148, 11920), (151, 11944),

Gene: Joemato_17 Start: 13038, Stop: 13913, Start Num: 6

Candidate Starts for Joemato_17:

(Start: 6 @13038 has 40 MA's), (25, 13149), (41, 13242), (84, 13434), (132, 13662), (135, 13677),

Gene: JohnDoe_17 Start: 13033, Stop: 13908, Start Num: 6

Candidate Starts for JohnDoe_17:

(Start: 6 @13033 has 40 MA's), (25, 13144), (84, 13429), (132, 13657), (135, 13672),

Gene: Jstan_18 Start: 13021, Stop: 13896, Start Num: 6

Candidate Starts for Jstan_18:

(Start: 6 @13021 has 40 MA's), (25, 13132), (36, 13192), (84, 13417), (96, 13471), (102, 13486), (106, 13510), (118, 13567), (132, 13645), (135, 13660),

Gene: JuneStar_17 Start: 13141, Stop: 14016, Start Num: 6

Candidate Starts for JuneStar_17:

(Start: 6 @13141 has 40 MA's), (84, 13537), (106, 13630), (135, 13780), (144, 13822),

Gene: Kalimba_17 Start: 12657, Stop: 13532, Start Num: 6

Candidate Starts for Kalimba_17:

(Start: 6 @12657 has 40 MA's), (18, 12735), (38, 12846), (46, 12888), (75, 12987), (99, 13113), (123, 13236), (129, 13269), (164, 13497),

Gene: Kaylissa_17 Start: 13039, Stop: 13914, Start Num: 6

Candidate Starts for Kaylissa_17:

(Start: 6 @13039 has 40 MA's), (25, 13150), (41, 13243), (84, 13435), (132, 13663), (135, 13678),

Gene: Labelle_34 Start: 26211, Stop: 27101, Start Num: 5

Candidate Starts for Labelle_34:

(Start: 5 @26211 has 5 MA's), (28, 26340), (41, 26412), (45, 26430), (48, 26448), (56, 26472), (72, 26538), (84, 26619), (91, 26649), (100, 26685), (122, 26778), (130, 26817), (140, 26877), (151, 26952), (165, 27069), (168, 27093),

Gene: Lambo_28 Start: 24780, Stop: 25640, Start Num: 9

Candidate Starts for Lambo_28:

(Start: 9 @24780 has 38 MA's), (14, 24822), (38, 24954), (63, 25050), (72, 25101), (76, 25110), (82, 25170), (94, 25221), (135, 25395), (140, 25416), (142, 25434), (148, 25467), (154, 25524), (155, 25533),

Gene: Lego_17 Start: 13038, Stop: 13913, Start Num: 6

Candidate Starts for Lego_17:

(Start: 6 @13038 has 40 MA's), (25, 13149), (41, 13242), (84, 13434), (132, 13662), (135, 13677),

Gene: Leopard_37 Start: 27642, Stop: 28532, Start Num: 7

Candidate Starts for Leopard_37:

(Start: 7 @27642 has 3 MA's), (30, 27759), (37, 27795), (40, 27819), (44, 27840), (50, 27870), (60, 27900), (64, 27924), (72, 27972), (77, 27984), (83, 28047), (112, 28170), (115, 28191), (134, 28287), (138, 28296), (149, 28362), (156, 28428), (158, 28455), (163, 28494), (166, 28503),

Gene: Liebe_16 Start: 11562, Stop: 12437, Start Num: 6

Candidate Starts for Liebe_16:

(Start: 6 @11562 has 40 MA's), (32, 11712), (96, 12012), (99, 12018), (118, 12108), (135, 12201),

Gene: Lila22_27 Start: 24732, Stop: 25595, Start Num: 9

Candidate Starts for Lila22_27:

(Start: 9 @24732 has 38 MA's), (14, 24774), (38, 24906), (47, 24942), (63, 25002), (72, 25053), (76, 25062), (82, 25122), (94, 25173), (135, 25350), (140, 25371), (142, 25389), (148, 25422), (154, 25479), (155, 25488),

Gene: LilyPad_24 Start: 19902, Stop: 20771, Start Num: 9

Candidate Starts for LilyPad_24:

(Start: 9 @19902 has 38 MA's), (20, 19968), (23, 19977), (28, 20019), (30, 20025), (40, 20085), (79, 20274), (85, 20310), (108, 20397), (122, 20472), (136, 20532), (144, 20574), (164, 20736),

Gene: LittleFella_25 Start: 21778, Stop: 22647, Start Num: 9

Candidate Starts for LittleFella_25:

(Start: 9 @21778 has 38 MA's), (13, 21814), (21, 21847), (30, 21901), (38, 21949), (47, 21994), (68, 22087), (76, 22117), (78, 22147), (119, 22333), (129, 22384), (140, 22426), (150, 22495), (163, 22609),

Gene: Lizalica_17 Start: 13023, Stop: 13898, Start Num: 6

Candidate Starts for Lizalica_17:

(Start: 6 @13023 has 40 MA's), (25, 13134), (36, 13194), (84, 13419), (132, 13647), (135, 13662),

Gene: London_17 Start: 13021, Stop: 13896, Start Num: 6

Candidate Starts for London_17:

(Start: 6 @13021 has 40 MA's), (25, 13132), (36, 13192), (84, 13417), (96, 13471), (102, 13486), (106, 13510), (118, 13567), (132, 13645), (135, 13660),

Gene: LuckyBarnes_24 Start: 20004, Stop: 20891, Start Num: 8

Candidate Starts for LuckyBarnes_24:

(Start: 8 @20004 has 1 MA's), (20, 20070), (34, 20145), (41, 20193), (67, 20289), (86, 20400), (89, 20418), (96, 20460), (104, 20496), (109, 20511), (143, 20688), (145, 20697), (146, 20700), (157, 20781), (161, 20823),

Gene: LuckyLeo_27 Start: 24090, Stop: 24947, Start Num: 9

Candidate Starts for LuckyLeo_27:

(Start: 9 @24090 has 38 MA's), (14, 24132), (38, 24264), (63, 24360), (72, 24411), (76, 24420), (82, 24480), (94, 24531), (135, 24705), (142, 24744), (154, 24834), (155, 24843),

Gene: MaGuCo_16 Start: 11496, Stop: 12371, Start Num: 6

Candidate Starts for MaGuCo_16:

(Start: 6 @11496 has 40 MA's), (32, 11646), (96, 11946), (99, 11952), (118, 12042), (123, 12075), (135, 12135),

Gene: Madi_23 Start: 19319, Stop: 20188, Start Num: 9

Candidate Starts for Madi_23:

(Start: 9 @19319 has 38 MA's), (10, 19325), (13, 19355), (21, 19388), (28, 19436), (30, 19442), (38, 19490), (40, 19502), (47, 19535), (61, 19589), (62, 19592), (78, 19688), (79, 19691), (85, 19727), (112, 19838), (130, 19928), (139, 19964), (144, 19991), (152, 20054),

Gene: Madruga_33 Start: 25880, Stop: 26770, Start Num: 5

Candidate Starts for Madruga_33:

(Start: 5 @25880 has 5 MA's), (28, 26009), (41, 26081), (45, 26099), (48, 26117), (56, 26141), (72, 26207), (84, 26288), (91, 26318), (100, 26354), (122, 26447), (130, 26486), (140, 26546), (151, 26621), (165, 26738), (168, 26762),

Gene: Maureen_16 Start: 11562, Stop: 12437, Start Num: 6

Candidate Starts for Maureen_16:

(Start: 6 @11562 has 40 MA's), (32, 11712), (96, 12012), (99, 12018), (118, 12108), (135, 12201),

Gene: Mima20_28 Start: 24461, Stop: 25324, Start Num: 9

Candidate Starts for Mima20_28:

(Start: 9 @24461 has 38 MA's), (14, 24503), (32, 24599), (38, 24635), (47, 24671), (63, 24731), (72, 24782), (76, 24791), (82, 24851), (94, 24902), (135, 25079), (140, 25100), (142, 25118), (148, 25151), (154, 25208), (155, 25217),

Gene: MiniMommy_16 Start: 11228, Stop: 12088, Start Num: 6

Candidate Starts for MiniMommy_16:

(Start: 6 @11228 has 40 MA's), (15, 11264), (17, 11282), (80, 11600), (102, 11681), (116, 11759), (122, 11795), (148, 11921), (151, 11945),

Gene: MoiGyank_30 Start: 25142, Stop: 26005, Start Num: 9

Candidate Starts for MoiGyank_30:

(Start: 9 @25142 has 38 MA's), (14, 25184), (32, 25280), (38, 25316), (47, 25352), (63, 25412), (72, 25463), (76, 25472), (82, 25532), (94, 25583), (135, 25760), (140, 25781), (142, 25799), (148, 25832), (154, 25889), (155, 25898),

Gene: MontyDev_28 Start: 22213, Stop: 23085, Start Num: 4

Candidate Starts for MontyDev_28:

(Start: 4 @22213 has 10 MA's), (15, 22264), (16, 22279), (38, 22393), (39, 22399), (45, 22429), (53, 22462), (69, 22531), (78, 22591), (80, 22615), (122, 22780), (125, 22789), (149, 22912), (151, 22933), (152, 22945), (163, 23044), (165, 23050),

Gene: Moss_19 Start: 12748, Stop: 13623, Start Num: 6

Candidate Starts for Moss_19:

(Start: 6 @12748 has 40 MA's), (18, 12826), (38, 12937), (46, 12979), (75, 13078), (99, 13204), (123, 13327), (129, 13360), (164, 13588),

Gene: Mudpuppy_17 Start: 13037, Stop: 13912, Start Num: 6

Candidate Starts for Mudpuppy_17:

(Start: 6 @13037 has 40 MA's), (25, 13148), (84, 13433), (132, 13661), (135, 13676),

Gene: Mysterium_17 Start: 12749, Stop: 13624, Start Num: 6

Candidate Starts for Mysterium_17:

(Start: 6 @12749 has 40 MA's), (18, 12827), (38, 12938), (46, 12980), (75, 13079), (99, 13205), (123, 13328), (129, 13361), (164, 13589),

Gene: Nilo_29 Start: 22569, Stop: 23441, Start Num: 4

Candidate Starts for Nilo_29:

(Start: 4 @22569 has 10 MA's), (15, 22620), (16, 22635), (38, 22749), (39, 22755), (45, 22785), (53, 22818), (69, 22887), (78, 22947), (80, 22971), (122, 23136), (125, 23145), (149, 23268), (151, 23289), (152, 23301), (163, 23400), (165, 23406),

Gene: Niobe_17 Start: 13021, Stop: 13896, Start Num: 6

Candidate Starts for Niobe_17:

(Start: 6 @13021 has 40 MA's), (25, 13132), (36, 13192), (84, 13417), (96, 13471), (102, 13486), (106, 13510), (118, 13567), (132, 13645), (135, 13660),

Gene: Nitro_17 Start: 13045, Stop: 13920, Start Num: 6

Candidate Starts for Nitro_17:

(1, 12886), (Start: 6 @13045 has 40 MA's), (36, 13216), (84, 13441), (106, 13534), (118, 13591), (130, 13660), (132, 13669), (135, 13684), (143, 13723),

Gene: NorManre_29 Start: 24349, Stop: 25212, Start Num: 9

Candidate Starts for NorManre_29:

(Start: 9 @24349 has 38 MA's), (14, 24391), (38, 24523), (47, 24559), (63, 24619), (72, 24670), (76, 24679), (82, 24739), (94, 24790), (135, 24967), (140, 24988), (142, 25006), (148, 25039), (154, 25096), (155, 25105),

Gene: NovaSharks_27 Start: 22341, Stop: 23204, Start Num: 9

Candidate Starts for NovaSharks_27:

(Start: 9 @22341 has 38 MA's), (14, 22383), (32, 22479), (38, 22515), (47, 22551), (63, 22611), (72, 22662), (76, 22671), (82, 22731), (94, 22782), (135, 22959), (140, 22980), (147, 23022), (148, 23031), (154, 23088), (155, 23097),

Gene: Onyinye_38 Start: 27521, Stop: 28411, Start Num: 7

Candidate Starts for Onyinye_38:

(Start: 7 @27521 has 3 MA's), (30, 27638), (37, 27674), (40, 27698), (44, 27719), (50, 27749), (60, 27779), (64, 27803), (72, 27851), (77, 27863), (83, 27926), (112, 28049), (115, 28070), (134, 28166), (138, 28175), (149, 28241), (156, 28307), (158, 28334), (163, 28373), (166, 28382),

Gene: OtterstedtS21_28 Start: 24427, Stop: 25290, Start Num: 9

Candidate Starts for OtterstedtS21_28:

(Start: 9 @24427 has 38 MA's), (14, 24469), (38, 24601), (47, 24637), (63, 24697), (72, 24748), (76, 24757), (82, 24817), (94, 24868), (135, 25045), (140, 25066), (142, 25084), (148, 25117), (154, 25174), (155, 25183),

Gene: Papyrus_28 Start: 22234, Stop: 23106, Start Num: 4

Candidate Starts for Papyrus_28:

(Start: 4 @22234 has 10 MA's), (15, 22285), (16, 22300), (38, 22414), (39, 22420), (45, 22450), (53, 22483), (69, 22552), (78, 22612), (80, 22636), (122, 22801), (125, 22810), (149, 22933), (151, 22954), (152, 22966), (163, 23065), (165, 23071),

Gene: ParvusTarda_28 Start: 23909, Stop: 24772, Start Num: 9

Candidate Starts for ParvusTarda_28:

(Start: 9 @23909 has 38 MA's), (14, 23951), (38, 24083), (47, 24119), (63, 24179), (72, 24230), (76, 24239), (82, 24299), (94, 24350), (135, 24527), (140, 24548), (142, 24566), (148, 24599), (154, 24656), (155, 24665),

Gene: Patience_35 Start: 26761, Stop: 27651, Start Num: 5

Candidate Starts for Patience_35:

(Start: 5 @26761 has 5 MA's), (28, 26890), (41, 26962), (44, 26977), (45, 26980), (48, 26998), (56, 27022), (72, 27088), (84, 27169), (91, 27199), (100, 27235), (122, 27328), (130, 27367), (140, 27427), (151, 27502), (165, 27619), (168, 27643),

Gene: Patos_29 Start: 24349, Stop: 25212, Start Num: 9

Candidate Starts for Patos_29:

(Start: 9 @24349 has 38 MA's), (14, 24391), (38, 24523), (47, 24559), (63, 24619), (72, 24670), (76, 24679), (82, 24739), (94, 24790), (135, 24967), (140, 24988), (142, 25006), (148, 25039), (154, 25096), (155, 25105),

Gene: Phives_18 Start: 14123, Stop: 14998, Start Num: 6

Candidate Starts for Phives_18:

(Start: 6 @14123 has 40 MA's), (84, 14519), (96, 14573), (132, 14747), (135, 14762),

Gene: Pixelle_17 Start: 13066, Stop: 13941, Start Num: 6

Candidate Starts for Pixelle_17:

(Start: 6 @13066 has 40 MA's), (96, 13516), (132, 13690), (135, 13705),

Gene: Powerpuff_17 Start: 13089, Stop: 13964, Start Num: 6

Candidate Starts for Powerpuff_17:

(Start: 6 @13089 has 40 MA's), (25, 13200), (41, 13293), (84, 13485), (132, 13713), (135, 13728),

Gene: Pumpkins_17 Start: 13153, Stop: 14028, Start Num: 6

Candidate Starts for Pumpkins_17:

(Start: 6 @13153 has 40 MA's), (36, 13324), (41, 13357), (84, 13549), (96, 13603), (135, 13792), (151, 13882),

Gene: Ranch_28 Start: 23263, Stop: 24126, Start Num: 9

Candidate Starts for Ranch_28:

(Start: 9 @23263 has 38 MA's), (14, 23305), (38, 23437), (47, 23473), (63, 23533), (72, 23584), (76, 23593), (82, 23653), (94, 23704), (135, 23881), (140, 23902), (142, 23920), (148, 23953), (154, 24010), (155, 24019),

