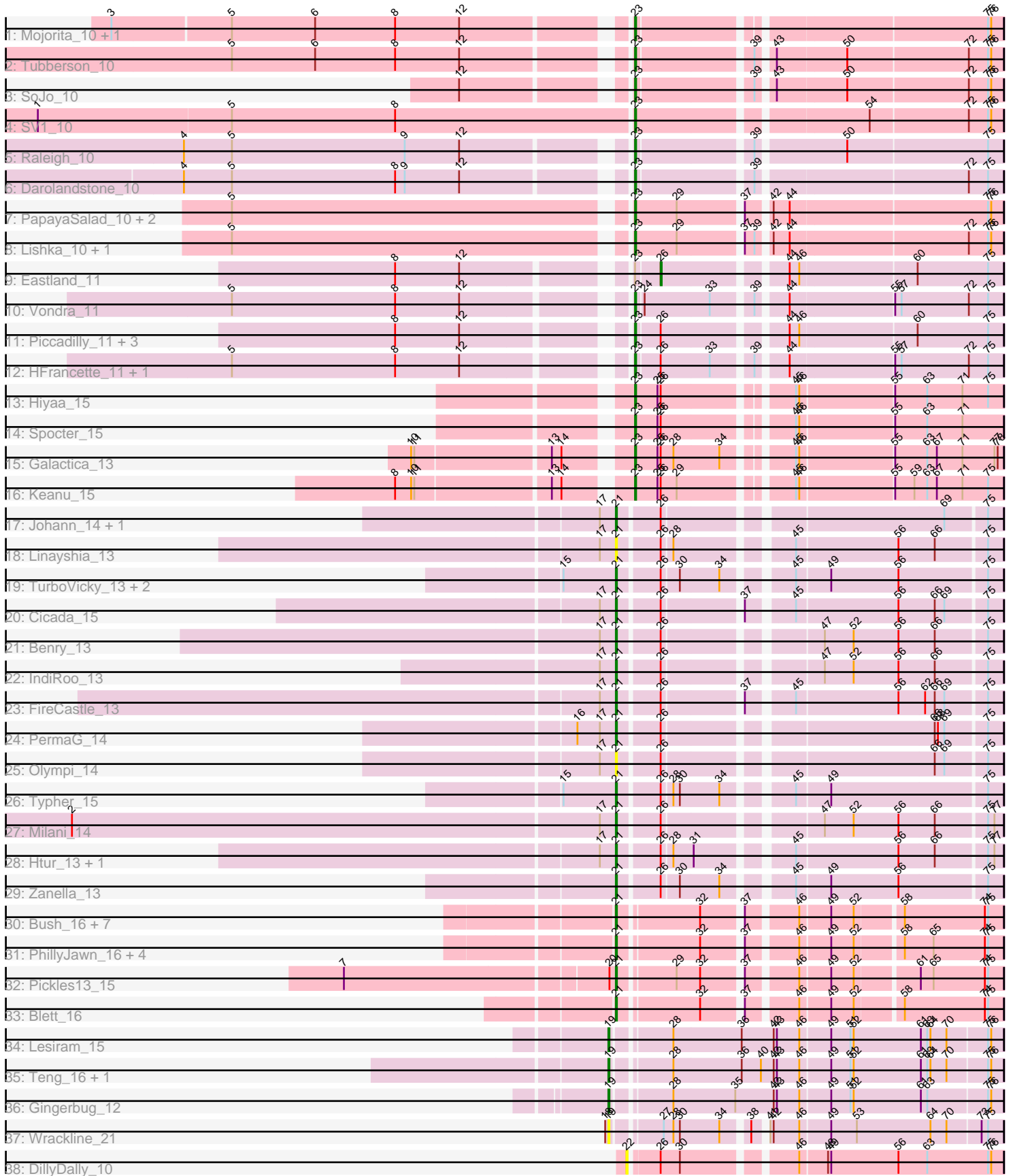


Pham 224578



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 224578 Report

This analysis was run 03/28/25 on database version 593.

