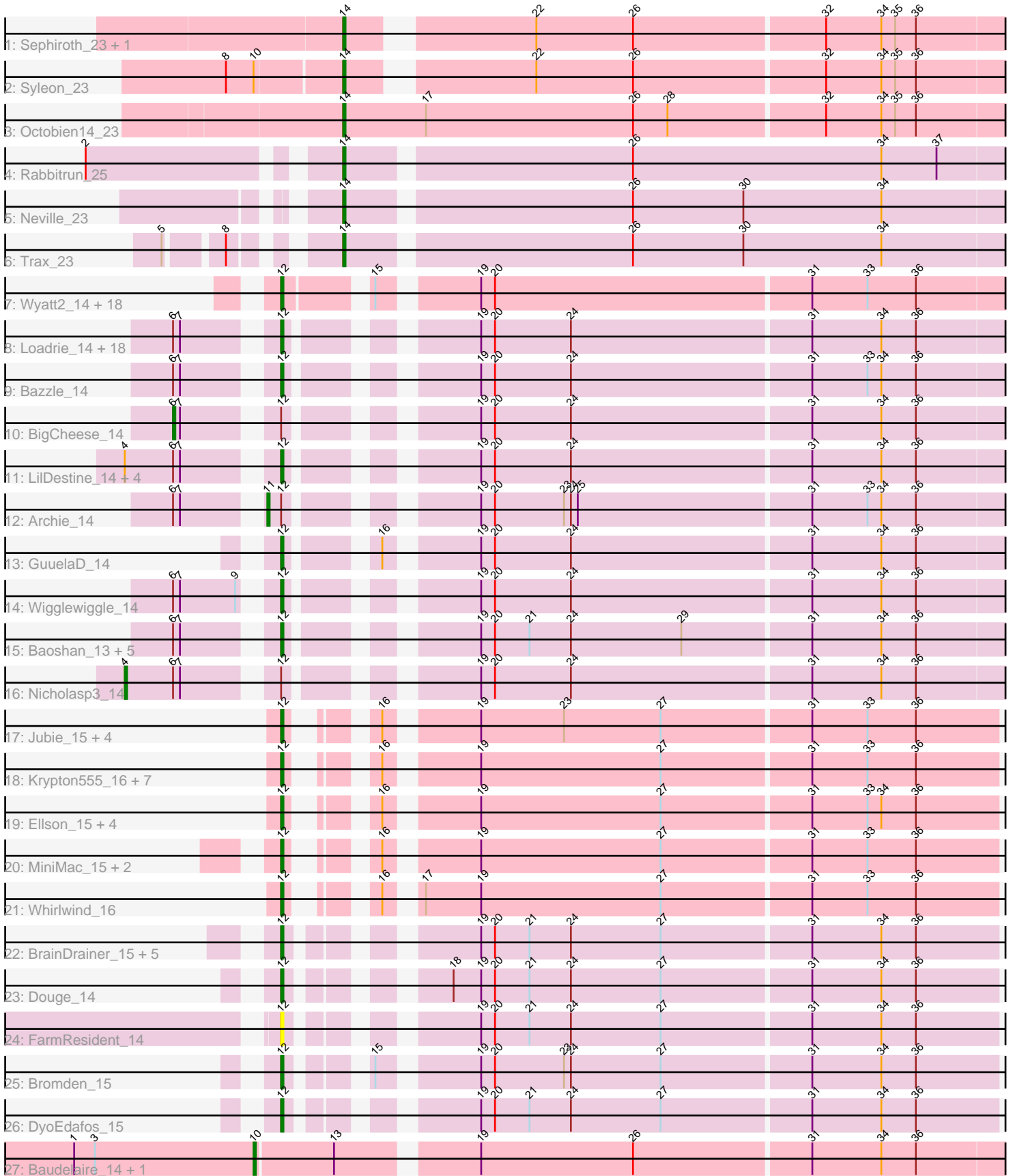


Pham 193904



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 193904 Report

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

Pham number 193904 has 96 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Sephiroth_23, Kudefre_22
- Track 2 : Syleon_23
- Track 3 : Octobien14_23
- Track 4 : Rabbitrun_25
- Track 5 : Neville_23
- Track 6 : Trax_23
- Track 7 : Wyatt2_14, Zaria_14, Appletree2_14, Silverleaf_14, AvadaKedavra_14, Rose5_14, Acquire49_14, Tyson_14, LeBron_14, UPIE_14, CicholasNage_14, Halena_14, Enceladus_14, JoeDirt_14, MAckerman_14, DirkDirk_14, OhShagHennessy_14, Wamburggrxpress_14, Calm_14
- Track 8 : Loadrie_14, Itos_14, MkaliMitinis3_14, Faith1_15, Miley16_14, DrSeegs_14, Lewan_14, Gabriela_14, Sarshaun_14, Zakai_14, Hafay_14, Vetrix_14, Soap141_14, Crossroads_14, Winky_15, Breezona_14, BobsGarage_14, Rumpelstiltskin_14, Netyap_14
- Track 9 : Bazzle_14
- Track 10 : BigCheese_14
- Track 11 : LilDestine_14, Kahlid_14, Finemlucis_14, Gardann_14, Wilder_14
- Track 12 : Archie_14
- Track 13 : GuuelaD_14
- Track 14 : Wigglewiggles_14
- Track 15 : Baoshan_13, Tourach_14, DanBing_13, DHan_14, Claus_14, ZhongYanYuan_13
- Track 16 : Nicholasp3_14
- Track 17 : Jubie_15, Finnry_15, Moostard_15, Bellis_15, Samty_15
- Track 18 : Krypton555_16, Kingsolomon_15, MsGreen_15, Snenia_15, Jobypre_15, Nicholas_15, Clautastrophe_16, Lumos_15
- Track 19 : Ellson_15, KirDoubleO7_13, BourbonZero_14, DuncansLeg_15, LiyuLake_15
- Track 20 : MiniMac_15, Lolly9_15, MiniLon_15
- Track 21 : Whirlwind_16
- Track 22 : BrainDrainer_15, Chaser_14, Quby_14, Douzhi_14, Sheng711_14, PYPDinur_14
- Track 23 : Douge_14
- Track 24 : FarmResident_14
- Track 25 : Bromden_15
- Track 26 : DyoEdafos_15
- Track 27 : Baudelaire_14, Aegeus_14

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

