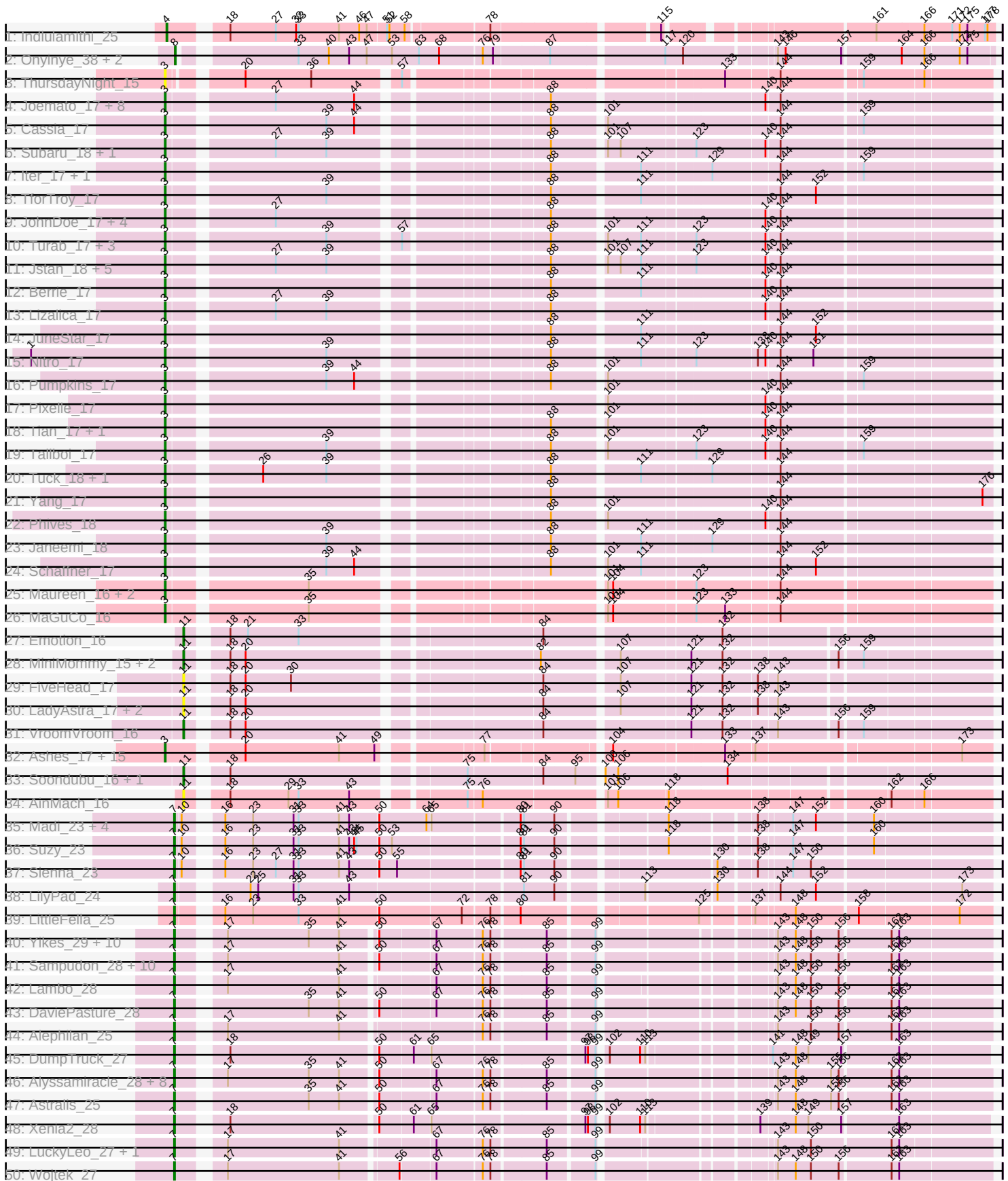
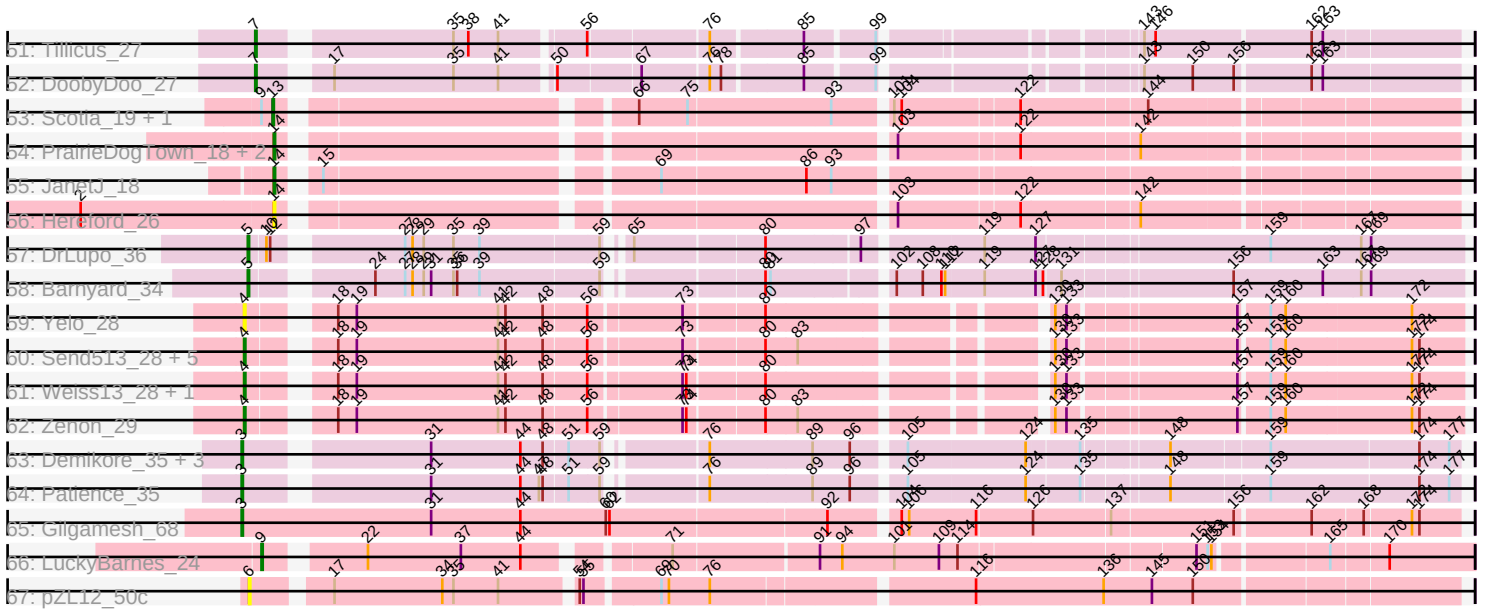




Pham 280147



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 280147 Report

This analysis was run 02/07/26 on database version 634.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 280147 has 160 members, 30 are drafts.

Phages represented in each track:

- Track 1 : Indlulamithi_25
- Track 2 : Onyinye_38, Leopard_37, Aikoy_37
- Track 3 : ThursdayNight_15
- Track 4 : Joemato_17, AGrandiflora_17, Lego_17, YesChef_17, Kaylissa_17, Simpson_19, Flutur_17, Cyan_17, Powerpuff_17
- Track 5 : Cassia_17
- Track 6 : Subaru_18, Elezi_17
- Track 7 : Iter_17, Ascela_17
- Track 8 : TforTroy_17
- Track 9 : JohnDoe_17, Tutumahutu_17, Tbone_17, Warda_17, Mudpuppy_17
- Track 10 : Turab_17, Adumb2043_17, Amploria_17, AEgle_17
- Track 11 : Jstan_18, Eraser_17, London_17, Niobe_17, Skelbel_18, Asa16_17
- Track 12 : Berrie_17
- Track 13 : Lizalica_17
- Track 14 : JuneStar_17
- Track 15 : Nitro_17
- Track 16 : Pumpkins_17
- Track 17 : Pixelle_17
- Track 18 : Tian_17, Amyev_17
- Track 19 : Tallboi_17
- Track 20 : Tuck_18, Community_17
- Track 21 : Yang_17
- Track 22 : Phives_18
- Track 23 : Janeemi_18
- Track 24 : Schaffner_17
- Track 25 : Maureen_16, IUFootball_16, Liebe_16
- Track 26 : MaGuCo_16
- Track 27 : Emotion_16
- Track 28 : MiniMommy_15, JasmineDragon_16, ShakeItOph_16
- Track 29 : FiveHead_17
- Track 30 : LadyAstra_17, Origami_17, JohnThicc_17
- Track 31 : VroomVroom_16

