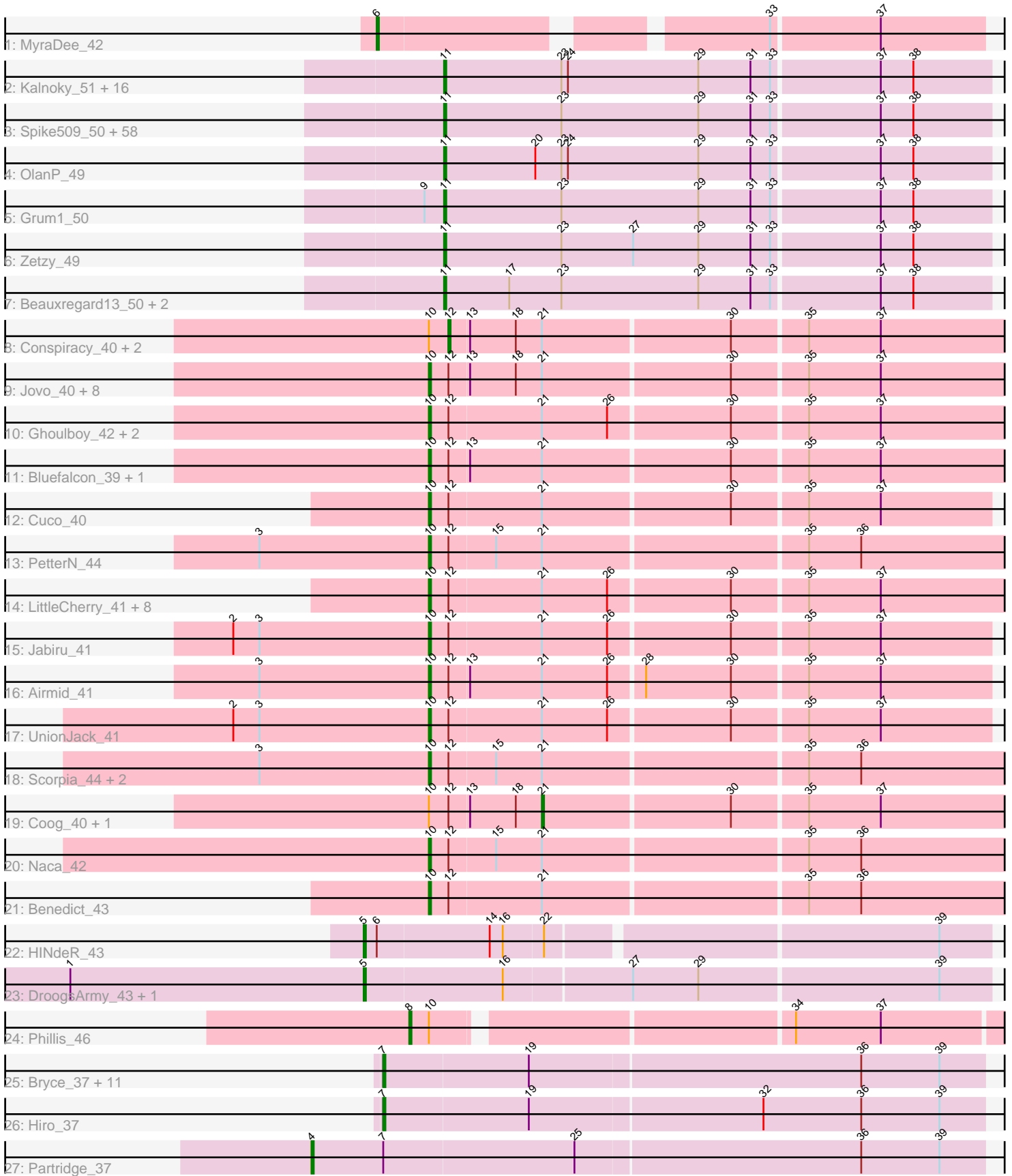


Pham 163421



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 163421 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163421 has 139 members, 4 are drafts.

Phages represented in each track:

- Track 1 : MyraDee_42
- Track 2 : Kalnok_51, Jobu08_49, ACFishhook_49, Heliosoles_49, Phranny_51, Marius_51, HaveUMetTed_51, Gemma_49, Groupthink_51, PurpleHaze_50, Manu_50, PhishRPhriends_48, Kalb97_51, JeppNRM_51, Reba_50, Pawn_50, SoilDragon_50
- Track 3 : Spike509_50, PotatoSplit_52, Sabia_50, Ollie_50, Lilith_51, JHC117_50, Aglet_51, Hercules11_50, Microwolf_50, MarQuardt_50, SoYo_50, Taurus_51, AugsMagnumOpus_53, Watson_50, DaHudson_50, LBerry_51, Snickers_50, MadMarie_50, StepMih_50, P28Green_51, Fernando_50, Grub_50, AgronaGT15_49, BreSam8_50, GtownJaz_50, Dieselweasel_51, Methuselah_47, GingkoMaracino_50, Marie_50, BuzzBuzz_48, Vix_50, Grif_50, Colbster_50, Anubis_53, Misomonster_51, Rummer_49, Stagni_50, Bxz2_46, Louie6_49, Soshari_52, KADY_50, MoneyMay_50, LugYA_53, Pembroke_50, Tiffany_50, HashRod_51, Sabinator_49, Mainiac_50, PGHhamlin_52, Phoebe_51, Daishi_49, Cullens_50, MuchMore_53, Farber_50, Malinsilva_52, Phoxy_50, JenCasNa_51, Wooldri_52, LarryKay_50
- Track 4 : OlanP_49
- Track 5 : Grum1_50
- Track 6 : Zetzy_49
- Track 7 : Beauxregard13_50, Penny1_51, EpicPhail_51
- Track 8 : Conspiracy_40, Tiger_39, Theia_38
- Track 9 : Jovo_40, Discoknowium_39, Lev2_40, Archetta_40, Aragog_39, AgentM_39, Phlorence_39, PickleBack_40, ForGetIt_40
- Track 10 : Ghoulboy_42, SydNat_42, Zolita_41
- Track 11 : Bluefalcon_39, MarysWell_39
- Track 12 : Cuco_40
- Track 13 : PetterN_44
- Track 14 : LittleCherry_41, George_40, HuhtaEnerson15_41, Tarynearal_39, Bonamassa_41, Dublin_39, Milcery_41, Swirley_43, Micasa_41
- Track 15 : Jabiru_41
- Track 16 : Airmid_41
- Track 17 : UnionJack_41
- Track 18 : Scorpia_44, Chadwick_44, EITiger69_42
- Track 19 : Coog_40, Midas2_40
- Track 20 : Naca_42
- Track 21 : Benedict_43
- Track 22 : HINdeR_43
- Track 23 : DroogsArmy_43, Timshel_45

- Track 24 : Phillis_46
- Track 25 : Bryce_37, AngryOrchard_35, RER2_30, BobbyDazzler_37, PhailMary_36, Yogi_37, Jester_37, Alpacados_36, Takoda_37, Yoncess_37, Bonanza_37, Harlequin_37
- Track 26 : Hiro_37
- Track 27 : Partridge_37