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

Pham number 224578 has 62 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Mojorita_10, Picard_10
- Track 2 : Tubberston_10
- Track 3 : SoJo_10
- Track 4 : SV1_10
- Track 5 : Raleigh_10
- Track 6 : Darolandstone_10
- Track 7 : PapayaSalad_10, Bioscum_10, Ididsumtinwong_10
- Track 8 : Lishka_10, Austintatious_10
- Track 9 : Eastland_11
- Track 10 : Vondra_11
- Track 11 : Piccadilly_11, Cumberbatch_11, Eklok_11, AxeJC_11
- Track 12 : HFrancette_11, Ignacio_11
- Track 13 : Hiyaa_15
- Track 14 : Spocter_15
- Track 15 : Galactica_13
- Track 16 : Keanu_15
- Track 17 : Johann_14, Goodman_14
- Track 18 : Linayshia_13
- Track 19 : TurboVicky_13, Jera_14, SBlackberry_13
- Track 20 : Cicada_15
- Track 21 : Benry_13
- Track 22 : IndiRoo_13
- Track 23 : FireCastle_13
- Track 24 : PermaG_14
- Track 25 : Olympi_14
- Track 26 : Typher_15
- Track 27 : Milani_14
- Track 28 : Htur_13, Rasovi_13
- Track 29 : Zanella_13
- Track 30 : Bush_16, MenE_16, Guzman_17, Dropshot_15, Antuna_16, Phingu_18, Violeta_17, Carrillo_17
- Track 31 : PhillyJawn_16, Warren_16, Appa_15, CookieDog_16, Losacky_18
- Track 32 : Pickles13_15

- Track 33 : Blett_16
- Track 34 : Lesiram_15
- Track 35 : Teng_16, DelaGarza_15
- Track 36 : Gingerbug_12
- Track 37 : Wrackline_21
- Track 38 : DillyDally_10

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

The start number called the most often in the published annotations is 21, it was called in 23 of the 49 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antuna_16, Appa_15, Benry_13, Blett_16, Bush_16, Carrillo_17, Cicada_15, CookieDog_16, Dropshot_15, FireCastle_13, Goodman_14, Guzman_17, Htur_13, IndiRoo_13, Jera_14, Johann_14, Linayshia_13, Losacky_18, MenE_16, Milani_14, Olympi_14, PermaG_14, PhillyJawn_16, Phingu_18, Pickles13_15, Rasovi_13, SBlackberry_13, TurboVicky_13, Typher_15, Violeta_17, Warren_16, Zanella_13,

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

-

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

- Austintatious_10, AxeJC_11, Bioscum_10, Cumberbatch_11, Darolandstone_10, DelaGarza_15, DillyDally_10, Eastland_11, Eklok_11, Galactica_13, Gingerbug_12, HFrancette_11, Hiyaa_15, Ididsumtinwong_10, Ignacio_11, Keanu_15, Lesiram_15, Lishka_10, Mojorita_10, PapayaSalad_10, Picard_10, Piccadilly_11, Raleigh_10, SV1_10, SoJo_10, Spocter_15, Teng_16, Tubberson_10, Vondra_11, Wrackline_21,

Summary by start number:

Start 19:

- Found in 5 of 62 (8.1%) of genes in pham
- Manual Annotations of this start: 3 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DelaGarza_15 (GF), Gingerbug_12 (GF), Lesiram_15 (GF), Teng_16 (GF), Wrackline_21 (GF),

Start 21:

- Found in 32 of 62 (51.6%) of genes in pham
- Manual Annotations of this start: 23 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antuna_16 (GA), Appa_15 (GA), Benry_13 (EJ), Blett_16 (GA), Bush_16 (GA), Carrillo_17 (GA), Cicada_15 (EJ), CookieDog_16 (GA), Dropshot_15 (GA), FireCastle_13 (EJ), Goodman_14 (EJ), Guzman_17 (GA), Htur_13 (EJ), IndiRoo_13 (EJ), Jera_14 (EJ), Johann_14 (EJ), Linayshia_13 (EJ), Losacky_18 (GA), MenE_16 (GA), Milani_14 (EJ), Olympi_14 (EJ), PermaG_14 (EJ), PhillyJawn_16 (GA), Phingu_18 (GA), Pickles13_15 (GA), Rasovi_13 (EJ), SBlackberry_13 (EJ), TurboVicky_13 (EJ), Typher_15 (EJ), Violeta_17 (GA), Warren_16 (GA), Zanella_13 (EJ),