Gene: Riparian_28 Start: 22030, Stop: 22902, Start Num: 4

Candidate Starts for Riparian_28:

(Start: 4 @22030 has 10 MA's), (15, 22081), (16, 22096), (38, 22210), (39, 22216), (45, 22246), (53, 22279), (69, 22348), (70, 22351), (78, 22408), (122, 22597), (125, 22606), (149, 22729), (151, 22750), (152, 22762), (163, 22861), (165, 22867),

Gene: Rope_28 Start: 22216, Stop: 23088, Start Num: 4

Candidate Starts for Rope_28:

(Start: 4 @22216 has 10 MA's), (15, 22267), (16, 22282), (38, 22396), (39, 22402), (45, 22432), (53, 22465), (69, 22534), (78, 22594), (80, 22618), (122, 22783), (125, 22792), (149, 22915), (151, 22936), (152, 22948), (163, 23047), (165, 23053),

Gene: Rumi_27 Start: 22344, Stop: 23207, Start Num: 9

Candidate Starts for Rumi_27:

(Start: 9 @22344 has 38 MA's), (14, 22386), (32, 22482), (38, 22518), (47, 22554), (63, 22614), (72, 22665), (76, 22674), (82, 22734), (94, 22785), (135, 22962), (140, 22983), (147, 23025), (148, 23034), (154, 23091), (155, 23100),

Gene: Sadboi_28 Start: 25105, Stop: 25968, Start Num: 9

Candidate Starts for Sadboi_28:

(Start: 9 @25105 has 38 MA's), (14, 25147), (32, 25243), (38, 25279), (47, 25315), (63, 25375), (72, 25426), (76, 25435), (82, 25495), (94, 25546), (135, 25723), (140, 25744), (142, 25762), (148, 25795), (154, 25852), (155, 25861),

Gene: Sampudon_28 Start: 25272, Stop: 26135, Start Num: 9

Candidate Starts for Sampudon_28:

(Start: 9 @25272 has 38 MA's), (14, 25314), (38, 25446), (47, 25482), (63, 25542), (72, 25593), (76, 25602), (82, 25662), (94, 25713), (135, 25890), (140, 25911), (142, 25929), (148, 25962), (154, 26019), (155, 26028),

Gene: Send513_28 Start: 22572, Stop: 23444, Start Num: 4

Candidate Starts for Send513_28:

(Start: 4 @22572 has 10 MA's), (15, 22623), (16, 22638), (38, 22752), (39, 22758), (45, 22788), (53, 22821), (69, 22890), (78, 22950), (80, 22974), (122, 23139), (125, 23148), (149, 23271), (151, 23292), (152, 23304), (163, 23403), (165, 23409),

Gene: ShakeltOph_17 Start: 11227, Stop: 12087, Start Num: 6

Candidate Starts for ShakeltOph_17:

(Start: 6 @11227 has 40 MA's), (15, 11263), (17, 11281), (80, 11599), (102, 11680), (116, 11758), (122, 11794), (148, 11920), (151, 11944),

Gene: Sienna_23 Start: 19319, Stop: 20188, Start Num: 9

Candidate Starts for Sienna_23:

(Start: 9 @19319 has 38 MA's), (10, 19325), (13, 19355), (21, 19388), (25, 19415), (28, 19436), (30, 19442), (38, 19490), (40, 19502), (47, 19535), (52, 19556), (78, 19688), (79, 19691), (85, 19727), (122, 19889), (130, 19928), (139, 19964), (142, 19985),

Gene: Simpson_19 Start: 13038, Stop: 13913, Start Num: 6

Candidate Starts for Simpson_19:

(Start: 6 @13038 has 40 MA's), (25, 13149), (41, 13242), (84, 13434), (132, 13662), (135, 13677),

Gene: Soondubu_16 Start: 13702, Stop: 14559, Start Num: 6

Candidate Starts for Soondubu_16:

(Start: 6 @13702 has 40 MA's), (15, 13738), (71, 13993), (81, 14077), (90, 14113), (95, 14137), (101, 14152), (124, 14275),

Gene: Sooty_17 Start: 12658, Stop: 13533, Start Num: 6

Candidate Starts for Sooty_17:

(Start: 6 @12658 has 40 MA's), (18, 12736), (38, 12847), (46, 12889), (75, 12988), (99, 13114), (123, 13237), (129, 13270), (164, 13498),

Gene: SpecialK_19 Start: 12655, Stop: 13530, Start Num: 6

Candidate Starts for SpecialK_19:

(Start: 6 @12655 has 40 MA's), (18, 12733), (38, 12844), (46, 12886), (75, 12985), (99, 13111), (123, 13234), (129, 13267), (164, 13495),

Gene: Suzy_23 Start: 20480, Stop: 21349, Start Num: 9

Candidate Starts for Suzy_23:

(Start: 9 @20480 has 38 MA's), (10, 20486), (13, 20516), (21, 20549), (28, 20597), (30, 20603), (38, 20651), (40, 20663), (41, 20669), (42, 20672), (47, 20696), (50, 20711), (78, 20849), (79, 20852), (85, 20888), (112, 20999), (130, 21089), (139, 21125), (152, 21215),

Gene: Tallboi_17 Start: 13048, Stop: 13923, Start Num: 6

Candidate Starts for Tallboi_17:

(Start: 6 @13048 has 40 MA's), (36, 13219), (84, 13444), (96, 13498), (118, 13594), (132, 13672), (135, 13687), (151, 13777),

Gene: Tbone_17 Start: 13042, Stop: 13917, Start Num: 6

Candidate Starts for Tbone_17:

(Start: 6 @13042 has 40 MA's), (25, 13153), (84, 13438), (132, 13666), (135, 13681),

Gene: Terapin_23 Start: 19319, Stop: 20188, Start Num: 9

Candidate Starts for Terapin_23:

(Start: 9 @19319 has 38 MA's), (10, 19325), (13, 19355), (21, 19388), (28, 19436), (30, 19442), (38, 19490), (40, 19502), (47, 19535), (61, 19589), (62, 19592), (78, 19688), (79, 19691), (85, 19727), (112, 19838), (130, 19928), (139, 19964), (144, 19991), (152, 20054),

Gene: TforTroy_17 Start: 13171, Stop: 14046, Start Num: 6

Candidate Starts for TforTroy_17:

(Start: 6 @13171 has 40 MA's), (36, 13342), (84, 13567), (106, 13660), (135, 13810), (144, 13852),

Gene: Tian_17 Start: 13063, Stop: 13938, Start Num: 6

Candidate Starts for Tian_17:

(Start: 6 @13063 has 40 MA's), (84, 13459), (96, 13513), (132, 13687), (135, 13702),

Gene: Tillicus_28 Start: 23684, Stop: 24541, Start Num: 9

Candidate Starts for Tillicus_28:

(Start: 9 @23684 has 38 MA's), (32, 23822), (35, 23834), (38, 23858), (53, 23918), (72, 24005), (82, 24074), (94, 24125), (135, 24299), (138, 24308), (154, 24428), (155, 24437),

Gene: Tuck_18 Start: 14243, Stop: 15118, Start Num: 6

Candidate Starts for Tuck_18:

(Start: 6 @14243 has 40 MA's), (24, 14339), (36, 14414), (84, 14639), (106, 14732), (121, 14807), (135, 14882),

Gene: Turab_17 Start: 13050, Stop: 13925, Start Num: 6

Candidate Starts for Turab_17:

(Start: 6 @13050 has 40 MA's), (36, 13221), (54, 13296), (84, 13446), (96, 13500), (106, 13539), (118, 13596), (132, 13674), (135, 13689),

Gene: Tutumahutu_17 Start: 13089, Stop: 13964, Start Num: 6

Candidate Starts for Tutumahutu_17:

(Start: 6 @13089 has 40 MA's), (25, 13200), (84, 13485), (132, 13713), (135, 13728),

Gene: VroomVroom_16 Start: 11238, Stop: 12098, Start Num: 6

Candidate Starts for VroomVroom_16:

(Start: 6 @11238 has 40 MA's), (15, 11274), (17, 11292), (81, 11613), (116, 11769), (122, 11805), (134, 11865), (148, 11931), (151, 11955),