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

The start number called the most often in the published annotations is 11, it was called in 80 of the 135 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ACFishhook_49, Aglet_51, AgronaGT15_49, Anubis_53, AugsMagnumOpus_53, Beauxregard13_50, BreSam8_50, BuzzBuzz_48, Bxz2_46, Colbster_50, Cullens_50, DaHudson_50, Daishi_49, Dieselweasel_51, EpicPhail_51, Farber_50, Fernando_50, Gemma_49, GingkoMaracino_50, Grif_50, Groupthink_51, Grub_50, Grum1_50, GtownJaz_50, HashRod_51, HaveUMetTed_51, Heliosoles_49, Hercules11_50, JHC117_50, JenCasNa_51, JeppNRM_51, Jobu08_49, KADY_50, Kalb97_51, Kalnoky_51, LBerry_51, LarryKay_50, Lilith_51, Louie6_49, LugYA_53, MadMarie_50, Mainiac_50, Malinsilva_52, Manu_50, MarQuardt_50, Marie_50, Marius_51, Methuselah_47, Microwolf_50, Misomonster_51, MoneyMay_50, MuchMore_53, OlanP_49, Ollie_50, P28Green_51, PGHhamlin_52, Pawn_50, Pembroke_50, Penny1_51, PhishRPhriends_48, Phoebe_51, Phoxy_50, Phranny_51, PotatoSplit_52, PurpleHaze_50, Reba_50, Rummer_49, Sabia_50, Sabinator_49, Snickers_50, SoYo_50, SoilDragon_50, Soshari_52, Spike509_50, Stagni_50, StepMih_50, Taurus_51, Tiffany_50, Vix_50, Watson_50, Wooldri_52, Zetzy_49,

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

-

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

- AgentM_39, Airmid_41, Alpacados_36, AngryOrchard_35, Aragog_39, Archetta_40, Benedict_43, Bluefalcon_39, BobbyDazzler_37, Bonamassa_41, Bonanza_37, Bryce_37, Chadwick_44, Conspiracy_40, Coog_40, Cuco_40, Discoknowium_39, DroogsArmy_43, Dublin_39, ElTiger69_42, ForGetIt_40, George_40, Ghoulboy_42, HINdeR_43, Harlequin_37, Hiro_37, HuhtaEnerson15_41, Jabiru_41, Jester_37, Jovo_40, Lev2_40, LittleCherry_41, MarysWell_39, Micasa_41, Midas2_40, Milcery_41, MyraDee_42, Naca_42, Partridge_37, PetterN_44, PhailMary_36, Phillis_46, Phlorence_39, PickleBack_40, RER2_30, Scorpia_44, Swirley_43, SydNat_42, Takoda_37, Tarynearal_39, Theia_38, Tiger_39, Timshel_45, UnionJack_41, Yogi_37, Yoncess_37, Zolita_41,

Summary by start number:

Start 4:

- Found in 1 of 139 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 135
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Partridge_37 (CA),

Start 5:

- Found in 3 of 139 (2.2%) of genes in pham
- Manual Annotations of this start: 3 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DroogsArmy_43 (A7), HINdeR_43 (A7), Timshel_45 (A7),

Start 6:

- Found in 2 of 139 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 135
- Called 50.0% of time when present
- Phage (with cluster) where this start called: MyraDee_42 (A18),

Start 7:

- Found in 14 of 139 (10.1%) of genes in pham
- Manual Annotations of this start: 12 of 135
- Called 92.9% of time when present
- Phage (with cluster) where this start called: Alpacados_36 (CA), AngryOrchard_35 (CA), BobbyDazzler_37 (CA), Bonanza_37 (CA), Bryce_37 (CA), Harlequin_37 (CA), Hiro_37 (CA), Jester_37 (CA), PhailMary_36 (CA), RER2_30 (CA), Takoda_37 (CA), Yogi_37 (CA), Yoncess_37 (CA),

Start 8:

- Found in 1 of 139 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phillis_46 (A8),

Start 10:

- Found in 39 of 139 (28.1%) of genes in pham
- Manual Annotations of this start: 32 of 135
- Called 84.6% of time when present
- Phage (with cluster) where this start called: AgentM_39 (A5), Airmid_41 (A5), Aragog_39 (A5), Archetta_40 (A5), Benedict_43 (A5), Bluefalcon_39 (A5), Bonamassa_41 (A5), Chadwick_44 (A5), Cuco_40 (A5), Discoknowium_39 (A5), Dublin_39 (A5), ElTiger69_42 (A5), ForGetIt_40 (A5), George_40 (A5), Ghoulyboy_42 (A5), HuhtaEnerson15_41 (A5), Jabiru_41 (A5), Jovo_40 (A5), Lev2_40 (A5), LittleCherry_41 (A5), MarysWell_39 (A5), Micasa_41 (A5), Milcery_41 (A5), Naca_42 (A5), PetterN_44 (A5), Phlorence_39 (A5), PickleBack_40 (A5), Scorpia_44 (A5), Swirley_43 (A5), SydNat_42 (A5), Tarynearal_39 (A5), UnionJack_41 (A5), Zolita_41 (A5),

Start 11:

- Found in 82 of 139 (59.0%) of genes in pham
- Manual Annotations of this start: 80 of 135
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ACFishhook_49 (A3), Aglet_51 (A3), AgronaGT15_49 (A3), Anubis_53 (A3), AugsMagnumOpus_53 (A3), Beauxregard13_50 (A3), BreSam8_50 (A3), BuzzBuzz_48 (A3), Bxz2_46 (A3), Colbster_50 (A3), Cullens_50 (A3), DaHudson_50 (A3), Daishi_49 (A3), Dieselweasel_51 (A3), EpicPhail_51 (A3), Farber_50 (A3), Fernando_50 (A3),

Gemma_49 (A3), GingkoMaracino_50 (A3), Grif_50 (A3), Groupthink_51 (A3), Grub_50 (A3), Grum1_50 (A3), GtownJaz_50 (A3), HashRod_51 (A3), HaveUMetTed_51 (A3), Heliosoles_49 (A3), Hercules11_50 (A3), JHC117_50 (A3), JenCasNa_51 (A3), JeppNRM_51 (A3), Jobu08_49 (A3), KADY_50 (A3), Kalb97_51 (A3), Kalnoky_51 (A3), LBerry_51 (A3), LarryKay_50 (A3), Lilith_51 (A3), Louie6_49 (A3), LugYA_53 (A3), MadMarie_50 (A3), Mainiac_50 (A3), Malinsilva_52 (A3), Manu_50 (A3), MarQuardt_50 (A3), Marie_50 (A3), Marius_51 (A3), Methuselah_47 (A3), Microwolf_50 (A3), Misomonster_51 (A3), MoneyMay_50 (A3), MuchMore_53 (A3), OlanP_49 (A3), Ollie_50 (A3), P28Green_51 (A3), PGHhamlin_52 (A3), Pawn_50 (A3), Pembroke_50 (A3), Penny1_51 (A3), PhishRPhriends_48 (A3), Phoebe_51 (A3), Phoxy_50 (A3), Phranny_51 (A3), PotatoSplit_52 (A3), PurpleHaze_50 (A3), Reba_50 (A3), Rummer_49 (A3), Sabia_50 (A3), Sabinator_49 (A3), Snickers_50 (A3), SoYo_50 (A3), SoilDragon_50 (A3), Soshari_52 (A3), Spike509_50 (A3), Stagni_50 (A3), StepMih_50 (A3), Taurus_51 (A3), Tiffany_50 (A3), Vix_50 (A3), Watson_50 (A3), Wooldri_52 (A3), Zetzy_49 (A3),