The start number called the most often in the published annotations is 12, it was called in 64 of the 76 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49_14, Appletree2_14, AvadaKedavra_14, Baoshan_13, Bazzle_14, Bellis_15, BobsGarage_14, BourbonZero_14, BrainDrainer_15, Breezonia_14, Bromden_15, Calm_14, Chaser_14, CicholasNage_14, Claus_14, Clautastrophe_16, Crossroads_14, DHan_14, DanBing_13, DirkDirk_14, Douge_14, Douzhi_14, DrSeegs_14, DuncansLeg_15, DyoEdafos_15, Ellson_15, Enceladus_14, Faith1_15, FarmResident_14, Finemlucis_14, Finnry_15, Gabriela_14, Gardann_14, GuuelaD_14, Hafay_14, Halena_14, Itos_14, Jobypre_15, JoeDirt_14, Jubie_15, Kahlid_14, Kingsolomon_15, KirDoubleO7_13, Krypton555_16, LeBron_14, Lewan_14, LilDestine_14, LiyuLake_15, Loadrie_14, Lolly9_15, Lumos_15, MAckerman_14, Miley16_14, MiniLon_15, MiniMac_15, MkaliMitinis3_14, Moostard_15, MsGreen_15, Netyap_14, Nicholas_15, OhShagHennessy_14, PYPDinur_14, Quby_14, Rose5_14, Rumpelstiltskin_14, Samty_15, Sarshaun_14, Sheng711_14, Silverleaf_14, Snenia_15, Soap141_14, Tourach_14, Tyson_14, UPIE_14, Vetrix_14, Wamburggrxpress_14, Whirlwind_16, Wigglewiggle_14, Wilder_14, Winky_15, Wyatt2_14, Zakai_14, Zaria_14, ZhongYanYuan_13,

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

- Archie_14, BigCheese_14, Nicholasp3_14,

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

- Aegeus_14, Baudelaire_14, Kudrefre_22, Neville_23, Octobien14_23, Rabbitrun_25, Sephiroth_23, Syleon_23, Trax_23,

Summary by start number:

Start 4:

- Found in 6 of 96 (6.2%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Nicholasp3_14 (L2),

Start 6:

- Found in 35 of 96 (36.5%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 2.9% of time when present
- Phage (with cluster) where this start called: BigCheese_14 (L2),

Start 10:

- Found in 3 of 96 (3.1%) of genes in pham
- Manual Annotations of this start: 2 of 76
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Aegeus_14 (L5), Baudelaire_14 (L5),

Start 11:

- Found in 1 of 96 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archie_14 (L2),

Start 12:

- Found in 87 of 96 (90.6%) of genes in pham
- Manual Annotations of this start: 64 of 76
- Called 96.6% of time when present
- Phage (with cluster) where this start called: Acquire49_14 (L1), Appletree2_14 (L1), AvadaKedavra_14 (L1), Baoshan_13 (L2), Bazzle_14 (L2), Bellis_15 (L3), BobsGarage_14 (L2), BourbonZero_14 (L3), BrainDrainer_15 (L4), Breezona_14 (L2), Bromden_15 (L4), Calm_14 (L1), Chaser_14 (L4), CicholasNage_14 (L1), Claus_14 (L2), Clautastrophe_16 (L3), Crossroads_14 (L2), DHan_14 (L2), DanBing_13 (L2), DirkDirk_14 (L1), Douge_14 (L4), Douzhi_14 (L4), DrSeegs_14 (L2), DuncansLeg_15 (L3), DyoEdafos_15 (L4), Ellson_15 (L3), Enceladus_14 (L1), Faith1_15 (L2), FarmResident_14 (L4), Finemlucis_14 (L2), Finnry_15 (L3), Gabriela_14 (L2), Gardann_14 (L2), GuuelaD_14 (L2), Hafay_14 (L2), Halena_14 (L1), Itos_14 (L2), Jobypre_15 (L3), JoeDirt_14 (L1), Jubie_15 (L3), Kahlid_14 (L2), Kingsolomon_15 (L3), KirDoubleO7_13 (L3), Krypton555_16 (L3), LeBron_14 (L1), Lewan_14 (L2), LilDestine_14 (L2), LiyuLake_15 (L3), Loadrie_14 (L2), Lolly9_15 (L3), Lumos_15 (L3), MAckerman_14 (L1), Miley16_14 (L2), MiniLon_15 (L3), MiniMac_15 (L3), MkaliMitinis3_14 (L2), Moostard_15 (L3), MsGreen_15 (L3), Netyap_14 (L2), Nicholas_15 (L3), OhShagHennessy_14 (L1), PYPDinur_14 (L4), Quby_14 (L4), Rose5_14 (L1), Rumpelstiltskin_14 (L2), Samty_15 (L3), Sarshaun_14 (L2), Sheng711_14 (L4), Silverleaf_14 (L1), Snenia_15 (L3), Soap141_14 (L2), Tourach_14 (L2), Tyson_14 (L1), UPIE_14 (L1), Vetrix_14 (L2), Wamburggrxpress_14 (L1), Whirlwind_16 (L3), Wigglewobble_14 (L2), Wilder_14 (L2), Winky_15 (L2), Wyatt2_14 (L1), Zakai_14 (L2), Zaria_14 (L1), ZhongYanYuan_13 (L2),

Start 14:

- Found in 7 of 96 (7.3%) of genes in pham
- Manual Annotations of this start: 7 of 76
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudrefre_22 (DU1), Neville_23 (DU2), Octobien14_23 (DU1), Rabbitrun_25 (DU2), Sephiroth_23 (DU1), Syleon_23 (DU1), Trax_23 (DU2),

Summary by clusters:

There are 7 clusters represented in this pham: L4, L5, L2, L3, L1, DU1, DU2,

Info for manual annotations of cluster DU1:

- Start number 14 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 14 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster L1:

- Start number 12 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 4 was manually annotated 1 time for cluster L2.
- Start number 6 was manually annotated 1 time for cluster L2.
- Start number 11 was manually annotated 1 time for cluster L2.
- Start number 12 was manually annotated 25 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 12 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 12 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 10 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: Acquire49_14 Start: 9980, Stop: 10282, Start Num: 12

Candidate Starts for Acquire49_14:

(Start: 12 @9980 has 64 MA's), (15, 10010), (19, 10046), (20, 10052), (31, 10187), (33, 10211), (36, 10232),

Gene: Aegeus_14 Start: 9595, Stop: 9918, Start Num: 10

Candidate Starts for Aegeus_14:

(1, 9517), (3, 9526), (Start: 10 @9595 has 2 MA's), (13, 9628), (19, 9682), (26, 9748), (31, 9823), (34, 9853), (36, 9868),

Gene: Appletree2_14 Start: 9954, Stop: 10256, Start Num: 12

Candidate Starts for Appletree2_14:

(Start: 12 @9954 has 64 MA's), (15, 9984), (19, 10020), (20, 10026), (31, 10161), (33, 10185), (36, 10206),

Gene: Archie_14 Start: 9934, Stop: 10239, Start Num: 11

Candidate Starts for Archie_14:

(Start: 6 @9904 has 1 MA's), (7, 9907), (Start: 11 @9934 has 1 MA's), (Start: 12 @9940 has 64 MA's), (19, 10003), (20, 10009), (23, 10039), (24, 10042), (25, 10045), (31, 10144), (33, 10168), (34, 10174), (36, 10189),

Gene: AvadaKedavra_14 Start: 9980, Stop: 10282, Start Num: 12

Candidate Starts for AvadaKedavra_14:

(Start: 12 @9980 has 64 MA's), (15, 10010), (19, 10046), (20, 10052), (31, 10187), (33, 10211), (36, 10232),

Gene: Baoshan_13 Start: 9819, Stop: 10118, Start Num: 12

Candidate Starts for Baoshan_13:

(Start: 6 @9783 has 1 MA's), (7, 9786), (Start: 12 @9819 has 64 MA's), (19, 9882), (20, 9888), (21, 9903), (24, 9921), (29, 9969), (31, 10023), (34, 10053), (36, 10068),