Gene: Warda_17 Start: 13034, Stop: 13909, Start Num: 6

Candidate Starts for Warda_17:

(Start: 6 @13034 has 40 MA's), (25, 13145), (84, 13430), (132, 13658), (135, 13673),

Gene: Weiss13_28 Start: 22262, Stop: 23134, Start Num: 4

Candidate Starts for Weiss13_28:

(Start: 4 @22262 has 10 MA's), (15, 22313), (16, 22328), (38, 22442), (39, 22448), (45, 22478), (53, 22511), (69, 22580), (70, 22583), (78, 22640), (122, 22829), (125, 22838), (149, 22961), (151, 22982), (152, 22994), (163, 23093), (165, 23099),

Gene: Wojtek_27 Start: 23982, Stop: 24845, Start Num: 9

Candidate Starts for Wojtek_27:

(Start: 9 @23982 has 38 MA's), (14, 24024), (38, 24156), (53, 24216), (63, 24252), (72, 24303), (76, 24312), (82, 24372), (94, 24423), (135, 24600), (140, 24621), (142, 24639), (148, 24672), (154, 24729), (155, 24738),

Gene: Xenia2_24 Start: 24068, Stop: 24928, Start Num: 9

Candidate Starts for Xenia2_24:

(Start: 9 @24068 has 38 MA's), (15, 24113), (47, 24278), (58, 24314), (62, 24332), (92, 24497), (93, 24500), (94, 24509), (97, 24515), (105, 24551), (108, 24557), (131, 24668), (140, 24707), (141, 24722), (149, 24761), (155, 24824),

Gene: Yang_17 Start: 13141, Stop: 14016, Start Num: 6

Candidate Starts for Yang_17:

(Start: 6 @13141 has 40 MA's), (84, 13537), (135, 13780), (167, 14005),

Gene: Yelo_28 Start: 22555, Stop: 23427, Start Num: 4

Candidate Starts for Yelo_28:

(Start: 4 @22555 has 10 MA's), (15, 22606), (16, 22621), (38, 22735), (39, 22741), (45, 22771), (53, 22804), (69, 22873), (78, 22933), (122, 23122), (125, 23131), (149, 23254), (151, 23275), (152, 23287), (163, 23386),

Gene: YesChef_17 Start: 13089, Stop: 13964, Start Num: 6

Candidate Starts for YesChef_17:

(Start: 6 @13089 has 40 MA's), (25, 13200), (41, 13293), (84, 13485), (132, 13713), (135, 13728),

Gene: Yikes_29 Start: 25357, Stop: 26220, Start Num: 9

Candidate Starts for Yikes_29:

(Start: 9 @25357 has 38 MA's), (14, 25399), (32, 25495), (38, 25531), (47, 25567), (63, 25627), (72, 25678), (76, 25687), (82, 25747), (94, 25798), (135, 25975), (140, 25996), (142, 26014), (148, 26047), (154, 26104), (155, 26113),

Gene: Zany_27 Start: 24878, Stop: 25741, Start Num: 9

Candidate Starts for Zany_27:

(Start: 9 @24878 has 38 MA's), (14, 24920), (38, 25052), (47, 25088), (63, 25148), (72, 25199), (76, 25208), (82, 25268), (94, 25319), (135, 25496), (140, 25517), (142, 25535), (148, 25568), (154, 25625), (155, 25634),

Gene: Zenon_29 Start: 22574, Stop: 23446, Start Num: 4

Candidate Starts for Zenon_29:

(Start: 4 @22574 has 10 MA's), (15, 22625), (16, 22640), (38, 22754), (39, 22760), (45, 22790), (53, 22823), (69, 22892), (70, 22895), (78, 22952), (80, 22976), (122, 23141), (125, 23150), (149, 23273), (151, 23294), (152, 23306), (163, 23405), (165, 23411),

Gene: pZL12_50c Start: 39384, Stop: 38482, Start Num: 3

Candidate Starts for pZL12_50c:

(3, 39384), (15, 39333), (31, 39246), (32, 39237), (38, 39201), (51, 39147), (52, 39144), (65, 39090), (66, 39084), (74, 39051), (111, 38856), (128, 38754), (137, 38715), (142, 38682),