Start 12:

- Found in 38 of 139 (27.3%) of genes in pham
- Manual Annotations of this start: 3 of 135
- Called 7.9% of time when present
- Phage (with cluster) where this start called: Conspiracy_40 (A5), Theia_38 (A5), Tiger_39 (A5),

Start 21:

- Found in 38 of 139 (27.3%) of genes in pham
- Manual Annotations of this start: 2 of 135
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Coog_40 (A5), Midas2_40 (A5),

Summary by clusters:

There are 6 clusters represented in this pham: CA, A18, A3, A5, A7, A8,

Info for manual annotations of cluster A18:

- Start number 6 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A3:

- Start number 11 was manually annotated 80 times for cluster A3.

Info for manual annotations of cluster A5:

- Start number 10 was manually annotated 32 times for cluster A5.
- Start number 12 was manually annotated 3 times for cluster A5.
- Start number 21 was manually annotated 2 times for cluster A5.

Info for manual annotations of cluster A7:

- Start number 5 was manually annotated 3 times for cluster A7.

Info for manual annotations of cluster A8:

- Start number 8 was manually annotated 1 time for cluster A8.

Info for manual annotations of cluster CA:

- Start number 4 was manually annotated 1 time for cluster CA.
- Start number 7 was manually annotated 12 times for cluster CA.

Gene Information:

Gene: ACFishhook_49 Start: 32280, Stop: 32032, Start Num: 11

Candidate Starts for ACFishhook_49:

(Start: 11 @32280 has 80 MA's), (23, 32226), (24, 32223), (29, 32163), (31, 32139), (33, 32130), (37, 32082), (38, 32067),

Gene: AgentM_39 Start: 30764, Stop: 30501, Start Num: 10

Candidate Starts for AgentM_39:

(Start: 10 @30764 has 32 MA's), (Start: 12 @30755 has 3 MA's), (13, 30746), (18, 30725), (Start: 21 @30713 has 2 MA's), (30, 30629), (35, 30596), (37, 30563),

Gene: Aglet_51 Start: 32309, Stop: 32061, Start Num: 11

Candidate Starts for Aglet_51:

(Start: 11 @32309 has 80 MA's), (23, 32255), (29, 32192), (31, 32168), (33, 32159), (37, 32111), (38, 32096),

Gene: AgronaGT15_49 Start: 32160, Stop: 31912, Start Num: 11

Candidate Starts for AgronaGT15_49:

(Start: 11 @32160 has 80 MA's), (23, 32106), (29, 32043), (31, 32019), (33, 32010), (37, 31962), (38, 31947),

Gene: Airmid_41 Start: 30823, Stop: 30572, Start Num: 10

Candidate Starts for Airmid_41:

(3, 30901), (Start: 10 @30823 has 32 MA's), (Start: 12 @30814 has 3 MA's), (13, 30805), (Start: 21 @30772 has 2 MA's), (26, 30742), (28, 30727), (30, 30688), (35, 30655), (37, 30622),

Gene: Alpacados_36 Start: 28366, Stop: 28094, Start Num: 7

Candidate Starts for Alpacados_36:

(Start: 7 @28366 has 12 MA's), (19, 28300), (36, 28150), (39, 28114),

Gene: AngryOrchard_35 Start: 28325, Stop: 28053, Start Num: 7

Candidate Starts for AngryOrchard_35:

(Start: 7 @28325 has 12 MA's), (19, 28259), (36, 28109), (39, 28073),

Gene: Anubis_53 Start: 32195, Stop: 31947, Start Num: 11

Candidate Starts for Anubis_53:

(Start: 11 @32195 has 80 MA's), (23, 32141), (29, 32078), (31, 32054), (33, 32045), (37, 31997), (38, 31982),

Gene: Aragog_39 Start: 30794, Stop: 30531, Start Num: 10

Candidate Starts for Aragog_39:

(Start: 10 @30794 has 32 MA's), (Start: 12 @30785 has 3 MA's), (13, 30776), (18, 30755), (Start: 21 @30743 has 2 MA's), (30, 30659), (35, 30626), (37, 30593),

Gene: Archetta_40 Start: 31324, Stop: 31061, Start Num: 10

Candidate Starts for Archetta_40:

(Start: 10 @31324 has 32 MA's), (Start: 12 @31315 has 3 MA's), (13, 31306), (18, 31285), (Start: 21 @31273 has 2 MA's), (30, 31189), (35, 31156), (37, 31123),

Gene: AugsMagnumOpus_53 Start: 32300, Stop: 32052, Start Num: 11
Candidate Starts for AugsMagnumOpus_53:
(Start: 11 @32300 has 80 MA's), (23, 32246), (29, 32183), (31, 32159), (33, 32150), (37, 32102), (38, 32087),

Gene: Beauxregard13_50 Start: 32312, Stop: 32064, Start Num: 11
Candidate Starts for Beauxregard13_50:
(Start: 11 @32312 has 80 MA's), (17, 32282), (23, 32258), (29, 32195), (31, 32171), (33, 32162), (37, 32114), (38, 32099),

Gene: Benedict_43 Start: 30995, Stop: 30732, Start Num: 10
Candidate Starts for Benedict_43:
(Start: 10 @30995 has 32 MA's), (Start: 12 @30986 has 3 MA's), (Start: 21 @30944 has 2 MA's), (35, 30827), (36, 30803),

Gene: Bluefalcon_39 Start: 31282, Stop: 31019, Start Num: 10
Candidate Starts for Bluefalcon_39:
(Start: 10 @31282 has 32 MA's), (Start: 12 @31273 has 3 MA's), (13, 31264), (Start: 21 @31231 has 2 MA's), (30, 31147), (35, 31114), (37, 31081),

Gene: BobbyDazzler_37 Start: 28440, Stop: 28168, Start Num: 7
Candidate Starts for BobbyDazzler_37:
(Start: 7 @28440 has 12 MA's), (19, 28374), (36, 28224), (39, 28188),

Gene: Bonamassa_41 Start: 31313, Stop: 31050, Start Num: 10
Candidate Starts for Bonamassa_41:
(Start: 10 @31313 has 32 MA's), (Start: 12 @31304 has 3 MA's), (Start: 21 @31262 has 2 MA's), (26, 31232), (30, 31178), (35, 31145), (37, 31112),

Gene: Bonanza_37 Start: 28368, Stop: 28096, Start Num: 7
Candidate Starts for Bonanza_37:
(Start: 7 @28368 has 12 MA's), (19, 28302), (36, 28152), (39, 28116),

Gene: BreSam8_50 Start: 32302, Stop: 32054, Start Num: 11
Candidate Starts for BreSam8_50:
(Start: 11 @32302 has 80 MA's), (23, 32248), (29, 32185), (31, 32161), (33, 32152), (37, 32104), (38, 32089),