Start 22:

- Found in 1 of 62 (1.6%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DillyDally_10 (singleton),

Start 23:

- Found in 24 of 62 (38.7%) of genes in pham
- Manual Annotations of this start: 22 of 49
- Called 95.8% of time when present
- Phage (with cluster) where this start called: Austintatious_10 (BC3), AxeJC_11 (BP), Bioscum_10 (BC3), Cumberbatch_11 (BP), Darolandstone_10 (BC2), Eklok_11 (BP), Galactica_13 (BQ), HFrancette_11 (BP), Hiyaa_15 (BQ), Ididsumtinwong_10 (BC3), Ignacio_11 (BP), Keanu_15 (BQ), Lishka_10 (BC3), Mojerita_10 (BC1), PapayaSalad_10 (BC3), Picard_10 (BC1), Piccadilly_11 (BP), Raleigh_10 (BC2), SV1_10 (BC1), SoJo_10 (BC1), Spocter_15 (BQ), Tuberson_10 (BC1), Vondra_11 (BP),

Start 26:

- Found in 29 of 62 (46.8%) of genes in pham
- Manual Annotations of this start: 1 of 49
- Called 3.4% of time when present
- Phage (with cluster) where this start called: Eastland_11 (BP),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, EJ, GF, BP, BQ, GA, BC1, BC2, BC3,

Info for manual annotations of cluster BC1:

- Start number 23 was manually annotated 5 times for cluster BC1.

Info for manual annotations of cluster BC2:

- Start number 23 was manually annotated 2 times for cluster BC2.

Info for manual annotations of cluster BC3:

- Start number 23 was manually annotated 4 times for cluster BC3.

Info for manual annotations of cluster BP:

- Start number 23 was manually annotated 7 times for cluster BP.
- Start number 26 was manually annotated 1 time for cluster BP.

Info for manual annotations of cluster BQ:

- Start number 23 was manually annotated 4 times for cluster BQ.

Info for manual annotations of cluster EJ:

- Start number 21 was manually annotated 15 times for cluster EJ.

Info for manual annotations of cluster GA:

- Start number 21 was manually annotated 8 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 19 was manually annotated 3 times for cluster GF.

Gene Information:

Gene: Antuna_16 Start: 8983, Stop: 9306, Start Num: 21

Candidate Starts for Antuna_16:

(Start: 21 @8983 has 23 MA's), (32, 9052), (37, 9085), (46, 9127), (49, 9154), (52, 9175), (58, 9214), (74, 9289), (75, 9292),

Gene: Appa_15 Start: 8845, Stop: 9168, Start Num: 21

Candidate Starts for Appa_15:

(Start: 21 @8845 has 23 MA's), (32, 8914), (37, 8947), (46, 8989), (49, 9016), (52, 9037), (58, 9076), (65, 9103), (74, 9151), (75, 9154),

Gene: Austintatious_10 Start: 7516, Stop: 7836, Start Num: 23

Candidate Starts for Austintatious_10:

(5, 7162), (Start: 23 @7516 has 22 MA's), (29, 7555), (37, 7609), (39, 7618), (42, 7627), (44, 7642), (72, 7804), (75, 7822), (76, 7825),

Gene: AxeJC_11 Start: 7664, Stop: 7981, Start Num: 23

Candidate Starts for AxeJC_11:

(8, 7472), (12, 7532), (Start: 23 @7664 has 22 MA's), (Start: 26 @7685 has 1 MA's), (44, 7787), (46, 7796), (60, 7901), (75, 7967),