Gene: Baudelaire_14 Start: 9595, Stop: 9918, Start Num: 10

Candidate Starts for Baudelaire_14:

(1, 9517), (3, 9526), (Start: 10 @9595 has 2 MA's), (13, 9628), (19, 9682), (26, 9748), (31, 9823), (34, 9853), (36, 9868),

Gene: Bazzle_14 Start: 9944, Stop: 10243, Start Num: 12

Candidate Starts for Bazzle_14:

(Start: 6 @9908 has 1 MA's), (7, 9911), (Start: 12 @9944 has 64 MA's), (19, 10007), (20, 10013), (24, 10046), (31, 10148), (33, 10172), (34, 10178), (36, 10193),

Gene: Bellis_15 Start: 10120, Stop: 10395, Start Num: 12

Candidate Starts for Bellis_15:

(Start: 12 @10120 has 64 MA's), (16, 10141), (19, 10174), (23, 10210), (27, 10252), (31, 10315), (33, 10339), (36, 10360),

Gene: BigCheese_14 Start: 9955, Stop: 10290, Start Num: 6

Candidate Starts for BigCheese_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: BobsGarage_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for BobsGarage_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: BourbonZero_14 Start: 10128, Stop: 10403, Start Num: 12

Candidate Starts for BourbonZero_14:

(Start: 12 @10128 has 64 MA's), (16, 10149), (19, 10182), (27, 10260), (31, 10323), (33, 10347), (34, 10353), (36, 10368),

Gene: BrainDrainer_15 Start: 9803, Stop: 10084, Start Num: 12

Candidate Starts for BrainDrainer_15:

(Start: 12 @9803 has 64 MA's), (19, 9863), (20, 9869), (21, 9884), (24, 9902), (27, 9941), (31, 10004), (34, 10034), (36, 10049),

Gene: Breezona_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Breezona_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Bromden_15 Start: 10127, Stop: 10408, Start Num: 12

Candidate Starts for Bromden_15:

(Start: 12 @10127 has 64 MA's), (15, 10151), (19, 10187), (20, 10193), (23, 10223), (24, 10226), (27, 10265), (31, 10328), (34, 10358), (36, 10373),

Gene: Calm_14 Start: 9981, Stop: 10283, Start Num: 12

Candidate Starts for Calm_14:

(Start: 12 @9981 has 64 MA's), (15, 10011), (19, 10047), (20, 10053), (31, 10188), (33, 10212), (36, 10233),

Gene: Chaser_14 Start: 9719, Stop: 10000, Start Num: 12

Candidate Starts for Chaser_14:

(Start: 12 @9719 has 64 MA's), (19, 9779), (20, 9785), (21, 9800), (24, 9818), (27, 9857), (31, 9920), (34, 9950), (36, 9965),

Gene: CicholasNage_14 Start: 9981, Stop: 10283, Start Num: 12

Candidate Starts for CicholasNage_14:

(Start: 12 @9981 has 64 MA's), (15, 10011), (19, 10047), (20, 10053), (31, 10188), (33, 10212), (36, 10233),

Gene: Claus_14 Start: 9999, Stop: 10298, Start Num: 12

Candidate Starts for Claus_14:

(Start: 6 @9963 has 1 MA's), (7, 9966), (Start: 12 @9999 has 64 MA's), (19, 10062), (20, 10068), (21, 10083), (24, 10101), (29, 10149), (31, 10203), (34, 10233), (36, 10248),

Gene: Clautastrophe_16 Start: 10124, Stop: 10399, Start Num: 12

Candidate Starts for Clautastrophe_16:

(Start: 12 @10124 has 64 MA's), (16, 10145), (19, 10178), (27, 10256), (31, 10319), (33, 10343), (36, 10364),

Gene: Crossroads_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Crossroads_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: DHan_14 Start: 9935, Stop: 10234, Start Num: 12

Candidate Starts for DHan_14:

(Start: 6 @9899 has 1 MA's), (7, 9902), (Start: 12 @9935 has 64 MA's), (19, 9998), (20, 10004), (21, 10019), (24, 10037), (29, 10085), (31, 10139), (34, 10169), (36, 10184),

Gene: DanBing_13 Start: 9818, Stop: 10117, Start Num: 12

Candidate Starts for DanBing_13:

(Start: 6 @9782 has 1 MA's), (7, 9785), (Start: 12 @9818 has 64 MA's), (19, 9881), (20, 9887), (21, 9902), (24, 9920), (29, 9968), (31, 10022), (34, 10052), (36, 10067),

Gene: DirkDirk_14 Start: 9982, Stop: 10284, Start Num: 12

Candidate Starts for DirkDirk_14:

(Start: 12 @9982 has 64 MA's), (15, 10012), (19, 10048), (20, 10054), (31, 10189), (33, 10213), (36, 10234),

Gene: Douge_14 Start: 9664, Stop: 9945, Start Num: 12

Candidate Starts for Douge_14:

(Start: 12 @9664 has 64 MA's), (18, 9712), (19, 9724), (20, 9730), (21, 9745), (24, 9763), (27, 9802), (31, 9865), (34, 9895), (36, 9910),

Gene: Douzhi_14 Start: 9664, Stop: 9945, Start Num: 12

Candidate Starts for Douzhi_14:

(Start: 12 @9664 has 64 MA's), (19, 9724), (20, 9730), (21, 9745), (24, 9763), (27, 9802), (31, 9865), (34, 9895), (36, 9910),

Gene: DrSeegs_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for DrSeegs_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: DuncansLeg_15 Start: 10130, Stop: 10405, Start Num: 12

Candidate Starts for DuncansLeg_15:

(Start: 12 @10130 has 64 MA's), (16, 10151), (19, 10184), (27, 10262), (31, 10325), (33, 10349), (34, 10355), (36, 10370),

Gene: DyoEdafos_15 Start: 9877, Stop: 10158, Start Num: 12

Candidate Starts for DyoEdafos_15:

(Start: 12 @9877 has 64 MA's), (19, 9937), (20, 9943), (21, 9958), (24, 9976), (27, 10015), (31, 10078), (34, 10108), (36, 10123),

Gene: Ellson_15 Start: 10138, Stop: 10413, Start Num: 12

Candidate Starts for Ellson_15:

(Start: 12 @10138 has 64 MA's), (16, 10159), (19, 10192), (27, 10270), (31, 10333), (33, 10357), (34, 10363), (36, 10378),

Gene: Enceladus_14 Start: 9983, Stop: 10285, Start Num: 12

Candidate Starts for Enceladus_14:

(Start: 12 @9983 has 64 MA's), (15, 10013), (19, 10049), (20, 10055), (31, 10190), (33, 10214), (36, 10235),

Gene: Faith1_15 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Faith1_15:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: FarmResident_14 Start: 9708, Stop: 9989, Start Num: 12

Candidate Starts for FarmResident_14:

(Start: 12 @9708 has 64 MA's), (19, 9768), (20, 9774), (21, 9789), (24, 9807), (27, 9846), (31, 9909), (34, 9939), (36, 9954),

Gene: Finemlucis_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Finemlucis_14:

(Start: 4 @9934 has 1 MA's), (Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Finnry_15 Start: 10122, Stop: 10397, Start Num: 12

Candidate Starts for Finnry_15:

(Start: 12 @10122 has 64 MA's), (16, 10143), (19, 10176), (23, 10212), (27, 10254), (31, 10317), (33, 10341), (36, 10362),

Gene: Gabriela_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Gabriela_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Gardann_14 Start: 9990, Stop: 10289, Start Num: 12

Candidate Starts for Gardann_14:

(Start: 4 @9933 has 1 MA's), (Start: 6 @9954 has 1 MA's), (7, 9957), (Start: 12 @9990 has 64 MA's), (19, 10053), (20, 10059), (24, 10092), (31, 10194), (34, 10224), (36, 10239),

Gene: GuuelaD_14 Start: 10025, Stop: 10324, Start Num: 12

Candidate Starts for GuuelaD_14:

(Start: 12 @10025 has 64 MA's), (16, 10055), (19, 10088), (20, 10094), (24, 10127), (31, 10229), (34, 10259), (36, 10274),

Gene: Hafay_14 Start: 10024, Stop: 10323, Start Num: 12

Candidate Starts for Hafay_14:

(Start: 6 @9988 has 1 MA's), (7, 9991), (Start: 12 @10024 has 64 MA's), (19, 10087), (20, 10093), (24, 10126), (31, 10228), (34, 10258), (36, 10273),

Gene: Halena_14 Start: 9981, Stop: 10283, Start Num: 12

Candidate Starts for Halena_14:

(Start: 12 @9981 has 64 MA's), (15, 10011), (19, 10047), (20, 10053), (31, 10188), (33, 10212), (36, 10233),

Gene: Itos_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Itos_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Jobypre_15 Start: 10124, Stop: 10399, Start Num: 12

Candidate Starts for Jobypre_15:

(Start: 12 @10124 has 64 MA's), (16, 10145), (19, 10178), (27, 10256), (31, 10319), (33, 10343), (36, 10364),

Gene: JoeDirt_14 Start: 9981, Stop: 10283, Start Num: 12

Candidate Starts for JoeDirt_14:

(Start: 12 @9981 has 64 MA's), (15, 10011), (19, 10047), (20, 10053), (31, 10188), (33, 10212), (36, 10233),

Gene: Jubie_15 Start: 10125, Stop: 10400, Start Num: 12

Candidate Starts for Jubie_15:

(Start: 12 @10125 has 64 MA's), (16, 10146), (19, 10179), (23, 10215), (27, 10257), (31, 10320), (33, 10344), (36, 10365),