Gene: Bryce_37 Start: 28369, Stop: 28097, Start Num: 7
Candidate Starts for Bryce_37:
(Start: 7 @28369 has 12 MA's), (19, 28303), (36, 28153), (39, 28117),

Gene: BuzzBuzz_48 Start: 32339, Stop: 32091, Start Num: 11
Candidate Starts for BuzzBuzz_48:
(Start: 11 @32339 has 80 MA's), (23, 32285), (29, 32222), (31, 32198), (33, 32189), (37, 32141), (38, 32126),

Gene: Bxz2_46 Start: 32346, Stop: 32098, Start Num: 11
Candidate Starts for Bxz2_46:
(Start: 11 @32346 has 80 MA's), (23, 32292), (29, 32229), (31, 32205), (33, 32196), (37, 32148), (38, 32133),

Gene: Chadwick_44 Start: 30975, Stop: 30712, Start Num: 10

Candidate Starts for Chadwick_44:

(3, 31053), (Start: 10 @30975 has 32 MA's), (Start: 12 @30966 has 3 MA's), (15, 30945), (Start: 21 @30924 has 2 MA's), (35, 30807), (36, 30783),

Gene: Colbster_50 Start: 32312, Stop: 32064, Start Num: 11

Candidate Starts for Colbster_50:

(Start: 11 @32312 has 80 MA's), (23, 32258), (29, 32195), (31, 32171), (33, 32162), (37, 32114), (38, 32099),

Gene: Conspiracy_40 Start: 30997, Stop: 30743, Start Num: 12

Candidate Starts for Conspiracy_40:

(Start: 10 @31006 has 32 MA's), (Start: 12 @30997 has 3 MA's), (13, 30988), (18, 30967), (Start: 21 @30955 has 2 MA's), (30, 30871), (35, 30838), (37, 30805),

Gene: Coog_40 Start: 31053, Stop: 30841, Start Num: 21

Candidate Starts for Coog_40:

(Start: 10 @31104 has 32 MA's), (Start: 12 @31095 has 3 MA's), (13, 31086), (18, 31065), (Start: 21 @31053 has 2 MA's), (30, 30969), (35, 30936), (37, 30903),

Gene: Cuco_40 Start: 31061, Stop: 30810, Start Num: 10

Candidate Starts for Cuco_40:

(Start: 10 @31061 has 32 MA's), (Start: 12 @31052 has 3 MA's), (Start: 21 @31010 has 2 MA's), (30, 30926), (35, 30893), (37, 30860),

Gene: Cullens_50 Start: 32308, Stop: 32060, Start Num: 11

Candidate Starts for Cullens_50:

(Start: 11 @32308 has 80 MA's), (23, 32254), (29, 32191), (31, 32167), (33, 32158), (37, 32110), (38, 32095),

Gene: DaHudson_50 Start: 32301, Stop: 32053, Start Num: 11

Candidate Starts for DaHudson_50:

(Start: 11 @32301 has 80 MA's), (23, 32247), (29, 32184), (31, 32160), (33, 32151), (37, 32103), (38, 32088),

Gene: Daishi_49 Start: 31180, Stop: 30932, Start Num: 11

Candidate Starts for Daishi_49:

(Start: 11 @31180 has 80 MA's), (23, 31126), (29, 31063), (31, 31039), (33, 31030), (37, 30982), (38, 30967),

Gene: Dieselweasel_51 Start: 32311, Stop: 32063, Start Num: 11

Candidate Starts for Dieselweasel_51:

(Start: 11 @32311 has 80 MA's), (23, 32257), (29, 32194), (31, 32170), (33, 32161), (37, 32113), (38, 32098),

Gene: Discoknowium_39 Start: 30803, Stop: 30540, Start Num: 10

Candidate Starts for Discoknowium_39:

(Start: 10 @30803 has 32 MA's), (Start: 12 @30794 has 3 MA's), (13, 30785), (18, 30764), (Start: 21 @30752 has 2 MA's), (30, 30668), (35, 30635), (37, 30602),

Gene: DroogsArmy_43 Start: 33565, Stop: 33284, Start Num: 5

Candidate Starts for DroogsArmy_43:

(1, 33700), (Start: 5 @33565 has 3 MA's), (16, 33502), (27, 33445), (29, 33415), (39, 33307),

Gene: Dublin_39 Start: 30825, Stop: 30562, Start Num: 10

Candidate Starts for Dublin_39:

(Start: 10 @30825 has 32 MA's), (Start: 12 @30816 has 3 MA's), (Start: 21 @30774 has 2 MA's), (26, 30744), (30, 30690), (35, 30657), (37, 30624),

Gene: EITiger69_42 Start: 30992, Stop: 30729, Start Num: 10

Candidate Starts for EITiger69_42:

(3, 31070), (Start: 10 @30992 has 32 MA's), (Start: 12 @30983 has 3 MA's), (15, 30962), (Start: 21 @30941 has 2 MA's), (35, 30824), (36, 30800),

Gene: EpicPhail_51 Start: 32312, Stop: 32064, Start Num: 11

Candidate Starts for EpicPhail_51:

(Start: 11 @32312 has 80 MA's), (17, 32282), (23, 32258), (29, 32195), (31, 32171), (33, 32162), (37, 32114), (38, 32099),

Gene: Farber_50 Start: 32301, Stop: 32053, Start Num: 11

Candidate Starts for Farber_50:

(Start: 11 @32301 has 80 MA's), (23, 32247), (29, 32184), (31, 32160), (33, 32151), (37, 32103), (38, 32088),

Gene: Fernando_50 Start: 32308, Stop: 32060, Start Num: 11

Candidate Starts for Fernando_50:

(Start: 11 @32308 has 80 MA's), (23, 32254), (29, 32191), (31, 32167), (33, 32158), (37, 32110), (38, 32095),

Gene: ForGetIt_40 Start: 31031, Stop: 30768, Start Num: 10

Candidate Starts for ForGetIt_40:

(Start: 10 @31031 has 32 MA's), (Start: 12 @31022 has 3 MA's), (13, 31013), (18, 30992), (Start: 21 @30980 has 2 MA's), (30, 30896), (35, 30863), (37, 30830),

Gene: Gemma_49 Start: 32204, Stop: 31956, Start Num: 11

Candidate Starts for Gemma_49:

(Start: 11 @32204 has 80 MA's), (23, 32150), (24, 32147), (29, 32087), (31, 32063), (33, 32054), (37, 32006), (38, 31991),

Gene: George_40 Start: 31255, Stop: 30992, Start Num: 10

Candidate Starts for George_40:

(Start: 10 @31255 has 32 MA's), (Start: 12 @31246 has 3 MA's), (Start: 21 @31204 has 2 MA's), (26, 31174), (30, 31120), (35, 31087), (37, 31054),

Gene: Ghouboy_42 Start: 31768, Stop: 31505, Start Num: 10

Candidate Starts for Ghouboy_42:

(Start: 10 @31768 has 32 MA's), (Start: 12 @31759 has 3 MA's), (Start: 21 @31717 has 2 MA's), (26, 31687), (30, 31633), (35, 31600), (37, 31567),

Gene: GingkoMaracino_50 Start: 32194, Stop: 31946, Start Num: 11

Candidate Starts for GingkoMaracino_50:

(Start: 11 @32194 has 80 MA's), (23, 32140), (29, 32077), (31, 32053), (33, 32044), (37, 31996), (38, 31981),

Gene: Grif_50 Start: 32383, Stop: 32135, Start Num: 11

Candidate Starts for Grif_50:

(Start: 11 @32383 has 80 MA's), (23, 32329), (29, 32266), (31, 32242), (33, 32233), (37, 32185), (38, 32170),

Gene: Groupthink_51 Start: 32208, Stop: 31960, Start Num: 11

Candidate Starts for Groupthink_51:

(Start: 11 @32208 has 80 MA's), (23, 32154), (24, 32151), (29, 32091), (31, 32067), (33, 32058), (37, 32010), (38, 31995),

Gene: Grub_50 Start: 32300, Stop: 32052, Start Num: 11

Candidate Starts for Grub_50:

(Start: 11 @32300 has 80 MA's), (23, 32246), (29, 32183), (31, 32159), (33, 32150), (37, 32102), (38, 32087),

Gene: Grum1_50 Start: 32308, Stop: 32060, Start Num: 11

Candidate Starts for Grum1_50:

(9, 32317), (Start: 11 @32308 has 80 MA's), (23, 32254), (29, 32191), (31, 32167), (33, 32158), (37, 32110), (38, 32095),

Gene: GtownJaz_50 Start: 32310, Stop: 32062, Start Num: 11

Candidate Starts for GtownJaz_50:

(Start: 11 @32310 has 80 MA's), (23, 32256), (29, 32193), (31, 32169), (33, 32160), (37, 32112), (38, 32097),

Gene: HINdeR_43 Start: 33388, Stop: 33113, Start Num: 5

Candidate Starts for HINdeR_43:

(Start: 5 @33388 has 3 MA's), (Start: 6 @33382 has 1 MA's), (14, 33331), (16, 33325), (22, 33307), (39, 33136),

Gene: Harlequin_37 Start: 28399, Stop: 28127, Start Num: 7

Candidate Starts for Harlequin_37:

(Start: 7 @28399 has 12 MA's), (19, 28333), (36, 28183), (39, 28147),

Gene: HashRod_51 Start: 32339, Stop: 32091, Start Num: 11

Candidate Starts for HashRod_51:

(Start: 11 @32339 has 80 MA's), (23, 32285), (29, 32222), (31, 32198), (33, 32189), (37, 32141), (38, 32126),

Gene: HaveUMetTed_51 Start: 32190, Stop: 31942, Start Num: 11

Candidate Starts for HaveUMetTed_51:

(Start: 11 @32190 has 80 MA's), (23, 32136), (24, 32133), (29, 32073), (31, 32049), (33, 32040), (37, 31992), (38, 31977),

Gene: Heliosoles_49 Start: 32211, Stop: 31963, Start Num: 11

Candidate Starts for Heliosoles_49:

(Start: 11 @32211 has 80 MA's), (23, 32157), (24, 32154), (29, 32094), (31, 32070), (33, 32061), (37, 32013), (38, 31998),

Gene: Hercules11_50 Start: 32317, Stop: 32069, Start Num: 11

Candidate Starts for Hercules11_50:

(Start: 11 @32317 has 80 MA's), (23, 32263), (29, 32200), (31, 32176), (33, 32167), (37, 32119), (38, 32104),

Gene: Hiro_37 Start: 28654, Stop: 28382, Start Num: 7

Candidate Starts for Hiro_37:

(Start: 7 @28654 has 12 MA's), (19, 28588), (32, 28483), (36, 28438), (39, 28402),

Gene: HuhtaEnerson15_41 Start: 31246, Stop: 30983, Start Num: 10

Candidate Starts for HuhtaEnerson15_41:

(Start: 10 @31246 has 32 MA's), (Start: 12 @31237 has 3 MA's), (Start: 21 @31195 has 2 MA's), (26, 31165), (30, 31111), (35, 31078), (37, 31045),

Gene: JHC117_50 Start: 32307, Stop: 32059, Start Num: 11

Candidate Starts for JHC117_50:

(Start: 11 @32307 has 80 MA's), (23, 32253), (29, 32190), (31, 32166), (33, 32157), (37, 32109), (38, 32094),

Gene: Jabiru_41 Start: 30865, Stop: 30614, Start Num: 10

Candidate Starts for Jabiru_41:

(2, 30955), (3, 30943), (Start: 10 @30865 has 32 MA's), (Start: 12 @30856 has 3 MA's), (Start: 21 @30814 has 2 MA's), (26, 30784), (30, 30730), (35, 30697), (37, 30664),

Gene: JenCasNa_51 Start: 32308, Stop: 32060, Start Num: 11

Candidate Starts for JenCasNa_51:

(Start: 11 @32308 has 80 MA's), (23, 32254), (29, 32191), (31, 32167), (33, 32158), (37, 32110), (38, 32095),

Gene: JeppNRM_51 Start: 32209, Stop: 31961, Start Num: 11

Candidate Starts for JeppNRM_51:

(Start: 11 @32209 has 80 MA's), (23, 32155), (24, 32152), (29, 32092), (31, 32068), (33, 32059), (37, 32011), (38, 31996),

Gene: Jester_37 Start: 28330, Stop: 28058, Start Num: 7

Candidate Starts for Jester_37:

(Start: 7 @28330 has 12 MA's), (19, 28264), (36, 28114), (39, 28078),

Gene: Jobu08_49 Start: 32140, Stop: 31892, Start Num: 11

Candidate Starts for Jobu08_49:

(Start: 11 @32140 has 80 MA's), (23, 32086), (24, 32083), (29, 32023), (31, 31999), (33, 31990), (37, 31942), (38, 31927),

Gene: Jovo_40 Start: 31287, Stop: 31024, Start Num: 10

Candidate Starts for Jovo_40:

(Start: 10 @31287 has 32 MA's), (Start: 12 @31278 has 3 MA's), (13, 31269), (18, 31248), (Start: 21 @31236 has 2 MA's), (30, 31152), (35, 31119), (37, 31086),

Gene: KADY_50 Start: 32339, Stop: 32091, Start Num: 11

Candidate Starts for KADY_50:

(Start: 11 @32339 has 80 MA's), (23, 32285), (29, 32222), (31, 32198), (33, 32189), (37, 32141), (38, 32126),

Gene: Kalb97_51 Start: 32207, Stop: 31959, Start Num: 11

Candidate Starts for Kalb97_51:

(Start: 11 @32207 has 80 MA's), (23, 32153), (24, 32150), (29, 32090), (31, 32066), (33, 32057), (37, 32009), (38, 31994),

Gene: Kalnoky_51 Start: 32205, Stop: 31957, Start Num: 11

Candidate Starts for Kalnoky_51:

(Start: 11 @32205 has 80 MA's), (23, 32151), (24, 32148), (29, 32088), (31, 32064), (33, 32055), (37, 32007), (38, 31992),

Gene: LBerry_51 Start: 32312, Stop: 32064, Start Num: 11

Candidate Starts for LBerry_51:

(Start: 11 @32312 has 80 MA's), (23, 32258), (29, 32195), (31, 32171), (33, 32162), (37, 32114), (38, 32099),