- Track 32 : Ashes_17, RockScotty_17, Mysterium_17, SpecialK_17, Beaupre_17, Stuu_17, Cappuccino_17, Kalimba_17, Moss_17, Donkey_17, Halsey_17, Sabourin_17, Giorgio_17, Gambol_17, Gumpizza_17, Sooty_17
- Track 33 : Soondubu_16, Exile_16
- Track 34 : AinMach_16
- Track 35 : Madi_23, BiteSize_23, Terapin_23, Beyoncage_23, Djokovic_23
- Track 36 : Suzy_23
- Track 37 : Sienna_23
- Track 38 : LilyPad_24
- Track 39 : LittleFella_25
- Track 40 : Yikes_29, MoiGyank_30, Fulcrum_29, Mima20_26, GretelLyn_28, Sadboi_28, BirthdayBoy_29, GOATification_29, Erutan_28, Rukungu_28, LavAbarElk_26
- Track 41 : Sampudon_28, ParvusTarda_28, OtterstedtS21_28, Lila22_27, Gibbin_29, Patos_29, Ranch_28, Zany_27, NorManre_29, Rota_27, Jalebi_27
- Track 42 : Lambo_28
- Track 43 : DaviePasture_28
- Track 44 : Alephilan_25
- Track 45 : DumpTruck_27
- Track 46 : Alyssamiracle_28, Avian_25, Genamy16_28, Stormer_27, Charminar_26, Rumi_27, Jamemuya19_25, RazorC_26, NovaSharks_27
- Track 47 : Astralis_25
- Track 48 : Xenia2_28
- Track 49 : LuckyLeo_27, Apeppi_25
- Track 50 : Wojtek_27
- Track 51 : Tillicus_27
- Track 52 : DoobyDoo_27
- Track 53 : Scotia_19, NoSwimming_19
- Track 54 : PrairieDogTown_18, Aoka_18, EvenBluerMoon_18
- Track 55 : JanetJ_18
- Track 56 : Hereford_26
- Track 57 : DrLupo_36
- Track 58 : Barnyard_34
- Track 59 : Yelo_28
- Track 60 : Send513_28, Papyrus_28, MontyDev_28, Candle_28, Nilo_29, Rope_28
- Track 61 : Weiss13_28, Riparian_28
- Track 62 : Zenon_29
- Track 63 : Demikore_35, Madrugua_33, SuperSonics_34, Labelle_34
- Track 64 : Patience_35
- Track 65 : Gilgamesh_68
- Track 66 : LuckyBarnes_24
- Track 67 : 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 3, it was called in 56 of the 130 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle_17, AGrandiflora_17, Adumb2043_17, Amploria_17, Amyev_17, Asa16_17, Ascela_17, Ashes_17, Beaupre_17, Berrie_17, Cappuccino_17, Cassia_17, Community_17, Cyan_17, Demikore_35, Donkey_17, Elezi_17, Eraser_17, Flutur_17, Gambol_17, Gilgamesh_68, Giorgio_17, Gumpizza_17, Halsey_17, IUFootball_16, Iter_17, Janeemi_18, Joemato_17, JohnDoe_17, Jstan_18, JuneStar_17, Kalimba_17, Kaylissa_17, Labelle_34, Lego_17, Liebe_16, Lizalica_17, London_17, MaGuCo_16, Madrugá_33, Maureen_16, Moss_17, Mudpuppy_17, Mysterium_17, Niobe_17, Nitro_17, Patience_35, Phives_18, Pixelle_17, Powerpuff_17, Pumpkins_17, RockScotty_17, Sabourin_17, Schaffner_17, Simpson_19, Skelbel_18, Sooty_17, SpecialK_17, Stuu_17, Subaru_18, SuperSonics_34, Tallboi_17, Tbone_17, TforTroy_17, ThursdayNight_15, Tian_17, Tuck_18, Turab_17, Tutumahutu_17, Warda_17, Yang_17, YesChef_17,

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

-

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

- Aikoy_37, AinMach_16, Alephilan_25, Alyssamiracle_28, Aoka_18, Apeppi_25, Astralis_25, Avian_25, Barnyard_34, Beyoncage_23, BirthdayBoy_29, BiteSize_23, Candle_28, Charminar_26, DaviePasture_28, Djokovic_23, DoobyDoo_27, DrLupo_36, DumpTruck_27, Emotion_16, Erutan_28, EvenBluerMoon_18, Exile_16, FiveHead_17, Fulcrum_29, GOATification_29, Genamy16_28, Gibbin_29, GretelLyn_28, Hereford_26, Indlulamithi_25, Jalebi_27, Jamemuya19_25, JanetJ_18, JasmineDragon_16, JohnThicc_17, LadyAstra_17, Lambo_28, LavAbarElk_26, Leopard_37, Lila22_27, LilyPad_24, LittleFella_25, LuckyBarnes_24, LuckyLeo_27, Madi_23, Mima20_26, MiniMommy_15, MoiGyank_30, MontyDev_28, Nilo_29, NoSwimming_19, NorManre_29, NovaSharks_27, Onyinye_38, Origami_17, OtterstedtS21_28, Papyrus_28, ParvusTarda_28, Patos_29, PrairieDogTown_18, Ranch_28, RazorC_26, Riparian_28, Rope_28, Rota_27, Rukungu_28, Rumi_27, Sadboi_28, Sampudon_28, Scotia_19, Send513_28, ShakeltOph_16, Sienna_23, Soondubu_16, Stormer_27, Suzy_23, Terapin_23, Tillicus_27, VroomVroom_16, Weiss13_28, Wojtek_27, Xenia2_28, Yelo_28, Yikes_29, Zany_27, Zenon_29, pZL12_50c,

Summary by start number:

Start 3:

- Found in 72 of 160 (45.0%) of genes in pham
- Manual Annotations of this start: 56 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle_17 (AZ1), AGrandiflora_17 (AZ1), Adumb2043_17 (AZ1), Amploria_17 (AZ1), Amyev_17 (AZ1), Asa16_17 (AZ1), Ascela_17 (AZ1), Ashes_17 (AZ5), Beaupre_17 (AZ5), Berrie_17 (AZ1), Cappuccino_17 (AZ5), Cassia_17 (AZ1), Community_17 (AZ1), Cyan_17 (AZ1), Demikore_35 (U), Donkey_17 (AZ5), Elezi_17 (AZ1), Eraser_17 (AZ1), Flutur_17 (AZ), Gambol_17 (AZ5), Gilgamesh_68 (singleton), Giorgio_17 (AZ5), Gumpizza_17 (AZ5), Halsey_17 (AZ5), IUFootball_16 (AZ2), Iter_17 (AZ1), Janeemi_18 (AZ1), Joemato_17 (AZ1), JohnDoe_17 (AZ1), Jstan_18 (AZ1), JuneStar_17 (AZ1), Kalimba_17 (AZ5), Kaylissa_17 (AZ1), Labelle_34 (U), Lego_17 (AZ1), Liebe_16 (AZ2), Lizalica_17 (AZ1), London_17 (AZ1), MaGuCo_16 (AZ2), Madrugá_33 (U), Maureen_16 (AZ2), Moss_17 (AZ5), Mudpuppy_17 (AZ1), Mysterium_17 (AZ5), Niobe_17 (AZ1), Nitro_17 (AZ1), Patience_35 (U), Phives_18 (AZ1), Pixelle_17 (AZ1), Powerpuff_17 (AZ1), Pumpkins_17 (AZ1), RockScotty_17 (AZ5), Sabourin_17

(AZ5), Schaffner_17 (AZ1), Simpson_19 (AZ1), Skelbel_18 (AZ1), Sooty_17 (AZ5), SpecialK_17 (AZ5), Stuu_17 (AZ5), Subaru_18 (AZ1), SuperSonics_34 (U), Tallboi_17 (AZ1), Tbone_17 (AZ1), TforTroy_17 (AZ1), ThursdayNight_15 (AZ), Tian_17 (AZ1), Tuck_18 (AZ1), Turab_17 (AZ1), Tutumahutu_17 (AZ1), Warda_17 (AZ1), Yang_17 (AZ1), YesChef_17 (AZ1),

Start 4:

- Found in 11 of 160 (6.9%) of genes in pham
- Manual Annotations of this start: 10 of 130
- 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 2 of 160 (1.2%) of genes in pham
- Manual Annotations of this start: 2 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_34 (H2), DrLupo_36 (H2),

Start 6:

- Found in 1 of 160 (0.6%) 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 7:

- Found in 51 of 160 (31.9%) of genes in pham
- Manual Annotations of this start: 46 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alephlan_25 (DV), Alyssamiracle_28 (DV), Apeppi_25 (DV), Astralis_25 (DV), Avian_25 (DV), Beyoncage_23 (DG1), BirthdayBoy_29 (DV), BiteSize_23 (DG1), Charminar_26 (DV), 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_25 (DV), Lambo_28 (DV), LavAbarElk_26 (DV), Lila22_27 (DV), LilyPad_24 (DG1), LittleFella_25 (DG2), LuckyLeo_27 (DV), Madi_23 (DG1), Mima20_26 (DV), MoiGyank_30 (DV), NorManre_29 (DV), NovaSharks_27 (DV), OtterstedtS21_28 (DV), ParvusTarda_28 (DV), Patos_29 (DV), Ranch_28 (DV), RazorC_26 (DV), Rota_27 (DV), Rukungu_28 (DV), Rumi_27 (DV), Sadboi_28 (DV), Sampudon_28 (DV), Sienna_23 (DG1), Stormer_27 (DV), Suzy_23 (DG1), Terapin_23 (DG1), Tillicus_27 (DV), Wojtek_27 (DV), Xenia2_28 (DV), Yikes_29 (DV), Zany_27 (DV),

Start 8:

- Found in 3 of 160 (1.9%) of genes in pham
- Manual Annotations of this start: 3 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aikoy_37 (AE), Leopard_37 (AE), Onyinye_38 (AE),

Start 9:

- Found in 3 of 160 (1.9%) of genes in pham

- Manual Annotations of this start: 1 of 130
- Called 33.3% of time when present
- Phage (with cluster) where this start called: LuckyBarnes_24 (singleton),

Start 11:

- Found in 12 of 160 (7.5%) of genes in pham
- Manual Annotations of this start: 6 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AinMach_16 (AZ7), Emotion_16 (AZ4), Exile_16 (AZ6), FiveHead_17 (AZ4), JasmineDragon_16 (AZ4), JohnThicc_17 (AZ4), LadyAstra_17 (AZ4), MiniMommy_15 (AZ4), Origami_17 (AZ4), ShakeItOph_16 (AZ4), Soondubu_16 (AZ6), VroomVroom_16 (AZ4),

Start 13:

- Found in 2 of 160 (1.2%) of genes in pham
- Manual Annotations of this start: 2 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NoSwimming_19 (FO), Scotia_19 (FO),

Start 14:

- Found in 5 of 160 (3.1%) of genes in pham
- Manual Annotations of this start: 4 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aoka_18 (FO), EvenBluerMoon_18 (FO), Hereford_26 (FO), JanetJ_18 (FO), PrairieDogTown_18 (FO),

Summary by clusters:

There are 17 clusters represented in this pham: singleton, AZ, AE, H2, AC, DG2, AZ2, DG1, U, DV, AZ1, R, AZ7, AZ4, AZ5, AZ6, 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 8 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster AZ1:

- Start number 3 was manually annotated 34 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

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

Info for manual annotations of cluster AZ4:

- Start number 11 was manually annotated 5 times for cluster AZ4.