Gene: Kahlid_14 Start: 9990, Stop: 10289, Start Num: 12

Candidate Starts for Kahlid_14:

(Start: 4 @9933 has 1 MA's), (Start: 6 @9954 has 1 MA's), (7, 9957), (Start: 12 @9990 has 64 MA's), (19, 10053), (20, 10059), (24, 10092), (31, 10194), (34, 10224), (36, 10239),

Gene: Kingsolomon_15 Start: 10124, Stop: 10399, Start Num: 12

Candidate Starts for Kingsolomon_15:

(Start: 12 @10124 has 64 MA's), (16, 10145), (19, 10178), (27, 10256), (31, 10319), (33, 10343), (36, 10364),

Gene: KirDoubleO7_13 Start: 10139, Stop: 10414, Start Num: 12

Candidate Starts for KirDoubleO7_13:

(Start: 12 @10139 has 64 MA's), (16, 10160), (19, 10193), (27, 10271), (31, 10334), (33, 10358), (34, 10364), (36, 10379),

Gene: Krypton555_16 Start: 10113, Stop: 10388, Start Num: 12

Candidate Starts for Krypton555_16:

(Start: 12 @10113 has 64 MA's), (16, 10134), (19, 10167), (27, 10245), (31, 10308), (33, 10332), (36, 10353),

Gene: Kudfre_22 Start: 13087, Stop: 13377, Start Num: 14

Candidate Starts for Kudfre_22:

(Start: 14 @13087 has 7 MA's), (22, 13156), (26, 13198), (32, 13279), (34, 13303), (35, 13309), (36, 13318),

Gene: LeBron_14 Start: 9981, Stop: 10283, Start Num: 12

Candidate Starts for LeBron_14:

(Start: 12 @9981 has 64 MA's), (15, 10011), (19, 10047), (20, 10053), (31, 10188), (33, 10212), (36, 10233),

Gene: Lewan_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Lewan_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: LilDestine_14 Start: 9990, Stop: 10289, Start Num: 12

Candidate Starts for LilDestine_14:

(Start: 4 @9933 has 1 MA's), (Start: 6 @9954 has 1 MA's), (7, 9957), (Start: 12 @9990 has 64 MA's), (19, 10053), (20, 10059), (24, 10092), (31, 10194), (34, 10224), (36, 10239),

Gene: LiyuLake_15 Start: 10130, Stop: 10405, Start Num: 12

Candidate Starts for LiyuLake_15:

(Start: 12 @10130 has 64 MA's), (16, 10151), (19, 10184), (27, 10262), (31, 10325), (33, 10349), (34, 10355), (36, 10370),

Gene: Loadrie_14 Start: 10023, Stop: 10322, Start Num: 12

Candidate Starts for Loadrie_14:

(Start: 6 @9987 has 1 MA's), (7, 9990), (Start: 12 @10023 has 64 MA's), (19, 10086), (20, 10092), (24, 10125), (31, 10227), (34, 10257), (36, 10272),

Gene: Lolly9_15 Start: 10131, Stop: 10406, Start Num: 12

Candidate Starts for Lolly9_15:

(Start: 12 @10131 has 64 MA's), (16, 10152), (19, 10185), (27, 10263), (31, 10326), (33, 10350), (36, 10371),

Gene: Lumos_15 Start: 10124, Stop: 10399, Start Num: 12

Candidate Starts for Lumos_15:

(Start: 12 @10124 has 64 MA's), (16, 10145), (19, 10178), (27, 10256), (31, 10319), (33, 10343), (36, 10364),

Gene: MAckerman_14 Start: 9980, Stop: 10282, Start Num: 12

Candidate Starts for MAckerman_14:

(Start: 12 @9980 has 64 MA's), (15, 10010), (19, 10046), (20, 10052), (31, 10187), (33, 10211), (36, 10232),

Gene: Miley16_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Miley16_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: MiniLon_15 Start: 10131, Stop: 10406, Start Num: 12

Candidate Starts for MiniLon_15:

(Start: 12 @10131 has 64 MA's), (16, 10152), (19, 10185), (27, 10263), (31, 10326), (33, 10350), (36, 10371),

Gene: MiniMac_15 Start: 10132, Stop: 10407, Start Num: 12

Candidate Starts for MiniMac_15:

(Start: 12 @10132 has 64 MA's), (16, 10153), (19, 10186), (27, 10264), (31, 10327), (33, 10351), (36, 10372),

Gene: MkaliMitinis3_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for MkaliMitinis3_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Moostard_15 Start: 10121, Stop: 10396, Start Num: 12

Candidate Starts for Moostard_15:

(Start: 12 @10121 has 64 MA's), (16, 10142), (19, 10175), (23, 10211), (27, 10253), (31, 10316), (33, 10340), (36, 10361),

Gene: MsGreen_15 Start: 10124, Stop: 10399, Start Num: 12

Candidate Starts for MsGreen_15:

(Start: 12 @10124 has 64 MA's), (16, 10145), (19, 10178), (27, 10256), (31, 10319), (33, 10343), (36, 10364),

Gene: Netyap_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Netyap_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Neville_23 Start: 14339, Stop: 14638, Start Num: 14

Candidate Starts for Neville_23:

(Start: 14 @14339 has 7 MA's), (26, 14456), (30, 14504), (34, 14564),

Gene: Nicholas_15 Start: 10124, Stop: 10399, Start Num: 12

Candidate Starts for Nicholas_15:

(Start: 12 @10124 has 64 MA's), (16, 10145), (19, 10178), (27, 10256), (31, 10319), (33, 10343), (36, 10364),

Gene: Nicholasp3_14 Start: 9933, Stop: 10289, Start Num: 4

Candidate Starts for Nicholasp3_14:

(Start: 4 @9933 has 1 MA's), (Start: 6 @9954 has 1 MA's), (7, 9957), (Start: 12 @9990 has 64 MA's), (19, 10053), (20, 10059), (24, 10092), (31, 10194), (34, 10224), (36, 10239),

Gene: Octobien14_23 Start: 14131, Stop: 14436, Start Num: 14

Candidate Starts for Octobien14_23:

(Start: 14 @14131 has 7 MA's), (17, 14167), (26, 14257), (28, 14272), (32, 14338), (34, 14362), (35, 14368), (36, 14377),

Gene: OhShagHennessy_14 Start: 9954, Stop: 10256, Start Num: 12

Candidate Starts for OhShagHennessy_14:

(Start: 12 @9954 has 64 MA's), (15, 9984), (19, 10020), (20, 10026), (31, 10161), (33, 10185), (36, 10206),

Gene: PYPDinur_14 Start: 9664, Stop: 9945, Start Num: 12

Candidate Starts for PYPDinur_14:

(Start: 12 @9664 has 64 MA's), (19, 9724), (20, 9730), (21, 9745), (24, 9763), (27, 9802), (31, 9865), (34, 9895), (36, 9910),

Gene: Quby_14 Start: 9663, Stop: 9944, Start Num: 12

Candidate Starts for Quby_14:

(Start: 12 @9663 has 64 MA's), (19, 9723), (20, 9729), (21, 9744), (24, 9762), (27, 9801), (31, 9864), (34, 9894), (36, 9909),

Gene: Rabbitrun_25 Start: 14785, Stop: 15084, Start Num: 14

Candidate Starts for Rabbitrun_25:

(2, 14689), (Start: 14 @14785 has 7 MA's), (26, 14902), (34, 15010), (37, 15034),

Gene: Rose5_14 Start: 9980, Stop: 10282, Start Num: 12

Candidate Starts for Rose5_14:

(Start: 12 @9980 has 64 MA's), (15, 10010), (19, 10046), (20, 10052), (31, 10187), (33, 10211), (36, 10232),

Gene: Rumpelstiltskin_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Rumpelstiltskin_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Samty_15 Start: 10121, Stop: 10396, Start Num: 12

Candidate Starts for Samty_15:

(Start: 12 @10121 has 64 MA's), (16, 10142), (19, 10175), (23, 10211), (27, 10253), (31, 10316), (33, 10340), (36, 10361),

Gene: Sarshaun_14 Start: 10024, Stop: 10323, Start Num: 12

Candidate Starts for Sarshaun_14:

(Start: 6 @9988 has 1 MA's), (7, 9991), (Start: 12 @10024 has 64 MA's), (19, 10087), (20, 10093), (24, 10126), (31, 10228), (34, 10258), (36, 10273),

Gene: Sephiroth_23 Start: 13258, Stop: 13548, Start Num: 14

Candidate Starts for Sephiroth_23:

(Start: 14 @13258 has 7 MA's), (22, 13327), (26, 13369), (32, 13450), (34, 13474), (35, 13480), (36, 13489),

Gene: Sheng711_14 Start: 9664, Stop: 9945, Start Num: 12

Candidate Starts for Sheng711_14:

(Start: 12 @9664 has 64 MA's), (19, 9724), (20, 9730), (21, 9745), (24, 9763), (27, 9802), (31, 9865), (34, 9895), (36, 9910),

Gene: Silverleaf_14 Start: 9980, Stop: 10282, Start Num: 12

Candidate Starts for Silverleaf_14:

(Start: 12 @9980 has 64 MA's), (15, 10010), (19, 10046), (20, 10052), (31, 10187), (33, 10211), (36, 10232),

Gene: Snenia_15 Start: 10125, Stop: 10400, Start Num: 12

Candidate Starts for Snenia_15:

(Start: 12 @10125 has 64 MA's), (16, 10146), (19, 10179), (27, 10257), (31, 10320), (33, 10344), (36, 10365),

Gene: Soap141_14 Start: 10024, Stop: 10323, Start Num: 12

Candidate Starts for Soap141_14:

(Start: 6 @9988 has 1 MA's), (7, 9991), (Start: 12 @10024 has 64 MA's), (19, 10087), (20, 10093), (24, 10126), (31, 10228), (34, 10258), (36, 10273),

Gene: Syleon_23 Start: 13180, Stop: 13470, Start Num: 14

Candidate Starts for Syleon_23:

(8, 13132), (Start: 10 @13144 has 2 MA's), (Start: 14 @13180 has 7 MA's), (22, 13249), (26, 13291), (32, 13372), (34, 13396), (35, 13402), (36, 13411),

Gene: Tourach_14 Start: 10006, Stop: 10305, Start Num: 12

Candidate Starts for Tourach_14:

(Start: 6 @9970 has 1 MA's), (7, 9973), (Start: 12 @10006 has 64 MA's), (19, 10069), (20, 10075), (21, 10090), (24, 10108), (29, 10156), (31, 10210), (34, 10240), (36, 10255),

Gene: Trax_23 Start: 14648, Stop: 14947, Start Num: 14

Candidate Starts for Trax_23:

(5, 14594), (8, 14615), (Start: 14 @14648 has 7 MA's), (26, 14765), (30, 14813), (34, 14873),

Gene: Tyson_14 Start: 9980, Stop: 10282, Start Num: 12

Candidate Starts for Tyson_14:

(Start: 12 @9980 has 64 MA's), (15, 10010), (19, 10046), (20, 10052), (31, 10187), (33, 10211), (36, 10232),

Gene: UPIE_14 Start: 9978, Stop: 10280, Start Num: 12

Candidate Starts for UPIE_14:

(Start: 12 @9978 has 64 MA's), (15, 10008), (19, 10044), (20, 10050), (31, 10185), (33, 10209), (36, 10230),

Gene: Vetrix_14 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Vetrix_14:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Wamburgexpress_14 Start: 9980, Stop: 10282, Start Num: 12

Candidate Starts for Wamburgexpress_14:

(Start: 12 @9980 has 64 MA's), (15, 10010), (19, 10046), (20, 10052), (31, 10187), (33, 10211), (36, 10232),

Gene: Whirlwind_16 Start: 10118, Stop: 10393, Start Num: 12

Candidate Starts for Whirlwind_16:

(Start: 12 @10118 has 64 MA's), (16, 10139), (17, 10148), (19, 10172), (27, 10250), (31, 10313), (33, 10337), (36, 10358),

Gene: Wigglewobble_14 Start: 10023, Stop: 10322, Start Num: 12

Candidate Starts for Wigglewobble_14:

(Start: 6 @9987 has 1 MA's), (7, 9990), (9, 10014), (Start: 12 @10023 has 64 MA's), (19, 10086), (20, 10092), (24, 10125), (31, 10227), (34, 10257), (36, 10272),

Gene: Wilder_14 Start: 9990, Stop: 10289, Start Num: 12

Candidate Starts for Wilder_14:

(Start: 4 @9933 has 1 MA's), (Start: 6 @9954 has 1 MA's), (7, 9957), (Start: 12 @9990 has 64 MA's), (19, 10053), (20, 10059), (24, 10092), (31, 10194), (34, 10224), (36, 10239),

Gene: Winky_15 Start: 9991, Stop: 10290, Start Num: 12

Candidate Starts for Winky_15:

(Start: 6 @9955 has 1 MA's), (7, 9958), (Start: 12 @9991 has 64 MA's), (19, 10054), (20, 10060), (24, 10093), (31, 10195), (34, 10225), (36, 10240),

Gene: Wyatt2_14 Start: 9980, Stop: 10282, Start Num: 12

Candidate Starts for Wyatt2_14:

(Start: 12 @9980 has 64 MA's), (15, 10010), (19, 10046), (20, 10052), (31, 10187), (33, 10211), (36, 10232),

Gene: Zakai_14 Start: 9979, Stop: 10278, Start Num: 12

Candidate Starts for Zakai_14:

(Start: 6 @9943 has 1 MA's), (7, 9946), (Start: 12 @9979 has 64 MA's), (19, 10042), (20, 10048), (24, 10081), (31, 10183), (34, 10213), (36, 10228),

Gene: Zaria_14 Start: 9981, Stop: 10283, Start Num: 12

Candidate Starts for Zaria_14:

(Start: 12 @9981 has 64 MA's), (15, 10011), (19, 10047), (20, 10053), (31, 10188), (33, 10212), (36, 10233),

Gene: ZhongYanYuan_13 Start: 9819, Stop: 10118, Start Num: 12

Candidate Starts for ZhongYanYuan_13:

(Start: 6 @9783 has 1 MA's), (7, 9786), (Start: 12 @9819 has 64 MA's), (19, 9882), (20, 9888), (21, 9903), (24, 9921), (29, 9969), (31, 10023), (34, 10053), (36, 10068),