Gene: LarryKay_50 Start: 32341, Stop: 32093, Start Num: 11

Candidate Starts for LarryKay_50:

(Start: 11 @32341 has 80 MA's), (23, 32287), (29, 32224), (31, 32200), (33, 32191), (37, 32143), (38, 32128),

Gene: Lev2_40 Start: 30919, Stop: 30656, Start Num: 10

Candidate Starts for Lev2_40:

(Start: 10 @30919 has 32 MA's), (Start: 12 @30910 has 3 MA's), (13, 30901), (18, 30880), (Start: 21 @30868 has 2 MA's), (30, 30784), (35, 30751), (37, 30718),

Gene: Lilith_51 Start: 32301, Stop: 32053, Start Num: 11

Candidate Starts for Lilith_51:

(Start: 11 @32301 has 80 MA's), (23, 32247), (29, 32184), (31, 32160), (33, 32151), (37, 32103), (38, 32088),

Gene: LittleCherry_41 Start: 31256, Stop: 30993, Start Num: 10

Candidate Starts for LittleCherry_41:

(Start: 10 @31256 has 32 MA's), (Start: 12 @31247 has 3 MA's), (Start: 21 @31205 has 2 MA's), (26, 31175), (30, 31121), (35, 31088), (37, 31055),

Gene: Louie6_49 Start: 32340, Stop: 32092, Start Num: 11

Candidate Starts for Louie6_49:

(Start: 11 @32340 has 80 MA's), (23, 32286), (29, 32223), (31, 32199), (33, 32190), (37, 32142), (38, 32127),

Gene: LugYA_53 Start: 32309, Stop: 32061, Start Num: 11

Candidate Starts for LugYA_53:

(Start: 11 @32309 has 80 MA's), (23, 32255), (29, 32192), (31, 32168), (33, 32159), (37, 32111), (38, 32096),

Gene: MadMarie_50 Start: 32310, Stop: 32062, Start Num: 11

Candidate Starts for MadMarie_50:

(Start: 11 @32310 has 80 MA's), (23, 32256), (29, 32193), (31, 32169), (33, 32160), (37, 32112), (38, 32097),

Gene: Mainiac_50 Start: 32302, Stop: 32054, Start Num: 11

Candidate Starts for Mainiac_50:

(Start: 11 @32302 has 80 MA's), (23, 32248), (29, 32185), (31, 32161), (33, 32152), (37, 32104), (38, 32089),

Gene: Malinsilva_52 Start: 32300, Stop: 32052, Start Num: 11

Candidate Starts for Malinsilva_52:

(Start: 11 @32300 has 80 MA's), (23, 32246), (29, 32183), (31, 32159), (33, 32150), (37, 32102), (38, 32087),

Gene: Manu_50 Start: 32208, Stop: 31960, Start Num: 11

Candidate Starts for Manu_50:

(Start: 11 @32208 has 80 MA's), (23, 32154), (24, 32151), (29, 32091), (31, 32067), (33, 32058), (37, 32010), (38, 31995),

Gene: MarQuardt_50 Start: 32310, Stop: 32062, Start Num: 11

Candidate Starts for MarQuardt_50:

(Start: 11 @32310 has 80 MA's), (23, 32256), (29, 32193), (31, 32169), (33, 32160), (37, 32112), (38, 32097),

Gene: Marie_50 Start: 32308, Stop: 32060, Start Num: 11

Candidate Starts for Marie_50:

(Start: 11 @32308 has 80 MA's), (23, 32254), (29, 32191), (31, 32167), (33, 32158), (37, 32110), (38, 32095),

Gene: Marius_51 Start: 32205, Stop: 31957, Start Num: 11

Candidate Starts for Marius_51:

(Start: 11 @32205 has 80 MA's), (23, 32151), (24, 32148), (29, 32088), (31, 32064), (33, 32055), (37, 32007), (38, 31992),

Gene: MarysWell_39 Start: 31119, Stop: 30856, Start Num: 10

Candidate Starts for MarysWell_39:

(Start: 10 @31119 has 32 MA's), (Start: 12 @31110 has 3 MA's), (13, 31101), (Start: 21 @31068 has 2 MA's), (30, 30984), (35, 30951), (37, 30918),

Gene: Methuselah_47 Start: 32335, Stop: 32087, Start Num: 11

Candidate Starts for Methuselah_47:

(Start: 11 @32335 has 80 MA's), (23, 32281), (29, 32218), (31, 32194), (33, 32185), (37, 32137), (38, 32122),

Gene: Micasa_41 Start: 31386, Stop: 31123, Start Num: 10

Candidate Starts for Micasa_41:

(Start: 10 @31386 has 32 MA's), (Start: 12 @31377 has 3 MA's), (Start: 21 @31335 has 2 MA's), (26, 31305), (30, 31251), (35, 31218), (37, 31185),

Gene: Microwolf_50 Start: 32309, Stop: 32061, Start Num: 11

Candidate Starts for Microwolf_50:

(Start: 11 @32309 has 80 MA's), (23, 32255), (29, 32192), (31, 32168), (33, 32159), (37, 32111), (38, 32096),

Gene: Midas2_40 Start: 31053, Stop: 30841, Start Num: 21

Candidate Starts for Midas2_40:

(Start: 10 @31104 has 32 MA's), (Start: 12 @31095 has 3 MA's), (13, 31086), (18, 31065), (Start: 21 @31053 has 2 MA's), (30, 30969), (35, 30936), (37, 30903),

Gene: Milcery_41 Start: 31223, Stop: 30960, Start Num: 10

Candidate Starts for Milcery_41:

(Start: 10 @31223 has 32 MA's), (Start: 12 @31214 has 3 MA's), (Start: 21 @31172 has 2 MA's), (26, 31142), (30, 31088), (35, 31055), (37, 31022),

Gene: Misomonster_51 Start: 32338, Stop: 32090, Start Num: 11

Candidate Starts for Misomonster_51:

(Start: 11 @32338 has 80 MA's), (23, 32284), (29, 32221), (31, 32197), (33, 32188), (37, 32140), (38, 32125),

Gene: MoneyMay_50 Start: 32308, Stop: 32060, Start Num: 11

Candidate Starts for MoneyMay_50:

(Start: 11 @32308 has 80 MA's), (23, 32254), (29, 32191), (31, 32167), (33, 32158), (37, 32110), (38, 32095),

Gene: MuchMore_53 Start: 32300, Stop: 32052, Start Num: 11

Candidate Starts for MuchMore_53:

(Start: 11 @32300 has 80 MA's), (23, 32246), (29, 32183), (31, 32159), (33, 32150), (37, 32102), (38, 32087),

Gene: MyraDee_42 Start: 29297, Stop: 29043, Start Num: 6

Candidate Starts for MyraDee_42:

(Start: 6 @29297 has 1 MA's), (33, 29138), (37, 29090),

Gene: Naca_42 Start: 31534, Stop: 31271, Start Num: 10

Candidate Starts for Naca_42:

(Start: 10 @31534 has 32 MA's), (Start: 12 @31525 has 3 MA's), (15, 31504), (Start: 21 @31483 has 2 MA's), (35, 31366), (36, 31342),

