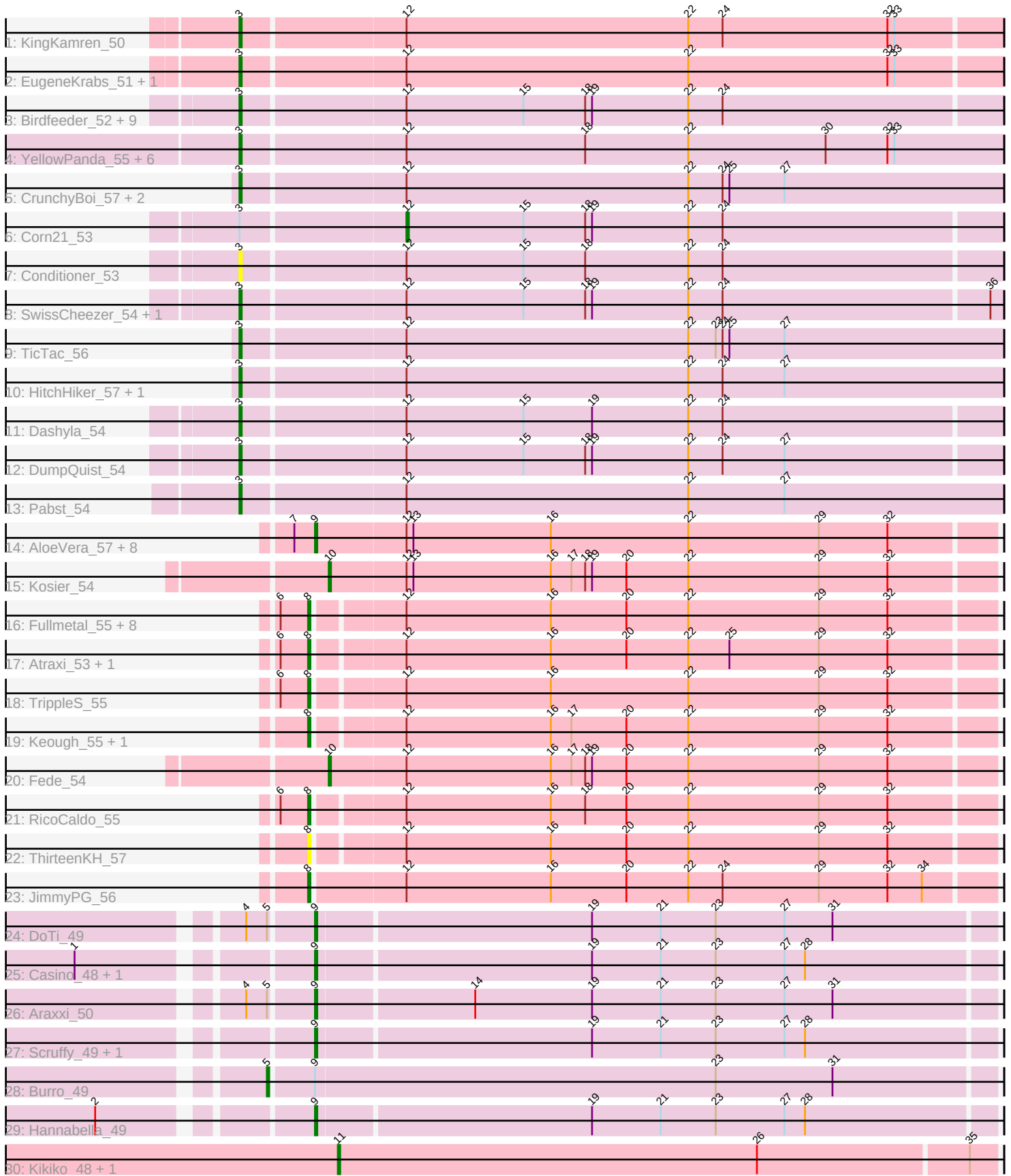


Pham 280397



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 280397 Report

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

Pham number 280397 has 71 members, 12 are drafts.