Info for manual annotations of cluster AZ5:

- Start number 3 was manually annotated 15 times for cluster AZ5.

Info for manual annotations of cluster AZ6:

- Start number 11 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster DG1:

- Start number 7 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 7 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 7 was manually annotated 37 times for cluster DV.

Info for manual annotations of cluster FO:

- Start number 13 was manually annotated 2 times for cluster FO.
- Start number 14 was manually annotated 4 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 3 was manually annotated 3 times for cluster U.

Gene Information:

Gene: AEgle_17 Start: 13051, Stop: 13926, Start Num: 3

Candidate Starts for AEgle_17:

(Start: 3 @13051 has 56 MA's), (39, 13222), (57, 13297), (88, 13447), (101, 13501), (111, 13540), (123, 13597), (140, 13675), (144, 13690),

Gene: AGrandiflora_17 Start: 13035, Stop: 13910, Start Num: 3

Candidate Starts for AGrandiflora_17:

(Start: 3 @13035 has 56 MA's), (27, 13146), (44, 13239), (88, 13431), (140, 13659), (144, 13674),

Gene: Adumb2043_17 Start: 13050, Stop: 13925, Start Num: 3

Candidate Starts for Adumb2043_17:

(Start: 3 @13050 has 56 MA's), (39, 13221), (57, 13296), (88, 13446), (101, 13500), (111, 13539), (123, 13596), (140, 13674), (144, 13689),

Gene: Aikoy_37 Start: 27354, Stop: 28244, Start Num: 8

Candidate Starts for Aikoy_37:

(Start: 8 @27354 has 3 MA's), (33, 27471), (40, 27507), (43, 27531), (47, 27552), (53, 27582), (63, 27612), (68, 27636), (76, 27684), (79, 27696), (87, 27759), (117, 27882), (120, 27903), (143, 27999), (146, 28008), (157, 28074), (164, 28140), (166, 28167), (172, 28206), (175, 28215),

Gene: AinMach_16 Start: 12225, Stop: 13082, Start Num: 11

Candidate Starts for AinMach_16:

(Start: 11 @12225 has 6 MA's), (18, 12261), (29, 12330), (33, 12342), (43, 12402), (75, 12516), (76, 12531), (101, 12663), (106, 12675), (118, 12732), (162, 12969), (166, 13005),

Gene: Alephilan_25 Start: 23941, Stop: 24804, Start Num: 7

Candidate Starts for Alephilan_25:

(Start: 7 @23941 has 46 MA's), (17, 23983), (41, 24115), (76, 24262), (78, 24271), (85, 24331), (99, 24382), (143, 24559), (150, 24598), (156, 24631), (162, 24688), (163, 24697),

Gene: Alyssamiracle_28 Start: 22751, Stop: 23614, Start Num: 7

Candidate Starts for Alyssamiracle_28:

(Start: 7 @22751 has 46 MA's), (17, 22793), (35, 22889), (41, 22925), (50, 22961), (67, 23021), (76, 23072), (78, 23081), (85, 23141), (99, 23192), (143, 23369), (148, 23390), (155, 23432), (156, 23441), (162, 23498), (163, 23507),

Gene: Amploria_17 Start: 13050, Stop: 13925, Start Num: 3

Candidate Starts for Amploria_17:

(Start: 3 @13050 has 56 MA's), (39, 13221), (57, 13296), (88, 13446), (101, 13500), (111, 13539), (123, 13596), (140, 13674), (144, 13689),

Gene: Amyev_17 Start: 13063, Stop: 13938, Start Num: 3

Candidate Starts for Amyev_17:

(Start: 3 @13063 has 56 MA's), (88, 13459), (101, 13513), (140, 13687), (144, 13702),

Gene: Aoka_18 Start: 14198, Stop: 15058, Start Num: 14

Candidate Starts for Aoka_18:

(Start: 14 @14198 has 4 MA's), (103, 14639), (122, 14732), (142, 14822),

Gene: Apeppi_25 Start: 24090, Stop: 24947, Start Num: 7

Candidate Starts for Apeppi_25:

(Start: 7 @24090 has 46 MA's), (17, 24132), (41, 24264), (67, 24360), (76, 24411), (78, 24420), (85, 24480), (99, 24531), (143, 24705), (150, 24744), (162, 24834), (163, 24843),

Gene: Asa16_17 Start: 13020, Stop: 13895, Start Num: 3

Candidate Starts for Asa16_17:

(Start: 3 @13020 has 56 MA's), (27, 13131), (39, 13191), (88, 13416), (101, 13470), (107, 13485), (111, 13509), (123, 13566), (140, 13644), (144, 13659),

Gene: Ascela_17 Start: 13047, Stop: 13922, Start Num: 3

Candidate Starts for Ascela_17:

(Start: 3 @13047 has 56 MA's), (88, 13443), (111, 13536), (129, 13611), (144, 13686), (159, 13776),

Gene: Ashes_17 Start: 12748, Stop: 13623, Start Num: 3

Candidate Starts for Ashes_17:

(Start: 3 @12748 has 56 MA's), (20, 12826), (41, 12937), (49, 12979), (77, 13078), (104, 13204), (133, 13327), (137, 13360), (173, 13588),

Gene: Astralis_25 Start: 22341, Stop: 23204, Start Num: 7

Candidate Starts for Astralis_25:

(Start: 7 @22341 has 46 MA's), (35, 22479), (41, 22515), (50, 22551), (67, 22611), (76, 22662), (78, 22671), (85, 22731), (99, 22782), (143, 22959), (148, 22980), (155, 23022), (156, 23031), (162, 23088), (163, 23097),

Gene: Avian_25 Start: 22733, Stop: 23596, Start Num: 7

Candidate Starts for Avian_25:

(Start: 7 @22733 has 46 MA's), (17, 22775), (35, 22871), (41, 22907), (50, 22943), (67, 23003), (76, 23054), (78, 23063), (85, 23123), (99, 23174), (143, 23351), (148, 23372), (155, 23414), (156, 23423), (162, 23480), (163, 23489),

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

Candidate Starts for Barnyard_34:

(Start: 5 @24251 has 2 MA's), (24, 24329), (27, 24353), (28, 24359), (29, 24368), (31, 24374), (35, 24392), (36, 24395), (39, 24413), (59, 24506), (80, 24614), (81, 24617), (102, 24701), (108, 24722), (110, 24737), (112, 24740), (119, 24770), (127, 24809), (128, 24815), (131, 24827), (156, 24953), (163, 25025), (167, 25055), (169, 25061),

Gene: Beaupre_17 Start: 12749, Stop: 13624, Start Num: 3

Candidate Starts for Beaupre_17:

(Start: 3 @12749 has 56 MA's), (20, 12827), (41, 12938), (49, 12980), (77, 13079), (104, 13205), (133, 13328), (137, 13361), (173, 13589),

Gene: Berrie_17 Start: 13181, Stop: 14056, Start Num: 3

Candidate Starts for Berrie_17:

(Start: 3 @13181 has 56 MA's), (88, 13577), (111, 13670), (140, 13805), (144, 13820),

Gene: Beyoncage_23 Start: 19319, Stop: 20188, Start Num: 7

Candidate Starts for Beyoncage_23:

(Start: 7 @19319 has 46 MA's), (10, 19325), (16, 19355), (23, 19388), (31, 19436), (33, 19442), (41, 19490), (43, 19502), (50, 19535), (64, 19589), (65, 19592), (80, 19688), (81, 19691), (90, 19727), (118, 19838), (138, 19928), (147, 19964), (152, 19991), (160, 20054),

Gene: BirthdayBoy_29 Start: 24794, Stop: 25657, Start Num: 7

Candidate Starts for BirthdayBoy_29:

(Start: 7 @24794 has 46 MA's), (17, 24836), (35, 24932), (41, 24968), (50, 25004), (67, 25064), (76, 25115), (78, 25124), (85, 25184), (99, 25235), (143, 25412), (148, 25433), (150, 25451), (156, 25484), (162, 25541), (163, 25550),

Gene: BiteSize_23 Start: 19319, Stop: 20188, Start Num: 7

Candidate Starts for BiteSize_23:

(Start: 7 @19319 has 46 MA's), (10, 19325), (16, 19355), (23, 19388), (31, 19436), (33, 19442), (41, 19490), (43, 19502), (50, 19535), (64, 19589), (65, 19592), (80, 19688), (81, 19691), (90, 19727), (118, 19838), (138, 19928), (147, 19964), (152, 19991), (160, 20054),

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

Candidate Starts for Candle_28:

(Start: 4 @22572 has 10 MA's), (18, 22623), (19, 22638), (41, 22752), (42, 22758), (48, 22788), (56, 22821), (73, 22890), (80, 22950), (83, 22974), (130, 23139), (133, 23148), (157, 23271), (159, 23292), (160, 23304), (172, 23403), (174, 23409),