Gene: Benry_13 Start: 9080, Stop: 9403, Start Num: 21

Candidate Starts for Benry_13:

(17, 9071), (Start: 21 @9080 has 23 MA's), (Start: 26 @9116 has 1 MA's), (47, 9242), (52, 9269), (56, 9311), (66, 9344), (75, 9389),

Gene: Bioscum_10 Start: 7552, Stop: 7872, Start Num: 23

Candidate Starts for Bioscum_10:

(5, 7198), (Start: 23 @7552 has 22 MA's), (29, 7591), (37, 7645), (42, 7663), (44, 7678), (75, 7858), (76, 7861),

Gene: Blett_16 Start: 8998, Stop: 9321, Start Num: 21

Candidate Starts for Blett_16:

(Start: 21 @8998 has 23 MA's), (32, 9067), (37, 9100), (46, 9142), (49, 9169), (52, 9190), (58, 9229), (74, 9304), (75, 9307),

Gene: Bush_16 Start: 8979, Stop: 9302, Start Num: 21

Candidate Starts for Bush_16:

(Start: 21 @8979 has 23 MA's), (32, 9048), (37, 9081), (46, 9123), (49, 9150), (52, 9171), (58, 9210), (74, 9285), (75, 9288),

Gene: Carrillo_17 Start: 8952, Stop: 9275, Start Num: 21

Candidate Starts for Carrillo_17:

(Start: 21 @8952 has 23 MA's), (32, 9021), (37, 9054), (46, 9096), (49, 9123), (52, 9144), (58, 9183), (74, 9258), (75, 9261),

Gene: Cicada_15 Start: 11149, Stop: 11472, Start Num: 21

Candidate Starts for Cicada_15:

(17, 11140), (Start: 21 @11149 has 23 MA's), (Start: 26 @11185 has 1 MA's), (37, 11251), (45, 11287), (56, 11380), (66, 11413), (69, 11422), (75, 11458),

Gene: CookieDog_16 Start: 8979, Stop: 9302, Start Num: 21

Candidate Starts for CookieDog_16:

(Start: 21 @8979 has 23 MA's), (32, 9048), (37, 9081), (46, 9123), (49, 9150), (52, 9171), (58, 9210), (65, 9237), (74, 9285), (75, 9288),

Gene: Cumberbatch_11 Start: 7651, Stop: 7968, Start Num: 23

Candidate Starts for Cumberbatch_11:

(8, 7459), (12, 7519), (Start: 23 @7651 has 22 MA's), (Start: 26 @7672 has 1 MA's), (44, 7774), (46, 7783), (60, 7888), (75, 7954),

Gene: Darolandstone_10 Start: 7986, Stop: 8303, Start Num: 23

Candidate Starts for Darolandstone_10:

(4, 7593), (5, 7638), (8, 7791), (9, 7800), (12, 7851), (Start: 23 @7986 has 22 MA's), (39, 8085), (72, 8271), (75, 8289),

Gene: DelaGarza_15 Start: 9604, Stop: 9954, Start Num: 19

Candidate Starts for DelaGarza_15:

(Start: 19 @9604 has 3 MA's), (28, 9652), (36, 9715), (40, 9733), (42, 9745), (43, 9748), (46, 9769), (49, 9796), (51, 9814), (52, 9817), (61, 9880), (63, 9886), (64, 9889), (70, 9904), (75, 9940), (76, 9943),

Gene: DillyDally_10 Start: 7591, Stop: 7914, Start Num: 22

Candidate Starts for DillyDally_10:

(22, 7591), (Start: 26 @7615 has 1 MA's), (30, 7633), (46, 7726), (48, 7750), (49, 7753), (56, 7816), (63, 7843), (75, 7900), (76, 7903),

Gene: Dropshot_15 Start: 8845, Stop: 9168, Start Num: 21

Candidate Starts for Dropshot_15:

(Start: 21 @8845 has 23 MA's), (32, 8914), (37, 8947), (46, 8989), (49, 9016), (52, 9037), (58, 9076), (74, 9151), (75, 9154),