Phages represented in each track:

- Track 1 : KingKamren_50
- Track 2 : EugeneKrabs_51, Zhengyi_51
- Track 3 : Birdfeeder_52, Phogo_54, BlueRugrat_53, LesNorah_54, Stormbreaker_54, Unphazed_54, LilyLou_56, Xitlalli_52, ArMaWen_54, Alex44_55
- Track 4 : YellowPanda_55, MiamiPanther_54, TinyTimothy_52, Sorvannah_54, JessellCookie_54, Salvatore2000_54, Wesak_53
- Track 5 : CrunchyBoi_57, Oatly_56, PineapplePluto_57
- Track 6 : Corn21_53
- Track 7 : Conditioner_53
- Track 8 : SwissCheezer_54, TownLake_52
- Track 9 : TicTac_56
- Track 10 : HitchHiker_57, Biozilla_55
- Track 11 : Dashyla_54
- Track 12 : DumpQuist_54
- Track 13 : Pabst_54
- Track 14 : AloeVera_57, SoilSleuth_58, Waterlily_59, Barroma_54, Ashton_56, Akoni_55, ShyRosie_56, JordanFarm_57, Truong_55
- Track 15 : Kosier_54
- Track 16 : Fullmetal_55, Pharky_55, Yafa_57, Phedro_55, StagePhright_55, Moleficent_56, Astartes_56, Phracted_55, PhriedRice_56
- Track 17 : Atraxi_53, Morrill_53
- Track 18 : TrippleS_55
- Track 19 : Keough_55, Mazun_56
- Track 20 : Fede_54
- Track 21 : RicoCaldo_55
- Track 22 : ThirteenKH_57
- Track 23 : JimmyPG_56
- Track 24 : DoTi_49
- Track 25 : Casino_48, Arete_49
- Track 26 : Araxxi_50
- Track 27 : Scruffy_49, Gshelby23_47
- Track 28 : Burro_49
- Track 29 : Hannabella_49
- Track 30 : Kikiko_48, MissAmericana_51

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 27 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alex44_55, ArMaWen_54, Biozilla_55, Birdfeeder_52, BlueRugrat_53, Conditioner_53, CrunchyBoi_57, Dashyla_54, DumpQuist_54, EugeneKrabs_51, HitchHiker_57, JessellCookie_54, KingKamren_50, LesNorah_54, LilyLou_56, MiamiPanther_54, Oatly_56, Pabst_54, Phogo_54, PineapplePluto_57, Salvatore2000_54, Sorvannah_54, Stormbreaker_54, SwissCheezer_54, TicTac_56, TinyTimothy_52, TownLake_52, Unphazed_54, Wesak_53, Xitlalli_52, YellowPanda_55, Zhengyi_51,

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

- Corn21_53,

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

- Akoni_55, AloeVera_57, Araxxi_50, Arete_49, Ashton_56, Astartes_56, Atraxi_53, Barroma_54, Burro_49, Casino_48, DoTi_49, Fede_54, Fullmetal_55, Gshelby23_47, Hannabella_49, JimmyPG_56, JordanFarm_57, Keough_55, Kikiko_48, Kosier_54, Mazun_56, MissAmericana_51, Moleficent_56, Morrill_53, Pharky_55, Phedro_55, Phracted_55, PhriedRice_56, RicoCaldo_55, Scruffy_49, ShyRosie_56, SoilSleuth_58, StagePhright_55, ThirteenKH_57, TrippleS_55, Truong_55, Waterlily_59, Yafa_57,

Summary by start number:

Start 3:

- Found in 33 of 71 (46.5%) of genes in pham
- Manual Annotations of this start: 27 of 59
- Called 97.0% of time when present
- Phage (with cluster) where this start called: Alex44_55 (EK1), ArMaWen_54 (EK1), Biozilla_55 (EK1), Birdfeeder_52 (EK1), BlueRugrat_53 (EK1), Conditioner_53 (EK1), CrunchyBoi_57 (EK1), Dashyla_54 (EK1), DumpQuist_54 (EK1), EugeneKrabs_51 (EK), HitchHiker_57 (EK1), JessellCookie_54 (EK1), KingKamren_50 (EK), LesNorah_54 (EK1), LilyLou_56 (EK1), MiamiPanther_54 (EK1), Oatly_56 (EK1), Pabst_54 (EK1), Phogo_54 (EK1), PineapplePluto_57 (EK1), Salvatore2000_54 (EK1), Sorvannah_54 (EK1), Stormbreaker_54 (EK1), SwissCheezer_54 (EK1), TicTac_56 (EK1), TinyTimothy_52 (EK1), TownLake_52 (EK1), Unphazed_54 (EK1), Wesak_53 (EK1), Xitlalli_52 (EK1), YellowPanda_55 (EK1), Zhengyi_51 (EK),