Gene: Cappuccino_17 Start: 12656, Stop: 13531, Start Num: 3

Candidate Starts for Cappuccino_17:

(Start: 3 @12656 has 56 MA's), (20, 12734), (41, 12845), (49, 12887), (77, 12986), (104, 13112), (133, 13235), (137, 13268), (173, 13496),

Gene: Cassia_17 Start: 13143, Stop: 14018, Start Num: 3

Candidate Starts for Cassia_17:

(Start: 3 @13143 has 56 MA's), (39, 13314), (44, 13347), (88, 13539), (101, 13593), (144, 13782), (159, 13872),

Gene: Charminar_26 Start: 22344, Stop: 23207, Start Num: 7

Candidate Starts for Charminar_26:

(Start: 7 @22344 has 46 MA's), (17, 22386), (35, 22482), (41, 22518), (50, 22554), (67, 22614), (76, 22665), (78, 22674), (85, 22734), (99, 22785), (143, 22962), (148, 22983), (155, 23025), (156, 23034), (162, 23091), (163, 23100),

Gene: Community_17 Start: 14263, Stop: 15138, Start Num: 3

Candidate Starts for Community_17:

(Start: 3 @14263 has 56 MA's), (26, 14359), (39, 14434), (88, 14659), (111, 14752), (129, 14827), (144, 14902),

Gene: Cyan_17 Start: 13038, Stop: 13913, Start Num: 3

Candidate Starts for Cyan_17:

(Start: 3 @13038 has 56 MA's), (27, 13149), (44, 13242), (88, 13434), (140, 13662), (144, 13677),

Gene: DaviePasture_28 Start: 24560, Stop: 25423, Start Num: 7

Candidate Starts for DaviePasture_28:

(Start: 7 @24560 has 46 MA's), (35, 24698), (41, 24734), (50, 24770), (67, 24830), (76, 24881), (78, 24890), (85, 24950), (99, 25001), (143, 25178), (148, 25199), (150, 25217), (156, 25250), (162, 25307), (163, 25316),

Gene: Demikore_35 Start: 26209, Stop: 27099, Start Num: 3

Candidate Starts for Demikore_35:

(Start: 3 @26209 has 56 MA's), (31, 26338), (44, 26410), (48, 26428), (51, 26446), (59, 26470), (76, 26536), (89, 26617), (96, 26647), (105, 26683), (124, 26776), (135, 26815), (148, 26875), (159, 26950), (174, 27067), (177, 27091),

Gene: Djokovic_23 Start: 19319, Stop: 20188, Start Num: 7

Candidate Starts for Djokovic_23:

(Start: 7 @19319 has 46 MA's), (10, 19325), (16, 19355), (23, 19388), (31, 19436), (33, 19442), (41, 19490), (43, 19502), (50, 19535), (64, 19589), (65, 19592), (80, 19688), (81, 19691), (90, 19727), (118, 19838), (138, 19928), (147, 19964), (152, 19991), (160, 20054),

Gene: Donkey_17 Start: 12656, Stop: 13531, Start Num: 3

Candidate Starts for Donkey_17:

(Start: 3 @12656 has 56 MA's), (20, 12734), (41, 12845), (49, 12887), (77, 12986), (104, 13112), (133, 13235), (137, 13268), (173, 13496),

Gene: DoobyDoo_27 Start: 23716, Stop: 24579, Start Num: 7

Candidate Starts for DoobyDoo_27:

(Start: 7 @23716 has 46 MA's), (17, 23758), (35, 23854), (41, 23890), (50, 23926), (67, 23986), (76, 24037), (78, 24046), (85, 24106), (99, 24157), (143, 24334), (150, 24373), (156, 24406), (162, 24463), (163, 24472),

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

Candidate Starts for DrLupo_36:

(Start: 5 @24651 has 2 MA's), (10, 24663), (12, 24666), (27, 24753), (28, 24759), (29, 24768), (35, 24792), (39, 24813), (59, 24906), (65, 24915), (80, 25014), (97, 25083), (119, 25170), (127, 25209), (159, 25383), (167, 25455), (169, 25461),

Gene: DumpTruck_27 Start: 24026, Stop: 24886, Start Num: 7

Candidate Starts for DumpTruck_27:

(Start: 7 @24026 has 46 MA's), (18, 24071), (50, 24236), (61, 24272), (65, 24290), (97, 24455), (98, 24458), (99, 24467), (102, 24473), (110, 24509), (113, 24515), (141, 24638), (148, 24665), (149, 24680), (157, 24719), (163, 24782),

Gene: Elezi_17 Start: 13021, Stop: 13896, Start Num: 3

Candidate Starts for Elezi_17:

(Start: 3 @13021 has 56 MA's), (27, 13132), (39, 13192), (88, 13417), (101, 13471), (107, 13486), (123, 13567), (140, 13645), (144, 13660),

Gene: Emotion_16 Start: 11297, Stop: 12160, Start Num: 11

Candidate Starts for Emotion_16:

(Start: 11 @11297 has 6 MA's), (18, 11333), (21, 11354), (33, 11414), (84, 11672), (132, 11864),

Gene: Eraser_17 Start: 13021, Stop: 13896, Start Num: 3

Candidate Starts for Eraser_17:

(Start: 3 @13021 has 56 MA's), (27, 13132), (39, 13192), (88, 13417), (101, 13471), (107, 13486), (111, 13510), (123, 13567), (140, 13645), (144, 13660),

Gene: Erutan_28 Start: 24238, Stop: 25101, Start Num: 7

Candidate Starts for Erutan_28:

(Start: 7 @24238 has 46 MA's), (17, 24280), (35, 24376), (41, 24412), (50, 24448), (67, 24508), (76, 24559), (78, 24568), (85, 24628), (99, 24679), (143, 24856), (148, 24877), (150, 24895), (156, 24928), (162, 24985), (163, 24994),

Gene: EvenBluerMoon_18 Start: 14233, Stop: 15093, Start Num: 14

Candidate Starts for EvenBluerMoon_18:

(Start: 14 @14233 has 4 MA's), (103, 14674), (122, 14767), (142, 14857),

Gene: Exile_16 Start: 13694, Stop: 14551, Start Num: 11

Candidate Starts for Exile_16:

(Start: 11 @13694 has 6 MA's), (18, 13730), (75, 13985), (84, 14069), (95, 14105), (100, 14129), (106, 14144), (134, 14267),

Gene: FiveHead_17 Start: 11229, Stop: 12089, Start Num: 11

Candidate Starts for FiveHead_17:

(Start: 11 @11229 has 6 MA's), (18, 11265), (20, 11283), (30, 11337), (84, 11604), (107, 11682), (121, 11760), (132, 11796), (138, 11835), (143, 11856),

Gene: Flutur_17 Start: 13038, Stop: 13913, Start Num: 3

Candidate Starts for Flutur_17:

(Start: 3 @13038 has 56 MA's), (27, 13149), (44, 13242), (88, 13434), (140, 13662), (144, 13677),

Gene: Fulcrum_29 Start: 24762, Stop: 25625, Start Num: 7

Candidate Starts for Fulcrum_29:

(Start: 7 @24762 has 46 MA's), (17, 24804), (35, 24900), (41, 24936), (50, 24972), (67, 25032), (76, 25083), (78, 25092), (85, 25152), (99, 25203), (143, 25380), (148, 25401), (150, 25419), (156, 25452), (162, 25509), (163, 25518),

Gene: GOATification_29 Start: 24762, Stop: 25625, Start Num: 7

Candidate Starts for GOATification_29:

(Start: 7 @24762 has 46 MA's), (17, 24804), (35, 24900), (41, 24936), (50, 24972), (67, 25032), (76, 25083), (78, 25092), (85, 25152), (99, 25203), (143, 25380), (148, 25401), (150, 25419), (156, 25452), (162, 25509), (163, 25518),

Gene: Gambol_17 Start: 12656, Stop: 13531, Start Num: 3

Candidate Starts for Gambol_17:

(Start: 3 @12656 has 56 MA's), (20, 12734), (41, 12845), (49, 12887), (77, 12986), (104, 13112), (133, 13235), (137, 13268), (173, 13496),

Gene: Genamy16_28 Start: 22751, Stop: 23614, Start Num: 7

Candidate Starts for Genamy16_28:

(Start: 7 @22751 has 46 MA's), (17, 22793), (35, 22889), (41, 22925), (50, 22961), (67, 23021), (76, 23072), (78, 23081), (85, 23141), (99, 23192), (143, 23369), (148, 23390), (155, 23432), (156, 23441), (162, 23498), (163, 23507),

Gene: Gibbin_29 Start: 24843, Stop: 25706, Start Num: 7

Candidate Starts for Gibbin_29:

(Start: 7 @24843 has 46 MA's), (17, 24885), (41, 25017), (50, 25053), (67, 25113), (76, 25164), (78, 25173), (85, 25233), (99, 25284), (143, 25461), (148, 25482), (150, 25500), (156, 25533), (162, 25590), (163, 25599),

Gene: Gilgamesh_68 Start: 62731, Stop: 63672, Start Num: 3

Candidate Starts for Gilgamesh_68:

(Start: 3 @62731 has 56 MA's), (31, 62884), (44, 62956), (60, 63025), (62, 63028), (92, 63196), (104, 63244), (106, 63250), (116, 63304), (126, 63346), (137, 63406), (156, 63502), (162, 63559), (168, 63598), (172, 63634), (174, 63640),

Gene: Giorgio_17 Start: 12756, Stop: 13631, Start Num: 3

Candidate Starts for Giorgio_17:

(Start: 3 @12756 has 56 MA's), (20, 12834), (41, 12945), (49, 12987), (77, 13086), (104, 13212), (133, 13335), (137, 13368), (173, 13596),

Gene: GretelLyn_28 Start: 25105, Stop: 25968, Start Num: 7

Candidate Starts for GretelLyn_28:

(Start: 7 @25105 has 46 MA's), (17, 25147), (35, 25243), (41, 25279), (50, 25315), (67, 25375), (76, 25426), (78, 25435), (85, 25495), (99, 25546), (143, 25723), (148, 25744), (150, 25762), (156, 25795), (162, 25852), (163, 25861),

Gene: Gumpizza_17 Start: 12749, Stop: 13624, Start Num: 3

Candidate Starts for Gumpizza_17:

(Start: 3 @12749 has 56 MA's), (20, 12827), (41, 12938), (49, 12980), (77, 13079), (104, 13205), (133, 13328), (137, 13361), (173, 13589),

Gene: Halsey_17 Start: 12748, Stop: 13623, Start Num: 3

Candidate Starts for Halsey_17:

(Start: 3 @12748 has 56 MA's), (20, 12826), (41, 12937), (49, 12979), (77, 13078), (104, 13204), (133, 13327), (137, 13360), (173, 13588),

Gene: Hereford_26 Start: 14357, Stop: 15217, Start Num: 14

Candidate Starts for Hereford_26:

(2, 14204), (Start: 14 @14357 has 4 MA's), (103, 14798), (122, 14891), (142, 14981),

Gene: IUFootball_16 Start: 11562, Stop: 12437, Start Num: 3

Candidate Starts for IUFootball_16:

(Start: 3 @11562 has 56 MA's), (35, 11712), (101, 12012), (104, 12018), (123, 12108), (144, 12201),

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

Candidate Starts for Indlulamithi_25:

(Start: 4 @20028 has 10 MA's), (18, 20082), (27, 20136), (32, 20160), (33, 20163), (41, 20211), (46, 20235), (47, 20244), (51, 20265), (52, 20268), (58, 20286), (78, 20376), (115, 20553), (161, 20766), (166, 20820), (171, 20853), (172, 20862), (175, 20871), (177, 20892), (178, 20895),

Gene: Iter_17 Start: 13047, Stop: 13922, Start Num: 3

Candidate Starts for Iter_17:

(Start: 3 @13047 has 56 MA's), (88, 13443), (111, 13536), (129, 13611), (144, 13686), (159, 13776),

Gene: Jalebi_27 Start: 25272, Stop: 26135, Start Num: 7

Candidate Starts for Jalebi_27:

(Start: 7 @25272 has 46 MA's), (17, 25314), (41, 25446), (50, 25482), (67, 25542), (76, 25593), (78, 25602), (85, 25662), (99, 25713), (143, 25890), (148, 25911), (150, 25929), (156, 25962), (162, 26019), (163, 26028),

Gene: Jamemuya19_25 Start: 22341, Stop: 23204, Start Num: 7

Candidate Starts for Jamemuya19_25:

(Start: 7 @22341 has 46 MA's), (17, 22383), (35, 22479), (41, 22515), (50, 22551), (67, 22611), (76, 22662), (78, 22671), (85, 22731), (99, 22782), (143, 22959), (148, 22980), (155, 23022), (156, 23031), (162, 23088), (163, 23097),

Gene: Janeemi_18 Start: 14291, Stop: 15166, Start Num: 3

Candidate Starts for Janeemi_18:

(Start: 3 @14291 has 56 MA's), (39, 14462), (88, 14687), (111, 14780), (129, 14855), (144, 14930),

Gene: JanetJ_18 Start: 14015, Stop: 14875, Start Num: 14

Candidate Starts for JanetJ_18:

(Start: 14 @14015 has 4 MA's), (15, 14036), (69, 14282), (86, 14396), (93, 14414),

Gene: JasmineDragon_16 Start: 11227, Stop: 12087, Start Num: 11

Candidate Starts for JasmineDragon_16:

(Start: 11 @11227 has 6 MA's), (18, 11263), (20, 11281), (82, 11599), (107, 11680), (121, 11758), (132, 11794), (156, 11920), (159, 11944),

Gene: Joemato_17 Start: 13038, Stop: 13913, Start Num: 3

Candidate Starts for Joemato_17:

(Start: 3 @13038 has 56 MA's), (27, 13149), (44, 13242), (88, 13434), (140, 13662), (144, 13677),

Gene: JohnDoe_17 Start: 13033, Stop: 13908, Start Num: 3

Candidate Starts for JohnDoe_17:

(Start: 3 @13033 has 56 MA's), (27, 13144), (88, 13429), (140, 13657), (144, 13672),

Gene: JohnThicc_17 Start: 11229, Stop: 12089, Start Num: 11

Candidate Starts for JohnThicc_17:

(Start: 11 @11229 has 6 MA's), (18, 11265), (20, 11283), (84, 11604), (107, 11682), (121, 11760), (132, 11796), (138, 11835), (143, 11856),

Gene: Jstan_18 Start: 13021, Stop: 13896, Start Num: 3

Candidate Starts for Jstan_18:

(Start: 3 @13021 has 56 MA's), (27, 13132), (39, 13192), (88, 13417), (101, 13471), (107, 13486), (111, 13510), (123, 13567), (140, 13645), (144, 13660),

Gene: JuneStar_17 Start: 13141, Stop: 14016, Start Num: 3

Candidate Starts for JuneStar_17:

(Start: 3 @13141 has 56 MA's), (88, 13537), (111, 13630), (144, 13780), (152, 13822),

Gene: Kalimba_17 Start: 12657, Stop: 13532, Start Num: 3

Candidate Starts for Kalimba_17:

(Start: 3 @12657 has 56 MA's), (20, 12735), (41, 12846), (49, 12888), (77, 12987), (104, 13113), (133, 13236), (137, 13269), (173, 13497),

Gene: Kaylissa_17 Start: 13039, Stop: 13914, Start Num: 3

Candidate Starts for Kaylissa_17:

(Start: 3 @13039 has 56 MA's), (27, 13150), (44, 13243), (88, 13435), (140, 13663), (144, 13678),

Gene: Labelle_34 Start: 26211, Stop: 27101, Start Num: 3

Candidate Starts for Labelle_34:

(Start: 3 @26211 has 56 MA's), (31, 26340), (44, 26412), (48, 26430), (51, 26448), (59, 26472), (76, 26538), (89, 26619), (96, 26649), (105, 26685), (124, 26778), (135, 26817), (148, 26877), (159, 26952), (174, 27069), (177, 27093),

Gene: LadyAstra_17 Start: 11229, Stop: 12089, Start Num: 11

Candidate Starts for LadyAstra_17:

(Start: 11 @11229 has 6 MA's), (18, 11265), (20, 11283), (84, 11604), (107, 11682), (121, 11760), (132, 11796), (138, 11835), (143, 11856),

Gene: Lambo_28 Start: 24780, Stop: 25640, Start Num: 7

Candidate Starts for Lambo_28:

(Start: 7 @24780 has 46 MA's), (17, 24822), (41, 24954), (67, 25050), (76, 25101), (78, 25110), (85, 25170), (99, 25221), (143, 25395), (148, 25416), (150, 25434), (156, 25467), (162, 25524), (163, 25533),

Gene: LavAbarElk_26 Start: 23211, Stop: 24074, Start Num: 7

Candidate Starts for LavAbarElk_26:

(Start: 7 @23211 has 46 MA's), (17, 23253), (35, 23349), (41, 23385), (50, 23421), (67, 23481), (76, 23532), (78, 23541), (85, 23601), (99, 23652), (143, 23829), (148, 23850), (150, 23868), (156, 23901), (162, 23958), (163, 23967),

Gene: Lego_17 Start: 13038, Stop: 13913, Start Num: 3

Candidate Starts for Lego_17:

(Start: 3 @13038 has 56 MA's), (27, 13149), (44, 13242), (88, 13434), (140, 13662), (144, 13677),

Gene: Leopard_37 Start: 27642, Stop: 28532, Start Num: 8

Candidate Starts for Leopard_37:

(Start: 8 @27642 has 3 MA's), (33, 27759), (40, 27795), (43, 27819), (47, 27840), (53, 27870), (63, 27900), (68, 27924), (76, 27972), (79, 27984), (87, 28047), (117, 28170), (120, 28191), (143, 28287), (146, 28296), (157, 28362), (164, 28428), (166, 28455), (172, 28494), (175, 28503),

Gene: Liebe_16 Start: 11562, Stop: 12437, Start Num: 3

Candidate Starts for Liebe_16:

(Start: 3 @11562 has 56 MA's), (35, 11712), (101, 12012), (104, 12018), (123, 12108), (144, 12201),

Gene: Lila22_27 Start: 24732, Stop: 25595, Start Num: 7

Candidate Starts for Lila22_27:

(Start: 7 @24732 has 46 MA's), (17, 24774), (41, 24906), (50, 24942), (67, 25002), (76, 25053), (78, 25062), (85, 25122), (99, 25173), (143, 25350), (148, 25371), (150, 25389), (156, 25422), (162, 25479), (163, 25488),

Gene: LilyPad_24 Start: 19902, Stop: 20771, Start Num: 7

Candidate Starts for LilyPad_24:

(Start: 7 @19902 has 46 MA's), (22, 19968), (25, 19977), (31, 20019), (33, 20025), (43, 20085), (81, 20274), (90, 20310), (113, 20397), (130, 20472), (144, 20532), (152, 20574), (173, 20736),

Gene: LittleFella_25 Start: 21778, Stop: 22647, Start Num: 7

Candidate Starts for LittleFella_25:

(Start: 7 @21778 has 46 MA's), (16, 21814), (23, 21847), (33, 21901), (41, 21949), (50, 21994), (72, 22087), (78, 22117), (80, 22147), (125, 22333), (137, 22384), (148, 22426), (158, 22495), (172, 22609),

Gene: Lizalica_17 Start: 13023, Stop: 13898, Start Num: 3

Candidate Starts for Lizalica_17:

(Start: 3 @13023 has 56 MA's), (27, 13134), (39, 13194), (88, 13419), (140, 13647), (144, 13662),

Gene: London_17 Start: 13021, Stop: 13896, Start Num: 3

Candidate Starts for London_17:

(Start: 3 @13021 has 56 MA's), (27, 13132), (39, 13192), (88, 13417), (101, 13471), (107, 13486), (111, 13510), (123, 13567), (140, 13645), (144, 13660),

Gene: LuckyBarnes_24 Start: 20004, Stop: 20891, Start Num: 9

Candidate Starts for LuckyBarnes_24:

(Start: 9 @20004 has 1 MA's), (22, 20070), (37, 20145), (44, 20193), (71, 20289), (91, 20400), (94, 20418), (101, 20460), (109, 20496), (114, 20511), (151, 20688), (153, 20697), (154, 20700), (165, 20781), (170, 20823),

Gene: LuckyLeo_27 Start: 24090, Stop: 24947, Start Num: 7

Candidate Starts for LuckyLeo_27:

(Start: 7 @24090 has 46 MA's), (17, 24132), (41, 24264), (67, 24360), (76, 24411), (78, 24420), (85, 24480), (99, 24531), (143, 24705), (150, 24744), (162, 24834), (163, 24843),

Gene: MaGuCo_16 Start: 11496, Stop: 12371, Start Num: 3

Candidate Starts for MaGuCo_16:

(Start: 3 @11496 has 56 MA's), (35, 11646), (101, 11946), (104, 11952), (123, 12042), (133, 12075), (144, 12135),

Gene: Madi_23 Start: 19319, Stop: 20188, Start Num: 7

Candidate Starts for Madi_23:

(Start: 7 @19319 has 46 MA's), (10, 19325), (16, 19355), (23, 19388), (31, 19436), (33, 19442), (41, 19490), (43, 19502), (50, 19535), (64, 19589), (65, 19592), (80, 19688), (81, 19691), (90, 19727), (118, 19838), (138, 19928), (147, 19964), (152, 19991), (160, 20054),

Gene: Madruga_33 Start: 25880, Stop: 26770, Start Num: 3

Candidate Starts for Madruga_33:

(Start: 3 @25880 has 56 MA's), (31, 26009), (44, 26081), (48, 26099), (51, 26117), (59, 26141), (76, 26207), (89, 26288), (96, 26318), (105, 26354), (124, 26447), (135, 26486), (148, 26546), (159, 26621), (174, 26738), (177, 26762),

Gene: Maureen_16 Start: 11562, Stop: 12437, Start Num: 3

Candidate Starts for Maureen_16:

(Start: 3 @11562 has 56 MA's), (35, 11712), (101, 12012), (104, 12018), (123, 12108), (144, 12201),

Gene: Mima20_26 Start: 24461, Stop: 25324, Start Num: 7

Candidate Starts for Mima20_26:

(Start: 7 @24461 has 46 MA's), (17, 24503), (35, 24599), (41, 24635), (50, 24671), (67, 24731), (76, 24782), (78, 24791), (85, 24851), (99, 24902), (143, 25079), (148, 25100), (150, 25118), (156, 25151), (162, 25208), (163, 25217),

Gene: MiniMommy_15 Start: 11228, Stop: 12088, Start Num: 11

Candidate Starts for MiniMommy_15:

(Start: 11 @11228 has 6 MA's), (18, 11264), (20, 11282), (82, 11600), (107, 11681), (121, 11759), (132, 11795), (156, 11921), (159, 11945),

Gene: MoiGyank_30 Start: 25142, Stop: 26005, Start Num: 7

Candidate Starts for MoiGyank_30:

(Start: 7 @25142 has 46 MA's), (17, 25184), (35, 25280), (41, 25316), (50, 25352), (67, 25412), (76, 25463), (78, 25472), (85, 25532), (99, 25583), (143, 25760), (148, 25781), (150, 25799), (156, 25832), (162, 25889), (163, 25898),

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

Candidate Starts for MontyDev_28:

(Start: 4 @22213 has 10 MA's), (18, 22264), (19, 22279), (41, 22393), (42, 22399), (48, 22429), (56, 22462), (73, 22531), (80, 22591), (83, 22615), (130, 22780), (133, 22789), (157, 22912), (159, 22933), (160, 22945), (172, 23044), (174, 23050),

Gene: Moss_17 Start: 12748, Stop: 13623, Start Num: 3

Candidate Starts for Moss_17:

(Start: 3 @12748 has 56 MA's), (20, 12826), (41, 12937), (49, 12979), (77, 13078), (104, 13204), (133, 13327), (137, 13360), (173, 13588),

Gene: Mudpuppy_17 Start: 13037, Stop: 13912, Start Num: 3

Candidate Starts for Mudpuppy_17:

(Start: 3 @13037 has 56 MA's), (27, 13148), (88, 13433), (140, 13661), (144, 13676),

Gene: Mysterium_17 Start: 12749, Stop: 13624, Start Num: 3

Candidate Starts for Mysterium_17:

(Start: 3 @12749 has 56 MA's), (20, 12827), (41, 12938), (49, 12980), (77, 13079), (104, 13205), (133, 13328), (137, 13361), (173, 13589),

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

Candidate Starts for Nilo_29:

(Start: 4 @22569 has 10 MA's), (18, 22620), (19, 22635), (41, 22749), (42, 22755), (48, 22785), (56, 22818), (73, 22887), (80, 22947), (83, 22971), (130, 23136), (133, 23145), (157, 23268), (159, 23289), (160, 23301), (172, 23400), (174, 23406),

Gene: Niobe_17 Start: 13021, Stop: 13896, Start Num: 3

Candidate Starts for Niobe_17:

(Start: 3 @13021 has 56 MA's), (27, 13132), (39, 13192), (88, 13417), (101, 13471), (107, 13486), (111, 13510), (123, 13567), (140, 13645), (144, 13660),

Gene: Nitro_17 Start: 13045, Stop: 13920, Start Num: 3

Candidate Starts for Nitro_17:

(1, 12886), (Start: 3 @13045 has 56 MA's), (39, 13216), (88, 13441), (111, 13534), (123, 13591), (138, 13660), (140, 13669), (144, 13684), (151, 13723),

Gene: NoSwimming_19 Start: 15157, Stop: 16017, Start Num: 13

Candidate Starts for NoSwimming_19:

(Start: 9 @15148 has 1 MA's), (Start: 13 @15157 has 2 MA's), (66, 15406), (75, 15445), (93, 15556), (101, 15595), (104, 15601), (122, 15691), (144, 15787),

Gene: NorManre_29 Start: 24349, Stop: 25212, Start Num: 7

Candidate Starts for NorManre_29:

(Start: 7 @24349 has 46 MA's), (17, 24391), (41, 24523), (50, 24559), (67, 24619), (76, 24670), (78, 24679), (85, 24739), (99, 24790), (143, 24967), (148, 24988), (150, 25006), (156, 25039), (162, 25096), (163, 25105),

Gene: NovaSharks_27 Start: 22341, Stop: 23204, Start Num: 7

Candidate Starts for NovaSharks_27:

(Start: 7 @22341 has 46 MA's), (17, 22383), (35, 22479), (41, 22515), (50, 22551), (67, 22611), (76, 22662), (78, 22671), (85, 22731), (99, 22782), (143, 22959), (148, 22980), (155, 23022), (156, 23031), (162, 23088), (163, 23097),

Gene: Onyinye_38 Start: 27521, Stop: 28411, Start Num: 8

Candidate Starts for Onyinye_38:

(Start: 8 @27521 has 3 MA's), (33, 27638), (40, 27674), (43, 27698), (47, 27719), (53, 27749), (63, 27779), (68, 27803), (76, 27851), (79, 27863), (87, 27926), (117, 28049), (120, 28070), (143, 28166), (146, 28175), (157, 28241), (164, 28307), (166, 28334), (172, 28373), (175, 28382),

Gene: Origami_17 Start: 11229, Stop: 12089, Start Num: 11

Candidate Starts for Origami_17:

(Start: 11 @11229 has 6 MA's), (18, 11265), (20, 11283), (84, 11604), (107, 11682), (121, 11760), (132, 11796), (138, 11835), (143, 11856),

Gene: OtterstedtS21_28 Start: 24427, Stop: 25290, Start Num: 7

Candidate Starts for OtterstedtS21_28:

(Start: 7 @24427 has 46 MA's), (17, 24469), (41, 24601), (50, 24637), (67, 24697), (76, 24748), (78, 24757), (85, 24817), (99, 24868), (143, 25045), (148, 25066), (150, 25084), (156, 25117), (162, 25174), (163, 25183),

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

Candidate Starts for Papyrus_28:

(Start: 4 @22234 has 10 MA's), (18, 22285), (19, 22300), (41, 22414), (42, 22420), (48, 22450), (56, 22483), (73, 22552), (80, 22612), (83, 22636), (130, 22801), (133, 22810), (157, 22933), (159, 22954), (160, 22966), (172, 23065), (174, 23071),

Gene: ParvusTarda_28 Start: 23909, Stop: 24772, Start Num: 7

Candidate Starts for ParvusTarda_28:

(Start: 7 @23909 has 46 MA's), (17, 23951), (41, 24083), (50, 24119), (67, 24179), (76, 24230), (78, 24239), (85, 24299), (99, 24350), (143, 24527), (148, 24548), (150, 24566), (156, 24599), (162, 24656), (163, 24665),

Gene: Patience_35 Start: 26761, Stop: 27651, Start Num: 3

Candidate Starts for Patience_35:

(Start: 3 @26761 has 56 MA's), (31, 26890), (44, 26962), (47, 26977), (48, 26980), (51, 26998), (59, 27022), (76, 27088), (89, 27169), (96, 27199), (105, 27235), (124, 27328), (135, 27367), (148, 27427), (159, 27502), (174, 27619), (177, 27643),

Gene: Patos_29 Start: 24349, Stop: 25212, Start Num: 7

Candidate Starts for Patos_29:

(Start: 7 @24349 has 46 MA's), (17, 24391), (41, 24523), (50, 24559), (67, 24619), (76, 24670), (78, 24679), (85, 24739), (99, 24790), (143, 24967), (148, 24988), (150, 25006), (156, 25039), (162, 25096), (163, 25105),

Gene: Phives_18 Start: 14123, Stop: 14998, Start Num: 3

Candidate Starts for Phives_18:

(Start: 3 @14123 has 56 MA's), (88, 14519), (101, 14573), (140, 14747), (144, 14762),

Gene: Pixelle_17 Start: 13066, Stop: 13941, Start Num: 3

Candidate Starts for Pixelle_17:

(Start: 3 @13066 has 56 MA's), (101, 13516), (140, 13690), (144, 13705),

Gene: Powerpuff_17 Start: 13089, Stop: 13964, Start Num: 3

Candidate Starts for Powerpuff_17:

(Start: 3 @13089 has 56 MA's), (27, 13200), (44, 13293), (88, 13485), (140, 13713), (144, 13728),

Gene: PrairieDogTown_18 Start: 14235, Stop: 15095, Start Num: 14

Candidate Starts for PrairieDogTown_18:

(Start: 14 @14235 has 4 MA's), (103, 14676), (122, 14769), (142, 14859),

Gene: Pumpkins_17 Start: 13153, Stop: 14028, Start Num: 3

Candidate Starts for Pumpkins_17:

(Start: 3 @13153 has 56 MA's), (39, 13324), (44, 13357), (88, 13549), (101, 13603), (144, 13792), (159, 13882),

Gene: Ranch_28 Start: 23263, Stop: 24126, Start Num: 7

Candidate Starts for Ranch_28:

(Start: 7 @23263 has 46 MA's), (17, 23305), (41, 23437), (50, 23473), (67, 23533), (76, 23584), (78, 23593), (85, 23653), (99, 23704), (143, 23881), (148, 23902), (150, 23920), (156, 23953), (162, 24010), (163, 24019),

Gene: RazorC_26 Start: 22733, Stop: 23596, Start Num: 7

Candidate Starts for RazorC_26:

(Start: 7 @22733 has 46 MA's), (17, 22775), (35, 22871), (41, 22907), (50, 22943), (67, 23003), (76, 23054), (78, 23063), (85, 23123), (99, 23174), (143, 23351), (148, 23372), (155, 23414), (156, 23423), (162, 23480), (163, 23489),

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

Candidate Starts for Riparian_28:

(Start: 4 @22030 has 10 MA's), (18, 22081), (19, 22096), (41, 22210), (42, 22216), (48, 22246), (56, 22279), (73, 22348), (74, 22351), (80, 22408), (130, 22597), (133, 22606), (157, 22729), (159, 22750), (160, 22762), (172, 22861), (174, 22867),

Gene: RockScotty_17 Start: 12748, Stop: 13623, Start Num: 3

Candidate Starts for RockScotty_17:

(Start: 3 @12748 has 56 MA's), (20, 12826), (41, 12937), (49, 12979), (77, 13078), (104, 13204), (133, 13327), (137, 13360), (173, 13588),

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

Candidate Starts for Rope_28:

(Start: 4 @22216 has 10 MA's), (18, 22267), (19, 22282), (41, 22396), (42, 22402), (48, 22432), (56, 22465), (73, 22534), (80, 22594), (83, 22618), (130, 22783), (133, 22792), (157, 22915), (159, 22936),

(160, 22948), (172, 23047), (174, 23053),

Gene: Rota_27 Start: 24616, Stop: 25479, Start Num: 7

Candidate Starts for Rota_27:

(Start: 7 @24616 has 46 MA's), (17, 24658), (41, 24790), (50, 24826), (67, 24886), (76, 24937), (78, 24946), (85, 25006), (99, 25057), (143, 25234), (148, 25255), (150, 25273), (156, 25306), (162, 25363), (163, 25372),

Gene: Rukungu_28 Start: 24965, Stop: 25828, Start Num: 7

Candidate Starts for Rukungu_28:

(Start: 7 @24965 has 46 MA's), (17, 25007), (35, 25103), (41, 25139), (50, 25175), (67, 25235), (76, 25286), (78, 25295), (85, 25355), (99, 25406), (143, 25583), (148, 25604), (150, 25622), (156, 25655), (162, 25712), (163, 25721),

Gene: Rumi_27 Start: 22344, Stop: 23207, Start Num: 7

Candidate Starts for Rumi_27:

(Start: 7 @22344 has 46 MA's), (17, 22386), (35, 22482), (41, 22518), (50, 22554), (67, 22614), (76, 22665), (78, 22674), (85, 22734), (99, 22785), (143, 22962), (148, 22983), (155, 23025), (156, 23034), (162, 23091), (163, 23100),

Gene: Sabourin_17 Start: 12655, Stop: 13530, Start Num: 3

Candidate Starts for Sabourin_17:

(Start: 3 @12655 has 56 MA's), (20, 12733), (41, 12844), (49, 12886), (77, 12985), (104, 13111), (133, 13234), (137, 13267), (173, 13495),

Gene: Sadboi_28 Start: 25105, Stop: 25968, Start Num: 7

Candidate Starts for Sadboi_28:

(Start: 7 @25105 has 46 MA's), (17, 25147), (35, 25243), (41, 25279), (50, 25315), (67, 25375), (76, 25426), (78, 25435), (85, 25495), (99, 25546), (143, 25723), (148, 25744), (150, 25762), (156, 25795), (162, 25852), (163, 25861),

Gene: Sampudon_28 Start: 25272, Stop: 26135, Start Num: 7

Candidate Starts for Sampudon_28:

(Start: 7 @25272 has 46 MA's), (17, 25314), (41, 25446), (50, 25482), (67, 25542), (76, 25593), (78, 25602), (85, 25662), (99, 25713), (143, 25890), (148, 25911), (150, 25929), (156, 25962), (162, 26019), (163, 26028),

Gene: Schaffner_17 Start: 13140, Stop: 14015, Start Num: 3

Candidate Starts for Schaffner_17:

(Start: 3 @13140 has 56 MA's), (39, 13311), (44, 13344), (88, 13536), (101, 13590), (111, 13629), (144, 13779), (152, 13821),

Gene: Scotia_19 Start: 15157, Stop: 16017, Start Num: 13

Candidate Starts for Scotia_19:

(Start: 9 @15148 has 1 MA's), (Start: 13 @15157 has 2 MA's), (66, 15406), (75, 15445), (93, 15556), (101, 15595), (104, 15601), (122, 15691), (144, 15787),

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

Candidate Starts for Send513_28:

(Start: 4 @22572 has 10 MA's), (18, 22623), (19, 22638), (41, 22752), (42, 22758), (48, 22788), (56, 22821), (73, 22890), (80, 22950), (83, 22974), (130, 23139), (133, 23148), (157, 23271), (159, 23292), (160, 23304), (172, 23403), (174, 23409),

Gene: ShakeltOph_16 Start: 11227, Stop: 12087, Start Num: 11

Candidate Starts for ShakeltOph_16:

(Start: 11 @11227 has 6 MA's), (18, 11263), (20, 11281), (82, 11599), (107, 11680), (121, 11758), (132, 11794), (156, 11920), (159, 11944),

Gene: Sienna_23 Start: 19319, Stop: 20188, Start Num: 7

Candidate Starts for Sienna_23:

(Start: 7 @19319 has 46 MA's), (10, 19325), (16, 19355), (23, 19388), (27, 19415), (31, 19436), (33, 19442), (41, 19490), (43, 19502), (50, 19535), (55, 19556), (80, 19688), (81, 19691), (90, 19727), (130, 19889), (138, 19928), (147, 19964), (150, 19985),

Gene: Simpson_19 Start: 13038, Stop: 13913, Start Num: 3

Candidate Starts for Simpson_19:

(Start: 3 @13038 has 56 MA's), (27, 13149), (44, 13242), (88, 13434), (140, 13662), (144, 13677),

Gene: Skelbel_18 Start: 13021, Stop: 13896, Start Num: 3

Candidate Starts for Skelbel_18:

(Start: 3 @13021 has 56 MA's), (27, 13132), (39, 13192), (88, 13417), (101, 13471), (107, 13486), (111, 13510), (123, 13567), (140, 13645), (144, 13660),

Gene: Soondubu_16 Start: 13702, Stop: 14559, Start Num: 11

Candidate Starts for Soondubu_16:

(Start: 11 @13702 has 6 MA's), (18, 13738), (75, 13993), (84, 14077), (95, 14113), (100, 14137), (106, 14152), (134, 14275),

Gene: Sooty_17 Start: 12658, Stop: 13533, Start Num: 3

Candidate Starts for Sooty_17:

(Start: 3 @12658 has 56 MA's), (20, 12736), (41, 12847), (49, 12889), (77, 12988), (104, 13114), (133, 13237), (137, 13270), (173, 13498),

Gene: SpecialK_17 Start: 12655, Stop: 13530, Start Num: 3

Candidate Starts for SpecialK_17:

(Start: 3 @12655 has 56 MA's), (20, 12733), (41, 12844), (49, 12886), (77, 12985), (104, 13111), (133, 13234), (137, 13267), (173, 13495),

Gene: Stormer_27 Start: 22344, Stop: 23207, Start Num: 7

Candidate Starts for Stormer_27:

(Start: 7 @22344 has 46 MA's), (17, 22386), (35, 22482), (41, 22518), (50, 22554), (67, 22614), (76, 22665), (78, 22674), (85, 22734), (99, 22785), (143, 22962), (148, 22983), (155, 23025), (156, 23034), (162, 23091), (163, 23100),

Gene: Stuu_17 Start: 12748, Stop: 13623, Start Num: 3

Candidate Starts for Stuu_17:

(Start: 3 @12748 has 56 MA's), (20, 12826), (41, 12937), (49, 12979), (77, 13078), (104, 13204), (133, 13327), (137, 13360), (173, 13588),

Gene: Subaru_18 Start: 13021, Stop: 13896, Start Num: 3

Candidate Starts for Subaru_18:

(Start: 3 @13021 has 56 MA's), (27, 13132), (39, 13192), (88, 13417), (101, 13471), (107, 13486), (123, 13567), (140, 13645), (144, 13660),

Gene: SuperSonics_34 Start: 25937, Stop: 26827, Start Num: 3

Candidate Starts for SuperSonics_34:

(Start: 3 @25937 has 56 MA's), (31, 26066), (44, 26138), (48, 26156), (51, 26174), (59, 26198), (76, 26264), (89, 26345), (96, 26375), (105, 26411), (124, 26504), (135, 26543), (148, 26603), (159, 26678), (174, 26795), (177, 26819),

Gene: Suzy_23 Start: 20480, Stop: 21349, Start Num: 7

Candidate Starts for Suzy_23:

(Start: 7 @20480 has 46 MA's), (10, 20486), (16, 20516), (23, 20549), (31, 20597), (33, 20603), (41, 20651), (43, 20663), (44, 20669), (45, 20672), (50, 20696), (53, 20711), (80, 20849), (81, 20852), (90, 20888), (118, 20999), (138, 21089), (147, 21125), (160, 21215),

Gene: Tallboi_17 Start: 13048, Stop: 13923, Start Num: 3

Candidate Starts for Tallboi_17:

(Start: 3 @13048 has 56 MA's), (39, 13219), (88, 13444), (101, 13498), (123, 13594), (140, 13672), (144, 13687), (159, 13777),

Gene: Tbone_17 Start: 13042, Stop: 13917, Start Num: 3

Candidate Starts for Tbone_17:

(Start: 3 @13042 has 56 MA's), (27, 13153), (88, 13438), (140, 13666), (144, 13681),

Gene: Terapin_23 Start: 19319, Stop: 20188, Start Num: 7

Candidate Starts for Terapin_23:

(Start: 7 @19319 has 46 MA's), (10, 19325), (16, 19355), (23, 19388), (31, 19436), (33, 19442), (41, 19490), (43, 19502), (50, 19535), (64, 19589), (65, 19592), (80, 19688), (81, 19691), (90, 19727), (118, 19838), (138, 19928), (147, 19964), (152, 19991), (160, 20054),

Gene: TforTroy_17 Start: 13171, Stop: 14046, Start Num: 3

Candidate Starts for TforTroy_17:

(Start: 3 @13171 has 56 MA's), (39, 13342), (88, 13567), (111, 13660), (144, 13810), (152, 13852),

Gene: ThursdayNight_15 Start: 11797, Stop: 12663, Start Num: 3

Candidate Starts for ThursdayNight_15:

(Start: 3 @11797 has 56 MA's), (20, 11866), (36, 11944), (57, 12037), (133, 12367), (144, 12427), (159, 12517), (166, 12586),

Gene: Tian_17 Start: 13063, Stop: 13938, Start Num: 3

Candidate Starts for Tian_17:

(Start: 3 @13063 has 56 MA's), (88, 13459), (101, 13513), (140, 13687), (144, 13702),

Gene: Tillicus_27 Start: 23684, Stop: 24541, Start Num: 7

Candidate Starts for Tillicus_27:

(Start: 7 @23684 has 46 MA's), (35, 23822), (38, 23834), (41, 23858), (56, 23918), (76, 24005), (85, 24074), (99, 24125), (143, 24299), (146, 24308), (162, 24428), (163, 24437),

Gene: Tuck_18 Start: 14243, Stop: 15118, Start Num: 3

Candidate Starts for Tuck_18:

(Start: 3 @14243 has 56 MA's), (26, 14339), (39, 14414), (88, 14639), (111, 14732), (129, 14807), (144, 14882),

Gene: Turab_17 Start: 13050, Stop: 13925, Start Num: 3

Candidate Starts for Turab_17:

(Start: 3 @13050 has 56 MA's), (39, 13221), (57, 13296), (88, 13446), (101, 13500), (111, 13539), (123, 13596), (140, 13674), (144, 13689),

Gene: Tutumahutu_17 Start: 13089, Stop: 13964, Start Num: 3

Candidate Starts for Tutumahutu_17:

(Start: 3 @13089 has 56 MA's), (27, 13200), (88, 13485), (140, 13713), (144, 13728),

Gene: VroomVroom_16 Start: 11238, Stop: 12098, Start Num: 11

Candidate Starts for VroomVroom_16:

(Start: 11 @11238 has 6 MA's), (18, 11274), (20, 11292), (84, 11613), (121, 11769), (132, 11805), (143, 11865), (156, 11931), (159, 11955),

Gene: Warda_17 Start: 13034, Stop: 13909, Start Num: 3

Candidate Starts for Warda_17:

(Start: 3 @13034 has 56 MA's), (27, 13145), (88, 13430), (140, 13658), (144, 13673),

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

Candidate Starts for Weiss13_28:

(Start: 4 @22262 has 10 MA's), (18, 22313), (19, 22328), (41, 22442), (42, 22448), (48, 22478), (56, 22511), (73, 22580), (74, 22583), (80, 22640), (130, 22829), (133, 22838), (157, 22961), (159, 22982), (160, 22994), (172, 23093), (174, 23099),

Gene: Wojtek_27 Start: 23982, Stop: 24845, Start Num: 7

Candidate Starts for Wojtek_27:

(Start: 7 @23982 has 46 MA's), (17, 24024), (41, 24156), (56, 24216), (67, 24252), (76, 24303), (78, 24312), (85, 24372), (99, 24423), (143, 24600), (148, 24621), (150, 24639), (156, 24672), (162, 24729), (163, 24738),

Gene: Xenia2_28 Start: 24068, Stop: 24928, Start Num: 7

Candidate Starts for Xenia2_28:

(Start: 7 @24068 has 46 MA's), (18, 24113), (50, 24278), (61, 24314), (65, 24332), (97, 24497), (98, 24500), (99, 24509), (102, 24515), (110, 24551), (113, 24557), (139, 24668), (148, 24707), (149, 24722), (157, 24761), (163, 24824),

Gene: Yang_17 Start: 13141, Stop: 14016, Start Num: 3

Candidate Starts for Yang_17:

(Start: 3 @13141 has 56 MA's), (88, 13537), (144, 13780), (176, 14005),

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

Candidate Starts for Yelo_28:

(Start: 4 @22555 has 10 MA's), (18, 22606), (19, 22621), (41, 22735), (42, 22741), (48, 22771), (56, 22804), (73, 22873), (80, 22933), (130, 23122), (133, 23131), (157, 23254), (159, 23275), (160, 23287), (172, 23386),

Gene: YesChef_17 Start: 13089, Stop: 13964, Start Num: 3

Candidate Starts for YesChef_17:

(Start: 3 @13089 has 56 MA's), (27, 13200), (44, 13293), (88, 13485), (140, 13713), (144, 13728),

Gene: Yikes_29 Start: 25357, Stop: 26220, Start Num: 7

Candidate Starts for Yikes_29:

(Start: 7 @25357 has 46 MA's), (17, 25399), (35, 25495), (41, 25531), (50, 25567), (67, 25627), (76, 25678), (78, 25687), (85, 25747), (99, 25798), (143, 25975), (148, 25996), (150, 26014), (156, 26047), (162, 26104), (163, 26113),

Gene: Zany_27 Start: 24878, Stop: 25741, Start Num: 7

Candidate Starts for Zany_27:

(Start: 7 @24878 has 46 MA's), (17, 24920), (41, 25052), (50, 25088), (67, 25148), (76, 25199), (78, 25208), (85, 25268), (99, 25319), (143, 25496), (148, 25517), (150, 25535), (156, 25568), (162, 25625), (163, 25634),

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

Candidate Starts for Zenon_29:

(Start: 4 @22574 has 10 MA's), (18, 22625), (19, 22640), (41, 22754), (42, 22760), (48, 22790), (56, 22823), (73, 22892), (74, 22895), (80, 22952), (83, 22976), (130, 23141), (133, 23150), (157, 23273), (159, 23294), (160, 23306), (172, 23405), (174, 23411),

Gene: pZL12_50c Start: 39384, Stop: 38482, Start Num: 6

Candidate Starts for pZL12_50c:

(6, 39384), (17, 39333), (34, 39246), (35, 39237), (41, 39201), (54, 39147), (55, 39144), (69, 39090), (70, 39084), (76, 39051), (116, 38856), (136, 38754), (145, 38715), (150, 38682),