Gene: OlanP_49 Start: 32378, Stop: 32130, Start Num: 11

Candidate Starts for OlanP_49:

(Start: 11 @32378 has 80 MA's), (20, 32336), (23, 32324), (24, 32321), (29, 32261), (31, 32237), (33, 32228), (37, 32180), (38, 32165),

Gene: Ollie_50 Start: 32179, Stop: 31931, Start Num: 11

Candidate Starts for Ollie_50:

(Start: 11 @32179 has 80 MA's), (23, 32125), (29, 32062), (31, 32038), (33, 32029), (37, 31981), (38, 31966),

Gene: P28Green_51 Start: 32311, Stop: 32063, Start Num: 11

Candidate Starts for P28Green_51:

(Start: 11 @32311 has 80 MA's), (23, 32257), (29, 32194), (31, 32170), (33, 32161), (37, 32113), (38, 32098),

Gene: PGHhamlin_52 Start: 32300, Stop: 32052, Start Num: 11

Candidate Starts for PGHhamlin_52:

(Start: 11 @32300 has 80 MA's), (23, 32246), (29, 32183), (31, 32159), (33, 32150), (37, 32102), (38, 32087),

Gene: Partridge_37 Start: 28510, Stop: 28205, Start Num: 4

Candidate Starts for Partridge_37:

(Start: 4 @28510 has 1 MA's), (Start: 7 @28477 has 12 MA's), (25, 28390), (36, 28261), (39, 28225),

Gene: Pawn_50 Start: 32212, Stop: 31964, Start Num: 11

Candidate Starts for Pawn_50:

(Start: 11 @32212 has 80 MA's), (23, 32158), (24, 32155), (29, 32095), (31, 32071), (33, 32062), (37, 32014), (38, 31999),

Gene: Pembroke_50 Start: 32309, Stop: 32061, Start Num: 11

Candidate Starts for Pembroke_50:

(Start: 11 @32309 has 80 MA's), (23, 32255), (29, 32192), (31, 32168), (33, 32159), (37, 32111), (38, 32096),

Gene: Penny1_51 Start: 32312, Stop: 32064, Start Num: 11

Candidate Starts for Penny1_51:

(Start: 11 @32312 has 80 MA's), (17, 32282), (23, 32258), (29, 32195), (31, 32171), (33, 32162), (37, 32114), (38, 32099),

Gene: PetterN_44 Start: 30975, Stop: 30712, Start Num: 10

Candidate Starts for PetterN_44:

(3, 31053), (Start: 10 @30975 has 32 MA's), (Start: 12 @30966 has 3 MA's), (15, 30945), (Start: 21 @30924 has 2 MA's), (35, 30807), (36, 30783),

Gene: PhailMary_36 Start: 28716, Stop: 28444, Start Num: 7

Candidate Starts for PhailMary_36:

(Start: 7 @28716 has 12 MA's), (19, 28650), (36, 28500), (39, 28464),

Gene: Phillis_46 Start: 31492, Stop: 31232, Start Num: 8

Candidate Starts for Phillis_46:

(Start: 8 @31492 has 1 MA's), (Start: 10 @31483 has 32 MA's), (34, 31330), (37, 31291),

Gene: PhishRPhriends_48 Start: 31386, Stop: 31138, Start Num: 11

Candidate Starts for PhishRPhriends_48:

(Start: 11 @31386 has 80 MA's), (23, 31332), (24, 31329), (29, 31269), (31, 31245), (33, 31236), (37, 31188), (38, 31173),

Gene: Phlorence_39 Start: 30794, Stop: 30531, Start Num: 10

Candidate Starts for Phlorence_39:

(Start: 10 @30794 has 32 MA's), (Start: 12 @30785 has 3 MA's), (13, 30776), (18, 30755), (Start: 21 @30743 has 2 MA's), (30, 30659), (35, 30626), (37, 30593),

Gene: Phoebe_51 Start: 32301, Stop: 32053, Start Num: 11

Candidate Starts for Phoebe_51:

(Start: 11 @32301 has 80 MA's), (23, 32247), (29, 32184), (31, 32160), (33, 32151), (37, 32103), (38, 32088),

Gene: Phoxy_50 Start: 32336, Stop: 32088, Start Num: 11

Candidate Starts for Phoxy_50:

(Start: 11 @32336 has 80 MA's), (23, 32282), (29, 32219), (31, 32195), (33, 32186), (37, 32138), (38, 32123),

Gene: Phranny_51 Start: 32194, Stop: 31946, Start Num: 11

Candidate Starts for Phranny_51:

(Start: 11 @32194 has 80 MA's), (23, 32140), (24, 32137), (29, 32077), (31, 32053), (33, 32044), (37, 31996), (38, 31981),

Gene: PickleBack_40 Start: 30920, Stop: 30657, Start Num: 10

Candidate Starts for PickleBack_40:

(Start: 10 @30920 has 32 MA's), (Start: 12 @30911 has 3 MA's), (13, 30902), (18, 30881), (Start: 21 @30869 has 2 MA's), (30, 30785), (35, 30752), (37, 30719),

Gene: PotatoSplit_52 Start: 32312, Stop: 32064, Start Num: 11

Candidate Starts for PotatoSplit_52:

(Start: 11 @32312 has 80 MA's), (23, 32258), (29, 32195), (31, 32171), (33, 32162), (37, 32114), (38, 32099),

Gene: PurpleHaze_50 Start: 32207, Stop: 31959, Start Num: 11

Candidate Starts for PurpleHaze_50:

(Start: 11 @32207 has 80 MA's), (23, 32153), (24, 32150), (29, 32090), (31, 32066), (33, 32057), (37, 32009), (38, 31994),

Gene: RER2_30 Start: 25266, Stop: 24994, Start Num: 7

Candidate Starts for RER2_30:

(Start: 7 @25266 has 12 MA's), (19, 25200), (36, 25050), (39, 25014),

Gene: Reba_50 Start: 31867, Stop: 31619, Start Num: 11

Candidate Starts for Reba_50:

(Start: 11 @31867 has 80 MA's), (23, 31813), (24, 31810), (29, 31750), (31, 31726), (33, 31717), (37, 31669), (38, 31654),

Gene: Rummer_49 Start: 32339, Stop: 32091, Start Num: 11

Candidate Starts for Rummer_49:

(Start: 11 @32339 has 80 MA's), (23, 32285), (29, 32222), (31, 32198), (33, 32189), (37, 32141), (38, 32126),

Gene: Sabia_50 Start: 32302, Stop: 32054, Start Num: 11

Candidate Starts for Sabia_50:

(Start: 11 @32302 has 80 MA's), (23, 32248), (29, 32185), (31, 32161), (33, 32152), (37, 32104), (38, 32089),

Gene: Sabinator_49 Start: 32307, Stop: 32059, Start Num: 11

Candidate Starts for Sabinator_49:

(Start: 11 @32307 has 80 MA's), (23, 32253), (29, 32190), (31, 32166), (33, 32157), (37, 32109), (38, 32094),

Gene: Scorpia_44 Start: 31052, Stop: 30789, Start Num: 10

Candidate Starts for Scorpia_44:

(3, 31130), (Start: 10 @31052 has 32 MA's), (Start: 12 @31043 has 3 MA's), (15, 31022), (Start: 21 @31001 has 2 MA's), (35, 30884), (36, 30860),

Gene: Snickers_50 Start: 32282, Stop: 32034, Start Num: 11

Candidate Starts for Snickers_50:

(Start: 11 @32282 has 80 MA's), (23, 32228), (29, 32165), (31, 32141), (33, 32132), (37, 32084), (38, 32069),

Gene: SoYo_50 Start: 32220, Stop: 31972, Start Num: 11

Candidate Starts for SoYo_50:

(Start: 11 @32220 has 80 MA's), (23, 32166), (29, 32103), (31, 32079), (33, 32070), (37, 32022), (38, 32007),

Gene: SoilDragon_50 Start: 31756, Stop: 31508, Start Num: 11

Candidate Starts for SoilDragon_50:

(Start: 11 @31756 has 80 MA's), (23, 31702), (24, 31699), (29, 31639), (31, 31615), (33, 31606), (37, 31558), (38, 31543),

Gene: Soshari_52 Start: 32335, Stop: 32087, Start Num: 11

Candidate Starts for Soshari_52:

(Start: 11 @32335 has 80 MA's), (23, 32281), (29, 32218), (31, 32194), (33, 32185), (37, 32137), (38, 32122),

Gene: Spike509_50 Start: 32336, Stop: 32088, Start Num: 11

Candidate Starts for Spike509_50:

(Start: 11 @32336 has 80 MA's), (23, 32282), (29, 32219), (31, 32195), (33, 32186), (37, 32138), (38, 32123),

Gene: Stagni_50 Start: 32311, Stop: 32063, Start Num: 11

Candidate Starts for Stagni_50:

(Start: 11 @32311 has 80 MA's), (23, 32257), (29, 32194), (31, 32170), (33, 32161), (37, 32113), (38, 32098),

Gene: StepMih_50 Start: 32302, Stop: 32054, Start Num: 11

Candidate Starts for StepMih_50:

(Start: 11 @32302 has 80 MA's), (23, 32248), (29, 32185), (31, 32161), (33, 32152), (37, 32104), (38, 32089),

Gene: Swirley_43 Start: 31587, Stop: 31324, Start Num: 10

Candidate Starts for Swirley_43:

(Start: 10 @31587 has 32 MA's), (Start: 12 @31578 has 3 MA's), (Start: 21 @31536 has 2 MA's), (26, 31506), (30, 31452), (35, 31419), (37, 31386),

Gene: SydNat_42 Start: 31777, Stop: 31514, Start Num: 10

Candidate Starts for SydNat_42:

(Start: 10 @31777 has 32 MA's), (Start: 12 @31768 has 3 MA's), (Start: 21 @31726 has 2 MA's), (26, 31696), (30, 31642), (35, 31609), (37, 31576),

Gene: Takoda_37 Start: 28367, Stop: 28095, Start Num: 7

Candidate Starts for Takoda_37:

(Start: 7 @28367 has 12 MA's), (19, 28301), (36, 28151), (39, 28115),

Gene: Tarynearal_39 Start: 31029, Stop: 30766, Start Num: 10

Candidate Starts for Tarynearal_39:

(Start: 10 @31029 has 32 MA's), (Start: 12 @31020 has 3 MA's), (Start: 21 @30978 has 2 MA's), (26, 30948), (30, 30894), (35, 30861), (37, 30828),

Gene: Taurus_51 Start: 32308, Stop: 32060, Start Num: 11

Candidate Starts for Taurus_51:

(Start: 11 @32308 has 80 MA's), (23, 32254), (29, 32191), (31, 32167), (33, 32158), (37, 32110), (38, 32095),

Gene: Theia_38 Start: 31043, Stop: 30789, Start Num: 12

Candidate Starts for Theia_38:

(Start: 10 @31052 has 32 MA's), (Start: 12 @31043 has 3 MA's), (13, 31034), (18, 31013), (Start: 21 @31001 has 2 MA's), (30, 30917), (35, 30884), (37, 30851),

Gene: Tiffany_50 Start: 32194, Stop: 31946, Start Num: 11

Candidate Starts for Tiffany_50:

(Start: 11 @32194 has 80 MA's), (23, 32140), (29, 32077), (31, 32053), (33, 32044), (37, 31996), (38, 31981),

Gene: Tiger_39 Start: 30576, Stop: 30322, Start Num: 12

Candidate Starts for Tiger_39:

(Start: 10 @30585 has 32 MA's), (Start: 12 @30576 has 3 MA's), (13, 30567), (18, 30546), (Start: 21 @30534 has 2 MA's), (30, 30450), (35, 30417), (37, 30384),

Gene: Timshel_45 Start: 33822, Stop: 33541, Start Num: 5

Candidate Starts for Timshel_45:

(1, 33957), (Start: 5 @33822 has 3 MA's), (16, 33759), (27, 33702), (29, 33672), (39, 33564),

Gene: UnionJack_41 Start: 30553, Stop: 30302, Start Num: 10

Candidate Starts for UnionJack_41:

(2, 30643), (3, 30631), (Start: 10 @30553 has 32 MA's), (Start: 12 @30544 has 3 MA's), (Start: 21 @30502 has 2 MA's), (26, 30472), (30, 30418), (35, 30385), (37, 30352),

Gene: Vix_50 Start: 32391, Stop: 32143, Start Num: 11

Candidate Starts for Vix_50:

(Start: 11 @32391 has 80 MA's), (23, 32337), (29, 32274), (31, 32250), (33, 32241), (37, 32193), (38, 32178),

Gene: Watson_50 Start: 32300, Stop: 32052, Start Num: 11

Candidate Starts for Watson_50:

(Start: 11 @32300 has 80 MA's), (23, 32246), (29, 32183), (31, 32159), (33, 32150), (37, 32102), (38, 32087),

Gene: Wooldri_52 Start: 32220, Stop: 31972, Start Num: 11

Candidate Starts for Wooldri_52:

(Start: 11 @32220 has 80 MA's), (23, 32166), (29, 32103), (31, 32079), (33, 32070), (37, 32022), (38, 32007),

Gene: Yogi_37 Start: 28368, Stop: 28096, Start Num: 7

Candidate Starts for Yogi_37:

(Start: 7 @28368 has 12 MA's), (19, 28302), (36, 28152), (39, 28116),

Gene: Yoncess_37 Start: 28369, Stop: 28097, Start Num: 7

Candidate Starts for Yoncess_37:

(Start: 7 @28369 has 12 MA's), (19, 28303), (36, 28153), (39, 28117),

Gene: Zetzy_49 Start: 31871, Stop: 31623, Start Num: 11

Candidate Starts for Zetzy_49:

(Start: 11 @31871 has 80 MA's), (23, 31817), (27, 31784), (29, 31754), (31, 31730), (33, 31721), (37, 31673), (38, 31658),

Gene: Zolita_41 Start: 31781, Stop: 31518, Start Num: 10

Candidate Starts for Zolita_41:

(Start: 10 @31781 has 32 MA's), (Start: 12 @31772 has 3 MA's), (Start: 21 @31730 has 2 MA's), (26, 31700), (30, 31646), (35, 31613), (37, 31580),