Start 5:

- Found in 3 of 71 (4.2%) of genes in pham
- Manual Annotations of this start: 1 of 59
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Burro_49 (EM1),

Start 8:

- Found in 17 of 71 (23.9%) of genes in pham
- Manual Annotations of this start: 14 of 59
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Astartes_56 (EK2), Atraxi_53 (EK2), Fullmetal_55 (EK2), JimmyPG_56 (EK2), Keough_55 (EK2), Mazun_56 (EK2), Moleficent_56 (EK2), Morrill_53 (EK2), Pharky_55 (EK2), Phedro_55 (EK2), Phracted_55 (EK2), PhriedRice_56 (EK2), RicoCaldo_55 (EK2), StagePhright_55 (EK2), ThirteenKH_57 (EK2), TrippleS_55 (EK2), Yafa_57 (EK2),

Start 9:

- Found in 17 of 71 (23.9%) of genes in pham
- Manual Annotations of this start: 13 of 59
- Called 94.1% of time when present
- Phage (with cluster) where this start called: Akoni_55 (EK2), AloeVera_57 (EK2), Araxxi_50 (EM1), Arete_49 (EM1), Ashton_56 (EK2), Barroma_54 (EK2), Casino_48 (EM1), DoTi_49 (EM1), Gshelby23_47 (EM1), Hannabella_49 (EM1), JordanFarm_57 (EK2), Scruffy_49 (EM1), ShyRosie_56 (EK2), SoilSleuth_58 (EK2), Truong_55 (EK2), Waterlily_59 (EK2),

Start 10:

- Found in 2 of 71 (2.8%) of genes in pham
- Manual Annotations of this start: 2 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fede_54 (EK2), Kosier_54 (EK2),

Start 11:

- Found in 2 of 71 (2.8%) of genes in pham
- Manual Annotations of this start: 1 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kikiko_48 (EM2), MissAmericana_51 (EM2),

Start 12:

- Found in 61 of 71 (85.9%) of genes in pham
- Manual Annotations of this start: 1 of 59
- Called 1.6% of time when present
- Phage (with cluster) where this start called: Corn21_53 (EK1),

Summary by clusters:

There are 5 clusters represented in this pham: EK, EM1, EK2, EK1, EM2,

Info for manual annotations of cluster EK:

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

Info for manual annotations of cluster EK1:

- Start number 3 was manually annotated 24 times for cluster EK1.
- Start number 12 was manually annotated 1 time for cluster EK1.

Info for manual annotations of cluster EK2:

- Start number 8 was manually annotated 14 times for cluster EK2.
- Start number 9 was manually annotated 7 times for cluster EK2.
- Start number 10 was manually annotated 2 times for cluster EK2.

Info for manual annotations of cluster EM1:

- Start number 5 was manually annotated 1 time for cluster EM1.

- Start number 9 was manually annotated 6 times for cluster EM1.

Info for manual annotations of cluster EM2:

- Start number 11 was manually annotated 1 time for cluster EM2.

Gene Information:

Gene: Akoni_55 Start: 53605, Stop: 53898, Start Num: 9

Candidate Starts for Akoni_55:

(7, 53596), (Start: 9 @53605 has 13 MA's), (Start: 12 @53644 has 1 MA's), (13, 53647), (16, 53707), (22, 53767), (29, 53824), (32, 53854),

Gene: Alex44_55 Start: 53906, Stop: 54232, Start Num: 3

Candidate Starts for Alex44_55:

(Start: 3 @53906 has 27 MA's), (Start: 12 @53975 has 1 MA's), (15, 54026), (18, 54053), (19, 54056), (22, 54098), (24, 54113),

Gene: AloeVera_57 Start: 53819, Stop: 54112, Start Num: 9

Candidate Starts for AloeVera_57:

(7, 53810), (Start: 9 @53819 has 13 MA's), (Start: 12 @53858 has 1 MA's), (13, 53861), (16, 53921), (22, 53981), (29, 54038), (32, 54068),

Gene: ArMaWen_54 Start: 53449, Stop: 53775, Start Num: 3

Candidate Starts for ArMaWen_54:

(Start: 3 @53449 has 27 MA's), (Start: 12 @53518 has 1 MA's), (15, 53569), (18, 53596), (19, 53599), (22, 53641), (24, 53656),

Gene: Araxxi_50 Start: 53587, Stop: 53877, Start Num: 9

Candidate Starts for Araxxi_50:

(4, 53560), (Start: 5 @53569 has 1 MA's), (Start: 9 @53587 has 13 MA's), (14, 53653), (19, 53704), (21, 53734), (23, 53758), (27, 53788), (31, 53809),

Gene: Arete_49 Start: 53298, Stop: 53588, Start Num: 9

Candidate Starts for Arete_49:

(1, 53208), (Start: 9 @53298 has 13 MA's), (19, 53415), (21, 53445), (23, 53469), (27, 53499), (28, 53508),

Gene: Ashton_56 Start: 53817, Stop: 54110, Start Num: 9

Candidate Starts for Ashton_56:

(7, 53808), (Start: 9 @53817 has 13 MA's), (Start: 12 @53856 has 1 MA's), (13, 53859), (16, 53919), (22, 53979), (29, 54036), (32, 54066),

Gene: Astartes_56 Start: 53405, Stop: 53695, Start Num: 8

Candidate Starts for Astartes_56:

(6, 53393), (Start: 8 @53405 has 14 MA's), (Start: 12 @53441 has 1 MA's), (16, 53504), (20, 53537), (22, 53564), (29, 53621), (32, 53651),

Gene: Atraxi_53 Start: 53205, Stop: 53495, Start Num: 8

Candidate Starts for Atraxi_53:

(6, 53193), (Start: 8 @53205 has 14 MA's), (Start: 12 @53241 has 1 MA's), (16, 53304), (20, 53337), (22, 53364), (25, 53382), (29, 53421), (32, 53451),

Gene: Barroma_54 Start: 53607, Stop: 53900, Start Num: 9

Candidate Starts for Barroma_54:

(7, 53598), (Start: 9 @53607 has 13 MA's), (Start: 12 @53646 has 1 MA's), (13, 53649), (16, 53709), (22, 53769), (29, 53826), (32, 53856),

Gene: Biozilla_55 Start: 53349, Stop: 53678, Start Num: 3

Candidate Starts for Biozilla_55:

(Start: 3 @53349 has 27 MA's), (Start: 12 @53418 has 1 MA's), (22, 53541), (24, 53556), (27, 53583),

Gene: Birdfeeder_52 Start: 53407, Stop: 53733, Start Num: 3

Candidate Starts for Birdfeeder_52:

(Start: 3 @53407 has 27 MA's), (Start: 12 @53476 has 1 MA's), (15, 53527), (18, 53554), (19, 53557), (22, 53599), (24, 53614),

Gene: BlueRugrat_53 Start: 53634, Stop: 53960, Start Num: 3

Candidate Starts for BlueRugrat_53:

(Start: 3 @53634 has 27 MA's), (Start: 12 @53703 has 1 MA's), (15, 53754), (18, 53781), (19, 53784), (22, 53826), (24, 53841),

Gene: Burro_49 Start: 54058, Stop: 54369, Start Num: 5

Candidate Starts for Burro_49:

(Start: 5 @54058 has 1 MA's), (Start: 9 @54076 has 13 MA's), (23, 54250), (31, 54301),

Gene: Casino_48 Start: 53273, Stop: 53563, Start Num: 9

Candidate Starts for Casino_48:

(1, 53183), (Start: 9 @53273 has 13 MA's), (19, 53390), (21, 53420), (23, 53444), (27, 53474), (28, 53483),

Gene: Conditioner_53 Start: 53713, Stop: 54039, Start Num: 3

Candidate Starts for Conditioner_53:

(Start: 3 @53713 has 27 MA's), (Start: 12 @53782 has 1 MA's), (15, 53833), (18, 53860), (22, 53905), (24, 53920),

Gene: Corn21_53 Start: 53784, Stop: 54041, Start Num: 12

Candidate Starts for Corn21_53:

(Start: 3 @53715 has 27 MA's), (Start: 12 @53784 has 1 MA's), (15, 53835), (18, 53862), (19, 53865), (22, 53907), (24, 53922),