Gene: Eastland_11 Start: 7673, Stop: 7969, Start Num: 26

Candidate Starts for Eastland_11:

(8, 7460), (12, 7520), (Start: 23 @7652 has 22 MA's), (Start: 26 @7673 has 1 MA's), (44, 7775), (46, 7784), (60, 7889), (75, 7955),

Gene: Eklok_11 Start: 7664, Stop: 7981, Start Num: 23

Candidate Starts for Eklok_11:

(8, 7472), (12, 7532), (Start: 23 @7664 has 22 MA's), (Start: 26 @7685 has 1 MA's), (44, 7787), (46, 7796), (60, 7901), (75, 7967),

Gene: FireCastle_13 Start: 10810, Stop: 11133, Start Num: 21

Candidate Starts for FireCastle_13:

(17, 10801), (Start: 21 @10810 has 23 MA's), (Start: 26 @10846 has 1 MA's), (37, 10912), (45, 10948), (56, 11041), (62, 11065), (66, 11074), (69, 11083), (75, 11119),

Gene: Galactica_13 Start: 12489, Stop: 12806, Start Num: 23

Candidate Starts for Galactica_13:

(10, 12306), (11, 12309), (13, 12429), (14, 12438), (Start: 23 @12489 has 22 MA's), (25, 12510), (Start: 26 @12513 has 1 MA's), (28, 12525), (34, 12567), (45, 12618), (46, 12621), (55, 12705), (63, 12735), (67, 12744), (71, 12768), (77, 12798), (78, 12801),

Gene: Gingerbug_12 Start: 8787, Stop: 9137, Start Num: 19

Candidate Starts for Gingerbug_12:

(Start: 19 @8787 has 3 MA's), (28, 8835), (35, 8892), (42, 8928), (43, 8931), (46, 8952), (49, 8979), (51, 8997), (52, 9000), (61, 9063), (63, 9069), (75, 9123), (76, 9126),

Gene: Goodman_14 Start: 11061, Stop: 11384, Start Num: 21

Candidate Starts for Goodman_14:

(17, 11052), (Start: 21 @11061 has 23 MA's), (Start: 26 @11097 has 1 MA's), (69, 11334), (75, 11370),

Gene: Guzman_17 Start: 9260, Stop: 9583, Start Num: 21

Candidate Starts for Guzman_17:

(Start: 21 @9260 has 23 MA's), (32, 9329), (37, 9362), (46, 9404), (49, 9431), (52, 9452), (58, 9491), (74, 9566), (75, 9569),

Gene: HFrancette_11 Start: 7660, Stop: 7977, Start Num: 23

Candidate Starts for HFrancette_11:

(5, 7315), (8, 7468), (12, 7528), (Start: 23 @7660 has 22 MA's), (Start: 26 @7681 has 1 MA's), (33, 7726), (39, 7759), (44, 7783), (55, 7876), (57, 7882), (72, 7945), (75, 7963),

Gene: Hiyaa_15 Start: 13527, Stop: 13844, Start Num: 23

Candidate Starts for Hiyaa_15:

(Start: 23 @13527 has 22 MA's), (25, 13548), (Start: 26 @13551 has 1 MA's), (45, 13656), (46, 13659), (55, 13743), (63, 13773), (71, 13806), (75, 13830),

Gene: Htur_13 Start: 11064, Stop: 11387, Start Num: 21

Candidate Starts for Htur_13:

(17, 11055), (Start: 21 @11064 has 23 MA's), (Start: 26 @11100 has 1 MA's), (28, 11109), (31, 11127), (45, 11202), (56, 11295), (66, 11328), (75, 11373), (77, 11379),

Gene: Ididsumtinwong_10 Start: 7552, Stop: 7872, Start Num: 23

Candidate Starts for Ididsumtinwong_10:

(5, 7198), (Start: 23 @7552 has 22 MA's), (29, 7591), (37, 7645), (42, 7663), (44, 7678), (75, 7858), (76, 7861),

Gene: Ignacio_11 Start: 7660, Stop: 7977, Start Num: 23

Candidate Starts for Ignacio_11:

(5, 7315), (8, 7468), (12, 7528), (Start: 23 @7660 has 22 MA's), (Start: 26 @7681 has 1 MA's), (33, 7726), (39, 7759), (44, 7783), (55, 7876), (57, 7882), (72, 7945), (75, 7963),

Gene: IndiRoo_13 Start: 9088, Stop: 9411, Start Num: 21

Candidate Starts for IndiRoo_13:

(17, 9079), (Start: 21 @9088 has 23 MA's), (Start: 26 @9124 has 1 MA's), (47, 9250), (52, 9277), (56, 9319), (66, 9352), (75, 9397),

Gene: Jera_14 Start: 10142, Stop: 10465, Start Num: 21

Candidate Starts for Jera_14:

(15, 10097), (Start: 21 @10142 has 23 MA's), (Start: 26 @10178 has 1 MA's), (30, 10193), (34, 10229), (45, 10280), (49, 10310), (56, 10373), (75, 10451),

Gene: Johann_14 Start: 11061, Stop: 11384, Start Num: 21

Candidate Starts for Johann_14:

(17, 11052), (Start: 21 @11061 has 23 MA's), (Start: 26 @11097 has 1 MA's), (69, 11334), (75, 11370),

Gene: Keanu_15 Start: 13576, Stop: 13893, Start Num: 23

Candidate Starts for Keanu_15:

(8, 13378), (10, 13393), (11, 13396), (13, 13516), (14, 13525), (Start: 23 @13576 has 22 MA's), (25, 13597), (Start: 26 @13600 has 1 MA's), (29, 13615), (45, 13705), (46, 13708), (55, 13792), (59, 13810), (63, 13822), (67, 13831), (71, 13855), (75, 13879),

Gene: Lesiram_15 Start: 9580, Stop: 9930, Start Num: 19

Candidate Starts for Lesiram_15:

(Start: 19 @9580 has 3 MA's), (28, 9628), (36, 9691), (42, 9721), (43, 9724), (46, 9745), (49, 9772), (51, 9790), (52, 9793), (61, 9856), (63, 9862), (64, 9865), (70, 9880), (75, 9916), (76, 9919),

Gene: Linayshia_13 Start: 11056, Stop: 11379, Start Num: 21

Candidate Starts for Linayshia_13:

(17, 11047), (Start: 21 @11056 has 23 MA's), (Start: 26 @11092 has 1 MA's), (28, 11101), (45, 11194), (56, 11287), (66, 11320), (75, 11365),

Gene: Lishka_10 Start: 7516, Stop: 7836, Start Num: 23

Candidate Starts for Lishka_10:

(5, 7162), (Start: 23 @7516 has 22 MA's), (29, 7555), (37, 7609), (39, 7618), (42, 7627), (44, 7642), (72, 7804), (75, 7822), (76, 7825),

Gene: Losacky_18 Start: 9125, Stop: 9448, Start Num: 21

Candidate Starts for Losacky_18:

(Start: 21 @9125 has 23 MA's), (32, 9194), (37, 9227), (46, 9269), (49, 9296), (52, 9317), (58, 9356), (65, 9383), (74, 9431), (75, 9434),

Gene: MenE_16 Start: 9113, Stop: 9436, Start Num: 21

Candidate Starts for MenE_16:

(Start: 21 @9113 has 23 MA's), (32, 9182), (37, 9215), (46, 9257), (49, 9284), (52, 9305), (58, 9344), (74, 9419), (75, 9422),

Gene: Milani_14 Start: 9739, Stop: 10062, Start Num: 21

Candidate Starts for Milani_14:

(2, 9241), (17, 9730), (Start: 21 @9739 has 23 MA's), (Start: 26 @9775 has 1 MA's), (47, 9901), (52, 9928), (56, 9970), (66, 10003), (75, 10048), (77, 10054),

Gene: Mojarita_10 Start: 7832, Stop: 8146, Start Num: 23

Candidate Starts for Mojarita_10:

(3, 7376), (5, 7484), (6, 7562), (8, 7637), (12, 7697), (Start: 23 @7832 has 22 MA's), (75, 8132), (76, 8135),

Gene: Olympi_14 Start: 11052, Stop: 11375, Start Num: 21

Candidate Starts for Olympi_14:

(17, 11043), (Start: 21 @11052 has 23 MA's), (Start: 26 @11088 has 1 MA's), (66, 11316), (69, 11325), (75, 11361),

Gene: PapayaSalad_10 Start: 7524, Stop: 7844, Start Num: 23

Candidate Starts for PapayaSalad_10:

(5, 7170), (Start: 23 @7524 has 22 MA's), (29, 7563), (37, 7617), (42, 7635), (44, 7650), (75, 7830), (76, 7833),

Gene: PermaG_14 Start: 11124, Stop: 11447, Start Num: 21

Candidate Starts for PermaG_14:

(16, 11094), (17, 11115), (Start: 21 @11124 has 23 MA's), (Start: 26 @11160 has 1 MA's), (66, 11388), (68, 11391), (69, 11397), (75, 11433),

Gene: PhillyJawn_16 Start: 8845, Stop: 9168, Start Num: 21

Candidate Starts for PhillyJawn_16:

(Start: 21 @8845 has 23 MA's), (32, 8914), (37, 8947), (46, 8989), (49, 9016), (52, 9037), (58, 9076), (65, 9103), (74, 9151), (75, 9154),

Gene: Phingu_18 Start: 9004, Stop: 9327, Start Num: 21

Candidate Starts for Phingu_18:

(Start: 21 @9004 has 23 MA's), (32, 9073), (37, 9106), (46, 9148), (49, 9175), (52, 9196), (58, 9235), (74, 9310), (75, 9313),

Gene: Picard_10 Start: 7832, Stop: 8146, Start Num: 23

Candidate Starts for Picard_10:

(3, 7376), (5, 7484), (6, 7562), (8, 7637), (12, 7697), (Start: 23 @7832 has 22 MA's), (75, 8132), (76, 8135),

Gene: Piccadilly_11 Start: 7651, Stop: 7968, Start Num: 23

Candidate Starts for Piccadilly_11:

(8, 7459), (12, 7519), (Start: 23 @7651 has 22 MA's), (Start: 26 @7672 has 1 MA's), (44, 7774), (46, 7783), (60, 7888), (75, 7954),

Gene: Pickles13_15 Start: 9015, Stop: 9338, Start Num: 21

Candidate Starts for Pickles13_15:

(7, 8772), (20, 9009), (Start: 21 @9015 has 23 MA's), (29, 9063), (32, 9084), (37, 9117), (46, 9159), (49, 9186), (52, 9207), (61, 9261), (65, 9273), (74, 9321), (75, 9324),

Gene: Raleigh_10 Start: 7951, Stop: 8271, Start Num: 23

Candidate Starts for Raleigh_10:

(4, 7558), (5, 7603), (9, 7765), (12, 7816), (Start: 23 @7951 has 22 MA's), (39, 8050), (50, 8128), (75, 8257),

Gene: Rasovi_13 Start: 11064, Stop: 11387, Start Num: 21

Candidate Starts for Rasovi_13:

(17, 11055), (Start: 21 @11064 has 23 MA's), (Start: 26 @11100 has 1 MA's), (28, 11109), (31, 11127), (45, 11202), (56, 11295), (66, 11328), (75, 11373), (77, 11379),

Gene: SBlackberry_13 Start: 10901, Stop: 11224, Start Num: 21

Candidate Starts for SBlackberry_13:

(15, 10856), (Start: 21 @10901 has 23 MA's), (Start: 26 @10937 has 1 MA's), (30, 10952), (34, 10988), (45, 11039), (49, 11069), (56, 11132), (75, 11210),

Gene: SV1_10 Start: 7724, Stop: 8044, Start Num: 23

Candidate Starts for SV1_10:

(1, 7172), (5, 7352), (8, 7505), (Start: 23 @7724 has 22 MA's), (54, 7922), (72, 8012), (75, 8030), (76, 8033),

Gene: SoJo_10 Start: 7746, Stop: 8063, Start Num: 23

Candidate Starts for SoJo_10:

(12, 7611), (Start: 23 @7746 has 22 MA's), (39, 7845), (43, 7857), (50, 7920), (72, 8031), (75, 8049), (76, 8052),

Gene: Spocter_15 Start: 13515, Stop: 13832, Start Num: 23

Candidate Starts for Spocter_15:

(Start: 23 @13515 has 22 MA's), (25, 13536), (Start: 26 @13539 has 1 MA's), (45, 13644), (46, 13647), (55, 13731), (63, 13761), (71, 13794),

Gene: Teng_16 Start: 9601, Stop: 9951, Start Num: 19

Candidate Starts for Teng_16:

(Start: 19 @9601 has 3 MA's), (28, 9649), (36, 9712), (40, 9730), (42, 9742), (43, 9745), (46, 9766), (49, 9793), (51, 9811), (52, 9814), (61, 9877), (63, 9883), (64, 9886), (70, 9901), (75, 9937), (76, 9940),

Gene: Tubberson_10 Start: 7746, Stop: 8063, Start Num: 23

Candidate Starts for Tubberson_10:

(5, 7398), (6, 7476), (8, 7551), (12, 7611), (Start: 23 @7746 has 22 MA's), (39, 7845), (43, 7857), (50, 7920), (72, 8031), (75, 8049), (76, 8052),

Gene: TurboVicky_13 Start: 10895, Stop: 11218, Start Num: 21

Candidate Starts for TurboVicky_13:

(15, 10850), (Start: 21 @10895 has 23 MA's), (Start: 26 @10931 has 1 MA's), (30, 10946), (34, 10982), (45, 11033), (49, 11063), (56, 11126), (75, 11204),

Gene: Typher_15 Start: 11029, Stop: 11352, Start Num: 21

Candidate Starts for Typher_15:

(15, 10984), (Start: 21 @11029 has 23 MA's), (Start: 26 @11065 has 1 MA's), (28, 11074), (30, 11080), (34, 11116), (45, 11167), (49, 11197), (75, 11338),

Gene: Violeta_17 Start: 8943, Stop: 9266, Start Num: 21

Candidate Starts for Violeta_17:

(Start: 21 @8943 has 23 MA's), (32, 9012), (37, 9045), (46, 9087), (49, 9114), (52, 9135), (58, 9174), (74, 9249), (75, 9252),

Gene: Vondra_11 Start: 7660, Stop: 7977, Start Num: 23

Candidate Starts for Vondra_11:

(5, 7315), (8, 7468), (12, 7528), (Start: 23 @7660 has 22 MA's), (24, 7666), (33, 7726), (39, 7759), (44, 7783), (55, 7876), (57, 7882), (72, 7945), (75, 7963),

Gene: Warren_16 Start: 9042, Stop: 9365, Start Num: 21

Candidate Starts for Warren_16:

(Start: 21 @9042 has 23 MA's), (32, 9111), (37, 9144), (46, 9186), (49, 9213), (52, 9234), (58, 9273), (65, 9300), (74, 9348), (75, 9351),

Gene: Wrackline_21 Start: 10284, Stop: 10616, Start Num: 19

Candidate Starts for Wrackline_21:

(18, 10281), (Start: 19 @10284 has 3 MA's), (27, 10323), (28, 10332), (30, 10338), (34, 10374), (38, 10395), (41, 10404), (42, 10407), (46, 10431), (49, 10458), (53, 10482), (64, 10551), (70, 10566), (73, 10596), (75, 10602),

Gene: Zanella_13 Start: 10898, Stop: 11221, Start Num: 21

Candidate Starts for Zanella_13:

(Start: 21 @10898 has 23 MA's), (Start: 26 @10934 has 1 MA's), (30, 10949), (34, 10985), (45, 11036), (49, 11066), (56, 11129), (75, 11207),