Gene: CrunchyBoi_57 Start: 53204, Stop: 53533, Start Num: 3

Candidate Starts for CrunchyBoi_57:

(Start: 3 @53204 has 27 MA's), (Start: 12 @53273 has 1 MA's), (22, 53396), (24, 53411), (25, 53414), (27, 53438),

Gene: Dashyla_54 Start: 53583, Stop: 53909, Start Num: 3

Candidate Starts for Dashyla_54:

(Start: 3 @53583 has 27 MA's), (Start: 12 @53652 has 1 MA's), (15, 53703), (19, 53733), (22, 53775), (24, 53790),

Gene: DoTi_49 Start: 53689, Stop: 53979, Start Num: 9

Candidate Starts for DoTi_49:

(4, 53662), (Start: 5 @53671 has 1 MA's), (Start: 9 @53689 has 13 MA's), (19, 53806), (21, 53836), (23, 53860), (27, 53890), (31, 53911),

Gene: DumpQuist_54 Start: 53434, Stop: 53760, Start Num: 3

Candidate Starts for DumpQuist_54:

(Start: 3 @53434 has 27 MA's), (Start: 12 @53503 has 1 MA's), (15, 53554), (18, 53581), (19, 53584), (22, 53626), (24, 53641), (27, 53668),

Gene: EugeneKrabs_51 Start: 54134, Stop: 54460, Start Num: 3

Candidate Starts for EugeneKrabs_51:

(Start: 3 @54134 has 27 MA's), (Start: 12 @54203 has 1 MA's), (22, 54326), (32, 54413), (33, 54416),

Gene: Fede_54 Start: 54212, Stop: 54499, Start Num: 10

Candidate Starts for Fede_54:

(Start: 10 @54212 has 2 MA's), (Start: 12 @54245 has 1 MA's), (16, 54308), (17, 54317), (18, 54323), (19, 54326), (20, 54341), (22, 54368), (29, 54425), (32, 54455),

Gene: Fullmetal_55 Start: 53739, Stop: 54029, Start Num: 8

Candidate Starts for Fullmetal_55:

(6, 53727), (Start: 8 @53739 has 14 MA's), (Start: 12 @53775 has 1 MA's), (16, 53838), (20, 53871), (22, 53898), (29, 53955), (32, 53985),

Gene: Gshelby23_47 Start: 53209, Stop: 53499, Start Num: 9

Candidate Starts for Gshelby23_47:

(Start: 9 @53209 has 13 MA's), (19, 53326), (21, 53356), (23, 53380), (27, 53410), (28, 53419),

Gene: Hannabella_49 Start: 53249, Stop: 53539, Start Num: 9

Candidate Starts for Hannabella_49:

(2, 53168), (Start: 9 @53249 has 13 MA's), (19, 53366), (21, 53396), (23, 53420), (27, 53450), (28, 53459),

Gene: HitchHiker_57 Start: 53349, Stop: 53678, Start Num: 3

Candidate Starts for HitchHiker_57:

(Start: 3 @53349 has 27 MA's), (Start: 12 @53418 has 1 MA's), (22, 53541), (24, 53556), (27, 53583),

Gene: JessellCookie_54 Start: 53342, Stop: 53671, Start Num: 3

Candidate Starts for JessellCookie_54:

(Start: 3 @53342 has 27 MA's), (Start: 12 @53411 has 1 MA's), (18, 53489), (22, 53534), (30, 53594), (32, 53621), (33, 53624),

Gene: JimmyPG_56 Start: 54153, Stop: 54446, Start Num: 8

Candidate Starts for JimmyPG_56:

(Start: 8 @54153 has 14 MA's), (Start: 12 @54192 has 1 MA's), (16, 54255), (20, 54288), (22, 54315), (24, 54330), (29, 54372), (32, 54402), (34, 54417),

Gene: JordanFarm_57 Start: 53818, Stop: 54111, Start Num: 9

Candidate Starts for JordanFarm_57:

(7, 53809), (Start: 9 @53818 has 13 MA's), (Start: 12 @53857 has 1 MA's), (13, 53860), (16, 53920), (22, 53980), (29, 54037), (32, 54067),

Gene: Keough_55 Start: 53533, Stop: 53823, Start Num: 8

Candidate Starts for Keough_55:

(Start: 8 @53533 has 14 MA's), (Start: 12 @53569 has 1 MA's), (16, 53632), (17, 53641), (20, 53665), (22, 53692), (29, 53749), (32, 53779),

Gene: Kikiko_48 Start: 53486, Stop: 53770, Start Num: 11

Candidate Starts for Kikiko_48:

(Start: 11 @53486 has 1 MA's), (26, 53669), (35, 53759),

Gene: KingKamren_50 Start: 54101, Stop: 54427, Start Num: 3

Candidate Starts for KingKamren_50:

(Start: 3 @54101 has 27 MA's), (Start: 12 @54170 has 1 MA's), (22, 54293), (24, 54308), (32, 54380), (33, 54383),

Gene: Kosier_54 Start: 54156, Stop: 54443, Start Num: 10

Candidate Starts for Kosier_54:

(Start: 10 @54156 has 2 MA's), (Start: 12 @54189 has 1 MA's), (13, 54192), (16, 54252), (17, 54261), (18, 54267), (19, 54270), (20, 54285), (22, 54312), (29, 54369), (32, 54399),

Gene: LesNorah_54 Start: 54031, Stop: 54357, Start Num: 3

Candidate Starts for LesNorah_54:

(Start: 3 @54031 has 27 MA's), (Start: 12 @54100 has 1 MA's), (15, 54151), (18, 54178), (19, 54181), (22, 54223), (24, 54238),

Gene: LilyLou_56 Start: 53898, Stop: 54224, Start Num: 3

Candidate Starts for LilyLou_56:

(Start: 3 @53898 has 27 MA's), (Start: 12 @53967 has 1 MA's), (15, 54018), (18, 54045), (19, 54048), (22, 54090), (24, 54105),

Gene: Mazun_56 Start: 54140, Stop: 54430, Start Num: 8

Candidate Starts for Mazun_56:

(Start: 8 @54140 has 14 MA's), (Start: 12 @54176 has 1 MA's), (16, 54239), (17, 54248), (20, 54272), (22, 54299), (29, 54356), (32, 54386),

Gene: MiamiPanther_54 Start: 53339, Stop: 53668, Start Num: 3

Candidate Starts for MiamiPanther_54:

(Start: 3 @53339 has 27 MA's), (Start: 12 @53408 has 1 MA's), (18, 53486), (22, 53531), (30, 53591), (32, 53618), (33, 53621),

Gene: MissAmericana_51 Start: 53313, Stop: 53597, Start Num: 11

Candidate Starts for MissAmericana_51:

(Start: 11 @53313 has 1 MA's), (26, 53496), (35, 53586),

Gene: Moleficent_56 Start: 53753, Stop: 54043, Start Num: 8

Candidate Starts for Moleficent_56:

(6, 53741), (Start: 8 @53753 has 14 MA's), (Start: 12 @53789 has 1 MA's), (16, 53852), (20, 53885), (22, 53912), (29, 53969), (32, 53999),

Gene: Morrill_53 Start: 53184, Stop: 53474, Start Num: 8

Candidate Starts for Morrill_53:

(6, 53172), (Start: 8 @53184 has 14 MA's), (Start: 12 @53220 has 1 MA's), (16, 53283), (20, 53316), (22, 53343), (25, 53361), (29, 53400), (32, 53430),

Gene: Oatly_56 Start: 52909, Stop: 53238, Start Num: 3

Candidate Starts for Oatly_56:

(Start: 3 @52909 has 27 MA's), (Start: 12 @52978 has 1 MA's), (22, 53101), (24, 53116), (25, 53119), (27, 53143),

Gene: Pabst_54 Start: 53024, Stop: 53353, Start Num: 3

Candidate Starts for Pabst_54:

(Start: 3 @53024 has 27 MA's), (Start: 12 @53093 has 1 MA's), (22, 53216), (27, 53258),

Gene: Pharky_55 Start: 53743, Stop: 54033, Start Num: 8

Candidate Starts for Pharky_55:

(6, 53731), (Start: 8 @53743 has 14 MA's), (Start: 12 @53779 has 1 MA's), (16, 53842), (20, 53875), (22, 53902), (29, 53959), (32, 53989),

Gene: Phedro_55 Start: 53743, Stop: 54033, Start Num: 8

Candidate Starts for Phedro_55:

(6, 53731), (Start: 8 @53743 has 14 MA's), (Start: 12 @53779 has 1 MA's), (16, 53842), (20, 53875), (22, 53902), (29, 53959), (32, 53989),

Gene: Phogo_54 Start: 53469, Stop: 53795, Start Num: 3

Candidate Starts for Phogo_54:

(Start: 3 @53469 has 27 MA's), (Start: 12 @53538 has 1 MA's), (15, 53589), (18, 53616), (19, 53619), (22, 53661), (24, 53676),

Gene: Phracted_55 Start: 53743, Stop: 54033, Start Num: 8

Candidate Starts for Phracted_55:

(6, 53731), (Start: 8 @53743 has 14 MA's), (Start: 12 @53779 has 1 MA's), (16, 53842), (20, 53875), (22, 53902), (29, 53959), (32, 53989),

Gene: PhriedRice_56 Start: 53847, Stop: 54137, Start Num: 8

Candidate Starts for PhriedRice_56:

(6, 53835), (Start: 8 @53847 has 14 MA's), (Start: 12 @53883 has 1 MA's), (16, 53946), (20, 53979), (22, 54006), (29, 54063), (32, 54093),

Gene: PineapplePluto_57 Start: 53272, Stop: 53601, Start Num: 3

Candidate Starts for PineapplePluto_57:

(Start: 3 @53272 has 27 MA's), (Start: 12 @53341 has 1 MA's), (22, 53464), (24, 53479), (25, 53482), (27, 53506),

Gene: RicoCaldo_55 Start: 53825, Stop: 54115, Start Num: 8

Candidate Starts for RicoCaldo_55:

(6, 53813), (Start: 8 @53825 has 14 MA's), (Start: 12 @53861 has 1 MA's), (16, 53924), (18, 53939), (20, 53957), (22, 53984), (29, 54041), (32, 54071),

Gene: Salvatore2000_54 Start: 53327, Stop: 53656, Start Num: 3

Candidate Starts for Salvatore2000_54:

(Start: 3 @53327 has 27 MA's), (Start: 12 @53396 has 1 MA's), (18, 53474), (22, 53519), (30, 53579), (32, 53606), (33, 53609),

Gene: Scruffy_49 Start: 53534, Stop: 53824, Start Num: 9

Candidate Starts for Scruffy_49:

(Start: 9 @53534 has 13 MA's), (19, 53651), (21, 53681), (23, 53705), (27, 53735), (28, 53744),

Gene: ShyRosie_56 Start: 53827, Stop: 54120, Start Num: 9

Candidate Starts for ShyRosie_56:

(7, 53818), (Start: 9 @53827 has 13 MA's), (Start: 12 @53866 has 1 MA's), (13, 53869), (16, 53929), (22, 53989), (29, 54046), (32, 54076),

Gene: SoilSleuth_58 Start: 53649, Stop: 53942, Start Num: 9

Candidate Starts for SoilSleuth_58:

(7, 53640), (Start: 9 @53649 has 13 MA's), (Start: 12 @53688 has 1 MA's), (13, 53691), (16, 53751), (22, 53811), (29, 53868), (32, 53898),

Gene: Sorvannah_54 Start: 53327, Stop: 53656, Start Num: 3

Candidate Starts for Sorvannah_54:

(Start: 3 @53327 has 27 MA's), (Start: 12 @53396 has 1 MA's), (18, 53474), (22, 53519), (30, 53579), (32, 53606), (33, 53609),

Gene: StagePhright_55 Start: 53743, Stop: 54033, Start Num: 8

Candidate Starts for StagePhright_55:

(6, 53731), (Start: 8 @53743 has 14 MA's), (Start: 12 @53779 has 1 MA's), (16, 53842), (20, 53875), (22, 53902), (29, 53959), (32, 53989),

Gene: Stormbreaker_54 Start: 53560, Stop: 53886, Start Num: 3

Candidate Starts for Stormbreaker_54:

(Start: 3 @53560 has 27 MA's), (Start: 12 @53629 has 1 MA's), (15, 53680), (18, 53707), (19, 53710), (22, 53752), (24, 53767),

Gene: SwissCheezer_54 Start: 53466, Stop: 53792, Start Num: 3

Candidate Starts for SwissCheezer_54:

(Start: 3 @53466 has 27 MA's), (Start: 12 @53535 has 1 MA's), (15, 53586), (18, 53613), (19, 53616), (22, 53658), (24, 53673), (36, 53787),

Gene: ThirteenKH_57 Start: 53193, Stop: 53483, Start Num: 8

Candidate Starts for ThirteenKH_57:

(Start: 8 @53193 has 14 MA's), (Start: 12 @53229 has 1 MA's), (16, 53292), (20, 53325), (22, 53352), (29, 53409), (32, 53439),

Gene: TicTac_56 Start: 53280, Stop: 53609, Start Num: 3

Candidate Starts for TicTac_56:

(Start: 3 @53280 has 27 MA's), (Start: 12 @53349 has 1 MA's), (22, 53472), (23, 53484), (24, 53487), (25, 53490), (27, 53514),

Gene: TinyTimothy_52 Start: 53327, Stop: 53656, Start Num: 3

Candidate Starts for TinyTimothy_52:

(Start: 3 @53327 has 27 MA's), (Start: 12 @53396 has 1 MA's), (18, 53474), (22, 53519), (30, 53579), (32, 53606), (33, 53609),

Gene: TownLake_52 Start: 53327, Stop: 53653, Start Num: 3

Candidate Starts for TownLake_52:

(Start: 3 @53327 has 27 MA's), (Start: 12 @53396 has 1 MA's), (15, 53447), (18, 53474), (19, 53477), (22, 53519), (24, 53534), (36, 53648),

Gene: TrippleS_55 Start: 53342, Stop: 53632, Start Num: 8

Candidate Starts for TrippleS_55:

(6, 53330), (Start: 8 @53342 has 14 MA's), (Start: 12 @53378 has 1 MA's), (16, 53441), (22, 53501), (29, 53558), (32, 53588),

Gene: Truong_55 Start: 53607, Stop: 53900, Start Num: 9

Candidate Starts for Truong_55:

(7, 53598), (Start: 9 @53607 has 13 MA's), (Start: 12 @53646 has 1 MA's), (13, 53649), (16, 53709), (22, 53769), (29, 53826), (32, 53856),

Gene: Unphazed_54 Start: 53429, Stop: 53755, Start Num: 3

Candidate Starts for Unphazed_54:

(Start: 3 @53429 has 27 MA's), (Start: 12 @53498 has 1 MA's), (15, 53549), (18, 53576), (19, 53579), (22, 53621), (24, 53636),

Gene: Waterlily_59 Start: 53858, Stop: 54151, Start Num: 9

Candidate Starts for Waterlily_59:

(7, 53849), (Start: 9 @53858 has 13 MA's), (Start: 12 @53897 has 1 MA's), (13, 53900), (16, 53960), (22, 54020), (29, 54077), (32, 54107),

Gene: Wesak_53 Start: 53184, Stop: 53513, Start Num: 3

Candidate Starts for Wesak_53:

(Start: 3 @53184 has 27 MA's), (Start: 12 @53253 has 1 MA's), (18, 53331), (22, 53376), (30, 53436), (32, 53463), (33, 53466),

Gene: Xitlalli_52 Start: 53439, Stop: 53765, Start Num: 3

Candidate Starts for Xitlalli_52:

(Start: 3 @53439 has 27 MA's), (Start: 12 @53508 has 1 MA's), (15, 53559), (18, 53586), (19, 53589), (22, 53631), (24, 53646),

Gene: Yafa_57 Start: 53097, Stop: 53387, Start Num: 8

Candidate Starts for Yafa_57:

(6, 53085), (Start: 8 @53097 has 14 MA's), (Start: 12 @53133 has 1 MA's), (16, 53196), (20, 53229), (22, 53256), (29, 53313), (32, 53343),

Gene: YellowPanda_55 Start: 53053, Stop: 53382, Start Num: 3

Candidate Starts for YellowPanda_55:

(Start: 3 @53053 has 27 MA's), (Start: 12 @53122 has 1 MA's), (18, 53200), (22, 53245), (30, 53305), (32, 53332), (33, 53335),

Gene: Zhengyi_51 Start: 54183, Stop: 54509, Start Num: 3

Candidate Starts for Zhengyi_51:

(Start: 3 @54183 has 27 MA's), (Start: 12 @54252 has 1 MA's), (22, 54375), (32, 54462), (33, 54465),